

Bob's Lake Sewage Treatment Lagoon - Update



PUBLIC UTILITIES
DEPARTMENT

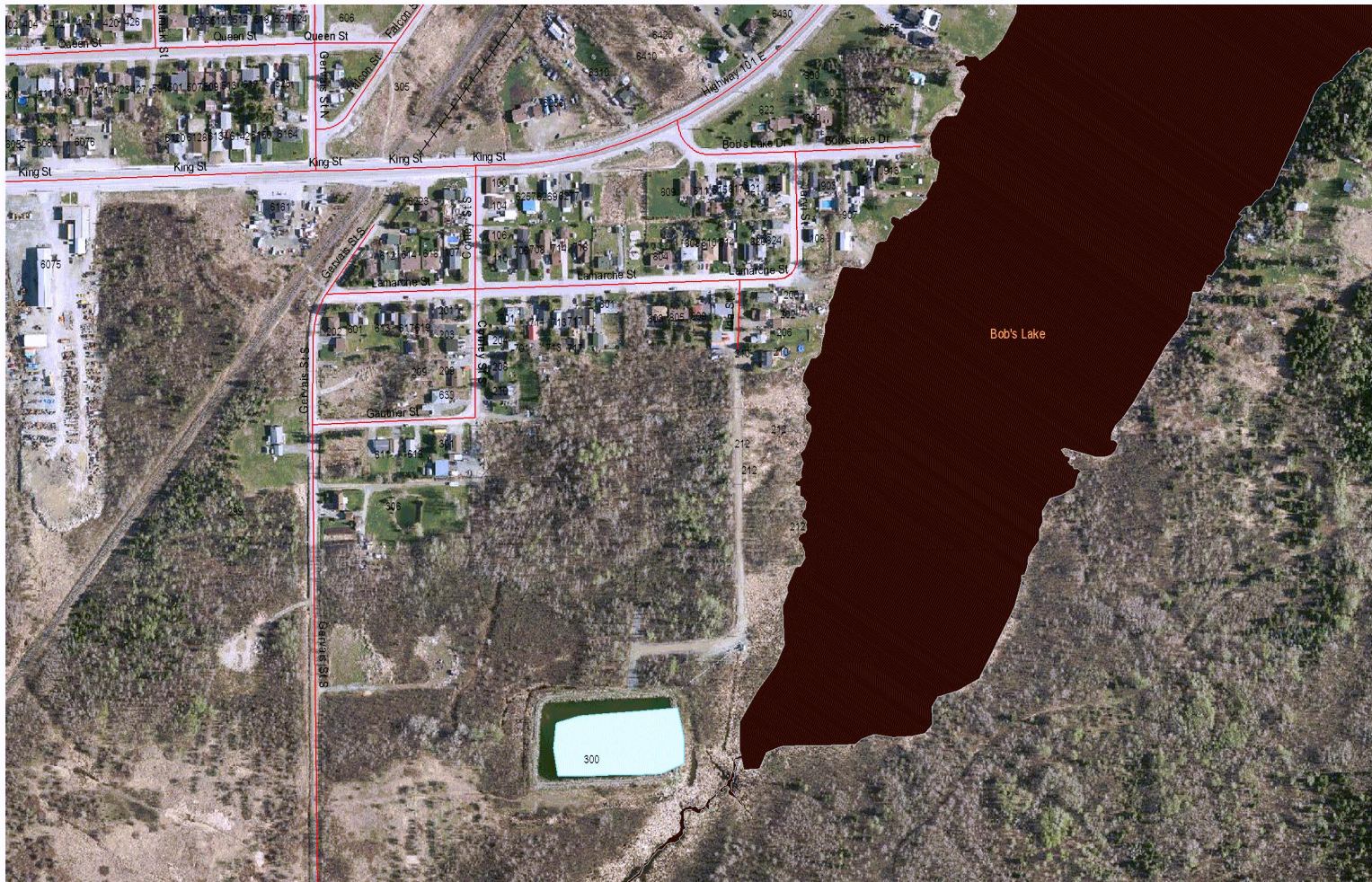
June 5th, 2018



Agenda

1. Overview of the lagoon (where it is, what it does, etc)
2. Immediate infrastructure repairs needed in 2018
3. Update on City Action Plans in response to MOECC inspection
4. Update on draft schedule for future major capital activities – Bobs Lake Sewage System & Whitney Treatment Plant

Where is it?



What does the lagoon do?

- The lagoon was constructed in 1961 (50 years old)
- The lagoon serves as a wastewater treatment system
- The Bob's Lake residential area is serviced by a gravity sanitary sewer collection system.
- The gravity sewer system flows towards the Pumping Station where sewage is pumped into the lagoon.
- Effluent from the lagoon discharges into the adjacent Bob's Creek.
- The lagoon is oval in shape and the size is 122 m x 61 m x 1.5 m depth.
- The lagoon was designed to accommodate a population of 167 people with an average sewage flow of 45.4 cubic metres per day.

Lagoon looking to the East



Lagoon looking to the West



View from Access Road



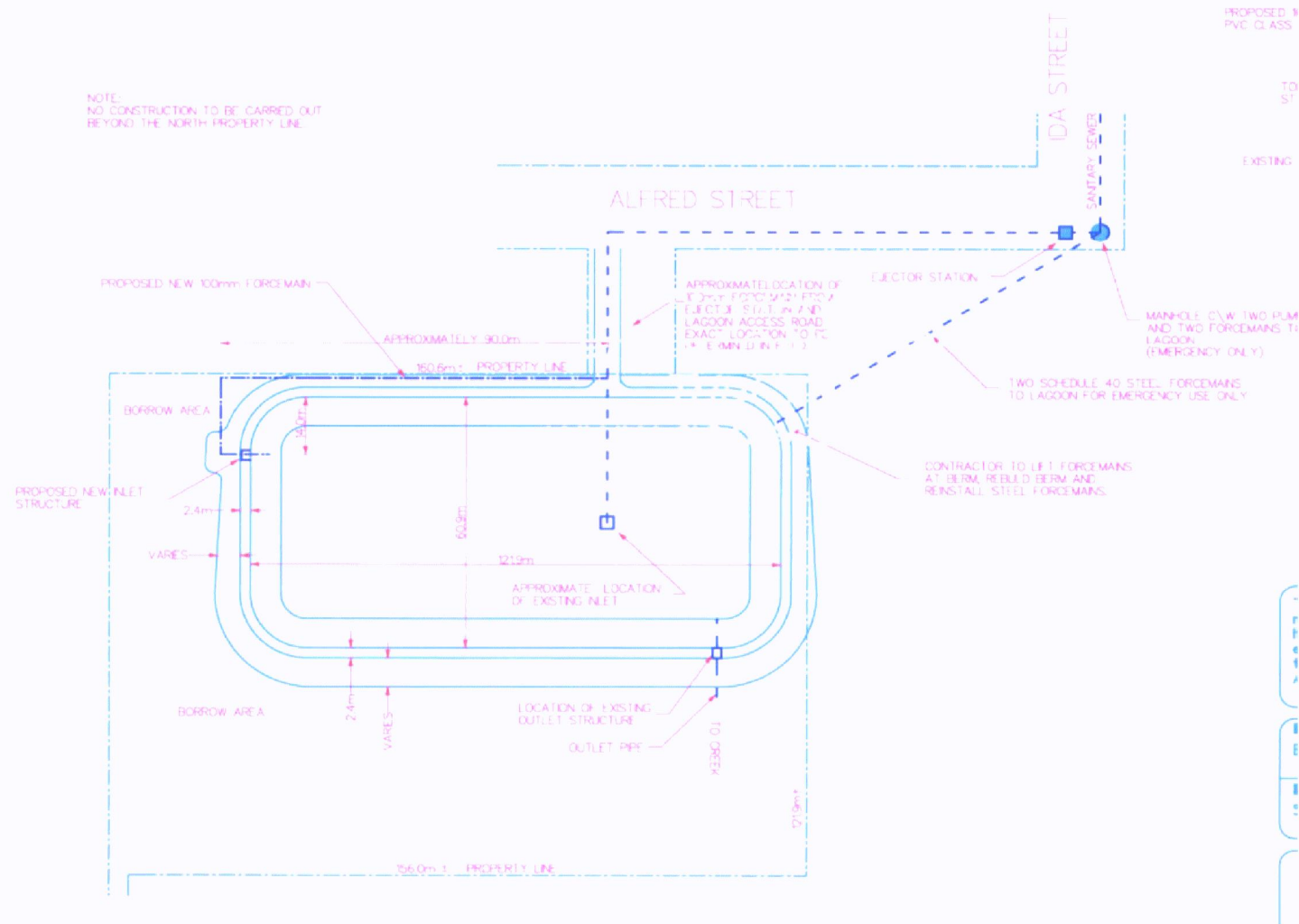
View of Forcemain Pump Station and Back-Up Pump Station



View of Forcemain Pump Station and Back-Up Pump Station



How does it work?



Bob's Lake Lagoon Operation

- The gravity sewer collection system delivers sewage to a concrete inlet tank located near the pump station.
- The sewage ejector pump station pumps sewage from the inlet tank to the lagoon.
- During periods of high flow, a diesel pump assists in pumping excess sewage to the lagoon.



Immediate Issues to be fixed in 2018

- There are two parts of Bob's Lake Lagoon pump station that need to be repaired immediately – This was not in the budget.

1. Sewage Inlet Tank needs to be replaced

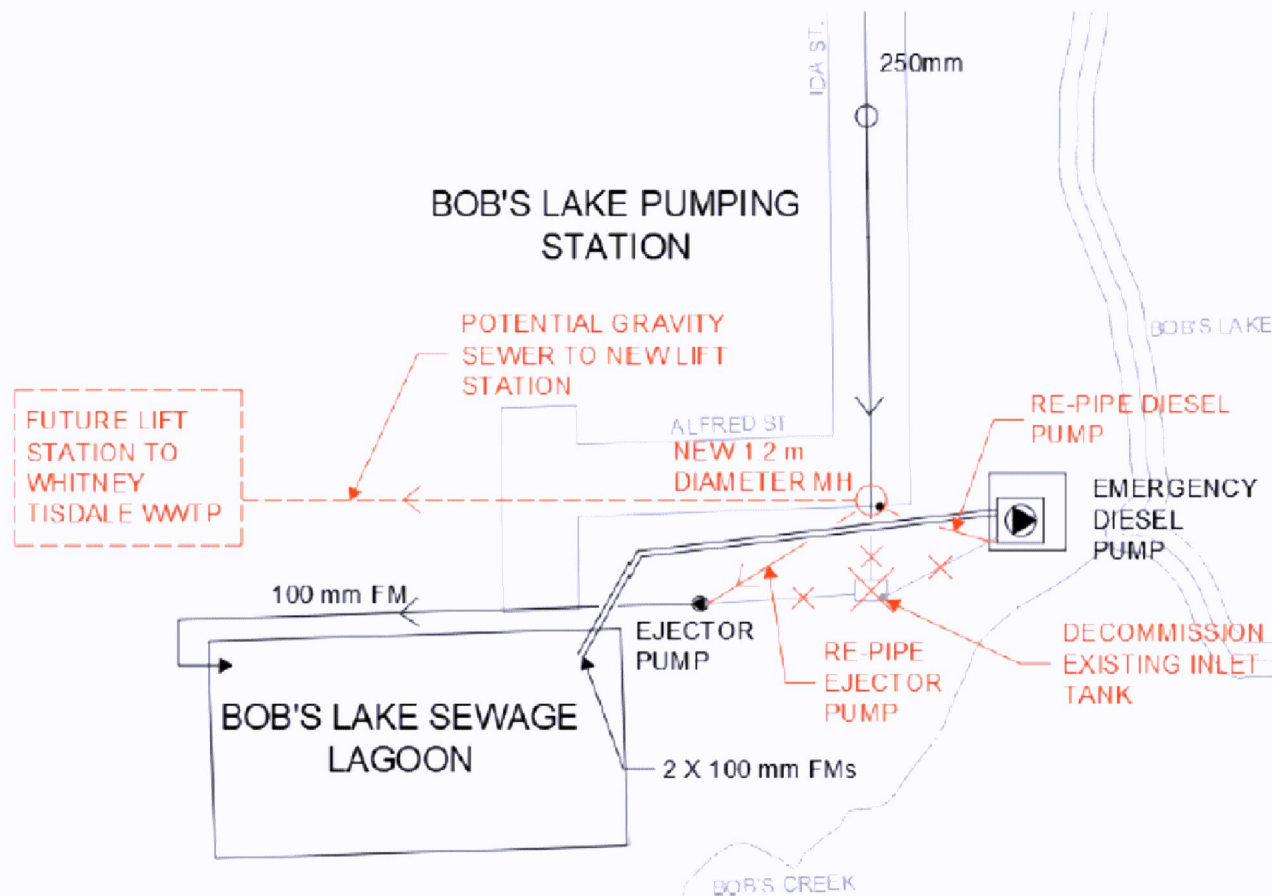
- inlet tank has deteriorated to the point where groundwater infiltrates the tank and gravel enters the tank combined with the sewage.

2. One of the back-up pipes (steel material) needs to be replaced

- One of the two (2) 100 mm steel back-up sewage pipes leading from the inlet tank to the lagoon (emergency system) is severely corroded / leaking. This pipe has been isolated and is not being used.



Option (s)



Estimate of Costs

- **Design cost**
 - Range of 50-100K
 - Includes preparation of some drawings
 - Includes some geotechnical work
- **Repair cost**
 - Preliminary Range of 100K to 400K
- **Budget**
 - Option #1 - defer other design items
 - Option #2 – do nothing. This option is not an option.

Contracting Approach & Schedule

■ Who will be Designer?

- sole source to RV Anderson
- City hired RV Anderson in early May 2018 to complete a one day investigation of the inlet tank problem.
- RV Anderson has submitted a preliminary report with options.
- RV Anderson will finalize most cost effective short term option to keep lagoon sustainable until new Pump Station is designed & built (separate activity).
- Start in May and complete by June 2018

■ Who will do Repair?

- Invite qualified contractors to bid on the work
- Tender in July & August 2018
- Complete work by November 2018

MOECC Inspection Report & Action Items

April 2016

- Ministry of Environment Climate Change (MOECC) submits to City of Timmins (COT) a report.
- Report requires COT to address action items (1) Rated capacity of the lagoon and (2) effluent quality

July 2016

- City issues letter to MOECC with action plan to address two items:

Fall 2016 to December 2017 (Action Item #1 in Tech Memo)

- Prepare Request for Proposal to secure services of a professional engineering consultant – smoke testing, flow measurements and work plan to reduce inflows and infiltration.
- Start implementation of reducing inflows and infiltration
- Expand flow monitoring if required

2018 to 2019 (Action Item #2 in Tech Memo)

- Evaluate options to increase lagoon treatment capacity
- Evaluate options to improve effluent quality
- Complete Environmental Assessment Process
- Obtain Environmental Compliance Approvals

Work on Action Items

- Fall 2017- flow monitoring, infiltration study and camera work completed Fall 2017
- Feb 2018 – consultant's final report issued to the City
 - Sections of pipe will have to be either replaced, repaired or undergo spot treatment. This will reduce high rate infiltration / intrusion.

Project Delivery Schedule - Preliminary

		2017	2018	2019	2020	2021	2022	2023	2024	2025
Flow and Infiltration Study Bobs Lake Gravity System upstream of Lagoon	completed Feb 2018									
Design to remove sludge build-up from Bob's lake										
Contractor - Sludge removal at Bobs Lake Lagoon										
Design of new sewage pump station and forcemain to the Whitney Plant –	all potential options to be reviewed during EA process									
Design - Whitney Plant Stress test & Concept development	To address Phosphorus reduction and plant upgrade & capacity review for Bobs Lake sewage									
Design- Whitney Tisdale Plant Upgrade	To address Phosphorus reduction and plant upgrade & capacity review for Bobs Lake sewage									
Construction of Whitney Plant upgrades	Extent of Plant Upgrades is not known									
Construction of Bobs Lake Pump Station & forcemain										

	= construction
	=design

Next Steps

1. Return to Council for update on repair cost & approval to complete immediate work.
2. Return to Council in Fall 2018 with project delivery plan for upgrade to Bob's Lake Sewage System and Whitney Treatment Plant.

Questions ?