

Drumbo Wastewater Treatment Plant Expansion Class Environmental Assessment Study



*Public Consultation Centre No. 3
July 19, 2018*

Drumbo Wastewater Treatment Plant Expansion Class Environmental Assessment Study

**Public Consultation Centre #3
July 19, 5:00 pm to 7:00 pm**

- ✓ Your feedback is important to us. Please sign the attendance sheet and fill out the Comment Sheet provided.
- ✓ Oxford County staff and consultants from Jacobs are available to answer your questions.

Drumbo Wastewater Treatment Plant

Study Purpose

Oxford County has undertaken a Schedule C Class Environmental Assessment (EA) to develop a wastewater treatment plan for the Community of Drumbo (Drumbo) to service existing and planned growth in the community. The Drumbo Wastewater Treatment Plant (WWTP) is nearing capacity under the existing Environmental Compliance Approval.

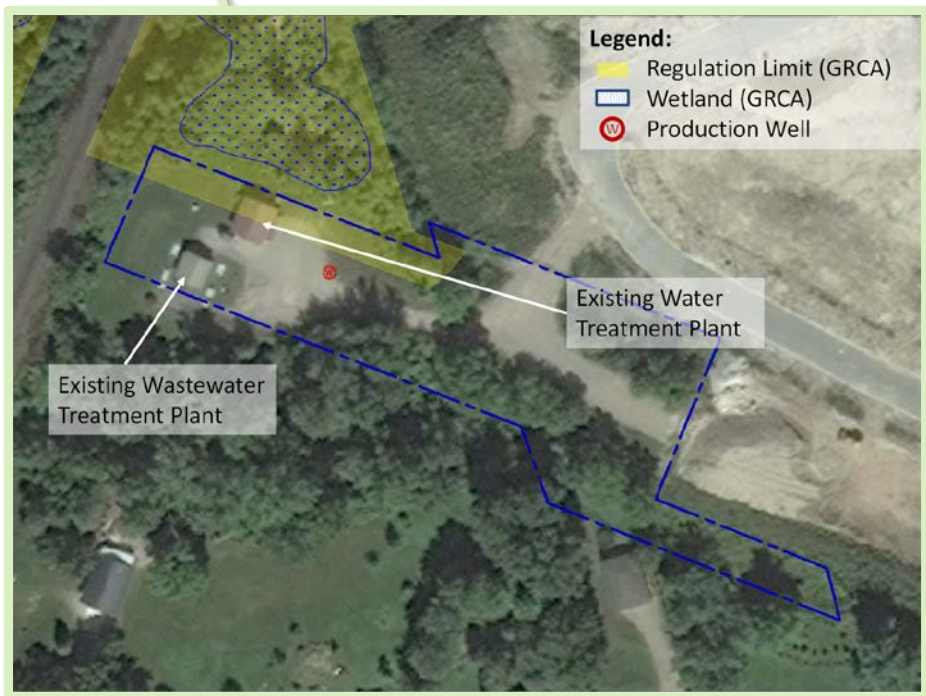
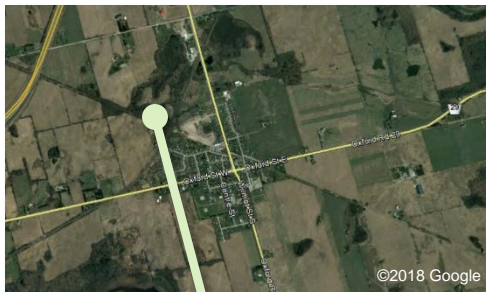
Problem Statement

As a fully-serviced village, Drumbo is a candidate for further development within the Township of Blandford-Blenheim. To accommodate this growth, the Drumbo WWTP requires additional capacity. The purpose of the current study is to develop a wastewater treatment plan to service existing and planned growth in the community in a cost effective, environmentally sound, and sustainable manner for the 20 planning year horizon.

Project Objectives

Develop a wastewater treatment plan for the Community of Drumbo that is environmentally responsible, socially acceptable, and economically sustainable to accommodate existing and future planned development within the community to at least 2036. This project was conducted in accordance with the requirements for a Schedule C project as described in the Municipal Class EA document (MEA, 2000, as amended in 2007, 2011, and 2015). Phase 1 and 2 were completed in 2016.

Project Location



Public Consultation

PCC #1

PCC #1 was held on June 16, 2016 during Phase 1 of the Municipal Class Environmental Assessment (MCEA). The purpose was to providing the public with background information about the study, present the problem statement, and outline the alternatives that would be evaluated in Phase 2.

PCC #2

PCC #2 was held on May 16, 2017 during Phase 2 of the MCEA. This consultation presented the alternatives that were evaluated in Phase 2 and delineated the methodology by which the recommended alternative was selected. The recommended alternative (Alternative 2) was presented.

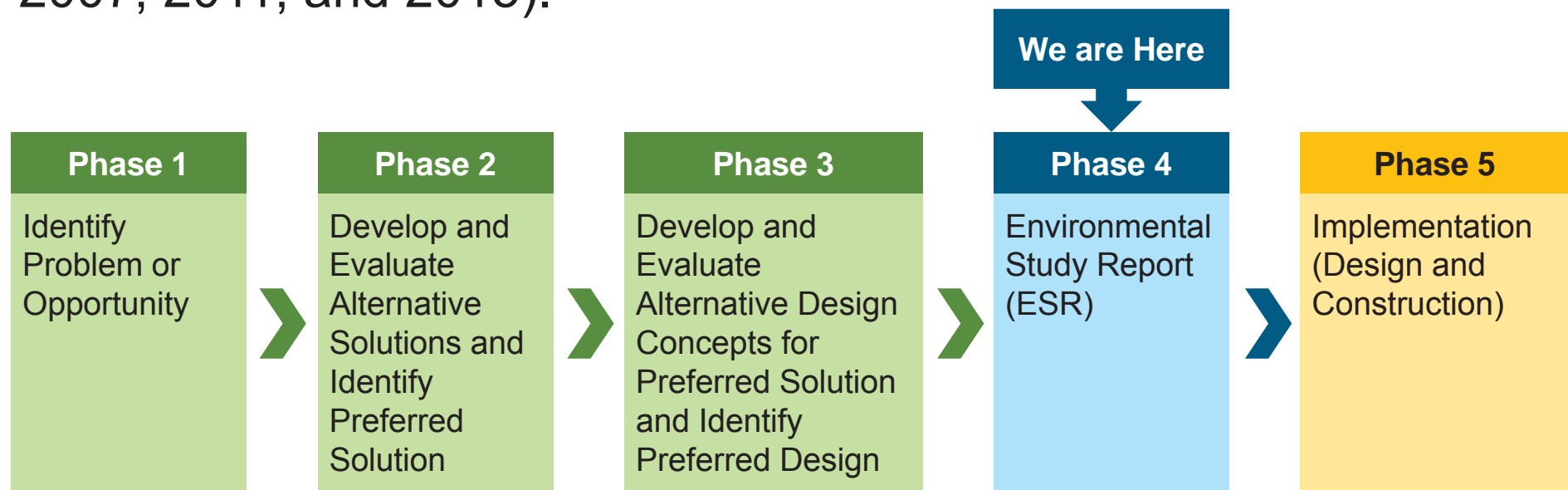
PCC #3

The purpose of this PCC is to:

- Provide background information about the study
- Present the identified preferred alternative
- Present the recommended conceptual design to be used to implement the preferred alternative
- Outline next steps and schedule

Municipal Class Environmental Assessment Process

The study was conducted in accordance with the requirements for a Schedule C project as described in the Municipal Engineers Association Municipal Class EA document (2000, as amended in 2007, 2011, and 2015).



Class EA Process for this Study

PCC No. 1
June 2016

PCC No. 2
June 2017

PCC No. 3
July 2018

Background

History of the Drumbo WWTP Class EA

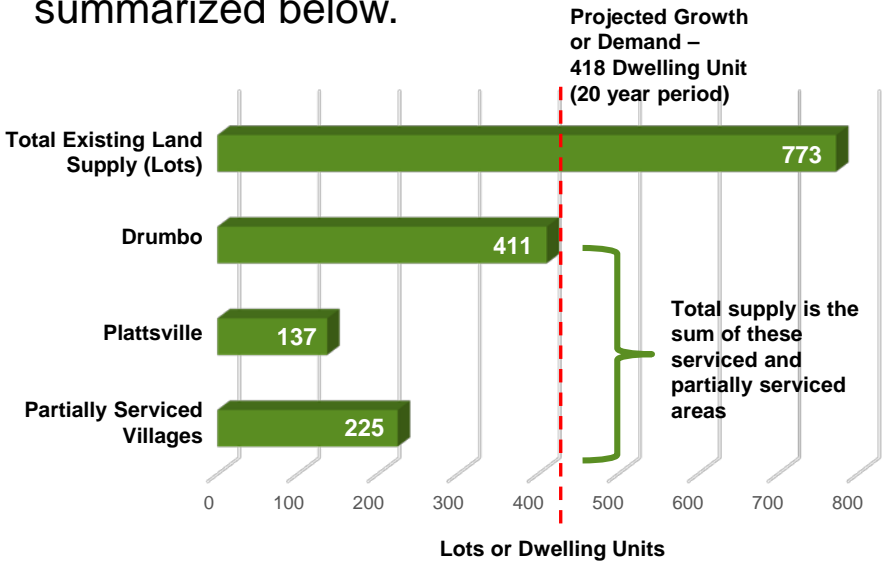
- Class EA process began in 2012
- Treatment facility nearing capacity and development is restricted
- Phases 1 and 2 completed in 2017
 - Recommended expanding the WWTP on the same site to service growth for Drumbo only
 - Community questioned ability of the proposed works to accommodate future growth

Since Spring 2017

- Further review of growth forecast from a Township-wide perspective
- In-depth evaluation of treatment technology design alternatives was completed
- Cost estimates were reviewed and updated, where applicable
- In June 2018, the recommended alternative was presented to, and accepted by, Oxford County Council

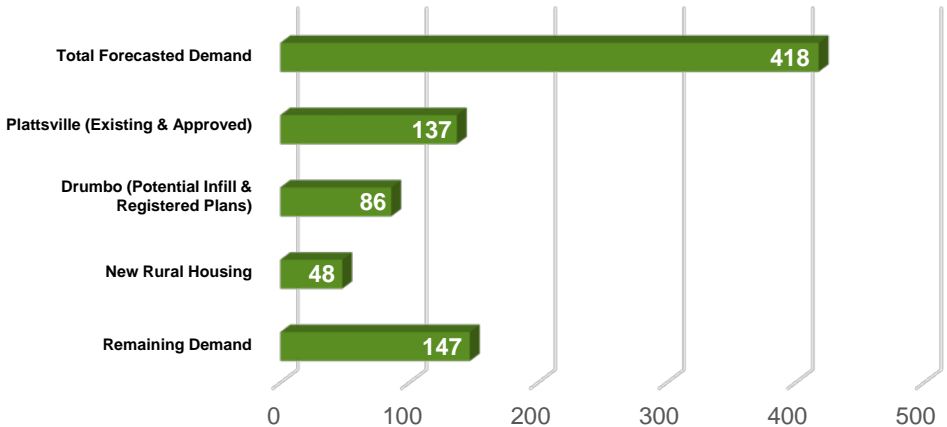
Township Growth Forecasts

- The County's Official Plan directs the majority of growth to fully serviced Villages (e.g., Drumbo and Plattsville)
- The current Township demand and supply is summarized below.



Township Growth Projections

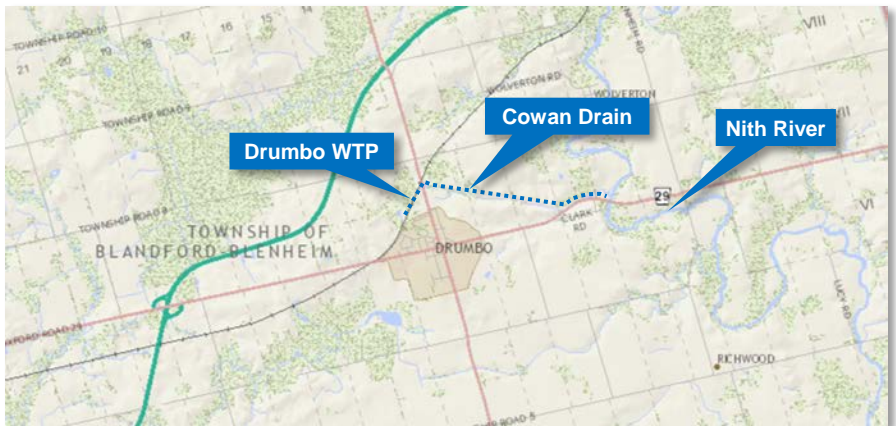
- Of the 418 dwelling units forecasted, there are existing approvals for development in Plattsville (137 units/lots), Drumbo (86 units/lots), and additional rural housing (48 units/lots). Therefore, there are 147 units/lots remaining that can be accommodated in Drumbo, Princeton and Bright.



- Available land in Drumbo may be more than sufficient to accommodate the remainder of the Township's forecasted growth; however, it is currently constrained due to servicing capacity limitations. An increase from the previous WWTP design flow of 322 m³/d to 450 m³/d will allow Drumbo to handle additional development (i.e., 233 total additional lots).

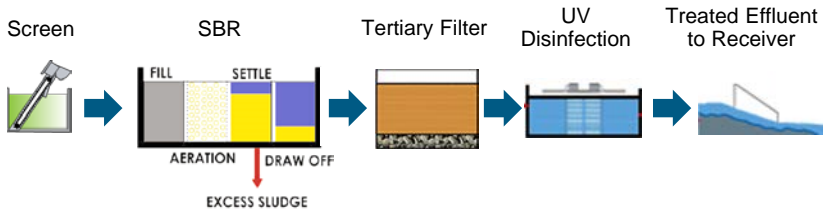
Drumbo WWTP Discharge Receiver

- Drumbo WWTP discharges to the Cowan Drain
- Discharge flows 3.55 km from WWTP to the Nith River
- Drumbo WWTP is approximately 7.5% of total flow in Cowan Drain on average
- Effluent loadings to Cowan Drain may be potentially limited; the EA found that increased design flows up to 450 m³/day will result in significantly lower effluent limits that cannot be achieved with the SBR/Filter technology currently in use.

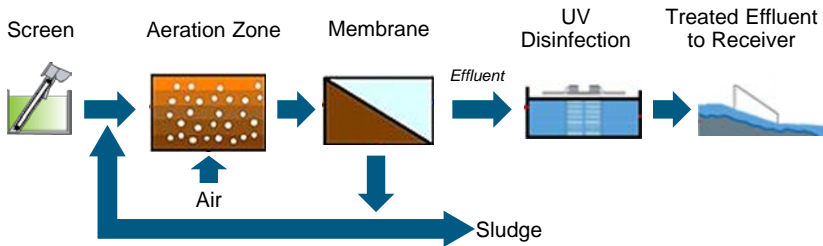


Technology Review/Evaluation

- Based on the servicing needs, two technologies were considered.
 - **Sequencing Batch Reactor (SBR) with Tertiary Filter (current WWTP technology)**



- **Membrane Bioreactor (MBR)**



- **Comparison:**
 - Capital costs similar
 - Operating costs higher for MBR (includes membrane replacement and electricity costs)
 - SBR/Filter alternative limited by effluent phosphorus criteria

Drumbo Recommended Design Alternative

- **MBR Plant**

- Prefabricated, modular unit(s)
- Retrofitted into existing plant, utilize existing tanks
- Rated for 322 m³/d initially
- Expandable to approximately 450 m³/d to meet growth





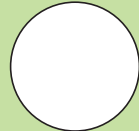


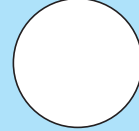

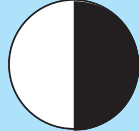
- **Capital Cost Estimates**

- \$2.6 million for 322 m³/d
- \$3.7 million for 450 m³/d

- **Operating Cost**

- \$350,000 annually or an additional \$15 to \$20 per month per customer compared to the SBR/Filter WWTP

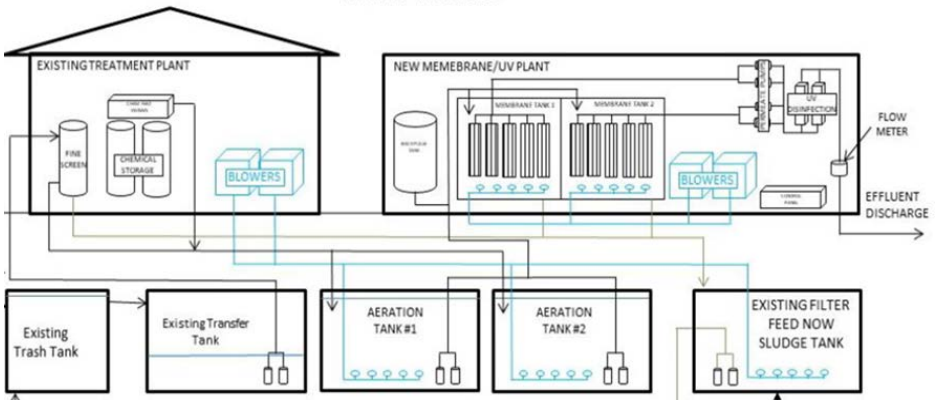
Evaluation

Alternative	Technical	Capacity Requirements	Environment	Social	Financial
SBR + Tertiary Filter	Technically viable 	Capacity limitations for growth 	Meets current effluent criteria 	Minor impacts to community and site 	Most economical 
MBR	Technically viable 	Addresses range of growth expected 	Provides higher quality effluent 	Minor impacts to site 	Economical 



Drumbo WWTP Recommended Design Alternative

DRUMBO, ON
WWTP MODEL



***Potential Membrane Bioreactor
Retrofit of Existing Plant***

Thank you for your interest in the Drumbo WWTP EA

Next Steps:

- Complete the Environmental Study Report and publish for public and agency comment (this will be for a 30-day review period) – Summer 2018
- Implement first phase of expansion of Drumbo WWTP (Design and Construction)

Public and agency consultation is a key component of the Class EA process, and we value your input. Please fill out the Comment Sheet provided.

If you have any questions or concerns about this study, please feel free to contact any member of the Project team, including:

Mitchell Heighway, P.Eng.
Project Engineer
Oxford County, Public Works

21 Reeve St.
PO Box 1614
Woodstock ON N4S 7Y3

519-539-9800 x3020
mheighway@oxfordcounty.ca

Mike Newbigging, P.Eng.
Project Manager
Jacobs

72 Victoria St. South
Suite 300
Kitchener ON N2G 4Y9

519-514-1642
mike.newbigging@jacobs.com



COMMENT SHEET

**Drumbo Wastewater Treatment Plant Expansion
Class Environmental Assessment Study
Public Consultation Centre No. 3
Thursday, July 19, 2018**

Thank you for your interest in the **Drumbo Wastewater Treatment Plant (WWTP) Expansion Class Environmental Assessment Study**. Please take the time to complete this comment sheet. We are very interested in receiving comments and suggestions from residents and stakeholders. Please print legibly.

Name:	_____		
Address:	_____ Street		_____ Apt. No.
	_____ City	_____ Province	_____ Postal Code
Phone:	E-mail: _____		
I would like to be placed on a mailing list to receive future notifications regarding this project. Please indicate Yes or No. <input type="checkbox"/> Yes <input type="checkbox"/> No			

Please feel free to provide additional comments on a separate sheet. Leave your comments on your departure or mail, fax or e-mail them to either of the following by August 17, 2018:

Mr. Mitchell Heighway, P. Eng.
Project Engineer
Oxford County, Public Works
21 Reeve Street, P.O. Box 1614
Woodstock, ON N4S 7Y3

or

Mr. Mike Newbigging, P. Eng.
Project Manager
Jacobs
72 Victoria St. South, Suite 300
Kitchener, ON N2G 4Y9

Phone: 519-539-9800, ext. 3020
E-mail: mheighway@oxfordcounty.ca

Phone: 519-514-1642
Email: mike.newbigging@jacobs.com

Please provide any comments on the recommended technology to expand the existing Drumbo WWTP on the existing site to service growth in the Community of Drumbo.
