

Large, bold, dark grey stylized text '3-B' overlaid on a background map of a city grid with green spaces.

**REGION OF PEEL**  
WASTEWATER CAPACITY IMPROVEMENTS IN CENTRAL MISSISSAUGA  
APPENDIX 3-B

**Design Concept Alternatives - Criteria & Evaluation**

### Shaft Site Alternatives - Evaluation Criteria

Category	Evaluation Criteria	Rationale / Indicator
<b>Technical</b>	Ability to address Problem / Opportunity statement	- Ability to connect to existing/planned key trunk sewers, required for strategy implementation
	Technical Viability / Constructability	- Land availability and configuration to meet minimum needs - Access to site (ingress/egress) - Haul routes and ease of access to 400 series highways - Width of right of way - Existing infrastructure, utilities or easements within or in close proximity - Proximity to crossings (rivers, creeks and major roads) - Proximity to other sites - Relative length of construction time - Allows a minimum sewer slope of 0.1%
	Technical Difficulty	- Depth of sewer - Alignment with sewer route and turning radius limits - Width of right of way - Geological and hydrogeological considerations – trench support, need for rock excavation, approval/permit requirements - Groundwater levels and dewatering requirements
	Impact to Existing Infrastructure and Utilities	- Proximity / potential conflict with existing infrastructure and utilities (buried and overhead)
	Permission to Access	- Ability to obtain Permissions to Access to undertake supporting baseline technical discipline investigations, including natural environment, archaeological, hydrogeological, and geotechnical
	Opportunity to Coordinate other Improvements	- Opportunity and ease for connections to local sewers - Proximity to local sewers
	Future Operations and Maintenance	- Ability to be sustained and ease of access to shafts for future maintenance / repair
<b>Environmental</b>	Environmental Impact	- Potential impacts on the natural environment - Proximity to environmentally sensitive features (e.g. wetlands, environmentally sensitive areas, ANSIs and other designated Natural Areas, wildlife habitat) - Loss of or disruption to sensitive species habitat (proximity to vulnerable / threatened / endangered or locally / regionally rare amphibians, birds, wildlife or fish) - Construction within floodplain and conservation authority regulated areas - Requirements for major environmental crossings and mitigation measures - Past use of site, contamination / investigation / remediation
<b>Socio-Cultural</b>	Community Impact	- Proximity to residential areas - Number of neighbouring community facilities and institutions affected by construction (e.g. schools, religious establishments, parks, community centres, hospitals) - Potential community resistance to shaft site selection - Increase in dust, noise and/or vibration - Potential impact to the public realm (e.g. street trees, landscaping, street furniture, walkways) and restoration measures - Impact of temporary disruption to access of properties, local businesses, public spaces, and trails - Public safety procedures (e.g. temporary sidewalk closures, alternative temporary road crossing locations, impact on safe street parking) - Degree of mitigation measures (e.g. tree protection, fencing and hoarding)

Category	Evaluation Criteria	Rationale / Indicator
	Heritage / Cultural Impact	<ul style="list-style-type: none"> <li>- Construction within or in close proximity to known heritage sites, potential impacts and mitigation measures (e.g. Meadowvale Village Heritage Conservation District)</li> <li>- Proximity to features and characteristics that could indicate archaeological potential (e.g. previously identified archaeological sites, water courses, areas of early Euro-Canadian settlement, and heritage designated properties)</li> <li>- Degree of mitigation measures (noise, dust, traffic) required</li> </ul>
	Traffic Impact	<ul style="list-style-type: none"> <li>- Safety of pedestrians and motorist during construction</li> <li>- Number of intersections affected</li> <li>- Sight triangle requirements at road intersections and around shaft site entry and egress points</li> <li>- Potential impact for lane closures</li> <li>- Lane requirements (e.g. turning lanes, drive lanes, etc)</li> <li>- Degree of mitigation traffic control measures required</li> </ul>
	Impact to Transit and Pedestrian Movement	<ul style="list-style-type: none"> <li>- Potential impact to transit routes (MiWay)</li> <li>- Potential impact to bus stops and relocation requirements</li> <li>- Potential impact to sidewalk access</li> </ul>
<b>Financial</b>	Life Cycle Cost	<ul style="list-style-type: none"> <li>- Minimize total life cycle cost (combination of capital, easement requirements, operation &amp; maintenance, etc.)</li> </ul>
	Restoration, Mitigation and Monitoring	<ul style="list-style-type: none"> <li>- Cost of restoring impacted land and/or undertaking mitigation and monitoring</li> </ul>
<b>Legal / Jurisdictional</b>	Availability of Land	<ul style="list-style-type: none"> <li>- Availability of land to meet shaft site requirements (open space, vacant land, green space)</li> </ul>
	Easement Requirements	<ul style="list-style-type: none"> <li>- Encroachment onto roadway</li> <li>- Easement requirements (temporary easements for construction of tunnel shafts and permanent easements for the sewer and access manholes)</li> <li>- Number of easements and area of easements required</li> </ul>
	Location and Setback Requirements	<ul style="list-style-type: none"> <li>- Minimize construction within road right of way</li> <li>- Setback requirements for supporting structures (i.e., bridges) for freeway overpasses, interchanges, future planned road widening and ramp improvements, and property lines</li> </ul>
	Compliance with applicable planning policies	<ul style="list-style-type: none"> <li>- Potential conflicts with Region of Peel and City of Mississauga Official Plan policies, including Secondary Plans, Master Servicing Plans, CVC, and TRCA regulations</li> </ul>
	Impact to Existing and Future Land Use	<ul style="list-style-type: none"> <li>- Potential impact on current land use designation</li> <li>- Loss of land resulting from easements</li> <li>- Impact to future land uses</li> </ul>

**Table 1: Queensway Alignment – East Trunk (Key Connection Point)**

Shaft Site Alternative	1A. North (Queensway)	Screening	1B. South (Sherway)	Screening	1C. North (Little Etobicoke Creek)	Screening	1D. South (Sunnycove)	Screening	1E. South (QEW)	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides a key connection to the 2100 mm east trunk sewer</li> <li>- Site has sufficient land to meet shaft needs but requires substantial clearing</li> <li>- <b>Does not have an existing construction access route to site; extremely challenging to access for construction</b></li> <li>- Located to the east of Etobicoke Creek; open trench construction required due to crossing of Etobicoke Creek (shaft site required on west and east side of creek)</li> <li>- Site is located on a slightly sloped surface</li> <li>- <b>Hydro One overhead cable along shaft site (at road height)</b></li> <li>- Less construction risk due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- <b>Proposed sewer slope does not meet minimal criteria requirement; not considered technically viable</b></li> </ul>	x	<ul style="list-style-type: none"> <li>- Site provides a key connection to the 2100 mm east trunk sewer</li> <li>- Site has sufficient land to meet shaft needs</li> <li>- <u>Existing construction access route to site via the east paved road</u></li> <li>- Located to the east of Etobicoke Creek; open trench construction required due to crossing of Etobicoke Creek (shaft site required on west and east side of creek)</li> <li>- Site is located on a relatively flat surface</li> <li>- Site located on previously cleared area (pipe repair due to accidental rupture which may have added additional structural support at this location)</li> <li>- <b>Existing connecting pipe burial depth is very shallow (0.5 m)</b></li> <li>- Site does not have any utility assets nearby</li> <li>- Less construction risk due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- <u>Allows the potential to remove/secure damaged areas and mitigate / structurally improve existing sanitary pipe and access road</u></li> <li>- <u>Proposed sewer slope meets minimal criteria requirement; considered technically viable</u></li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides a key connection to the 2100 mm east trunk sewer</li> <li>- Site has sufficient land to meet shaft needs</li> <li>- <b>Does not have an existing construction access route to site; extremely challenging to access for construction</b></li> <li>- Located to the east of Etobicoke Creek; open trench construction required due to crossing of Etobicoke Creek (shaft site required on west and east side of creek)</li> <li>- Site is located on significantly sloped surface</li> <li>- Site does not have any utility assets nearby</li> <li>- Less construction risk due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- <b>Proposed sewer slope does not meet minimal criteria requirement; not considered technically viable</b></li> </ul>	x	<ul style="list-style-type: none"> <li>- Site provides a key connection to the 2100 mm east trunk sewer</li> <li>- Site has sufficient land to meet shaft needs</li> <li>- <b>Does not have an existing construction access route to site; extremely challenging to access for construction</b></li> <li>- Located to the west of Etobicoke Creek; no crossing of Etobicoke Creek required</li> <li>- <b>Site is located on significantly sloped surface; increased complexity during construction</b></li> <li>- Existing connecting pipe burial depth is very shallow (0.1 m)</li> <li>- Increased construction risk due to the longer sewer drive length parallel to creek as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Site does not have any utility assets nearby</li> <li>- <u>Proposed sewer slope meets minimal criteria requirement; considered technically viable</u></li> </ul>	x	<ul style="list-style-type: none"> <li>- Site provides a key connection to the 2100 mm east trunk sewer</li> <li>- Site has sufficient land to meet shaft needs</li> <li>- <b>Longest sewer drive length (parallel to creek);</b></li> <li>- <b>Does not have an existing construction access route to site; access for construction through quiet residential roads and through residential property</b></li> <li>- Located to the west of Etobicoke Creek; no crossing of Etobicoke Creek required</li> <li>- In close proximity to MTO works along QEW</li> <li>- Increased construction risk due to the longer sewer drive length parallel to creek as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Site does not have any utility assets nearby</li> <li>- <u>Proposed sewer slope meets minimal criteria requirement; considered technically viable</u></li> </ul>	x
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit / floodplain</li> <li>- Crossing of Etobicoke Creek required</li> <li>- Outside of significant natural areas</li> <li>- Significant wildlife habitat</li> <li>- SAR high potential of barn swallow</li> <li>- <b>East and west site are located on undisturbed land (natural cover)</b></li> <li>- <b>Significant impact to trees at this site</b></li> </ul>	x	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit / floodplain</li> <li>- Crossing of Etobicoke Creek required</li> <li>- Outside of significant natural areas</li> <li>- Lower quality wildlife habitat</li> <li>- Low potential to provide suitable habitat for species designated threatened or endangered</li> <li>- Moderate potential to provide suitable habitat for species designated special concern (monarch, yellow-banded)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit / floodplain</li> <li>- Crossing of Etobicoke Creek required</li> <li>- Outside of significant natural areas</li> <li>- Significant wildlife habitat</li> <li>- SAR high potential of barn swallow</li> <li>- <b>East and west site are located on undisturbed land (natural cover)</b></li> <li>- Significant impact to trees at this site</li> </ul>	x	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit / floodplain</li> <li>- No crossing of Etobicoke Creek required</li> <li>- Outside of significant natural areas</li> <li>- Downed woody debris present therefore likely impact to higher quality wildlife habitat</li> <li>- Low potential to provide suitable habitat for species designated threatened or endangered</li> </ul>	x	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit / floodplain</li> <li>- No crossing of Etobicoke Creek required</li> <li>- Longest sewer drive length parallel to creek;</li> <li>- Outside of significant natural areas</li> <li>- Significant wildlife habitat</li> <li>- SAR high potential of barn swallow</li> <li>- <u>Previously cleared site (residential)</u></li> </ul>	✓

Shaft Site Alternative	1A. North (Queensway)	Screening	1B. South (Sherway)	Screening	1C. North (Little Etobicoke Creek)	Screening	1D. South (Sunnycove)	Screening	1E. South (QEW)	Screening
	<ul style="list-style-type: none"> <li>- Less risk to creek due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Significant overall impact to the natural environment compared to 1B and 1E</li> </ul>		<ul style="list-style-type: none"> <li>bumblebee and eastern wood-pewee)</li> <li>- East site is located on highly disturbed / cleared site; west side is located on undisturbed land (natural cover)</li> <li>- Majority of plants are non-native species, lack of mature trees; lower impact to trees at this site</li> <li>- Less risk to creek due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Minimal overall impact to natural environment compared to sites 1A, 1C and 1D</li> </ul>		<ul style="list-style-type: none"> <li>- Less risk to creek due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Significant overall impact to the natural environment compared to 1B and 1E</li> </ul>		<ul style="list-style-type: none"> <li>- Moderate potential to provide suitable habitat for species designated special concern (eastern wood-pewee, wood thrush, ribbon snake, West Virginia white)</li> <li>- Natural site; low amount of human disturbance</li> <li>- Majority of trees are native to Ontario, mature trees present; higher impact to trees at this site</li> <li>- Increased risk to creek due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Significant overall impact to the natural environment compared to 1B and 1E</li> </ul>		<ul style="list-style-type: none"> <li>- Increased risk to creek due to the shorter sewer drive length parallel to creek indicated as indicated in the Hydraulic and Geomorphic Hazard Assessment</li> <li>- Minimal overall impact to natural environment to sites 1A, 1C and 1D</li> </ul>	
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Good buffer between residential properties and construction site</li> <li>- Site is located within cultural heritage corridor; CHECPIA is recommended</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site located off road and pedestrian/cycle pathways minimizing potential impact to traffic/pedestrians at site</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Good buffer between residential properties and construction site</li> <li>- Site is located within cultural heritage corridor and cultural heritage property; CHECPIA is recommended</li> <li>- Bridge located near the site is a Heritage Bridge; no impact anticipated</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site located off road and pedestrian/cycle pathways minimizing potential impact to traffic/pedestrians at site</li> <li>- Opportunity to improve permanent access to pedestrian/cycle path through project</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Good buffer between residential properties and construction site</li> <li>- Site is located within cultural heritage corridor; CHECPIA is recommended</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site located off road and pedestrian/cycle pathways minimizing potential impact to traffic/pedestrians at site</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Less buffer between residential properties and construction site</li> <li>- Site is located within cultural heritage corridor; CHECPIA is recommended</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site located off road and pedestrian/cycle pathways minimizing potential impact to traffic/pedestrians at site</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site located on residential property</li> <li>- Only access to site is through quiet residential area and residential property</li> <li>- Potential perceived construction fatigue (MTO construction works adjacent to QEW)</li> <li>- Site is located within cultural heritage corridor; CHECPIA is recommended</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site located off road pathways minimizing potential impact to traffic/pedestrians at site</li> </ul>	✗
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit and is subject to its policies</li> <li>- Required easement within TRCA lands</li> <li>- Potential utility setbacks required (Hydro One)</li> </ul>	✗	<ul style="list-style-type: none"> <li>- Site is has multiple landowners including City of Mississauga (west site), TRCA (east site) and City of Toronto (access road)</li> <li>- Site is located within TRCA regulation limit and is subject to its policies</li> <li>- Required easement within City of Toronto lands</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit and is subject to its policies</li> <li>- Required easement within Hydro One and City of Toronto lands</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit and is subject to its policies</li> <li>- Required easement within City of Mississauga lands</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located within TRCA regulation limit and is subject to its policies</li> <li>- Residential land use</li> <li>- Required easement within private lands</li> </ul>	✗
<b>Financial</b>	<ul style="list-style-type: none"> <li>- Higher construction costs compared to 1B due to the construction of access road</li> </ul>	✗	<ul style="list-style-type: none"> <li>- Lower construction costs compared to other sites due to the site's existing construction</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Higher construction costs compared to 1B due to the construction of access road</li> </ul>	✗	<ul style="list-style-type: none"> <li>- Higher construction costs compared to 1B due to the construction of access road</li> </ul>	✗	<ul style="list-style-type: none"> <li>- Higher construction costs compared to 1B due to the construction of</li> </ul>	✗

Shaft Site Alternative	1A. North (Queensway)	Screening	1B. South (Sherway)	Screening	1C. North (Little Etobicoke Creek)	Screening	1D. South (Sunnycove)	Screening	1E. South (QEW)	Screening
	& restoration of land to previous conditions		access road and previously disturbed land - Potential for increased costs related to mitigation measures compared to other sites to prevent scouring at meander		& restoration of land to previous conditions		& restoration of land to previous conditions		access road and required easement on private lands	
<b>Overall Screening Results</b>	<b>Screened Out</b>		<b>Carried Forward</b>		<b>Screened Out</b>		<b>Screened Out</b>		<b>Screened Out</b>	

**Table 2: Queensway Alignment – Etobicoke Creek (Constructability Point)**

Shaft Site Alternative	2A. Northwest	Screening	2B. Southwest	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Shaft required for constructability (TBM turn towards East Trunk sewer)</li> <li>- Site does not have any utility assets nearby</li> <li>- Existing construction access route to site via existing road</li> <li>- Allows for a north side sewer alignment on Queensway East (no road crossings)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Shaft required for constructability (TBM turn towards East Trunk sewer)</li> <li>- Existing Regional storm sewer adjacent to site (900 mm)</li> <li>- Existing watermain located within this site (150 mm)</li> <li>- Existing Hydro One overhead cable and transmission tower within shaft site</li> <li>- Existing Enbridge pipeline below ground along shaft site</li> <li>- Site constrained by existing utilities</li> <li>- Existing construction access route to site via Queensway</li> </ul>	✗
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- Site is located outside of TRCA regulation limit / floodplain</li> <li>- Significant wildlife habitat nearby</li> <li>- Outside of significant natural areas</li> <li>- Previously disturbed site</li> <li>- Overall minimal impacts to the natural environment similar to 2B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located outside of TRCA regulation limit / floodplain</li> <li>- Significant wildlife habitat nearby</li> <li>- Outside of significant natural areas</li> <li>- Previously disturbed site</li> <li>- Overall minimal impacts to the natural environment similar to 2A</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Good buffer between residential properties compared to 2B</li> <li>- Site adjacent to business use to the west with shared access will require traffic management plan</li> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site is located off road potential to minimize traffic impacts</li> <li>- Construction may impact sidewalk along Queensway</li> <li>- Overall minimal social impacts compare to 2B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Less buffer between residential properties compared to 2A</li> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Site is located off road therefore minimal impacts to traffic</li> <li>- Construction may impact access walkway to residential neighborhood, sidewalk along Queensway and a crosswalk</li> <li>- Overall moderate social impacts compared to 2A</li> </ul>	✗
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on private property; easements required</li> <li>- Vacant property</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✗
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	Carried Forward		Screened Out	

**Table 3: Queensway Alignment – Dixie Road (Key Connection Point)**

Shaft Site Alternative	3A. Northeast	Screening	3B. Southwest	Screening	3C. Northwest	Screening	3D. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides connection to a 900-mm trunk sewer along Dixie Road (on west side)</li> <li>- Existing 300-, 450- and 525-mm Regional storm sewer located within this site</li> <li>- Existing gas line located within this site</li> <li>- Abandoned sanitary sewer located on Dixie, adjacent to site</li> <li>- Existing 600-mm watermain located along Dixie, adjacent to site</li> <li>- Connection to existing 900-mm sewer will need to cross other existing in-road infrastructure including 600-mm watermain, abandoned sanitary sewer, 450-mm storm sewer and gas line</li> <li>- Existing Alectra overhead hydro wires located along Dixie and Queensway</li> <li>- Will require closing of north lane for shaft compound, likely 2 lanes if private easement requirements minimized</li> <li>- Known contamination on private site causing construction complexity for remediation</li> <li>- Larger shaft compound likely required for additional contamination remediation equipment and temporary storage</li> <li>- Good construction access route to site off existing road right of way</li> <li>- Facilitates continuous north side sewer alignment on Queensway East (minimizing road crossings and easement needs)</li> </ul>	*	<ul style="list-style-type: none"> <li>- Site provides connection to a 900 mm trunk sewer along Dixie Road (on west side)</li> <li>- Existing 300-mm Regional storm sewer located along Queensway, adjacent to site</li> <li>- Existing 2400-mm watermain located along Dixie, adjacent to shaft site</li> <li>- Abandoned watermain located along Queensway and Dixie, adjacent to shaft site</li> <li>- Connection to existing 900 mm sewer closer to shaft compound (both on west side of Dixie)</li> <li>- Connection to existing 900-mm sewer will need to cross other existing in-road infrastructure including 2400-mm watermain, abandoned watermain</li> <li>- Site does not have any utility assets</li> <li>- Will require closing of right turning lane for shaft compound</li> <li>- Site is smaller, more constrained</li> <li>- Good construction access route to site off existing road right of way</li> <li>- Requires new sewer alignment crossing (road crossing) from north side of Queensway back to south and back</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides connection to a 900mm trunk sewer along Dixie Road (on west side)</li> <li>- Connection to existing 900-mm sewer closer to shaft compound (both on west side of Dixie)</li> <li>- Existing 2400-mm watermain located along Dixie, adjacent to shaft site</li> <li>- Abandoned watermain located along Queensway and Dixie, adjacent to shaft site</li> <li>- Existing 300-mm Regional storm sewer located along Queensway and Dixie, adjacent to site</li> <li>- Existing Alectra overhead hydro wires along Queensway and Dixie</li> <li>- Connection to existing 900-mm sewer will need to cross other existing in-road infrastructure including 2400-mm watermain, abandoned watermain and 300-mm storm sewer</li> <li>- Will require closing of right turning lane and middle land for shaft compound due to restricted availability of adjacent land</li> <li>- Site constrained by size and existing infrastructure</li> <li>- Construction access route to site within business' parking lot and business entrance</li> <li>- Facilitates continuous north side sewer alignment on Queensway East (minimizing road crossings and easement needs)</li> </ul>	*	<ul style="list-style-type: none"> <li>- Site provides connection to a 900 mm trunk sewer along Dixie Road (on west side)</li> <li>- Existing gas line located along Dixie, adjacent to shaft site</li> <li>- Connection to existing 900-mm sewer will need to cross other existing in-road infrastructure including 600-mm watermain, gas line, and abandoned sanitary sewer</li> <li>- Existing Alectra overhead hydro wires within shaft site, however site large enough to avoid conflict</li> <li>- Will require closing of right turning lane for shaft compound</li> <li>- Less potential for contamination on site</li> <li>- Largest available size</li> <li>- Good construction access route to site off existing road right of way</li> <li>- Requires new sewer alignment crossing (road crossing) from north side of Queensway back to south and back</li> </ul>	✓
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- Site is mainly within existing ROW and urban setting</li> <li>- No significant natural features at this site</li> <li>- Potential impact to small trees albeit less compared to Site 3B and 3D (likely require tree removal and reinstatement)</li> <li>- Site requires Phase 2 ESA (common to all)</li> <li>- Known contamination on private lands</li> <li>- Higher potential for contamination at shaft location within ROW due to proximity</li> </ul>	*	<ul style="list-style-type: none"> <li>- Site is partially within existing ROW and urban setting parkette</li> <li>- No significant natural features at this site</li> <li>- Impact to existing trees at this site will require removal and reinstatement</li> <li>- Site requires Phase 2 ESA (common to all)</li> <li>- Less potential for contamination on site based on site further removed from historical industrial and rail use on northside of Queensway</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- No impacts to trees</li> <li>- Site requires Phase 2 ESA (common to all)</li> <li>- Potential for contamination on site based on site proximity to historical industrial and rail use on northside of Queensway</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is partially within existing ROW and urban setting parkette</li> <li>- No significant natural features at this site</li> <li>- Impact to existing trees at this site will require removal and reinstatement</li> <li>- Site requires Phase 2 ESA (common to all)</li> <li>- Less potential for contamination on site based on site further removed from historical industrial and rail use on northside of Queensway</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Good buffer between residential properties</li> <li>- Site does not contain any cultural heritage resources</li> </ul>	*	<ul style="list-style-type: none"> <li>- Site is adjacent to a protected heritage property (cultural heritage impact assessment study is recommended to determine mitigative measures)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Good buffer between residential properties</li> <li>- Significant impact to business; shaft site within business parking lot entrance</li> </ul>	*	<ul style="list-style-type: none"> <li>- Site is within close proximity to residential properties; increased management of vibration and noise required to mitigate</li> </ul>	✓



	<ul style="list-style-type: none"> <li>- Site does not have archaeological potential</li> <li>- Increased traffic impacts; will require closing of north lane for shaft compound, likely 2 lanes if private easement requirements minimized</li> <li>- Existing road layout would only accommodate one shared straight/right turn lane and one left turn lane with two lanes closed causing substantial traffic impact</li> <li>- Impacts to sidewalks/multiuse trail; relocation required</li> </ul>		<ul style="list-style-type: none"> <li>- Site is within close proximity to residential properties; increased management of vibration and noise required to mitigate</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is required)</li> <li>- Less impact to traffic; closure of right turn lane</li> <li>- Impacts to sidewalks/multiuse trail; relocation required</li> </ul>		<ul style="list-style-type: none"> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has low archaeological potential (Stage 2 archaeological assessment may be required)</li> <li>- Higher impact to traffic; closure of right turn lane and middle lane due to constrained land adjacent to ROW</li> <li>- Impacts to sidewalks/multiuse trail; relocation required</li> </ul>		<ul style="list-style-type: none"> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is required)</li> <li>- Least impact to traffic - no lane closures; however, traffic impacts due to construction vehicle access</li> <li>- No impacts to sidewalks/multi use trail</li> </ul>	
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Utility setbacks required</li> <li>- Easements required; site located on private lands with known contamination</li> </ul>	*	<ul style="list-style-type: none"> <li>- No easements required for shaft site; Region owned lands</li> <li>- Alignment crosses Hydro One infrastructure; requires coordination/additional analyses with Hydro One</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Utility setbacks required</li> <li>- Easements required; site located on private lands</li> <li>- High risk easement not achieved on private land due to impact to business</li> </ul>	*	<ul style="list-style-type: none"> <li>- Utility setbacks required</li> <li>- No easements required; Region owned lands</li> <li>- Alignment crosses Hydro One infrastructure; requires coordination//additional analyses with Hydro One</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- Known contamination at this site; increased remediation costs</li> <li>- Easements required on private lands</li> </ul>	*	<ul style="list-style-type: none"> <li>- No easement required for shaft compound</li> <li>- Easements may be required for crossing Hydro infrastructure for sewer alignment north to south to north</li> <li>- Decreased potential for increased cost due to contamination</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Decreased potential for increased cost due to contamination</li> <li>- Easements required on private lands</li> </ul>	*	<ul style="list-style-type: none"> <li>- No easements required for shaft compound</li> <li>- Easements may be required for crossing Hydro infrastructure for sewer alignment north to south to north</li> <li>- Decreased potential for increased cost due to contamination</li> </ul>	✓
<b>Overall Screening Results</b>	Screened out		Screened out		Screened out		Carried Forward	

**Table 4: Queensway Alignment – Cawthra Road (Key Connection Point)**

Shaft Site Alternative	6A. Northeast	Screening	6B. Southwest	Screening	6C. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides a key connection to the planned/in construction Cawthra trunk sewer</li> <li>- Site has sufficient land to meets shaft needs</li> <li>- Existing watermain located within this site (900 &amp; 1500 mm)</li> <li>- Existing sanitary sewer located within site (450 mm)</li> <li>- Good construction access route to site off existing road right of way</li> <li>- Site is located on sloped surface</li> <li>- <u>Site does not contain any utility assets</u></li> <li>- Will require closing of right turning lane for shaft compound</li> <li>- <u>Allows for a north side sewer alignment on Queensway East (no road crossings)</u></li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides a key connection to the planned/in construction Cawthra trunk sewer</li> <li>- Existing Regional storm sewer located within this site (375 &amp; 1350 mm)</li> <li>- Existing watermain located within this site (900 &amp; 1500 mm)</li> <li>- Site has sufficient land to meets shaft needs</li> <li>- Good construction access route to site off existing road right of way</li> <li>- <u>Existing Alectra overhead cable within shaft site and hydro poles nearby</u></li> <li>- <u>Existing Enbridge pipelines below ground nearby</u></li> <li>- <u>Increased site constraints due to existing utilities</u></li> </ul>	✗	<ul style="list-style-type: none"> <li>- Site provides a key connection to the planned/in construction Cawthra trunk sewer</li> <li>- Existing Regional storm sewer located within site (375 mm)</li> <li>- Existing watermain located adjacent to site (400 mm)</li> <li>- Site has sufficient land to meets shaft needs</li> <li>- Good construction access route to site off existing road right of way</li> <li>- <u>Existing Alectra overhead cable within shaft site and hydro poles nearby</u></li> <li>- <u>Existing Enbridge pipelines below ground nearby</u></li> <li>- <u>Increased site constraints due to existing utilities</u></li> </ul>	✗
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- Site does not contain any significant natural features</li> <li>- Minimal environmental impact</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site does not contain any significant natural features</li> <li>- Minimal environmental impact</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site does not contain any significant natural features</li> <li>- Minimal environmental impact</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Within close proximity to commercial / industrial building, compared to 6B and 6C</li> <li>- Site does not contain any cultural heritage resources</li> <li>- No archaeological potential due to extensive disturbance and slope</li> <li>- Greater impact to traffic at this site compared to 6B and 6C (right turn lane impacted)</li> <li>- Lower impact to pedestrian walkway at this site (on Cawthra)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Good buffer between commercial / industrial buildings</li> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Greater impact to pedestrian walkways at this site compared to 6A</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Good buffer between commercial / industrial buildings</li> <li>- Site does not contain any cultural heritage resources</li> <li>- Site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Greater potential to impact to sidewalks at this site compared to 6A</li> </ul>	✓
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on private property; easements required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- <u>Site constrained by existing utilities</u></li> <li>- <u>Site is located on Hydro One owned property; easements required</u></li> </ul>	✗	<ul style="list-style-type: none"> <li>- <u>Site constrained by existing utilities</u></li> <li>- <u>Site is located on Hydro One owned property; easements required</u></li> </ul>	✗
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	Carried Forward		Screened Out		Screened Out	

**Table 5: Queensway Alignment – Tedlo Street (Minor Connection Point)**

Shaft Site Alternative	7A. Northwest	Screening	7B. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides connection to 250 mm local pipe on Tedlo Street</li> <li>- Existing watermain located adjacent to this site (300 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site</li> <li>- Site does not contain any pipelines</li> <li>- Good construction access route to site off existing road right of way</li> <li>- Allows for a north side sewer alignment on Queensway East (no road crossings)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides connection to 250 mm local pipe on Tedlo Street</li> <li>- Existing watermain located adjacent to this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site</li> <li>- Existing Enbridge pipeline within shaft site</li> <li>- Good construction access route to site off existing road right of way</li> </ul>	✓
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant features at this site</li> <li>- Minimal impact to the environment</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant features at this site</li> <li>- Minimal impact to the environment</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Within close proximity to commercial / industrial building, compared to 7B</li> <li>- Good buffer between residential properties compared to 7B</li> <li>- Similar potential to impact to pedestrian walkways at this site compared to 7B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Good buffer between commercial / industrial building, compared to 7A</li> <li>- Within closer proximity to residential properties compared to 7A</li> <li>- Similar potential to impact pedestrian walkways at this site compared to 7A</li> <li>- Site is adjacent to Mohawk Park</li> </ul>	✗
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Minimized utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Site constrained by existing utilities</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	Carried Forward		Screened Out	

**Table 6: Queensway Alignment – Hensall Street (Minor Connection Point)**

Shaft Site Alternative	8A. Northeast	Screening	8B. Northwest	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- <u>Site is further from the connection to 250 mm local pipe on Hensall Street</u></li> <li>- Existing watermain located within this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site (only on Queensway)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Good construction access route to site</li> </ul>	*	<ul style="list-style-type: none"> <li>- <u>Site provides a better connection to the 250 mm local pipe on Hensall Street</u></li> <li>- Existing watermain located within this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site (on Queensway and Hensall)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Good construction access route to sit</li> <li>- <u>Allows for a north side sewer alignment on Queensway East (no road crossings)</u></li> </ul>	✓
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant natural features on this site</li> <li>- Similar to impact trees compared to 8B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features on this site</li> <li>- Similar to impact trees compared to 8A</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Similar impact to pedestrian walkways and traffic compared to 8B</li> <li>- Similar distance residential properties compared to 8B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Similar impact to pedestrian walkways and traffic compared to 8A</li> <li>- Similar distance residential properties compared to 8A</li> </ul>	✓
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	Screened out		Carried Forward	

**Table 7: Queensway Alignment – Cliff Road (Minor Connection Point)**

Shaft Site Alternative	9A. Northeast	Screening	9B. Southwest	Screening	9C. Northwest	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides connection to 300 mm local pipe on Cliff Road</li> <li>- Existing watermain located within this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site (along Queensway and along Cliff)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Good construction access route to site</li> <li>- Larger available land for compound site compared to 9B</li> </ul>	✘	<ul style="list-style-type: none"> <li>- Site provides connection to 300 mm local pipe on Cliff Road</li> <li>- Existing Regional storm sewer located within this site (300 mm)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Good construction access route to site</li> <li>- Smaller available land for compound site compared to 9A and 9C</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides connection to 300 mm local pipe on Cliff Road</li> <li>- Existing watermain located within this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site (only along Queensway)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Good construction access route to site</li> <li>- Larger available land for compound site compared to 9B</li> <li>- Allows for a north side sewer alignment on Queensway East (no road crossings)</li> </ul>	✓
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant natural features on this site</li> <li>- More trees on site compared to 9B and 9C</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features on this site</li> <li>- Less trees on site compared to 9A</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features on this site</li> <li>- Less trees on site compared to 9A</li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Similar potential to impact sidewalks at this site compared to 9C (pedestrian walkway at both sites)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- No impact to sidewalks at this site</li> <li>- Site is located adjacent to an Elementary school; construction may have an impact the entrance to the school</li> </ul>	✘	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Similar potential to impact sidewalks at this site compared to 9A (pedestrian walkway at both sites)</li> </ul>	✓
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on public lands; easements not required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- Lower construction costs compared to 9B; more available land</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Higher construction costs compared to other sites; less available land</li> </ul>	✘	<ul style="list-style-type: none"> <li>- Lower construction costs compared to 9B; more available land</li> </ul>	✓
<b>Overall Screening Results</b>	Screened Out		Screened Out		Carried Forward	

**Table 8: Queensway Alignment – Cooksville Creek (Key Connection Point)**

Shaft Site Alternative	11A. Northeast	Screening	11B. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides connection to 900 mm trunk sewer at Cooksville Creek</li> <li>- Existing watermain located within this site (900 mm)</li> <li>- Existing Alectra overhead cable and hydro poles within shaft site</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Site is located in grassed area</li> <li>- Allows for a north side sewer alignment on Queensway East (no road crossings)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site provides connection to 900 mm trunk sewer at Cooksville Creek</li> <li>- Existing local and Regional storm sewer located within this site (675 mm)</li> <li>- Existing Enbridge pipeline located adjacent to shaft site</li> <li>- Site is located in a heavily treed area</li> </ul>	✗
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- Site is located within CVC regulation limit / floodplain</li> <li>- Crossing of Cooksville Creek</li> <li>- Bat habitat observed within site</li> <li>- Site overlaps with significant valleylands, woodlands and wildlife habitat</li> <li>- Lower impact to trees compared to 11B</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located within CVC regulation limit / floodplain</li> <li>- Crossing of Cooksville Creek</li> <li>- Bat habitat observed within site</li> <li>- Site overlaps with significant valleylands, woodlands and wildlife habitat</li> <li>- Major impact to trees compared to 11A</li> </ul>	✗
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Greater potential to impact sidewalks at this site compared to 11B (pedestrian walkway and bridge)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- No sidewalk impacts at this site</li> <li>- Site is located within a City Park – Camilla Park</li> </ul>	✗
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on public lands; easements not required</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- Lower construction costs; majority of land in not in heavily trees area</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Higher construction costs; restoration of land to previous conditions (heavily treed, natural area)</li> </ul>	✗
<b>Overall Screening Results</b>	Carried Forward		Screened Out	

**Table 9: Queensway Alignment – Hurontario Street (Key Connection Point)**

Shaft Site Alternative	12A. Southwest	Screening	12B. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site provides connection to 1350 mm trunk sewer at Hurontario Street</li> <li>- Existing watermain located within this site (300 &amp; 900 mm)</li> <li>- Existing Regional storm sewer located adjacent to this site (300 mm)</li> <li>- Existing Enbridge pipeline adjacent to shaft site</li> <li>- Planned Hurontario LRT infrastructure will be located at this site</li> </ul>	✘	<ul style="list-style-type: none"> <li>- Site provides connection to 1350 mm trunk sewer at Hurontario Street</li> <li>- Existing watermain located within this site (750 mm)</li> <li>- Better connection point to trunk sewer - existing wastewater sewer manhole at this location</li> </ul>	✔
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- Greater potential impact to trees at this site</li> </ul>	✔	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- Fewer trees at this site</li> <li>- Previously disturbed area (existing manhole)</li> </ul>	✔
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Trillium Heath Care Centre located adjacent to this location.</li> <li>- Entrance to Care Centre located within this shaft site</li> <li>- Similar impact to sidewalks at this site compared to 12B</li> <li>- Similar impact to traffic at this site compared to 12B due to loss of right turn lane during construction</li> <li>- Site is not located nearby any existing bus stops/shelters</li> </ul>	✘	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential (Stage 2 archaeological assessment is recommended)</li> <li>- Similar impact to sidewalks at this site compared to 12B</li> <li>- Similar impact to traffic at this site compared to 12A due to loss of right turn lane during construction</li> <li>- Bus stop shelter (ID: 0724) located at this site; bus stop relocation may be required</li> </ul>	✔
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site located on Hydro One owned property; easements required</li> <li>- Site constrained by existing utilities</li> </ul>	✔	<ul style="list-style-type: none"> <li>- Site is located on private property; easements required</li> </ul>	✔
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✔	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✔
<b>Overall Screening Results</b>	Screened Out		Carried Forward	

**Table 10: Cawthra Alignment – Dundas Street (Key Connection Point)**

Shaft Site Alternative	14A. Southwest	Screening	14B. Northwest	Screening	14C. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Site does not effectively provide connection to Cawthra trunk sewer compared to 14B</li> <li>- Existing local storm sewer located within site (450 mm)</li> <li>- Existing watermain located within site (400 mm)</li> <li>- Land availability is lower compared to 14B</li> </ul>	✘	<ul style="list-style-type: none"> <li>- Site provides connection to future Cawthra Road trunk sewer</li> <li>- Existing watermain located within site (300 &amp; 400 mm)</li> <li>- Existing sanitary sewer located within site (300 mm)</li> <li>- Shaft site already selected through previous design (Cawthra trunk sewer)</li> <li>- Largest land availability compared to 14A and 14C</li> <li>- Good construction access route to site</li> <li>- Allows for a west side sewer alignment on Cawthra Road (no road crossings)</li> </ul>	✔	<ul style="list-style-type: none"> <li>- Site does not efficiently provide connection to Cawthra trunk sewer compare to 14B</li> <li>- Existing watermain located within site (200 mm)</li> <li>- Existing local storm sewer located within site (1050 mm)</li> <li>- Existing sanitary sewer located within site (900 mm)</li> <li>- Land availability is lower compared to 14B</li> </ul>	✘
<b>Environmental</b>	- No significant natural features at this site	✔	- No significant natural features at this site	✔	- No significant natural features at this site	✔
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- Site is adjacent to a designated protected heritage and a non-designated protected heritage property (HIA and CHER studies are recommended)</li> <li>- No archaeological potential due to extensive disturbance</li> <li>- In proximity to commercial / industrial area</li> <li>- Site is not located nearby any bus stops/shelters</li> </ul>	✔	<ul style="list-style-type: none"> <li>- Site is adjacent to a designated protected heritage and a non-designated protected heritage property (HIA and CHER studies are recommended)</li> <li>- No archaeological potential due to slope</li> <li>- Goof buffer between commercial / industrial area</li> <li>- Bus stop shelter (ID: 1283) located near this site; however, bus stop should not be affected</li> </ul>	✔	<ul style="list-style-type: none"> <li>- Site is adjacent to a designated protected heritage and a non-designated protected heritage property (HIA and CHER studies are recommended)</li> <li>- No archaeological potential due to extensive disturbance</li> <li>- In proximity to commercial / industrial area</li> <li>- Bus stop shelter (ID: 0856) located at this site; bus stop relocation may be required</li> </ul>	✘
<b>Legal</b>	- Portion of site is located on private property; easements required	✔	- Portion of site is located on private property; easements required	✔	- Portion of site is located on private property ; easements required	✔
<b>Financial</b>	- Higher construction costs compared to 14B; less available land	✘	- Lower construction costs compared to other sites; more available land	✔	- Higher construction costs compared to 14B; less available land	✔
<b>Overall Screening Results</b>	Screened Out		Carried Forward		Screened Out	



**Table 11: Burnhamthorpe Alignment – Cawthra Road (Key Connection Point)**

Shaft Site Alternative	15A. Northeast	Screening	15B. Southwest	Screening	15C. Northwest	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- <u>Site is not selected for the under construction Cawthra sewer</u></li> <li>- Existing watermain located within site (600 &amp; 1050 mm)</li> <li>- Existing Enbridge pipeline adjacent to site</li> <li>- Existing Alectra overhead hydro cables and poles at this location</li> <li>- Only construction access from Burnhamthorpe would be permitted by the City</li> </ul>	✓	<ul style="list-style-type: none"> <li>- <u>Site is not selected for the under construction Cawthra sewer</u></li> <li>- Existing watermain located within site (400 mm)</li> <li>- Existing sanitary sewer located within site (250 mm)</li> <li>- Existing Enbridge pipeline adjacent to site</li> <li>- Existing Alectra overhead hydro cables and poles at this location</li> <li>- <u>Site is currently under construction</u></li> </ul>	✓	<ul style="list-style-type: none"> <li>- <u>Site has been selected for under construction Cawthra sewer</u></li> <li>- Existing watermain located within site (750 mm)</li> <li>- Existing Enbridge pipeline adjacent to site</li> <li>- Existing Alectra overhead hydro cables and poles at this location</li> <li>- <u>Site has already been cleared</u></li> <li>- Only construction access from Burnhamthorpe would be permitted by the City</li> <li>- <u>Allows for a north side sewer alignment on Burnhamthorpe Road (no road crossings)</u></li> </ul>	✓
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- <u>Higher impact on trees compared to 15C</u></li> </ul>	✗	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- <u>Higher impact on trees compared to 15C</u></li> </ul>	✗	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- <u>Lower impact on trees compared to 15A and 15B</u></li> </ul>	✓
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- No archaeological potential due to slope</li> <li>- Similar impacts to pedestrian walkways compared to other alternatives</li> <li>- Site is not located nearby any bus stops/shelters</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- No archaeological potential since this area is currently under construction</li> <li>- Similar impacts to pedestrian walkways compared to other alternatives</li> <li>- <u>Site is not located nearby any bus stops/shelters</u></li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential</li> <li>- Similar impacts to pedestrian walkways compared to other alternatives</li> <li>- Bus stop shelter (ID: 1563) located at this site; bus stop relocation may be required</li> </ul>	✓
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Portion of site is located on private property; easements required</li> <li>- Similar utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Portion of site is located on private property; easements required</li> <li>- Similar utility setbacks required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Portion of site is located on private property; easements required</li> <li>- Similar utility setbacks required</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	<b>Screened Out</b>		<b>Screened Out</b>		<b>Carried Forward</b>	

**Table 12: Burnhamthorpe Alignment – Central Parkway (Key Connection Point)**

Shaft Site Alternative	17A. Northeast	Screening	17B. Southwest	Screening	17C. Northwest	Screening	17D. Southeast	Screening
<b>Technical</b>	<ul style="list-style-type: none"> <li>- Does not provides connection to 1200 mm trunk sewer on Central Parkway</li> <li>- Existing watermain located within the site (200, 400 &amp; 750 mm)</li> <li>- Existing sanitary sewer located within the site (375 mm)</li> <li>- Existing Enbridge pipeline nearby</li> </ul>	*	<ul style="list-style-type: none"> <li>- Provides connection to 1200 mm trunk sewer on Central Parkway</li> <li>- Existing Enbridge pipeline nearby</li> <li>- Existing Alectra overhead hydro cables and poles at this location</li> </ul>	*	<ul style="list-style-type: none"> <li>- Provides connection to 1200 mm trunk sewer on Central Parkway</li> <li>- Existing watermain located within the site (300, 400 &amp; 750 mm)</li> <li>- Existing Enbridge pipeline nearby</li> <li>- Best availability in land</li> <li>- Allows for a north side sewer alignment on Burnhamthorpe Road (no road crossings)</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Provides connection to 1200 mm trunk sewer on Central Parkway</li> <li>- Existing watermain located within the site (200 mm)</li> <li>- Existing local storm sewer located adjacent to site (1800 mm)</li> <li>- Existing sanitary sewer located within the site (375 mm)</li> <li>- Existing Enbridge pipeline nearby</li> <li>- Existing Alectra overhead hydro cables and poles at this location</li> </ul>	*
<b>Environmental</b>	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- Low tree impact compared to 17D</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- Low tree impact compared to 17D</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- Low tree impact compared to 17D</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No significant natural features at this site</li> <li>- High impact on trees compared to 17A, 17B, 17C</li> </ul>	*
<b>Social / Cultural</b>	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential</li> <li>- Similar impacts to pedestrian walkways compared to alternatives</li> <li>- Impact to existing park benches at this site</li> <li>- Site is not located nearby any bus stops/shelters</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential</li> <li>- Similar impacts to pedestrian walkways compared to alternatives</li> <li>- Site is not located nearby any bus stops/shelters</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential</li> <li>- Similar impacts to pedestrian walkways compared to alternatives</li> <li>- Bus stop shelter (ID: 1566) and bus stop (ID: 3284) shelter located at this site; bus stop relocation may be required</li> <li>- Impact to existing park benches at this site</li> </ul>	✓	<ul style="list-style-type: none"> <li>- This site does not contain any cultural heritage resources</li> <li>- Portion of site has archaeological potential</li> <li>- Similar impacts to pedestrian walkways compared to alternatives</li> <li>- Bus stop shelter (ID: 3283 &amp; 1274) located at this site; bus stop relocation may be required</li> </ul>	✓
<b>Legal</b>	<ul style="list-style-type: none"> <li>- Site is located on private property; easements required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on private property; easements required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on public lands; easements not required</li> </ul>	✓	<ul style="list-style-type: none"> <li>- Site is located on private property; easements required</li> </ul>	✓
<b>Financial</b>	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓	<ul style="list-style-type: none"> <li>- No financial differentiator between sites</li> </ul>	✓
<b>Overall Screening Results</b>	Screened Out		Screened Out		Carried Forward		Screened Out	

### Queensway East Route Alternatives – Evaluation Matrix

Two route alternatives were evaluated for the Queensway East alignment, between Cawthra Road and Hurontario Street:

- **Road Right-of-Way:** Alignment from Hurontario to Tedlo within the road ROW. Alignment curves in and out of shaft locations. This alternative avoids permanent sewer easements on Hydro One lands. One sewer road crossing from Hurontario to Cooksville Creek shaft sites.
- **Hydro One Corridor:** Alignment from Hurontario to Cooksville Creek within the road ROW. Alignment from Cooksville Creek to Tedlo within the Hydro One Corridor. This alternative requires permanent sewer easements on Hydro One lands. One sewer road crossing from Hurontario to Cooksville Creek shaft sites.

The following factors have been considered and are common among both route alternatives:

1. Number of sewer connection locations and number of shaft/manhole compounds are the same
2. Shaft locations will be located off road within the Hydro One corridor
3. Open cut construction is required for all local sewer connections
4. Cooksville Creek is located within CVC jurisdiction conservation authority permitting, and approvals are required as well as coordination on construction methodology and mitigation measures.
5. Coordination with Hydro One is required for site access/temporary easements

**Table 1: Route Alternatives for Queensway East from Cooksville Creek to Tedlo – Evaluation Matrix**

	Hydro One Corridor	Screening	Road Right-of-Way	Screening
Technical	<ul style="list-style-type: none"> <li>• Straight alignment is more favourable to construct with potentially less risk (e.g., less curving in and out of road ROW)</li> <li>• Improved hydraulics with straight alignment</li> <li>• Increased potential for conflicts with future Hydro One infrastructure (sewer alignment within Hydro One lands)</li> <li>• Potentially longer tunnel drive length capability due to less alignment curves</li> <li>• Overall, technically viable</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Curved alignment less favourable to construct with potentially more risk (i.e., curving in and out of road ROW)</li> <li>• Reduced hydraulics with curved alignment</li> <li>• Less potential for conflicts with future Hydro One infrastructure (sewer alignment outside of Hydro One lands)</li> <li>• Potentially shorter tunnel drive length capability due to increased alignment curves</li> <li>• Overall, technically viable</li> </ul>	✓
Environmental	<ul style="list-style-type: none"> <li>• Alignment construction within grassed area (undisturbed lands)</li> <li>• Overall, minimal impact on the environment</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Alignment construction within road ROW (disturbed lands)</li> <li>• Overall, minimal impact on the environment</li> </ul>	✓

	Hydro One Corridor	Screening	Road Right-of-Way	Screening
Social / Cultural	<ul style="list-style-type: none"> <li>Easier surface access through the easement, minimizing road ROW impacts for maintenance</li> <li>Reduced buffer between alignment and residential homes</li> </ul>	✓	<ul style="list-style-type: none"> <li>More difficult surface access through the easement, increasing road ROW impacts for maintenance</li> <li>Greater buffer between alignment and residential homes</li> </ul>	✓
Legal	<ul style="list-style-type: none"> <li>Increased coordination with Hydro One; full alignment and shaft sites on Hydro One lands</li> </ul>	✗	<ul style="list-style-type: none"> <li>Reduced coordination with Hydro One; partial alignment and shaft sites on Hydro One lands</li> </ul>	✓
Financial	<ul style="list-style-type: none"> <li>Significant costs required for permanent easements (~\$5.4M); maximized tunneled sewer routs on Hydro One lands</li> </ul>	✗	<ul style="list-style-type: none"> <li>Reduced costs required for permanent easements (~\$1.8M).; minimized tunneled sewer route on Hydro One lands</li> </ul>	✓
Overall Score	<b>Screened out</b>		<b>Carried Forward</b>	