

Appendix F

- Evaluation Tables

Table F-1: Mississauga City Centre Watermain Natural Environmental Evaluation








Alternative Watermain Routes	Natural environmental considerations and/or constraints, including potential effects on air, land, water and biota.						Evaluation Summary
	Potential effects on water resources, including:			Potential effects on terrestrial features, including:			
	Fisheries / Aquatic Habitat (e.g., number and type of watercourse crossings, changes to water levels/baseflow contribution)	Groundwater Management (e.g., potential short-term water taking, including the need for Permits to Take Water)	Proximity to Wetlands, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and Designated Natural Areas ¹ .	Woodlands, Trees and Other Terrestrial Vegetation (e.g., number and significance of trees removed and/or disturbed, extent of loss/disturbance to grass/vegetation)	Sensitive Species Habitat (e.g., proximity to vulnerable /threatened/ endangered or locally/regionally rare amphibians, birds and other wildlife)	Crossing of Valley Lands, including Floodplains and Meander Belt (e.g., potential flooding and erosion risks)	
<p>Route 1: Tomken Road</p> <ul style="list-style-type: none"> Total length: ~ 6 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Eastgate Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road East; Two at Timberlea Boulevard crossing; Two at Eglinton Avenue East crossing; and Two at Eastgate Parkway crossing. 	 <ul style="list-style-type: none"> Route 1 contains one water crossing² as follows: <ul style="list-style-type: none"> Crossing 1A at Eglinton Avenue East: <ul style="list-style-type: none"> Surface water ditch for stormwater conveyance; No fish habitat observed; Potential indirect or intermittent degraded fish habitat when wetted; Proposed open cut in dry with agency approval. Possible temporary draw down of Little Etobicoke Creek base flow if water-taking is required in the vicinity of Eglinton Avenue East and Eastgate Parkway. Phase 2 hydrogeological investigations will determine potential impacts and groundwater discharge zones. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> Short-term water-taking may be required in the vicinity of Eastgate Parkway and Eglinton Avenue East. Phase 2 hydrogeological investigations will determine if and how much water-taking will be required and if a PTTW is needed. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> No wetlands, ESAs or ANSIs adjacent to Route 1. One Mississauga Special Management Area (NE4SMA) immediately adjacent to Route 1 north of Eastgate Parkway (location of future Mississauga Bus Rapid Transitway). 	 <ul style="list-style-type: none"> No major woodlands (greater than 2 ha) adjacent to Route 1. Two small wooded patches flank an existing agricultural field north of Eastgate Parkway adjacent to Route 1. No vegetation removal anticipated here. No work anticipated outside the paved portion of the road right-of-way, with the exception of Eastgate Parkway. Minimal vegetation removal will be required on the south side of Eastgate Parkway. 	 <ul style="list-style-type: none"> Four TRCA-identified species of conservation concern have been recorded along Route 1 immediately south of Eastgate Parkway. 	 <ul style="list-style-type: none"> Two crossings of TRCA watercourse regulation limits². Not within valley lands or meander belts. No potential for flooding or erosion. 	 <ul style="list-style-type: none"> Potential indirect fish habitat. Short-term water-taking may be required along a short stretch. Avoids wetlands, ESAs, ANSIs and major woodlands. Limited vegetation removal.

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Alternative Watermain Routes	Natural environmental considerations and/or constraints, including potential effects on air, land, water and biota.						Evaluation Summary Least preferred  ↓  Most preferred
	Potential effects on water resources, including:			Potential effects on terrestrial features, including:			
	Fisheries / Aquatic Habitat (e.g., number and type of watercourse crossings, changes to water levels/baseflow contribution)	Groundwater Management (e.g., potential short-term water taking, including the need for Permits to Take Water)	Proximity to Wetlands, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and Designated Natural Areas ¹ .	Woodlands, Trees and Other Terrestrial Vegetation (e.g., number and significance of trees removed and/or disturbed, extent of loss/disturbance to grass/vegetation)	Sensitive Species Habitat (e.g., proximity to vulnerable /threatened/ endangered or locally/regionally rare amphibians, birds and other wildlife)	Crossing of Valley Lands, including Floodplains and Meander Belt (e.g., potential flooding and erosion risks)	
<p>Route 1a: Tomken Road - Eglinton Avenue East Option</p> <ul style="list-style-type: none"> Total length: ~ 6 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Eglinton Avenue East; Highway 403 corridor; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 10 total <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road East; Two at Timberlea Boulevard crossing; Two at Eglinton Avenue East crossing; Two under roadway connecting Cawthra Road and Eglinton Avenue East at Eglinton Avenue East/Highway 403 interchange; and Two at Eastgate Parkway crossing. 	 <ul style="list-style-type: none"> Route 1a contains 1 water crossing² as follows: Crossing 1B at Eglinton Avenue East: <ul style="list-style-type: none"> Surface water ditch for stormwater conveyance; No fish habitat observed; Potential indirect or intermittent degraded fish habitat when wetted; Proposed open cut in dry with agency approval. Possible temporary draw down of Little Etobicoke Creek base flow if water-taking is required in the vicinity of Eglinton Avenue East and Eastgate Parkway/Highway 403. Phase 2 hydrogeological investigations will determine potential impacts and groundwater discharge zones. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> Short-term water-taking may be required in the vicinity of Eastgate Parkway and Eglinton Avenue East. Phase 2 hydrogeological investigations will determine if and how much water-taking will be required and if a PTTW is needed. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> One TRCA wetland feature (approximately 1 ha in size) immediately adjacent to Highway 403 corridor south of Eglinton Avenue East. No ESAs or ANSIs adjacent to Route 1a. Adjacent to one Designated Mississauga Natural Area (NE4) along the Hwy 403 corridor south of Eglinton Avenue East. Adjacent to one Mississauga Special Management Area (NE4SMA) along Tomken Road north of Eastgate Parkway (location of future Mississauga Bus Rapid Transitway). 	 <ul style="list-style-type: none"> One major woodland (approximately 13 ha) immediately adjacent to Highway 403 corridor south of Eglinton Avenue East: <ul style="list-style-type: none"> Designated Mississauga Natural Area (NE4); Significant vegetation removal required for 15-m setback from MTO right-of-way. Possible impacts to Mississauga Natural Area if water-taking is required in this area. No work anticipated outside the paved portion of the road right-of-way north of Eglinton Avenue East. Minimal vegetation removal will be required on the south side of Eastgate Parkway. 	 <ul style="list-style-type: none"> Eight TRCA-identified species of conservation concern have been recorded within Mississauga Natural Area NE4 immediately south of Eglinton Avenue East. 	 <ul style="list-style-type: none"> Four crossings of TRCA watercourse regulation limits². Not within valley lands or meander belts. Limited potential for flooding or erosion. 	 <ul style="list-style-type: none"> No fish habitat. Short-term water-taking may be required along a short stretch. Potential to impact wetlands and natural area/major woodland. Significant vegetation removal. Relatively high number of species of concern.

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






Alternative Watermain Routes	Natural environmental considerations and/or constraints, including potential effects on air, land, water and biota.						Evaluation Summary
	Potential effects on water resources, including:			Potential effects on terrestrial features, including:			
	Fisheries / Aquatic Habitat (e.g., number and type of watercourse crossings, changes to water levels/baseflow contribution)	Groundwater Management (e.g., potential short-term water taking, including the need for Permits to Take Water)	Proximity to Wetlands, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and Designated Natural Areas ¹ .	Woodlands, Trees and Other Terrestrial Vegetation (e.g., number and significance of trees removed and/or disturbed, extent of loss/disturbance to grass/vegetation)	Sensitive Species Habitat (e.g., proximity to vulnerable /threatened/ endangered or locally/regionally rare amphibians, birds and other wildlife)	Crossing of Valley Lands, including Floodplains and Meander Belt (e.g., potential flooding and erosion risks)	
<p>Route 1b: Tomken Road - Matheson Boulevard Option</p> <ul style="list-style-type: none"> Total length: <ul style="list-style-type: none"> ~ 6.5 km (Parkway Belt West corridor option); <u>or</u> ~ 7 km (Kennedy Road-Central Parkway option). Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Matheson Blvd; Parkway Belt West <u>or</u> Kennedy Road-Central Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85-90% Tunnel: ~ 10-15% Tunnel shafts: 6 to 10 <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road; Two at Eglinton Avenue East; Two at creek north of wetland (Parkway Belt West corridor option); Two at wetland crossing near Driftcurrent Drive (Parkway Belt West corridor option); and Two at Highway 403/ORC corridor crossing. 	 <ul style="list-style-type: none"> Route 1b contains no water crossings north of Matheson Boulevard², and 2 water crossings south of Matheson Boulevard as follows: Crossings at the Parkway Belt West-Cawthra Road option include: <ol style="list-style-type: none"> Crossing 2C south of Matheson Boulevard; and Crossing 2B north of Eglinton Avenue East (see Route 2 below for further details). Crossings at the Kennedy Road option include: <ol style="list-style-type: none"> Crossing 3B south of Eglinton Avenue East; and Crossing 3A at Rathburn Road (see Route 3 below for further details). Possible temporary draw down of wetland feature south of Matheson Boulevard and small stream north of Eglinton Ave if water-taking is required in this area. Phase 2 hydrogeological investigations will determine potential impacts and groundwater discharge zones. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> Short-term water-taking may be required in the vicinity of Eastgate Parkway and Eglinton Avenue East. Phase 2 hydrogeological investigations will determine if and how much water-taking will be required and if a PTTW is needed. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> No wetlands adjacent to Route 1b north of Matheson Boulevard. One TRCA unevaluated wetland feature (approximately 2 ha in size) immediately adjacent to Parkway Belt West corridor south of Matheson Boulevard near Driftcurrent Drive. No ESAs or ANSIs adjacent to Route 1b (although the Mississauga Natural Areas Survey 2007 Update classifies Britannia Woods as an ESA). Adjacent to one Designated Mississauga Natural Area (HO9, Britannia Woods) immediately south of Matheson Boulevard (Kennedy Road option). Adjacent to one Mississauga Linkage Area along Parkway Belt West and Kennedy Road route options just north of Highway 403, south of Eglinton Avenue East (location of future Mississauga Bus Rapid Transitway). 	 <ul style="list-style-type: none"> No major woodlands (greater than 2 ha) adjacent to Route 1b north of Matheson Boulevard. Proximity to one major woodland just south of Highway 401, adjacent to Highway 403 (Parkway Belt West option, see Route 2 for further details). Adjacent to one major woodland (Britannia Woods) immediately south of Matheson Boulevard (Kennedy Road option, see Route 3 for further details). Parkway Belt West option south of Matheson Boulevard requires removal of numerous saplings (100+) recently planted adjacent to the Hershey Centre. Parkway Belt West option requires removal of cultural meadow species along most of the route south of Matheson Boulevard. 	 <ul style="list-style-type: none"> One TRCA-identified species of conservation concern has been recorded along Route 1b just north of Eastgate Parkway. 	 <ul style="list-style-type: none"> Three crossings of TRCA watercourse regulation limits², one of which is not currently shown on TRCA mapping provided³ (applies to Parkway Belt West option); <u>or</u> One crossing of TRCA watercourse regulation limits and 2 crossings of CVC watercourse regulation limits (applies to Kennedy Road option). Not within valley lands or meander belts. Limited potential for flooding or erosion. 	 <ul style="list-style-type: none"> Potential or indirect fish habitat. Short-term water-taking may be required along a short stretch. Proximity to Britannia Woods. Potential to impact wetlands and natural areas. Moderate vegetation removal.

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















Alternative Watermain Routes	Natural environmental considerations and/or constraints, including potential effects on air, land, water and biota.						Evaluation Summary
	Potential effects on water resources, including:			Potential effects on terrestrial features, including:			
	Fisheries / Aquatic Habitat (e.g., number and type of watercourse crossings, changes to water levels/baseflow contribution)	Groundwater Management (e.g., potential short-term water taking, including the need for Permits to Take Water)	Proximity to Wetlands, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and Designated Natural Areas ¹ .	Woodlands, Trees and Other Terrestrial Vegetation (e.g., number and significance of trees removed and/or disturbed, extent of loss/disturbance to grass/vegetation)	Sensitive Species Habitat (e.g., proximity to vulnerable /threatened/ endangered or locally/regionally rare amphibians, birds and other wildlife)	Crossing of Valley Lands, including Floodplains and Meander Belt (e.g., potential flooding and erosion risks)	
<p>Route 2: Parkway Belt West Corridor</p> <ul style="list-style-type: none"> Total length: ~ 6 km (Cawthra Road <u>or</u> Central Parkway option). Alignment includes: <ul style="list-style-type: none"> Britannia Road East; Parkway Belt West; and Cawthra Road <u>or</u> Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 75% Tunnel: ~ 25% Tunnel shafts: 12 to 14 <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at creek crossing north of wetland; Two at wetland crossing near Driftcurrent Drive; Two at Eglinton Avenue East; Two at Highway 403/ Eastgate Parkway crossing; and Two at Central Parkway and Rathburn Road (channelized creek crossing). 	 <ul style="list-style-type: none"> Route 2 contains three water crossings² as follows: <ul style="list-style-type: none"> Crossing 2C north of Highway 401: <ul style="list-style-type: none"> Cattail marsh adjacent to Highway 410; No fish habitat; Proposed open cut. Crossing 2B south of Matheson Boulevard: <ul style="list-style-type: none"> Stormwater management channel immediately southeast of storm sewer culvert discharge; Potential or indirect fish habitat but no fish observed; Potential barriers to fish movement, e.g., 1-2 m water level fluctuations, long subsurface distance to Little Etobicoke Creek; Tunnel crossing preferred due to potential for high 'flashy' flows. Crossing 2A north of Eglinton Avenue East: <ul style="list-style-type: none"> Dry surface water conveyance ditch; No fish habitat or intermittent indirect fish habitat; Proposed open cut. Possible temporary draw down of wetland feature south of Matheson Boulevard and small stream north of Eglinton Avenue East if water-taking is required in this area. Phase 2 hydrogeological investigations will determine potential impacts and groundwater discharge zones. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> Artesian conditions – significant water-taking, including depressurization of the existing aquifer, may be required within the Parkway Belt West corridor from just south of Matheson Boulevard to south of Eglinton Avenue East. Phase 2 hydrogeological investigations will determine how much water-taking will be required and if a PTTW is needed. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> One TRCA unevaluated wetland feature (approximately 2 ha in size) immediately adjacent to Route 2 south of Matheson Boulevard near Driftcurrent Drive. No ESAs or ANSIs adjacent to Route 2. Proximity to one Designated Mississauga Natural Area (GT2) just south of Hwy 401, adjacent to Hwy 403. Adjacent to one Mississauga Linkage Area just north of Hwy 403, south of Eglinton Avenue (location of future Mississauga Bus Rapid Transitway). 	 <ul style="list-style-type: none"> No major woodlands (greater than 2 ha) immediately adjacent to Route 2; however, Route 2 is within 200 m of one major woodland (approximately 7 ha) just south of Highway 401, adjacent to Highway 403: <ul style="list-style-type: none"> Designated Mississauga Natural Area (GT2); Vegetation removal not required. Requires removal of cultural meadow species along most of the route. Requires removal of numerous saplings (100+) recently planted north of Matheson Boulevard adjacent to the Hershey Centre. Unevaluated vegetation patch south of Matheson Boulevard near Driftcurrent Drive. Vegetation removal not required due to tunnelling requirements in this section. Minimal vegetation removal will be required for open cut sections north of Highway 401. Minimal vegetation removal will be required on the south side of Eastgate Parkway. 	 <ul style="list-style-type: none"> One TRCA-identified species of conservation concern has been recorded along Route 2 just north of Eastgate Parkway. 	 <ul style="list-style-type: none"> Three crossings of TRCA watercourse regulation limits², one of which is not currently shown on TRCA mapping provided³. Not within valley lands or meander belts. Limited potential for flooding or erosion. 	 <ul style="list-style-type: none"> Potential or indirect fish habitat – one difficult water crossing. Difficult groundwater conditions – significant water-taking likely. Potential impact to wetlands and natural areas. Significant vegetation removal.

Table F-1: Mississauga City Centre Watermain Natural Environmental Evaluation

Alternative Watermain Routes	Natural environmental considerations and/or constraints, including potential effects on air, land, water and biota.						Evaluation Summary Least preferred  ↓  Most preferred
	Potential effects on water resources, including:			Potential effects on terrestrial features, including:			
	Fisheries / Aquatic Habitat (e.g., number and type of watercourse crossings, changes to water levels/baseflow contribution)	Groundwater Management (e.g., potential short-term water taking, including the need for Permits to Take Water)	Proximity to Wetlands, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and Designated Natural Areas ¹ .	Woodlands, Trees and Other Terrestrial Vegetation (e.g., number and significance of trees removed and/or disturbed, extent of loss/disturbance to grass/vegetation)	Sensitive Species Habitat (e.g., proximity to vulnerable /threatened/ endangered or locally/regionally rare amphibians, birds and other wildlife)	Crossing of Valley Lands, including Floodplains and Meander Belt (e.g., potential flooding and erosion risks)	
Route 3: Kennedy Road <ul style="list-style-type: none"> Total length: ~ 6.5 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Kennedy Road; and Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at Eglinton Avenue East crossing; and Two at Highway 403 crossing. 	 <ul style="list-style-type: none"> Route 3 contains three water crossings as follows: <ul style="list-style-type: none"> Crossing 2C north of Highway 401: <ul style="list-style-type: none"> Cattail marsh adjacent to Highway 410; No fish habitat; Proposed open cut. Crossings 3B south of Eglinton Avenue East and 3A at Rathburn Road: <ul style="list-style-type: none"> Similar to water crossing 1D (see Note #2 below), crossings 3E and 3F are actually a significant underground stormwater conveyance system which discharges to Cooksville Creek south of Rathburn Road; Proposed tunnel due to significance of existing infrastructure. Phase 2 hydrogeological investigations will determine potential impacts and groundwater discharge zones. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> Artesian conditions – significant water-taking, including depressurization of the existing aquifer, will likely be required along Kennedy Road from just south of Matheson Boulevard to south of Eglinton Avenue East. Phase 2 hydrogeological investigations will determine how much water-taking will be required and if a PTTW is needed. Develop appropriate dewatering and mitigation strategy. 	 <ul style="list-style-type: none"> No wetlands, ESAs or ANSIs adjacent to Route 3 (although the Mississauga Natural Areas Survey 2007 Update classifies Britannia Woods as an ESA). Adjacent to one Designated Mississauga Natural Area (HO9, Britannia Woods) immediately south of Matheson Boulevard. Adjacent to one Mississauga Linkage Area just north of Highway 403, south of Eglinton Avenue (location of future Mississauga Bus Rapid Transitway). 	 <ul style="list-style-type: none"> One major woodland (approximately 13 ha) both east and west of Kennedy Road immediately south of Matheson Boulevard: <ul style="list-style-type: none"> Known as Britannia Woods; Designated Significant Mississauga Natural Area (HO9); Vegetation removal not anticipated. Possible impacts to Britannia Woods if water-taking is required in this area. Minimal vegetation removal will be required for open cut sections north of Highway 401. 	 <ul style="list-style-type: none"> Two TRCA-identified species of conservation concern and one provincially and nationally designated species at risk have been recorded within Mississauga Natural Area HO9 (Britannia Woods). 	 <ul style="list-style-type: none"> One crossing of TRCA watercourse regulation limits². Two crossings of CVC watercourse regulation limits⁴. Not within valley lands or meander belts. Limited potential for flooding or erosion. 	 <ul style="list-style-type: none"> Potential or indirect fish habitat – one difficult water crossing. Difficult groundwater conditions – significant water-taking likely. Adjacent to Britannia Woods. Minimal vegetation removal.

Notes:

1) All routes in the north section of the study area connect at the Hanlan Reservoir & Pumping Station in the vicinity of Mississauga Designated Natural Area NE7, located immediately south of Britannia Road, west of Shawson Drive. Therefore, this feature is not included in the evaluation tables.

2) Water crossing 1C at Britannia Road is actually an underground stormwater pipe which eventually discharges to form the beginning of Little Etobicoke Creek. Therefore, water crossing 1C has been excluded from the total number of watercourse crossings per route. However, TRCA mapping provided to AECOM indicates a TRCA-regulated area in the vicinity of Tomken Road and Britannia Road East. This is why the number of watercourse crossings (first column) does not match with the number of TRCA regulation limit crossings (second last column). TRCA is confirming the location of the regulated area within this stretch north of Highway 401.

3) TRCA is currently updating their regulation limits mapping with regard to the wetland feature within their regulation limits just south of Matheson Boulevard and east of Driftcurrent Drive.

4) CVC regulation limits mapping not provided to AECOM.

Table F-2: Mississauga City Centre Watermain Social/Cultural, Legal/Jurisdictional and Economic/Financial Evaluation








Alternative Watermain Routes	Social/cultural considerations and/or constraints, including potential effects on communities (i.e., residents, businesses, schools/institutions and/or community/recreational facilities) and historical/archaeological and built heritage features.			Legal/jurisdictional considerations and/or constraints, including the ability to meet municipal development objectives and potential land requirements.		Economic/financial considerations.	Evaluation Summary Least preferred ↓ Most preferred
	Potential for temporary disruption during construction (e.g., dust, noise, vibration and property access)	Temporary traffic impacts during construction, including expected lane closures (e.g., nature/number/direction of open lanes)	Potential for loss and/or disruption to archaeological and built heritage resources (e.g., significance and ability to mitigate)	Compliance with applicable planning policies (e.g., Official Plans, Zoning By-laws, Noise By-laws and Conservation Authority regulations and policies)	Potential land requirements, including temporary and permanent easements ¹	Estimated construction and operating costs	
<p>Route 1: Tomken Road</p> <ul style="list-style-type: none"> Total length: ~ 6 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Eastgate Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road East; Two at Timberlea Boulevard crossing; Two at Eglinton Avenue East crossing; and Two at Eastgate Parkway crossing. 	 <ul style="list-style-type: none"> Temporary disturbances on Tomken Road to numerous businesses north of Eastgate Parkway (predominantly light industrial) and residences on Cawthra Road between Eastgate Parkway and Burnhamthorpe Road: <ul style="list-style-type: none"> 70+ residences with reverse frontage (backing onto the route). Temporary disturbances to at least: <ul style="list-style-type: none"> One hotel; One elementary and One secondary school; One community/recreation facility; and One place of worship. Typical construction-related impacts can be minimized using appropriate construction techniques and mitigation measures, for example: <ul style="list-style-type: none"> Maintain access to business properties during regular business hours; and Construction by schools timed to coincide with summer school closure. Temporary disruptions to private entrances as construction passes, including approximately: <ul style="list-style-type: none"> 70+ business properties with direct and/or indirect access; and 35+ residences with direct access. Mitigate by noise by-law compliance, advanced notification and scheduling. 	 <ul style="list-style-type: none"> Open cut construction requires moving lane restrictions in 100-200 m stretches on Tomken Road, Eastgate Parkway and Cawthra Road. Closure of two lanes of traffic required on Tomken Road and Cawthra Road: <ul style="list-style-type: none"> One lane of traffic maintained in each direction, controlled by temporary signals. Closure of one lane of traffic required on Eastgate Parkway: <ul style="list-style-type: none"> Closure of one eastbound lane (south side); and Construction predominantly in the boulevard. Night-time lane restrictions to one-lane only during construction under Highway 401 on Tomken Road: <ul style="list-style-type: none"> Alternating one-way traffic controlled by temporary signals. City transit service to be maintained, with temporary relocation of City transit stops as required. Verify proposed traffic management plans at detail design stage, including specifics such as emergency vehicle access to/from Fire Station #117. 	 <ul style="list-style-type: none"> No loss or disruption to archaeological resources anticipated (construction proposed predominantly within the existing road right-of-way). Should construction be proposed outside the existing road right-of-way on previously undisturbed lands determined to have high archaeological potential, Stage 2 archaeological investigations (e.g., test-pits in proposed construction areas) will be required. One adjacent built heritage feature identified – mitigate by pre-construction condition inspection and temporarily fencing off the area during construction to prevent potential disruption. One cultural heritage landscape crossing identified – mitigate by confining construction to the existing road right-of-way or restoring any disturbed areas to an existing or better condition. 	 <ul style="list-style-type: none"> Compliant with both Regional and City Official Plan policies. No noise by-law exemption required for night-time construction under Hwy 401. Comply with noise by-law for day-time construction within required areas. Toronto Region Conservation Authority (TRCA) policy considerations include: <ul style="list-style-type: none"> Two crossings of watercourse regulation limits; One crossing of Terrestrial Natural Heritage Strategy areas; and 750± m installation/construction within Habitat Implementation Plan areas south of Eastgate Parkway. Consult with TRCA to identify opportunities for restoration. 	 <ul style="list-style-type: none"> Watermain located predominantly within existing road right-of-way. Approximately 1000 m permanent easement required from the Ontario Realty Corporation (ORC) for Parkway Belt West lands on the south side of Eastgate Parkway, and along Tomken Road just north of Eastgate Parkway. Encroachment permit required from the MTO for 400± m Highway 401 crossing (open cut under Highway 401 bridges on Tomken Rd) and corner of Cawthra Road and Eastgate Parkway. Both permanent and temporary easements required for tunnel shafts and shaft construction compounds, each including: <ul style="list-style-type: none"> One from ORC; and Two from private owners. Possible easements required for tunnel crossing of Eglinton Avenue East. 	 <ul style="list-style-type: none"> Approximately \$55M estimated capital costs. Relatively low operating costs (no maintenance issues or transient concerns). ORC easement required. Reduced capital costs associated with coordination of proposed Hanlan Feedermain construction and restoration. 	 <ul style="list-style-type: none"> Least impacts to residences and travelling public when coordinated with construction of the proposed Hanlan Feedermain (avoids traffic disruptions on two major north-south roads). Short-term impacts to businesses and residences can be mitigated. Moderate land requirements. Avoids significant MTO encroachments. Relatively low capital costs.

Table F-2: Mississauga City Centre Watermain Social/Cultural, Legal/Jurisdictional and Economic/Financial Evaluation








Alternative Watermain Routes	Social/cultural considerations and/or constraints, including potential effects on communities (i.e., residents, businesses, schools/institutions and/or community/recreational facilities) and historical/archaeological and built heritage features.			Legal/jurisdictional considerations and/or constraints, including the ability to meet municipal development objectives and potential land requirements.		Economic/financial considerations.	Evaluation Summary Least preferred ↓ Most preferred
	Potential for temporary disruption during construction (e.g., dust, noise, vibration and property access)	Temporary traffic impacts during construction, including expected lane closures (e.g., nature/number/direction of open lanes)	Potential for loss and/or disruption to archaeological and built heritage resources (e.g., significance and ability to mitigate)	Compliance with applicable planning policies (e.g., Official Plans, Zoning By-laws, Noise By-laws and Conservation Authority regulations and policies)	Potential land requirements, including temporary and permanent easements ¹	Estimated construction and operating costs	
<p>Route 1a: Tomken Road - Eglinton Avenue East</p> <ul style="list-style-type: none"> • Total length: ~ 6 km • Streets include: <ul style="list-style-type: none"> - Britannia Road East; - Tomken Road; - Eglinton Avenue East; - Highway 403 corridor; and - Cawthra Road. • Proposed construction method: <ul style="list-style-type: none"> - Open cut: ~ 85% - Tunnel: ~ 15% • Tunnel shafts: 10 total <ul style="list-style-type: none"> - Two at Tomken Road and Britannia Road East; - Two at Timberlea Boulevard crossing; - Two at Eglinton Avenue East crossing; - Two under roadway connecting Cawthra Road and Eglinton Avenue East at Eglinton Avenue East/Highway 403 interchange; and - Two at Eastgate Parkway crossing. 	 <ul style="list-style-type: none"> • Temporary disturbances on Tomken Road to numerous businesses north of Eglinton Avenue East (predominantly light industrial) and residences on Cawthra Road between Eastgate Parkway and Burnhamthorpe Road: <ul style="list-style-type: none"> - 70+ residences with reverse frontage (backing onto the route). • Temporary disturbances to at least: <ul style="list-style-type: none"> - One elementary school; and - Two places of worship. • Typical construction-related impacts can be minimized using appropriate construction techniques and mitigation measures, for example: <ul style="list-style-type: none"> - Maintain access to business properties during regular business hours; and - Construction by schools timed to coincide with summer school closure. • Temporary disruptions to private entrances as construction passes, including approximately: <ul style="list-style-type: none"> - 65+ business properties with direct and/or indirect access; and - 20+ residences with direct access. • Mitigate by noise by-law compliance, advanced notification and scheduling. 	 <ul style="list-style-type: none"> • Open cut construction requires moving lane restrictions in 100-200 m stretches on Tomken Road, Eglinton Avenue East and Cawthra Road. • Closure of 2 lanes of traffic required on Tomken Road and Eglinton Avenue: <ul style="list-style-type: none"> - One lane of traffic maintained in each direction, controlled by temporary signals. • Night-time lane restrictions to 1-lane only during construction under Highway 401 on Tomken Road: <ul style="list-style-type: none"> - Alternating one-way traffic controlled by temporary signals. • No lane closures expected on the Highway 403 on-ramp/Eglinton Avenue East ramp (construction in the boulevard); however, open cut construction through the Eastgate Parkway/Cawthra Road/Highway 403 intersection will likely have greater impacts on intersection operations than at the Tomken Road/Eastgate Parkway intersection. • City transit service to be maintained, with temporary relocation of City transit stops as required. • Verify proposed traffic management plans at detail design stage, including specifics such as emergency vehicle access to/from Fire Station #117. 	 <ul style="list-style-type: none"> • No loss or disruption to archaeological resources anticipated (construction proposed within the existing road right-of-way). • Should construction be proposed outside the existing road right-of-way on previously undisturbed lands determined to have high archaeological potential, Stage 2 archaeological investigations (e.g., test-pits in proposed construction areas) will be required. • No adjacent built heritage features identified. • One cultural heritage landscape crossing identified – mitigate by confining construction to the existing road right-of-way or restoring any disturbed areas to an existing or better condition. 	 <ul style="list-style-type: none"> • Compliant with both Regional and City Official Plan policies. • Non-compliant with MTO policy (requires 15 m setback from Highway 403 right-of-way). • No noise by-law exemption required for night-time construction under Highway 401. • Comply with noise by-law for day-time construction within required areas. • TRCA policy considerations include: <ul style="list-style-type: none"> - Four crossings of watercourse regulation limits; - Two crossings of Terrestrial Natural Heritage Strategy areas; and - 800± m installation/construction adjacent Habitat Implementation Plan areas east of Highway 403. • Consult with TRCA to identify opportunities for restoration. 	 <ul style="list-style-type: none"> • Watermain located predominantly within existing road right-of-way. • Approximately 900 m permanent easement required from the ORC for Parkway Belt Wet lands east of Highway 403. • Encroachment permits required from the MTO, including: <ul style="list-style-type: none"> - 400± m crossing of Highway 401 (open cut under Highway 401 bridges on Tomken Road); - 1000± m installation/construction within Highway 403 right-of-way; and - Permanent tunnel shaft and temporary shaft construction compound within Highway 403 right-of-way. • Both permanent and temporary easements required for tunnel shafts and shaft construction compounds, each including: <ul style="list-style-type: none"> - Two from ORC; and - One from private owner. • Possible easements required for tunnel crossing of Eglinton Avenue East. 	 <ul style="list-style-type: none"> • Approximately \$55M to \$60M estimated capital costs. • Relatively low operating costs (no maintenance issues or transient concerns). • ORC easement required. • Reduced capital costs associated with coordination of the proposed Hanlan Feedermain construction and restoration north of Eglinton Avenue East. 	 <ul style="list-style-type: none"> • Least impacts to residences and travelling public when coordinated with construction of the proposed Hanlan Feedermain (avoids traffic disruptions on two major north-south roads). • Short-term impacts to businesses and residences can be mitigated. • Moderate land requirements. • Significant MTO encroachments – conflicts with MTO policy. • Relatively low capital costs.

Table F-2: Mississauga City Centre Watermain Social/Cultural, Legal/Jurisdictional and Economic/Financial Evaluation








Alternative Watermain Routes	Social/cultural considerations and/or constraints, including potential effects on communities (i.e., residents, businesses, schools/institutions and/or community/recreational facilities) and historical/archaeological and built heritage features.			Legal/jurisdictional considerations and/or constraints, including the ability to meet municipal development objectives and potential land requirements.		Economic/financial considerations.	Evaluation Summary
	Potential for temporary disruption during construction (e.g., dust, noise, vibration and property access)	Temporary traffic impacts during construction, including expected lane closures (e.g., nature/number/direction of open lanes)	Potential for loss and/or disruption to archaeological and built heritage resources (e.g., significance and ability to mitigate)	Compliance with applicable planning policies (e.g., Official Plans, Zoning By-laws, Noise By-laws and Conservation Authority regulations and policies)	Potential land requirements, including temporary and permanent easements ¹	Estimated construction and operating costs	Least preferred ↓ Most preferred
<p>Route 1b: Tomken Road - Matheson Boulevard</p> <ul style="list-style-type: none"> Total length: <ul style="list-style-type: none"> ~ 6.5 km (Parkway Belt West corridor option); <u>or</u> ~ 7 km (Kennedy Road-Central Parkway option). Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Matheson Boulevard; Parkway Belt West <u>or</u> Kennedy Road-Central Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85-90% Tunnel: ~ 10-15% Tunnel shafts: 6 to 10 <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road; Two at Eglinton Avenue East; Two at creek north of wetland (Parkway Belt West corridor option); Two at wetland crossing near Driftcurrent Drive (Parkway Belt West corridor option); and Two at Highway 403/ORC corridor crossing. 	 <ul style="list-style-type: none"> Temporary disturbances to numerous businesses on both Matheson Boulevard and Tomken Road north of Matheson Boulevard (predominantly light industrial) and numerous residences south of Matheson Boulevard on Kennedy Road <u>or</u> backing onto the Parkway Belt West corridor: <ul style="list-style-type: none"> 150+ residences with reverse frontage (backing onto the route). Temporary disturbances to at least: <ul style="list-style-type: none"> One community/recreation facility; and Two park/recreational areas (Parkway Belt West-Cawthra Road option). Typical construction-related impacts can be minimized using appropriate construction techniques and mitigation measures, for example: <ul style="list-style-type: none"> Maintain access to business properties during regular business hours; and Winter-time construction only by park/recreational areas. Temporary disruptions to private entrances as construction passes, including approximately: <ul style="list-style-type: none"> 35+ business properties with direct and/or indirect access; 20+ residences with direct access; and 60+ residences with indirect access (Kennedy Road). Mitigate by noise by-law compliance, advanced notification and scheduling. 	 <ul style="list-style-type: none"> Open cut construction requires moving lane restrictions in 100-200 m stretches on Tomken Road, Matheson Boulevard and on Cawthra Road <u>or</u> Kennedy Road and Central Parkway. Closure of 2 lanes of traffic required on Tomken Road and Matheson Boulevard, and on Cawthra Road <u>or</u> Kennedy Road and Central Parkway: <ul style="list-style-type: none"> One lane of traffic maintained in each direction, controlled by temporary signals. Night-time lane restrictions to 1-lane only during construction under Highway 401 on Tomken Road: <ul style="list-style-type: none"> Alternating one-way traffic controlled by temporary signals. Only access maintained to Iceland is via Matheson Boulevard. City transit service to be maintained, with temporary relocation of City transit stops as required. Verify proposed traffic management plans at detail design stage, including specifics such as emergency vehicle access to/from Fire Station #117. 	 <ul style="list-style-type: none"> Stage 2 archaeological investigations (e.g., test-pits in proposed construction areas) required on previously undisturbed lands determined to have high archaeological potential (i.e., portions of the Parkway Belt West corridor). No adjacent built heritage features identified. One cultural heritage landscape crossing identified for Kennedy Road-Central Parkway option; 1 cultural heritage landscape identified for Parkway Belt West-Cawthra Road option – mitigate by confining construction to the existing road right-of-way or restoring any disturbed areas to an existing or better condition. 	 <ul style="list-style-type: none"> Compliant with both Regional and City Official Plan policies. No noise by-law exemption required for night-time construction under Highway 401. Comply with noise by-law for day-time construction within required areas. TRCA policy considerations include: <ul style="list-style-type: none"> Up to three crossings of watercourse regulation limits; and One crossing of Terrestrial Natural Heritage Strategy areas. CVC policy considerations include: <ul style="list-style-type: none"> Two crossings of watercourse regulation limits (applies to Kennedy Road option only). Consult with TRCA and CVC to identify opportunities for restoration. 	 <ul style="list-style-type: none"> Approximately 3000 m (Parkway Belt West option) <u>or</u> 300 m (Kennedy Road option) permanent easement required from the ORC for Parkway Belt West lands. Encroachment permits required from the MTO, including: <ul style="list-style-type: none"> 400± m crossing of Highway 401 (open cut under Highway 401 bridges on Tomken Road) and 300± m crossing of Highway 403; 500-750± m installation/construction within Highway 403 right-of-way (Parkway Belt West option); and Permanent tunnel shaft and temporary shaft construction compound within Highway 403 right-of-way. Both permanent and temporary easements required for tunnel shafts and shaft construction compounds, each including: <ul style="list-style-type: none"> Four from ORC; Two from private owners; and One to three from the City. Will require review of the City's current leasing agreement with ORC (Parkway Belt West option). 	 <ul style="list-style-type: none"> Approximately \$60-\$70M estimated capital costs. Relatively high operating costs (maintenance issues and transient concerns due to existing elevations and artesian conditions). ORC easement required. Somewhat reduced capital costs associated with coordination of the proposed Hanlan Feedermain construction and restoration north of Matheson Boulevard. High contingency costs due to likely water-taking requirements within the Parkway Belt West corridor <u>or</u> along Kennedy Road. 	 <ul style="list-style-type: none"> Moderate impacts to residences and travelling public when coordinated with construction of the proposed Hanlan Feedermain north of Matheson Boulevard. Short-term impacts to businesses and residences can be mitigated. Areas of high archaeological potential on previously undisturbed lands (Parkway Belt corridor option). Significant land requirements. Significant MTO encroachments. Relatively moderate capital costs. Relatively high operating and contingency costs.

Table F-2: Mississauga City Centre Watermain Social/Cultural, Legal/Jurisdictional and Economic/Financial Evaluation








Alternative Watermain Routes	Social/cultural considerations and/or constraints, including potential effects on communities (i.e., residents, businesses, schools/institutions and/or community/recreational facilities) and historical/archaeological and built heritage features.			Legal/jurisdictional considerations and/or constraints, including the ability to meet municipal development objectives and potential land requirements.		Economic/financial considerations.	Evaluation Summary Least preferred ↓ Most preferred
	Potential for temporary disruption during construction (e.g., dust, noise, vibration and property access)	Temporary traffic impacts during construction, including expected lane closures (e.g., nature/number/direction of open lanes)	Potential for loss and/or disruption to archaeological and built heritage resources (e.g., significance and ability to mitigate)	Compliance with applicable planning policies (e.g., Official Plans, Zoning By-laws, Noise By-laws and Conservation Authority regulations and policies)	Potential land requirements, including temporary and permanent easements ¹	Estimated construction and operating costs	
<p>Route 2: Parkway Belt West Corridor</p> <ul style="list-style-type: none"> Total length: ~ 6 km (Cawthra Road <u>or</u> Central Parkway option). Alignment includes: <ul style="list-style-type: none"> Britannia Road East; Parkway Belt West; and Cawthra Road <u>or</u> Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 75% Tunnel: ~ 25% Tunnel shafts: 12 to 14 <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at creek crossing north of wetland; Two at wetland crossing near Driftcurrent Drive Two at Eglinton Avenue; Two at Highway 403/ Eastgate Parkway crossing; and Two at Central Parkway and Rathburn Road (channelized creek crossing). 	 <ul style="list-style-type: none"> Temporary disturbances to numerous residences backing onto the Parkway Belt West corridor south of Matheson Boulevard: <ul style="list-style-type: none"> 200+ residences with reverse frontage (backing onto the route). Temporary disturbances to at least: <ul style="list-style-type: none"> Two community/recreation facilities; One to two elementary schools; and Two park/recreational areas. Typical construction-related impacts can be minimized using appropriate construction techniques and mitigation measures, for example: <ul style="list-style-type: none"> Maintain access to business and recreational properties during regular business hours; and Winter-time construction only by park/recreational areas. Temporary disruptions to private entrances as construction passes, including approximately: <ul style="list-style-type: none"> 10+ business properties with direct access; and 20+ residences with direct access (Cawthra Road). Mitigate by noise by-law compliance, advanced notification and scheduling. 	 <ul style="list-style-type: none"> Minimal traffic impacts – open cut construction requires lane restrictions at road crossings only. Closure of 2 lanes of traffic required on Britannia Road: <ul style="list-style-type: none"> One narrow lane of traffic maintained in each direction, controlled by temporary signals. City transit service maintained. Verify proposed traffic management plans at detail design stage. 	 <ul style="list-style-type: none"> Stage 2 archaeological investigations (e.g., test-pits in proposed construction areas) required on previously undisturbed lands determined to have high archaeological potential. No adjacent built heritage features identified. One cultural heritage landscape identified – mitigate by restoring disturbed areas to an existing or better condition. 	 <ul style="list-style-type: none"> Compliant with both Regional and City Official Plan policies. Comply with noise by-law for day-time construction within required areas. TRCA policy considerations include: <ul style="list-style-type: none"> Three crossings of watercourse regulation limits; Two crossings of Terrestrial Natural Heritage Strategy areas; and Adjacent one unevaluated wetland area. Consult with TRCA to identify opportunities for restoration. 	 <ul style="list-style-type: none"> Watermain located predominantly outside existing road right-of-way. 5000+ m permanent easement required from the ORC for Parkway Belt West lands. Encroachment permits required from the MTO, including: <ul style="list-style-type: none"> 500± m crossing of Highway 410, 300± m crossing of Highway 401 and 300± m crossing of Highway 403; 500-750± m installation/ construction within Highway 403 right-of-way; and Permanent tunnel shaft and temporary shaft construction compound within Highway 403 right-of-way. Both permanent and temporary easements required for tunnel shafts and shaft construction compounds, each including: <ul style="list-style-type: none"> Two from ORC; Two from private owners; and Four from the City. Will require review of the City's current leasing agreement with ORC. Possible easements required for tunnel crossing of Eglinton Avenue East. 	 <ul style="list-style-type: none"> Approximately \$70M estimated capital costs. Relatively high operating costs (maintenance issues and transient concerns due to existing elevations and artesian conditions). ORC easement required. High contingency costs due to likely water-taking requirements. 	 <ul style="list-style-type: none"> Least impacts to travelling public (traffic impacts only at roadway crossings). Significant social disruption (numerous homes backing onto the corridor). Impacts to City recreational facilities. Areas of high archaeological potential on previously undisturbed lands. Significant property and easement requirements. Significant MTO encroachments. Relatively high capital costs. Relatively high operating and contingency costs.

Table F-2: Mississauga City Centre Watermain Social/Cultural, Legal/Jurisdictional and Economic/Financial Evaluation

Alternative Watermain Routes	Social/cultural considerations and/or constraints, including potential effects on communities (i.e., residents, businesses, schools/institutions and/or community/recreational facilities) and historical/archaeological and built heritage features.			Legal/jurisdictional considerations and/or constraints, including the ability to meet municipal development objectives and potential land requirements.		Economic/financial considerations.	Evaluation Summary Least preferred ↓ Most preferred
	Potential for temporary disruption during construction (e.g., dust, noise, vibration and property access)	Temporary traffic impacts during construction, including expected lane closures (e.g., nature/number/direction of open lanes)	Potential for loss and/or disruption to archaeological and built heritage resources (e.g., significance and ability to mitigate)	Compliance with applicable planning policies (e.g., Official Plans, Zoning By-laws, Noise By-laws and Conservation Authority regulations and policies)	Potential land requirements, including temporary and permanent easements ¹	Estimated construction and operating costs	
<p>Route 3: Kennedy Road</p> <ul style="list-style-type: none"> Total length: ~ 6.5 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Kennedy Road; and Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at Eglinton Avenue East crossing; and Two at Highway 403 crossing. 	<p>○</p> <ul style="list-style-type: none"> Temporary disturbances on Kennedy Road to numerous businesses north of Matheson Boulevard (predominantly light industrial) and numerous residences south of Matheson Boulevard: <ul style="list-style-type: none"> 150+ residences with reverse frontage (backing onto the route). Temporary disturbances to at least: <ul style="list-style-type: none"> One elementary school. Typical construction-related impacts can be minimized using appropriate construction techniques and mitigation measures, for example: <ul style="list-style-type: none"> Maintain access to business properties during regular business hours; and Construction by schools timed to coincide with summer school closure. Temporary disruptions to private entrances as construction passes, including approximately: <ul style="list-style-type: none"> 25+ business properties with direct access; and 60+ residences with indirect access. Mitigate by noise by-law compliance, advanced notification and scheduling. 	<p>◐</p> <ul style="list-style-type: none"> Open cut construction requires moving lane restrictions in 100-200 m stretches on Britannia Road, Kennedy Road and Central Parkway. Closure of two lanes of traffic required on Britannia Road, Kennedy Road and Central Parkway: <ul style="list-style-type: none"> One lane of traffic maintained in each direction, controlled by temporary signals. Narrow lanes on Britannia Road. City transit service to be maintained, with temporary relocation of City transit stops as required. Verify proposed traffic management plans at detail design stage. 	<p>◐</p> <ul style="list-style-type: none"> No loss or disruption to archaeological resources anticipated (construction proposed within the existing road right-of-way). Should construction be proposed outside the existing road right-of-way on previously undisturbed lands determined to have high archaeological potential, Stage 2 archaeological investigations (e.g., test-pits in proposed construction areas) will be required. No adjacent built heritage features identified. One cultural heritage landscape crossing identified – mitigate by confining construction to the existing road right-of-way or restoring any disturbed areas to an existing or better condition. 	<p>●</p> <ul style="list-style-type: none"> Compliant with both Regional and City Official Plan policies. Comply with noise by-law for day-time construction within required areas. TRCA policy considerations include: <ul style="list-style-type: none"> Two crossings of watercourse regulation limits; and Three crossings of Terrestrial Natural Heritage Strategy areas. CVC policy considerations include: <ul style="list-style-type: none"> Two crossings of watercourse regulation limits. Consult with TRCA and CVC to identify opportunities for restoration. 	<p>◐</p> <ul style="list-style-type: none"> Watermain located predominantly within existing road right-of-way. 800+ m permanent easement required from the ORC for crossing of Parkway Belt West lands. Encroachment permits required from the MTO, including: <ul style="list-style-type: none"> 500± m crossing of Highway 410; 150± m crossing of Highway 401; and 300± m crossing of Highway 403. Both permanent and temporary easements required for tunnel shafts and shaft construction compounds, each including: <ul style="list-style-type: none"> Two from ORC; Four from private owners; and One from the City. Possible easements required for tunnel crossing of Eglinton Avenue East. 	<p>○</p> <ul style="list-style-type: none"> Approximately \$70M estimated capital costs. Relatively high operating costs (maintenance issues due to artesian conditions). High contingency costs due to likely water-taking requirements. 	<p>◐</p> <ul style="list-style-type: none"> Significant social disruption (numerous homes backing onto the corridor). Moderate land requirements. Relatively moderate capital costs. Relatively high operating and contingency costs.

Notes: 1) Temporary easements will be required for all routes for construction materials/equipment storage areas.

Table F-3: Mississauga City Centre Watermain Technical Evaluation










Alternative Watermain Routes	Technical considerations and/or constraints.								Evaluation Summary Least preferred ↓ Most preferred
	Constructability (i.e., number of watermain bends, rock excavation, support and soil condition)	Construction Method (i.e., open cut or tunnelling and agency requirements)	Operability/Hydraulics (i.e., pressure head losses, interconnection opportunities)	Maintenance Ability (i.e., accessibility to maintenance chambers – shallow open cut vs. deep tunnel)	Conflicts with Existing Utilities/Infrastructure and Ability to Maintain Existing Services	Difficult/Significant Major Infrastructure Crossings	Conflicts with Recent Improvements or Coordination Opportunities with Planned Infrastructure Improvements (e.g., road resurfacing)	Truck Traffic ¹ Management Issues During Construction	
<p>Route 1: Tomken Road</p> <ul style="list-style-type: none"> Total length: ~ 6 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Eastgate Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road; Two at Timberlea Boulevard crossing; Two at Eglinton Avenue East crossing; and Two at Eastgate Parkway crossing. 	 <ul style="list-style-type: none"> Low number of directional changes required. Open cut installation under Highway 401 bridge overpasses requires longer-than-normal construction duration due to limited vertical/horizontal clearances. Excavation in till and sand shale – allow for stress relief under Highway 401. 	 <ul style="list-style-type: none"> Predominantly open cut construction, including under Highway 401. Proposed tunnelled sections: <ul style="list-style-type: none"> Meter chamber to Tomken Road/Britannia Road East; Timberlea Boulevard intersection; Eglinton Avenue East intersection; and Eastgate Parkway/ORC corridor. Adhere to requirements of the following agencies for tunnel crossings: <ul style="list-style-type: none"> Trans-Northern Pipelines; Enbridge Consumers Gas Pipelines; Sun Canadian Pipelines; and Imperial Oil Pipelines. MTO-required monitoring of Highway 401 bridge overpass structures. Adhere to Hydro One requirements for crossing near hydro towers (e.g., 10 m setback from tower base). 	 <ul style="list-style-type: none"> Elevation of route would place the watermain lower than the Hanlan Reservoir. Good interconnection opportunity to Pressure Zone 3. No supply redundancy – replacement of existing watermain (c.1976/1954) with larger diameter pipe. Less maintenance with one brand new watermain vs. one new and one old watermain. 	 <ul style="list-style-type: none"> Typical open cut installation depths – typical maintenance access. Typical access to maintenance chambers due to location within right-of-way. Moderate tunnel depths. Chamber depths are relatively shallow. Loss of potential for redundancy. 	 <ul style="list-style-type: none"> Moderate number of conflicts with existing utilities – some relocation required. Potential for temporary interruption to existing services during relocation. Existing MCC could be decommissioned in stages. 	 <ul style="list-style-type: none"> Moderate number of large diameter infrastructure crossings. Ability to cross under Highway 401 by utilizing Tomken Road underpass. Multiple pipeline crossings adjacent to Eastgate Parkway. Limited conflict with future Mississauga Bus Rapid Transitway (BRT). Does <u>not</u> require deep crossing of BRT. 	 <ul style="list-style-type: none"> Opportunity to coordinate with proposed Hanlan Feedermain installation – coordinate road resurfacing plans. Opportunity to replace aging infrastructure – proactively addresses future replacement of existing watermain (c.1976/1954): <ul style="list-style-type: none"> Avoids future maintenance/repairs; and Avoids future construction impacts. Necessitates extending the proposed Hanlan Feedermain tunnel along Tomken Road north of Eglinton Ave East. 	 <ul style="list-style-type: none"> Good access – typical truck traffic management issues. Truck traffic is already common on Tomken Road. 	 <ul style="list-style-type: none"> Minimal tunnelling requirements – open cut possible under Highway 401. Sufficient right-of-way width – available “clear zones”. Opportunity to coordinate construction with proposed Hanlan Feedermain – confines construction impacts to one corridor. Crossing of future Mississauga Bus Rapid Transitway will not require deep bury. Truck traffic already common on Tomken Road.

Table F-3: Mississauga City Centre Watermain Technical Evaluation










Alternative Watermain Routes	Technical considerations and/or constraints.								Evaluation Summary Least preferred ↓ Most preferred
	Constructability (i.e., number of watermain bends, rock excavation, support and soil condition)	Construction Method (i.e., open cut or tunnelling and agency requirements)	Operability/Hydraulics (i.e., pressure head losses, interconnection opportunities)	Maintenance Ability (i.e., accessibility to maintenance chambers – shallow open cut vs. deep tunnel)	Conflicts with Existing Utilities/Infrastructure and Ability to Maintain Existing Services	Difficult/Significant Major Infrastructure Crossings	Conflicts with Recent Improvements or Coordination Opportunities with Planned Infrastructure Improvements (e.g., road resurfacing)	Truck Traffic ¹ Management Issues During Construction	
<p>Route 1a: Tomken Road - Eglinton Avenue East Option</p> <ul style="list-style-type: none"> • Total length: ~ 6 km • Streets include: <ul style="list-style-type: none"> - Britannia Road East; - Tomken Road; - Eglinton Avenue East; - Highway 403 corridor; and - Cawthra Road. • Proposed construction method: <ul style="list-style-type: none"> - Open cut: ~ 85% - Tunnel: ~ 15% • Tunnel shafts: 10 total <ul style="list-style-type: none"> - Two at Tomken Road and Britannia Road East; - Two at Timberlea Boulevard crossing; - Two at Eglinton Avenue East crossing; - Two under roadway connecting Cawthra Road and Eglinton Avenue East at Eglinton Avenue East/Highway 403 interchange; and - Two at Eastgate Parkway/ORC corridor crossing. 	 <ul style="list-style-type: none"> • Low number of directional changes required. • Open cut installation under Highway 401 bridge overpasses requires longer-than-normal construction duration due to limited vertical/horizontal clearances. • Excavation in till and sand shale – allow for stress relief under Highway 401. 	 <ul style="list-style-type: none"> • Predominantly open cut construction, including under Highway 401 and through woodlands south of Eglinton Avenue East (15 m MTO setback required). • Proposed tunnelled sections: <ul style="list-style-type: none"> - Meter chamber to Tomken Road/Britannia Road East; - Timberlea Boulevard intersection; - Eglinton Avenue East intersection; - Portion of Eglinton Avenue East/Highway 403 interchange; and - Eastgate Parkway/ORC corridor crossing. • Adhere to requirements of the following agencies for tunnel crossings: <ul style="list-style-type: none"> - Trans-Northern Pipelines; - Enbridge Consumers Gas Pipelines; - Sun Canadian Pipelines; and - Imperial Oil Pipelines. • MTO-required monitoring of Highway 401 bridge overpass structures. • Adhere to Hydro One requirements for crossing near hydro towers (e.g., 10 m setback from tower base). 	 <ul style="list-style-type: none"> • Elevation of route would place the watermain lower than the Hanlan Reservoir – low transient issues. • Good interconnection opportunity to Pressure Zone 3. • No supply redundancy – replacement of existing watermain (c.1954/1976) with larger diameter pipe. • Less maintenance with one brand new watermain vs. one new and one old watermain. 	 <ul style="list-style-type: none"> • Typical open cut installation depths – typical maintenance access. • Difficult access to maintenance chambers south of Eglinton Ave and along Highway 403/Eglinton Avenue East access ramp. • Moderate tunnel depths. • Loss of potential for redundancy. 	 <ul style="list-style-type: none"> • Moderate number of conflicts with existing utilities – some relocation required. • Potential for temporary interruption to existing services during relocation. • Existing MCC could be decommissioned in stages. 	 <ul style="list-style-type: none"> • Moderate number of large diameter infrastructure crossings. • Ability to cross under Highway 401 by utilizing Tomken Road underpass. • Multiple pipeline crossings adjacent Eastgate Parkway. • Conflict with future Mississauga Bus Rapid Transitway (BRT). Requires deep crossing of BRT. 	 <ul style="list-style-type: none"> • Opportunity to coordinate with proposed Hanlan Feedermain installation north of Eglinton Avenue East – coordinate road resurfacing plans. • Opportunity to replace aging infrastructure – proactively addresses future replacement of existing watermain (c.1976/1954): <ul style="list-style-type: none"> - Avoids future maintenance/repairs; and - Avoids future construction impacts. 	 <ul style="list-style-type: none"> • Good access north of Eglinton Avenue East – typical truck traffic management issues. • Truck traffic is already common on Tomken Road. • Poor truck access on south side of Eglinton Avenue East and along Highway 403/Eglinton Avenue East access ramp – haul road construction necessary. 	 <ul style="list-style-type: none"> • Minimal tunnelling requirements – open cut possible under Highway 401. • Sufficient right-of-way width – available “clear zones”. • Opportunity to coordinate construction with the proposed Hanlan Feedermain north of Eglinton Avenue East – confines construction impacts to one corridor. • Truck traffic already common on Tomken Road. • Issues south of Eglinton Avenue East along Highway 403/Eglinton Avenue East access ramp: <ul style="list-style-type: none"> - MTO right-of-way conflicts; - Requires trenchless installation; and - Requires some relocation of existing large hydro infrastructure. • Deep bury required for crossing of future Mississauga Bus Rapid Transitway.

Table F-3: Mississauga City Centre Watermain Technical Evaluation










Alternative Watermain Routes	Technical considerations and/or constraints.								Evaluation Summary Least preferred ↓ Most preferred
	Constructability (i.e., number of watermain bends, rock excavation, support and soil condition)	Construction Method (i.e., open cut or tunnelling and agency requirements)	Operability/Hydraulics (i.e., pressure head losses, interconnection opportunities)	Maintenance Ability (i.e., accessibility to maintenance chambers – shallow open cut vs. deep tunnel)	Conflicts with Existing Utilities/Infrastructure and Ability to Maintain Existing Services	Difficult/Significant Major Infrastructure Crossings	Conflicts with Recent Improvements or Coordination Opportunities with Planned Infrastructure Improvements (e.g., road resurfacing)	Truck Traffic ¹ Management Issues During Construction	
<p>Route 1b: Tomken Road - Matheson Boulevard East Option</p> <ul style="list-style-type: none"> Total length: <ul style="list-style-type: none"> ~ 6.5 km (Parkway Belt West corridor option); <u>or</u> ~ 7 km (Kennedy Road-Central Parkway option). Streets include: <ul style="list-style-type: none"> Britannia Road East; Tomken Road; Matheson Boulevard East; Parkway Belt West <u>or</u> Kennedy Road-Central Parkway; and Cawthra Road. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85-90% Tunnel: ~ 10-15% Tunnel shafts: 6 to 10 <ul style="list-style-type: none"> Two at Tomken Road and Britannia Road East; Two at Eglinton Avenue East; Two at creek north of wetland (Parkway Belt West corridor option); Two at wetland crossing near Driftcurrent Drive (Parkway Belt West corridor option); and Two at Highway 403/ORC corridor crossing. 	 <ul style="list-style-type: none"> Low number of directional changes required. Open cut installation under Highway 401 bridge overpasses requires longer-than-normal construction duration due to limited vertical/horizontal clearances. Excavation in till, sand/gravel and shale – allow for stress relief under Highway 401. Soft ground tunnelling – complicated construction due to wetlands (Parkway Belt West option) and artesian conditions. Potential trenching issues due to high hydrostatic pressure (Parkway Belt West and Kennedy Road-Central Parkway option). Potential for high sulphate levels in soils and fly ash in roadway (Kennedy Road option). 	 <ul style="list-style-type: none"> Combination of open cut construction, including under Highway 401. Proposed tunnelled sections: <ul style="list-style-type: none"> Meter chamber to Tomken Road/Britannia Road East; Wetlands near Driftcurrent Drive (Parkway Belt West corridor option); Eglinton Avenue East intersection; and Highway 403/ORC corridor. Adhere to requirements of the following agencies for tunnel crossings: <ul style="list-style-type: none"> Trans-Northern Pipelines; Enbridge Consumers Gas Pipelines; Sun Canadian Pipelines; and Imperial Oil Pipelines. MTO-required monitoring of Highway 401 and Highway 403 bridge overpass structures. Adhere to Hydro One requirements for crossing near hydro towers (e.g., 10 m setback from tower base). 	 <ul style="list-style-type: none"> Elevation of route would be higher than the Hanlan Reservoir (at Iceland Arena) – moderate transient concerns. Good interconnection opportunity to Pressure Zone 3. No supply redundancy – replacement of existing watermain (c.1957/1976) with larger diameter pipe north of Matheson Boulevard East. Less maintenance with one brand new watermain vs. one new and one old watermain. 	 <ul style="list-style-type: none"> Typical open cut installation depths – typical maintenance access. Typical access to maintenance chambers due to location within right-of-way. Moderate tunnel depths. Chamber depths are relatively shallow. Loss of potential for redundancy. 	 <ul style="list-style-type: none"> Moderate number of conflicts with existing utilities north of Matheson Boulevard East – some relocation required. High level of clear zones available south of Matheson Boulevard East (Parkway Belt West option). Potential for temporary interruption to existing services during relocation. 	 <ul style="list-style-type: none"> Moderate number of large diameter infrastructure crossings. Ability to cross under Highway 401 by utilizing Tomken Road underpass. Multiple pipeline crossings adjacent Eastgate Parkway <u>or</u> Highway 403. Difficult installation under Highway 403. Low number of large diameter infrastructure crossings (Parkway Belt West option). Significant channelized creek running under Central Parkway, near Highway 403 (Kennedy Road option). Conflict with future Mississauga Bus Rapid Transitway (BRT). Requires deep crossing of BRT. 	 <ul style="list-style-type: none"> Opportunity to coordinate with proposed Hanlan Feedermain installation north of Matheson Boulevard East – coordinate road resurfacing plans. Opportunity to replace aging infrastructure north of Matheson Boulevard East – proactively addresses future replacement of existing watermain (c.1976/1954): <ul style="list-style-type: none"> Future maintenance/repairs still required south of Matheson Boulevard East. Conflicts with recent City stormwater infrastructure improvements (Kennedy Road option). 	 <ul style="list-style-type: none"> Good access (excluding Parkway Belt West option) – typical truck traffic management issues. Truck traffic is already common on Tomken Road and Matheson Boulevard East. Poor truck access south of Matheson Boulevard East – not desirable along Kennedy Road option and haul road construction necessary along Parkway Belt West option. 	 <ul style="list-style-type: none"> Longest overall route. Open cut possible under Highway 401 but difficult installation under Highway 403 (tunnel required). Opportunity to coordinate construction with the proposed Hanlan Feedermain north of Matheson Boulevard East. Directs remainder of route to Parkway Belt West or Kennedy Road options – significant issues (refer to Routes 2 and 3). Construction impacts spread across multiple corridors. Deep bury required for crossing of future Mississauga Bus Rapid Transitway.

Table F-3: Mississauga City Centre Watermain Technical Evaluation



















Alternative Watermain Routes	Technical considerations and/or constraints.								Evaluation Summary Least preferred ↓ Most preferred
	Constructability (i.e., number of watermain bends, rock excavation, support and soil condition)	Construction Method (i.e., open cut or tunnelling and agency requirements)	Operability/Hydraulics (i.e., pressure head losses, interconnection opportunities)	Maintenance Ability (i.e., accessibility to maintenance chambers – shallow open cut vs. deep tunnel)	Conflicts with Existing Utilities/Infrastructure and Ability to Maintain Existing Services	Difficult/Significant Major Infrastructure Crossings	Conflicts with Recent Improvements or Coordination Opportunities with Planned Infrastructure Improvements (e.g., road resurfacing)	Truck Traffic ¹ Management Issues During Construction	
<p>Route 2: Parkway Belt West Corridor</p> <ul style="list-style-type: none"> Total length: ~ 6 km (Cawthra Road <i>or</i> Central Parkway option). Alignment includes: <ul style="list-style-type: none"> Britannia Road East; Parkway Belt West; and Cawthra Road <i>or</i> Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 75% Tunnel: ~ 25% Tunnel shafts: 12 to 14 <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at creek crossing north of wetland; Two at wetland crossing near Driftcurrent Drive; Two at Eglinton Avenue East; Two at Highway 403/Eastgate Parkway crossing; and Two at Central Parkway and Rathburn Road (channelized creek crossing). 	 <ul style="list-style-type: none"> Low number of directional changes required. Excavation in till, sand/gravel and shale. Soft ground tunnelling – complicated construction due to wetlands and artesian conditions. Potential trenching issues due to high hydrostatic pressure. 	 <ul style="list-style-type: none"> Combination of open cut and tunnel construction. Proposed tunnelled sections: <ul style="list-style-type: none"> Highway 410 crossing; Highway 401 crossing; Wetland crossing; Eglinton Avenue East crossing; and Highway 403/Eastgate Parkway. Relatively long tunnelled sections for crossing under Highway 410, Highway 401, wetland area and Highway 403/Eastgate Parkway and adjacent high pressure gas/oil pipelines. Adhere to requirements of the following agencies for tunnel crossings: <ul style="list-style-type: none"> Trans-Northern Pipelines; Enbridge Consumers Gas Pipelines; Sun Canadian Pipelines; and Imperial Oil Pipelines. MTO-required monitoring at Highway 410, Highway 401 and Highway 403. Adhere to Hydro One requirements for crossing near hydro towers (e.g., 10 m setback from tower base). 	 <ul style="list-style-type: none"> Elevation of route would place the watermain at a higher level than the Hanlan Reservoir – transient issues. Moderate interconnection opportunity to Pressure Zone 3. Moderate supply redundancy as it allows for twinning of watermain. 	 <ul style="list-style-type: none"> Typical open cut installation depths – difficult maintenance due to high-water table. Moderate access restriction to maintenance chambers due to location off road (easement required). Moderate tunnel depths. Twinning allows existing system maintenance. Moderate chamber depths under the 400 series highway. 	 <ul style="list-style-type: none"> High level of clear zones available. Low number of conflicts with existing utilities – low number of relocations required. Low level of interruption to existing services. Encroaches on City recreational facilities (e.g., Hershey Centre, Iceland, off-leash dog park etc.). 	 <ul style="list-style-type: none"> Low number of large diameter infrastructure crossings. Multiple highway crossings including Highway 410, Highway 401 and Highway 403. Infrastructure congestion under Highway 410 (e.g., future Beckett-Sproule Feedermain and possible Britannia Road East extension). Multiple pipeline crossings adjacent Eastgate Pkwy. Conflict with future Mississauga Bus Rapid Transitway (BRT). Requires deep crossing of BRT (Cawthra Road option). 	 <ul style="list-style-type: none"> Recent stormwater infrastructure improvements at Matheson Boulevard East. Limited opportunity for coordination with future improvements (non known). 	 <ul style="list-style-type: none"> Poor truck access – haul road construction necessary along most of the corridor (backing onto residences). Haul road construction necessary for crossing of Highway 410 and Highway 401. Use of residential streets for truck traffic access required. 	 <ul style="list-style-type: none"> Significant tunnelling requirements – three major highway crossings and wetland area. Construction and maintenance issues due to artesian conditions – concerns with trench stability. Potential transient concerns. Deep bury required for crossing of future Mississauga Bus Rapid Transitway. No opportunity for coordination with other works. Encroaches on City recreational facilities.

Table F-3: Mississauga City Centre Watermain Technical Evaluation

Alternative Watermain Routes	Technical considerations and/or constraints.								Evaluation Summary Least preferred ↓ Most preferred
	Constructability (i.e., number of watermain bends, rock excavation, support and soil condition)	Construction Method (i.e., open cut or tunnelling and agency requirements)	Operability/Hydraulics (i.e., pressure head losses, interconnection opportunities)	Maintenance Ability (i.e., accessibility to maintenance chambers – shallow open cut vs. deep tunnel)	Conflicts with Existing Utilities/Infrastructure and Ability to Maintain Existing Services	Difficult/Significant Major Infrastructure Crossings	Conflicts with Recent Improvements or Coordination Opportunities with Planned Infrastructure Improvements (e.g., road resurfacing)	Truck Traffic ¹ Management Issues During Construction	
<p>Route 3: Kennedy Road</p> <ul style="list-style-type: none"> Total length: ~ 6.5 km Streets include: <ul style="list-style-type: none"> Britannia Road East; Kennedy Road; and Central Parkway. Proposed construction method: <ul style="list-style-type: none"> Open cut: ~ 85% Tunnel: ~ 15% Tunnel shafts: 8 total <ul style="list-style-type: none"> Two at Highway 410 crossing; Two at Highway 401 crossing; Two at Eglinton Avenue East crossing; and Two at Highway 403 crossing. 	 <ul style="list-style-type: none"> Low number of directional changes required. Excavation in till, sand/gravel and shale. Soft ground tunnelling – complicated construction due to artesian conditions. Potential trenching issues due to high hydrostatic pressure. Potential for high sulphate levels in soils and fly ash in roadway. 	 <ul style="list-style-type: none"> Predominantly open cut construction with some tunnelled sections. Relatively long tunnelled sections for crossing under Highway 410, Highway 401 and Highway 403. Proposed tunnelled sections: <ul style="list-style-type: none"> Highway 410 crossing; Highway 401 crossing; Eglinton Avenue East crossing; and Highway 403/ORC Corridor crossing. Adhere to requirements of the following agencies for tunnel crossings: <ul style="list-style-type: none"> Enbridge Consumers Gas Pipelines; Sun Canadian Pipelines; and Imperial Oil Pipelines. MTO-required monitoring of Highway 410, Highway 401 and Highway 403. Adhere to Hydro One requirements for crossing near hydro towers (e.g., 10 m setback from tower base). 	 <ul style="list-style-type: none"> Elevation of route would place the watermain at a higher level than the Hanlan Reservoir – transient issues. Poor interconnection opportunity to Pressure Zone 3. Supply redundancy as it allows for twinning of watermain. 	 <ul style="list-style-type: none"> Typical open cut installation depths – difficult maintenance due to high-water table (emergency access difficult). Typical access to maintenance chambers due to location within right-of-way. Moderate tunnel depths. Twinning allows existing system maintenance – existing watermain is older (c.1954/1976). 	 <ul style="list-style-type: none"> Moderate number of conflicts with existing utilities north of Eglinton Avenue East – some relocation required. Significant conflicts south of Eglinton Avenue East (channelized creek) along Central Parkway crossing under Highway 403. Potential for temporary interruption to existing services during relocation. 	 <ul style="list-style-type: none"> Moderate number of large diameter infrastructure crossings. Multiple highway crossings including Highway 410, Highway 401 and Highway 403. Multiple pipeline crossings adjacent Highway 403 (west of Eastgate Parkway). Significant channelized creek under Central Parkway, near Highway 403. 	 <ul style="list-style-type: none"> Conflicts with City's planned road resurfacing (2009). Recent watermain construction (2008). 	 <ul style="list-style-type: none"> Moderate truck access – typical truck traffic management issues on Kennedy Road. Haul roads required for Highway 410 and Highway 401. Haul road construction necessary for crossing of Highway 410 and Highway 401. Use of residential streets for truck traffic access is not required, although increased truck traffic on Kennedy Road is not desirable due to residential area. 	 <ul style="list-style-type: none"> Significant tunnelling requirements – three major highway crossings. Limited infrastructure “clear zones” along Central Parkway – conflicts with significant channelized creek. Construction and maintenance issues due to artesian conditions and high groundwater table – concerns with trench stability and emergency access issues. Poor soil conditions – possible sulphate and fly ash concerns. Potential transient concerns. Crossing of future Mississauga Bus Rapid Transitway will not require deep bury. Repaving planned for 2009.

Notes:

1) Open cut construction typically varies between 15 and 20 m per day while tunnel construction can typically advance 10 to 15 m per day, depending on a number of construction variables. At an average rate of 15 m per day, removal of excavated material requires 20 to 30 truck round trips per day. Additional trucks will be necessary for delivery of pipe and construction materials.