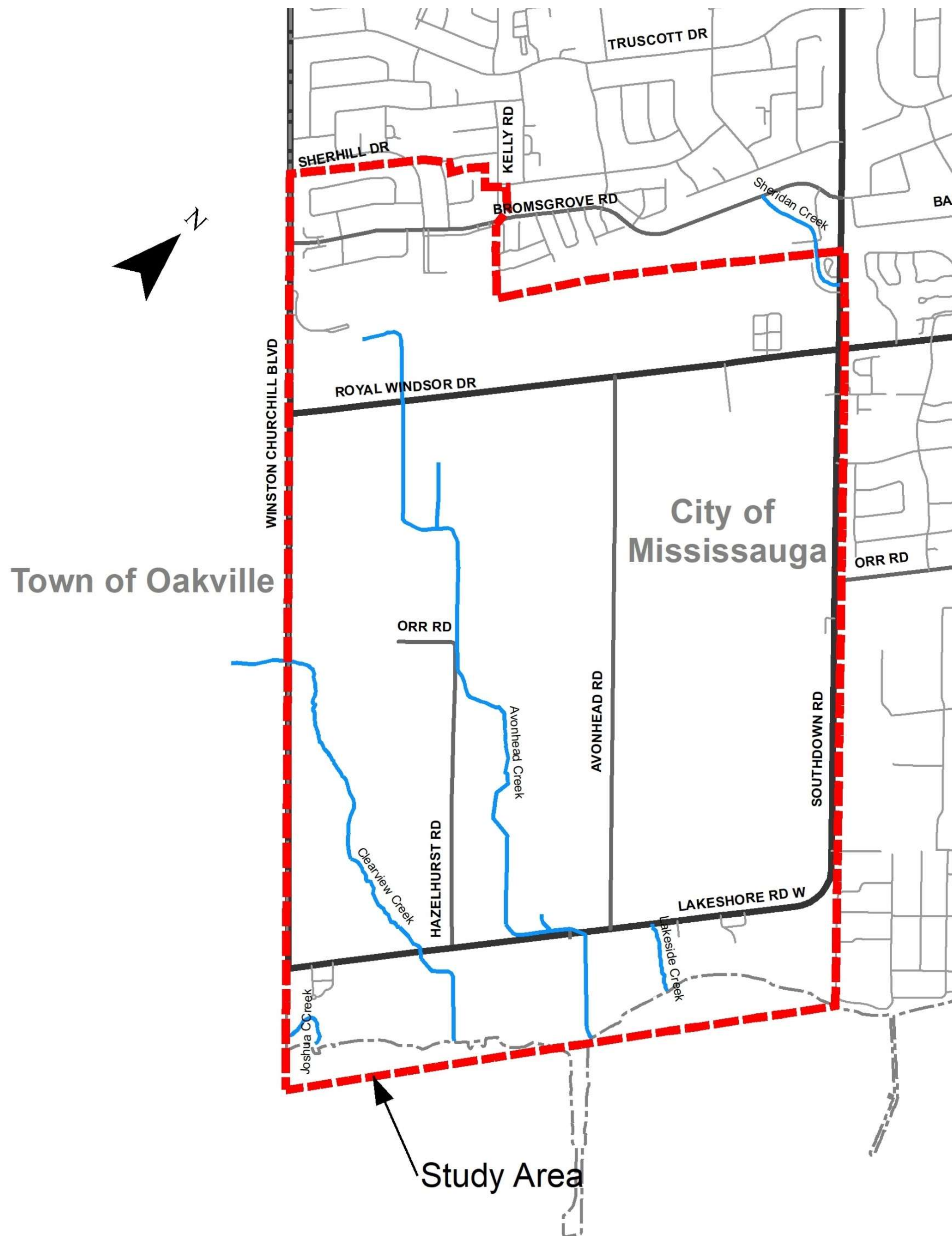


Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Welcome to Online Public Information Centre #2
July 15, 2021 to August 15, 2021



The purpose of this Public Information Centre (PIC) is to introduce you to this project, provide an overview of the existing conditions in the study area and obtain feedback from you regarding the alternative solutions considered and the preliminary preferred solutions that make up the Stormwater Servicing and Environmental Management Master Plan.

Instructions on how to provide feedback are provided at the end of this presentation.

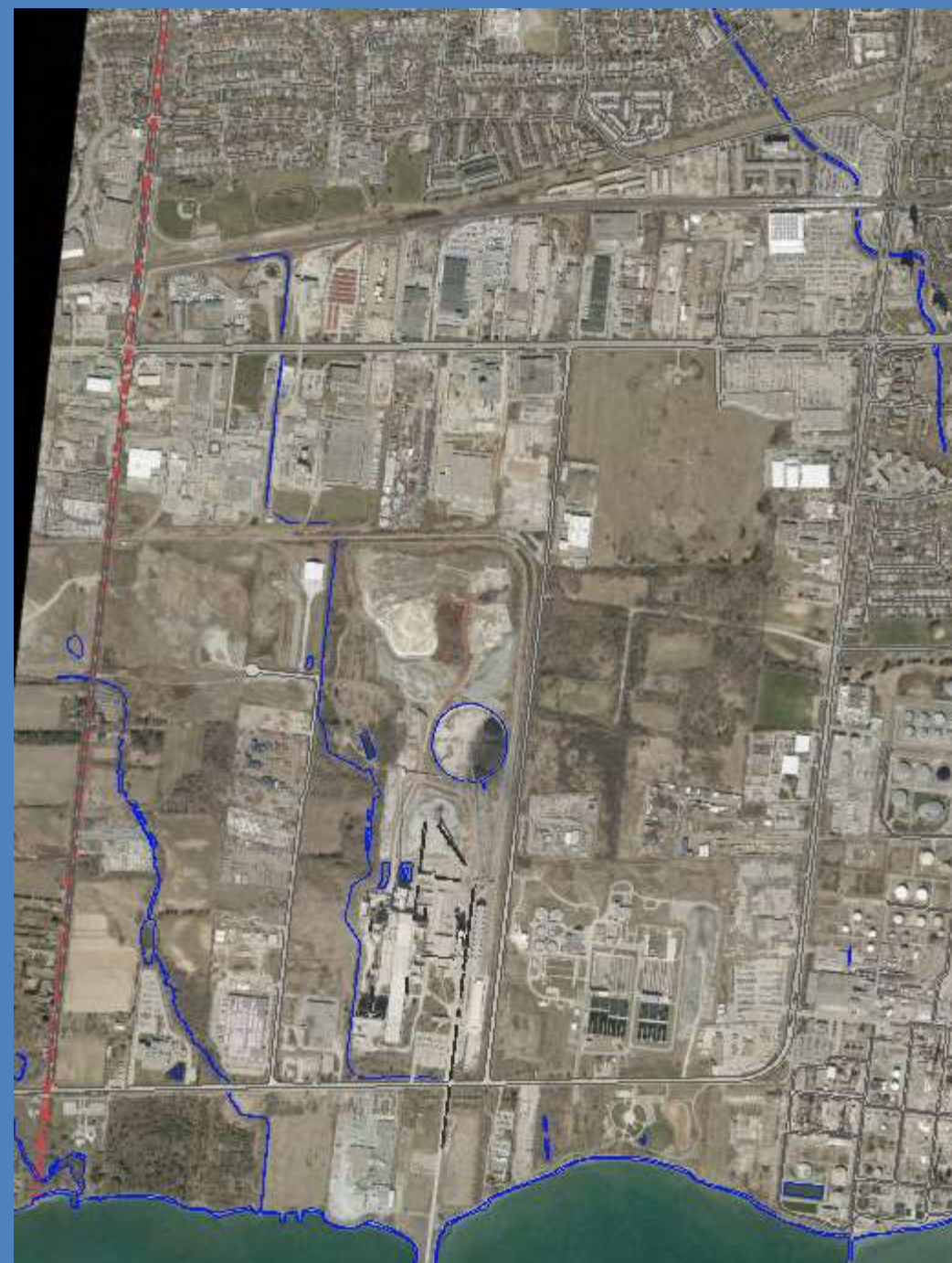
Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Study Purpose

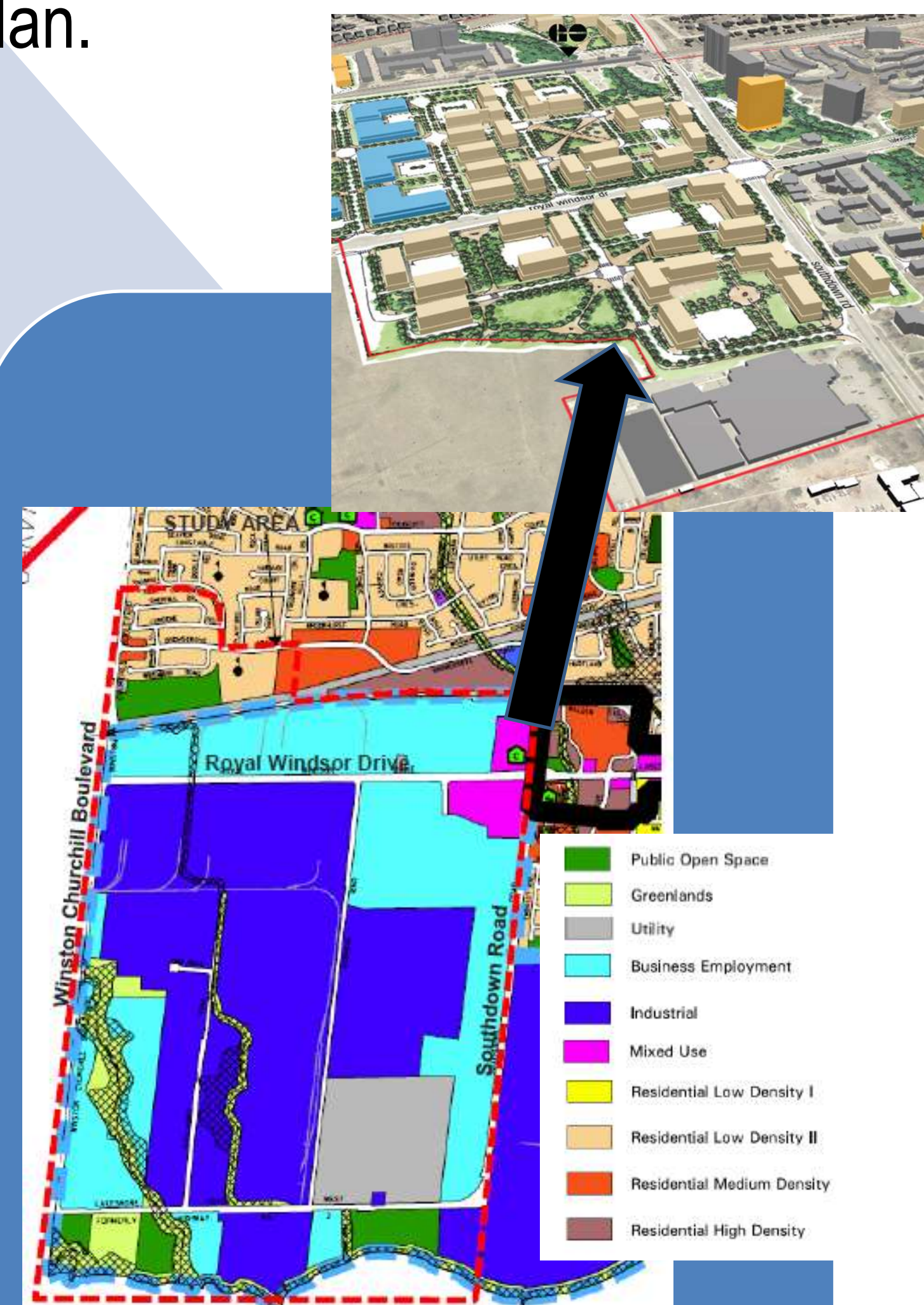
The stormwater drainage system in the Southdown area was last investigated in 2000 as part of the “Southdown Master Drainage Plan”. Since that time, stormwater management criteria and standard practices have evolved, and there have been considerable changes to the local, regional and provincial policies related to the protection and enhancement of watercourses and other natural heritage features. For that reason, a new Stormwater Servicing and Environmental Management Plan is needed ***to establish updated stormwater management requirements and watercourse improvements required to support long term growth and intensification***, as defined by the urban structure framework and policy of the Southdown Local Area Plan.



2000



Today

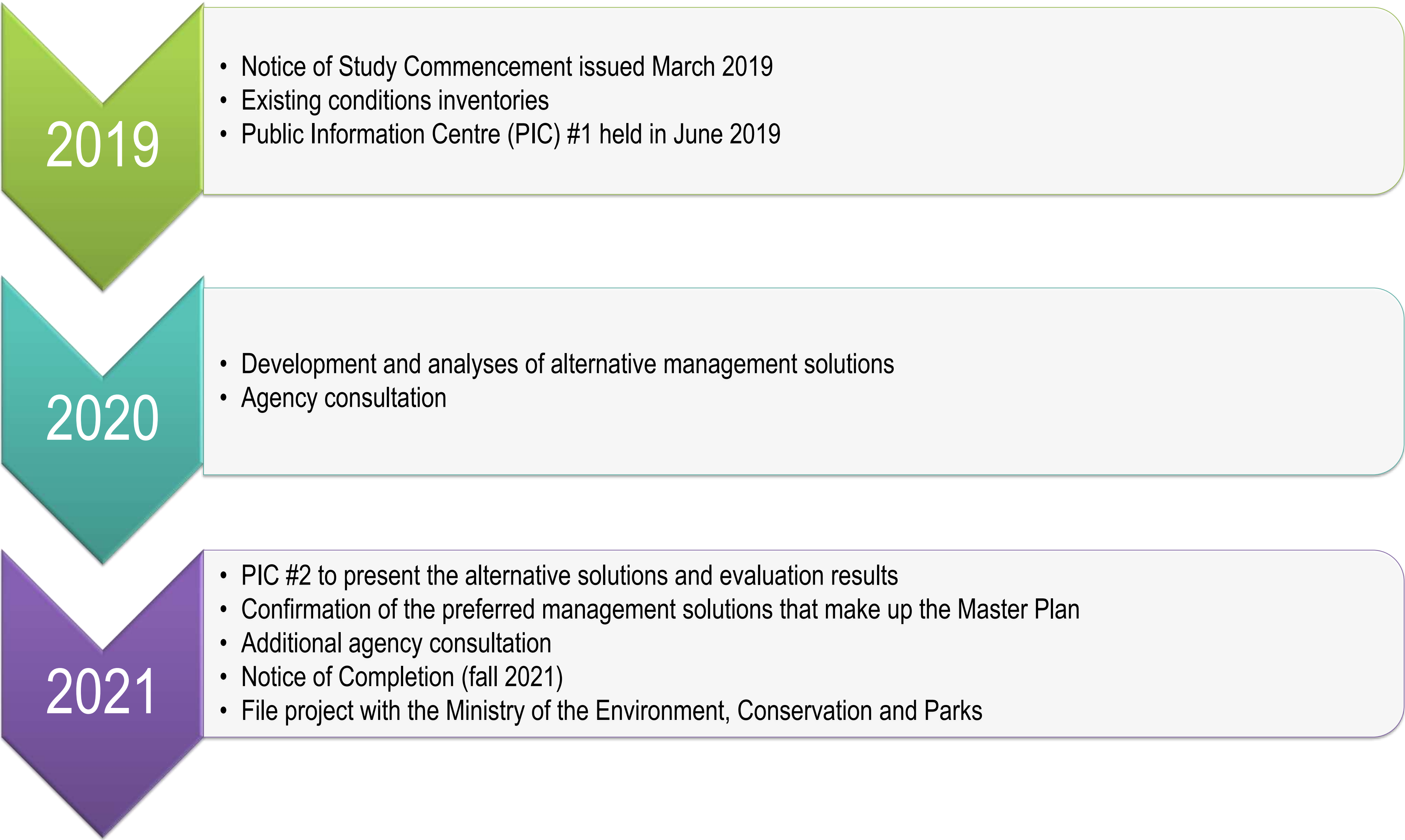
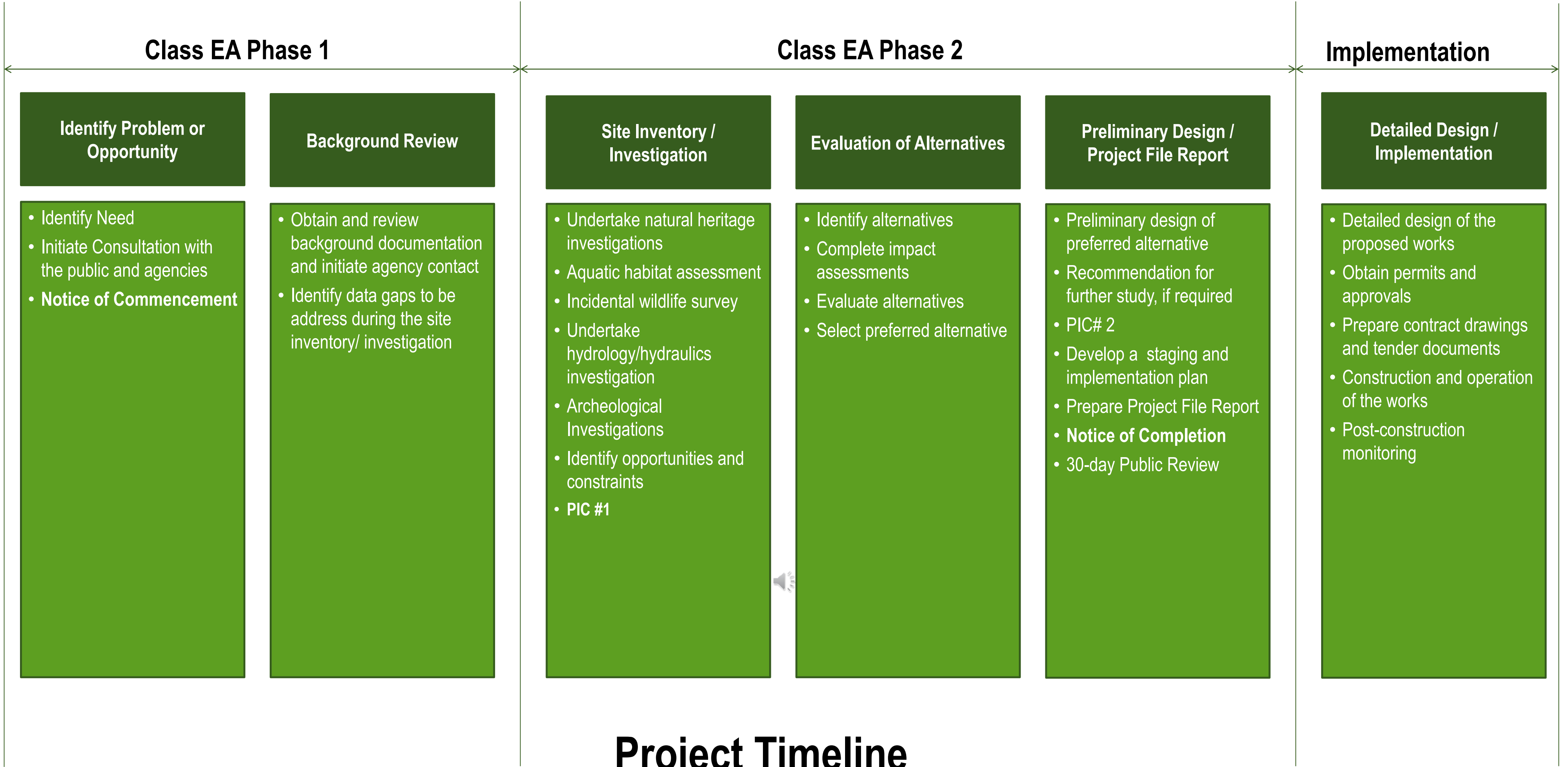


Future Growth & Intensification

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Municipal Class Environmental Assessment (EA) Process

The study is being conducted as a Master Plan and is intended to satisfy Phases 1&2 of the Municipal Class EA process. Stakeholder input is an important component of the process.



Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Existing Conditions: Study Area Watercourses



Clearview Creek downstream of Winston Churchill Blvd: meandering channel through sparse vegetation on private lots



Clearview Creek: online agricultural pond



Clearview Creek upstream of Lakeshore Rd: meandering natural channel through mature riparian vegetation



Clearview Creek downstream of Lakeshore Rd: concrete engineered channel



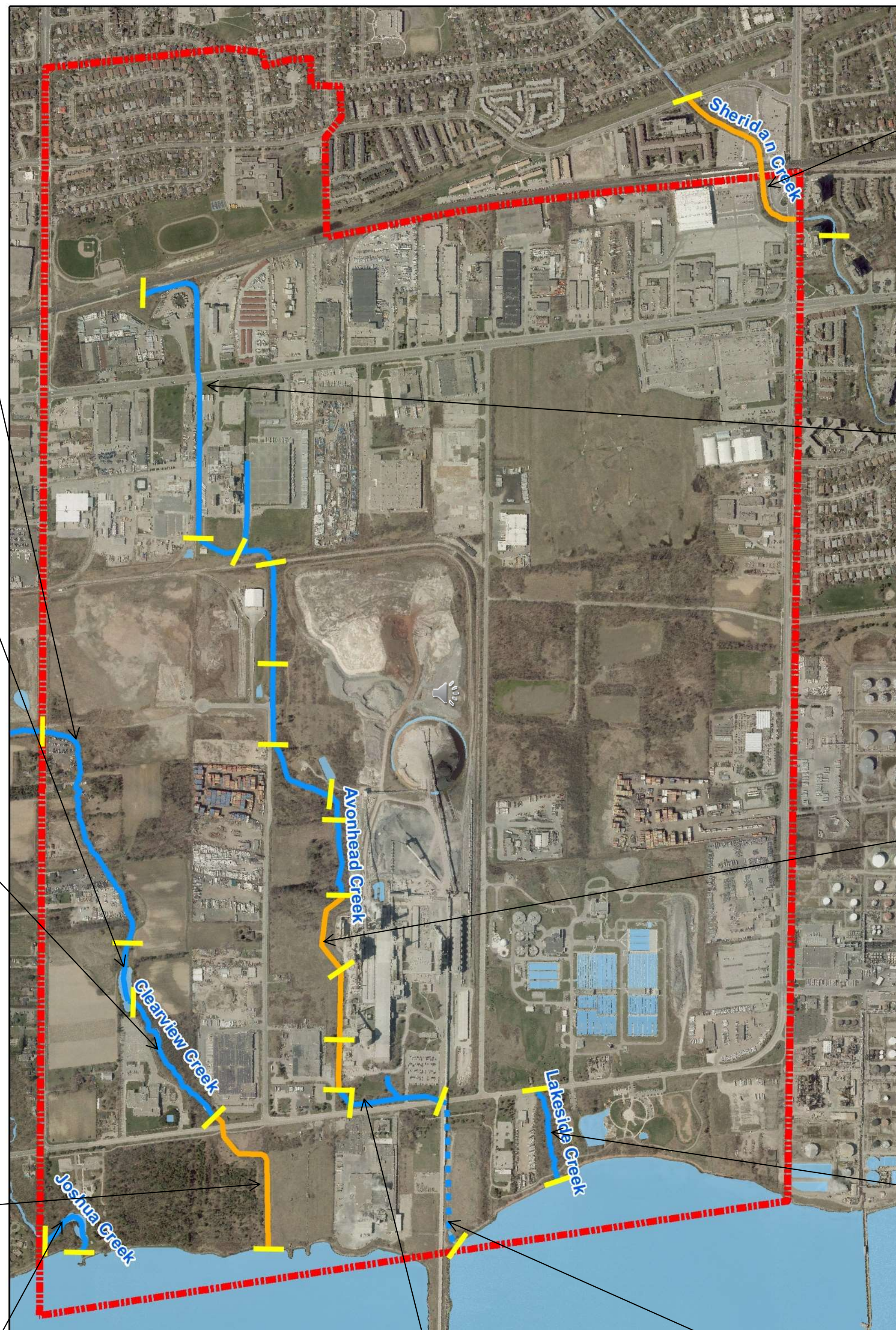
Joshua Creek: outlet to Lake Ontario



Avonhead Creek upstream of Lakeshore Road: grass-lined channel



Avonhead Creek downstream of Lakeshore Road: piped to outlet at Lake Ontario



Sheridan Creek at CNR: concrete engineered channel



Avonhead Creek downstream of Royal Windsor Drive: narrow straightened channel/swale



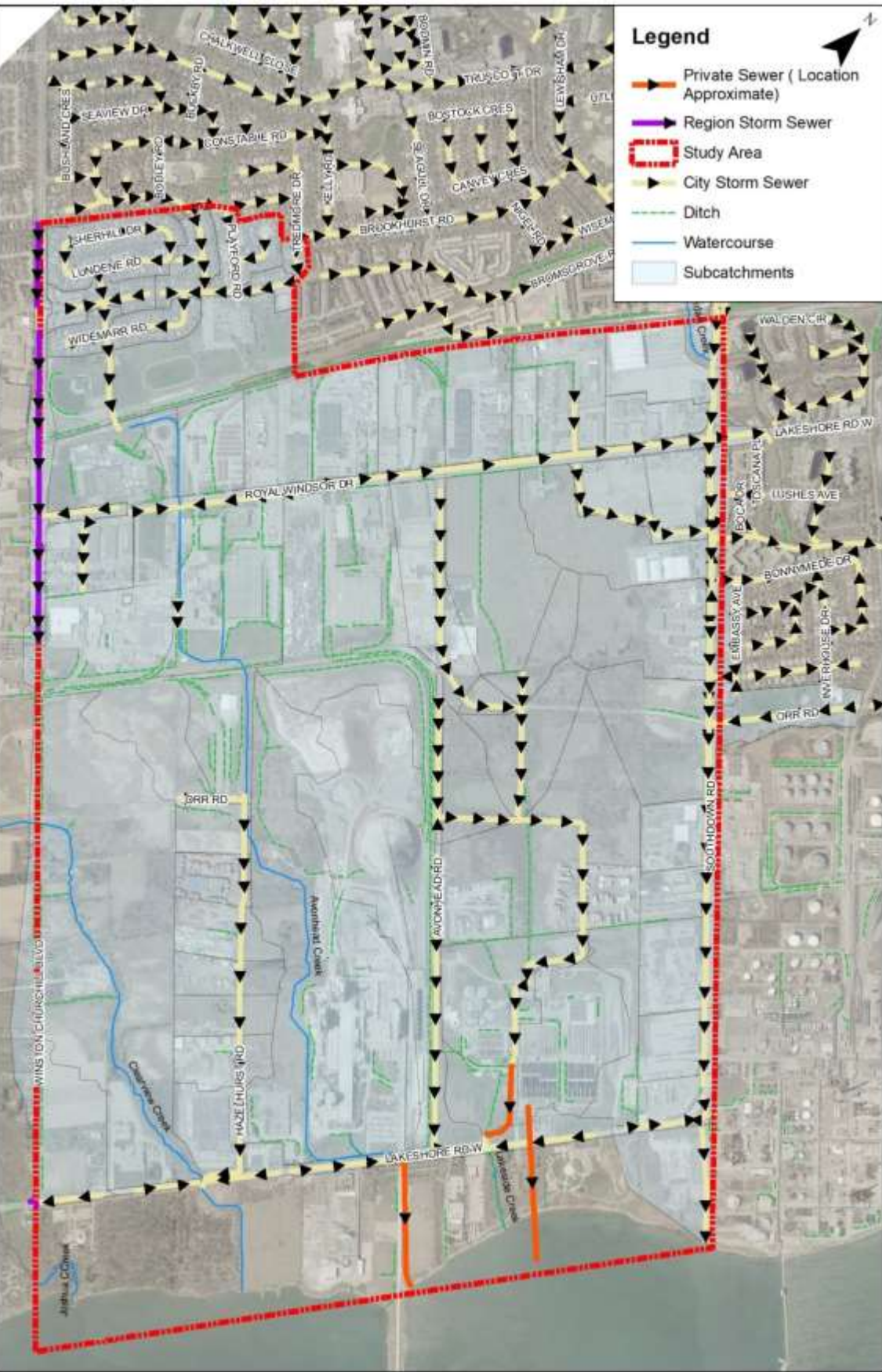
Avonhead Creek through concrete plant: CSP and concrete lined channel



Lakeside Creek downstream of Lakeshore Road: natural channel through mature riparian vegetation

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Existing Conditions: Storm Sewers and Road Drainage



Computer modelling was completed to assess the capacity of the existing storm sewers and road drainage:

City of Mississauga design standards:

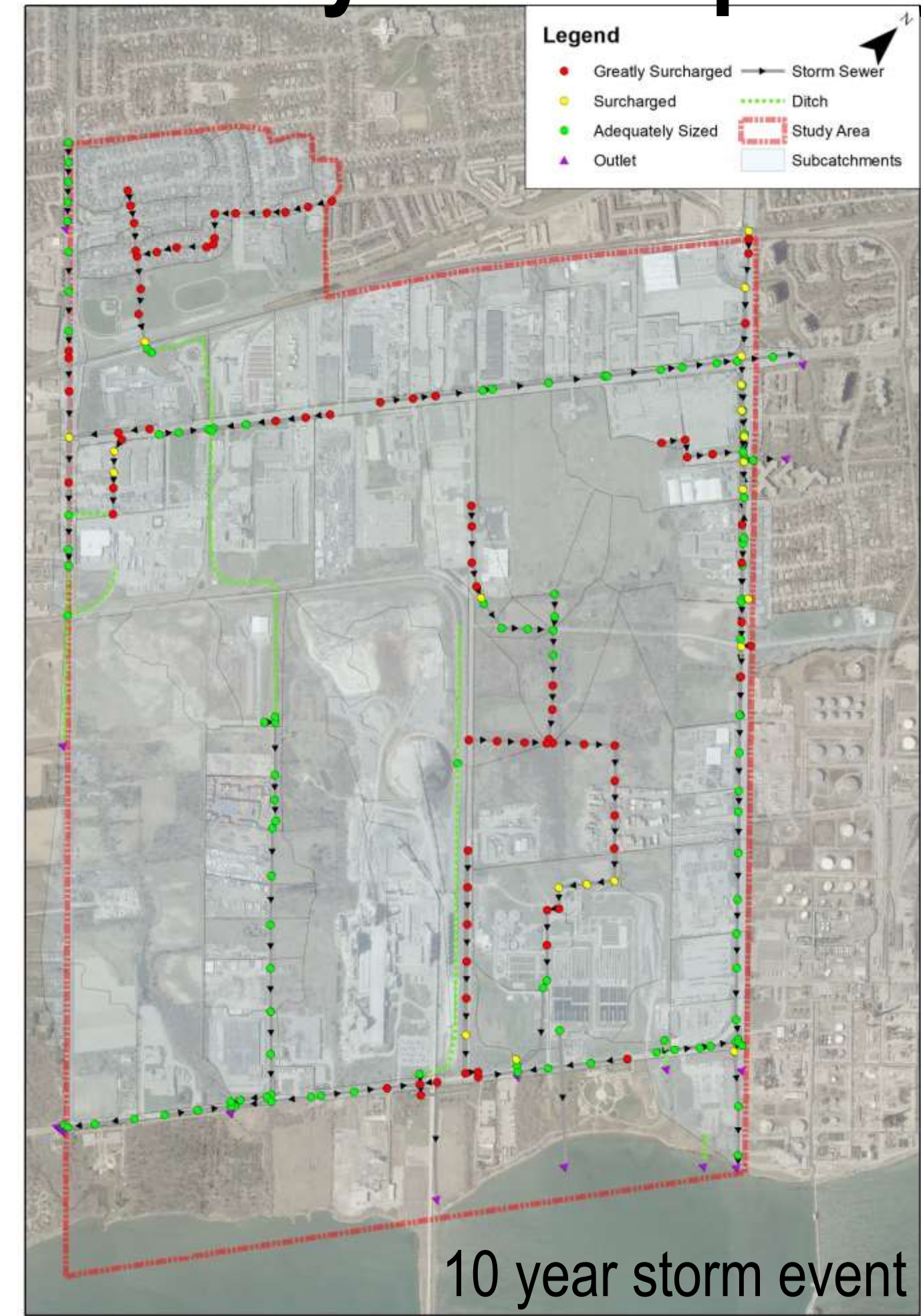
Storm sewer and ditch (minor) systems:

- 10-year storm for small sewers (<100 hectares)
- 25-year storm for large trunk sewers (>100 hectares)

Road drainage (major) system:

- 100-year storm to be contained within the roadway or municipal easements

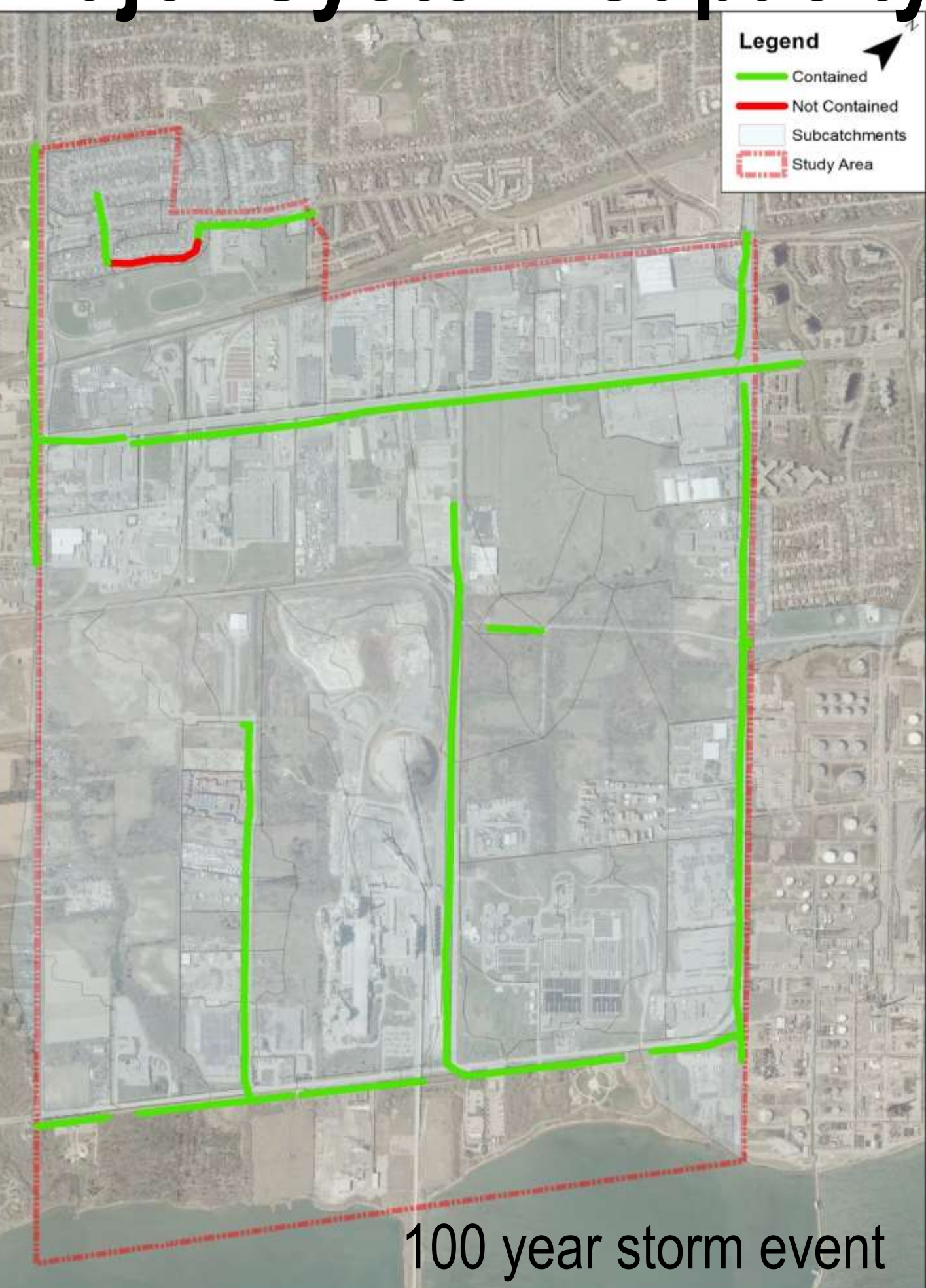
Minor System Capacity



Storm sewer segments illustrated in green are big enough to meet the City’s capacity standards under the current landuses. Sewer segments illustrated in red are undersized which may cause stormwater to “backup” and pond on the road.



Major System Capacity

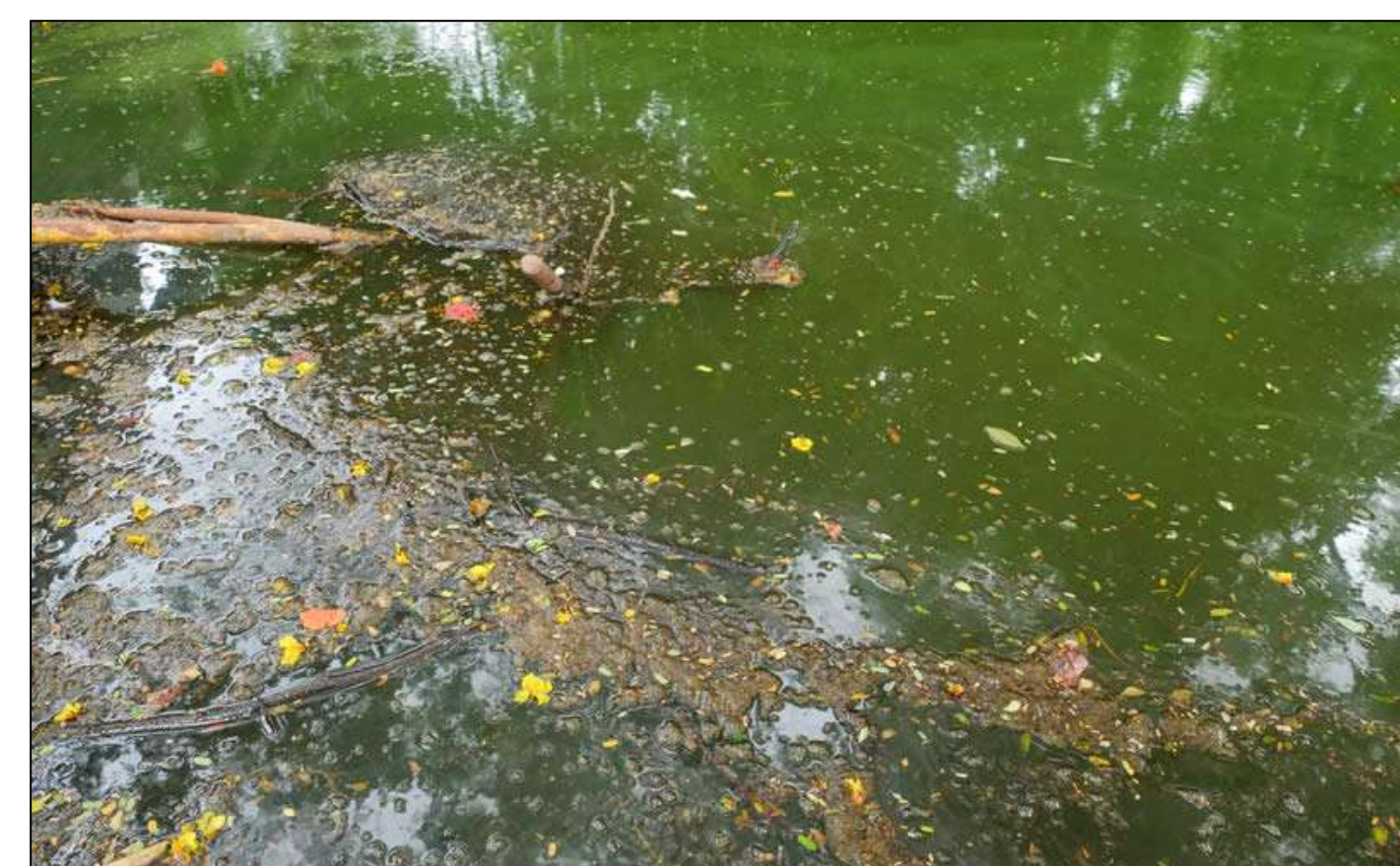


Road segments shown in green are able to contain the 100-year storm within the municipal roadway. Segments shown in red may experience spill of floodwaters onto surrounding lands.

**Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class
Environmental Assessment**

Common Impacts of Increased Urban Development (if not adequately mitigated)

- Increased stormwater runoff volumes
- Increased flooding
- Decreased water quality
- Lower groundwater recharge
- Negative impacts to downstream fisheries
- Fragmentation/isolation of wildlife habitat
- Reduced Biodiversity



Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class
Environmental Assessment

Alternative 1: Do Nothing

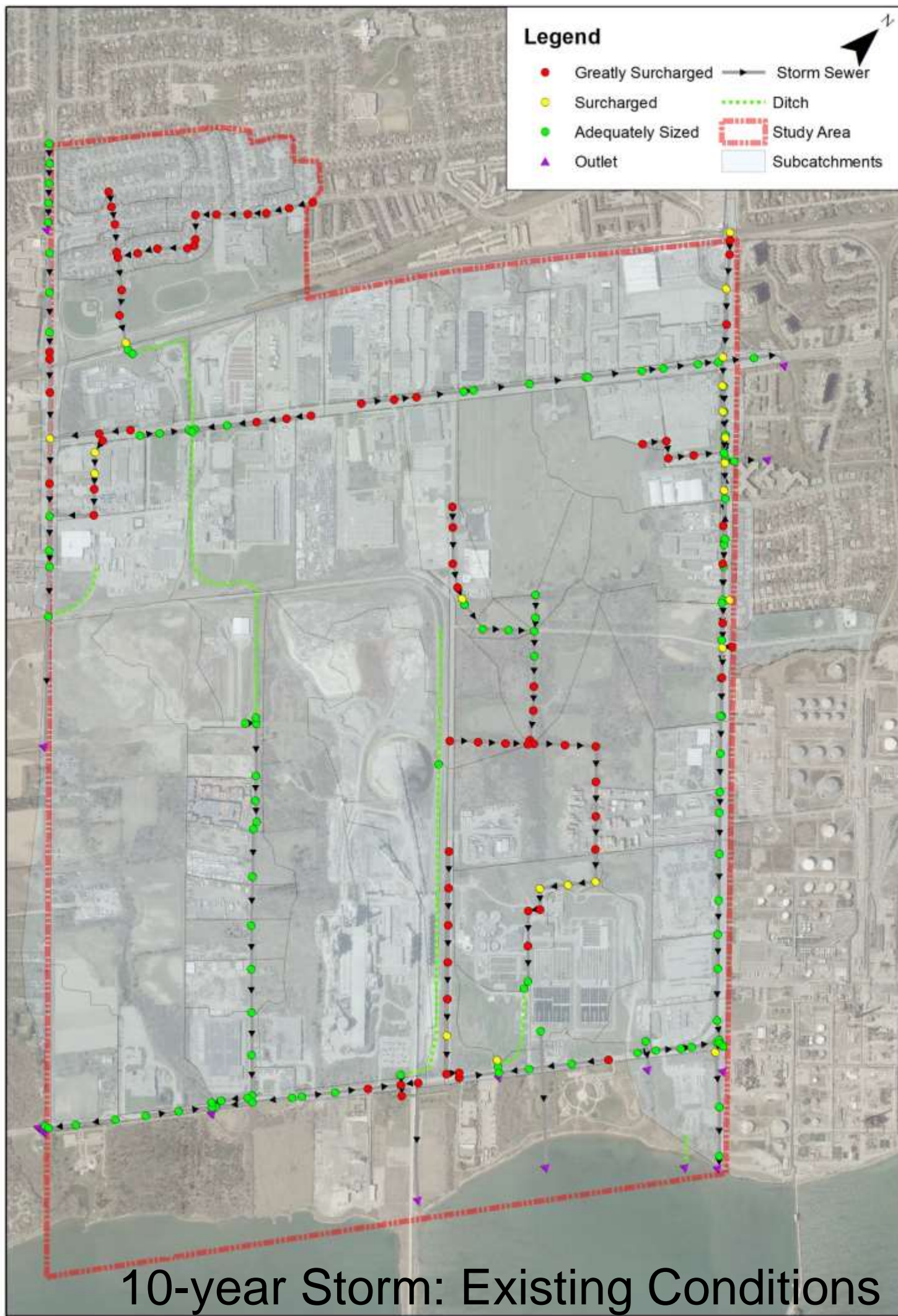
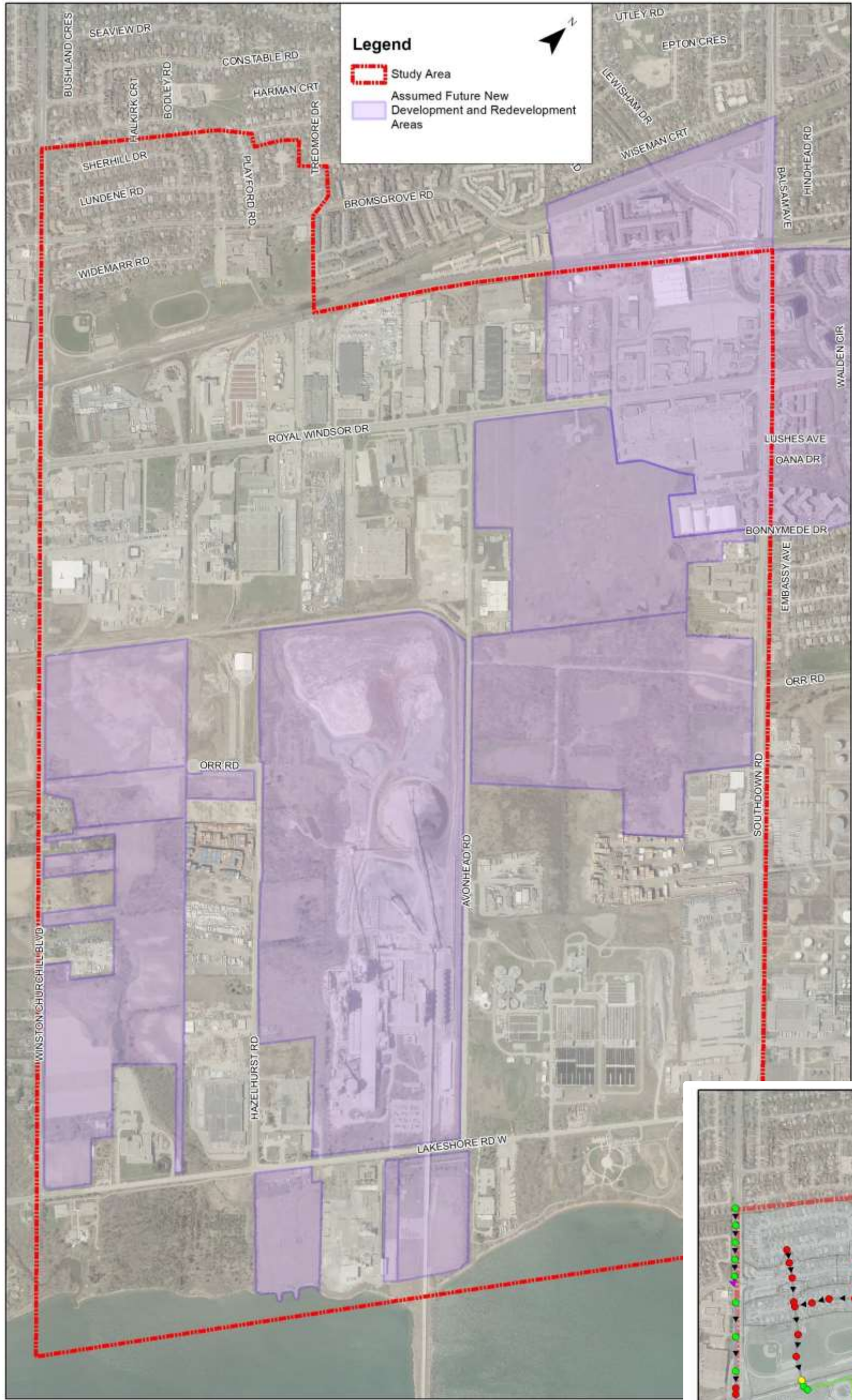
A hypothetical, worst case scenario to understand how sensitive the drainage systems are with respect to development and stormwater management in the study area. The Do Nothing alternative assumes that the remaining greenfield and under-developed properties in the study area will be developed with no on-site stormwater management controls

Impacts of Uncontrolled Future Development on Flood Flows

| Clearview Creek | | |
|-----------------|------------|------------|
| Existing | Do Nothing | % Increase |
| 8.80m³/s | 11.22m³/s | 27.5% |

| Avonhead Creek | | |
|----------------|------------|------------|
| Existing | Do Nothing | % Increase |
| 5.48 m³/s | 10.78 m³/s | 96.7% |

| Lakeside Creek | | |
|----------------|------------|------------|
| Existing | Do Nothing | % Increase |
| 4.17 m³/s | 5.56 m³/s | 33.3% |



| Number of Storm Sewer Pipes Significantly Surcharged in a 10 Storm Event | |
|--|------------|
| Existing | Do Nothing |
| 79 | 95 |

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Alternative 2: Current Standard Stormwater and Environmental Management Approach

The current stormwater management criteria applicable to new development in the Southdown District are as follows:

- **Erosion Control:** Minimum 5 mm rainfall retention for drainage areas less than 5 ha and 25 mm – 48hr detention for drainage areas greater than 5 ha. Actual erosion control criterion may require geomorphologic assessment study to determine the appropriate erosion threshold.
- **Water Quality Control:** Enhanced Level of control (80% TSS removal)
- **Water Quantity Control:** Control post development flows to pre-development levels
- **Discharge to Municipal Storm Sewers:** Control post development peak flows for up to the 100 year storm to the 2 year pre-development flow.
- **Water Balance:** Maintain pre-development groundwater recharge to the extent feasible (this is usually satisfied by the retention of the first 5 mm of runoff)

The current environmental management approach is to ensure that new urban development and re-development lands are appropriately set back from the limit of the natural heritage systems, including any natural hazards. Potential impacts to natural heritage features are to be mitigated through appropriate site design, stormwater management and restoration plans.

Typical Current Stormwater Management Practices

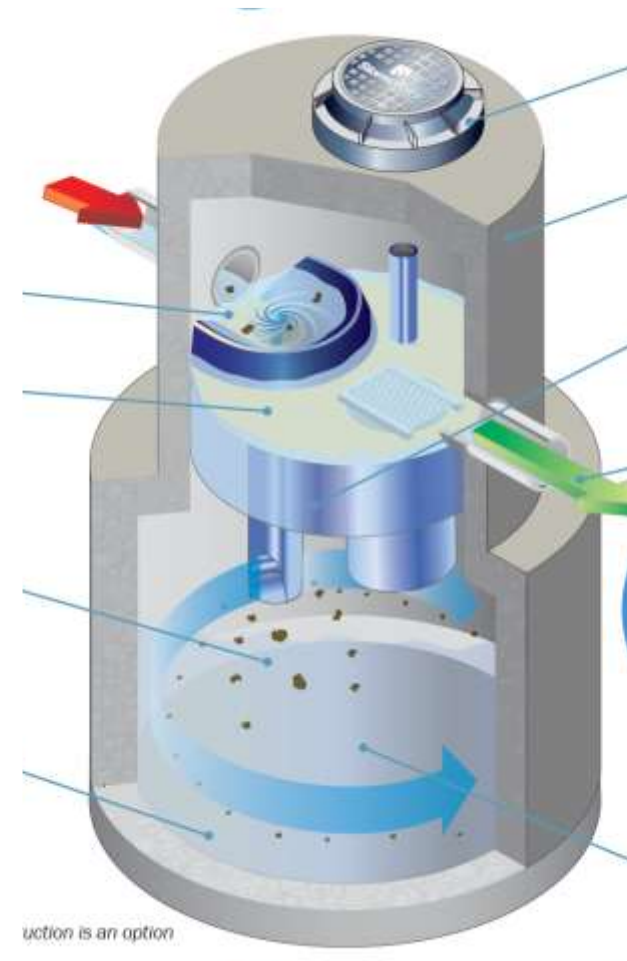
Traditional Stormwater Ponds



Underground Storage Systems



Oil-Grit Separators



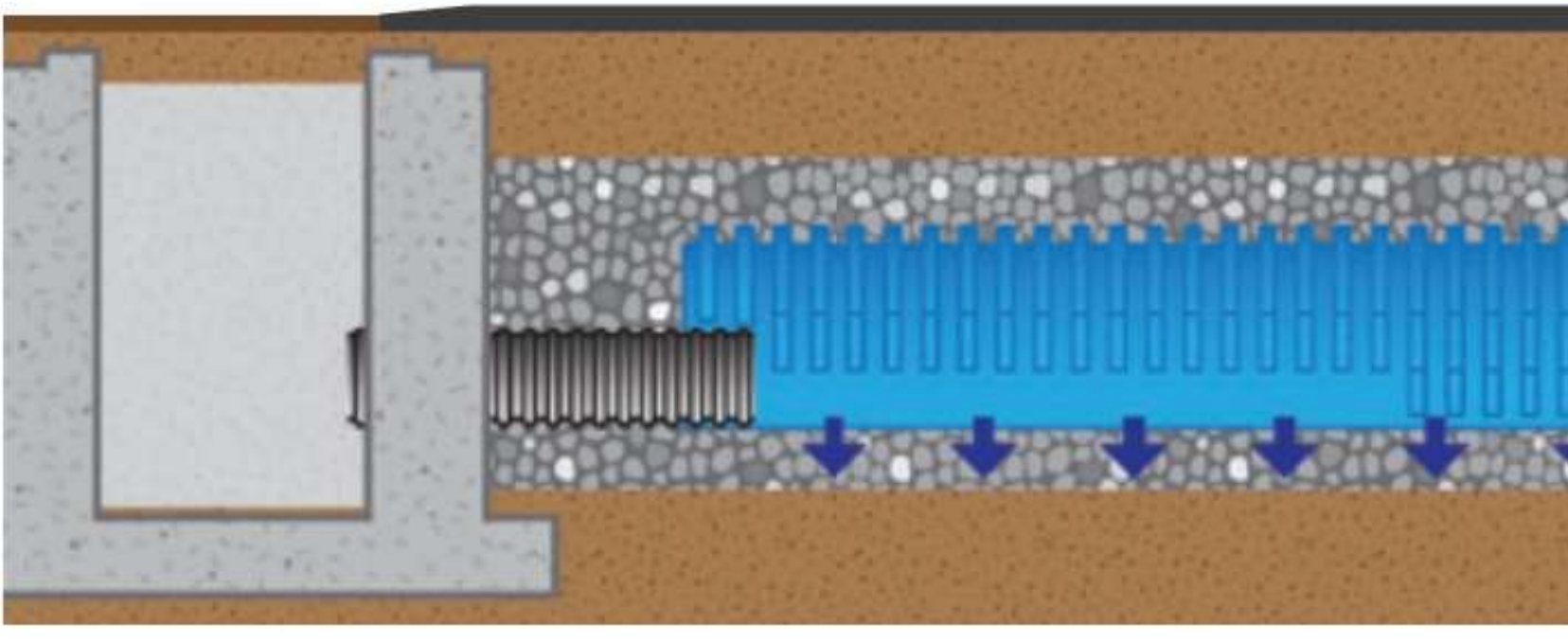
Low Impact Development Practices



Bioretention Swales



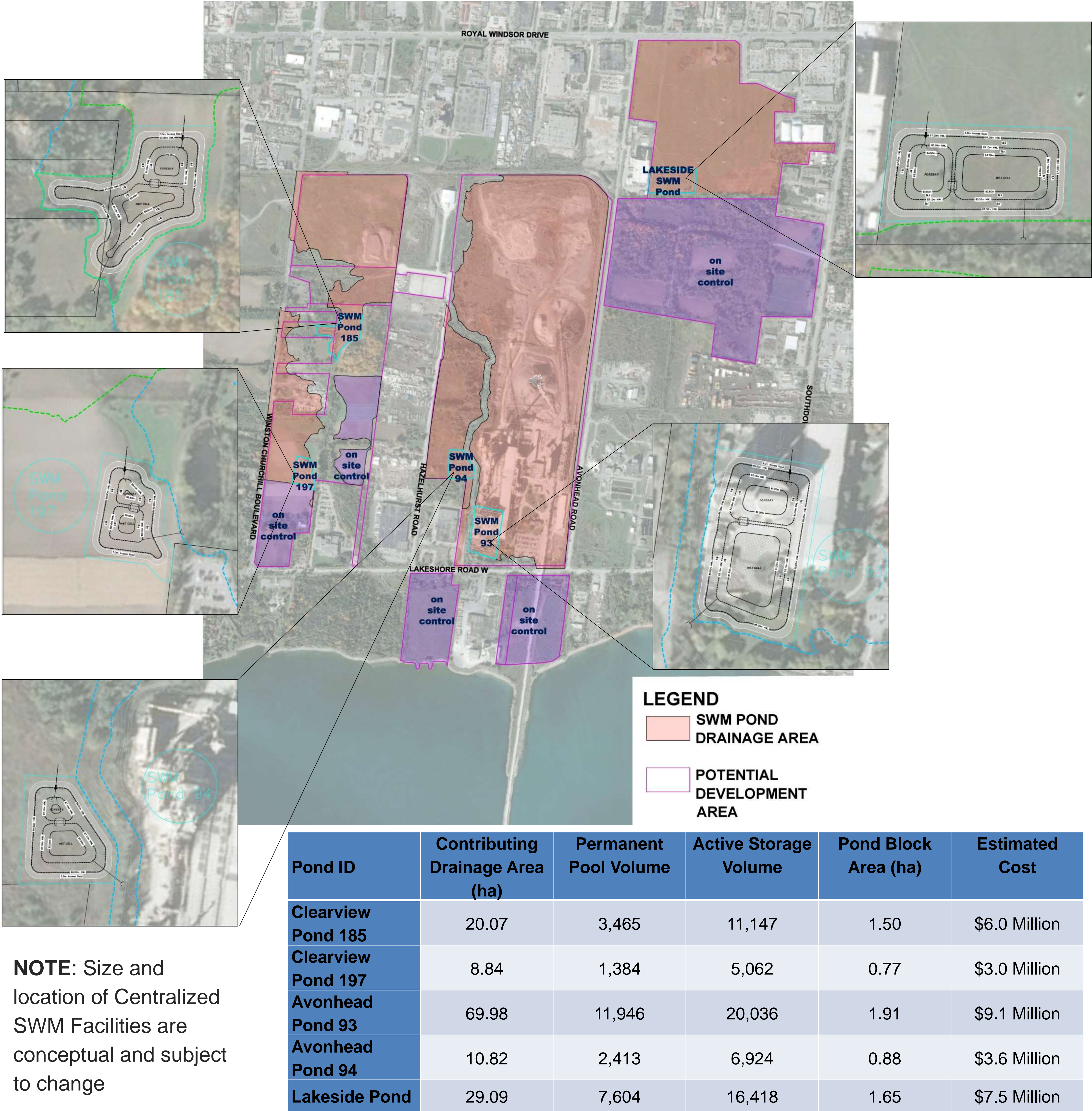
Permeable Pavement



Underground Infiltration Chambers

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Alternative 3: Centralized SWM Facilities for Future Development



Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class
Environmental Assessment

Alternative 4: Retrofit SWM Facilities



The Mississauga Stormwater Quality Control Strategy Update (MSWQCSU) (Aquafor Beech, 2012) recommended three new retrofit on-line SWM facilities in the study area: Pond 401, 402, and 403. Pond 401 is proposed on City property associated with the future Fusion Park, Pond 402 is proposed on the privately owned concrete plant property, and Pond 403 is located on Peel Region property associated with the Clarkson WWTP.

| Pond ID | Upstream Drainage Area (ha) | Permanent Pool Volume (m ³) | Predicted TSS Removal Efficiency | Pond Block Area (ha) | Cost (Based on Stormwater Quality Control Strategy Update, Dec 2012) |
|-----------------|-----------------------------|---|----------------------------------|----------------------|---|
| 401 (Clearview) | 448 | 40,875 | 77 | 3.40 | \$4.6 Million |
| 402 (Avonhead) | 210 | 7,753 | 67 | 0.44 | \$4.7 Million |
| 403 (Lakeside) | 145 | 13,693 | 78 | 0.90 | \$5.6 Million |

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Alternative 5: Watercourse Improvements



Clearview Creek

- Realignment and reconstruction of channel west of Winston Churchill Boulevard (62 m wide corridor)
- Replacement of the concrete channel south of Lakeshore Road with a natural channel (62 m wide corridor)
- Removal of the online pond north of Lakeshore Road
- Cost: \$19.1 Million

Avonhead Creek – North of Orr Road

- Replacement of the culvert under the access road and channel widening (3 m base width)
- Re-grading the property south of the railway to contain the spill over the tracks and safely convey it to Orr Road
- Cost: \$0.6 Million

Avonhead Creek – South of Orr Road

- Naturalize channel upstream of Lakeshore Road (57 m wide corridor)
- Remove the flow diversion structure at Orr Road & Hazelhurst Road
- Realign the channel to outlet to Clearview Creek (57 m wide corridor)
- Cost: \$31.9 Million

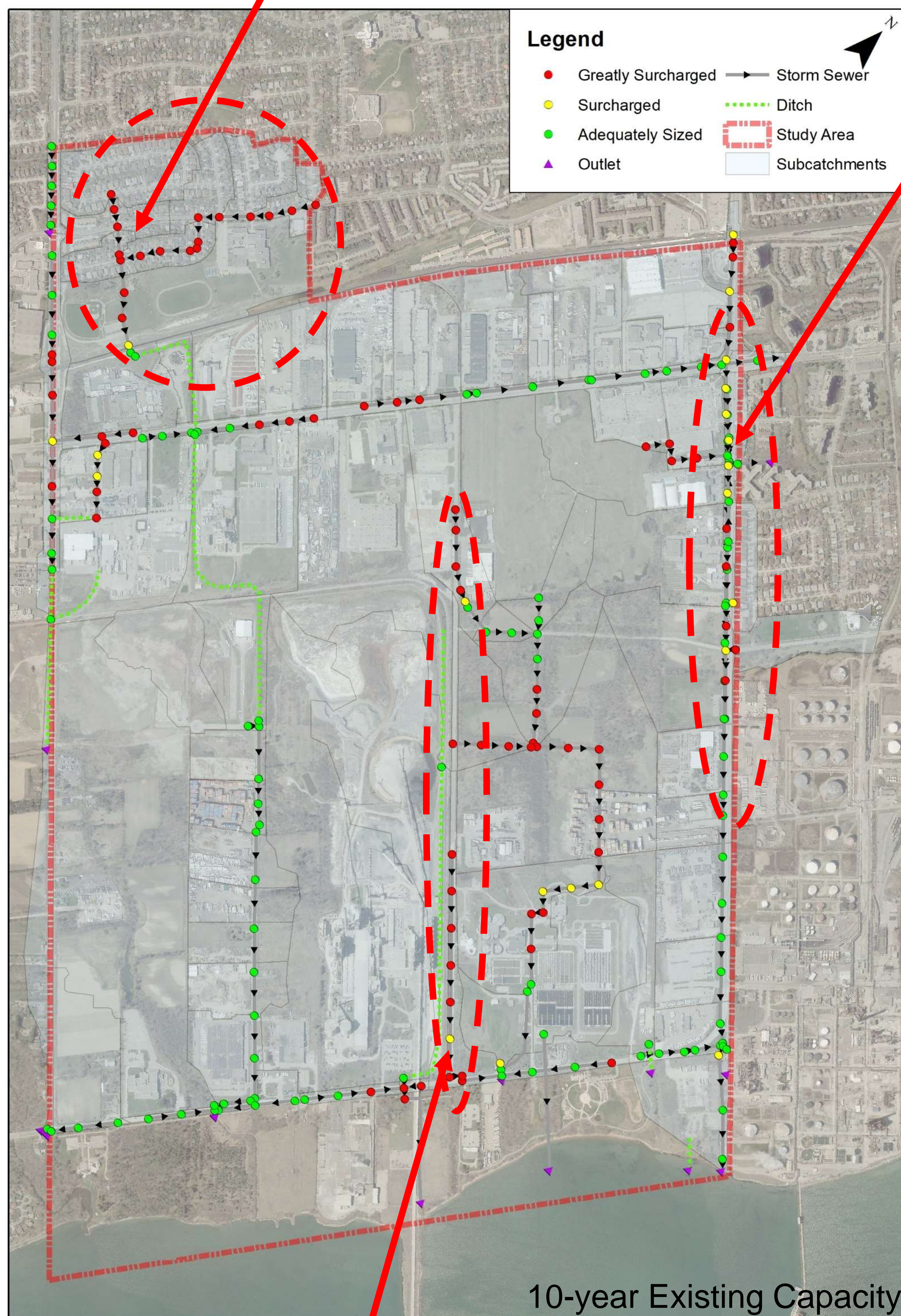
Lakeside Creek

- Replace the existing storm sewers with a naturalized channel (49 m wide corridor)
- New storage facility to control flows to the capacity of existing storm sewers through WWTP
- Cost: \$17.8 Million

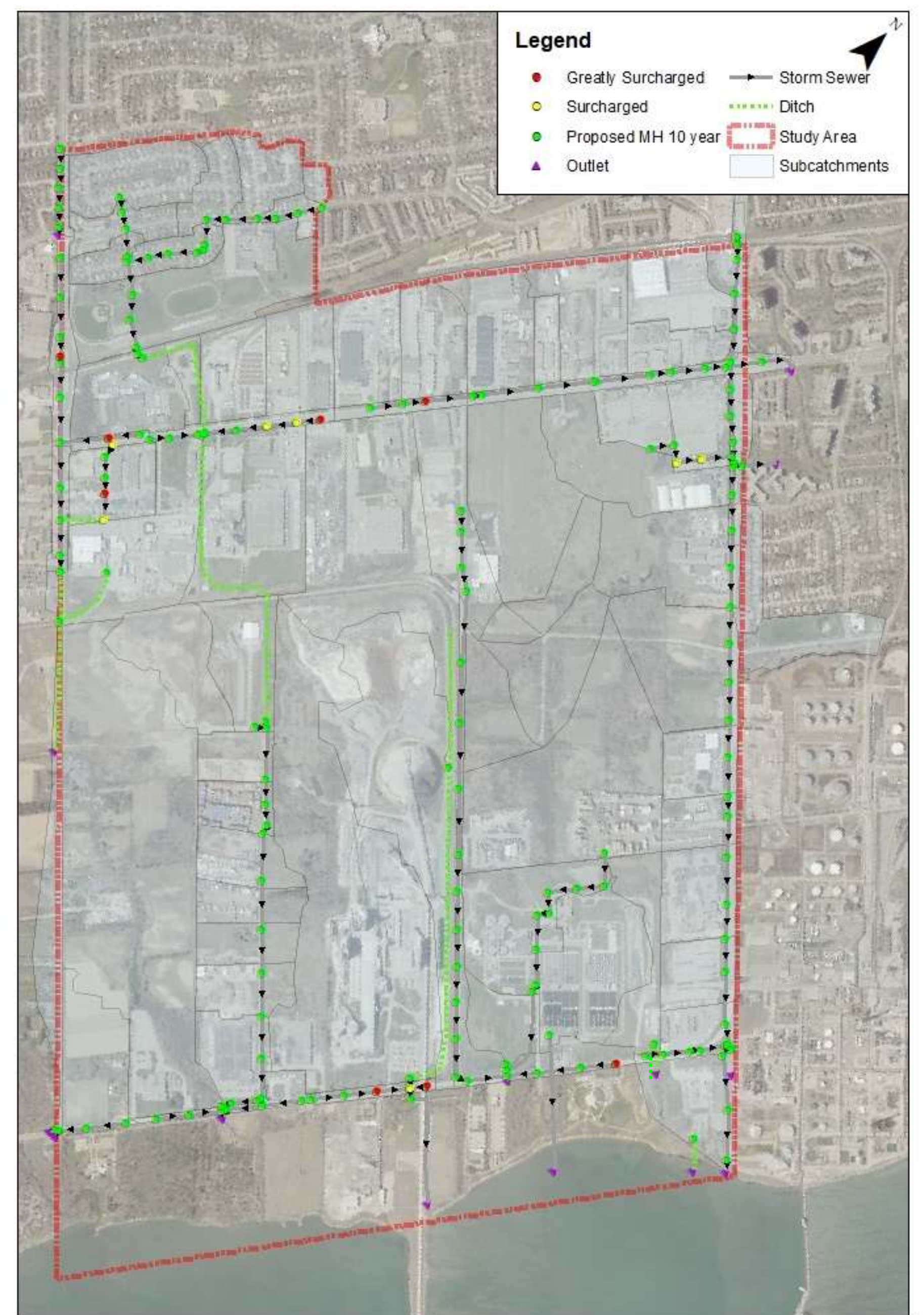
Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Alternative 6: Storm Sewer Upgrades

Upgrade existing sewers
Cost \$3.7 Million



Upgrade existing twin storm sewers with single larger storm sewer
Cost \$4.9 Million



10-year with Pipe Upgrades

Upsize existing storm sewers and extend storm sewer to north of Orr Road to eliminate sewers north of the WWTP – pipe sizes range from 825mm to 1500mm
\$10.7 Million

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Evaluation of Alternatives



Natural Environment

- Potential impact on terrestrial system (vegetation, trees and wildlife)
- Potential impact on aquatic systems (aquatic life, surface water and groundwater)
- Potential to improve natural environmental conditions



Social Environment

- Disruption to existing community during construction (business disturbance, traffic, noise)
- Potential for acquisition of private land for implementation
- Impacts to recreational infrastructure (trails, parks)
- Impacts to archaeological resources and Indigenous communities



Technical

























- Effectiveness in improving flooding, erosion, and water quality in the study area
- Challenges for implementation (landowner agreements, property acquisition, permitting and construction)
- Potential future maintenance requirements
- Resiliency to future climate conditions



Economic

- Estimated costs to implement project
- Estimated costs of long term operations and maintenance
- Potential impacts on future municipal revenues (gain or loss of tax revenue)

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Alternative | Natural Environment | | Social/Cultural Environment | | Technical Environment | | Overall | | Financial Environment |
|---|---|--|---|--|--|---|---|---|--|
| | Impacts | Benefits | Impacts | Benefits | Challenges | Performance | Cumulative Impact | Cumulative Benefit | |
| Do Nothing |  |  |  |  |  |  |  |  | No capital costs, as no works are proposed |
| | Increased erosion and degraded water quality due to uncontrolled runoff from future development | No benefits, as no works are proposed | No impacts, as no works are proposed | No benefits, as no works are proposed | No challenges, as no works are proposed | Increased flow rates resulting in increased flooding and erosion in the watercourses | NOT RECOMMENDED Uncontrolled flows from future development will have unacceptable impacts on flooding, erosion and water quality | | Potentially increased maintenance costs to repair infrastructure damaged by flooding and erosion |
| Current Standard Stormwater and Environmental Management Approach |  |  |  |  |  |  |  |  | Capital costs are dependent on the form of development and suite of on-site controls implemented |
| | No impacts, as all stormwater controls would be implemented within the future development sites | No benefit to the natural environment | No impacts, as all stormwater controls would be implemented within the future development sites | No benefit to social or cultural environments | Few challenges anticipated for implementation of on-site controls to achieve applicable SWM criteria for future development sites | Will mitigate impacts of future development on flooding, erosion and water quality, but will not improve existing degraded watercourses | RECOMMENDED Adequately mitigates impacts of future anticipated development | | The on-site controls will be constructed and maintained by the developer / property owner |
| Centralized SWM Facilities for Future Development |  |  |  |  |  |  |  |  | Estimated land and construction costs of \$29.2 Million would be borne by the contributing development sites |
| | No impacts, as all SWM facilities would be constructed outside of the NHS limits | The SWM facilities could be designed and landscaped to complement and enhance the adjacent NHS areas | Potential noise, vibration, dust and traffic impacts to area residents and businesses during construction | Potential benefits to employees in the study area if recreational facilities (trails, lookouts) are integrated into the design of the SWM facilities | Significant challenges for co-ordination, co-operation and agreements among impacted and benefitting landowners and developers for land and construction costs | Will mitigate impacts of future development on flooding, erosion and water quality, but will not improve existing degraded watercourses | NOT RECOMMENDED Prohibitive challenges to implement centralized SWM facilities for multiple development sites with different timelines, but should be considered if multiple development applications are advanced with similar timelines | | Increased long term operation and maintenance costs when the SWM facilities are assumed by the City |

Least Impact / Greatest Benefit  →  →  →  →  Greatest Impact / Least Benefit

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Alternative | Natural Environment | | Social/Cultural Environment | | Technical Environment | | Overall | | Financial Environment |
|---|---|--|---|---|--|---|------------------------|------------------------|--|
| | Impacts | Benefits | Impacts | Benefits | Challenges | Performance | Cumulative Impact | Cumulative Benefit | |
| Retrofit SWM Facilities | <div><div></div></div> <div>Vegetation and mature tree removals for implementation of the Clearview Creek facility</div> | <div><div></div></div> <div>Improved water quality in the watercourses south of Lakeshore Road</div> | <div><div></div></div> <div>Potential noise, vibration, dust and traffic impacts to area residents and businesses during construction</div> | <div><div></div></div> <div>Potential benefits to the public if recreational facilities (trails, lookouts) are integrated into the design of the SWM facilities</div> | <div><div></div></div> <div>Challenges to secure land from private property owners and Peel Region, challenges to capture storm flows for treatment while preserving baseflows and fish passage in the watercourses</div> | <div><div></div></div> <div>Will improve water quality in the relatively short length of watercourse between Lakeshore Road and Lake Ontario</div> | <div><div></div></div> | <div><div></div></div> | <div><div><div>NOT RECOMMENDED</div><div>Significant challenges to secure land for the SWM facilities, challenges to construct on-line water quality facilities on Clearview and Avonhead Creeks, does not improve water quality in watercourses north of Lakeshore Road</div></div></div> <div>Estimated land and construction costs of \$29.2 Million .Increased long term operation and maintenance costs</div> |
| Watercourse Improvements: Clearview Creek | <div><div></div></div> <div>Vegetation and mature tree removals for Clearview Creek south of Lakeshore Road, temporary impacts to watercourse during construction</div> | <div><div></div></div> <div>Significant improvement in the quality and quantity of aquatic and terrestrial habitat</div> | <div><div></div></div> <div>Limited potential impacts to residents and businesses during construction</div> | <div><div></div></div> <div>Potential benefits to the public if trail systems are integrated into the design of the channel corridor</div> | <div><div></div></div> <div>Significant challenges for co-ordination, co-operation and agreements among impacted and benefitting landowners north of Lakeshore Road, challenges to stage construction across multiple properties</div> | <div><div></div></div> <div>Erosion and flooding hazards would be fully confined to the channel corridor. The reduced flood plain and re-aligned corridor facilitates more functional land parcels for future development</div> | <div><div></div></div> | <div><div></div></div> | <div><div><div>RECOMMENDED</div><div>While there are significant challenges for implementation, there will be significant benefits to the natural environment, recreation and future developments with the realigned and protected channel corridor</div></div></div> <div>Capital cost of \$19.1 Million Negligible increase in long term costs for maintenance of the channel corridors</div> |

Least Impact / Greatest Benefit ● → ◐ → ◑ → ◒ → ○ Greatest Impact / Least Benefit

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Alternative | Natural Environment | | Social/Cultural Environment | | Technical Environment | | Overall | | Financial Environment | |
|---|---|--|--|--|--|---|---|------------------------|--|--|
| | Impacts | Benefits | Impacts | Benefits | Challenges | Performance | Cumulative Impact | Cumulative Benefit | | |
| Watercourse Improvements: Avonhead Creek South of Orr Road | <div><div></div></div> <p>Limited vegetation and mature tree removals, temporary impacts to watercourse during construction</p> | <div><div></div></div> <p>Improved fish passage from Lake Ontario and improvement in the quality and quantity of aquatic and terrestrial habitat</p> | <div><div></div></div> <p>Property required for the realignment of Avonhead Creek south of Lakeshore Road, potential impacts to residents and businesses during construction</p> | <div><div></div></div> <p>Potential benefits to the public if trail systems are integrated into the design of the channel corridor</p> | <div><div></div></div> <p>Moderate challenges to secure property south of Lakeshore Road, limited challenges to co-ordinate with the design of Clearview Creek south of Lakeshore Road</p> | <div><div></div></div> <p>Erosion and flooding hazards would be fully confined to the channel corridor. The reduced flood plain and re-aligned corridor facilitates more functional land parcels for future development</p> | <div><div></div></div> | <div><div></div></div> | <p>RECOMMENDED</p> <p>While there are moderate challenges for implementation, there will be significant benefits to the natural environment, recreation and future developments with the realigned and protected channel corridor</p> | <p>Capital cost of \$31.9 Million</p> <p>Negligible increase in long term costs for maintenance of the channel corridors</p> |
| | Watercourse Improvements: Avonhead Creek North of Orr Road | <div><div></div></div> <p>Negligible vegetation removals, temporary impacts to watercourse during construction</p> | <div><div></div></div> <p>Limited opportunities for ecological restoration or enhancements</p> | <div><div></div></div> <p>Limited potential impacts to residents and businesses during construction</p> | <div><div></div></div> <p>No benefits, as the works would be implemented on private properties</p> | <div><div></div></div> <p>Few technical challenges for implementation, but there are no mechanisms to compel the works to occur outside of a development application</p> | <div><div></div></div> <p>Flooding would be significantly reduced but the Regional flood would not be confined to the channel</p> | <div><div></div></div> | | |

Least Impact / Greatest Benefit ● → ◐ → ◑ → ◒ → ○ Greatest Impact / Least Benefit

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Alternative | Natural Environment | | Social/Cultural Environment | | Technical Environment | | Overall | | Financial Environment |
|--|--|---|---|--|---|--|------------------------|------------------------|--|
| | Impacts | Benefits | Impacts | Benefits | Challenges | Performance | Cumulative Impact | Cumulative Benefit | |
| Watercourse Improvements: Lakeside Creek | <div><div></div></div> <p>Moderate vegetation and mature tree removals required east of Avonhead Road</p> | <div><div></div></div> <p>Significant increase in the quality and quantity of aquatic and terrestrial habitat, but the system would remain piped through the WWTP and disconnected from the existing Lakeside Creek at Lakeshore Road</p> | <div><div></div></div> <p>Limited potential impacts to residents and businesses during construction</p> | <div><div></div></div> <p>Potential benefits to the public if trail systems are integrated into the design of the channel corridor</p> | <div><div></div></div> <p>Significant challenges for co-ordination, co-operation and agreements among impacted and benefitting landowners, significant challenges to implement if not constructed in a single phase</p> | <div><div></div></div> <p>Erosion and flooding hazards would be fully confined within the new channel corridor</p> | <div><div></div></div> | <div><div></div></div> | <p>Capital cost of \$17.8 Million</p> <p>Negligible increase in long term costs for maintenance of the channel corridors</p> |
| | <p>NOT RECOMMENDED</p> <p>The predicted improvements to the natural heritage system cannot justify the significant challenges to implement this solution. The Avonhead Road storm sewer upgrade would provide similar flood protection to the Clarkson WWTP</p> | | | | | | | | |
| Storm Sewer Upgrades | <div><div></div></div> <p>No impacts, as works would be contained within existing developed road right-of-ways</p> | <div><div></div></div> <p>Removal or abandonment of the storm sewers east of Avonhead Road could facilitate future restoration and enhancement of the existing wooded area</p> | <div><div></div></div> <p>Potential noise, vibration, dust and traffic impacts to area residents and businesses during construction</p> | <div><div></div></div> <p>No benefits, as works would be contained within existing developed road right-of-ways</p> | <div><div></div></div> <p>Few challenges anticipated with design, approvals and construction of storm sewer upgrades</p> | <div><div></div></div> <p>Storm sewers will meet current City storm drainage criteria, but will not improve existing degraded watercourses</p> | <div><div></div></div> | <div><div></div></div> | <p>Capital cost of \$19.3 Million if implemented as standalone projects. Costs can be reduced if coordinated with future road reconstruction projects</p> <p>No additional long term operation and maintenance costs</p> |
| | <p>RECOMMENDED</p> <p>Recommended to be implemented to facilitate future urban development north of the Clarkson WWTP (Avonhead Road system) or as part of future planned road reconstruction projects (Southdown, Bromsgrove and Widemarr Road systems)</p> | | | | | | | | |

Least Impact / Greatest Benefit ● → ◐ → ◑ → ◒ → ○ Greatest Impact / Least Benefit

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Project | Criteria and Objectives | Future Study Requirements | Phasing Consideration | Permits and Approvals | Other Considerations |
|---|---|---|---|--|---|
| Current Standard Stormwater and Environmental Management Approach | The City is not responsible for implementation of stormwater and environmental controls, but has a role in reviewing and approving development applications and ensuring that all criteria and guidelines are satisfied | | | | |
| Clearview Creek Naturalization South of Lakeshore Road | Fully contain the Regional storm flood and all erosion hazards Achieve a net benefit to the natural heritage system Eliminate or minimize the need for long term maintenance | Archaeology (Stage 2 AA) Fluvial Geomorphology and Coastal Assessment Geotechnical and Hydrogeology Investigations Utility Investigation | The realignment and naturalization south of Lakeshore Road should be coordinated with the realignment of Avonhead Creek south of Lakeshore Road | CVC MECP – SAR (if required) MECP – PTTW (if required) DFO | The realignment and naturalization south of Lakeshore Road should be integrated with the proposed City park at the Harding Waterfront Estate property |
| Avonhead Creek South of Lakeshore Road | Fully contain the Regional storm flood and all erosion hazards Achieve a net benefit to the natural heritage system Eliminate or minimize the need for long term maintenance | Archaeology (Stage 2 AA) Fluvial Geomorphology Geotechnical and Hydrogeology Investigations Utility Investigation | The realignment and naturalization south of Lakeshore Road should be coordinated with the realignment of Clearview Creek south of Lakeshore Road Interim works will be needed to tie into the existing Avonhead Creek if the realignment proceeds in advance of the realignment on the private property to the north | CVC MECP – SAR (if required) MECP – PTTW (if required) DFO | Property is required from two different parcels south of Lakeshore Road. A longer and more expensive culvert could potentially eliminate the need to secure land from the eastern property |
| Avonhead Road Storm Sewer System Modifications | Convey the runoff from a 10 year storm from the Avonhead Road right-of-way and the greater of existing flows or proposed controlled 100 year storm flows from external properties without surcharging | Geotechnical Investigation Utility Investigation | The storm sewer should be installed prior to development of the lands east of Avonhead Road | MECP – ECA MECP – PTTW (if required) | A small area immediately north of the Clarkson WWTP may need to continue to discharge to the storm sewer leading through the WWTP. Future development flows should be controlled to or below the available capacity in the storm sewer within the WWTP site |
| Southdown, Bromsgrove and Widemarr Road Storm Sewer Upgrades | Convey the runoff from a 10 year storm without surcharging (< 100 ha) Convey the runoff from a 25 year storm without surcharging (> 100 ha) Contain the 100 year storm flow within the road right-of-way | Geotechnical Investigation Utility Investigation | The storm sewer upgrades should be coordinated with planned road reconstruction and/or infrastructure renewal projects | CVC (for Southdown Road storm sewer outlet) MECP – ECA MECP – PTTW (if required) | The upgraded storm sewers for Bromsgrove and Widemarr Road may need to convey more than the 10 year storm flow in order to contain the 100 year storm flows within the road rights-of-way |

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Project | Criteria and Objectives | Future Study Requirements | Phasing Consideration | Permits and Approvals | Other Considerations |
|--|--|--|--|--|--|
| Current Standard Stormwater and Environmental Management Approach | Achieve current standards for water quality, erosion mitigation, flood control, water balance and environmental protection Refer to the presentation material for this approach for the specific stormwater and environmental management criteria | Design, approval and construction of stormwater management infrastructure for future development and redevelopment in the study area is the responsibility of the developer as part of the normal development process for each property. The developer or property owner will also be responsible for long term operation and maintenance of all on-site stormwater management controls. | | | |
| Clearview Creek Realignment East of Winston Churchill Boulevard | Fully contain the Regional storm flood and all erosion hazards Achieve a net benefit to the natural heritage system Eliminate or minimize the need for long term maintenance | Archaeology (Stage 2 AA) Fluvial Geomorphology Geotechnical and Hydrogeology Investigations Utility Investigation | The works span multiple properties and should be coordinated to constructed as much of the channel as possible in a single phase. Interim works will be needed to transition to the existing channel upstream and downstream if implemented on a property-by-property basis | CVC MECP – SAR (if required) MECP – PTTW (if required) City of Mississauga Region of Peel (for construction access from WCB) DFO | The recommended alignment is centred on the property line of the lots fronting Winston Churchill Boulevard If an agreement cannot be reached with the owner to the east, the channel may need to be implemented fully on the property to the west |
| Clearview Creek Dam Removal north of Lakeshore Road | Achieve a net benefit to the natural heritage system Ensure fish passage Eliminate or minimize the need for long term maintenance | Archaeology (Stage 2 AA) Fluvial Geomorphology Geotechnical and Hydrogeology Investigations | The works are located on a single property and can be completed in a single phase | CVC MECP – SAR (if required) MECP – PTTW (if required) MNRF (to remove fish and wildlife from the pond prior to removal) City of Mississauga Region of Peel (for construction access from WCB) DFO | It is expected that the property owner would implement these works to mitigate risks and liability associated with failure of the dam and potential impacts to downstream property and infrastructure |
| Avonhead Creek Flood Improvements North of CNR Tracks | Prevent any increase in the frequency or extent of flooding on adjacent properties | Archaeology (Stage 2 AA) Fluvial Geomorphology Geotechnical and Hydrogeology Investigations Utility Investigation | The works can proceed independently but should ideally be coordinated with the flood containment project to the south | CVC MECP – SAR (if required) MECP – PTTW (if required) City of Mississauga DFO | It is expected that these works would occur during any future expansion or redevelopment of 2500 Royal Windsor Drive |

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

| Project | Criteria and Objectives | Future Study Requirements | Phasing Consideration | Permits and Approvals | Other Considerations |
|--|---|--|---|--|---|
| Avonhead Creek Flood Containment South of CNR Tracks | Convey the spill flow over the railway tracks and safely convey it to Orr Road Prevent any increase in the frequency or extent of flooding on adjacent properties Provide a freeboard of at least 0.3 m from the regulatory flood level to the proposed grades on the remainder of the site | Geotechnical and Hydrogeology Investigations | The works can proceed independently but should ideally be coordinated with the culvert and channel improvements to the north | CVC City of Mississauga Region of Peel (for construction access from WCB) | It is expected that these works would occur during development of 701 - 805 Winston Churchill Boulevard |
| Avonhead Creek Realignment West of Hazelhurst Road | Fully contain the Regional storm flood and all erosion hazards Achieve a net benefit to the natural heritage system Eliminate or minimize the need for long term maintenance | Archaeology (Stage 2 AA) Fluvial Geomorphology Geotechnical and Hydrogeology Investigations Utility Investigation | The existing and realigned channel are contained within a single property. Interim works may be required to connect to the existing culvert under Lakeshore Road if the realignment occurs in advance of the realignment of Avonhead Creek south of Lakeshore Road | CVC MECP – SAR (if required) MECP – PTTW (if required) City of Mississauga DFO | It is expected that these works would occur during future redevelopment of the existing concrete plant property |

Additional Recommendations and Considerations

- CVC Grids study – benefits to Royal Windsor storm sewer system and Sheridan Creek if low impact development SWM practices are implemented on existing private properties
- Future Redevelopment – the majority of the study area developed prior to adoption of modern swm – future redevelopment of these sites (such as Clarkson GO Transit Hub) with current SWM will further improve water quality, flooding and erosion
- Future infrastructure renewal – road reconstruction projects should incorporate stormwater management, including LID to improve quality and quantity of runoff from city and regional roadways



**Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class
Environmental Assessment**

Next Steps

1. Review public feedback and refine or confirm the preferred solution
2. Agency Consultation
3. Issue of Notice of Completion (Fall 2021)
4. Project File Report available for public review for 30 day period

Please complete the on-line survey which can be found on the project website
You can contact Greg or Steve with any other questions, comments or feedback on
this project



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