
Appendix C -
Evaluation of the Preferred Diversion Concept

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This section provides the evaluation undertaken to narrow the four shortlisted Concept Alternatives to identify the Preferred Diversion Concept. The Five-Point Evaluation Criteria used to evaluate these alternatives comprised of various evaluation criteria for each of the five distinct factors. The rationale/indicators for each evaluation criterion had three possible results ranging from high to low. Based on the individual results assigned for each of the evaluation criterion, an overall rating was assigned. The Preferred Diversion Concept was **Concept 3: Derry Road Gravity Sewer (extended to east of Bramalea Road)** as it had the highest rating.

Table C-1. Screening Criteria Used to Assess Long List Concept Alternatives

Evaluation Factors & Screening Criteria	Rationale / Indicators	Result
Pre-screening		
Technical, Socio/Economic, Legal/Jurisdictional, Environment Factors	<ul style="list-style-type: none"> - Avoid local small residential road right of ways where possible - Avoid sites/route that unnecessarily impact existing and future land uses where possible - Avoid unnecessary proximity to environmentally sensitive features Route/site considered "unreasonable" based on one or more pre-screening criteria	Pass/Fail
Phase I - Individual Section/Site Screening		
Technical Viability	<ul style="list-style-type: none"> - Sewer connection by gravity achievable (based on invert elevations) - Site availability (SPS, tunnel shaft, overall right of way or easement) 	Pass/Fail
Phase II - Comparative Screening of Sections/Site and Section Combinations		
Baseline Opportunities/Constraints	<ul style="list-style-type: none"> - Construction in areas with limited access for construction and/or maintenance - Watercourse/Highway/Railway Crossings - Proximity and/or conflict with existing infrastructure or environmental feature - Accessibility and Safety - Ability to maintain existing services during and following construction 	Pass/Fail

Table C-2. Evaluation Criteria Used to Assess Short List Concept Alternatives

Factor	Evaluation Criteria	Rationale / Indicators	Results
Technical	Compatibility with Existing and Future Infrastructure	- Ability to maximize use of existing infrastructure - Implementation in conjunction with planned infrastructure upgrades	Low, Medium, High
	Offset of Infrastructure Projects	- Ability to offset or defer other major infrastructure projects	Low, Medium, High
	Capacity for future growth	- Ability to meet future servicing needs for new growth and post-2031 projections - Flexibility with future servicing requirements - Concept maximizes service area	Low, Medium, High
	System Security	- Concept maximizes operational security	Low, Medium, High
	Overall Project Delivery Risk	- Potential Environmental Risk during construction and operation - Potential Financial Risk during construction (cost increase / uncertainty) - Potential Schedule/timing risk during construction	Low, Medium, High
	Technical Viability	- Construction in areas with limited access - Watercourse/Highway/Railway Crossings - Proximity and/or conflict with existing infrastructure - Accessibility and Safety - Ability to maintain existing services during and following construction - Need for deep pipe construction	Low, Medium, High
	Phasing	- Ability to defer capital costs of the project to future phases of implementation	Low, Medium, High
	Technical Flexibility	- Ability to divert a maximum amount of flow either east to west or west to east - Operational ease / speed of East-to-West to West-to-East flow switch - Precision of flow splitting (measured, pumped, flow monitored)	Low, Medium, High
Financial	Life Cycle Cost (combined diversion strategy)	- Minimize total life cycle cost (combination of capital, property acquisition, operation & maintenance, etc.)	Low, Medium, High
Legal/ Jurisdictional	Property Acquisition	- Land requirement issues and agency concerns that may arise related to <u>project routes, siting and land acquisition</u>	Low, Medium, High
	Property Acquisition	- Land requirement issues and agency concerns that may arise related to <u>planning permits and crossings</u>	Low, Medium, High

Factor	Evaluation Criteria	Rationale / Indicators	Results
Environment	Environmental Impact	<ul style="list-style-type: none"> - Potential impacts on the natural environment - Proximity to environmentally sensitive features (e.g. wetlands, Environmental Significant Areas, Areas of Natural and Scientific Interest (ANSIs) and other designated Natural Areas) - Requirements for major environmental crossings, deep sewers, and mitigation actions - Potential impacts to Species at Risk and mitigation measures required - Requirement for contamination review/ investigation/ remediation 	Low, Medium, High
Socio/Cultural	Community Concerns	- Public/community/stakeholder concerns expressed in regards to alternative/option	Low, Medium, High
	Community Impact	- Construction through built up residential areas	Low, Medium, High
	Heritage / Cultural Impact	<ul style="list-style-type: none"> - Likelihood for impact to heritage homes/properties/landscape - Degree of mitigation measures required to prevent impact to heritage homes/properties/landscape 	Low, Medium, High

Table C1 - Evaluation of Diversion Concepts

Factor	Evaluation Criteria	Rationale / Indicators	Result	Concept 1 - SPS Diversion	Concept 1 Result	Concept 2 - Derry Road Gravity Sewer (Dixie Rd)	Concept 2 Result	Concept 3 - Derry Road Gravity Sewer Extended	Concept 3 Result	Concept 4 - Dundas Road Gravity Sewer	Concept 4 Result
Technical	Compatibility with Existing and Future Infrastructure	- Ability to maximize use of existing infrastructure - Implementation in conjunction with planned infrastructure upgrades	Low, Medium, High	- theoretically enables sufficient diversion of flow to Clarkson WWTF to enable next upgrade - Concept inline with established MP strategy and utilizes existing diversion sewer as planned (conversion to forcemain) - Potential for sewer alignment to facilitate decommission of Meadowvale SPS	Red	- theoretically enables sufficient diversion of flow to Clarkson WWTF to enable next upgrade - Concept does not utilize existing diversion sewer as planned (no conversion to forcemain) - Potential for sewer alignment to facilitate decommission of Meadowvale SPS	Yellow	- theoretically enables higher diversion of flow to Clarkson WWTF to enable greater flexibility in upgrade timing and options - Concept does not utilize existing diversion sewer as planned (no conversion to forcemain) - Potential for sewer alignment to facilitate decommission of Meadowvale SPS - Potential to off-set need for south diversion SPS but would still require South Cooksville Twinning	Green	- connection to east trunk further downstream theoretically enables highest flow/diversion potential to Clarkson WWTF to enable greatest flexibility in upgrade timing and options - Concept does not utilize existing diversion sewer as planned (no conversion to forcemain) - Concept does not facilitate decommission of Meadowvale SPS - Potential to off-set need for south diversion SPS and South Cooksville Twinning - Potential to coordinate with Dundas corridor intensification/BRT	Green
	Offset of Infrastructure Projects	- Ability to offset or defer other major infrastructure projects	Low, Medium, High	- flow limited by trunk catchment and existing diversion sewer capacity - concept has very limited ability to off-set need for further diversion projects planned in the south system	Red	- flow limited by trunk catchment but not existing 1200 mm diversion sewer/forcemain capacity - concept has limited ability to off-set need for further diversion projects planned in the south system	Red	- flow limited by larger eastern trunk catchment north of Derry Road - concept has good ability to off-set need for further diversion projects planned in the south system - Potential to off-set need for south diversion SPS but may still require South Cooksville Twinning to address existing constraints and MCC bailout	Green	- flow limited by largest eastern trunk catchment north of Dundas Road - concept has best ability to off-set need for further diversion projects planned in the south system - Potential to off-set need for south diversion SPS and South Cooksville Twinning - Concept however triggers significant upstream upgrades	Green
	Capacity for future growth	- Ability to meet future servicing needs for new growth and Post 2031 projections - Flexibility with future requirements - Concept maximizes service area	Low, Medium, High	- flow limited by trunk catchment and existing diversion sewer capacity - limited in-period and post period growth areas within catchment - concept has smallest potential service area	Red	- flow limited by trunk catchment but not existing diversion sewer capacity - limited in-period and post period growth areas within catchment - concept has small potential service area	Red	- flow limited by larger eastern trunk catchment north of Derry Road - large areas of in-period and post period growth - concept has large potential service area	Green	- flow limited by larger eastern trunk catchment north of Dundas Street - largest areas of in-period and post period growth, including intensification areas - concept has largest potential service area	Green
	System Security	- Concept maximizes operational security	Low, Medium, High	- potential to enable two-way flow within existing/converted pipe, only one direction at a time - limited size and catchment providing limited diversion security as individual project at plant level - concept is one of several diversion projects required providing a level of security should one be interrupted	Yellow	- concept enables separate west to east diversion (existing) and east to west diversion through new pipe - security is not limited by size, but limited by catchment providing limited diversion security as individual project at plant level - concept is one of several diversion projects required providing a level of security should one be interrupted	Yellow	- concept enables separate west to east diversion (existing) and larger east to west diversion through new pipe - security is not limited by size and catchment significantly larger providing better diversion security as individual project at plant level - concept reduces number of diversion projects potentially reducing a level of security if interrupted - if implemented, this would be the only east to west diversion	Yellow	- concept enables separate west to east diversion (existing) and largest east to west diversion through new pipe - not limited by size and catchment significantly larger providing best diversion security as individual project at plant level - concept minimizes number of diversion projects potentially reducing a level of security if interrupted - if implemented, this would be the only east to west diversion	Yellow
	Operation & Maintenance Cost	- Minimize O&M cost - Ease of access to maintain	Low, Medium, High	- increased O & M costs due to need for SPS for northern diversion - concept utilizes existing diversion sewer and requires shorter length of new pipe reducing O & M costs related to new linear projects - concept is one of several diversion projects, at a combined strategy O & M costs higher due to need for south diversion SPS	Red	- less O & M costs compared to Concept 1 as no SPS for northern diversion required - concept doesn't utilize existing diversion sewer and requires longer length of new pipe increasing O & M costs related to new linear projects compared to Concept 1 - concept is one of several diversion projects, at a combined strategy O & M costs higher due to need for south diversion SPS - deep trunks sewers require minimal long term maintenance	Red	- less O & M costs compared to Concept 1 as no SPS for northern diversion required - concept doesn't utilize existing diversion sewer and requires longer length of new pipe increasing O & M costs related to new linear projects compared to Concept 1 and 2 - less overall O & M costs compared to Concept 1 and 2 as no SPS for northern or southern diversion required - concept reduces diversion projects, at a combined strategy O & M costs lower than Concept 1 and 2 - deep trunks sewers require minimal long term maintenance	Green	- less O & M costs compared to Concept 1 as no SPS for northern diversion required - concept doesn't utilize existing diversion sewer and requires longest length of new pipe increasing O & M costs related to new linear projects compared to Concept 1, 2 and 3 - concept reduces diversion projects, at a combined strategy O & M costs lower than Concept 1 and 2 but slightly greater than Concept 3 - deep trunks sewers require minimal long term maintenance	Yellow
	Life Cycle Cost (combined diversion strategy)	- Minimize Total Life Cycle Cost (Combination of Capital, Property Acquisition, O&M, etc)	Low, Medium, High	- Total lifecycle cost including capital, O & M, hydro, property acquisition, on-going minor and major maintenance, (SOG), and long term rehab and replacement - \$\$\$\$\$ - Concept 1 is the highest	Red	- Total lifecycle cost including capital, O & M, hydro, property acquisition, on-going minor and major maintenance, (SOG), and long term rehab and replacement - \$\$\$\$\$ - Concept 2 is high	Red	- Total lifecycle cost including capital, O & M, hydro, property acquisition, on-going minor and major maintenance, (SOG), and long term rehab and replacement - \$\$\$\$\$ - Concept 3 is the lowest	Green	- Total lifecycle cost including capital, O & M, hydro, property acquisition, on-going minor and major maintenance, (SOG), and long term rehab and replacement - \$\$\$\$\$ - Concept 4 is the high	Red
	Overall Project Delivery Risk	- Potential Environmental Risk during construction and operation - Potential Financial Risk during construction (cost increase / uncertainty) - Potential Schedule/timing risk during construction	Low, Medium, High	- SPS site within or close proximity to Etobicoke Creek floodplain - SPS requires overflow facility to Etobicoke Creek (risk mitigated by back up generator and related components standby pumps etc) - Requires Fletchers Creek and Credit Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - northern diversion concept in isolation much smaller scale than Concept 3 and 4 and less complex lowering risk of uncertainty, financial risk and scheduling risk - northern diversion concept in isolation smaller scale project than Concept 1, 3 and 4 - northern diversion concept in isolation smaller scale project than Concept 3 and 4 but with SPS larger than Concept 2 - lower timing risk during construction for Concepts 3 and 4 but higher than Concept 2 - Defers 2nd diversion, ability for flexible 2nd diversion based on future needs	Red	- No SPS site within or close proximity to Etobicoke Creek floodplain - Requires Etobicoke Creek, Fletchers Creek and Credit Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - northern diversion concept in isolation smaller scale than Concept 3 and 4 and less complex lowering risk of uncertainty, financial risk and scheduling risk - northern diversion concept in isolation smaller scale project than Concept 1, 3 and 4 - lower timing risk during construction for Concepts 3 and 4 but higher than Concept 2 - Defers 2nd diversion, ability for flexible 2nd diversion based on future needs	Yellow	- No SPS site within or close proximity to Etobicoke Creek floodplain - Requires Spring Creek, Etobicoke Creek, Fletchers Creek and Credit Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - larger scale project than Concept 1 and 2 and increased construction complexity increasing risk of uncertainty, financial risk and scheduling risk - concept larger scale project than Concept 1 and 2 - higher timing risk during construction - Southern Cooksville Creek upgrade required	Green	- No SPS site within or close proximity to Etobicoke Creek floodplain - Requires Etobicoke Creek, Little Etobicoke Creek, Cooksville Creek, Mary Fix Creek, Credit Tributary and Credit River crossing for Dundas alignment - Upstream twinning likely to increase potential for environmental impact during construction - largest scale project and increased construction complexity increasing risk of uncertainty, financial risk and scheduling risk - largest scale project - higher timing risk during construction	Red

Factor	Evaluation Criteria	Rationale / Indicators	Result	Concept 1 - SPS Diversion	Concept 1 Result	Concept 2 - Derry Road Gravity Sewer (Dixie Rd)	Concept 2 Result	Concept 3 - Derry Road Gravity Sewer Extended	Concept 3 Result	Concept 4 - Dundas Road Gravity Sewer	Concept 4 Result
	Technical Viability	<ul style="list-style-type: none"> - Construction in areas with limited access - Watercourse/Highway/Railway Crossings - Proximity and/or conflict with existing infrastructure - Accessibility and Safety - Ability to maintain existing services during and following construction - Need for deep pipe construction 	Low, Medium, High	<ul style="list-style-type: none"> - SPS site within or close proximity to Etobicoke Creek floodplain potential for access issues - minimizes need for deep pipe construction - shortest length of pipe with less environmental crossings - using existing diversion pipe no need to cross Hwy 410 - higher potential for alignment to avoid congested routes and conflict with existing infrastructure - will require service interruption to existing diversion pipe during periods of construction - high technical viability for northern diversion - south diversion presents construction, access and land challenges 		<ul style="list-style-type: none"> - No need for north SPS site thus no related site access issues - longer length of pipe with greater length of deep pipe construction compared to Concept 1 - shorter length of pipe with less environmental crossings compared to Concepts 3 and 4 - not using existing diversion pipe thus need to cross Hwy 410 - higher potential for alignment to avoid congested routes and conflict with existing infrastructure - does not require service interruption to existing diversion pipe - upstream connection is at higher elevation; more slope/invert flexibility - large shaft sites/compounds required within built corridors 		<ul style="list-style-type: none"> - No need for SPS site thus no related site access issues - longer length of pipe with greater length of deep pipe construction compared to Concept 1 and 2 - shorter length of pipe with less environmental crossings compared to Concept 4 - not using existing diversion pipe thus need to cross Hwy 410 - less potential for alignment options to avoid congested routes - does not require service interruption to existing diversion pipe - upstream connection is at lower elevation; less slope/invert flexibility 		<ul style="list-style-type: none"> - No need for SPS site thus no related site access issues - longest length of pipe with greater length of deep pipe construction compared to Concepts 1, 2 and 3 - longest length of pipe with most environmental crossings - alignment does not need to cross Hwy 410 - One alignment option Dundas which is very congested highest potential for conflict with existing services - does not require service interruption to existing diversion pipe - large compounds required within built corridors - requires upstream twinning of East trunk (Etobicoke Creek alignment) 	
Technical (Continue)	Phasing	<ul style="list-style-type: none"> - Ability to defer capital costs of the project to future phases of implementation 	Low, Medium, High	<ul style="list-style-type: none"> - in isolation as northern diversion project poor opportunity to phase as all three component required for operation - as a combined overall strategy, being one of several diversion strategies good ability to stage/phase projects to meet short and long terms needs 		<ul style="list-style-type: none"> - in isolation as northern diversion project poor opportunity to phase full sewer length required - as a combined overall strategy, being one of several diversion strategies good ability to stage/phase projects to meet short and long terms needs 		<ul style="list-style-type: none"> - in isolation as northern diversion project poor opportunity to phase full sewer - length required (off-sets need for southern SPS diversion strategy) - potential to phase upgrades to the South Cooksville Twinning 		<ul style="list-style-type: none"> - in isolation diversion project poor opportunity to phase full sewer -length required (off-sets need for southern SPS diversion strategy and South Cooksville Twinning) - potential to phase upstream upgrades required on Eastern trunk 	
	Technical Flexibility	<ul style="list-style-type: none"> - Ability to divert a maximum amount of flow either east to west or west to east - Operational ease / speed of E-W to W-E flow switch - Precision of flow splitting (measured, pumped, flow monitored) 	Low, Medium, High	<ul style="list-style-type: none"> - potential to enable switching of flow direction but through same existing pipe - flow limited by catchment/pipe size 		<ul style="list-style-type: none"> - ability to enable West to east flow through the existing diversion sewer and east to west through new sewer - flow limited by catchment/pipe size 		<ul style="list-style-type: none"> - ability to enable West to east flow through the existing diversion sewer and east to west through new sewer - flow not limited by smaller catchment/pipe size as Concept 1 and 2 but eastern trunk catchment north of Derry Road 		<ul style="list-style-type: none"> - ability to enable West to east flow through the existing diversion sewer and east to west through new sewer - flow not limited by smaller catchment/pipe size as Concept 1 and 2 but eastern trunk catchment north of Dundas Street 	
	TECHNICAL TOTAL		Low, Medium, High								
Financial	Capital Cost (single strategy projects)	<ul style="list-style-type: none"> - Total capital cost for new infrastructure and/or upgrades 	Low, Medium, High	- lowest		- low		- mid		- highest	
	Capital Cost (group strategy projects)	<ul style="list-style-type: none"> - Total capital cost for new infrastructure and/or upgrades for combined related Regional diversion strategy 	Low, Medium, High	- lowest		- low		- mid		- highest	
	FINANCIAL TOTAL		Low, Medium, High								
Legal/Jurisdictional	Property Acquisition	<ul style="list-style-type: none"> - Land requirement issues and agency concerns that may arise related to project alignments, siting and land acquisition 	Low, Medium, High	<ul style="list-style-type: none"> - requires SPS site property acquisition - shortest length minimizing potential for need for site acquisition/easements for tunnel shafts - potential need for alignment easements through school, park, encroachment on MTO land etc - overall diversion strategy will require further property acquisition/easements for south SPS and potential for sewer alignments 		<ul style="list-style-type: none"> - does not requires SPS site property acquisition - short length minimizing potential for need for site acquisition/easements for tunnel shafts - potential need for alignment easements through school, park, encroachment on MTO land etc - overall diversion strategy will require further property acquisition/easements for south SPS and potential for sewer alignments 		<ul style="list-style-type: none"> - does not requires SPS site property acquisition - longer length will require greater site acquisition/easements for tunnel shafts - Derry Road alignment less constrained than Dundas lower potential for conflict on shaft sites etc - potential need for alignment easements through school, park, encroachment on MTO land etc - overall diversion strategy will not require further property acquisition/easements for south SPS but potential for sewer alignments 		<ul style="list-style-type: none"> - does not requires SPS site property acquisition - longest length will require greater site acquisition/easements for tunnel shafts - Dundas Road is heavily built-up and thus increased potential for conflict on shaft sites/property acquisition - Upstream twinning triggered through diversion increases potential for property conflict - overall diversion strategy will not require further property acquisition/easements for south SPS or sewer alignments 	
	Property Acquisition	<ul style="list-style-type: none"> - Land requirement issues and agency concerns that may arise related to planning permits and crossings 	Low, Medium, High	<ul style="list-style-type: none"> - permitting required for construction within TRCA permit regulation limit around the SPS site and connecting to existing trunk and diversion sewer - if SPS site within floodplain all future works at the station would require TRCA approvals - sewer alignments will require CVC permitting for Fletchers Creek and Credit River crossings - potential for further permitting requirements for sewer alignments in south section around Sanford Farm and Old Derry Road 		<ul style="list-style-type: none"> - no permitting required for SPS construction within TRCA permit regulation limit - will require TRCA permit for connection into existing trunk close to the Etobicoke Creek - sewer alignments will require CVC permitting for Fletchers Creek and Credit River crossings - potential for further permitting requirements for sewer alignments in south section around Sanford Farm and Old Derry Road 		<ul style="list-style-type: none"> - no permitting required for SPS construction within TRCA permit regulation limit - will require TRCA permit for connection into existing trunk close to the Spring Creek and crossing Etobicoke Creek - sewer alignments will require CVC permitting for Fletchers Creek and Credit River crossings - potential for further permitting requirements for sewer alignments in south section around Sanford Farm and Old Derry Road 		<ul style="list-style-type: none"> - no permitting required for SPS construction within TRCA permit regulation limit - will require TRCA permit for connection into existing trunk close to the Etobicoke Creek and crossing Little Etobicoke Creek - sewer alignments will require CVC permitting for Cooksville Creek, Mary Fix Creek, Credit Tributary and Credit River crossings - high potential further TRCA permitting required for the upstream twinning triggered by diversion project - existing pipe within Etobicoke Creek floodplain 	

Factor	Evaluation Criteria	Rationale / Indicators	Result	Concept 1 - SPS Diversion	Concept 1 Result	Concept 2 - Derry Road Gravity Sewer (Dixie Rd)	Concept 2 Result	Concept 3 - Derry Road Gravity Sewer Extended	Concept 3 Result	Concept 4 - Dundas Road Gravity Sewer	Concept 4 Result
	LEGAL/JURIS TOTAL		Low, Medium, High								
Environment	Environmental Impact	<ul style="list-style-type: none"> - Potential impacts on the natural environment - Proximity to environmentally sensitive features (e.g. wetlands, Environmental Significant Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) and other designated Natural Areas) - Requirements for major environmental crossings, deep sewers, and mitigation actions - Potential impacts to Species at Risk and mitigative measures required - Requirement for contamination review/ investigation/ remediation 	Low, Medium, High	<ul style="list-style-type: none"> - SPS site within or close proximity to Etobicoke Creek floodplain - SPS requires overflow facility to Etobicoke Creek (risk mitigated by back up generator) - Requires Fletchers Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - potential impact to environment mitigated through construction methodology including tunnelling, sites and alignments outside of floodplains where feasible - adherence to regulated setbacks - geo-tech, hydro-g and contamination studies to be undertaken to lead avoidance of problematic areas and mitigative actions where required - alignments are shorter and require less deep sections lowering potential impact compared to Concepts 2,3 and 4 		<ul style="list-style-type: none"> - no SPS site within or close proximity to Etobicoke Creek floodplain - Requires connection within/close proximity to Etobicoke Creek - Requires Fletchers Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - potential impact to environment mitigated through construction methodology including tunnelling, sites and alignments outside of floodplains where feasible - adherence to regulated setbacks - geo-tech, hydro-g and contamination studies to be undertaken to lead avoidance of problematic areas and mitigative actions where required - alignment is longer and requires more deep sections compared to Concept 1, but shorter than Concepts 3 and 4 and less deep sections 		<ul style="list-style-type: none"> - no SPS site within or close proximity to Etobicoke Creek floodplain - Requires connection within/close proximity to Spring Creek - Requires Etobicoke Creek and Fletchers Creek crossing - Southern gravity sewer may require alignment through environmentally sensitive areas outside of existing or planned ROW, requires Credit River crossing - potential impact to environment mitigated through construction methodology including tunnelling, sites and alignments outside of floodplains where feasible - adherence to regulated setbacks - geo-tech, hydro-g and contamination studies to be undertaken to lead avoidance of problematic areas and mitigative actions where required - alignment is longer and requires more deep sections compared to Concept 1 and 2 but shorter than Concepts 4 and less deep sections 		<ul style="list-style-type: none"> - no SPS site within or close proximity to Etobicoke Creek floodplain - Requires connection within/close proximity to Etobicoke Creek - Requires Little Etobicoke Creek, Cooksville Creek, Mary Fix Creek, Credit Tributary and Credit Creek crossing - alignment along existing built corridor other than direct crossings of creeks - potential impact to environment mitigated through construction methodology including tunnelling, sites and alignments outside of floodplains where feasible - adherence to regulated setbacks - geo-tech, hydro-g and contamination studies to be undertaken to lead avoidance of problematic areas and mitigative actions where required - alignment is longest and requires most deep sections compared to Concept 1, 2 and 3 - Upstream twinning projects triggered create higher potential for environmental impacts 	
	ENVIRONMENTAL TOTAL		Low, Medium, High								
Socio/Cultural	Community Impact	<ul style="list-style-type: none"> - Potential community resistance to alternative/option - Resident real or perceived impact 	Low, Medium, High	<ul style="list-style-type: none"> - potential for SPS site to impact formal recreational facilities short term during construction or long term through loss - if SPS site within industrial/commercial areas expect low visual impact or landuse conflict as there is no close residential areas - alignments of sewer have potential for community resistance through the Meadowvale Conservation / Heritage Area - alignment options could minimize route through existing residential areas but would require lengths of construction through environmental areas which may also receive community resistance - construction methodology available to minimize impact during construction along ROW's 		<ul style="list-style-type: none"> - no SPS site required thus no potential impact to formal recreational facilities - longer Derry Road alignment required compared to Concept 1 increasing potential for community resistance if impacted through construction period - traffic, noise, dust etc - alignments of sewer have potential for community resistance through the Meadowvale Conservation / Heritage Area - alignment options could minimize route through existing residential areas but would require lengths of construction through environmental areas which may also receive community resistance - construction methodology available to minimize impact during construction along ROW's 		<ul style="list-style-type: none"> - no SPS site required thus no potential impact to formal recreational facilities - longer Derry Road alignment required compared to Concept 1 and 2 increasing potential for community resistance if impacted through construction period - traffic, noise, dust etc - alignments of sewer have potential for community resistance through the Meadowvale Conservation / Heritage Area - alignment options could minimize route through existing residential areas but would require lengths of construction through environmental areas which may also receive community resistance - construction methodology available to minimize impact during construction along ROW's 		<ul style="list-style-type: none"> - no SPS site required thus no potential impact to formal recreational facilities - long alignment through heavily built area - high potential for community resistance due to perceived impacts - construction methodology available to minimize impact during construction along ROW's 	
	Heritage / Cultural Impact	<ul style="list-style-type: none"> - Construction through built up residential areas - Likelihood for impact to heritage homes/properties/landscape - Degree of mitigative measures required 	Low, Medium, High	<ul style="list-style-type: none"> - potential alignments through the Meadowvale Conservation / Heritage Area with heritage properties and small ROW's with mature trees - potential alignment options that will minimize construction through residential areas but will require environmental crossings such as floodplains which will also increase the potential for archaeological impact - appropriate level of cultural/archoe/heritage studies to be undertaken to consider, avoid where feasible and undertake mitigative measures where appropriate - construction of SPS required, shorter length of new pipe with less potential need for shaft sites lowering potential for impact compared to Concepts 3 and 4 		<ul style="list-style-type: none"> - requires Derry Road alignment increased potential for impact - potential alignments through the Meadowvale Conservation / Heritage Area with heritage properties and small ROW's with mature trees - potential alignment options that will minimize construction through residential areas but will require environmental crossings such as floodplains which will also increase the potential for archaeological impact - appropriate level of cultural/archoe/heritage studies to be undertaken to consider, avoid where feasible and undertake mitigative measures where appropriate - no construction of SPS required, shorter length of new pipe with less potential need for shaft sites lowering potential for impact compared to Concepts 1, 3 and 4 		<ul style="list-style-type: none"> - potential alignments through the Meadowvale Conservation / Heritage Area with heritage properties and small ROW's with mature trees - potential alignment options that will minimize construction through residential areas but will require environmental crossings such as floodplains which will also increase the potential for archaeological impact - appropriate level of cultural/archoe/heritage studies to be undertaken to consider, avoid where feasible and undertake mitigative measures where appropriate - no construction of SPS required, longer length of new pipe with greater need for shaft sites marginally increasing potential for impact compared to Concepts 2 but less than 1 and 4 		<ul style="list-style-type: none"> - alignment along Dundas Street heavily built-area increased potential for impact - appropriate level of cultural/archoe/heritage studies to be undertaken to consider, avoid where feasible and undertake mitigative measures where appropriate - longest length of new pipe with greater need for shaft sites increasing potential for impact compared to Concepts 1, 2 and 3 	
	SOCIO/CULTURAL TOTAL		Low, Medium, High								
TOTALS			Low, Medium, High								