

# STAFF REPORT

THE CORPORATION OF THE TOWN OF COBOURG



<b>Report to:</b>	Mayor and Council Members	<b>Priority:</b>	<input checked="" type="checkbox"/> High <input type="checkbox"/> Low
<b>Submitted by:</b>	Laurie Wills Director, Public Works lwills@cobourg.ca	<b>Meeting Type:</b>	Open Session <input checked="" type="checkbox"/> Closed Session <input type="checkbox"/>
<b>Meeting Date:</b>	June 26, 2023		
<b>Report No.:</b>	Public Works-165-23		
<a href="#">Submit comments to Council</a>			

**Subject/Title:** Boardwalk Replacement Public Consultation Results and Design Direction

## RECOMMENDATION:

THAT Council approve the Staff recommendation to move ahead with the detailed design and construction of the replacement boardwalk utilizing a hybrid of Option 1 whereby pressure treated wood material is utilized for decking and a recycled plastic/composite material is utilized for the substructure of an at-grade (non-elevated) boardwalk;

AND FURTHER THAT the project shall be funded by the 2023 capital budget with an upset limit of \$750,000 of which 60% is funded by the Active Transportation Fund and 40% (\$300,000) shall be debentured by the Town;

AND FURTHER THAT Council approve for Public Works Staff to construct the boardwalk both to reduce capital costs and to promote interconnectivity between the community and Town operations.

## 1. STRATEGIC PLAN

NA

## 2. PUBLIC ENGAGEMENT

A public meeting was held on May 31, 2023 at the Cobourg Community Centre. A detailed background and power point presentation was posted on Engage Cobourg along with a survey questionnaire from May 24<sup>th</sup> to June 8<sup>th</sup>.

Advertising for public engagement was provided via signage along the boardwalk as well as:

- Public notice was issued out to local media
- Newsletter issued to all registered users on Engage Cobourg
- Social Media posts and reminders
- Radio Ads on Classic Rock 107.9 promoting Engagement project and open house (May 25<sup>th</sup> – 31<sup>st</sup>)
- Digital Ad published to Today's Northumberland.ca promoting Engagement project (May 30<sup>th</sup> – June 8<sup>th</sup>)
- Newspaper Ads published in the Town of Cobourg Ad Block (May 25 and June 1)
- Engagement Project listed in *Hello Cobourg!* Newsletter

### 3. PURPOSE

To receive Council direction on the material and construction method for the replacement boardwalk.

### 4. ORIGIN AND LEGISLATION

2023 capital budget

### 5. BACKGROUND

#### *History and Existing Conditions*

The Town of Cobourg waterfront boardwalk was constructed over 15 years ago and it is now at the end of its service life. Although the decking may appear to be in fair condition, the condition of the wood substructure underneath has deteriorated to the point where new boards can no longer be attached. There have been significant ongoing maintenance and inspection requirements to minimize safety concerns caused by rotting wood and exposed nails.

The current wooden boardwalk is sitting on sand, and the boardwalk is continually exposed to rain, snow, ice, blowing sand, sun, and wind. The longevity of the new boardwalk will largely be determined by the materials ability to stand up to these elements as well as the construction of the supporting structure.

#### *Ganaraska Region Conservation Authority*

As per guidelines indicated in the Ganaraska Region Conservation Authorities (GRCA) Lake Ontario Shoreline Management Plan Hazard Mapping, to protect the new boardwalk from damage and a decreased lifecycle due to high water levels and wave uprush, a higher elevation was considered for the portions of the boardwalk that fall within the "Dynamic Beach Setback". (i.e. 100-year flood levels plus a 30-m allowance to account for the dynamic nature of the beach and dune system).

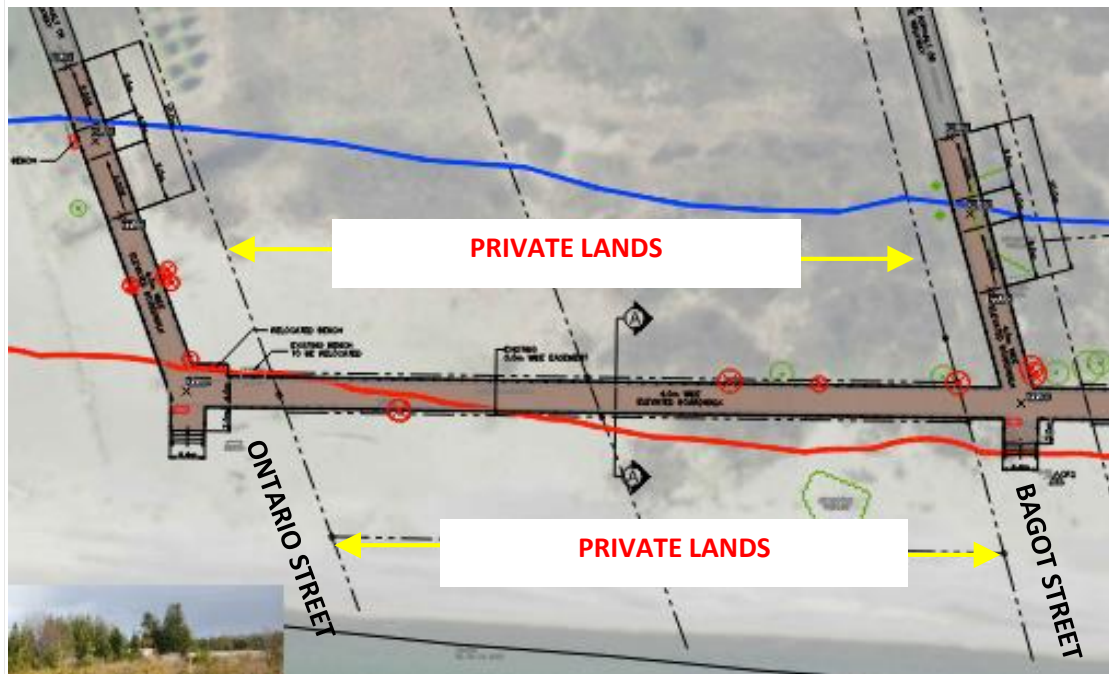
The Cobourg Waterfront User Needs Assessment (completed in 2018) identified additional Pedestrian Walkways connecting the boardwalk to the Waterfront Nature Park (West Beach and Headland area) of the waterfront. The new boardwalk must be built generally in the same location due to property

restrictions, GRCA requirements to avoid new construction within the dynamic beach and to minimize damage to the existing vegetation along the beach. Footpaths that have already been naturally established may be more formally marked and signed as a future project however newly constructed boardwalks within the dynamic beach area are not being considered at this time.

At the request of the Parks and Recreation Advisory Committee and as a requirement of the GRCA permitting approvals, the Town of Cobourg has completed a Natural Heritage Report and survey of existing vegetation, breeding birds, and screening for Species at Risk to mitigate and restore the impacts of the boardwalk replacement.

### *Private Lands and Easements*

The existing boardwalk extends through private property by way of an easement located at #90 and #94 Ontario Street. It is important to note and understand that the lands adjacent to the boardwalk including the beach to the south, are private lands and the Town and users of the boardwalk must be respectful and courteous while passing through these lands by remaining on the boardwalk and within the easement.



### *Accessibility*

Staff have received comments from the public, the Accessibility Advisory Committee, the Transportation Advisory Committee, and local cyclists stating that the boardwalk is too narrow for all the activities it is being used for such as cycling and mobility aids.

The Ontario Traffic Manual Book 18: Cycling Facilities notes that the suggested minimum width for multi-use paths is 3 m, and the desired width is 4 m where possible. The current boardwalk is 3 m wide, located within a 5 m easement in

some locations. Staff are recommending that the width of the replacement boardwalk will be 4m wide.

## 6. ANALYSIS

When reviewing the structure and material selection, it was important to provide options to the public that considered the full lifecycle costs of each and not just the up front 2023 capital costs. Some options would have to be replaced several times within the lifecycle of other options.

The following options were presented to the public for questions and comments on Engage Cobourg as well as at the in-person Public Meeting:

Option 1: Wood boardwalk similar to existing for entire length

- Shortest lifecycle
- High maintenance costs
- Lowest initial capital cost (\$870,000)
- \$4.2M lifecycle cost over 75 years

Option 2: Elevated\* Wood boardwalk with wood railings for west portion; Asphalt path for east portion

- Moderate lifecycle
- Moderate maintenance
- Second lowest initial capital cost (\$1,010,000)
- \$1.97M lifecycle cost over 75 years

Option 3: Elevated\* Wood boardwalk with wood railings for west portion; Concrete path for east portion

- Moderate lifecycle
- Moderate maintenance costs
- Middle initial capital cost (\$1,155,000)
- \$1.99M lifecycle cost over 75 years

Option 4: Elevated\* Composite with metal railings for west portion; Asphalt path for east portion

- Long lifecycle
- Low maintenance costs
- Second highest initial capital cost (\$1,170,000)
- \$1.95M lifecycle cost over 75 years

Option 5: Elevated\* Composite with metal railings for west portion; Concrete path for east portion

- Long lifecycle
- Low maintenance costs
- Highest initial capital cost (\$1,215,000)
- \$1.98M lifecycle cost over 75 years

*\*The elevation of the boardwalk was calculated to be above typical wave uprush elevations and this determined the requirement for railings as per the Ontario Building Code since the boardwalk would be approximately 60 cm (2 feet) above ground.*

## **Public Consultation Results**

A total of 345 people provided comment and/or responded to the survey either online (322) or at the public meeting (23) although only 45 people downloaded the Public Information Materials which informed the questions of the survey.

The results of the survey are included in Appendix A and all public comments are included in Appendix B.

A brief summary of the results is included as follows:

- The majority of respondents use the boardwalk daily or weekly
- The majority of respondents use the boardwalk for walking and cycling
- A minor majority preferred that the boardwalk be reconstructed using more durable, longer lasting materials and construction methods
- The majority of respondents preferred for the boardwalk to remain close to the ground, despite the higher lifecycle costs associated with increased exposure to high water levels
- The majority of respondents preferred the east portion of the boardwalk be constructed of wood
- The majority of respondents chose **Option 1** as the preferred replacement being wood material at grade elevation
- The majority of respondents did not want there to be low level lighting added to the boardwalk

Although most preferred wood at grade level, there were several comments made about the composite material as well. It was clear that the composite material was not a very well-known product as most assumed it was a plastic PVC type product that can be slippery when wet. Composite material is actually made from recycled plastic and waste wood fibres i.e. recycled wood that is a waste product from other manufactured wood products. Some products are more slip resistant than others. Some respondents noted that they would prefer the recycled plastic material over composite so there may have been more support for the composite material had it been more clearly defined or had there been a sample on hand at the public meeting. Also, 56.5% of respondents preferred for the replacement to be constructed with more durable materials however the only composite option available was an elevated boardwalk, which the majority did not want.

Another option that was not put forward, although was considered during the initial option investigations, was a limestone screening material. This material is very typical for walking/cycling path construction and is used in Town frequently as an inexpensive material that provides a good structure when placed on native and stable soil subsurface. The reason that it was not considered for the boardwalk was due to there not being a firm soil base to build upon as well as

maintenance constraints and accessibility. Although the material can be graded and compacted quite well when it is constructed on a stable subsurface, the sand underneath the boardwalk is not stable and will continue to shift. It was expected that the limestone would become disburbed and contaminated with sand in short order. With the shifting dynamic of the beach, the path may become uneven and not ideal for mobility devices and strollers. Adjusting the grades of the limestone and adding material as necessary was considered to be high maintenance in consideration of the machinery necessary to be mobilized for leveling and compaction, as well as the expected high frequency of maintenance needs. For all other options, the only maintenance requirements were removal of sand, replacement of rotting boards, and cleaning which are all infrequent requirements with minimal equipment and resource needs. For these reasons, a limestone screenings pathway on the beach was not put forward as a practical option for the boardwalk replacement.

Overall, the vast majority do not want to see an elevated boardwalk or railings. Of all respondents who chose Option 1, many commented on how they prefer the natural look and feel of wood and that a boardwalk was not a boardwalk without the wood boards. Plastic materials were not supported for sustainability purposes (plastic waste produced during manufacturing and eventual landfilling).

An option that was not proposed and now appears to be a good hybrid option is a composite substructure and a wood deck at the existing grade elevations. Given that the composite material is produced from recycled products and would be replaced less often than pressure treated wood, the environmental considerations of long term landfilling are justifiable and perhaps the composite material can be recycled again at the end of its useful life of 40 years. Wood decking can be screwed into composite lumber just the same as wood, making ongoing board replacement possible for maintenance purposes.

### *Accessories*

There was minimal uptake on lighting even though the Natural Heritage Report indicated that very low to the ground level lighting would not likely have an impact on migrant or nesting birds nor was there evidence of amphibian breeding in the study area that would be impacted.

Most indicated that the number of benches was sufficient however there are a few locations where an additional benches can be accommodated and existing bench locations that can be enhanced; both would add to the accessibility of the boardwalk and will be considered in the design.

Additional garbage receptacles were requested by few however it is Staff's recommendation that the receptacles be maintained at the street dead ends where they can be more easily monitored and emptied. Garbage receptacles on the beach may also attract nuisance animals and create a litter or odor issue on the beach in the hot sun.

## **7. FINANCIAL IMPLICATIONS/BUDGET IMPACTS**

Since the proposed material and construction method is relatively straightforward, Staff are proposing to have Public Works Roads Staff construct the boardwalk under the following conditions and expectations:

1. The vegetation transplanting and restoration works will be contracted out by obtaining competitive quotes.
2. The civil design and environmental consultant shall be onsite intermittently to conduct inspections, document work, and provide advice as needed.
3. A public understanding that the length of construction may take longer than a contracted job as regular Town operations must also be maintained and priorities may limit the availability of crews.
4. A public understanding that other annual Public Works operations may be required to be contracted out or incur overtime rates if time does not permit Staff to conduct both the boardwalk construction and other annual maintenance work.
5. The new boardwalk will remain exposed to potential undermining and/or erosion due to wave-up-rush or other dynamic beach processes without having deep foundations and without being constructed above the minimum elevation calculated by Shoreplan Engineering.
6. Without achieving the recommended boardwalk elevation, sand accumulation will continue and necessitate ongoing maintenance and removal of sand.
7. Without foundations extending to the elevation identified in the geotechnical report some differential movement of the new boardwalk is expected, similar to what the existing boardwalk has historically experienced.

Essentially, since the boardwalk will rest on the sand as it currently does without a foundation, an engineered design is limited to basic framing and adequate structural support for the decking.

### **Cost Estimate and Budget**

Staff were successful in their application for a Federal grant through the Active Transportation Fund where 60% of project costs up to a maximum of \$450,000 can be funded. The remaining balance is expected to be debentured as we would not be permitted to utilize other Federal funds from the Canada Community Building Fund and the Ontario Community Infrastructure Fund (OCIF) is also not applicable since the boardwalk is not considered to be a core asset.

The estimated material cost premium for the composite/recycled plastic sub-structure is ~30%, however the lifecycle is three times that of wood. The cost savings realized by utilizing Town Staff as well as the lifecycle longevity of the materials will more than offset the increase in materials cost for the sub-structure.

The in-kind costs incurred by Staff to construct the boardwalk are also eligible for funding meaning the Town can recover 60% of the labour, materials and equipment expenses incurred to construct the boardwalk.

The Boardwalk is approximately 600 m in total length including the extensions from Ontario, Bagot and Durham Street. A preliminary cost estimate for the



design, construction, and contract administration/inspection is not expected to exceed \$750,000 and when 60% funded by the Active Transportation Fund, will cost the Town \$300,000 and will be well within the 2023 capital budget estimate.

### **Schedule**

Next steps will include the completion of the design of the boardwalk including vegetation removal and restoration plans as well as erosion and sediment control plans. Quotations will be requested for the spring vegetation restoration works as well as for material supply. If time permits later in the fall, Town Staff will conduct the vegetation removals under the direction and supervision of the environmental consultant and also remove the existing boardwalk. Staff can begin assembling sections of the boardwalk at Building #7 throughout the winter to be transported and installed on the beach in the spring.

## **8. CONCLUSION**

In addition to significant cost savings, having this important infrastructure constructed by our own Staff will inspire a community connection and aid in developing an appreciation for the skills and abilities of our People. The first boardwalk was constructed successfully by Town Staff and outlasted the test of time despite the challenging environmental conditions. The new boardwalk will be built with pride in workmanship while also building up Staff and community morale for years to come.



## Report Approval Details

Document Title:	Boardwalk Results of Public Consultation and Design Decision - Public Works-165-23.docx
Attachments:	- Appendix A Engage Cobourg Survey Results.pdf - Appendix B Public Comments Received.pdf
Final Approval Date:	Jun 15, 2023

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

**Tracey Vaughan, Chief Administrative Officer - Jun 15, 2023 - 2:42 PM**