Appendix B

First Nations Consultation

MISSISSAUGAS OF THE CREDIT FIRST NATION
DEPARTMENT OF CONSULTATION AND ACCOMMODATION

July 7, 2023

Michelle Pinto
Engineer, Transportation Rehabilitation
Region of Waterloo

Dear Michelle,

Thank you for reaching out to The Mississaugas of the Credit First Nation (MCFN), Department of Consultation and Accommodation (DOCA). MCFN DOCA has received all necessary information and documentation regarding the West Montrose Cover Bridge, Region of Waterloo and has no further comments or concerns. In light of this, we are satisfied that all Infrastructure Canada (INFC) consultation obligations have been met to allow INFC to release funding so that the project may proceed as proposed. Please be mindful that MCFN DOCA must be notified of any changes to the scope of the project.

Thank you

Abby (LaForme) Lee
Acting Consultation Coordinator, MCFN DOCA
Abby.LaForme@mncfn.ca

CC: Mark LaForme, Director, MCFN DOCA, Mark.LaForme@mncfn.ca

DEPARTMENT OF CONSULTATION AND ACCOMMODATION
Mississaugas of the Credit First Nation
4065 Hwy #6, Hagersville, Ontario N0A 1H0
Phone: (905) 768-4260

Michelle Pinto

From: Taslema Khan <taslema.khan@infc.gc.ca>
Sent: July 7, 2023 1:45 PM
To: 'Jstephenson@regionofwaterloo.ca'; Michelle Pinto
Cc: Annette Obiorah; Sabrina Sethi; POB Ontario CCRIS / Ontario DGOP VICCR (INFC); EA & IC - NATO / EE & CA - NATO (INFC); Valiquette, Katherine (MOI); Mittal, Dipti (MOI); Mitha, Aly (MOI); ICIPculture@ontario.ca; Kapur, Payal (MOI); Abby LaForme; Mark LaForme
Subject: REQUIREMENTS MET: Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Good afternoon,

Infrastructure Canada has received a copy of Mississaugas of the Credit First Nation's (MCFN) letter confirming that consultation requirements have been fulfilled for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214). As such, Infrastructure Canada is satisfied with the Indigenous consultation completed by the Region of Waterloo and confirms that Infrastructure Canada's Indigenous consultation obligations for the proposed project have been met, as they were outlined in the letter dated June 24, 2021. As such, the project may proceed with construction.

Should the Region of Waterloo consider future changes to the nature, design, location, start or end date of the Project, please immediately notify INFC so we may re-evaluate our legislative requirements. Please note that changes to the project will require re-notification with MCFN and work with them to address any questions or concerns they may have with respect to changes to the project.

Please do not hesitate to contact me should you have any questions or concerns.

Regards,

Taslema Khan
Environmental Reviews and Approvals Analyst

Environmental Assessment and Indigenous Consultation
Infrastructure Canada/Government of Canada
taslema.khan@infc.gc.ca/ (343) 551-0416

Évaluation Environnementale et Consultation Autochtone
Infrastructure Canada/ Gouvernement du Canada
taslema.khan@infc.gc.ca/ (343) 551-0416

Canada

From: Taslema Khan
Sent: June 24, 2021 1:58 PM
To: 'Jstephenson@regionofwaterloo.ca' <Jstephenson@regionofwaterloo.ca>
Cc: Gordon Voogd <gordon.voogd@infc.gc.ca>; Meng Koh <meng.koh@infc.gc.ca>; Calvin Kemm <calvin.kemm@infc.gc.ca>; 'stephanie.wong@ontario.ca' <stephanie.wong@ontario.ca>; 'francis.gomes@ontario.ca'

<francis.gomes@ontario.ca>; 'Wong, Candice (MOI)' <Candice.Wong@ontario.ca>; 'stephen.direnzo@ontario.ca' <stephen.direnzo@ontario.ca>; 'adrian.lue@ontario.ca' <adrian.lue@ontario.ca>; 'bernice.morrison@ontario.ca' <bernice.morrison@ontario.ca>; 'ICIPculture@ontario.ca' <ICIPculture@ontario.ca>; 'POB Ontario / Ontario DGOP (INFC)' <infc.pobontario-ontariodgop.infc@canada.ca>
Subject: Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

Good afternoon John Stephenson,

Please find attached a letter dated June 24, 2021, regarding Infrastructure Canada's Environmental Assessment and Indigenous Consultation determination for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214).

Please do not hesitate to share this letter with any person involved in this project who should have been included in this email. As the letter notes, if you or anyone involved in this project should have any questions please contact Meng Koh using the provided information.

Best regards,

Taslema Khan

Taslema Khan
Environmental Reviews and Approvals Analyst

Aboriginal Consultation and Environmental Services
Infrastructure Canada/Government of Canada
taslema.khan@canada.ca/ (343) 551-0416

Consultation autochtone et services environnementaux
Infrastructure Canada/ Gouvernement du Canada
taslema.khan@canada.ca/ (343) 551-0416

Canada

Michelle Pinto

From: Abby LaForme <Abby.LaForme@mncfn.ca>
Sent: July 7, 2023 1:56 PM
To: Michelle Pinto
Subject: RE: West Montrose Covered Bridge - Project Update
Attachments: MCFN Consultation Fullfilled, West Montrose Covered Bridge, July 7, 2023.pdf

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Hello Michelle,

That would be wonderful. Would love to see the rehabilitation when it is complete.
It's going to be so nice!

Abby (LaForme) Lee
Acting Consultation Coordinator

Mississaugas of the Credit First Nation (MCFN)
Department of Consultation & Accommodation (DOCA)
4065 Highway 6, Hagersville, ON N0A 1H0
Ph: (905) 768 – 4260
Email: Abby.LaForme@mncfn.ca

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Friday, July 7, 2023 1:43 PM
To: Abby LaForme <Abby.LaForme@mncfn.ca>; Mark LaForme <Mark.LaForme@mncfn.ca>
Cc: 'Meng Koh' <meng.koh@infc.gc.ca>; Taslema.Khan@infc.gc.ca
Subject: RE: West Montrose Covered Bridge - Project Update

Hello Abby,

Thank you very much for the letter, I look forward to working with you on future projects as well! Would you like us to keep you on the mailing list for future updates on the West Montrose Covered Bridge project?

Best Regards,
Michelle

Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Abby LaForme <Abby.LaForme@mncfn.ca>
Sent: July 7, 2023 12:56 PM

To: Michelle Pinto <MiPinto@regionofwaterloo.ca>; Mark LaForme <Mark.LaForme@mncfn.ca>
Cc: 'Meng Koh' <meng.koh@infc.gc.ca>; Taslema.Khan@infc.gc.ca
Subject: RE: West Montrose Covered Bridge - Project Update

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Good Morning Michelle,

Thank you for sending the update regarding the Montrose Covered Bridge project that is taking place in the Niagara Region.
I have attached a letter regarding the Consultation regarding this project.
Thank you for involving MCFN DOCA in the Consultation process and look forward to working with you on future projects!

Sincerely

Abby (LaForme) Lee
Acting Consultation Coordinator

Mississaugas of the Credit First Nation (MCFN)
Department of Consultation & Accommodation (DOCA)
4065 Highway 6, Hagersville, ON N0A 1H0
Ph: (905) 768 – 4260
Email: Abby.LaForme@mncfn.ca

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Friday, July 7, 2023 10:41 AM
To: Abby LaForme <Abby.LaForme@mncfn.ca>; Mark LaForme <Mark.LaForme@mncfn.ca>
Cc: 'Meng Koh' <meng.koh@infc.gc.ca>
Subject: West Montrose Covered Bridge - Project Update

Good Morning Abby and Mark,

I hope all is well with you both. I would like to provide an update on the West Montrose Covered Bridge rehabilitation project.

As part of the Environmental Assessment, the Project Team continues to review alternatives for the bridge rehabilitation. The Region hired a wood expert, Entuitive Structural Engineers, to add to the Project Team to help inform the selection of the Preferred Alternative. A geotechnical investigation is planned in the coming weeks that will include drilling into the pier and abutments from the bridge deck in order to define the substructure rehabilitation needs.

Attached is a draft of the Natural Heritage Report completed by EcoTec. The report will be updated and finalized based on the Preferred Alternative selected.

Public consultation on the Preferred Alternative is planned in the Fall of this year. Following Council approval of the Preferred Alternative, construction is scheduled to begin in 2024.

Please let me know if you have any questions or comments.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: February 7, 2023 2:50 PM
To: 'Abby LaForme' <Abby.LaForme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; Meng Koh <meng.koh@infc.gc.ca>
Subject: RE: Reminder - Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

Good Afternoon Abby,

The Environmental Study is still underway, we will circulate MCFN DOCA once the report has been submitted from our consultant.

Thanks,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Abby LaForme <Abby.LaForme@mncfn.ca>
Sent: February 7, 2023 10:01 AM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; Meng Koh <meng.koh@infc.gc.ca>
Subject: RE: Reminder - Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Good Morning Michelle,

Thank you for confirming the Stage 1 for the West Montrose Covered Bridge Rehabilitation Project.
Was there an Environmental Study done for this project?
If so, could MCFN DOCA receive a copy of the report for our files?

Thank you

Abby (LaForme) Lee
Acting Consultation Coordinator

Mississaugas of the Credit First Nation (MCFN)
Department of Consultation & Accommodation (DOCA)
4065 Highway 6, Hagersville, ON N0A 1H0
Ph: (905) 768 – 4260
Email: Abby.LaForme@mncfn.ca

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Friday, February 3, 2023 4:13 PM
To: 'meng.koh@infc.gc.ca' <meng.koh@infc.gc.ca>
Cc: Abby LaForme <Abby.LaForme@mncfn.ca>; Mark LaForme <Mark.LaForme@mncfn.ca>
Subject: RE: Reminder - Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

Good Afternoon Meng,

I hope you are well and thank you for reaching out about this project. John Stephenson has retired from the Region of Waterloo and I have replaced him as the Project Manager for the West Montrose Covered Bridge rehabilitation project.

MCFN was circulated on the Stage 1 Archeological Assessment and did not have any further comments (correspondence attached). I will be providing a summary of communications to INFC for confirmation that the consultation requirements have been met for this project.

Please note that the construction timing for this project has been deferred to 2024 to allow time for additional assessment of the existing wooden truss, evaluation of alternatives and public consultation. We will continue to keep MCFN informed as the project progresses.

Please let me know if you have any questions.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Kevan Marshall <KMarshall@regionofwaterloo.ca>
Sent: February 3, 2023 3:34 PM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>; Cheryl Braan <CBraan@regionofwaterloo.ca>
Subject: RE: Reminder - Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)
Importance: High

Hi Cheryl and Michelle,

Although I'm not involved in this particular project, I was just cc'd on this latest reminder email. It looks like INFC has been trying to contact John Stephenson who retired from the Region of Waterloo about a year ago.

I'm sorry I don't have any more information, but can I leave it to you two to follow up with Meng/INFC directly?

Thanks

Kevan Marshall
Principal Planner
Transportation Demand Management | Transit Integration | TravelWise
KMarshall@regionofwaterloo.ca

From: Meng Koh <meng.koh@infc.gc.ca>
Sent: February 1, 2023 10:00 AM
To: Jstephenson@regionofwaterloo.ca
Cc: Abby.LaForme@mncfn.ca; Mark LaForme <Mark.LaForme@mncfn.ca>; Kevan Marshall <KMarshall@regionofwaterloo.ca>; Taslema Khan <taslema.khan@infc.gc.ca>; Annette Obiorah <Annette.Obiorah@infc.gc.ca>; Sabrina Sethi <Sabrina.Sethi@infc.gc.ca>; POB Ontario CCRIS / Ontario DGOP VICCR (INFC) <pobontarioccris-ontariodgopviccr@infc.gc.ca>; Kapur, Payal (MOI) <Payal.Kapur@ontario.ca>; Mittal, Dipti (MOI) <Dipti.Mittal@ontario.ca>; Mitha, Aly (MOI) <Aly.Mitha2@ontario.ca>; ICIPculture@ontario.ca
Subject: RE: Reminder - Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Hello John Stephenson,

I hope all is going well on your end.

Writing to remind the City of Waterloo that this project has Indigenous consultation requirements which must be met prior to Infrastructure Canada releasing any funds to support this project. Please note that the initial contact information provided for the Mississaugas of the Credit First Nation is now out-dated and the project notice should be sent to Abby LaForme with cc to Mark LaForme (in cc of this email) and INFC @ eaicnato-eecanato@infc.gc.ca .

Please reach out directly should you wish to discuss further.

Meng Koh (he/him - il)
Infrastructure Canada
meng.koh@infc.gc.ca
343-551-0418

From: Taslema Khan
Sent: June 24, 2021 1:58 PM
To: 'Jstephenson@regionofwaterloo.ca' <Jstephenson@regionofwaterloo.ca>
Cc: Gordon Voogd <gordon.voogd@infc.gc.ca>; Meng Koh <meng.koh@infc.gc.ca>; Calvin Kemm <calvin.kemm@infc.gc.ca>; 'stephanie.wong@ontario.ca' <stephanie.wong@ontario.ca>; 'francis.gomes@ontario.ca' <francis.gomes@ontario.ca>; 'Wong, Candice (MOI)' <Candice.Wong@ontario.ca>; 'stephen.direnzo@ontario.ca' <stephen.direnzo@ontario.ca>; 'adrian.lue@ontario.ca' <adrian.lue@ontario.ca>; 'bernice.morrison@ontario.ca' <bernice.morrison@ontario.ca>; 'ICIPculture@ontario.ca' <ICIPculture@ontario.ca>; 'POB Ontario / Ontario DGOP (INFC)' <infc.pobontario-ontariodgop.infc@canada.ca>
Subject: Indigenous Consultation and Environmental Assessment Obligations for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214)

Good afternoon John Stephenson,

Please find attached a letter dated June 24, 2021, regarding Infrastructure Canada's Environmental Assessment and Indigenous Consultation determination for the West Montrose Covered Bridge Rehabilitation Project (ICIP #58214).

Please do not hesitate to share this letter with any person involved in this project who should have been included in this email. As the letter notes, if you or anyone involved in this project should have any questions please contact Meng Koh using the provided information.

Best regards,

Taslema Khan

Taslema Khan
Environmental Reviews and Approvals Analyst

Aboriginal Consultation and Environmental Services
Infrastructure Canada/Government of Canada
taslema.khan@canada.ca/ (343) 551-0416

Consultation autochtone et services environnementaux
Infrastructure Canada/ Gouvernement du Canada
taslema.khan@canada.ca/ (343) 551-0416

Canada

Michelle Pinto

From: Marie-Annick Prevost <Marie-Annick.Prevost@mncfn.ca>
Sent: June 7, 2022 2:09 PM
To: Michelle Pinto
Cc: Doug Dixon; 'Kevin Li'; 'Caitlin Lacy'; Adam LaForme
Subject: RE: West Montrose Covered Bridge Rehabilitation
Attachments: DOCS_ADMIN-#4089043-v2-West_Montrose_Covered_Bridge_-_Stage_1 _Archaeological_Assessment.PDF

Aanii Michelle,

On behalf of the Mississauga of the Credit First Nation, Department of Consultation and Accommodation, I read the Stage 1 Archaeological Assessment report prepared by ASI for the West Montrose Covered Bridge rehabilitation project.

I have no question or comment about the archaeological work conducted. MCFN currently agrees with the recommendations of the report.

Miigwetch,

Marie-Annick Prevost, Ph.D. (she/her)
Field archaeologist

Mississaugas of the Credit First Nation (MCFN)
Department of Consultation and Accommodation (DOCA)
4065 Highway 6 North, Hagersville, ON N0A 1H0
Cell: 905-870-5844

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Monday, June 6, 2022 3:50 PM
To: Adam LaForme <Adam.LaForme@mncfn.ca>
Cc: Doug Dixon <ddixon@dougdixonassociates.com>; 'Kevin Li' <kli@dougdixonassociates.com>; 'Caitlin Lacy' <clacy@asiheritage.ca>
Subject: FW: West Montrose Covered Bridge Rehabilitation

Good Afternoon Adam,

The Region of Waterloo has an upcoming public consultation planned for the West Montrose Covered Bridge rehabilitation project in the Township of Woolwich. Details can be found on the project webpage.

Previously, we were working with Megan DeVries and Fawn Sault at MCFN on this project. Attached is the draft Stage 1 Archaeological Assessment for your review.

Please let us know if you have any questions or comments about the report or project.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Megan DeVries <Megan.DeVries@mncfn.ca>
Sent: May 6, 2021 4:23 PM
To: Kimberley Sommerville <KSommerville@regionofwaterloo.ca>
Cc: John Stephenson <JStephenson@regionofwaterloo.ca>; Fawn Sault <Fawn.Sault@mncfn.ca>
Subject: RE: West Montrose Covered Bridge Rehabilitation

Hello Kimberley,

Thank you very much for the information. I have forwarded it to Fawn Sault, our Consultation Coordinator.

When the draft Stage 1 AA is available for our review, please circulate it to us.

Sincerely,
Megan.

Megan DeVries, M.A. (she/her)
Archaeological Operations Supervisor

Department of Consultation and Accommodation (DOCA)
Mississaugas of the Credit First Nation (MCFN)
4065 Highway 6 North, Hagersville, ON N0A 1H0
P: 905-768-4260 | M: 289-527-2763
http://www.mncfn.ca

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From: Kimberley Sommerville <KSommerville@regionofwaterloo.ca>
Sent: Thursday, May 6, 2021 3:02 PM
To: Megan DeVries <Megan.DeVries@mncfn.ca>
Cc: John Stephenson <JStephenson@regionofwaterloo.ca>
Subject: West Montrose Covered Bridge Rehabilitation

Dear Megan DeVries:

This email is to acknowledge receipt of your letter dated May 4, 2021, regarding the West Montrose Covered Bridge rehabilitation project.

We appreciate the thorough information provided in the letter and we look forward to working with MCFN on this project.

In your letter of May 4, 2021, you kindly requested some additional information and we have endeavoured to provide this information in the attached letter and accompanying materials.

Please feel free to contact us if we can provide any clarifications or additional information.

Best Regards,
Kim Sommerville

Document & Project Assistant
TES, Design & Construction
150 Frederick Street, 6th Floor
Kitchener ON N2G 4J3

Working Remotely
Office Phone: ~~519-575-4400 ext 3355~~
Cell Phone: 226-753-3459

Michelle Pinto

From: Michelle Pinto
Sent: May 8, 2024 2:55 PM
To: 'Peter Graham'
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

Thanks Peter for getting back to me. The Region will plan on replacing trees to the greatest extent possible within the areas that need to be disturbed for construction. We will have a better understanding of the specific areas available for replanting once the detailed design for the bridge has progressed further.

Best Regards,
Michelle

Michelle Pinto, P.Eng., MBA
Senior Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4603 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Peter Graham <LRCS@sixnations.ca>
Sent: Wednesday, May 8, 2024 9:56 AM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

CAUTION! EXTERNAL SENDER
Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?
DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Good morning Michelle,

Not much from me. Just a request for the removed trees to be replaced at a 10-1 ratio.

Thank you, Peter

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Tuesday, May 7, 2024 4:39 PM
To: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>; Peter Graham <LRCS@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>; Dawn LaForme <dlaforme@sixnations.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Subject: [External] RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

Good Afternoon Tanya and Peter:

Michelle Pinto

From: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Sent: May 8, 2024 10:05 AM
To: Michelle Pinto
Cc: Mark B. Hill; Dawn LaForme; Land Rights and Global Solutions initiatives; Dawn Russell; Lonny Bomberry
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

CAUTION! EXTERNAL SENDER
Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?
DO NOT click links or open attachments unless you are 100% sure that the email is safe.

HI Michelle,

Hope you been keeping well.

SNGREC has received the : West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo stage 1 AA with no comments or concern with the assessment.

Have a great day!

Nia':wen ko:wa (thankyou)
Tanya Hill-Montour

Six Nations of the Grand River Archaeological Supervisor
226.388.0665

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Tuesday, May 7, 2024 4:39 PM
To: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>; Peter Graham <LRCS@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>; Dawn LaForme <dlaforme@sixnations.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Subject: [External] RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

Good Afternoon Tanya and Peter:

We are getting ready to file the Environmental Study Report for this project, so I am just checking to see if you've had a chance to review these reports, and if you have any questions or comments on the reports or the West Montrose Covered Bridge rehabilitation project.

Thank you,
Michelle

Michelle Pinto, P.Eng., MBA
Senior Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4603 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca

Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: Monday, April 22, 2024 1:37 PM
To: 'Tanya Hill-Montour' <tanyahill-montour@sixnations.ca>; 'Peter Graham' <LRCS@sixnations.ca>
Cc: 'Mark B. Hill' <markhill@sixnations.ca>; 'Dawn LaForme' <dlaforme@sixnations.ca>; 'Land Rights and Global Solutions initiatives' <info_lands@sixnations.ca>; 'Dawn Russell' <dawnrussell@sixnations.ca>; 'Lonny Bomberry' <lonnybomberry@sixnations.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Natural Environment and Stage 1 AA Reports

Good Afternoon Tanya and Peter,

Attached is the Natural Environment Report for the West Montrose Covered Bridge Rehabilitation project. Also attached is the Stage 1 Archeological Assessment that was previously circulated.

Please let me know if you have any questions or comments on the reports once you've had a chance to review them, and if you would like to have a meeting to discuss the project.

Thank you,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x4603 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: Friday, January 12, 2024 3:33 PM
To: 'Tanya Hill-Montour' <tanyahill-montour@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>; Dawn LaForme <dlaforme@sixnations.ca>; Peter Graham <LRCS@sixnations.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Afternoon Tanya,

I would like to propose a meeting in mid February. The Region's consultant is working on the recommendations for the improvements needed at the bridge pier, and I would like to have this information for our meeting.

Please let me know if any of the following times work the week of February 12-16:

- Feb 13 - afternoon
- Feb 14 - any time
- Feb 15 – any time

Also, please let me know who should be included on the meeting invite.

Thank you,
Michelle
Michelle Pinto, P.Eng., MBA

Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Sent: January 10, 2024 3:30 PM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>; Dawn LaForme <dlaforme@sixnations.ca>; Peter Graham <LRCS@sixnations.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

HI Michelle

That would be very helpful , send some dates for later in the month 😊

Nia':wen ko:wa (thankyou)

Tanya Hill-Montour
SNGR Archaeological Supervisor
226.388.0665

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Wednesday, January 10, 2024 2:50 PM
To: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>; Dawn LaForme <dlaforme@sixnations.ca>; Peter Graham <LRCS@sixnations.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Subject: [External] RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Afternoon Tanya,

Thank you very much for your response. If it would be beneficial, I can arrange a meeting to discuss the project in further detail with SNGREC. Please let me know if there is interest in this.

Thank you,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Sent: January 10, 2024 2:23 PM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>; Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Hi Michelle ,

Thank you for resending. SNGREC has interest in the project re: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3.

Nia':wen ko:wa (thankyou)

Tanya Hill-Montour
SNGR Archaeological Supervisor
226.388.0665

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Wednesday, January 10, 2024 10:01 AM
To: Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>
Subject: [External] FW: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Morning,

I'm the Region of Waterloo's Project Manager for the West Montrose Covered Bridge Rehabilitation project, planned for construction starting in Spring 2025. The attached notice of public consultation and Stage 1 Archaeological Assessment for the project was sent to the contacts on the e-mail below in November, however, I received a few bounce back e-mails. Therefore, I am forwarding this along to a few more contacts from Six Nations of the Grand River.

Please let me know if you have any questions about the project or comments on the Stage 1 AA.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: November 30, 2023 5:06 PM
To: 'markhill@sixnations.ca' <markhill@sixnations.ca>; 'lbomberry@sixnations.ca' <lbomberry@sixnations.ca>; 'mhill@sixnations.ca' <mhill@sixnations.ca>; 'paulgeneral@sixnations.ca' <paulgeneral@sixnations.ca>;

'jthomas@sixnations.ca' <jthomas@sixnations.ca>
Cc: Steve Taylor (London) <stevenj.taylor@bteng.ca>
Subject: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Afternoon,

The Region of Waterloo is currently undertaking Public Consultation #3 for the West Montrose Covered Bridge Rehabilitation project, which is being complete as a Schedule C Class Environmental Assessment. Attached is a letter with additional details. Construction is planned to begin in Spring 2025, subject to Regional Council approval of the preferred design.

The Stage 1 Archaeological Assessment is also attached.

If you have comments you would like to provide as part of this public consultation, please provide them to me by December 22, 2023 in order for them to be considered when we make a recommendation to Regional Council in early 2024. Otherwise, please contact me directly with any questions or comments about this project at any point in the process.

Thank you and best regards,
Michelle
Michelle Pinto, P.Eng., MBA
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mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

Michelle Pinto

From: Peter Graham <LRCS@sixnations.ca>
Sent: January 10, 2024 10:48 AM
To: Michelle Pinto
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Hi Michelle,

Yes, please forward to Dawn L. She's responsible for archiving our consultation correspondence. The new Chief was elected in November, so the change was fairly recent.

Thank you, Peter

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Wednesday, January 10, 2024 10:41 AM
To: Peter Graham <LRCS@sixnations.ca>
Subject: [External] RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Hello Peter,

Thank you very much for your response and updated contact information for future mailing on projects. We sometimes have out of date contact information internally or passed on from our consultants, so I appreciate you letting me know. I did not have Dawn LaForme on the e-mail I sent this morning – would you like me to forward my e-mail and the attachments along to Dawn as well?

Thank you,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Peter Graham <LRCS@sixnations.ca>
Sent: January 10, 2024 10:35 AM
To: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Subject: RE: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

****EXTERNAL ALERT** This email originated from outside the Region of Waterloo.**

Hi Michelle,

I received the below because I'm being temporarily being forwarded our administrative assistant's emails. For future mailing on projects, please add myself and Dawn LaForme: dlaforme@sixnations.ca. While the Chief is unlikely to engage with such materials, please note Mark did not run for re-election and the new Chief is Sherri-Lyn Hill: SNGR.Chief@sixnations.ca.

Thank you, Peter

From: Michelle Pinto <MiPinto@regionofwaterloo.ca>
Sent: Wednesday, January 10, 2024 10:01 AM
To: Land Rights and Global Solutions initiatives <info_lands@sixnations.ca>; Dawn Russell <dawnrussell@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Cc: Mark B. Hill <markhill@sixnations.ca>
Subject: [External] FW: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Morning,

I'm the Region of Waterloo's Project Manager for the West Montrose Covered Bridge Rehabilitation project, planned for construction starting in Spring 2025. The attached notice of public consultation and Stage 1 Archaeological Assessment for the project was sent to the contacts on the e-mail below in November, however, I received a few bounce back e-mails. Therefore, I am forwarding this along to a few more contacts from Six Nations of the Grand River.

Please let me know if you have any questions about the project or comments on the Stage 1 AA.

Best Regards,
Michelle
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Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: November 30, 2023 5:06 PM
To: 'markhill@sixnations.ca' <markhill@sixnations.ca>; 'lbomberry@sixnations.ca' <lbomberry@sixnations.ca>; 'mhill@sixnations.ca' <mhill@sixnations.ca>; 'paulgeneral@sixnations.ca' <paulgeneral@sixnations.ca>; 'jthomas@sixnations.ca' <jthomas@sixnations.ca>
Cc: Steve Taylor (London) <stevenj.taylor@bteng.ca>
Subject: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Afternoon,

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The Stage 1 Archaeological Assessment is also attached.

If you have comments you would like to provide as part of this public consultation, please provide them to me by December 22, 2023 in order for them to be considered when we make a recommendation to Regional Council in early

2024. Otherwise, please contact me directly with any questions or comments about this project at any point in the process.

Thank you and best regards,
Michelle

Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

Michelle Pinto

From: Michelle Pinto
Sent: September 21, 2022 3:56 PM
To: 'markhill@sixnations.ca'; 'paulgeneral@sixnations.ca'; 'lbomberry@sixnations.ca'; 'mhill@sixnations.ca'
Subject: Stage 1 Archeological Investigation at the West Montrose Covered Bridge - Region of Waterloo
Attachments: DOCS_ADMIN-#4089043-v2-West_Montrose_Covered_Bridge_-_Stage_1 _Archaeological_Assessment.PDF

Good-day,

I hope this e-mail finds you well. I am reaching out to let you know that the Region of Waterloo is undergoing a study for the West Montrose Covered Bridge rehabilitation in the Township of Woolwich. Details about the project can be found on the project webpage. As part of public consultation, we are contacting all key stakeholders for any comments on the project.

Attached is the draft Stage 1 Archaeological Assessment for your review. Please let me know if you have any questions or comments about the report or project.

Best Regards,
Michelle

Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

Michelle Pinto

From: Michelle Pinto
Sent: January 10, 2024 3:58 PM
To: 'toddwilliams@hdi.land'; 'sharannmartin@hdi.land'; 'olgreene@hotmail.com'
Cc: 'hdi2@bellnet.ca'
Subject: FW: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3
Attachments: West Montrose Covered Bridge Rehab - Public Consultation 3 - HDI.pdf; DOCS_ADMIN-#4089043-v2-West_Montrose_Covered_Bridge_-_Stage_1_Archaeological_Assessment.PDF

Good Afternoon Todd, Sharann and Owen,

I'm the Region of Waterloo's Project Manager for the West Montrose Covered Bridge Rehabilitation project in the Township of Woolwich, planned for construction starting in Spring 2025. The attached notice of public consultation and Stage 1 Archaeological Assessment for the project was sent to Todd's g-mail address in November, however, I am unsure if it was received. Therefore, I am forwarding this along to your other e-mail addresses that have been passed along to me.

Please let me know if you have any questions about the project or comments on the Stage 1 AA.

Thank you,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: November 30, 2023 4:31 PM
To: 'williams.todde@gmail.com' <williams.todde@gmail.com>
Cc: 'info@hdi.land' <info@hdi.land>; Steve Taylor (London) <stevenj.taylor@bteng.ca>
Subject: West Montrose Covered Bridge, Township of Woolwich, Region of Waterloo - Notice of Public Consultation #3

Good Afternoon Todd:

The Region of Waterloo is currently undertaking Public Consultation #3 for the West Montrose Covered Bridge Rehabilitation project, which is being complete as a Schedule C Class Environmental Assessment. Attached is a letter with additional details. Construction is planned to begin in Spring 2025, subject to Regional Council approval of the preferred design.

The Stage 1 Archaeological Assessment is also attached.

If you have comments you would like to provide as part of this public consultation, please provide them to me by December 22, 2023 in order for them to be considered when we make a recommendation to Regional Council in early 2024. Otherwise, please contact me directly with any questions or comments your agency has about this project at any point in the process.

Thank you and best regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: February 14, 2023 2:55 PM
To: 'info@hdi.land' <info@hdi.land>
Subject: FW: Stage 1 Archeological Investigation at the West Montrose Covered Bridge - Region of Waterloo

Good Afternoon:

I hope this e-mail finds you well. I am reaching out to inform you that the Region of Waterloo is planning a rehabilitation project for the West Montrose Covered Bridge in the Township of Woolwich. Details about the project can be found on the project webpage. The planned timeline for construction is 2024.

Attached is the draft Stage 1 Archaeological Assessment. A letter was mailed out to our contacts at HDI last year and I had previously shared this report with Todd Williams, Owen Green and Sharann Martin. I would like to share this with the general HDI inbox, too.

Please let me know if you have any questions or comments about the report or project.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: August 30, 2022 2:29 PM
To: 'sharann.martin@gmail.com' <sharann.martin@gmail.com>; 'olgreene@hotmail.com' <olgreene@hotmail.com>
Cc: 'williams.todde@gmail.com' <williams.todde@gmail.com>
Subject: FW: Stage 1 Archeological Investigation at the West Montrose Covered Bridge - Region of Waterloo

Good Afternoon Sharann and Owen,

I hope this e-mail finds you well. I am reaching out to let you know that the Region of Waterloo is undergoing public consultation for the West Montrose Covered Bridge rehabilitation project in the Township of Woolwich. Details about the project can be found on the project webpage. As part of this public consultation we are contacting all key stakeholders for any comments on the project.

Attached is the draft Stage 1 Archaeological Assessment for your review. I previously shared this report with Mr. Williams and would like to share this with you both, too.

Please let me know if you have any questions or comments about the report or project.

Best Regards,
Michelle
Michelle Pinto, P.Eng., MBA
Engineer, Transportation Rehabilitation (Design & Construction)
Region of Waterloo
150 Frederick St., 6th Floor, Kitchener, ON, Canada N2G 4J3
Tel: 519-575-4400 x3637 | Mobile: 226-751-4044
mipinto@regionofwaterloo.ca
Web: www.regionofwaterloo.ca

From: Michelle Pinto
Sent: August 5, 2022 3:06 PM
To: 'williams.todde@gmail.com' <williams.todde@gmail.com>
Subject: Stage 1 Archeological Investigation at the West Montrose Covered Bridge - Region of Waterloo

Good Afternoon Mr. Williams:

The Region of Waterloo is undergoing public consultation for the West Montrose Covered Bridge rehabilitation project in the Township of Woolwich. Details about the project can be found on the project webpage.

Attached is the draft Stage 1 Archaeological Assessment for your review.

Please let me know if you have any questions or comments about the report or project.

Best Regards,
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Appendix C

OHA West Montrose By-law 60-2007

ONTARIO HERITAGE TRUST
An agency of the Government of Ontario

FIDUCIE DU PATRIMOINE ONTARIEN
Un organisme du gouvernement de l'Ontario

This document was retrieved from the Ontario Heritage Act e-Register, which is accessible through the website of the Ontario Heritage Trust at **www.heritagetrust.on.ca.**

Ce document est tiré du registre électronique. tenu aux fins de la *Loi sur le patrimoine de l'Ontario,* accessible à partir du site Web de la Fiducie du patrimoine ontarien sur **www.heritagetrust.on.ca.**

THE TOWNSHIP OF
WOOLWICH
BOX 158, 69 ARTHUR STREET SOUTH
ELMIRA, ONTARIO N3B 2Z6
TEL. (519) 669-1647 / 664-2613
FAX (519) 669-1820
www.township.woolwich.on.ca

45

ONTARIO HERITAGE TRUST
AUG 27 2007
RECEIVED

✓

NOTICE OF THE PASSING OF A HERITAGE BY-LAW

TAKE NOTICE THAT at the regular Council meeting held on August 14, 2007 at 7:00 p.m. Council passed By-law 60-2007, a by-law to officially designate the lands known locally as the West Montrose Covered Bridge as a property of Cultural Heritage, Value or Interest under Section 29, Part IV of the Ontario Heritage Act. Notice of the passing of this by-law will be sent to the Ontario Heritage Trust and registered on title to the subject lands.

Further information relating to this property and designation can be viewed at the Clerk's Office during regular business hours, Monday to Friday, 9am to 5pm.

The by-law is attached for your information

Dated this 20th day of August, 2007.

C Broughton
Christine Broughton, Clerk
Township of Woolwich

"Proudly remembering our past; Confidently embracing our future."

TOWNSHIP OF WOOLWICH

BY-LAW NUMBER 60-2007

A by-law to designate the West Montrose Covered Bridge,
in the Township of Woolwich, in the Regional Municipality of Waterloo,
to be of cultural heritage value or interest pursuant to the provisions of section 29 of the
Ontario Heritage Act, R.S.O. 1990, chapter O.18, as amended

WHEREAS section 29 of the *Ontario Heritage Act*, R.S.O. 1990, Chapter O.18, as amended, authorizes the council of a municipality to enact by-laws to designate real property within the municipality, including all the buildings and structures thereon, to be of cultural heritage value or interest;

AND WHEREAS the Council of the Township of Woolwich has caused to be served on the owner of the property known municipally as the West Montrose Covered Bridge in the Township of Woolwich, and upon the Ontario Heritage Trust, a Notice of Intention to Designate as being of cultural heritage value or interest that part of the property more particularly described in Schedule A attached hereto and has caused such Notice of Intention to be published in the Saturday June 2, 2007 edition of the Observer, a newspaper having general circulation in the Township of Woolwich;

AND WHEREAS no notice of objection to the proposed designation has been served on the Clerk of the municipality;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF WOOLWICH ENACTS AS FOLLOWS:

1. That the property known as the West Montrose Covered Bridge having the legal description set out in Schedule A (the "Property"), is hereby designated as being of cultural heritage value or interest pursuant to section 29 of the *Ontario Heritage Act*.

2. The Clerk shall cause a copy of this by-law to be registered against the Property in the proper land registry office.

3. The Clerk shall cause a copy of this by-law to be served upon the owner of the Property and upon the Ontario Heritage Trust and to cause a notice of this by-law to be published in a newspaper having general circulation in the Township of Woolwich as required by the Ontario Heritage Act.

4. Nothing in this By-law, including the statement of cultural heritage value and the description of heritage attributes, shall be construed so as to require the owner of the Property to make application for consent to make an alteration to the West Montrose Covered Bridge from time to time in the nature of:
   (a) Minor maintenance and repair work including, without limitation, pothole patching, deck washing, bridge joint maintenance and graffiti removal; or
   (b) Emergency repair work as determined to be reasonably necessary by, and in the sole discretion of, the Property owner.

5. Nothing in this By-law, including the extent and description of the designation, the statement of cultural heritage value and the description of heritage attributes, shall be construed so as to require the owner of the Property to make application for consent to make an alteration to the West Montrose Covered Bridge prior to the owner undertaking any alteration to the West Montrose Covered Bridge required in order to comply with all applicable requirements at law, including but not limited to the Canadian Highway Bridge Design Code, as determined to be reasonably necessary by, and in the sole discretion of, the Property owner from time to time.

6. Only those alterations described in sections 4 and 5 of this By-law that will not affect the cultural heritage value or interest and the heritage attributes of the West Montrose Covered Bridge described in Schedule 'A' are permitted under sections 4 and 5.

PASSED this 14th day of August, 2007

Wm L Strauss
Mayor

Clerk

Schedule A

The West Montrose Covered Bridge

Legal Description of the Property

Part Lot 71, part of the Grand River, identified as the West Montrose Covered Bridge on the sketch attached as Schedule B to By-law 60-2007 known municipally as West Montrose Covered Bridge, Township of Woolwich, Regional Municipality of Waterloo.

Description of Property

The West Montrose Covered Bridge is a late 19th century covered wooden bridge that spans the Grand River in the rural village of West Montrose. Connecting Hill Street, Covered Bridge Drive and Rivers Edge Drive, the bridge is just over 200 feet in length and covered with red-painted wood paneling and a gable roof.

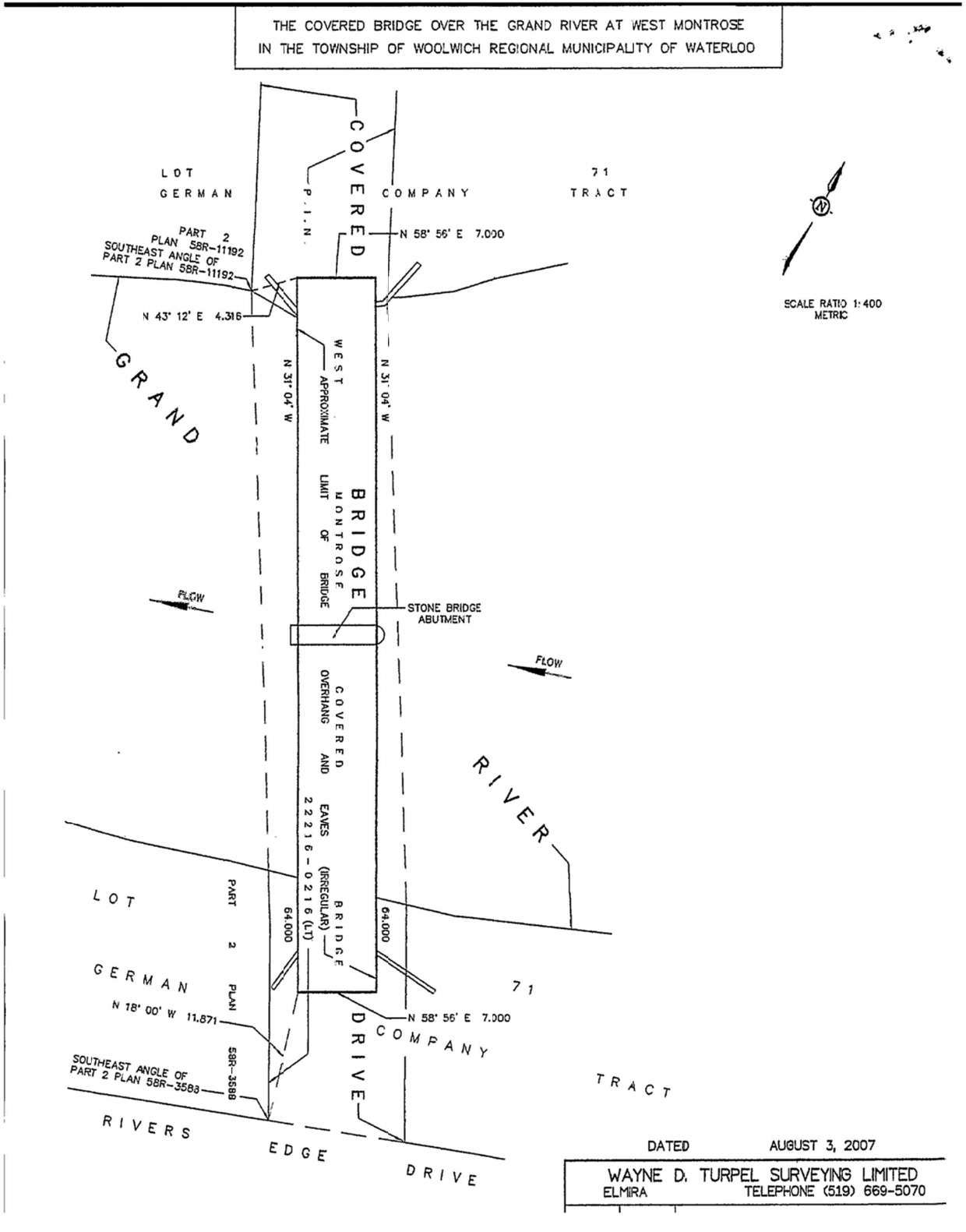
Statement of Cultural Heritage Value or Interest

The West Montrose Covered Bridge is the only remaining covered bridge in Ontario and the second oldest surviving bridge in the Region of Waterloo. It was designed by a local contractor, John Bear, who, with his brother Benjamin, constructed the bridge in 1881 as a replacement for an earlier open bridge at the same location. Originally, the bridge was constructed solely of wood. Over the course of more than a century, a number of improvements have been necessary to maintain the function and integrity of the bridge. The bridge materials today are a mix of wood, stone, asphalt, concrete and steel, representing not only the evolution of bridge technology but also the stewardship of the township, the region and the province. While the materials have been altered, however, the original form of the bridge designed by John Bear has been largely maintained.

The 'Kissing Bridge', as it was appropriately nicknamed due to the intimacy and privacy that the covered bridge offered its travelers, is an iconic structure. It is a prominent and recognizable feature in arguably one of the most picturesque landscapes in Ontario. It is also representative of the early history of Woolwich Township and of an earlier time in the village.

Description of Heritage Attributes

Attributes that contribute to the cultural heritage value of the bridge and which should be retained include:
-the original location of the bridge in the Village of West Montrose spanning the Grand River
-the original dimensions of the bridge, 208 feet in length and 17 feet wide
-the original truss configuration, a hybrid Queen Post – Howe timber configuration, reinforced by a recycled 1944 Bailey steel truss structure
-the central pier
-the wood exterior sheathing and interior paneling, punctuated by louvered window openings
-the shingled gable roof
-the system of illumination by decorative electric interior lamps
-views to and into the bridge from the north and south banks of the Grand River



Appendix D

Design Criteria

BTE PROJECT NO:
22-058

ROAD NAME:
Covered Bridge Drive, Township of Woolwich, Region of Waterloo

TYPE OF PROJECT:
Bridge Rehabilitation

General

This Design Criteria was developed using a combination of the Region of Waterloo Design Standards, the Canadian Highway Bridge Design Code (CHBDC), Ontario Building Code (OBC), the Transport Association of Canada (TAC) Geometric Design Guide for Canadian Roads 2017, and the MTO Highway Drainage Design Standards, 2008.

Study Area

Figure 1: Project Location



BTE PROJECT NO:
22-058

ROAD NAME:
Covered Bridge Drive, Township of Woolwich, Region of Waterloo

TYPE OF PROJECT:
Bridge Rehabilitation

Table 1: West Montrose Covered Bridge Design Criteria

Feature/Item	Design Standard	Associated Design Elements/Approach		
Service Life of Bridge Rehabilitation	50 years			
Posted Load Limit GVW		3 tonnes		
Design Vehicular Load GVW (Unfactored)	CHBDC (Clause 14.9.1.4)	10 tonne CL3-625-ONT truck 4.0 kN/m^2 (pedestrian live load)	2.4 kPa lane load without design truck present	
Design Vehicle Axle Load	42 kN per axle (axles spaced 1.2 m apart)			
Design Vehicle Wheel Load	21 kN applied over 0.25 m x 0.6 m footprint			
Design Pedestrian Load	4.0 kN/m^2 over the full deck width for a length of 2.5 m (assumed to be 70 persons)			
Design Equestrian Load	CSA S7	5 kN applied over 0.1 m x 0.1 m footpring		
Design Guardrail Test Level	CHBDC	Test Level 1		
Vehicle Height Restriction	2.8 to 3.3 m			
Vehicular Restrictions	No	Restriction of oversized vehicles on south approach using reduced road width	Allow vehicle passing at bridge approach so waiting vehicle can view through structure	Alternative 2, see **Appendix A**
Fire Suppression	Yes	Coating of wood members with suppressant material		
Hydraulic Design Criteria	Standard WC-1 in the Highway Drainage Design Standards, 2008. Based on this standard, with the road designed as a collector road, the required design flow return period for the project is 50 years for	Hydraulic Design Criteria -Design Flood (span greater than 6.0 m) 50-year flood -Check Flood for scour 115% of 100-year flood	The Grand River Conservation Authority (GRCA) provided the HEC-RAS model of the Grand River between the Elora Gorge (upstream limit) to below Sawmill Road at	

BTE PROJECT NO:
22-058

ROAD NAME:
Covered Bridge Drive, Township of Woolwich, Region of Waterloo

TYPE OF PROJECT:
Bridge Rehabilitation

Feature/Item	Design Standard	Associated Design Elements/Approach		
	structures with total span longer than 6.0 m.	-Vertical clearance greater or equal to 1.0 m -Freeboard greater or equal to 1.0 m -Check Flood Headwater Level Below edge of travel lane	the downstream end. The results of the model were set as the existing conditions.	
Hydrostatic Load (hydraulic)	FHWA-HRT-09-028, May 2009 (FHWA 2009 Report).	The hydrostatic lateral forces, hydrodynamic drag forces, uplift forces, and moment about the centre of gravity of the deck		
Lateral Load Wind	CHBDC	50-year	Consider vulnerability	
Snow Load	NBCC and regional meteorological data	1.6 kPa balanced loading	2.1 kPa (windward half) + 0.5 kPa (leeward half) unbalanced loading	
Cultural Heritage Element Conservation	Reversible /National and Provincial Best Practices	Distinguishable Repaired Elements	No vertical grade raise	No replacement of wood trusses (Natural sawn lumber floor beams upsized where necessary to achieve design load)
Exterior Cladding	50% deterioration of boards to trigger complete replacement	Repurpose salvaged boards where practical on entrance/exit		
Painting	Colour Match			
Riding and Walking Surface	Durable, Textured and Anti-slip (asphaltic cover of wood)			
Interior Lighting	10 Lux	Existing lighting to be maintained		

BTE PROJECT NO:
22-058

ROAD NAME:
Covered Bridge Drive, Township of Woolwich, Region of Waterloo

TYPE OF PROJECT:
Bridge Rehabilitation

Feature/Item	Design Standard	Associated Design Elements/Approach		
Exterior Lighting of Bridge	None			
Exterior illumination of road entrance (streetlight)	None			
Louvre Height		Match original height		
Interior Cladding		Reduced use of interior cladding to allow reviewing of truss within the bridge interior. Use of interior cladding at entry and exit only to protect against driving precipitation.		
Wood Species	CSA O86	Douglas Fir (for new members)		
Member Sizes		Allow floor beams members to be increased in size to accommodate greater structural strength without using glulam.	Maintain truss member sizes and reinforce with additional wood elements as needed	

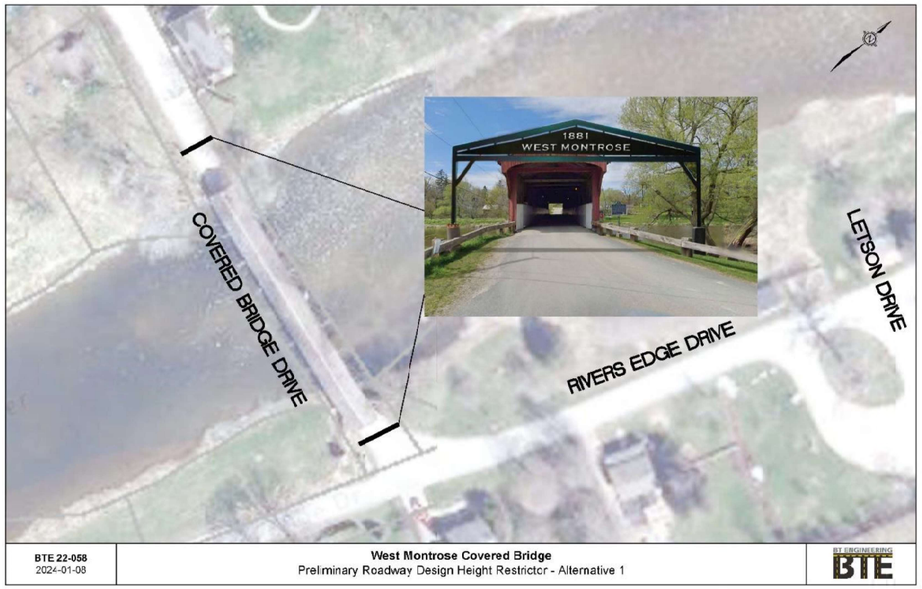
Approved By: _____ (Regional Municipality of Waterloo)

Appendix A

Vehicle Height Restriction Alternative Drawings

BT ENGINEERING
BTE

Appendix A: Vehicle Height Restriction Alternative Drawings





Appendix E

Natural Environment Report

NATURAL SCIENCES REPORT

Rehabilitation of West Montrose Bridge
Township of Woolwich, Ontario

Prepared by EcoTec Environmental Consultants Inc.
on behalf of Doug Dixon and Associates for the Region of Waterloo






April 17, 2024

EcoTec
ENVIRONMENTAL CONSULTANTS INC.

Natural Sciences Report

for

Rehabilitation of West Montrose Bridge,
Township of Woolwich

Prepared by EcoTec Environmental Consultants Inc.
on behalf of Doug Dixon and Associates for the Region of Waterloo

April 17, 2024

Prepared By:

Doug Clark, B.Sc., CAN-CISEC
Senior Biologist, President
EcoTec Environmental Consultants Inc.

EXECUTIVE SUMMARY

The Region of Waterloo has initiated a Schedule 'C' Municipal Class Environmental Assessment for the rehabilitation of the West Montrose Covered Bridge, located in the Township of Woolwich. Construction is planned to being in Spring 2025 until Spring 2026.

Proposed improvements include the following:

- Removal of the existing steel Bailey truss, and strengthening of the wooden truss members to accommodate a 10 tonne design live load;
- replacement of the deck system, including the longitudinal stringers and transverse nail laminated wood deck;
- repair and/or replacement of the roof system;
- repair and/or replacement of the external red timber cladding;
- removal of the non-functioning longitudinal tension-rod system installed by Ministry of Transportation in the 1950's;
- installation of a height restriction bar on the north side of the bridge, as well as narrowing the approach on the south side in order to prevent entry by oversized vehicles;
- placement of rounded river stone scour protection around the central bridge pier;
- repair mortar between masonry stone around the bridge centre pier;
- repairs to the north and south bridge abutments to include the placement of scour protection, as well as re-patching deteriorating concrete; and
- In-water works including the installation of cofferdams and a causeway to facilitate the placement of scour protection at the pier and abutments.

This Natural Sciences Report has been prepared to document the selected design, construction elements, as well as environmental impacts and mitigation measures associated with the project construction.

Consultation with federal and provincial agencies, authorities with jurisdictional involvement, indigenous communities, utilities, local businesses, interest groups and private landowners was maintained throughout the EA phase of the project.

The proposed bridge rehabilitation will result in the loss of components of various vegetation communities found within the project study limits. Construction activities may also result in the temporary disturbance of vegetation communities outside of the proposed grading limits.

In order to prevent and minimize unnecessary degradation of fish habitat at the river crossing, appropriate environmental protection measures, operational constraints, and in-water work timing restrictions will be applied during bridge construction activities. Although it is anticipated that no permanent harmful alteration, disruption, or destruction of fish habitat will result from the undertaking, consultation with the Department of Fisheries and Oceans (DFO) and the Ontario Ministry of Environment, Conservation and Parks (MECP) will be required prior to finalizing the project detail design.

Four aquatic species at risk (SAR) are potentially found within the study area and may be affected by habitat disruption or loss due to construction activities. This includes rainbow mussel (*Villosa iris*), wavy-rayed lampmussel (*Lampsilis fasciola*), silver shiner (*Notropis photogenis*), and black redhorse (*Moxostoma duquesnei*).

Based on the surrounding habitat, only the wavy-rayed lampmussel and black redhorse species are likely to be found. Mitigation measures have been proposed to minimize any effects on SAR and their specific habitat in coherence with the federal *Species at Risk Act* (2002) and the provincial *Endangered Species Act* (2007).

No other impacts to sensitive biophysical and socio-economic resources of the study area have been identified.

The Next Steps are to submit an Information Gathering Form to the MECP and an updated Request for Review to the DFO.

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1.0 INTRODUCTION

The Region of Waterloo is undertaking a Schedule C Municipal Class Environmental Assessment for the rehabilitation of the West Montrose Covered Bridge, located in the Township of Woolwich. As such an environmental assessment is being carried out to determine the existing physical, biological, and socio-economic characteristics of the study area, evaluate the nature, extent, and significance of potential impacts due to the proposed undertaking, and recommend mitigation measures.

EcoTec Environmental Consultants Inc. (EcoTec) was retained by Doug Dixon and Associates (DDA) and the Region of Waterloo to conduct an aquatic and terrestrial ecosystem assessment within the West Montrose Covered Bridge study area. Doug Dixon and Associates will be completing the detailed design for the bridge pier and abutments. Entuitive and BTE will be completing the detailed design for the bridge superstructure.

This Natural Sciences Report provides a synopsis of the proposed improvements, an outline of the aquatic and terrestrial ecosystems assessment methodology, information regarding the existing biophysical conditions within the study area, as well as a summary of potential impacts and mitigation measures associated with the proposed improvements. Following a review of background information, field investigations were carried out within the study area on June 25 and August 28, 2021, which included surveys of the fisheries and aquatic habitat, vegetation communities, associated birds and wildlife, and environmentally significant areas.

The Natural Sciences Report will be submitted to the Region of Waterloo as part of the rehabilitation plan approval process.

1.1 Project Study Area

The proposed project is located on Covered Bridge Drive, in the Township of Woolwich (Figure 1). The study area is approximately 0.20 hectares in size and is located north of Rivers Edge Drive and south of Hill Street and spans the Grand River. The West Montrose Covered Bridge spans the Grand River, which flows southwest under the bridge.

The study area is in the jurisdiction of the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) – Guelph District, the Ontario Ministry of the Environment, Conservation and Parks (MECP), and the Grand River Conservation Authority (GRCA).

1.2 Proposed Improvements

The project consists of the super structure and substructure rehabilitation of the West Montrose Covered Bridge encompassing approximately 0.20 hectares located just north of Rivers Edge Drive. The Region of Waterloo had undertaken studies between 2012 and 2018 that determined that the structure is currently able to carry the load of the bridge, however over time it will require rehabilitation due to the aging and deterioration of the wooden truss and steel girders. As such, without proper rehabilitation, the bridge has potential to collapse.

Six alternatives were considered for this rehabilitation:

Alternative A – Steel girder reinforcement

Alternative B – Timber truss reinforcement with fibre reinforced polymer (FRP)

Alternatives C1 to C4 – Repairs to wooden truss members in order to achieve a design vehicular live load limit of:

- C1: 12 tonnes
- C2 (Preferred): 10 tonnes
- C3: 8 tonnes
- C4: 6 tonnes

Rehabilitation of the bridge will include the following:

- Removal of the existing steel Bailey truss, and strengthening of the wooden truss members to accommodate a 10 tonne design live load;
- replacement of the deck system, including the longitudinal stringers and transverse nail laminated wood deck;
- repair and/or replacement of the roof system;
- repair and/or replacement of the external red timber cladding;
- removal of the non-functioning longitudinal tension-rod system installed by Ministry of Transportation in the 1950's;
- installation of a height restriction bar on the north side of the bridge, as well as narrowing the approach on the south side in order to prevent entry by oversized vehicles;
- placement of rounded river stone scour protection around the central bridge pier;
- repair mortar between masonry stone around the bridge centre pier; and
- repairs to the north and south bridge abutments to include the placement of scour protection, as well as re-patching deteriorating concrete.

In order to facilitate placement of rounded stone around the centre pier, a rock causeway will also need to be constructed from the south river bank to the pier and cofferdams installed to dewater the area. The causeway would be removed following project completion. The construction of the causeway would be subject to environmental agency approval.



Figure 1. Key map showing the location of the West Montrose Bridge over the Grand River in Kitchener, Ontario.

2.0 CHARACTERIZING THE NATURAL ENVIRONMENT: APPROACH AND METHODOLOGY

In order to acquire current information on the biophysical conditions of the bridge study area, EcoTec's ecologists carried out two field surveys of the bridge study area on June 25 and August 28, 2021. A photographic record of the site visits is included in Appendix A.

The surveys conducted within the study area included identification of the following:

- Existing vegetation communities;
- Resident and migratory bird and wildlife species;
- Species at Risk; and
- Fisheries assessment.

Historical background information and field data were gathered from numerous sources to determine the existing condition of the natural resource features within the subject area. Background information sources included the following:

- Natural Heritage Information Center (NHIC);
- Atlas of the Breeding Birds of Ontario (OBBA);
- Ontario Butterfly Atlas (OBA);
- Ontario Reptile & Amphibian Atlas (ORAA);
- Department of Fisheries and Oceans Canada (DFO) aquatic species at risk mapping and;
- Aerial photography

2.1 Vegetation Surveys

Vegetation data was collected using a modified Ecological Land Classification Protocol (Lee et al. 1998). Vegetation communities were first identified using satellite imagery and verified in the field. During field surveys, each vegetation community was then sampled for their species composition and habitat characteristics.

2.2 Wildlife Surveys

Wildlife surveys were conducted in accordance with the *Significant Wildlife Habitat: Technical Guide* (MNRF, 2000). Wildlife species noted during field investigations were identified by signs, visual observations, and vocalizations. Birds and animals identified within and adjacent to the subject area were recorded, as animal movement patterns may utilize areas within and outside of the subject area.

2.3 Breeding Bird Point Count Surveys

Breeding bird surveys were conducted in accordance with the Ontario Breeding Bird Atlas (OBBA; adman and Kopysh, 2001) point survey protocol. Surveys were conducted within the first five (5) hours after dawn, with suitable wind (Winds <19 km/hr.), no thick fog, and no precipitation. One (1) survey was conducted at one (1) count station. The count station was located under the existing bridge, adjacent to the Grand River. The point station was surveyed for ten (10) minutes

for birds within and outside of one hundred meters. Any evidence of breeding behavior including nest incubation or nest building were also noted. Surveys were conducted on June 25, 2021 and August 28, 2021.

Targeted surveys for avian SAR were conducted as per point count methodology described in the Ontario Bird Breeding Atlas (OBBA) Guide for Participants (March, 2001).

2.4 Aquatic Habitat and Fisheries Assessment

The proposed rehabilitation of the West Montrose Covered Bridge spans the Grand River. The watercourse was assessed using the Rapid Assessment Methodology for Channel Structure outlined in Ontario Stream Assessment Protocol (OSAP; Stanfield, 2005).

Using this methodology, a sample site must begin and end at stream crossovers and be at least 40m long. Along the stream sample site, transects are evenly spaced, with observation points evenly spaced across each transect. As per OSAP protocol, as the river has a width greater than 3 metres, 10 transects were used with 6 observation points at each transect. Bank stability data is collected at each transect, while hydraulic head, in-stream cover, and substrate data are collected at each observation point. The fish community present within the stream was assessed by electrofishing the sample site using a Smith-Root LR20B. Fish were captured and identified before being live released back into the river.

3.0 EXISTING BIOLOGICAL CONDITIONS

3.1 Vegetation

Under the Ecological Land Classification (ELC) - First Approximation and Applications (1998), the subject site is classified as Zone 6E. Four (4) distinct plant communities were identified during the site survey within the subject area; maintained lawn, forb organic meadow marsh, pondweed submerged shallow aquatic type ecosite, and deciduous plantation.

3.1.1 Maintained Lawn

The maintained lawn is located on the southern edge of the subject area. There is a large peach-leave willow (*Salix amygdaloides*) on the southeast edge of the property within the manicured lawn area. Other non-native species such as Himalayan balsam (*Impatiens glandulifera*) and European buckthorn (*Rhamnus cathartica*) are present around the edges of the maintained lawn, near the southern bridge abutment.

3.1.2 Forb Organic Meadow Marsh Type (MAM3-9)

Along both the north and south shore of the Grand River, there exists a forb organic meadow marsh to the east and the west of the bridge abutments. These are bordered by manicured grass to the south, and by CUP-1 ecosite to the north.

The vegetative community of this portion of the study area is primarily composed of wetland species such as spotted jewelweed (*Impatiens capensis*), nodding bur marigold (*Bidens cernua)*, forget-me-not (*Myosotis scorpioides*), wild cucumber (*Cucumis anguria*), and watercresss (*Nasturtium officinale*).

MAM3-9 is ranked as a community type that is globally and provincially secure.

3.1.3 Pondweed Submerged Shallow Aquatic Type (SAS1-1)

The section of the Grand River surveyed for the proposed rehabilitation of the West Montrose Covered Bridge was no deeper than 2 metres and contained sparse in-stream vegetation and therefore can be categorized as a shallow water system. Within the surveyed area, aquatic vegetation included broad-leaf arrowhead (*Sagittaria latifolia*) within the shallower reaches of the river, and Canada waterweed (*Elodea canadensis*) and curly leaf pondweed (*Potamogeton crispus*) within the deeper reaches.

SAS1-1 is ranked as a community type that is globally, and provincially secure.

3.1.4 Deciduous Plantation (CUP1)

The lands adjacent to the northern abutment of the existing structure have been largely influenced by anthropogenic disturbances as a result of being directly adjacent to subdivisions and likely having been previously disturbed for the former rehabilitations of the West Montrose Covered Bridge. The vegetation present within this community within the study area includes Manitoba maple (*Acer negundo*), ground elder (*Aegopodium podagraria*), and wild grape (*Vitis vinifera*).

Cultural communities are often established because of anthropogenic disturbance. They generally consist of species considered as weedy, and non-native plants that will establish themselves after a disturbance has occurred. These plant species are not considered to be sensitive to development.

A complete list of vegetation identified on-site, their locations, abundance, conservation status, and wetness coefficient can be found within Appendix B.

3.2 Bird and Wildlife Species

3.2.1 Birds and Bird Habitat

During field surveys, six (6) species of birds were recorded. Of the six species observed, one species is a possible breeder within the study area, the remaining were considered flyovers. A list of species encountered is included in Appendix B. A table including results of breeding bird species identified within a 100 km^2 area (ID 17NJ74 Ontario Breeding Bird Atlas) encompassing the study area is also included in Appendix C.

Barn swallows, a species listed as Special Concern under the *Endangered Species Act* (ESA) and the *Species at Risk Act* (SARA), were observed actively nesting and foraging under the West Montrose Covered Bridge on June 25, 2021, with nests also being observed on August 28, 2021.

The lands adjacent to the study area are likely important habitat sources for numerous bird species, including the adjacent wetland, which is valuable foraging habitat for many bird species, and provides an ample source of insects for insectivorous species such as the barn swallow.

3.2.2 Herpetofauna and Mammal Observations

Incidental wildlife encounters within the study area included grey squirrel (*Sciurus carolinensis)* and green frog (*Lithobates clamitans)*.

The Grand River and the adjacent wetland likely provide habitat for other herpetofauna species, however no others were observed during the field surveys.

3.3 Fisheries and Aquatic Habitat

The aquatic substrate of the Grand River at the West Montrose Bridge crossing consisted primarily of fine sand and silt with patches of boulder, cobble and gravel. Very little course woody debris habitat was noted around the bridge. Shoreline habitat consisted of emergent grass and herbaceous species with scattered beds of Canada waterweed and curly leaf pondweed. Some scattered overhead tree cover was found at the bridge crossing, primarily near the north abutment.

During field surveys, EcoTec noted the presence of nine (9) fish species including brook stickleback (*Culaea* inconstans), common shiner (*Luxilus cornutus*), fantail darter (*Etheostoma flabellare)*, johnny darter (*Etheostoma nigurm*), norther hog sucker (*Hypentelium nigricans*), rainbow darter (*Etheostoma caeruleum*), tessellated darter (*Etheostoma olmstedi*), and yellow bullhead (*Ameiurus natalis*)

No freshwater mussels were observed within the substrate of the study area during field surveys.

3.4 Winterbourne Riverine Wetland Complex

The northern abutment of the West Montrose Covered Bridge is situated directly adjacent to the locally significant Winterbourne Riverine Wetland Complex. The south abutment is located approximately 225 m from the edge of the wetland complex boundary on the southern bank of the Grand River.

3.5 Species at Risk (SAR)

3.5.1 Natural Heritage Information Center

Natural Heritage Information Centre records for square *17NJ4125, 17NK4126* and *17K4226* indicate potential for habitat for the following aquatic SAR: rainbow mussel (*Villosa iris*), wavy-rayed lampmussel (*Lampsilis fasciola*), silver shiner (*Notropis photogenis*), and black redhorse (*Moxostoma duquesnei*). The *Species at Risk Ontario Act* (SARO) lists wavy-rayed lampmussel, silver shiner, and black redhorse as *Threatened (THR)*, while the rainbow mussel is listed as *Special Concern (SC).* Table 1 provides a summary of the aquatic species at risk potentially located within or near the project site, the year of observation, status, and habitat suitability.

None of the SAR identified in the Natural Heritage Information Centre data base were found during the June 25 and August 28, 2011 field surveys.

Table 1. Aquatic Species at Risk (SAR) recorded in the Natural Heritage Information Centre records for square *17NJ4125, 17NK4126* and *17K4226.*

Common Name	Scientific Name	Year of Observation and Location Relative to the Montrose Bridge	ESA/SARA Status	Suitable Habitat Present?	Habitat Requirements
Silver Shiner	*Notropis photogenis*	2020 >10km downstream	THR	No	Moderate to large size streams with swift currents that are free of aquatic vegetation and have clean gravel or boulder bottoms
Black Redhorse	*Moxostoma duquesnei*	2013 2.5 km downstream	THR	Yes	Pools and riffle areas of medium-sized rivers and streams that are usually less than two metres deep. These rivers usually have few aquatic plants, a moderate to fast current, and a sandy or gravel bottom
Rainbow Mussel	*Villosa iris*	unknown	SC	Yes	Small to medium-sized rivers with a moderate to strong current and sand, rocky, or gravel bottoms. It is found in or near riffle areas and along the edges of vegetation in water less than one metre deep.
Wavy-rayed Lampmussel	*Lampsilis fasciola*	2023 4.3 km downstream	THR	Yes	Small to medium rivers with clear water. It lives in shallow riffle areas with clean gravel or sand bottoms.

The Ontario Ministry of Environment, Conservation and Parks (MECP) indicated the potential presence of silver shiner, black redhorse, and wavy-rayed lampmussel within the project limits. The wavy-rayed lampmussel have been known to occur in this reach of the Grand River approximately 4.3 km downstream of the Montrose Bridge. Similarly, the black redhorse have been known to occur in this reach of the Grand River approximately 2.5 km downstream of the Montrose Bridge. These species receive regulated habitat protection (i.e. habitat defined under Ontario Regulation 832/21 Section 32, https://www.ontario.ca/laws/regulation/r21832).

Since no suitable habitat for the silver shiner is found at the bridge site, and that it was found greater than 10 km downstream of the bridge site, this species would not need review under the ESA for this project.

Since wavy-rayed lampmussel and black redhorse receive regulated habitat protection in Ontario, and that suitable habitat is present for these species at the project location, then protection under the ESA 2007 applies.

3.5.2 Ontario Breeding Bird Atlas

Based on the breeding bird survey data provided by the Ontario Breeding Bird Atlas, eight (8) avian species at risk were identified to potentially occur within a 100 km^2 area encompassing the study area. Existing records of avian SAR within the subject area include bank swallow (*Riparia riparia*), barn swallow (*Hirundo rustica*), bobolink (*Dolichonyx oryzivorus*), chimney swift (*Chaetura pelagica*), eastern meadowlark (*Sturnella magna*), eastern wood-pewee (*Contopus virens*), grasshopper sparrow (*Ammodramus savannarum pratensis*), and wood thrush (*Hylocichla mustelina*).

Table 2 below provides a summary of each species habitat requirements and whether the specified requirements are available within the study area. All of the species listed in Table 2 are protected under the provincial *Endangered Species Act* (2007) and/or federal *Species at Risk Act* (2002).

Table 2. Species at Risk (SAR) birds recorded during the OBBA surveys within a 100 km^2 area that encompasses the subject lands (OBBA, 2005).

Common Name	Scientific Name	Breeding Evidence	ESA/SARA Status	Suitable Habitat Present?	Habitat Requirements
Bank Swallow	*Riparia riparia*	Confirmed	THR/THR	No	Natural and artificial sites with vertical banks near open terrestrial habitat used for aerial foraging (COSEWIC, 2013).
Barn Swallow	*Hirundo rustica*	Confirmed	SC/SC	Yes	Artificial structures with a horizontal nesting surface or a vertical face.
Bobolink	*Dolichonyx oryzivorus*	Probable	THR/THR	No	Tallgrass prairie, open meadows and hayfields, nesting in dense grass.
Chimney Swift	*Chaetura pelagica*	Probable	THR/THR	No	Hollow trees or concentration of chimneys.
Eastern Meadowlark	*Sturnella magna*	Probable	THR/THR	No	Tall grasslands, orchards, shrubby overgrown fields.
Eastern Wood-pewee	*Contopus virens*	Confirmed	SC/SC	No	Mature to intermediate aged deciduous and mixed-wood forest and is associated with forest clearings.
Grasshopper Sparrow	*Ammodramus savannarum pratensis*	Possible	SC/SC	No	Large, created grasslands (>5 ha) characterized by well-drained soils.
Wood Thrush	*Hylocichla mustelina*	Confirmed	SC/THR	No	Deciduous or mixed-wood forests with dense understory.

The only bird SAR found during the 2011 field surveys was the barn swallow. The Ontario Ministry of Environment, Conservation and Parks (MECP) has indicated that no approvals are required for this species.

3.5.3 Ontario Reptile and Amphibian Atlas

Based on amphibian and reptile SAR occurrence records provided by the Ontario Reptile and Amphibian Atlas, six (6) herpetofauna species at risk were identified to occur within a 10 km by 10 km square encompassing the study area. Table 3 below provides a summary of each species habitat requirements and whether the specified requirements are available within the project limits.

Table 3. Species at Risk (SAR) herpetofauna recorded by the Ontario Reptile and Amphibian Atlas within a 100 km^2 area that encompasses the subject lands (Ontario Nature, 2020).

Common Name	Scientific Name	Year of Observation	ESA/SARA Status	Suitable Habitat Present?	Habitat Requirements
Blanding's Turtle	*Emydoidea blandingii*	2018	THR/	No	Shallow water, large wetlands, and shallow lakes that are well vegetated.
Midland Painted Turtle	*Chrysemys picta marginata*	2019	-/SC	No	Slow moving, shallow, vegetated wetlands and waterbodies with organic substrate and basking sites
Northern Map Turtle	*Graptemys geographica*	2014	-/SC	No	Slow moving currents, muddy bottoms and abundant aquatic vegetation, with basking sites adjacent to deep water.
Snapping Turtle	*Thamnophis sauritus*	2019	SC/SC	Yes	Slow moving water with soft substrate, and dense aquatic vegetation.
Western Chorus Frog	*Pseudacris triseriata*	2019	-/THR	No	Terrestrial habitat consists of humid prairie, moist woods, or meadows. Aquatic habitat includes temporary ponds devoid of fish.

Although no herpetofauna SAR were found during the 2021 field surveys it is likely that snapping turtle could be found in the area.

3.5.4 Agency Communications

Communications with the Department of Fisheries and Oceans (DFO) and the Ontario Ministry of Environment, Conservation and Parks (MECP) has indicated the potential presence of several species at risk within the project limits. All communications with external agencies can be found in Appendix C.

Communications with external environmental agencies will continue throughout the detail design phase of the project.

Department of Fisheries and Oceans

A Request for Review was sent to the Department of Fisheries and Oceans (DFO) in September 2021 by EcoTec in order to verify any permit requirements by DFO. A Letter of Advice was received from DFO on November 2, 2021 indicating that the Project will not require an authorization under the *Fisheries Act*, or the *Species at Risk Act*. However, the Letter of Advice indicated the potential presence of silver shiner, black redhorse, rainbow mussel and wavy-rayed lampmussel.

A subsequent communication with DFO indicated that no SARA permit was required for mussel relocation, however if silver shiner or black redhorse are captured then DFO is to be contacted. As well, any use of scaffolding in the river during bridge reconstruction activities is permitted provided mitigation measures outlined in the Letter of Advice are followed. An updated Request for Review will be sent to the DFO to review and approve the details of the in-water work.

Ontario Ministry of Environment, Conservation and Parks

The Ontario Ministry of Environment, Conservation and Parks (MECP) was contacted on March 2, 2023 and August 21, 2023 by EcoTec, as well as on May 25, 2023 by Michelle Pinto, Region of Waterloo. The purpose of these communications was to determine if specific mitigation measures/permits were required by MECP due to the presence of barn swallows on the bridge structure. The MECP indicated that the barn swallow was re-classified from threatened to special concern on January 25, 2023 so no approvals are required.

The MECP also indicated the potential presence of silver shiner, black redhorse, and wavy-rayed lampmussel within the project limits. The wavy-rayed lampmussel have been known to occur in this reach of the Grand River approximately 4.3 km downstream of the Montrose Bridge. Similarly, the black redhorse have been known to occur in this reach of the Grand River approximately 2.5 km downstream of the Montrose Bridge. These species receive regulated habitat protection (i.e. habitat defined under Ontario Regulation 832/21 Section 32, https://www.ontario.ca/laws/regulation/r21832).

Since no suitable habitat for the silver shiner is not found at the bridge site, and that it was found greater than 10 km downstream of the bridge site, this species would not need review under the ESA for this project.

Since wavy-rayed lampmussel and black redhorse receive regulated habitat protection in Ontario, it was indicated by MECP that presence/absence surveys are not necessary; if suitable habitat is present for this species at a project location within an occupied reach, then protection under the ESA 2007 automatically applies.

Since suitable habitat is present for wavy-rayed lampmussel and black redhorse at the bridge site, and this habitat may be impacted by the project, it was recommended that an Information Gathering Form (IGF) (https://forms.mgcs.gov.on.ca/en/dataset/018-0180) be submitted to SAROntario@ontario.ca to help confirm whether an authorization under the ESA 2007 may be needed. An IGF will be submitted to the MECP during the detailed design stage of the project.

4.0 PROPOSED CONSTRUCTION PROCEDURES FOR IN-WATER WORKS

In order to facilitate the placement of rounded river stone around the bridge pier, as well as to complete required repairs to the north and south abutments, the in-channel work will be completed in two stages.

Construction staging drawings can be found in Appendix D.

Stage 1

An inflatable water barrier will be installed in the river extending from the west side of the south bridge abutment, around the north side of the pier, and to the east side of the south bridge abutment. This cofferdam will allow the bridge pier and south abutment work area to be adequately dewatered and prevent the release of sediment to downstream reaches. All dewatering of the work area will be outlet to a filter bag located away from the river.

A rock causeway will be constructed within the cofferdam enclosure in order to allow equipment access to the pier.

Once all construction work has been completed the causeway will be completely removed from the river. After the removal of the causeway the inflatable water barrier will be removed and water flow to the south side of the river will be reinstated.

Stage 2

An cofferdam will be installed in the river extending from the west side of the north bridge abutment to the east side of the north bridge abutment. This cofferdam will isolate the north abutment work area and prevent the release of sediment to downstream reaches.

Once all construction work has been completed on the north abutment the inflatable water barrier will be removed and water flow to the north side of the river will be reinstated.

5.0 POTENTIAL IMPACTS AND MITIGATION

This section of report outlines and describes the potential impacts on the biophysical environment associated with the proposed bridge rehabilitation. Also included within this section are potential mitigation measures to prevent and minimize any deleterious effects from construction activities on the natural environment.

5.1 Sediment and Erosion Control

Potential Impacts

The excavation and grading of earth material, rock placement at the pier and abutments, as well as the installation/removal of the access causeway, may result in the release of sediment into the Grand River. In addition, exposed soils and/or stockpiles of excess material (such as earth, rock, concrete, or wood) can result in sediment transport into the river during rain events.

Mitigation

In order to prevent the entry of sediment into the Grand River, this project will include various sediment and erosion control measures as well as operational constraints. The following should be included:

- A cofferdam will be installed during Stages 1 and 2. The cofferdam will allow the bridge pier, as well as north and south abutment work areas, to be adequately dewatered and prevent the release of sediment to downstream reaches.

- In order to mitigate the transport of sediment, environmental protection measures (such as straw bale- and rock- flow checks and silt fence barriers) must be incorporated into the final design and installed during construction. *Ontario Provincial Standard Specification (OPSS) 805 Construction Specification for Temporary Erosion and Sediment Control Measures* must be included in the detailed design package in order to provide construction specifications for these measures.

- Double-row silt fencing will be installed along the perimeter of the construction site prior to commencing any construction activities, straw bales must be placed between the rows of silt fencing to provide additional treatment capacity and improve stability of the silt fencing. Silt fencing shall remain in place throughout the construction process and will only be decommissioned once vegetation has been established and soil is stabilized. Silt fencing shall be inspected weekly or after significant rainfall by the contractor.

- Following the decommissioning of all erosion and sediment control measures, all accumulated sediments shall be removed from site and disposed of appropriately.

- All construction debris must be disposed of off-site in an appropriate manner.

- Any construction activities at the pier and abutments will be isolated from the river with a cofferdam and conducted “in the dry”.

- Where dewatering is required, effluent will be discharged a minimum distance of 30 m from the river and outlet into a filter bag to prevent entry of sediment to the river.

- All stockpiled materials must be placed 15 meters away from the river and away from the top of any slope.

- All earth material stockpiles will be surrounded with double-row silt fence barrier until such time that they are removed from site or blended into the existing site grading. Straw bales are recommended to be placed between the silt fence rows to provide additional protection and stabilization.

- Following the completion of final site grading and topsoil application, a suitable seed mixture will be applied to all exposed soil.

- Exposed slopes will be protected by requiring the Contractor to limit the time that such areas are exposed prior to final application of topsoil and seed.

5.2 Surface Water Contamination and Debris Accumulation

Potential Impacts

Construction activities, such as refuelling, may increase the potential for accidental fuel or lubricant spillage, debris accumulation, and subsequent contamination to surface water.

Construction activities may also result in litter and debris accumulation within the study area.

Mitigation

In order to prevent surface water contamination during construction, precautions will be taken to avoid accidental spillage or discharge of chemical contaminates (e.g., gasoline, oils and lubricants). These precautions will include the following:

- All mobile equipment refueling will take place no closer than 30 m from the river to prevent water contamination due to accidental fuel spills. For non-mobile equipment, refuelling will be carried out in a controlled manner to prevent fuel spillage. In addition, a drip pan should be installed under any non-mobile equipment working within the construction zone.

- All equipment operating near the river shall be properly maintained to avoid contaminant leakage and will be free of excess oil/grease.

- The contract package should provide contact information for the Spills Action Centre (1-800-268-6060). An emergency spill response kit should be on site at all times and in the event that a spill occurs, proper containment, clean up and reporting, in accordance with provincial requirements, is required.

The Contractor should take all necessary precautions to prevent the accumulation of litter and construction debris within any natural areas and the Grand River. This should include the following:

- Use of scaffolding to prevent wood and construction debris from falling in the river during bridge re-construction activities. The scaffolding will have kick plates installed around the perimeter to prevent debris from accidentally falling into the river.

- Daily cleanup of working platforms over the river and disposal of material in a container located on shore away from the river.

- The establishment of garbage bins within the work limits for depositing construction debris and lunch litter.

5.3 Vegetation

Potential Impacts

The proposed bridge rehabilitation will result in the loss of components of various vegetation communities found within the project study limits. This will include the removal of trees near the north abutment in order to facilitate equipment access. Construction activities may also result in the temporary disturbance of vegetation communities outside of the proposed grading limits. The excavation and grading of earth material due to construction may result in the release of sediment into the adjacent vegetation communities. In addition, exposed soils and/or stockpiles of excess material (such as earth, rock, or wood) can result in sediment transport into the adjacent vegetation communities.

Mitigation

It is recommended that the permanent displacement of vegetation communities within the bridge rehabilitation work area be minimized, where possible, and appropriate restrictions and mitigation measures be implemented to reduce the potential for negative impacts. These measures should include the following:

- Vegetation clearing shall be minimized, where possible;

- Following completion of grading and topsoil application, disturbed areas shall be reseeded with a seed mixture that will promote suitable native vegetation regeneration;

- Tree barrier protection should be in accordance with *OPSS 801 Construction Specification for the Protection of Trees* to demarcate and protect existing trees along cut lines from equipment damage;

- Delineation of vegetation clearing zones and vegetation retention zones shall be made clear on construction specifications and in the field;

- Specifications for appropriate tree felling and grubbing procedures shall be implemented to minimize impacts on surrounding vegetation;

- No equipment shall enter woodlands outside of the grading limits;

- Construction activities adjacent to woodlands shall occur from within the grading limits; and

- No long-term stockpiling of excavated material shall occur within 30 m of a woodland.

5.4 Wildlife and Wildlife Habitat

Potential Impacts

Removal of vegetation during construction activities may result in displacement of wildlife using the area. Clearing of vegetation within the proposed grading limits will result in the loss of habitat for species requiring terrestrial habitat. Construction activities may also increase exposure of wildlife to predation by domestic animals as well as unwarranted persecution from the public.

Mitigation

To minimize the temporary displacement of birds and wildlife species potentially utilizing the study area, it is recommended that efforts be made to minimize vegetation removal within the project limits.

It is also recommended that any removal of shrubs and trees take place outside the bird nesting season of April 1st - August 30th. If clearing work must be conducted during the breeding bird season, a breeding/nesting bird survey should be conducted by an avian specialist prior to the beginning of clearing activities to verify potential nesting activity. Furthermore, if nesting activities are observed during clearing/construction, works in that area should cease and the MNRF should be contacted immediately.

If evidence of bird nesting activity is noted on the bridge structure in 2024, it is recommended that bird exclusion netting be installed on the bridge prior to spring 2025 nesting activities in order to exclude birds during 2025 construction.

5.5 Fisheries and Aquatic Habitat

In order to protect fisheries and aquatic habitat resources within the project limits, the Contractor's operations must be controlled to prevent the entry of deleterious materials to the river. Where the

contract requires work in the river and/or on its banks, operation of equipment within such areas will be kept to the minimum necessary to perform work and comply with operational constraints that may be specified elsewhere in the contract. **OPSS 182** provides construction specifications for these measures.

In-water timing windows will be employed to ensure in-water work does not occur during critical spawning and rearing periods. No in-water work is permitted between March 15th and July 15th of any year.

Natural flows downstream of any work will be maintained at all times during construction.

All pumps for dewatering shall have fine screening placed over the intake to prevent entrainment of fish and other aquatic species during operation. Screening to be implemented as per the Department of Fisheries and Oceans (DFO) guidelines (Freshwater Intake End-of-Pipe Fish Screen Guideline (1995). All fish will be removed from the work area before works are undertaken. This work is to be completed under a Licence to Collect Fish for Scientific Purposes from the MNRF. It is recommended that a qualified Fisheries Biologist be retained for this work.

Removal or disturbance of riparian vegetation will be minimized during construction operations to prevent unnecessary loss of river shading, overhead cover, or bank stability.

Any streambed disturbed because of proposed works should be covered with suitable-sized rock protection, rounded river stone gravel, cobble material, or replaced with the original bed material.

Prior to application of the rock protection around the in-water pier and work at the abutments, a cofferdam will be installed around the pier and abutment work areas and all fish and freshwater mussels will be removed from within the coffer dam enclosure. The Region of Waterloo should retain a Fisheries Specialist to carry out the fish and mussel relocation under an MNRF License to Collect Fish. Any fish or mussel species at risk encountered during the removal should be reported to the MECP and DFO.

5.6 Species at Risk

Potential Impacts

As discussed in Section 3.5, seven SAR and their associated habitat (rainbow mussel, wavy-rayed lampmussel, silver shiner, black redhorse, barn swallow, western chorus frog, and snapping turtle) may be found within the project construction limits.

Removal of vegetation, existing bridge components planned for replacement, and in-water construction activities may result in displacement of the SAR using the area and as well as the permanent loss of specific habitat features and components.

Mitigation

Given the nature of the proposed bridge rehabilitation works and the habitat requirements noted above for species at risk in the area, there is potential for disturbance to sensitive species and their habitat. Mitigation measures should be included in the contract to protect these species and

their habitat.

- The Contractor shall be aware of the requirements and prohibitions of the federal *Species at Risk Act* (2002) and the provincial *Endangered Species Act* (2007). Section 9 (1) of the *Endangered Species Act* (2002) states that "no person shall kill, harm, harass, capture or take living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered, or threatened species".

- Prior to application of the rock protection around the in-water pier and bridge abutments, a cofferdam should be installed around the work area and all fish and freshwater mussels should be removed from within the coffer dam enclosure. Any fish or mussel species at risk encountered during the removal should be reported to the MECP and DFO.

- Silt fence barrier should be installed adjacent to the river to deter turtle species at risk from entering the work area.

- Caution should be taken during the turtle nesting season in June and early July as turtles use embankments and other terrestrial sites for nesting. During the active season (April 1 – December 30), it is recommended that a thorough sweep of the area before works begin to encourage any turtles using the site to move away.

- All clearing and grubbing, as well as the installation of bird exclusion netting on the bridge, should take place outside the bird nesting season of April 1st - August 30th to avoid nesting impacts to avian SAR within the study area.

- On-site personnel should receive training on all potential species at risk to be found within the project limits. Information and orientation should be provided to the Contractor so that those working on-site are familiar with the identification and biology of all potential SAR as well as liabilities associated with interaction with these species.

- If during construction activities any species at risk are observed, the MECP must be contacted within two (2) business days. Injury to a SAR must be reported to MECP immediately;

- Avoid creating habitat for SAR inadvertently (e.g. un-protected [i.e. with silt fence barrier] stock piles, exposed substrates, brush piles) inside active construction areas by ensuring silt fence barrier or temporary exclusion fencing is installed and maintained appropriately.

Due to the potential presence of mussel and fish SAR within the project limits, an Information Gathering Form (IGF) will be submitted to the MECP in order to outline proposed mitigation measures as well as to verify if permits will be required for this project.

As well, DFO will be sent a revised Request for Review in order to update this agency as to the additional project logistics of causeway construction.

6.0 NEXT STEPS

During the detailed design phase of the project, the following will be completed prior to submission of the final Schedule 'C' Municipal Class Environmental Assessment report:

- Submission of an Information Gathering Form to the MECP for species at risk potentially found within or near the project limits;

- Submission of an updated Request for Review to the DFO highlighting the revised in water work and construction staging;

- Communications with the Grand River Conservation Authority for permitting requirements;

- Communications with local First Nations.

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APPENDIX A: PHOTOGRAPHIC RECORD



Photo 1: East side of the West Montrose Bridge. Facing west. August 28, 2021.



Photo 2: South entrance to the West Montrose Bridge. Facing north. June 25, 2021.



Photo 3: East side of the West Montrose Bridge, showing boulder, cobble and gravel substrate along the south river's edge. Facing north. June 25, 2021.



Photo 4: West side of the West Montrose Bridge, showing tall and mowed grass riparian edge as well as emergent vegetation within the river. Facing north. June 25, 2021.



Photo 5: West side of the West Montrose Bridge showing the mowed grass riparian edge of the Grand River. Facing northeast. June 25, 2021.



Photo 6: South bank of the Grand River under the West Montrose Bridge showing the emergent vegetation zone along the river's edge. Facing west. August 28, 2021.



Photo 7: Arrowhead emergent vegetation growth within the cobble and gravel substrate along the Grand River shoreline at the West Montrose Bridge. August 28, 2021.



Photo 8: Nodding bur-marigold growing along the riparian edge of the Grand River at the West Montrose Bridge. August 28, 2021.



Photo 9: Yellow bullhead catfish captured at the West Montrose Bridge. August 28, 2021.



Photo 10: Johnny darter captured at the West Montrose Bridge. August 28, 2021.



Photo 11: Rainbow darter captured at the West Montrose Bridge. August 28, 2021.



Photo 12: Northern hog sucker captured at the West Montrose River bridge. August 28, 2021.



Photo 13: Fantail darter captured at the West Montrose Bridge. August 28, 2021.

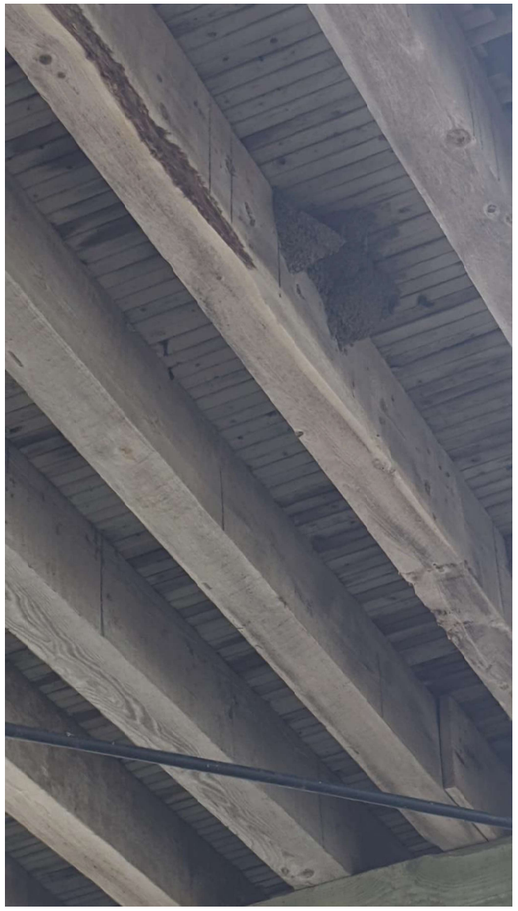


Photo 14: Barn swallow nests found under the deck of the West Montrose Bridge. June 25, 2021.

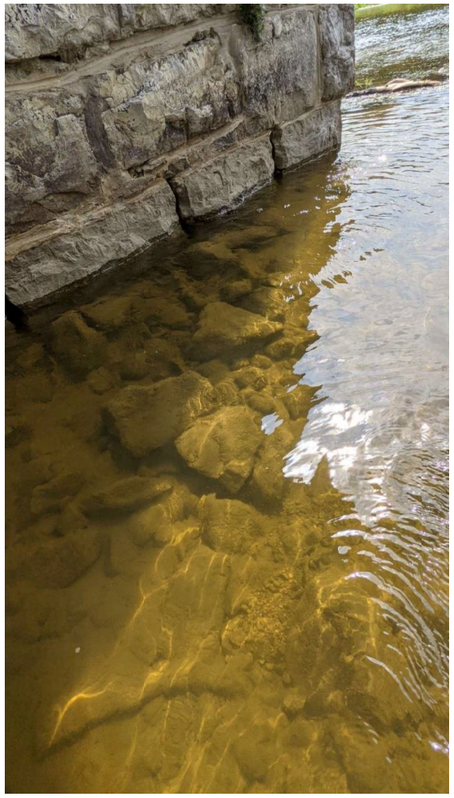


Photo 15: Boulder and cobble substrate found around the base of the bridge pier at the West Montrose Bridge. August 28, 2021.

APPENDIX B: Ontario Breeding Bird Atlas Data

Common Name	Scientific Name	Breeding Evidence
Canada Goose	*Branta canadensis*	Confirmed (FY)
Wood Duck	*Aix sponsa*	Confirmed (FY)
American Black Duck	*Anas rubripes*	Probable (P)
Mallard	*Anas platyrhynchos*	Confirmed (FY)
Blue-winged Teal	*Anas discors*	Probable (P)
Ruffed Grouse	*Bonasa umbellus*	Possible (H)
Wild Turkey	*Meleagris gallopavo*	Probable (D)
Pied-billed Grebe	*Podilymbus podiceps*	Probable (P)
American Bittern	*Botaurus lentiginosus*	Possible (H)
Great Blue Heron §	*Ardea herodias*	Possible (H)
Green Heron §	*Butorides virescens*	Probable (A)
Turkey Vulture	*Cathartes aura*	Possible (H)
Osprey	*Pandion haliaetus*	Confirmed (AE)
Northern Harrier	*Circus hudsonius*	Possible (H)
Sharp-shinned Hawk	*Accipiter striatus*	Confirmed (CF)
Cooper's Hawk	*Accipiter cooperii*	Possible (H)
Red-shouldered Hawk †	*Buteo lineatus*	Possible (S)
Red-tailed Hawk	*Buteo jamaicensis*	Confirmed (AE)
American Kestrel	*Falco sparverius*	Probable (T)
Virginia Rail	*Rallus limicola*	Probable (T)
Sora	*Porzana carolina*	Probable (T)
Common Moorhen	*Gallinula galeata*	Possible (H)
American Coot	*Fulica americana*	Possible (S)
Killdeer	*Charadrius vociferus*	Confirmed (DD)
Rock Dove	*Columba livia*	Probable (V)
Spotted Sandpiper	*Actitis macularius*	Confirmed (FY)
Upland Sandpiper	*Bartramia longicauda*	Possible (H)
Common Snipe	*Gallinago gallinago*	Possible (S)
American Woodcock	*Scolopax minor*	Possible (H)
Mourning Dove	*Zenaida macroura*	Confirmed (AE)
Yellow-billed Cuckoo	*Coccyzus americanus*	Probable (T)
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Probable (T)
Eastern Screech-Owl	*Megascops asio*	Confirmed (FY)
Great Horned Owl	*Bubo virginianus*	Confirmed (NY)
Chimney Swift	*Chaetura pelagica*	Probable (P)
Ruby-throated Hummingbird	*Archilochus colubris*	Confirmed (FY)
Belted Kingfisher	*Megaceryle alcyon*	Confirmed (CF)
Red-bellied Woodpecker	*Melanerpes carolinus*	Possible (H)

Common Name	Scientific Name	Breeding Evidence
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Probable (D)
Downy Woodpecker	*Dryobates pubescens*	Confirmed (CF)
Hairy Woodpecker	*Dryobates villosus*	Confirmed (FY)
Northern Flicker	*Colaptes auratus*	Confirmed (AE)
Pileated Woodpecker	*Dryocopus pileatus*	Probable (N)
Eastern Wood-Pewee	*Contopus virens*	Confirmed (AE)
Alder Flycatcher	*Empidonax alnorum*	Possible (S)
Willow Flycatcher	*Empidonax traillii*	Possible (S)
Least Flycatcher	*Empidonax minimus*	Probable (T)
Eastern Phoebe	*Sayornis phoebe*	Probable (P)
Gr Crested Flycatcher	*Myiarchus crinitus*	Confirmed (FY)
Eastern Kingbird	*Tyrannus tyrannus*	Confirmed (CF)
Blue-headed Vireo	*Vireo solitarius*	Possible (S)
Warbling Vireo	*Vireo gilvus*	Confirmed (AE)
Red-eyed Vireo	*Vireo olivaceus*	Confirmed (NY)
Blue Jay	*Cyanocitta cristata*	Confirmed (NY)
American Crow	*Corvus brachyrhynchos*	Confirmed (AE)
Horned Lark	*Eremophila alpestris*	Probable (P)
Tree Swallow	*Tachycineta bicolor*	Confirmed (AE)
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	Possible (H)
Bank Swallow §	*Riparia riparia*	Confirmed (AE)
Cliff Swallow §	*Petrochelidon pyrrhonota*	Confirmed (AE)
Barn Swallow	*Hirundo rustica*	Confirmed (AE)
Black-capped Chickadee	*Poecile atricapillus*	Confirmed (CF)
Red-breasted Nuthatch	*Sitta canadensis*	Possible (S)
White-breasted Nuthatch	*Sitta carolinensis*	Confrimed (CF)
Brown Creeper	*Certhia americana*	Probable (T)
Carolina Wren	*Thryothorus ludovicianus*	Possible (S)
House Wren	*Troglodytes aedon*	Confirmed (CF)
Golden-crowned Kinglet	*Regulus satrapa*	Porbable (T)
Blue-gray Gnatcatcher	*Polioptila caerulea*	Confirmed (FY)
Veery	*Catharus fuscescens*	Probable (T)
Wood Thrush	*Hylocichla mustelina*	Confirmed (NY)
American Robin	*Turdus migratorius*	Confirmed (NY)
Gray Catbird	*Dumetella carolinensis*	Confirmed (NE)
Brown Thrasher	*Toxostoma rufum*	Confirmed (FY)
European Starling	*Sturnus vulgaris*	Confirmed (CF)
Cedar Waxwing	*Bombycilla cedrorum*	Confirmed (FY)
Cedar Waxwing	*Vermivora cyanoptera*	Probable (T)

Common Name	Scientific Name	Breeding Evidence
Nashville Warbler	*Leiothlypis ruficapilla*	Possible (S)
Yellow Warbler	*Setophaga petechia*	Confirmed (NY)
Chestnut-sided Warbler	*Setophaga pensylvanica*	Confirmed (FY)
Yellow-rumped Warbler	*Setophaga coronata*	Possible (S)
Black-throated Green Warbler	*Setophaga virens*	Possible (S)
Pine Warbler	*Setophaga pinus*	Probable (T)
American Redstart	*Setophaga ruticilla*	Probable (T)
Ovenbird	*Seiurus aurocapilla*	Probable (T)
Northern Waterthrush	*Parkesia noveboracensis*	Possible (S)
Mourning Warbler	*Geothlypis philadelphia*	Possible (S)
Common Yellowthroat	*Geothlypis trichas*	Probable (T)
Chipping Sparrow	*Spizella passerina*	Probable (T)
Field Sparrow	*Spizella pusilla*	Probable (T)
Vesper Sparrow	*Pooecetes gramineus*	Probable (A)
Savannah Sparrow	*Passerculus sandwichensis*	Confirmed (CF)
Grasshopper Sparrow	*Ammodramus savannarum*	Possible (S)
Song Sparrow	*Melospiza melodia*	Confirmed (NE)
Swamp Sparrow	*Melospiza georgiana*	Possible (S)
Scarlet Tanager	*Piranga olivacea*	Probable (T)
Northern Cardinal	*Cardinalis cardinalis*	Confirmed (CF)
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Confirmed (NY)
Indigo Bunting	*Passerina cyanea*	Confirmed (CF)
Bobolink	*Dolichonyx oryzivorus*	Probable (T)
Red-wing Blackbird	*Agelaius phoeniceus*	Confirmed (CF)
Eastern Meadowlark	*Sturnella magna*	Probable (T)
Common Grackle	*Quiscalus quiscula*	Confirmed (FY)
Brown-head Cowbird	*Molothrus ater*	Confirmed (NY)
Orchard Oriole ‡	*Icterus spurius*	Probable (A)
Baltimore Oriole	*Icterus galbula*	Confirmed (AE)
House Finch	*Haemorhous mexicanus*	Probable (D)
American Goldfinch	*Spinus tristis*	Confirmed (AE)
House Sparrow	*Passer domesticus*	Confirmed (AE)

APPENDIX C: Agency Communications

Fisheries and Oceans
Canada

Pêches et Océans
Canada

Ontario and Prairie Region
Fish and Fish Habitat Protection Program
867 Lakeshore Rd.
Burlington, ON
L7S 1A1

Région de l'Ontario et des Prairies
Programme de protection du poisson et de son habitat
867 chemin Lakeshore
Burlington, ON
L7S 1A1

November 2, 2021

Our file *Notre référence*
21-HCAA-02147

Lindsay Jackson
EcoTec Environmental Consultants Inc.

Subject: [Bridge Repair, Grand River, West Montrose] (21-HCAA-02147) – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

Dear Lindsay Jackson:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on September 2021. We understand that you propose to:

- Place river stone around the center pier and north abutment of the West Montrose Covered Bridge resulting in a footprint of approx. 16m^2; and
- Isolate the work area by dragging a turbidity curtain out from the pier to exclude fish and scare away fish prior to conducting a fish rescue; and
- Work in isolation of flow to avoid sedimentation of the watercourse.

We understand the following aquatic species listed under the *Species at Risk Act* may use the area in the vicinity of where your proposal is to be located:

- Silver Shiner listed as Threatened
- Black Redhorse listed as Threatened
- Rainbow Mussel listed as Special Concern
- Wavy Rayed Lampmussel listed as Special Concern

Our review considered the following information:

- Request for Review form and associated documents.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and

The aforementioned impacts are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- Plan in-water works, undertakings and activities to respect timing windows to protect fish, including their eggs, juveniles, spawning adults
    - No in-water work [Mach 15 – July 15]
- Capture, relocate and monitor for fish trapped within isolated, enclosed, or dewatered areas;
    - If a Silver Shiner or Black Redhorse are captured and/or any other SAR shall be recorded and digitally vouchered and the species released unharmed to the watercourse. Photo vouchers shall be taken while SAR are fully submersed in a net or viewing box. Digital vouchers shall be retained and submitted to FisheriesProtection@dfo-mpo.gc.ca by email.
    - Dewater gradually to reduce the potential for stranding fish
- Conduct in-water undertakings and activities during periods of low water levels
- Screen intake pipes to prevent entrainment or impingement of fish;
    - Use the code of practice for water intake screens
- Use barges or shrouding to trap and prevent debris, concrete and/or other bridge materials from entering the watercourse;
- Limit the removal of material to that which is necessary to protect piers and abutments;
- Remove debris by hand or with machinery operating from shore or a floating barge;
- If replacement rock reinforcement/armouring is required to stabilize eroding areas around bridge structures (e.g., abutments and/or wing walls), the following measures should be incorporated:
    - Place appropriately-sized, clean rocks into the eroding area;
    - Do not obtain rocks from below the ordinary high water mark of any water body;
    - Ensure rock does not interfere with fish passage or constrict the channel width
- Limit impacts on riparian vegetation to those approved for the work, undertaking or activity;
    - Limit access to banks or areas adjacent to waterbodies
    - Construct access points and approaches perpendicular to the watercourse or waterbody
    - Re-vegetate the disturbed area with native species suitable for the site
- Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state;
- Avoid introducing sediments (e.g., silts, clays and sand) in the water

.../3

- Develop and implement an erosion and sediment control plan to avoid or minimize the introduction of sediment into any waterbody during all phases of the work, undertaking or activity; and
    - Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse
    - Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action
- Develop and implement a response plan to avoid a spill of deleterious substances.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization under the *Fisheries Act*, or the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, or the *Species at Risk Act*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html).

We recommend that you notify this office at least 10 days before starting your project and that a copy of this letter be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Lucas Coletti at our Burlington office at 905-317-1541 or by email at Lucas.Coletti@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Lucas Coletti
Biologist, Triage and Planning

RE: 21-HCAA-02147 - Grand River - West Montrose Bridge

From: "Coletti, Lucas" <Lucas.Coletti@dfo-mpo.gc.ca>
Date: 02/24/2023 03:24PM
To: "dclark@ecotecenvironmental.com" <dclark@ecotecenvironmental.com>

Hi Doug,

I don't see any concerns with adding scaffolding to the project plan. I don't think this is something that needs to be added to the existing Letter of Advice. Please accept this email as confirmation that DFO has no concerns with adding scaffolding to the project proposal/mitigation. Please follow all other measures and mitigations listed in the provided Letter of Advice.

Regards,

Lucas Coletti
Biologist | Biologiste
Fisheries and Oceans Canada| Pêches et Océans Canada
Fish and Fish Habitat Protection Program | Programme de Protection du Poisson et de Son Habitat
M: (905)-317-1541
Email/Courriel: Lucas.Coletti@dfo-mpo.gc.ca

-----Original Message-----
From: dclark@ecotecenvironmental.com <dclark@ecotecenvironmental.com>
Sent: Friday, February 24, 2023 9:44 AM
To: Coletti, Lucas <Lucas.Coletti@dfo-mpo.gc.ca>
Subject: RE: 21-HCAA-02147 - Grand River - West Montrose Bridge

Good morning Lucas

The project owners have requested that I contact DFO with regard to ammending the Letter of Advice to include the use of scaffolding during bridge reconstruction. The scaffolding may or may not be used by the Contractor but to be safe the City would like to have it as part of the project file. The feet of the scaffold would be resting on the watercourse bottom but there will be no restriction of watercourse flow or any permanent loss of fish habitat once the scaffolding is removed from the River..

Is this something that can be added to the LoA?

Doug

Doug Clark, B.Sc., CISEC
Senior Biologist, President
EcoTec Environmental Consultants Inc.
EcoTec Construction Limited
11537 Town Line Road
Acton, Ontario L7J 2L7
(519) 853-4914 ext 101 (tel)
(905) 691-0627 (cell)
(519) 853-5013 (fax)
https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.ecotecenvironmental.com%2F&data=05%7C01%7CLucas.Coletti%40dfo-mpo.gc.ca%7C6077db120a4b4731156b08db16762a8a%7C1594fdaea1d94405915d011467234338%7C0%7C0%7C638128469018341596%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Kps01HiS3Mt4v47Qb5%2B85epcKwwgJCHhdmoZyrJEqsw%3D&reserved=0
dclark@ecotecenvironmental.com

On Tue, 25 Oct 2022 14:38:17 +0000, "Coletti, Lucas" <Lucas.Coletti@dfo-mpo.gc.ca> wrote:

Hi Doug,

No SARA permit required for mussel relocation as the mussel species present are classified Special Concern. Therefore a permit is not required to handle them. However, if silver shiner or black redhorse are captured, please follow the instructions in the mitigation section and contact DFO.

Thanks,
Lucas

-----Original Message-----
From: dclark@ecotecenvironmental.com
Sent: Tuesday, October 25, 2022 10:01 AM
To: Coletti, Lucas
Subject: 21-HCAA-02147 - Grand River - West Montrose Bridge

Good morning Lucas

Based on the attached Letter of Advice, will we require a SARA permit for relocation of the mussel SAR?

thanks Doug

Doug Clark, B.Sc., CISEC
Senior Biologist, President
EcoTec Environmental Consultants Inc.
EcoTec Construction Limited
11537 Town Line Road
Acton, Ontario L7J 2L7
(519) 853-4914 ext 101 (tel)
(905) 691-0627 (cell)
(519) 853-5013 (fax)
https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.ecotecenvironmental.com%2F&data=05%7C01%7CLucas.Coletti%40dfo-mpo.gc.ca%7C6077db120a4b4731156b08db16762a8a%7C1594fdaea1d94405915d011467234338%7C0%7C0%7C638128469018341596%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Kps01HiS3Mt4v47Qb5%2B85epcKwwgJCHhdmoZyrJEqsw%3D&reserved=0
dclark@ecotecenvironmental.com

RE: Montrose Bridge - Grand River, Kitchener

From: "Species at Risk (MECP)" <SAROntario@ontario.ca>
Date: 03/08/2023 02:06PM
To: "dclark@ecotecenvironmental.com" <dclark@ecotecenvironmental.com>

Hello Doug,

Thank you for contacting MECP's Species at Risk Branch about the West Montrose covered bridge over the Grand River in the Township of Woolwich, Region of Waterloo.

On January 25th of this year, Barn Swallow was re-classified on the Species at Risk in Ontario List (Ontario Regulation 230/08) from threatened to special concern. Species of special concern do not receive legal protection under the Endangered Species Act, 2007 (ESA 2007), so no further guidance or approvals from MECP are needed for this species. That said, Barn Swallow should now be considered with species of conservation concern under Significant Wildlife Habitat along with other special concern species. The Ministry of Natural Resources and Forestry can be contacted for more information.

There are known occurrences of aquatic species at risk (SAR) in the general area of the West Montrose covered bridge that receive species and habitat protection under the ESA 2007. It is recommended that the following SAR be considered for potential species and/or habitat impacts relating to this project, if this assessment has not already been completed:
* Wavy-rayed Lampmussel (threatened, species and regulated habitat protection)
* Black Redhorse (threatened, species and general habitat protection)
* Silver Shiner (threatened, species and general habitat protection)

Please note that the absence of an element occurrences does not indicate the absence of SAR. The province has not been surveyed comprehensively for the presence or absence of SAR and Ontario's data relies on observers to report sightings of SAR.

Regards,

Catherine Stewart
Management Biologist
Permissions Section, Species at Risk Branch
Ministry of the Environment, Conservation and Parks

-----Original Message-----
From: dclark@ecotecenvironmental.com <dclark@ecotecenvironmental.com>
Sent: March 2, 2023 10:07 AM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Subject: Montrose Bridge - Grand River, Kitchener

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning

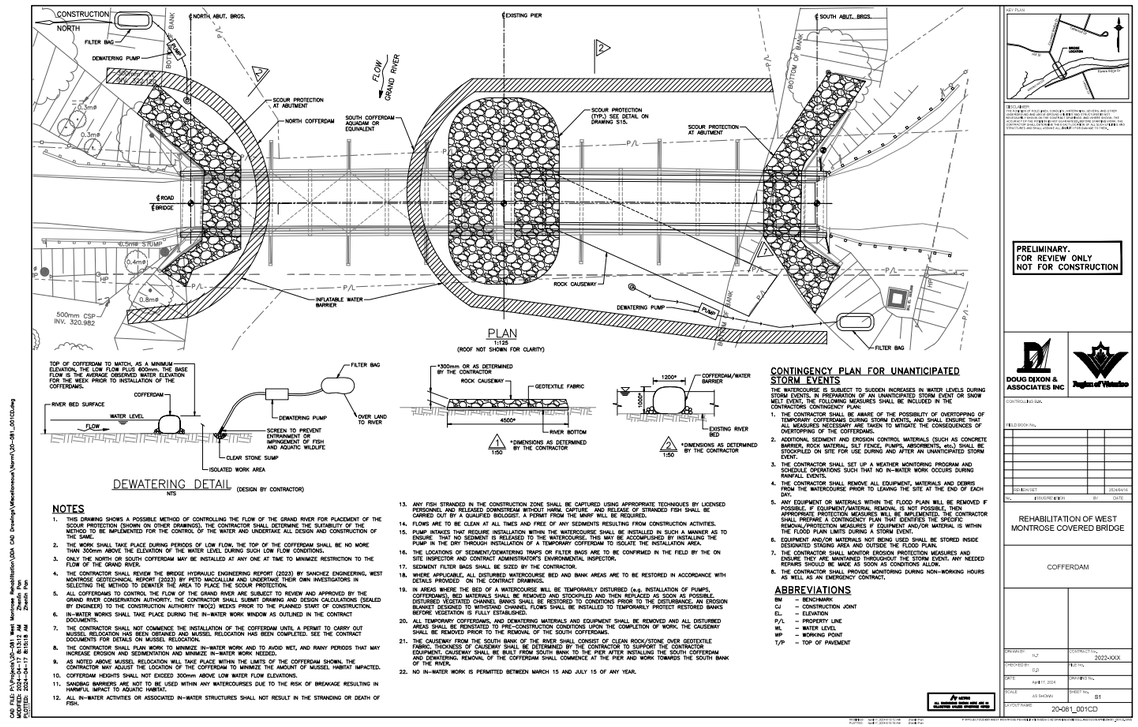
EcoTec has been retained to carry out an EIS for rehabilitation of the Montrose Bridge (a wooden covered bridge) over the Grand River in Kitchener. As part of our field observations we noted that there were several active barn swallow nests on the bridge structure. The proposed bridge rehabilitation work will not commence until 2024.

We anticipate that standard bird exclusion netting will be required over the structure in advance of spring nesting in order to exclude the swallows from the work area. What additional measures/permit requirements are required by the MECP in order to mitigate for the temporary loss of habitat for this species.

thank you

Doug Clark, B.Sc., CISEC
Senior Biologist, President
EcoTec Environmental Consultants Inc.
EcoTec Construction Limited
11537 Town Line Road
Acton, Ontario L7J 2L7
(519) 853-4914 ext 101 (tel)
(905) 691-0627 (cell)
(519) 853-5013 (fax)
https://can01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.ecotecenvironmental.com%2F&data=05%7C01%7CSAROntario%40ontario.ca%7Cc32039b4dac541aac6ea08db1b2fbcba%7Cddc1229ac2a4b97b78a0e5cacb5865c%7C0%7C0%7C638133664068927456%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=LPnrbekMnQseADX%2FqcFQn4uVJxj8eCyClF8Crh%2FHa08%3D&reserved=0
dclark@ecotecenvironmental.com

APPENDIX D: Construction Staging Drawings



NOTES

1. THE WORK SHALL NOT COMMENCE UNTIL THE MUSSELS HAVE BEEN RELOCATED AND THE COFFERDAM INSTALLED.
2. SCOUR PROTECTION AT THE PIER SHALL CONSIST OF STONE WITH WITH D50 DIAMETER OF 450mm PLACED IN A LAYER 1000mm THICK.
3. SCOUR PROTECTION AT THE ABUTMENTS SHALL CONSIST OF STONE WITH D50 DIAMETER OF 300mm PLACED IN A LAYER 1000mm THICK.
4. THE SCOUR PROTECTION ROCK SHALL BE PLACED OVER TYPE 2 NON-WOVEN GEOTEXTILE FABRIC.
5. EXCAVATION OF THE RIVER BED SHALL TAKE PLACE SUCH THAT THE TOP OF SCOUR PROTECTION MATCHES THE GENERAL ELEVATION OF THE SURROUNDING RIVER BED.
6. THE SCOUR PROTECTION ROCK SHALL BE CHINKED WITH HAND PLACED ROCKS TO FILL IN THE VOID AND INTERSTITIAL GAPS BETWEEN THE LARGER ROCK.
7. SCOUR PROTECTION ROCK SHALL MEET THE REQUIREMENTS AS SPECIALIZED IN THE CONTRACT DOCUMENTS.
8. SCOUR PROTECTION AND EXCAVATION MAY BE PLACED IN STANDING WATER ISOLATED FROM THE FLOW OF THE GRAND RIVER BY THE COFFERDAM

KEY PLAN

PRELIMINARY.
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

DOUG DIXON & ASSOCIATES INC

Region of Waterloo

CONTROLLING DATA

FIELD BOOK No's

No.	ITEM AND AREA	BY	DATE
	ISSUED/REVISED		DD/MM/YY

REHABILITATION OF WEST MONTROSE COVERED BRIDGE

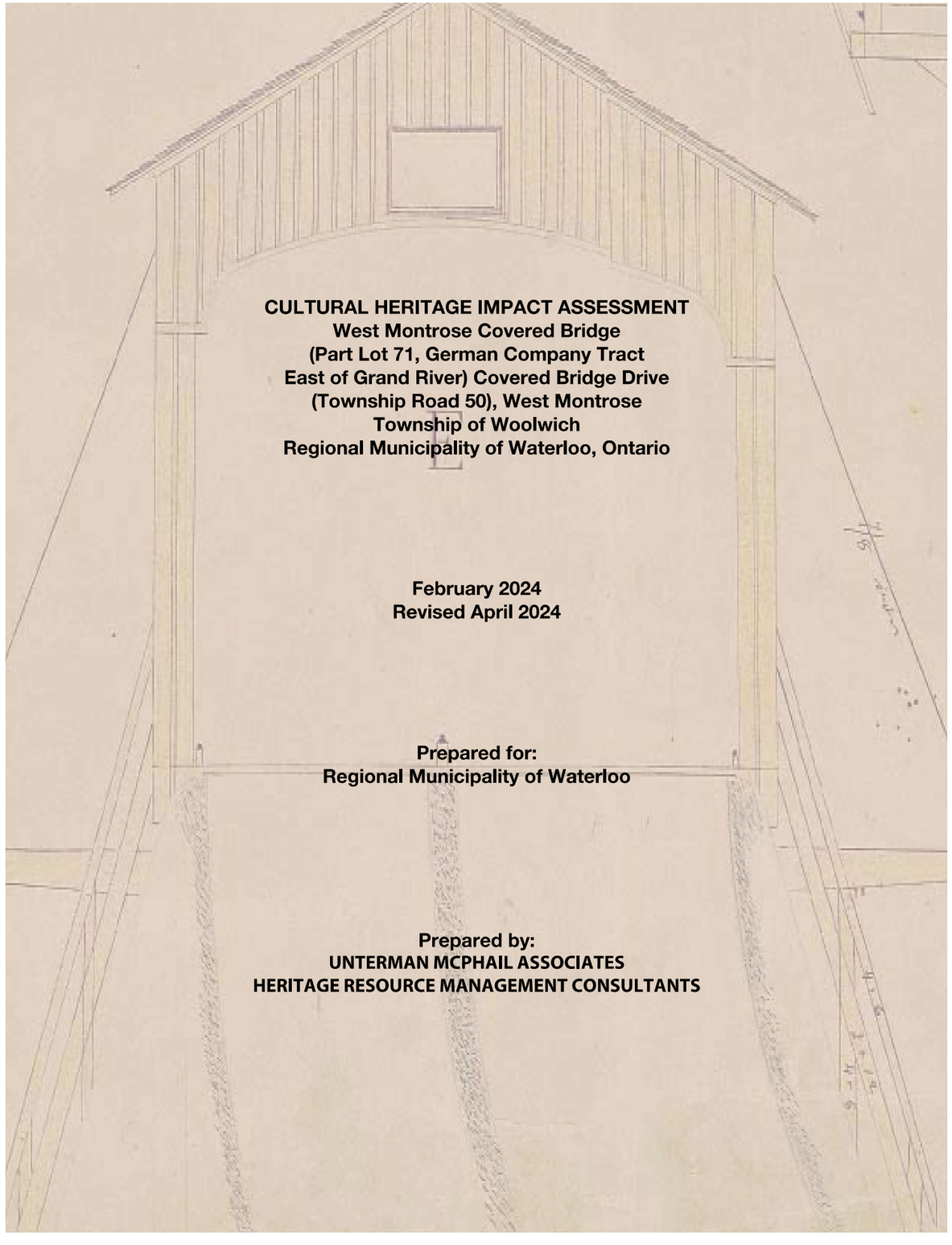
SCOUR PROTECTION

DESIGNED BY: TVDL	CONTRACT No.: 2022-XXX
CHECKED BY: Chris Wells	FILE No.:
DATE: April 17, 2024	DRAWING No.:
SCALE: AS SHOWN	SHEET No.: 62
LAYOUT NAME: 20-081_015RP1	

CAD FILE: X:\Projects\20-081 W. West Montrose Rehabilitation\004 CAD Drawings\Abutments\Layouts\20-081_015RP1.dwg
LAST SAVED: 2024-04-17 8:15:03 AM By: Zhenlin Pan
PLOTTED: 2024-04-17 8:15:03 AM By: Zhenlin Pan

Appendix F

Cultural Heritage Impact Assessment Report



CULTURAL HERITAGE IMPACT ASSESSMENT
West Montrose Covered Bridge
(Part Lot 71, German Company Tract
East of Grand River) Covered Bridge Drive
(Township Road 50), West Montrose
Township of Woolwich
Regional Municipality of Waterloo, Ontario

February 2024
Revised April 2024

Prepared for:
Regional Municipality of Waterloo

Prepared by:
UNTERMAN MCPHAIL ASSOCIATES
HERITAGE RESOURCE MANAGEMENT CONSULTANTS

Cultural Heritage Impact Assessment
West Montrose Covered Bridge
(Part Lot 71, German Company Tract
East of Grand River) Covered Bridge Drive
(Township Road 50), West Montrose
Township of Woolwich
Regional Municipality of Waterloo

February 2024
Revised April 2024

Prepared for:
Regional Municipality of Waterloo

Prepared by:
Unterman McPhail Associates
Heritage Resource Management Consultants
540 Runnymede Road
Toronto, Ontario, M6S 2Z7
Tel: 416-766-7333

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Project Personnel

Richard Unterman, B.A. Hons., M.A., Conservation Studies, Diploma Restoration Technology, Professional Member of the Canadian Association of Heritage Professionals (CAHP) (1987 - present)

Barbara McPhail, B.A. Hons., M.A., Conservation Studies, Diploma Restoration Technology, Professional Member of the Canadian Association of Heritage Professionals (CAHP) (1987 - present)

Executive Summary

The Township of Woolwich enacted Designation By-Law No. 60-2007, Designate the West Montrose Covered Bridge under Section 27, Part IV of the Ontario Heritage Act (OHA) on August 14, 2007. The Regional Municipality of Waterloo (Region) recognizes the subject bridge as a Regionally Significant Cultural Heritage Resource (RSCHR); the bridge is ranked as one of the top ten most historically significant bridges in the Waterloo Region; and, it is the last remaining covered bridge in Ontario. The West Montrose Covered Bridge has been identified as the only vehicular covered bridge in Ontario, the 8th oldest covered bridge in Canada, and possibly, the longest Queen Post variant bridge in North America. It is located within the Grand River watershed, a Canadian Heritage River.

The Region is planning comprehensive rehabilitation work on the West Montrose Covered Bridge to ensure safety and preservation of the structure over the long-term in accordance with the requirements of a Schedule "C" project under the Municipal Class Environmental Assessment (Class EA) process, Environmental Assessment Act (EAA) for public infrastructure projects. Three public consultation presentations were completed for the project. The Region retained Unterman McPhail Associates (UMcA) to prepare a Cultural Heritage Impact Assessment Report (CHIA) to address the impacts of the preferred rehabilitation approach for the subject bridge with mitigation recommendations. This CHIA report presents a review of the impacts of Preferred Alternative C2 to the heritage structure known as the West Montrose Covered Bridge.

The Region developed six (6) alternatives, A, B, C1, C2, C3 and C4 with the intent to preserve the subject bridge in-situ, its original length and width dimensions and its original hybrid Queen Post-Howe timber truss configuration and beams. Furthermore, all six re-cambered the bridge to its original profile, eliminated the sag in the deck and replaced several heritage attributes, i.e., all external siding, wood louvre windows and the wood shingles. The existing steel Bailey trusses, also a heritage attribute, will be removed. The entire existing deck will be replaced.

In 2023, MOSES Engineering completed a detailed timber truss, wooden components and fabric inspection to determine the physical condition of the truss members. This inspection allowed the team to develop four (4) new all-wood alternatives, each with differing load capacities. The four alternatives are: C1-12 tonnes; C2-10 tonnes; C3-8 tonnes; and, C4-6 tonnes. The Project Team used a comprehensive evaluation process called the Multi-Attribute Trade-off System (MATS) process to assess the alternatives. Alternatives C1 to C4 will use in-kind materials for wood and timber repair, retain the overall bridge character, a sense of historic place and the existing cultural landscape setting. UMcA participated in the project team evaluation of the alternatives. All six (6) alternatives resulted in a likeness of the original 1881 bridge.

After evaluation, Alternative C2 was selected as the Preferred Alternative. It considered to be an acceptable heritage conservation approach to the rehabilitation of the 143-year-old West Montrose Covered Bridge, a structure that has evolved over time from its original condition through many phases of repair and reconstruction. The Preferred Alternative addresses existing structural deficiencies and maintains the heritage bridge as a functioning pedestrian and vehicular structure within the Region's road system and over the Grand River in the historic Village of West Montrose. It conserves the identified cultural heritage value of the bridge within it's setting, community and the Region and the heritage attributes identified in the Township of Woolwich Designation By-Law No. 60-2007 (August 14, 2007) and it uses approved heritage conservation best practice measures for wood repairs that recognize the importance of original construction techniques and materials. The all-wood rehabilitation approach to the structure repair is considered to be a respectful conservation approach.

1.0 INTRODUCTION

1.1 Project Description

The Township of Woolwich passed Designation By-Law No. 60-2007 to designate the West Montrose Covered Bridge under Section 27, Part IV of the *Ontario Heritage Act* (OHA) on August 14, 2007 and the Regional Municipality of Waterloo recognizes it as a Regionally Significant Cultural Heritage Resource (RSCHR). The bridge is one of the top ten (10) most historically significant bridges in Region and the last remaining covered bridge in the Province of Ontario. Furthermore, the subject bridge has been identified as the only authentic vehicular covered bridge in Ontario, the 8th oldest covered bridge in Canada, and probably the longest Queen Post variant bridge in North America. Only 65 to 70 Queen truss variants of this vintage or older remain in North America.[1] It is also informally known as "The Kissing Bridge" due to its enclosed character and soft lighting giving a sense of feeling of intimacy. The Grand River is recognized as a Canadian Heritage River.

Detailed background studies and structural monitoring suggested the existing timber structure of the bridge is, overtime, losing its load carrying capacity. The existing steel Bailey truss was installed at the time to carry specific loads acting on the structure in the future. The steel Bailey truss is unable to carry full loads. Doug Dixon Associates (DDA) completed an inspection in April 2020 of all Bailey truss panels and timber components from the deck level and accessible components from the underside. The 2020 inspection concluded the Bailey trusses and associated hardware will need to be replaced in future major rehabilitation work and timber rehabilitation should include repair to deteriorated sections of the timber trusses and replace the floor, needle beams, cedar roof and exterior siding and numerous tension rods used for lateral bracing. DDA recommended major bridge rehabilitation is required.

In 2020, the Regional Municipality of Waterloo (Region) began the process of undertaking a Municipal Class Environmental Assessment (MCEA Class EA), which is a planning and decision-making process approved under the Environmental Assessment Act (EAA) that considers potential environmental impacts before a project is approved. As part of its process, a Class EA requires consultation with the public, involved stakeholders and agencies in consideration of project alternatives and potential impacts on the project environment. The rehabilitation of the subject bridge is classified as a Schedule "C" project. The Region, Township of Woolwich staff, the Township of Woolwich Mayor and two councilors are directing the project planning and design process.

[1] IBI Group, *West Montrose Covered Bridge – Preservation Plan,* (2014). 5.

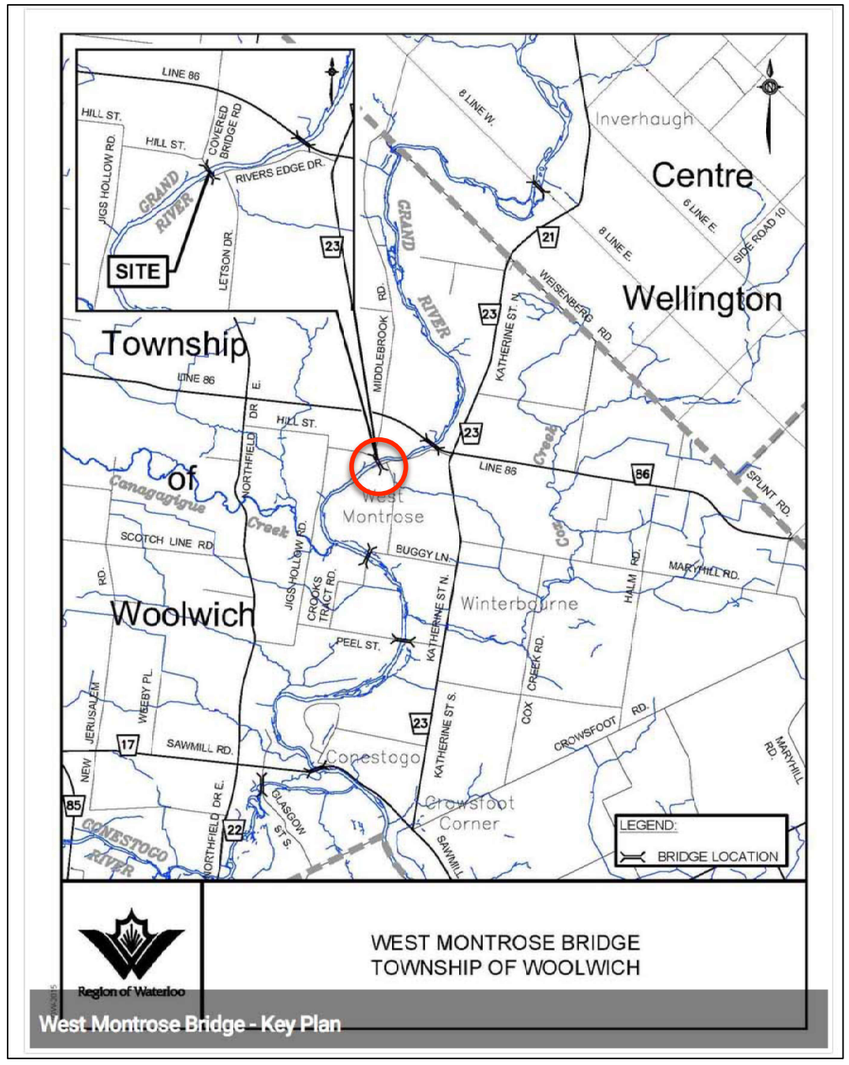


Figure 1. Project Key Plan showing the location of the West Montrose Covered Bridge, Township of Woolwich, Regional Municipality of Waterloo [2022].

The Region retained Unterman McPhail Associates (UMcA) to prepare a Cultural Heritage Impact Assessment Report (CHIA) to address the impacts of the rehabilitation approaches for the subject bridge and to provide mitigation recommendations. UMcA prepared a preliminary CHIA in August 2022 that addressed the potential impacts of two (2) alternatives for the proposed bridge rehabilitation work, namely, A and B.

In 2023, MOSES Engineering completed a detailed timber truss, wooden components and fabric inspection to determine the physical condition of the truss members. This inspection allowed the team to develop four (4) new all-wood alternatives, each with differing load capacities. The four alternatives are: C1-12 tonnes; C2-10 tonnes; C3-8 tonnes; and, C4-6 tonnes. UMcA was retained to participate in the project team evaluation of the alternatives and to provide a new CHIA to address the Preferred Alternative C2.

1.2 Bridge Description and Location

Built in 1881, the West Montrose Covered Bridge is a timber truss with a hybrid Howe truss configuration. Measuring 208-ft. (63.40 m) in length, this single lane, two span bridge is covered with a gable roof and red-painted exterior wood board with batten siding. It spans the Grand River in the community of West Montrose, Township of Woolwich, Region of Waterloo about 1.2 km west of intersection of RR 86 and RR 23 and 1 km north of Rivers Edge Drive, which runs parallel to the south side of the river from RR 86 to Covered Bridge Drive in the community. The principal part of the West Montrose primarily, rural residential community is located on the north side of the bridge. ***Figure 2*** shows the location and legal description of the West Montrose Covered Bridge, Township of Woolwich as Part Lot 71, German Company Tract, East of the Grand River, Township of Woolwich.

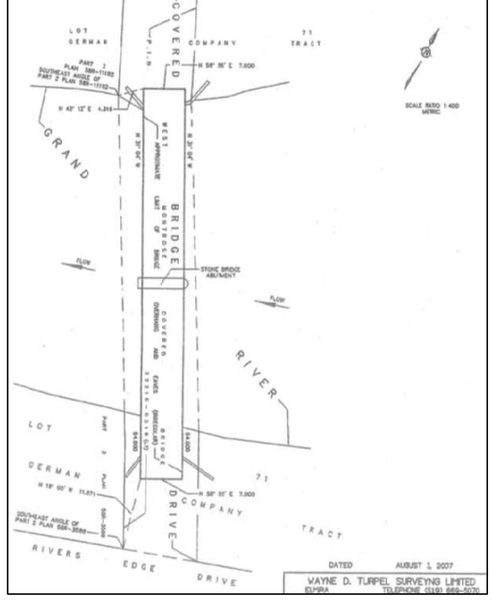


Figure 2. Survey Plan [Township of Woolwich, Designation By-Law No. 60-2007, Designate the West Montrose Covered Bridge, August 14, 2007].

1.3 Report Methodology and Format

The rationale for the requirement of a CHIA for the municipally designated West Montrose Covered Bridge rises from several heritage documents and policies including the OHA, Section 2(d) of the Planning Act, Section 2.6.3 of the Provincial Planning Act (PPS) (2005), Section 12.4 *Cultural Heritage Impact Assessments* of the Township of Woolwich Official Plan (OP), Section 3.G.16 of the Region of Waterloo Official Plan (ROP) and Section B, *Regional Implementation Guideline Conserving Regionally Significant Cultural Heritage Resources* (2018) and the Township of Woolwich *Heritage Impact Assessment Guideline*s ***(Appendix E).***

The Region of Waterloo has directed the Township of Woolwich *Heritage Impact Assessment Terms of Reference* are to be the principal guiding document in the preparation this CHIA since the West Montrose Covered Bridge is a municipally designated property under Part IV, Section 29 of the OHA. The *Heritage Impact Assessment Guideline*s state an CHIA will be broad in scope by including sufficient detail to communicate the site issues and to inform the evaluation of the recommended conservation approach for the cultural heritage resource(s). A CHIA evaluates the impact of a proposed development, building alteration or site alteration on a built heritage resource(s) or a cultural heritage landscape(s) and recommends mitigative measures or alternative development approaches to conserve the heritage attributes of that resource/landscape. CHIAs ensure the heritage values, attributes and integrity of cultural heritage resources are protected.

2.0 HERITAGE POLICIES AND GUIDELINES

Table 1 at the end of this section provides a summary of the various policies, and guidelines that are applicable with regard to the conservation of Ontario heritage bridges.

2.1 Province of Ontario

2.1.1 Ontario Heritage Act (OHA)

The OHA is the key provincial legislation for the conservation of cultural heritage resources in Ontario. It provides the framework for provincial and municipal responsibilities and powers in the conservation of cultural heritage resources. Section 2 of the OHA charges the Minister of Citizenship and Multiculturalism (MCM) with the responsibility to,

> *"...determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario."*

Heritage attributes, in relation to a property, are defined in the OHA as the attributes of the property that cause it to have cultural heritage value or interest. Ontario Regulation

9/06 sets out the criteria for evaluating properties to be designated under Part IV, Section 29 of the OHA. The criteria are based on an evaluation of design/physical value, historical and associative value and contextual value. A property may be designated under Section 29 of the Act if it meets one or more of the provincial criteria for determining whether it is of cultural heritage value or interest. Upper-tier municipalities are not enabled to list resources on a register through the OHA. Provincial heritage properties are not subject to designation by municipalities or the Minister.

2.1.2 Ministry of Citizenship and Multiculturalism (MCM)

MCM is responsible for the administration of the OHA and for protecting of Ontario's cultural heritage resources, which includes cultural heritage landscapes, built heritage resources and archaeological resources. Since cultural heritage resources may be impacted adversely by both public and private land development, it is incumbent upon planning and approval authorities to consider heritage resources when making planning decisions.

The MCM Infosheet, *Eight Guiding Principals in the Conservation of Built Heritage Properties,* which are based on established international charters on the conservation of built heritage properties, offers a basis for all decisions concerning good practice in heritage conservation worldwide.

2.1.3 Ontario Planning Act (OPA) and Provincial Policy Statement (PPS)

The Planning Act (RSO. 1990, c.P.13, current January 1, 2022) in Section 2(d) specifically refers to

> *the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest;*

The Provincial Policy Statement (2020) (the "PPS") provides policy direction province-wide on land use planning and development and includes a policy on the conservation of cultural heritage and archaeology. Policy 2.6.1 states,

> *"Significant built heritage resources and significant cultural heritage landscapes shall be conserved."*

The PPS provides policy direction on land use planning in Ontario. The PPS articulates how and why heritage conservation is a component of good planning, explicitly requiring the conservation of cultural heritage and archaeological resources, alongside the pursuit of other provincial interests. Section 2.6, Cultural Heritage and Archaeology subsequently directs that "significant built heritage resources and significant cultural heritage landscapes shall be conserved". Through the definition of conserved, built heritage resources, cultural heritage landscape and protected heritage

property, the PPS identifies the OHA as the primary legislation through which heritage conservation will be implemented. Municipalities are enabled by the PPS to use CHIAs in the planning process.

2.1.4 Ministry of Transportation (MTO) and Ontario Heritage Bridge Guidelines (2008)

MTO has produced guidelines for the conservation of provincially-owned bridges. These guidelines may be used as a reference tool with regard to conservation approaches and mitigation recommendations when dealing with municipal bridges.

2.1.5 Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist

The Municipal Engineers Association revised its *Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist* in 2019. It assists with determining the requirements to comply with the Municipal Class Environmental Assessment. The checklist indicates if a municipal bridge or study area meets various criteria a Cultural Heritage Evaluation Report (CHER) and/or a Heritage Impact Assessment (CHIA) must be completed. The criteria include, but are not limited:

- contains a parcel of land that is designated under Part IV of the OHA:
- contains a parcel of land that is the subject of a municipal, provincial or federal commemorative or interpretive plaque that speaks to the historical significance of the bridge; and
- contains a parcel of land that is in a Canadian Heritage River watershed a Cultural Heritage Evaluation Report and/or a Heritage Impact Assessment must be completed.

2.2 Regional Municipality of Waterloo

The Regional Official Plan (ROP) includes as the objective under Section 3.8

> *Support the conservation of cultural heritage resources.*

Section 3.G - Cultural Heritage states cultural heritage resources are the inheritance of natural and cultural assets that give people a sense of place, community and personal identity.

The Region of Waterloo prepared the *Implementation Guideline, Conserving Regionally Significant Heritage Resources* (2018). It provides guidance to applicants, municipal heritage advisory committees (MHACs) and Regional and Area Municipal staff on the implementation of the Regionally Significant Cultural Heritage Resource (RSCHR) policies of the ROP and for the preparation of development applications.

RSCHRs are defined as significant built heritage resources and cultural heritage landscapes and are valued for the important contribution they make to the understanding of the history, events and/or people of Waterloo Region. They include bridges and other infrastructure constructed over the 19th and 20th centuries that have been integral to the development of the region. The identification of a RSCHR recognizes the importance of a cultural heritage resource to Waterloo Region, encourages good stewardship, promotes opportunities for education, tourism and in the deriving the character of this region, informs better infrastructure planning decisions, creates an awareness of historically significant cultural heritage resources for Regional and Area municipal staff, and others. It promotes informed decision making and the consideration of effective heritage protection conservation measures.

The Region has identified the West Montrose Covered Bridge as a RSCHR.

The guideline summarizes the existing policy context and conservation process of cultural heritage resources of interest to the Region of Waterloo and provides further detail for the implementation of ROP regional policies 3.G.2 to 3.G.4 and area municipal policies 3.G.14 to 3.G. 20. When planning, designing or altering Regional *infrastructure* that may affect a *cultural heritage resource* listed on the Waterloo Region Heritage Inventory (WRHI), the Region will undertake a *CHIA* and consult with the affected Area Municipality. During a development application review, *Environmental Assessment* processes and Regional infrastructure projects, if a *CHIA* is required for a RSCHR it will be submitted to the satisfaction of the Area Municipality and/or the Region and may also include consultation with the acting Regional Heritage Planning Advisory Committee (HPAC).

The CHIA will be reviewed and approved in accordance with the policies of the ROP. Section 3.G.17 of the ROP describes the content of a Cultural Heritage Impact Assessment.

Waterloo Region has produced two documents pertaining to the identification and conservation of heritage bridges:

- *Spanning the Generations: A Study of Old Bridges in Waterloo Region* (May 2004). Phase 1 is inventory and heritage evaluation of all types of bridges within its jurisdiction. Phase 2 documents the 10 most historically significant bridges that include the West Montrose Covered Bridge.
- *Scenic Roads and Special Character Street, Resource Document* (December 2011). It recommends the preservation of bridges that are designated under the OHA and listed on Municipal Heritage Registers, including the West Montrose Covered Bridge. Section 4.3 of the *Scenic Roads and Special Character Streets, Resource Document* (December 2011) includes general recommendations for the rehabilitation and conservation of heritage bridges and states bridges designated under the OHA and listed on Municipal Heritage Registers are to be preserved.

2.3 Township of Woolwich

The Township of Woolwich enacted Designation By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, OHA in August 14, 2007.

The Official Plan – Chapter 12, Heritage Policy, sub-section 12.6 states development within the Township must conform to the Heritage Conservation Policies of the ROP. The OP in Sub-section 12.7 addresses the approval of the West Montrose Cultural Heritage Landscape Policy Area (OPA No. 18). The Policy is subject to the Township of Woolwich, By-Law No. 81-2011, Official Plan Amendment No. 18 adopted, Special Policy Area, West Montrose Cultural Heritage Landscape (WM-CHL). Section 7.3 Policies, Sub-section 7.3.1 states:

> *Development in the West Montrose CHL shall not be permitted unless it has been demonstrated that the heritage values, attributes and integrity of the West Montrose CHL will be retained.*

The West Montrose Covered Bridge is described as a Character Defining Attribute of the WM-CHL.

2.4 Parks Canada Standards and Guidelines for Conservation of Historic Places in Canada

The Parks Canada *Standards and Guidelines for the Conservation of Historic Places in Canada* (Standards and Guidelines) is the official document guiding planning, stewardship and conservation approach for all listed and designated heritage resources. Section 2 includes fourteen (14) General Standards for Preservation, Rehabilitation and Restoration that are to be applied to conservation projects ***(Appendix F)***. The *Standards and Guidelines* state a primary treatment must be selected, i.e., preservation, rehabilitation or restoration, during the planning stage of the project and although all conservation projects may involve aspects of the three conservation treatments, it is important the standards related to the primary treatment be consistently applied for the over all project.

Section 4.4, Guidelines for Engineering Works of the Standards and Guidelines specifically addresses the conservation of civil engineering works. It states civil works present a difficult challenge since they often remain in functional use and must meet contemporary safety codes, which often requires significant rehabilitation to meet code.

TABLE 1: SUMMARY: HERITAGE POLICY, GUIDELINES AND DOCUMENTS FOR HERITAGE BRIDGES

Federal	Provincial	Waterloo Region	Township of Woolwich	Parks Canada Standards and Guidelines
○ Canadian Heritage River System – Grand River	○ *Ontario Heritage Act* ○ *Ontario Planning Act* (OPA) ○ *Ontario Planning Policy* (PPS) ○ Ontario Heritage Bridge List (Interim 2008) ○ MCM (formerly MTCS) Ontario Tool Kit and Infosheet, Eight Guiding Principles in the Conservation of Historic Properties ○ MTO Ontario Heritage Bridge Guidelines (2008) ○ Municipal Engineers Association: Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist (rev. 2019) ○ Grand River Conservation Authority (GRCA): *Arch, Truss & Beam: The Grand River Watershed Heritage Bridge Inventory* (March 2013)	○ Regional Official Plan (ROP) ○ *Implementation Guideline for Conserving Regionally Significant Cultural Heritage Resources* (RSCHR) (2018) ○ *Scenic Roads and Special Character Street, Resource Document* (December 2011) ○ *Spanning the Generations: A Study of Old Bridges in Waterloo Region* (May 2004)	○ Township of Woolwich Official Plan ○ *Township of Woolwich By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, Part IV OHA* ○ *Township of Woolwich, By-Law No. 81-2011, Official Plan Amendment No. 18* adopted, Special Policy Area, West Montrose Cultural Heritage Landscape (WM-CHL) ○ *Township of Woolwich Heritage Impact Assessment Terms of Reference*	○ *Parks Canada Standards and Guidelines for the Conservation of Historic Places in Canada* (Standards and Guidelines) (2018) ○ Section 4.4 Guidelines for Engineering Works Subsection ○ 4.4.1 Constructed Elements and Subsection ○ 4.4.2 Functional Arrangement

3.0 HISTORICAL SUMMARY

Appendix D includes an historical timeline for the West Montrose Covered Bridge.

3.1 Woolwich Township

Before Euro-Canadian settlement into Woolwich Township, this area of the Grand River included Block 3 of the Six Nations grant, which had been provided by the British government to the Six Nations in the late 1800s for their loyalty to the Crown during the American War of Independence. Joseph Brant, on behalf of the Six Nations, sold Block 3 to William Wallace in 1788; Wallace later forfeited the land and it was resold around 1807 to the German Company, led by John and Jacob Erb. Augustus Jones surveyed Block 3 into 130 lots of about 350 acres each. Around 1807, in the West Montrose area Daniel Erb bought Lot 70, David Eby Lot 71 and Christian Stauffer Lot 74. These lands changed ownership several times before settlement began in the 1830s.

Woolwich became a township in 1816 within Halton County. In 1842, the township became part of the Wellington District. The Woolwich Township Council was organized in January 1850. In 1852, the township was placed in the newly established provisional Waterloo County.

Tremaine's Map of the County of Waterloo (1861) shows a rural agricultural landscape dotted with small hamlets and villages. The map of Woolwich Township in the *Illustrated Historical Atlas* (1881) continues to depict a well-developed rural agricultural landscape around West Montrose. Twentieth century topographic maps also show the enduring rural landscape around West Montrose ***(Appendix A)***.

Woolwich Township remained part of Waterloo County until the Region of Waterloo was established in 1998.

3.1.1 West Montrose

West Montrose straddles the Grand River on Lots 70, 71 and 74, German Company Survey, East of the Grand River, Township of Woolwich, formerly part of Waterloo County, now of the Region of Waterloo. The land was purchased by the German Company in 1807, but was not settled until about 1850. The majority of the first township settlers, who were comprised of Scottish and English immigrants arrived as early 1807. German Pennsylvanian Mennonites tended to settle to the west of the Grand River and settlers of English and Scottish origin to the east of the river.

The West Montrose settlement, did not take place until Andrew L. Anderson, a native of Montrose, Scotland, bought land around 1845 and named the community after his home town. "West" was added to the name about 1865 to differentiate the Waterloo

community from one in Welland County.[2] Mennonites began arriving in the area of St. Jacobs and West Montrose in the early 1850s. A West Montrose railway on the Canadian Pacific Railway was also opened. The first church and school were built in the early 1860s. The Tremaine Map (1861) shows a small community on the Grand River with the present day Rivers Edge Drive and Covered Bridge Road shown as open roads with a bridge connecting the north and south side of the river. By 1866, West Montrose had a post office, a hotel, a mercantile and other businesses that supported the largely Mennonite rural agricultural community in its immediate vicinity. The horse and buggy was the primary transportation among the Mennonites. Old Order Mennonites still use this means of transport today.

Jacob Benner arrived in Waterloo Township circa 1828 or 1829[3] and later moved to West Montrose in Woolwich Township around 1839. He was married to Nancy Baer (Bear] in 1830, the sister of Rev. John Bear Sr.[4] Benner established extensive business interests at West Montrose with a saw mill and woollen mill and owner of a local farm. The woolen mill established on Spring Creek in 1858 was short-lived and the sawmill was erected in 1861. As well, Benner operated a local blacksmith shop, served as postmaster (1871-1873), donated land for the first church and money for a bridge built over the Grand River at West Montrose around 1860.[5] Local history notes John and Benjamin Bear, relatives of Nancy Benner, built the first bridge in 1860. Tremaine's Map (1861) shows Jacob Benner and wife Nancy Baer owned land on both sides of the Grand River at the subject bridge site on Lot 71, Beasley Tract in West Montrose ***(Appendix A)***. The stone house now 1242 River's Edge Drive was built for the Benner family.

By 1869, West Montrose was a small settlement of about 100 inhabitants, with a post office, blacksmith, wool mill, sawmill, lumberyard, a gunsmith, a carpenter, a hotel, a stock dealer, general merchant, several coopers, and a minister. Although the majority of the mills had closed earlier, by 1890, West Montrose had a population of about 200, and serviced the surrounding farming area. The *Illustrated Historical Atlas* map of Woolwich Township (1881) shows the community of West Montrose had expanded ***(Appendix A)***.

Twentieth century topographic maps continue to show West Montrose as a small and contained community on the Grand River and King's Highway 86 until later in the century ***(Appendix A)***. Aerial photography (1954) shows little change had occurred in

[2] *Waterloo Historical Society.* "Woolwich Township", Twenty-first and Twenty-second Annual Reports (1933 and 1934) 19.
[3] Ezra. E. Eby, *A Biographical History of Waterloo Township And Other Townships of the County.* Volume 1 (Berlin: 189) 55.
[4] Waterloo Region Generations. Jacob Benner (1808-1890). Access: --<https://generations.regionofwaterloo.ca/getperson.php?personID=I12281&tree=generations> (November 2021).
[5] Ibid.; and, LAC, Postal History and Philately, Post Offices and Postmasters, Item 4776, West Montrose, Waterloo North, Access: --<https://www.bac-lac.gc.ca/eng/discover/postal-heritage-philately/post-offices-postmasters/Pages/item.aspx?IdNumber=4776&> (November 2021).

the West Montrose landscape since 1935. The construction of the new alignment and bridge for Highway 86 allowed main highway traffic to bypass West Montrose to the east of the village. By the mid 1990s West Montrose had expanded to include additional roads, a residential subdivision on the north of the river and recreational facilities on the river.

3.2 West Montrose Covered Bridge

The West Montrose Covered Bridge is the last remaining covered operational bridge standing in the Province of Ontario and it is the second oldest bridge structure in the Region of Waterloo. Local history supports the presence of a bridge across the Grand River at West Montrose as early as 1843. Area landowners presented a petition to local authorities in 1844 that mentions a road crossing the Grand River in the West Montrose area.[6] The Bear [Baer] brothers, siblings of local Nancy Benner [Bear] who was the wife of local businessman and farmer Jacob Benner, are thought to have built a replacement wood bridge over the Grand River at West Montrose in 1860. The Benner family donated money to the project and the bridge was known as Benner's Bridge.[7] Tremaine's Map of the County of Waterloo (1861) shows the earlier Grand River crossing at West Montrose. The Woolwich Township map in the *Illustrated Historical Atlas* (1881) shows a Grand River bridge crossing at West Montrose ***(Appendix A)***.


NOTICE
TO
BRIDGE BUILDERS
AND
CONTRACTORS.
TENDERS WANTED
The undersigned will receive Sealed Tenders
up to 12 o'clock, noon, on
MONDAY, 17TH DAY OF JANUARY, 1881,
for the erection of a new WOODEN BRIDGE, 64 feet long one span over the Canagagigue Creek at ELMIRA.
ALSO, FOR THE ERECTION OF A WOODEN
Covered Bridge
100 feet long and 20 feet wide (two spans of 50 feet each) over the GRAND RIVER at WEST MONTROSE in the Township of Woolwich.
Plans and Specifications can be seen at my office at St. Jacobs.
The Council do not bind themselves to accept the lowest or any tender.
Parties tendering must name two good responsible parties as sureties.
By Order of the Council,
JOHN L. WIDEMAN, Clerk.
St. Jacobs, Dec. 22nd, 1880. (Chronicle Print.)
Courtesy of the Region of Waterloo Archives

Tender notice for the construction of the West Montrose Covered Bridge, 1880.

Figure 3. Tender of bridge construction, 1881[Source: Region of Waterloo Heritage River Plaque, West Montrose Covered Bridge, Letson Park].

[6] Township of Woolwich OP, Appendix VII. West Montrose Cultural Heritage Conservation Plan.
[7] K-W 1999; and, John Connon, *The Early History of Elora, Ontario and Vicinity*. Rpt. 1975 (1930) 14.

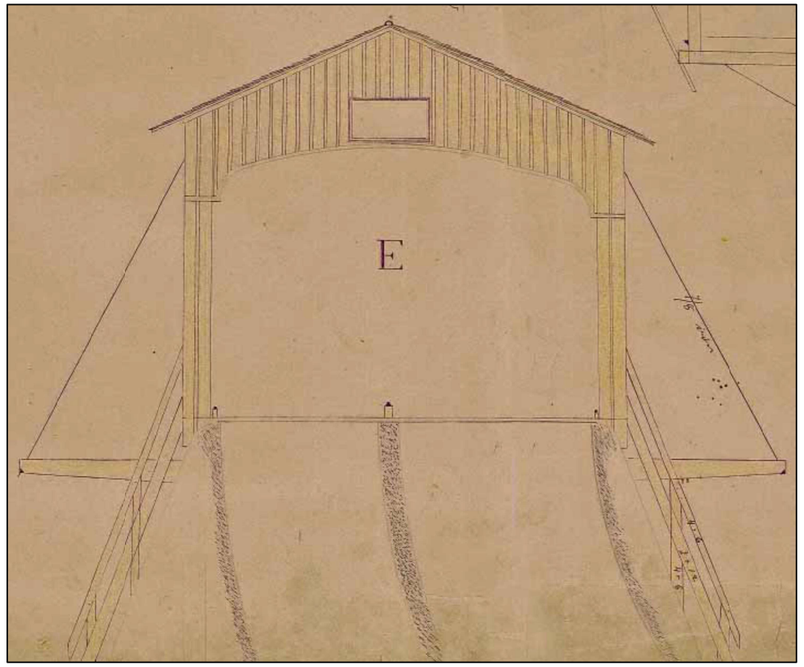


Figure 4. Portal design, West Montrose Covered Bridge, [Region of Waterloo Archives, TOWL-3-8/A, West Montrose Covered Bridge Plans by John Bear, Township of Woolwich, Clerk's Office, 1881].

On October 15, 1880, the Woolwich County engaged the services of John Bear Jr. to inspect three township bridges, namely: the West Montrose bridge over the Grand River, the Conestogo River bridge at Daniel Weber's farm; and, the gully bridge on the north side of Scheifele's farm.[8] Bear reported to Council on November 16, 1880 and indicated the West Montrose Bridge should be replaced.[9] Acting on this recommendation, Council advertised "Notice to Bridge Builder and Contractors, Tenders Wanted' for the erection of a two-span, wooden covered bridge, 100-ft. (30.48 m) long and 20-ft wide over the Grand River at West Montrose ***(Figure 3)***. The tender closed on January 17, 1881, and being the only one, the tender submitted by John and Benjamin Bear of $3,197.50 was accepted.[10] John Bear prepared

[8] Kathryn Lamb, "West Montrose Covered Bridge," *Waterloo Historical Society Journal* (1977) 27).
[9] Region of Waterloo, *Spanning the Generations: A Study of Old Bridges in Waterloo Region*. Phase 2: Heritage Assessment (May 2004) 17.
[10] Gingrich, 18.

specifications and plans for the two-span covered bridge ***(Figure 4 and Appendix A).***[11] Work proceeded in 1881.

On June 1881, Woolwich councillors Daniel Snyder and Joseph S. Snyder were appointed by Council to inspect and reject the timber delivered by the contractor for the project. Council minutes records, "*All timber used in the construction of said bridge to be good, sound timber, free from splits, shakes, large or loose knots or anything that has a tendency to impair its strength. All work shall be done in a good and workmanship manner and everything to be carried out to full intent of plans and specifications".*[12]

Hardwood was to be used throughout except for the plates and roof rafters. Oak for the construction of the bridge cover was sourced from the Bridgeport area and the white pine was cut near Blair and Doon and transported to West Montrose.[13] Some of the timbers were prepared at the West Montrose sawmill of W. J. Letson.[14] According to John Geisel, who assisted in the selection of timbers for the bridge, some of the original timber was 50-ft. (15.24 m) in length and 9 to 16-in. (230 mm to 410 mm)) in thickness.[15] Thick oak planks measuring 3-in. (76 mm) in thickness, none more than 10-in. (254 mm) wide were used for the bridge deck. Wrought iron spikes, measuring 7-in. (177.80 mm) in length, joined the planks.[16] A piece of 6-in. x 8-in. (152.40 mm. x 203.20 mm.) timber ran the entire length of the deck and narrower pieces were installed along its length on each side. The abutments were cedar cribs filled with loose stone and the centre pier had 15 piles driven to a depth of 12-ft. (3.66 m). The piles under the pier were specified as oak or rock elm while the piles under the approaches were to be cedar. The specifications included 24 blinds or louvre window openings, each measuring 2.5-ft. x 4-ft. (0.76 m x 1.22 m), comprising three slats each.[17]

The Bear brothers provided hand-written invoices to the Council, with one invoice letterhead showing "Doon Building Works of J. and B. Bear Manufacturers of sashes, door, blinds, mouldings and bricks". Another project invoice itemized expenses such as hauling gravel, gravel, labour and nails.[18] When completed the bridge measured about 208-ft. (63.40 m) long, 17-ft. (5.18 m) wide and 13-ft. (3.96 m) high with a 6-ft. (1.83 m) overhang at each portal. The main body measured 196.5-ft. (59.89 m) in length.[19] A posted sign stated the following limits "*Any person or persons riding or driving on or*

[11] Region of Waterloo Archives, TOWL, 3-8/B, West Montrose Covered Bridge Specifications, 1881. Township of Woolwich, Clerk's Office. Also held at KPL, Grace Schmidt Room and the Elmira Municipal Archives.
[12] Gingrich, 10
[13] Ibid., 22.
[14] Ibid.
[15] Ibid., 10.
[16] Ibid., 23.
[17] Ibid.
[18] Ibid., 24.
[19] Ibid.

over this bridge faster than a walk will be prosecuted according to the law".[20] The substructure of pier and abutments comprised cedar cribs filled with loose stone. The bridge was to have 24 shutter louvre windows to admit fresh air and some light while keeping out the rain. Some local citizens said the bridge had only two windows in the middle when completed, but this has not been verified.[21] The Woolwich Council approved the payment for balance of bridge construction contract and extra work to J. and B. Bear on Nov. 15, 1881.[22] The final cost of the bridge construction, including extra work, was $3,557.65.[23] The bridge was opened for traffic in November 1881.

In April 1882, The Woolwich Council issued tenders to paint the bridge either with coal or paint or residue oil and fireproof paint and on May 9, 1882, accepted the tender of Geo. Peppler and Co. for the amount of $74.25.[24] Although the original paint colour or coating for the exterior has not been confirmed, it may have been given a brownish colour coating that existed into the early 20th century.[25] At this time, the bridge was not painted its current shade of red.[26] Starting in 1885, the Council employed Frank Snyder to put snow on the bridge deck in the winter to facilitate sleigh passage through the structure.[27] In 1886, two coal oil lanterns were installed on the bridge. The lantern was to be lit until daylight in the morning of all dark nights and the glass lanterns were to be cleaned every day and refilled with kerosene.[28]

In 1895, the Council expressed a need to light the bridge at night and on December 22 the deputy reeve was instructed to procure a lamp to be light to burn until daylight in the morning on all dark nights. A coal oil lantern and fuel were acquired.[29] The Council minutes note a one year lighting contract for the bridge was awarded to William Nill at the cost of $12.95, with the contractor to provide the oil, glasses and wicks and the lamp to be lit not less than 200 nights a year, on February 8, 1897.[30] Additionally, the Council contracted Richard Boye to build a cedar crib for $124 in 1895.[31]

In 1900, Council received several tenders for the new pier at the bridge. Three of the six tenders were for a wooden pier while the other three were for a stone pier. The

[20] "West Montrose Bridge One of Last Remaining County Landmarks", *The Waterloo Chronicle* (April 13, 1937) 1.
[21] Region of Waterloo, *Spanning the Generations: A Study of Old Bridges in Waterloo Region*. Phase 2: Heritage Assessment (May 2004) 19.
[22] "West Montrose Bridge One of Last Remaining County Landmarks", *The Waterloo Chronicle* (April 13, 1937) 1.
[23] Gingrich, 18.
[24] Ibid., 25.
[25] Ibid., 25-26.
[26] Ibid., 26.
[27] Ibid., 27.
[28] Ibid., 26.
[29] Ibid.
[30] Ibid.
[31] Ibid., 26: Woolwich Township Council", *Waterloo Chronicle.*(November 7, 1895) 3.

tender of Bowman & Elliot[32] of St. Catharines were selected and the original centre pier was replaced with a stone pier. Two of the huge stones comprised wagonload and were delivered from the Elmira Grand Trunk Railway Siding by railway. The entire cost of the construction was $4,662.00.[33] The original timber abutments were probably replaced with the current poured concrete abutment circa 1900.[34]

Over its existence, the West Montrose Covered Bridge has survived several floods and ice jams in the early 20th century. One such flood described in 1904, at the bend of the river above West Montrose was described as a "mighty ice jam of ice piled above the level of the waters", which in some measure saved the West Montrose bridge from the gigantic pressure the swept away the bridges at Winterbourne and Conestogo". The ice jam pressed against the northern end of the bridge but volunteers dispatched the ice and the bridge remained strong and secure.[35] Records note the bridge was temporarily closed in 1904 to repair the original oak deck. Another big flood at West Montrose occurred in 1912. A local resident remembered a time when spring flooding threatened the bridge when a tree come downstream and a branch went through the side of the bridge. The branch was cut with a saw and the tree went underneath.[36] A newspaper article in 1948 describes flooding of the West Montrose village with large cakes of ice threatening the bridge.[37]

Figures 5 and 6 shows the West Montrose Covered Bridge as it stood in the 1920s and 30s. Over the years moisture had resulted in some wood rot on the lower chord of the bridge. In 1933, after a bridge inspection, a needle beam was replaced due to deterioration, the timber chord spliced with steel plates, and in 1934, the wooden trusses were replaced according to the IBI Group report.[38] The 2023 inspection clarifies the extent of replacement of the original wooden trusses. In 1937, the Department of Highways (DHO) took over the Kitchener-Elmira Road as King's Highway 86, which included the West Montrose Covered Bridge from the Woolwich Council. The DHO, recognizing the importance of the structure decided to retain it when it turned over its jurisdiction over Highway 86 to Waterloo County.[39] Signs indicating a 2 tonne limit and a speed of 10 mi/hr. were posted at the bridge as an alternative to its demolition.[40]

Early 20th century photographs show larger window openings on each side of the bridge as well as evidence of an interior splash panel of vertical boards, shorter than the existing. ***(Appendix A)***. The bridge exterior does not seem to be painted red like the

[32] Note the newspaper article Rowan & Elliot while various other sources record Bowman & Elliot as the constructor of the new pier. "Woolwich Tp. Council", *The Chronicle - Telegraph* (April 12, 1900), 1.
[33] Gingrich, 26.
[34] Ibid., 27; and IBI Group, 7.
[35] "West Montrose", *Waterloo Chronicle* (April 24, 1904), 2
[36] Lamb, 17.
[37] "Flood Waters at West Montrose" with photographs, *Waterloo Chronicle* (April 2, 1948), 1
[38] IBI Group, 7; and, Gingrich, 28.
[39] Gingrich, 28.
[40] Ibid.

existing structure ***(Figures 4, 5 and Appendix A)***. DHO possibly introduced the current red paint to the bridge exterior covering after 1937, but this is not confirmed.

The task of the appointed lamp lighter was to clean the glass chimneys of the two lanterns, fill each with kerosene at home and then with a long pole ending in a hook hoist each lamp on a sturdy beam 13-ft. (3.96 m) above the bridge deck.[41] However, by 1950, DHO, concerned about the many visitors to the site and the possibility of fire on the bridge from jostling the hanging lamps, decided to install electric lights on the bridge.[42] J.D. Mille, DHO Deputy Minister, acknowledged, the electric lighting was not in keeping with the character the bridge, but it was necessary to protect the structure from fire. Lamp lighter Lloyd Hartwick was terminated and DHO added 60-cycle hydro-electrical system and placed three (3) 100-watt bulbs in the old lanterns.

In 1954, DHO completed a major rehabilitation of the structure when the original flooring was replaced with a laminated deck (2-in. x 4-in. laminations). The spruce timber deck, supported on a mixture of 5" x 10" No.1 White Pine (original) and 6" x 12" No. 1 Douglas Fir (new) stringers at 18"± centres, was covered with asphalt surface. As well, it is recorded that approach modifications, installation of electric lighting and rebuilding of the centre pier were undertaken.[43]

The repair work included the removal of the existing oak flooring and sheeting of the trusses on the interior to a height of 5-ft. (1.52 m) above the floor, the approaches being rebuilt as well as the centre pier. The bearings were rebuilt; the whole bridge leveled; and window louvres replaced. The bridge was closed at this time. Historic photographs indicate the splash panelling at this time consisted of vertical board panelling over the truss ends with a horizontal board divider and upper vertical board splash panelling with a wide sloped top. As well, historic photographs ***(Appendix A)*** show the window openings were shortened when the interior splash panelling was extended upwards from the earlier panelling over the truss ends.

Prior to it's reopening. M. Freeman of the DHO's publicity department visited both the bridge site and the proposed Doon Pioneer Village Museum with the museum site chairman hosting. Moving the covered bridge to the pioneer village to preserve it for posterity was discussed, but no action was taken.[44] The bridge was officially reopened on October 6, 1954 with several noted attendees including the local MPP, the president of the Federated Women's Institutes of Ontario cutting the ribbon, local resident Mrs. B. C. Woods flipping the switch to inaugurate the new electric lights and the Dominion president and representatives of the Women's Institute. The West Montrose and Winterbourne school children were given a half-day holiday for the event.[45]

[41] Gingrich, 26-27.
[42] Lamb, 29.
[43] Giffels Associates Limited. *Structural Evaluation Report West Montrose Covered Bridge, Site33-58*. Prepared for Ministry of Transportation, Ontario, 1996 [?], 2.
[44] Ibid., 30.
[45] Ibid., 29.

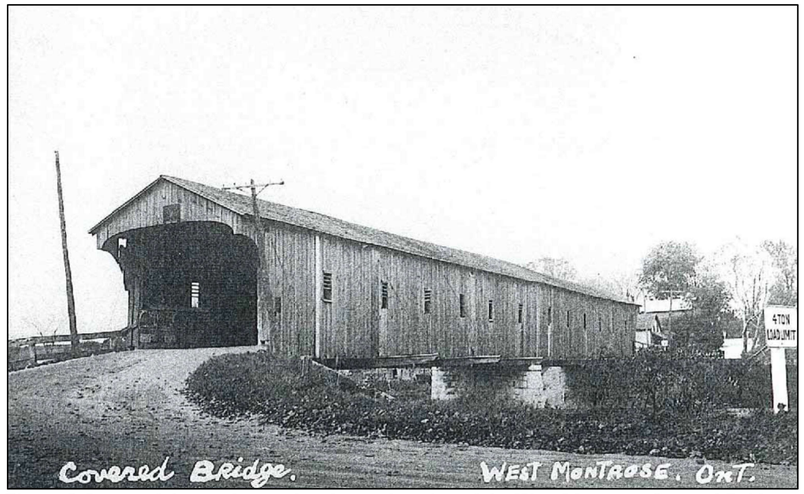


Figure 5. Image of the south portal and east elevation of the West Montrose Covered Bridge showing the original portal design, the early wooden plaque above, larger window openings, repairs to the exterior wood siding and evidence of interior splash panelling [Region of Waterloo Archives, c. 1920s].

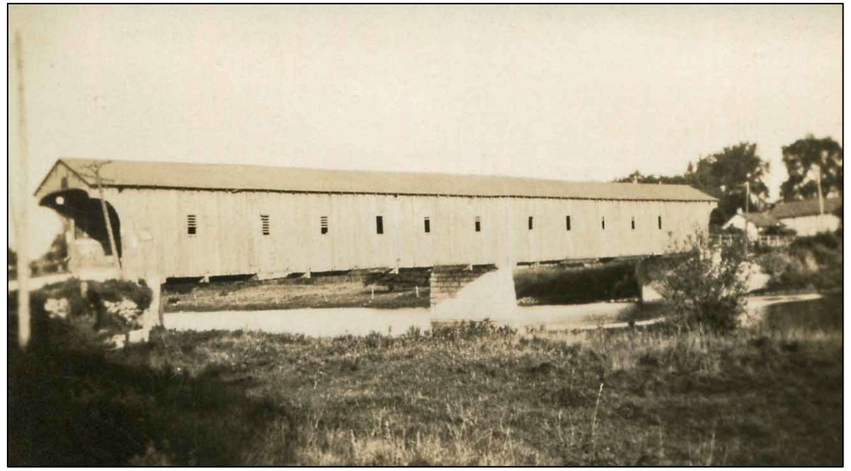


Figure 6. Image of the east elevation of the West Montrose Covered Bridge showing the original portal design, the early wooden plaque above, larger window openings, repairs to the exterior siding and evidence of interior splash panelling [Region of Waterloo Library, Montrose – 1933 – West Montrose Bridge, Mrs. MacPherson, 1.1933].

In the 1950s, it was reported the school buses transporting local students to the Elmira District High School twice a day were required to stop and allow the students to cross the bridge by foot.[46] In 1955, a new DHO report stated "the structure is out of date for a highway and should be replaced by a new one and relocated".[47] Local bridge advocates united against the relocation of the structure from West Montrose. In April 1959, a DHO engineer reported the bridge deck sloped and the needle and floor beams should be replaced or tightened on the west span of the structure. At the same time the DHO undertook the re-routing of Highway 86 through West Montrose and over the covered bridge with a new alignment and concrete bridge upstream. The West Montrose Covered Bridge was repaired at the same.

From historical photographs, it would appear DHO painted the bridge exterior its current red colour at this time. A photograph dated 1958 shows an unpainted bridge exterior; another photograph dated 1959 shows a painted exterior. ***(Appendix A, photographs dated 1952, 1958 and 1959)***.

A sketch of the West Montrose Covered Bridge was featured on the cover of the 1960 Bell Telephone book in 1960.[48] In August 1960, the Department of Travel and Publicity issued a press release "Ontario's Last Covered Bridge to be Commemorated" acknowledging the Ontario Archaeological and Historic Sites Board had recognized the bridge as an historic site for being the only remaining covered bridge in Ontario with a provincial plaque erected on-site. Ninety-three-year-old John Geisel, who had carried lumber and tools for the Bear brothers when the bridge was built, unveiled the plaque on August 28 1960.[49] Dignitaries at the plaque unveiling included the Ontario Highways Minister, the Hon. James Cass, the Deputy minister, W. J. Fulton, the Reeve of Woolwich Township, Warden of Waterloo County and the Waterloo North MPP, the President of the Waterloo Historical Society and L. R. Gray, a member of the Archaeological and Historical Sites Advisory Board. The Ontario Provincial Police directed traffic.[50] In 1962, Woolwich Township sent the original bridge plans and specification to the Archives of Ontario.

In 1965, a biennial bridge inspection report noted the structure was generally in poor condition and repairs where undertaken that included the installation of steel Bailey bridge trusses in the interior to reinforce its structural integrity.[51] After the Second World War, DHO had purchased and stockpiled Bailey bridge components to temporarily replace or reinforce existing structures on its highways and roads. This

[46] Ibid., 33.
[47] Ibid.,30.
[48] "New Home Service Introduced", *Waterloo Chronicle* (Ontario), (October 6, 1960), 6.
[49] *The Waterloo Chronicle*, Photo and caption, September 8, 1960, 1; and, Gingrich, 31.
[50] Gingrich, 31-32. It is noted the original plaque had a factual error when installed.
[51] KPL, Grace Schmidt Room, Grace Schmidt Room, Drawing "Bailey Reinforcing for the West Montrose Covered Bridge", August 1966. DHO had purchased and stockpiled Bailey bridge components after the Second World War and used the components to temporarily replace or reinforce existing structures on its highways and roads for many years.

practice continued for many years. The Bailey steel trusses were inserted into the West Montrose Covered Bridge without affecting its exterior character. Other bridge repairs at the time included, but were not limited to, the installation of the existing interior tongue and groove splash panelling with a wider projecting ledge over the trusses to replace earlier panelling; the installation of a steel reinforced cap on centre pier; the removal and replacement of the needle beams and the lower chord beam sections in poor condition and the replacement of corner bearer blocks; the installation of a new rub rail and vertical siding on both sides of the bridge and repainting the structure; a new concrete wall placed at the north end to prevent to undermine the north abutment wall; and, the installation of a new deck of laminated 2-in. x 4-in. (50.8 mm x 101.6 mm) boards with a covering of asphalt-bonded crushed stone. The roof ridge and batten boards were tightened in 1971 and the timber truss treated a preservative. The bridge exterior was repainted red and the interior wainscoting was repainted in white.[52]

In 1979, the Ontario Heritage Foundation, now the Ontario Heritage Trust, replaced the earlier 1960 plaque on the south side of the bridge crossing. The bridge celebrated its centenary year in 1981. Various MTO inspections and maintenance work were undertaken in the late 1980s including Conestoga Roofing replacing the cedar shingles on the roof in 1987.[53] ***Figure 7*** shows an image of the west elevation of the West Montrose Covered Bridge in 1991.



Figure 7. Photograph of the west elevation of the West Montrose Covered Bridge [Region of Waterloo Library, Montrose-1991-Covered Bridge, MacPherson Collection].

[52] Gingrich, 33.
[53] Ibid.

In 1995-96, an emergency repair replacing the needle beams was completed. In 1996, MTO retained Giffels Associates Limited to prepare a Structural Evaluation Report that concluded major structural repairs were required.

On January 1, 1998, the new Region of Waterloo took over the responsibility for the care and maintenance of the West Montrose Covered Bridge. Operating responsibilities were turned over to its Doon Heritage Crossroads, Planning and Culture Department.[54] The Region assembled a project team with representatives from the Region's Planning and Culture Department, Engineering Department, Township of Woolwich councilors, and members of the local community and heritage groups to address and develop restoration alterations for the bridge.[55] In January 1998, the *Kitchener-Waterloo Record* included an editorial on the West Montrose Covered Bridge that summed up the opinion of thousands of regional citizens who supported the restoration of the structure. The article noted:

> *"It is arguably the most recognizable scene in Waterloo Region and one of the most beautiful in all southern Ontario. Where the Grand River runs through the hamlet of West Montrose it is straddled by an aged, red covered bridge, the last of its kind in the province.*
>
> *Because the Kissing Bridge, as it has been known for most of its life span, is so unique and picturesque, it is an Ontario heirloom that tens of thousands of people around the world flock to see each year.*
>
> *If they realize how special it is, how can regional officials or taxpayers object to picking up part of the bill to keep the bridge open? The bridge's future arose this year when the province gave ownership of the structure to the region, along with several local highways. For the region, this was an unwanted gift. The bridge needs $225,000 in repairs within a year or two if it is to remain open to cars and trucks. Regional chairman Ken Seiling argues the bridge is so important to all Ontarians that the province should own and fix it. Not really. The bridge is a regional treasure-as well as a cash cow. The Kitchener-Waterloo Area and Convention Bureau says tourists spend $232 million yearly in the region (not including Cambridge). They come to see the vestiges of a simpler past, a rolling countryside with Old Order Mennonites driving horse and buggies. To cross the bridge is to enter old Waterloo County.*
>
> *And countless people do. Sure the region should study the best way to fix the bridge. After that, it should get on with the job quickly and without grumbling, and not so it is fir only for pedestrians, but so it can handle real traffic-cars, trucks and buggies. We've come to this bridge. Let's cross it."*[56]

[54] Ibid., 33.
[55] Ibid., 37.
[56] Gingrich, 34-35. [Original Source: Editorial, *Kitchener-Waterloo Record*, January 25, 1998].

An Open House held in May 1998 addressed the Giffels Associates Limited Structural Evaluation Report. Theo Vandenberk Construction was awarded the rehabilitation work contract to repair needle beams, bearings, trusses and sidings and the bridge was closed for seven weeks.[57] In 1999-2000, pier repairs and emergency repairs to the needle beams, the reconstruction of the north approach, repairs to the north abutment and temporary deck repairs were completed and the significant replacement of deteriorated sections of the primary truss members was completed. The work included temporary support of the superstructure to facilitate replacement of Bailey panels at the pier location to address local shear deficiencies and permit realignment of the Bailey Truss bearings. In particular the realignments included levelling of the northwest bearing through bearing seat reconstruction. Retainer pins were also installed to prevent lateral translation of the timber truss bolsters.[58]

In 2004, the bridge was repainted and eight iron rod cross braces were replaced under the bridge deck. Survey points were installed as regular monitoring could take place to identify any long-term deflection changes.[59]

The Township of Woolwich approved By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, OHA, on Aug. 14, 2007. The designated West Montrose Covered Bridge was included as a principal element in the Township of Woolwich, By-Law No. 81-2011, Official Plan Amendment No. 18 Special Policy Area, West Montrose Cultural Heritage Landscape (WM-CHL) was adopted in 2011. A biannual bridge inspection in 2011 noted a failure of the northwest bearing seat and it was reconstructed including the replacement of the original. In 2012, after a short bridge closure, a primary floor beam was replaced in kind due to cracking. In late 2012 repairs were completed on the shingle roof with the full replacement of the ridge cap.[60]

IBI Group prepared the document, *West Montrose Covered Bridge – Preservation Plan* (2014) and Moses Structural Engineering to review the bridge timber condition in the same year. Doug Dixon Associates (DDA) was retained in 2019 to assess structural replacement options for the preservation of the bridge. In 2021, the West Montrose Covered Bridge celebrated its 140th anniversary.

3.2.1 Designer/Builder

John Bear[61] and Benjamin Bear built the West Montrose Covered Bridge in 1881. John Bear, a Mennonite, was born in Waterloo County on May 30, 1832. His brother Benjamin was born on March 2, 1847. Their father John Bear was a builder and contractor born in Preston in 1804 and their mother was Anna "Nancy" Pannabecker (1812-1875). History attributes the design and construction of many houses and barns

[57] Ibid., 36.
[58] IBI Group, 8.
[59] Ibid., 37.
[60] IBI Group, 8 and 9.
[61] Documents use both Baer and Bear spelling for the family name.

in Waterloo County and neighbouring counties between 1823 and 1835 to Bear Sr., including the Union Mennonite/Tunker School meetinghouse (1829).[62] Bear Sr. was ordained as a minister of the Mennonite Church in 1838.[63]

John Bear Jr. married Margaret Steen and they lived near Doon, Waterloo Township. The census return (1861) notes his occupation as a carpenter and joiner. The census return (1871) records Bear as a farmer and the return (1881) as a farmer, saw miller and brickmaker.[64] Local history notes John Bear was awarded a bridge construction contract in Waterloo Township [location unspecified] for $4365 in 1870 and that John Bear became a well-known area bridge builder after completing the West Montrose Covered Bridge in 1881[65] The brothers built bridges across Ontario including one at Inglis Falls, Owen Sound.[66] John Bear Jr. died in 1908 and is buried in the Wanner Mennonite Cemetery, Cambridge, Waterloo Region.

Benjamin Bear was born March 2, 1847. He worked as a sawyer, carpenter, builder and contractor over the years and resided near Doon, Ontario. The census returns (1891 and 1901) for Waterloo Township South note Bear's was a bridge builder. He married three times and had twelve children. Bear is known to have built a polychrome brick house in Upper Doon in 1889.[67] Bear died in March 1932 and is buried in the Kinzie-Bean Cemetery, Kitchener, Waterloo Region.

3.3 Covered Bridges in Canada

A covered bridge is a unique structure designed to be supported by trusses and with a deck for traffic loads and pedestrians and nonstructural components including a roof, siding that protect the trusses and deck framing to extend its service life. Numerous reasons for covering a bridge have been offered but the most common is the various coverings, i.e., walls, roofs, and decks, protect and preserve the structural components from the elements. The early builders had experience in the construction of houses, barns, and other enclosed structures and understood the extra cost of adding siding and roofs protected the bridge and over time was cost worthy. Regular maintenance and the

[62] Eby, 184.
[63] Sam Steiner, In Search of Promised Lands, a Religious History of Mennonites in Ontario
John Bear – 19th Century Mennonite Builder and Religious Innovator.
Access: --<https://ontariomennonitehistory.org/2016/09/26/john-bear-19th-century-mennonite-builder/>(October 2021).
[64] Waterloo Region Generations, John Bear (1832-1908).
Access: --<https://generations.regionofwaterloo.ca/getperson.php?personID=I711&tree=generations#cite11> (November 2021).
[65] Gingrich, 10 and 17
[66] Ibid., 24.
[67] Waterloo Region Generations, Benjamin Bear (1847-1932).
Access: --<https://generations.regionofwaterloo.ca/getperson.php?personID=I711&tree=generations#cite11> (November 2021).

occasional replacement of the covering to ensure the longevity of the structure were easier and cheaper than building a new bridge.

A typical covered bridge uses heavy timber trusses to carry loads over an obstruction like a watercourse. The floor system spans between the longitudinal trusses to distribute and carry loads between the trusses. Lateral bracing that connect each truss, or side, of the bridge, a wall system and roof rafters to provide weathering complete the structure. Internal bracing maintains the geometric shape and capacity of the structure. Bracing enables the structure to resist lateral load from wind and remain square and straight along its sides.

Covered bridge siding can be full or partial. A gap in full siding may be left under the eaves for ventilation and light or window openings with louvres are common elements. Siding is typically vertical and sometimes has battens. The most common roofline is a gable configuration with varying slopes from flat to very steep and the side and end overhang varies. The primary function of the roof and walls are to protect the structural timbers from weathering due to moisture.

The style of these structures is a through truss. The covered bridge portal or end entranceway, which is non-structural, comprises the sides and the roof. It may be plain or exhibit design elements added by the builder. A portal extension before the actual trusses may also be added to protect the truss ends from the weather.

Most covered bridges cross small watercourses and, almost without exception, were built to carry a single narrow lane. Typically they were built at naturally narrow locations in the stream and at right angles to the flow to minimize the span length and typically have modest curves at both ends of the bridge. Although the geometry often proves to be the problem with modern traffic needs, resulting in the replacement of this bridge type, it also has contributed to the longevity of the span(s) due to load limits and the slowing of traffic due to approach curves thus reducing the impact of bouncing vehicles. Slower speeds due to geometry reduce accidents that may harm the bridge structure. Restricted vertical clearance also contributes to the functional obsolescence of covered bridges for modern traffic.

North American covered bridges became popular in the 1880s. Principally, covered bridges were built for the practical purpose of protecting the expensive, heavy timber trusses from moisture and sunlight thus extending the life expectancy of the structure. The roof and side walls were considered to be sacrificial structure elements meant to be replaced every few decades as needed. Other reasons for covering bridges is to accommodate horse drawn vehicles and to shelter travellers. Typically, horses fear rushing water and often become agitated as they approach open bridge spans. However, a horse will approach the opening of a covered bridge and reassured by the sidewalls and the light at the end of the tunnel will cross the span readily. In the winter, buggy wheels were replaced with sleigh runners.

Early builders of covered bridges were, for the most part local carpenters, builders or farmers, who adapted designs for the local conditions. Most were not cognizant of scientific building theories, but relied on their material knowledge and were skilled enough to use an adz and pit saw. Crude oaken pins called tree nails held the structures together and the roof was covered with shingles. The exterior siding was often painted dark red.[68]

Most covered bridges for road traffic in Canada were built in New Brunswick and Quebec in the 19th and 20th centuries. From the early 18th to the middle of the 19th century, hundreds of wooden covered bridges were built in Quebec and at the turn of the 20th century, there were at least 1,000 examples with only half remaining by 1940.[69] With more road improvements in the1950s and 1960s greater numbers of covered bridges were replaced in great numbers leaving just less than 100 covered bridge in active use today.[70] The Félix-Gabriel-March and Bridge (1898) at 152 m is the longest and oldest covered bridge in Quebec. The longest covered bridge in the world – seven-spans at 1,300-ft. (396.24 m) in length - was built at Hartland, New Brunswick in 1897.

At the turn of the 20th century, there were at least 400 covered bridges in New Brunswick. Currently, there are 58 covered bridges remaining.[71] Prince Edward Island has two small covered bridges still in use today.[72] In all, less than five (5) covered bridges were built in the Western provinces.[73] In British Columbia, the Ashnola No.1 railroad bridge (1907; rebuilt 1926) is still in use. By 1900, Ontario had a handful of covered bridges with a maximum of seven (7) examples.[74] The “Shingle Bridge” in Blair, which was destroyed in 1857, was the first covered bridge in Waterloo County.[75] Other 19th century Ontario examples of covered bridge locations, other than the West Montrose Covered Bridge, included Napanee, Peterborough, Frankford, Trenton and at Trenton, Williamstown and Martintown.[76] Today, the West Montrose Covered Bridge is the last remaining example of its type in Ontario.

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[68] Jacques Coulon, “Covered Bridges in Canada”, *Canadian Geographic* (August 1969), 62. Access: --<https://www.canadiangeographic.ca/sites/cgcorp/files/images/web_articles/blog/covered-bridges.pdf> (October 2021).
[69] Gérald Arbour, “Covered Bridges of Quebec”, *Encyclopedia of French Cultural Heritage North America*. Access: --<http://www.ameriquefrancaise.org/en/article-463/Covered_Bridges of_Quebec.html> (October 2021).
[70] Ibid.
[71] New Brunswick Canada, Transportation and Infrastructure, Covered Bridges. Access: --<https://www2.gnb.ca/content/gnb/en/departments/dti/bridges_ferries/content/covered_bridges.html> (October 2021).
[72] The Covered Bridges of Canada”, City House Country Home. Access: <https://www.cityhousecountryhome.com/where-to-find-all-the-covered-bridges-in-canada/> (October 2021).
[73] Ibid.
[74] Gingrich, 17.
[75] Ibid.
[76] Ibid., 17; and, “Why Were Covered Bridges Ever Built?”, *The Waterloo Chronicle* (January 19, 1961), 5.

4.0 DESCRIPTION OF THE CONTEXT AND THE BUILT HERITAGE RESOURCE

4.1 Description of the Area Context

West Montrose is located within a spillway of the Guelph Drumlin Field physiographic region in southern Ontario in the Grand River valley. The Grand River was an important transportation route for generations of Indigenous people and its valley has been home to Indigenous peoples for more than 10,000 years. The Six Nations of the Grand River and the Mississaugas of the New Credit First Nation continue to have a strong presence in the area to this day. In the late 18th century and in the early 19th century, the region attracted waves of immigrants to its fertile lands: Scots and Irish in the north, Mennonites and Germans in the central area and United Empire Loyalists in the south. Others from around the world followed to develop a largely agricultural landscape with villages and towns. Historically the Grand River has been a navigable waterway, a power source and used to drive logs to market.

The Grand River with its tributaries is designated as a Canadian Heritage River. Its watershed, the largest in southern Ontario, includes all the land drained by the Grand River and its tributaries and is an intensive agricultural area. The river starts in the Dufferin Highlands and flows south about 310 kilometres (193 miles) to Lake Erie at Port Maitland. West Montrose is located in the central part of the watershed in the Region of Waterloo. At this point, a wide, winding river valley carved through gravel glacial deposits characterizes the river. Flooding in the low areas in the vicinity of the West Montrose Covered Bridge is common.

The community of West Montrose is set in a wide and winding river valley with some steep embankments, particularly along River's Edge Drive. It was established as a community in the mid 19th century and was a mill site and an important and early transportation crossing of the Grand River servicing Elmira to Guelph and Kitchener. Built in 1881, the current West Montrose Covered Bridge, with its distinctive setting, is the focal point of the community and the surrounding pastoral setting of the river. It serves as a gateway function between the north and south sides of the community, which is split by the Grand River. It has been used in film location production. Currently, local residents, smaller service vehicles and tourists regularly use the bridge. The historical road alignment, the former King's 86 (1937-1960), within West Montrose, includes Hill Street from Jigs Hollow to Covered Bridge Drive, Covered Bridge Drive from Hill Street to the West Montrose Covered Bridge over the Grand River to River's Edge Drive and then east from the bridge. Steep slopes and mature vegetation characterize the east and west sides of the bridge crossing.

Cultural Heritage Impact Assessment: West Montrose Covered Bridge
(Part Lot 71, German Company Tract, East of Grand River)
Covered Bridge Drive (Township Road 50), West Montrose,
Township of Woolwich, Regional Municipality of Waterloo

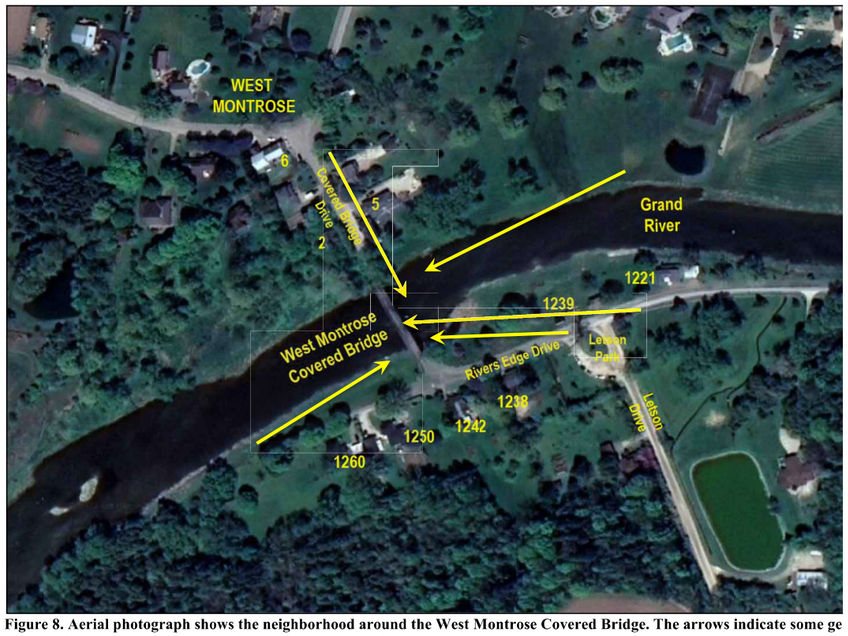


Figure 8. Aerial photograph shows the neighborhood around the West Montrose Covered Bridge. The arrows indicate some ge from the Grand Rover and adjacent roads [As amended, Google, 2022].

Unterman McPhail Associates
Heritage Resource Management Consultants

Long and short, scenic views of the West Montrose Covered Bridge are available from the road/public realm on the south side of the river and from private property on the north side. Long-range views are also available from the bridge on Line 86 and from two areas on Jigs Hollow Road. These views focus to the river and the bridge and are framed by the river valley and vegetation (trees). Short-range views of the bridge are available from locations in proximity to the structure and include views along Covered Bridge Drive from Hill Street, along Rivers Edge Drive to the east and west of the bridge and from Letson Park. These views focus on the bridge, the river and its embankments and are framed by the river valley and vegetation (trees).[77]

An aerial view of the West Montrose Covered Bridge ***(Figure 8)*** shows the existing landscape and buildings in the vicinity of the covered bridge on the north and south side of the Grand River and in the village core. On the north side of the bridge in the village core the area comprises mainly single-family residences while the south side is less developed with a handful of residences. On the north side there are three (3) noted buildings, i.e., the general store (1902) at 6 Covered Bridge Drive, a municipally designated property at 5 Covered Bridge Drive, which comprises a former blacksmith shop, gas station and 19th century house and a 19th century house at 2 Covered Bridge Drive. Crossing the bridge to the south side of the river, noted buildings include 1260 (1890), 1250, 1242 (John Benner stone house. 1880s), 1238 (Second Benner House, 1800s), 1239 and 1221 River's Edge Drive.

Letson Park, where parking to view the bridge is provided, is located beside 1238 River's Edge Drive. The properties at 1238 River's Edge Drive (19th century stone cottage), 1239 (storage sheds connected to the Spring Creek Woolen Mill) and 1242 (19th century stone cottage) are municipally designated properties. Letson Park, donated by the Letson family, was the site of a second school (1865-1874) and later a store. Letson Drive also forms a park boundary.

The West Montrose Covered Bridge is marked as a 2 km detour on the Kissing Bridge Trailway, which travels for 45 km along the right-of-way of a former CPR railway. The bridge has been used as the site of community festivals and public speakers and a graphic for commercial advertisements over the years. The bridge has a high regional profile; it is advertised with signs on Highway 86 and the red bridge stands in contrast to the green space found along the Grand River at the bridge and the nearby park.

4.2 Description of the Built Heritage Resource

Built in in 1881, the West Montrose Covered Bridge, also referred to as "The Kissing Bridge", is located on Covered Bridge Road, which crosses the Grand River in the rural community of West Montrose, Township of Woolwich. It is the only remaining covered bridge standing in the Province of Ontario and the second oldest surviving bridge in the

[77] Township of Woolwich OP, Appendix VII West Montrose Cultural Heritage Landscape Plan, 96 and 97.

Region of Waterloo and the eighth oldest covered bridge in Canada.[78] In 2021, the subject bridge celebrated its 140th birthday**.** Its distinctive red painted wood siding is the focal point within the community and in surrounding pastoral setting of the river, its floodplain, slopes and treed areas.

Excerpts of the original bridge plans and the bridge specifications produced by John Bear in 1880 for the West Montrose Covered Bridge are included in ***Appendix B***. The Waterloo Region Archives and the Grace Schmidt Room of the Kitchener Public Library hold original and copies of the plans. As well, the Grace Schmidt Room holds plans of the DHO bridge work conducted in 1954 (Splice) and 1966 (Bailey Reinforcing) as well as numerous photographs of the subject bridge and work dated 1937[79] and DHO inspection reports from 1955 to 1976.[80] Rempel's publication, *Building with Wood* (1975; rev. 1980) also includes excerpts of the original plans with dimensions. Additionally, Giffels Associates Limited (1996)[81], IBI Group (2014), DDA (2020) and Entuitive (2023) include bridge drawings viewed for this CHIA. Bridge measurements provided in this description are in the imperial system of feet and inches as found on the original drawings and accompanied with a metric conversion in brackets.

Constructed entirely of wood, the two-span, bridge is composed currently of a combination of materials, including steel, wood, concrete, asphalt and stone ***(Figures 9, 10 and 11)***. The structure measures 62 m long and 5 m wide with a vertical clearance of 3.9 m. It has always carried one traffic lane and the roadway width is approximately 15-ft. (4.57 m) between the timber curbs. The north and south abutments/wingwalls are poured concrete. The single centre pier is stone masonry construction. The structure is posted with a 3 tonne maximum limit. Currently the north and south approaches are protected by cable guard systems with timber guiderails.

[78] Region of Waterloo, *Spanning the Generations: A Study of Old Bridges in Waterloo Region*. Phase 2: Heritage Assessment (May 2004) 17.
[79] KPL, Grace Schmidt Room, MC.23.c – Bridge Plans, DHO Splice (August 13, 1955; and, numerous photographs
[80] Ibid., MC.23.1d – Bridge Inspection Reports, DHO, December 13, 1956 to April 2, 1976.
[81] IBI acquired Giffels Associates Limited as a later date.



Figure 9. East elevation of the West Montrose Covered Bridge [UMcA, 2021].

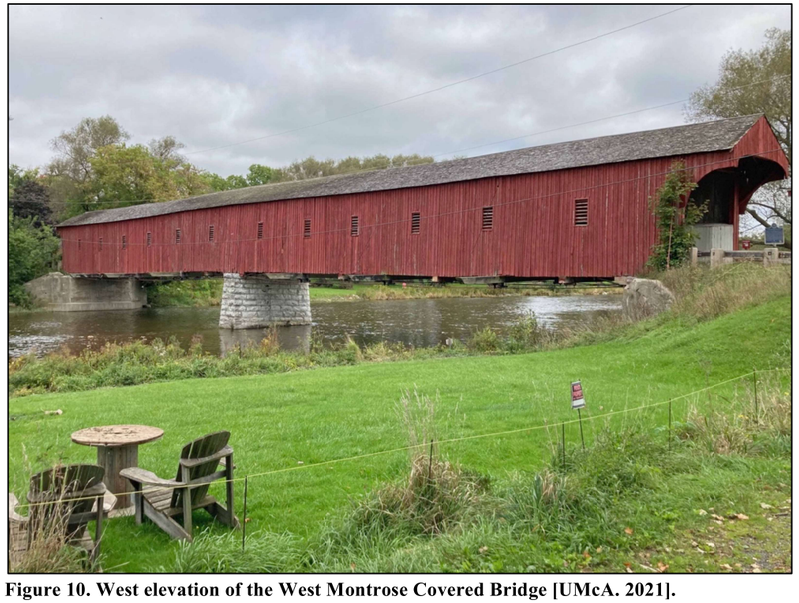


Figure 10. West elevation of the West Montrose Covered Bridge [UMcA. 2021].



Figure 11. View northwest to the south portal of the West Montrose Covered Bridge [UMcA September 2021].

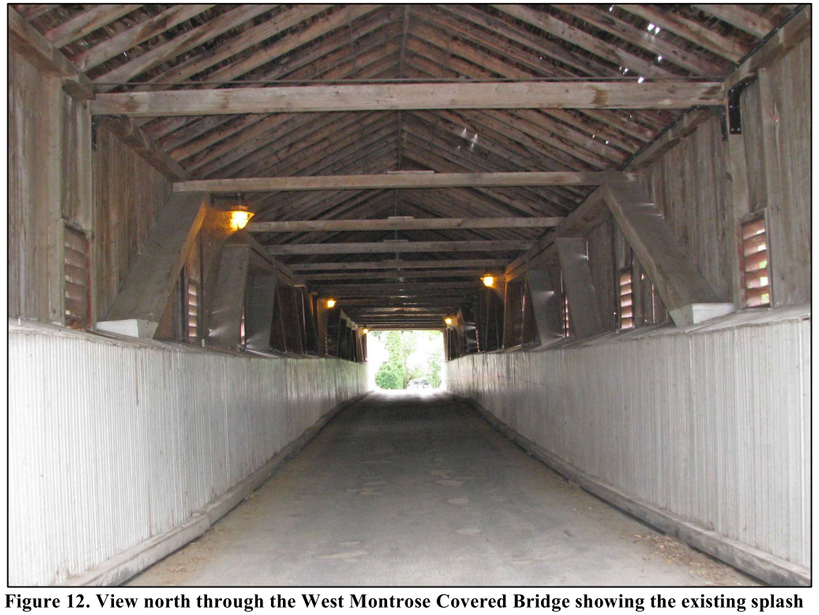


Figure 12. View north through the West Montrose Covered Bridge showing the existing splash panelling, the upper truss, louvre window openings, light fixtures, tie beams and roof rafters.

The timber structure design of the West Montrose Covered Bridge is commonly referred to in literature as Queen Post Trusses; however, its configuration does not truly represent a Queen Truss and is more correctly described as an unusual hybrid Howe truss configuration that is noted for displaying a rare addition of needle beams, i.e., elongated floor beams, used for lateral stability of the frame. The top chord and joint configuration of the bridge, however, represents a unique departure from the typical "Howe' truss.[82] The unusual, if not unique, top chord configuration of the truss gives the impression of two superimposed Queen Posts with a King Post mid-span. A true Queen Post has two or three verticals, a single uniform top chord and inclined end members.[83] Iron rod cross bracing are found below the bottom chord to transfer lateral wind loads to the support points. It was supplemented in 1959 with longitudinal chord reinforcing roads. Sway braces are typically located at each of the needle beams on each side and each side of the north and south portals.

The bridge enclosure is a post and beam design typical of 19th century framed buildings ***(Figures 10 and 11)***. The system, which provides lateral stability to the frame, is considered to be rare with an extension of alternate floor beams (needle beams) beyond the trusses. More recently, steel ships knees and cable bracing supplement the system. Few references to this bracing type are found and those referenced incorporate enclosures around the brace/needle beam to prevent deterioration.[84] The exterior walls, which are painted a red colour, comprise some vertical boards butted together with a batten applied over the juncture to resemble the original board and batten siding and sections of the original tongue and groove boards with an integrated raised batten, which is shown on the original bridge drawings. The gable-end roof, which overhangs both the north and south portals, is covered with cedar shingles and has a ridge board. Each portal, a non-structural component comprising the sides and projecting roof that protects the interior elements from the weather, exhibits curved wood brackets.

The interior of the bridge timber structure ***(Figure 12)*** including the upper walls with the bridge truss, the pine, tongue and groove splash panelling, painted white, that covers and protects the Bailey steel truss at the lower level and a timber curb, the roof construction are visible in ***(Figure 1)***. Electric lantern style lights are spaced evenly along each side of the structure to light the interior.

4.2.1 Modifications

Appendix D: Historical Timeline West Montrose Bridge includes a list of many changes, repairs and rehabilitation work to the bridge since its construction. The West Montrose Covered Bridge retains its original form, scale, massing, purpose and prominent crossing

[82] Giffels Associates Limited. *Structural Evaluation Report West Montrose Covered Bridge, Site33-58*. Prepared for Ministry of Transportation, Ontario, 1996 [?], 3. The Giffels report included as part of IBI Group, *West Montrose Covered Bridge Preservation Plan,* 2014*,* Structural Evaluation Report, West Montrose Covered Bridge, Site 33-58. Prepared for the Ministry of Transportation.
[83] IBI Group, 7.
[84] Ibid.

location on the Grand River. However, for the most part, over the years due to regular maintenance, repair work and rehabilitation work its original materials have been diminished, particularly with regard to the external structure and the deck. Principal modifications of note that have taken place as part of the narrative of the structure's evolution since 1881 include, but are not necessarily limited to, the following:

- the continual renewal and replacement of the exterior siding, roof shingles, wood louvres in the windows and the decking due to ongoing maintenance and repairs;
- the replacement of the original wood pier with a stone masonry pier;
- the replacement of the original north and south abutments with poured concrete abutments in early 20th century;
- introduction of some type of splash panelling in the interior by, at least, the 1920s;
- the covering of the lower part of the side window openings due to new splash panelling installed in the mid 20th century;
- removal of older plaque above the south end portal in the mid 20th century circa 1960s;
- replacement of original needle beams;
- repair and replacement of floor beams, lower chord beam sections, corner blocks and rub rail in the interior;
- painting of the exterior with the current red colour;
- installation of electric lighting in the interior; and
- the reinforcement of the original wood truss configuration with recycled Bailey steel trusses.

5.0 HERITAGE RECOGNITION

The following table lists the cultural heritage value recognition associated with the West Montrose Bridge at a municipal, regional, provincial and federal level.

TABLE 2. COMMUNITY AND GOVERNMENT HERITAGE RECOGNITION: WEST MONTROSE COVERED BRIDGE

JURISDICTION	NAME	RECOGNITION
Municipal	***Woolwich Township***	○ ***2007:*** *Township of Woolwich By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, OHA* (August 14, 2007) to recognize the bridge as a heritage resource of significant cultural heritage value or interest under Part IV, OHA. ○ ***2011:*** *Township of Woolwich, By-Law No. 81-2011, Official Plan Amendment No. 18* adopted, Special Policy Area, West Montrose Cultural Heritage Landscape (WM-CHL) identifies the municipally designated West Montrose Covered Bridge as a character defining attribute. ○ ***2020:*** The *West Montrose Cultural Heritage Plan* identifies the bridge as a character defining attribute.

TABLE 2. COMMUNITY AND GOVERNMENT HERITAGE RECOGNITION: WEST MONTROSE COVERED BRIDGE

JURISDICTION	NAME	RECOGNITION
Regional	***Region of Waterloo***	○ ***2004:*** The West Montrose Covered Bridge is profiled in *Spanning the Generations: A Study of Old Bridges in Waterloo Region* (May 2004) and noted as one of the top 10 historic bridges in the Region. ○ ***2018: Heritage Bridge Recognition Program***: As one of the Region's most iconic symbols and ranked second out of 100 heritage bridges studied in *Spanning the Generations: A Study of Old Bridges in Waterloo Region*, the West Montrose Covered Bridge became one of eight bridges recognized under the Region of Waterloo's *Heritage Bridge Recognition Program* in 2018. The Heritage Bridges of Waterloo plaque is located in Letson Park on Rivers Edge Drive immediately east of the south bridge entrance in West Montrose. ○ ***Waterloo Region Heritage Inventory (WRH):*** The West Montrose Covered Bridge is a RSCHR on the Inventory.
	Kitchener Public Library	○ **1999**: Main Branch opens *The Kissing Bridge Exhibition*, a multi-artist retrospective on the West Montrose Covered Bridge.
Provincial	***Grand River Conservation Authority (GRCA)***	○ ***1998:*** The West Montrose Covered Bridge was featured on the cover page of the GRCA report, *Canadian Heritage River System, Grand River, Nomination Document.* ○ ***2004:*** *Grand Old Bridges: The Grand River Watershed Bridge Inventory includes the* bridge in the inventory. ○ ***2013:*** *Arch, Truss & Beam: The Grand River Watershed Heritage Bridge Inventory* (March 2013) identifies the bridge as a cultural heritage resource of significance.
	Ontario Archaeological and Historic Sites Board	○ ***1960:*** The Ontario Archaeological and Historic Sites Board recognized the West Montrose Bridge as an historic site. It is the only remaining covered bridge in Ontario. A provincial plaque was erected on-site. ○
	Ontario Heritage Trust:	○ ***1979:*** The Ontario Heritage Foundation (now the Ontario Heritage Trust) installed a new plaque on-site. ○ As a designated property the subject bridge is included on the OHA Register maintained by the OHT.
Federal	***Canadian Heritage Rivers System***	○ 1***994:*** The Grand River is recognized federally as a Canadian Heritage River in 1994. Heritage bridges were an important factor in the 1994 designation.
	Parks Canada	○ ***Canadian Register of Historic Places:*** As a municipally designated heritage resource the West Montrose Bridge is included on this database.
	Canada Post	○ ***2019:*** Canada Post issued a West Montrose Covered Bridge postage stamp as part of a five stamp issue to honour covered bridges in Canada but not imposing any government policy.

6.0 STATEMENT OF CULTURAL HERITAGE VALUE (SCHV) UNDER ONTARIO REGULATION 9/06, ONTARIO HERITAGE ACT

The Township of Woolwich By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, OHA (August 14, 2007) provides the following SCHV and a description of heritage attributes for the West Montrose Covered Bridge.

The West Montrose Covered Bridge is the only remaining covered bridge in Ontario and the second oldest surviving bridge in the Region of Waterloo. It was designed by a local contractor, John Bear, who, with his brother Benjamin, constructed the bridge in 1881 as a replacement for an earlier open bridge at the same location. Originally, the bridge was constructed solely of wood. Over the course of more than a century, a number of improvements have been necessary to maintain the function and integrity of the bridge. The bridge materials today are a mix of wood, stone, asphalt, concrete and steel, representing not only the evaluation of the bridge technology but also the stewardship of the township, the region and the province. While the materials have been altered, however, the original form of the bridge designed by John Bear has been largely maintained.

The "Kissing Bridge', as it was appropriately nicknamed due to the intimacy and privacy that the covered bridge offered its travelers, is an iconic structure. It is a prominent and recognizable feature in arguably one of the most picturesque landscapes of Ontario. It is also representative of the early history of Woolwich Township and of an earlier time in the village.

Description of Heritage Attributes

Attributes that contribute to the cultural heritage value of the bridge and which should be retained include:

- *the original location of the bridge in the Village of West Montrose spanning the Grand River;*
- *the original dimensions of the bridge, 208 feet in length and 17 feet wide;*
- *the original truss configuration, a hybrid Queen Post – Howe timber configuration, reinforced by a recycled 1944 Bailey steel truss structure;*
- *the central pier;*
- *the wood exterior sheathing and interior panelling, punctuated by louvered window openings;*
- *the shingle gable roof;*
- *the system of illumination by decorative electric interior lamps;*
- *views to and into the bridge from the north and south banks of the Grand River.*

7.0 PROVINCIAL SIGNIFICANCE UNDER ONTARIO REGULATION 10/06, OF THE ONTARIO HERITAGE ACT

The Ontario Heritage Trust (Trust) evaluates cultural heritage resources for provincial significance using the criteria prescribed in Ontario Regulation 10/06. The criteria lay out general principles of provincial heritage value. In order to apply the regulation and use it for specific property evaluations the Trust developed a detailed Evaluation Model that provides a methodical process for evaluating properties, determining and articulating provincial significance. It provides a series of objective tests for determining cultural heritage significance for making recommendations to the Minister of Citizenship and Multiculturalism (MCM) regarding the designation of property under Section 34.5 of the OHA. The Trust uses Regulation 10/06 to evaluate all property for heritage value because, as a provincial agency, the Trust focuses its resources and efforts on the conservation of provincially significant properties.

Considering the existing local, regional and provincial recognition of the West Montrose Covered Bridge it may meet the criteria of O. Reg. 10/06, Criteria for Determining Cultural Heritage Value or Interest of Provincial Significance. If a property satisfies any of criteria under O. Reg. 10/06 it is considered to possess cultural heritage value and therefore the protection, conservation and commemoration of the property is a matter of provincial interest.

8.0 EXISTING BRIDGE CONDITION

The West Montrose Covered Bridge is a hybrid Queen Post – Howe timber configuration that was reinforced by recycled 1944 Bailey steel trusses in the mid 1960s. During its lifespan the West Montrose Bridge has undergone many repairs and alterations as part of continual maintenance to its timber and wood components resulting in an "evolved" engineering structure. Currently, the substructure and superstructure of the two span bridge structure is composed of a combination of materials, including timber and wood, steel, concrete, asphalt and stone. It is still used by pedestrians, buggy traffic and vehicles to cross the Grand River and has a posted maximum load of 3 tonnes.

The principal original materials and elements of the bridge that remain are the hybrid Queen Post – Howe timber truss configuration timber truss system. As an evolved structure select timber deck beams have been replaced and the existing roof structure with the exception of a replacement ridgeboard has been replaced. No record of the roof rafter replacement is known, but it is assumed some members have been renewed. The vertical board siding, wood shingles and wood louvres on the exterior structure have been replaced due to ongoing maintenance of the structure. The current wood deck is covered with an asphaltic coating. Of the 19 steel Bailey truss panels inserted in the 1960s, the 3 panels over the pier were replaced in 1999 with Mabey-Johnson steel panels. The central stone pier was built in 1900 to replace the original timber crib and the current concrete abutments are replacement elements.

The DDA document, *West Montrose Covered Bridge, Detailed Inspection* (June 2020) provides commentary with regard to the existing conditions of the bridge. It indicates the exterior bridge material, i.e., siding and roof shingles, louvre windows and the decking require renewal and repair due to deterioration from continual use and weathering. The DDA report included the following existing condition summary with regard to the heritage attributes included in the Designation By-Law. The 2023 survey by Entuitive Engineers and Moses Engineering further detailed and confirmed the bridge structure's deteriorated state of repair through the completion of the beam by beam timber truss assessment along the assessment of other wood and steel bridge components.

- ***Original truss configuration*** **reinforced by recycled 1944 Bailey steel truss structure:** Installed in 1965 to carry a portion of the deck load. The steel truss within the bridge consists of 19 truss panels on each side of the bridge (38 total). Three (3) panels over the pier were replaced in 1999 with Mabey- Johnson panels. All truss panels are reinforced with additional chord channels at the top and bottom, except for the panels at the abutments, where only the top is reinforced with chord channels. The two-span steel truss is continuous over the pier of the bridge.
- ***Central pier:*** From the south embankment settlement on the east side is noted.
- ***Wood exterior sheathing and interior panelling, louvered window openings:*** The exterior siding, currently coated in a red protective coating, is secured to the edge beam at the top and the bottom chords at the bottom. No significant defects were noted; however, large gaps between the vertical boards and holes in the planks were observed. Decay and damages by wildlife were noted throughout. Rainfall stains noted on the inside of the exterior siding.
- ***Shingle gable roof:*** Inspection of the roofing showed some deterioration on the timber rafters. However, at various locations, gaps are visible between the shingles and roof decking, indicating the need for repairs to prevent interior moisture damage.
- ***System of illumination by decorative electric interior lamps:*** The existing electrical wires and outlet(s) of the current electrification system, which was installed by the MTO in 1950 and the wiring was updated in 2018.

Entuitive Engineers have recommended a list of element replacements based on condition assessment to include: deck; stringers, floor and needle beams; bottom cord, steel hanger rods; sway bracing; exterior cladding; bottom lateral bracing; reinforcement of end diagonals; and, cedar roof shingles. Replacement as necessary for the tie beams, squash blocks, vertical posts and roof rafters.

UMcA completed a site survey in September 2021 and photographs from that time period of the West Montrose Covered Bridge and its context are included in ***Appendix B***.

9.0 SELECTION OF PREFEERRED ALTERNATIVE

9.1 Selection Process

Initially the project team carried forward two (2) rehabilitation alternatives for evaluation in 2021. The project team assessed Alternative A- Steel Truss Reinforcement and Alternative B- Timber Truss Reinforcement against a set of evaluation criteria. Following PCC#1, the project team reviewed public input to develop and finalized the evaluation of the rehabilitation alternatives.

In 2023, ENTUITIVE Consulting Engineers and MOSES Engineering completed a detailed timber truss, wooden components and fabric inspection. This inspection allowed the Region and the consulting team to develop four (4) new alternatives, each with differing load capacities. The four alternatives C1-12 tonnes, C2-10 tonnes, C3-8 tonnes, and C4-6 tonnes included a range of the same recommended wood repairs alternatives based on the following premises:

- Remove existing steel Bailey truss and replace/strengthen deteriorated wooden truss members.
- Level of intervention varies based on the design live load.
- Remove interior white cladding and reinstate in small sections at each end.
- Install overhead lateral bracing inside the bridge.[85]

All six (6) alternatives, A, B, C1, C2, C3 and C4, preserved the subject bridge in-situ, its original length and width dimensions and its original hybrid Queen Post-Howe timber truss configuration and beams. Furthermore, all six re-cambered the bridge to its original profile, eliminated the sag in the deck and replaced several heritage attributes i.e., all external siding, wood louvre windows and the entire gable roof structure and shingles, and required the salvage and refurbishment of the existing lighting system. The existing steel Bailey trusses, a heritage attribute, will be removed. The entire deck will be replaced. An overhead, height restriction bar was common to all alternatives.

Table 3 includes a description of the wood repairs prepared in November 2023 for Alternatives C1-C4.[86] The four alternatives will use in-kind materials for wood and timber repair, retain the overall bridge character, a sense of historic place and the existing cultural landscape setting. After evaluating the alternatives the project team selected C2 as the Preferred Alternative. It addresses existing structural deficiencies and maintains the bridge as a functioning pedestrian and vehicular structure within the Region's road system. All alternatives resulted in a visual similarity to the original 1881 bridge.

[85] Region of Waterloo with Entuitive and BT Engineering. *Presentation, West Montrose Covered Bridge Rehabilitation, Township of Woolwich Heritage Committee* (November 8, 2023) 20.
[86] Ibid.

The Alternative Evaluation process used the comprehensive Multi-Attribute Trade-off System (MATS) method. The MATS process considered four factor groups: Heritage, Structural, Social, Environment and Cost. The Factor groups were made up of measurable criteria (sub-factors) used to identify relevant benefits and impacts and the relevant difference between alternatives.

TABLE 3: ALTERNATIVES C1-C4 – WOOD REPAIRS

Truss Element	Alt. C1 – 12 tonnes	Alt. C2 - 10 tonnes (Preferred)	Alt. C3 - 8 tonnes	Alt. C4 - 6 tonnes
Stringers	Replace with new sawn wood stringers			
Floor and Needle Beams	Replace with new 16" x 16" sawn wood Douglas Fir beams. The current beams are 12" x 12".			
Bottom Chord	Replace with new Douglas Fir chord – to be spliced.			
Top Chord	No action			
Lower Top Chord	Make composite with top chord by adding wood plate between top chord and lower top chord and fastening together			No action
End Diagonals	Repair by fastening on new 4 1/2" (102mm) thick wood plank	Repair by fastening on new 4" (89mm) thick wood plank	Repair by fastening on new 3" (64mm) thick wood plank	
Interior Diagonals	Repair by fastening on new 2" (38mm) thick wood plank	No action		
Lower Diagonals	No action			

9.2 Preferred Alternative

After the evaluation of the six alternatives the project team selected C2 as the Preferred Alternative. C2 includes the complete renewal of the exterior structure, i.e., the exterior siding, whole or part of the roof structure, the roof shingles and window louvres, new tie beams, decking, needle beams and deck beams and the repair of the centre stone pier. It addresses its existing structural deficiencies and maintains it as a functioning pedestrian and vehicular structure.

The Preferred Alternative C2 will affect heritage attributes noted in the Township Designation By-Law. The proposed actions in Alternative C2 were presented for municipal Heritage Committee review November 8, 2024. The Preferred Alternative C2 received Township's Heritage Committee acceptance. The Township of Woolwich Council received the recommendation from the Woolwich Heritage Committee dated November 10, 2023 to direct the Project Team to:

1. Implement the Alternative C2 option for wood repairs (10 tonnes):
2. Work with staff to draft the necessary amendments to the Heritage Designation By-law 60-2007 for Council approval; and
3. Proceed with the next steps to obtain Regional Council Approval.

And further that the Township strongly advocated that consideration be given to restricting the bridge to pedestrian, cyclist and horse and buggy usage only and that vehicular traffic not be permitted on the bridge.

10.0 SUMMARY OF COMMUNITY ENGAGEMENT

Table 4 describes the municipal staff, committees and private heritage groups with regard to the proposed infrastructure work to the West Montrose Covered Bridge.

The Region and DDA held a Public Consultation Centre #1 (PPC) in October 2021. Plans for the West Montrose Covered Bridge were presented for public information, discussion and comment. Comments were received on the Engage website, by mail and e-mail. The objective was to restore the bridge to the way it looks today, by removing the Bailey bridge truss and the replacement with a custom-built steel girder, which would be hidden from view by replaced, interior splash panelling. Based on that criteria, an all-wood option was not presented as an alternative during PCC #1. During PCC#1, the Region received input regarding the possibility of an all-wood rehabilitation method. This rehabilitation alternative represents a departure from the initially proposed steel girder.

In response to comments from the public during and after PCC#1, Region staff re-engaged New Brunswick officials and reached out to industry experts in the field of wood trusses to further discuss the rehabilitation method used for the Milkish Inlet and the potential applicability at West Montrose. Subsequently DDA conducted a preliminary assessment of this rehabilitation method and concluded this method was feasible. It is referred to as **Alternative B**.

The Region held virtual PPC #2 on June 8 – July 4, 2022 to present the recommended ***Preferred Rehabilitation Alternative B*** to ensure that the public fully understands all implications of this rehabilitation method versus ***Alternative A***. The Region provided an on-line survey due July 4, 2022. Following the PCC#2, public feedback had requested the Region conduct an extensive and thorough evaluation of the timber truss before making any decision. On October 19, 2023, the Region and Consulting Engineers conducted a meeting with the BridgeKeepers to provide information on the past summer structural assessment and the results of Multi-Attribute Trade-off System (MATS) evaluation of Alternatives. On November 8, 2023, the Region, the Consulting Engineers and Richard Unterman with Unterman McPhail Associates presented the proposed rehabilitation project to the Township of Woolwich Heritage Committee. The committee reviewed the project outcomes. The committee members subsequently supported and accepted the selection of the Preferred Alternative C2 as determined through the MATS evaluation process. The Committee advocated vehicular traffic is restricted from using the bridge.

TABLE 4: COMMUNITY ENGAGEMENT

Municipal/ Community Contact	Date & Contact Name	Response
Township of Woolwich	Date: October 2021. David Gundrum, RPP Planner, Development Services 24 Church St. W., P.O. Box 158, Elmira, ON. Tel: 519-669-1647 (ext. 6033) Email: dgundrum@regionof waterloo.ca Date: November 8, 2023. The Region presented the proposed rehabilitation project to the Township of Woolwich Heritage Committee.	The Township of Woolwich Heritage Committee recommended Preferred Alternative C2 as the rehabilitation approach to Township of Woolwich Council. November 10, 2023.
Region of Waterloo	Date: September 2021. Bridget Coady, MCIP, RPP Principal Planner, Cultural Heritage, Planning, Development and Legislative Services 150 Frederick Street 8th Fl. Kitchener, ON N2G 4J3 Email: bcoady@regionofwaterloo,ca Date: November 2023 – ongoing. Roxanna Nazarowicz, Sr. Planner Cultural Heritage, Archaeology and Indigenous Engagement) Tel: (519) 575-4400 ex. 3112 Email: RNazarowicz@regionofwaterloo.ca	Ongoing consultation. The Region will review CHIA Report. PPC #1 was held in October 2021 and PPC #2 in June-July 2022 to present Alternative A and Alternative B. PPC #3 was held November 22, 2023 to present Alternatives A, B, C1, C2 (Preferred), C3 and C4.
Architectural Conservancy of Ontario (ACO) North Waterloo Region	Date: October 18, 2021 Marg Rowell, Chair Tel.: 1-519-634-9354 Email: rowell01@sympatico.ca	ACO expressed concerns re: preferred alternative for structural rehabilitation, i.e., wood versus steel beam.
Grand River Conservation Authority (GRCA)	Date: October 2021 Trevor Heywood Resource Planner. North Kitchener, Waterloo, Wilmot, South Woolwich Grand River Conservation Authority Tel.: 519-621-2763 (Ext. 2292)	No stated heritage concerns. Referred UMcA to heritage information contained in *Arch, Truss & Beam: The Grand River Watershed Heritage Bridge Inventory*. (March 2013).

TABLE 4: COMMUNITY ENGAGEMENT

Municipal/ Community Contact	Date & Contact Name	Response
BridgeKeepers (West Montrose Residents' Association, Inc.)[87]	Date: October 19, 2023 The Region and Consulting Engineers conducted a meeting with the BridgeKeepers to provide information on the past summer structural assessment and the results of Multi-Attribute Trade-off System (MATS) evaluation of Alternatives.	The BridgeKeepers have concerns re: the preferred alternative for structural rehabilitation. At the behest of the group, the American based National Society for the Preservation of Covered Bridges, Inc. submitted comments on the Region's planned repairs. The resident group expressed interest in knowing what period of the bridge's history was selected for rehabilitation. In 2023, the BridgeKeepers requested information on the amount of timber replacement, the wood type and dimension to be used in the rehabilitation.

11.0 POTENTIAL IMPACTS OF PREFERRED ALTERNATIVE C2

11.1 Introduction

The Region of Waterloo is planning rehabilitation actions for the West Montrose Covered Bridge. The bridge is an evolved structure with numerous repairs to and replacements of original materials and elements in the 20th and early 21st centuries. The original timber truss system exists in-situ.

The Township of Woolwich *Heritage Impact Assessment Terms of Reference* states negative impacts as stated in the Ontario Tool Kit are to be assessed, but not limited to:

- Destruction of any, or part of any, *cultural heritage resource* or *attribute*
- Alteration that is not sympathetic to, or is incompatible with, the historic fabric and appearance.
- Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or planting, such as a garden.
- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features.
- A change in land use where the change in land use negates the property's cultural heritage value.
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.

[87] The BridgeKeepers, a non-profit group of concerned citizens that is "committed to preserving the heritage, culture, quality of life and unique appeal of this special place..." was established in 2008 to keep a watchful eye over the covered bridge.

11.2 Description of the Impacts

Preferred Alternative C2 addresses the existing structural deficiencies of the West Montrose Covered Bridge in order to maintain it as a functioning pedestrian and vehicular structure. C2 includes the complete renewal of the exterior structure, i.e., the exterior board and batten siding, part of the roof structure, roof shingles and window louvres as well as new tie beams, decking, needle beams and deck beams and the repair of the centre stone pier. The following interventions will alter or remove the stated heritage attributes and materiality of the existing West Montrose Covered Bridge, Designation By-Law 60-2007.

- Remove the existing 1944 steel Bailey trusses, which are heritage attributes of the bridge, and strengthen the existing wooden trusses, which are heritage attributes of the bridge. (The truss and the top and bottom cord repair action will eliminate the external sag in the roof and the internal sag of the bridge deck and the hump at the pier.)
- Remove the interior white splash paneling except for sections at both ends of the bridge and replace the timber curb to protect the wooden truss.
- Replacement of the roof sheathing, shingles and replacement with in-kind materials to the original roof design. The roof structure, i.e., rafters are to remain in place with selective rafter repairs where deemed necessary.
- Replace the deck system, including the transverse nail-laminated wood deck with a timber deck.
- Replace the roof system and re-shingle the roof, which is a heritage attribute, with in-kind wood shingles.
- Replace the existing external wood siding and louvre window openings, which are a heritage attribute of the bridge, with in-kind, wood siding to match.
- Remove the non-functioning longitudinal tension-rod system installed by MTO in the 1950s.
- Repairs to the lighting system will include removal, salvage and reinstatement of the existing lighting in the same locations as required. The Region may look at options for LED bulbs within the existing light fixtures.
- Place a boulder "protection collar" around the base of the central stone masonry pier in order to guard against harmful scour effects associated with heavy river flows during flood events.
- Introduce a vehicle height restriction barrier on the north bridge approach, which will be set back a distance, to control the type of motorized vehicles allowed to cross the structure.
- As well, Preferred Alternative C2 will result in other changes that are not identified as bridge heritage attributes. The wood replacement repairs will include new sawn wood stringers, new 16"x16" Douglas Fir beams, a new Douglas Fir bottom cord, lower top cord strengthening with a wooden plate fastened to the top cord and end diagonal strengthening with news 4" thick wood plank fastened to the existing timber.

In summary, this rehabilitation intervention to the bridge will result in a covered bridge with its original hybrid Queen Post – Howe timber truss configuration and beams in-situ. New roof sheathing and cedar wood shingles and new board and batten siding will be installed in the likeness of the existing and original 1881 bridge. Preferred Alternative C2 is considered to be reversible as it uses wood for repairs. The new construction repairs for the exterior structure will respect the materiality and character of the original structure and the bridge's historic place, context and setting in the village of West Montrose.

Table 5 describes the potential direct and indirect impacts to the heritage attributes identified in the Township of Woolwich By-Law No. 60-2007.

TABLE 5: POTENTIAL IMPACTS: HERITAGE ATTRIBUTES PREFERRED ALTERNATIVE C2

Heritage Attributes	Potential Impact
1) Destruction of any, or part of any, *cultural heritage resource* or *attribute.*	
○ the original location of the bridge in the Village of West Montrose spanning the Grand River Grand River	**No Impacts** The original bridge location will not be changed retaining its historic place and setting in West Montrose.
○ the original dimensions of the bridge, 208 feet in length and 17 feet wide	**No Impacts** The original dimensions of length and width of the structure will not be changed retaining its scale and form.
○ the original truss configuration, a hybrid Queen Post – Howe timber configuration, reinforced by a recycled 1944 Bailey steel truss structure	**Direct Impact** The steel Bailey bridge trusses dated to 1944 as a heritage attribute of the evolved bridge will be removed to restore the structural integrity of the original hybrid Queen Post – Howe timber truss configuration and to achieve the design strength necessary to meet a 10 tonnes load requirement. New wood timber beams will be inserted. New floor beams and needle beams constructed with new 16"x16" Douglas Fir beams. This intervention action is theoretically reversible.
○ the central pier	**No Impact** No change to the character and materials of the existing central pier visible to the public above the water line. Repairs as required with in-kind materials and retain the existing appearance.
○ the wood exterior sheathing and interior panelling, punctuated by louvred window openings	**Direct Impacts** All of the existing exterior wood sheathing will be removed and replaced with new siding with in-kind materials. The new board and batten cladding will respect the character and materiality of the original and exterior sheathing. The louvre window openings will be replaced with in-kind materials and will respect the character, design and materiality of the existing openings, which have been reduced in size from the original. The existing wood splash panels over the original wood trusses will be removed. The shortened replacement sections at located both entrance ends of the bridge will be in keeping with the wood splash panel materials and visual design of the existing panels.

TABLE 5: POTENTIAL IMPACTS: HERITAGE ATTRIBUTES PREFERRED ALTERNATIVE C2

Heritage Attributes	Potential Impact
○ the shingle gable roof	**Direct Impact** The sheathing of the existing roof will be repaired and new, in-kind wood roof shingles will replace the existing shingles, which are a more recent repair.
○ the system of illumination by decorative electric interior lamp	**Direct Impact** The bridge currently has 5 interior sodium vapour lamps, upgraded in 2018. The lighting system will be removed, salvaged and updated as required before being reinstalled in the interior in the approximate locations of the existing light fixtures.
○ views to and into the bridge from the north and south banks of the Grand River	**Direct Impact** There will be no permanent change to the river views of the bridge; however, a visual impact from the proposed new height restriction barrier placed at the north end of the bridge to prevent entry by unauthorized oversize/ overweight vehicles may obstruct to some degree the views to and into the bridge. As well, there may be temporary view obstruction due to construction activities.
2) Alteration that is not sympathetic to, or is incompatible with, the historic fabric and appearance.	
○ the original location of the bridge in the Village of West Montrose spanning the Grand River Grand River	**No Impact** The original location of the bridge will not be changed.
○ the original truss configuration, a hybrid Queen Post – Howe timber configuration, reinforced by a recycled 1944 Bailey steel truss structure	**Direct Impact** The steel Bailey trusses noted as heritage attributes will be removed. The new support system is compatible with the historic fabric of and appearance the original bridge structure.
○ the central pier	**No Impacts** Repairs to the central pier will be sympathetic to the historic fabric and appearance as viewed by the public.
○ the wood exterior sheathing and interior panelling, punctuated by louvered window openings	**Direct Impact** All of the existing wood exterior siding and louvre windows will be removed and replaced. The interior splash panelling will be removed and replaced in-kind in the four bridge deck corner locations.
○ the shingle gable roof	**Direct Impact** New, in-kind wood roof shingles will replace the existing shingles, which are a more recent repair.
○ the system of illumination by decorative electric interior lamp	**Direct Impact** The existing system of illumination will be removed, salvaged, updated and reinstalled.

TABLE 5: POTENTIAL IMPACTS: HERITAGE ATTRIBUTES PREFERRED ALTERNATIVE C2

Heritage Attributes	Potential Impact
○ views to and into the bridge from the north and south banks of the Grand River	**Direct Impact** The introduction of a height restriction barrier that is set back a distance on the north bridge approach to prevent entry by unauthorized oversize/overweight vehicles will obstruct to some degree the view into the bridge on the north approach.
3) Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or planting, such as a garden.	
	No Impact No anticipated direct of indirect impacts to the heritage attributes.
4) Direct or indirect obstruction of significant views or vistas within, from or of built and natural features.	
	Direct Impact There may be some direct obstruction of the West Montrose Covered Bridge heritage attributes temporarily during construction activities. The installation of a vehicle height restriction barrier set back a distance on the north bridge approach to control the type of motorized vehicles allowed to cross the structure will introduce a partial obstruction of the significant view to the north end of the bridge
5) A change in land use where the change in land use negates the property's cultural heritage value.	
	No Impact No anticipated direct of indirect impacts to the heritage attributes.
6) Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.	
	No Impact No anticipated direct of indirect impacts to the heritage attributes.

12.0 CONSERVATION PRINCIPLES & APPROACH

12.1 Introduction

The Township of Woolwich *Heritage Impact Assessment Terms of Reference* note the following conservation strategies.

- The preferred strategy recommended to best protect and enhance the cultural heritage value and heritage attributes of the cultural heritage resource(s) including, but not limited to:
  - A mitigation strategy including the proposed methods;
  - A conservation scope of work including the proposed methods; and
  - An implementation and monitoring plan.

  - Recommendations for additional studies/plans related to, but not limited to: conservation; site specific design guidelines; interpretation/commemoration; lighting; signage; landscape; stabilization; additional record and documentation prior to demolition; and long-term maintenance.
  - Referenced conservation principles and precedents.
  - A schedule and reporting structure for implementing the recommended conservation/ mitigative/avoidance measures and monitoring the heritage resource as the development or site alteration is undertaken.

Content and recommendations of the CHIA should be based on accepted conservation principles and guidelines, including those outlined in:

- Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada*; and
- MHTCSI, *Eight Guiding Principles in the Conservation of Historic Properties*.

The MHTSCI *Eight Guiding Principles in the Conservation of Historic Properties* provide a rationale for activities and interventions that may affect character, features or context of a heritage property. The principles are:

- Respect for documentary evidence;
- Respect of original location;
- Respect of historic material;
- Respect for original fabric;
- Respect for the buildings history;
- Reversibility;
- Legibility; and
- Maintenance.

The *Standards and Guidelines* define the conservation treatments as preservation, rehabilitation and restoration and offer the following definitions.

Conservation: *All actions or processes that are aimed at safeguarding the character-defining elements of a cultural resource so as to retain its heritage value and extend its physical life. This may involve "Preservation," "Rehabilitation," "Restoration," or a combination of these actions or processes.*

Preservation: *The action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of a historic place or of an individual component, while protecting its heritage value.*

Rehabilitation: *The action or process of making possible a continuing or compatible contemporary use of a historic place or an individual component, while protecting its heritage value.*

Restoration: *The action or process of accurately revealing, recovering or representing the state of a historic place or of an individual component, as it appeared at a particular period in its history, while protecting its heritage value.*

As well, the *Standards and Guidelines* provide the following definitions:

Intervention: *Any action, other than demolition or destruction, that results in a physical change to an element of a historic place.*

Minimal intervention: *The approach that allows functional goals to be met with the least physical intervention.*

Repairing *engineering works or their components from the restoration period by patching, piecing-in, splicing, consolidating or otherwise augmenting them using recognized preservation methods. Repairs may also include the limited replacement — preferably in kind - of those extensively deteriorated or missing parts of features when there are surviving prototypes. The new work should be physically and visually compatible, and be unobtrusively dated, if possible, to guide future research and treatment.*

Replacing in kind *an entire component of an engineering work from the restoration period that is too deteriorated to repair - if the overall form and detailing are still evident - using the physical evidence as a model to reproduce the component. The replacement should have the same form and overall appearance and material properties similar to a sound version of the replaced component; and have adequate strength or load-bearing capabilities. Replacement mechanisms should function in the same way as the historic mechanism and operate using the same motive power, e.g., hand-operated or automated. The new work should be unobtrusively dated, if possible, to guide future research and treatment.*

Removing Existing Features from Other Periods
Removing or altering visually intrusive features, such as a non-matching column or exposed ceiling beams, dating from other periods. Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

The main principles embraced by the *Standards and Guidelines* ***(Appendix F)*** are:

- the historic character of the property must be retained and preserved;
- discouragement of the replacement of intact or repairable historic materials including character-defining features of the structure such as the trusses;
- all bridge repair should be compatible both physically and visually with the structure and any distinctive materials, features and construction techniques or craftsmanship of the bridge should be preserved;

- if repairs to wooden elements or timber members are required the existing condition should be evaluated to determine the appropriate level of intervention required; and
- if deterioration is severe enough to require repair or replacement of an element, the deteriorated material should be replaced with the same wood species and match the original material in composition, design, colour and texture.

Section 4.4 of the *Standards and Guidelines* specifically addresses the conservation of civil engineering works such as the West Montrose Covered Bridge. It states civil engineering works present a difficult challenge since they often remain in functional use and must meet contemporary safety codes. Their continued use is contingent on meeting the current codes that often requires significant rehabilitation.

Subsection 4.4.1, Construction Elements addresses the conservation of those physical elements identified as character-defining elements or heritage attributes of an historic place. Constructed elements are described as the physical record of the engineering work: its purpose; operation and evolution; the engineering innovation and design it represents; its impact on the environment and its form. Scale, massing, materials and construction type can have heritage value as illustrations of the purpose, operation and use. Before beginning a project, the form, materials and condition of the engineering work should be documented.

Subsection 4.4.2, Functional Arrangement provides guidance on the interrelationship of the constructed elements of the engineering work and may include associated landscape, or be limited to a single constructed element. There is a strong connection between the functional arrangement of an engineering work and it's setting as the setting explains the location of a civil work. Prior to any changes to the functional arrangement it is important to understand how the proposed changes will affect its relationship with its setting and its heritage value.

Additionally, Section 4.5, Guidelines for Materials apply to all and specific materials. Materials, which are usually heritage attributes, should be conserved. Ongoing care of materials including appropriate maintenance and repair contribute to the integrity of the engineering work and its lifespan. In-kind materials should be used whenever possible.

12.2 Conservation Approach: Preferred Alternative C2

The *Standards and Guidelines* recognize the conservation of civil engineering works such as the West Montrose Covered Bridge present a difficult challenge since it will remain in functional use and must meet contemporary safety codes. Its continued use is contingent on meeting the current codes which requires significant rehabilitation work.

The overall conservation approach to the West Montrose Covered Bridge is rehabilitation with a mix of removing or replacing later interventions. The Preferred Alternative C conserves the structure for future generations by implementing a rehabilitation strategy that ensures the structural integrity of the bridge to meet the current bridge code and to ensure its continued use for vehicular traffic with restricted loads. The rehabilitation approach will

remove some heritage attributes that are part of the "evolved" history of the bridge and introduce new elements to ensure structural strength, and protection of the structure over the long-term.

Preferred Alternative C2 employs a reversible intervention to ensure structural integrity of the structure by the use of new Douglas Fir structural timbers. The following describes the conservation approach for Preferred Alternative C2 for the West Montrose Covered Bridge

- Preserves and retains the original bridge structure in-situ.
- Preserves the original dimensions of the bridge, 208-ft. (63.40 m) in length and 17-ft. (5.18 m) feet wide.
- Preserves the original truss configuration, a hybrid Queen Post – Howe timber configuration in-situ.
- Preserves and strengthens the structural integrity of the original bridge truss structure This modern intervention is compatible in materiality; it preserves the original bridge height, roof line, scale and character.
- Preserves the central stone masonry pier in-situ with some masonry repairs.
- Preserves the character and materiality of the exterior structure by using new, in-kind materials, using the same dimensions and board and raised batten detail to the dimensions of the original specifications when replacing all of the existing exterior cladding.
- Preserves the existing interior character of the bridge by removing and replacing the interior splash panelling, the 90-year-old (+/-) addition to the evolved bridge structure, in part to protect the heritage attribute, with in-kind materials, replicating the existing character.
- Preserves the character and materiality of the louvre window openings by using new, in-kind materials for repairs.
- Preserves the existing roof structure and character of the bridge by replacing the wood roof shingles with new, in-kind, wood shingles and the ridgeboard with the original dimensions and installation technique. Replacement of select roof rafters.
- Preserve the existing decorative electric lamps on the interior by removing, repairing/upgrading and reinstalling the fixtures to the interior in the approximate location of the existing fixtures.
- Preserves the existing cultural landscape character and setting of the bridge and reinstalls the OHT plaque and the BridgeKeepers box at the south portal.
- Minimizes the potential for obstruction of the existing views to and into the bridge from the north and south banks of the Grand River by the installation of a height restriction bar (details to be determined) at the north portal of the bridge.

12.3 Summary

Alternative C2 will preserve the subject bridge in-situ with its original length dimensions and will use in-kind materials for wood and timber repair to retain the overall bridge character and its historic place.

Taking into account the degree of its rehabilitation intervention, Alternative C2 is considered to be a well thought out conservation approach for the West Montrose Covered Bridge since it more closely follows the principles of the Ontario Heritage Tool Kit's *Eight Guiding Principles in the Conservation of Historic Properties* and Parks Canada's *Standards and Guidelines*. Alternative C2 does not raise the bridge roof height; it will retain the existing external structure replacing the roof shingles and siding as required; and, it respects the principle of retaining older additions that contribute to the character of the evolved structure with regard to the splash panelling. The replacement of the existing interior splash panelling in-kind respects the guiding principles of MTCS, *Eight Guiding Principles in the Conservation of Historic Properties* and Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada* to retain older additions that respect the history of and contribute to the character of the evolved structure.

General and specific mitigation recommendations are provided in Section 13.0.

13.0 MITIGATION RECOMENDATIONS

Expectations for the quality and execution of the rehabilitation work to the West Montrose Covered bridge are set out in the Ontario Heritage Tool Kit's *Eight Guiding Principles in the Conservation of Historic Properties* ***(Section 13.1)*** and the Parks Canada's *Standards and Guidelines* ***(Appendix F)***. The following mitigation recommendations address the potential impacts of Preferred Alternative C2 to the subject bridge. The recommendations are based on the principles noted in the above two documents, the anticipated impacts as set out in this CHIA, the structural work required considering the existing condition of the bridge, the implementation and the professional qualifications for those undertaking the work to assure the continued longevity of the 143-year-old bridge structure. The recommended mitigation actions ameliorate the negative effects of the potential impacts resulting from Preferred Alternative C2 to the stated cultural heritage value and historic place of the West Montrose Covered Bridge.

Section 13.1 includes general mitigation recommendations for consideration and implementation for the entire bridge structure. More specific mitigation recommendations for the heritage attributes, as described in Section 13.2.

13.1 General Mitigation Recommendations

- Engage a Heritage Consultant who is a professional member of the Canadian Association of Heritage Professionals (CAHP), with specific expertise as required, to ensure the ongoing preservation work, repairs and restoration work to the heritage attributes of the bridge are implemented on a Best Practice basis and to be an active member of the project team to monitor that repairs and restoration best practices are followed and that the protection of the existing bridge elements to remain in-situ are carried out.

- Collect and identify the existing interior and exterior photographs of heritage attributes (2021-22) assembled by the project team and/or take additional photographs to augment the existing information of heritage attributes prior to any work being undertaken to record the existing condition in a report. Photograph all demolition or removal work of heritage attributes as a record of construction for archival purposes.
- The existing Township of Woolwich Heritage By-law will be revised to update the heritage attribute description and the change related to rehabilitation of the bridge. This will follow the process outlined in the Ontario Heritage Act regulations.
- Retain as much original timber structural material as possible and keep timber repairs to a minimum. Any replacement timber should preferably be wood type with similar strength properties to the original wood.
- Reinforcement of timbers will be based on the requirement to meet structural bridge design codes.
- Consider potential alternatives to the decking surface, which can enhance the interior heritage character of the bridge and meet existing safety requirements for bridge use.
- Reinstate the early wood signage shown on the south portal end shown in historical photographic documentation.
- Update the IBI Group Preservation Plan with regard to the newly rehabilitated bridge structure. Prepare a Conservation Plan to provide future stewardship and care of the West Montrose Covered Bridge.
- The rehabilitation project will be informed Conservation Guidelines developed following the CHIA preparation to manage change to West Montrose Covered Bridge.
- The Heritage Consultant will review the Detail Design to confirm the rehabilitation with respect the heritage conservation guiding principles. The Heritage Consultant will be available during the construction period to review outstanding issues if required.
- Consider augmenting the commemorative plaque in Letson Park with information on the rehabilitation work being completed. A section of the Bailey bridge truss could be saved as an interpretive element and placed in the park. The Heritage Consultant should be used to provide input to any new commemorative action.
- One (1) digital copy of the CHIA report will be provided to the Grace Schmidt Room, Kitchener Public Library as part of the copyright agreement with the library for the use of the Waterloo Historical Society images.
- One (1) digital copy of the CHIA report will be provided to the Region of Waterloo Archives and to the Township of Woolwich.

13.2 Recommended Mitigation Actions: Bridge Heritage Attributes

Table 6 includes mitigation recommendations for the heritage attributes noted in the Designation By-Law for the West Montrose Covered Bridge, which includes the cultural landscape views to and into the bridge from the north and south banks of the Grand River.

TABLE 6: RECOMMENDED MITIGATION RE: HERITAGE ATTRIBUTES AND PREFERRED ALTERNATIVE C2

Municipal Designation: Heritage Attributes	Mitigation
Original location of the bridge in the Village of West Montrose spanning the Grand River.	No anticipated impacts, therefore, no mitigation recommendation.
Original dimensions of the bridge, 208 feet in length and 17 feet wide.	No anticipated impacts, therefore, no mitigation recommendation.
Original truss configuration, a hybrid Queen Post – Howe timber configuration, reinforced by recycled 1944 Bailey steel truss structure.	Any repair work to the original wood trusses should be compatible physically and visually with the structure and its distinctive materials, features and construction techniques or craftsmanship and any repairs should match the original material in composition, design, colour and texture of the original wood element if possible while meeting code requirements. Reinforcing the original wood trusses with new 4" (89mm) thick, fastened wood plank preserves the original wood trusses in place and service. The removal of the Bailey steel truss should be documented photographically and existing condition notes should form part of the Region's bridge record. Reuse of the Bailey bridge in part or whole can be considered for light pedestrian and cycle use if found structurally adequate.
Central pier	Any general repairs to the pier stone masonry above the water line should be compatible physically and visually with the structure and match the exiting stonework and mortar in mortar mix composition, design, and colour.
Wood exterior sheathing and interior panelling, louvered window openings.	The new exterior wood siding should replicate as much as possible the construction dimensions and materials stated in the 1880 specifications. This will restore the original design intent and ensure the bridge is compatible physically and visually with the distinctive materials, features and craftsmanship of the original structure. The selected wood species used should match the original in design and texture as much as possible even if it is to be repainted red. (Original tongue and groove board with raised batten siding has been located in certain siding sections. It has been replaced over time in most areas with a raised batten fixed between two vertical boards). If structurally feasible, the portal ends should be reconstructed using the original 1880 design intent. Consider restoring the exterior structure to its earliest documented appearance when all siding is replaced. The replacement of other wood components should follow the recommendations of the exterior siding recommendations. Existing interior wood splash panelling to be replaced in kind in the four corners at both ends of the bridge is considered to be a satisfactory rehabilitation design solution.

TABLE 6: RECOMMENDED MITIGATION RE: HERITAGE ATTRIBUTES AND PREFERRED ALTERNATIVE C2

Municipal Designation: Heritage Attributes	Mitigation
Shingle gable roof	Replacement of the entire roof structure with new cedar shingles should be in keeping with the original materials and be compatible physically and visually with the structure and its distinctive materials, features and construction techniques or craftsmanship. The new roof structure and wood shingles should use the same wood species as the original specifications, if possible, and should match the original specified roof material in composition, design, colour and texture.
System of illumination by decorative electric interior lamps	Re-installment of the conserved light fixtures should be in the approximate location of the existing fixtures.
Views to and into the bridge from the north and south banks of the Grand River.	*Views to and into the bridge from the north and south banks of the Grand River* should be maintained as detailed in the new restored portal design. Expert advice should be retained to prepare the final design of the height restriction bar and the preferred location.
South end bridge portal.	Reinstate the early wood signage shown on the south portal in historical photographs.

14.0 CONCLUSION

Preferred Alternative C2 is considered to be an acceptable heritage conservation approach to the rehabilitation of the 143-year-old West Montrose Covered Bridge, a structure that has evolved over time from its original condition through many phases of repair and reconstruction. It addresses existing structural deficiencies and maintains the heritage bridge as a functioning pedestrian and vehicular structure within the Region's road system and over the Grand River in the historic Village of West Montrose while conserving the identified cultural heritage value of the bridge within it's setting, community and the Region. It conserves the heritage attributes identified in the Township of Woolwich Designation By-Law No. 60-2007 (August 14, 2007) and uses approved heritage conservation best practice measures for wood repairs that recognize the importance of original construction techniques and materials. The all-wood rehabilitation approach to the structure repair is considered to be a respectful conservation approach.

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(Part Lot 71, German Company Tract, East of Grand River)
Covered Bridge Drive (Township Road 50), West Montrose,
Township of Woolwich, Regional Municipality of Waterloo

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Sheet 4: Repair Details a
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Contacts

David Gundrum, RPP. Planner, Development Services, Township of Woolwich.

Bridget Coady, MCIP, RPP, Principal Planner, Cultural Heritage, Region of Waterloo.

Michelle Pinto, P. Eng., MBA Engineer, Transportation Rehabilitation (Design & Construction) Region of Waterloo.

Charlotte Woodley, MA (she/her), Supervisor, Archives & Collections, Region of Waterloo Museums.

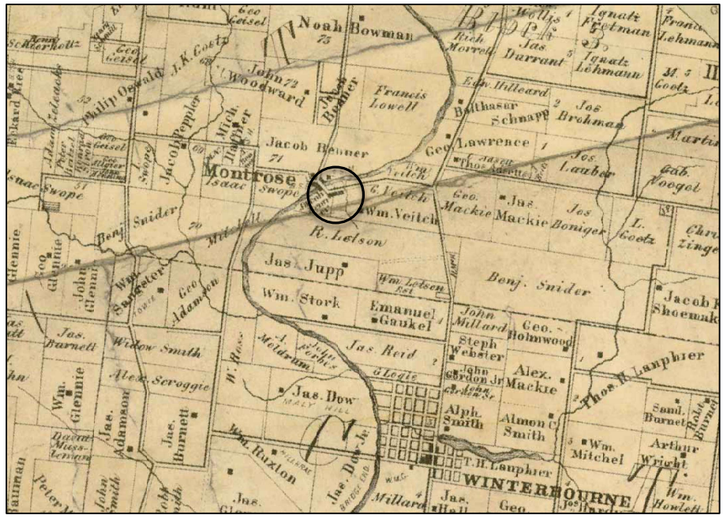
Chiara Rosa Fallone, Senior Library Assistant, Grace Schmidt Room of Local History Kitchener Public Library.

Karen Ball Pyatt, Manager, Grace Schmidt Room of Local History, Kitchener Pubic Library.

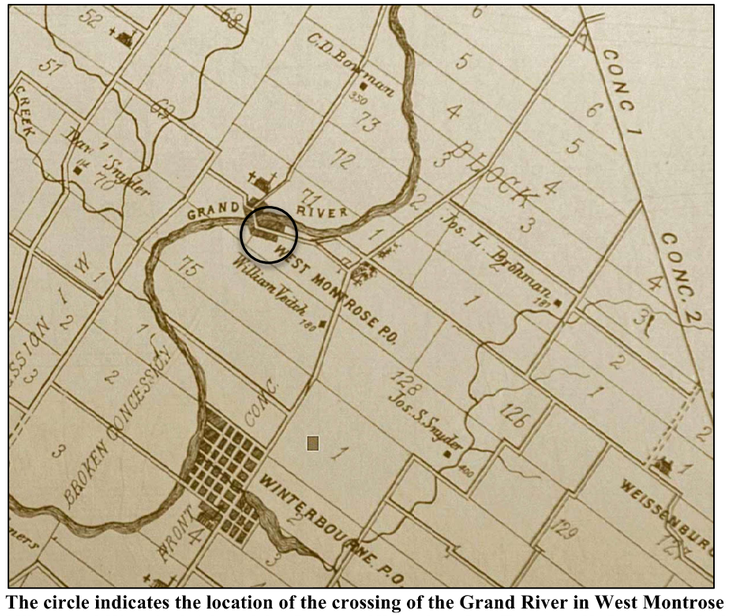
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APPENDIX A: HISTORICAL MAPS PHOTOGRAPHS AND CANADA POST STAMP

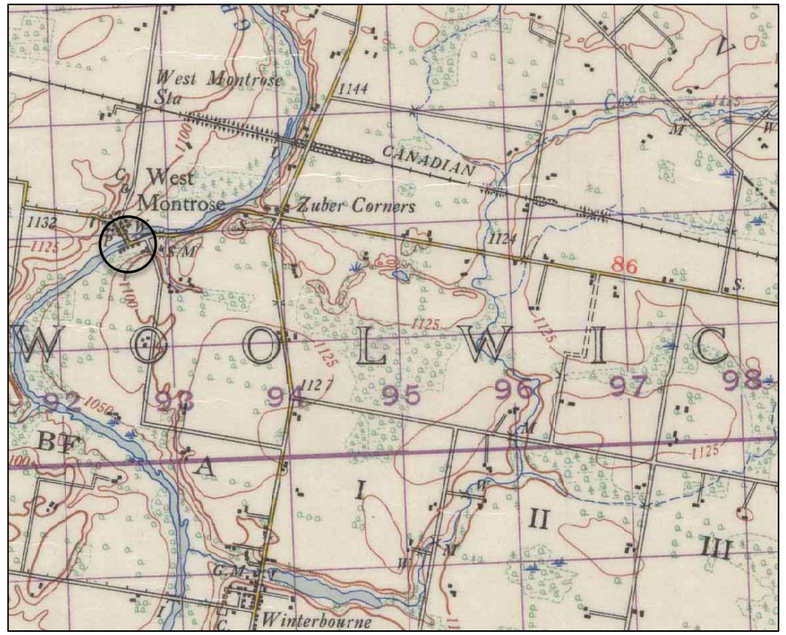


The circle indicates the location of the crossing of the Grand River at West Montrose of In 1861 [Tremaine's Map of the County of Waterloo, Canada West. Geo. R. & G. M. Tremaine, 1861.]



The circle indicates the location of the crossing of the Grand River in West Montrose [*Illustrated Historical Atlas of the County of Waterloo, Ont.* Toronto: H. Parsell & Co.'s, 1881].

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The circle on the topographic map shows the location of the West Montrose Covered Bridge and West Montrose on the Grand River in the early 1930s [NTS Guelph 40P09, 1939 (Surveyed 1933)].



Air photo showing the immediate environment of the West Montrose Covered Bridge crossing in 1963 [University of Waterloo Library, Geospatial Centre, Air Photo Digitization Project, Digital Historical Air Photos of Woolwich Township, IME44, 1930].

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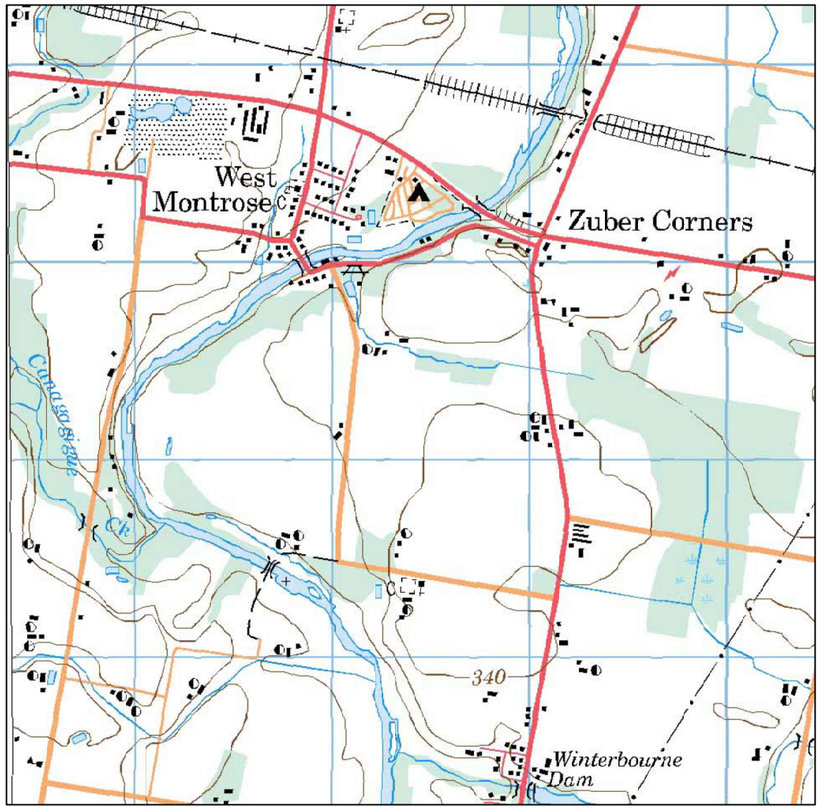


Aerial photograph showing the immediate environment of the West Montrose Covered Bridge crossing in 1963 [University of Waterloo Library, Geospatial Centre, Air Photo Digitization Project, Digital Historical Air Photos of Woolwich Township, IME36, 1963].



Aerial view of flooding at West Montrose Covered Bridge in 1974 showing the immediate environment [KPL, Grace Schmidt Room. PO20390 (WHS Collection), May 1974. Courtesy of the Waterloo Historical Society].

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The circle on the topographic map shows the location of the West Montrose Covered Bridge, and the alignment of Highway 58 bypassing West Montrose on the Grand River in 1990 [NTS Guelph 40P/09, 1990].

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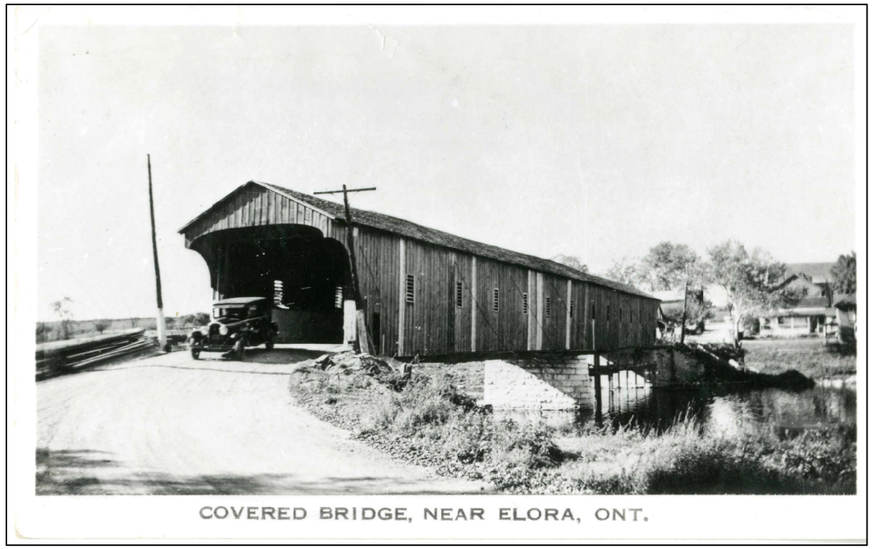


Image of the east elevation and south portal of the West Montrose Covered Bridge showing the original portal end design, repairs to the exterior siding and louvre window openings [Source: Wellington County Museum and Archives, PH7390, West Montrose Bridge, postcard, Woolwich Township, ca. 1925].

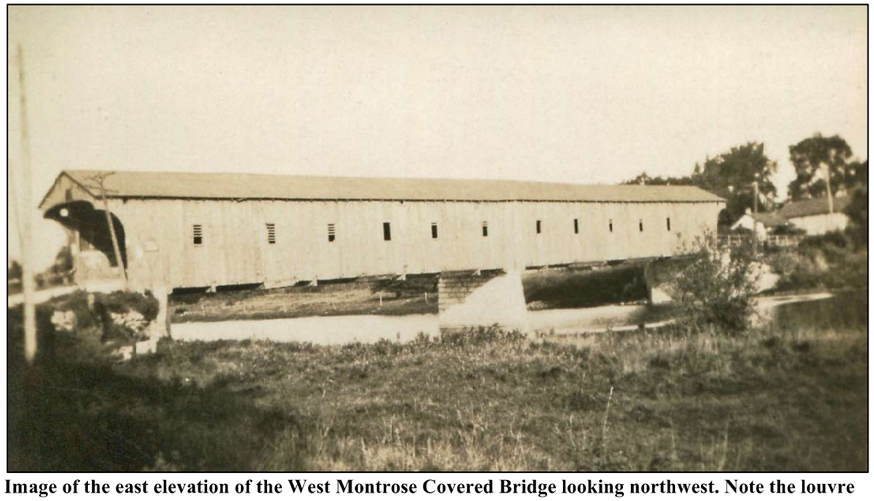
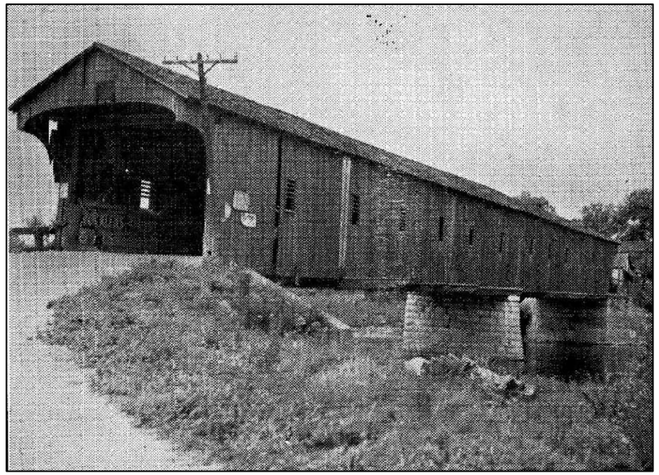
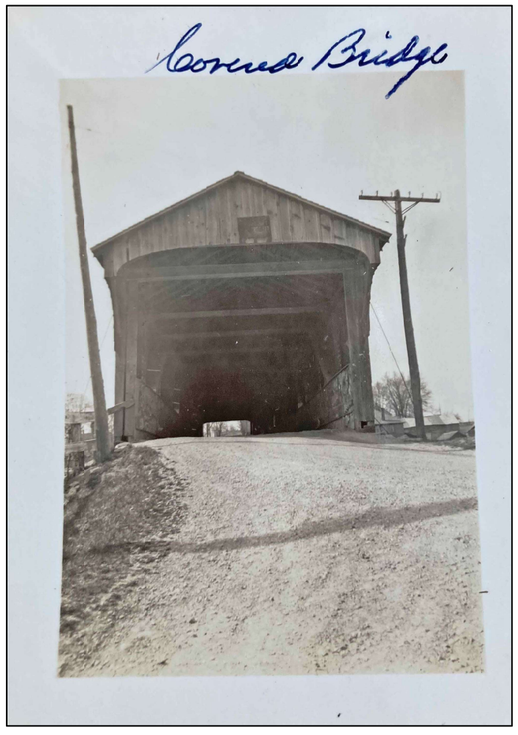


Image of the east elevation of the West Montrose Covered Bridge looking northwest. Note the louvre window openings and the existence of interior splash panelling [Region of Waterloo Library, ca. 1933.]

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Interior splash panelling is shown. ["Covered bridge at West Montrose, said to be the only one of its kind remaining in Ontario. Built, as nearly as can be ascertained, in 1881 by Benjamin Bear, a builder and contractor who lived near Doon. The bridge consists of two 90-foot spans and has an inside width of 17 feet." *Waterloo Historical Society Twenty-Five Annual Report.* Kitchener: Waterloo Historical Society, 1937].



Looking to the south bridge portal showing the interior splash panelling [KPL, 1MC.67.5 IMG_0931, dated 1939].

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Photograph showing the unpainted exterior of the bridge enclosure from the 1930s [Courtesy Ryan Mills, Region of Waterloo Historic Bridge Plaque, West Montrose Covered Bridge].

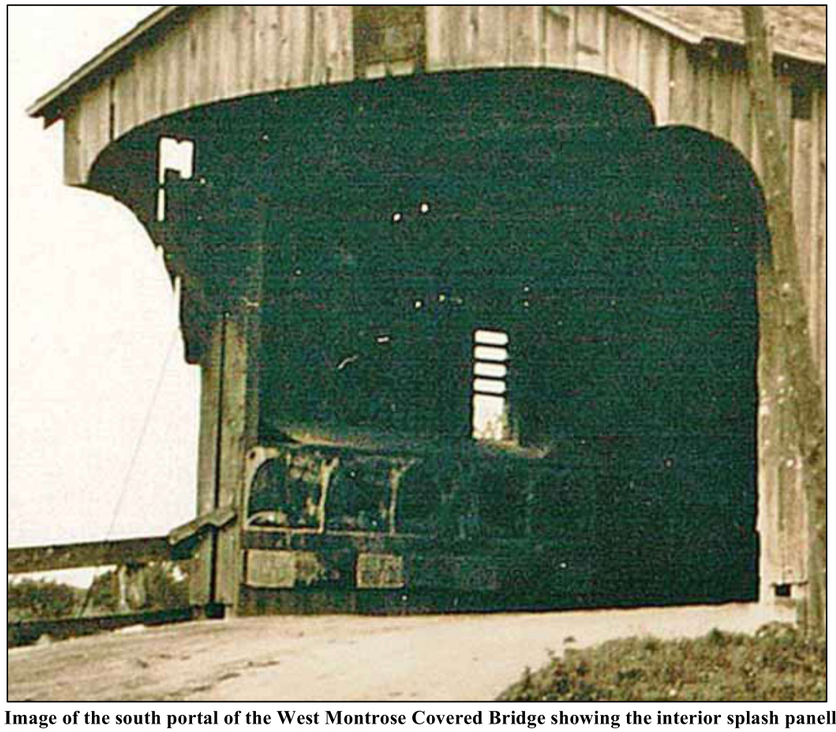
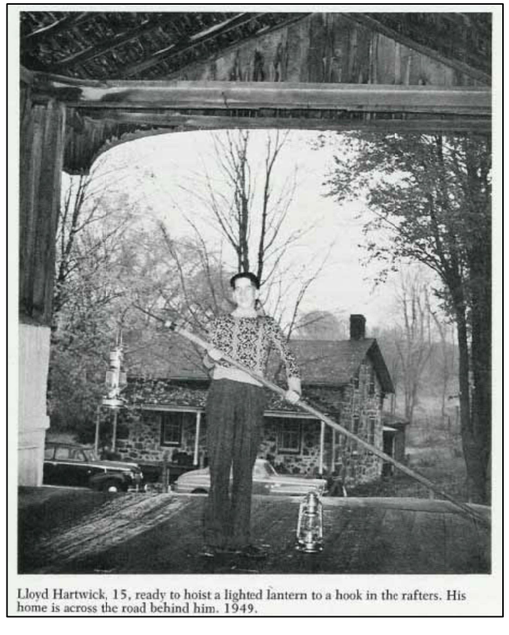


Image of the south portal of the West Montrose Covered Bridge showing the interior splash panelling [Bridgekeepers, Image 003, provided by Tony Dowling],

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View looking north along the west side of the bridge showing the needle beams. Note the house at 2 Covered Bridge Drive in the background [Mennonite Archives of Ontario, 1947, #1199].



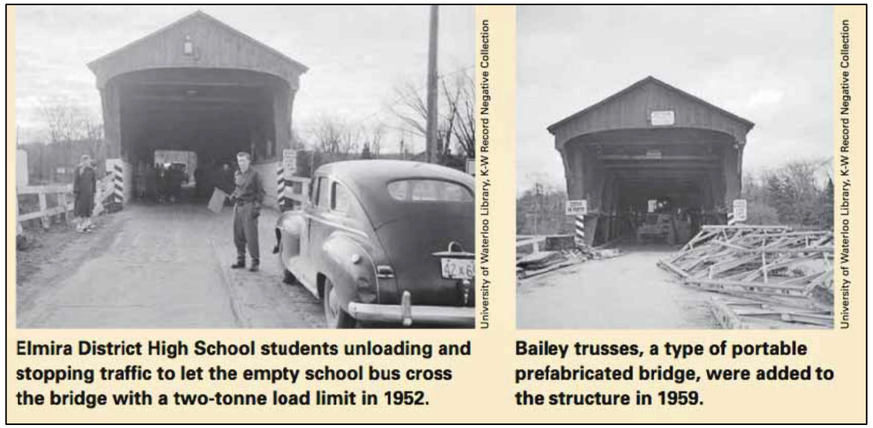
Photograph of the interior of the south portal of the West Montrose Bridge with Lloyd Hartwick lighting the lamps [Bridgekeepers, Image 002, provided by Tony Dowling].

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View looking north on Covered Bridge Drive from inside the bridge showing the splash panelling prior to the existing panelling with vertical boards augmented with horizontal boards and topped by a wide sloping board cover [Mennonite Archives of Ontario, 1950, #1203].

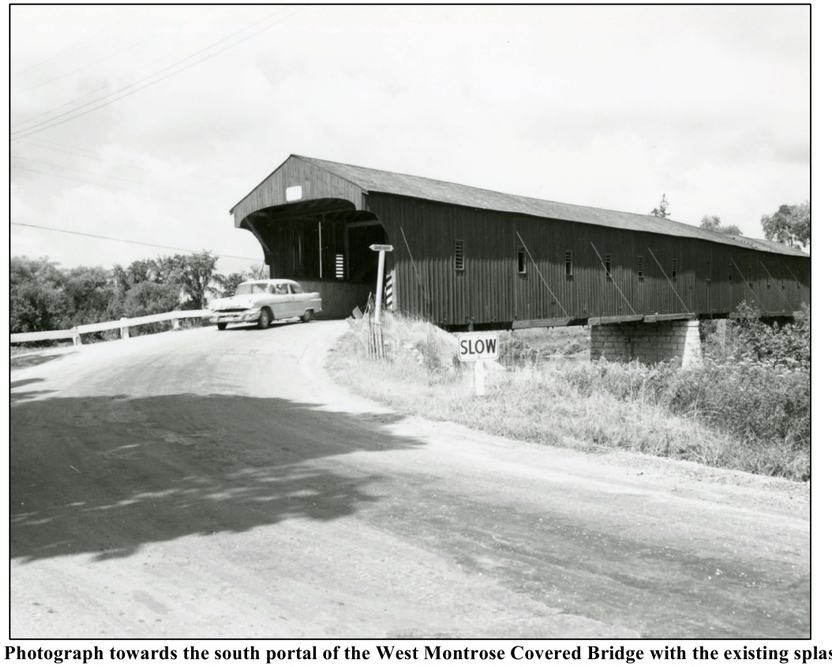
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Elmira District High School students unloading and stopping traffic to let the empty school bus cross the bridge with a two-tonne load limit in 1952.

Bailey trusses, a type of portable prefabricated bridge, were added to the structure in 1959.

Photographs of the south portal of the West Montrose Covered Bridge in 1952 (left) and 1959 (right) with a pile of Bailey bridge components for installment. [Region of Waterloo Historic Bridge Plaque, West Montrose Covered Bridge, Original Source: University of Waterloo Archives. Kitchener-Waterloo Record Photographic Negative Collection].



Photograph towards the south portal of the West Montrose Covered Bridge with the existing splash panelling shown on the interior of the structure [KPL, MC.23.1e P007, circa 1965?].

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Photograph looking north to the south portal of the West Montrose Covered Bridge With the bridge plaque in-situ, [KPL, MC.23.1e P015, circa 1965?].



Photograph towards the south portal of the West Montrose Covered Bridge during construction, [KPL, MC.23.1e P013, circa 1965?].



Photograph of interior construction work replacing the deck on the West Montrose Covered Bridge and showing the interior splash panelling before they were replaced [KPL, MC.23.1e P011, circa 1965?].

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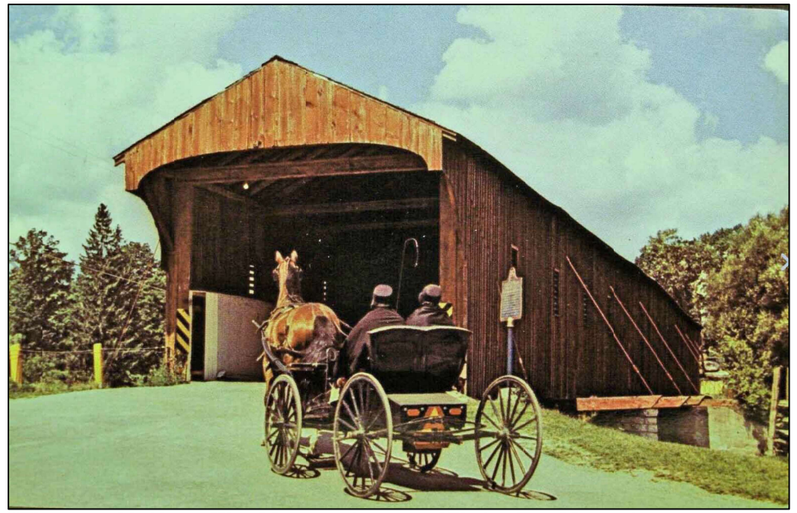


West elevation (above) of the West Montrose Covered Bridge [KPL, 8849-B, Image 0870, no date (circa late 1960s?)].



East elevation (below) of the West Montrose Covered Bridge [KPL, 8849-B, Image 0876, no date (circa late 1960s?)].

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"The covered bridge at West Montrose, just east of Elmira. Two Mennonite women are seen here approaching the bridge. The Mennonites are noted for the traditional way of life they have maintained for over a century, living in the area around Elmira". Photograph Laura Schneider, Published Schneider Enterprises & Gifts Ltd., Woodstock, Ontario, Canada, 62654-D, no date (post 1971).



Image supplied by Canada Post

Commemorative stamp image of the West Montrose Covered Bridge issued by Canada Post as part of a series of historic bridges in 2019.

Appendix B: Photographs: West Montrose Covered Bridge & Context (September 2021

Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View northeast to the west elevation showing the south and north abutments with the centre pier of the West Montrose Covered Bridge [UMcA, Sept. 2021].



View of the north abutment of the West Montrose Covered Bridge [UMcA, Sept. 2021].

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View northeast to the south elevation of the stone centre pier of the West Montrose Covered Bridge [UMcA, Sept. 2021].



View north showing the underside of the deck and centre stone pier of the West Montrose Covered Bridge [UMcA, Sept. 2021].



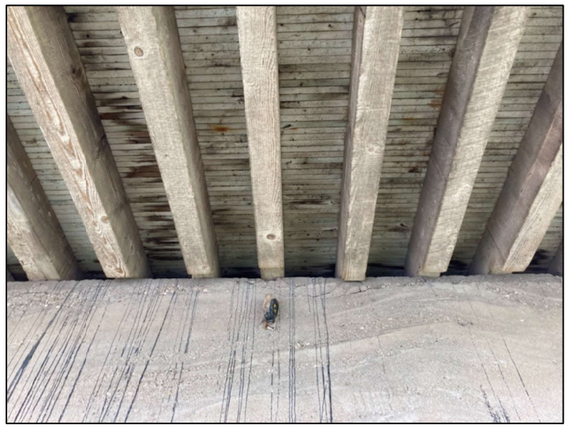
View southeast to the west side of the south abutment of the West Montrose Covered Bridge [UMcA, Sept. 2021].

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View of the south abutment of the West Montrose Covered Bridge [UMcA, Sept. 2021].



View of the deck stringers and decking at the south abutment of the West Montrose Covered Bridge [UMcA, Sept. 2021].

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View north on the east side showing the needle beams and central pier [UMcA, Sept. 2021].



View north on the west side showing the needle beams, board and batten siding and central pier [UMcA, Sept. 2021].

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



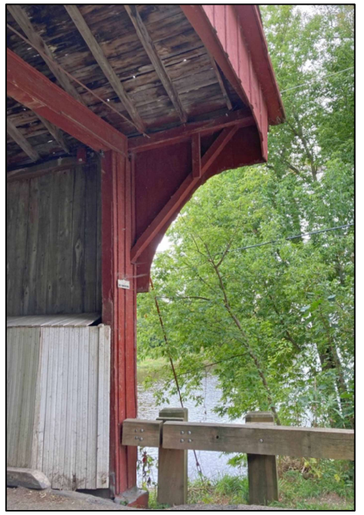
View north along east side of the bridge showing the needle beams and exterior board and batten siding.



View towards the north portal and the roof gable-end overhang of the West Montrose Covered Bridge.

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View towards the west side of the north portal showing the detail of the roof gable end overhang and the interior white painted panelling.



View towards the south portal and the roof gable-end overhang of the West Montrose Covered Bridge.

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



View to the east side of the south portal showing the detail of the overhang and the interior white painted splash panelling.



View towards the west side of the south portal showing the detail of the overhang and the interior white painted splash panelling.



View of the south portal with its roof gable-end overhang and the interior roof rafters.

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



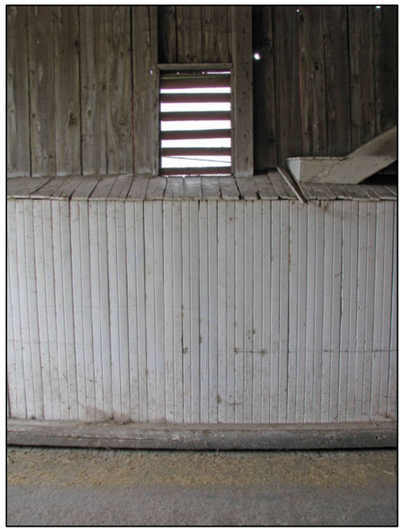
Detail of a louvre window opening at on the west side at the south end of the bridge and the board and batten siding.



View south through the West Montrose Covered Bridge showing the interior structure of the covered bridge, the white painted splash panelling, the upper siding, louvre window openings and tie beams and roof rafters.

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



Interior detail of a louvre window opening and the lower splash panelling.



View of the construction method of the interior of the bridge cover above the splash panelling.



View north of the interior roof structure of the West Montrose Covered Bridge.



View south of interior roof structure and overhang and the south portal of the West Montrose Covered Bridge.

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Exterior & Interior Photographs West Montrose Covered Bridge, September 2021



Detail of an existing interior light fixture.

Context Photographs West Montrose Covered Bridge, September 2021.



View west on River's Edge Drive from Letson Drive towards the south portal of the West Montrose Covered Bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



1221 River's Edge Drive just west of Letson Drive



Wood frame outbuilding on the south side of River's Edge Drive at Letson Drive.

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Context Photographs West Montrose Covered Bridge, September 2021.



Interpretive Plaque for the West Montrose Covered Bridge located in Letson Park off River's Edge Park to the west of the bridge.



View east along the Grand River to the West Montrose Covered Bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



View north with the east side of the West Montrose Covered Bridge (left) and house at 5 Covered Bridge Drive in West Montrose visible across the river.



Road signage on the north side of River's Edge Drive just east of the bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



1238 River's Edge Drive.



1241 River's Edge Drive, located at the south end of the bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



Posted signage for load limits and prohibited vehicle types on the south approach to the bridge.



View of the approach to the south portal of the West Montrose Covered Bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



View to the south portal of the West Montrose Covered Bridge showing the OHT plaque.



Ontario Heritage Trust the West Montrose Covered Bridge plaque located at the south portal of the bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



BridgeKeepers donation box on the east side of the south bridge portal.



"Water Survey Marker of Canada" located on the southeast corner of the bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



View north to the bridge from River's Edge Drive with a shed in the foreground.



View west along the north side of River's Edge Drive to the West Montrose Covered Bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



View west River's Edge Drive to the West Montrose Covered Bridge.



1260 River's Edge Drive to the west of the bridge.

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Context Photographs West Montrose Covered Bridge, September 2021.



View west on the Grand River at the Bridge.



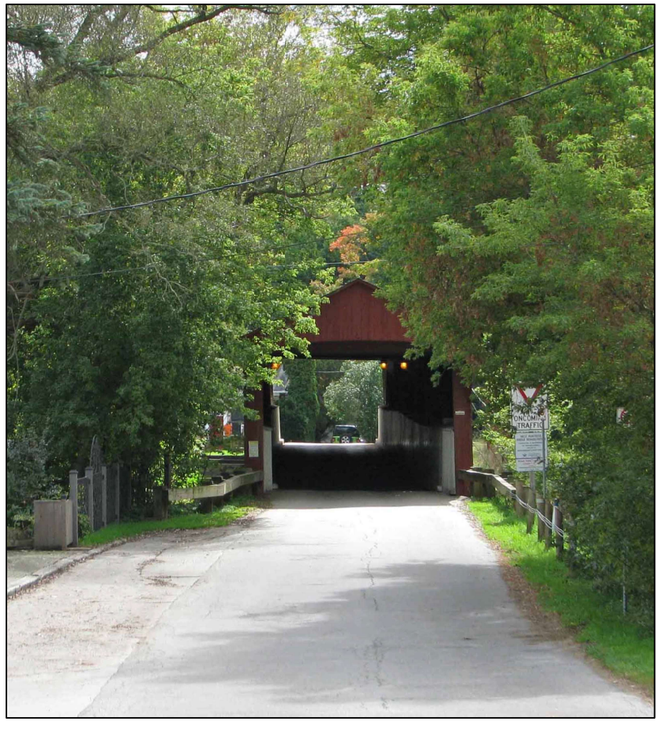
Framed view of the stone house at 1260 River's Edge Drive from the interior of the south bridge portal.

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Context Photographs West Montrose Covered Bridge, September 2021.



Framed view of the Covered Bridge Drive from the interior of the north bridge portal.



View of the north approach to the bridge on Covered Bridge Drive.

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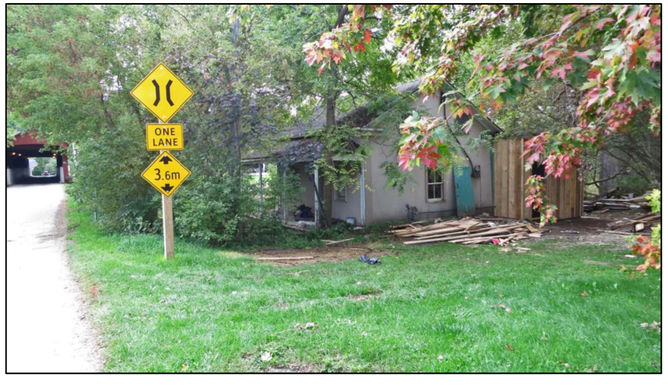
Context Photographs West Montrose Covered Bridge, September 2021.



View south on Covered Bridge Drive to the north portal of the bridge. Note the road signage for the bridge.



5 Covered Bridge Drive, which is a municipally designated property, located on the west side of the road north of the bridge.



2 Covered Bridge Drive located on the north side of the bridge.

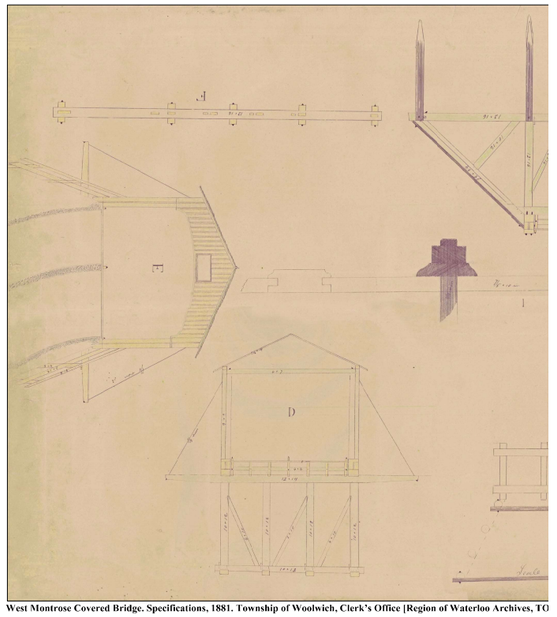
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Appendix C:
West Montrose Bridge Drawings and Specifications (1880)

&

DHO Bridge Division
Drawing No. D-6035
Bailey Reinforcing for
West Montrose Covered Bridge
August 1966



West Montrose Covered Bridge. Specifications, 1881. Township of Woolwich, Clerk's Office [Region of Waterloo Archives, TO

Region of Waterloo Archives, TOWL, 3-8/B, West Montrose Covered Bridge Specifications, 1881. Township of Woolwich, Clerk's Office.

Specifications

For a Bridge over the Grand River at Westmontrose in the Township of Woolwich in the County of Waterloo & Province of Ontario Canada

Out Side Measurement — The Bridge to Be 198 feet long 20 feet wide and 13 feet from low water Mark to the top of the Corbels

Buttments — Four Bed-timbers as shown on Plan B. to Be laid two feet below low water Mark as shown Checked two inches for the Mudsill to lay in as shown on Plan D. Be to constructed as shown on Plan D. with four Posts and Braces as shown Corbels to be checked one inch over the Posts and Place as shown on Plan A. Plank the front with 2½ in Plank - Oak or Rock Elm well Spiked to the Posts & Braces with six⁶ wrought Spikes Plank the Back with six inch Cedar Plank as shown on Plan A.

Aproaches — Drive five Piles on Each side as shown on Plan - C - to the depth of twelve feet. With two tie Beems as shown on Plan C & A Checked half & half to the Tie Beam & Pile and Bolt as shown on Plan A. with ⅞ in Bolts Cut the Pile with the Slope of the roadway and frame a cap on as shown on Plan A. Place a railing there on as shown well fastened to the truss and with ⅞ in Bolts Butt upp with Cedar as Shown

Pier — Fifteen Piles are to Be driven to depth of twelve feet or as far as a Hammer of One ton weight will drive them at the rate of ½ inch to a Blow. Three Pile to Be drove side & side even as shown on Plan A.

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Cut of two feet below low water Mark the center Piles to be ten inches lower than the Out side ones for the Mud Sill to lay on. The out side Piles to be Drove Close to the inside and to Gained or Boxed on the inside to let the Mudsill in 6 inch 2 in out of the lower side of Sill to fitt down on the inside pile as shown on Plan A. Bolted with ⅞ in Bolts as shown on Plan C & E. frame the Pier as shown on Plan F. & G with six inch tenoned Bolt Ice Breaker to the Mudsill as shown the top with cast Iron Strap ⅞ in x 2 in Spiked to the Cap as shown with 6/8 in wrought Spike 7 in long Plank both sides with three in Oak or rock Elm Plank well Spiked to the Posts and Ice Breaker & Braces with 7 in wrought Spike as shown on Plan F. Rebbit the Ice Breaker on Each side as shown to receive Plank

Truss — Build the truss as Shown on Plan A. The Stringers is built in 5 Pieces the outside is in two Peices Spliced in the center as shown on Plan A. inside Stringer is 4 peices or five Peices for the 2 Span one Piece 56 feet long and the center will lay on the Pier to reach half on one Span and half on the other so as to Bind the two together. Splices the same as the outside with two Bolts to Each Splice as Shown on Plan A. The two Stringers are Boxed together with oak Plank 4 by 12 in Checked into the Stringers inch so as to leave one opening of two inches between the two Stringers and to be Bolted as Shown on Plan A. The top Stringer is 49 feet long laid on the Tops of the other two and boxed there on with 2 by 6 in Oak Plank and Bolted as Shown on A. the truss is 16 in wide for Hard timber & 18 in for Pine Double rods all through as Shown in dots on Plan A. the Out side Suspension rods run upp through the Plate

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The inside throughthe tie Beem Needlebeams are Bolted to the truss with Short Bolts between the two Suspension rods so that the Beem can at any time be removeded with out Interfiring with the truss

Diagonal Rods as Shown on Plan B. Shall Cross under the Short Needle Beems and through the long ones as Shown on Plan A. and to have Cast washers bevel to fit the angle and wrought Iron with three the Bolt not less than eight inches at Both Ends so that they can at any time be tightened upp

Lock rails The lock rails to be Checked half and half in the Corbels and Stringers and joice as Shown on Plan C. Seven joice are Placed in four lenghts as Shown on Plan B.

Roadway Plank with 3 in oak Plank not over ten inches wide spiked to the joice with 7 in wrought Spike tree to Each Plank alternately on the joice ~~the Openings Shall be left to Each joint as Shown on Plan B.~~ A peice of timber 6×8 in Shall be laide in the center of the roadway the entire lenght of roadway and Bolted to the joice one Bolt every 6 feet as Shown on Plan B. C and D. the same along both out sides the timber to be 3 in by 5

Stay rods or Braces Shall run through the Needlebeams and Tye Beems as Shown on Plan D. with suitable washers for the Different Angles - with ann thread eight inches at Each End and Good Nutts

Tye Beems The tye Beems Shall be Checked over the truss one half inch ~~and~~ the Plate one half inch over the tye Beem the Stringers and truss tye Beems and Plate are all bolted together By the Suspension rod as Shown on the Plan A. The Plate is carried

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after leaving the truss is carried on Posts as Shown on Plan A & D. Framed to the tye Beem and Plate Straat to the cap as Shown with iron rods as Shown on Plan A.

Rafters The rafters to be framed to Plate with Heels to Project 12 inches and Caried half & half together at the tops and Pined with 3/4 in Pins and to be well Spiked to the Plate and a stay of Maple or Oak one by one inch ten inches long Seared and Nailed with 3 in wrought Nail one to Each rafter and Plate

Roofing latts The rafters to be Covered with roof latts 1 by 2 in laid five well Nailed to rafters

Cornish Shall be finished with Plaster board at Gable Ends 12 in wide well Nailed to Latth. The Moving to run all round and 3 in wide well Nailed to the rafters and Plaster Boards.

Shingles The Entire roof to be Covered with No 1 Shingles to be laid 5 in to the weather and well Nailed to roof latth Ridge Boards is to Be Made of three by four Scantling as Shown on Plan C.

Blinds As Shown Made of inch Boards Frame 1×5 Casing - Casing 1 by 3 Slats 1 by 5 Sige two and half by four feet Placed as Shown on Plan A. No of Blinds. 24.

Siding To be Made as Shown on Plan I. Sige and Stile is Given on the Plans Bolts of the truss will Come in Contact with the Siding as Shown on Plan I. The Bolts to be long enough to go through Siding as Shown - The Siding to be well Nailed with 3 in cut Nail and and the Batton with 3½ Nail

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Timbers — The Pier and Buttments Cribbs and Plank for the Roadway Shall be Oak The remainder Pine if not otherwise specified = P. S. the Inside Beams that Support the outside of Bridge are to be covered with Boards in a roofstyle

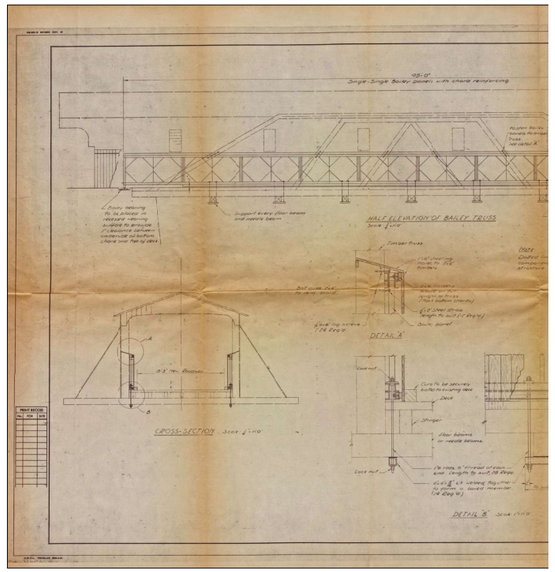
Piles — Piles under the Pier Shall be Oak or Rock Elm
Piles for the aproaches to Be Cedar

Timbers Providing Hard wood be used throughout (can be all Hard wood Except Plates & rafters — The difference in size of Hard wood or Pine is Given on the Plans the Pinewith red in B

Class of Timber all Timbers to Be used in the construction of Said Bridge to Be Good Sound timber free from Splits Shakes large or loose Knots or anything that has a tendency to Impare it Strenghts

Class of Work — All work Shall be Done in a Good and workmon like Manner and Everything to be Carried Out to full intent of Plans & Specification

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Department of Highways Ontario, Bridge Division, Drawing No. D-6035, Bailey Reinforcing for West Montrose Covered Bridg Site 33-58, August 1966 [Source: KPL, MC23.1c].

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Appendix D:
Summary Historical Timeline
of the West Montrose Covered Bridge

The following historical summary for the West Montrose Covered Bridge is based on information contained I Section 2.0, which used structural reports and archival research and information contained in the article "West Montrose Covered Bridge", The Waterloo Historical Society by Kathryn Lamb and the publication *Kissing Bridge* by Del Gingrich.

HISTORICAL TIMELINE WEST MONTROSE COVERED BRIDGE

Date	Event
1792	Township of Woolwich settlement began in what is now the County of Waterloo (1853).
1843-44	Local history suggests a bridge crossed the Grand River at West Montrose as early as 1843. An 1844 petition to local authorities mentions a road over the Grand River at West Montrose.
1850s	Settlement at West Montrose named and a mill built in 1858.
1860	Local history indicates Bear [Baer] brothers (Samuel and unknown) built a replacement wood bridge structure over the Grand River at West Montrose in 1860.
1861	Tremaine's Map of Waterloo County shows a bridge over the Grand River at West Montrose.
1880	John Bear undertook a condition survey of several bridges for Woolwich Council including the West Montrose Bridge, which he recommended to be rebuilt. Bear was retained to prepare plans and specifications in October 1880.
1881	Bridge tenders closed on January 17th and work began soon after the Bear tender was accepted. The Woolwich Council approved payment to J. and B. Bear for the balance of bridge construction contract and extra work on Nov. 15, 1881.[88]
1882-83	Woolwich Council advertised a tender for painting bridge in April 1882 and George Peppler & Company was awarded the contract in May 1883.
1885-86	Woolwich Council approved lighting the bridge in December 1885 with two gas lamps that were installed in early 1886 and approved work for snowing the deck surface for winter sleigh traffic in early 1886.
1895	Woolwich Council engaged M. Richard Boye to build a new cedar crib for the bridge.[89]
1900	Woolwich Township Council approved the appointment of Bowman & Elliot of St. Catharines to replace the original timber pier with a new stone pier.
1904	A new wood deck was planked over the original oak deck of the bridge.
Late 1920s	A postcard shows interior splash panelling installed over the bottom of the trusses.
1933	A timber lower chord was spliced with steel plates and a needle beam was replaced.
1937	DHO assumed responsibility for the bridge and retained ownership when Waterloo County took over Highway 86.
1942	A bridge condition report noted the structure was in remarkably good condition.
1950	DHO replaced the deck flooring with a laminated deck covered with asphalt and supported on a mixture of new stringers.
1950-51	DHO ended the bridge lamp lighting due to fire concern and a new 60-cycle hydro service was installed with three (3) 100-watt lights.
1954	Bridge temporarily closed in summer of 1954 while DHO completed major repairs to deck, truss splash panelling, centre pier repair, bridge leveling and replacing all window louvres.[90] Bridge was officially reopened in October.

[88] "West Montrose Bridge One of Last Remaining County Landmarks", *The Waterloo Chronicle* (April 13, 1937) 1.
[89] Ibid; and "Woolwich Township Council", *Waterloo Chronicle* (November 7, 1895) 3.

HISTORICAL TIMELINE WEST MONTROSE COVERED BRIDGE

Date	Event
1955	Bridge posted with 2 tonne load limit.
1959	The bridge was semi-retired in May 1959 with restricted loads and speed limitations due to the opening of the new Highway 86. DHO undertook major structural repairs. DHO may have painted the bridge exterior its current red colour at this time.
1960	Ontario Department of Travel and Publicity issued press release for "Ontario's Last Covered Bridge to be Commemorated" on August 13, 1960. The Ontario Archaeological and Historic Sites Board Historic recognized the bridge as an historic site for being the only remaining covered bridge in Ontario and a provincial heritage plaque was unveiled.
1965-66	Biennial structure report issued in June noted the general condition of the bridge was poor. DHO proceeded to insert recycled Bailey bridge trusses to reinforce the trusses.[91]
1967	DHO installed new interior splash panelling over the Bailey trusses, the roof ridgeboard and the exterior batten boards were tightened, the timber trusses treated with preservative and the exterior and interior were painted.[92]
1971	The Ministry of Transportation and Communication (formerly DHO) tightened the ridge and batten boards and bridge interior and exterior painted.
1979	The Ontario Heritage Foundation replaced the 1960 plaque.
1981	The bridge centennial was celebrated.
1986	Underwater inspection of bridge completed.
1987	Conestoga Roofing replaced cedar shingles on the roof.[93]
1995-96	Emergency repair were completed to replace the needle beam extensions.
1996	Giffels Associates Limited prepared a Structural Evaluation Report for MTO that concluded major structural repairs were required.
1998	The Region of Waterloo took over responsibility for the bridge on January 1, 1998 and operating responsibilities were assigned to its Doon Heritage Crossroads, Planning and Culture Department.[94] An Open House held in May 1998 addressed the Giffels report. Theo Vandenberk Construction was awarded the rehabilitation work to repair the needle beams, bearings, trusses and sidings. The bridge was closed for seven weeks.[95]
1999	Waterloo Region undertook major rehabilitation work on bridge including repair work to the needle beams, bearings, trusses and sidings. The Kitchener Public Library, main branch, opens "The Kissing Bridge Exhibition", a multi-artist retrospective on the bridge.
2000	Bridge rehabilitation work was completed in 2000.
2003	The pier masonry was repointed.
2004	The bridge was repainted and 8 tie rod cross braces under the deck were replaced.[96]
2007	The Township of Woolwich approved By-Law No. 60-2007, Designate the West Montrose Covered Bridge, Section 29, OHA, on Aug. 14, 2007.
2011	The Township of Woolwich, By-Law No. 81-2011, Official Plan Amendment No. 18

[90] KPL, Grace Schmidt Room, MC23.1c West Montrose Covered Bridge Collection. DHO Drawing, Splice West Montrose Covered Bridge, August 13, 1954; and, "Romantic Covered bridge Re-opened After Repairs", *Waterloo Chronicle* (October 15, 1954) 1.
[91] KPL, Grace Schmidt Room, Grace Schmidt Room, Drawing "Bailey Reinforcing for the West Montrose Covered Bridge", August 1966.
[92] Gingrich, 33.
[93] Ibid.
[94] Ibid.
[95] Ibid., 37.
[96] Ibid.,

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HISTORICAL TIMELINE WEST MONTROSE COVERED BRIDGE

Date	Event
	Special Policy Area, West Montrose Cultural Heritage Landscape (WM-CHL) was adopted. The Special Policy Area included the West Montrose Covered Bridge. A biannual bridge inspection noted a failure of the northwest bearing seat and it was reconstructed including the replacement of the original bearing seat.
2013	The Waterloo Region Planning and Works Committee submitted a report recommending short term preservation measures be undertaken as well as the creation of a longer term preservation plan.
2014	Work completed from 2013 recommendations included: the installation of additional load restrictions, vehicular restriction and early warning signs on routes to bridge signs; replacement of the roof ridge cap; additional survey points for survey of bridge superstructure were installed; upgrading of some interior tongue & groove splash panels to facilitate monitoring of the Bailey truss was completed; and lighting improvements inside bridge; and installation of heritage plaque at bridge were done. The Region retained IBI Group to prepare the *West Montrose Covered Bridge – Preservation Plan*.
2017	Waterloo Region retained Moses Structural Engineering to review the bridge timber condition.
2017	Waterloo Region retained Struct-Sure to implement a structural monitoring program. The study took one year. The bridge was named as 1 of 8 structures in the Waterloo Region's Heritage Bridge Recognition Program.
2019	Waterloo Region retained Doug Dixon Associates (DDA) to assess structural replacement options for the preservation of the bridge. Canada Post honoured the bridge with a commemorative stamp in its Heritage Bridge series.
2021	The West Montrose Covered Bridge celebrated its 140th anniversary.

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Revised April 2024

Appendix E:
Township of Woolwich
Heritage Impact Assessment
Terms of Reference

Township of Woolwich: Heritage Impact Assessment Report

The rationale for the requirement of an CHIA rises form the OHA, Section 2(d) of the Planning Act, Section 2.6.3 of the PPS (2005) and Chapter 103: Heritage and Section 12 of the Township OP.

Township of Woolwich Heritage Impact Assessment Terms of Reference (n.d.) states an CHIA will be broad in scope by include sufficient detail to communicate the site issues and to inform the evaluation of the recommended conservation approach for the cultural heritage resource(s). The content will include, but is not necessarily limited to, the following information.

- A location plan indicating the subject property (Property Data Map and Aerial photo);
- A written and visual description of the site identifying significant features, buildings, landscape and vistas'
- A written and visual description of the cultural heritage resource(s) contained within the development site identifying significant features, buildings, landscape and vistas'= and including any heritage recognition of the property;
- Name, qualifications and background of the qualified conservation professional completing the CHIA;
- present owner contact information;
- Comprehensive written and visual research and analysis related to the cultural heritage value or interest of the site (both identified and unidentified): physical or design, historical or associative, and contextual.
- A development history of the site including original construction, additions, and alterations with substantiated dates of construction.
- Research material to include relevant historic maps and atlases, drawings, photographs, sketches/renderings, permit records, land records, assessment rolls, etc.
- A Statement of Cultural Heritage Value
- A comprehensive written description and high-quality color photographic documentation of the cultural heritage resource(s) in its current condition.
- An assessment identifying any impact the proposed development or site alteration may have on the cultural heritage resource(s). Negative impacts on a cultural heritage resource(s) as stated in the Ontario Heritage Tool Kit include, but are not limited to:
    - Destruction of any, or part of any, significant heritage attributes or features of Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance.
    - Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or plantings, such as a garden.
    - Isolation of a heritage attribute from its surrounding environment,

context, or a significant relationship.

- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features
- A change in land use (such as rezoning a church to a multi-unit residence) where the change in use negates the property's cultural heritage value.
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.
- An assessment of alternative options, mitigation measures, and conservation methods that may be considered to avoid or limit the negative impact on the cultural heritage resource(s). Methods of minimizing or avoiding a negative impact on a cultural heritage resource(s) as stated in the Ontario Heritage Tool Kit include, but are not limited to:
    - Alternative development approaches
    - Isolating development and site alteration from significant built and natural features and vistas
    - Design guidelines, setback, setting and materials
    - Limiting height and density
    - Allowing only compatible infill and additions
    - Reversible alterations

The Heritage Impact Assessment Terms of Reference document indicates the appropriate conservation principles to be applied include:

- Parks Canada Standards ad Guidelines for the Conservation of Historic Places in Canada (2003);
- Ontario Ministry of Culture, Eight Guiding Principles in the Conservation of Historic Properties (1997 and Heritage Conservation Principles for Land Use Planning (2007); and
- Well Preserved: the Ontario Heritage Foundation's Manual of Principles and Practice for Architectural Conservation (1988).

APPENDIX F:
General Standards 1-14
Parks Canada
Standards and Guidelines
for the Conservation of
Historic Places in Canada

Parks Canada, Standards and Guidelines: General Standards for Preservation, Rehabilitation and Restoration (2018)

1. Conserve the heritage value of an historic place. Do not remove, replace or substantially alter its intact or repairable character-defining elements. Do not move a part of an historic place if its current location is a character-defining element.

2. Conserve changes to an historic place that, over time, have become character-defining elements in their own right.

3. Conserve heritage value by adopting an approach calling for minimal intervention.
4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties, or by combining features of the same property that never coexisted.

5. Find a use for an historic place that requires minimal or no change to its character-defining elements.

6. Protect and, if necessary, stabilize an historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information.

7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.

8. Maintain character-defining elements on an ongoing basis. Repair character-defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.

9. Make any intervention needed to preserve character-defining elements physically and visually compatible with the historic place and identifiable on close inspection. Document any intervention for future reference.

Additional Standards Relating to Rehabilitation

10. Repair rather than replace character-defining elements. Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the historic place.

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11. Conserve the heritage value and character-defining elements when creating any new additions to an historic place or any related new construction. Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.

12. Create any new additions or related new construction so that the essential form and integrity of an historic place will not be impaired if the new work is removed in the future.

Unterman McPhail Associates
Heritage Resource Management Consultants
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