

Appendix D

TM3 - Determination of Projects to be Re-Evaluated



The Regional Municipality of Waterloo

Wastewater Treatment Master Plan Update

**Technical Memorandum No. 3:
Determination of Projects to be Re-Evaluated**

Final



**5935 Airport Road, Suite 500
Mississauga, Ontario
L4V 1W5
Canada
Phone: (905) 695-1005
Fax: (905) 695-0525
www.cima.ca**

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Version	Date	Prepared by (Deliverable Lead)	QC Reviewer	Project Manager Sign-off
Draft v1	March 2017	S. Romas	T. Briggs, E. Longworth	T. Briggs
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1. Introduction

1.1 Background

The Regional Municipality of Waterloo (the Region) is an upper tier municipal government, providing municipal services to seven area municipalities with a total population of approximately 550,000 people. The Region owns thirteen (13) wastewater treatment plants (WWTPs), one (1) wastewater residuals processing facility, six (6) wastewater pumping stations (with a seventh station under construction), and two wastewater collection systems (Ayr in the Township of North Dumfries and Wellesley in the Township of Wellesley), treating an approximate average of 66 million cubic meters annually. Wastewater facilities are operated and maintained by the Ontario Clean Water Agency under contract to the Region. Most of the collection systems and pumping station infrastructure that conveys wastewater to the Region's treatment facilities are owned, managed and operated by the area municipalities (City of Cambridge, City of Kitchener, City of Waterloo, Township of Wilmot, Township of North Dumfries and Township of Woolwich).

The Region has experienced steady residential and industrial/commercial/institutional growth for many years, and anticipates this will continue as a result of factors such as a strong local economy, the Province of Ontario's Places to Grow Act, and major Regional and Provincial transportation initiatives that are underway. The Region completed a Wastewater Treatment Master Plan (WWTMP) in 2007 (Earth Tech, 2007) to plan for future growth and provision of treatment capacity throughout the Region. Due to changing population growth patterns, wastewater flows, and environmental regulations, the Region is now updating the WWTMP.

CIMA Canada Inc. (CIMA) has been retained by the Region to update the 2007 Master Plan to develop a current, comprehensive, cost-effective and feasible strategy to address the anticipated wastewater treatment and disposal needs of the Region over the next 35-year planning period in a manner consistent with the Region's Strategic Plan.

This Technical Memorandum (TM-3) has been prepared to review the recommendations made as part of the 2007 WWTMP Update, and determine which of the elements of the existing Master Plan can be carried forward without re-evaluation. For many of the 2007 WWTMP recommendations, projects and

actions have already been adopted, or recommendations are still valid for current conditions. For some recommendations, re-evaluation of the alternative solutions will be undertaken to confirm the preferred option based on up-to-date information and current conditions.

1.2 Objectives

The objectives of this Technical Memorandum are to:

- + Document recommendations from the 2007 WWTMP and identify which projects have already been adopted or are underway
- + Identify projects and actions that are still valid as part of this current WWTMP Update and can be carried forward as is
- + Identify projects and actions that require re-evaluation as part of the current WWTMP Update due to changed conditions.

2. 2007 WWTMP Update Recommendations

The 2007 WWTMP provided recommendations for each WWTP, as well as overall recommendations benefitting all Regional WWTPs (referred to as Regional wastewater recommendations). The following sections outline the recommendations from the 2007 WWTMP and discuss the status of the recommendations, together with direction as to which recommendations will be carried forward to implementation and those that require re-evaluation as part of this Master Plan update.

2.1 Regional Wastewater Recommendations

A number of Regional wastewater recommendations were made as part of the 2007 WWTMP, including the following:

- + Water conservation
- + Infiltration/Inflow (I/I) reduction
- + Water re-use
- + Watershed management

Table 1 provides an overview of the recommendations made as part of the 2007 WWTMP, and the status of those recommendations.

Table 1 Overview of Regional Wastewater Recommendations and Status

Region-Wide Opportunity	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
Water Conservation	<ul style="list-style-type: none"> • Ongoing Water Conservation measures as outlined in the Water Supply Master Plan and Water Efficiency Master Plan Update 	<ul style="list-style-type: none"> • Water Supply Master Plan Update completed in 2014 with updated demand forecasts to account for the recent decline in per capita water usage • Water Efficiency Master Plan update completed in 2014 for recommendations from 2015-2025. The target for water reductions by 2025 is 3,754 m³/day. It can be noted that the target for 2025 is beyond the reductions already achieved through previous measures. The 2006 Water Efficiency Master Plan targeted reductions of 8,146 m³/d, and the actual reductions were even greater than this goal. • Goal has been set for reducing residential per capita rates to 168 L/cap/day by 2025 (currently the per capita rate is approximately 210 L/cap/day in 2016) 	Carry forward
I/I Reduction	<ul style="list-style-type: none"> • Further investigation into potential I/I reductions was recommended for: <ul style="list-style-type: none"> - Elmira - St. Jacobs - New Hamburg/Baden - Wellesley - Waterloo 	<ul style="list-style-type: none"> • The Region continues to encourage the local area municipalities to investigate and complete upgrades to reduce inflow and infiltration. • In the community of Wellesley , the Region is responsible for wastewater treatment and the wastewater collection system and has taken the following measures to reduce I/I: 	Carry forward with additional review as part of current WWTMP Update

Region-Wide Opportunity	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
		<ul style="list-style-type: none"> - I/I investigations and repair work completed in 2008, including work along the Firella Creek Trunk. - Ongoing I/I investigations by the Region's Asset Management group in 2017, which have identified opportunities for repairs that are scheduled for completion in 2018/2019 	
Water Re-Use	<ul style="list-style-type: none"> • Conduct a pilot in the East Side Lands (ESL) to confirm potential and related implementation requirements in the future for water re-use. Recommendations included encouragement from the Region and area municipalities to conservation minded corporations to consider grey water reuse, as well as consideration for centralized water reclamation facilities and 'purple pipes'. 	<ul style="list-style-type: none"> • Conservation minded corporations in the Region have implemented some onsite water re-use measures. In addition, water efficiency and conservation efforts have deferred to need for a pipeline from the Great Lakes to beyond the 2051 planning horizon. Challenges are noted for proposed centralized water reclamation facilities based on staging of servicing for ESL (i.e. conveying flow first to the Preston WWTP and then to the Kitchener WWTP to optimize the use of existing infrastructure) and with a two-tiered system in terms of collection, distribution, and treatment for reclaimed water. Options for re-use are to be re-evaluated as part of this WWTMP. 	Carry forward with additional review as part of current WWTMP Update
Watershed Management	<ul style="list-style-type: none"> • Watershed Management Strategy recommended to address: <ul style="list-style-type: none"> - Source Water Protection legislation 	<ul style="list-style-type: none"> • In 2012, a Grand River Watershed Water Management Plan was updated by the Grand River Conservation Authority (GRCA), through partnership with municipalities (including the Region of Waterloo), First Nations, Ministry of the Environment and 	Carry forward with additional review as part of current

Region-Wide Opportunity	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> - Consequence of potential Great Lakes water supply to the Region - Assessment of impacts of discharges on the Grand, Speed and Nith Rivers, optimization of the WWTPs, and best practices to reduce overall loading to the rivers - Impacts of upstream discharges on downstream communities - Confirmation of wastewater treatment plant upgrades and expansion requirements with respect to effluent quality, quantity, and timing 	<p>Climate Changes (MOECC), Ministry of Agriculture, Food and Rural Affairs (OMAFRA), Ministry of Natural Resources and Forestry (MNRF), and Environment Canada. The plan was developed as a joint action plan to align water management efforts for a 30 year planning period and complements Source Protection Plans (as well as various other plans) and recognizes the Lake Erie Lake-wide Action Plan. A Water Managers Working Group, consisting of representatives of the partners, meet regularly to review progress and to encourage continued collaboration. An annual Report on Actions is issued to highlight the accomplishments of the partners.</p> <ul style="list-style-type: none"> • Based on the updated Water Supply Master Plan, the need for the Great Lakes water supply has been deferred beyond 2051 based on water conservation and water efficiency measures. • Region developed on on-going Surface Water Quality Monitoring Program to assess impacts on receiving streams/rivers, and to provide supporting information and feedback on WWTP upgrade and expansion requirements, as well as impacts. 	<p>WWTMP Update</p>

Considerable efforts and progress have been made on a number of these Regional wastewater recommendations, resulting in benefits throughout the Region. These initiatives are considered on-going and will be carried forward and reviewed as part of the current WWTMP update to determine if adjustments in the initiatives could potentially provide even greater benefit.

2.2 Wastewater Treatment Plant Recommendations

The 2007 WWTMP recommended upgrades for each of the ten (10) larger WWTPs within the Region. It is noted that there are three (3) smaller WWTPs also owned by the Region for which no recommendations were made as they are communal facilities designed to treat the wastewater generated within small residential developments with no plans for future expansion. These facilities will be reviewed as part of the current WWTMP Update for asset management opportunities only. Table 2 provides an overview of the recommendations made as part of the 2007 WWTMP for the Region's ten (10) larger WWTPs as well as the East Side Lands development area, and the status of those recommendations.

Table 2 Overview of WWTP Recommendations and Status

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
Kitchener WWTP	<ul style="list-style-type: none"> Phase 1 - Incorporate Biosolids Master Plan Work, including decommissioning of the existing lagoons 	<ul style="list-style-type: none"> The Manitou Dr. Dewatering Facility was completed in 2012 and the lagoons were decommissioned in 2011 	Complete
	<ul style="list-style-type: none"> Phase 2 - Third treatment process train, new tertiary treatment, new UV treatment, and new outfall 	<ul style="list-style-type: none"> Partially completed with some work still in progress. All work scheduled for completion in Spring 2019. Third treatment train renamed to Plants 3 and 4 	On-going
	<ul style="list-style-type: none"> Phase 3 - Upgrade Train 2 	<ul style="list-style-type: none"> Completed in February 2013 	Complete
	<ul style="list-style-type: none"> Decommission Train 1 	<ul style="list-style-type: none"> Not completed, pending completion of Plants 3 and 4 noted in Phase 2 above. Potential to convert to a sidestream process to treat centrate to be re-evaluated as part of the WWTMP (likely after 2051) 	Review as part of current WWTMP Update
	<ul style="list-style-type: none"> Phase 4 - Expansion of plant by 18 MLD (total capacity of 140 MLD) to accommodate growth 	<ul style="list-style-type: none"> Not completed because additional capacity was not needed, timing of expansion to be re-evaluated 	Review as part of current WWTMP Update
Waterloo WWTP	<ul style="list-style-type: none"> Phase 1 - Upgrade liquid train and proposed biosolids management processes (i.e., digester upgrades, thickening and dewatering) 	<ul style="list-style-type: none"> Upgrades currently in progress, with work scheduled for completion in 2018 	On-going

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> • New Outfall 	<ul style="list-style-type: none"> • Rehabilitation completed in 2010, the need for expansion to the outfall to be re-evaluated 	Review as part of current WWTMP Update
	<ul style="list-style-type: none"> • Expansion beyond flows identified in the 2007 WWTMP if St. Jacobs and Elmira flows are conveyed to the Waterloo WWTP, pursuant to the Woolwich Township WW Master Plan 	<ul style="list-style-type: none"> • Not completed because additional capacity was not needed yet, timing of expansion to be re-evaluated. Note that a recommendation to transfer the Elmira WWTP to the Waterloo WWTP was not made in the Woolwich Township St. Jacobs – Elmira Wastewater Treatment Master Plan (WWTMP) (XCG, 2013). • St. Jacobs – Elmira WWTMP recommended diverting flows to Waterloo when additional capacity is necessary. Diversion of St. Jacobs flows to the Waterloo WWTP has not been completed because additional capacity was not needed at the St. Jacobs WWTP. 	Review as part of current WWTMP Update
Preston WWTP	<ul style="list-style-type: none"> • Phase 1 - Transfer IRSA flows to Galt WWTP and optimize Preston WWTP to address operational issues 	<ul style="list-style-type: none"> • Completed in 2012 for IRSA transfer 	Flow transfer complete
		<ul style="list-style-type: none"> • Some upgrades to address operational issues were completed in 2013 (digester upgrades) and some are ongoing (new odour control system and headworks upgrades) 	Upgrades ongoing

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> • Phase 2 - Implement proposed biosolids work, including thickening and dewatering 	<ul style="list-style-type: none"> • Further review indicated the more effective strategy is to transfer biosolids to Galt WWTP for processing. 	Complete
	<ul style="list-style-type: none"> • Phase 3 - Should the IRSA and additional flow ESL flows be accommodated at Preston WWTP long-term, investigate need for an expansion 	<ul style="list-style-type: none"> • No longer applicable as IRSA flows were diverted to Galt by 2012 and long term strategy for ESL flows is to convey flows to Kitchener WWTP. Timing for a potential expansion is to be re-evaluated. 	Review as part of current WWTMP Update
Galt WWTP	<ul style="list-style-type: none"> • Phase 1 - Detailed assessment of the impact for the transfer of the IRSA flows 	<ul style="list-style-type: none"> • Completed prior to the transfer using Biowin model (2010) 	Complete
	<ul style="list-style-type: none"> • Phase 2 - Optimization and upgrades including new secondary clarifier, upgrade to the filters, and upgrades to the UV system 	<ul style="list-style-type: none"> • Facility plan and conceptual design completed and indicated a new secondary clarifier was not necessary 	Complete
		<ul style="list-style-type: none"> • Replacement of filters to meet rated capacity and replacement of UV system scheduled for completion in 2020 	Upgrades On-going
<ul style="list-style-type: none"> • Phase 3 - Expansion to accommodate growth 	<ul style="list-style-type: none"> • Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. 	Review as part of current WWTMP Update	
Hespeler WWTP	<ul style="list-style-type: none"> • Phase 1 - Optimization of the existing facility, 	<ul style="list-style-type: none"> • Raw sewage pumping station upgraded in 2011 (identified following the 2007 WWTMP). 	Complete
		<ul style="list-style-type: none"> • Process upgrades are currently in progress including a new fine screening facility, new grit removal, new VFDs and DO control for 	Upgrades on-going

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
		aeration blowers, a third secondary clarifier, WAS thickening, and replacement of chlorination-dechlorination with peracetic acid (PAA) disinfection	
	<ul style="list-style-type: none"> • Phase 2 - Construction of a primary clarifier, sludge thickening, and anaerobic digestion if necessary 	<ul style="list-style-type: none"> • Interim strategy in place of transferring biosolids to Galt and Kitchener WWTP for reprocessing. Long-term strategy is to provide full aerobic digestion and sludge thickening at the Hespeler WWTP. There are no plans to build primary clarifiers. 	On-going
	<ul style="list-style-type: none"> • Phase 3 - Expansion to accommodate growth and upgrades to improve effluent quality as needed for nitrification, UV disinfection, and tertiary filtration 	<ul style="list-style-type: none"> • Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. Noted that Stage 1 ESL flows may be directed to Preston WWTP in the short-term, and will be routed to the Kitchener WWTP in the long-term; no need for tertiary filtration has been identified through an assimilative capacity study completed in 2014 (Stantec, 2014). 	Review as part of current WWTMP Update
New Hamburg WWTP	<ul style="list-style-type: none"> • Assess the Nith River Assimilative Capacity 	<ul style="list-style-type: none"> • Completed in 2011 as part of the Baden and New Hamburg Water and Wastewater Master Plan Update (AECOM) 	Complete
	<ul style="list-style-type: none"> • Update the Baden/New Hamburg WWTMP, including I/I reduction initiatives and Nith River assimilative capacity permitting 	<ul style="list-style-type: none"> • Completed in 2011 - Baden and New Hamburg Water and Wastewater Master Plan Update (AECOM) 	Complete

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> Phase 1 - Re-rating the Plant to 7.8 MLD (assuming enhanced phosphorus removal required) 	<ul style="list-style-type: none"> Schedule C Class EA completed in 2015 (XCG) and revised expansion of plant to 6.9 MLD based on updated growth/flow projections and the assimilative capacity study (AECOM, 2011). Detailed design is currently in progress and completion of the the Phase 1 expansion is targeted for 2019. 	On-going
	<ul style="list-style-type: none"> Phase 2 - Expansion to 10.5 MLD with additional headworks, UV disinfection, and process modifications 	<ul style="list-style-type: none"> Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. 	Review as part of current WWTMP Update
Ayr WWTP	<ul style="list-style-type: none"> Expansion to 4.5 MLD, likely requiring additional effluent polishing (subject to findings of assimilative capacity) 	<ul style="list-style-type: none"> Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. 	Review as part of current WWTMP Update
	<ul style="list-style-type: none"> Assess Nith River assimilative capacity 	<ul style="list-style-type: none"> Not completed because an expansion was not required 	Review as part of current WWTMP Update
Wellesley WWTP	<ul style="list-style-type: none"> Investigating options to address challenges with fluctuations related to higher I/I 	<ul style="list-style-type: none"> I/I investigations and repair work was completed in 2008, including work along the Firella Creek Trunk. 	Complete
		<ul style="list-style-type: none"> Ongoing I/I investigations in 2017, which have identified opportunities for repairs that are scheduled for completion in 2018/2019 	On-going – carry forward

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> • Expand to 2 MLD 	<ul style="list-style-type: none"> • Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. 	Review as part of current WWTMP Update
	<ul style="list-style-type: none"> • Complete assimilative capacity of Nith River 	<ul style="list-style-type: none"> • Not completed because an expansion was not required 	Review as part of current WWTMP Update
Elmira WWTP	<ul style="list-style-type: none"> • Complete a St. Jacobs and Elmira Master Plan 	<ul style="list-style-type: none"> • Completed St. Jacobs - Elmira Wastewater Treatment Master Plan in 2013 (XCG) 	Complete
	<ul style="list-style-type: none"> • Phase 1-Optimization to address process issues including construction of additional equalization tanks and further I/I investigation. 	<ul style="list-style-type: none"> • Phase 1 Upgrades completed in a phased approach: Contract A in 2011 and Contract B in 2013. Upgrades included two new equalization tanks, dewatering centrifuge, and miscellaneous upgrades (pumping, distribution alterations, tank and channel improvements, and digestion and dewatering improvements). 	Complete
	<ul style="list-style-type: none"> • Phase 2 - Expansion to 10 MLD with effluent polishing via an enhanced treatment technology to reduce phosphorus concentrations (or alternative based on the St. Jacobs and Elmira Master Plan) 	<ul style="list-style-type: none"> • Not completed because additional capacity was not needed, timing of expansion to be re-evaluated. 	Review as part of current WWTMP Update

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
St. Jacobs WWTP	<ul style="list-style-type: none"> Complete a St. Jacobs and Elmira Master Plan 	<ul style="list-style-type: none"> Completed St. Jacobs - Elmira WWTMP in 2013 (XCG) 	Complete
	<ul style="list-style-type: none"> Phase 1 - Optimization to address process issues and implement recommendations of the 2010 Biosolids Master Plan 	<ul style="list-style-type: none"> Completed upgrades to cover the secondary clarifiers and install wind fencing for the oxidation ditch to avoid freezing. 	Complete
	<ul style="list-style-type: none"> Upgrade/expansion to 2.5 MLD (or alternative based on the St. Jacobs and Elmira Master Plan) 	<ul style="list-style-type: none"> St. Jacobs – Elmira WWTMP recommended conversion of St. Jacobs WWTP into a pumping station and conveying flows to Waterloo when additional capacity is necessary (XCG, 2013) Upgrades for conversion to a pumping station have not been completed because additional capacity was not needed 	Review as part of current WWTMP Update
East Side Lands	<ul style="list-style-type: none"> Transfer flows from the IRSA to Galt to release capacity at the Preston WWTP 	<ul style="list-style-type: none"> Completed by 2012, capacity released at Preston was even greater than initially anticipated 	Complete
	<ul style="list-style-type: none"> Service the south area of the ESL using the Preston WWTP, requiring an increase in the sewer capacity under Highway 401 and expansion of the local system by area municipalities 	<ul style="list-style-type: none"> Stage 1 servicing in Cambridge was reviewed through the North Cambridge Business Park Class EA (Associated Engineering, 2017) conducted by the City. A review of the Fountain St Trunk capacity is also being completed as part of the WWTMP to estimate the timing for when the long-term servicing solution will be required. 	Review as part of current WWTMP Update

WWTP	2007 WWTMP Recommendation	Current Status	Carry Forward or Re-Evaluate
	<ul style="list-style-type: none"> • Service the entire ESL long-term using the Kitchener WWTP via a new pumping station to convey flows under the Grand River. The first phase of the new puming station is to convey 4 MLD. 	<ul style="list-style-type: none"> • Ongoing Class Environmental Assessment (EA) has proposed a gravity solution to convey flows to the Kitchener WWTP. This includes a service bridge crossing over the Grand River (East Side Lands Sanitary Servicing Environmental Assessment (Associated Engineering, ongoing)) 	On-going
	<ul style="list-style-type: none"> • Expand the proposed pumping station to convey flows across the Grand River to the Kitchener WWTP to 18 MLD to accommodate additional future flows 	<ul style="list-style-type: none"> • The ongoing Class EA recommends the trunk sewer be built for full build-out when constructed to minimize disruptions to residents. Flows will initially be transferred to the Preston WWTP until great enough to trigger the need for the long-term solution (East Side Lands Sanitary Servicing Environmental Assessment (Associated Engineering, ongoing)) 	On-going

3. Summary

In summary, several 2007 WWTMP recommendations will be re-evaluated during this WWTMP Update process to account for changes in the projected wastewater flows, adjusted timelines and prioritized operational needs. Table 3 provides a summary of the 2007 WWTMP recommendations that will be re-evaluated as part of the current WWTMP Update process. Options for these re-evaluated projects will be identified in TM-6 - Identification and Screening of Alternative Liquid Treatment Options and TM-7 - Identification and Screening of Alternative Solids Treatment Options, with further development and evaluation of short-listed options being presented in TM-10 - Development and Evaluation of Short-Listed Options.

Table 3 Summary of 2007 WWTMP Recommendations for Re-Evaluation

WWTP	2007 WWTMP Recommendation to be Re-Evaluated
Kitchener WWTP	• Decommission Train 1
	• Phase 4 - Expansion to 140 MLD to accommodate growth
Waterloo WWTP	• New Outfall
	• Expansion beyond flows identified in the 2007 WWTMP if St. Jacobs flows are conveyed to the Waterloo WWTP, pursuant to the Woolwich Township WW Master Plan
Preston WWTP	• Phase 3 - should the IRSA and additional flow ESL flows be accommodated at Preston WWTP long-term, investigate need for an expansion
Galt WWTP	• Phase 3 - Expansion to 76 MLD to accommodate growth as future projected flows approach the ECA Stage 1 rated capacity of 56.8 MLD
Hespeler WWTP	• Phase 3 - Expansion to 12.1 MLD to accommodate growth and upgrades to improve effluent quality as needed for nitrification and effluent disinfection.
New Hamburg WWTP	• Phase 2 - Expansion to 10.5 MLD with additional headworks, UV disinfection, and process modifications
Ayr WWTP	• Expansion to 4.5 MLD, likely requiring additional effluent polishing (subject to findings of assimilative capacity)
	• Assess Nith River assimilative capacity
Wellesley WWTP	• Investigating options to address challenges with fluctuations related to higher I/I

WWTP	2007 WWTMP Recommendation to be Re-Evaluated
	<ul style="list-style-type: none"> • Expand to 2 MLD • Complete assimilative capacity of Nith River
Elmira WWTP	<ul style="list-style-type: none"> • Phase 2-Expansion to 10 MLD with effluent polishing via an enhanced treatment technology to reduce phosphorus concentrations (or alternative based on the St. Jacobs and Elmira Master Plan)
St. Jacobs WWTP	<ul style="list-style-type: none"> • Upgrade/expansion to 2.5 MLD (or alterantive based on the St. Jacobs and Elmira Master Plan)
East Side Lands	<ul style="list-style-type: none"> • Service the south area of the ESL using the Preston WWTP, requiring an increase in the sewer capacity under Highway 401 and expansion of the local system by area municipalities