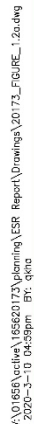


Town of Lakeshore

Denis St. Pierre Water Pollution Control Plant Expansion

ENVIRONMENTAL STUDY REPORT

Belle River and Maidstone Wastewater Servicing Area



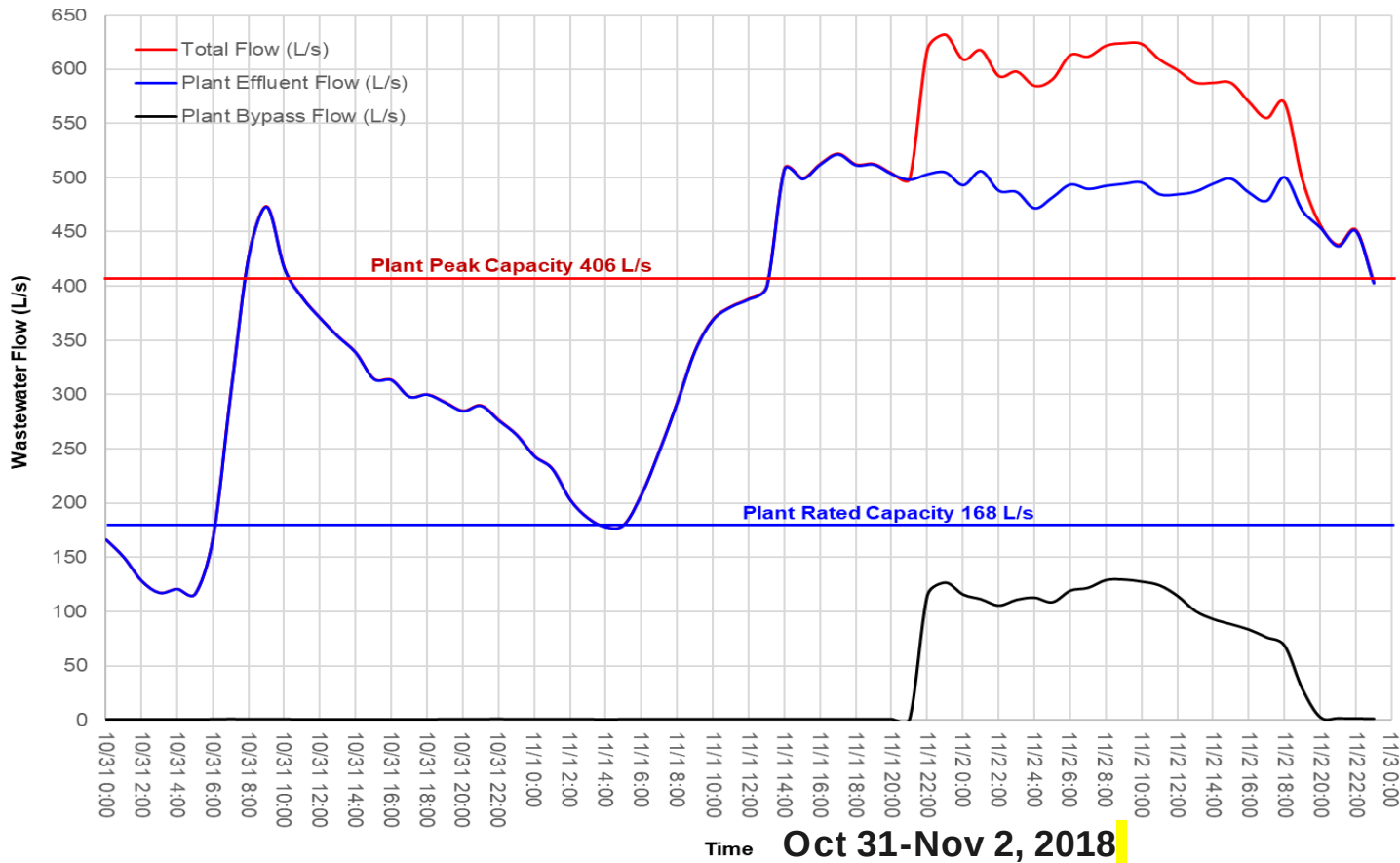
Background –Review of Historical Plant Records

Historical Wastewater Flows to Denis St. Pierre WPCP (2010-2019)

Year	Daily Average Flow (m ³ /d)	Percent of Plant's Rated Capacity (%)
2019	13,396	92%
2018	14,228	98%
2017	13,332	92%
2016	12,399	86%
2015	11,887	82%
2014	11,302	78%
2013	9,646	67%
2012	8,089	56%
2011	13,819	95%

- An average treated flow of 13,048 m³/d was recorded for last five years, which is approximately 90% percent of the plant's rated capacity of 14,500 m³/d.

Wet Weather Flow Event Due to High Infiltration & Inflow



- Frequently experiences periods of high infiltration and inflow (I/I) entering sanitary sewer system during storm events.
- In an attempt to minimize wet weather flows at the plant, the Town implemented a 10 year I/I reduction program in 2010.
- There has been no significant I/I reduction. This doesn't mean that I/I reduction program has not achieved some benefits but rather illustrates the overall magnitude of the I/I problem.

Background – Problem Statement

Projected Wastewater Flows to Denis St. Pierre WPCP

Population Daily Flow	Existing	20 Year Design	Ultimate Design
Equivalent Population	26,360	45,450	54,550
Average Daily Flow, m³/d	14,500	25,000	30,000
Maximum Dry Weather Flow, m³/d	37,300	64,000	77,000
Maximum Wet Weather Flow, m³/d	72,100	90,000	108,000

- Growth projections were updated to estimate future wastewater flows. A projected average flow of 550 Liters per capita per day (Lcpd) was selected.
- The existing plant capacity is not adequate to accommodate the projected future flows from the Belle River and Maidstone wastewater service area.
- Failure to have adequate treatment capacity in place may result in the inability to accommodate community growth.

Study Overview

- **Review alternative designs for the Capacity Expansion of the Denis St. Pierre Water Pollution Control Plant**
- **Select the preferred design. Preferred design is one that satisfies pollution control criteria, minimizes undesirable impacts on the natural, social and economic environment, and is acceptable to the public and regulatory agencies**
- **Prepare and complete Environmental Study Report (ESR)**

KEY FEATURES OF THE CLASS EA PROCESS

The project is being conducted in accordance with the Class EA requirements for Schedule “C projects”, which is to be approved subject to completion of Phase 1, 2, 3, 4 and 5 Class EA, including:

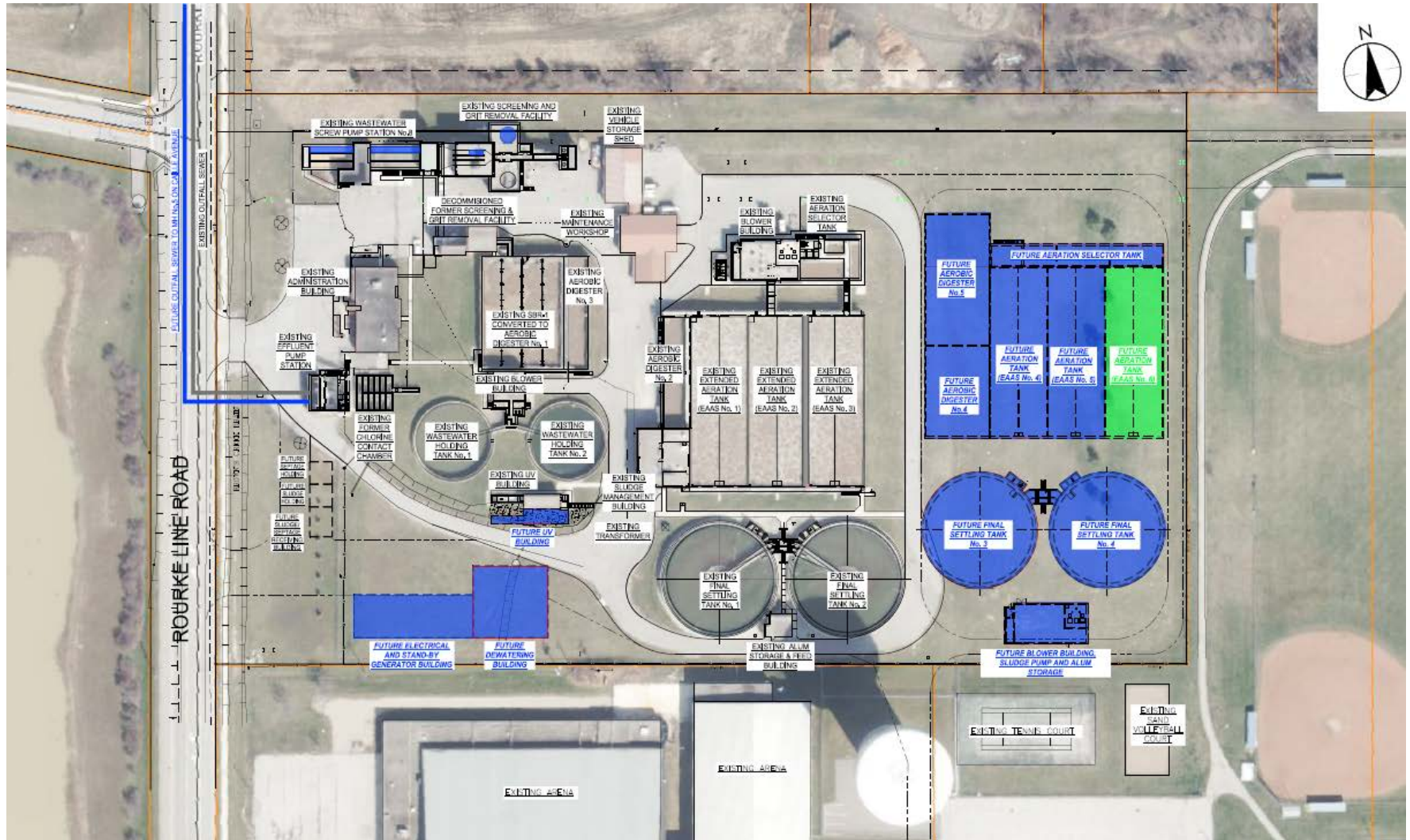
- *Phase 1 – Review and identify problem or opportunity*
- *Phase 2 – Alternative solutions to problem*
- *Phase 3 – Alternative design concepts for the preferred solution*
- *Phase 4 – Environmental Study Report*
- *Phase 5 – Implementation of the preferred design*

The Town of Lakeshore adopted its first comprehensive Water and Wastewater Master Plan in November 2008, and then an update of this Master Plan was undertaken and completed in 2018 in accordance with Phases 1 and 2 of the Class EA process.

The above Phases 1 and 2 were covered under Lakeshore Water and Wastewater Master Plan and Update.

The above Phase 3 and 4 are to be completed upon the acceptance of the ESR and placed on the public record and issue notice of completion for the mandatory thirty-day review period.

Summary of Recommended Plant Expansion

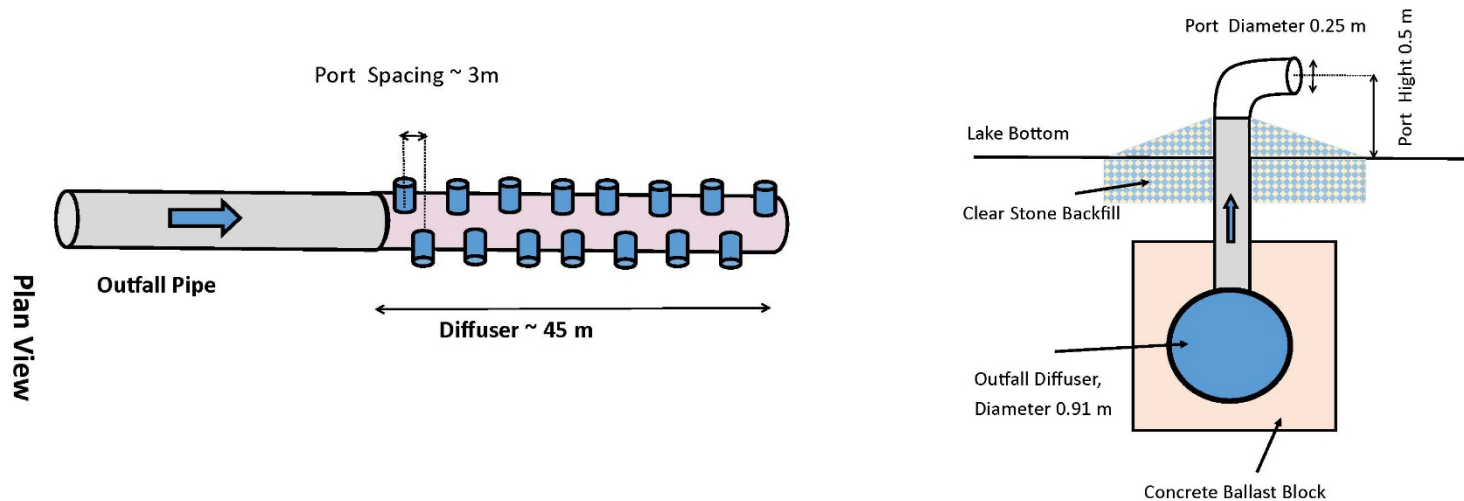
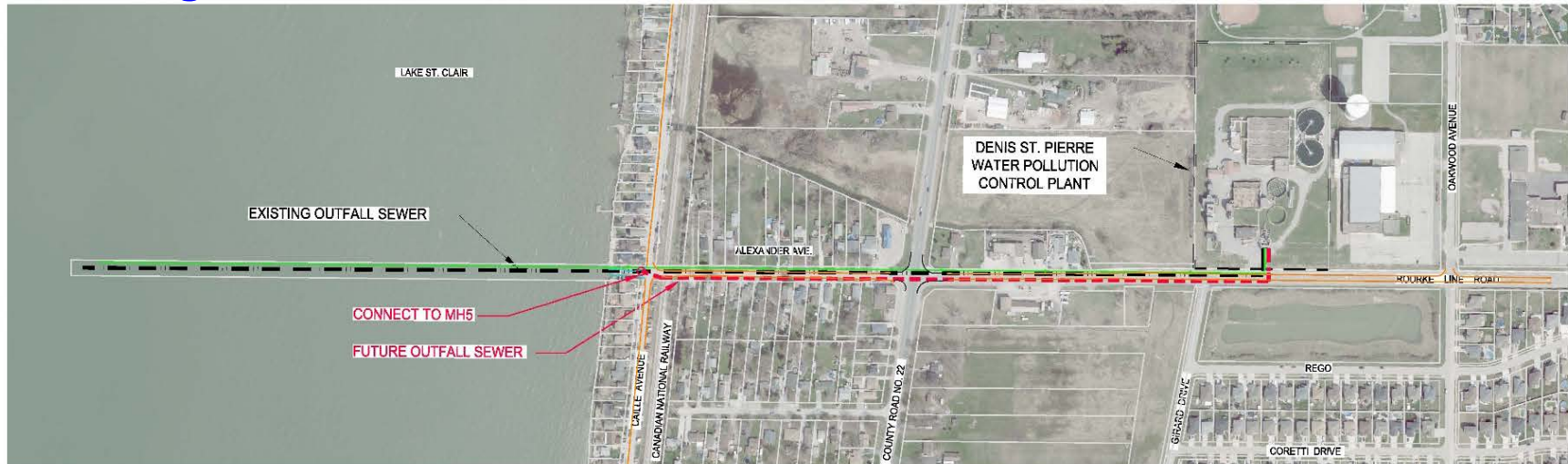


LEGEND

	EXISTING
	20 YEAR DESIGN
	ULTIMATE DESIGN

PREFERRED DESIGN- OUTFALL SEWER

Twining Inland Portion of Outfall Sewer



Enlarging Outfall Diffusers from 5" to 10"

OPINION OF PROBABLE COST

Description	Cost
Inlet Works and Grit Building	\$2,500,000
Extended Aeration Tanks and Blower Facility	\$5,500,000
Final Settling Tanks and Alum Storage/Feed Facility	\$4,800,000
UV disinfection	\$1,200,000
Outfall	\$3,500,000
Aerobic Digester	\$1,500,000
Dewatering Building	\$2,500,000
Electrical and Standby Generator Building	\$1,200,000
Sub-total	\$22,700,000
Contingency 10%	\$2,270,000
Engineering Allowance 15%	\$3,745,500
TOTAL	\$28,715,500

Next Steps and Recommendations

- Council endorsement of the Environmental Study Report (ESR) for the Denis St. Pierre Water Pollution Plant Expansion
- Notify the public and review agencies of completion of the Class EA
- File the ESR with the Municipal Clerk and place on the public record for at least 30 calendar days for review by the public and agencies
- Provision to request a Part II Order. If no request for an order is received by the Minister within the review period, then the Town to Phase 5 and implementation of the plant expansion.

Upon Completion of Class EA, move forward to Implementation Phase

- *Complete contract drawings and tender documents*
- *Proceed to construction and operation*
- *Monitor for environmental provisions and commitments*