



Appendix 2.6  
PIC 1



# Talbotville Wastewater Treatment Plant

## Schedule C Class EA

Public Information Centre

December 16, 2015



TOWNSHIP OF  
**Southwold**



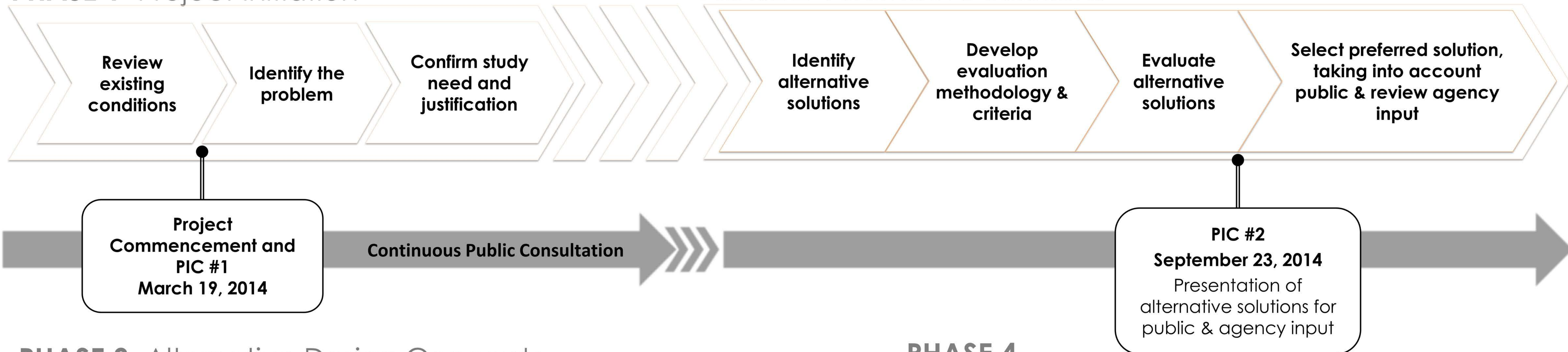
# Introduction

- The Township of Southwold (Township) is a small, rural municipality immediately west of the City of St. Thomas.
- The Township recently completed a Master Servicing Plan for Talbotville and Ferndale to improve development opportunities within its settlement areas. This study was conducted as a Master Plan (Phases 1 and 2) under the Municipal Class Environmental Assessment process.
- Currently no municipal wastewater collection or treatment infrastructure exists within Talbotville. Existing development within the settlement area is serviced by private on-site septic systems.
- A number of wastewater collection and treatment alternatives for Talbotville were developed as part of the Master Servicing Plan. Through completion of the Master Servicing Plan, **the construction of a new municipally owned and operated wastewater treatment plant in Talbotville to service both existing and future development was selected as the preferred alternative.**
- A new wastewater treatment plant prompted the completion of a Schedule C Class EA. The Schedule C Class EA builds upon the findings of the Master Servicing Plan and completes Phase 3 (Alternative Design Concepts) and Phase 4 (Environmental Study Report) of the Municipal Class EA process.
- The Talbotville WWTP Schedule C Class EA will provide the basis for the selection of the preferred treatment technologies and will undertake further determination of the preferred plant location.

# Schedule 'C' Municipal Class Environmental Assessment Process

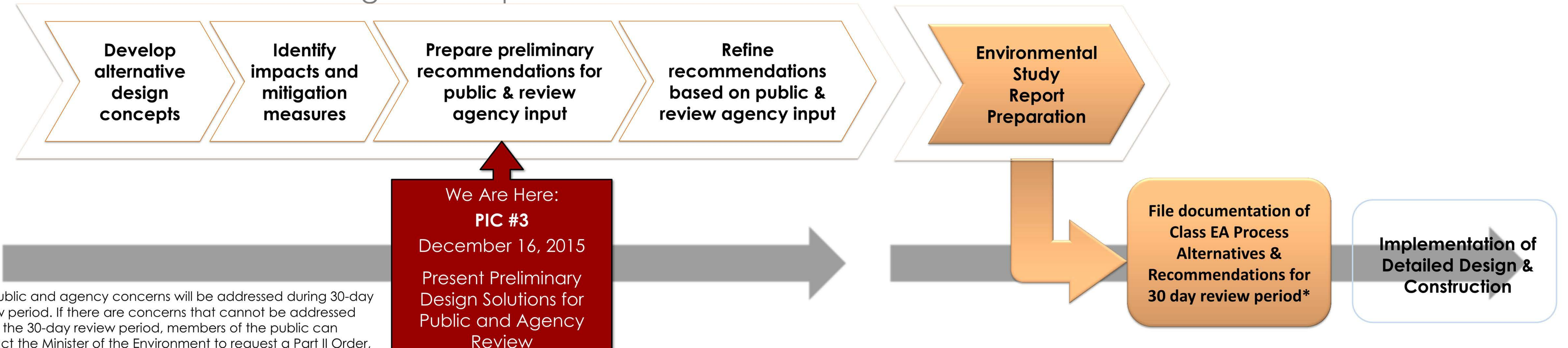
## PHASE 1 Project Initiation

## PHASE 2 Alternative Solutions



## PHASE 3 Alternative Design Concepts

## PHASE 4



\*All public and agency concerns will be addressed during 30-day review period. If there are concerns that cannot be addressed within the 30-day review period, members of the public can contact the Minister of the Environment to request a Part II Order, bumping up the status of the project.

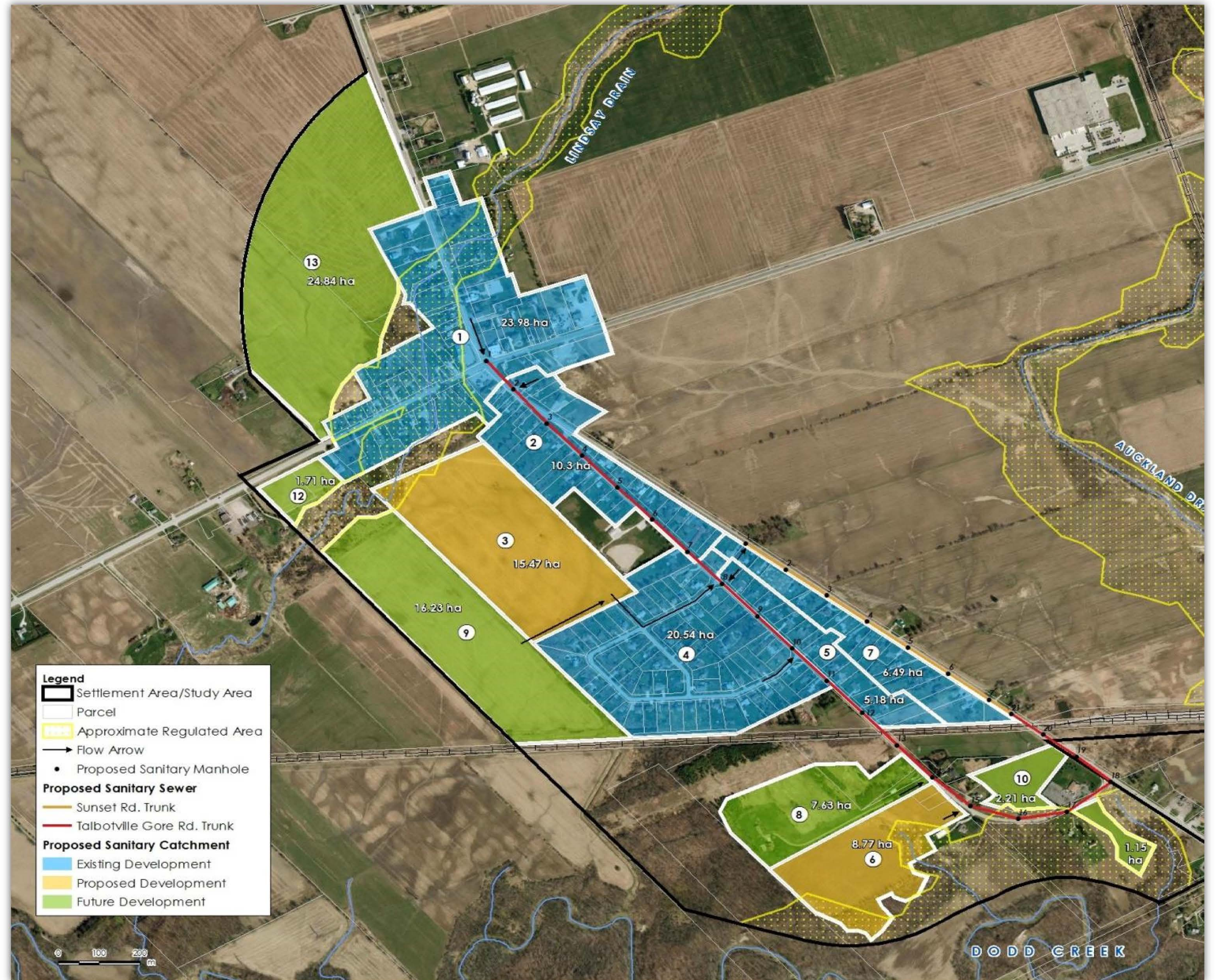
# Talbotville Wastewater Servicing Alternatives

- A set of guiding principles or priorities were developed as part of the Talbotville & Ferndale Master Servicing Plan with consideration for the following:
  - Preference for long-term servicing solutions over interim solutions
  - All services to be fully funded through adequate planning, budgeting and identified revenue streams, development charges, etc.
  - Servicing solutions should be developed which minimize risk to the Township, users and others
- As part of the Master Servicing Plan, the following wastewater servicing alternatives for Talbotville were evaluated:
  - Alternative T1: Do Nothing
  - Alternative T2: Limit Growth
  - Alternative T3: St. Thomas Wastewater Treatment Plant via St. George Street Gravity Sewer
  - Alternative T4: St. Thomas Wastewater Treatment Plant via Alternate/New Trunk Sewer
  - Alternative T5: New Wastewater Treatment Plant in Talbotville
  - Alternative T6: Utilize Existing Ford Motor Company Wastewater Treatment Plant

***The preferred alternative for wastewater servicing within Talbotville was Alternative T5 and would involve the construction of a new municipally owned and operated wastewater treatment plant in the southern end of Talbotville***

# Talbotville Sewershed

- Topography tends to fall towards Dodd's Creek to the south, however, Lindsay Drain creates fall to the northwest as well.
- Preference for gravity sewers versus pumping station and forcemain where possible.
- Sewershed has been divided into 13 segments based upon existing and future development parcels.
- Regulated limits and floodplain restrict potential WWTP locations.
- The MOECC recommends minimum separation distances between new residential developments and other sensitive land uses and existing sewage treatment facilities (Guideline D-2 Compatibility between Sewage Treatment & Sensitive Land Use).
  - Capacity greater than 500 m<sup>3</sup>/day but less than 25,000 m<sup>3</sup>/day → 100 m (minimum) / 150 m (recommended)



# Collection System Construction Phasing

- Phase 1
  - Construction of sanitary sewers in the vicinity of the southern extent of Talbotville-Gore Road and Sunset Road (south of CN tracks)
- Phase 2
  - Construction of sanitary sewers along Talbotville-Gore Road to northern extent of Talbotville-Gore Road and Shady Lane Crescent (north of CN tracks)
- Phase 3
  - Construction of sanitary sewers along Talbotville-Gore Road north of Phase 2
- Approximate flows associated with each phase are presented below:

	Population	Flow (m <sup>3</sup> /day)	Total Flow (m <sup>3</sup> /day)
Phase 1A	200	75	75
Phase 1B	375	140	215
Phase 2	900	330	550
Phase 3A (all Talbotville)	1,925	700	1,250
Phase 3B (including all Ferndale)	1,400	510	1,750

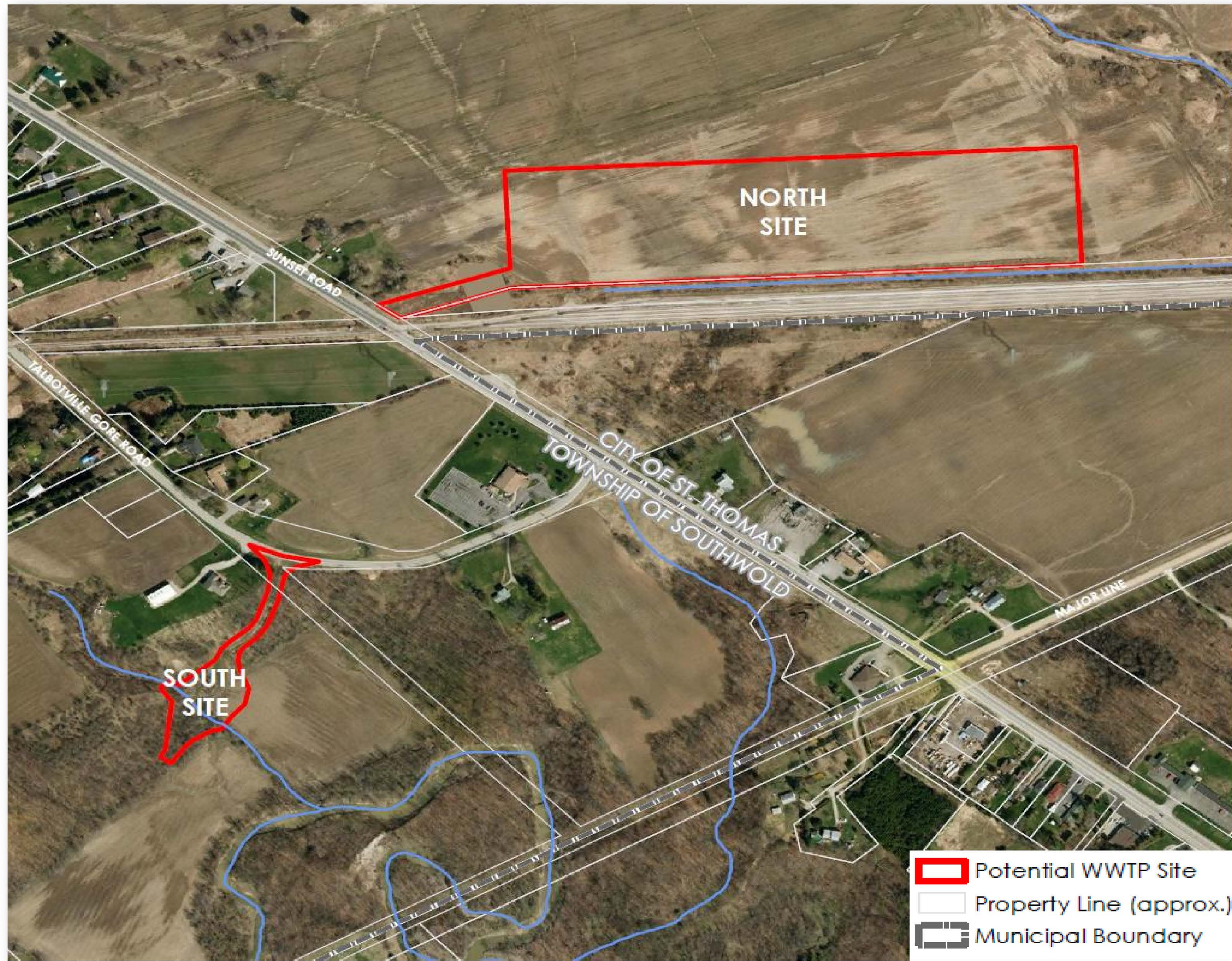
*Flows from Ferndale, although depicted in Phase 3B may be sent to the WWTP prior based on development needs*

# Industrial Contributions

- In accordance with the Adopted Official Plan, there is approximately 412 ha of land designated industrial within the Talbotville Settlement Area.
- The former Ford Motor Company property houses its own WWTP sized for 3,200 m<sup>3</sup>/day.
- Development of industrial lands to the south of the former Ford property could result in a wide range of sanitary flows dependent on both type and size of industry.
- In order to size a new plant efficiently for current and projected residential flows, it is assumed that the municipal plant will undergo a separate expansion or industrial lands may be serviced through on-site treatment plants (similar to Ford) to accommodate much larger industrial flows and variable effluent quality.
- Future industrial lands could generate wastewater flows upwards of 9,000 m<sup>3</sup>/day upon full build-out based upon Township design standards.

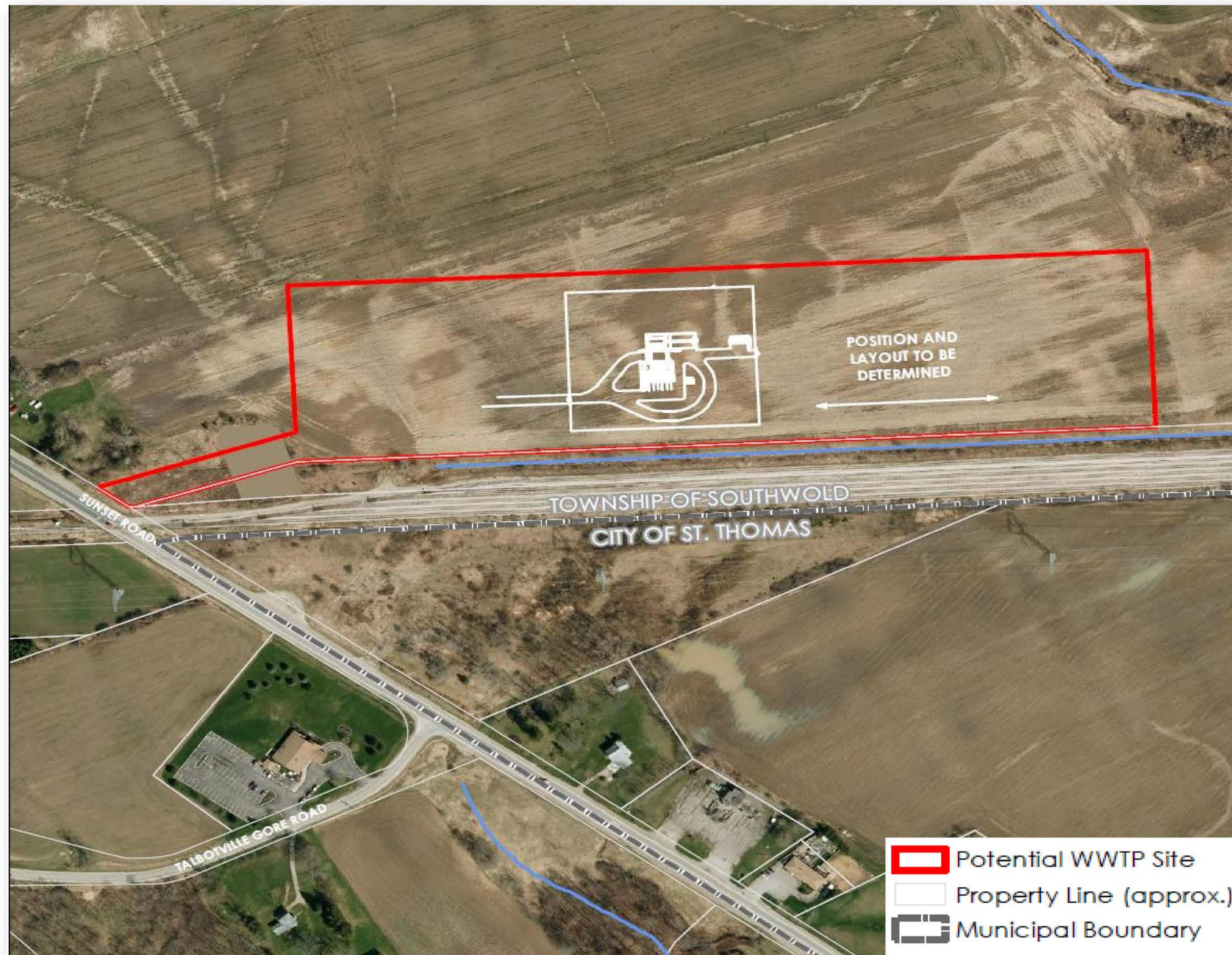


# WWTP Site Selection



- Two potential sites were identified for the Talbotville WWTP and are located at the southern extent of the settlement area.
  - North Site: east of Sunset Road, north of CN tracks
  - South Site: south of Talbotville-Gore Road

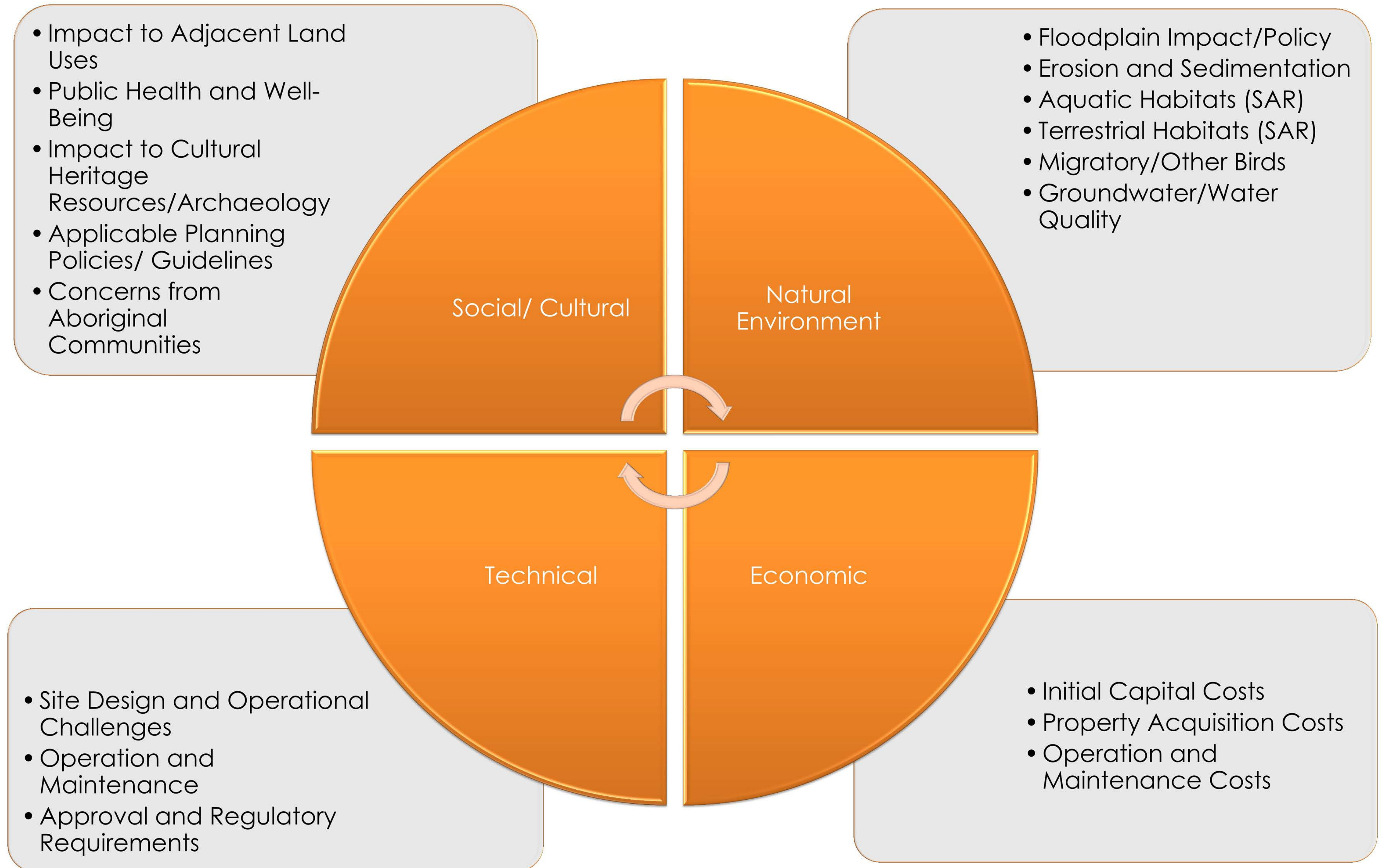
# WWTP Site Layout: North & South Sites



NOTE: The configuration and siting of the plant TBD, and site footprint was estimated to allow flexibility for future expansion

# WWTP Site Evaluation Process

- A qualitative evaluation process has been used to identify advantages and disadvantages with respect to the set of evaluation criteria identified for each environmental component



# WWTP Site Evaluation Criteria: Economic

Issue	Description	North Site	South Site
Capital Costs	Capital cost required to construct treatment plant.	Slight reduction in capital costs due to ease of constructability and minimal site constraints. Cost dependent on technology chosen and site layout.	Constructability issues and site constraints may increase construction costs dependent on technology chosen and site layout.
O&M Costs	Operation and maintenance cost (includes labour, power, chemicals, sludge disposal, equipment replacement).	Operation and maintenance costs would be similar for both sites.	Operation and maintenance costs would be similar for both sites.
Property Acquisition	Property acquisition would be required as no municipally owned property is available.	Cost of property acquisition unknown as not yet discussed with landowner.	Subject property would be donated by the developer to the Township at no cost.
Lifecycle Costs	Costs incurred by the Township to replace equipment dependent on age and condition, higher quality equipment is preferred which may cost more upfront but will cost less to operate and maintain.	Type of treatment technology selected during predesign would determine life cycle costs.	Type of treatment technology selected during predesign would determine life cycle costs.
Modular Plant Design	Construction / expansion of plant is accomplished using phased modules.	Should ensure that initial capital investment is not a "throw away" cost if the next expansion phase deems components of it to be either redundant or undersized. Cost savings do exist to accurately size (or oversize) treatment works initially. Operating costs will increase when operating multiple smaller units in parallel.	Should ensure that initial capital investment is not a "throw away" cost if the next expansion phase deems components of it to be either redundant or undersized. Cost savings do exist to accurately size (or oversize) treatment works initially. Operating costs will increase when operating multiple smaller units in parallel.
Regulation Changes	More stringent effluent quality criteria would trigger upgrades and higher costs.	Technology selected should be adaptable so that it is not constrained if future more stringent effluent limits are put into place.	Technology selected should be adaptable so that it is not constrained if future more stringent effluent limits are put into place.

# WWTP Site Evaluation Criteria: Technical

Issue	Description	North Site	South Site
Township Design Specifications	Design and Construction Standards for the Township of Southwold (2012).	Design and Construction Standards for the Township of Southwold shall be adhered to for the design and construction of the plant.	Design and Construction Standards for the Township of Southwold shall be adhered to for the design and construction of the plant.
MOECC Guidelines	MOECC Guideline D-2 (Compatibility between Sewage Treatment and Sensitive Land Use).	Site is currently zoned industrial and would be set back from existing or planned development, ensuring that an adequate separation distance exists >100 m.	Site is situated < 100 m from adjacent planned residential development. Township should ensure that odour and noise mitigation measures are in place that are acceptable to the MOECC.
MOECC Guidelines	MOECC Design Guidelines for Sewage Works (2008).	Ensure that design guidelines are followed where practical. Any legislation or regulations take precedence over the design guidelines and must be adhered to.	Ensure that design guidelines are followed where practical. Any legislation or regulations take precedence over the design guidelines and must be adhered to.
Modular Plant Design	Construction / expansion of plant is accomplished using phased modules.	Diversion (flow splitting) of flows from the inlet sewer to each module can create operational issues.	Diversion (flow splitting) of flows from the inlet sewer to each module can create operational issues.
Plant Expansion	Area required for logical and cost effective plant expansion.	Large, flat area to easily provide room for future plant expansion.	Limited space available for future plant expansion, constrained by steep wooded slopes to the north and KCCA regulated limit to south.
Effluent Parameters	Ability to achieve current effluent limits.	Effluent limits and objectives developed through the ACS were the same for the discharge location on the north site (Gilbert/Auckland) as they were for the south site.	Effluent limits and objectives developed through the ACS were the same for the discharge location on the south site (Dodd Creek) as they were for the north site.
Effluent Parameters	Ability to achieve future effluent limits.	Technology selected should be adaptable so that it is not constrained if future more stringent effluent limits are put into place.	Technology selected should be adaptable so that it is not constrained if future more stringent effluent limits are put into place.
Operator Requirements	Level of certification required by operators to meet plant classification.	Ensure that operating authority or staff has the appropriate level of certification to operate plant.	Ensure that operating authority or staff has the appropriate level of certification to operate plant.
Maintenance Requirements	Frequency and extent of maintenance activities.	Ensure that operating authority or staff complete maintenance as required to prolong the life of the treatment plant. Technology selected should require minimal maintenance.	Ensure that operating authority or staff complete maintenance as required to prolong the life of the treatment plant. Technology selected should require minimal maintenance.

# WWTP Site Evaluation Criteria: Technical

Issue	Description	North Site	South Site
Hydro	Power consumption and availability of hydro service.	Ensure that required hydro service is available to supply treatment plant with sufficient power. Treatment options should evaluate power consumption requirements to minimize cost to the Township.	Ensure that required hydro service is available to supply treatment plant with sufficient power. Treatment options should evaluate power consumption requirements to minimize cost to the Township.
Lifespan of Plant	Select technology which maximizes lifespan of plant to minimize costs to Township.	Materials and equipment should be evaluated such that the Township is not burdened by replacement costs prior to end of design life.	Materials and equipment should be evaluated such that the Township is not burdened by replacement costs prior to end of design life. Equipment and materials should be selected based on their performance and investment cost over the lifetime of the plant.
Additional Technology / Implementation Considerations	Determine which components are included for a certain technology and which are not. Proven technology, proof of successful installations within Canada and Southwestern Ontario in similar climatic and soil conditions. Length of warranties, service and support locations.	Township should ensure all equipment, materials, installation costs, etc. are accounted for during preliminary design. Technology should be selected during preliminary design which limits risk to Township. Ensure that technology selected has sufficient warranty period to protect the Township from defective equipment and nearby service and support locations.	Township should ensure all equipment, materials, installation costs, etc. are accounted for during preliminary design. Technology should be selected during preliminary design which limits risk to Township. Ensure that technology selected has sufficient warranty period to protect the Township from defective equipment and nearby service and support locations.
Gravity vs. Pumping	Requirement for pumping station and forcemain.	Trunk sanitary sewer could flow to site via gravity. Would require on-site pumping station to lift flow into headworks.	Trunk gravity sewer could flow to site via gravity. Pumping station not required.
Depth of Trunk Sewers	Depth of trunk sewer would increase cost of installation, could also impose pumping requirements at headworks of plant.	Longer trunk sewer length required would result in deeper depth of pipe.	Shorter trunk sewer length required would result in shallower depth of pipe.
Outfall Location	Effluent discharge location.	Outfall to Gilbert Drain.	Outfall to Dodd Creek.
Site Access	Proper access routes on site required for maintenance vehicles, chemical delivery, operations personnel, trucking of sludge (includes entry and exit from site) and access for future expansion works.	No apparent issues with access to site.	Site layout must ensure that access roads are designed with adequate width and do not exceed maximum slope. Layout must allow for truck access and maneuvering and consider future expansion needs.

# WWTP Site Evaluation Criteria: Technical

Issue	Description	North Site	South Site
Topography / Constructability	Ability to construct on site with minimal earth moving requirements or slope stability issues.	No apparent issues with ability to construct on site.	Large variation in topography across site. Earth works and/or retaining wall may be required.
Geotechnical	Ensure that bearing capacity of soil allows for construction of plant.	Geotechnical investigation would need to be undertaken for this site.	Geotechnical investigation report should be referenced. Additional boreholes may be necessary depending on site layout.
MOECC Approvals	Environmental Compliance Approval (ECA) Application.	ECA must be obtained prior to commencement of construction activities. Approximate timeline for ECA approval is 6-12 months.	ECA must be obtained prior to commencement of construction activities. Approximate timeline for ECA approval is 6-12 months.
KCCA Approvals	Construction of a wastewater plant should not be located within the regulatory flood hazard limit.	Construction will not impact regulatory flood hazard limits.	Permission should be obtained from KCCA for minor alterations to the regulatory flood hazard limit to allow for the construction of the plant to extend into the current floodplain. This would allow for greater flexibility to locate treatment works on site. Approval will be required prior to issuance of ECA.
Constructability	Ease of construction on site dependent on existing site conditions.	Minimal constraints to constructability on site.	Moderate constraints (topography, regulated limits, etc.) exist on site, design of site must consider and mitigate these constraints.

# WWTP Site Evaluation Criteria: Natural Environment

Issue	Description	North Site	South Site
Floodplain Impact / Policy	Impacts to surrounding floodplain areas.	Entire site can be situated outside of floodplain. (confirmation needed for floodplain mapping).	Future expansions may encroach on Regulated Floodplain, requiring approval and permitting from KCCA and potential earthworks.
Erosion and Sedimentation Impacts	Impacts and mitigation measures for erosion and sedimentation downstream.	Minimal erosion concerns.	Erosion mitigation measures required since site is situated adjacent to Dodd Creek floodplain.
Aquatic Habitats	Reduction or deterioration of habitat including potential SAR habitat. Effects on contamination on aquatic life.	No anticipated impacts to aquatic habitats or species at risk.	No anticipated impacts to aquatic habitats or species at risk.
Terrestrial Habitats	Reduction or deterioration of habitat including potential SAR habitat.	No anticipated impacts to terrestrial habitats (field currently utilized for row corn) or species at risk.	Some tree clearing/vegetation removal required. Potential for habitats for species at risk and plant species at risk requiring additional investigation/surveys and mitigation/compensation measures.
Migratory/Other Birds	Impacts to seasonal concentration areas or breeding bird habitat.	Area not currently treed. No impacts to bird habitat.	Some tree clearing required. Additional investigation needed to determine impact to potential bird habitats/seasonal concentration areas.



# WWTP Site Evaluation Criteria: Social / Cultural

Issue	Description	North Site	South Site
Impact to Adjacent Land Uses / Public Health and Wellbeing	Potential impacts to adjacent land uses, including requirements for minimum distance separation for sensitive land uses (MOECC Guideline D-2). Potential nuisance impacts including noise from operating equipment, odour, etc.	Site is located within Industrial land designation, no anticipated impacts to adjacent land uses. Appropriate noise and odour mitigation measures to be implemented.	Site is less than the recommended 100 m from residential land uses. MOECC must be consulted to determine required separation distance/additional mitigation measures.
Cultural Heritage / Archaeological Resources	Disruption of site having significant historical, architectural, or archaeological value.	Site within disturbed area (agricultural/rail line). Low potential for disruption to archaeological/cultural heritage resources.	Low potential for disruption to archaeological/cultural heritage resources.
Planning Policies – Official Plan and Provincial Policy Statement	Conforms to the Township's Official Plan - OP, and Provincial Policy Statement – PPS (2014).	<p>Located within Industrial Land Use Designation (Schedule A-1): eastern portion of site may touch upon Hazard Lands (Schedule B-1). Development must conform to policies within Section 2.3 of the Official Plan, which may include the implementation of floodproofing measures to the satisfaction of KCCA.</p> <p>No significant natural heritage features are identified on Schedule B.</p> <p>In compliance with PPS.</p>	<p>Located within Residential Land Use Designation (Schedule A-1), and Hazard Lands (Schedule B-1). Development must conform to policies within Section 2.3 of the Official Plan, which may include the implementation of floodproofing measures to the satisfaction of KCCA.</p> <p>Woodlands above and below 4 hectares are identified on Schedule B and is subject to an Environmental Impact Statement (EIS).</p> <p>Significance of natural features to be determined by EIS for compliance with PPS.</p>
Planning Policies – Zoning Bylaw	Conforms to the Township's Zoning Bylaw.	Zoned as CM1 –Commercial Industrial. May be subject to a zoning amendment.	Zoned as Residential and Natural Area and Adjacent Lands. Subject to an EIS, and Zoning Bylaw amendment.
Concerns from Aboriginal Communities	Land Claims / Treaty Rights.	No concerns expressed to-date, will continue consultation throughout project.	No concerns expressed to-date, will continue consultation throughout project.

# WWTP Technology: Extended Aeration

- Extended aeration treatment would require the construction of headworks, aeration tanks, clarifiers, filters and UV. The headworks would consist of screening and grit removal. Primary clarifiers would then remove contaminants through sedimentation as well as collect floatables on the surface. Aeration tanks would be fitted with fine bubble aerators to provide air needed by the biomass to perform treatment reactions. The function of the secondary clarifiers is to separate the biomass from the treated effluent and recycle the biomass to the aeration tanks for re-use. Filters and the UV system would provide disinfection and polishing of the final effluent.

Advantages	Disadvantages
Proven technology	Larger footprint for treatment (when compared to MBR)
Common technology used by neighbouring authorities	Requires tertiary filtration equipment to achieve high quality effluent
Lower life-cycle cost	

# WWTP Technology: Sequencing Batch Reactor

- The Sequencing Batch Reactor (SBR) treatment concept is similar to extended aeration except that treatment is achieved in one vessel (i.e., batch tank) rather than two vessels (i.e., aeration tank and clarifier). Treatment is achieved in one vessel by varying the operating conditions over time to provide the necessary treatment and solids/liquid separation. Typical sequenced operation includes a period of ON/OFF aeration similar to a conventional aeration tank, followed by periods of settling where the air is turned OFF and decanting when a mechanism is lowered to remove the supernatant. The cycles are repeated and alternated between vessels through the use of proprietary PLC control systems. Because the system relies on robust PLC control, SBR systems are usually purchased as a package from vendors such as ABJ-Sanitaire, Seimens, Fluidyne, etc. Because SBR and EA systems are usually similar in capital costs, the eventual selection is usually based on site-specific factors such as owner preference, effluent limits and space constraints.

Advantages	Disadvantages
Proven technology	Larger footprint for treatment (when compared to MBR)
Common technology used by neighbouring authorities	Requires tertiary filtration equipment to achieve high quality effluent
Lower life-cycle cost	

# WWTP Technology: Membrane Bioreactor

- Membrane bioreactor (MBR) technology is similar to the EA process except that solids/liquid separation is achieved through the use of immersed ultra-filtration membranes that operate under vacuum pressure. MBR represents the current state of the art for wastewater treatment and is finding niche applications where space is limited, where stringent effluent limits must be met, and/or where retrofits of existing facilities is proving cost competitive with more traditional expansions.
- As MBRs can operate at much higher mixed liquor concentrations compared to extended aeration, this leads to better degradation in a given time span or to smaller required reactor volumes. The MBR process combines the unit operations of aeration, secondary clarification and tertiary filtration into a single process.

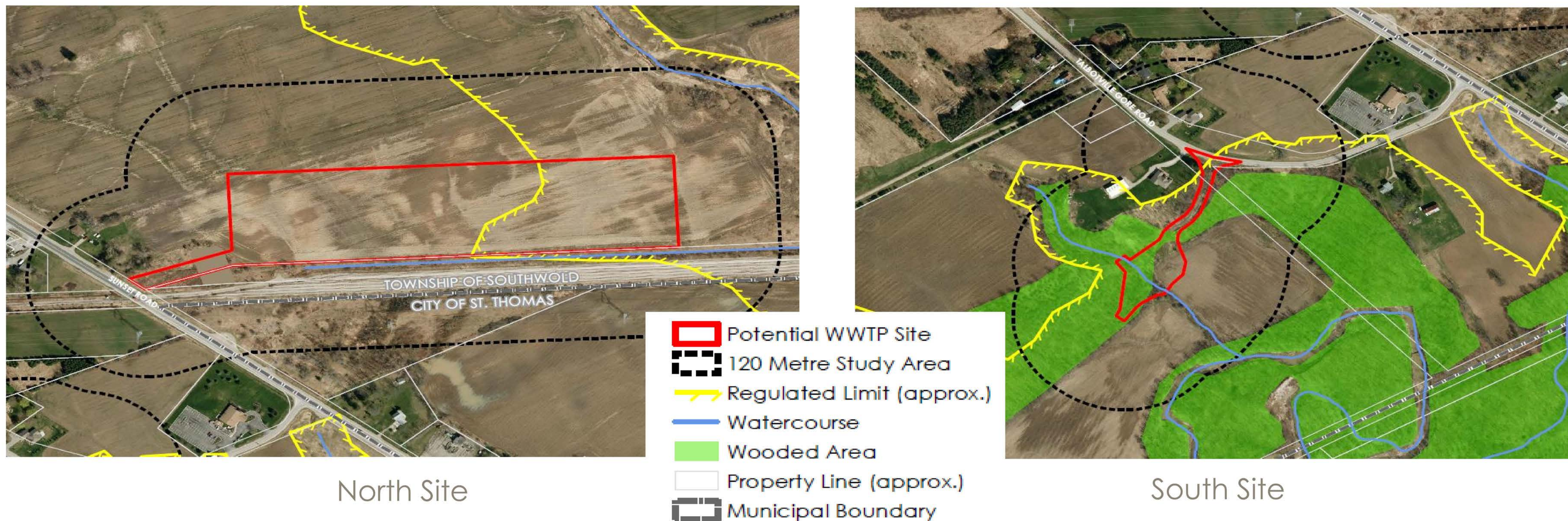
Advantages	Disadvantages
Achieves very high quality effluent, low in particulate	Higher life-cycle cost due to power costs and costs associated with the replacement of membrane modules
Smaller footprint (when compared to extended aeration)	

# Regulatory Policies

- In accordance with KCCA policies, the construction of a wastewater plant shall not be located within the regulatory flood hazard limit. Construction could occur subject to prior permission within the regulation limit. In order to obtain a permit from KCCA, demonstration must be provided, by qualified professionals, confirming that the control of flooding, erosion, dynamic beach, pollution, or the conservation of land will not be affected by the proposed development (O. Reg. 181/06). The entire facility (treatment plant, tankage, access roads, buildings, etc.) must be situated outside of any regulatory flooding hazard.
  - It is understood that through correspondence between RICOR and the KCCA that minor alterations to the regulatory flood hazard limit may be possible.
- In accordance with MOECC policies (Southwestern Region), a wastewater treatment plant must be municipally owned. There cannot be a period where there is private ownership, administration or operation of a facility servicing separately-titled properties. The municipality's position on its ownership and control of the facility should be unequivocal. In essence, it would be a municipal project; the municipality would have the facility designed/built to the standards set by its engineering standards, consultants, etc. Multiple plants and outfalls in close proximity to one another are strongly discouraged.
- Provincial Policy Statement: WWTP must be suitable for development over the long term, are financially viable over their life cycle, and protect public health and safety and the natural environment. Infrastructure shall be provided in a coordinated, efficient and cost-effective manner that considers impacts from climate change while accommodating projected needs. Planning for infrastructure shall be coordinated and integrated with land use planning so that they are financially viable over their life cycle, which may be demonstrated through asset management planning and available to meet current and projected needs.
- Official Plan: The Ministry of Environment recommends minimum separation distances between new residential development and other sensitive land uses and existing sewage treatment facilities. The Ministry of Environment will be consulted to determine these separation distances within the Township or an adjoining municipality.

# Natural Environment Review (NER)

- Based on a review of the natural environment by means of a desktop review and site investigation by a certified terrestrial ecologist, the following constraints were identified for the two potential WWTP locations:
- North Site:
  - Site is partially located within KCCA Regulation Limit (depending on WWTP size and siting)
  - It is not anticipated that the proposed facility will have any impacts to SAR or SAR habitat (potential barn swallow habitat may require additional field survey)
  - No significant natural features identified within the site boundary
- South Site:
  - Site is located entirely within KCCA Regulation Limit
  - Erosion concerns may arise due to steep slopes, and site is in close proximity to the regulated Floodplain
  - In accordance with the Township's Official Plan and Provincial Policy Statement, further evaluation may be needed to determine the significance of woodlots, and potential impacts (EIS)
  - Based on correspondence with the MNRF and field investigation, there are known occurrences of three (3) SAR



# Recommended Field Surveys

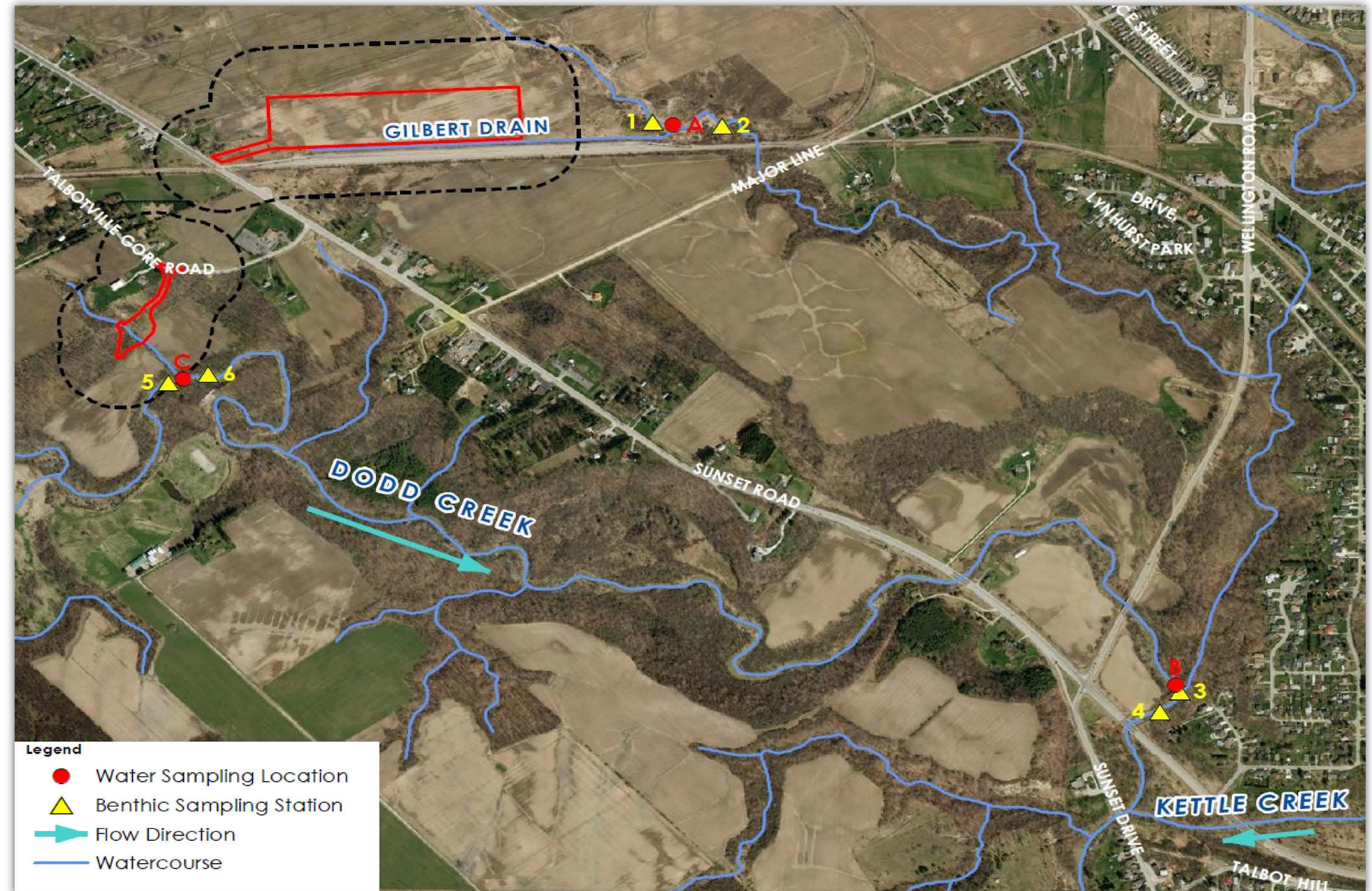
- Permitting requirements can be refined as Natural Heritage Features and vegetation and wildlife species present on site are confirmed. Recommended survey effort to be undertaken prior to implementation are presented below (survey requirements or recommendations may change at any time up to the issuance of permits, either as new features are identified, as new information becomes available, or as regulations are updated).

Survey	Recommended Effort	Timing	Purpose
<b>Botanical Inventory</b>	Two visits, site walks and quadrat assessments	Spring and Summer	Informs habitat descriptions, determines presence of rare/protected species
<b>False Rue-anemone Targeted Survey</b>	Transects in suitable habitat	Late April-May	Determines presence/absence and informs potential permitting requirements
<b>Spoon-leaved moss Targeted Survey</b>	Transects in suitable habitat	Spring/Summer	Determines presence/absence and informs potential permitting requirements
<b>Breeding Birds</b>	Three surveys, including transects and point counts across study area	June and July	Determines habitat usage by bird species, may have implications from the Migratory Birds Act and ESA
<b>Bobolink and Eastern Meadowlark Targeted Survey</b>	Three surveys, including transects and point counts across study area	June and July	Determines presence/absence and informs potential permitting requirements
<b>ELC Confirmation</b>	One site visit, site walks and quadrat assessments	Spring or Summer	Confirms ELC categorization from Fall 2015, categorizes habitat polygons present
<b>General Wildlife and Wildlife Habitat</b>	Transects of the entire study area	During all other surveys	Identifies undocumented habitat features, rare species or vegetation communities, informs impact assessment
<b>Aquatic Habitat and Fish</b>	TBD	TBD*	Identifies aquatic habitat and species that may be impacted

\*Survey parameters should be determined by expert(s) in aquatic, ecology and permitting requirements

# Assimilative Capacity Study (ACS)

- General objectives of the Assimilative Capacity Study are to:
  - Characterize the receiving water quantity and quality
  - Select and configure an appropriate water quality model
  - Apply the model to several scenarios which involve different rates of effluent discharge and background conditions
  - Assess the potential impact on Auckland Drain and Dodd Creek
  - Make recommendations on effluent limits
- Water quality sampling was undertaken to obtain receiving water quality data for the Auckland Drain and Dodd Creek
  - Fall Sample (November 25, 2014)
  - Spring Sample (April 15, 2015)
  - Summer Sample (July 14, 2015)





# Benthic Invertebrate Survey

- Benthic macroinvertebrates are small-bodied organisms that live on the bottom substrates of aquatic environments, such as lakes and rivers. They are commonly used as biological indicators of water and habitat quality.
- Stantec conducted a baseline benthic macroinvertebrate survey in the Auckland Drain (November 25, 2014) and Dodd Creek (April 15, 2015) in the vicinity of the proposed WWTP locations.
- Benthic sampling suggests that water quality conditions are impaired in both receivers. The effluent quality criteria to be assigned to the proposed Talbotville WWTP should therefore not exacerbate this condition.



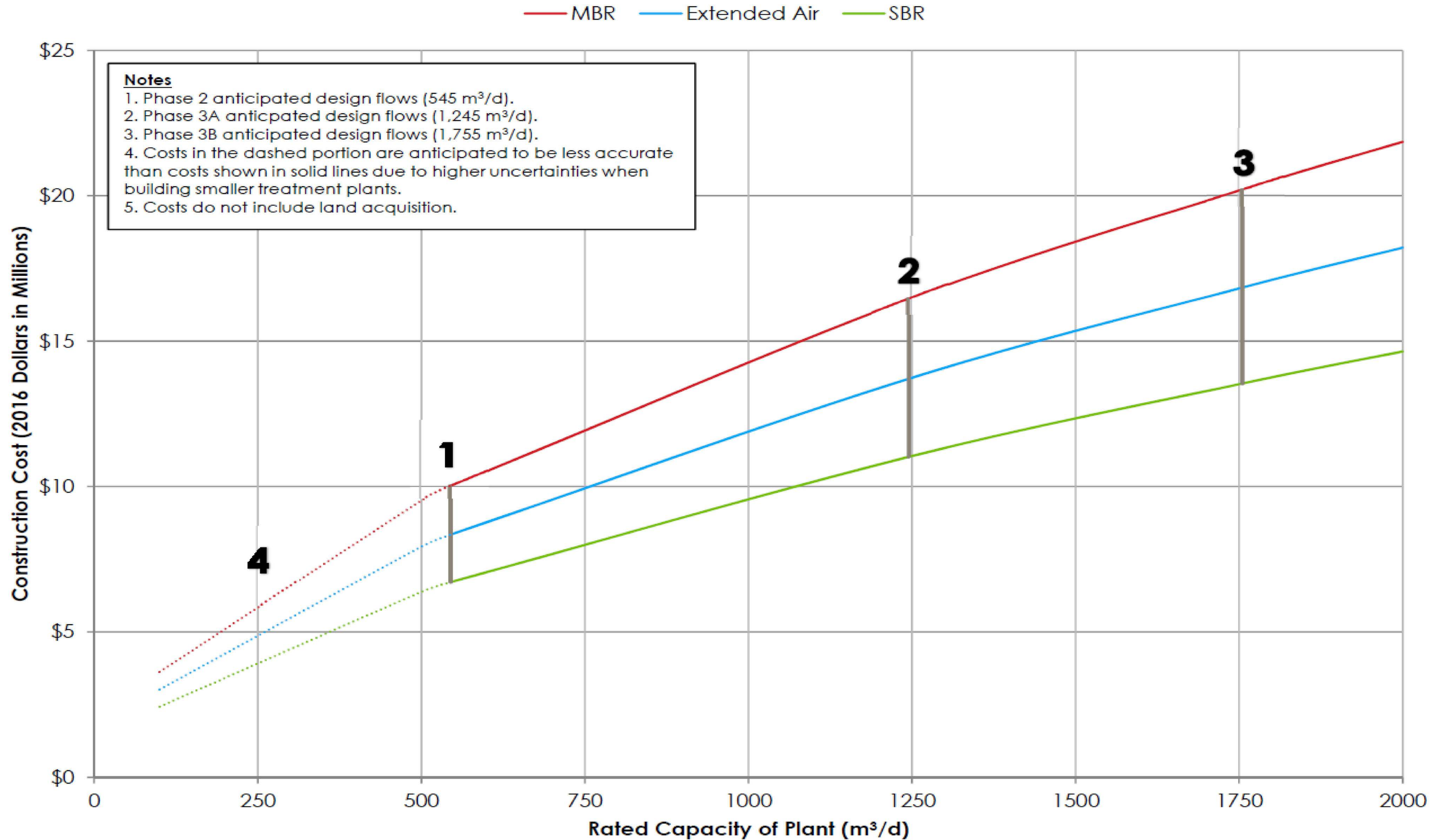
# Recommended ECA Effluent Limits & Objectives

- Through consultation with the MOECC, the proposed effluent limits and objectives are presented below. These limits are valid for the initial build out or an effluent capacity of 550 m<sup>3</sup>/d. The effluent limits should be verified and revised upon introduction of additional plant capacity.

Parameter	Effluent Limit	Effluent Objective
CBOD <sub>5</sub>	10	5
TSS	10	5
Total Phosphorous	0.3	0.2
Total Ammonia-N <i>(non-freezing period)</i>	1.5	1
Total Ammonia-N <i>(freezing period)</i>	4	3
pH	6.0 to 8.5	6.0 to 8.5
E. Coli	150 organisms per 100 mL	150 organisms per 100 mL
Note: (a) Non-freezing period represents the period from May 1 through November 30 (b) Freezing period represents the period from December 1 through April 30		

# Opinion of Probable Cost

## Comparison of Construction Costs for Various Treatment Plant Types



# Recommendations

- Alternative T5 “New Wastewater Treatment Plant in Talbotville” was selected as the preferred alternative as part of the Master Servicing Plan
- Plant must be municipally owned and operated
- Must be sized accordingly to accommodate existing and future development
- Property dimensions must allow for future plant expansions
- Noise and odour issues to be mitigated between residential development and wastewater treatment plant (MOECC to be consulted)
- Treatment technology must be able to meet effluent limits and objectives
- Based on a screening of the two potential sites against a number of evaluation criteria, both sites can feasibly be utilized for the WWTP. The South Site is being recommended; however, this is contingent upon obtaining all required approvals including, but not limited to:
  - Completion of an Environmental Impact Study (EIS) in accordance with Township’s Zoning Bylaw and Official Plan
  - Environmental Compliance Approval (ECA) for the WWTP from the Ministry of the Environment and Climate Change
  - Kettle Creek Conservation Authority Section 28 Permit – O. Reg. 181/06
- All treatment options would be technically feasible and provide reliable treatment and as such, the appropriateness of each is to be determined in the preliminary design phase

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To: File From: Stephanie Bergman  
 Talbotville WWTP Schedule C Stantec, London  
 File: 165500796 Date: December 17, 2015

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**Reference: Talbotville WWTP Schedule C Municipal Class EA**

Public Information Centre – Wednesday, December 16<sup>th</sup> 2015  
 Keystone Complex, Shedden ON

6-8 pm Open House format

<b>Project Team Members in Attendance</b>	Ken Loveland, CAO Township of Southwold Council Members  Cameron Gorrie, Stantec Stephanie Bergman, Stantec
<b>Number of people who signed visitor register</b>	37 people registered.
<b>Handouts</b>	A comment form was made available. It was noted that the display boards will be made available to the public on the Township's website within a few days, and would be directly emailed to anyone who requested.
<b>Displays</b>	<ul style="list-style-type: none"> <li>• Introduction Pannels;</li> <li>• Municipal Class EA description</li> <li>• Project overview and site figures</li> <li>• Evaluation boards for each of the two sites in terms of social/cultural, technical, environmental, and economic evaluation criteria</li> <li>• Description of available treatment technologies</li> <li>• Description/results of Assimilative Capacity Study</li> <li>• Recommendations</li> </ul>
<b>Comment Sheets</b>	Attendees were encouraged to submit comment sheets. Several sheets were taken, but no comments returned at the PIC.
<b>Deadline Date for Comments</b>	December 6 <sup>th</sup> , 2016

**Reference: Talbotville WWTP Schedule C Municipal Class**

<b>General Impression of Public Comments</b>	<ul style="list-style-type: none"><li>• Verbal communications regarding the material presented were generally positive.</li><li>• Many questions from residents related to if/when they would be required to connect to the municipal sanitary system, and approximate costs of connecting.</li><li>• Several residents expressed concern over environmental impacts, as well as odour from the new WWTP.</li></ul>
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**STANTEC CONSULTING LTD.****Stephanie Bergman, Hons.B.A., M.A.**

Planner

Stantec

600-171 Queens Avenue London ON N6A 5J7

Phone: 519-675-6614

Stephanie.Bergman@stantec.com

cc. Cameron Gorrie

# Talbotville Wastewater Treatment Plant Municipal Class Environmental Assessment



TOWNSHIP OF  
**Southwold**

## Public Information Centre

Wednesday, December 16, 6-8pm  
Keystone Complex, Shedden ON

### COMMENT SHEET

<b>Name:</b>
<b>Mailing Address:</b>
<b>Interest (i.e. property owner, agency):</b>
<b>Comments:</b>

Please place comments in the comment box provided or submit comments to the following  
**BY WEDNESDAY JANUARY 6, 2016:**

**Cameron Gorrie, P. Eng.**  
Project Engineer  
Stantec Consulting Ltd.  
600 - 171 Queens Avenue  
London ON N6A 5J7  
Cameron.gorrie@stantec.com

*This comment sheet, excluding name and address, will be included as part of the Municipal Class EA process and handled in accordance with MFIPPA requirements.*

Talbotville Wastewater Treatment Plant  
 Schedule C Municipal Class Environmental Assessment  
 Public Information Centre

Wednesday, December 16, 2015 6-8pm

PLEASE SIGN IN TO STAY UPDATED ON STUDY PROGRESS

NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
Susan Locke	39958 Shadyhore Cr	N5P3T2	519 631-5100	
ELFRIEDE ATCHESON,	9199 SUNSET DR.	N5P3T2	579-683-2609	
Clayton Johnson				claytonjohnson.ca
Mike Dangles	41291 Majaline	N5P3T1	519 633-3416	mdangles@comcast.com
Ave Evans				sevendefini.ca
DAVE SPARKS				dhp@rogers.com
Randy Fisher				nandy.fisher@cbre.com
Judy + AL THORNER	29 STADY LAKE	N5P 3T2	519 633 4762	a.thorner@rogers.com



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**Talbotville Wastewater Treatment Plant**  
**Schedule C Municipal Class Environmental Assessment**  
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NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
RICK DYKSTRA	Ricor			
Maureen Bedek	38 Shedy hwy G-	N5P 3T2	519-637-0552	mpureenbedek@rogers.com
Laurie Lyn; Mike Larson	39803 Talbot Linc	N9P 3T2	519 637-2808	mlarson@gtm.net
Kevor Martin	10321 Talbotville Gore Road	N5P 3T2	519 631-0637	tmartin@centalegin.org
Gary Kline	10377 Gore Rd	N5P-3T2	519-631-8095	G.Kline@uniengas.com
MARK HINDLEY	10393 Gore Rd	N5P 3T2	637-3898	mhindley@rogers.com
Peter @ Jonnell	10361 Gore Rd	N5P 3T2	519-933-3986	pcatonnell60@gmail.com
Gaye Bogart	35469 Third Line	N0L 2G0	519.764.2219	



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NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
Tim Hamilton	39819 Shady Lane N5P3T2		519-633-0393	
JEAN-LUC MARTIN	39740 SHADYLANE CR.		519-631-3679	
Davey Moore Richardson	39980-50 Shady Lane Cr.		519-633-2059	
TED GILL	39770 FINGAZ Lane		519-631-0683	
Brian Cindy Fife	39770 Shady Ln		519 8722355	
Monique DeLeeuw	39881 Shady Lane		519 631-9017	
<del>Archie</del>	Coat			



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NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
Jamie McRae	45889 John Wise Ave	N5P 3S9	785-2236	
Nick Doelman	41640 Ronan Dr		633-2525	
JUSTY LAWRENCE	CITY OF SIMONS			



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NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
Ken McFadden	10216 TALBOTVILLE GORERD	NSP 3T2	637-0492	
Tina Pat Dunn	10234 Home St. Thomas	NSP 3T2		
Matt Waite	10287 Greenpark Drive Talbotville	NOL 2K0		
ZENEL CUMANI	39878	NSP 3T2		
Jim/Donna Robbins	10275 GREENPARK P.O. TALBOTVILLE	NSP 3T2		
M. E. WHITE	39749 SHady Grove Cres	NSP 3T2	683-9427	
JOHAN ARLENE MCGUGAN	40025 TALBOT LINE ROAD BOX 9	TALBOTVILLE	NOL 2K0	



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519-631-5659

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NAME	ADDRESS	POSTAL CODE	PHONE NUMBER	EMAIL
ALAN BOGART	35469 THIRD LINE	N0L 2G0	519 764 2219	
FELIX ZEMBI	STN		519 310 4420	
C. CORRIGAN C. Corriveau	35759 FABRIK	N0L 1K0		
AN HOLT AN HOLT	Talbotville - Gore Rd 10028, GORE RD	N5P 3T2	519 852 5805	

