City of Windsor
LITTLE RIVER POLLUTION CONTROL PLANT EXPANSION
PUBLIC INFORMATION CENTRE
WELCOME

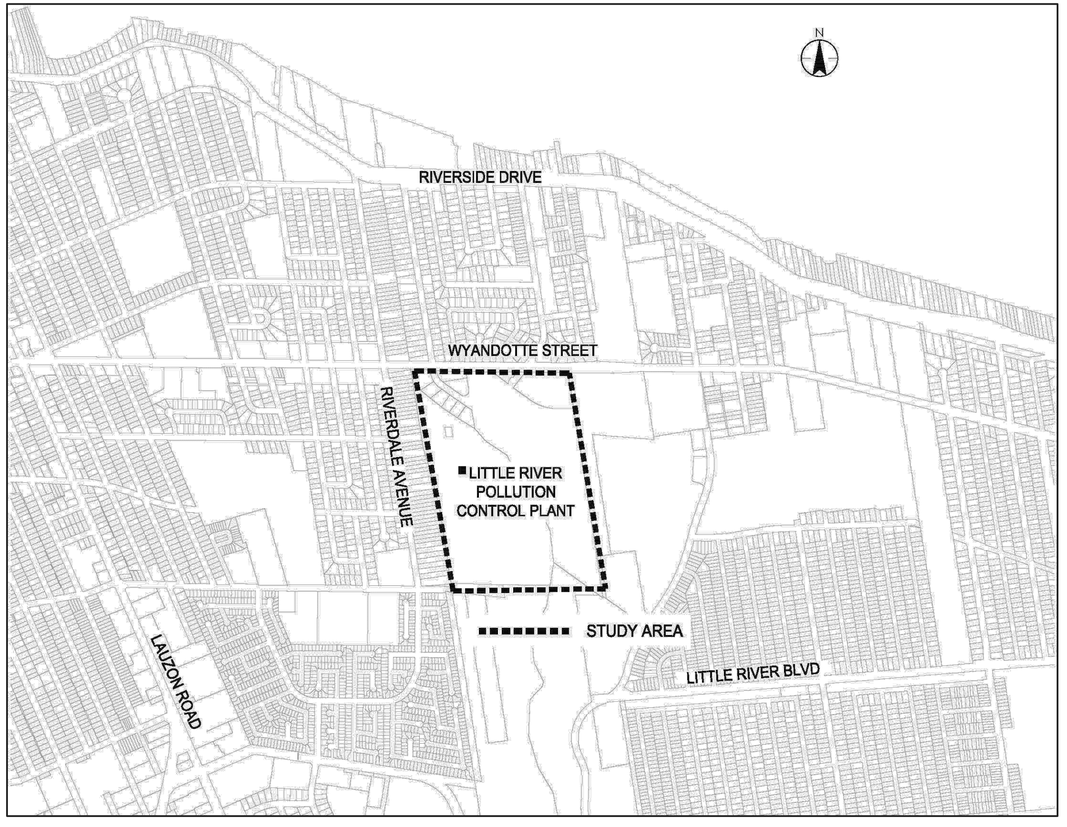
Municipal Class Environmental Assessment
February 28, 2024

Introduction
Study Overview

The purpose of this study is to determine the preferred solution and conceptual design to address the need for additional wastewater capacity at the Little River Pollution Control Plant (LRPCP).

The purpose of this Public Information Center (PIC) is to:

- Describe the Municipal Class Environmental Assessment (EA) Process
- Introduce the Study Background
- Identify the Problem / Opportunity
- Present Capacity Requirements for the LRPCP
- Obtain Public Input on the Study



Introduction to the Class EA Process

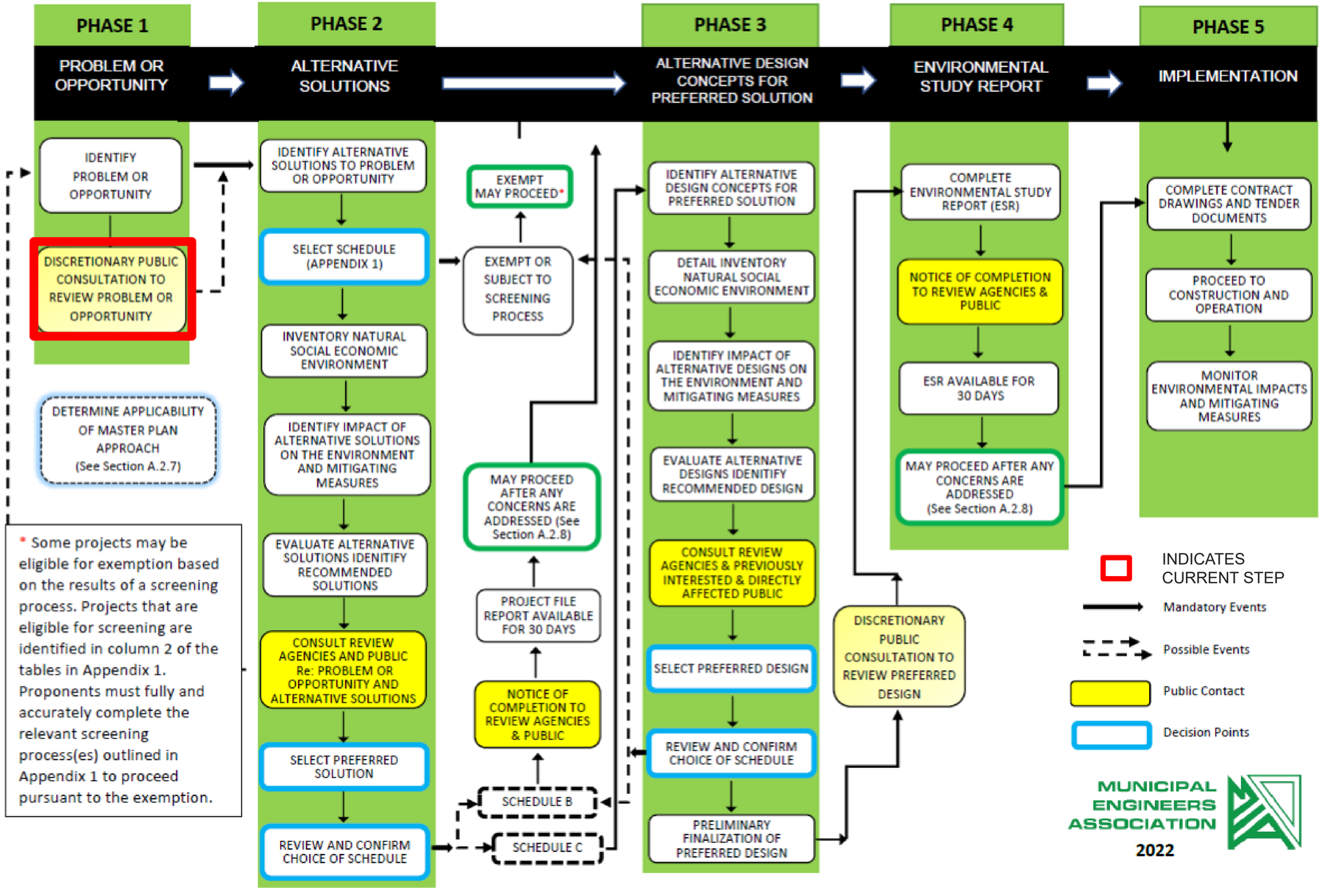
Key Features

This study is being conducted in accordance with the Class EA requirements for Schedule ‘C’ Projects.

Municipal Class EA Phases	
★ **Phase 1 – Review and identify problem or opportunity**	This EA Study
Phase 2 – Alternative solutions to problem	This EA Study
Phase 3 – Alternative design concepts for the preferred solution	This EA Study
Phase 4 – Prepare Environmental Study Report	This EA Study
Phase 5 – Implementation of the preferred design	Future Work

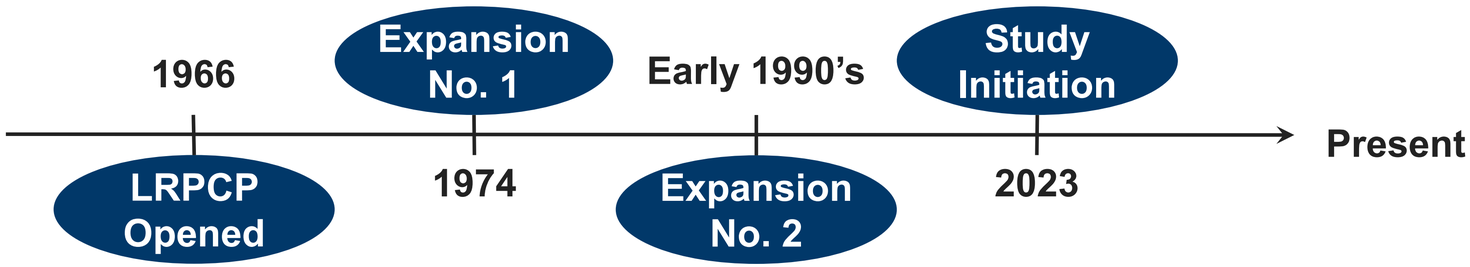
Introduction to the Class EA Process

Process Schematic



Background
Little River Pollution Control Plant

The LRPCP is located at 9400 Little River Road and provides treatment for municipal & industrial wastewater in the region.



1966 → Plant 1 at the LRPCP was commissioned as a primary treatment plant with a capacity of 18 MLD

1974 → Plant 1 at the LRPCP was upgraded and expanded to provide secondary treatment and a Rated Capacity of 36 MLD

1990's → The LRPCP was expanded to include Plant 2 for a combined a Rated Capacity of 73 MLD

2023 → Stantec initiated this Class EA

Background
LRPCP Service Area

The LRPCP currently services the eastern portion of the City of Windsor (RED), including:

- Riverside
- East Riverside
- Forest Glade
- East Windsor
- Fontainebleau
- Part of Walker Farm

As well as the Municipality of Tecumseh (GREEN), including:

- Tecumseh Centre
- St. Clair Shores
- Oldcastle

Background
LRPCP Operating History

- The LRPCP has continued to consistently achieve a high-quality effluent and meets the limits set by the Ministry of Environment, Conservation, and Parks (MECP)
- Over the period reviewed, the concentrations of $CBOD_5$,TSS, TP, and TAN are well below the effluent limits and objectives

Historic Operating Conditions at the LRPCP from 2017 to 2022:

Parameters	Monthly Average INFLUENT Concentration (mg/L)	Monthly Average EFFLUENT Concentration (mg/L)	Removal Rate (%)	MECP EFFLUENT Compliance Limit (mg/L)
Biological Oxygen Demand ($CBOD_5$)	155	2.3	98.5	**15**
Total Suspended Solids (TSS)	161	4.2	97.4	**15**
Total Phosphorus (TP)	3.9	0.3	92.3	**1.0**
Total Ammonia Nitrogen (TAN)	19	0.4	97.9	**6.0**

Background
Municipal Planning Reports

Capacity issues and limitations at the LRPCP were identified through the following municipal planning reports:

Year	Report Name	Purpose of Report
2018	Town of Tecumseh Water and Wastewater (W & WW) Master Plan	→ Update the planning projections and provide a technical review of the servicing strategies for the Town
2020	Sewer & Costal Flood Protection Master Plan (SMP)	→ Address flooding issues related to severe storm events
2021	Sandwich South Master Servicing Plan (SSMSP)	→ Geared towards providing the required municipal infrastructure in support of growth

- The SMP confirmed that the LRPCP cannot accommodate all wet weather flow during significant storm events due to hydraulic capacity issues.

- The SSMSP discussed the LRPCP treatment capacity limitations and recommended an expansion to accommodate future development in Sandwich South.

Municipal Planning Reports

Town of Tecumseh W & WW Master Plan

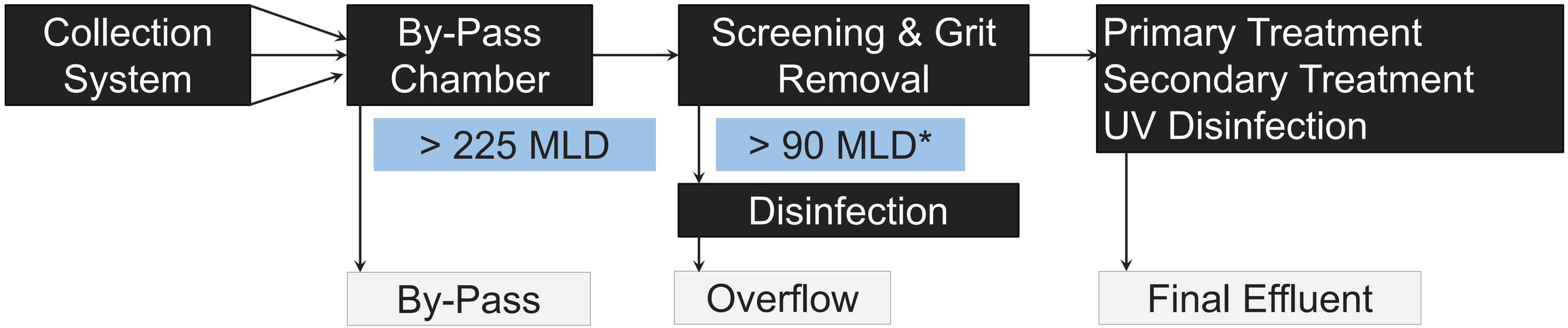
In the current wastewater servicing agreement, the Municipality of Tecumseh has the following allocation at the LRPCP:

- Maximum Daily Average of 19.8 MLD with an option to increase to 38.0 MLD
- Maximum Peak Flow of 113 MLD
- Based on the W&WW Master Plan, the projected wastewater flows are anticipated to exceed the current allotted capacity at the LRPCP on the 2036+ horizon.

Sub-Service Area	Population (persons)		Average Flow (MLD)		Peak Flow (MLD)	
	2016	2036+	2016	2036+	2016	2036+
Tecumseh	12,180	15,380	6.5	7.7	35	39
St. Clair Beach	3,484	3,894	2.1	2.2	17	17
Tecumseh Hamlet	5,264	13,683	2.9	8.9	20	45
Maidstone Hamlet	335	2,259	-	1.2	-	6.0
Oldcastle Hamlet	350	10,947	0.4	7.4	2.0	29
Highway Service Area	-	-	-	0.6	-	2.5
Rural	1,617	1,617	-	-	-	-
Total	**23,229**	**47,756**	**11.9**	**28.0**	**74**	**135**

Municipal Planning Reports

Sewer & Costal Flood Protection Master Plan



Hydraulic upgrades are required at the LRPCP to reduce the potential for and impact of by-pass and overflow events:

- By-pass events occur when the flow to the LRPCP exceeds 225 MLD. Flow is diverted away from the LRPCP to the Pontiac Pumping Station and receives no treatment.

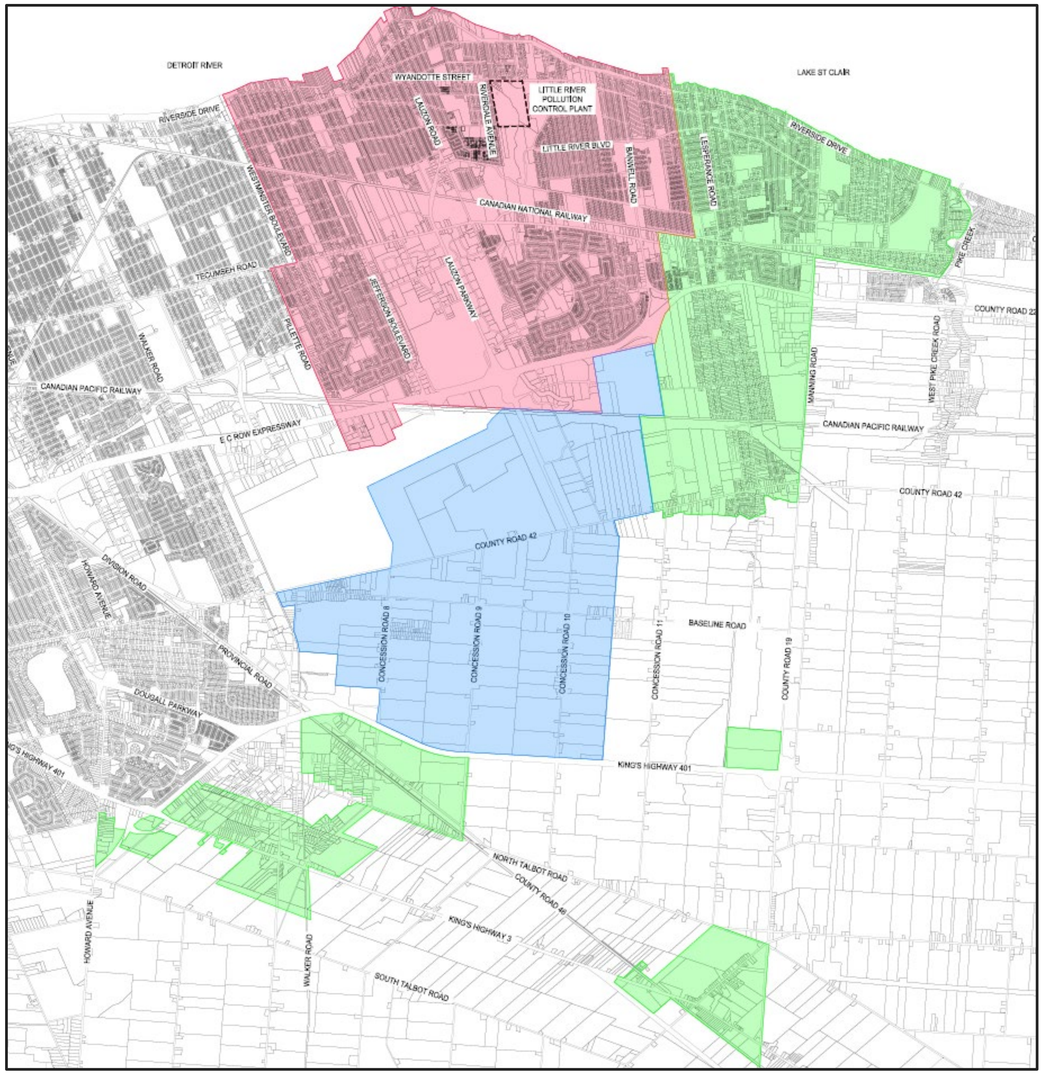
- Overflow events occur when the flow to the LRPCP is less than 225 MLD and exceeds 90 MLD*. Flow is diverted from the primary and secondary treatment processes and is disinfected prior to release.

* The exact flow rate at which overflow occurs will be reviewed through this Class EA Study.

Municipal Planning Reports
Sandwich South Master Servicing Plan

It is anticipated that significant growth will occur in Sandwich South (BLUE) over the next 20 years and will include:

- A mix of residential, commercial, institutional, and industrial establishments
- The most notable developments in this area include the Windsor/Essex Acute Care Hospital and the Nexstar Battery Plant



Design Flow's for this area are outlined below:

Design Characteristic	Value
Sanitary Drainage Area	1,998 ha
Design Population	86,009
Average Daily Sewage Flow	64.1 MLD
Peak Wet Weather Sewage Flow	1,005 L/s

Problem / Opportunity Statement

The SMP (2020) and SSMSP (2021) identified the need to upgrade the existing LRPCP.

- The SMP outlined hydraulic capacity issues at the LRPCP and confirmed that during severe wet weather conditions the facility is unable to treat all wet weather flow resulting in combined sewer overflows.
- The SSMSP discussed the treatment capacity limitations of the existing LRPCP and recommended to increase the capacity to accommodate the future Sandwich South development.

In general, the study objective is to follow the planning process defined under the *Environmental Assessment Act* to arrive at an environmentally responsible and cost-effective solution to address the need for additional wastewater treatment capacity at the LRPCP.

Plant Capacity
LRPCP Historic Flows

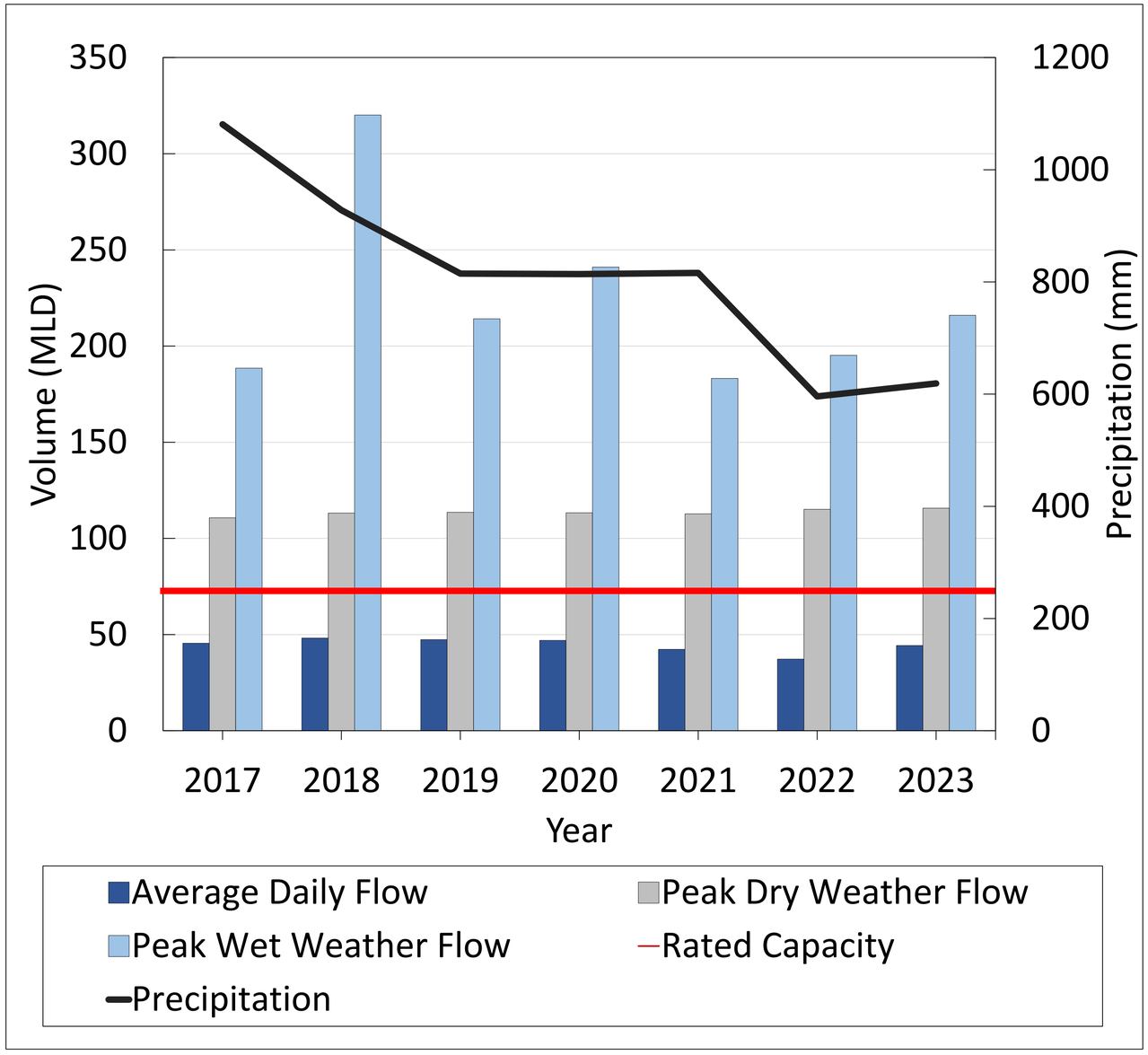
The Rated Capacity of the existing LRPCP is 72.8 MLD

The historic flows at the LRPCP were reviewed for the period of 2017 to 2023:

- Average Daily Flow was approximately 45 MLD

→ This represents roughly 62% of the LRPCP Rated Capacity

- Maximum Peak Dry Weather Flows was 116 MLD
- Maximum Peak Wet Weather Flows was 320 MLD



Plant Capacity
Severe Storm Events

Overflow Events:

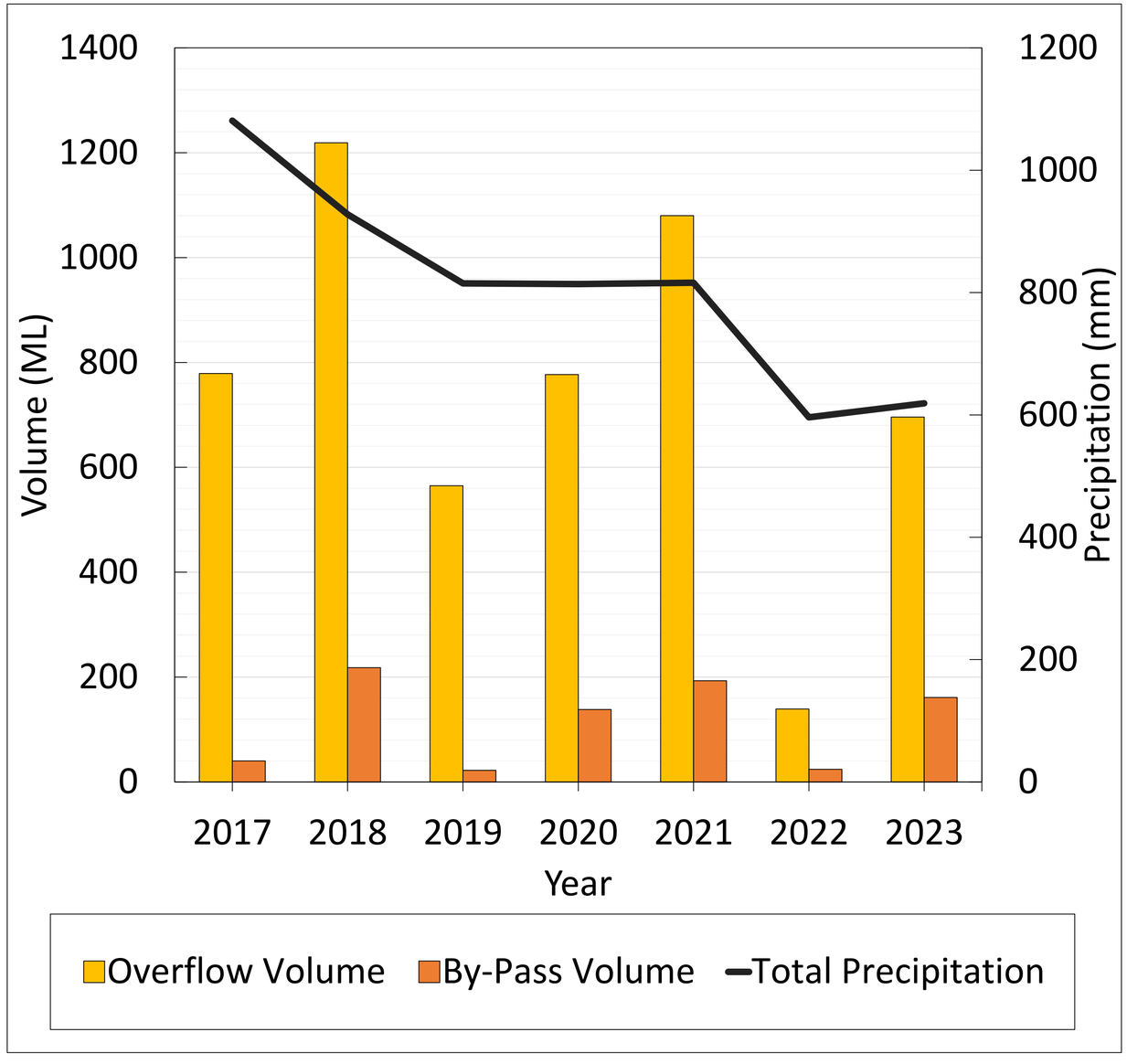
- The annual overflow volume ranged from 139 to 1,219 ML
- Average overflow volume was 760 ML

→Roughly 5% of the flow to the LRPCP

By-Pass Events:

- The annual by-pass volume ranged from 22 to 218 ML
- Average by-pass volume was 102 ML

→Less than 1% of the flow to the LRPCP



Future Requirements
Plant Capacity

The cumulative estimated wastewater flow from the City of Windsor (existing service area), Sandwich South, and the Town of Tecumseh are outlined below:

Summary	20-Year Design	Ultimate Design
Average Daily Sewage Flow	86.0 MLD	111 MLD
Peak Dry Weather Sewage Flow	217 MLD	255 MLD
Peak Wet Weather Sewage Flow	470 MLD	557 MLD

The preferred solution and conceptual design for this project should have:

- A Rated Capacity to accommodate the ‘20-Year Design Flow’
- With consideration for future expansion or phasing to the ‘Ultimate Design’
- Hydraulic capacity to accommodate Peak Wet Weather Flows
- Treatment capacity to accommodate Peak Dry Weather Flows

Future Requirements
Treatment Capacity

The existing effluent limits for the LRPCP are outlined below:

Parameter	Effluent Compliance Limits	
	Monthly Average	Single Sample
cBOD5	15 mg/L	25 mg/L
TSS	15 mg/L	25 mg/L
TP	1.0 mg/L	1.5 mg/L
TAN	6 mg/L	8 mg/L
E. coli	200 CFU/100 mL OR 200 MPN/100mL (from May 1 to October 31)	1000 CFU/100 mL OR 1000 MPN/100mL (from May 1 to October 31)
pH	-	Between 6.5 – 9.0 (inclusive)

As a part of this Class EA Study, new effluent criteria will be set for the LRPCP. New effluent criteria will be determined through an Assimilative Capacity Study and consultation with the MECP.

Next Steps

Complete Phase 2, 3, and 4 Class EA Process:

	Project Component	Date
Phase 2	**Identify and Evaluate Alternative Solutions**	**February 2024 – April 2024**
	Public Information Centre No. 2 - Alternative Solutions	**April 2024**
	Council Presentation and Resolution – Preferred Solution	**May 2024**
Phase 3	**Evaluate Alternative Design Concepts**	**May 2024 – August 2024**
	Public Information Centre No. 3 - Design Alternatives	**July 2024**
	Public Information Centre No. 4 - Preferred Design	**August 2024**
Phase 4	**Environmental Study Report (ESR)**	**September 2024 – October 2024**
	Council Presentation and Resolution – Preferred Design	**October 2024**
	Notice of Study Completion	**November 2024**

Thank You

Please visit the City of Windsor's project website to submit a feedback form.

Little River Pollution Control Plant Expansion Schedule C Municipal Class Environmental Assessment (citywindsor.ca)