



Meadowlily Bridge

Presentation to the Civic Works Committee
March 5, 2012

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Meadowlily Bridge Overview

- Pedestrian Bridge crossing the Thames River in the vicinity of the Highbury Ave / Hamilton Rd intersection
- Originally opened in 1911





Meadowlily Bridge Overview

- Bridge deck is currently constrained by a chain link fence
- Structural deterioration means something must be done to maintain bridge link



Council Resolutions

- May 4, 2009 – The request to add Meadowlily Bridge to the Inventory of Heritage Resources as a Priority 1 listing Be Referred to staff to review in conjunction with the studies being undertaken in relation to the Meadowlily Area Plan.
- June 15, 2009 - Staff requested to add Meadowlily Bridge to the 2006 Inventory of Heritage Resources, noting that its priority rating will be determined in the future.
- July 27, 2009 – Council determined that Meadowlily Bridge Be Recognized as an important cultural heritage resource that should be protected. Also that Meadowlily Bridge Be Recognized, in perpetuity as a footbridge.



Council Resolutions

- July 27, 2009 - Staff Be Requested to investigate funding sources available to preserve and restore the bridge as a Centennial Project, including stimulus funds or FCM grants and report back.
- September 21, 2009 - The initiation of an EA study of the Meadowlily Bridge Be Deferred pending a structural assessment of the bridge and a report back to Committee.
- October 5, 2009 – Friends of Meadowlily Woods are permitted to have a consultant peer review any completed structural analysis (at the cost of the Friends of Meadowlily Woods)



Study Direction

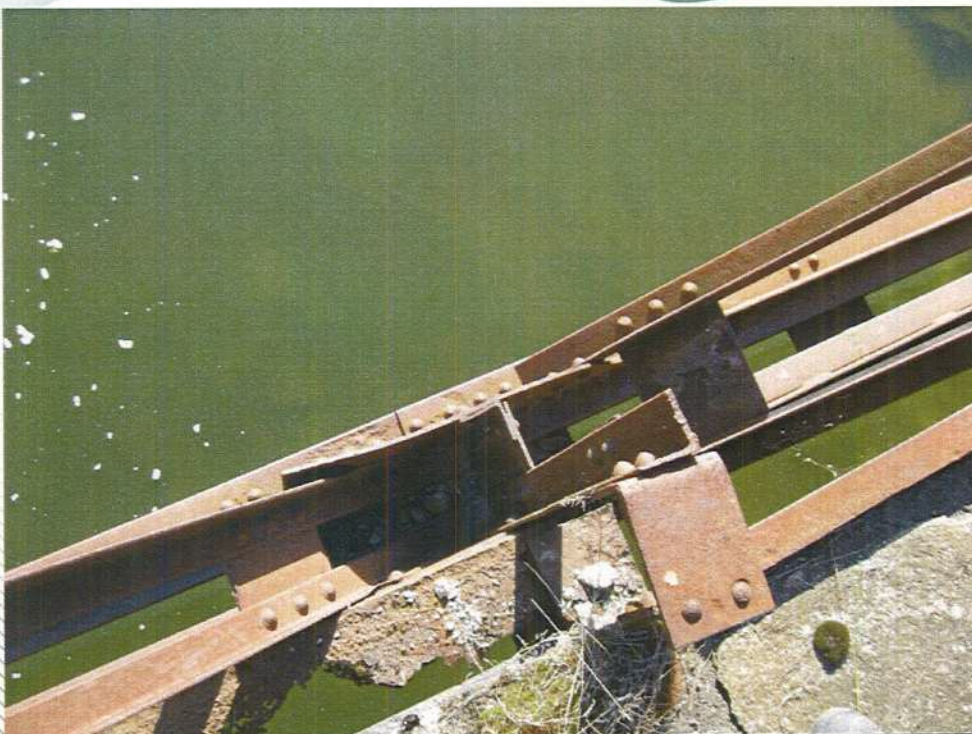
- Complete Cultural Heritage Evaluation Report (CHER)
- Assess current structure and develop rehabilitation rationales and economics
- List items that could be improved outside of bridge footprint
- Investigate outside sources of funding



Structure Deterioration



Structure Deterioration





Substructure Deterioration



Deck Deterioration and Restriction





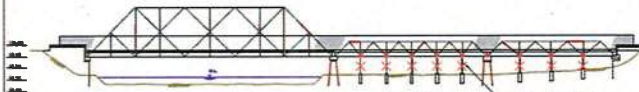
Heritage Conclusions

- Increasingly rare survivor of a metal truss bridge
- Eligible for designation under Part IV of the Ontario Heritage Bridge Act
- Eligible for listing in the Ontario Heritage Bridge List
- Scored 74 on the Ontario Heritage Bridge Evaluation (60+ is eligible for the list)



Alternative 1: Historic Restoration

- Classic materials and techniques used (eg. rivets)
- Fences removed
- Selective repairs
- Removal of supports



Opportunities

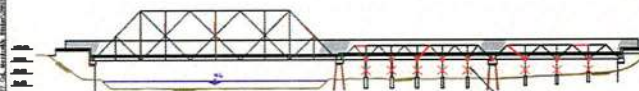
1. Existing bridge is a cultural asset
2. Existing bridge holds aesthetic and historic interest
3. Existing bridge has elements that have residual life
4. Existing bridge is approved by external approval agencies
5. Existing bridge can be readily accessed using light machinery/platforms

Constraints

1. Existing bridge is built with materials that require a maintenance regime.
2. Existing bridge is located in an orientation that subjects the north abutment to scour.
3. Existing bridge will have lost its bidons for usage.
4. Restoration to existing condition adds load to the bridge - New materials for bridge deck would reduce dead load.
5. Use of Rivets will require costly non-destructive testing on all connections.
6. Riveting will take more time during construction.
7. Install hand rail to current code and sympathetic to original design aesthetics.

Alternative 2: Sympathetic Restoration using Contemporary Materials

- Modern materials and techniques used
- Fences removed
- Selective repairs
- Removal of supports



Opportunities

1. Existing bridge is a cultural asset
2. Existing bridge holds aesthetic and historic interest
3. Existing bridge has elements that have residual life
4. Existing bridge is approved by external approval agencies
5. Existing bridge can be readily accessed using light machinery/platforms
6. Use of modern materials reduces load and increases service life
7. Original structure geometry could be preserved
8. Modern enhancements are required to [install a suitable handrail] system

Constraints


1. Existing bridge is built with materials that require a maintenance regime.
2. Existing bridge is located in an orientation that subjects the north abutment to scour.
3. Major overall aesthetics preserved.
4. Limitations of usage due to loading concerns are in sync with council resolution to preserve the bridge as a pedestrian/bike bridge.
5. Install hand rail to current code and sympathetic to original design aesthetics.



City of London
Meadowilly Bridge Restoration
& Cultural Historical Evaluation Study Report

Meadowilly Bridge
Historic Rehabilitation
Alternatives 1 & 2

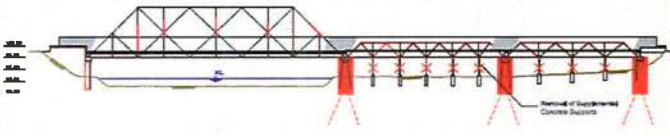
Date: January 2012
Scale: NTS
Project Number: 2-01-00277



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CANADA

Alternative 3: Partial Restoration/Partial Replacement of Pony Trusses

- Fence removed
- New truss bridges
- Selective repairs on main span
- New footings required
- Access road required




Opportunities

1. Could be designed to a wider deck and enhanced architecture
2. Removal and Replacement of pony trusses may be quicker than rehab/bridge.

Constraints

1. Existing bridge is built with materials that require a maintenance regime.
2. Existing bridge is located in an orientation that subjects the north abutment to scour.
3. Invasive site restoration required for construction in an ESA.
4. Loss of important cultural heritage.
5. Increased cost of new sub-structure due to design and environmental cost.
6. Access road in river valley required to place new Pony Trusses and footings.
7. Infill based rail to current code and sympathetic to original design aesthetics.

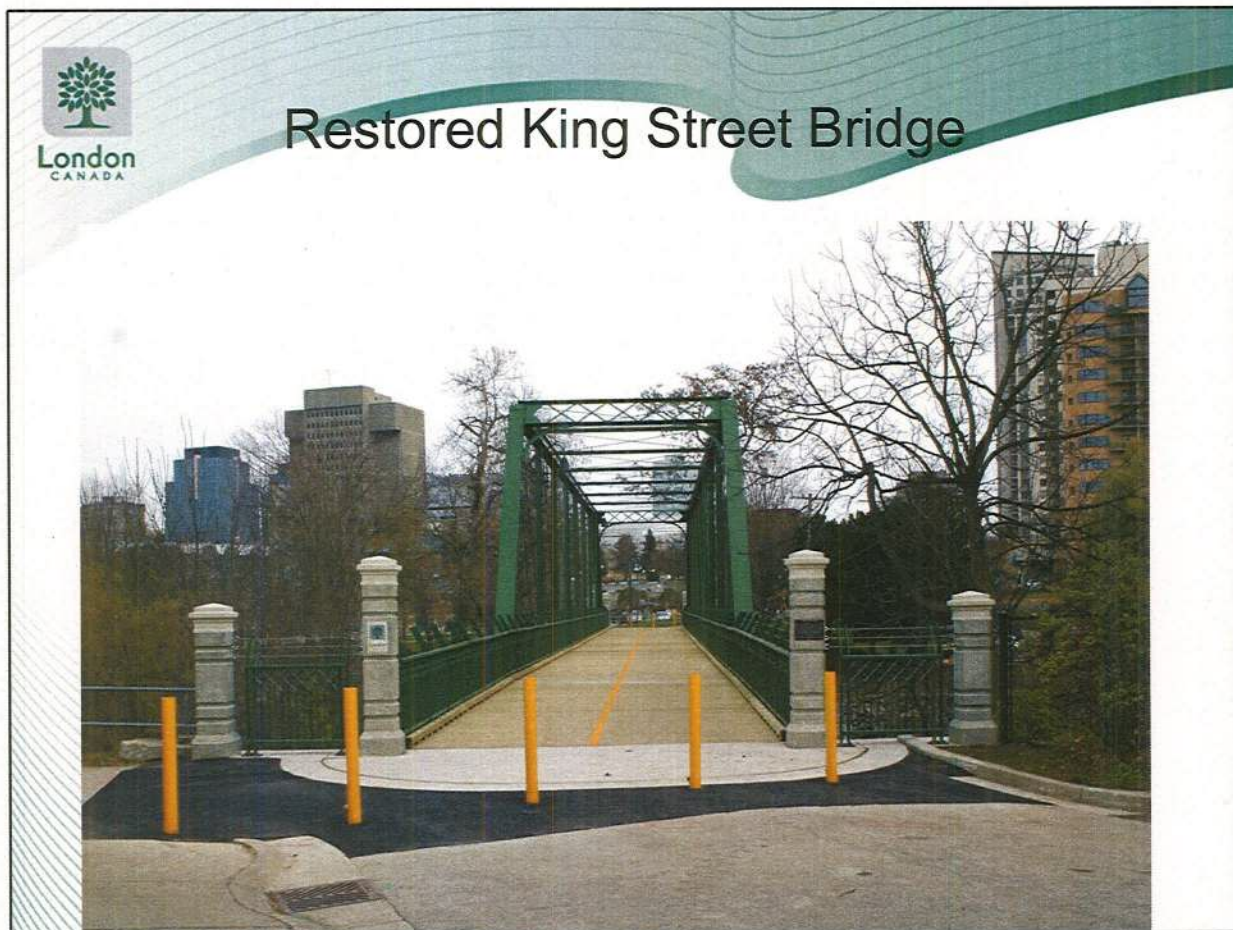


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City of London
Meadowly Bridge Restoration
& Cultural Historical Evaluation Study Report

Meadowly Bridge Partial
Restoration/Replacement
of Pony Trusses
Alternative 3

Client: January 2012 | Project Number: 10910077





Study Conclusions

- Alternative 2 was selected as best and most cost-effective solution with the least risk
- Rehabilitation will allow use of the full deck width
- Bridge is eligible to be designated under the Ontario Heritage Act
- Cost is estimated at \$1.9M
- Can be restored in one construction season but should be done in the next 1-4 years



Next Steps

- Rehabilitation included in 2012 Capital Works Budget
- Setting a scope for adjacent drainage, erosion and access work
- Engaging an engineering consultant to complete the detailed design
- Tender a rehabilitation contract (in 2013)



QUESTIONS?

