



Staff Report

Operations – Water & Wastewater Services

Report To: COW - Operations, Planning and Building Services
Meeting Date: April 28, 2026
Report Number: OPS.26.017
Title: Thornbury WWTP Phase 1A Expansion Wrap Up
Prepared by: Allison Kershaw, Manager of Water & Wastewater Services

A. Recommendations

THAT Council receive Staff Report OPS.26.017, entitled “Thornbury WWTP Phase 1A Expansion Wrap Up”;

AND THAT Council receives an invitation to attend the Ribbon Cutting Ceremony for the Completion of the works

B. Overview

This Staff Report provides Council with an update on the Thornbury Wastewater Treatment Plant (TWWTP) Phase 1A Expansion, including a full accounting of all funds dedicated to the project.

This project represents a significant investment in sanitary infrastructure and provides additional capacity for the Thornbury wastewater system, supporting current needs and future growth.

Members of Council are invited to attend a ribbon cutting ceremony to mark the completion of this project on **May 20, 2026, at 10:00 a.m.**

C. Background

The Thornbury Wastewater Treatment Plant (WWTP), located at 1 Grey Street in Thornbury, receives pumped wastewater from the Mill Street and Lakeshore sewage pumping stations via forcemains.

The facility operates as an extended activated sludge system and includes screening, grit removal, aeration, secondary clarification, and ultraviolet (UV) disinfection prior to discharge to the Beaver River.

The site also includes three lagoon cells, which are used for the stabilization of waste activated sludge. In addition, the lagoons provide storage capacity during peak flow conditions and serve as a contingency measure during emergency plant bypass events.

The Thornbury WWTP Phase 1A Expansion commenced in 2021 with the completion of an Optimization Study, followed by an assignment to provide shared back-up power with the Thornbury Water Reservoir, and subsequent detailed engineering for the expansion.

The project increased the rated treatment capacity of the plant from 3,580 m³/day to 5,330 m³/day. In addition, the work included the replacement of equipment that had reached the end of its useful life.

These upgrades enhance the reliability and resilience of the Town's wastewater infrastructure and ensure the system can accommodate current demands and future growth within the community.

D. Analysis

The Thornbury WWTP Phase 1A Expansion project was initiated to provide additional capacity to support growth within the Thornbury sewer shed. The project increased the rated capacity of the plant from 3,580 m³/day to 5,330 m³/day and included the replacement of key equipment that had reached the end of its useful life.

Major upgrades included replacement of the existing blowers, motor control centre, yard piping, pumps, valves, splitter chambers, instrumentation, and UV disinfection system. New infrastructure included the installation of a mechanical screen, aeration basin, clarifier, recycled sludge pumphouse, and a supernatant pumping system. Upgrades to the plant administration building were also completed as part of the project.

Prior to undertaking the expansion, the Town completed an Optimization Study to assess opportunities to increase capacity within the existing treatment process. The study identified areas where minor adjustments could yield additional capacity, as well as key constraints within the system and recommended approaches to address those limitations.

An initial component of the overall program was the implementation of shared back-up power between the Thornbury Water Reservoir and the WWTP. This work was completed under a separate engineering and construction contract and was finalized in June 2022.

The Town subsequently issued a Request for Proposal (RFP) for engineering services for the main expansion works, including detailed design, contract administration, and warranty support. Arcadis was the successful proponent and completed the design and contract administration for the project.

During the design phase, the capacity of the existing effluent outfall was assessed and determined to be insufficient to accommodate peak flows. As a result, the outfall replacement was scoped as a separate project and funded independently.

Detailed design was completed in early 2023, and the project proceeded to tender. Due to long manufacturing timelines, several major components—including the mechanical screen, UV system, and clarifier—were pre-purchased by the Town and supplied to the contractor. North America Construction (NAC) was awarded the construction contract.

Construction experienced delays due to long lead times for critical equipment, particularly the motor control centre, as well as a significant rainfall event on March 30, 2025, which resulted in site flooding and damage to certain equipment.

Substantial Performance for the plant expansion was achieved on October 31, 2025. The project has since transitioned into the warranty phase, with the contractor addressing outstanding deficiencies. Staff continue to monitor system performance and identify any operational issues or construction-related deficiencies.

The total approved budget for the wastewater treatment plant expansion was \$29,400,000.

Below is an overview of the project financials

Description	Budget	Spent To		Forecasted 2026 Spending	Forecasted Final Variance
		Date	Variance		
Engineering	\$ 2,575,000	\$ 2,486,928	\$ 88,072	\$ 45,000	\$ 43,072
Contracted Services	26,800,000	24,298,773	2,501,227	400,000	2,101,227
Miscellaneous	25,000.00	10,466	14,534	15,000	(466)
	<u>\$ 29,400,000</u>	<u>\$ 26,796,168</u>	<u>\$ 2,603,832</u>	<u>\$ 460,000</u>	<u>\$ 2,143,832</u>

This project has been delivered on budget. However, it experienced significant delays, primarily due to equipment availability issues and a heavy rainfall event in the spring of 2025.

As we wrap up this significant project, staff have reflected on the lessons learned from managing such a large initiative. One of the most notable challenges involved handling pre-purchased equipment. While this approach helped keep the project on schedule, it also introduced a number of administrative complexities.

This project represents an important investment in the Town’s infrastructure and long-term investment in environmental protection. A Ribbon Cutting Ceremony will be held on Wednesday, May 20 at 10:00am at the facility, located at 1 Grey Street, Thornbury. Members of Council and the public are invited to attend.

E. Strategic Priorities

1. Communication and Engagement

We will enhance communications and engagement between Town Staff, Town residents and stakeholders

2. Organizational Excellence

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

3. Quality of Life

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

F. Environmental Impacts

The environmental impacts associated with the wastewater treatment plant expansion have been monitored throughout construction and into initial operations. Overall, the project has resulted in a net positive environmental outcome, with impacts effectively mitigated through design and construction controls.

G. Financial Impacts

The Thornbury WWTP project is funded 90% through Development Charges and 10% through the Wastewater Reserves.

H. In Consultation With

Monica Quinlan – Director of Corporate & Financial Services/Treasurer

Serena Wilgress – Manager of Purchasing & Risk Management

Vicky Bouwman - Supervisor of Accounting & Budgets

Mark Service – Wastewater Supervisor

Jason Petznick - Communications Coordinator Capital Projects

I. Public Engagement

The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Allison Kershaw, Manager of Water & Wastewater Services managerwww@thebluemountains.ca .

Respectfully submitted,

Allison Kershaw,
Manager of Water & Wastewater Services

Alan Pacheco
Director of Operations

For more information, please contact:
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Report Approval Details

Document Title:	OPS.26.017 Thornbury WWTP Phase 1a Expansion Wrap Up.docx
Attachments:	
Final Approval Date:	Apr 14, 2026

This report and all of its attachments were approved and signed as outlined below:

Allison Kershaw - Apr 14, 2026 - 4:49 AM

Alan Pacheco - Apr 14, 2026 - 8:34 AM