# COMMUNICATION UPDATE

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| **TO:** | Mayor and Members<br>City Council |
| **DATE:** | January 22, 2026 |
| **SUBJECT:** | Dundas Driving Park Stair Assessment (City Wide) |
| **WARD(S) AFFECTED:** | City Wide |
| **SUBMITTED BY:**<br><br>**SIGNATURE:** | Cynthia Graham<br>Director, Environmental Services<br>Public Works Department<br><br>  |

This Communication Update is to share the Dundas Driving Park Stair Assessment and required closure.

The Dundas Driving Park is a City-Wide park located at 71 Cross Street, Dundas (Ward 13). This park is an active and vibrant recreational space that attracts residents from across the city and beyond. The park is uniquely situated within the residential fabric of Dundas, with one main vehicular ingress/egress (Cross Street), but excellent active transportation accesses at several points of the park. One of these accesses is from the east side of the park, where residents filter through the adjacent Grove Cemetery and Helen Street to travel to the park, schools and beyond.

Facilitating this pedestrian movement, a wooden stair asset provides the connectivity from the Helen Street/Grove Cemetery area into the Dundas Driving Park (See Appendix A). A stair access has been provided at this location since at least the 1980's, likely longer. While there is a single lane access road that connects Helen Street to the Dundas Driving Park, pedestrians consistently choose the stair access for safety and comfort.

The existing pressure treated wooden stairs have no records of the date of construction and have been routinely repaired and maintained by Parks staff. Parks staff identified that the stairs were in need of a condition assessment as there are signs of wear and tear.

In December 2025, staff engaged structural engineer J.P. Samuel and Associates Inc. to review the asset and provide a condition assessment for the Dundas Driving Park Stairs. The assessment was finalized on January 19, 2026, see Appendix B.
The assessment indicated that the existing stairs had significant structural deficiencies that require the closure of the stairs for health and safety reasons. The severe deficiencies are associated with failing foundation piers and wood rot. Due to the significance of the failures the consultant has recommended that the stairs be immediately closed due to unsafe structural conditions.

With this stairway being a key active transportation connection for the Dundas community, it is recommended that it be repaired or replaced. Staff will review options for repair or replacement in consideration of budget availability and will provide Council with a recommendation.

As the consultant report recommends closure, these stairs will be fully closed for use, including a closure notice and physical closure amendments to the stairs. Parks staff will coordinate the removal of the stairs Spring 2026.

## APPENDICES AND SCHEDULES ATTACHED

Appendix A – Dundas Driving Park Stairs Location Map
Appendix B – Structural Assessment of Dundas Driving Park Outdoor Stairs

DUNDAS DRIVING PARK STAIRS

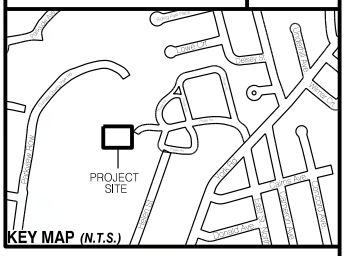
Appendix A - Dundas Driving Park Stairs Location Map

CONTRACT No.

DRAWING No. L1

SHEET No.

L1 OF Total 1




KEY MAP *(N.T.S.)*




DRAWN BY: SC DATE: 01/09/2026

REFERENCE MATERIAL:
Road Plans :
Sewer Plans :
Water Plans :

Regional Surveyor :

Geodetic Bench Mark Index No.
Elevation=

SCALES

0 5m 10m 20m
1:1000

Project Manager, Parks and Cemeteries

Nichelle Sherwood

Hamilton

**City of Hamilton**

**Public Works Department**

**DUNDAS DRIVING PARK STAIRS**

**L1**

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January 19, 2026

**Nicholle Sherwood**
Project Manager – Parks Capital Projects
City of Hamilton, Environmental Services Capital Projects

Dear Nicholle:

**RE: Structural Assessment of Wood Stair System @**
**71 Cross St., Dundas, ON L9H 2R5**
**Our Project No. 2025-JPS-131**

## Introduction

J.P. Samuel & Associates Inc. was retained by the City of Hamilton to conduct a structural assessment of the exterior wood stair system at 71 Cross St., Dundas, connecting Helen Street to the Dundas Driving Park. The purpose of this review was to evaluate the condition of the structural supports, guardrails, decking, and foundation piers, to identify safety concerns requiring corrective action. As such, a site visit of the stair system was conducted on December 8, 2025.

## Observations and Findings

Based on the observed conditions at the time of inspection and as documented in this report, the existing stair system does not meet the 2024 Ontario Building Code (OBC) requirements or generally accepted health and safety standards applicable to public exterior stairs. The stairs span an elevation of approximately 6.5m and consists of 27 steps and 9 landings. It's made of pressure-treated timber stringers, posts, treads, landings, and guardrails supported by cast-in-place cylindrical concrete piers, see ***Figure 1***, ***Figure 2***, and ***Figure 3***.

***Figure 1:*** *Elevation view from bottom of stairs (Source: 3D Scan).*

***Figure 2:*** *Elevation view from top of stairs.* (Source: 3D Scan).

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***Figure 3:*** *Cross-section of the stairs (Source: 3D Scan).*

Observed deficiencies include foundation piers that were incorrectly installed from original construction, preventing proper structural alignment, wood posts bearing at or near grade, widespread deterioration of load-bearing wood members, and compromised guardrail and handrail systems. These conditions prevent the stair from reliably transferring loads to the ground, maintaining required structural capacity, and providing adequate fall protection for users.

Deterioration and loss of section in posts, beams, treads, and connections, combined with missing or weakened guard and handrail components, result in a system that cannot be reasonably considered code-compliant or safe for continued public use in its current condition. Refer to ***Table 1*** for a detailed breakdown of the structural deficiencies.

***Table 1:*** *Observations from Site Visit*

| | Figures | Remarks |
|---|---|---|
| 1 |  | On the south side, the concrete piers were incorrectly positioned during the original installation. Their misalignment relative to the posts prevents proper load transfer and eliminates the possibility of realigning the stair structure. |

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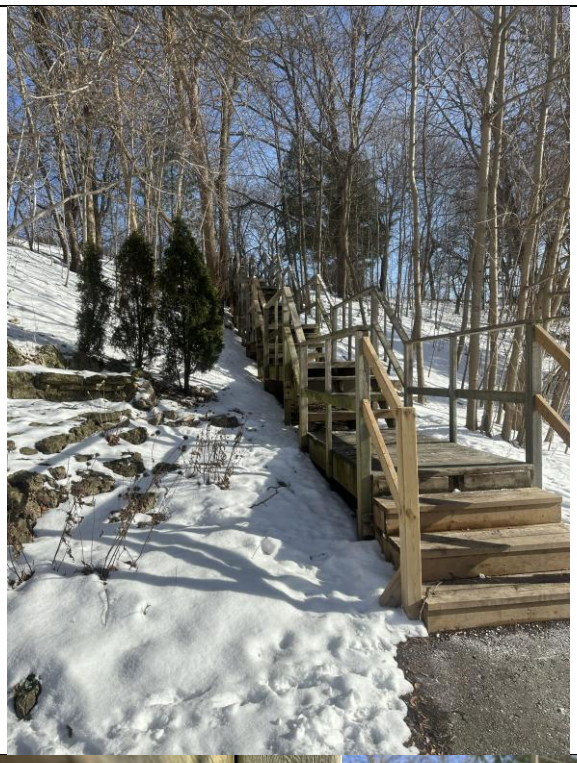
| | | |
|---|---|---|
| **2** |  | On the north side, all posts extend below the finished grade, and snow and frost conditions prevented visual inspection of the supporting piers. It is assumed that the pier locations mirror those on the south side and are similarly misaligned |
| **3** |  | Rusted bolts and crushing of wood around the connector indicate overstress. Moisture exposure has weakened the beam-to-post connection, reducing its load capacity. |

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| | | |
|---|---|---|
| **4** |  | Post does not fully bear on the concrete pier. Uneven pier surface and early-stage rot at the base reduce load capacity. No anchor bracket is present. |
| **5** |  | Post bottom is severely rotted. Concrete pier is broken and missing its upper bearing surface, providing little structural support. |

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| **6** |  | Post and pier are both deteriorated. The post is resting in soil rather than on the pier, creating an unsafe condition with significant risk of failure. |
| **7** |  | The post is sitting on fractured pier remnants with no proper bearing surface. The beam shows visible splitting and moisture damage, indicating compromised structural performance. |

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|---|---|---|
| **8** |  | Tread is deteriorated and shows splitting, rot, and surface degradation. The material has lost structural integrity, creating a trip hazard and reducing load-bearing performance. |
| **9** |  | The middle rail of the guardrail system has deteriorated. A missing portion of wood at the connection point, caused by rot, has significantly weakened the rail's ability to resist lateral loads, compromising overall safety |

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|---|---|---|
| **10** |  | At this location, the top guardrail member exhibits significant deterioration. Warping, splitting, and material loss have reduced its structural capacity and present a safety concern. |
| **11** |  | At this location, the beam-to-post connection is severely damaged, with cracking, splitting, and one bolt missing. These issues prevent proper vertical and lateral load transfer. The post bottom is also buried below finished grade, which will trap moisture and accelerate further deterioration. |

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## Summary of Deficiencies

- Foundation piers were incorrectly placed during original construction, preventing proper alignment and effective load transfer to the supporting soil.
- The stair system cannot be re-aligned in its current configuration; reconstruction of the foundation system is required.
- Multiple concrete piers are cracked, displaced, or missing adequate bearing surfaces, resulting in unsafe support conditions.
- Widespread deterioration of wood components was identified throughout the stair system. From visual inspection, it is estimated that approximately 40–50% of the existing wood components exhibit moderate to severe deterioration and would require replacement under a repair option.
- Deterioration includes rotted post bases, multiple treads exhibiting rot, splitting, and loss of section, compromised beams and beam-to-post connections due to prolonged moisture exposure, and guardrail members with significant rot and section loss.
- While some wood members may remain in serviceable condition following localized repairs, the underlying structural configuration, age of the system, and extent of deterioration significantly limit the long-term effectiveness and durability of repairs when compared to full replacement.
- Rusted connectors, missing bolts, and splitting at structural joints indicate overstress and reduced connection capacity.
- The guardrail system (top rail, middle rail, posts) is unsafe and does not provide reliable resistance to lateral loads.
- Multiple load-bearing points have partially or completely failed, creating an immediate safety concern.

## Recommendations for Remediation Measures

### Immediate Actions:

- Close access to the stairway due to unsafe structural conditions.
- Remove all deteriorated wood components and unsafe sections of the stair.
- Concrete piers must be demolished and replaced, as they were incorrectly installed and cannot support a properly aligned stair.
- Install new frost-protected sonotube piers at correct structural spacing and height c/w galvanized post base connector.
- Add 2 additional side rails, one above and one below existing.
- Replace all corroded bolts with new galivanted bolts c/w large washers.
- Add minimum of two vertical bracing at the high bays.

### Long-Term Considerations:

Option 1 — New Pressure-Treated Wood Stair System

- Construct a new exterior stair using premium pressure-treated lumber (ground-contact rated for posts and framing).
- Install new frost-protected sonotube piers at correct spacing and elevation, complete with galvanized post base brackets.
- Replace all structural components, including posts, beams, stringers, treads, landings, and guardrails.
- Use hot-dipped galvanized fasteners and hardware throughout.
- Install a new code-compliant guardrail system with proper top, middle, and bottom rails.

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- Apply water-repellent treatment and ensure adequate drainage around the structure.
- This option provides a cost-effective solution with moderate maintenance requirements.

Option 2 — New Galvanized Steel Stair System

- Construct a new stair using structural galvanized steel framing, including HSS posts, C-channel stringers, and guardrail assemblies
- Install new frost-protected concrete piers designed to support steel framing loads.
- Provide galvanized steel treads and ladings (bar grating or checker plate) mounted on steel stringers.
- Use welded or bolted steel connections with full hot-dip galvanizing for corrosion resistance.
- Install a galvanized steel guardrail system c/w galivanted 1 ¼" dia. Handrail. meeting OBC requirements.
- This option offers a high-durability, low-maintenance solution with a significantly longer service life.
- In addition to these considerations, the following items are specific to the inclusion of a bike-friendly trough:
    - The bike-friendly trough shall be continuous along the full length of the stair, including across landings, and shall be detailed to avoid abrupt height changes that could impede bicycle movement or create trip hazards.
    - Guardrails and handrails shall be coordinated with the bike trough to maintain required fall protection while providing adequate clear width for both pedestrians and bicycles. Localized rail offsets or secondary rails may be required adjacent to the trough.
    - The trough shall be structurally supported independently or integrated into the stair framing such that bicycle loads are transferred to the primary steel structure without overstressing tread or guard components.
    - The bike trough surface shall be detailed to provide adequate traction under wet, icy, or snowy conditions, while remaining smooth enough to allow controlled bicycle movement.
    - The trough shall be detailed to prevent water, ice, and debris accumulation that could affect stair performance or create maintenance issues, particularly at landings and transitions.
    - Although galvanized steel provides long-term corrosion resistance, the bike trough introduces additional edges, joints, and interfaces that will require periodic inspection to confirm continued structural integrity and user safety.
    - Signage indicating the intended use of the bike trough should be installed to reduce user conflict and improve overall stair safety.
    - A bike-friendly trough would result in approximately an additional $38,000.00 to the cost estimate stated in ***Table 3***.

The design of any replacement stair system must address the following codes and site-specific considerations:

- Slope and Erosion
    - OBC 2024 Division B, Article 4.2.4.5.(1) requires foundations located on or near sloping ground to be specifically designed to account for slope stability and load transfer. As such, localized erosion control, positive drainage away from foundations, and granular backfill are required to maintain long-term stability.
    - Grading and surface drainage around foundations should conform to the intent of OBC 2024 Division B, Articles 9.12.3.1 and 9.12.3.2, to limit water accumulation and soil migration around piers.
- Foundations and Frost Protection
    - Piers must extend below the local frost penetration depth or be designed to mitigate frost action.

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  - Piers shall be designed in accordance with OBC 2024 Division B, Article 4.2.4.4. – 4.2.4.14. and Article 1.1.3.2.(1).
- Stair Geometry and Safety
  - Staircase landings dimensions must comply with OBC 2024 Division B, Article 3.4.6.4. and 3.4.6.8.(7)
  - Handrails must comply with OBC 2024 Division B, Article 3.4.6.5.
  - Guards must comply with OBC 2024 Division B, Article 3.4.6.6.
  - Tread and riser design must comply with OBC 2024 Division B, Article 3.4.6.8.
- Structural Design and Materials
  - Structural design of replacement stairs shall comply with OBC 2024 Division B, Part 4, with wood elements designed to CSA O86 and steel elements designed to CSA S16.
  - Exterior materials must be selected to withstand prolonged moisture exposure, freeze–thaw cycling, and snow accumulation typical of the Dundas escarpment environment.

Based on observed conditions, material performance, and exposure to moisture, freeze–thaw cycling, and snow accumulation, the following high-level service life expectations are anticipated:

- Immediate Actions Option:
  Estimated remaining service life of approximately 5–10 years, assuming ongoing inspection and maintenance. This option does not address fundamental design and durability limitations.
- Option 1 – New Pressure-Treated Wood Stair:
  Estimated service life of approximately 15–25 years, with periodic maintenance including sealing, selective board replacement, and inspection of connections.
- Option 2 – New Galvanized Steel Stair:
  Estimated service life of 30+ years, with minimal maintenance requirements, primarily limited to periodic inspection of galvanizing and connections.

## Cost Estimate

**Immediate Actions:**

***Table 2:*** *Cost Estimate Breakdown – Immediate Actions (Approximate Costs)*

| | Scope Item | Allowance |
|---|---|---|
| 1 | Close access to stairway | $2,500 |
| 2 | Remove deteriorated wood components & unsafe sections | $12,000 |
| 3 | Demolish existing concrete piers | $13,200 |
| 4 | Install new frost-protected sonotube piers & post bases | $22,000 |
| 5 | Add two additional side rails (one above, one below existing) | $8,600 |
| 6 | Replace all corroded bolts with galvanized bolts & large washers | $5,500 |
| 7 | Add minimum two vertical braces at high bays | $4,000 |

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| | Scope Item | Allowance |
|---|---|---|
| **SUBTOTAL** | | **$67,800** |
| Engineering Design Fee | | $7,200 |
| Allowances: Contractor OH&P, Access Premium, Contingency (25% of subtotal) | | $16,950 |
| **TOTAL PROJECT BUDGET** | | **$91,950** |

**Long-Term Considerations:**

***Table 3:*** *Comparative Cost Estimate Breakdown – Option 1 vs. Option 2 (Approximate Costs)*

| | Scope Item | Option 1 | Option 2 |
|---|---|---|---|
| 1 | Demolition & Disposal | $10,000 | $10,000 |
| 2 | New Frost-Protected Concrete Piers | $38,000 | $38,000 |
| 3 | Posts & Primary Framing (Beams, Stringers) | $17,900 | $36,000 |
| 4 | Treads | $8,000 | $10,000 |
| 5 | Landings / Platforms | $12,900 | $17,200 |
| 6 | Guardrails & Handrails | $8,600 (wood rails + reinforcement) | $19,000 (steel guard assemblies) |
| 7 | Hardware and Fasteners | $3,000 | $5000 |
| 8 | Galvanizing (if applicable) | N/A (only galvanized fasteners) | $9000 (full hot-dip galvanizing) |
| 9 | Field Erection / Welding / Detailing | $1,300 (detailing for code-compliant guards) | $12,800 |
| 10 | Water-Repellent Treatment & Local Drainage | $3,500 | N/A (steel does not require coating beyond galvanizing) |
| **SUBTOTAL** | | **$103,200** | **$157,000** |
| Engineering Design Fee | | $12,400 | $12,400 |

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| | Scope Item | Option 1 | Option 2 |
|---|---|---|---|
| Allowances: Contractor OH&P, Access Premium, Contingency (25% of subtotal) | | $25,800 | $39,250 |
| **TOTAL PROJECT BUDGET** | | **$141,400** | **$208,650** |

**Conclusion**

The stair system exhibits extensive deterioration and multiple structural failures. The foundation piers were installed incorrectly from original construction, preventing any form of structural re-alignment. Posts, beams, treads, and guardrails are severely deteriorated, creating immediate safety concerns. J.P. Samuel & Associates Inc. recommends a full demolition and reconstruction of the foundation piers and stair assembly to provide safe and code-compliant access between Helen Street and Dundas Driving Park.

Should you require further clarification, please do not hesitate to contact our office.

Regards,

**J.P. Samuel & Associates Inc.**


**James Samuel, P. Eng.**