



Staff Report

To: Council
From: Roz Llewellyn, Manager Community Services
Meeting Date: February 14, 2024
Report No.: OCS 2024-02
Subject: Wharf Rehabilitation
Type: Requires Action
Motion No.: C240214-14

Recommendation

- 1) It is recommended that Report OCS 2024-02 be received and adopted;
- 2) That Staff be directed to issue the tender to advance the Hawkestone Wharf repairs in 2024;
- 3) That Staff undertake a community consultation program to review options for the Shanty Bay Wharf;
- 4) And that staff report back to Council following the completion of the tender and community consultation process.

Background

The Township currently owns and is responsible for two marine structures on Lake Simcoe – the Shanty Bay Wharf and the Hawkestone Wharf. The Shanty Bay property, located at the bottom of Line 2 south in the Village of Shanty Bay, is generally constructed of a mass concrete slab supported on wooden cribbing bearing on the lake bottom. The Hawkestone property is located at the bottom of Line 11 south in the Village of Hawkestone and is an “L” shaped, sheet piling, enclosed concrete structure with a concrete deck.

In 1999, the Federal Government – Department of Fisheries and Oceans (DFO) transferred the Shanty Bay Wharf to the Municipality for a fee of one dollar. Within this transfer, the Ministry also paid \$10,000 to the Township for concrete surface repairs to the Wharf.

In 2009, the Township further accepted an offer from Fisheries and Oceans Small Craft Harbours to assume ownership of the Hawkestone and Carthew Bay Wharf (no permanent structure) facilities, upon completion of some necessary repairs required prior to the transfer.

The transfers made these properties the responsibility of the Township, yet came with no additional funding for maintenance and repairs. These costs have since been born by the Municipality and are addressed through the Parks and Facilities annual operating budget.

The age of these facilities coupled with an increase in significant weather events has led to visible deterioration of the structures. In October of 2021, Tatham Engineering completed an investigation of the two wharf structures in Hawkestone, and in Shanty Bay. The review of the structures was to determine their condition, as well as provide recommendations for repair/renewal and associated timelines. Tatham visually examined both wharf structures and reviewed the structural integrity of the elements above water within an "arms reach", and Gal con Marine was retained to perform an investigative dive which included both audio and video recording of the subsurface elements.

In November of 2022, the Hawkestone Wharf sustained significant damage and was temporarily repaired until a permanent solution could be determined. Similar repairs such as these have been completed several times in the past, however, damage of this nature is a reoccurring issue as these storms are increasing with severity. They create excessive wind and considerable wave action that repeatedly continues to deteriorate the condition of the wharfs. The damage sustained by these storms has advanced the previous timelines and the requirements for repairs in the ten (10) year time horizon to the current time immediate time horizon.

During the 2023-2024 budget process, an initial budget of \$350,000 was established for the repair of the Hawkestone and Shanty Bay Wharfs, with the requirement that a detailed report come to Council for consideration, once the final scope of the project was determined.

This report intends to review the current condition of the wharfs and options for how to address their repairs.

Analysis

Hawkestone Wharf

The Hawkestone Wharf is the larger of the two wharfs and is an iconic recreational amenity in the Village of Hawkestone. The wharf, located at the bottom of Line 11 south was constructed on a point and has significant frontage abutting Line 11 South road allowance. It's location also facilitates it's use by several marine contractors who use the shoreline to operate their barges on the lake for servicing waterfront properties. The Hawkestone Wharf is highly valued by the community and has been used for decades as a place to gather, swim, fish and access Lake Simcoe, as well as being used to provide safe harbour as initially intended.

The engineering review found the Hawkestone Wharf to be in "fair condition". The concrete slab in the eastern section of the wharf has undergone significant settlement and cracking. As the sheet pile walls are relatively plumb with no apparent distress (i.e. bowing), it is the opinion of the engineers that the damages observed were most likely attributed to settlement of the underlying soils and or from prolonged wave action displacing the fine aggregates and causing the voids observed. Recommendations to repair the wharf include removal of the existing concrete slab, the addition of new compacted aggregates, and the reinstatement of a new concrete slab. During this time, it would also be prudent to replace the tie-rod anchors between sheet piles as they would be accessible.

It is anticipated that the cost to complete these repairs (as outlined in December 8, 2023 Tatham letter) would be in the order of \$300,000 + HST. This would address required repairs and garner an extension of the life of the structure by 25-30+ years.

Recommended approach.

It is recommended that the repairs for the wharf at Hawkestone be put out for tender. It is anticipated that following contract award in 2024 work will commence with the majority of the work completed over the winter in 2025 as much of the work is better completed when ice is in. It is anticipated that all works would be completed prior to the summer of 2025. It is anticipated that these works can be addressed within the approved \$350,000 2024 budget allocation.

Shanty Bay Wharf

The Shanty Bay Wharf is also well used by the community. While smaller than Hawkestone, it is a popular fishing and swimming locale, and also serves as a smaller safe haven for boaters during storms. Over the years, there has been an increasing amount of "nuisance" activity given the topography of the site, poor sightlines and proximity to the City of Barrie.

The engineering assessment has determined that the structure is in poor condition. Due to the advanced concrete deterioration, as well as the condition of the underlying wood

crib structure, any significant repairs to extend the useful life of the existing components would be cost prohibitive given the proximity of the Shanty Bay Boat Launch, its inability to provide barrier free access and its “attractive nuisance” characteristics given its location. However, the following options exist:

Renewal

As outlined in the engineering assessment, the structure could be encapsulated in perimeter sheet piling and stabilized by injecting voids with high slump grout. It is anticipated that this would be in the order of \$475,000 (adjusted for inflation \$ 2024). Additionally, the stairs and open drainage channel should be addressed at the same time and would be in the order of \$120,000 to complete. If this option was to be considered a more detailed review should be undertaken.

Replace

Replacing the structure would require the removal and disposal of the existing structure and reconstruction of the pier. Similar to the renewal option, the stairs and open drainage channel should be addressed at the same time. Estimated costs would be as follows:

Removal/Disposal	\$200,000
Stairs/Drainage	\$120,000
Reconstruction	\$600,000
Estimated total	\$920,000

Decommission / Alternative Public Use

This would involve removal and disposal of the existing structure, replacing the stairs and repurposing the use which could include expanding the beach area or installation of a seasonal dock. This option would not be ideal or recommended given the characteristics of the site and the existence of the Shanty Bay boat launch.

Divest/Reinvest

Another option would be to consider selling the property and reinvesting the proceeds into further development of community spaces in Shanty such as the advancement of re-development of Shanty Bay Park. It anticipated that the property could garner upwards of \$800,000 along with the cost avoidance associated with repair/replacement.

Recommended approach

Given that the continued use of the existing structure is acceptable in the interim until a more permanent solution is implemented, it is recommended that a community consultation process be undertaken in 2024 to review the options available and finalize a recommended approach.

Financial/Legal Implications/ Risk Management

There is a significant risk associated with undertaking the repairs and unforeseen requirements which are inherent in this type of remedial work. To address this a 20% contingency has been included in the cost estimates. Moreover, the costs presented are initial estimates which can only fully be determined following procurement.

As these marine structures are inherently subjected to extraneous loading (ice, waves etc.) predicting actual remaining life is challenging and there is a risk of further deterioration which may impact public use.

Policies/Legislation

Fishing and Recreational Harbours Act

Various provincial and federal acts/regulations

Corporate Strategic Priorities

Financial Sustainability

Community Engagement

Community Safety

Well Planned Development

Consultations

Tatham Engineering Limited

Director, Operations and Community Services

Director of Finance

Manager, Infrastructure and Capital Projects

Attachments

- Appendix A – Location maps
- Appendix B - Oro-Medonte Wharfs Condition Assessment (February 22, 2022)
- Appendix C – Letter from Tatham Engineering – Hawkestone Wharf Improvements and Recommendations for Repair (December 2, 2023)

Conclusion

The deteriorating condition of the wharfs requires immediate action, not only to successfully mitigate any potential risk, but also to ensure the longevity and the integrity of the assets. When examining the remaining useful life of the wharfs, the investment in the Hawkestone Wharf is recommended, however the repairs for the wharf in Shanty Bay are costly and more difficult to justify and carry additional consideration. The recommended approach will allow the advancement of the repairs of the Hawkestone Wharf while permitting a fulsome review including dialogue with the community to develop a plan on how best to address the issues present at the Shanty Bay Wharf.

Respectfully submitted,

Roz Llewellyn, Manager Community Services

January 29, 2024

Approvals:

Shawn Binns, Director Operations & Community Services
Nelly Morrow, Director Finance/CFO
Robin Dunn, CAO

Date of Approval

February 1, 2024
February 2, 2024
February 7, 2024