APPENDIX P2.J

Correspondence with the Public and Stakeholders

P2.J.1 – Government Stakeholders

- P2.J.1.1 – Impact Assessment Agency of Canada
- P2.J.1.2 – Ministry of the Environment, Conservation and Parks
- P2.J.1.3 – Ministry of Natural Resources
- P2.J.1.4 – Ministry of Transportation
- P2.J.1.5 – Ministry of Indigenous Affairs and First Nations Economic Reconciliation
- P2.J.1.6 – Ministry of Community Safety and Correctional Services
- P2.J.1.7 – Ministry of Economic Development, Job Creation and Trade
- P2.J.1.8 – Ministry of Municipal Affairs and Housing
- P2.J.1.9 – Ministry of Energy and Mines (formally Ministry of Mines; and Ministry Northern Development and Mines)
- P2.J.1.10 – Ministry of Citizenship and Multiculturalism (formally Ministry of Heritage, Sport, Tourism and Culture)
- P2.J.1.11 – Ontario Provincial Police
- P2.J.1.12 – Environment and Climate Change Canada
- P2.J.1.13 – Fisheries and Oceans Canada
- P2.J.1.14 – Crown-Indigenous Relations and Northern Affairs Canada
- P2.J.1.15 – Indigenous Services Canada
- P2.J.1.16 – Transport Canada
- P2.J.1.17 – Federation of Northern Ontario

P2.J.2 – Other Stakeholders and the Public

- De Beers Canada Inc.
- Matawa First Nations Management Inc.
- Norton Resources Ltd.

AtkinsRéalis

WSR WEBEQUIE SUPPLY ROAD

WEBEQUIE FIRST NATION

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.1 – Impact Assessment Agency of Canada

Webequie Supply Road Project Consultation Log

Records Found: 1

Impact Assessment Agency of Canada **Federal Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Nov 16, 2021 18:51 Method: E-mail
Topics to be Discussed: IAAC Comments on Draft Cumulative Effects Study Plan
Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC), sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR). The email included IAAC's comments on the WSR Draft Cumulative Effects Study Plan, and mentioned to request any clarifications if needed.
Attached File: IAAC-Comments on Draft Cumulative Effects Study Plan-2021-11-16.pdf

Contact Date: Dec 20, 2021 13:20 Method: E-mail
Topics to be Discussed: COVID-19 Pandemic, Omicron Variant
Attached File: NFN-Omicron Guidance Document-2021-12-13.pdf
Attached File: NFN-Omicron Key Recommendations-2021-12-14.pdf

Contact Date: Mar 16, 2022 08:57 Method: E-mail
Topics to be Discussed: Submission of Revised Socio Economic Study Plan addressing IAAC and MECP comments and consultations
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod & Dororthy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP), Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC). The email included the Revised Socio-Economic Study Plan for the WSR project. Craig mentioned that updated study plan reflected the refinements to the spatial assessment boundaries and criteria and indicators based on past comments from the MECP and IAAC and consultation completed to date. The email also stated that a plain language fact sheet had been created for the Socio-Economic Study Plan for the purposes of engagement and consultation with Indigenous communities, the public and stakeholders.
Attached File: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf

Contact Date: May 12, 2022 15:13 Method: E-mail
Topics to be Discussed: IAAC Letter to WFN re Timeline Extension for WSR Project under the IAA
Anjala Puvananathan of Impact Assessment Agency of Canada (IAAC) sent a letter to Chief Cornelius Wabasse of Webequie First Nation. The letter was regarding the information on requesting a time limit extension for the WSR Project under the IAA. IAAC requested Webequie First Nation to provide the information regarding reasons for requesting extension, work plan detailing the progress made to date, etc. for IAAC's consideration. IAAC strongly advised Webequie First Nation to submit a complete request by September 24, 2022, for the Agency to process the request prior to the expiration of the legislated time limit on February 24, 2023.
Attached File: IAAC-Letter to WFN-Re Time Limit Ext Request-2022-05-12.pdf

Contact Date: May 27, 2022 10:45 Method: One on One
Topics to be Discussed: EA / IA Progress
Attached File: WSR-Progress Update Meeting Presentation-2022-05-27.pdf

Contact Date: Jun 30, 2022 10:19 Method: E-mail
Topics to be Discussed: Submission of Draft Natural Environment Existing Conditions Report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC) Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP), and Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP). The email informed that the Project team had completed the Draft Natural Environment Existing Conditions Report for WSR and mentioned that due to the size of the document it would be sent separately through the SNC Lavalin document transfer system with the main report and appendices provided as separate documents. Craig requested applicable federal authorities and provincial agencies to review and provide comments on the report in approx. 30 days, if it was possible. Also, he requested that priority be given to selected sections of the report, in order for the Project Team to be aware of any major deficiencies/data gaps if identified by the review team; the email mentioned Fish and Fish Habitat, Wildlife, Vegetation and Species at Risk as the select sections for advance review.

Webequie Supply Road Project Consultation Log

Contact Date: Aug 03, 2022 11:14 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report: Clarification on air quality baseline report
Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team. Alexandra mentioned that she had received a question from Environment and Climate Change Canada (ECCC) regarding section 7: atmospheric environment of the baseline report which is included within the report but was not a separate report, and requested whether air quality existing conditions report would be provided under a separate cover, as it is not within the provided appendices and that appendices 1-3 were not provided. She requested clarification regarding the comment from ECCC.

13:39
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC) as a response to Alexandra's email earlier on the same day. Craig mentioned that there would be standalone Air Quality (AQ) Existing Conditions report and an Impact Assessment Technical Report that would be an appendix in the future Environmental Assessment Report/Impact Statement. Section 7 of the list of Appendices in the Natural Environment existing conditions Report included baseline information that would appear in the mentioned air quality technical report. Craig mentioned that SNC Lavalin's air quality specialist was on vacation, and that to his knowledge there were no appendices for air quality as reflected in the baseline report/ He attached the list of appendices for the report for reference, and labeled for ease of reading.

14:13
Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC LAvalin and the Webequie Supply Road (WSR) Project team. The email mentioned that Alexandra has gone through the Agency's records and the email correspondence on April 23, 2021, and requested confirmation whether the air quality baseline report was included in the natural environment baseline report as per the previous correspondences.

14:24
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC). Craig mentioned that the Project team's air quality expert was on vacation and would provide a response to the question regarding the air quality baseline report after her return on 9, August 2022.

Contact Date: Aug 09, 2022 13:54 Method: E-mail
Topics to be Discussed: Submission of WSR Request for Extension to IS Phase
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team sent an email to Alexandra Oakes of Impact Assessment Agency of Canada. The email had attached draft request for extension to the IS phase for the WSR Project in response to the IAAC letter of May 12, 2022 to Chief Wabasse, for the Agency's review. Craig mentioned that once the Agency had reviewed the draft request, the Project Team would be happy to arrange a meeting to further discuss the requested extension and respond to any questions.
Attached File: Web-Draft Extension Request for WSR IA-2022-08-08.pdf

Contact Date: Aug 11, 2022 14:10 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report: Clarification on air quality baseline report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC). The email had the response to Alexandra's question for confirmation as per her correspondence on August 3, 2022, with regard to data sources, averaging periods, representativeness of the data used and limitations, and similar. Craig also had a question for the Agency and Environment and Climate Change Canada (ECCC) related to the climate change assessment, and requested confirmation regarding the current proposed approach by the Project Team for the assessment of direct GHG emissions from land-use changes.

Contact Date: Aug 12, 2022 14:41 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report: Clarification on air quality baseline report
Maryse Sciberas of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team & Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC). Maryse mentioned that she passed on Craig's response on August 11, 2022 to Environment and Climate Change Canada (ECCC) team and a response to Craig's follow up question can be expected by the following week.

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Webequie Supply Road Project Consultation Log

Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Sep 08, 2022 13:12 Method: E-mail
Topics to be Discussed: Submission of WSR Request for Extension to IS Phase
Attached File: Web-Draft Extension Request for WSR IA-2022-08-08.pdf

Contact Date: Sep 29, 2022 14:12 Method: E-mail
Topics to be Discussed: Agency Feedback on the Draft Request for an Extension to the Time Limit of the Impact Statement Phase - Webequie Supply Road Project
Ely Weisbrot of Impact Assessment Agency of Canada sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team. The email included the Agency's feedback on the 'Draft Request for an Extension to the Time Limit of the Impact Statement Phase'. The Agency had reviewed the request and identified key considerations regarding the proposed project schedule and engagement with Indigenous communities, which were stated as either unclear or missing, and the email provided comments to assist the Project team to prepare complete and accurate information in the revised request.

Contact Date: Oct 28, 2022 09:07 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report: Clarification on air quality baseline report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Maryse Sciberas of the Impact Assessment Agency of Canada (IAAC) requesting a follow up the email correspondence on August 12, 2022, and requested a confirmation on the Project team's response to Environment and Climate Change Canada (ECCC) comments.

09:49
Maryse Sciberas of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team apologizing for the delay and mentioned that she would discuss with the team and get back to Craig.

Contact Date: Oct 31, 2022 20:48 Method: E-mail
Topics to be Discussed: Consultation Progress Report Round 1
Craig Wallace of SNC Lavalin, on behalf of the Webequie Supply Road (WSR) Project team, sent an email to Ely Weisbrot of the Impact Assessment Agency of Canada to submit the WSR Consultation Progress Report Round 1. Craig indicated that Appendix A of the report is the supportive Record of Consultation which would be sent by a file transfer service due to its large size. Also attached to the email was a zipfile containing the copies of the letters to the 22 Indigenous communities who are to receive a community specific report.
Attached File: Web-WSR Consultation Progress Report R1 MECP-2022-10-24.pdf

Contact Date: Nov 15, 2022 11:15 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report: Clarification on air quality baseline report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Maryse Sciberas & Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) requesting an update as to when the Project team could expect to receive a response to the highlighted question referring for the correspondence on August 11, 2022.

Contact Date: Dec 07, 2022 12:59 Method: E-mail
Topics to be Discussed: Follow-up on the interim administration of the Impact Assessment Act
Attached File: IAAC-Letter to WFN-Re Time Limit Ext Request-2022-05-12.pdf

Contact Date: Jan 05, 2023 15:35 Method: E-mail
Topics to be Discussed: Notice of time limit extension under the Imact Assessment Act
Eric Landry of Impact Assessment Agency of Canada sent a letter to Chief Cornelius Wabasse of Webequie First Nation, regarding the request for an extension to the three-year legislated time limit under the Impact Assessment Act (the IAA). Eric stated that after a review of available information, the Agency had determined that it will be extending the time limit, and mentioned that the Agency might require additional information or studies that would be necessary for the conduct of the impact assessment. The letter also mentioned that the Webequie First Nation was expected to follow updated technical guidance and best practices, in accordance with project-specific direction issued by the Agency, and was expected to meet the requirements set out in the Tailored Impact Statement Guidelines for the Project in relation to engagement with other Indigenous communities, as necessary, to inform the content of the Impact Statement, including the effects assessment and details on potential impacts on the exercise of Aboriginal and Treaty rights of the communities listed in the Indigenous Engagement and Partnership Plan for the Project. Furthermore, the Agency requested that all comments provided by the federal review team, including those provided on the study plans and work plans, as well as the concerns expressed by Indigenous communities and members of the public, be fully addressed in the Impact Statement. The deadline to provide the Agency with the information and studies required for the impact assessment of the Project was stated to be January 6, 2027 following the extension.
Attached File: IAAC-Letter to WFN-Re Time Limit Extension Request-2023-01-05.pdf

Contact Date: Jan 11, 2023 15:26 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Ely Wiesbrot of the Impact Assessment Agency of Canada (IAAC), and Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP). The email contained a summary of the comments received from the Government Review Team and IAAC review of the WSR Draft Natural Environment Existing Conditions Report (NEECR) provided in June 2022. From the Government Review Team, the WSR Project team received comments from MECP's Groundwater, Health, Surface Water, Air Quality/Climate Change, Environmental Assessment Branch, Species At Risk Branch, and Environmental Monitoring and Reporting Branch, as well as Indigenous Affairs Ontario, the Ministry of Mines, the Ministry of Transportation, and the Ministry of Natural Resources and Forestry. From IAAC, the WSR Project team received comments from the Federal Technical Reviewers. Attached to the email were the response tables to the comments received with the exception of MECP's Species At Risk Branch. Craig noted that the IAAC comment table will be reformatted and sent to IAAC once it is complete. For next steps, the email indicated that the WSR Project team would like to arrange meetings to further discuss comments and responses with federal and provincial technical reviewers. Attached to the email was an excel table with selected comments organized by topic. Craig requested IAAC and MECP to internally coordinate and provide their availability for the meetings to be held.
Attached File: Web-WSR Response to IAO Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP AQ Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP CCA Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP EAB Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP GW Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR-Response to IAAC Draft NEECR Comments Table-2023-01-10.pdf

Contact Date: Feb 06, 2023 09:52 Method: E-mail
Topics to be Discussed: Inquiry regarding NEECR
Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team with inquiries from Natural Resources Canada (NRC) regarding the Natural Environment Existing Conditions Report (NEECR). The inquiries from NRC were regarding updated Appendices from the updated NEECR and confirmation of the Proponent's response to IAAC's comment requesting certificates for all acid base accounting testing.

13:37
Craig Wallace of SNC Lavalin and the WSR Project team responded to Ely Weisbrot with updated versions of Appendix 4-F and Appendix 6-D. Craig clarified that the response to comment/row #15 should have been metal leaching and "ABA results" contained in Appendix 4-F.

Contact Date: Apr 18, 2023 12:47 Method: E-mail
Topics to be Discussed: Evaluation of Alternatives for EA/IA Feedback
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team sent an email to Sasha McLeod and Dorothy Mosynski of the Ministry of the Environment, Conservation, and Parks (MECP) and Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) indicating that the WSR Project team would like to coordinate a workshop session in late summer with the provincial Government Review Team and interested federal authorities to present the evaluation of alternatives for the WSR Environmental Assessment / Impact Assessment and receive feedback. Craig explained that a formal agenda is being prepared with the intent of providing an alternatives package to participants prior to the workshop, and provided a list of preliminary agenda topics for the workshop session for MECP and IAAC's feedback.

Contact Date: Apr 19, 2023 09:51 Method:
Topics to be Discussed: Draft NEECR Comments
Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team in response to the Proponent's January 11, 2023 follow up questions and the Proponent's responses to IAAC's comments on the draft Natural Environment Existing Conditions Report (NEECR). Attached to the email was a comment response table with IAAC's responses to the Proponent's follow up questions from January 11, 2023. Table 1 contained IAAC’s responses to the Proponent’s follow-up questions from January 11, 2023, and Table 2 contained IAAC's feedback to the Proponent’s responses on the draft NEECR.

Attached File: IAAC-Responses to Proponent Follow Up Questions on Draft NEECR-2023-04-19.pdf

Contact Date: Aug 18, 2023 09:25 Method: E-mail
Topics to be Discussed: Request for Review of WSR Draft Socio-Economic Existing Conditions Report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) and Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC). The email mentioned that the Project Team had completed the Draft Socio-Economic Existing Conditions Report for the WSR project, and that the report is complete for the most part pending additional information from communities to help finalize the document. Craig mentioned that the report has areas identified where the pending additional information such as traditional Indigenous land and resource use were to be incorporated. The email stated that the report was divided into 2 parts and due to the size of the document it would be sent via the SNC Lavalin file transfer system, and requested confirmation from Ely whether the document should be uploaded to the Agency WSR/Proponent Portal. Craig requested the Agency and MECP to review the report and provide comments within 45 days, ideally by October 2, 2023.

Contact Date: Sep 22, 2023 15:49 Method: E-mail
Topics to be Discussed: Responses and Feedback from the Impact Assessment Agency of Canada on the Webequie Supply Road Draft Natural Environment Existing Conditions Report
Craig Wallace of AtkinsRéalis sent an email to Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC). The email was in response to Ely's correspondence on April 19, 2023. Craig mentioned that the Project team had reviewed the Agency's responses and feedback received and in order to conclude the review cycle, attached Project team's responses to address the additional feedback received. Craig requested the Agency to review the attachment and provide confirmation whether the commitments/approaches to address the additional feedback are acceptable in terms of the TISG requirements for the Project.
Attached File: Web-WSR Response to IAAC Comments Re Draft NEECR-2023-09-22.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Nov 17, 2023 10:30 Method: Other
Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session
Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.
The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.
Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Nov 24, 2023 16:33 Method: E-mail
Topics to be Discussed: Federal Comments on the Webequie Supply Road Draft Socio-Economic Existing Conditions Report
Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project. Ely thanked the Project team for providing an opportunity for a federal review of the draft Socio-Economic Existing Conditions Report, and included the document with the federal comments on the mentioned report. He requested for any follow-up questions on the provided comments.
Attached File: IAAC-Comments on draft SEECR-2023-11-24.pdf

Contact Date: Dec 07, 2023 15:31 Method: E-mail
Topics to be Discussed: Follow-up on the interim administration of the Impact Assessment Act
Attached File: IAAC-Letter to WFN-Re FU on Interim Admin of IAA-2023-12-07.pdf

Webequie Supply Road Project Consultation Log

Contact Date: Feb 16, 2024 19:02 Method: E-mail
Topics to be Discussed: Federal Agencies feedback on the evaluation of alternatives and route selection methodology
Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team. Ely thanked Craig for providing an opportunity for federal agencies to provide feedback on the evaluation of alternatives and route selection methodology for the WSR Project. The email included attached federal comments on the route selection methodology, and Ely requested any questions or clarifications on the comments and recommendations provided.
Attached File: WSR-Consultation Round 2 Alternatives Assessment GRT and Federal Authorities Presentation-2023-11-17.pdf

Contact Date: Mar 19, 2024 11:08 Method: E-mail
Topics to be Discussed: Responses and Feedback from the Impact Assessment Agency of Canada on the Webequie Supply Road Draft Natural Environment Existing Conditions Report
Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team. The email was in response to Craig's email on September 22, 2023. Ely thanked the Project team for providing the opportunity to review the team's responses dated September 2023 for the federal comments provided in January 2023 on the draft baseline report. The email had an attached document with the Agency's feedback (March 2024) to the Project team's responses (September 2023) on the draft baseline report.
Attached File: IAAC-Response to Project Team Response Re Draft NEECR-2023-03-19.pdf

Contact Date: Jul 15, 2024 15:40 Method: E-mail
Topics to be Discussed: Key amendments to the Impact Assessment Act
Attached File: IAAC-Letter to WFN-Re Key Amendments to IAA-2024-07-15.pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail
Topics to be Discussed: Notice of Public Information Center #3
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

Preparation

- Activate your pandemic team if not currently active
- Check the stock of your PPE and order a stockpile. If you require support in ordering, contact COVID-19RRTSupplies@slfnha.com
- All Nursing Stations should prepare to receive COVID cases
- Prepare assessment centers, quarantine sites and isolation sites
- Identify additional pandemic funding required

Public Health Measures

- Communication to the public on being cautious and maintaining all current practices (physical distancing, wearing a mask, avoiding crowds, washing your hands frequently, staying home when you are sick or a close contact)
- Use of medical procedural masks instead of cloth masks

Vaccination

- Increase vaccine uptake of 1st, 2nd, and 3rd doses
- Vaccinate earlier with shortened dose intervals

Travel Restrictions

- Monitor community borders, be prepared to close borders
- Restrict travel to and from First Nation communities - Avoid all non-essential travel to and from remote First Nation communities.
- Test everyone arriving in community on Day 1 and Day 7
- Travel only for medical
- Seven days quarantine for the unvaccinated, partially vaccinated, and fully vaccinated (2 doses).
- Those who got the third dose/booster shot can self-monitor upon return but should avoid all gatherings until a negative day seven test.

Gatherings

- Limit gathering size to 10 -for fully vaccinated people
- Recent travelers should not attend gatherings
- Isolation facilities prepped and ready to go

Services

- Only essential services opened
- Schools review current pandemic procedures and be prepared to do online learning
- Increase IPAC measures in schools and workplaces
- Sporting event closures
- Maintain mental health services
- Restrict gathering size for Funerals and Weddings especially indoor gatherings
- Work from home wherever possible

Activity Date: Dec 20, 2021 13:20
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Activity Method: E-mail
Date Published: Dec 20, 2021



KEY MESSAGES/RECOMMENDATIONS

- **Some suggested Recommendations to protect and support the communities we serve:**
- Ramp up vaccinations now: **Booster very important**
  - With high transmissibility likely their will be more hospitalizations and deaths than the system can accommodate among unvaccinated, high age vaccinated (Elders), Middle aged vaccinated, immunosuppressed individuals. Need to do third doses for all. Increase 5 to 11 yr. old vaccination rates.
- Communication to the public on being cautious and vigilant
- Talks to vaccinate earlier with **shortened dose intervals**
- **Restrict travel to and from FN communities - Avoid all non-essential travel to and from remote First Nation communities**
  - Travel only for medical
  - Monitor community borders be prepared to close borders
- **Test everyone arriving in community on Day 1 and Day 7**
- Seven days **quarantine for the unvaccinated, partially vaccinated, and fully vaccinated (2 doses).**
- Those who got the **third dose/booster shot can self-monitor upon return but should avoid all gatherings until a negative day seven test.**
- Limit gathering size to 10 fully-vaccinated people.
- Recent travelers **should not** attend gatherings.
- All FN community pandemic teams activated
- All NS prepared to receive COVID cases
- Stockpile of PPE at the community level.
- Pandemic community funding
- Isolation facilities prepped and ready to go
- Only essential services opened
- Use of medical procedural masks
- Schools be prepared to do online learning
- Increase IPAC measures
- Sporting event closures
- Maintain Mental health services
- Funerals and Weddings restriction on gathering size. Indoor gathering restrictions.
  - Guidance on funerals
- Work from home wherever possible.

WSR240-REF-0086

NFN-Omicron Key Recommendations-2021-12-14

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Webequie Supply Road

Socio-Economic Study Plan

Webequie First Nation

20 April 2022

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1. Introduction

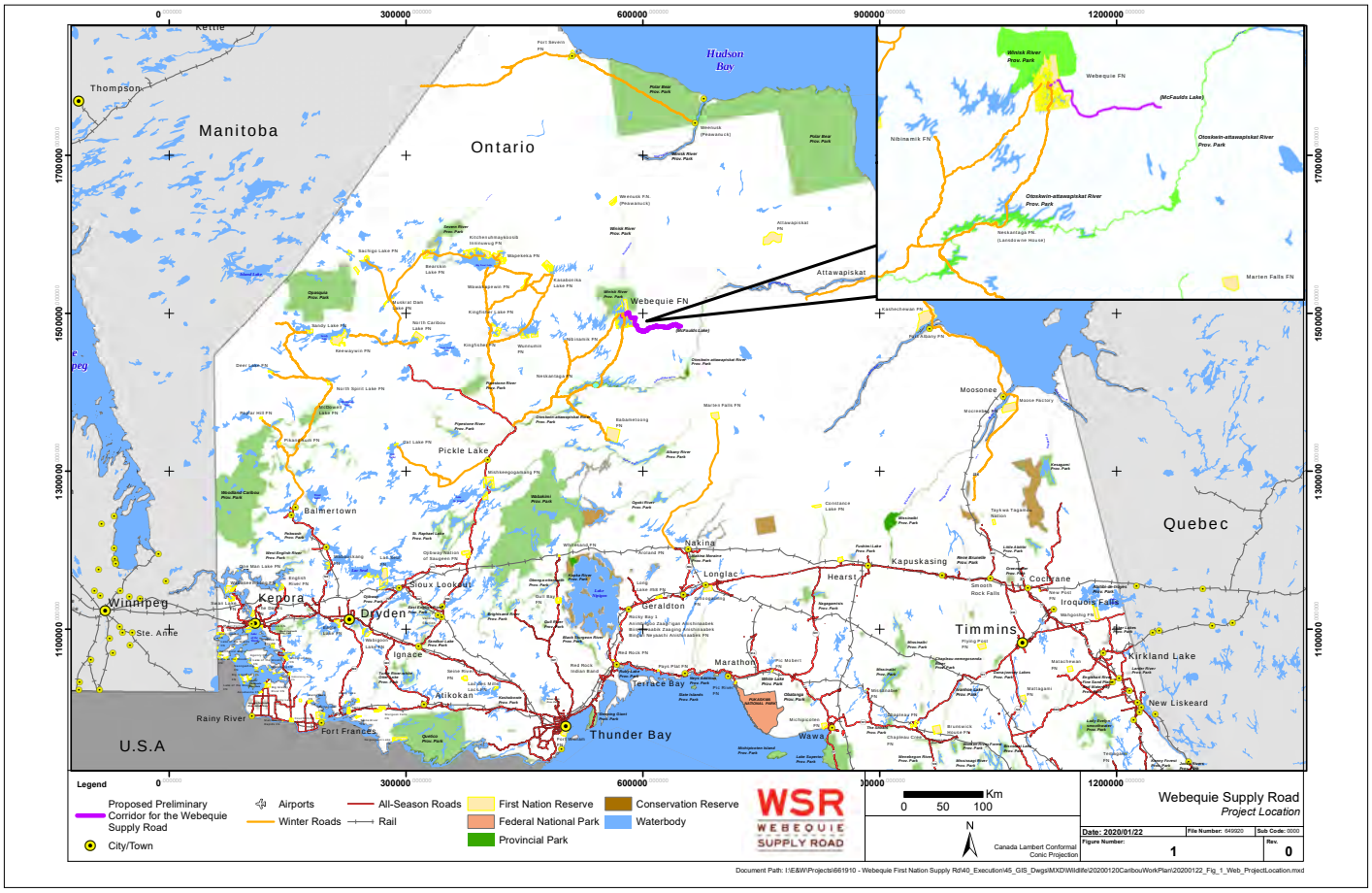
The proposed Webequie Supply Road (WSR) is a new all-season road of approximately 107 km in length from Webequie First Nation to the mineral deposit area near McFaulds Lake (also referred to as the Ring of Fire). A Location Plan for the Project is shown on **Figure 1**. The preliminary corridor for the road consists of a northwest-southeast segment running 51 km from Webequie First Nation to a 56 km segment running east-west before terminating near McFaulds Lake. A total of 17 km of the corridor is within Webequie First Nation Reserve lands.

The goals and objectives of the Webequie Supply Road Project are as follows:

- To facilitate the movement of materials, supplies and people from the Webequie Airport to the area of existing mineral exploration activities and proposed mine developments in the McFaulds Lake area;
- To provide employment and other economic development opportunities to WFN community members and businesses that reside in or around the community's reserve and traditional territory, while preserving their language and culture; and
- To provide experience/training opportunities for youth to help encourage pursuit of additional skills through post-secondary education.

On May 3, 2018, the Ontario Minister of the Environment, Conservation and Parks (then Minister of the Environment and Climate Change) signed a voluntary agreement with Webequie First Nation to make the Webequie Supply Road Project subject to an Individual Environmental Assessment under Ontario's *Environmental Assessment Act.* The Project is also subject to meeting the requirements of the federal *Impact Assessment Act.* For the purposes of discussion in this study plan, the term "EA / IA or assessments" is meant to include both the provincial environmental assessment and the federal impact assessment.

The Socio-Economic Study Plan is being submitted to the Impact Assessment Agency of Canada (IAAC) and the Ontario Ministry of the Environment, Conservation and Parks (MECP) requesting that a coordinated review be undertaken with the objective of providing Webequie with technical guidance in meeting the requirements of the federal Tailored Impact Statement Guidelines (TISG) for the Project and to fulfil the commitment as stated in the provincial Terms of Reference (ToR) for the Project, which is pending approval by Ontario. It should be noted that Ontario's review of the study plan is preliminary and secondary to any further review and decisions related to a final and approved ToR.


Manitoba
Ontario
Quebec
U.S.A
Hudson Bay
Thompson
Winnipeg
Kenora
Dryden
Sioux Lookout
Ignace
Atikokan
Rainy River
Fort Frances
Thunder Bay
Terrace Bay
Marathon
Geraldton
Longlac
Nakina
Hearst
Kapuskasing
Cochrane
Timmins
Iroquois Falls
Kirkland Lake
New Liskeard
Wawa
Balmertown
Pickle Lake
Webequie FN
Attawapiskat
Moosonee
Ste. Anne
Legend
Proposed Preliminary Corridor for the Webequie Supply Road
City/Town
Airports
Winter Roads
All-Season Roads
Rail
First Nation Reserve
Federal National Park
Provincial Park
Conservation Reserve
Waterbody
WSR
WEBEQUIE SUPPLY ROAD
Km
0 50 100
N
Canada Lambert Conformal Conic Projection
Webequie Supply Road
Project Location
Date: 2020/01/22
Figure Number: 1
Rev. 0

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2. Socio-Economic Study Plan

The following sections provide a description of the suggested approach to collecting information on existing socio-economic conditions; assessing socio-economic effects; identifying appropriate mitigation measures to eliminate or reduce potential effects; identifying "net" effects following mitigation; and assessing cumulative effects. The planned approach for baseline data collection and the assessment of the potential impacts of the WSR Project on social and economic components, including that of Indigenous peoples, is intended to meet the requirements of the TISG (Sections 10, 11, 12.3, 17 and 18) and, where applicable, the requirements of the MECP.

2.1. Methodology

The purpose of the socio-economic impact assessment (SEIA) is to characterize the manner and extent to which community socio-economic well-being could be affected (both positively and negatively) as a result of construction and operation/maintenance of the Webequie Supply Road. The SEIA will be integrated into the overall provincial and federal EA processes. The steps to be undertaken for this assessment are described in the following sections.

2.1.1. Indigenous Communities and Municipalities

The SEIA will include the 22 identified Indigenous communities that are to be consulted as part of the EA process, as shown in **Table 1** below. These communities have been identified by MECP and IAAC as communities whose exercise of Aboriginal and Treaty rights may be adversely affected by the Project and/or may have interests in the project. Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

WFN further reviewed the lists of identified communities and assessed them based on the following criteria:

- Geographically closer to the project area than others;
- Known to have traditionally used some of the potentially affected lands in the past, or currently;
- Downstream of the Project and may experience impacts as a result of effects to waterways;
- Considered to have closer familial/clan connections to the members of WFN; and/or
- Have been involved in all-season road planning in the Region, either directly with the WFN, or in consideration of all-season road planning that the WFN has been involved with in recent years.

Based on these factors, the 8 communities identified by Webequie will be offered the deepest or intensive consultation/engagement; this means that there will be 3 visits to these communities, with 2 visits to the remaining 14 communities and groups. However, where other communities may request more visits, this will be provided. Though technically not part of the SEIA, information garnered through this consultation/engagement process for the EA will be used to inform the SEIA where applicable.

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Table 1: Indigenous Communities to be Consulted and Included in the SEIA

Indigenous Community	Identified by WFN	Identified by MECP	Identified by IAAC
Webequie First Nation	✓	✓*	✓*
Aroland First Nation		✓*	✓*
Attawapiskat First Nation	✓	✓*	✓*
Constance Lake First Nation		✓*	✓
Eabametoong First Nation	✓	✓	✓*
Fort Albany First Nation		✓*	✓*
Ginoogaming First Nation		✓	✓
Kasabonika Lake First Nation	✓	✓*	✓*
Kaschechewan First Nation		✓*	✓
Kitchenuhmaykoosib Inninuwug		✓*	✓
Kingfisher Lake First Nation		✓*	
Long Lake #58 First Nation		✓	✓
Marten Falls First Nation	✓	✓*	✓*
Mishkeegogamang First Nation		✓	
Neskantaga First Nation	✓	✓*	✓*
Nibinamik First Nation	✓	✓*	✓*
North Caribou Lake First Nation		✓	
Wapekeka First Nation		✓*	
Wawakapewin First Nation		✓*	
Weenusk (Peawanuck) First Nation	✓	✓*	✓*
Wunnumin Lake First Nation		✓*	
Metis Nation of Ontario – Region 2		✓	

* Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

As noted in the ToR, municipalities to be included in the assessment were identified based on their proximity to the proposed Webequie Supply Road, and include:

- City of Thunder Bay
- Municipality of Greenstone
- Township of Pickle Lake
- City of Timmins
- Municipality of Sioux Lookout

As noted in IAAC's *Public Participation Plan* dated February 24, 2020 the following public and stakeholders will be engaged:

- General public (individual residents)
- Canada Chrome Corporation
- Canadian Environmental Law Association
- City of Thunder Bay
- Geraldton Chamber of Commerce
- Leuenberger Air Service
- Longlac Chamber of Commerce
- Mining Watch

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- Municipality of Greenstone
- Municipality of Sioux Lookout
- Mushkegowuk Council
- Noront Resources Ltd.
- Osgoode Hall Law School's Environmental Justice and Sustainability Clinic
- Township of Pickle Lake
- Wilderness North
- Wildlife Conservation Society

Comments received from these participants during consultation activities will be addressed and included in the assessment as part of the Record of Consultation (RoC). Again, though technically not part of the SEIA, information garnered through the consultation/engagement process for the EA with the public and stakeholders and Indigenous communities will be used to inform the SEIA where applicable.

2.1.2. Spatial and Temporal Boundaries

Spatial Boundaries

Spatial boundaries define the geographic extent within which the potential environmental effects of the Project are considered. As such, these spatial boundaries define the study areas for the effects assessment. Spatial boundaries are to be established for the EA / IA and will vary depending on the valued component and will be considered separately for each. The spatial boundaries to be used in the assessment will be refined and validated through input from federal and provincial departments and ministries, Indigenous groups, the public and other interested parties.

Spatial boundaries for the SEIA will be defined by taking into account the appropriate scale and spatial extent of potential socio-economic effects of the Project; community identified concerns and Indigenous Knowledge; and exercise of Aboriginal and Treaty rights.

At this stage, spatial boundaries proposed for the socio-economic effects assessment consist of three (3) study areas to capture the potential direct and indirect effects of the Project.

- **Project Footprint (PF)** - is the area of direct disturbance (i.e., the physical area required for Project construction and operation). The PF is defined as the Webequie Supply Road Right-of-Way of 35 metres in width to be selected through the evaluation of route Alternative 1 and Alternative 2; and temporary or permanent areas needed to support the Project that include laydown yards, storage yards, construction camps, access roads and aggregate extraction sites.

- **Local Study Area (LSA)** – is the area where largely direct, and indirect effects of the Project are likely to occur. The LSA is divided into two (2) sub-categories which reflect the differences between the criteria (or valued components) and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

    - The proposed LSA for **Population and Demographics, Community Services and Infrastructure and Local and Regional Economy** is defined as Webequie First Nation and those communities who have asserted shared territory with Webequie and/or who may experience the greatest potential effects of the Project. Listed below are First Nation communities included in the LSA (by distance from Alternative Routes 1 and 2 and supportive infrastructure):

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- Webequie First Nation
- Marten Falls First Nation
- Nibinamik First Nation
- Neskantanga First Nation
- Kasabonika Lake First Nation
- Eabametoong First Nation
- Attawapiskat First Nation
- Weenusk First Nation

- The LSA for **Land and Resource Use (land use compatibility, recreation and tourism, provincial parks and protected areas)** is proposed to correspond to the outermost boundaries of the combined LSAs for the fish and fish habitat, surface water, vegetation, general wildlife, and air quality valued components. It is defined as a 1 km buffer from either side of the centreline of the supply road Alternative 1 and Alternative 2, and 500 m from supportive infrastructure (camps, aggregate/rock source areas, access roads).

› **Regional Study Area (RSA)** – is the area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur. Similar to the LSA, the RSA is divided into two (2) sub-categories which reflect the differences between the criteria and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

- The RSA for **Population and Demographics, Community Services and Infrastructure, and Local and Regional Economy** encompasses the area outside of the LSA used to measure broader-scale existing socio-economic conditions and effects that may occur in a regional context. The proposed RSA consist of the 14 remaining First Nations as identified by the Crown (Canada/Ontario) for engagement and consultation that are located within the regional unorganized districts of Cochrane, Kenora and Thunder Bay; and the surrounding nearby townships and cities/municipalities (i.e., City of Thunder Bay, Municipality of Greenstone, Township of Pickle Lake, Municipality of Sioux Lookout). The RSA for Government Finances- an Indicator for **the Local and Regional Economy** VC, as documented in **Section 2.2** - will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

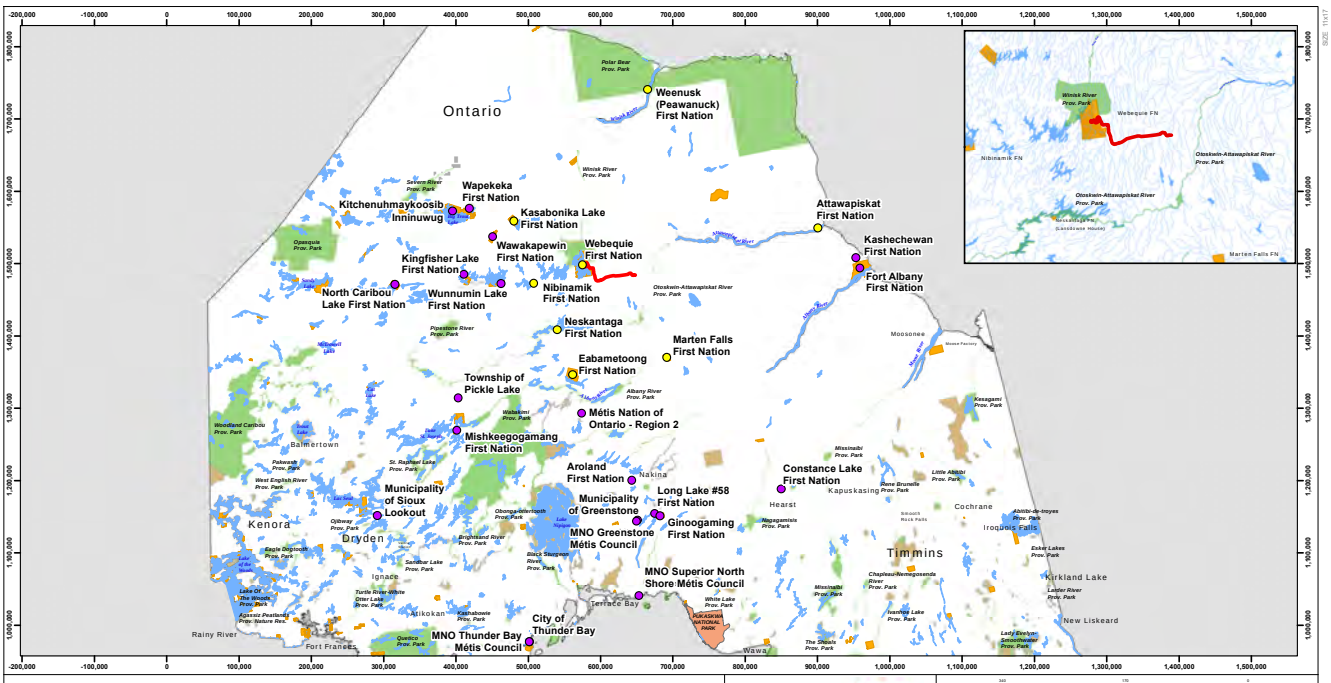
- The RSA for **Land and Resource Use (e.g., land use compatibility, recreation and tourism, provincial parks and protected areas)** corresponds to the outermost boundaries of the combined RSAs for fish and fish habitat, surface water, vegetation, and general wildlife valued components given that these components may be relied on by Indigenous peoples or others for land and resource use. The RSA is the combined area of the quaternary watersheds crossed by route Alternative 1 and Alternative 2.

The study areas were selected to characterize existing environmental conditions and predict the direct and indirect changes from the Project on the valued components of the socio-economic environment on a continuum of increasing spatial scales from the Project Footprint to broader, regional levels. The preliminary selection of study areas also considered the socio-economic valued components and related indicators for evaluation.

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In establishing the LSA and RSA, consideration was given to the extent to which the project potentially affects socio-economic valued components during each phase (construction and operation and maintenance) of the Project. Understanding the various aspects of the Project that affect these interests will be based on analysis of the socio-economic criteria listed in Section 2.2 once validated by Indigenous communities, the public and stakeholders. The Project Team will consult and engage with Indigenous communities and the public to determine and finalize the appropriate LSA and RSA for the socio-economic environment.

The collection of socio-economic baseline data and effects assessment relative to the spatial boundaries will focus on the set of supply road alternatives within the preliminary proposed 2 km wide corridor, as identified in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020). The alternatives include the Webequie First Nation community's preferred route (referred to as Alternative 1) along the centreline of an approximately 2 km wide preliminary proposed corridor, and the soil and terrain route (referred to as Alternative 2) within the same corridor. The route alternatives are shown in **Figure 2** with the LSA and RSA boundaries for each route alternative combined to reflect the socio-economic study area for the Project. At this stage of the EA / IA process, the supportive infrastructure components have yet to be determined and will be included in the Environmental Assessment Report / Impact Statement. While most of the Project components are expected to be located within the preliminary proposed 2 km wide corridor, benefits (e.g., reduced environmental disturbance, avoidance of sensitive features, concerns received through consultation) for locating Project components on lands outside this 2 km wide area may become known during the EA / IA process. If the need to locate Project components outside the 2 km wide area is determined to be required, or of benefit to the Project, the study area may be adjusted.


Ontario
Weenusk (Peawanuck) First Nation
Wapekeka First Nation
Kitchenuhmaykoosib Inninuwug
Kasabonika Lake First Nation
Wawakapewin First Nation
Webequie First Nation
Kingfisher Lake First Nation
Wunnumin Lake First Nation
North Caribou Lake First Nation
Nibinamik First Nation
Neskantaga First Nation
Eabametoong First Nation
Township of Pickle Lake
Mishkeegogamang First Nation
Métis Nation of Ontario - Region 2
Aroland First Nation
Municipality of Sioux Lookout
Municipality of Greenstone
Long Lake #58 First Nation
Ginoogaming First Nation
MNO Greenstone Métis Council
MNO Superior North Shore Métis Council
City of Thunder Bay
MNO Thunder Bay Métis Council
Attawapiskat First Nation
Kashechewan First Nation
Fort Albany First Nation
Marten Falls First Nation
Constance Lake First Nation
Kenora
Dryden
Timmins
Kirkland Lake
New Liskeard
Cochrane
Hearst
Moosonee
Nakina
Ignace
Atikokan
Rainy River
Fort Frances
Terrace Bay
Nipigon
Nibinamik FN
Webequie FN
Marten Falls FN
Legend:
Webequie Supply Road Corridor with Alternative Routes 1 and 2
Local Study Area
Regional Study
Waterbody
Federal National Park
First Nation Reserve
Provincial Park
Conservation Reserve
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
Webequie Supply Road (WSR)
Socio-Economic Study Areas
NOTES
DISCLAIMER
Figure Number:
REV:
PA
Client:
Webequie First Nation
Project Number:
661910
Date:
2021-12-15
DSC
DRN
CHK
APP
AD
LD
LD

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Temporal Boundaries

Implementation of the Project will occur in phases, which are temporal boundaries that establish a timeframe for consideration of baseline information and potential effects of the Project. The Project is planned to occur in two main phases as described below:

- **Construction Phase**: All the activities for development of the road and supportive infrastructure from the start of construction to the start of operation and maintenance of the WSR (estimated 3-6 years); and
- **Operations Phase**: All activities for operation and maintenance of the road and any permanent supportive infrastructure (e.g., maintenance yard, aggregate pit/quarry) that will start after construction (75-year period is used for assessment).

The Project is proposed to be operated for an indeterminate time period; therefore, retirement (decommissioning/abandonment/closure) is not anticipated and will not be considered in the EA / IA. The final temporal boundaries to be used for assessment will be based on regulatory agency guidance, professional judgement and input received through the consultation process for the Project.

2.1.3. Gender Based Analysis Plus (GBA+)

Gender Based Analysis Plus or GBA+ is a required analytical approach for any projects operating under Section 22 of the IAA and will need to be applied to the WSR SEIA. GBA+ is a required approach given the recognition that historical and current power structures (e.g., laws, policies, governments and other institutions) have shaped society and created inequalities. This is especially important with respect to legacies of colonialism and the impacts on Indigenous peoples and in particular, Indigenous women. Today, there is an epidemic of violence against Indigenous women and girls, where violence-related deaths among Indigenous women is five times higher than the national average for Canadian women (Kuokkanen 2011 cited in Bond and Quinlan 2018 p. 24), and the severity of this issue is often exacerbated by the presence of industrial projects near Indigenous communities (Bond and Quinlan 2018 p. 23). Indigenous women are also less likely to benefit from employment opportunities associated with resource development projects (Dalseg 2018).

In the context of EA / IA, GBA+ is a means to understand and assess how potential project effects could disproportionately impact more vulnerable groups including women, youth, two-spirited and gender diverse persons, and Elders. It is particularly important to consider how the impacts, benefits, and risks of a project could be unequally distributed across different sub-groups within a community. From there, more plans and mechanisms can be put in place to avoid and/or mitigate the disproportionate effects on these sub-groups.

GBA+ is not a method unto itself, but an approach that is associated with a variety of standard quantitative and qualitative data collection tools. Details regarding how GBA+ will be applied to baseline information collection and the effects assessment are detailed in the respective sections of this study plan.

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2.2. Criteria and Indicators

Valued components are human and physical aspects of the environment that people consider important from Indigenous, public, or scientific perspectives, therefore warranting detailed consideration in an EA / IA (Noble, 2015, p.105). The assessment will focus on valued components that have physical, biological, social, economic, cultural, and health importance to Indigenous groups, public, federal and provincial authorities and interested parties, and have the potential for change as a result of the Project. Socio-economic valued components have been identified in the federal WSR TISG and WSR ToR and are, in part, based on what Indigenous communities and groups, the public and stakeholders identify as important to them in the EA process to date for the WSR Project.

Preliminary socio-economic criteria and indicators were also identified to evaluate and measure the potential effects of the WSR Project. The SEIA will examine social and economic effects, including potential changes to social and/or economic conditions based on the indicators, and the positive and negative consequences of these changes.

Table 2 below presents a preliminary list of criteria and indicators and reflects input received during the WSR engagement and consultation activities undertaken to date, such as input into the WSR TISG and WSR ToR. Indicators for which GBA+ will be applied are also identified in this table. Indigenous communities, groups and the public will be consulted and will have the opportunity to provide input and feedback to help further refine the criteria and indicators. A comprehensive list is to be determined as part of the EA process and will be documented in the Environmental Assessment Report/Impact Statement (EAR/IS). The table includes a preliminary list of sources that have been or will be used in collecting baseline information for that particular socio-economic criterion. Note that the list of sources listed in the table is not exhaustive; this list will be provided in the EAR/IS once baseline information collection is complete.

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Table 2: Socio-Economic Criteria and Indicators

Domain	Criteria/Valued Component	Indicator	Sources
Demographics	Population and Demographics	• Change to population • Change in sub-group population (women, men, youth – GBA+)	• Statistics Canada - Aboriginal Population Profile, 2006, 2011, 2016 Census Results[1] • Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) First Nation Profiles • Municipal, provincial and Indigenous government websites • Municipal plans and reports • Provincial plans and reports ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration

[1] 2021 Census data to be added once available.

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Domain	Criteria/Valued Component	Indicator	Sources
Community Services and Infrastructure	Housing and Accommodations	• Demand for permanent and and/or temporary housing • Housing costs and affordability o Average housing cost o Average rent • Change to number of people living in a home • Supply of housing o Total number of new housing starts and completions • Quality of housing	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Statistics Canada Census Community Profiles and National Household Survey • Municipal and provincial government websites • Stakeholder engagement • Local Business operators and service providers • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health

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Domain	Criteria/Valued Component	Indicator	Sources
	Social and Infrastructure Services o Education o Childcare o Water o Waste o Energy o Communications	• Demand for community services and/or infrastructure • Supply and capacity of community services and/or infrastructure	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Municipal, provincial and Indigenous government websites, plans and reports • Local service providers • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health
	Transportation	• Road Transportation o Change in traffic volume (autos, trucks) on existing road connection (winter) to provincial road network o Change in opportunities for travel and road use • Air Transportation o Demand for air and shipping services	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Local service providers (i.e., winter road) • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Community Well-Being and Safety • Land Use Compatibility • Recreation and Tourism

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Domain	Criteria/Valued Component	Indicator	Sources
			• Regional and Local Economy • Human Health • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Community Well-Being and Safety	• Social Cohesion and Culture o Quantity of social connections o Quality of social connections • Participation in social and/or cultural events o Participation rate (by event) o Number of new (first-time) attendees to regularly held (e.g., annual) events o Total number of social and/or cultural events held • Safety o Perceptions of safety o Traffic safety o Domestic violence rate o Sexual assault rate o Physical assault rate • Nuisance o Air quality (e.g., dust) o Noise levels	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Socio-economic surveys • Focus groups • Key informant interviews • Police reports • Social service reports • Non-Government Organization and Interest group reports • Municipal, provincial and Indigenous government websites, plans and reports ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Land and Resource Use (non-indigenous)	Land Use Compatibility	• Compatibility with existing and proposed land uses	• Consultation and engagement activities • Key informant interviews

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Domain	Criteria/Valued Component	Indicator	Sources
			• Spatial data on existing planned land uses • Land use plans (municipal, provincial and federal) - Provincial Policy Statement 2020 (Ministry of Municipal Affairs and Housing 2020); and Growth Plan for Northern Ontario (Ministry of Northern • Development, Mines and Forestry 2011) • Community-based land use planning ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Recreation and Tourism • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Recreation and Tourism (camps, trails, waterways, etc.)	• Location/number/type of activities or users • Land and waterway disruption and access • Resource availability of select species (fish, wildlife) or their habitat	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Business Operators ***Links to other VCs may include:*** • Transportation • Land Use Compatibility • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

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Domain	Criteria/Valued Component	Indicator	Sources
	Provincial Parks and Protected Areas (Areas of Natural and Scientific Interest, Conservation Reserves)	• Total number and total disturbed area (ha) of Provincial Parks and Protected Areas	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • MNRF website • Business Operators • Desktop studies ***Links to other VCs may include:*** • Land Use Compatibility • Recreation and Tourism • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Economic	Regional and Local Economy	• Economic and Procurement Opportunities o Business opportunities o Regional economic activity o Change in output/ GDP value-added o Value of procurement opportunities • Labour Force and Employment o Employment/ job opportunities o Employment and unemployment rates o Labour force participation rate o Labour income o Training opportunities	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Statistics Canada information on economic sectors • Provincial and regional economic development reports • Business Operators • First Nations employment skills inventory • First Nations business inventory • Municipal, provincial and Indigenous government websites • Municipal plans and reports on economic development • Provincial plans and reports on regional sector development • Local service providers such as infrastructure and utility providers • Regional tourism reports • Industry reports (e.g., mining and forestry) • Municipal and Indigenous community financial statements • Socio-economic surveys • Focus groups • Key informant interviews • Spatial Data on existing mining and aggregate areas

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Domain	Criteria/Valued Component	Indicator	Sources
		• Government Finances[2] o Changes to expenditures o Taxation and Revenue • Cost of Living o Price changes at an order of magnitude level for key consumptive goods o Annual Average Consumer Price Index (CPI) o Average retail prices for select products (e.g., food, fuel, transportation) o Average annual spending on goods and services per household • Mining and Aggregate Activity o Area (ha) of significant aggregate deposits affected o Area (ha) or number of active mines o Area (ha) or number of mining claims	• Stakeholder group information • Ontario's Land Information (OLI) database ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Recreation and Tourism • Provincial Parks and Protected Areas • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

[2] Note: The RSA for Government Finances will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

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2.3. Collection of Baseline Information

Collection of socio-economic baseline information will involve a mixed methods approach. Mixed methods refer to a combination of quantitative and qualitative methods and associated data collection tools. By combining these methods, a better understanding of issues and complex phenomena can be developed than by either method alone (Creswell and Clark 2007). This is because quantitative and qualitative methods serve different study purposes and are designed to address different types of research questions and information needs. The quantitative approach allows the Project Team to collect information at a broader scale, on a wide range and number of indicators. The qualitative approach complements the quantitative approach as its purpose is to understand particular topics more in-depth from the perspective of lived experience, and the meanings attached to that experience (Winchester and Rofe, 2016). For the qualitative approach, the Project Team and community facilitators will pose guiding, open-ended questions to a small number of knowledgeable, informed, and diverse participants.

Socio-economic baseline information will also be collected through both primary and secondary information sources. Gaps found in secondary information have been used to inform the primary information needs of the Project.

2.3.1. Secondary Information

A desktop review of published social and economic data was conducted for the 22 Indigenous communities/groups potentially impacted by the WSR as well as the municipalities (public). While only secondary information is being collected for the municipalities, both primary and secondary information will be collected for the 22 potentially impacted Indigenous communities/groups. The review included a search of government websites (such as Statistics Canada 2016 Census Profiles, First Nations Community Profiles, Indigenous Services Canada), Indigenous community websites, municipal websites, local and provincial police and emergency service websites, municipal economic development plans and other open-source data to identify community demographics, infrastructure, economic development, social services, safety, housing, etc. In addition, the following WFN community documents were obtained from the community and reviewed:

- Webequie First Nation Draft Comprehensive Community Plan (2021).
- Webequie First Nation Community Based Land Use Plan. 3 V 4.3. 4 “Webequie Anishininniwuk Ahki Ohnahchiikaywin”. Prepared by WFN. 2019. (WFN, 2019a).
- Webequie First Nation On-Reserve Land Use Plan. Dated May 31, 2019. (WFN, 2019b).
- Webequie First Nation Community Well-Being Baseline Study Summary- Summary Report 2. June 2014.
- Webequie First Nation Housing Assessment. n.d.

Similar documents from other potentially impacted communities will be requested and reviewed where permitted. Where sources provide disaggregated data based on subgroups (i.e. male and female statistics, age, etc.), this data will be used in the baseline to characterize the sub-groups and to support the gender-based analysis plus (GBA+) framework.

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2.3.2. Primary Information

Community Socio-Economic Surveys

Socio-economic surveys are proposed to be administered to 22 potentially impacted Indigenous communities and groups. These surveys will be administered through a combination of in-person and online methods, including at community meetings, frequently visited locations within the community (e.g. a store and band office), and/or through the use of Survey Monkey, an online survey tool. The Project Team will engage with Indigenous communities to determine the appropriate approach to deliver the socio-economic survey, and this will also depend on the intensity/depth of consultation required. While a high response rate will aim to be achieved, this will at least partially depend on the administration method(s) used.[3] The administration method will vary according to community. The 8 Indigenous communities in the Local Study Area (refer to section 2.1.2) will receive a more intensive effort to participate in completing the survey and will include use of in-person trained survey administrators or community coordinators, as well as the online survey tool.

The other communities and groups located within the Regional Study Area will be provided with the survey at community consultation events and online. Administration methods may also depend on capacity, protocols, and factors such as COVID-19 restrictions in place. In order to undertake a GBA+ approach, the aim will be to achieve a diversity of responses from different sub-groups within the communities including women, men, youth, and Elders.

The surveys will include questions about demographics (age, gender, income, education, employment), housing, social services, safety, and social cohesion. The questions developed are based on the criteria and indicators for the WSR Project. All Indigenous communities will be notified about the survey via email/letter and they are also being made aware of the socio-economic survey through radio call-in shows and livestream sessions broadcast to all communities. A link to Survey Monkey will also be posted on community social media sites, with permission.

The survey will be written in plain-language and pilot tested to improve the validity and reliability of the data collection instrument. It will also be translated to Oji-Cree and/or Cree with the aid of a translator if/when it is being administered in person. The survey will include a guide with directions and explanations of the questions, and this will also be provided to any in-person survey administrators through a short training program. Information provided in the surveys will be anonymous and confidential and used solely for the purposes of the Project.

Survey statistics will be analyzed using Survey Monkey with further rigour added to the analytical process if needed through exporting results to Excel and applying Chi-square tests to the data[4]. Analysis to be undertaken will be based on criteria and indicators in **Table 2.0**. Data will be disaggregated by gender and age in order to address GBA+ requirements (see Table 2.0 for indicators where GBA+ will be applied). Survey findings will be available for viewing and feedback as part of community engagement activities on the draft baseline report.

[3] Certain administration methods would be expected to achieve higher response rates, such as in-person surveys (Gillham, 2008), but this also depends on other factors (de Vaus, 2014).
[4] The Chi-square test measures the relationship, or lack thereof, between variables. The test compares the pattern of observed responses against what we would expect to see if there was no relationship between the variables (Statistics Solutions, 2021). This test measures how likely the relationship is to be a result of chance (Gillham, 2008).

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Focus Groups

Four focus groups will be conducted for each of the 8 communities who are potentially more socially and economically impacted by the Webequie Supply Road Project (see Table 1 and section 2.1.2). Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. In contrast to the questionnaire surveys, participants will have an opportunity to talk at length about issues to facilitate greater understanding and contextual insights. In addition, participant interactions within focus groups produce a synergistic effect, which can generate a significant amount of information compared to interviews alone (Stewart, Shamdasani, and Rook, 2007; Berg, 1989 cited in Hay, 2016). As such, there will be four focus groups undertaken with adult women (mothers and non-mothers), Elders, and male and female youth. These will be undertaken with the goal of understanding the power disparities, inequalities, and vulnerabilities that are likely to exist in communities where industrial projects have the potential to exacerbate these vulnerabilities (Bond and Quinlan 2018 p. 23). The topics to be explored through these focus groups include the following, and are based on TISG requirements, with targeted focus groups to be conducted for each topic identified in brackets):

- Experiences with development and aspirations for, as well as concerns about development (all);
- Access, ownership and control of resources e.g. financial, information (women);
- Education and training needs and interests (all);
- Employment opportunities and barriers (women and youth);
- Safety and experiences of gender-based violence[5]; concerns about violence[6] in relation to the Project or future mining development (women, female Elders, and female youth);
- Transportation and mobility (all);
- Access to emergency and support services and networks (all).

For certain topics, particularly those that are more sensitive and where participants may be hesitant to disclose information about themselves, fictional examples may be introduced that participants can respond to (see for example Goss and Leinbach, 1996). Focus groups will aim to comprise 6-10 participants each (see Cameron, 2016) and take approximately 2-3 hours to complete. Participants will be recruited through the Webequie Project Team (for WFN) and/or other community gatekeepers who can help to identify potential participants. Cultural protocols will be followed (e.g. prayers and smudging), where requested. For the focus groups with Indigenous women and female youth, it would be ideal to have a trained female Indigenous facilitator who the participants may be familiar with and who they trust. In addition, it will most likely be necessary to have these focus groups carried out in-person (as opposed to virtually), though this will depend on provincial and community COVID-19 restrictions in place, as well as participant preferences and comfort levels. Focus groups will be recorded either by audio/video recording and also have a notetaker present. Focus group information will be organized and analysed with the aid of the NVivo qualitative software package that allows for systematic thematic analysis of large amounts of text-based information. Copies of transcripts and/or findings will be provided to focus group participants for validation and feedback.

[5] Given the nature and importance of this topic, it may be necessary to have focus groups entirely dedicated to these issues.

[6] Violence may be understood and interpreted in various forms, and this will also be dependent on participant constructions of violence. However, given the context of impact assessment and future industrial camps and possible mining activities in proximity to communities, particularly WFN, violence and vulnerabilities to Indigenous women and children may be in terms of sexual harassment and assault; domestic violence; sex trade and sex trafficking; and sexually transmitted infections among other issues.

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Key Informant Interviews

Key informant interviews will be conducted with individuals who have special knowledge or information to contribute to the Webequie Supply Road socio-economic baseline study. This special knowledge includes (for example) community infrastructure capacity and service availability and needs, history with developers, economic development aims, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants will be asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. Key informants could include Chiefs, Councillors, band administration staff, and social service providers who will be interviewed either by telephone, videoconference, or during in-person consultation and engagement activities. A preliminary list of potential key informants will be drafted, but the Project Team will also work with Chief and Council as well as gatekeepers in the Indigenous communities to identify and confirm key informants to participate in the interviews. Interviews will be recorded electronically to assist in the preparation of transcripts and findings will be organized thematically. All information collected will be subject to OCAP ® (ownership, control, access, and possession principles) (The First Nations Information Governance Centre 2021). Copies of transcripts and/or findings will be provided to interview participants for validation and feedback.

2.4. Effects Assessment Approach

The approach for the assessment has been developed to satisfy regulatory requirements under the Environmental Assessment Act and is based on the MECP Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (MOECC 2014), and the approved Terms of Reference for the Project (MECP notice of approval dated October 8, 2021). The approach for the assessment has also been developed to meet the requirements of the federal TISG and specifically Section 13 – Effects Assessment.

2.4.1. Consideration and Evaluation of Alternatives

The assessment process requires that two types of project alternatives be considered: “alternatives to” the Undertaking (i.e., functionally different ways of addressing an identified problem or opportunity to arrive at the preferred planning solution) and “alternative methods” of carrying out the Undertaking (options for implementing the preferred planning solution). The consideration and evaluation of alternatives to the Undertaking were documented in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020) and concluded that developing a new all-season road between Webequie and the McFaulds Lake area is the preferred alternative. This analysis and conclusion are not proposed to be re-examined as part of the assessment process but will be documented in the EAR/IS. Therefore, in keeping with the focused approach the preferred planning alternative (developing a new all-season road) has been carried forward to the initial consideration of alternative methods of carrying out the Undertaking.

The consideration of alternatives methods will focus on the supply road alternatives within the proposed preliminary corridor. These alternatives include the Webequie First Nation community’s preferred route (referred to as Alternative 1) for the supply road along the centreline of an approximately 2 km wide preliminary preferred corridor and the optimal geotechnical route (referred to as Alternative 2) within the same corridor (Refer to **Figure 2**).

In addition, the following alternative methods related to supportive infrastructure and the preferred supply route will be examined.

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- Alternative sites for temporary and/or permanent aggregate extraction pits and production facilities needed for construction and operation of the road, including access roads to these sites;
- Alternative sites for supportive infrastructure (i.e., temporary laydown and storage areas, construction camps, including access roads to these areas);
- Watercourse crossing structure types (i.e., culverts, bridges), span length, lifecycle, and construction staging methods at waterbody crossings;
- Road attributes, including roadbed foundation; horizontal alignment, vertical alignment (elevation/profile), and adjustments to the cross-section and right-of-way (ROW) width of the corridor.

The assessment of alternatives will include socio-economic criteria and indicators for the comparative analysis. As noted previously the criteria and indicators will be developed in detail as part of the assessment process through input from the engagement and consultation activities with Indigenous communities, the public and stakeholders. Both a quantitative and/or qualitative assessment of alternatives for each criterion will be conducted to allow for a comparison of the advantages and disadvantages and selection of a preliminary recommended route for the WSR and the sites/access routes for supportive infrastructure.

2.4.2. Assessment of Net Effects

A step-wise process will be used to assess the environmental effects of the Project in a systematic and transparent manner once the relevant project elements and activities and their interactions, assessment boundaries, and relevant environmental criteria and indicators are identified and finalized through the engagement and consultation process. The net effects assessment method will include the following primary steps:

- Identification of potential effects;
- Identification of technically and economically feasible mitigation measures;
- Prediction of net effects following implementation of mitigation measures; and
- Evaluation of the predicted net effects (i.e., describe and determine the magnitude, duration, extent, frequency, and significance of the predicted net effects).

2.4.2.1. Identification of Potential Socio-Economic Effects

The net effects assessment will consider the potential interactions between the project components and activities (the 'triggers') and the criteria within the identified spatial boundaries and phases of the Project (i.e., construction and operation). Potential effects of the Project on valued components and criteria will be determined by comparing baseline conditions to those expected to result from the construction and operation and maintenance of the Project. Potential effects will be described for each assessment criterion, including an indication of whether they are expected to be direct (i.e., as a result of a project component or activity affecting a valued component), or indirect (i.e., as a result of a change to one valued component affecting another valued component). Relevant project activities will be analysed individually to determine if there is a plausible pathway for an effect on valued components.

Potential socio-economic effects will be identified through a pathways of effects analysis. Potential Project-socio-economic interactions will be identified through a review of the Project Description and existing socio-economic conditions, as characterized by social surveys, focus groups, key informant interviews, consultation and engagement activities, public and stakeholder input, local knowledge, and

desktop research. The pathways of effects analysis will also take into consideration existing literature/case studies of similar types of projects. This review focuses on the possible interactions between the socio-economic criteria and the Project within the study areas. Associated Project works and activities will be assessed to determine potential effects on the criteria during Project construction and operation. This could take the form of a Multiple Account Benefit-Cost Analysis (MABCA) (Shaffer, 2010) with the use of flow diagrams, scenarios, and cause-effect matrices (Mackenzie Valley Environmental Impact Review Board, 2007).

Effects to the social and economic valued components indicators as a result of the Project will consider the specific items contained in Sections 17 and 18 of the TISG.

Application of GBA+ to Identification of Socio-Economic Effects

A GBA+ lens will be applied to identification of effects due to the Project using a pathways approach based on what is known about the Project, existing socio-economic conditions disaggregated by gender and age, engagement and consultation activities, as well as literature that identifies GBA+ effects based on similar types of projects, and the potential for disproportionately adverse effects on women, Elders, and/or youth. The identification of possible positive impacts on women, Elders, and youth will also be important.

2.4.2.2. Identification of Mitigation Measures

Once potential effects are identified, technically and economically feasible mitigation measures to avoid and minimize potential adverse effects will be identified for each phase of the Project. Design considerations and mitigation measures will be identified to offset, eliminate, or avoid potential adverse effects and will be described in the EAR/IS. Refinements to these measures may also be made in the future detail design phase of the Project. Mitigation measures will be developed for the Project based on:

- Knowledge and experience of the Project Team with linear infrastructure developments;
- Industry best management practices and applicable agency requirements and guidance; and
- Measures identified by Indigenous communities, the public and stakeholders through feedback received as part of the engagement and consultation program.

It is understood that mitigation measures may not always be fully effective, therefore, WFN will identify a compliance monitoring and effects monitoring program as part of the EA for implementation during the project phases (refer to Section 2.3.2.6).

Application of GBA+ to Identification of Mitigation Measures

Mitigation in the context of GBA+ asks the questions: how can we avoid or limit potential adverse impacts, and reduce the potential risks posed by the Project for vulnerable sub-groups? At the same time, how can we enhance the potential benefits for vulnerable sub-groups? Mitigation options will be proposed and explored in consultation with GBA+ socioeconomic study participants and through consultation and engagement activities. At a minimum, the TISG (Section 3.3) requires the following with respect to diversity and inclusion:

- Plans to encourage the recruitment, development and retention of underrepresented groups in the Project (e.g., set targets for employment for specific groups);
- Diversity and inclusion workforce development plans (e.g., youth with substance use programs);

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- Opportunities for diverse groups of women, and underrepresented groups, to be employed in higher-skilled jobs through provision of on-the-job training (e.g., surveyors, road safety auditors, and heavy equipment operators);
- Workplace policies and programs, including codes of conduct, workplace safety programs and cultural training programs;
- New or expanded social or emergency services, facilities or infrastructure.

2.4.2.3. Prediction of Net Effects

A net effect, or the alternative term residual effect, is considered an environmental (biophysical), social, economic or health effect from the Project and its related activities that is predicted to remain after the implementation of mitigation measures. A potential socio-economic effect is considered to occur where anticipated future conditions resulting from the Project differ from the conditions otherwise expected from natural change without the Project. In some situations, the recommended mitigation measures will eliminate a potential adverse effect, while in other situations mitigation measures may reduce, but not eliminate the effect. Mitigation measures may also enhance positive effects. A potential effect that will be eliminated, or considered unlikely after mitigation measures, will be identified as not resulting in a net effect (i.e., no net effect) and will not be considered further in the net effects assessment. An effect that may remain after the application of mitigation measures will be identified as a net effect and will be further considered in the effects assessment. Positive effects will also be considered further in the effects assessment, including means of enhancing benefits of the Project. Neutral changes will not be carried forward for the characterization of net effects, but where identified will be characterized in terms of the confidence in the predictions and the likelihood of the effect.

2.4.2.4. Characterizing the Net Effects

The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each assessment criterion. The objective of the method is to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or function of a valued component, and therefore, result in significant combined effects.

The magnitude of the potential effect will be qualitatively and quantitively assessed by inferring the anticipated changes relative to baseline conditions using the identified preliminary socio-economic criteria and indicators. In general, the magnitude is the intensity of the effect or a measure of the degree of change from existing conditions and will be defined by each discipline assessment. If a significant effect is identified, the contribution of the Project to the combined effect will be described. The assessment of significance of the net effects of the Project on the social and economic valued components will be informed by the interaction between significance factors (as defined below), in addition to those concerns raised by Indigenous groups, interested agencies, stakeholders, and the public during the consultation and engagement for the EA. Therefore, predicted net effects, where identified, will be described in terms of the following significance factors (MNRF, 2003), with integration of the assessment methodology identified in the federal TISG, as required.

- **Direction** - The direction of change in effect relative to the current value, state or condition, described in terms of Positive, Neutral, or Negative.
- **Magnitude** - The measure of the degree of change from existing (baseline) conditions predicted to occur in the criterion.

- **Geographic Extent** - The spatial extent of which an effect is expected to occur/can be detected and described in terms of the PF, LSA and RSA.
- **Severity** - The level of damage to the valued component from the effect that can reasonably be expected; typically measured as the degree of destruction or degradation within the spatial area of the PF, LSA and RSA. Severity would be characterized as: Extreme; Serious, Moderate or Slight.
- **Duration/Reversibility** - Duration is the period of time over which the effect will be present between the start and end of an activity or stressor, plus the time required for the effect to be reversed. Duration and reversibility are functions of the length of time a valued component is exposed to activities. Reversibility is an indicator of the degree to which potential effects can be reversed and the valued component restored at a future predicted time. For effects that are permanent, the effect is deemed to be irreversible. Duration/Reversibility would be characterized for each adverse effect as: Short-Term (0- 5 years), Medium-Term (6-20 years), Long-Term (21 to 100 years) or Permanent (>100 years).
- **Frequency** – Is the rate of occurrence of an effect over the duration of the Project, including any seasonal or annual considerations. Frequency would be characterized as: Infrequent; Frequent or Continuous.
- **Probability or Likelihood of Occurrence** – Is a measure of the probability or likelihood an activity will result in an environmental effect. Probability or likelihood of occurrence would be characterized as: Unlikely, Possible; Probable and Certain.

The definitions and description of the above factors will be described in detail in the EAR/IS. An effort will be made to express expected changes quantitatively / numerically. For example, the magnitude (intensity) of the effect may be expressed in absolute (e.g., number of businesses affected) or percentage values above (or below) baseline conditions (e.g., changes to crime rates). Additionally, the definition of effect levels may vary from one valued component or criterion to another, recognizing that the units and range of measurement are distinct for each.

Application of GBA+ to Net Effects

Importantly, effects may impact communities, Indigenous groups and stakeholders in different ways, including through a GBA+ lens, and vulnerable sub-groups may respond differently to the effects. Therefore, determining and characterizing effects will be based largely on the level of concern expressed through engagement with the Indigenous groups and community members, including women, youth, and Elders.

2.4.2.5. Assessment of Significance

MNRF's Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (MNRF, 2003) require the assessment of significance of environmental effects and provides guidance for assessing the significance of potential environmental effects under individual criteria, for a project as a whole, and for alternatives.

In addition to the Class EA guidance, the determination of significance of net effects and cumulative effects from the Project and other previous, existing, and reasonably foreseeable developments will generally follow the guidelines and principles of the *Draft Technical Guidance Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act* (CEA Agency, 2017) and the *Operational Policy Statement: Determining*

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Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012 (CEA Agency 2015).

In general, the assessment of significance of net effects will be applied to each valued component for which net effects are predicted, and net adverse effects or positive effects will be classified as significant or not significant (i.e., binary response). Given that determinations of significance are highly sensitive to context and shaped by human values and cultures (Baker and Rapaport 2005; Kjellerup 1999), efforts will be made to collaborate with Indigenous communities, particularly the 4 communities potentially most impacted socially and economically, as well as vulnerable sub-groups, in defining and assigning significance classifications to particular valued socio-economic components.

Additional details on the application of socio-economic criteria and definitions that would describe "significant" and "not significant" will be provided in the EAR/IS.

2.4.2.6. Identification of a Monitoring Framework

Webequie First Nation will develop a monitoring framework during the EA process for each project phase (construction and operation and maintenance). The two primary types of monitoring to be developed will include:

- Compliance monitoring; and
- Effects monitoring.

The compliance monitoring will assess and evaluate whether the Project has been constructed, implemented and/or operated in accordance with commitments made during the EA process, and any conditions of the federal IA and provincial EA approvals and other approvals required to implement the Project.

The effects monitoring will be designed to verify the prediction of the effects assessment, and to verity the effectiveness of the mitigation measures. This would include construction and operational monitoring that would identify actual effects, assess the effectiveness of the measures to minimize or eliminate adverse effects, and evaluate the need for any additional action to ensure that socio-economic commitments and obligations are fulfilled, and mitigation measures are effective. It is expected that the monitoring program will involve Indigenous participation in the design and implementation of the program.

2.5. Schedule and Reporting

The schedule for completion of the socio-economic baseline report is as follows:

- Desktop research – April 2021 to March 2022 (as remaining community documents become available);
- Social Surveys – July 2021 to May 2022;
- Focus Groups – January 2022 to May 2022;
- Key informant interviews– September 2021 to May 2022;
- Draft Baseline Report (including all primary information)– July 2022;
- Draft EAR/IS – May 2023;
- Consultation and engagement activities to confirm baseline information collected, discuss potential impacts and identification of mitigations – Ongoing.

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The baseline socio-economic primary information and data will be collected from summer 2021-spring 2022 and will be compiled into a Socio-Economic Existing Conditions Report that will include results and findings from the primary data collection activities (surveys, key focus groups, informant interviews, consultation and engagement activities) and desktop research. The overall baseline report is tentatively scheduled to be completed by July 2022 and Indigenous communities will be requested to validate the baseline information in the report as part of the process to finalize the document.

3. Aboriginal and Treaty Rights

The Webequie Project Team will engage with Indigenous communities regarding potential impacts of the project on the exercise of asserted or established rights, and where possible, the Project's interference with the exercise of those rights. Webequie First Nation and the Project Team will discuss with Indigenous communities their views on how best to reflect and capture impacts on the exercise of asserted and/or established rights in the EAR/IS. Should impacts on the exercise of Aboriginal and Treaty rights be identified, Webequie First Nation and the Project Team will work with Indigenous communities to determine appropriate mitigation measures to reduce or eliminate such impacts. Where no mitigation measures are proposed or mitigation is not possible, the Project Team will identify the adverse impacts or interference to the exercise of Aboriginal and Treaty rights and this will be described (e.g., level of severity) and documented in the EAR/IS. Webequie First Nation and the Project Team will advise Ontario and the Government of Canada on concerns Indigenous communities may have in relation to their exercise of Aboriginal and Treaty rights and whether their concerns cannot be addressed or mitigated by the Project Team.

4. Contribution to Sustainability

4.1. Overarching Approach

As recognized in the Agency's current guides to considering how a project will contribute to sustainability, it is not until baseline information has been collected and the potential effects of the Project are assessed that a full understanding or determination of the project's contribution(s) can be achieved/made. However, information and data requirements for sustainability have been considered from the outset of the WSR Project for planning purposes. In the absence of the potential effects assessment, this section outlines the general approach to determining sustainability contributions for the socio-economic valued component.

The approach is based on the goal of providing a broad or holistic description of the project's potential positive and negative effects, including the interactions among those effects and the long-term consequences of the effects. In the context of the IAA requirements, sustainability means "the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations", with the aim of "protecting the components of the environment and the health, social and economic conditions that are within the legislative authority of Parliament from adverse effects caused by a designated project", recognizing that the Minister's or the Governor in Council's public interest determination must include sustainability as one of five factors to be considered in rendering a final decision.

The approach also considers the level of effort required to assess a project's contribution to sustainability to be scalable, depending on the phase of the process and the context of the project, and can/will be

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adjusted/scoped as the impact assessment proceeds. For example, effects on future generations requires temporal scoping (i.e., consideration of next generation to "seventh generation"), based on expectations as to how many generations it will take for effects to become fully apparent, including return to VC baseline conditions; resilience of the VC; and whether a VC is expected to recover from effects.

As part of the public participation and Indigenous peoples engagement programs described in Sections 3.1 and 3.2, the Project Team has (and will continue to) facilitate early identification of values and issues to better inform the assessment of the project's contribution to sustainability; and identify VCs that should be carried forward into that assessment, scoping related criteria and indicators to reflect the project context. As part of sustainability considerations, this information has also been used (with regard to which VCs are considered most important to Webequie First Nation) to identify alternative means of carrying out the Project and select alternatives to be carried forward for an assessment of sustainability contributions. Ultimately, with the appropriate input from the engagement and consultation program, the sustainability assessment will culminate with the development of commitments to ensuring the sustainability of Indigenous livelihood, traditional use, culture and well-being.

In identifying and scoping key VCs for sustainability contributions, the Project Team will consider VCs that:

- could experience long-term effects, including how those effects could change over time, and how they could affect future generations;
- may interact with other VCs;
- may interact with potential effects of the designated project; and/or
- may interact with project activities.

4.2. Assessment of Contribution to Sustainability

During preparation of the Impact Statement, the four (4) Sustainability Principles identified in the Agency's guides and the TISG will be applied as follows:

Principle 1 - Consider the interconnectedness and interdependence of human-ecological systems

A systems approach will be used to determine/express VC interconnectedness. The degree of interconnectedness within systems and/or subsystems may vary greatly (may be characterized as very intricate and tight/direct, or quite loose and indirect). The focus will be on those aspects that are most important to communities, the social-ecological system and to the context of a project. All interactions, pathways and connections among effects to the environment, and to health, economic and social conditions will be described, as will how these interactions may change over time. The Project Team will ensure that the description of systems and the direct and indirect relationships are guided by input from Indigenous Knowledge. It is expected that a graphic with simple pictorial images will be developed to visually represent the connections between human and ecological systems to facilitate comprehension and encourage input/feedback.

Principle 2 - Consider the well-being of present and future generations

The long-term effects on the well-being of present and future generations will be assessed. To conduct an analysis on future generations, the Project Team will first determine the potential long-term effects on well-being. This will entail consideration of the elements of environmental, health, social and economic well-being, across a spectrum of VCs, that communities identified as being valuable to them. In the context of the socio-economic VC, well-being could include community cohesion, protection of the environment, culture, stress, or livelihoods. Available Comprehensive Community Plans (CCP) will be

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consulted to determine whether sustainability is a CCP central theme. How the environmental, health, social and economic effects on well-being could change over time will also be assessed, as information permits. Although effects on future generations could include effects beyond the lifecycle of a project, this is not expected to be a major consideration for the WSR Project, as no expected decommissioning or abandonment timeframe has been identified. With respect to temporal scoping, there is still a need to determine what the "future generation" is (i.e., how far into the future the project effects will be considered). Predicted potential effects on future generations will be assessed based on the supporting data or uncertainty; any uncertainty will be documented.

Principle 3 - Maximize overall positive benefits and minimize adverse effects of the designated project

The Impact Statement will include a consideration of ways to maximize the positive benefits of the Project and consider mitigation measures that are technically and economically feasible and would mitigate any adverse effects of the Project. Sustainability considerations will include: whether additional mitigation measures are required; have additional benefits been identified and, if so, how can they be maximized; does the direction of the impact (i.e., positive or negative) shift between different groups and sub-populations; are there particular strengths or vulnerabilities in the potentially affected communities that may influence impacts; do the impacts cause regional inequities; and do the near term benefits come at the expense of disadvantages for future generations.

Principle 4 - Apply the precautionary principle and consider uncertainty and risk of irreversible harm

The precautionary principle states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". All uncertainties and assumptions underpinning an analysis will be described. A precautionary approach will be applied in cases where there is risk of irreversible harm (irreversible harm refers to project-related effects from which a VC is not expected to recover; reversibility is influenced by the resilience of the VC). Taking such a conservative approach may include setting out worst-case scenarios for decision-makers to consider, particularly when there is uncertainty about the significance or irreversibility of potential effects. As appropriate, the precautionary approach may be extended to commitments regarding the project's design (to prevent adverse effects, prevent pollution, deal with unplanned events) and the development of monitoring and follow-up programs to verify effects predictions, or gauge the effectiveness of mitigation measures. Uncertainty may be characterized quantitatively (e.g., description of confidence levels of modelled predictions) or qualitatively (e.g., through descriptors such as "high", "medium", and "low"). Qualitative descriptions of uncertainty will explain how the level of uncertainty was determined, identify sources of uncertainty and data gaps, and describe where and how professional judgment was used.

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5. Closure

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Région de l'Ontario
600-55 rue York
Toronto ON M5J 1R7

May 12, 2022 **Sent by Email**

Chief Cornelius Wabasse
Webequie First Nation
P.O. Box 268
Webequie ON P0T 3A0
corneliusw@webequie.ca

SUBJECT: Information on Requesting a Time Limit Extension for the Webequie Supply Road Project under the Impact Assessment Act

Dear Chief Wabasse:

The three-year legislated time limit to provide the Agency with the required information and studies, as described in the Tailored Impact Statement Guidelines (the Guidelines) issued on February 24, 2020, for the impact assessment of the Webequie Supply Road Project (the Project) will expire on February 24, 2023. From discussions held with the project team, the Impact Assessment Agency of Canada (the Agency) understands that Webequie First Nation will require an extension to the time limit.

In accordance with subsection 19(2) of the Impact Assessment Act (IAA), the Agency may, at the proponent's request, extend the legislated time limit by any period necessary for the proponent to provide the required information and studies. The required information and studies to be provided would include the Impact Statement and any additional required information and studies that may be identified as a result of:

- the Agency's verification review of the Impact Statement;
- the public comment period on the Impact Statement Summary;
- the technical review of the Impact Statement by the Agency and federal authorities; and
- associated consultation and engagement by the Agency with Indigenous communities.

In order for an extension to be considered and granted, proponents will need to be able to demonstrate that they have made progress on the development of the Impact Statement and that they have a work plan to complete it.

…/2

-2-

The Agency requests Webequie First Nation to provide the following information for the Agency's consideration on whether to grant an extension of the time limit for the impact statement phase for the Project:

- your reasons, directly related to the impact assessment process, for requesting an extension of the time limit (e.g., multiple field seasons for baseline studies, engagement needed to resolve issues and secure input, coordination with provincial assessment process);
- any changes to the environment at the project location, or to the project itself, that have occurred that may affect the impact assessment;
- a work plan detailing the progress made to date, accounting for work completed, work currently underway, and work not yet started, along with a breakdown of how the extended time would be utilized to provide all the required information and studies, including :
  - engagement activities with Indigenous communities and the public;
  - surveys with Indigenous communities and members of the public to collect baseline data, Indigenous knowledge and community knowledge;
  - field surveys to collect biophysical baseline data;
  - coordination with other parties, including coordination with Ontario for inclusion in the Impact Statement the outcomes from Ontario's Crown Consultation Approach that are relevant to the federal assessment;
  - submissions of the draft Impact Statement and the Impact Statement, including the time required for proponent-led engagement, document reviews by the Agency and federal authorities, and Agency-led consultation and engagement with Indigenous communities and the public;
  - time to address any deficiencies in the Impact Statement;
  - time to address issues that arose during proponent-led engagement activities, the public comment period on the Impact Statement, and Agency-led activities with Indigenous communities and the public; and
  - contingency allowance for unexpected delays in the project schedule;
- a progress report demonstrating advances made on the Project to meet the requirements of the Guidelines, including:
  - description of the type of engagement activities conducted to date with Indigenous groups, the public and government experts and their outcomes (i.e. what was achieved to inform the Impact Statement);
  - a summary of the baseline data (i.e. variables) collected to date;
  - determination of the final locations of project components, in particular the locations of the preferred road alignment, the aggregate pits and the access/service roads;
- any additional information that you believe is relevant.

…/3

-3-

Important: If a proponent fails to provide the information or studies within the three-year time limit, or within any time limit extension that may be granted by the Agency, the impact assessment would be terminated in accordance with section 20(1) of the IAA. If the impact assessment is terminated, the prohibitions under section 7 of the IAA would continue to apply to the Project. If the Proponent wishes to continue with the Project, it must submit an Initial Project Description to the Agency in accordance with section 10 of the IAA to once again commence the impact assessment process under the IAA. The information that must be provided in an Initial Project Description is detailed in the Information and Management of Time Limits Regulations under the IAA. Further information on the IAA is available on the Agency's website at https://www.canada.ca/en/impact-assessment-agency.html.

The Agency strongly advises Webequie First Nation to submit a complete request by **September 24, 2022,** for the Agency to process the request prior to the expiration of the legislated time limit on **February 24, 2023**. The Agency will post the time limit extension request documents submitted by Webequie First Nation and the Agency's response to the request on the Canadian Impact Assessment Registry.

We understand that Webequie First Nation will prepare a draft extension request, which we look forward to reviewing to ensure the draft contains all the requested information for the Agency's consideration. If you have any questions, please do not hesitate to contact Alexandra Oakes, the Project Manager, by phone at 647-291-3721 or by email at Webequie@iaac-aeic.gc.ca.

Sincerely,



Anjala Puvananathan
Director, Ontario Region

c.c.: Gordon Wabasse, Lands & Resources Director, Webequie First Nation
Craig Wallace, Project Manager, SNC Lavalin
Michael Fox, Regional Consultation Lead, Webequie First Nation
Sasha McLeod, Ministry of the Environment, Conservation and Parks
Dorothy Moszynski, Ministry of the Environment, Conservation and Parks
Andrew Lock, Ministry of Northern Development, Mines, Natural Resources and Forestry

Activity Date: May 27, 2022 10:45
File Name: WSR-Progress Update Meeting Presentation-2022-05-27.pdf
Activity Method: One on One
Date Published: May 27, 2022



WSR
WEBEQUIE SUPPLY ROAD

Environmental Assessment & Impact Assessment

May 27, 2022

WSR240-WEB-PR-PN-0059

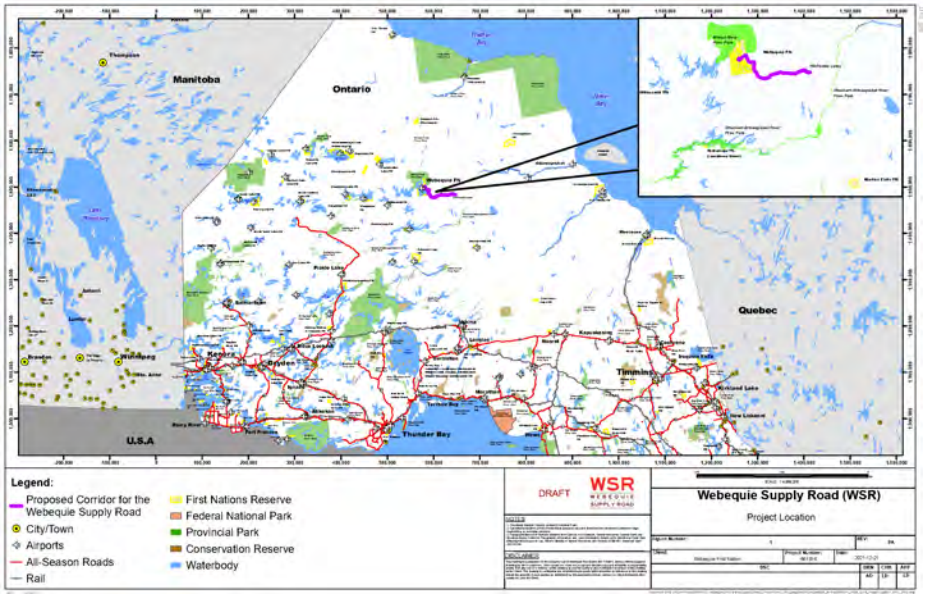
WSR-Progress Update Meeting Presentation-2022-05-27

PROGRESS UPDATE MEETING

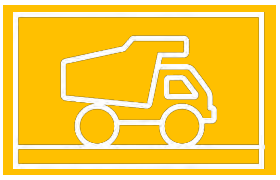


1. Project Overview
2. Technical Study Plans
3. Assessment Spatial Boundaries
4. Baseline Data Collection
5. Engagement and Consultation
6. Indigenous Knowledge and Land and Resource Use
7. Project Schedule

PROJECT LOCATION



PURPOSE OF THE WEBEQUIE SUPPLY ROAD



Move materials, supplies and people from the Webequie Airport to the McFaulds Lake area

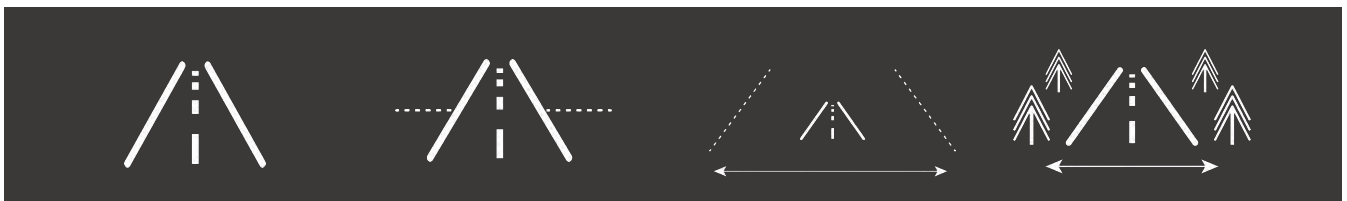


Provide employment and economic development opportunities to Webequie while preserving their language and culture



Provide experience/training opportunities for youth to help encourage the pursuit of additional skills through post-secondary education

PROJECT DESCRIPTION



107 km

All-season road from Webequie First Nation (WFN) Airport to McFaulds Lake

17 km

Length of road corridor within WFN Reserve Lands

2 km

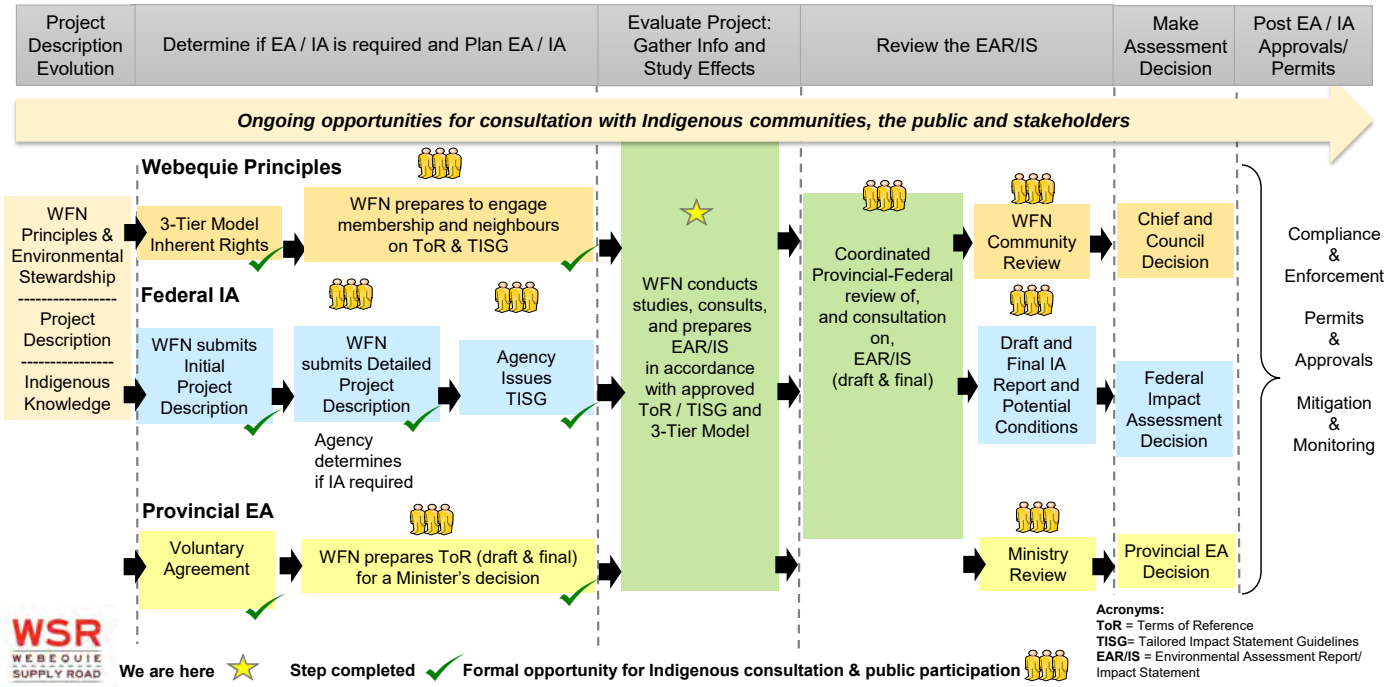
Preliminary corridor width for consideration of Route Alternatives

35 m

Final corridor width (right-of-way) for two lane gravel surface

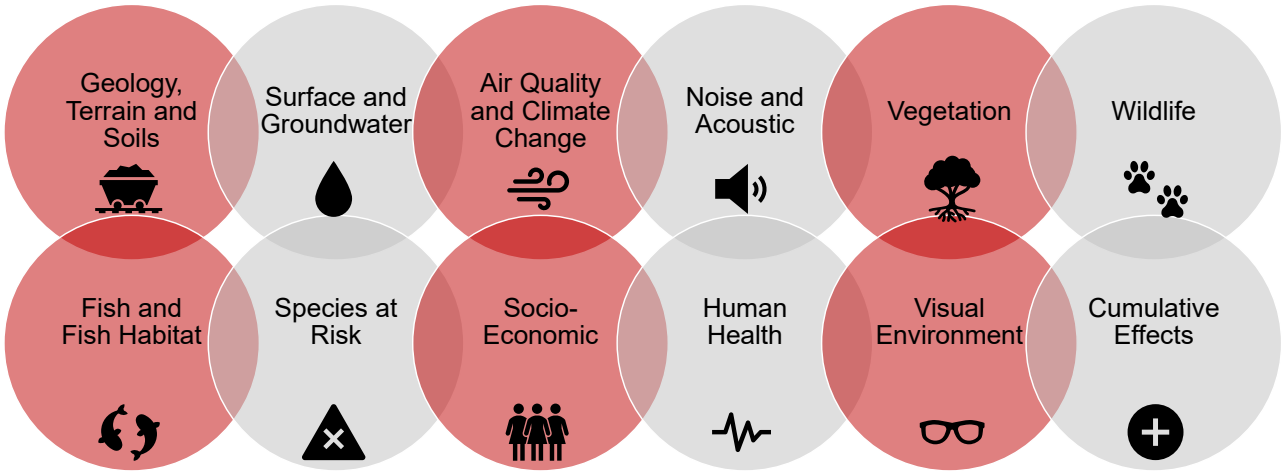

ENVIRONMENTAL ASSESSMENT (EA) & IMPACT ASSESSMENT (IA) PROCESS OVERVIEW

Coordinated Provincial-Federal Assessment Process




STUDY
PLANS

TECHNICAL STUDY PLANS



Plain language and technical Fact Sheets have been prepared to summarize each study plan and are posted on the Project website: www.supplyroad.ca

ASSESSMENT BOUNDARIES



Spatial boundaries define the geographic extent of potential environmental effects of the Project

- Are used to define the study area for baseline data collection/studies and the effects assessment
- May vary depending on the valued component (wildlife, surface water, socio-economic)
- Have been established to focus on the two route alternatives for the project within the proposed preliminary 2 km wide corridor as identified in the EA ToR and federal Detailed Project Description

SPATIAL ASSESSMENT BOUNDARIES

The project area has been broken up into 3 general study areas:



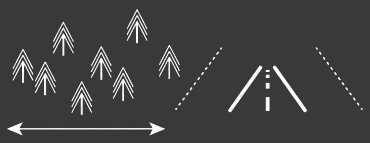
35m right-of-way

Project Footprint (PF) (Development Area) - the area of direct disturbance for Project construction and operation



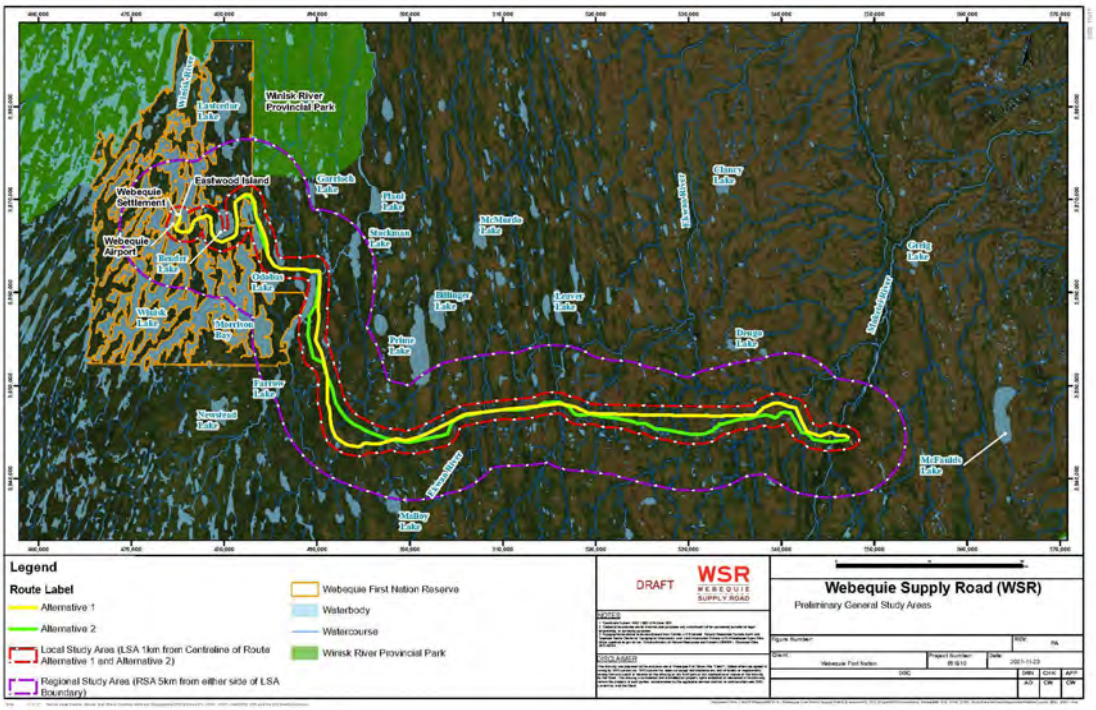
1km buffer from Alternatives 1 and 2

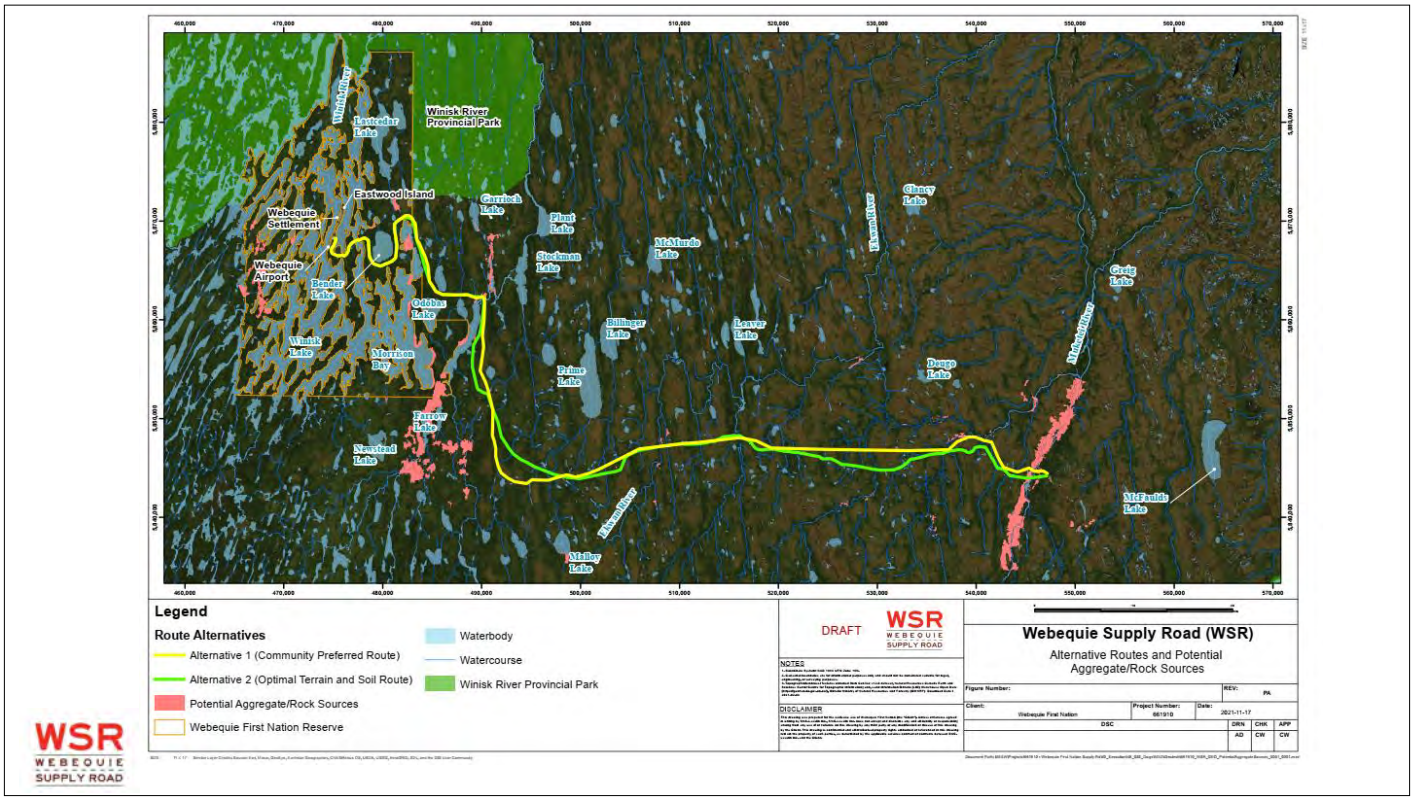
Local Study Area (LSA) - the area where largely direct and indirect effects of the Project are likely to occur (1km buffer within the 2 km wide corridor and 500 m from supportive infrastructure)



5km from either side of LSA

Regional Study Area (RSA) - the area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur


Webequie Supply Road (WSR)
Preliminary General Study Areas
DRAFT
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA 5km from either side of LSA Boundary)
Webequie First Nation Reserve
Waterbody
Watercourse
Winisk River Provincial Park
Winisk River Provincial Park
Eastwood Island
Webequie Settlement
Webequie Airport
Gerlach Lake
Hind Lake
McMurdo Lake
Blackman Lake
Beagle Lake
Oskoss Lake
Billinger Lake
Lever Lake
Palmr Lake
Darrow Lake
Neustad Lake
Mollie Lake
Chany Lake
Grahl Lake
Dregs Lake
McFaulds Lake


Winisk River
Winisk River Provincial Park
Eastwood Island
Webequie Settlement
Webequie Airport
Beaver Lake
Gurrick Lake
Flint Lake
Stockman Lake
McMurdo Lake
Otobos Lake
Wunk Lake
Morrison Bay
Billinger Lake
Lawyer Lake
Prime Lake
Farrow Lake
Newstead Lake
Mosby Lake
Kawaskimhan River
Clancy Lake
Craig Lake
Dongo Lake
McFauld Lake
Legend
Route Alternatives
Alternative 1 (Community Preferred Route)
Alternative 2 (Optimal Terrain and Soil Route)
Potential Aggregate/Rock Sources
Webequie First Nation Reserve
Waterbody
Watercourse
Winisk River Provincial Park
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Alternative Routes and Potential Aggregate/Rock Sources
Figure Number:
REV:
Client:
Webequie First Nation
Project Number:
Date:
2021-11-17
DSC
DRN
CHK
APP
AD
CW
CW

BASELINE STUDIES



- Baseline studies have been conducted through 2019 to 2021, and will continue in 2022 to help better understand the existing conditions of the environment – natural, health, social, economic and cultural
- Review of Secondary Source Information
- Primary Data Collection (e.g., biophysical field investigations, socio economic and health surveys, key informant interviews, focus groups, IK, etc.)

BASELINE STUDIES

Natural (Biophysical)

- Vegetation *(Peatlands /Wetlands, Forest)*
- Wildlife
- Fish and Fish Habitat
- Species at Risk
- Air Quality & Climate Change
- Noise and Vibration
- Visual Environment
- Surface Water
- Groundwater
- Geology, Terrain & Soils

Socio-Economic

- Profiles of Indigenous Communities
  - Population/Demographics
  - Education//Employment
  - Household Composition
  - Infrastructure & Social Services
- Human Health
- Land and Resource Use
- Indigenous Knowledge and Land and Resource Use

Cultural

- Archaeological Resources
- Built Heritage
- Cultural Heritage Landscapes

VEGETATION

Key Objectives

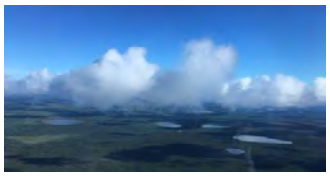
Characterize vegetation, wetland and riparian environments, that include, but are no limited, to the following:

- Description of the biodiversity, relative abundance and distribution of vegetation species and communities of ecological, economic or human importance (e.g., Indigenous traditional use)
- Identification and description of plant species and/or plant assemblages, species of conservation concern (i.e., listed as species at risk) or have Indigenous cultural importance
- Quantify, delineate and describe uplands and wetlands (fens, bogs, peatlands, etc.), including their functions and ecological services in the project area (e.g., hydrological, water quality, wildlife or wildlife habitat, etc.)

VEGETATION







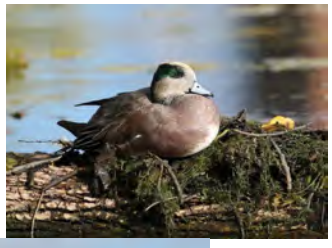
Field Surveys (2019, 2020 and 2021):

- Field Surveys were conducted in spring, summer and fall of 2019, and 2020, as well as summer survey of 2021
- 101 sites were sampled within the LSA, representing 30 different ecosites. Randomized stratified sampling was applied to selection of sample sites and abundance and distribution modelling is complete
- Surveys included species composition (percent cover) of canopy and sub-canopy trees, understory shrubs and tree regeneration, as well as dwarf shrubs, herbaceous vegetation, and moss/lichen cover
- Soil investigation at each sampling point to establish whether soils were organic, or mineral, as well as the texture of any mineral soils and other metrics (pH)

WILDLIFE - Birds

Spring and Fall Aerial Waterbird Surveys (2019 and 2020):

- Sampled waterfowl (e.g., ducks, geese, and swans) and shorebird (e.g., sandpipers, plovers) during migration to and from breeding grounds
- Surveyed wetlands and watercourses from helicopter within the LSA for the proposed road corridor











WILDLIFE

BASELINE STUDIES – BIRDS

Breeding Bird Surveys (2020, 2021, 2022):

- Consisted of manned point counts as well as use of acoustic recording units (ARUs)
- Listening counts were completed at 263 stations
- ARUs were positioned at 89 locations and recorded throughout the day during all four seasons of the year
- Over 80 species of birds were recorded with these methods


WILDLIFE
BASELINE STUDIES - BATS
Acoustic Bat Surveys (2020, 2021)
• Sampled bat diversity and presence using ultrasonic recorders.
• Surveyed at 10 total locations in the project study area
• Surveyed both during pup rearing period (June-July) and migration/swarming period (August – October).
• Five species of bats were recorded, including Little Brown Bat (Endangered in Ontario)
• Completed assessment for potential hibernacula sites



WILDLIFE

BASELINE STUDIES - CARIBOU

Caribou Aerial Surveys (2018/2019, 2021 2022, 2023):

- Conducted in winter, using helicopter
- Targeted caribou – also surveyed many medium and large mammals (e.g., moose, wolves, wolverine, otter, marten and other furbearers)
- 45 and 13 caribou documented in 2018 and 2019 surveys, respectively. Over 500 caribou in 2021 survey.

Caribou Calving Study (2020 and 2021):

- Ground (foot) and helicopter (aerial) surveys to scan for spring/early summer caribou calving and nursery habitat

Caribou Collaring Study (2021/2022/2023):

- Determining calving areas, wintering areas, and travel corridors by placing GPS/radio collars on 29 female caribou and monitoring movements for 3 years
- Data to date reveals that most collared caribou are of Eastern Migratory population that winters in wooded areas but calves along Hudson's Bay shoreline
- This is a "Special Concern" species in Ontario







WILDLIFE

BASELINE STUDIES – WOLVERINE/AMPHIBIANS

Wolverine Occupancy Study (2020, 2021 & 2022):

- Sampling stations called “run-poles” were constructed at 25 sites within 10 km of the alternative routes for the WSR. Stations included “snag posts” to collect hair from visiting animals and two cameras
- In 2021 the stations documented at least 7 individuals which visited 13 stations a total of 29 times
- This is the first study along the eastern range boundary of this species in Ontario and the first targeted Wolverine baseline study for an environmental assessment in Ontario

Amphibians (2020 and 2021):

- Calling frogs were sampled by way of acoustic recording units (ARUs) deployed for breeding bird studies
  - Approach allowed for evening surveys in remote wetland areas that would have been inaccessible otherwise

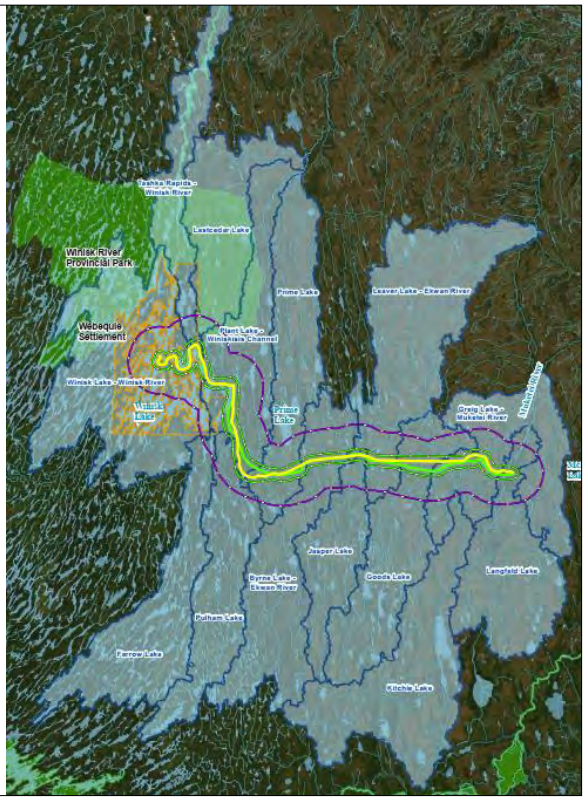
FISH AND FISH HABITAT

- Surveys (2019 and 2020) included:
  - Fish habitat characterization
  - Fish community sampling
  - Spawning surveys (2020) for Walleye and Lake Sturgeon using egg mats
  - Benthic invertebrate sampling (2020)
- Fish habitat was characterized at the 26 waterbody crossings (include and Bender Lake and Winisk Lake)
- Based on habitat features and fish species present (resident and migratory populations), overall fish habitat sensitivity in each waterbody was rated – rare, high, moderate, low, or unknown



SURFACE WATER AND HYDROLOGY

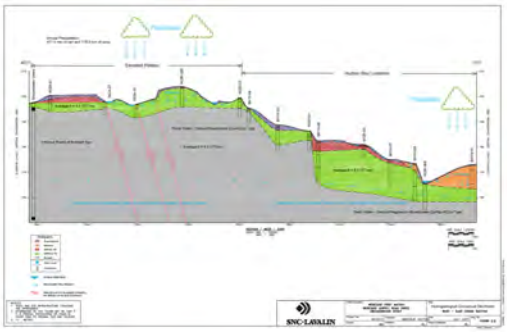
- The corridor for the WSR crosses 26 waterbody crossings (3 major crossings), each with their own sub-watershed.
- Peak flows and high-water levels (water quantity) for each sub-watershed have been calculated to characterize watersheds and support preliminary engineering design for the road (size of bridges & culverts)
- Water quality and sediment samples have been collected along the corridor and analyzed for general chemistry (pH, turbidity, nutrients), metals and more
- Water quality sampling captured seasonal and annual variations (2019, 2020 and 2021)



GROUNDWATER

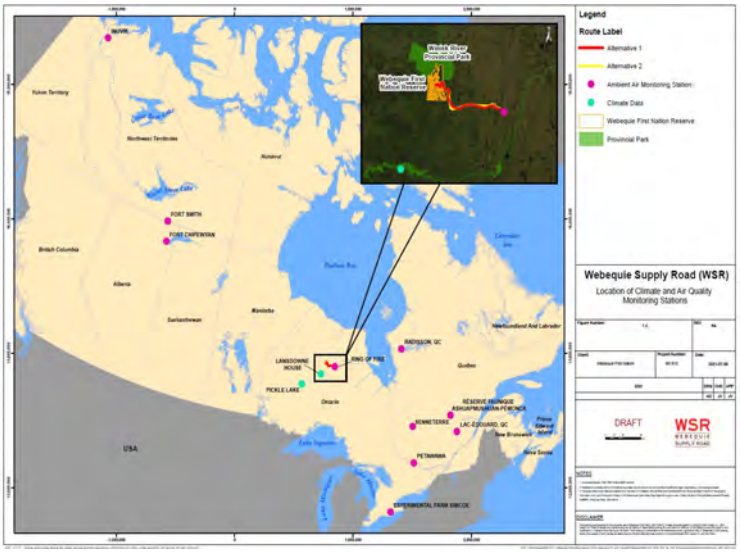
- A total of 12 monitoring wells along corridor were installed in July 2020
- Recorded groundwater levels –seasonal and annual variations (Summer/Fall 2020, Spring 2021)
- Determined the rate of flow in an aquifer/unit (hydraulic conductivity)
- Recharge/discharge areas
- Groundwater quality sampling examined pH, turbidity, nutrients, metals and more (BTEX, PHC, PAH)
- Hydrogeological conceptual model developed
- Groundwater users identified





AIR QUALITY AND CLIMATE

- Existing local and regional climatic conditions were obtained from two stations (Pickle Lake & Lansdown House) operated by Environment and Climate Change Canada
- To characterize existing air quality conditions a combination of air quality monitoring stations across Canada were used that are located in remote areas similar to the Project



NOISE AND VIBRATION

- Existing background ambient sound levels at have been determined within the community of Webequie and along the proposed WSR corridor
- Measurements at 3 monitoring stations were conducted during the period between October 29 and November 1, 2021
- Noise Sensitive Areas identified (e.g., cultural sensitive areas, church, school, etc.,)
- Existing ambient underwater soundscape and vibration levels are not proposed to be quantified during the for EA/IA

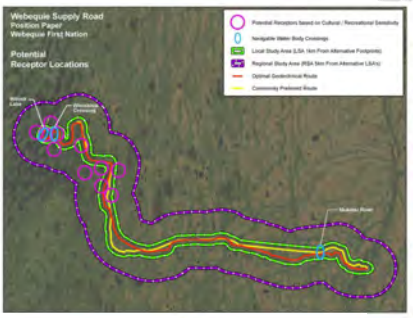




Larson-Davis NMS044 Outdoor Noise Monitoring System
(Courtesy of Larson-Davis)

VISUAL ENVIRONMENT

- Completed background review of information to characterize visual environment within the LSA and RSA along the proposed WSR corridor
- Data Sources: Webequie flyover; preliminary/conceptual engineering plans; aerial photography, site specific photo's, LiDAR, culturally sensitive areas, vegetation mapping, etc.,
- Identification and confirmation of potential receptors is on-going – location of outfitter/tourism operators, camps; location of travel routes (water and land) used for fishing hunting, vistas or culturally significant





SOCIO-ECONOMIC

Baseline Study

Makes use of two (2) types of data:

1. Primary Data – surveys, focus groups, and key informant interviews
(collection ongoing- all 22 Indigenous communities have been invited to participate)

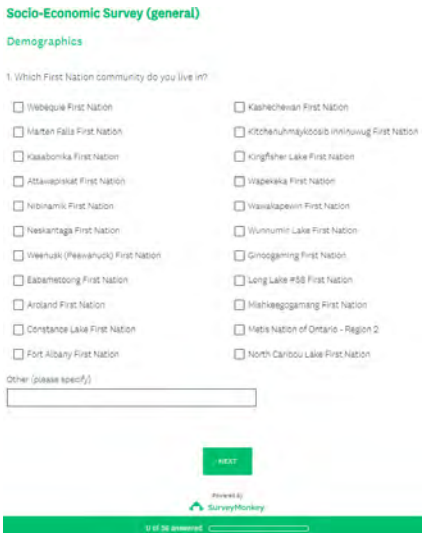
2. Secondary Data – desktop review of open-source data including websites, economic and land use plans, etc.
(currently being finalized and inserted into the socio-economic baseline report)

Surveys

- Have been completed online via SurveyMonkey and in person at community drop-in sessions with survey administrators present
- Questions focus on demographics (i.e., age, gender, income, education, employment, housing, health, safety)

TO DATE: 250+ surveys were completed by Webequie community members during summer/fall 2021

UPCOMING: surveys with other communities based on interest and availability to participate



SOCIO-ECONOMIC

Focus Groups

- Allow for a deeper understanding of the experiences, aspirations, and concerns of diverse groups in the community (i.e., youth, women, Elders, land users)

TO DATE: 2 focus groups occurred in Webequie during the May 2022 visit (youth and women)

UPCOMING: focus groups with Elders, land users/knowledge keepers, and other groups as necessary in Webequie, as well as focus groups in other communities based on interest and availability to participate



Key Informant Interviews

- Conducted with individuals who have special knowledge or information regarding socio-economic topics (i.e., social/health services, infrastructure, economic development and housing)

TO DATE: 12 interviews have been conducted with Webequie informants (Chief & Council, Health Director, School Principal, Department Directors etc.) in winter/spring 2022 - both virtually and in-person during the May 2022 community visit

UPCOMING: Interviews with other Webequie informants (including Child & Family Services and Police & Emergency Services representatives) and in other communities based on interest and availability to participate

HUMAN HEALTH

Baseline Study

- A baseline community health profile is being developed to understand the current overall health status of affected communities.
- It will provide a benchmark for assessing potential health effects arising from the Project. Health information is being collected using the study methods described below.

Surveys

- 2 surveys have been developed: a Human Health Survey and a Country Foods Survey
- Approximately 10 surveys were completed in person during the May 2022 community visit, with survey administrators present – *more surveys will be completed via SurveyMonkey and at future in-person community sessions*

Focus Groups

- Health questions have been integrated into the ongoing socio-economic focus groups (including the women and youth focus groups that occurred in Webequie during the May 2022 community visit) – *health questions will also be posed at upcoming focus groups*

Key Informant Interviews

- Health questions have also been integrated into the ongoing key informant interviews (including interviews with the Health Director and Councillors) during the May 2022 community visit – *health-specific interviews will be arranged as necessary*

COUNTRY FOODS

- Review of background studies is ongoing (e.g., Webequie specific First Nations Food, Nutrition & Environmental Study Report)
- Country Foods Survey (ongoing)
- Completed collection and analysis of tissues samples 2020 and 2021 (29 in total)
- Fish (Whitefish, Pickerel and Northern Pike)
- Vegetation (Eastern White Cedar, Wild Sarsaparilla, Labrador Tea, American Sweetflag)
- Wildlife (Bufflehead, Ruffed Grouse, Canada Goose, Moose, Snowshoe Hare)
- Soil samples at country food harvest locations



CULTURAL HERITAGE & ARCHAEOLOGY

Studies completed to date include:

- Cultural Heritage Desktop Data Collection Report (Summer 2021)
- Stage 1 Archaeological Assessment Report (Spring 2022)

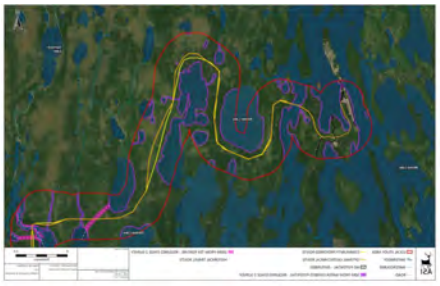
Key methods were as follows:

- Review of background information sources such as maps, previous assessment reports, and provincial heritage database/register
- Field data and review
- Review of Indigenous data/information collected through consultation with Indigenous groups or through the formal Indigenous Knowledge and Land Use Program (IKLU) for the Project.

Next steps:

- Engagement with Indigenous communities in order to verify/confirm the 36 identified potential Cultural Heritage Landscapes (CHLs) and areas with archaeological potential identified to date






ENGAGEMENT
&
CONSULTATION

PROPOSED CONSULTATION FOR EA/IA

Three rounds of consultation are proposed for the EA/IA:

Spring/Summer 2022 – Consultation Round 1

- Overview of EA/IA process
- Consultation to date and what we have heard
- Study Plans for valued components
- Criteria and indicators for evaluation and selecting a preferred route and project effects assessment
- Approach for evaluation of alternatives (routes; aggregate areas)
- Overview and status of baseline studies
- Indigenous Knowledge program
- Consultation approach and next steps

Fall 2022/Winter 2023 – Consultation Round 2

- Summary of input received from consultation round 1
- Identification and evaluation of alternatives
- Preferred route and aggregate/rock source areas and rationale for selection
- Preliminary engineering design elements of WSR (bridges/culverts)
- Next steps and schedule

Spring/Summer 2023 – Consultation Round 3

- Summary of input received from consultation round 2
- Summary of preliminary effects assessment of Project
- Proposed impact management, mitigation and follow-up monitoring program
- Next steps in EA/IA process

TYPES OF ENGAGEMENT ACTIVITIES TO GATHER FEEDBACK

Consultation and Engagement Activities for Indigenous Communities

- Chief & Council and/or Community Meetings
- Open House Sessions in Thunder Bay for off-reserve community members from Webequie First Nation
- Ongoing notifications and project updates in notices, newsletters, social media, and project website
- Live information streaming sessions (Facebook, Youtube)
- Interviews and targeted focus groups with community members (youth, Elders, Band administrative staff)
- Community Specific Information Sessions / Open Houses
- Review of Draft and Final Environmental Assessment Report/Impact Statement
- Consultation Progress Reports will be prepared at each of the 3 key EA/IA milestones to support meaningful input from communities

Consultation and Engagement for All Stakeholders and the Public

- Ongoing notifications and project updates in notices, newsletters and social media
- Project Website
- Project Email Address
- 3 Open Houses in Thunder Bay
- Review of Draft and Final Environmental Assessment Report/Impact Statement

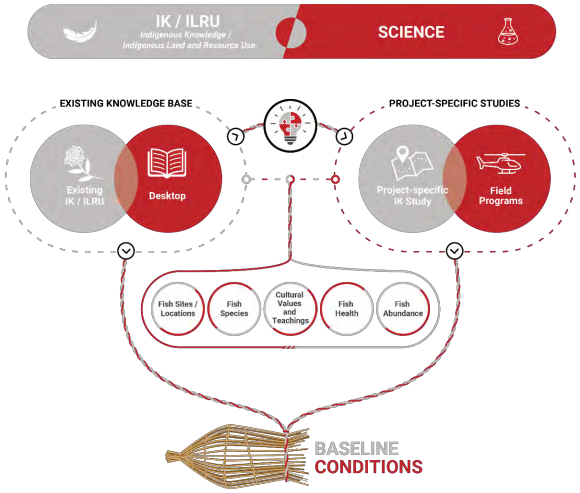
WSR WEBEQUIE SUPPLY ROAD


INDIGENOUS
KNOWLEDGE

INDIGENOUS KNOWLEDGE / ILRU PROGRAM

The Purpose of the program is to:

- **Develop understanding** of insights and knowledge gained from experience, history and traditions of Indigenous communities on the land and waters, including traditional land use areas, sacred sites, and other culturally important locations in the Study Area for both historic and current uses of lands and resources
- **Identify potential effects** of the Project, including those on Indigenous rights and interests
- **Collaborate and work with** Indigenous communities to enhance benefits or to identify measures to avoid/reduce potential effects on Indigenous rights and interests



INDIGENOUS KNOWLEDGE PROGRAM

- An **invitation letter** was sent to all communities in December 2022 seeking interest in participating in the IKLU Program.
- Communities that have expressed an interest to participate in the program to date include: Marten Falls, Long Lake, Constance Lake, Kingfisher Lake and Weenusk
- The Project Team recognize that IKLU information belongs to each community. In order to honour and respect **confidentiality principles**, Indigenous Knowledge Sharing Agreements will be established prior to the collection and use of a community's information.
- Project Team will work together to **validate IKLU information** and confirm that we have a firm understanding of it before weaving it into the EAR/IS.
- The Project schedule currently reflects that all IKLU information will be received by April 2023.


PROJECT
SCHEDULE

KEY PROJECT SCHEDULE MILESTONES

- Submission of Draft Natural Environment Existing Conditions Report for Agency and MECP review - May 2022. Revise and finalize August 2022
  - Geology/soils/terrain, surface water, groundwater, fish/fish habitat, atmospheric (air quality, climate, noise, light levels), vegetation, wildlife, species at risk
- Submission of Draft Socio-Economic Existing Conditions Report for Agency and MECP review - January 2023. Revise and finalize March 2023
- Health, including country foods – Completion of baseline - October 2022
- Archaeological Assessment – Completion of baseline/desktop review – October 2022
- Built Heritage & Cultural Heritage Landscapes – Completion of baseline/desktop review – October 2022
- Selected Preferred Route & Supportive Infrastructure from Evaluation of Alternatives – March 2023

KEY PROJECT SCHEDULE MILESTONES

- Circulate Draft EAR/IS (prior to formal release/submission) to Agency and MECP for review and receipt of comments – August 23, 2023
  - 2 months for proponent to address comments and revise Draft EAR/IS
- Release & submit Draft EAR/IS for formal review - November 7, 2023
  - 5 weeks for proponent to address deficiencies on Draft EAR/IS
- Agency posts Notice of Invitation to provide comments on the Summary of the Impact Statement. This also coincides with Notice of Submission of final EAR/IS to the MECP – April 30, 2024
- Schedule contingency allowance for unexpected delays – risks to schedule


THANK YOU
MEEGWETCH

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Draft Extension Request for Impact Assessment

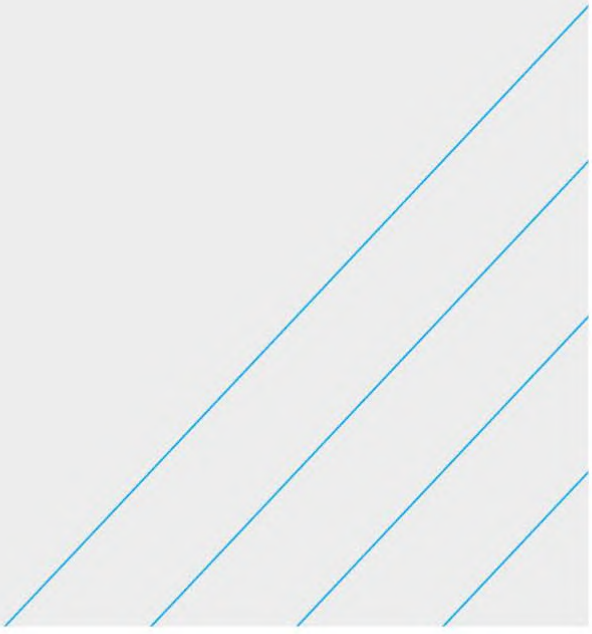
Webequie Supply Road Project

Webequie First Nation

Submitted to:
Impact Assessment Agency of Canada

August 8, 2022

SNC-Lavalin Project: 661910



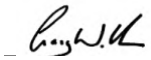
WSR240-WEB-PR-RT-0072

Web-Draft Extension Request for WSR IA-2022-08-08

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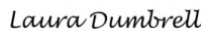
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Appendix

A. Project Schedule

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List of Acronyms and Abbreviations

Term	Definition
ARD	Acid Rock Drainage
ANSIS	Areas of Natural and Scientific Interest
ALS	ALS Environmental Laboratories
AAQC	Ontario Ambient Air Quality Criteria
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CAAQS	Canadian Ambient Air Quality Standards
COSSARO	Committee on the Status of Species at Risk in Ontario
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CBLUP	Community Based Land Use Plan
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CDEM	Canadian Digital Elevation Model
DEM	Digital Elevation Model
DFO	Fisheries and Oceans Canada
ELC	Ecological Land Classification
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
GBA+	Gender Based Analysis Plus
GHG	Greenhouse Gas
GIS	Geographic Information System
HIA	Health Impact Assessment
FNLC	Far North Land Cover
IA	Impact Assessment
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
ISC	Indigenous Services Canada
IK	Indigenous Knowledge
IKLRU	Indigenous Knowledge and Land and Resource Use
IS	Impact Statement
ISC	Indigenous Services Canada
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
LIO	Land Information Ontario
LRU	Land and Resource Use
LSA	Local Study Area
LDPE	Low-Density Polyethylene
LiDAR	Light Detection and Ranging
ML	Metal Leaching

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List of Acronyms and Abbreviations (Cont'd)

Term	Definition
MLO	Model Lighting Ordinance
MCSCS	Ministry of Community Safety and Correctional Services
MECP	Ministry of the Environment Conservation and Parks
MOE	Ministry of Energy
MOM	Ministry of Mines
MND	Ministry of Northern Development
MNO	Metis Nation of Ontario
MIA	Ministry of Indigenous Affairs
MOE	Ministry of Environment
MNRF	Ministry of Natural Resources and Forestry
MTO	Ministry of Transportation
MEDJCT	Ministry of Economic Development, Job Creation and Trade
MMAH	Ministry of Municipal Affairs and Housing
MHSTCI	The Ministry of Heritage, Sport, Tourism and Culture Industries
NAAQS	Nunavut Ambient Air Quality Standards
NoA	Notice of Assessment
NSA	Noise Sensitive Areas
NAPS	National Air Pollution Surveillance
NoC	Notice of Completion
NOx	Nitrogen Oxide
NHIC	Natural Heritage Information Center
O3	Ozone
OPP	Ontario Provincial Police
OFAT	Ontario Flow Assessment Tool
PAH	Polycyclic Aromatic Hydrocarbons
PHC	Petroleum Hydrocarbons
PWQMN	Provincial Water Quality Monitoring Network
RSA	Regional Study Area
RSQAQ	Réseau de surveillance de la qualité de l'air du Québec
RoW	Right-of-Way
SAR	Species at Risk
SNC-Lavalin	SNC-Lavalin Inc.
SWH	Significant Wildlife Habitat
TC	Transport Canada
TDS	Total Dissolved Solids
TOR	Terms of Reference
TP	Technical Proposal
TPM	Total particulate matter
TISG	Tailored Impact Statement Guidelines
TSS	Total Suspended Solids

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Term	Definition
TKN	Total Kjeldahl Nitrogen
TSP	Total Suspended Particulate – particulate matter of aerodynamic diameter less than or equal to 30 microns

List of Acronyms and Abbreviations (Cont'd)

Term	Definition
VR	Virtual Reality
VC	Valued Component
WSC	Water Survey of Canada
WFN	Webequie First Nation
WSR	Webequie Supply Road

List of Units

Term	Definition
%	Percent
d	Day
dB	decibel
dBA	A-weighted decibels
h	Hour
km	Kilometre
km^2	Square kilometre
km/h	Kilometre per hour
L	Litre
L1	Layer 1
L10	Layer 10
L50	Layer 50
L90	Layer 90
L99	Layer 99
Lmin	Minimum root mean square Level
Lmax	Maximum root mean square level
Leg	Equivalent Continuous Sound Level
ug	Micrograms
m	Metre
M3	Cubic Meter
ppb	Parts per billion
oC	Celsius
mbgs	Meter below ground surface

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1 Introduction

This Extension Request has been prepared by SNC-Lavalin Inc. (SNC-Lavalin) on behalf of Webequie First Nation (WFN) for the Impact Assessment (IA) of the Webequie Supply Road Project (WSR, the Project).

The Project's Notice of Commencement was posted on February 24, 2020. In accordance with subsection 19(1) of the *Impact Assessment Act* (IAA), the proponent of a designated project must provide the Impact Assessment Agency of Canada (the Agency) with the information or studies that are set out in the notice of the commencement of the IA of the designated project within three years after the day on which a copy of that notice is posted on the Internet site. In accordance with subsection 19(2) of the IAA, the Agency may extend the time limit by any period that is necessary for the proponent to provide the Agency with the information or studies. The required information and studies to be provided would include the Impact Statement (IS) and any additional required information and studies that may be identified as a result of:

- The Agency's verification review of the IS;
- The public comment period on the IS Summary;
- The technical review of the IS by the Agency and federal authorities; and
- Associated consultation and engagement by the Agency with Indigenous communities.

In order for an extension to be considered and granted, proponents will need to demonstrate that they have made progress on the development of the IS and that they have a work plan to complete it.

WFN is the proponent of the Project. **Section 2** presents the reasons why the proponent is seeking an extension of the time limit for the Project's IS. **Section 3** summarizes the changes that may affect the IA process identified by the proponent. **Section 4** provides the proponent's work plan for the IA. **Section 5** demonstrates the advances made to date to meet the requirements of the Project's Technical Impact Statement Guidelines (TISG).

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2 Reasons for Extension Request

This section presents the proponent's reasons, directly related to the IA process, for seeking this Extension Request.

2.1 Implications of COVID-19 Pandemic on Project Activities

The COVID-19 global pandemic that began in March 2020 introduced significant challenges to the execution of the EA/IA for the Project. In summary, the following components and activities were directly affected and resulted in schedule delays:

- **Collection of baseline field data for biophysical aspects of the environment.** The Project Team field crews that were normally stationed out of the community of Webequie were not permitted in the community due to COVID-19 and health and safety concerns expressed by WFN and the isolation of that community to protect its members. To adapt to these circumstances the Project Team were stationed out of the Town of Pickle Lake, which involved an increase in helicopter flight time to arrive at the project area and therefore the amount of daily time available to complete their field work. As a result, substantial amount of time was needed to collect the necessary field data to meet the requirements of TISG for the Project. Additionally, health and safety planning and procedures were required to be developed to implement the field work, including internal approvals for travel by SNC-Lavalin staff, who completed the baseline field program. Finally, supply chain problems and issues were encountered related to obtaining materials, equipment and supplies required to execute the field programs.
- **Increased time to obtain necessary permits/approvals to complete the baseline biophysical field investigations.** There were several permits/approvals needed from provincial ministries (e.g., MNRF and MECP) such as Work Permits for geotechnical investigations, Licenses to Collect Fish for Scientific Purposes for aquatic field work and species at risk approvals for surveys related to Wolverine and Caribou. As staff at provincial ministries moved to remote delivery of their services the Project Team experienced increase processing time to receive permits for the various field work programs.
- **Need for consultation and engagement activities to be developed and offered virtually.** As Indigenous communities, stakeholders and the public entered isolation and/or gathering restrictions during COVID-19, the ability to offer traditional in-person meetings were not possible. To address the COVID-19 restrictions, substantial Project Team efforts and time was needed for the planning and development of virtual options to allow for Indigenous communities and others to provide feedback to the Project Team on elements of the Project or EA/IA process. As such, these additional efforts related to the development of opportunities for engagement during COVID-19 adversely affected the project schedule. For example, this included offering virtual engagement and consultation options to Indigenous communities such as virtual focus groups sessions, virtual Community Information Sessions/Open Houses, and Virtual Topic-Specific Livestream Events and Radio Call-in Shows.

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2.2 Delay in Receiving Provincial EA Terms of Reference Approval

The proponent submitted the EA Terms of Reference (ToR) for the WSR Project to the Ministry of the Environment, Conservation and Parks (MECP) on August 14, 2020, with a 60-day review period for submission of comments from Indigenous communities/organizations, stakeholders and the public. Typically, under the provincial EA process, and as outlined the MECP Code of Practice and the prescribed timeline under Ont. Regulation 616/98, a proponent can expect a timeframe of approximately 13 weeks for a decision from the Minister from the submission date of the ToR to the MECP.

During the COVID-19 pandemic, the MECP recognized the challenges that Indigenous communities faced and elected to offer a 60-day review period, as opposed to the standard 30-days, and granting extensions to communities to submit their comments on the ToR based on limited capacity of Indigenous communities and groups to respond and participate in the review process. As a result, the final deadline for submission of comments was February 26, 2021. Based on the need for Ontario and the proponent to provide responses to comments, the approved ToR was received by the proponent on October 8, 2021.

The delay in receiving an approved ToR and formal commencement of the provincial EA process resulted in significant misalignment with the federal commencement of the IA that occurred on February 24, 2020. This misalignment of the commencement of the federal and provincial assessments resulted in the deferral of Round #1 of the IA consultation program for the Project, primary socio-economic baseline data (e.g., surveys, key informant interviews, focus groups) with Indigenous communities as well as the Indigenous Knowledge and Land and Resource Use (IKLRU) program. The deferral of the socio-economic baseline data collection and IKLRU program was based on guidance from MECP that a proponent should not pursue primary baseline data collection in the absence of having an approved ToR. As such, a significant portion of the IS phase (approx. 19 months) was not utilized for collection of socio-economic baseline data and IKLRU information, as well as other valued components (e.g., cultural heritage resources).It was the Project Team's opinion that initiating the subject data collection programs and/or conducting Round #1 of the IA consultation without an approved ToR would introduce unacceptable risk as the final provincial EA requirements for such studies and consultation were subject to possible change.

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3 Changes that May Affect the Impact Assessment

This section discusses the changes to the environment at the Project location, and the changes to the Project itself, that have occurred since the commencement of the IA and may affect the timeline for the completion of the IS.

3.1 Changes to the Environment

There are no changes to the environment that have occurred since the commencement of the IA that have influenced the timeline for completion of the IS phase.

3.2 Changes to the Project

Two alternative routes for the WSR were presented in the Project's approved ToR and federal Detailed Project Description (DPD). These two alternatives included the Community Preferred Route (referred to as Alternative 1) and the Optimal Geotechnical Route (referred to as Alternative 2), which were selected based on different priorities as documented in the preliminary evaluation of alternatives in the ToR and DPD.

Route Alternative 1 prioritized the following:

- Intersecting fewer known traplines;
- Routing is further east and away from significant hunting areas (e.g., waterfowl, moose, etc.) well used by community members;
- Running east of areas used most intensively for traditional activities south of the community;
- Minimizing intersection of significant moose mating areas located south of the community and north of the proposed east-west section of corridor;
- Minimizing effects to known built heritage resources/cultural heritage landscapes (i.e., cabins, hunting blinds, sacred site);
- Minimizing impacts to Webequie First Nation Reserve lands;
- Minimizing the number of waterbody crossings required;
- Minimizing potential effects to fish and fish habitat, as it has fewer waterbody crossings and shortest route length where structures are required to cross waterbodies; and
- Having the lowest estimated capital cost for construction.

Route Alternative 2 prioritized the following:

- Minimizing route length;
- Presence of surficial material (mineral vs organic soils);
- Avoiding bogs and fens, including ice-rich peat bogs and fens;
- Avoiding topographic relief and slopes;
- Availability of bedrock borrow (i.e., lack of borrow in some locations);
- Avoiding extensive wetland and thermokarst-affected terrain;
- Avoidance of wide river crossings; and
- Proximity to potential aggregate sources.

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As the assessment of alternative methods of carrying out the Project has progressed the Project Team identified a third alternative route (Engineering Preferred Route, referred to as Route Alternative 3) that blended the priorities of route Alternative 1 and Alternative 2 and have carried this alternative forward in the analysis of alternatives. Route Alternative 3 is currently being assessed relative to the other two route alternatives, which includes future planned engagement and consultation with the public, stakeholders and Indigenous communities to receive feedback.

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4 Work Plan

Table 4-1 summarizes the Project's work plan accounting for work completed, work currently underway, and work not yet started, as of September 23, 2022. **Section 4.1** presents the details of how the extended time will be utilized to provide all the required information and studies for the IS.

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Table 4-1: Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Consultation and Engagement Activities			
Indigenous Communities	• Round 1 – Virtual Community Information Sessions/Open Houses with Indigenous communities and/or offer virtual or in-person meetings with Chief & Council. Offered and held with all 22 identified Indigenous communities for the EA/IA. • Development and posting of Summaries of Technical Study Plans and plain language Fact Sheets of Study Plans to project website. • Preparation and circulation of Monthly Newsletters. • Topic-Specific Livestream Events • Radio Call-in Shows.	• Finalization of Consultation Progress Report for Round 1 that contains: - A consultation log and summary that tracks consultation activities with each community, including information shared by Webequie Project Team with a community, and any community input and WFN's responses. - A discussion how any input and information provided by the Indigenous communities have informed the development of the EA/IA. • Distribution of Consultation Progress Report for Round 1 to MECP and Indigenous communities. • Ongoing the bi-weekly correspondence to Chiefs of all Indigenous communities to notify them of livestreams, engagement options/opportunities, etc. • Preparation and planning of engagement and consultation activities for Round 2.	• Round 2 - Indigenous Community Meetings and/or Chief & Council Meetings. • Round 3 - Indigenous Community Meetings and/or Chief & Council Meetings. • Prepare Consultation Progress Report for Rounds 2 and 3, at identified as project milestones, with distribution to MECP and Indigenous communities. • Preparation and circulation of Monthly Newsletters. • Topic-Specific Livestream Events. • Radio Call-in Shows. • Prepare and distribute Notice of Release of Draft Environmental Assessment Report/Impact Statement (EAR/IS) for Review.
Webequie Off-Reserve Members	• Round 1 - Webequie Off-Reserve Meeting (Thunder Bay).		• Round 2 – Webequie Off-Reserve Meeting #2 (Thunder Bay). • Round 3 – Webequie Off-Reserve Meeting #3 (Thunder Bay).
Public and Stakeholders	• Round 1 - Public Information Centre (PIC) #1 (Open House format) (Thunder Bay).		• Round 2 – PIC #2 (Thunder Bay). • Round 3 – PIC #3 (Thunder Bay).
Government Agencies	• Round 1 – Government agencies will be offered opportunity to attend Public Information Centre #1 and provide any comments.	• Distribution of Consultation Progress Report for Round 1 to MECP.	• Offer opportunity to attend PIC #2 and PIC #3 and provide any comments.

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
			• Prepare and distribute Consultation Progress Report for Round 2 and Round 3 to MECP.
Evaluation of Alternative Methods			
Route Alternatives	• Preliminary identification and assessment of alternative means of carrying out the project have been completed at a conceptual level for alternatives routes. This includes identifying preliminary criteria and indicators, and their evaluation weighting, for analysis of alternatives	• Completion of preliminary evaluation of alternatives with documentation of results and recommend preferred route for the WSR. • Prepare related documentation and communication materials to support Round 2 of consultation that is intended to receive feedback from the public, stakeholders and Indigenous communities on evaluation of alternatives and recommended preferred route and supportive infrastructure.	• Incorporation of feedback from Round 2 of consultation regarding evaluation of alternatives • Finalize selection of preferred route that will be subject to impact assessment
Supporting Infrastructure Alternatives	• Preliminary identification and assessment of alternative means of carrying out the project have been completed at a conceptual level for supportive infrastructure (aggregate/rock source areas, construction camps, access roads)	• Completion of preliminary evaluation of alternatives with documentation of results and recommend supportive infrastructure for the Project.	• Incorporation of feedback from Round 2 of consultation regarding evaluation of alternatives • Finalize selection of preferred supportive infrastructure that will be subject to impact assessment
Biophysical Environment			
Air Quality and Climate	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Air Quality and Climate Study Plan. • Review of secondary source information. • Baseline studies. • Reporting of baseline conditions within the WSR Draft Natural	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Air Quality and Climate Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS)

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
	Environment Existing Conditions Report (SNC-Lavalin, 2022).		
Biophysical Environment (Cont'd)			
Noise and Vibration	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Noise and Acoustic Study Plan. • Review of secondary source information. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Noise/Vibration Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Geology, Terrain and Soils	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Review of secondary source information • Development of Geology, Terrain and Soils Study Plan. • Field investigations. • Reporting of baseline conditions within the WSR Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Geology, Terrain and Soils Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Surface Water	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Surface and Groundwater Study Plan. • Review of secondary source information. • Surface water surveys: - Hydrology/hydraulic. - Water quality sampling and analysis. • Sediment quality sampling and analysis. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Surface Water Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Groundwater	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Surface and Groundwater Study Plan. • Review of secondary source information. • Field surveys: - Groundwater levels, flow and quality at established monitoring well locations. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Groundwater Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Fish and Fish Habitat	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Fish and Fish Habitat Study Plan. • Review of secondary source information. • Field surveys: - Fish habitat characterization. - Fish community sampling. - Spawning surveys for Walleye and Lake Sturgeon. - Benthic invertebrate sampling. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Fish and Fish Habitat Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Vegetation	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Vegetation Study Plan. • Review of secondary source information. • Baseline field surveys for peatlands/wetlands and forest undertaken in 2019 to 2021 to capture seasonal and annual variations in vegetation. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Vegetation Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Wildlife	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Wildlife Study Plan. • Review of secondary source information. • Field studies: - Spring 2019 and Spring 2022 aerial waterbird surveys. - Breeding Bird surveys 2020, 2021, 2022. - Acoustic Bat surveys 2020 and 2021. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Wildlife and Wildlife Habitat Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Species at Risk (SAR)	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Species at Risk Study Plan. • Review of secondary source information. • Field surveys: - 2020 SAR surveys. - 2021 Supplemental SAR Field Surveys (Wolverine and Caribou). - 2022 Supplemental SAR Field Surveys (Wolverine and Caribou). • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• 2023 Supplemental SAR Field Survey 2023 (Caribou). • Species at Risk Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Socio-economic Environment			
Socio-economic Environment	• Development of Socio-economic Environment Study Plan. • Review of secondary source information. • Collection of primary data from Webequie First Nation (Survey, Focus Groups and Key Informant Interviews). • Invitation letter sent to all Indigenous communities with request for interest in participating in socio-economic primary data collection program, including several rounds of follow-up with communities by email and, phone calls (January, February, April and July 2022). • Draft Socio-economic Existing Conditions Report is 50% complete.	• Primary data collection with other Indigenous communities (Survey, Key Informant Interviews, Focus Groups). • Finalizing profiles of Indigenous communities. - Population/Demographics. - Education/Employment. - Household Composition. - Infrastructure and Social Services. • Continuing preparation of the Draft Socio-Economic Environmental Baseline Study Report, including validation of information with Indigenous communities.	• Submission of Draft Socio-economic Existing Conditions Report for Agency and MECP review. • Submission of Final Socio-economic Existing Conditions Report for Agency and MECP. • Socio and Economic Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Indigenous Peoples and Exercise of Aboriginal and Treaty Rights			
Indigenous Knowledge and Land and Resource Use (IKLRU)	• Invitation letter sent to all Indigenous communities with request for interest in participating in socio-economic primary data collection program, including several rounds of follow-up with communities by email and phone calls (January, February, April and August 2022). • IKLRU received from Webequie First Nation, with partial validation completed.	• Continue follow-up and working with willing Indigenous communities to receive IKLRU: Marten Falls, Weenusk, Constance Lake, Kingfisher and Long Lake. • Finalizing validation of IKLU with Webequie First Nation. • Continue to follow-up with other communities on their interest to participate in the IKLRU program.	• Receive and validate IKLRU from willing Indigenous communities • Integrate IKLRU into assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Community Health, Social and Economic Conditions	• Refer to Socio-Economic.	• Refer to Socio-Economic.	• Refer to Socio-Economic.
Cultural Heritage and Activities	• Refer to Cultural Environment.	• Refer to Cultural Environment.	• Refer to Cultural Environment

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Exercise of Treaty and Aboriginal Rights	• No work completed to date.	• Discussion with willing communities as part of IKLRU program on potential impacts to rights.	• Assessment of impacts on Exercise of Aboriginal and Treaty rights (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Human Health and Country Foods			
Health Impact Assessment (HIA) Human Health and Risk Assessment (HHRA) Country Foods Assessment	• Development of Human Health Study Plan. • Review of secondary source information. • Collection and analysis of tissue samples for plants, wildlife and fish to support country foods assessment. • . • Partial primary data collection with Webequie (i.e., human health and country food surveys, key informant interviews and focus groups).	• Collection of remaining primary data on health from Webequie. • Established HIA Steering Committee and held scoping workshop • Completion of baseline description for health including community health profiles, with focus on Webequie. • Problem Formulation to support Human Health Risk Assessment.	• Human Impact Assessment including supportive Human Health Risk Assessment and Country Foods Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Visual Environment			
Visual Environment	• Development of Visual Environment Study Plan. • Visual quality baseline characterization has been established based on input from other disciplines (e.g., vegetation, terrain, etc.). • Identification of viewsheds from sensitive receptors, with some gaps to address. • Existing night light levels determined and documented in WSR Draft Natural	• Seeking additional information for identification of potential receptors – location of tourism camps, outfitters and known routes (land and water) used to access fishing, hunting and/or plant harvesting areas.	• Visual Environment Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
	Environment Existing Conditions Report (SNC-Lavalin, 2022).		
Cultural Environment			
Archaeological Sites and Resources	• Draft Stage 1 Archaeological Assessment Report.	• Engagement with Indigenous communities to verify/confirm areas with archaeological potential identified to date.	• Finalize Stage 1 Archaeological Assessment Report for inclusion in EAR/IS (data collection, effects assessment, mitigation and reporting).
Built Heritage Resources and Cultural Heritage Landscapes	• Draft Cultural Heritage Report Desktop Data Collection Results.	• Engagement with Webequie First Nation and other Indigenous communities to verify/confirm 36 potential Cultural Heritage Landscapes (i.e., areas of cultural heritage value or interest). • Finalize Cultural Heritage Report - Desktop Data Collection Results.	• Cultural Heritage Existing Conditions and Impact Assessment Report for inclusion into EAR/IS (data collection, effects assessment, mitigation and reporting).
Preliminary Engineering Design			
Engineering Design	• Establishment of 2 km-wide preliminary corridor and 35 m-wide Right-of-Way (RoW). • Design criteria has been finalized. • Conceptual design for all routes alternatives, with general grading/drainage and structural engineering work advanced on the predicted preferred route at risk and subject to confirmation based on future evaluation of alternatives and feedback from engagement and consultation.	• Input to Project Team evaluation of alternatives is currently underway with respect to issues of constructability, design and cost (refer to evaluation of alternative methods). • Conceptual design of supportive infrastructure (aggregate/rock sources, access roads, construction camps, laydown/storage yards). • Conceptual construction execution/staging strategy. • Preliminary capital and operational and maintenance cost estimates.	• Finalization of preliminary engineering design and costing. • Constructability Review.
Geotechnical and Geochemistry	• All geotechnical and geochemistry investigations to support preliminary engineering design and assessment of aggregate/rock sources needed to construct the road.	• Not applicable.	• Not applicable.

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Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Environmental Assessment/Impact Assessment			
Provincial Environmental Assessment (EA) Terms of Reference (ToR) Phase	• Preparation and submission of Draft ToR. • Preparation and submission of Proposed ToR. • ToR approval. • Notice of Commencement of EA.	• Not applicable.	• Not applicable.
Federal Impact Assessment (IA) Planning Phase	• Preparation and submission of Initial Project Description. • Response to Summary of Issues to Agency. • Preparation and submission of Detailed Project Description. • Notice of Commencement of Impact Assessment and issuance TISG and plans to proponent.	• Not applicable.	• Not applicable.
Impact Statement (IS) Phase – Environmental Assessment Report / Impact Statement Assessment/Impact Assessment	• Prepare Discipline Study Plans for review by Agency and MECP in accordance with TISG. • Refer to above summary of progress to date.	• Preparing select sections of Draft EAR/IS (e.g., Introduction, regulatory framework, assessment methodology, project description.	• Prepare and submit the pre- Draft EAR/IS to the Agency and the MECP for review. • Respond to Agency and MECP comments and finalize Draft EAR/IS for formal release/submission. • Submit/Release Draft EAR/IS for review by federal and provincial agencies, stakeholders, Indigenous communities and the public. • Prepare and submit Final EAR/IS and Summary of Impact Statement to the Agency and MECP. • Respond to comments on Final EAR/IS from federal and provincial agencies, stakeholders, Indigenous communities and the public.

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4.1 How the Extended Time Will Be Utilized

This section provides the details of how the extended time will be utilized to provide all the required information and studies for the IS.

4.1.1 Consultation and Engagement Activities

This section provides a summary of the planned consultation and engagement for the Project within the requested extended time. It is anticipated that Rounds 2 and 3 of consultation and engagement activities will be fully completed during the extended time.

4.1.1.1 Indigenous Communities

4.1.1.1.1 Indigenous Communities and Groups Identified for Consultation and Engagement

As per direction provided to the proponent in a letter from the Ministry of the Environment, Conservation and Parks dated December 19, 2018, there are twenty-two (22) Indigenous communities and groups that are to be consulted as part of the provincial EA process. This also includes those Indigenous communities and groups as identified in the Agency's Indigenous Engagement and Partnership Plan for the WSR Project, whose exercise of Aboriginal and Treaty rights may be adversely affected by the Project and/or may have interests in the project. Collectively, the provincial and federal Crown's list of indigenous communities and groups are shown in **Table 4-2**, organized by Tribal Council or Affiliation. These Indigenous communities and groups are the current focus of the Project's consultation and engagement activities and will continue to be engaged throughout Consultation Rounds 2 and 3.

Table 4-2: Indigenous Communities to be Engaged/Consulted

Tribal Council or Affiliation	Indigenous Community or Group
Matawa Tribal Council	Aroland First Nation Constance Lake First Nation Eabametoong First Nation Ginoogaming First Nation Long Lake #58 First Nation Marten Falls First Nation Neskantanga First Nation Nibinamik First Nation Webequie First Nation
Mushkegowuk Council	Attawapiskat First Nation Fort Albany First Nation Kashechewan First Nation
Shibogama Council	Kasabonika Lake First Nation Kingfisher Lake First Nation Wapekeka First Nation Wawakapewin First Nation Wunnumin Lake First Nation
Windigo First Nations Council	North Caribou Lake First Nation
Independent First Nations	Kitchenuhmaykoosib Inninuwug (KI) Mishkeegogamang First Nation Weenusk (Peawanuck) First Nation
Métis Nation of Ontario	Métis Nation of Ontario – Region 2

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4.1.1.1.2 Planned Consultation and Engagement Activities

Various consultation and engagement activities are planned for potentially affected or interested Indigenous communities during Consultation Rounds 2 and 3, as summarized in **Table 4-3**.

The consultation and engagement activities in Rounds 2 and 3 will focus on the following topics:

Round 2

- Summary of input received from Consultation Round 1.
- Identification and evaluation of alternatives.
- Preliminary recommended preferred route and supportive infrastructure (aggregate/rock source areas, construction camps, access roads), including rationale for selection.
- Preliminary engineering design elements of WSR (bridges/culverts).
- Next steps and schedule.

Round 3

- Summary of input received from Consultation Round 2.
- Summary of preliminary effects assessment of Project.
- Proposed impact management, mitigation and follow-up monitoring program.
- Next steps in EA/IA process.

The tentative timeframe for Consultation Rounds 2 and 3 is presented in the project schedule in **Appendix A**.

Table 4-3: Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to all of the identified Indigenous communities and Tribal Councils (as listed in **Table 4-2**) to inform them of the following EA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives and identification of preferred alternatives (i.e., route and supportive infrastructure); • Submission of Draft EAR/IS; and • Submission of Final EAR/IS.
Formal Notices and Newspaper Advertising	Formal notices will be used at various points throughout Consultation Rounds 2 and 3 to inform all identified Indigenous communities of submission of the Draft and Final EAR/IS and to invite attendance at community meetings and Public Information Centres (PICs). Notices to be published include: • Notice of Community meetings & PICs; • Notice of Draft EAR/IS for review; • Notice of Submission of Final EAR/IS for review. The formal notices, with exception of the community open houses/meetings, will be published in the Wawatay News, Thunder Bay Chronicle Journal, Timmins Daily Press, and Sioux Lookout Bulletin and posted on the Project Website to reach Indigenous communities across northern Ontario.

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Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
Community Visits / Focus Group Sessions	Community visits are planned throughout Consultation Rounds 2 and 3, including visits with the eight most potentially affected communities, as identified by Webequie First Nation, and potential visits with the other 14 communities, upon request. Specific activities to be conducted during community visits include: • Outline the current status and scope of the EA/IA, including schedule and upcoming milestones; • Obtain input and feedback from community members on the evaluation of alternatives (routes, supportive infrastructure, etc.,) and recommended preliminary recommended design (i.e., preferred alternative); • Summary of proposed environmental effects, mitigation, protection and compensation measures associated with the Project; and • Obtain general input from community members about the information they wish to share and/or issues of concern. The Draft EAR/IS will be available at the Administration office of each Indigenous community for community members to review during the public review periods. The Project Team will incorporate feedback and comments received on the Draft into the Final EAR/IS, which will also be made available at the Administration office for viewing.
Meeting with Webequie First Nation Off-Reserve Community Members	One (1) meeting with off-reserve community members will take place during Consultation Round 2 and during Round 3. These meetings will be held in the City of Thunder Bay, as this is the most central location closest to the Project area and where most off-reserve community members are known to reside. The purpose of the meetings is generally as described above for community visits, focusing on obtaining input and feedback on the evaluation of alternatives and the effects assessment. Off-reserve community members will also have an opportunity to review the Draft EAR/IS during the public review period at the participating municipal offices and public libraries, as well as on the Project website. Off-reserve community members may provide comments and feedback on the Draft EAR/IS, and Final EAR/IS, trough the same channels as on-reserve community members.
Engagement with Métis Nation of Ontario	Information meetings will be held with the Métis Nation of Ontario (MNO), in Thunder Bay, upon request. MNO will receive a copy of the Draft and Final EAR/IIS for feedback and comments during public review periods.

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Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities – Rounds 2 and 3

Method of Consultation / Engagement	Description
Virtual Community Information Sessions/Open Houses	Virtual Community Information Sessions will be held via Zoom with each of the potentially affected Indigenous communities at the start of each week for both Consultation Rounds 2 and 3. Similar to Round 1, the Project Team will also offer the option of an in-person community meeting (open house format) to those communities who are interested following appropriate COVID-19 protocols, where applicable. A letter and poster advertising each community's session will be circulated to the Chief via email, mail and fax at least two weeks in advance. Each session will be hosted by the Project Team via Zoom and live streamed via Facebook Live and YouTube, and will include an introduction, a video presentation providing an overview of various topics related to the current status of the WSR Project (such as input received from the previous Consultation Round, the alternatives assessment/preferred alternative, preliminary design elements, outcomes of the preliminary effects assessment, mitigation and monitoring, and next steps), and a Q&A period. Recordings will be posted to the Project Website following each session to ensure community members who are unable to attend can watch and provide comments.
Livestream and Radio Call-In Shows	Radio information sessions will be broadcast over Wawatay Radio, throughout the Wawatay broadcast region, periodically throughout Consultation Rounds 2 and 3. The sessions will constitute an open dialogue format with the Project Team to allow community members to ask questions about the Project and to obtain their feedback and input. Livestream sessions will be hosted by the Project Team via Facebook Live and YouTube in the same format as the radio information sessions.
Engagement with Tribal Councils and Nishnawbe Aski Nation	Tribal Councils and Nishnawbe Aski Nation will be provided information and opportunities to comment throughout Consultation Rounds 2 and 3 of the EA/IA, including on the Draft and Final EAR/IS, and meetings will be held upon request.
Communication Materials	Various communication materials will be developed for use at meetings/events during Consultation Rounds 2 and 3. These include presentation slide decks, project fact sheets, handouts, display boards, etc. Plain language communication materials free of technical jargon have been produced to ensure that information is clear and easy to understand. Some materials are also translated into the native language of the communities.
Audio and Visual Products	For those Indigenous communities who have the capability, in-person community meetings/open houses and presentations will be livestreamed through local community media to allow for a wider audience to participate in the meetings and have the opportunity to ask questions and provide feedback. Recordings of community presentations will be saved and posted on the Project Website for public viewing.

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Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
Project Website	A Project Website is available for the public to review project related information at www.supplyroad.ca. Materials are continually posted on the website such as those related to: • Approved Provincial EA Terms of Reference; • Notice of Commencement of EA; • Technical and plain language summaries of Study Plans for each valued component; • Information on development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Evaluation of alternatives and identification of preferred alternative; • Virtual Community-Specific Information Sessions held in Rounds 1,2 and 3; • Submission of Draft EAR/IS; • Submission of Final EAR/IS Project Newsletters; • Recorded videos of in-person community presentations, where applicable; and • Other materials that are developed over the course of the EAR/IS preparation period. Community members can continue provide comments and feedback on the website throughout Consultation Rounds 2 and 3. The Project Team will ensure that feedback and comments received are incorporated into the Draft and Final EAR/IS and are documented in the Record of Consultation.
Project Newsletters	Project Newsletters will be developed on a monthly basis, providing project updates and milestones during Consultation Rounds 2 and 3. These will be posted on the Project Website and will be in plain language that will clearly explain project information for community members to understand. Quarterly Newsletters are also produced specifically for WFN.

4.1.1.2 Government Agencies and Municipalities

4.1.1.2.1 Government Agencies Identified for Consultation and Engagement

Based on the components and potential effects of the WSR Project, various provincial and federal ministries and agencies were selected to participate in the EA/IA as members of the Government Review Team (GRT), as listed in **Table 4-4** below:

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Table 4-4: GRT for Consultation and Engagement

Government Affiliation	Ministry / Agency	Acronym
Provincial (Ontario Government)	Ministry of Northern Development	MND
	Ministry of Mines	MOM
	Ministry of the Environment, Conservation and Parks	MECP
	Ministry of Natural Resources and Forestry	MNRF
	Ministry of Transportation	MTO
	Ministry of Indigenous Affairs	MIA
	Ministry of Education	MOE
	Ministry of Community Safety and Correctional Services	MCSCS
	Ministry of Economy Development, Job Creation and Trade	MEDJCT
	Ministry of Municipal Affairs and Housing	MMAH
	Ontario Ministry of Tourism, Culture and Sport	MTCS
	Ontario Provincial Police	OPP
Federal (Government of Canada)	Impact Assessment Agency of Canada	IAAC
	Environment and Climate Change Canada	ECCC
	Fisheries and Oceans Canada	DFO
	Crown-Indigenous Relations and Northern Affairs Canada	CIRNAC
	Indigenous Services Canada	ISC
	Transport Canada	TC

In addition to the broader GRT, an EA Coordination Team has been established to coordinate the requirements of the provincial and federal EA processes as efficiently as possible. The EA Coordination Team is comprised of the following provincial and federal agencies:

- MND;
- MECP;
- MNRF;
- MTO; and
- IAAC.

Municipalities that are involved in the consultation program were identified based on their proximity to the proposed corridor for the WSR Project. The names and locations of these municipalities are listed in **Table 4-5** below.

Table 4-5: Municipalities Involved in Consultation and Engagement

Community	Location
Municipality of Greenstone	The Town of Greenstone is located approximately 205 km northeast of Thunder Bay. It is an amalgamation of several townships including: Beardmore, Geraldton, and Longlac and their surrounding areas along Highway 11 in Northern Ontario.
Township of Pickle Lake	The Town of Pickle Lake is located approximately 530 km north of Thunder Bay at the northern terminus of Highway 556 in northern Ontario.
Municipality of Sioux Lookout	The Town of Sioux Lookout is located approximately 350 km northwest of Thunder Bay at the northern terminus of Highway 72.
City of Thunder Bay	The City of Thunder Bay is located along the Trans-Canada Highway on the northern shores of Lake Superior.
City of Timmins	The City of Timmins is located approximately 700 km north of Toronto along the Mattagami River in northeastern Ontario.

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4.1.1.2.2 Planned Consultation and Engagement Activities

Table 4-6 below provides an overview of consultation and engagement activities that are planned to occur with government agencies and municipalities during Consultation Rounds 2 and 3.

Table 4-6: Consultation and Engagement with Government Agencies and Municipalities – Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to the GRT and municipalities at the following EA/IA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives and identification of preferred alternatives (i.e., route and supportive infrastructure); • Submission of Draft EAR/IS; and • Submission of Final EAR/IS.
Public Information Centres	During Consultation Rounds 2 and 3, a total of two (2) Public Information Centres (open house format) will be planned in the City of Thunder Bay to allow for government agencies and municipalities to attend. They will serve as a forum to provide feedback and comments on the results of the studies that have been conducted, as well as the evaluation of alternatives and selection of the preferred alternative and effects assessment of the Project
Communication Materials	Various communication materials will be developed for use at meetings, including presentation slide decks, project fact sheets, handouts, display boards, etc. Communication materials will be in plain language and free of technical jargon to ensure that information is clear and easy to understand.
Project Website	A Project website is available for government agencies, municipalities, and others to review related information, at www.supplyroad.ca. Materials that will be posted on the website during Consultation Rounds 2 and 3 include those related to: • Information on the further development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Information on the evaluation of alternatives and identification of preferred alternative; • Notice of Open House sessions; • Notice of Draft and Final EAR/IS for review; • Draft and Final EAR/IS; • Recorded videos of community presentations; and • Other materials that are developed over time.
EAR/IS Document Review	The GRT and municipalities will have an opportunity to review the Draft and final EAR/IS and provide comments.

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4.1.1.3 Public and Stakeholders

4.1.1.3.1 Public and Stakeholders Identified for Consultation and Engagement

The following members of the public and stakeholders are included in the consultation and engagement program:

- Members of the public;
- Crown land tenure and claim holders within the mineralized zone in the McFaulds Lake area;
- Environmental interest groups;
- Community based organizations;
- Registered Trappers; and
- Recreational and eco-tourism businesses.

4.1.1.3.2 Planned Consultation and Engagement Activities

Public and stakeholder consultation and engagement will include the methods outlined in **Table 4-7** and will entail some overlap with Indigenous community consultation as well as consultation with government agencies and municipalities.

Table 4-7: Public and Stakeholder Consultation and Engagement - Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to the public and stakeholders identified and included in the Stakeholder Contact List at the following IA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives and identification of preferred alternative; • Submission of Draft EAR/IS; and • Submission of Final EAR/IS.
Public Notices and Newspaper Advertising	Public Notices will be used at various points throughout Consultation Rounds 2 and 3 to inform the public and stakeholders of EA/IA study submission and to invite attendance at community meetings/open houses. Notices to be published include: • Notice of Open House sessions; • Notice of Draft EAR/IS for review; and • Notice of Submission of Final EAR/IS for review. The notices will be published in the Wawatay News, Thunder Bay Chronicle Journal, Timmins Daily Press, and Sioux Lookout Bulletin and on the Project Website.
Public Information Centres	During Consultation Rounds 2 and 3, a total of two (2) PICs (open house format) will be planned in the City of Thunder Bay for members of the public and stakeholders to attend. They will serve as a forum to provide feedback and comments on the results of the studies that have been conducted, the evaluation of alternatives and selection of the preferred alternative, and effects assessment of the Project.
Communication Materials	Various communication materials will be developed for use at meetings, including presentation slide decks, project fact sheets, handouts, display boards, etc. Communication materials will be in plain language and free of technical jargon to ensure that information is clear and easy to understand.

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Table 4-7 (Cont'd): Public and Stakeholder Consultation and Engagement - Rounds 2 and 3

Method of Consultation / Engagement	Description
Project Website	A Project website is available for members of the public, stakeholders, and others to review related information, at www.supplyroad.ca. Materials that will be posted on the website during Consultation Rounds 2 and 3 include those related to: • Information on the further development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Information on the evaluation of alternatives and identification of preferred alternative (Project Development Area/Footprint), including supportive infrastructure; • Notice of Open House sessions; • Notice of Draft and Final EAR/IS for review; • Draft and Final EAR/IS; • Recorded videos of community presentations; and • Other materials that are developed over time.
EAR/IS Document Review	Interested public and stakeholders will have an opportunity to review the Draft and Final EAR/IS during the public review periods at the participating municipal offices and public libraries.

4.1.2 Data Collection Surveys and Analysis

4.1.2.1 Baseline Data Collection Surveys with Indigenous Communities and Groups

At the expiry of the current IS phase on February 24, 2023, primary data collection activities with Indigenous communities and groups to support the socio-economic and human health assessments will be for the most part complete; however, further efforts within the requested extension timeframe may be needed to finalize data collection, including analysis, validation and reporting. It should be noted that the COVID-19 pandemic resulted in federal, provincial, and local restrictions on in-person gatherings, travel, and also impacted the capacity of Indigenous communities and groups to respond to requests for engagement and participation. Therefore, presenting a barrier to completing consultation and baseline data gathering activities (such as surveys, interviews and focus groups) as initially planned within the Project schedule (refer to **Section 2**).

Proposed data collection analysis and reporting to be completed during the requested Project extension are summarized in **Table 4-8**.

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Table 4-8: Planned Socio-Economic and Human Health Baseline Data Collection, Analysis and Reporting Activities with Indigenous Communities and Groups

Method	Socio-Economic Baseline - To Be Completed	Human Health Baseline - To Be Completed
Baseline Study (General)	• Update data regarding Social and Economic VCs for Indigenous communities and groups based on 2021 Census data, as available. • Finalize review and integration of all applicable secondary source information, including submitting RFIs to third parties if required. • Analysis of all primary and secondary data. • Completion of draft and final Socio-Economic Existing Conditions Report, including opportunity for Agency and MECP to review.	• Complete development of baseline community health profile based on primary and secondary source data. • Finalize review and integration of all applicable secondary source information, including submitting RFIs to third parties if required.
Surveys	• Complete analysis of socio-economic surveys administered/received from other communities (beyond WFN) and complete analysis of findings.	• Complete analysis of both of Human Health Survey and Country Foods Survey administered online via SurveyMonkey and at in-person community events.
Key Informant Interviews	• Complete remaining identified key informant interviews, either virtually or during a community visit, with Indigenous communities including transcribing, analysis and validation.	• Complete remaining health-specific key informant interviews with Webequie First Nation either virtually or during a community visit. • Continue to integrate and analyze responses to health questions to develop community health profile, including integration with the socio-economic baseline program to maximize effort and avoid duplication.
Focus Groups	• Complete remaining focus groups with Elders, land users/knowledge keepers, etc., with Indigenous communities, either virtually or during a community visit, based on interest and availability to participate.	• Continue to pose health questions at ongoing Socio-Economic focus groups to maximize effort and avoid duplication.

4.1.2.2 Baseline Data Collection with the Public and Stakeholders

Secondary information has been collected for municipalities and townships as part of the baseline data collection. Updates on the review and integration of secondary data have included government websites (such as 2021 Census Profile data), municipal websites, local and provincial police and emergency service websites, municipal economic development plans and other open-source data to identify community demographics, infrastructure, economic development, social services, safety, housing, etc.

4.1.2.3 Collection of Indigenous Knowledge and Indigenous Land and Resource Use

The Project Team have been actively seeking to engage and collaborate with Indigenous communities in the collection of Indigenous Knowledge and Land and Resource Use (IKLRU) information to inform the EA/IA study. It is critical to work with Indigenous communities to understand and assess potential impacts of the Project on the exercise of Aboriginal and Treaty Rights.

The IKLRU Program specifically aims to engage and collaborate with Indigenous communities on the collection and integration of IKLRU into the EA/IA. The key objective of the IKLRU is to provide opportunities to Indigenous communities to meaningfully participate in the EA/IA process by engaging in the baseline characterization and assessment of potential impacts of the Project, including impacts on Aboriginal and Treaty Rights.

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To date the following Indigenous communities have expressed an interest to participate in the IKLRU Program for the WSR Project: Marten Falls First Nation, Weenusk First Nation, Long Lake First Nation, Kingfisher Lake First Nation and Constance Lake First Nation. Currently, the Project Team is in the process of arranging and documenting meetings with each community to discuss the next steps which include, but not limited to: execution of data sharing agreements; capacity funding; defining IKLRU study spatial boundaries and temporal boundaries; offer of guidance materials to serve as a 'toolbox' for communities to support IKLRU data collection and sharing; timeline/schedule to receive IKLRU information/report; integration of IKLRU information into the EA/IA; and validation of information with communities to ensure it has been interpreted and captured appropriately in the EA/IA.

The primary tasks in the IKLRU program anticipated to be completed during extended time for the Project with participating communities include: follow-up to receive IKLRU information/report; review and integration of IKLRU information into the EA/IA; and validation of information with communities.

4.1.3 Field Surveys to Collect Biophysical Baseline Data

Table 4-9 summarizes the field surveys to be completed during the extended time for the Project. Only caribou field surveys are planned in the Winter of 2023 (February to March).

Table 4-9: Baseline Data Field Surveys to be Completed During the Extended Time

Discipline	Field Survey	Description	Planned Dates
Species at Risk	Supplemental Species at Risk Field Survey	Caribou winter aerial surveys	Winter 2023
		Caribou calf recruitment surveys	Winter 2023

4.1.4 Coordination with Other Parties

4.1.4.1 Ontario

As part the engagement and consultation program with Indigenous communities to date, and during the proposed extension of the IS Phase, comments and/or issues received by the Project Team including those related to impacts to exercise of Aboriginal and Treaty Rights may be referred to Ontario for response or direct engagement with an Indigenous community. Where referrals to Ontario occur, the Project Team will follow-up with the Ontario on the outcomes of Crown consultation with an Indigenous community and will be integrate into the federal assessment where applicable. This coordination with Ontario is expected to be primarily with the MECP EA Branch and Ministry of Mines who are leading the Crown Consultation approach for the WSR Project and other projects in northwestern Ontario. Coordination is also expected to occur with the Ministry of Northern Development who have offered Partnership/Capacity Funding Agreements to eligible Indigenous communities to participate in the EA process and provide Indigenous Knowledge to the Project Team for integration into the assessment.

Coordination with Ontario is also expected to occur with the Government Review Team (GRT) as part of the provincial EA process. Technical comments and/or issues identified by the GRT, including outcomes that may influence the federal assessment (e.g., baseline, evaluation of alternatives, effect assessment, etc.) will be integrated and documented (i.e., Record of Consultation). The MECP EA Branch is responsible for coordination of the GRT and the Project Team will work closely with the MECP at key milestones in the coordinated provincial and federal assessment process for the Project. In the requested time extension period, this is expected to focus on the GRT review of the Draft and Final EAR/IS.

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4.1.5 Submission of the Draft and Final Impact Statement

In the extended time period for the IS Phase it is the intent of the proponent to prepare and circulate a pre-Draft EAR/IS to the Agency and MECP for review. Following receipt of comments from the Agency and MECP and revisions to the document, the proponent will then formally release the Draft EAR/IS under the provincial EA process with invitation the public, GRT, Indigenous communities/groups and stakeholders to provide comments within a 45-day review period. Concurrently, at this time, the proponent will also submit the Draft EAR/IS to the Agency to begin the 75-day federal review process that incudes identifying major deficiencies/issues with respect to meeting the requirements of the TISG for the WSR Project.

Based on the receipt of comments/input from the public, federal and provincial authorities, Indigenous communities/groups and stakeholders, the proponent will address outstanding comments/issues and then prepare and submit the Final EAR/IS to the Agency and MECP.

The preparation and release/submission of the Pre-Draft, Draft EAR/IS and Final EAR/IS will all be completed during the extended time period, as indicated in the project schedule contained in **Appendix A**.

The following subsections briefly describe the proponent-led consultation and engagement associated with the Draft and Final EAR/IS.

4.1.5.1 Proponent-led Consultation and Engagement

4.1.5.1.1 Indigenous Communities and Groups

Consultation and engagement with Indigenous communities and groups on the preliminary results of the effects assessment for the WSR Project to be documented in the Draft EAR/IS will occur in Round 3 of the proponent-led consultation program (refer to **Section 4.1.1.1.2**). This will include the preliminary effects assessment for each valued component including mitigation/enhancement measures, residual effects, cumulative effects, and proposed follow-up monitoring programs. Focus will be on potential effects to Indigenous peoples and impacts on the exercise of Aboriginal and Treaty rights as described in Section 19 of the TISG. **Table 4-3**, as previously cited, summarizes the consultation and engagement activities that are planned to occur with Indigenous communities and groups during Consultation Round 3.

During Round 3, the proponent will engage with all Indigenous groups identified in the Agency's Indigenous Engagement and Partnership Plan in order to identify and understand the potential impacts of their Projects on Indigenous peoples, including consideration of Indigenous knowledge received that informed the impact assessment and/or that identified measures to avoid or minimize potential impacts on the exercise of rights of Indigenous peoples from the Project.

It is also possible that during Round 3 of engagement that potential positive outcomes may also be identified, including measures that could improve the underlying baseline conditions that support the exercise of rights. Note it is the proponent's overall approach that engagement in all rounds of consultation involve ongoing information sharing and collaboration between Webequie First Nation and other Indigenous communities potentially affected by the Project. This collaboration is intended to help to validate the assessment findings.

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The results of any engagement during Consultation Rounds 1, 2 and 3 will be summarized and documented (i.e., Record of Consultation) in the Draft EAR/IS and the proponent will make efforts, where possible, to reflect the perspectives of the Indigenous communities and groups involved. Results of the engagement will also include outcome of any meetings and supplemental engagement sessions held with Indigenous communities that may focus on topic-specific issues or concerns.

As noted in **Section 4.1.5** Indigenous communities and groups under the provincial EA process will be invited to submit comments on the Draft EAR/IS during the 45-day review period, after completion of Consultation Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from Indigenous communities and groups. During and/or after the review period, meetings or further engagement may be conducted with select Indigenous communities to resolve issues or to further discuss comments received on the Draft EAR/IS.

Based on the comments/input from Indigenous communities, and others the proponent will prepare and submit the Final EAR/IS to the Agency and MECP. During Agency and MECP led engagement and consultation on the Final EAR/IS the proponent will work collaboratively with the authorities to respond to comments or participate in meetings with Indigenous communities or other to discuss technical matters.

4.1.5.1.2 Government Agencies

Consultation and engagement with provincial agencies, municipalities and federal authorities on the preliminary results of the effects assessment for the WSR Project will occur in Round 3 of the proponent-led -consultation program (refer to **Section 4.1.1.1.1**). **Table 4-6**, as previously cited, summarizes the consultation and engagement activities that are planned to occur with government agencies during Consultation Round 3, including opportunity to attend a Public Information Centre, also offered to the public and stakeholders, that will present information on the preliminary results of the effects assessment for the Project to be documented in the Draft EAR/IS.

Provincial agencies (i.e., GRT) and municipalities will be invited by the proponent to submit comments on the Draft EAR/IS during the requested 45-day review period, after completion of Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from the GRT and municipalities. During and/or after the review period, meetings or further engagement may be conducted with select agencies or municipalities to resolve issues or to further discuss comments received or the results of the effects assessment. As noted above based on the comments/input received from GRT, Indigenous communities, the public and stakeholders the proponent will then prepare and submit the Final EAR/IS to the MECP.

As noted in **Section 4.1.5**, the Draft EAR/IS will be submitted to the Agency for the 75-day federal review process. Deficiencies identified from the review by federal authorities will be reviewed by the proponent and responses prepared. The timeframe to address identified deficiencies are described further in **Section 4.1.5.4**. Once deficiencies are addressed the proponent will submit the Final EAR/IS and Summary of Impact Statement to the Agency for administrative review and determination of compliance with the TISG.

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4.1.5.1.3 Public and Stakeholders

Consultation and engagement with the public and stakeholders on the preliminary results of the effects assessment for the WSR Project will occur in Round 3 of the proponent-led consultation program. **Table 4-7**, as previously cited, summarizes the consultation and engagement activities that are planned to occur with the public and stakeholder during Consultation Round 3, including opportunity to attend a PIC in Thunder Bay that will present information on the preliminary results of the effects assessment for the Project to be documented in the Draft EAR/IS.

Similar to government agencies and Indigenous communities, the public and stakeholders will be invited to submit comments on the Draft EAR/IS during the requested 45-day review period, after completion of Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from the public and stakeholders.

4.1.5.2 Document Review by Agency and Federal Authorities

During the extended time period for the IS Phase the following documents will be subject to review by the Agency and other federal authorities.

- *Draft Socio-Economic Existing Conditions Report*. The proponent has made a commitment to offer this document to the Agency and MECP for review and will request that comments be provided within 30-days. The proponent will prepare responses to comments received from the review and will revise and finalize the Socio-Economic Existing Conditions Report and distribute to the Agency and MECP (refer to project schedule in Appendix A for timeframe).
- *Draft EAR/IS and Final EAR/IS and Summary of Impact Statement*. The time period allotted for review of the Draft and Final EAR/IS and supportive documentation (i.e., Record of Consultation) are specified in the project schedule contained in **Appendix A**. For the Draft EAR/IS this allows for: 75-day federal review process. For the Final EAR/IS this allows for 30-day Agency administrative review and determination of compliance with TISG; 45-days for Agency posting and invitation to public and Indigenous communities to review Summary of Impact Statement; and 30-days for Agency to consider comments and determine if Final EAR/IS meets requirements of TISG; and 30-days for Agency to verify if deficiencies have been adequately addressed by the proponent.

4.1.5.3 Agency-led Consultation and Engagement

During the extended time period for the IS Phase, the proponent will support the Agency-led consultation and engagement with the public and Indigenous communities and groups.

As outlined in the Agency Indigenous Engagement and Partnership Plan for the WSR Project, the proponent expects to participate in meetings with the Agency, federal authorities and Indigenous communities to discuss technical matters. In addition, the proponent in preparing the Draft EAR/IS will validate IKLRU information with Indigenous communities who provide it, prior to formally submitting the Draft EAR/IS.

As outlined in the Agency's Public Participation Plan, the proponent will engage with the public and stakeholders to gather information identify potential effects and appropriate mitigation measures and address concerns throughout the impact assessment process. Also, the proponent will support meetings organized by Agency, where necessary, to present information about the Project, including on baseline conditions, potential effects, assessment of effects, and proposed mitigation and follow-up measures.

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The above proponent support to Agency-led consultation and engagement is reflected in the project schedule and is envisioned to occur within the extended time period for IS Phase and Impact Assessment Phase.

4.1.5.4 Addressing Deficiencies in the Impact Statement

The proponent has allotted time in their project schedule to address major deficiencies in the Impact Statement Phase as identified by the Agency and federal authorities from their review of the EAR/IS. In the extended IS Phase this will occur following receipt of comments from the Agency's review of the Pre-Draft EAR/IS (outside of formal review process) that allows the proponent approximately 60-days to address deficiencies and finalize the Draft EAR/IS. Following submission of the Draft EAR/IS and identified deficiencies from the 75-day federal review process the proponent has allowed 60-days to revise and submit the Final EAR/IS. In addition, the proponent has also included approximately 14-days to revise the Final EAR/IS based on the Agency's administrative review and determination of compliance with the TISG; and 45-days to address deficiencies identified from Agency's review of comments from the public and Indigenous communities, including engagement with Indigenous communities or others if needed.

4.1.5.5 Contingency Allowance for Unexpected Delays

In addition to the base project schedule to complete the Impact Statement Phase, as contained in **Appendix A** and as summarized in **Section 4.1.6**, the proponent is proposing that a contingency allowance be added for unexpected delays. There are number of activities and tasks that are considered to pose a risk or uncertainty to the schedule and therefore a contingency allowance of 16 months is recommended to be added to the base schedule. The extent of potential delay for any given activity/task is difficult to predict and could include, but not limited to, such items as:

- Additional time needed for participation and receipt of Indigenous Knowledge (IK) and land and resource information from communities, including completing validation process with regards to providing informed consent for the use of approved information into EA/IA documentation.
- Additional time needed for assessment of impacts to the exercise of Aboriginal and Treaty rights that is intended to be a collaborative process with Indigenous communities and is linked to communities sharing IK and land and resource use information.
- Additional time needed for integration and consideration of outcomes of Ontario Crown Consultation with Indigenous communities/groups.
- Additional time needed to arrange, conduct and document proponent-led Consultation Rounds 2 and 3 with Indigenous communities then expected, including resolving issues/concerns (e.g., evaluation of alternatives, cumulative effects assessment, etc.).
- Additional time needed to address major deficiencies (e.g., baseline data, technical effects assessment for valued components, GBA+ analysis, etc.) identified from the Agency and federal authorities review of Socio-Economic Baseline Report, Pre-Draft, Draft and Final EAR/IS. This is also relevant to the provincial EA process and GRT review of the EAR/IS, as part of the coordinated federal/provincial assessment for the Project.
- Additional time needed to address issues/concerns raised by Indigenous communities, the public and/or stakeholders, including potential further proponent-led engagement with Indigenous communities to resolve significant areas of concern such as specific valued component effects (e.g., Caribou), cumulative effects assessment or impacts on the exercise of Aboriginal and Treaty Rights.

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4.1.6 Project Schedule

The detailed schedule for the WSR Project is contained in **Appendix A**. The following is a summary of key milestones/deliverables assumed in the project schedule within the extended time period for the Impact Statement Phase.

- Submit draft Socio-Economic Existing Conditions Report for Agency and federal authorities review that will be circulated prior to Pre-Draft EAR/IS - February 24, 2023.
- Revise and finalize Socio-Economic Existing Conditions Report based on deficiencies identified from the Agency and federal authorities review – May 1, 2023.
- Submit Pre-Draft EAR/IS for Agency and federal authorities review –November 2, 2023.
- Revise and finalize Pre-Draft EAR/IS based on deficiencies identified from the Agency and federal authorities review – February 28, 2024.
- Submit Draft EAR/IS for Agency and federal authorities review – March 6, 2024.
- Submit Final EAR/IS for Agency and federal authorities review – July 25, 2024.
- Revise Final EAR/IS, if necessary, based on additional comments from Agency – August 15, 2024.
- Agency Posts to Registry Public Notice to Invitation to the public and Indigenous communities/groups to provide comments on the Summary of the Impact Statement – August 16, 2024.
- Proponent to address deficiencies identified by the Agency, if necessary, including engaging with the public and Indigenous communities/groups – December 12, 2024.
- Agency accepts the EAR/IS and Issues Notice of Determination (completion of IS Phase) with Agency-led Impact Assessment Phase initiated – January 20, 2025.

Based on the current schedule for the WSR Project and consideration of a contingency allowance for unexpected delays, the proponent is requesting an extension to **May 20, 2026** for the Impact Statement Phase of the WSR Project.

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5 Progress Report

This section describes the advances made by the Project Team to meet the requirements of the TISG for the Project, including:

- Engagement activities conducted to date with Indigenous communities and groups, government agencies, and the public and stakeholders;
- A summary of the baseline data collected to date;
- Determination of the final project components; and
- Additional relevant information.

5.1 Consultation and Engagement with Indigenous Communities and Groups

This section describes engagement activities conducted to date with Indigenous communities and groups, and the outcomes of these activities.

5.1.1 Summary of Consultation and Engagement Activities to Date

5.1.1.1 Chief and Council Meetings

One Chief and Council Meeting was held during Consultation Round 1, which involved providing a project update to WFN Chief Cornelius Wabasse and the newly elected Council. In addition, a Chief and Council Meeting was also held with Weenusk First Nation. Details of the meetings are provided in **Table 5-1**.

Table 5-1: Consultation Round 1 Chief and Council Meetings

#	Community	Date/Time	Meeting Summary
1	Webequie First Nation	March 30, 2022 12:00 PM	A meeting was held with Chief Wabasse and Council to provide a project update to new members and discuss upcoming EA/IA activities.
2	Webequie First Nation	June 20, 2022 2:00 PM	A meeting was held with Chief Wabasse and Council to provide an update on the socio-economic and human health studies and to coordinate a community visit to collect primary information to support both studies.
3	Weenusk First Nation	July 19, 2022 10:00 AM	A meeting was held with Chief Hunter and Council to provide information on topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.

5.1.1.2 Community Virtual Information Sessions - Round #1

Twenty-two (22) community Virtual Information Sessions were held during Consultation Round 1 – one with each of the potentially affected or interested Indigenous communities at the start of each week. **Table 5-2** shows the schedule of sessions. An invitation letter and poster were sent to the Chief of each community at least two weeks in advance of the event and each session was hosted by the Project Team via Zoom and live-streamed via Facebook Live. Sessions included an introduction to the current status of the WSR Project, a pre-recorded video presentation summarizing topics for engagement and EA/IA

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activities to date, and a Q&A period, during which time responses were provided to questions raised by the community during the EA ToR phase. At the session, attendees were also encouraged to pose new questions to the Project Team. After each session, the video of the recorded virtual information session was posted to the Project Website, ensuring community members who were unable to attend could still watch the session pertaining to their community an submit questions and feedback. Comments received from each community and responses provided by the Project Team are detailed in **Section 5.2**.

Table 5-2: Schedule for Consultation Round 1 Community Virtual Information Sessions

#	Indigenous Community/ Group	Session Date	Invitation Letter
1	Webequie First Nation	Monday, April 4, 2022	Tuesday, March 29, 2022
2	Weenusk (Peawanuck) First Nation	Monday, April 11, 2022	Tuesday, March 29, 2022
3	Kaschechewan First Nation	Tuesday, April 19, 2022	Monday, April 4, 2022
4	Attawapiskat First Nation	Monday, April 25, 2022	Monday, April 11, 2022
5	Fort Albany First Nation	Monday, May 2, 2022	Tuesday, April 19, 2022
6	Marten Falls First Nation	Monday, May 9, 2022	Monday, April 25, 2022
7	Neskantaga First Nation	Monday, May 16, 2022	Monday, May 2, 2022
8	Kasabonika Lake First Nation	Tuesday, May 24, 2022	Monday, May 9, 2022
9	Eabametoong First Nation	Monday, May 30, 2022	Monday, May 16, 2022
10	Nibinamik First Nation	Monday, June 6, 2022	Tuesday, May 24, 2022
11	Aroland First Nation	Monday, June 13, 2022	Tuesday, May 31, 2022
12	Constance Lake First Nation	Monday, June 20, 2022	Tuesday, June 7, 2022
13	Ginoogaming First Nation	Monday, June 27, 2022	Monday, June 13, 2022
14	Kitchenuhmaykoosib Inninuwug First Nation	Monday, July 4, 2022	Thursday, June 23, 2022
15	Kingfisher Lake First Nation	Monday, July 11, 2022	Monday, June 27, 2022
16	Long Lake #58 First Nation	Monday, July 18, 2022	Monday, July 4, 2022
17	Mishkeegogamang First Nation	Monday, July 25, 2022	Monday, July 11, 2022
18	North Caribou Lake First Nation	Tuesday, August 2, 2022	Monday, July 18, 2022
19	Wapekeka First Nation	Monday, August 8, 2022	Monday, July 25, 2022
20	Wawakapewin First Nation	Monday, August 15, 2022	Tuesday, August 2, 2022
21	Wunnumin Lake First Nation	Monday, August 22, 2022	Monday, August 8, 2022
22	Métis Nation of Ontario – Region 2	Monday, August 29, 2022	Monday, August 15, 2022

5.1.1.3 Project Notifications and Updates

5.1.1.3.1 Notices / Invitations (i.e., Notice of Commencement of EA)

Notices regarding key Project milestones and invitation letters for data gathering activities were sent to Indigenous communities via email, mail (Canada Post), and fax (where applicable), as further described in **Table 5-3**.

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Table 5-3: Notices / Invitations Circulated to Indigenous Communities During Consultation Round 1

#	Notice	Date(s)	Description
1	Notice of Commencement of EA	October 29, 2021 – Email November 3, 2021 – Mail	The NoC of EA was circulated to all Indigenous communities/groups and stakeholders on the WSR Project contact list. The notice informed recipients that the ToR had been approved- with amendments- by MECP.
2	IKLRU Program Invitation Letter	December 13, 2021 – Email December 13, 2021 – Mail December 13, 2021 – Fax	The IKLRU invitation letter was sent to all 22 Indigenous communities to share information regarding the program and solicit participation.
3	Socio-Economic Primary Data Collection Invitation Letter	December 21, 2021 – Email December 20, 2021 – Mail December 20, 2021 – Fax	The Socio-Economic invitation letter was sent to all 22 Indigenous communities to introduce the socio-economic primary data collection program, including its purpose, methods, and criteria, and to solicit participation.

5.1.1.3.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the WSR Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were sent to all 22 potentially affected Indigenous communities via email, mail (50 copies through Canada Post), and fax, as further described in **Table 5-4**. They are also posted on the Project website, ensuring they are accessible to all community members. As previously noted, WFN receives a community specific Newsletter on a quarterly basis that provides information and update on the WSR Project.

Table 5-4: Monthly Newsletters Circulated During Consultation Round 1

Issue	Month	Description of Newsletter Contents
5	November 2021	• Description of ToR approval and "what happens now that the ToR has been approved?" • Summary of (and link to) the Notice of Commencement of EA. • Overview of baseline studies and identification of alternatives to be completed. • General description of the engagement and consultation approach.
6	January 2022	• Reminder of ToR approval and what this means for the Project/ the difference between the federal IA and provincial EA. • Overview of the role of study plans. • List of field studies completed in the past year. • What to expect in 2022.
7	February 2022	• Reminder of the difference between federal IA and provincial EA. • Overview of the coordinated assessment process. • Description of what will be studied (valued components/indicators). • Summary of the IKLRU program, including its purpose, phases, and its role in the EA/IA.
8	March 2022	• Reminder of what the coordinated provincial-federal assessment process entails. • Overview of IKLRU, including the purpose of the IKLRU program, its importance in the EA/IA, and information being gathered.

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Issue	Month	Description of Newsletter Contents
		• Summary of the socio-economic primary data collection program.

Table 5-4 (Cont'd): Monthly Newsletters Circulated During Consultation Round 1

Issue	Month	Description of Newsletter Contents
9	April 2022	• Description of the current stage of the WSR Project. • Overview of upcoming virtual community information sessions. • Summary of the socio-economic program, including "what are socio-economics?", what the primary data collection program entails, and methods that will be used to gather this information.
10	May 2022	• Quick refresher on the current phase of the EA/IA. • Description of virtual community information sessions. • Summary of valued components, indicators, and fact sheets- which explain how these will be studied. • Overview of additional upcoming engagement opportunities.
11	June 2022	• Update on virtual community information sessions, including communities whose sessions have already occurred and those whose sessions are upcoming, how to watch recordings and submit comments, and a description of what each session involves. • Overview of ongoing field studies.
12	July 2022	• Overview of additional upcoming engagement opportunities. • General description of the objective of field studies for the WSR Project. • Definition of key terms associated with cultural heritage assessment, including built heritage resources, cultural heritage landscapes, and cultural heritage resources. • Summary of the objectives of fish and fish habitat assessments. • Overview of ongoing virtual community information sessions.
13	August 2022	• To be included in final Extension Request Report.

5.1.1.4 Project Website

A dedicated website, www.supplyroad.ca/, was created at the beginning of the Project (during the ToR phase) to provide Indigenous communities and groups, the public and stakeholders with information on the Project, post notifications of upcoming activities and engagement events, and provide access to important documentation for review. Public notices/invitations, community information session presentations, and other relevant documents and communication materials (such as fact sheets and study plan summaries) are posted on the website to provide Indigenous community members, the public and stakeholders easy access to project information.

Throughout Consultation Round 1, recorded topic-specific live-streaming information sessions and community virtual information sessions have also been continuously uploaded to the website, ensuring community members who are unable to attend sessions can access project information and provide their feedback to the Project Team. Finally, a unique webpage was created for each of the 22 potentially affected communities, which can be accessed by entering "supplyroad.ca/[communityname]" into the web browser. Each community-specific webpage contains the following:

- Videos with information on a range of topics related to the WSR Project;
- A live-stream recording of the community virtual information session;

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- A Virtual Reality (VR) open house walkthrough, replicating a traditional open house setting with boards presenting information on various aspects of the Project; and
- A comment box, allowing community members to ask questions or provide feedback to the Project Team with ease.

The website also provides interested individuals contact information. It is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner. Key documents are provided in Ojibway, Cree, Oji-Cree, French, and English.

5.1.1.5 Virtual Topic-Specific Information Sessions and Radio Call-In Shows

Throughout Consultation Round 1, the Project Team hosted virtual topic-specific information sessions and radio call-in shows relevant to the WSR Project, as listed in **Table 5-5**. Each began with a live radio show at 2:30 PM EST on Wawatay Radio and was followed by a livestream topic-specific event on Facebook Live and YouTube at 4:30 PM EST. In the two weekdays leading up to each information session/radio call-in show, the Project Team ran a 30 second ad on Wawatay Radio three times each day to advertise the event.

Table 5-5: Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
October 8, 2021	WSR EA/ ToR Approval	• Description of Project background and setting (regional and local). • Summary of WFN's approach to engagement. • Description of how the ToR was prepared and how the EA phase will proceed.
October 12, 2021	Socio-Economic and Human Health Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Socio-Economic and Human Health study plans- including their purpose and details of the activities associated with each.
October 14, 2021	WSR EA/ ToR Approval	• Description of Project background and setting (regional and local). • Summary of WFN's approach to engagement. • Description of how the ToR was prepared and how the EA phase will proceed.
October 26, 2021	Acoustic Environment, Visual Environment, Climate Change/Air Quality and Cumulative Effects	• Project update, explaining that the ToR had been approved. • Discussion of Acoustic Environment, Visual Environment, Climate Change/Air Quality, and Cumulative Effects study plans- including their purpose and details of the activities associated with each.
November 9, 2021	Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat study plans- including their purpose and details of the activities associated with each.
November 23, 2021	Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding Birds Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding

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Date	Topic	Discussion Points
		Birds study plans- including their purpose and details of the activities/ field studies associated with each.
January 12, 2022	Looking Back and Ahead: WSR Activities in 2021 and 2022	• Current status from provincial regulatory perspective. • Updates on activities related to engineering, noise, geotechnical, hydrogeology, socio-economic and biological studies. • Completed and upcoming community engagement.
January 26, 2022	What We Have Heard: Key Themes of Project Questions and Concerns	• Opportunities for providing project feedback. • Indigenous communities and organizations who have provided input. • Discussion of key themes of input provided.
February 9, 2022	The Provincial EA and Federal IA Processes	• Coordination of the two processes and a general comparison. • Purpose of components of technical study plans. • Explanation of valued components/indicators and discussion of assessment boundaries. • Role and purpose of baseline studies.
February 23, 2022	Indigenous Knowledge Part 1 – What is IK?	• General description of what IK entails. • Discussion of the importance of IK in the EA/IA process and the blend of IK with western science • Summary of the WSR IK Program.
March 9, 2022	Indigenous Knowledge Part 2 – Weaving IK into EAs and IAs	• Review of "What is IK?' • Specific examples of IK contribution from various disciplines. • Presentation of a graphic showing the combination of IK and western science data collection methods.
March 23, 2022	Indigenous Knowledge Part 3 – IK from a Community Member's Perspective	• Consisted of 3 videos, as follows: - The first provided a community Elder's explanation of Webequie's Three-Tier Model based on traditional use of the land. - The second was a more detailed explanation of the Three-Tier Model including its relationship with government and industry. • The third featured a community elder sharing stores on how Indigenous people moved within their homeland.
April 6, 2022	Socio-Economics	• Socio-economics were defined. • Discussion of socio-economic study plan, preliminary valued components, the local and regional study areas, baseline data collection, secondary information collection, GBA+ analysis, effects assessment, and mitigation of negative effects.
April 20, 2022	Human Health	• Description of Health Impact Assessments (HIAs). • Discussion of HIA objectives, the WFN proxy approach, the basis of an HIA, social determinants of health, First Nations health and wellness, and criteria and indicators.

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Table 5-5 (Cont'd): Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
May 4, 2022	Air, Noise and Vibration	• Divided into two parts, as follows: - (1) Noise and vibration, including a discussion of spatial boundaries, temporal boundaries, noise/vibration guidelines, measurement of background noise levels and results, noise monitoring locations, and mitigation methods. - (2) Air Quality, including a discussion of information collection, valued components, and mitigation methods.
May 18, 2022	Wildlife and Species at Risk	• Objectives of the wildlife and SAR field studies. • Description of field studies and criteria and indicators. • Exploration of potential mitigation methods.
June 1, 2022	Groundwater and Surface Water	• Objectives of the groundwater and surface water field studies. • Discussion of study areas, field surveys, and potential mitigation methods.
June 15, 2022	Fish and Fish Habitat	• Objectives of the fish and fish habitat field studies. • Description of the various field surveys to be conducted and criteria and indicators. • Explanation of potential mitigation methods.
June 29, 2022	Cultural Heritage	• Key definitions associated with cultural heritage assessments. • Description of the purpose of the assessment, regulatory requirements, and steps involved in identifying built heritage resources and cultural heritage landscapes. • Overview of preliminary impact assessment methodology.

5.1.1.6 Key Informant Interviews and Focus Group Sessions

During Consultation Round 1, interviews were conducted with individuals possessing special knowledge or information to contribute to the WSR socio-economic baseline study. This special knowledge includes but not limited to community infrastructure capacity and service availability/ needs, history with developers, economic development aims, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants included Chief and Council, band administration staff, social services providers, Elders, and other community members, who were asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. They were interviewed either by telephone, videoconference, or during in-person consultation and engagement activities. Interviews were recorded electronically to assist in the preparation of transcripts and findings were organized thematically.

Additionally, focus groups are proposed to be undertaken with distinct sub-groups in the community, including youth, women, Elders, and land users/ knowledge keepers. To date focus groups have been held with women and youth (initial session) as noted in **Table 5-6**. Future focus groups sessions are currently being arranged for August 2022. Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. Focus groups will be comprised of 3-6-participants each and lasted approximately 2-3 hours. Participants are recruited through the Webequie Project Team and/or other community contacts. The sessions are carried

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out either virtually via teleconference or in person, depending on provincial and community COVID-19 restrictions in place as well as participant preferences and comfort levels. Sessions held to date have been recorded using audio/video recording and a notetaker was also present.

All interviews and focus groups completed during Consultation Round 1 are expected to be with Webequie First Nation community members. Copies of transcripts and/or findings will be provided to key informants and/or focus group participants for validation and feedback and all information collection adhered to the principles of OCAP® (ownership, control, access, and possession principles) (The First Nations Information Governance Centre 2021). All 22 potentially affected communities were invited to participated in the socio-economic primary data collection program, and interviews and focus groups with other communities will be carried out during Consultation Rounds 2 and 3 based on expression of interest and availability to participate.

Table 5-7 lists all key informant interviews conducted during Consultation Round 1, including the name and role of each key informant, the date of each interview, and key discussion topics. The table also provides an overview of each focus group completed during Consultation Round 1, including the sub-group, number of participants, date, format, and key discussion topics. Interview and focus group findings and further information will be incorporated into in the WSR Socio-Economic Existing Conditions Report.

Table 5-6: Key Informant Interviews and Focus Groups

Name	Role	Interview Date	Key Discussion Topics
Glen Wabasse	Economic Development Officer	1-Oct-22	• Economic development • Local businesses • Procurement
Gordon Wabasse	Lands and Resources Director	1-Mar-22	• Land and resources use objectives • Current land and resource-related projects and/or studies
Cornelius Wabasse	Chief	1-Mar-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources
Leslie Spence	Community Coordinator/ Off-Reserve Liaison	1-Mar-22	• General social and economic issues and objectives/aspirations • Opportunities and services that may be needed with the WSR – particularly for youth
Ananias Spence	Esteemed Elder	1-Mar-22	• General social and economic issues and objectives/aspirations • Opportunities and services that may be needed with the WSR
Jeffrey Jacobs	Health Director	2-Mar-22	• General social and economic issues and objectives/aspirations • Access to services for health, well-being, and safety in the community, as well as barriers • Future plans for service upgrades
Levi Sofea	Former Health Director	13-May-22	• General social and economic issues and objectives/aspirations • Access to services for health, well-being, and safety in the community, as well as barriers • Future plans for service upgrades

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Table 5-6 (Cont'd): Key Informant Interviews and Focus Groups

Name	Role	Interview Date	Key Discussion Topics
Harry Wabasse	Former Councillor	13-May-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources
Roy Spence	Former Councillor	13-May-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources
Mary Gardiner	School Principal	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve and off-reserve school attendance rates • Barriers to achieving higher levels of education • Traditional education offerings
Travis Spence	Employment Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve employment opportunities, including for youth • Access to training and skills development
Marvin Wabasse	Housing Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve housing affordability • Housing supply and demand, including overcrowding • Housing quality • Plans for additional housing
Jonny Suganaqueb	Housing Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve housing affordability • Housing supply and demand, including overcrowding • Housing quality • Plans for additional housing
Elsie MacDonald	Former Chief and Councillor for WFN	July 21-22	• General social and economic issues and objectives/aspirations • Child and family services • Education and training • Public work and infrastructure • Community well-being, health and safety

Focus Groups

Sub-Group	# of Participants	Date	Format	Key Discussion Topics
Women	8	13-May-22	In Person	• Access to Land, Resources, Infrastructure and Services • Safety • Employment and Training

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Sub-Group	# of Participants	Date	Format	Key Discussion Topics
Youth (Initial)	2	13-May-22	In Person	• Enrolment and Education • Employment and Training • Access to Land, Resources, Infrastructure and Services • Safety

5.1.1.7 On-Reserve Community Meetings

Four in-person on-reserve community meetings were held during Consultation Round 1, three with WFN and one with Weenusk First Nation (refer to **Table 5-7**). The purpose of each community meeting was to share information on the WSR EA/IA process, study plans for valued components, assessment approach, IK, consideration of alternatives and consultation approach and next steps. The presentation materials were translated to Ojibway and Cree in real-time by local translators, and all COVID-19 protocols were adhered to. Each meeting ended with a Q&A period and an overview of other upcoming consultation and engagement opportunities.

Table 5-7: Consultation Round 1 On-Reserve Community Meetings

#	Community	Date/Time	Location	Topics Covered
1	Webequie First Nation	October 13, 2021 1:00 PM	WFN Band Hall	• EA process • Study Plans for: o Socio-Economic/ o Human Health
2	Webequie First Nation	October 27, 2021 12:00 PM	WFN Band Hall	• EA Process • Study Plans for: o Acoustic/Visual Environment o Climate Change/Air Quality o Cumulative Effects
3	Webequie First Nation	November 10, 2021 2:00 PM	WFN Band Hall	• EA Process • Study Plans for: o Geology, Terrain & Soils o Vegetation, o Groundwater & Surface Water o Aquatic Habitat
4	Weenusk First Nation	July 19, 2022 7:00 PM	Community Centre	• Topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.

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5.1.1.8 Webequie Off-Reserve Community Meetings

A meeting was held for Webequie First Nation off-reserve members at the Italian Cultural Centre in Thunder Bay on May 31, 2022 to provide information on topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.

5.1.1.9 Communication Materials

To augment activities, meetings, and events that occurred during Consultation Round 1, communication materials were developed. These included presentation slide decks, study plan and general summary fact sheets for each discipline, handouts, display boards, and other materials. All materials were written in plain language free of technical jargon have been produced to ensure that information is clear and easy to understand. Many are available on the Project Website to ensure community members and all interested parities can download them following consultation and engagement activities. Materials are also translated in Ojibway, OjiCree and Cree.

5.1.2 Summary of Key Issues Raised to Date

Table 5-8 summarizes the key issues/concerns raised to date from the engagement with Indigenous communities and groups to date. To date the proponent has only received formal comments from Neskantaga First Nation and Attawapiskat First Nation. Note the responses to Neskantaga First Nation are draft and this time and are currently under internal Project Team review.

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Table 5-8: Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
Aggregate Resources	Neskantaga First Nation	• What volume of rock will be extracted from quarries, and are plans in place to remediate these quarries after extraction? • Does the natural environment study area include aggregate source areas?	• The preliminary estimate of aggregate/rock material needed to construct the WSR is 2,849,500 cubic metres. • The natural environment study areas include potential suitable aggregate sources identified at this time. • A reclamation and restoration plan is proposed to be developed for aggregate pit or quarry areas following their closure. At this preliminary stage this may involve backfilling, regrading/contouring of areas and reforestation to restore vegetation communities representative of the area.
Greenhouse Gas Emissions	Neskantaga First Nation	• Will cumulative GHG emissions be assessed, including reasonably foreseeable future activities?	• The cumulative effects resulting from the past, present and reasonably foreseeable projects, as listed in the federal Tailored Impact Statement Guidelines for the WSR, will be considered by the Project Team within the larger cumulative effects spatial boundaries and temporal boundaries, to the extent possible. At this time in the assessment process, it is unclear if GHG estimates for future projects or activities will be considered as this will be contingent on the type, reliability, completeness and limitations to the available data and information sources regarding projects or activities and their predicted impact on the VC. For some activities or projects that have recently been implemented, or that are in the planning/approval phase, comprehensive data may be available and will be examined, to the extent possible. However, for projects or activities that are at conceptual level currently, or historic, limited data and information may be available.
Compensatory Mitigation	Neskantaga First Nation	• Will the EAR/IS identify unavoidable impacts for which compensatory mitigation will be used?	• Where, significant residual effects for a valued component remain after mitigation, restitution for any damage caused by those effects will be identified and may include replacement, restoration, compensation or other means.
Cumulative Effects	Attawapiskat First Nation Neskantaga First Nation	• Can you explain how the cumulative effects approach will consider the impacts of planned mining activity and be incorporated into the EA/IA? • Will cumulative impacts of all reasonably foreseeable future activities be described in quantitative terms?	• Relevant information generated through the RA for the Ring of Fire Area be used to inform all aspects of WSR Project, including baseline studies, effects prediction, cumulative effects assessment, and the consideration of possible mitigation and enhancement measures, and follow-up programs, as applicable.
Employment and Training	Neskantaga First Nation	• What commitments have been made to provide employment and training to Indigenous community members?	• Webequie First Nation, as the proponent of the WSR Project, is committed to maximizing Indigenous participation in all development phases of the Project (i.e., planning, construction, operations), with the goal to provide employment, training and business opportunities to its community members and others. At this early stage of the assessment process, specific proportions of positions for community members, including long-term, full-time, pensioned, and/or leadership positions are not known. As the socio-economic assessment is advanced, information on employment, training and business opportunities will be documented in the EAR/IS.
Enhanced Collaboration	Attawapiskat First Nation Neskantaga First Nation	• EAs/IAs should be co-developed, co-implemented and co-enforced by First Nations in the region. • Future meetings should be scheduled collaboratively with Indigenous communities.	• It is our expectation First Nations will engage with the WSR Team as the EA/IA process continues for the Project. The regulatory process will help ensure that Indigenous communities' views, perspectives, knowledge, and rights and interests are understood so that we can respond accordingly.
Fish and Fish Habitat	Neskantaga First Nation	• Will the EA/IS analyze consequences to fish from alterations in groundwater pathways? • How will impacts to fish populations be studied, and will studies account for population variability?	• The EA/IS will assess changes to groundwater and surface water interactions from the Project, including potential linkage to harm fish and/or fish habitat. • Fish and fish habitat studies to characterize existing conditions are on-going. In general, the objectives of aquatic assessment are to: identify potential fish habitat and species, including species at risk, at waterbody crossings potentially affected by the Project through fish community and spawning surveys; characterize benthic invertebrate species composition, richness and abundance at waterbody crossings; and provide a general characterization of fish and other aquatic species as defined in the Fisheries Act on the basis of resident and migratory species, food webs and trophic levels, structural and functional linkages, life history and population dynamics. Surveys are intended to collect data over a 2-year period to address seasonal and annual variability of data on fisheries.
Habitat Availability	Neskantaga First Nation	• What factors are used to measure habitat availability?	• The factors used to measure changes to habitat availability vary to some extent for VCs. As an example, for vegetation (uplands and wetlands) a quantitative measure (hectares) of removals would be used as well as quality (High, Moderate, Low) of vegetation associations available to wildlife species and their various life history stages.

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Table 5-8 (Cont'd): Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
Indigenous Knowledge Program	Neskantaga First Nation	• How will community knowledge be validated through the IK Program, and will communities be involved directly in decision-making?	• The purpose of the IKLRU validation is to provide an opportunity for a community and/or individuals to review IKLRU information they provided, to add or revise draft results, and to provide informed consent for the use of approved information in EA/IA documentation, as needed. A validation approach might involve a community validation workshop as a step in the data collection process to provide an opportunity for individuals that participated in a study to review IKLRU information derived from pre-existing and/or project-specific IKLRU studies to verify quality, representativeness and accuracy of the information presented, and to add or revise information presented. The community validation workshop could be conducted by the community's own research/consulting team and/or through a collaborative effort with the proponent's Project Team. Dependent on the community's wishes, the validation workshop can cover pre-existing or project-specific IKLRU information. Community participants that are involved in providing information for a study may be invited to review individual map biographies and/or interview transcripts. Participants would have the opportunity to add new data, and modify any points, or boundaries on their individual maps which they do not agree with. This process will ensure that the data on the maps will be accurate and validated by participants. Finally, decision-making authority of the community leadership.
Legal Representation	Attawapiskat First Nation Neskantaga First Nation	• Indigenous communities have requested that their legal representatives/advisors attend consultation sessions and be copied on all correspondence.	• We will ensure moving forward that all identified councillors, advisors and staff are copied on future correspondence. • While we appreciate the decision to not directly participate in the WSR virtual information session, the intent and purpose of these First Nation-specific information sessions is to obtain community input, insights, and information. • We encourage Indigenous communities to participate in consultation sessions to fully benefit from the opportunity to provide direct feedback and share any concerns or issues that community members may have about the WSR Project.
Natural Environment Impacts (General)	Neskantaga First Nation	• Identification of unavoidable adverse impacts is critical because it forms the basis of required compensatory mitigation. Will unavoidable adverse impacts of the project be specifically identified in the EA/IS sections, with a summary of these impacts in the EA/IS ?	• Predicted residual or net effects after the application of mitigation measures will be documented and summarized in the EAR/IS, including characterizing the net effects. The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each valued component. The objective of the method will be to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or ecological function of a valued component and, therefore, result in significant combined effects
Public Commentary	Neskantaga First Nation	• Public comments by the Premier have created an impression that the Ontario government intends to approve the Project regardless of the outcomes of the EA/IA	• It is not the role of the proponent to respond to comments from the Premier of Ontario as interpreted by Neskantaga First Nation.
Regional Assessment	Attawapiskat First Nation	• A Regional Assessment should be conducted for the entire Breathing Lands region before any further development, mining, or infrastructure related projects are pursued.	• The Regional Assessment is the responsibility of IAAC and falls within their federal jurisdiction. • The TISG for the WSR Project and the federal IAA require that relevant information generated through the RA for the Ring of Fire Area be used to inform the WSR Project effects assessment • The WSR EA/IA timelines are not impacted by the federal RA process. Any questions related to the RA process should be directed to the Agency.
Request for Extension	Neskantaga First Nation	• What will this extension mean for provincial EA work? • How long will this extension be? • What was the rationale for seeking the extension?	• For the WSR Project the two levels of government have indicated a willingness to follow a coordinated EA/IA process to the extent possible. Therefore, the proponent will align the provincial EA process with the federal Impact Statement Phase, where possible, including adjusting its project schedule and consultation program. The WSR Team and Impact Assessment Agency Canada (IAAC) are currently in preliminary discussions regarding an extension request to the Impact Statement Phase for the Project and no date has been set for an extension at this time. A decision regarding this matter will occur once the proponent submits a written request for an extension and IAAC evaluates the request based on the proponent's progress in the EA/IA process (e.g., baseline studies, engagement and consultation. etc.). It is the proponent's intent to submit a formal request for an extension to the Impact Statement Phase on September 24, 2022.

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Table 5-8 (Cont'd): Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
Traffic Studies	Neskantaga First Nation	• Will the traffic assessment be quantitative or qualitative?	• Based on the functional road type categorization for the proposed WSR (i.e., Rural Collector Undivided), intended purpose of the road, and population in the community of Webequie, an average annual daily traffic (AADT) volume of less than 500 vehicles has been assumed for the Project and used as design criteria for the road. It is expected that traffic during the operations phase will comprise light to medium personal and commercial vehicles, and heavier trucks carrying industrial (mining) supplies and equipment. The road will not be used to transport mine products. Further discussion on road traffic will be presented in the EAR/IS.
Violence Against Indigenous Women and Girls	Neskantaga First Nation	• How will the EA/IA assess the potential for increased violence against Indigenous women and girls?	• The approach to assess potential increase of violence against Indigenous women and girls will involve, but not be limited to, key informant interviews and focus groups to gather experience of Indigenous women/girls in communities on the issue and to review social studies that have examined the relationship and potential impacts of new road projects and Indigenous communities. Through consultation activities the Project Team will also engage with women and community members to help determine appropriate mitigation measures to reduce/minimize violence against Indigenous women and girls.
Wildfire	Neskantaga First Nation	• Wildfire in the area appears to be an increasing threat. What are the potential impacts on and/or risks of wildfire for the road?	• Accidents and malfunctions as it relates to the construction and operations phases of the Project will be examined in later stages of EA/IA process, including their potential to increase the risk of fires. As part of the EA/IA it is expected that an Environmental Management Plan, with mitigation and best management practices and procedures, will be developed to address potential risks of fires from project activities; and also emergency and contingency measures to address naturally occurring wildfires affecting the road.

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5.2 Consultation and Engagement with Government Agencies and Municipalities

This section describes engagement activities conducted to date with government agencies and municipalities, and the outcomes of these activities.

5.2.1 Summary of Consultation and Engagement Activities to Date

5.2.1.1 Project Notifications and Updates

5.2.1.1.1 Notices/ Invitations (i.e., Notice of Commencement of EA)

Notices regarding key project milestones were sent to government agencies and municipalities via email and mail (Canada Post), as further described in **Table 5-9.**

Table 5-9: Notices Circulated to Government Agencies and Municipalities During Consultation Round 1

#	Notice	Date(s)	Description
1	**Notice of Commencement of EA**	October 29, 2021 – Email November 3, 2021 – Mail	The NoC of EA was circulated to the GRT and all municipalities in the Study Area. The notice informed recipients that the ToR had been approved-with amendments - by MECP.

5.2.1.1.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the WSR Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were posted on the Project website throughout Consultation Round 1, ensuring they were accessible to government agencies and municipalities as applicable. A full list of all monthly newsletters, including a description of each newsletter's contents, is provided in **Section 5.1.1.3.2, Table 5-4**.

5.2.1.2 Public Information Centre #1

As of August 1, 2022, no Public Information Centre has been held with the public or stakeholders but is tentatively scheduled for August 25, 2022. This section will be updated in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

Members of the public, off-reserve WFN community members, government agencies, municipalities and stakeholders will have the opportunity to attend three (3) Public Information Centre (PIC) sessions (open house format) for the Project that will be held in the City of Thunder Bay (one during each of the three rounds of consultation), focusing generally on:

1. PIC #1: Study Plans for discipline studies, criteria and indicators for evaluation and selection of a preferred route and project effects assessment, approach for evaluation of alternatives, baseline studies, and Indigenous Knowledge/ Land and Resource Use (IKLU) program;
2. PIC #2: Identification and evaluation of alternatives, preferred route and aggregate/rock source areas, and preliminary engineering design elements; and
3. PIC #3: Presentation of the preferred alternative, summary of preliminary effects assessment, and proposed impact management, mitigation and follow-up monitoring program.

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While the Municipality of Greenstone, Township of Pickle Lake, City of Timmins and Municipality of Sioux Lookout will be included within the consultation program due to their location and interested stakeholders, PICs will not be held at these locations. Instead, any PICs will be held in the City of Thunder Bay, as this is the most central location to the WFN, and, therefore, the likely all-season road corridor. The Webequie Project Team will consider requests for additional PIC sessions in other locations.

The PIC sessions will include display materials containing information on the project background, the EA/IA study process, known existing project area environmental conditions, the results of studies that have been conducted; the development and evaluation of alternatives, including the rationale for evaluation criteria; the project schedule; and the results of the consultation program. The Webequie Project Team will be available to receive and respond to questions and have an open dialogue regarding the EA/IA process. Comment sheets will be supplied to all attendees during the session, and written comments may be prepared and left at the open house venue or sent to the Project Team within a specified period following the event.

As noted, PIC #1 is currently scheduled to occur on August 25, 2022, and the Notice of PIC #1 will be circulated by letter and email to government agencies, municipalities and stakeholders and published in local newspapers (e.g., the Thunder Bay Chronicle). The results of PIC #1 will be documented in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

5.2.1.3 Project Website

Government agencies and municipalities can access the Project website, www.supplyroad.ca, at any time for information on the Project. The website contains various resources and materials that may be of interest to government agencies and municipalities, including Project notices (such as the NoA and NoC), documentation for review (such as the Draft/Final ToR and Record of Consultation), study plans, fact sheets, and video presentations. The website is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner.

5.2.2 Summary of Key Issues Raised to Date

As of August 1, 2022, no issues have been raised by government agencies or municipalities. This section will be updated in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

5.3 Consultation and Engagement with the Public and Stakeholders

This section describes engagement activities conducted to date with the public and stakeholders, and municipalities and the outcomes of these activities.

5.3.1 Summary of Consultation and Engagement Activities to Date

5.3.1.1 Project Notifications and Updates

5.3.1.1.1 Notices/ Invitations (i.e., Notice of Commencement of EA)

Proponent-led notices regarding key Project milestones were published in local newspapers and on the Project website to inform members of the public. Notices were also sent to government agencies and stakeholders on the Project contact list via email and mail (Canada Post), as further described in **Table 5-10.**

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Table 5-10: Notices Circulated to the Public and Stakeholders During Consultation Round 1

#	Notice	Date(s)	Description
1	**Notice of Commencement of EA**	October 29, 2021 – Email November 3, 2021 – Mail November 3, 2021 – Local Newspapers November 19, 2021 – Wawatay News	The NoC of EA was published in the Thunder Bay Chronicle, Timmins Daily Press and Sioux Lookout, and Wawatay News and posted to the Project website, ensuring accessibility to members of the public. It was also circulated to all stakeholders on the Project stakeholder list. The notice informed recipients that the ToR had been approved-with amendments- by MECP.

5.3.1.1.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the WSR Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were posted on the Project website throughout Consultation Round 1, ensuring they were accessible to the public and Project stakeholders as applicable. A full list of all monthly newsletters, including a description of each newsletter's contents, is provided in **Section 5.1.1.3.2, Table 5-4**.

5.3.1.2 Public Information Centre #1

As of August 1, 2022, no Public Information Centres have been held with the public or stakeholders. This section will be updated in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

As noted in **Section 5.2.1.2**, members of the public, off-reserve WFN community members, government agencies, municipalities and stakeholders will have the opportunity to attend three (3) Public Information Centre (PIC) sessions (open house format) for the Project that will be held in the City of Thunder Bay (one during each of the three rounds of consultation), focusing generally on:

1. PIC #1: Study Plans for discipline studies, criteria and indicators for evaluation and selection of a preferred route and project effects assessment, approach for evaluation of alternatives, baseline studies, and Indigenous Knowledge/ Land and Resource Use (IKLU) program;
2. PIC #2: Identification and evaluation of alternatives, preferred route and aggregate/rock source areas, and preliminary engineering design elements; and
3. PIC #3: Presentation of the preferred alternative, summary of preliminary effects assessment, and proposed impact management, mitigation and follow-up monitoring program.

While the Municipality of Greenstone, Township of Pickle Lake, City of Timmins and Municipality of Sioux Lookout will be included within the consultation program due to their location and interested stakeholders, PICs will not be held at these locations. Instead, any PICs will be held in the City of Thunder Bay. The Webequie Project Team will consider requests for additional open houses in other locations.

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The PICs will include display materials containing information on the project, the EA/IA process, existing environmental conditions, the results of studies that have been conducted; the development and evaluation of alternatives, including the rationale for evaluation criteria; the project schedule; and the results of the consultation program. The Webequie Project Team will be available to receive and respond to questions and have an open dialogue regarding the EA/IA process. Comment sheets will be supplied to all attendees during the session, and written comments may be prepared and left at the open house venue or sent to the Project Team within a specified period following the event.

PIC #1 is currently scheduled to occur on August 25, 2022, and the Notice of PIC #1 will be circulated by letter and email to government agencies, municipalities and stakeholders and published in local newspapers (e.g., the Thunder Bay Chronicle). The results of PIC #1 will be documented in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

5.3.1.3 Project Website

The Project Website, www.supplyroad.ca/, provides interested members of the public and stakeholders with on-demand and up-to-date Project information. This includes project notices (such as the Notice of Impact Assessment Decision that IA is required for the WSR Project, d Notice of Commencement of provincial EA), notifications of upcoming activities and engagement events that are open to the public, reports and documents (such as Detailed Project Description, ToR, etc.), and communication materials (such as fact sheets and study plan summaries). Video recordings from topic-specific live streaming sessions are also posted to the website, ensuring members of the public and stakeholders who are unable to attend live can watch later and provide comments and feedback.

The website also provides interested individuals contact information. It is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner. Key documents are provided in Ojibway, Cree, Oji-Cree, French, and English.

5.3.2 Summary of Key Issues Raised to Date

As of August 1, 2022, no issues have been raised by the public or stakeholders. This section will be updated in the final Extension Request Report to be submitted to the Agency on September 24, 2022.

5.4 Summary of Baseline Data Collection to Date

This section summarizes baseline data collection to date. Baseline studies have been conducted from 2019 through 2022 to support the characterization of existing conditions for the biophysical, socio-economic, visual, and cultural environment. Baseline collection efforts have included review of secondary information and primary data collection (e.g., biophysical field surveys and investigations, socio-economic and health surveys, key informant interviews, focus groups, IK collection, among others).

5.4.1 Biophysical Environment

This section provides a summary of baseline data collection to date for the biophysical environment. The results of baseline data collection for the biophysical environment, including field surveys and modelling, are provided in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022), which is currently under review by the MECP, the Agency and other federal authorities.

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5.4.1.1 Geology Terrain and Soils

5.4.1.1.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Geology, Terrain and Soils:

- Geological Survey of Canada physiographic regions map (Bostock, 2014);
- Bedrock and Quaternary Geology data, Ontario Geological Survey (Ontario Geological Survey, 2021);
- Geology of the Canadian Shield in Ontario: An Update (Percival and Easton, 2007);
- Tectonic Styles in Canada: The Lithoprobe Perspective (Percival et al., 2012);
- Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS, 2005);
- Eagle's Nest Project Federal/Provincial Environmental Impact Statement/Environmental Assessment Report (Knight Piésold Consulting, 2013);
- Surficial geology, bedrock geology, topographic mapping, and available existing geological and hydrogeological reports (Ontario Geological Survey, 2011; MNRF, 2016);
- The Kapuskasing Uplift: a geological and geophysical synthesis (Percival and West, 1994)
- The Canadian System of Soil Classification (SCWG, 1998);
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregions (Crins et al., 2009);
- Precambrian geology of the Hudson Bay and James Bay lowlands region interpreted from aeromagnetic data - east sheet (Stott, 2008);
- Ring of Fire Baseline Environmental Monitoring Program: Preliminary Report, Ministry of Environment, Conservation, and Parks, 2019;
- Permafrost, The National Atlas of Canada, 5th Edition, Department of Energy, Mines and Resources Canada, 1995;
- Landscapes and Landforms of the Hudson Bay Lowlands, Lynda Dredge and Larry Dyke, Landscapes and Landforms of Eastern Canada, Springer, 2020;
- Ontario Geological Survey, 1997. Quaternary geology, seamless coverage of the province of Ontario: Ontario Geological Survey, Data Set 14;
- Barnett, P.J. et al. 2013. Surficial Geology of the Lansdowne House Area Northeast, Northern Ontario. 1:100,000. P3697;
- Barnett, P.J. et al. 2013. Surficial Geology of the Lansdowne House Area Northwest, Northern Ontario. 1:100,000. P3696;
- Metsaranta, R.T. and Houlé, M.G. 2017. Precambrian geology of the McFaulds Lake area, “Ring of Fire” region, Ontario— central sheet; Ontario Geological Survey, Preliminary Map P .3805; Geological Survey of Canada, Open File 8201, scale 1:100 000. doi:10.4095/299711. Map P3805 on www.geologyontario.ca;
- Dyer, R.D. and Burke, H.E. 2012. Preliminary results from the McFaulds Lake (“Ring of Fire”) area lake sediment geochemistry pilot study, northern Ontario; Ontario Geological Survey, Open File Report 6269, 26p. OFR6269 on www.geologyontario.ca;
- Standard Practice for Aggregate Resource Evaluation, MTO, 2002;
- Provincial Pavement Engineering Investigation Guidelines, v.1.1, MTO, 2013;
- Ontario Hydro Network – Waterbodies. Land Information Ontario (LIO) Warehouse;
- Ontario Wetlands: Ontario Ministry of Natural Resources; and

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- Provincial Land Cover (2000) Database: Ontario Ministry of Natural Resources. Information from previous terrain studies conducted in the broader project area, particularly for the terrain units, obtained from the following reports:
  - McFaulds Lake Project – Webequie to Esker Camp road route location: Report on mineral and organic terrain mapping in a 10 km radius around esker camp. 2010. J.D. Mollard and Associates Limited (JDMA), (2010) September 23, 2010. Report No. 1675.
  - McFaulds Lake Project – McFaulds Lake Peat Sampling Field Trip Report. JDMA (2010) September 17, 2010.

5.4.1.1.2 Field Surveys

The following field surveys were conducted:

- Light Detection and Ranging (LiDAR) data collection (2019);
- Soil and Terrain Investigations (JDMA, 2019 and 2020);
- Peat Thickness and Aggregate Source Investigations (JDMA, 2020); and
- Geotechnical Investigations, including geochemistry analysis (SNC-Lavalin, 2019 and 2020).

The surveys related to geology, terrain and soils were conducted in 2019, with supplemental investigations performed in summer 2020 with the intent to provide 2-years of data within the preliminary proposed corridor for the WSR and supportive infrastructure areas (aggregate sources).

The 2019 surveys, within the approximately 2 km wide preliminary proposed corridor for the supply road, focussed on collecting terrain and soils data needed to characterize existing conditions (e.g., soil and terrain, peat depths, etc.); identifying and evaluating alternatives (e.g., routes for supply road and siting of aggregate sources, etc.); and supporting the preliminary engineering design for the supply road. The 2020 field survey provided supplemental and complementary soil/geotechnical data to inform the road design, and to further delineate and characterize potential aggregate sources. Geochemical analysis of soil and rock to provide an indication of the potential for metal leaching (ML) and acid rock drainage (ARD) at potential quarries, rock cuts and talus site locations where materials may be generated for use and/or stockpiled. The geotechnical investigations performed in 2019 and 2020 involved excavation of test pits, drilling of boreholes, hand-held peat probes and also the installation of groundwater monitoring wells to support the groundwater program (**Section 5.4.1.3.2**).

On behalf of SNC-Lavalin, J.D. Mollard and Associates Limited conducted terrain and soils investigation in 2019 within the preliminary proposed corridor to facilitate the identification of potential aggregate sources, characterization of stream crossings and mapping of several route alternatives, including identification of an optimal geotechnical route (referred to as Alternative 2) based on terrain and engineering considerations.

The terrain analysis was conducted using aerial and satellite imagery and digital elevation data. The primary source of desktop information for terrain mapping was high-resolution orthoimagery (20 cm resolution) and Light Detection and Ranging (LiDAR) elevation data at 1 metre resolution. Satellite imagery available through ESRI World Imagery Basemap and Google Earth offered supplemental high-resolution imager. Air photo interpretation was also conducted at selected locations using 1954 black & white photographs at 1:60,000 scale which, when viewed stereoscopically, provide 3-D perspectives to evaluate terrain and topographic conditions. These multiple sources of imagery assisted with terrain unit classification, particularly with resolving the wetlands and permafrost-affected terrain.

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5.4.1.2 Surface Water

5.4.1.2.1 Review of Secondary Source Information

The following background information sources were reviewed to characterize existing surface water conditions for the Project.

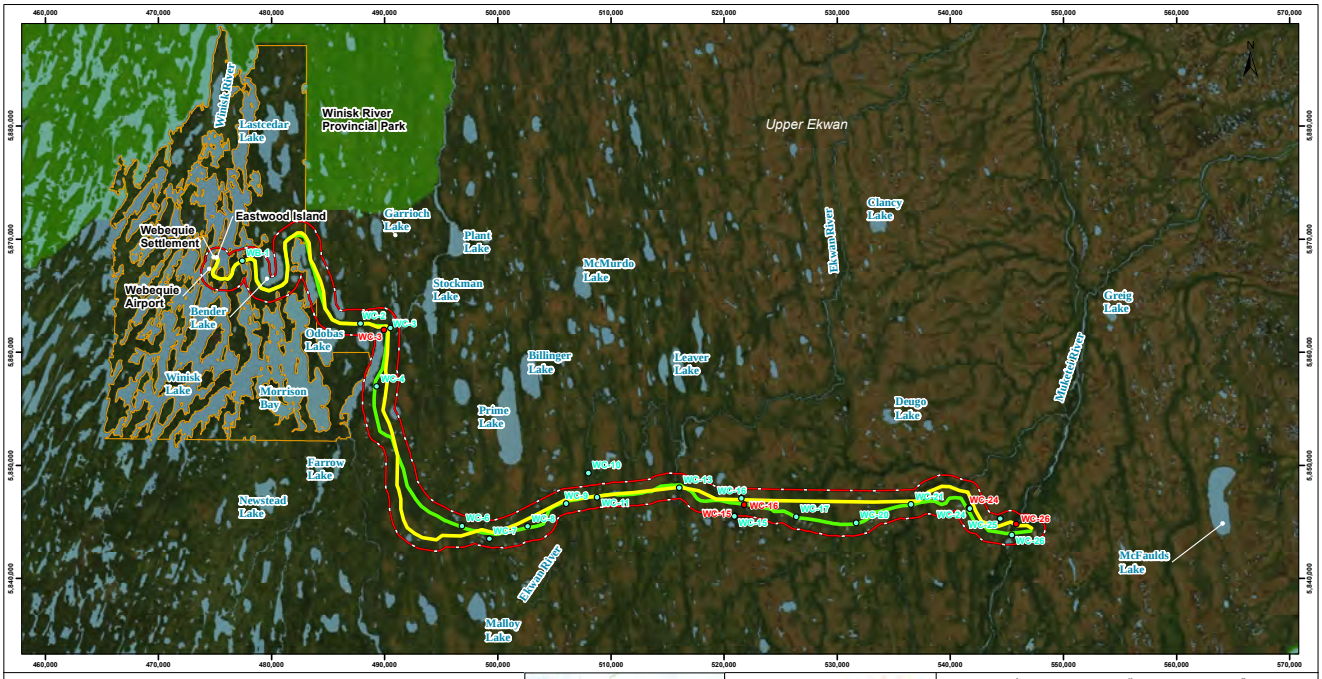
- Regional hydrology data obtained from the Ontario Flow Assessment Tool (MNRF, 2019a)
- Google Earth Satellite Imagery.
- Field notes from SNC-Lavalin site geotechnical and biological investigations reconnaissance
- Environment Canada, Water Survey of Canada Monitoring Stations.
- Ring of Fire Baseline Environmental Monitoring Program (Preliminary Report; MECP October 2019)
- Permits to Take Water Data Catalogue, published by MECP in August 8, 2018 and updated quarterly; https://www.ontario.ca/environment-and-energy/map-permits-take-water.
- Webequie Supply Road: Terrain Analysis, Potential Aggregate Sources & Identification of Route Alternatives, JD Mollard and Associates, March 29, 2019.
- Eagles Nest Project – A Federal/Provincial Environmental Impact Statement/Environmental Assessment Report, Noront Resources Ltd., Knight Piesold Consulting, December 2013.
- Water Level and Flow – Environment and Natural Resources – Government of Canada - https://wateroffice.ec.gc.ca/.
- Electronic data obtained from the MNRF through Land Information Ontario (MNR 2002, 2013a; MNRF 2015a), including tertiary watersheds, Ontario Hydro Network waterbody and watercourse (1:20K) data sets, and Ontario Integrated Hydrology Data; ArcGIS World Imagery (satellite and aerial imagery), published by Environmental Systems Research Institute.

Existing surface water yield and surface water quality conditions were determined by review and analysis of information extracted from the Ontario Flow Assessment Tool (OFAT) III and atlases, as well data available from the Water Survey of Canada (WSC) and Provincial Water Quality Monitoring Network (PWQMN).

5.4.1.2.2 Field Surveys

Surface water field studies were carried over the course of three years from 2019 to 2021 to establish existing surface water quantity and quality and sediment quality conditions in the LSA for the Project. The sampling site locations for surface water and sediments are presented in **Figure 5-1**.

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Winisk River
Lastedar Lake
Winisk River Provincial Park
Upper Ekwan
Eastwood Island
Webequie Settlement
Webequie Airport
Bender Lake
Garrioch Lake
Plant Lake
Stockman Lake
McMurdo Lake
Ekwan River
Glancy Lake
Greig Lake
Odobas Lake
Billinger Lake
Leaver Lake
Winisk Lake
Morrison Bay
Prime Lake
Dengo Lake
Marten River
Farrow Lake
Newstead Lake
Ekwan River
Malloy Lake
McFaulds Lake
WS-1
WS-2
WS-3
WS-4
WS-5
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570,000
5,580,000
5,570,000
5,560,000
5,550,000
5,540,000
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA Includes Quaternary Watersheds that Traverse the Route Alternatives)
Sediment Sample
Water Sample
First Nation Reserve
Waterbody
Watercourse
Provincial Park
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Sampling Locations
Figure Number:
5.1
REV:
PA
Client:
Webequie First Nation
Project Number:
661910
Date:
2022-06-07
DSC
DRN
CHK
APP
AD
CB
CB

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Surface Water Quantity Data Collection

In the summer of 2019, SNC-Lavalin staff performed a field reconnaissance exercise with the goal of visiting each of the 26 watercourse crossings along the proposed corridor of the Webequie Supply Road. Field staff gathered information required to establish streamflow characteristics at the crossings, including:

- Waterbody Type;
- Flow;
- Mean wetted depth;
- Mean wetted width;
- Mean bankfull width;
- Substrate;
- Beaver dam presence;
- Riparian vegetation;
- Floodplain characteristics; and
- Ground photography.

The above data sets collected were combined with available background information and mapping resources to determine the inputs necessary for the Manning's equation. Seven of the 26 watercourse crossings were not accessible during field reconnaissance and therefore for these crossings, Manning's equation inputs were generated by via background information, mapping, aerial photography and visual characterization from the helicopter by field reconnaissance staff.

Surface Water Sampling

Surface water samples at waterbodies were collected from each of the four sub-watersheds that traverse the proposed corridor for the Webequie Supply Road. Surface water sampling was completed in 2019, 2020, and 2021. Water samples were collected at all watercourse crossings, where access was possible at the time of the field visits. Sampling occurred in the summer (August 12-20) of 2019 (19 sites), Fall (October 14-25) of 2020 (20 samples with 2 duplicates, 18 sites), and spring (May 16-19) of 2021 (19 samples with 2 duplicates, 18 sites). Where possible, sampling was completed at the same location for all sampling events to capture seasonal and annual variability in each location. Due to changing water levels and access restrictions, not every watercourse was sampled each year.

Samples were analyzed for the following parameters:

- In-Situ/Field - pH, Temperature;
- General Chemistry - Electrical Conductivity, Hardness, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Turbidity;
- Inorganics and Nutrients - Total Alkalinity, Ammonia Nitrogen, Unionized Ammonia, Bicarbonate, Bromide, Carbonate, Chloride, Fluoride, Hydroxide, Nitrate, Nitrite, Total Kjeldahl Nitrogen (TKN), Ortho-phosphate, Phosphorus, TDS (calculated), Sulphate, Anion Sum, Cation Sum, Cation Balance;
- Metals - Total Metals (full ICP-MS scan); and
- Aggregate Organics - Chemical Oxygen Demand (COD).

Sediment Sampling

Sediment samples were acquired during the benthic invertebrate surveys from October 14 – 25, 2020. Due to poor weather and access conditions, samples were only collected at five sampling locations as shown in **Figure 5-1**. No in-situ measurements were taken for the sediment samples. Sediment samples were analyzed for the following parameters:

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- General Chemistry - Fraction of Organic Carbon, Moisture, Total Organic Carbon, Total Kjedahl Nitrogen; and
- Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium (total), Chromium (V), Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorous, Potassium, Selenium, Silver, Sodium, Strontium, Sulphur, Thallium, Titanium, Tin, Uranium, Vanadium, Zinc, Zirconium, Lithium.

5.4.1.2.3 Hydrological Analysis

A hydrological analysis was performed to establish peak discharge rates and high-water levels at each watercourse crossing of the proposed corridor for the Webequie Supply Road.

5.4.1.3 Groundwater Resources

5.4.1.3.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Groundwater Resources:

- Topography, surficial geology, quaternary geology and bedrock geology (OGS Maps) where the LSA and RSA are located;
- An Assessment of the Groundwater Resources of Northern Ontario, Hydrogeology of Ontario Series-Report 2, Ministry of the Environment (S.N. Singer and C.K Cheng, 2002);
- Eagles Nest Mine Project – Draft Federal/Provincial Environmental Impact Statement/Environmental Assessment Report, Noront Resources Ltd., Knight Piesold Consulting. December 2013;
- MECP Water Well Record database and online map (https://www.ontario.ca/environment-and-energy/map-well-records);
- MECP Permit to Take Water database and online map (https://www.ontario.ca/environment-and-energy/map-permits-take-water);
- Ontario Geological Survey Map P.3607. Precambrian Geology, Geology of the Winisk Lake Area, Northwestern Ontario;
- Provincial Groundwater Monitoring Network database and online map (https://www.ontario.ca/environment-and-energy/map-provincial-groundwater-monitoring-network); and
- Ring of Fire Baseline Environmental Monitoring Program: Preliminary Report. Ministry of Environment, Conservation, and Parks. 2019.

5.4.1.3.2 Field Surveys

Hydrogeological field investigations were conducted in 2020 and 2021 to within the LSA for the Project. The field investigations consisted of drilling, well/piezometer installation, well development, hydraulic conductivity testing and seasonal groundwater data collection. The first round of groundwater monitoring and sampling were completed in July 2020. The second and third events of groundwater monitoring and sampling were carried out in October 2020 and May 2021, respectively. In-situ hydraulic conductivity testes were conducted in October 2020.

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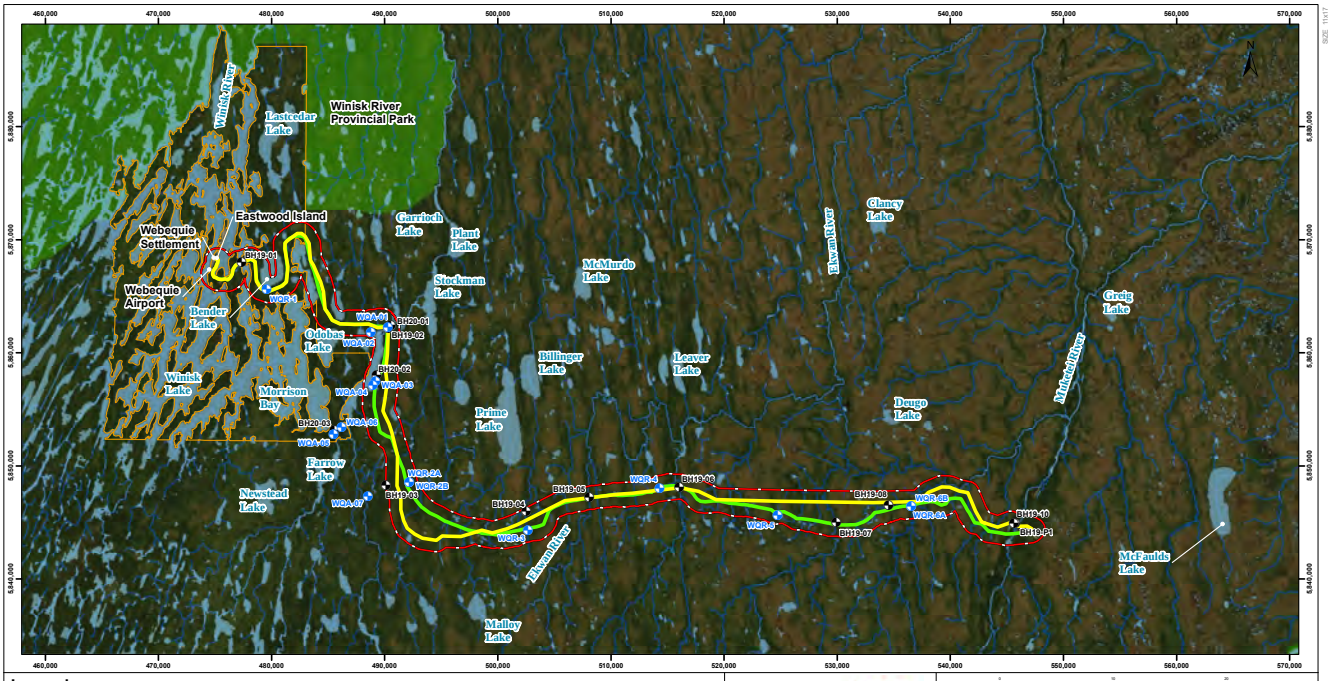
Drilling and Well/Piezometer Installation

A total of 12 monitoring wells and three piezometers were installed in July 2020, in conjunction with the geotechnical investigation program (**Section 5.4.1.1.2**). A summary of the field work programs is as follows:

- During the first half of the drilling program, 10 boreholes were drilled in the potential aggregate and borrow sources areas. Five monitoring wells (WQA-1 to WQA-5) were installed upon completion of drilling. Depths of wells ranged from 4.4 metres to 7.5 metres below ground surface (mbgs).
- During the second half of the program, the drilling and well installation campaign was moved to the proposed Webequie Supply Road corridor. A total of eight monitoring wells (WQR-1, WQR-2A/B, WQR-3, WQR-4, WQA-5 and WQR-6A/B) were installed at six locations. Clustered wells (WQR-2A/B and WQR-6A/B) were installed at two locations to investigate vertical hydraulic gradients, as well as groundwater conditions and aquifer properties for different types of soils and formations at different depths. The depths of wells ranged from 4.3 mbgs to 10.4 mbgs.
- The monitoring wells were constructed with 1-inch or 2-inch diameter polyvinyl chloride (PVC) pipes/risers with 5-foot or 10-foot prepacked screens based on site conditions and drilling methods. Typically, 2-inch wells were installed in the overburden, while 1-inch wells were installed in the bedrock, with a couple of variations.
- In addition, three Solinst drive point stainless steel piezometers were installed to monitor shallow groundwater levels in the peatland areas. They were located besides (within 5 m of) monitoring wells WQA-2, WQR-4 and WQR-5, respectively, with depths ranging from 0.9 mbgs to 6.0 mbgs.

The locations of the monitoring wells installed in the LSA are shown on **Figure 5-2**.

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Winisk River
Lastcedar Lake
Winisk River Provincial Park
Eastwood Island
Webequie Settlement
Webequie Airport
Bender Lake
Garrioch Lake
Plant Lake
Stockman Lake
McMurdo Lake
Ekwan River
Glancy Lake
Greig Lake
Mattagi River
Odobas Lake
Billinger Lake
Leaver Lake
Deugo Lake
Winisk Lake
Morrison Bay
Prime Lake
Farrow Lake
Newstead Lake
Ekwan River
Malloy Lake
McFaulds Lake
BH19-01
BH20-01
BH19-02
BH20-02
BH20-03
BH19-03
BH19-04
BH19-05
BH19-06
BH19-07
BH19-08
BH19-10
BH19-11
WSR-1
WSR-2A
WSR-2B
WSR-3
WSR-4
WSR-5
WSR-6A
WSR-6B
WOA-01
WOA-02
WOA-03
WOA-04
WOA-05
WOA-06
WOA-07
460,000
470,000
480,000
490,000
500,000
510,000
520,000
530,000
540,000
550,000
560,000
570,000
5,880,000
5,870,000
5,860,000
5,850,000
5,840,000
N
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA Not Applicable)
Borehole
Monitoring Well
Webequie First Nation Reserve
Winisk River Provincial Park
Waterbody
Watercourse
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Groundwater Study Areas
Figure Number:
5.2
REV:
PA
Client:
Webequie First Nation
Project Number:
661910
Date:
2022-06-07
DSC
DRN
CHK
APP
AD
WL
WL

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Well-Elevation Data

Ground elevations near the newly installed wells were obtained from the light detection and ranging (LiDAR) data set available in the LSA for the Project. Where well locations were outside the LiDAR coverage, the ground elevations were estimated through publicly available elevation data sets - Canadian Digital Elevation Model (CDEM, 1945 – 2011). The newest data sets (after 2011) of CDEM that are currently available from the federal and provincial government websites do not cover the project region. The CDEM documentation shows that the data sets for the region were collected between 1991 and 2000. The accuracy for the CDEM elevation data is 0 to 5 metres. Well Development.

The newly installed monitoring wells were equipped with dedicated low-density polyethylene (LDPE) tubing and inertial foot valves. All the wells were developed at least 24 hours after the completion of the well installation, by manually moving the inertial foot valve from approximately the top of the screen to the bottom of the screen, occasionally agitating the bottom of the well to stir up and remove any built-up sediment. The wells were purged at least three times the borehole volume of water including standing water in the well, plus the water within the sand pack surrounding the well screen or purged until dry. Purged water was disposed on the site away from the wells. Groundwater Level Monitoring.

Groundwater levels in the newly installed monitoring wells and piezometers were measured using a water level meter at least 24 hours after the installation in July 2020. The water level meter was rented from a qualified equipment supplier - Maxim Environmental and Safety Inc. (Maxim) of Mississauga, Ontario. Groundwater levels were measured again in October 2020 and May 2021 to capture seasonal fluctuations.

Groundwater Sampling and Analysis

Groundwater samples were collected from 12 newly installed monitoring wells in July and October 2020, and May 2021. The conventional tubing and foot valve method was used during the July 2020 sampling event, while low-flow sampling techniques were used in October 2020 and May 2021 to minimize the potential for entrained sediment bias.

Collected groundwater samples/containers were placed in coolers with ice and delivered to ALS Environmental Laboratories (ALS) in Thunder Bay, Ontario using a courier under a chain-of-custody. ALS is accredited by Canadian Association for Laboratory Accreditation Inc. and Standards Council of Canada. The parameters analysed in the laboratory included the following:

- General chemistry and inorganics:
  - alkalinity
  - hardness
  - pH
  - conductivity
  - turbidity
  - total suspended solids
  - total dissolved solids
  - cations (H+, Mg2+, Na+, Ca2+, K+, NH4+)
  - anions (Cl-, SO42-, F-, NO3-, HCO3-, CO32-, PO43-)
  - dissolved organic carbon
  - ammonia
- Nutrients:
  - total organic carbon (TOC)
  - total kjeldahl nitrogen (TKN)
  - total phosphorus (TP)

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- Metals:
  - total and dissolved metals (full metal scan)
  - hexavalent chromium
  - total mercury
  - methyl mercury
- Organic compounds:
  - benzene, toluene, ethylbenzene, and xylene (BTEX)
  - petroleum hydrocarbons (PHCs) fractions F1 to F4
  - polycyclic aromatic hydrocarbons (PAHs)
- Radionuclides:
  - radium 226

In-Situ Hydraulic Conductivity Testing

In-situ hydraulic conductivity (K) tests were conducted in the newly installed wells in October 2020. Bail-down or slug test methods were used depending on how fast the groundwater recovery was encountered at individual well locations. Both the water level meter and level loggers were used to record the water level changes during the tests. Following the collection of the in-situ hydraulic conductivity testing data, the hydraulic conductivity analysis was completed using the commercial software AQTESOLV Pro 4.0.

Due to fast groundwater recovery encountered in monitoring well WQR-4, which was installed in the bedrock, the water level readings or data points obtained from either manual measurements or loggers were not sufficient to complete the hydraulic conductivity (K) analysis. As such, the K analysis could not be completed for WQR-4. The bedrock at this location was described as moderately to highly fractured granodiorite in the borehole log.

5.4.1.4 Air Quality

5.4.1.4.1 Review of Secondary Source Information

Air quality data is not available in the area where the Project is located with the exception of limited data collected from a station operated by the Ministry of the Environment, Conservation and Parks are part of the Ring of Fire Baseline Monitoring Program (2013-2017). To characterize and describe existing air quality conditions a combination of air quality monitoring stations across Canada were used that are located in remote areas similar to the Project. The following monitoring stations were considered for the purposes of characterizing existing air quality conditions:

- Lac-Édouard, QC
- Radisson, QC
- Ring of Fire, ON
- Réserve Faunique
- Ashuapmushuan-Pémonca, QC
- Senneterre, QC
- Experimental Farm Simcoe, ON
- Petawawa, ON
- Fort Chipewyan, AB
- Inuvik, NWT
- Fort Smith, NWT

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Selection of ambient air quality monitoring stations based on these criteria are assumed to provide a conservative estimate of background concentrations of the following selected contaminants:

- Total particulate matter (TPM), PM10, PM2.5, and diesel particulate matter (qualitative only);
- Gaseous common air contaminants: Carbon monoxide (CO), Nitrous oxide (NOx), Sulphur dioxide (SO2);
- Ground level ozone (O_3);
- Volatile Organic Compounds (VOCs): 1-3 butadiene, benzene;
- Carbonyls: formaldehyde, acrolein, acetaldehyde; and
- Polyaromatic Hydrocarbons (PAHs): benzo(a)pyrene.
- Continuous and intermittent monitoring data is gathered from the National Air Pollution Surveillance Program (NAPS) for three recent years (e.g., 2019-2017, where available) and were reviewed. Total particulate matter (TPM) data was obtained from the Quebec monitoring network (Réseau de surveillance de la qualité de l'air du Québec [RSQAQ]).

The monitoring station concentrations used to characterize baseline conditions were compared to the Canadian Ambient Air Quality Standards (CAAQS) and Ontario Ambient Air Quality Criteria (AAQC) in accordance with the applicable averaging time periods and the statistical form associated with each numerical standard. In the cases where CAAQS exist for 2025, these were used and are identified as shown in **Table 5-11**. At the request of the Mushkegowuk Council, a comparison is also made to the Nunavut Air Quality standards (NAAQS) in the cases where these are more stringent than the corresponding CAAQS and/or AAQC. **Table 5-11** presents the ambient air quality criteria and standards considered.

Table 5-11: Ambient Air Quality Criteria and Standards

Pollutant	Averaging Period	Ontario Ambient Air Quality Criteria (AAQC)	Canadian Ambient Air Quality Standards (CAAQS)	Nunavut Ambient Air Quality Standards (NAAQS)
Sulphur dioxide (SO_2)	10-minute	67 ppb	-	-
	1-hour	40 ppb	65 ppb [5] (for 2025)	172 ppb
	24-Hour	-	-	57 ppb
	Annual	4 ppb	4 ppb [6] (for 2025)	11 ppb [9]
Nitrogen dioxide (NO_2)	1-Hour	200 ppb	42 ppb [7] (for 2025)	213 ppb
	24-Hour	100 ppb	-	106 ppb
	Annual	-	12 ppb (for 2025)	32 ppb [9]
Nitrous oxide (NO)	24-Hour	9000 µg/m³	-	-
Ozone (O_3)	1-Hour	80 ppb	-	-
	8-hour	-	60 ppb [8] (for 2025)	65 ppb
Carbon monoxide (CO)	1-Hour	30 ppm	-	-
	8-Hour	13 ppm	-	-

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Table 5-11 (Cont'd): Ambient Air Quality Criteria and Standards

Pollutant	Averaging Period	Ontario Ambient Air Quality Criteria (AAQC)	Canadian Ambient Air Quality Standards (CAAQS)	Nunavut Ambient Air Quality Standards (NAAQS)
Particulate matter ($PM_{2.5}$) fine fraction	24-Hour	27 µg/m³ (1)	27 µg/m³ (1)	30 µg/m³
	Annual	8.8 µg/m³ (2)	8.8 µg/m³ (2)	-
Particulate matter (PM_{10}) inhalable fraction	24-Hour	50 µg/m³	-	-
Suspended particulate matter (TPM)	24-Hour	120 µg/m³	-	120 µg/m³
	Annual	60 µg/m³ (3)	-	60 µg/m³ (10)
Benzo(a)pyrene [as a surrogate of total Polycyclic Aromatic Hydrocarbons (PAHs)]	24-Hour	0.05 ng/m³	-	-
	Annual	0.01 ng/m³ (4)	-	-
Benzene	24-Hour	2.3 µg/m³	-	-
	Annual	0.45 µg/m³	-	-
Formaldehyde	24-Hour	65 µg/m³	-	-
Butadiene, 1,3-	24-Hour	10 µg/m³	-	-
	Annual	2 µg/m³	-	-
Acetaldehyde	½-Hour	500 µg/m³	-	-
	24-Hour	500 µg/m³	-	-
Acrolein	1-Hour	4.5 µg/m³	-	-
	24-Hour	0.4 µg/m³	-	-
Diesel PM	-	-	-	-

Notes
1 The 3-year average of the annual 98th percentile of the daily 24-hr average concentrations.
2 The 3-year average of the annual average concentrations.
3 As the geometric mean of daily measurements over a year.
4 B[a]P is used as a surrogate for the total carcinogenicity of PAHs This AAQC does not apply to naphthalene (CASRN 91-20-3) nor for any other PAH for which an AAQC may be derived separately.
5 The 3-year average of the annual 99th percentile of the SO_2 daily maximum 1-hour average concentrations.
6 The average over a single calendar year of all 1-hour average concentrations.
7 The 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations.
8 The 3-year average of the annual 4th highest of the daily maximum 8-hour average ozone concentrations.
9 Annual arithmetic mean - The sum of all the numbers of a data set divided by the count of all the numbers.
10 Annual geometric mean - The average of the logarithmic values of a data set converted back to a base 10 number.

5.4.1.4.2 Field Surveys

No field surveys were completed for air quality.

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5.4.1.5 Climate

5.4.1.5.1 Review of Secondary Source Information

The characterization of existing local and regional climatic conditions in the project area were obtained from the review of historical records of relevant meteorological information including precipitation, temperature, wind and evapotranspiration from three stations operated by Environment and Climate Change Canada (ECCC):

- Pickle Lake A (6016527);
- Pickle Lake (Aut) (6016525); and
- Lansdown House (Aut) (6014353).

The Pickle Lake station and the Lansdown House station are located respectively 260 km and 95 km south-west from the project area. The Canadian Climate Normals (1981-2010) for Pickle Lake are used to describe annual temperature and precipitation monthly variations as well as evaporation. Climate norms are currently not available for Lansdown House. Extreme rainfall events are described based on Short Duration Rainfall Intensity-Duration-Frequency (IDF) data analysis provided by ECCC for both stations. Finally, annual and monthly wind roses were produced for both stations based on hourly observations at both stations for the 1995-2020 period.

5.4.1.5.2 Field Surveys

No field surveys were completed for climate.

5.4.1.6 Noise

5.4.1.6.1 Field Measurements of Background Noise Levels

Existing background ambient sound levels at representative Noise Sensitive Areas (NSAs) within the Webequie First Nation community and along the proposed WSR corridor were determined through ambient noise level measurements.

Measurements were conducted for the period between October 29 and November 1, 2021. Monitoring was conducted at three locations:

- M1, within the community of Webequie, at the western terminus of the proposed WSR corridor;
- M2, at a distance of 10.57 kilometres along the proposed route (away from the community of Webequie); and
- M3, at a distance of 4.41 kilometres along the proposed route (away from the community of Webequie), which has been used as representative of conditions along the route.

Monitoring locations are shown in **Figure 5-3** and **Table 5-12**.

Table 5-12: Background Noise Monitoring Locations

Monitor Location	Receptor Description	UTM Co-ordinates (Zone 17)	
		Northing	Easting
M1	Western Terminus (Community)	5869527	475454
M2	10.57 km from Western Terminus (Remote)	5862350	483213
M3	4.41 km from Western Terminus (Roadway)	5866489	476072

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Figure 5-3: Noise Monitoring Station Locations



The monitoring location at the western terminus of the WSR corridor includes noise from community activities (industrial and commercial noise, traffic noise, and airport noise). The second and third monitoring locations are sufficiently removed from these sources and capture ambient background sound levels in the rural/remote area, dominated by the sounds of nature and removed from human-made noises. Monitor M3 received occasional human-made noises due to its proximity to the waste facility to the west. Monitor M2 did not have any human interference throughout the entirety of the measurement period.

The measurements at each location were conducted for a minimum period of 48 hrs, in accordance with MECP Publication NPC-233 measurement procedure requirements. The ambient noise measurements were conducted in accordance with the requirements of the following guidelines:

- MECP Publication NPC-102 – *Instrumentation*;
- MECP Publication NPC-103 – *Procedures*;
- MECP Publication NPC-104 – *Sound Level Adjustments*;
- MECP Publication NPC-233 – *Information To Be Submitted For Approval Of Stationary Sources Of Sound*;
- Health Canada “Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise”; and
- ISO 1996-2:2007, Acoustics — Description, measurement, and assessment of environmental noise – Part 2: Determination of environmental noise levels.

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Measurements were conducted with a Larson-Davis NMS044 Outdoor Noise Monitoring System, which incorporates LD831 Sound Level Meters equipped with portable power supplies and environmental protection kits.

The monitors were located in open areas with limited vegetation, as close to the ground as practical (in keeping with MECP and Ontario Ministry of Transportation requirements) and were equipped with an appropriate wind screens. The monitors were field calibrated pre- and post-measurement to ensure the accuracy of the results.

Noise measurements were conducted during Fall 2021. Given the rural environment, differences in ambient sound levels between the spring, summer and winter periods are not anticipated. The fall measurements occurred after leaves were down and with insect activity being minimal; thus, the measurements are during naturally quiet periods, and representative of “predictable worst-case conditions” for assessing impacts from the Project.

The parameters that were captured include the following:

- L_{eq} (1-min) values, in dBA, dBC, and dBZ;
- L_{max} and L_{min} values;
- L_1, L_{10}, L_{50}, L_{90}, and L_{99} values;
- Histograms; and
- Simultaneous audio recordings.

A portable meteorological station was used during measurements to characterize local weather conditions, including:

- Wind speeds and direction;
- Temperature;
- Relative humidity; and
- Rainfall.

The raw measurement data was subject to an exclusion analysis, which flagged remove extraneous data from the data set including:

- Periods with adverse, extreme weather conditions (e.g., wind speeds greater than 14 km/h; humidity greater than 90%; temperatures lower than -10°C or greater than 50ºC, periods of fog and precipitation);
- Periods with extraneous noise sources (e.g., music, car horns, dogs barking, atypical insect and natural noises, etc.); and
- Periods with noise from airport/airstrip activity (aircraft take-offs and landings; audible noise from Airport ground activity).

The above weather conditions are representative of “worst-case” conditions favourable to sound propagation, as is required by Health Canada’s noise guidelines, and will result in a conservative (low) estimate of existing background ambient sound levels.

The refined measurement data was then be processed to determine typical sound levels. The following levels will be determined:

- A characterization of the noise sources that contribute significantly to the baseline background ambient sound environment, by type (e.g., traffic, aircraft, trains, industrial);
- A characterization of the background ambient sound environment, using descriptors such as “continuous, intermittent, regular impulsive, highly impulsive, high-energy impulsive, and continuous tonal and intermittent tonal”, per ISO 1996-2 and Health Canada guidance;
- Existing L_{min} and L_{max} sound levels;

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- An hourly distribution of baseline sound levels during the day and night (L_{eq} (1hr) values);
- L_{eq} Day, L_D, L_{eq} Night, and L_N sound levels; and
- Overall L_{DN} values).

The results of field measurements of background noise levels are discussed in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022).

5.4.1.7 Light Levels

It is anticipated that the Webequie Supply Road will not be illuminated along its entire length, however lighting may be required at certain locations for safety and security such as the east and west terminus points of the road and at supportive infrastructure sites, such as construction camps, aggregate/rock sites and operation and maintenance facility. To characterize the existing night sky environment and assess potential effects of illumination from the Project, where applicable, the Project Team reviewed background data sources that include the Model Lighting Ordinance (MLO) prepared jointly by the Illumination Engineers Society and International Dark Sky Association. In addition, existing light conditions were characterized using satellite observations of the global distribution of artificial light, and assumptions based on the remote nature of the project area and nearby community of Webequie as a source of night light. No field surveys were completed for light levels.

The results of the existing conditions characterization for Light Levels are included in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022).

5.4.1.8 Greenhouse Gases

Excluding the community within Webequie First Nation reserve lands, the project area consists of lakes, woodlands, and wetlands where anthropogenetic emissions of green house gases (GHGs) are basically non-existent today. As a small northern settlement, GHG emissions in the community of Webequie can generally be attributed to the energy usage from buildings (residential and commercial), local transportation, air travel, and solid waste disposal. Other direct or indirect emissions related to industrial or manufacturing activities are not relevant to the project area. Therefore, a high-level assessment of current GHG emissions in the community of Webequie was carried out and the results are included in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022).

No field surveys were completed for GHG emissions.

5.4.1.9 Fish and Fish Habitat

5.4.1.9.1 Review of Secondary Source Information

A desktop review of available historical aquatic data was conducted prior to development of the assessment methodologies. This included a review of:

- Noront Resources Ltd. Eagle's Nest Project Environmental Impact Assessment and relevant Fish and Fish Habitat and Aquatic environment studies;
- MECP Ring of Fire Baseline Data (MECP 2019a);
- Federal (DFO, SARA, COSEWIC) and Provincial Databases and species lists (MECP, MNFR);
- Existing satellite imagery and aerial photography for the PF, LSA, and RSA (Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community), 2020;
- Project LiDAR imagery and elevation data gathered by J.D. Mollard and Associates; 20 cm resolution (2016);

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- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports and databases;
- The Species at Risk in Ontario (SARO) List;
- Indigenous Knowledge and community consultation; and
- Relevant scientific literature.

Available existing information was used to characterize the context of fish and fish habitat and characterize the baseline aquatic environment within the study areas of the Project. However, overall there was limited applicable aquatic historical baseline data available within the study area for the Project.

5.4.1.9.2 Field Surveys

Survey Site Selection

A waterbody crossing list was developed for the proposed preliminary corridor for the WSR using GIS, Light Detection and Ranging (LIDAR), and digital elevation model (DEM). A total of 27 waterbodies were identified and included as part of the field program as shown in **Figure 5-4**. Of these 27 waterbodies, all except Bender Lake are proposed waterbody crossings of the preliminary proposed corridor for the WSR. Bender Lake was added as a survey site in 2020, as the area is of concern to Webequie First Nation and is located near the preliminary proposed corridor and is located within the LSA for the Project. Lakes and waterbodies that are within the LSA/RSA that were not crossed by either of the proposed corridors were not sampled as it is expected that the majority of the project impacts and effects will be limited to the waterbodies directly crossed by the Webequie Supply Road.

Fish Habitat Characterization

Fish Habitat surveys were completed by a team of two qualified fisheries biologists from SNC-Lavalin Inc., plus a Webequie First Nation community member, from August 12-19, 2019, August 12-22, 2020, and September 22-30, 2020. The fish habitat assessment was completed concurrently with the fish community sampling.

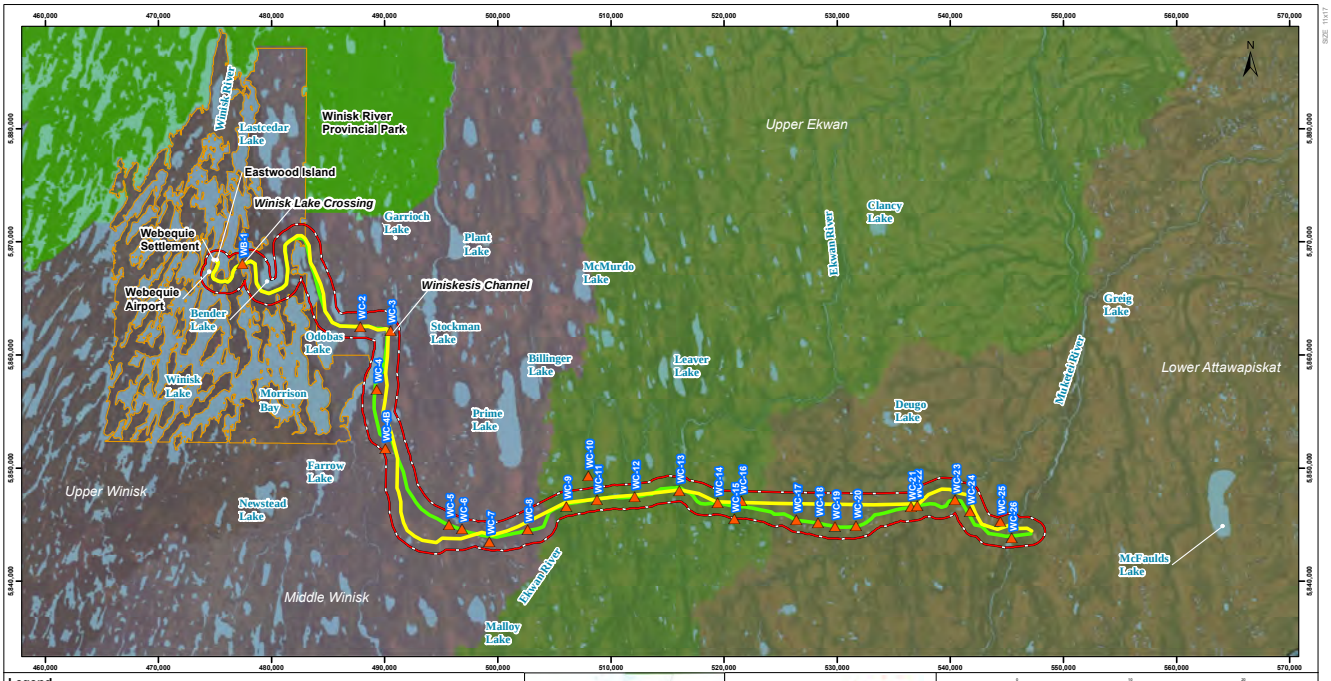
Aquatic field surveys were completed at waterbody crossings that met one or more of the following criteria:

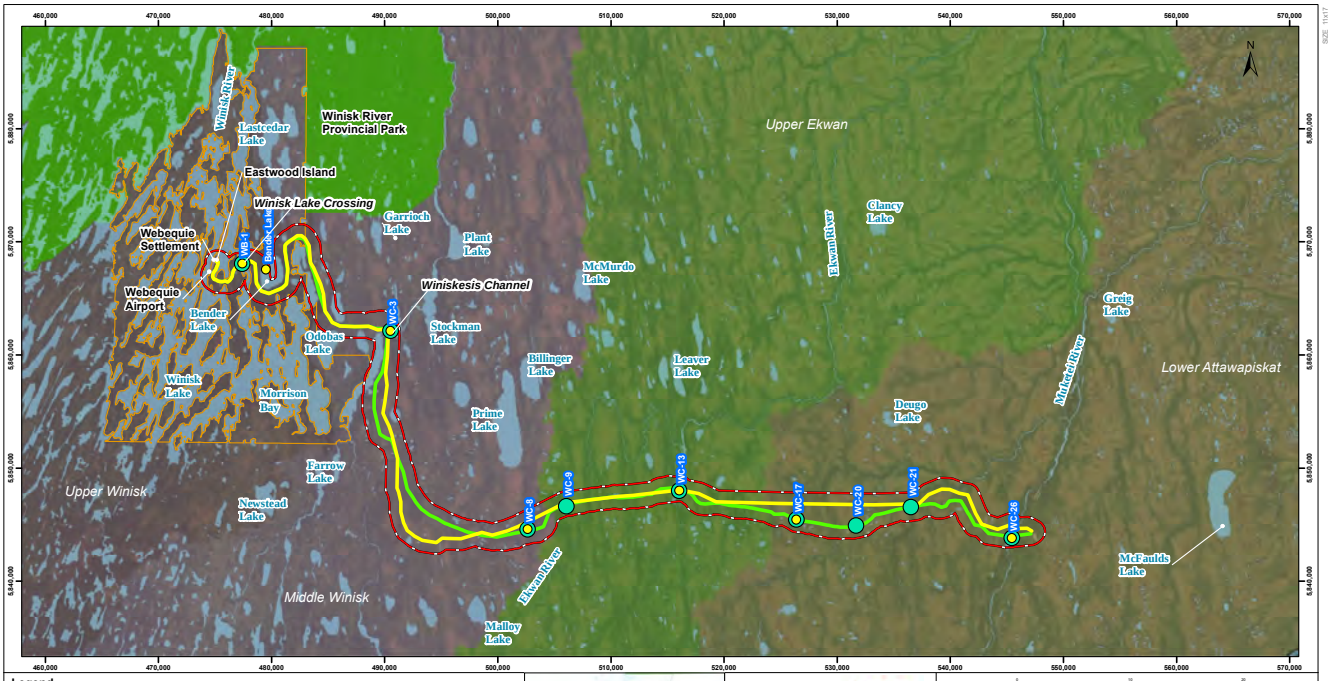
- Waterbodies displayed the ability to support fish at the time of the field survey (did not assess dry water crossings);
- Waterbodies were likely to contain a criterion species, defined as a species of importance to indigenous peoples for recreation, commercial and/or food source purposes and are also identified in the TISG; and/or
- Waterbodies where no specific aquatic habitat field data of sufficient detail were available from the review of background information sources.

Waterbody crossings that did not meet any of these criteria were not sampled. Waterbody crossing sites that did meet the above criteria, but could not be sampled, were photographed from the air.

Figure 5-4 and **Figure 5-5** show the location of fish habitat assessment and fish community sampling sites and were assigned a unique site identification.

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Winisk River
Lastcedar Lake
Winisk River Provincial Park
Upper Ekwan
Eastwood Island
Winisk Lake Crossing
Garrioch Lake
Glancy Lake
Webequie Settlement
Plant Lake
Ekwan River
McMurdo Lake
Webequie Airport
Winiskesis Channel
Greig Lake
Bender Lake
Odobas Lake
Stockman Lake
Billinger Lake
Leaver Lake
Mukerdi River
Lower Attawapiskat
Winisk Lake
Morrison Bay
Prime Lake
Deugo Lake
Farrow Lake
Upper Winisk
Newstead Lake
McFaulds Lake
Middle Winisk
Ekwan River
Malloy Lake
WB-1
WC-2
WC-3
WC-4
WC-4B
WC-5
WC-6
WC-7
WC-8
WC-9
WC-10
WC-11
WC-12
WC-13
WC-14
WC-15
WC-16
WC-17
WC-18
WC-19
WC-20
WC-21
WC-23
WC-24
WC-25
WC-26
N
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
Fish Habitat Survey Locations
Watershed
Middle Winisk
Lower Attawapiskat
Upper Ekwan
Upper Winisk
First Nation Reserve
Waterbody
Provincial Park
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Fish Habitat Survey Locations
Figure Number: 5.4
REV: PA
Client: Webequie First Nation
Project Number: 661910
Date: 2022-06-08
DSC
DRN AD
CHK HY
APP HY


Winisk River
Lastcedar Lake
Winisk River Provincial Park
Upper Ekwan
Eastwood Island
Winisk Lake Crossing
Garrioch Lake
Plant Lake
Glancy Lake
Ekwan River
Webequie Settlement
WB-1
Bender Lake
McMurdo Lake
Webequie Airport
Winiskesis Channel
WC-3
Bender Lake
Stockman Lake
Greig Lake
Odobas Lake
Billinger Lake
Leaver Lake
Mattagami River
Lower Attawapiskat
Winisk Lake
Morrison Bay
Prime Lake
Deugo Lake
Farrow Lake
WC-9
WC-13
WC-17
WC-20
WC-21
WC-26
Upper Winisk
Newstead Lake
WC-8
McFaulds Lake
Ekwan River
Middle Winisk
Malloy Lake
N
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
2020 Fish Community Survey Locations
2019 Fish Community Survey Locations
Watershed
Middle Winisk
Lower Attawapiskat
Upper Ekwan
Upper Winisk
First Nation Reserve
Waterbody
Provincial Park
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Fish Community Survey Locations
Figure Number: 5.5
REV: PA
Client: Webequie First Nation
Project Number: 661910
Date: 2022-06-08
DSC
DRN AD
CHK HY
APP HY

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Fish Community Sampling

Fish community sampling at waterbody crossing sites were completed from August 12-19, 2019, August 12-22, 2020 and September 22-30, 2020. The fish community assessment was completed concurrently with the fish habitat assessment survey. Fish community sampling locations are identified in **Figure 5-5**.

Field survey methods followed standard practices for fish and fish habitat surveys, including those methods contained in the Ontario Stream Assessment Protocol (Stanfield, 2017). Additional methods based on the TISG (IAAC, 2020) were incorporated.

Fish community sampling was conducted to determine fish presence, relative abundance and assemblages per sampling effort at nine of the twenty-six waterbody crossings due to high-water levels, which prevented safe access to additional sites. Following capture, fish were identified to the species level (if possible). Age class (e.g., young-of-year, juvenile, adult), total length and weight, and mortality statistics were also collected, including photographic documentation. Fish were released into the same waterbody as they were captured. All fish sampling was completed in compliance with the Licence to Collect Fish for Scientific Purposes issued by MNRF under the *Fish and Wildlife Conservation Act*.

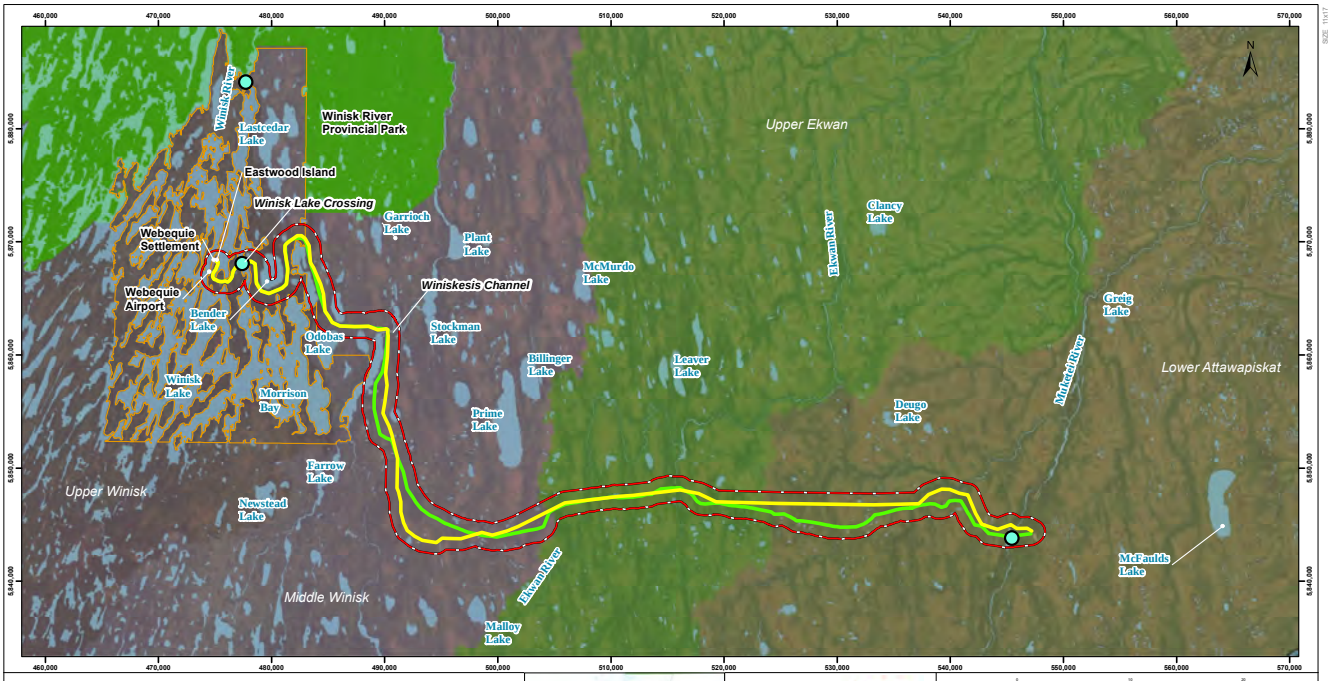
Spring Spawning Survey

Spring spawning surveys were conducted from June 5 to 24, 2020 to determine the presence of Walleye and Lake Sturgeon and the extent of spawning habitat within the LSA of the preliminary proposed corridor for the WSR. Spring spawning survey locations were chosen using the following information sources:

- Known spawning habitat in waterbodies within the LSA from Indigenous Knowledge and engagement and consultation with local Indigenous hunters, trappers and fisherman received from Webequie First Nation, with focus on Winisk Lake, Winisk River, Muketei River and the Ekwan River Tributary;
- Any known or recorded data or studies on spawning available from the Ministry of Natural Resources and/or federal Fisheries and Oceans Canada;
- Review of GIS, LiDAR and aerial photography to identify potential survey sites that may exhibit potentially suitable conditions for spawning of targeted species (e.g., rocky areas in white water downstream of impassable falls and large, fast flowing riffles and shallow, rocky shoals in lakes);
- An aerial reconnaissance narrowed down and ground truth locations that were suitable for deployment of egg mats; and
- Accessibility and safety.

Before the spawning surveys were conducted, an aerial reconnaissance (helicopter) was conducted of the survey locations that were chosen from the review of information sources to determine accessibility by field crews and to confirm if they were suitable spawning habitat. Prior to conducting spawning surveys, water temperatures were monitored with the assistance of Webequie community members to effectively capture the optimal range of appropriate temperatures for spawning of the targeted species (e.g., 11.5°C to 16°C is preferred for Lake Sturgeon spawning). Water temperatures were documented at the time of the spawning surveys. An additional spawning location (Site WC-1), located outside the LSA and RSA was selected because the area was known to the community of Webequie as a historic location for Lake sturgeon. Field spawning locations sampled are identified in **Figure 5-6**.

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Winisk River
Lastcedar Lake
Winisk River Provincial Park
Eastwood Island
Winisk Lake Crossing
Webequie Settlement
Webequie Airport
Bender Lake
Garrioch Lake
Plant Lake
Winiskesis Channel
Stockman Lake
Odobas Lake
Winisk Lake
Morrison Bay
Prime Lake
Farrow Lake
Newstead Lake
Upper Winisk
Middle Winisk
Malloy Lake
Billinger Lake
McMurdo Lake
Upper Ekwan
Elwan River
Glancy Lake
Leaver Lake
Deugo Lake
Greig Lake
Muketei River
Lower Attawapiskat
McFaulds Lake
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
2020 Spawning Survey Site Locations
Watershed
Middle Winisk
Lower Attawapiskat
Upper Ekwan
Upper Winisk
First Nation Reserve
Waterbody
Provincial Park
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Fish Spawning Survey Locations
Figure Number: 5.6
REV: PA
Client: Webequie First Nation
Project Number: 661910
Date: 2022-06-08
DSC
DRN AD
CHK HY
APP HY

Benthic Invertebrate Surveys

Before benthic invertebrate sampling was conducted, an aerial reconnaissance (helicopter) was conducted to determine accessibility by field crews upstream and downstream of the proposed watercourse crossings. Sampling was conducted upstream and downstream of one watercourse crossing within each sub-watershed (four sampling sites total). Sample sites were selected to target representative waterbody types and habitat and to provide a baseline of diversity and abundance. In general, all benthic invertebrate sampling was conducted in accordance with the Ontario Benthic Biomonitoring Network Manual (Jones et al., 2007).

Benthic invertebrate surveys were conducted at four crossings along the preliminary proposed corridor for the WSR in 2020, specifically at Sites WB-1, WC-3, WC-16, and WC-26.

All samples were field reduced through a 500-micron sieve to remove unnecessary silt and sand. Where Ekman grab sampling was conducted, a total of three samples were collected to ensure sufficient organisms for identification. These three grab samples were pooled together to make one composite sample and a portion of that sample formed a replicate. Replicates were placed into labeled sample bottles with 95% ethanol for preservation. Only one or two replicates were completed upstream and downstream of each proposed waterbody crossing, regardless of the sampling method used.

Aquatic habitat variables documented at each sampling site included:

- Water quality parameters such as water temperature, dissolved oxygen, conductivity, turbidity, pH, and total dissolved solids;
- Sampling distance or area covered;
- Dominant and second dominant substrate within each replicate;
- Organic matter-areal coverage;
- Riparian vegetative community; and
- Aquatic macrophytes and algae.

The results of the existing conditions characterization for fish and fish habitat are included in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022).

5.4.1.10 Vegetation and Wetlands

5.4.1.10.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Vegetation and Wetlands:

- Aerial photography (Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community), 2020;
- Project LiDAR imagery and elevation data gathered by J.D. Mollard and Associates; 20 cm resolution (2016);
- Selected Provincial GIS Datasets - wetland, watercourse, waterbody, Far North Land Classification, Provincial Satellite Derived Disturbance Mapping, Land Information Ontario (Ontario Open Data various creation dates), Provincial Parks, Conservation Reserves, Areas of Natural and Scientific Interest (ANSIs), and Provincially Significant Wetlands, downloaded 2020;
- Natural Heritage Reference Manual (2010);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010);
- Ontario Species at Risk, May 2000, Committee on the Status of Species at Risk in Ontario (COSSARO);

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- Natural Heritage Resources of Ontario Rare Vascular Plants, Fourth Edition,2009;
- Natural Heritage Information Center (NHIC) Biodiversity Explorer databases;
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports;
- Species at Risk in Ontario (SARO) List;
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregions, Crins *et al*., Ministry of Natural Resources, 2009;
- The Ecosystems of Ontario, Part 2, Ecodistricts, Wester *et al*., Ministry of Natural Resources, 2018;
- Guiding Principles of Wetland Ecological Functions Assessment: An Overview of Approaches, Hanson et al., 2008;
- Ecosites of Ontario, Boreal, Operational Draft, Banton *et al*., 2009;
- Field Guide to the Wetland Ecosystem Classification for Northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. Technol. Field Guide. Harris et al., 1996;
- Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Lee. *et al*., 1998;
- Field manual for Describing Soils in Ontario. 4th Edition. Ontario Centre for Soil Resource Evaluation. Ontario Centre for Soil Resource Evaluation, 1993;
- Terrestrial and Wetland Ecosites of Northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. & Technol. Field Guide, Racey *et al*., 1996;
- Ecosystem Classification for northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. & Technol. Field Guide, Sims, *et al*., 1997;
- A Field Guide to Forest Ecosystems of Northeastern Ontario. 2nd Edition. Ontario Ministry of Natural Resources, Northeast Sci. & Technol, Taylor *et al*., 2000;
- A Guide to Translate Northwestern Ontario Ecosites into “Ecosites of Ontario”, Science and Information Resources Division, NWSI Tech. Note TN-48, 2012;
- The Canadian Wetland Classification System, Second Edition, National Wetlands Working Group, 1997;
- Forest Research Partnership ELC Papers and Fact Sheets (e.g., Draft v2.0 - Boreal Treed Vegetation Types 2015);
- Ontario Wetland Evaluation System, Northern Manual, 1st Edition, Version 1.2, 2013;
- Sampling Design Tool for ArcGIS Instruction Manual,.Buja, K., and C. Menaz. 2013. NOAA/NOS/NCCOS/CCMA Biogeography Branch;
- Spatially Balanced Sampling through the Pivotal Method. Biometrics Grafström, A., N. L. P. Lundström, and L. Schelin. 2012. 68:514-520;
- Impact Assessment Agency of Canada. 2020. Webequie Supply Road Project: Tailored Impact Assessment Guidelines;
- Spatially balanced sampling designs for environmental surveys. Environmental Monitoring and Assessment Kermorvant, C., F. D’Amico, N. Bru, N. Caill-Milly, and B. Robertson. 2019. 191:524;
- Landscape Scripting Language Ontario Ministry of Natural Resources, Centre for Northern Forest Ecosystem Research Kushneriuk, R. S., and R. S. Rempel. 2011. LSL, Thunder Bay, Ontario;
- Ontario Ministry of Natural Resources and Forestry [MNRF]. 2014. Far North Land Cover Data Specifications Version 1.4. <https://data.ontario.ca/dataset/8afe0aa1-6d6f-402f-8f7a-04f90d733432/resource/8c90d397-93e2-442c-8745-a93e5087eb65/download/far_north_land_cover_-_data_specification.pdf >. Accessed;
- R_Documentation. 2021. grts function - RDocumentation. <https://www.rdocumentation.org/packages/spsurvey/versions/4.1.4/topics/grts >. Accessed;
- Stevens, D. L., and A. R. Olsen. 2004. Spatially Balanced Sampling of Natural Resources. Journal of the American Statistical Association 99:262-278;
- All Season Community Road Study – Final report, (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation, June 2016);

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- McFaulds Lake Project - Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates, February 2010);
- McFaulds Lake Project - Report On Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates, September 2010);
- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates, February 2011);
- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront, December, 2013); and
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation, January 2018).

5.4.1.10.2 Vegetation and Wetland Community Mapping

To complete mapping of existing vegetation and wetland types in the LSA and RSA source data was obtained from the Land Information Ontario (LIO) wetland, watercourse/waterbody data sets, the Far North Land Cover (FNLC), and Provincial Disturbance mapping. Digital satellite imagery was sourced from the ArcGIS base maps. It was determined that the LIO wetland and watercourse/waterbody data provided the most accurate starting point for wetland feature refinement, since it generally agreed with the Far North Land Cover data, while providing more detailed delineation of both the wetlands and waterbody features. Areas of “no data/unknown” in the LIO wetland and watercourse/waterbody data were populated with the values from the Land Cover dataset, where applicable.

Further delineation and typing of the vegetative units/polygons within the LSA and RSA were conducted by refining published Far North Land Cover and LIO wetland data, using aerial photo interpretation (published satellite imagery and LiDAR imagery acquired in 2019), in combination with available terrain mapping (J.D. Mollard and Associates (JDMA), March 2019), topography, and surficial geology data.

The terrain mapping and LiDAR imagery used for the vegetation and wetland mapping originated from the terrain analysis study conducted by J.D. Mollard and Associates in 2019 (Terrain Analysis, Potential Aggregate Sources & Identification of Route Alternatives, Draft). The corridor study covered the majority of the LSA, but did not cover the RSA. The mapping of vegetation involved the interpretation of remotely sensed imagery (air photos and satellite images) and digital elevation data, supplemented with surficial geology, hydrology, and land cover data, to characterize the landforms, surficial materials, topography, hydrology, etc. Geospatial data sources available for the vegetation and wetlands component were compiled in a geographic information system (GIS) and terrain units were manually digitized over base layers of imagery (air photos and satellite) and elevation data (elevation, shaded relief, and slope rasters). Terrain units were mapped and classified according to a legend developed for this area based on a compilation of previous reports and existing mapping (JDMA, 2010). Terrain units that were mapped during the terrain mapping process include:

- Till and glacial lake clay;
- Silty till;
- Ice-contact glaciofluvial deposits (kames and eskers);
- Alluvial floodplain;
- Domed bog;
- Northern plateau bog;
- Net bogs;
- Treed bog;
- Thermokarst bog (collapse scar bog);
- String fen;

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- Ladder fen);
- Channel fen;
- Watertrack fen; and
- Horizontal fen.

Modelling of vegetation was rejected in favour of visual delineation and typing by experienced biologists either conducting the field programs, or with extensive experience typing vegetation in the region.

5.4.1.10.3 Field Surveys

Vegetation and wetlands field Surveys were conducted in spring, summer and fall of 2019, and 2020, as well as summer survey of 2021.

The site selection process to support the field surveys in 2019 was done manually by Project Team vegetation specialists to verify delineations and typing of selected units. Following the receipt of the TISG from IAAC February 2020, this approach was revised for the 2020 field season to a utilize a Stratified Random Sampling selection process. Details on site selection for 2019, 2020 and 2021 field surveys are provided in the Draft Natural Environment Existing Conditions Report for the WSR Project (SNC-Lavalin, June 2022).

- 101 sites were sampled within the LSA, representing 30 different ecosites. Randomized stratified sampling was applied to selection of sample sites and abundance and distribution modelling was completed.
- Surveys included species composition (percent cover) of canopy and sub-canopy trees, understory shrubs and tree regeneration, as well as dwarf shrubs, herbaceous vegetation, and moss/lichen cover.
- Soil investigation at each sampling point to establish whether soils were organic, or mineral, as well as the texture of any mineral soils and other metrics (pH).

5.4.1.10.4 Ecosystem Classification

Based on the field data, each site was assigned an ecosite classification based on the Boreal manual. As surveyors inventory each polygon, a complete list of all vascular plants observed were collected. These sampled units/polygons were then compared to the current mapped vegetation classifications to calculate the level of certainty/error between known and projected classifications.

Upland ecosystem surveys were conducted at accessible representative sites of deciduous, mixed, conifer, exposed bedrock, and meadow composition. Each sample location survey was conducted in alignment with the ELC data requirements using Ontario Parks datasheets for Vegetation Plot Layers, and Groundcover/Substrate Plot Information.

Wetland vegetation surveys were conducted at accessible representative sites of open/treed bog, open/treed fen, tree and thicket swamp, and marshes. Each sample location survey was conducted in alignment with the ELC data requirements using Ontario Parks datasheets for Vegetation Plot Layers, and Groundcover/Substrate Plot Information. In more open wetlands, 1 m quadrat sampling was conducted to accurately establish dominance and cover and inform the determination of the function and conservation status of the wetland types at a local, regional, and provincial level.

Riparian vegetation surveys were conducted at accessible representative sites using the appropriate methods and data collection parameters listed above, depending on the interface type encountered (upland/wetland). Particular attention will be given to the aquatic/terrestrial interface to determine the hydrologic form, and subforms, in accordance with The Canadian Wetland Classification System (National Wetland Working Group, 1998).

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5.4.1.10.5 Surveys for Plant Species of Conservation Concern

Where feasible, transect or cruising surveys were conducted in conjunction with vegetation community plot surveys, at all sample locations, in order to develop a comprehensive list of species present in each unit. Any species encountered during these or any other activities were also identified and recorded in field notes for a location and added to the list of project area species.

Plant species of conservation concern, including listed species of risk under the Ontario *Endangered Species Act* and federal *Species at Risk Act* were searched for during all field survey activities, along with the collection of data used to support and assessment of rare/listed species potential. A list of plants with the potential to be present in the study area were generated based on previous studies, as well as a review of updated databases (NHIC, COSSARO, COSEWIC) and legislation (Ontario *Endangered Species Act*, federal *Species at Risk Act*). Plants listed on NHIC under designations S1-S3 were also included in the list. Descriptions and photos of these species, as well descriptions of potential community characteristics, were provided to field staff to facilitate the likelihood of opportunistic sightings during normal field activities. Targeted selection of sample locations were also applied to vegetation communities with the potential for species of concern. If located, photos and GPS coordinates were recorded, along with a description of the surrounding site environmental characteristics. All species at risk data collected during field surveys were provided to MECP's Species at Risk Branch and MNRF's Natural Heritage Information Centre (NHIC).

5.4.1.10.6 Wetland Function Assessment

A wetland function assessment was completed as part of the characterization of existing conditions for Vegetation and Wetlands. To conduct the wetland functions assessment, a preliminary review of reference material, such as current wetland delineation and typing data, soil data, topography, watersheds, waterbody interactions (e.g., shorelines, inlets, outlets), upland interactions/land uses, and aerial photographs, were conducted. This review was used to derive the initial wetland mapping within the LSA, and RSA. Vegetative field surveys were used to iteratively refine/confirm delineation and typing.

A combination of Level 1, 2 and 3 assessments were used, including the Minnesota Routine Assessment Method (MnRAM) Evaluating Wetland Function, (Version 3.4, 2000), in combination with the field data collection requirements of the Wisconsin Wetland Rapid Assessment Methodology (Version 2.0, WDNR, 2014), and the Canadian Wetland Classification System (CWCS) to ensure that assessment level 3 form, vegetation and habitat data, were collected during the vegetation field surveys. The CWCS type designations were applied for the purposes of the final Wetland Functions Assessment. Non-vegetative parameters/data were acquired from the respective project programs/disciplines (e.g., hydrologic, water quality, hydrogeologic and wildlife). The following preliminary list of wetland values were identified for the Wetlands Function Assessment.

- Vegetative Diversity/Integrity;
- Biological Productivity;
- Maintenance of Characteristic Hydrologic Regime;
- Flood/Stormwater/Attenuation;
- Groundwater Interactions;
- Maintenance of Characteristic Wildlife Habitat Structure;
- Maintenance of Characteristic Fish Habitat;
- Maintenance of Characteristic Amphibian Habitat;
- Aesthetics/Recreation/Education; and
- Commercial Uses.

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5.4.1.10.7 Biodiversity

A characterization of baseline biodiversity was completed for Vegetation and Wetlands. The biodiversity indicators selected for characterizing the baseline vegetation biodiversity, within the study areas, were based on a review of existing published data, and field data collected during the 2019, 2020 and 2021 field programs. Baseline biodiversity were characterized at three levels:

- Species level biodiversity;
- Community level biodiversity; and
- Landscape Level Biodiversity and Fragmentation.

5.4.1.10.8 Invasive Species

Invasive species were recorded during all vegetation and wetland filed surveys within the LSA and RSA. The Ontario list of tracked invasive species and the NHIC species list, which tracks introduced species were used to determine the status of each species observed. All locations of invasive species were recorded during all field survey activities.

5.4.1.11 Terrestrial Habitat and Wildlife

5.4.1.11.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Terrestrial Habitat and Wildlife:

- Aerial photography;
- Natural Heritage Reference Manual (MNR 2010a);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNR 2010b);
- Significant Wildlife Habitat Technical Guide (MNR 2000);
- Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015a, 2017a);
- Natural Heritage Information Centre (MNRF 2021);
- Provincial Park Management Plans and Life Science Reports (various dates);
- eBird databases (eBird 2021);
- Ontario Mammal Atlas (Dobbyn 1994);
- Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006);
- Herps of Ontario (iNaturalist 2021);
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregion (Crins et al. 2009);
- ArcGIS World Topographic Map (Environmental Systems Research Institute 2016);
- All-Season Community Road Study – Final report (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation 2016);
- McFaulds Lake Project – Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010);
- 2009 Baseline Bird and Habitat Survey - McFaulds Lake and the Muketei River (Ring of Fire) Area (AECOM 2010);
- McFaulds Lake Project – Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010a);
- McFaulds Lake Project - Report on Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates 2010b);

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- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates 2011);
- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront 2013);
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation 2018);
- Ontario Ministry of Energy, Northern Development and Mines (MENDM) publications;
- Communications: Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Communications/Publications: Ontario Ministry of Natural Resources and Forestry (MNRF); and
- Other relevant species/subject-specific publications from various sources.

5.4.1.11.2 Wildlife Habitat Surveys and Classification

The Significant Wildlife Habitat Technical Guide (MNR 2000) defines SWH as “ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System”. The Project occurs within Ecoregion 2W; however, no SWH criteria guide exists for this ecoregion.

Based on the proximity of the Project within the Province to Ecoregions 3E, and 3W to the south, the supporting documents for these Ecoregions (MNRF 2015a, 2017a) were used to select which SWH were prioritized during baseline condition studies.

5.4.1.11.3 Survey Site Selection

The site selection process to support the field surveys in 2019 and 2020 for terrestrial habitat and wildlife was done manually by the Project Team. Following the receipt of the TISG from IAAC in 2020, this approach was revised for the 2021 field season to a utilize a modelled stratified random sampling selection process.

5.4.1.11.4 Geomatics and Habitat Typing

The vegetation classification program (refer to **Section 5.4.1.10.3**) supported the terrestrial wildlife program habitat classification process. For that program, original source data were obtained from the most recent Land Information Ontario (LIO) Wetland, Watercourse/Waterbody dataset and the Far North Land Cover files. Digital satellite imagery was sourced from ArcGIS base maps. It was determined that the LIO wetland and waterbody data provided the most accurate starting point for wetland feature refinement since it generally agreed with the Far North Land Cover data while providing more detailed delineation of both the wetlands and waterbody features. Areas of no data/unknown in the LIO wetland and waterbody datasets were filled in with the values from the Far North Land Cover dataset, where applicable.

The supply road Alternatives Routes 1 and 2 within the preliminary proposed corridor were buffered to 1 km for the LSA, and 5 km for the RSA, and then superimposed over the resulting mapping. Within the RSA, a desktop aerial interpretation survey of the forests, wetlands, lakes, and rivers was conducted to refine and re-delineate all feature class polygons. An initial vegetation type definition was applied based on published sources and available satellite imagery. The definition of the polygons within the data set were further refined to coarse ecosites, such as Shrub Bog, Conifer Forest, and Treed Fen. These combined and revised data were used as the new baseline for the selection of sample points for the 2019 field season and additional refinement.

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The second round of refinement of the baseline data resulting from step one was done within the LSA at a smaller scale using additional LiDAR imagery and elevation data gathered by J.D. Mollard and Associates (2016). These data, as well as the results of the 2019 summer field surveys, were used to provide additional accuracy in defining ecosites and their boundaries within the LSA. Data from the field survey were treated as the most accurate and were used to refine the classification of the polygons in which they were located; these classifications were then extrapolated to other polygons with similar visual characteristics, but not to the same degree of specificity. For example, a point may suggest an area as a specific conifer forest type, but visually similar areas separated from the polygon in which the point is located would be labelled only to Conifer Forest, since information such as soil type, a key determinant of ecosite classification, is unavailable at this time. These data were updated as additional field surveys were completed and more data collected.

Habitat type was characterized at each distinct survey station visited during baseline studies. To support characterization at these locations, each site was documented with a total of 13 photos, including four different perspectives photographed at each cardinal direction (north, east, south, west):

- One photograph at shoulder height with arm and camera extended parallel to ground;
- One photograph with arm at 45 degrees (from body position) pointing down;
- One photograph with arm extended at 135 degrees (from body position) pointing up; and
- One photograph with arm extended vertically.

Photos were interpreted by qualified individuals according to MNRF Ecosites of Ontario: Boreal Range ELC system, and/or the Canadian Wetland Classification System. To the extent possible, all candidate survey sites were attributed to a 100-m buffer around the site centroid. Areal coverage and percentage of each land cover class were assigned to sites. These values were then used as inputs to evaluations of representative habitat.

5.4.1.11.5 Field Surveys

A summary of field surveys conducted for Terrestrial Habitat and Wildlife is provided in **Table 5-13**.

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Table 5-13: A Summary of Terrestrial Wildlife Field Surveys Conducted

Survey Type	Dates Conducted	Extent of Survey Effort	Notes
Winter Aerial Survey	February 22 – 28, 2018 February 9 – 13, 2019 February 24 – March 1, 2021	• 59 transects (2,666 linear km) • 39 transects (1,776 linear km) • 47 transects (1,260 linear km)	• 2018 survey was conducted across larger survey area to increase representation within Oziski Caribou Range. • No survey was conducted in 2020, as MECP indicated that additional Caribou survey effort should include collaring. • 2021 winter aerial survey was initiated, in part, as a search exercise in support of Caribou capture for the collaring study.
Bat Hibernacula Screening	May 27-28, 2019	• Reconnaissance flights within Bat LSA	• Included search for habitat features that might provide hibernaculum habitat, such as rock outcrops, cliffs, rocky shorelines.
Bat Acoustics Recording	June 13 – July 5, 2019 June 7 – October 15, 2020	• 4 survey stations • 9 survey stations	• In 2019, this survey focussed on limited deciduous/mixed forest features that were most likely to have cavity trees. • Survey expanded across LSA in 2020 to cover greater extent of the study area.
Breeding Bird Point Counts	June 5 – June 30, 2019 June 5 – July 1, 2020	• 113 survey stations at 15 point count clusters • 263 survey stations at 24 point count clusters	• In 2019, survey focused on sampling all habitat types within LSA. • In 2020, survey was expanded to increased total sample size across LSA and RSA, including prospective aggregate extraction areas.
Bird Acoustic Recording	May 11 – November 23, 2020 May 11 – November 6, 2021	• 70 total survey stations • 82 total survey stations	• In 2020, survey focused on sampling all habitat types within LSA. • In 2021, number of sampling stations was expanded to improve total study area and habitat coverage. • 87 total ARU stations sampled between 2020 and 2021.
Aerial Waterbird Survey	May 27-28, 2019 May 10, 2020 May 13, 2020 May 17, 2020 June 6, 2020 September 1, 2020 October 4, 2020	• All waterbodies within general LSA	• In 2020, survey focused on sampling all wetland habitat within LSA. • In. 2020, number of sampling replications was expanded to improve overall breadth of sampling.

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5.4.1.12 Species at Risk

5.4.1.12.1 Review of Secondary Source Information

The following sources were used to gather background information with regards to SAR and their habitat within the LSA and RSA:

- Aerial photography;
- Natural Heritage Reference Manual (MNR 2010a);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNR 2010b);
- Significant Wildlife Habitat Technical Guide (MNR 2000);
- Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015a, 2017a);
- Natural Heritage Information Centre (MNRF 2021);
- Provincial Park Management Plans and Life Science Reports (various dates);
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) species status reports (various dates);
- eBird databases (eBird 2021);
- General habitat description for the Forest-dwelling Woodland Caribou (Ontario 2020a);
- Species at Risk in Ontario (SARO) List (Ontario 2020b);
- Ontario's Woodland Caribou Conservation Plan (MNR 2009);
- Ontario Mammal Atlas (Dobbyn 1994);
- Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006);
- All-Season Community Road Study – Final report (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation 2016);
- McFaulds Lake Project - Airphoto Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010);
- 2009 Baseline Bird and Habitat Survey - McFaulds Lake and the Muketei River (Ring of Fire) Area (AECOM 2010)
- McFaulds Lake Project - Airphoto Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010a);
- McFaulds Lake Project - Report on Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates 2010b);
- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates 2011);
- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront 2013);
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation 2018);
- Ontario Ministry of Energy, Northern Development and Mines (MENDM) publications;
- Communications: Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Communications/Publications: Ontario Ministry of Natural Resources and Forestry (MNRF); and
- Other relevant species/subject-specific publications from various sources.

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5.4.1.12.2 Field Surveys

Field studies for SAR included a variety of survey types designed to capture evidence of presence and habitat use of particular species. A summary of the details for field surveys conducted for the purpose of SAR baseline data collection for the Project are described in **Table 5-14**.

Table 5-14: A Summary of Species at Risk Field Surveys Conducted

Survey Type	Dates Conducted	Extent of Survey Effort	Notes
Winter Aerial Survey	• February 22 – 28, 2018 • February 9 – 13, 2019 • February 24 – March 1, 2021	• 59 transects (2,666 linear km) • 39 transects (1,776 linear km) • 47 transects (1,260 linear km)	• 2018 survey was conducted across larger survey area to increase representation within Oziski Caribou Range. • No survey was conducted in 2020, as MECP indicated that additional Caribou survey effort should include collaring. • 2021 winter aerial survey was initiated, in part, as a search exercise in support of Caribou capture for the collaring study.
Caribou Nursery Habitat Survey	• June 12-17, 2020 • July 2-9, 2020	• 74 candidate sites	• Survey requested by MNRF in 2020. • Conduced on ground, where accessible and from air when inaccessible.
Caribou Collaring Study (capture)	• February 25, 2021 – March 6, 2021	• 29 female Caribou	• Initial sample size of 30 Caribou was identified for capture; however, one collar was not fit for deployment.
Wolverine Occupancy Study	• 25 survey stations	• February 9 – May 12, 2021	• On-going into 2022.
Bat Hibernacula Screening	• May 27-28, 2019	• Reconnaissance flights within Bat LSA	• Included search for habitat features that might provide hibernaculum habitat, such as rock outcrops, cliffs, rocky shorelines.
Bat Acoustics Recording	• June 13 – July 5, 2019 • June 7 – October 15, 2020	• 4 survey stations • 9 survey stations	• In 2019, this survey focussed on limited deciduous/mixed forest features that were most likely to have cavity trees. • Survey expanded across LSA in 2020 to cover greater extent of the study area.
Breeding Bird Point Counts	• June 5 – June 30, 2019 • June 5 – July 1, 2020	• 113 survey stations • 258 survey stations	• In 2019, survey focused on sampling all habitat types within LSA. • In 2020, survey was expanded to increased total sample size across LSA and RSA, including prospective aggregate extraction areas.
Bird Acoustic Recording	• May 11 – November 23, 2020 • May 11 – November 6, 2021	• 70 survey stations • 82 survey stations	• In 2020, survey focused on sampling all habitat types within LSA. • In 2021, number of sampling stations was expanded to improve total study area and habitat coverage.

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5.4.2 Socio-economic Environment

5.4.2.1 Review of Secondary Source Information

Various publicly available sources such as land use plans, websites and reports have been reviewed to characterize the socio-economic environment and the results will be documented in the Draft Socio-Economic Environment Existing Conditions Report that is currently in preparation. A detailed list of references will be included in the report. The following secondary sources of information were reviewed to inform socio-economic baseline conditions:

- Matawa First Nations Website, 2020;
- Mushkegowuk Council Website, 2020;
- Shibogama First Nations Council Website, 2020;
- Windigo First Nations Council. Community Map. Accessed July 2020;
- Independent First Nations Alliance Website 2020;
- Metis Nation of Ontario Website. Statement of Prime Purpose, 2020;
- Indigenous Relations and Northern Affairs Canada Statistics on First Nations, 2020;
- Statistics Canada Census Profiles, 2017;
- Community Well-Being index map available at Indigenous Services Canada, 2019;
- Kashechewan Health Website. Kashechewan Health Services. 2020;
- Northeast Health Line Website, 2020;
- Thunder Bay District Health Unit Website. About Us – Programs & Services. Accessed May 2020;
- Information on services from Town of Sioux Lookout Website. 2020;
- Information on services from Sioux Lookout First Nations Health Authority Website, 2020;
- Information on services from Geraldton District Hospital Website, 2020;
- Information on services from Township of Pickle Lake Website, 2020;
- Ontario Mining Association Website. 2020. Facts & Figures, May 2020;
- Independent Electricity System Operator Website, May 2020;
- Wataynikaneyap Power Website- Benefits, Accessed June 2020;
- Cameron, Grant. Daily Commercial News - $777-million northwestern Ontario transmission line project project works begin Available at: https://canada.constructconnect.com/dcn/news/infrastructure/2019/11/777-million-northwestern-ontario-transmission-line-project-works-begin. Accessed June 2020.
- Ontario. 2019. MNRF Forest Industry at a Glance Available at: https://files.ontario.ca/mnrf-ontario-forest-industry-map-2019-11-12-en.pdf. Accessed June 2020;
- Government of Canada. Indigenous Peoples and Forestry in Canada. Available at: Indigenous Peoples and Forestry in Canada (publications.gc.ca), 2016;
- First Nations push for greater share of forestry industry as policies evolve. Available at: First Nations push for greater share of forestry industry as policies evolve, CBC News, 2019;
- Forest Tenure Modernization. Available at: Forest tenure modernization, Government of Ontario, 2021;
- Webequie First Nation Website, Tourism. Accessed May 2021;
- Webequie Teen Plans Walk to Raise Money for Arena. Available at : https://www.cbc.ca/news/canada/thunder-bay/webequie-teen-plans-walk-to-raise-money-for-arena-1.3037962 . CBC, 2015;
- Teach for Canada. Welcome to Marten Falls / Ogoki Post First Nation Available at: https://teachforcanada.ca/en/wp-content/uploads/2017/09/Marten-Falls-WEB.pdf. Accessed May 2020;
- 211 Ontario North Website, 2021;
- Information on services from Constance Lake First Nation Website, 2020;
- Information on services from Mishkeegogamang First Nation Website, 2020;

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- Wild Wind Tours Website, 2020;
- Tourism Thunder Bay Website - See and Do. Accessed June 2020;
- Tourism Timmins Website. Accessed June 2020;
- Municipality of Greenstone Website. Visitors. Accessed June 2020;
- Nishawbe Aski Police Service Website. Accessed June 2020;
- Anishinabek Police Services Website, APS Organizational Structure. Accessed June 2020;
- Ontario Provincial Police Website, Indigenous Policing. Accessed June 2020;
- Statistics Canada Website. Canadian Community Crime Tracker. Accessed 2020;
- Thunder Bay Police Service Website. Accessed June 2020;
- Information on services from City of Thunder Bay Website. Accessed June 2020;
- Information on services from Ontario Provincial Police Website. Accessed June 2020;
- Timmins Police Service Website. Accessed June 2020;
- Information on services from City of Timmins Website. Accessed June 2020;
- Ministry of Northern Development and Mines. Northern Ontario Winter Roads Map (2020). Accessed June 2020;
- Wasaya Website. Accessed June 2020;
- North Star Air Website. Accessed June 2020;
- Nakina Air Service information from Centre for Aviation Website. Accessed June 2020;
- Leuenberger Air Service Website. Accessed June 2020;
- Thunder Airlines. Accessed June 2020;
- SkyCare Website. Accessed June 2020;
- AirCreebec Website. Accessed June 2020;
- Sioux Lookout Municipal Airport Website. Accessed June 2020;
- Thunder Bay Airport Website. Accessed June 2020;
- National Assessment of First Nations Water and Wastewater Systems - Ontario Regional Roll-Up Report, Indigenous Services Canada Website, 2011;
- Remaining long-term drinking water advisories, Indigenous Services Canada Website, 2021;
- Update on Weenusk Drinking Water, Indigenous Services Canada Website, 2019;
- Hydro One Website. Remote Communities at a Glance, 2021;
- Hydro One Website. First Nations – Reliability Performance Overview, 2018;
- Five Nations Energy Inc. Website, 2021;
- Government of Ontario. Small landfill sites list, 2021;
- Webequie Community Based Land Use Plan Terms of Reference, 2014;
- Webequie First Nation Community Well-being Baseline Study Summary, 2014;
- Webequie First Nation On-Reserve Land Use Plan, 2019.
- Webequie First Nation Draft Comprehensive Community Plan, 2021;
- Webequie First Nation Community Based Land Use Plan. 3 V 4.3. 4 “Webequie Anishininniwuk Ahki Ohnahchiikaywin”. Prepared by WFN, 2019; and
- Webequie First Nation Housing Assessment. n.d.

5.4.2.2 Surveys and Baseline Studies

The results of baseline data collection and analysis will be presented in the Draft Socio-Economic Environment Existing Conditions Report. The completed and planned studies and surveys are as follows.

Profiles of Indigenous Communities:

- Population/Demographics;
- Education/Employment;
- Household Composition; and
- Infrastructure and Social Services.

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5.4.2.2.1 Key Informant Interviews and Focus Group Sessions

As part of primary data collection, key informant interviews have been conducted with individuals who have special knowledge or information regarding socio-economic topics such as social/health services, infrastructure, economic development and housing. To date, 12 interviews have been conducted with Webequie informants (Chief & Council, Health Director, School Principal, Department Directors etc.) in winter/spring 2022. Some of them were conducted virtually and while others were conducted in-person during the May 2022 community visit. More interviews with other Webequie informants (including Child & Family Services and Police & Emergency Services representatives) and in other communities will be planned based on interest and availability to participate. Key informant interviews with other communities, focusing on those within the LSA for the Project, will also be conducted where there is interest and availability to participate.

Two focus group sessions were conducted in Webequie in May 2022. One focus group focused on women while the other focused on youth. Upcoming focus groups in Webequie First Nation will focus on Elders, land users/knowledge keepers, off-reserve community member and other groups as necessary in Webequie. Focus groups will be organized in other communities based on interest and availability.

5.4.2.2.2 Surveys

As part of the socio-economic program an invitation was sent to all Indigenous communities in December 2021 requesting their interest to participate in primary data collection, which includes a socio-economic survey. To date the socio-economic survey has been administered online via SurveyMonkey and in person at community drop-in sessions with survey administrators present. The survey links were also made available on social media. The survey questions focused on demographics (i.e., age, gender, income, education, employment, housing, health, safety). At present, approximately 250 surveys have been completed by Webequie community members during summer/fall 2021. Survey for other communities will be conducted based on interest and availability.

5.4.2.2.3 Land and Resource Use (Non-Indigenous)

The review of community land use plans, provincial and federal policies and plans has been done to look at the compatibility of land uses. Spatial data on existing land uses, proposed land uses, consultation and engagement will also inform land and resource use baseline.

5.4.2.2.4 Indigenous Knowledge and Land and Resource Use

One of the key objectives of the ongoing Indigenous Knowledge and Land and Resource Use (IKLRU) Program is to engage identified Indigenous communities to gather information and characterize baseline conditions. Literature review and desktop research will be followed by community led studies to collect IKLU information. All the information and results will be captured in the baseline section of the EAR/IS.

5.4.3 Human Health and Country Foods

5.4.3.1.1 Baseline Study

A baseline community health profile is being developed to understand the current overall health status of affected communities, with primary focus on Webequie First Nation. It will provide a benchmark for assessing potential health effects arising from the Project. Health information is being collected using the study methods described below.

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5.4.3.1.2 Surveys

- Two surveys have been developed: a Human Health Survey and a Country Foods Survey; and
- Approximately ten (10) surveys were completed in person during the May 2022 community visit, with survey administrators present – more surveys will be completed via SurveyMonkey and at future in-person community sessions in Webequie.

5.4.3.1.3 Focus Groups

Health questions have been integrated into the ongoing socio-economic focus groups (including the women and youth focus groups that occurred in Webequie during the May 2022 community visit) – health questions will also be posed at upcoming focus groups tentatively scheduled for August 2022.

- Key Informant Interviews.

Health questions have also been integrated into the ongoing key informant interviews (including interviews with the Health Director and Councillors) during the May 2022 community visit. Future health-specific interviews will be arranged and conducted in August 2022.

5.4.4 Visual Environment

5.4.4.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to help characterize the visual environment:

- Indigenous Knowledge information obtained through consultation with Indigenous communities will be reviewed, and dated information will be updated as required;
- LiDAR-derived Digital Terrain Model (DTM) for 2 km wide road corridor, 2017;
- Physiographic/landscape data, including ecozones, ecodistricts (Land Information Ontario, LIO);
- ELC mapping, where available;
- Ontario Provincial Digital Elevation Model (DEM, 30 m resolution) - North, 2013 (obtained from Land Information Ontario, LIO);
- High-resolution (15 cm) aerial imagery, obtained Oct 6-10, 2017; and
- Ontario provincial land cover data, 2000 (Land Information Ontario, LIO).

5.4.4.2 Visual Quality Baseline Characterization - Preliminary Visibility Analysis

A preliminary visibility analysis has been completed and the following preliminary viewpoints were identified by the Project Team in consultation with Webequie First Nation:

- Winisk Lake Crossing (east of the Webequie settlement, a multi-span bridge);
- Winiskisis Channel (single span bridge);
- Muketei River (single span bridge); and
- A viewpoint from a high elevation landscape point in proximity to the proposed road corridor.

5.4.4.3 Initial Community Consultation for Preliminary Viewpoint Identification

Through consultation and engagement activities the Project Team is looking to confirm the preliminary identified viewpoints and to identify potential locations from which to assess the visibility of all temporary and permanent, project-related infrastructure. Such locations could include:

- Vistas / locations of relatively high altitude (i.e., heights of land);
- Commonly navigated and recreationally used waterbodies and watercourses;

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- Important views to and from culturally significant locations, including, for example:
  - Regularly navigated waterways;
  - Sacred hills;
  - Other spiritually significant locations;
  - Gravesites;
  - Camps / hunting blinds;
  - Harvesting areas (plants and animals); and
  - Recreation use and/or Outfitter/Tourism areas.

These consultation and engagement activities (i.e., community meetings, etc.) are ongoing.

5.4.5 Cultural Environment

5.4.5.1 Cultural Heritage Desktop Data Collection Report

A Draft Cultural Heritage Desktop Data Collection Report was completed in March 2022 for the Project (Archaeological Services Inc, 2022).

All work has been undertaken per applicable regulatory requirements, including the following:

- Impact Assessment Act (2019) & Environmental Assessment Act (1990);
- Ontario Heritage Act (1990);
- Planning Act (1990);
- Standards and Guidelines for Conservation of Provincial Heritage Properties (2010); and
- Ontario Heritage Tool Kit (2006).

Polices related to cultural heritage resources were reviewed from the following sources: WFN On-Reserve Land Use Plan (2019); and Draft WFN Community Based Land Use Plan, v. 42 (2019).

To identify previously identified, known, or potential Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs) within the study area, the following methods were used:

- Review of Existing Heritage Inventories (including provincial, federal, and UNESCO resources/ registers);
- Review of Previous Heritage Reporting (including MECP's Winisk River Provincial Park Management Strategy (2021));
- Stakeholder Data Collection (including contacting MHSTCI, Ontario Heritage Trust, and Ontario Parks for information gathering purposes); and
- Indigenous Knowledge (IK) and Community Land Use Plans (WFN IK was available at the time of the report and other IK gathering with other communities is currently underway by the Project Team and will be integrated, where applicable).

From the desktop analysis a number of potential CHLs have been identified in the study area. CHLs are defined as a geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the Ontario Heritage Act or have been included on federal and/or international registers, and/or protected through official plan, zoning bylaw, or other land use planning mechanisms" (Government of Ontario 2020:42).

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The results presented in the desktop report are preliminary and include potential CHLs within the LSA. Additional BHRs or CHLs may be identified as part of further consultation and validation with Webequie First Nation and other First Nations with an interest in the Project. Once the preferred alternative is selected, the baseline report will be updated with a description of existing conditions and a summary of known and potential BHRs and CHLs in the study area. A preliminary impact assessment will also be conducted to assess the preferred route including supportive infrastructure (e.g., access roads, construction camps, laydown sites, and aggregate extraction areas), once selected.

5.4.5.2 Stage 1 Archaeological Assessment

A Draft Stage 1 Archaeological Assessment Report has been completed for the Project (Archaeological Services Inc. April 2022.

The Stage 1 Archaeological Assessment has been prepared to meet the requirements of TISG and in accordance with Ontario Ministry of Tourism, Culture and Sport (MTCS) *Standards & Guidelines for Consultant Archaeologists* 2011. The Stage 1 Archaeological Assessment involved a review of background information sources and Indigenous Knowledge from WFN to provide information on the study area's archaeological and land use history in order to evaluate the property's archaeological potential. The report includes information related to:

- Development context (i.e., treaties and traditional territories);
- Historical context (i.e., Indigenous land use and settlement, pre-contact settlement, map/aerial review); and
- Archaeological context (i.e., current land use, geography, and previously registered archaeological sites and assessments).

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the study area (i.e., LSA). Results of the analysis of the study area and background research are presented in the report and will be used to support the evaluation of alternatives and effects assessment of the Project on potential archaeological resources in the study area. The report also includes recommendations for further assessment (i.e., Stage 2 Archeological Assessment) for areas with high archaeological prior to any proposed construction activities and that this assessment be conducted in accordance with the Ministry of Tourism, Culture and Sport 2011 *Standards and Guidelines for Consultant Archaeologists*.

The findings and recommendations in the draft report are subject to further engagement and consultation with Indigenous communities, including validation with WFN, and approval from MTCS.

5.5 Determination of Final Project Components

The Project Team has made major advances in the alternatives assessment that is being used to determine the final project components (i.e., Project Footprint/Project Development Area) that will be carried through the impact assessment as the Preferred Alternative. To date, the Project Team has defined the purpose of the Project, need for the Project, "alternatives to" the Undertaking/Project, which have been previously documented and described in the federal Detailed Project Description and provincial EA ToR. Currently, the Project Team are in the process of completing the preliminary assessment of "alternative methods" of carrying out the Project including:

- Identifying the potential environmental, health, social and economic effects of alternative means of carrying out the designated project that are technically and economically feasible;

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- Elements of each alternative means and the associated adverse and positive environmental, health, social or economic effects or impacts on rights of Indigenous peoples, as identified by the Indigenous group(s);
- Identification of the preferred alternative means of carrying out the project based on the consideration of environmental, health, social and economic effects, and of technical and economic feasibility and through the use of best available technologies;
- Defining the methodology and criteria used to determine the preferred alternative means and the unacceptability of excluded alternative means, including consideration of trade-offs associated with the preferred and alternative means; and
- Establishing criteria to examine the environmental, health, social and economic effects of each remaining alternative means to identify a preferred alternative.

5.5.1 Summary of Assessment of Alternatives to the Undertaking

To date, the Assessment of Alternatives to the Undertaking has been completed and presented in the provincial EA ToR and federal Detailed Project Description, and is not repeated in this report, however a high-level summary is provided.

The range of “alternatives to” the Undertaking (i.e., functionally different ways of approaching the opportunities identified by WFN to improve the community’s economic and social well-being) was limited by the primary objectives of the Project (“Need for the Project”), as determined by WFN:

- Establish an all-season corridor that will facilitate the movement of materials, supplies and people between the Webequie Airport and the mineral exploration and proposed mine development activities in the McFaulds Lake area of Northwestern Ontario (specifically, the camps, the drilling/exploration projects and, in the future, mining facilities);
- Provide enhanced employment and other economic development opportunities to Webequie community members, while also allowing them to continue to reside in or around their community’s traditional territory, engage in traditional uses of that land, and preserve their language and culture; and
- Provide experience/training opportunities for youth to help encourage pursuit of additional skills through post-secondary education.

For transportation projects, alternatives to the Undertaking generally include new or improved roads, new or improved rail service, air service or public transit service, alternative transportation methods for goods movement (e.g., airships and hoverbarges in this case), managing travel demand to influence how and when trips are made, modified/reduced need for travel by encouraging the use of alternatives to trip making (e.g., telecommuting, videoconferencing, providing more medical services locally, providing more electronic access to training opportunities) and the null or “Do nothing” alternative.

The assessment of Alternatives to the undertaking for the Project included the following five options:

1. Do nothing;
2. Upgrade the existing trail system to seasonal winter road;
3. Alternative modes of transportation (hoverbarge, airship, rail);
4. Manage travel demand; or
5. New all-season road.

Having considered the balance of advantages and disadvantages of each alternative that was evaluated, the preferred alternative for the undertaking is the construction of a new all-season road between Webequie and the McFaulds Lake area. Details of the rationale for the selection of the preferred alternative for the undertaking will be included in the EAR/IS.

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In summary, developing a new all-season road between Webequie and the McFaulds Lake area is deemed to be the most reasonable alternative for the following reasons:

- It best addresses the project purpose and objectives, as stated by WFN, including providing new and enhanced opportunities to improve Webequie's economic and social well-being; and
- Given current and projected available resources (people and financing), it is the likeliest alternative to be within Webequie's technical and economic abilities to implement. Funding sources will be further explored in subsequent stages of project development.

The selected planning alternative is also consistent with provincial government plans and policies for growth and development in the region, including the Ring of Fire area.

In keeping with the focused approach to the provincial EA and the TISG, the preferred planning alternative (developing a new all-season road) will be carried forward to the evaluation of alternative methods of carrying out the Undertaking. The Null ("Do Nothing") Alternative was also be carried forward as a baseline condition to allow for comparison of impacts.

5.5.2 Identification and Evaluation of Alternative Methods of Carrying Out the Project

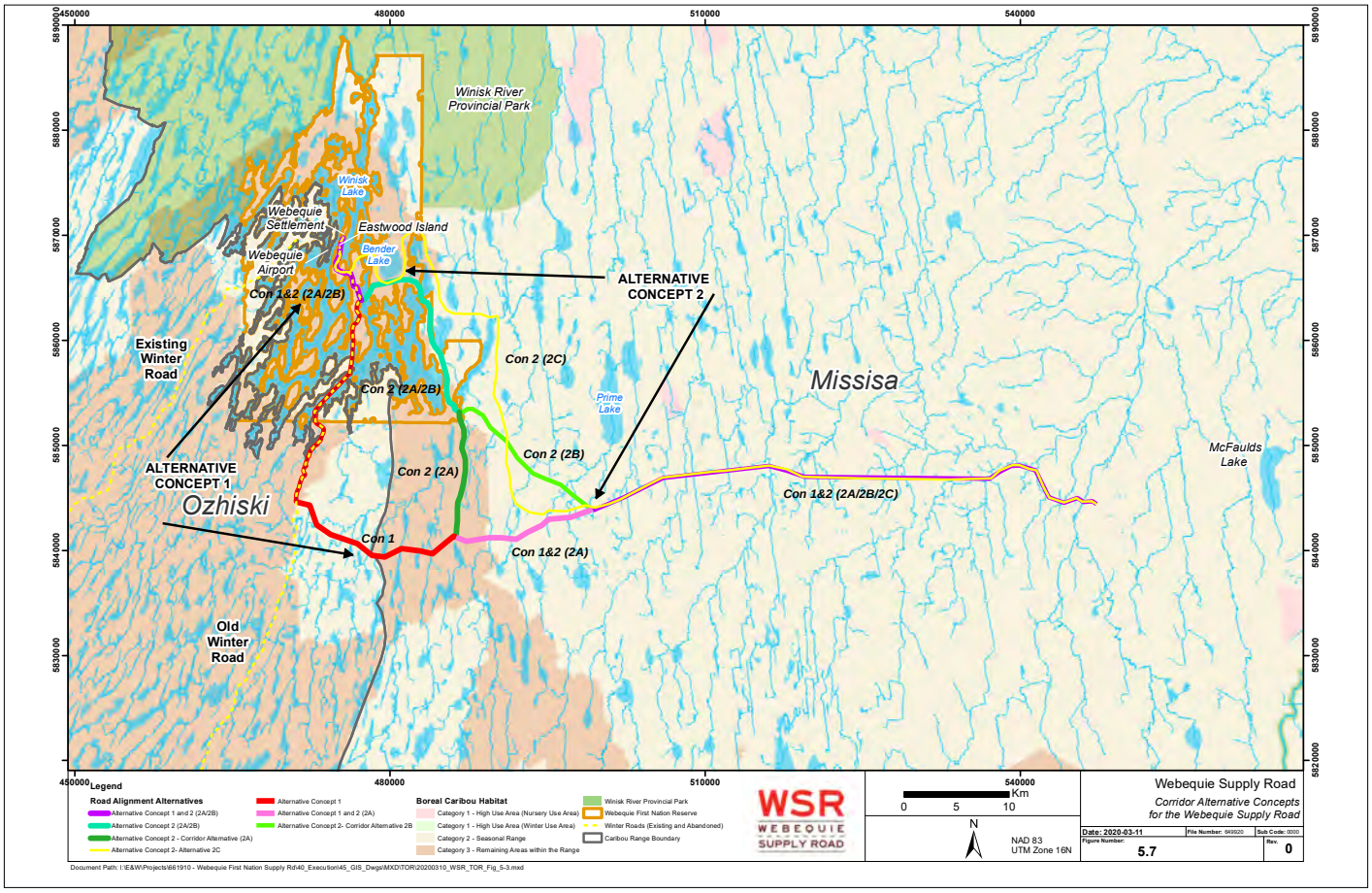
With the all-season supply road identified as the preferred alternative for the undertaking, the Project Team has initiated the assessment of alternative methods of carrying out the Project. This assessment has included analysis of historical road and transportation studies, followed by a series of comparative analyses using screening factors and criteria at an increasing resolution, moving from corridor to specific route (including supporting infrastructure such as temporary construction camps, aggregate sources and access roads).

To date, the initial assessment of alternative methods has been completed, as documented in the EA ToR and federal Detailed Project Description, and will be represented in the EAR/IS. In summary, this included an evaluation of alternative conceptual corridors (Alternative Concepts 1, 2A, 2B, and 2C) as shown in

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Figure 5-7, that were screened to identify a corridor upon which to focus investigations and alternatives during the EA/IA. The process for screening the alternative corridors included an assessment of the advantages and disadvantages of the alternatives against a set of factors that were identified based on both discussions with WFN community members as to project area features and sensitivities that may be affected by the Project and what constituted valued components from the outcome of several community meetings in 2017 and 2018, and criteria inherent in the broader definition of the environment, as required under the EA Act and in accordance with MECP's Codes of Practice. The outcome of this evaluation was the selection of a preliminary preferred development corridor (Alternative 2C – Webequie community preferred) of approximately 2 km in width to carry forward for more detailed identification and analysis of routing alternatives for the WSR, including supportive infrastructure. In addition, the Project Team completed an analysis of routing sub-alternatives that were based on soil and terrain conditions within the preliminary proposed corridor. From this analysis, the route alternatives carried forward for further evaluation and consultation in the EA/IA include: the Webequie First Nation community's preferred route (referred to as Alternative #1) for the supply road (35 m right-of-way width) along the centreline of the approximately 2 km wide preliminary corridor; and the optimal soil and terrain route (referred to as Alternative #2) within the same corridor.

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Winisk River Provincial Park
Winisk Lake
Webequie Settlement
Eastwood Island
Bender Lake
Webequie Airport
Con 1&2 (2A/2B)
ALTERNATIVE CONCEPT 2
Existing Winter Road
Con 2 (2C)
Con 2 (2A/2B)
Missisa
Prime Lake
Con 2 (2B)
McFaulds Lake
ALTERNATIVE CONCEPT 1
Con 2 (2A)
Con 1&2 (2A/2B/2C)
Ozhiski
Con 1
Con 1&2 (2A)
Old Winter Road
Legend
Road Alignment Alternatives
Alternative Concept 1 and 2 (2A/2B)
Alternative Concept 2 (2A/2B)
Alternative Concept 2 - Corridor Alternative (2A)
Alternative Concept 2- Alternative 2C
Alternative Concept 1
Alternative Concept 1 and 2 (2A)
Alternative Concept 2- Corridor Alternative 2B
Boreal Caribou Habitat
Category 1 - High Use Area (Nursery Use Area)
Category 1 - High Use Area (Winter Use Area)
Category 2 - Seasonal Range
Category 3 - Remaining Areas within the Range
Winisk River Provincial Park
Webequie First Nation Reserve
Winter Roads (Existing and Abandoned)
Caribou Range Boundary
WSR WEBEQUIE SUPPLY ROAD
0 5 10 Km
N
NAD 83 UTM Zone 16N
Webequie Supply Road
Corridor Alternative Concepts for the Webequie Supply Road
Date: 2020-03-11
Figure Number: 5.7
Rev. 0

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At time of preparing this request for extended time to the IS Phase, the Project Team is continuing its preliminary evaluation of route alternatives as well as supportive infrastructure. One of the primary objectives of the request to extend the time limit is to allow for completion of the Project Team's evaluation of alternative methods, including engagement and consultation with Indigenous communities/groups, government agencies, the public and stakeholders to present the evaluation and provide an opportunity for input to the selection of the preferred alternative methods of carrying out the Project.

The following subsections provide a summary of the progress with the identification and evaluation of alternatives.

5.5.2.1 Evaluation of Alternative Routes

A preliminary multi-criteria analysis (MCA) is currently in progress to allow for an overall comparison of the advantages and disadvantages of the route alternatives under consideration in the EA/IA. As noted above, this includes consideration of Route Alternative 1 and Route Alternative 2 within a 2 km wide corridor. In addition, as the assessment of alternative methods of carrying out the Project progressed the Project Team identified a third alternative route (Engineering Route, referred to as Route Alternative 3) that blended the priorities of route Alternative 1 and Alternative 2. **Figure 5-8** shows the three route alternatives under consideration including general spatial assessment boundaries (i.e., LSA, and RSA).

To complete the MCA, the Project Team is using a SNC-Lavalin software tool called "RouteAnalyser" that is designed for the assessment of route or site alternatives for complex projects with multiple criteria, different perspectives, trade-off, and mix of quantitative and qualitative data.

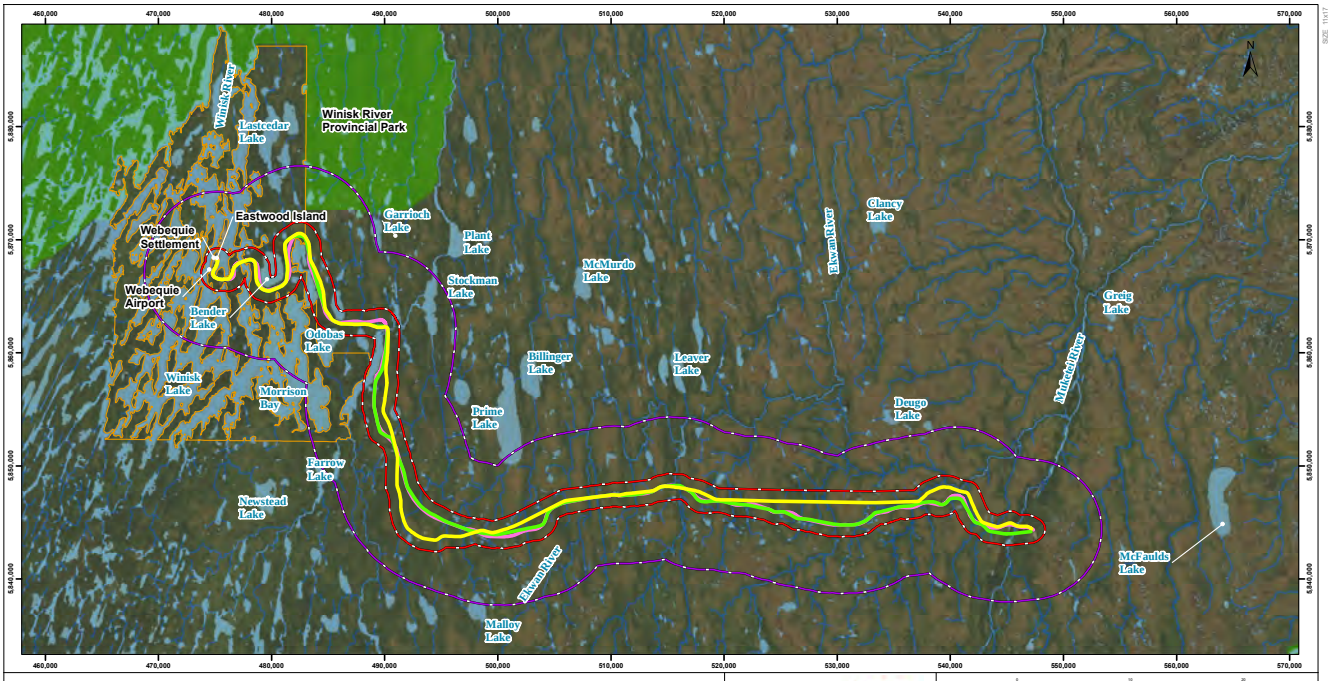
To allow for comparison of alternative routes the corridor has been segmented into assessment groups where directly comparable alternative routes exist and to facilitate engagement and decision making.

As part of the EA/IA process, criteria and indicators for each valued component have been identified (i.e., EA ToR Phase and Detailed Project Description), and the Project Team is currently engaging with Indigenous communities, the public and stakeholders to refine the criteria and indicators in Consultation Round 1. A subset of the criteria and indicators to date have been selected by the Project Team for the evaluation of alternatives and are organized under the following perspectives/themes:

- Natural (Biophysical) Environment;
- Indigenous Peoples' Land Use and Interests;
- Socio-Economic Environment;
- Cultural Heritage and Archaeology; and
- Technical Considerations.

Table 5-15 provide a draft list of the evaluation criteria and indicators that are proposed to be used for the analysis of route alternatives and to facilitate the selection of a preferred route.

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Legend

Route Label

- Alternative 1
- Alternative 2
- Alternative 3
- Local Study Area (LSA 1km from Centreline of Route Alternative 1, Alternative 2, and Alternative 3)
- Regional Study Area (RSA 5km from either side of LSA Boundary)
- Webequie First Nation Reserve
- Waterbody
- Watercourse
- Winisk River Provincial Park

DRAFT

WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Calculated locations are for informational purposes only and should not be considered suitable for legal, property boundary definitions.
3. Topographic/Hydrographic Features obtained from Canvec v13.3 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information, and, Land Information Ontario (LIO), Warehouse Open Data (https://data.ontario.ca/en), Ontario Ministry of Natural Resources and Forestry (OMNRF). Download Date - 2021-02-03.

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Webequie Supply Road (WSR)

Alternative Routes and General Study Areas

Figure Number:	5.8	REV:	PA
Client: Webequie First Nation	Project Number: 661910	Date: 2022-07-27	
DSC		DRN	CHK	APP
		AD	CW	CW

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Table 5-15: List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment		
Vegetation	Upland Ecosystem	Area (ha) of upland ecosystems removed/loss or degraded
		Edge Habitat - quantitative accounting of the number of edges crossed
		Edge Habitat - quantitative accounting of the length (km) of edges removed within the ROW
		Low: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		Medium: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		High: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		Low Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Medium Habitat Usage - Numeric values of L/M/H for each vegetation class.
		High Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Low - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Moderate -Fire Potential - Numeric values of L/M/H for each vegetation class.
		High - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Extreme - Fire Potential - Numeric values of L/M/H for each vegetation class.
	Riparian Ecosystem	Area (ha) of riparian ecosystems removed/loss or degraded
		Structural/Vegetative Complexity (Biodiversity) - calculation of Loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Habitat Usage - Numeric values of L/M/H for each vegetation class
		Fire Potential - Numeric values of L/M/H for each vegetation class.
	Wetland Ecosystem	Area (ha) of upland ecosystems removed/loss or degraded.
		Edge Habitat - quantitative accounting of the number of edges crossed.
		Edge Habitat - quantitative accounting of the length (km) of edges removed within the ROW
		Low: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Medium: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		High: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Low Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Medium Habitat Usage - Numeric values of L/M/H for each vegetation class.
		High Habitat Usage - Numeric values of L/M/H for each vegetation class.

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
		Low: Wetland Function - Numeric values of L/M/H for each wetland vegetation class.
		Medium: Wetland Function (combination of Vegetative Complexity/Habitat usage/Hydrology/Groundwater) - Numeric values of L/M/H for each wetland vegetation class.
		High: Wetland Function (combination of Vegetative Complexity/Habitat usage/Hydrology/Groundwater) - Numeric values of L/M/H for each wetland vegetation class.
		Low - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Moderate -Fire Potential - Numeric values of L/M/H for each vegetation class.
		High - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Extreme - Fire Potential - Numeric values of L/M/H for each vegetation class.
	Designated Areas (ANSI, ESA, PSW, Rare Communities, etc.)	Area (ha) of Designated Areas removed/loss or degraded.
	Plants of significance or importance; and designated Species at Risk plant populations (including species with special conservation status, rarity, or cultural significance)	Area (ha) of plants with significance or importance; and/or designated that would be removed/loss or degraded.
		Area (ha) or number of sites identified as culturally significant or of value by Indigenous peoples.
		Area or number of sites with relative abundance/overlap of rare plant species.
Fish and Fish Habitat (including Species at Risk - SAR)	Fish and Fish Habitat (SAR Fish – Lake Sturgeon)	Number of waterbodies crossed.
		Area (ha) of waterbodies crossed.
		Habitat quantity (ha).
		Habitat quality crossed (% Rare).
	Fish and Fish Habitat (Non-SAR Fish)	Number of waterbodies crossed.
		Total Area (ha) of waterbodies crossed.
		Low: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		Medium: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		High: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		Low: Habitat quality crossed %.
		Medium: Habitat quality crossed %.
		High: Habitat quality crossed %.

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
Wildlife	Caribou (Boreal population and Eastern Migratory population), Species at Risk	Additional disturbances being added at Range Level (ha - footprint + 500 m buffer).
		Length (km) of new linear disturbances at Range Level.
		Length (km) of route adjacent to existing disturbance at Range Level.
		Category 1: High Use Area at the Sub-range Level - Number of nursery areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of nursery area removed/disturbed (i.e. intersected).
		Category 1: High Use Area at the Sub-range Level - Number of nursery areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of nursery areas disturbed (Indirect).
		Category 1: High Use Area at the Sub-range Level - Number of winter use areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of winter use areas potentially affected (i.e. intersected).
		Category 1: High Use Area at the Sub-range Level - Number of winter use areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of winter use areas disturbed (Indirect).
		Category 1: High Use Area at the Sub-range Level - Number of travel corridor areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of travel corridor areas potentially affected (i.e. intersected).
		Category 1: High Use Area at the Sub-range Level - Number of travel corridor areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of travel corridor areas disturbed (indirect).
		Category 2: Area (ha) of seasonal range displaced/removed.
		Category 2: Area (ha) of seasonal range potentially affected within 2 km; within 10 km (Indirect Impact).
		Category 3: Area (ha) of remaining areas in the Range potentially affected.
	Wolverine, Species at Risk	Number of den habitat features (den + 2 km buffer) within 2 km of alternative.
		Area (ha) of habitat removed.
		Number of recorded occurrences within 2 km and 10 km of route alternative.
	Bats (including SAR Bats)	Area (ha) of candidate maternity habitat (forested) removed.
		Area (ha) of high quality candidate habitat displaced/removed.
		Number of SAR bat observations within 2 km and 5 km of alternative.
		Number of bat hibernacula habitat within 2 km and 5 km.

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
	Forest Birds (including SAR birds)	Area (ha) of candidate nesting habitat (Based on veg data codes) removed.
		Quality of habitat crossed (High, Medium, Low).
		Number of SAR observations within 2 km and 5 km.
	Raptors (including SAR birds)	Area (ha) of candidate nesting habitat removed.
		Number of raptor species recorded within 2 km and 5 km.
		Number of raptor nests recorded 2 km and 5 km.
		Area (ha) of Raptor Nesting SWH.
		Number of Osprey and Bald Eagle nests within 2 km and 5 km.
		Area (ha) of Osprey and Bald Eagle Nesting SWH within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Shorebirds	Area (ha) of breeding shorebird habitat crossed (Yellowlegs).
		Quality of habitat crossed (Area for each of High, Medium, Low).
		Area of Shorebird Stopover SWH displaced/removed (Direct).
		Area of Shorebird Stopover SWH within 2 km and 5 km (Indirect).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Waterfowl	Number of stopover and staging SWH displaced/removed (Direct effects).
		Area (ha) of stopover and staging SWH displaced/removed (Direct effects).
		Number of stopover and staging SWH within 2 km and 5 km (Indirect effects).
		Area (ha) of stopover and staging SWH within 2 km and 5 km (Indirect effects).
		Area of Waterfowl Nesting SWH displaced/removed (Direct effects).
		Area of Waterfowl Nesting SWH within 2 km and 5 km (Indirect).
		Quality of breeding habitat crossed (certain species) (Area (ha) of High, Medium, Low quality habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Bog/Fen Birds and Other Wetland Birds (includingSAR-birds)	Area (ha) of bog/fen habitat crossed.
		Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Number of Sharp-tailed Grouse Leks within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Furbearers - Excluding SAR (Wolverine)	Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Number of dens within 2 km and 5 km.
		Number of Wolf Rendezvous Sites within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
	Moose	Area (ha) of winter area quality bands (High, Medium, Low) to be displaced/removed (Direct impacts).
		Area (ha) of winter area quality bands (High, Medium, Low) within 2 km and 10 km (Indirect impacts).
		Area (ha) of aquatic habitat within 2 km and 10 km (Indirect impacts).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Amphibians (Frogs)	Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Reptiles	Number of Snake Hibernacula within 2 km and 5 km.
		Number of Turtle Hibernacula within 2 km and 5 km.
	Pollinating Insects	Distribution of selected culturally important plants that are reliant on pollinator insects.
		Distribution of selected key food plants associated with selected pollinator insects.
		Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Designated Significant Wildlife Habitat	Area (ha) of significant wildlife habitat crossed or fragmented.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low)
Surface Water	Surface Water	Number of lakes and ponds crossed.
		Area (ha) of lakes and ponds crossed.
		Number of streams and rivers crossed.
		Area (ha) of upstream watersheds.
		Area (ha) of downstream watersheds.
		Length (km) of alignment through wetland land type.
		Number of, or Aggregate risk level of, downstream sensitive surface water quality receptors.
		Area (ha) of potential contaminant spill risk.
Groundwater	Groundwater	Number of drinking water wells displaced or potentially affected (e.g., within 300 m of route alternative).
		Number of springs displaced or potential affected (e.g., within 300 m of route alternative).
		Area (ha) of recharge areas crossed.
		Area (ha) of discharge areas crossed.

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Indigenous Peoples Land Use and Interests		
	Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes	Location/number/area (ha) of fish spawning areas affected.
		Location/number/area (ha) of fish harvesting areas affected.
		Location/number/area (ha) of seasonal hunting areas affected.
		Location/number/area (ha) of wildlife (e.g., moose, waterfowl) mating, breeding or nursery areas affected.
		Area (ha) used for harvesting of plants for human consumption affected.
		Number of traplines affected.
		Location/number of access routes affected to harvested species, including navigable waterways.
	Cultural Continuity (ability to practice and transmit cultural traditions including historical disruptions where Indigenous peoples have a desire to reinvigorate a cultural tradition)	Loss of or change to quantity (number or ha) of culturally and spiritually important sites (e.g., ceremonial sites, sacred areas, teaching sites).
Socio-Economic Environment		
Land and Resource Use (non-Indigenous)	Mineral and Aggregate Resources	Area (ha) of significant aggregate deposits affected.
		Area (ha)/number of mines within the study area affected.
		Number of mining claims within the study area affected.
		Area (ha)/number of pits/quarries within the study area affected.
	Recreational Activities (camps, trails, outfitters, movement of small watercraft)	Number/type of activities or users affected.
	Provincial Parks, Areas of Natural and Scientific Interest (ANSIs) or Conservation Reserves	Number and area (ha) of Provincial Parks, Areas of Natural and Scientific Interest (ANSIs) or Conservation Reserves affected.
Visual Aesthetics	Visual Character and Sensitivity	Number of culturally important viewpoints within 1 km that have line of sight of toward the road corridor.
		Area (ha) of visual aesthetics areas of concern crossed by the road.

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Table 5-15 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Cultural Heritage and Archaeology		
Archaeology	Archaeological Sites and Resources	Number of registered archaeological sites displaced or requiring protection.
		Area (ha) with archaeological potential affected.
		Number/area/type of known burial sites within 300 m.
		Number/area/type of known burial sites displaced.
Cultural Heritage	Built Heritage Resources and Cultural Heritage Landscapes	Number and type of known Indigenous or non-Indigenous built heritage features/sites that may be affected.
		Number and type of Indigenous or non-Indigenous cultural heritage landscapes that may be affected.
		Number of designated Provincial heritage properties affected.
Technical Considerations		
	Constructability and Design	Area (ha) of hazard/unstable land crossed.
		Areas (ha) or percentages of terrain conditions considered good, fair, poor and very poor.
		Area or length of route that represents an engineering design and constructability challenge based on poor and very poor terrain conditions.
		Length (m) of open water crossings required for consideration of structures (bridges, culverts).
		Length of alluvial floodplains crossed with floating vegetation mats or groundwater near surface that may need enhanced engineering design.
	Cost	Length (km); size (ha).
		Construction capital cost ($).
		Operation and maintenance cost ($).
	Location of Supportive Infrastructure (aggregate/rock extraction areas, construction camps, laydown/storage yards, access roads)	Proximity/distance (km) to preferred aggregate/rock extraction sites.
		Capability to support viable temporary construction camps (High, Medium, Low).
		Length (km) of temporary and permanent access roads required to construct and maintain the road.

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At the present, spatial indicator data (e.g., hectares of upland vegetation loss) are being extracted by the Project Team for each corridor using GIS and integrated in the RouteAnalyser software tool.

Future steps in the evaluation process include:

- Assigning preliminary weighting system to the alternative perspectives/themes and associated criteria and indicators that assigns relative level of importance that individual criteria indicators have to each other, and to the overall decision outcome; and
- Completing the preliminary evaluation and comparative assessment (advantages and disadvantages of each alternative) to identify the preferred route with consideration of the potential to mitigate identified adverse impacts of each alternative.

Note that the overall evaluation process is subject to further engagement sessions during Consultation Round 2 to request feedback from Indigenous communities, government agencies, the public and stakeholders, prior to selecting a preferred route. Feedback received will be integrated into the RouteAnalyser tool and based on its design will provide a transparent, robust and repeatable process to the evaluation of alternative routes for the Project.

5.5.2.2 Alternative Aggregate Sources

The Project Team began its investigations into alternate aggregate sources (i.e., rock and gravel) by examining potential areas at a coarse screening level to eliminate alternatives with fatal flaws prior to completing the detailed analysis and selection of the preferred aggregate source(s). Extensive examination of aggregate sources, with respect to the volume and quality of material, in and around the Webequie and McFaulds Lake area have previously been completed and are documented in the Draft Natural Environment Existing Conditions Report (SLI, June 2022).

Aggregate source alternatives for the Webequie Supply Road were identified through reviews of existing surficial geology mapping completed by the Ontario Geological Survey and supplementary terrain analysis using digital imagery and LiDAR identified adjacent to and within the preferred supply road corridor (JDMA 2019). Limited occurrences of ice-contact glaciofluvial landforms and bedrock outcrops were targeted as potential aggregate sources. Among the aggregate source alternatives were ice-contact glaciofluvial landforms created by meltwater processes during deglaciation that were typically composed of sorted granular material. The characteristics of these granular deposits (overburden thickness, stratigraphy, gradation, etc.) were evaluated from shallow test holes dug with either a mini-excavator or manually with a shovel.

Bedrock outcrops identified and mapped as potential quarry sites were visited in the field to describe the lithology and structural elements (fractures, bedding, foliation, etc.) visible at surface to make an initial assessment of bedrock suitability for aggregate production.

The aggregate sources alternatives identified included six (6) ice-contact glaciofluvial landforms and five (5) bedrock locations, summarized in **Table 5-16**, and shown in **Figure 5-9**.

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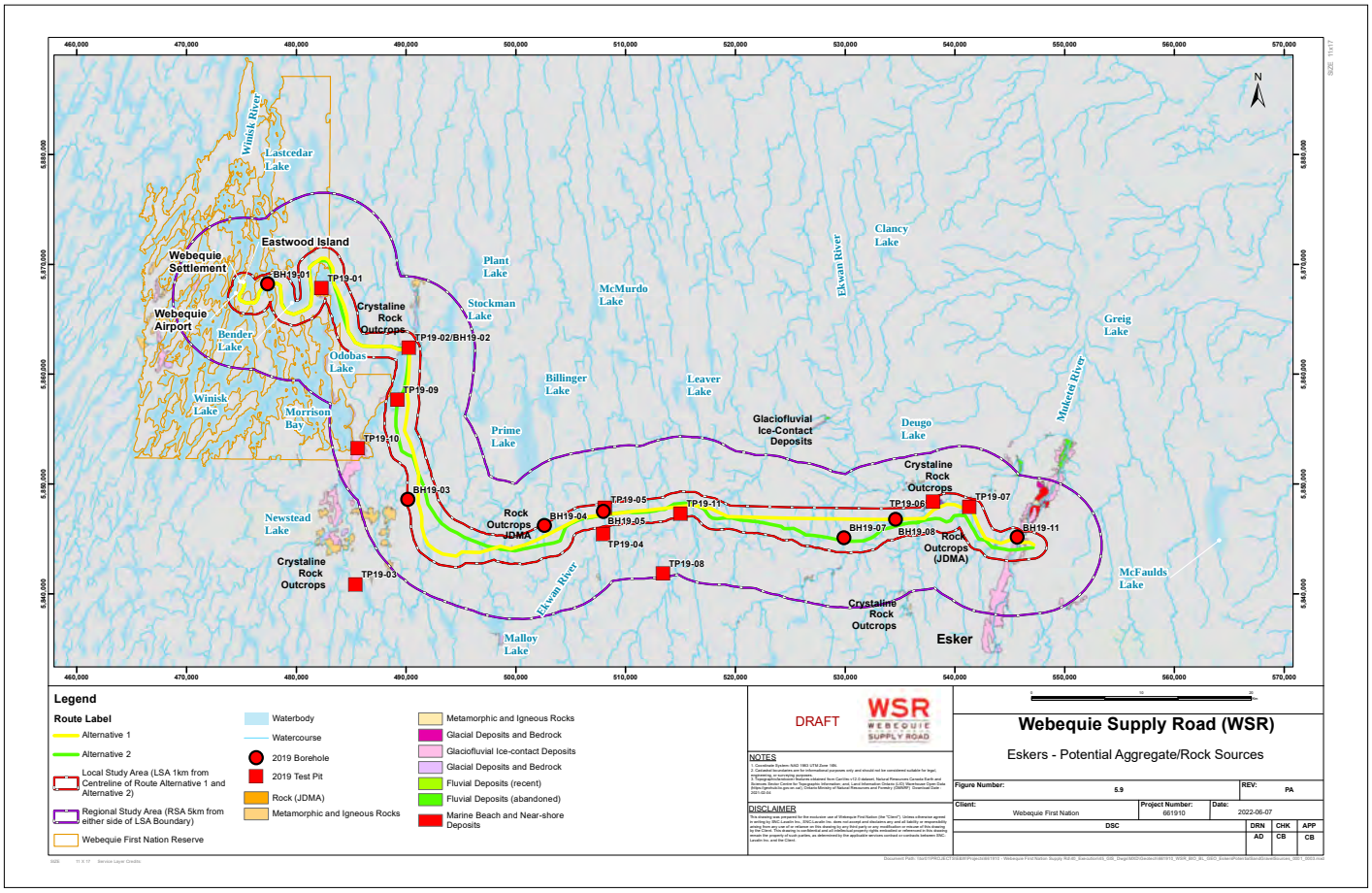
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Table 5-16: Locations of Aggregate Source Alternatives

ID	Easting	Northing	Mapped Unit	Observed Material
TP19-01	482271	5867792	Glaciofluvial Deposits	Sand and Gravel
TP19-02	490185	5862355	Glaciofluvial Deposits	Sand and Bedrock
TP19-03*	485425	5840765	Glaciofluvial	N/A
TP19-04	507989	5845403	Bedrock	Till
TP19-05	508128	5847803	Bedrock	Till and Bedrock
TP19-06	537987	5848399	Glaciofluvial Deposits + bedrock	Silt
TP19-07	541253	5847878	Bedrock	N/A
TP19-08*	513429	5841840	Bedrock	Bedrock
TP19-09	489236	5857600	Glaciofluvial Deposits	Sand
TP19-10	485640	5853170	Glaciofluvial Deposits	Sand and Gravel
TP19-11	514998	5847294	Bedrock	Gravel

The preliminary estimate of aggregate/rock material needed to construct the WSR Project is 2,849,500 cubic metres. Aggregate/rock volumes to support the ongoing operation and maintenance of the WSR are currently be assessed and will be included on the overall evaluation of alternate aggregate source area(s).

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Winisk River
Lastcedar Lake
Eastwood Island
Webequie Settlement
Webequie Airport
Bender Lake
Winisk Lake
Morrison Bay
Odnbas Lake
Crystaline Rock Outcrops
Stockman Lake
Plant Lake
McMurdo Lake
Billinger Lake
Leaver Lake
Prime Lake
Newstead Lake
Rock Outcrops (JDMA)
Crystaline Rock Outcrops
Ekwan River
Malloy Lake
Clancy Lake
Greig Lake
Makeig River
Glaciofluvial Ice-Contact Deposits
Deugo Lake
McFaulds Lake
Esker
BH19-01
TP19-01
TP19-02/BH19-02
TP19-09
TP19-10
BH19-03
BH19-04
TP19-05
BH19-05
TP19-04
TP19-03
TP19-08
TP19-11
BH19-07
TP19-06
BH19-08
TP19-07
BH19-11
N
Legend
Route Label
Alternative 1
Alternative 2
Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
Regional Study Area (RSA 5km from either side of LSA Boundary)
Webequie First Nation Reserve
Waterbody
Watercourse
2019 Borehole
2019 Test Pit
Rock (JDMA)
Metamorphic and Igneous Rocks
Metamorphic and Igneous Rocks
Glacial Deposits and Bedrock
Glaciofluvial Ice-contact Deposits
Glacial Deposits and Bedrock
Fluvial Deposits (recent)
Fluvial Deposits (abandoned)
Marine Beach and Near-shore Deposits
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
NOTES
DISCLAIMER
Webequie Supply Road (WSR)
Eskers - Potential Aggregate/Rock Sources
Figure Number: 5.9
REV: PA
Client: Webequie First Nation
Project Number: 661910
Date: 2022-06-07
DSC
DRN AD
CHK CB
APP CB

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5.5.2.2.1 Screening of Aggregate Source Alternatives

A high-level screening of aggregate source alternatives has been completed to screen out alternatives and focus the subsequent selection of the preferred aggregate source to the most favorable locations. The process for screening the alternatives included an assessment of the advantages and disadvantages of the alternatives against a set of technical factors that included type of material available, quantity of material available, distance from the preferred road corridor and accessibility. If the aggregate source alternative was not reasonably accessible for development of access roads (e.g., due to waterbody crossings, terrain, etc.,) did not have suitable material of sufficient quantity and/or was located too far from the preferred corridor, that alternative was screened out from further consideration.

Aggregate Source Alternative TP19-01

TP19-01 was chosen at the existing/abandoned gravel pit located east of Webequie. The deposit occurs as a discreet landform that is part of the discontinuous esker running north-south along the side of Manson Bay. There is an access road that is currently overgrown with vegetation, which could provide ready access to the proposed all-season road (located about 600 m to the west) where it wraps around the south end of Bender Lake.

Aggregate Source Alternative TP19-02

TP19-02 is located north of the stream crossing between Webequie and Stockman Lake. Aggregate sources mapped by the Ontario Geological Society include both ice-contact glaciofluvial deposits and bedrock at this location, which are within 100 m from the proposed all-season road and offer short haul distances. Bedrock exposures (490178 5862361) were observed from the air and were accessed from the stream channel. Crystalline igneous outcrop composed of granitic to pegmatitic composition, massive and unfractured. Ice-contact glaciofluvial deposits of sand surround the bedrock outcrop. The combined volume of borrow and bedrock aggregate expected to be feasible to mine at this location is estimated as 500,000 m^3 to 1,000,000 m^3.

Aggregate Source Alternative TP19-04

TP19-04 targeted bedrock mapped by the Ontario Geological Survey. Despite being mapped as a bedrock feature, no bedrock was encountered along a transect across the feature. In several places where tree cover thinned, the ground was covered with white moss that gives the appearance of bedrock in the imagery and in the air from the helicopter.

Aggregate Source Alternative TP19-05

TP19-05 is located on an area mapped as bedrock by the Ontario Geological Survey. The feature occurs as a small hill or upland along the eastern side of a small stream and is entirely covered with trees. Access to the site is from the banks of the small stream. Along the western side of the feature, leading down toward the stream, there is an accumulation of large boulders up to several metres in diameter. From the imagery and from the helicopter, these boulders appear as bedrock, but they are not when observed *in-situ* and are not embedded in a fine-grained matrix. Based on their large size and angular shape, these boulders were likely transported very short distances from their source and suggest *in-situ* bedrock in close proximity. Adjacent to the boulders, the area is covered by clay till.

Aggregate Source Alternative TP19-06

TP19-06 is located on an area mapped as a unit of glacial deposits and bedrock by the Ontario Geological Survey. Along the eroding banks of the adjacent stream channel to the south, mineral soils are observed from the air. Access to the site was from the bog to the north.

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Aggregate Source Alternative TP19-07

TP9-07 targeted an area mapped as bedrock by the Ontario Geological Survey. The area was visited only from the air and not on the ground. Visual inspection from the helicopter did not identify bedrock outcrops; rather, most of the area is covered with thin tree cover and white moss that mimics bedrock in the imagery. Although no outcrops of bedrock were observed, it is possible that there is bedrock along the margins of the nearby streams where tree cover may obscure exposure. Along the banks of the nearby stream to the north, eroding mineral soil was exposed but no bedrock was observed.

Aggregate Source Alternative TP19-08

TP19-08 is located south of the preferred corridor and near an area of bedrock exposure described previously as bedrock. The site was visited from the air only. Visual inspections from the helicopter reveal a relatively large hill covered with trees that include stands of aspen that are often associated with glacial sediments or areas of bedrock. Much of the area appears to have white moss on the surface that obscure the identification of surficial materials; however, exposures of bedrock were observed in the general area, including areas to the west and east. The large fen to the west also exhibits large boulders in the centre and along the margins.

Aggregate Source Alternative TP19-09

TP19-09 was selected to test an area mapped as an ice-contact glaciofluvial deposit by the Ontario Geological Survey. Access to the site was from the east shore of lake to the west. This alternative is approximately 1 km from the preferred corridor, which limits the haul distance for construction. The sand and gravel reserve expected to be feasible to mine at this site is estimated as 150,000 m^3 to 500,000 m^3.

Aggregate Source Alternative TP19-10

TP19-10 targeted a large ice-contact glaciofluvial landform mapped by the Ontario Geological Survey that is located southeast of Winisk Lake and on the west side of the preferred corridor. The feature is among the largest glaciofluvial landforms mapped in the area and offers one of the largest potential sources of granular material, but it is approximately 4 km from the proposed corridor and would require a considerable watercourse crossing to access the location. From the air, the landform appears heavily covered with trees, including aspen trees that are quite distinct and indicate thin organics over mineral soils and sediment. The volume of sand and gravel expected to be feasible to mine at this site, based on regional elevation data, is in the order of 4,000,000 m^3 to 8,000,000 m^3, assuming that the entire ridge consists of sand and gravel with some accounting for varying percentages of spoil.

Aggregate Source Alternative TP19-11

TP19-11 is located near the eastern terminus of the preferred corridor near a prominent hill. Access to the site is from the fen adjacent to a small lake. The hill appears to be composed of granular material deposited by ice-contact glaciofluvial and surrounded by organic soils. Although small in scale, extending roughly 75 m long by 40 m wide and 3 m high, the granular material observed in this landform appears to be the coarsest material encountered in the investigation. Based on the approximate dimensions of the landform and the observed material, this feature offers a potential volume of roughly 10,000 m^3, with limited haul distance to the proposed corridor.

5.5.2.2.2 Summary of Screening of Aggregate Source Alternatives

Based on the information presented in **Section 5.5.2.2.1**, aggregate source alternatives TP19-02, TP19-09 and TP19-10 will be carried forward for further comparative assessment to determine the preferred alternative(s). The Project Team will use the extension to complete the final assessment of aggregate source alternatives, including integrating feedback from consultation with Indigenous communities, government agencies, the public and stakeholders prior to finalization of the preferred alternative and, completing the impact assessment on the preferred aggregate source area(s).

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5.5.2.3 Construction Camp Alternatives

Construction Execution Strategy

A preliminary draft Construction Execution Strategy has been developed for the WSR in an attempt to define a list of critical components both physical and management-based to be considered in the planning, construction and operation of the Project. Regardless of the alternative route selected, it has been determined that construction of the WSR will need to be initiated from the community of Webequie being the only source of both existing human-supports and transportation connection (i.e., airport and winter road connection to provincial highway network). With significant impedance to flow of personnel and construction resources due to topography, soil conditions (i.e., peatlands), high water levels and required water crossings, the approach to establishing the road will, for the most part, be linear in nature, and as such the road is proposed to be developed working west to east, eventually ending at the east side of the Muketei River crossing in the McFaulds Lake area.

As part of construction execution strategy for the Project, accommodation for the construction work force will be provided through the use of temporary construction camps (average workforce accommodation – 60). Construction camps are anticipated to be approximately 8 hectares and each construction camp may typically include the following key elements:

- Accommodations (bunkhouse) for workers;
- Kitchen and dining hall;
- First aid station;
- Communications system;
- Wastewater treatment holding tank and/or treatment system;
- Groundwater water supply well;
- Solid waste (hazardous and non-hazardous) handling and storage facility, including a designated waste recycling area;
- Electricity supply from diesel generators; and
- Above ground fuel storage tanks and refueling area.

Some of the above elements are now available as “skid-able” units with all connections for utilities included as “quick-connect” established on the surface of the ground.

Construction camps are anticipated to be established in close proximity to the proposed selected preferred route and may be located within the aggregate sources areas to minimize environmental impacts. Options under consideration to accommodate the required construction camps are as follows:

1. A main construction base camp in the community of Webequie. The full work force would be accommodated in temporary quarters there and deployed along the corridor on a daily basis.
2. The work forces may be accommodated at each end of the 107 km construction corridor (Webequie and Noront base camp area).
3. Work camps (estimate approximately 3) may be established at appropriate intervals/feasible locations along the construction corridor.
4. A combination of accommodation above options.

In addition, it is likely that other supportive site facilities (i.e., laydown areas for materials and equipment storage/maintenance) will be established at appropriate/feasible locations along the construction corridor or located within the construction camps to maximize use of space and minimize impacts.

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The Webequie Project Team will use the extension to complete the final assessment of construction camp alternatives, including alternative locations for a permanent operation and maintenance yard. Once the preliminary analysis of construction camp(s) alternatives has been completed, the Project Team will seek input from Indigenous communities, government agencies, the public and stakeholders during Consultation Round 2, and will then finalize the preferred alternative and complete the impact assessment.

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6 References

SNC-Lavalin, 2020. Webequie Supply Road Environmental Assessment Terms of Reference, Webequie First Nation

SNC-Lavalin, 2019. Webequie Supply Road Detailed Project Description, Webequie First Nation

SNC-Lavalin, 2022. Webequie Supply Road Draft Natural Environment Existing Conditions Report, Webequie First Nation

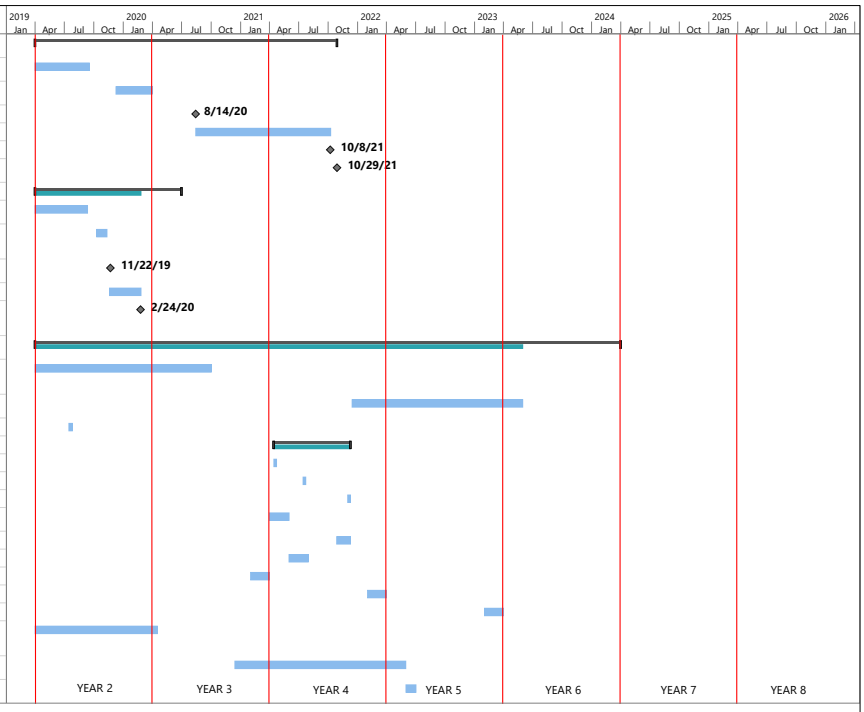
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Appendix A

Project Schedule



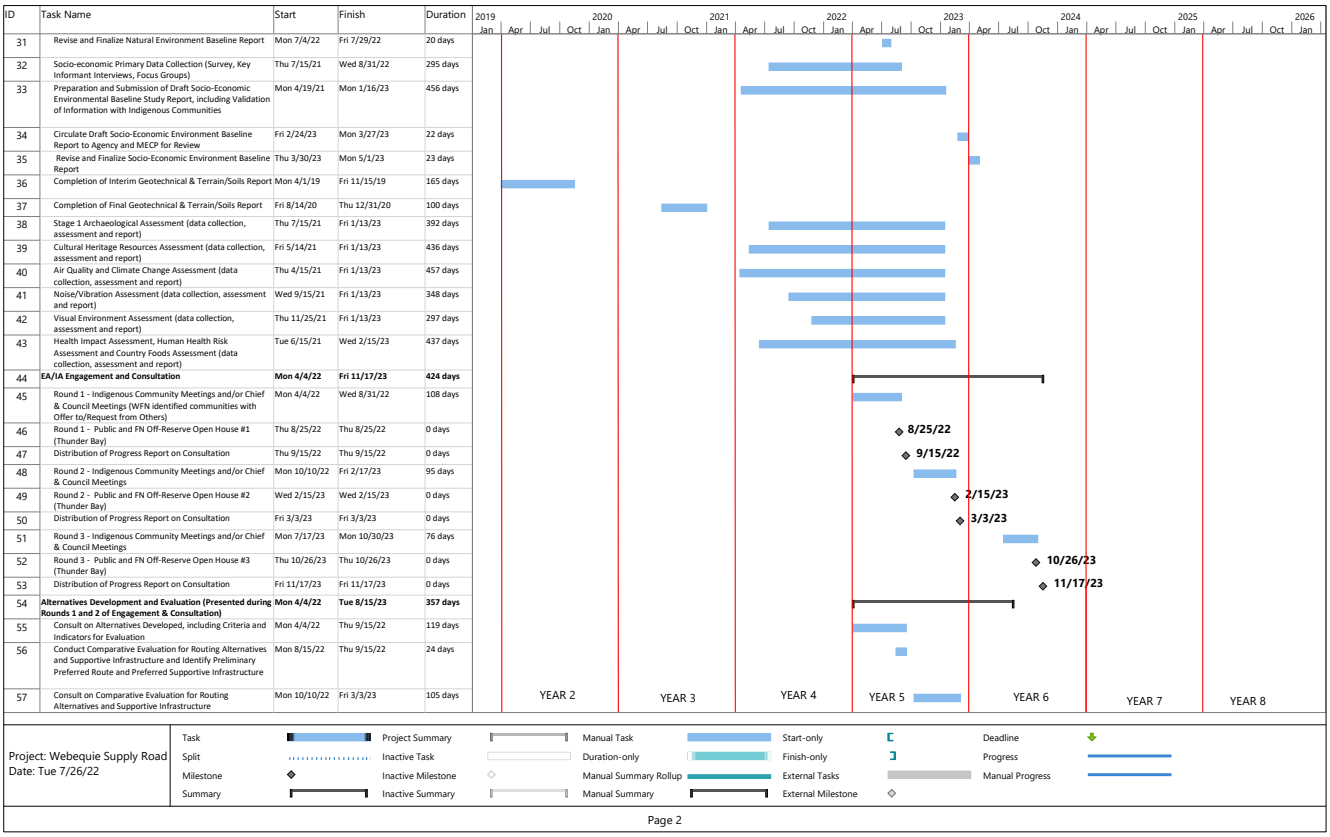
ID	Task Name	Start	Finish	Duration
1	**Provincial Environmental Assessment (EA) - Terms of Reference (ToR) Phase**	**Mon 4/1/19**	**Fri 10/29/21**	**674 days**
2	Prepare and Release Draft of Provincial Terms of Reference (ToR) for Review	Mon 4/1/19	Mon 9/16/19	121 days
3	Revise Draft ToR and Preparation of Final ToR and Record of Consultation to MECP for Approval	Mon 12/9/19	Mon 3/30/20	81 days
4	Submit Final ToR to MECP (135 day review period)	Fri 8/14/20	Fri 8/14/20	0 days
5	Review of ToR by MECP	Fri 8/14/20	Fri 10/8/21	301 days
6	Approval of ToR by MECP	Fri 10/8/21	Fri 10/8/21	0 days
7	Formal Notice of Commencement of Environmental Assessment	Fri 10/29/21	Fri 10/29/21	0 days
8	**Federal Impact Assessment (IA) – Phase 1: Planning**	**Mon 4/1/19**	**Tue 6/30/20**	**327 days**
9	Preparation and Submission Initial Project Description to Agency	Mon 4/1/19	Tue 9/10/19	117 days
10	Preparation and Submission of Detailed Project Description and Response to Summary of Issues to Agency	Thu 10/10/19	Sun 11/10/19	23 days
11	Agency Posts Notice of Determination that IA is Required	Fri 11/22/19	Fri 11/22/19	0 days
12	Agency Conducts Consultation	Tue 11/19/19	Mon 2/24/20	70 days
13	Agency Issues Notice of Commencement of IA and Tailored Impact Statement Guidelines (TISG), Plans to Webequie (and Posts TISG and Plans)	Mon 2/24/20	Mon 2/24/20	0 days
14	**Environmental Data Collection/Field Surveys and Reports**	**Mon 4/1/19**	**Sun 3/31/24**	**1306 days**
15	Environmental (Biophysical) Baseline Data Collection and Field Surveys (Groundwater, Vegetation, Wildlife, Fish, Surface Water, Species at Risk)	Mon 4/1/19	Wed 9/30/20	393 days
16	Collect Project Specific IK & IRLU Data/Studies including Validation Period for Effects Assessment	Wed 12/15/21	Tue 5/30/23	380 days
17	Supplemental Vegetation Field Survey	Mon 7/15/19	Thu 7/25/19	9 days
18	Supplemental Bird Field Surveys	Thu 4/15/21	Thu 12/9/21	171 days
19	Supplemental Bird Field Survey 1	Thu 4/15/21	Thu 4/22/21	6 days
20	Supplemental Bird Field Survey 2	Thu 7/15/21	Thu 7/22/21	6 days
21	Supplemental Bird Field Survey 3	Wed 12/1/21	Thu 12/9/21	7 days
22	Supplemental Groundwater and Surface Water Field Survey	Thu 4/1/21	Mon 5/31/21	43 days
23	Acoustic/Noise Data Collection and Field Survey	Thu 10/28/21	Thu 12/9/21	31 days
24	Visual Environment Data Collection and Field Survey	Tue 6/1/21	Fri 7/30/21	44 days
25	Supplemental Species at Risk Field Survey 2021	Mon 2/1/21	Wed 3/31/21	43 days
26	Supplemental Species at Risk Field Survey 2022	Tue 2/1/22	Thu 3/31/22	43 days
27	Supplemental Species at Risk Field Survey 2023	Wed 2/1/23	Fri 3/31/23	43 days
28	Preparation and Submission of Interim Natural Environment (Biophysical) Baseline Study Report to Webequie	Mon 4/1/19	Wed 4/15/20	273 days
29	Preparation of Draft Natural Environment (Biophysical) Baseline Study Report	Mon 12/14/20	Mon 5/30/22	381 days
30	Circulate Draft Natural Environment Baseline Report to Agency and the MECP for Review	Wed 6/1/22	Fri 7/1/22	23 days



Project: Webequie Supply Road
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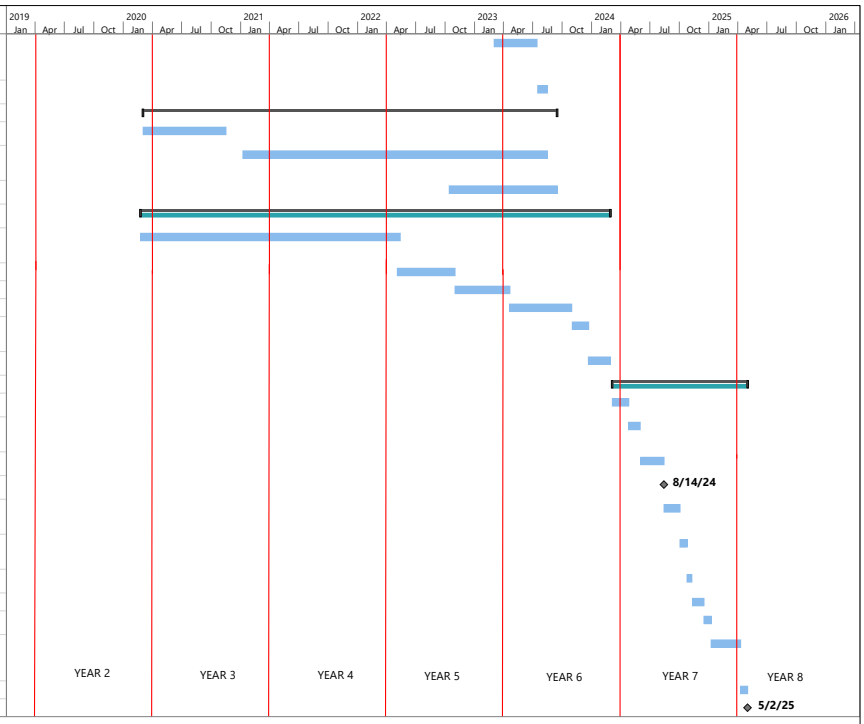
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ID	Task Name	Start	Finish	Duration
31	Revise and Finalize Natural Environment Baseline Report	Mon 7/4/22	Fri 7/29/22	20 days
32	Socio-economic Primary Data Collection (Survey, Key Informant Interviews, Focus Groups)	Thu 7/15/21	Wed 8/31/22	295 days
33	Preparation and Submission of Draft Socio-Economic Environmental Baseline Study Report, including Validation of Information with Indigenous Communities	Mon 4/19/21	Mon 1/16/23	456 days
34	Circulate Draft Socio-Economic Environment Baseline Report to Agency and MECP for Review	Fri 2/24/23	Mon 3/27/23	22 days
35	Revise and Finalize Socio-Economic Environment Baseline Report	Thu 3/30/23	Mon 5/1/23	23 days
36	Completion of Interim Geotechnical & Terrain/Soils Report	Mon 4/1/19	Fri 11/15/19	165 days
37	Completion of Final Geotechnical & Terrain/Soils Report	Fri 8/14/20	Thu 12/31/20	100 days
38	Stage 1 Archaeological Assessment (data collection, assessment and report)	Thu 7/15/21	Fri 1/13/23	392 days
39	Cultural Heritage Resources Assessment (data collection, assessment and report)	Fri 5/14/21	Fri 1/13/23	436 days
40	Air Quality and Climate Change Assessment (data collection, assessment and report)	Thu 4/15/21	Fri 1/13/23	457 days
41	Noise/Vibration Assessment (data collection, assessment and report)	Wed 9/15/21	Fri 1/13/23	348 days
42	Visual Environment Assessment (data collection, assessment and report)	Thu 11/25/21	Fri 1/13/23	297 days
43	Health Impact Assessment, Human Health Risk Assessment and Country Foods Assessment (data collection, assessment and report)	Tue 6/15/21	Wed 2/15/23	437 days
44	**EA/IA Engagement and Consultation**	**Mon 4/4/22**	**Fri 11/17/23**	**424 days**
45	Round 1 - Indigenous Community Meetings and/or Chief & Council Meetings (WFN identified communities with Offer to/Request from Others)	Mon 4/4/22	Wed 8/31/22	108 days
46	Round 1 - Public and FN Off-Reserve Open House #1 (Thunder Bay)	Thu 8/25/22	Thu 8/25/22	0 days
47	Distribution of Progress Report on Consultation	Thu 9/15/22	Thu 9/15/22	0 days
48	Round 2 - Indigenous Community Meetings and/or Chief & Council Meetings	Mon 10/10/22	Fri 2/17/23	95 days
49	Round 2 - Public and FN Off-Reserve Open House #2 (Thunder Bay)	Wed 2/15/23	Wed 2/15/23	0 days
50	Distribution of Progress Report on Consultation	Fri 3/3/23	Fri 3/3/23	0 days
51	Round 3 - Indigenous Community Meetings and/or Chief & Council Meetings	Mon 7/17/23	Mon 10/30/23	76 days
52	Round 3 - Public and FN Off-Reserve Open House #3 (Thunder Bay)	Thu 10/26/23	Thu 10/26/23	0 days
53	Distribution of Progress Report on Consultation	Fri 11/17/23	Fri 11/17/23	0 days
54	**Alternatives Development and Evaluation (Presented during Rounds 1 and 2 of Engagement & Consultation)**	**Mon 4/4/22**	**Tue 8/15/23**	**357 days**
55	Consult on Alternatives Developed, including Criteria and Indicators for Evaluation	Mon 4/4/22	Thu 9/15/22	119 days
56	Conduct Comparative Evaluation for Routing Alternatives and Supportive Infrastructure and Identify Preliminary Preferred Route and Preferred Supportive Infrastructure	Mon 8/15/22	Thu 9/15/22	24 days
57	Consult on Comparative Evaluation for Routing Alternatives and Supportive Infrastructure	Mon 10/10/22	Fri 3/3/23	105 days

ID	Task Name	Start	Finish	Duration
58	Complete Engineering Design Optimization/Refinement of Preferred Route and Supportive Infrastructure based Feedback from Consultation	Fri 3/3/23	Fri 7/14/23	96 days
59	Prepare Revised Corridor/Supporting Infrastructure Plans and Narrative	Mon 7/17/23	Tue 8/15/23	22 days
60	**Preliminary Engineering Design**	**Tue 3/3/20**	**Fri 9/15/23**	**924 days**
61	Preparation and Completion of Design Criteria (Interim)	Tue 3/3/20	Sun 11/15/20	185 days
62	Preparation and Completion of Interim Preliminary Design Report and Design Drawings (Interim)	Fri 1/8/21	Tue 8/15/23	678 days
63	Final Design Drawings, Design Report & Construction Cost Estimate	Fri 10/14/22	Fri 9/15/23	241 days
64	**Environmental Assessment Report (EAR) / Impact Statement (IS) Phase**	**Mon 2/24/20**	**Wed 2/28/24**	**1048 days**
65	Prepare 13 Work Plans for Review by Agency and MECP, including Technical Meetings for Valued Components where Applicable	Mon 2/24/20	Fri 5/13/22	580 days
66	Prepare and Complete Interim Draft EAR/IS (30%)	Thu 5/5/22	Mon 10/31/22	128 days
67	Prepare and Complete Interim Draft EAR/IS (60%)	Tue 11/1/22	Thu 4/20/23	123 days
68	Prepare and Complete Draft EAR/IS (100%)	Thu 4/20/23	Mon 10/30/23	138 days
69	Circulate Pre-Draft EAR/IS (prior to Formal Release) to MECP and Agency for Review and Receipt of Comments	Thu 11/2/23	Fri 12/22/23	37 days
70	Revise and Finalize Pre-Draft EAR/IS for Formal Release/Distribution	Fri 12/22/23	Wed 2/28/24	49 days
71	**Provincial EA Process (EAR/IS)**	**Wed 3/6/24**	**Fri 5/2/25**	**303 days**
72	Release and Distribute Draft EAR/IS with Notice of Opportunity to Review (45 days)	Wed 3/6/24	Thu 4/25/24	37 days
73	Respond to Comments from GRT, Public, Stakeholders and Indigenous Communities on Draft EAR/IS (5 weeks)	Fri 4/26/24	Fri 5/31/24	26 days
74	Resolve any Complex or Major Issues and Finalize EAR/IS with On-going Consultation (3 Weeks)	Mon 6/3/24	Tue 8/13/24	52 days
75	Submit Final EAR/IS with Notice of Submission to the MECP	Wed 8/14/24	Wed 8/14/24	0 days
76	GRT, Public, Stakeholders and Indigenous Communities Review and Submit Comments on Final EAR/IS (7 weeks)	Wed 8/14/24	Wed 10/2/24	36 days
77	MECP Follow-up and Proponent Responses to Comments from GRT, Public, Stakeholder and Indigenous Communities (3 weeks)	Thu 10/3/24	Thu 10/24/24	16 days
78	MECP Issues Notice of Completion of Ministry Review and Distributes (2 weeks)	Fri 10/25/24	Fri 11/8/24	11 days
79	Public Inspection of Ministry Review (5 weeks)	Mon 11/11/24	Mon 12/16/24	26 days
80	Respond to Comments from Public Inspection of Ministry Review (3 weeks)	Tue 12/17/24	Tue 1/7/25	16 days
81	MECP Reviews Responses, Evaluates EA, and Prepares Recommendation and Condition for Minister's Consideration. Minister Reviews and Renders a Decision (13 weeks)	Wed 1/8/25	Wed 4/9/25	66 days
82	Cabinet Concurrence of Minister's Decision (3 weeks)	Thu 4/10/25	Thu 5/1/25	16 days
83	MECP Issuance of Public Notification of EA Decision	Fri 5/2/25	Fri 5/2/25	0 days

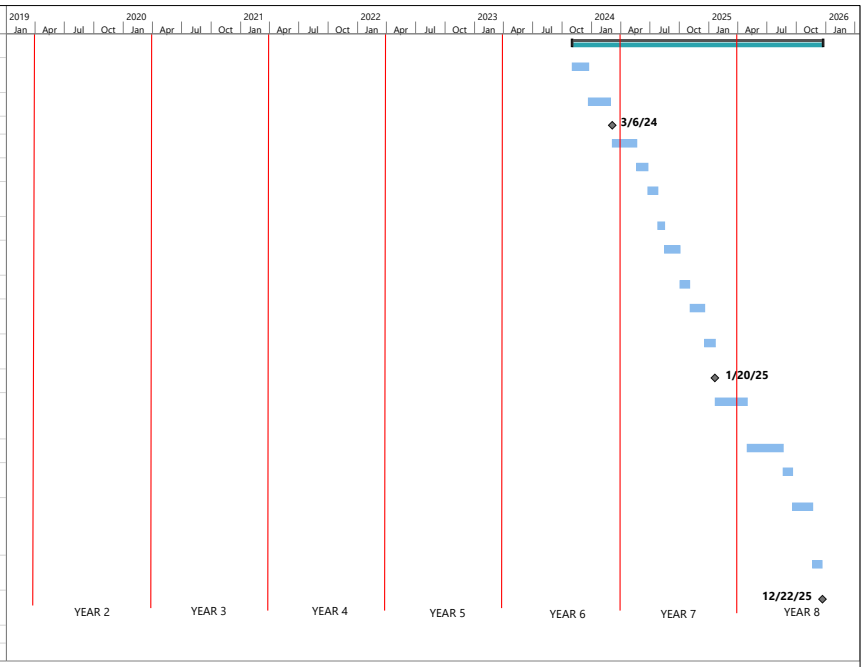


Project: Webequie Supply Road
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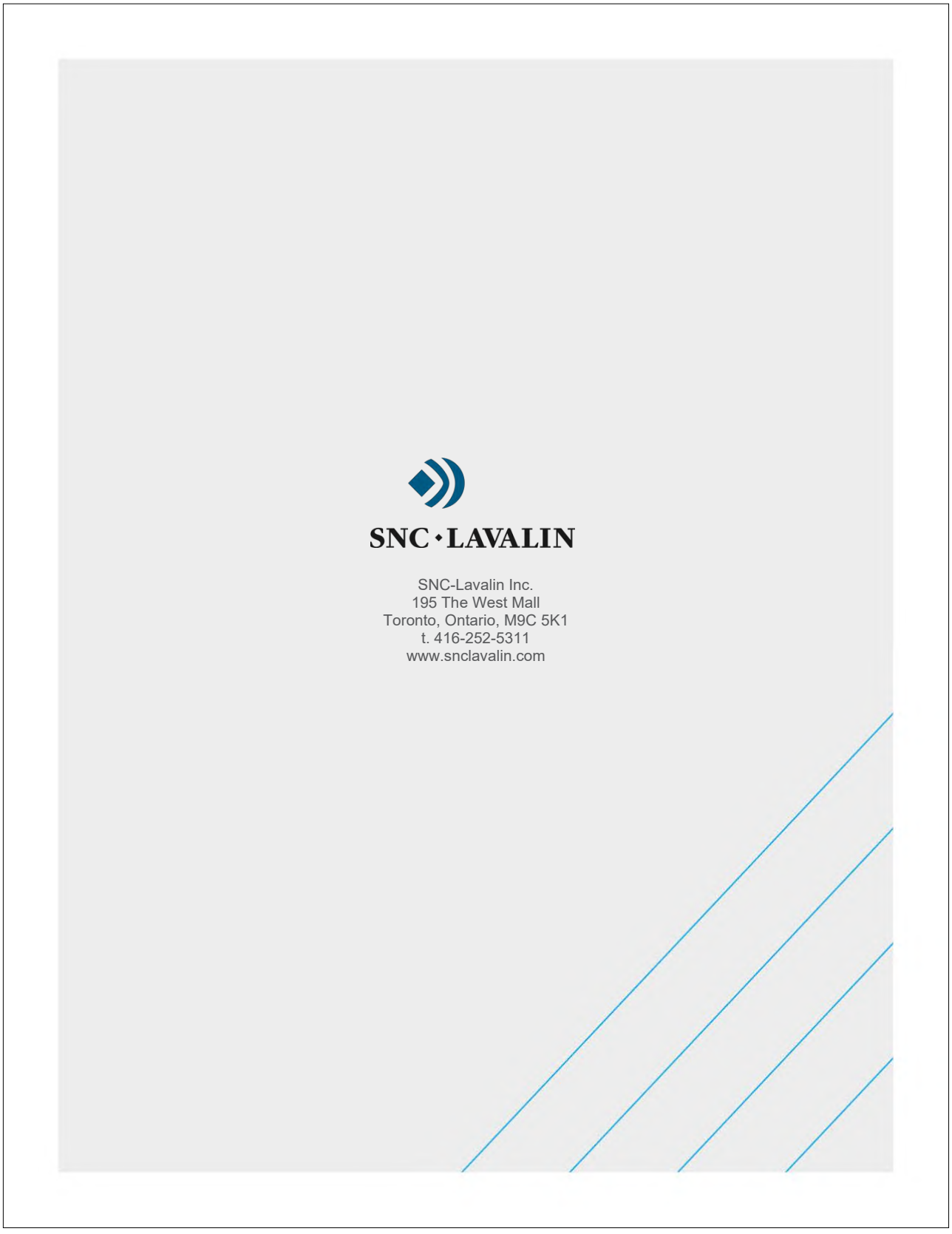
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84	**Federal IA Process (EAR/IS)**	**Thu 11/2/23**	**Tue 12/23/25**	**559 days**
85	Circulate Pre-Draft EAR/IS (prior to formal release) to MECP and Agency for Review and Receipt of Comments	Thu 11/2/23	Fri 12/22/23	37 days
86	Finalize Pre-Draft EAR/IS for Formal Release/Distribution	Fri 12/22/23	Wed 2/28/24	49 days
87	Submit Draft EAR/IS to Agency	Wed 3/6/24	Wed 3/6/24	0 days
88	Agency Leads Federal Review of Draft EAR/IS and Identifies Major Deficiences/Issues (75 days)	Wed 3/6/24	Mon 5/20/24	54 days
89	Respond to Agency Comments and Revise Draft EAR/IS (5 weeks)	Tue 5/21/24	Mon 6/24/24	25 days
90	Submit Final EAR/IS and Summary of Impact Statement to Agency for Administrative Review and Determination of Compliance with TISG (30 days)	Tue 6/25/24	Thu 7/25/24	23 days
91	Revise Final EAR/IS, if necessary, Based on Additional Comments from Agency (2 Weeks)	Fri 7/26/24	Thu 8/15/24	15 days
92	Agency Posts to Registry Public Notice to Invite the Public, Indigenous Groups and GRT to Provide Comments on the Summary of the Impact Statement (45 days)	Fri 8/16/24	Wed 10/2/24	34 days
93	Agency Considers Comments and Determines if Final EAR/IS Meets Requirements in TISG (30 days)	Thu 10/3/24	Fri 11/1/24	22 days
94	Proponent to Address Deficiencies Identified by Agency, if necessary, including Engaging with Indigenous Communities	Mon 11/4/24	Wed 12/18/24	33 days
95	Agency to Verify if Adequately Addressed and Consults with GRT, including Coordinating with MECP (30 days)	Thu 12/19/24	Mon 1/20/25	23 days
96	Agency Accepts the EAR/IS and Issues Notice of Determination (Public & Indigenous groups)	Mon 1/20/25	Mon 1/20/25	0 days
97	Agency Draws Final Conclusions, and Selects Residual Effects, Mitigation Measures and Follow-up Programs for Inclusion in Draft IA Report and Potential Conditions (100 days)	Tue 1/21/25	Wed 4/30/25	72 days
98	Agency Prepares Draft Impact Assessment Report (IAR) and Potential Conditions (110 days)	Thu 5/1/25	Wed 8/20/25	80 days
99	Agency Posts to Registry Public Notice to Invite the Public, Indigenous Groups and GRT to Provide Comments on the Draft IAR (30 days)	Thu 8/21/25	Thu 9/18/25	21 days
100	Agency Considers Comments, Examines Environmental Effects, Assesses Impacts on the Rights of Indigenous Groups, Finalizes the IAR, Drafts Consultation Report and Potential Conditions. Agency may Follow-up with WFN, public, Indigenous Groups, GRT (60 days)	Fri 9/19/25	Thu 11/20/25	45 days
101	Agency Submits the Final IAR, Consultation Report and Recommended Potential Conditions to the Minister of Environment and Climate Change for Decision (30 days).	Fri 11/21/25	Fri 12/19/25	21 days
102	Agency Posts a News Release - Impact Assessment Decision, as well as the Final IAR and the Decision Statement	Mon 12/22/25	Mon 12/22/25	0 days



Project: Webequie Supply Road
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WSR
WEBEQUIE
SUPPLY ROAD

October 21, 2022

Sasha McLeod and Dorothy Moszynski
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St Clair Avenue West, 1st floor
Toronto, ON M4V 1P5

Re: Round 1 Consultation Progress Report
Webequie Supply Road Project
Environmental Assessment / Impact Assessment

Dear Ms. McLeod and Ms. Moszynski:

As you are aware, Webequie First Nation is the proponent of the Webequie Supply Road Project (the Project), a proposed 107 km all-season road that will facilitate the movement of materials and people from the Webequie Airport to the mineral deposit area near McFaulds Lake. An Environmental Assessment (EA) under the Ontario *Environmental Assessment Act* and an Impact Assessment (IA) under the federal *Impact Assessment Act* is being conducted to identify and assess how the Project may affect the natural environment as well as the health, socio-economic and cultural well-being of communities.

We are providing the attached Consultation Progress Report (electronic copy), which summarizes and documents Round 1 of the Engagement and Consultation Program with Indigenous communities on the Project. The Consultation Progress Report is provided as per the requirements of the Terms of Reference (ToR) for the provincial EA process and specifically the Ministry of the Environment, Conservation and Parks (MECP) ToR Notice of Approval that requires the proponent to provide Consultation Progress Reports to Indigenous communities and the MECP at three key milestones throughout the EA.

The Consultation Progress Report provides an overview of engagement activities to-date, as well as community-specific summaries of engagement and community feedback and input provided by community members. Consultation Round 1 of the Engagement and Consultation Program occurred in Spring/Summer 2022. Key milestones and topics covered in this round of consultation included:

- Overview of EA/IA process;
- Consultation to date and what we have heard (i.e. during the ToR phase);
- Study Plans for discipline studies (e.g., wildlife, fish, health, etc.);
- Criteria and indicators for evaluation and selection of a preferred route and Project effects assessment;
- Approach for evaluation of alternatives (e.g., routes, aggregate source areas);
- Overview and status of baseline studies;
- Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program; and,
- Consultation approach and next steps.

WSR
WEBEQUIE
SUPPLY ROAD

Webequie First Nation is tentatively planning to conduct Consultation Round 2 for the Project from Winter 2023 to Summer 2023. The following milestones and topics are proposed to be addressed as part of engagement and consultation activities for this round:

- Summary of input received from Consultation Round 1;
- Identification and evaluation of alternatives (routes, aggregate source areas, etc.,);
- Preliminary recommended preferred route and supportive infrastructure (aggregate/ rock source areas, construction camps, access roads), including rationale for selection;
- Preliminary engineering design elements of WSR (bridges/culverts); and,
- Next steps and schedule.

We welcome any feedback on the attached Consultation Progress Report. Should you have any questions or comments on the Consultation Progress Report, please feel free to contact me at 807-472-6147 or michael.fox@supplyroad.ca.

Thank you very much.

Sincerely,



Michael Fox

Regional Consultation Lead
Webequie Supply Road

c.c. Chief Cornelius Wabasse, Webequie First Nation
Craig Wallace, Project Manager, SNC-Lavalin Inc.

2

Impact Assessment Agency of Canada
Ontario Region
600-55 York Street
Toronto ON M5J 1R7

Agence d'évaluation d'impact du Canada
Région de l'Ontario
600-55 rue York
Toronto ON M5J 1R7

May 12, 2022 **Sent by Email**

Chief Cornelius Wabasse
Webequie First Nation
P.O. Box 268
Webequie ON P0T 3A0
corneliusw@webequie.ca

SUBJECT: Information on Requesting a Time Limit Extension for the Webequie Supply Road Project under the Impact Assessment Act

Dear Chief Wabasse:

The three-year legislated time limit to provide the Agency with the required information and studies, as described in the Tailored Impact Statement Guidelines (the Guidelines) issued on February 24, 2020, for the impact assessment of the Webequie Supply Road Project (the Project) will expire on February 24, 2023. From discussions held with the project team, the Impact Assessment Agency of Canada (the Agency) understands that Webequie First Nation will require an extension to the time limit.

In accordance with subsection 19(2) of the Impact Assessment Act (IAA), the Agency may, at the proponent's request, extend the legislated time limit by any period necessary for the proponent to provide the required information and studies. The required information and studies to be provided would include the Impact Statement and any additional required information and studies that may be identified as a result of:

- the Agency's verification review of the Impact Statement;
- the public comment period on the Impact Statement Summary;
- the technical review of the Impact Statement by the Agency and federal authorities; and
- associated consultation and engagement by the Agency with Indigenous communities.

In order for an extension to be considered and granted, proponents will need to be able to demonstrate that they have made progress on the development of the Impact Statement and that they have a work plan to complete it.

…/2

-2-

The Agency requests Webequie First Nation to provide the following information for the Agency's consideration on whether to grant an extension of the time limit for the impact statement phase for the Project:

- your reasons, directly related to the impact assessment process, for requesting an extension of the time limit (e.g., multiple field seasons for baseline studies, engagement needed to resolve issues and secure input, coordination with provincial assessment process);
- any changes to the environment at the project location, or to the project itself, that have occurred that may affect the impact assessment;
- a work plan detailing the progress made to date, accounting for work completed, work currently underway, and work not yet started, along with a breakdown of how the extended time would be utilized to provide all the required information and studies, including :
  - engagement activities with Indigenous communities and the public;
  - surveys with Indigenous communities and members of the public to collect baseline data, Indigenous knowledge and community knowledge;
  - field surveys to collect biophysical baseline data;
  - coordination with other parties, including coordination with Ontario for inclusion in the Impact Statement the outcomes from Ontario's Crown Consultation Approach that are relevant to the federal assessment;
  - submissions of the draft Impact Statement and the Impact Statement, including the time required for proponent-led engagement, document reviews by the Agency and federal authorities, and Agency-led consultation and engagement with Indigenous communities and the public;
  - time to address any deficiencies in the Impact Statement;
  - time to address issues that arose during proponent-led engagement activities, the public comment period on the Impact Statement, and Agency-led activities with Indigenous communities and the public; and
  - contingency allowance for unexpected delays in the project schedule;
- a progress report demonstrating advances made on the Project to meet the requirements of the Guidelines, including:
  - description of the type of engagement activities conducted to date with Indigenous groups, the public and government experts and their outcomes (i.e. what was achieved to inform the Impact Statement);
  - a summary of the baseline data (i.e. variables) collected to date;
  - determination of the final locations of project components, in particular the locations of the preferred road alignment, the aggregate pits and the access/service roads;
- any additional information that you believe is relevant.

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-3-

Important: If a proponent fails to provide the information or studies within the three-year time limit, or within any time limit extension that may be granted by the Agency, the impact assessment would be terminated in accordance with section 20(1) of the IAA. If the impact assessment is terminated, the prohibitions under section 7 of the IAA would continue to apply to the Project. If the Proponent wishes to continue with the Project, it must submit an Initial Project Description to the Agency in accordance with section 10 of the IAA to once again commence the impact assessment process under the IAA. The information that must be provided in an Initial Project Description is detailed in the Information and Management of Time Limits Regulations under the IAA. Further information on the IAA is available on the Agency's website at https://www.canada.ca/en/impact-assessment-agency.html.

The Agency strongly advises Webequie First Nation to submit a complete request by **September 24, 2022,** for the Agency to process the request prior to the expiration of the legislated time limit on **February 24, 2023**. The Agency will post the time limit extension request documents submitted by Webequie First Nation and the Agency's response to the request on the Canadian Impact Assessment Registry.

We understand that Webequie First Nation will prepare a draft extension request, which we look forward to reviewing to ensure the draft contains all the requested information for the Agency's consideration. If you have any questions, please do not hesitate to contact Alexandra Oakes, the Project Manager, by phone at 647-291-3721 or by email at Webequie@iaac-aeic.gc.ca.

Sincerely,



Anjala Puvananathan
Director, Ontario Region

c.c.: Gordon Wabasse, Lands & Resources Director, Webequie First Nation
Craig Wallace, Project Manager, SNC Lavalin
Michael Fox, Regional Consultation Lead, Webequie First Nation
Sasha McLeod, Ministry of the Environment, Conservation and Parks
Dorothy Moszynski, Ministry of the Environment, Conservation and Parks
Andrew Lock, Ministry of Northern Development, Mines, Natural Resources and Forestry

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Vice-President
Operations

160 Elgin St., 22nd floor
Ottawa ON K1A 0H3

Vice-président
Opérations

160, rue Elgin, 22e étage
Ottawa ON K1A 0H3

January 5, 2023

Chief Cornelius Wabasse
Webequie First Nation
P.O. Box 268
Webequie ON P0T 3A0
corneliusw@webequie.ca

Chief Wabasse:

On October 21, 2022, the Impact Assessment Agency of Canada (the Agency) received your request for an extension to the three-year legislated time limit under the *Impact Assessment Act* (the IAA), to provide the required information or studies for the impact assessment of the Webequie Supply Road Project (the Project). As per subsection 19(2) of the IAA, at the proponent's request, the Agency may extend the time limit by any period that is necessary for the proponent to provide the Agency with the required information or studies.

Following a review of available information, including the information submitted in your request, the Agency has determined that it will **extend the time limit**. The Agency is of the view that:

- you have demonstrated progress in the development of the required information and studies and have a realistic work plan to complete all work;
- the COVID-19 pandemic and resulting response measures affected your ability to meet the time limit; and
- the extended time limit would allow for continued coordination with the province and help manage consultation fatigue among the Indigenous communities.

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Pursuant to subsection 19(3) of the IAA, if the Agency extends the time limit, it may require the proponent to provide it with any additional information or studies that the Agency considers necessary for the conduct of the impact assessment. After reviewing the information available to the Agency and views expressed by Indigenous communities, federal authorities and the public, the Agency has determined that no additional (new) information is required to conduct the impact assessment.

However, in preparing the Impact Statement, Webequie First Nation is expected to follow updated technical guidance and best practices, in accordance with project-specific direction issued by the Agency. This includes having to follow the updated technical guide to the Strategic Assessment of Climate Change, which requires the application of a Tier 2 or Tier 3 approach to estimate emissions and removals of greenhouse gases from land-use change in the effects assessment for the Project.

Webequie First Nation also is expected to meet the requirements set out in the Tailored Impact Statement Guidelines for the Project in relation to engagement with other Indigenous communities, as necessary, to inform the content of the Impact Statement, including the effects assessment and details on potential impacts on the exercise of Aboriginal and Treaty rights of the communities listed in the Indigenous Engagement and Partnership Plan for the Project. The Agency notes from your request that, to date, participation by potentially impacted communities has been low.

Furthermore, the Agency requires that all comments provided by the federal review team, including those provided on the study plans and work plans, as well as the concerns expressed by Indigenous communities and members of the public, be fully addressed in the Impact Statement.

The deadline to provide the Agency with the information and studies required for the impact assessment of the Project is now **January 6, 2027**.

The required information and studies to be provided include the Impact Statement and any additional information or studies that may be identified as a result of:

- the Agency's conformity review of the Impact Statement;
- the public comment period on the Impact Statement Summary;
- the technical review of the Impact Statement by the Agency and federal authorities; and
- associated consultation and engagement by the Agency with Indigenous communities and the province.

…3/

- 3 -

If the required information and studies are not provided within the extended time limit that has been granted, the impact assessment for the Project would be terminated in accordance with subsection 20(1) of the IAA. If the impact assessment is terminated, note that, in accordance with subsection 7(1) of the IAA, proponents of a designated project are prohibited from carrying out any act related to the project that may cause one of the effects listed therein. If the proponent wishes to continue with the Project after the termination of the assessment, it must submit an Initial Project Description to the Agency in accordance with section 10 of the IAA.

Please note, your request, this determination, and a notice informing the public of the new time limit will be posted to the Canadian Impact Assessment Registry Internet site at *https://iaac-aeic.gc.ca/050/evaluations/proj/80183*.

If you have any questions, do not hesitate to contact Anjala Puvananathan, Regional Director for Ontario Region, by telephone at 416-952-1576 or by email at *webequie@iaac-aeic.gc.ca*.

Sincerely,

Eric Landry

UNCLASSIFIED - NON CLASSIFIÉ

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Ontario Region
600-55 York Street
Toronto ON M5J 1R7

Région de l'Ontario
600-55, rue York
Toronto (Ontario) M5J 1R7

December 7, 2023 **Sent by email**

Chief Cornelius Wabasse
Webequie First Nation
P.O. Box 268
Webequie ON P0T 3A0
corneliusw@webequie.ca

SUBJECT: Follow-up on the interim administration of the *Impact Assessment Act*

Chief Cornielius Wabasse:

On October 26, 2023, in response to the Supreme Court of Canada's decision on the constitutionality of the *Impact Assessment Act* (the IAA), the Impact Assessment Agency of Canada's (the Agency's) President, Terence Hubbard, shared the Government of Canada's Statement on the Interim Administration of the IAA Pending Legislative Amendments with you to provide guidance until targeted and meaningful amendments to the IAA can be made. The interim statement is available on the Agency's website: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/statement-interim-administration-impact-assessment-act-pending-legislative-amendments.html.

The Agency recognizes the importance for you, as a proponent of a major project, to have clarity regarding the implications of the Supreme Court of Canada's decision on the impact assessment of designated projects, such as yours.

The Supreme Court of Canada's decision constitutes authoritative guidance on the constitutionality and interpretation of the IAA, and the Government of Canada has stated its intent to amend the legislation quickly to ensure the IAA is consistent with that decision. Advancing projects through the impact assessment process, while legislative amendments are pending, is at the discretion of proponents.

In addition to the interim measures posted to the Agency's website, we would like to take this opportunity to provide you with further insight into measures that will be taken during this interim period to support the advancement of the assessment of the Webequie Supply Road Project (the Project).

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Canada

In light of the Supreme Court of Canada's decision, which came into effect October 13, 2023, the time limits in the IAA will not be enforced during this interim period while legislative amendments are pending. However, the Agency intends to continue its activities in line with its internal service standards and with the time limits set out in the IAA to ensure an efficient and timely process.

The Agency is of the opinion that the Project, as identified by you in your Initial Project Description and Detailed Project Description, appears to involve activities falling under a federal head of power or activities likely to have clear impacts on a federal head of power, which could result in adverse effects on:

- fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*;
- federal lands; and
- impacts on Indigenous communities.

The Agency will review this opinion above, once amendments to the IAA are in force.

The Agency will continue to support you as you prepare the Impact Statement for the Project. The Agency will explore opportunities to maximize collaboration with the province to take full advantage of the provincial assessment of factors they are examining, so that federal assessments can focus more on potential adverse effects in areas of federal jurisdiction. Documents issued to you during the planning phase will be examined with the same purpose and objective.

The Agency will continue to meaningfully engage and consult with Indigenous Peoples through the assessment process, including on the potential adverse impact of designated projects on Aboriginal and Treaty rights as recognized and affirmed in section 35 of the *Constitution Act, 1982*. The amended IAA will remain consistent with the United Nations Declaration on the Rights of Indigenous Peoples and will continue to provide opportunities for meaningful engagement and participation of Indigenous Peoples in the assessment process, with the aim of securing their free, prior and informed consent.

The Agency remains ready to collaborate with you to advance the assessment of the Project and discuss the information required to support the assessment. We understand that you will meet with Ian Ketcheson, the Agency's Vice President - Indigenous Relations Sector, in the near future. During that meeting, we encourage you to confirm your intent to continue to advance the assessment of the Project, or please have Michael Fox convey your position at the next biweekly coordination call.

…/3

Furthermore, to increase efficiency and timeliness, we encourage you to consider working concurrently on complementary federal regulatory processes that may be required for the Project. The Agency is available to liaise with federal authorities to coordinate these processes. Additional information can be found on the Agency's website at: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/coordination-federal-authorizations-impact-assessment-process.html.

If you have any questions, please do not hesitate to contact me by phone at 416-669-2775 or by email at webequie@iaac-aeic.gc.ca.

Sincerely,

Weisbrot, Ely

Digitally signed by: Weisbrot, Ely
DN: CN = Weisbrot, Ely C = CA O = GC OU = EC-EC
Date: 2023.12.07 16:46:23 -05'00'

Ely Weisbrot
Acting Project Manager, Ontario Region

cc. Michael Fox, Project Lead

Activity Date: Feb 16, 2024 19:02
File Name: WSR-Consultation Round 2 Alternatives Assessment GRT and Federal Authorities Presentation-2023-11-17.pdf
Activity Method: E-mail
Date Published: Nov 17, 2023



Consultation Round 2: Alternatives Assessment

GRT and Federal Authorities – November 17, 2023 (Doc # - WSR240-WEB-PR-PN-0087)

TODAY'S TOPICS

1. Introductions
2. Safety Moment
3. Project Overview and Purpose
4. Project Timelines and Milestones in EA/IA Process
5. Alternatives Assessment Process and Approach (routes and supportive infrastructure)
6. Evaluation of Alternative Routes
7. Evaluation Alternative Aggregate Source Areas
8. Evaluation of Alternative Locations for Temporary Construction Camps
9. Initial Feedback/Discussion from GRT and Federal Authorities



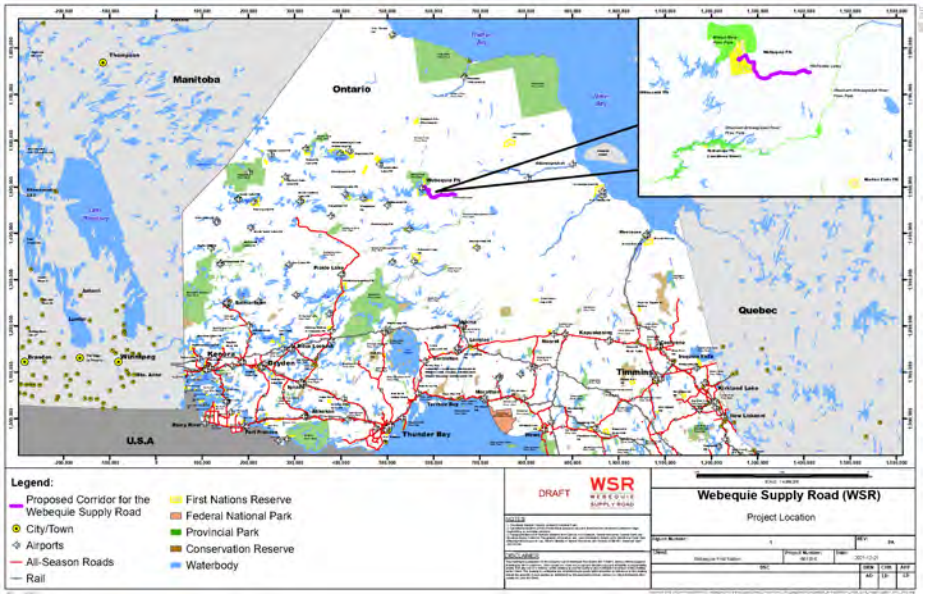
HEALTH AND SAFETY SHARE



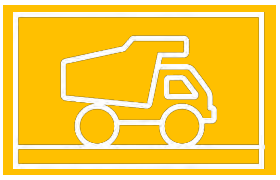
- Helicopter Incident (October 21st):
  - Contact with drill rig during loading
  - Initial misattribution of sounds
  - Damage to two rotor blades, minor damage to the drill mast
  - No injuries or other damages

- Inspection and Grounding:
  - Pilot reported noise to the Aircraft Maintenance Engineer
  - Markings on rotor blades consistent with metal-on-metal contact
  - Helicopter grounded for repairs/replacement

PROJECT LOCATION



PURPOSE OF THE WEBEQUIE SUPPLY ROAD



Move materials, supplies and people from the Webequie Airport to the McFaulds Lake area

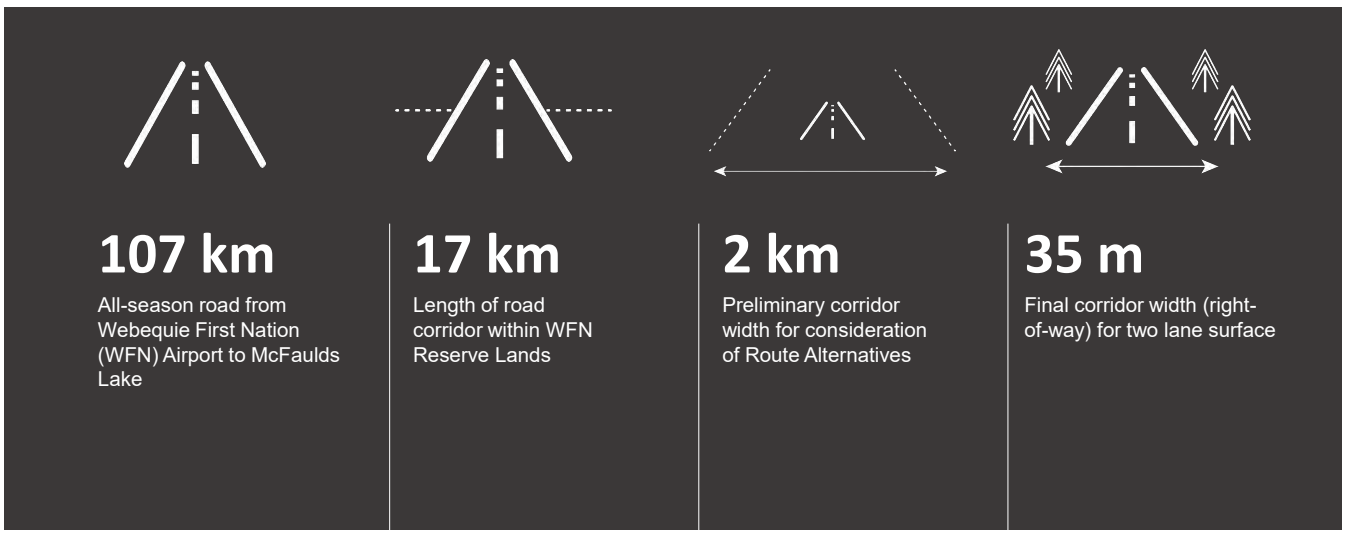


Provide employment and economic development opportunities to Webequie while preserving their language and culture



Provide experience/training opportunities for youth to help encourage the pursuit of additional skills through post-secondary education

PROJECT DESCRIPTION



107 km
All-season road from Webequie First Nation (WFN) Airport to McFaulds Lake

17 km
Length of road corridor within WFN Reserve Lands

2 km
Preliminary corridor width for consideration of Route Alternatives

35 m
Final corridor width (right-of-way) for two lane surface

PROJECT DESCRIPTION



6

Major waterbody crossings and up to 25 smaller waterbody crossings that require bridges and culverts



Includes temporary and permanent aggregate pit/rock quarry areas with equipment for processing, as well as access roads to these areas



Construction camps (temporary) to accommodate construction crews and operation/maintenance office (permanent) including supportive facilities (wastewater treatment plant, potable water storage)



Storage and laydown yards (temporary) for equipment and materials

PROJECT EA/IA TIMELINES AND DELIVERABLES



CONSIDERATION AND EVALUATION OF ALTERNATIVES



ALTERNATIVES ASSESSMENT PROCESS

- There are two types of alternatives considered in the EA/IA process:
  - "Alternatives to" the Project are the different ways of approaching and dealing with a problem or opportunity
  - "Alternative methods" of carrying out the Project are different ways of doing the same activity (e.g., alternative routes for road, alternative locations for aggregate/rock areas, etc.)
- During Consultation Round 2 (March – Nov. 2023), the assessment of alternatives has been presented in 2 parts
- Part 1 focused on "alternatives to" the Project and assessment of alternative routes (alternative methods) for the WSR within the identified 2 km wide corridor
- Part 2 focused on the evaluation of alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads); and road design elements of the proposed WSR



ALTERNATIVES TO THE PROJECT CARRIED FORWARD

- In keeping with the approved ToR, the approach forward is a focused provincial EA and federal IA that includes an evaluation of the “do nothing” compared against the proceeding with the Project (new all-season road) to determine whether the anticipated socio-economic benefits of the Project outweigh its predicted adverse effects
- The evaluation of the “do nothing” alternative identifies the implications of doing nothing to address the opportunity as identified by WFN
- Allows for full understanding of advantages and disadvantages of the Project compared to “do nothing” alternative. Will be presented in the future Environmental Assessment Report / Impact Statement





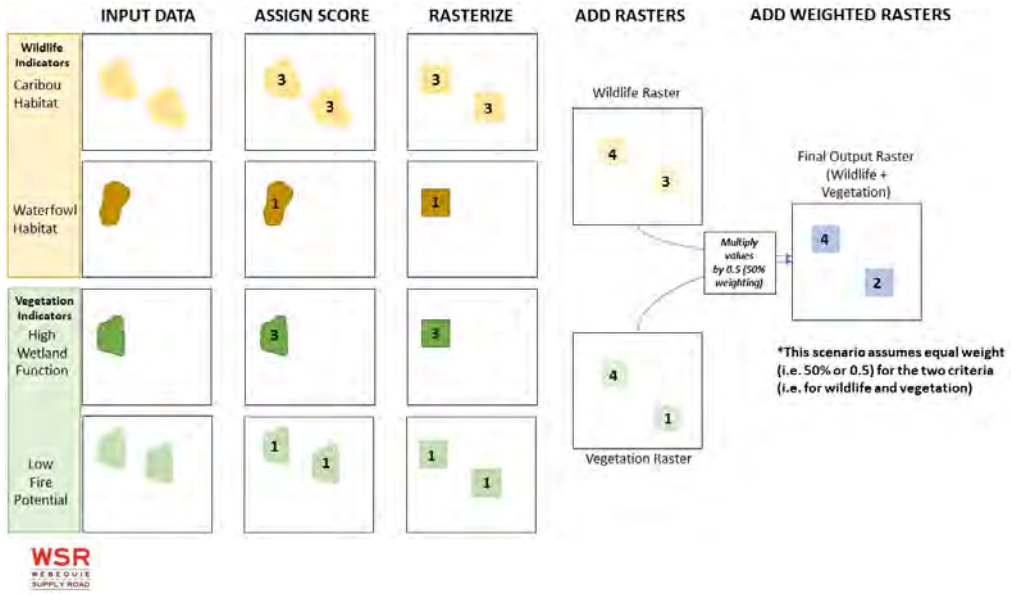

ALTERNATIVE
ASSESSMENT

APPROACH FOR EVALUATION OF ALTERNATIVES

The Process

- A multi-factor analysis has been completed to allow for a comparison of the advantages and disadvantages of the alternatives
- To complete the analysis, the Project Team used a computer software tool (“Pangea”) that is designed to compare alternatives with multiple criteria, different perspectives and mix of qualitative and quantitative data
- As part of the EA/IA process and feedback received to date, indicators to measure change for each valued component/criteria have been identified
- High level assessment of net effects of alternatives with consideration of general avoidance, mitigation and compensation

PANGEA TOOL



1. Gather input data
2. Assign score to each indicator
3. Convert vector to raster
4. Sum rasters
5. Apply weights and add weighted rasters

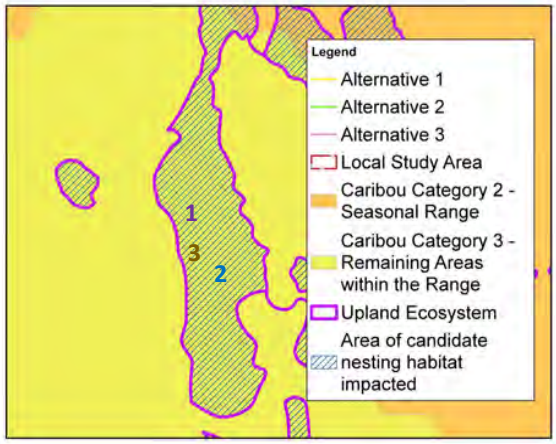
PANGEA TOOL

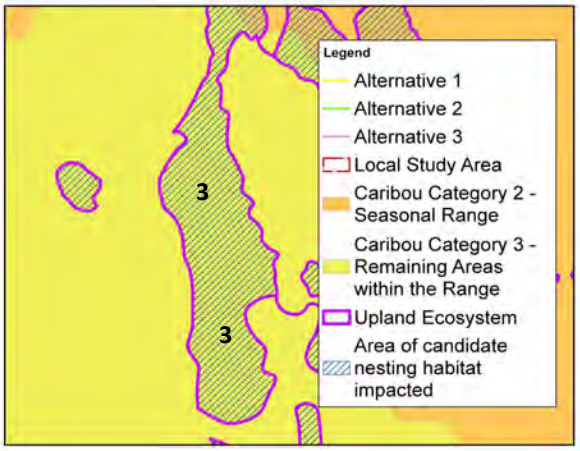
Upland Ecosystem Score = 1

Candidate Nesting Habitat Score = 2

Category 3 Caribou Habitat Score = 3

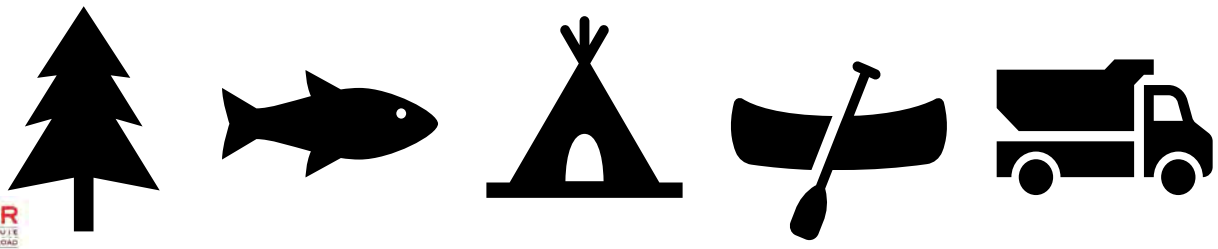
1. Add wildlife indicators together (2 + 3 = 5)
2. Add vegetation indicators together (1 + 0 = 1)
3. Apply weighting (Wildlife: 5 * 0.5 = 2.5 and Vegetation: 1 * 0.5 = 0.5)
4. Add weighted values together (Total Weighted Score: 2.5 + 0.5 = 3)





APPROACH FOR EVALUATION OF ALTERNATIVES

- The criteria and indicators selected by the Project Team for the evaluation of the route alternatives are organized under the following factors:
  - Biological Environment
  - Physical Environment
  - Indigenous Land Use and Interests
  - Socio-Economic Environment (including cultural heritage and archaeology)
  - Technical Considerations (cost, constructability, safety, etc.)



MULTIPLE FACTOR ANALYSIS - EXAMPLE

FACTORS (Total 5)	CRITERIA/VALUED COMPONENTS (Total 33)	INDICATORS (Total 168)
Indigenous Land Use and Interests	Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes	• Area of caribou habitat impacted • Number of hunting/fishing cabins or camps impacted • Number of fishing sites impacted • Area of hunting and trapping site impacted • Area of plant harvesting or gathering sites impacted (food and/or medicinal)
	Cultural Continuity (ability to practice and transmit cultural traditions)	• Number of water access routes used by small boats impacted • Number of historical land travel routes impacted • Number of portage routes impacted • Number of burial sites impacted • Number of cultural teaching/spiritual sites impacted
Biological Environment	Moose	• Area of high, moderate or low quality winter habitat area directly impacted • Area of high, moderate or low quality winter habitat area within 2 km and 10km km of route • Area of aquatic (wetland) feeding habitat directly impacted • Area of aquatic (wetland) feeding habitat within 2 km and 10 km of route
	Fish and Fish Habitat	• Area of waterbodies impacted • Area of Low Sensitivity Habitat impacted • Area of Moderate Sensitivity Habitat impacted • Area of High Sensitivity Habitat impacted

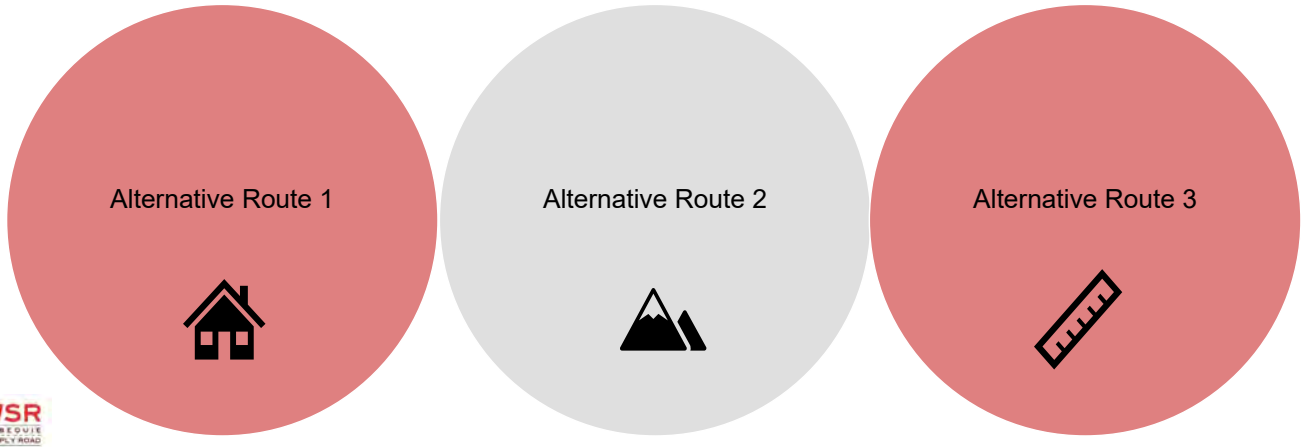
MULTI-FACTOR ANALYSIS - WEIGHTING AND SCORING

- A weighting system has been assigned to the factors and associated criteria and indicators that applies relative level of importance that individual criteria and indicators have to each other, and to the overall decision outcome
- At this time equal weighting has been applied to factors, criteria and indicators
- Scores were applied to each indicator at the discretion of the discipline specialists while maintaining equal weighing amongst criteria and factors
- Based on spatial analysis of the data for each alternative route, a score is assigned where the route intersects the various indicators. A low score is preferred as it represents less impacts and a high score is less preferred

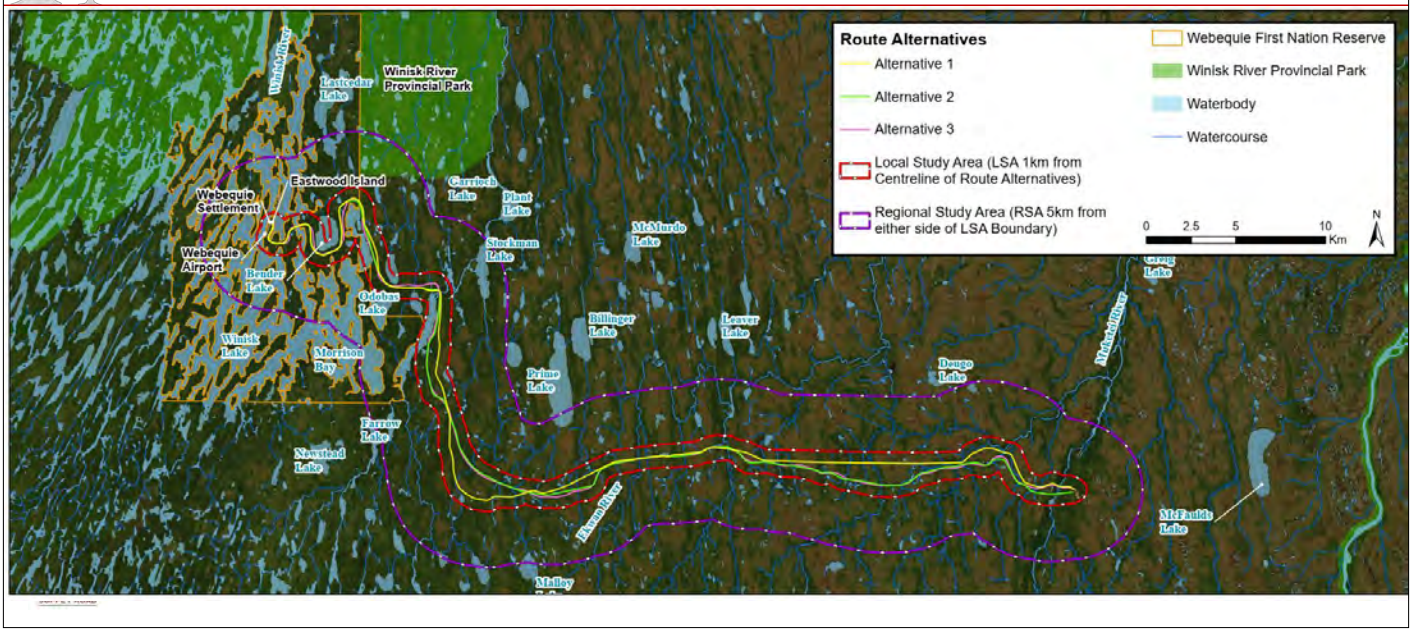

ROUTE
ALTERNATIVES

ALTERNATIVE ROUTES IN THE PREFERRED CORRIDOR

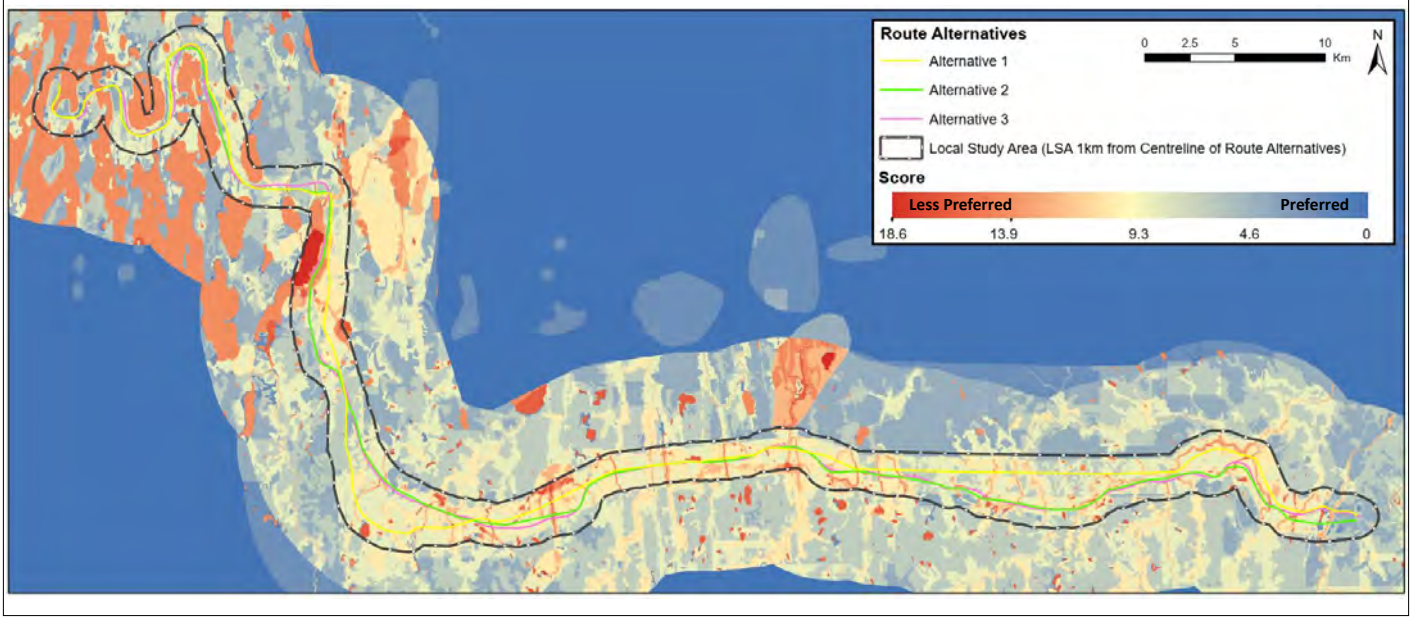
There are 3 alternative routes being considered within a 2 km wide corridor



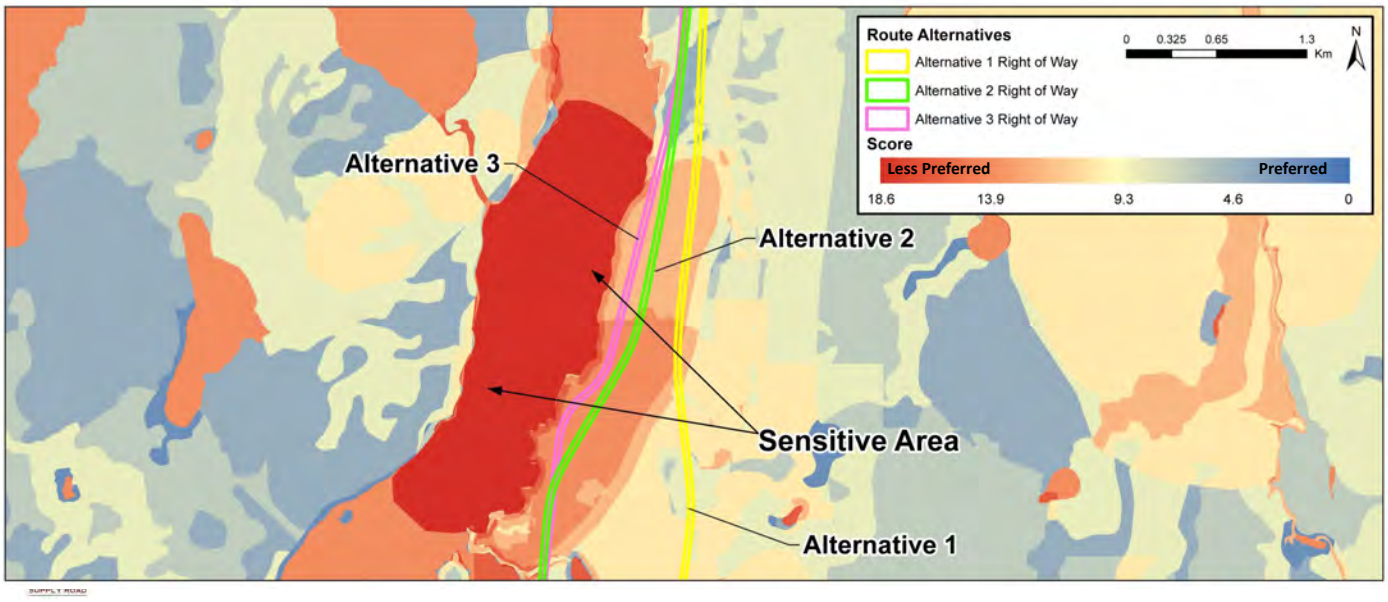
ALTERNATIVE ROUTES IN THE PREFERRED CORRIDOR



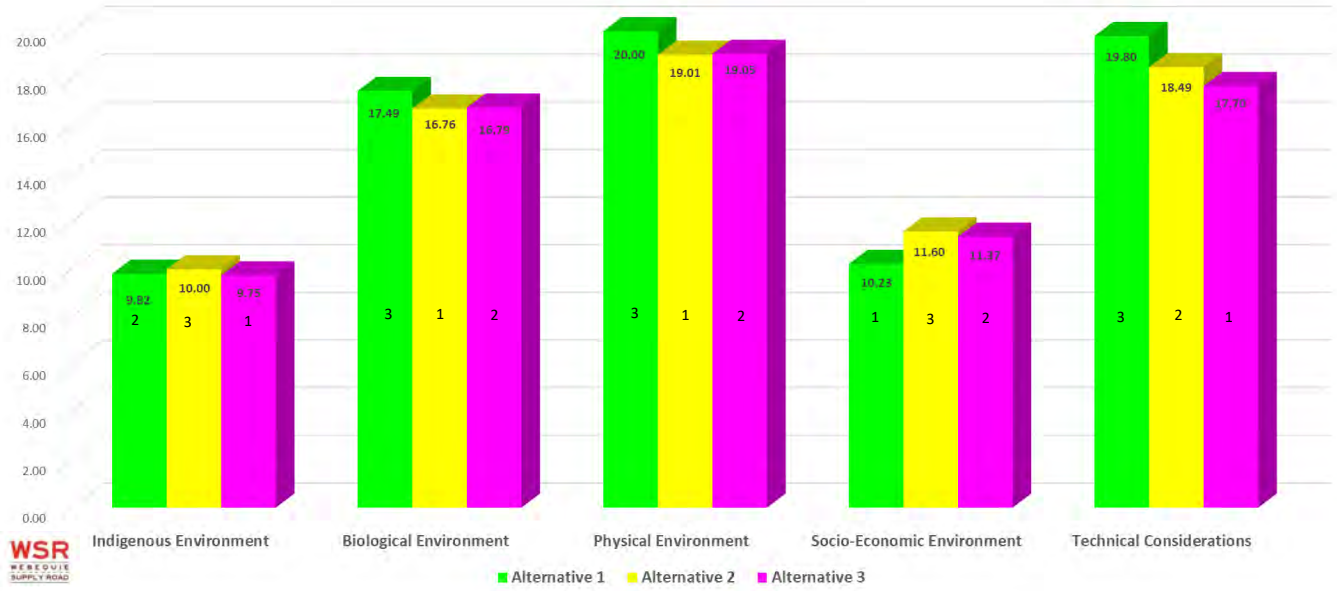
MULTIPLE FACTOR ANALYSIS



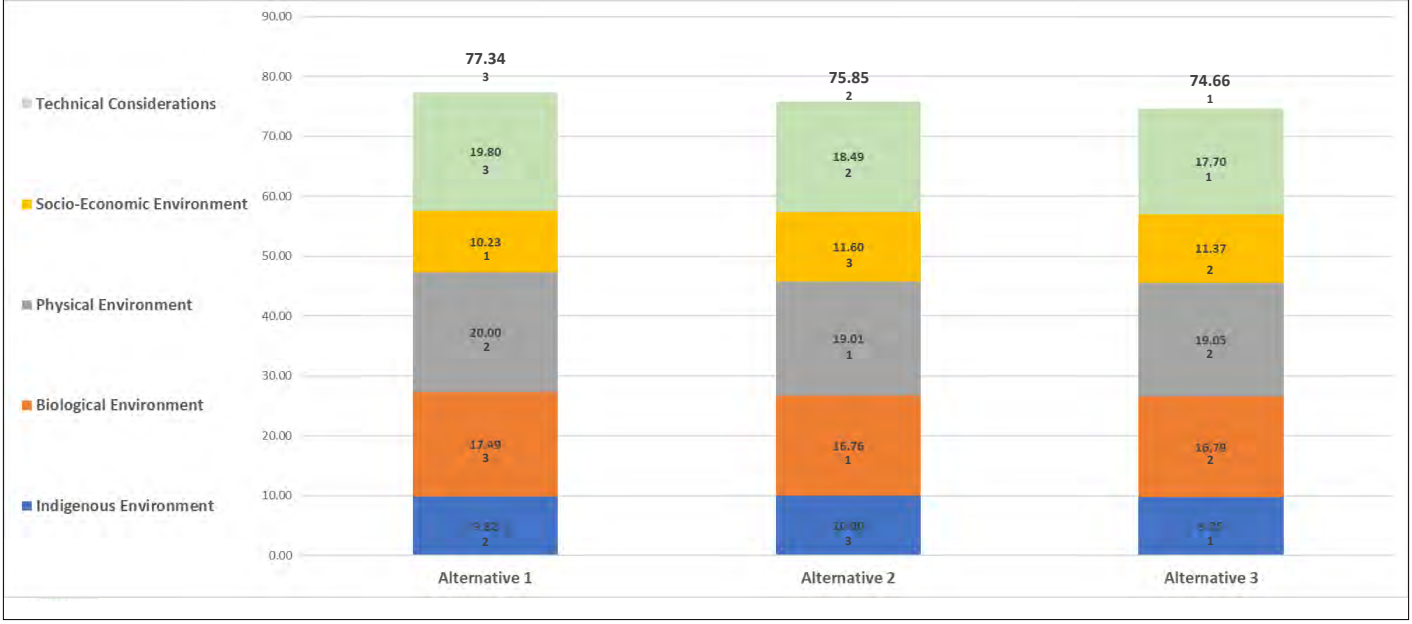
MULTIPLE FACTOR ANALYSIS



MULTIPLE FACTOR ANALYSIS



MULTIPLE FACTOR ANALYSIS (OVERALL RESULTS)

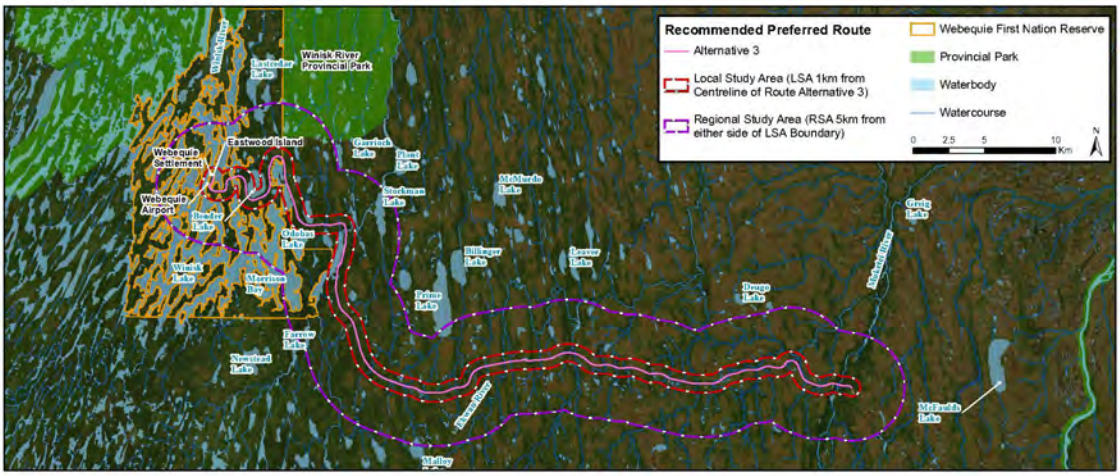


SUMMARY OF ROUTE ALTERNATIVES ASSESSMENT

Factor	Alternative 1	Alternative 2	Alternative 3
Indigenous Environment	Less Preferred	Least Preferred	Preferred
Biological Environment	Least Preferred	Preferred	Less Preferred
Physical Environment	Least Preferred	Preferred	Less Preferred
Socio-Economic Environment	Preferred	Least Preferred	Less Preferred
Technical Considerations	Least Preferred	Less Preferred	Preferred
Overall	***Least Preferred Option***	***Less Preferred Option***	***Preferred Option***

RECOMMENDED PREFERRED ROUTE

Based on the evaluation of alternatives routes using a multi-factor analysis, Alternative Route 3 is recommended as the preferred alternative for the WSR



WSR
WEBEQUIE SUPPLY ROAD


SUPPORTIVE
INFRASTRUCTURE
ALTERNATIVES

ALTERNATIVES FOR SUPPORTIVE INFRASTRUCTURE

The evaluation of alternative locations for supportive infrastructure includes

- Aggregate/Rock Source Areas (Pits/Quarries)
- Access Roads
- Construction Camps with Storage/Laydown Areas for Equipment & Materials







ALTERNATIVE AGGREGATE SOURCE AREAS (PITS/QUARRIES)

Location of potential aggregate/rock source areas (12 - Bedrock and Esker Type Landforms)

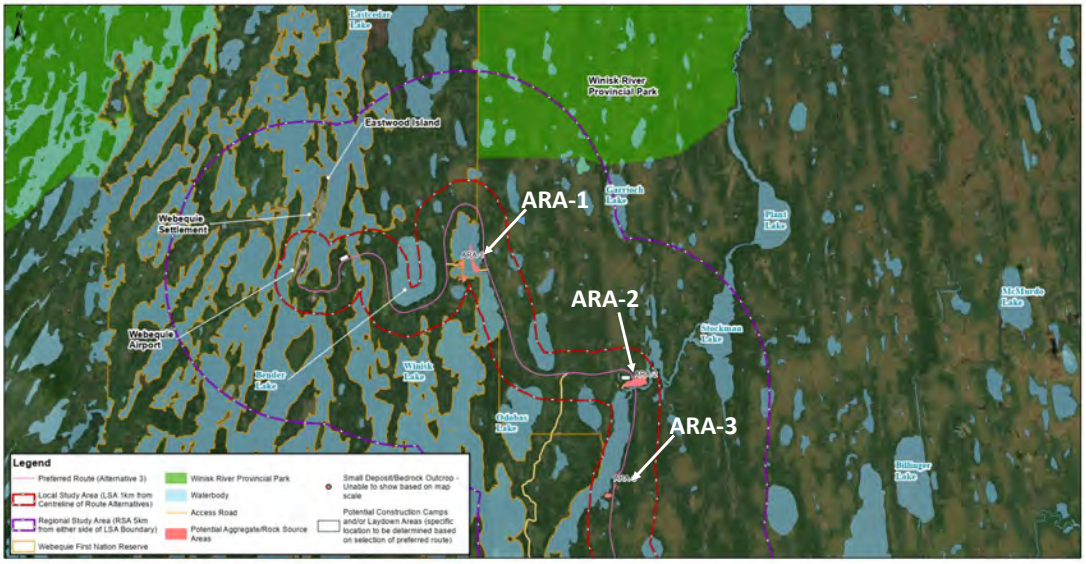
Aggregate and Rock Needs for Construction and Operations/Maintenance

Phase	Earth Fill	Gravel	Rock	Total
Construction	1,551,000 m3 (155,100 dump trucks)	1,297,000 m3 (129,700 dump trucks)	1,500 m3 (150 dump trucks)	2,849,500 m3
Operations and Maintenance		2,000,000 m3	5,000 m3	2,005,000 m3

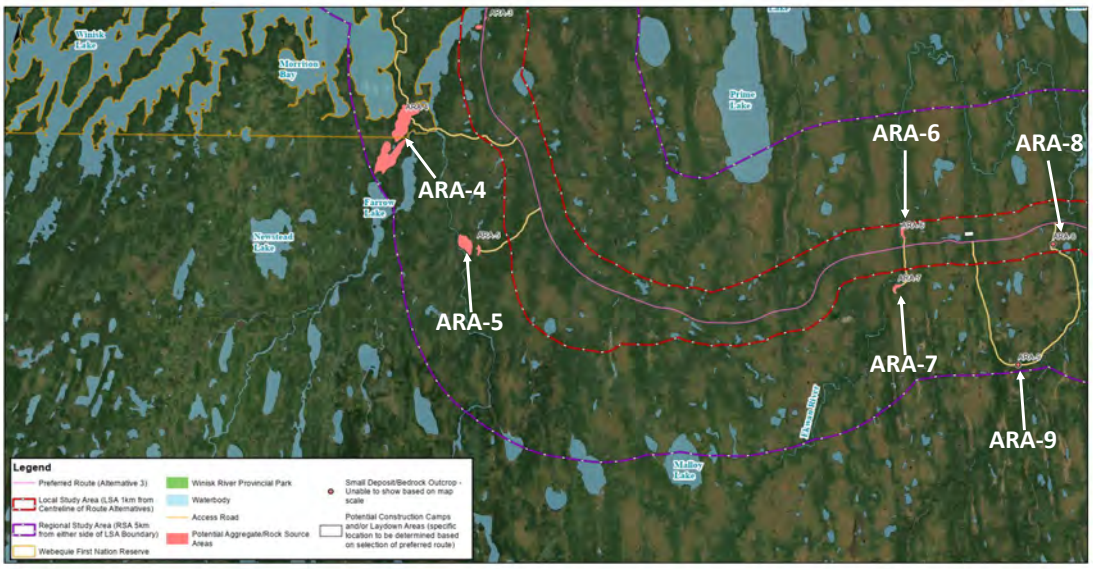




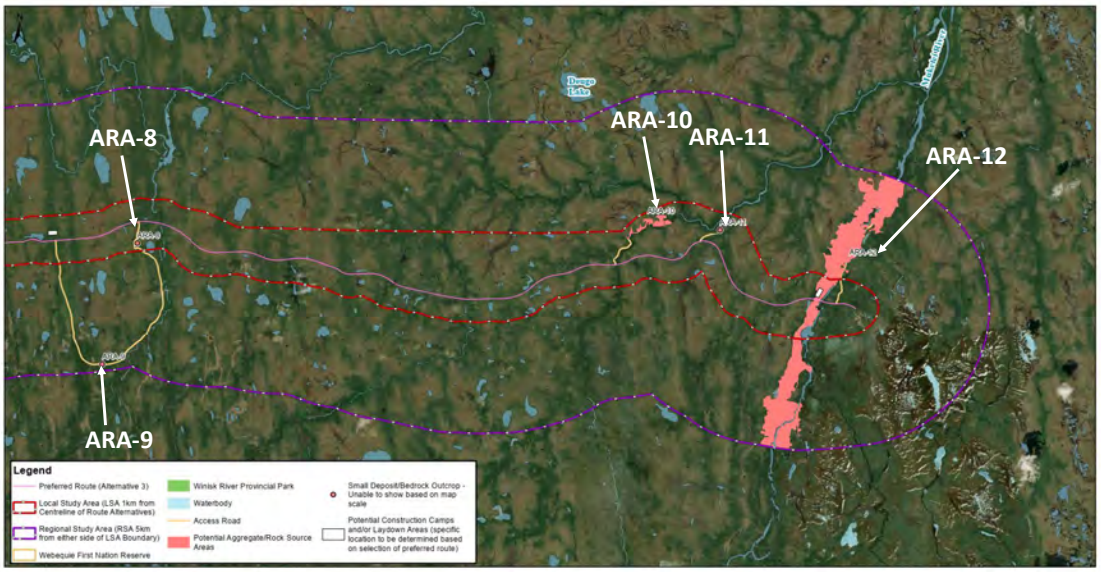
POTENTIAL AGGREGATE SOURCE AREAS (WEST)



POTENTIAL AGGREGATE SOURCE AREAS (WEST-CENTRAL)



POTENTIAL AGGREGATE SOURCE AREAS (EAST)



ALTERNATIVE AGGREGATE SOURCE AREAS (SCREENING)

- ARA-2 and ARA-3: good quality material (medium to coarse sand and rock) and are close to the preferred route with only short access roads needed.
- ARA-4: large area of good quality material (gravel and sand) further away from WSR preferred route and requires a longer access road.
- ARA-5 and ARA-12: no suitable aggregate material – can not be used for construction.
- ARA-1, ARA-8, ARA-9: limited suitable material (small areas, such as rock outcrops) and efforts to use (access roads, set-up aggregate & quarry facility) make these sites not worth pursuing. Too much disturbance for too little material.
- ARA-6 and ARA-7: limited suitable quality material. Not feasible to access for majority of road construction in western portion, as road needs to start from the community of Webequie



ALTERNATIVE AGGREGATE/ROCK SOURCE AREAS (RESULTS)

Estimated Volumes of Aggregate/Rock
- ARA-2 - 500,000 to 1,000,0000 m^3
- ARA-3 - 150,000 to 500,000 m^3
- ARA-4 - 4,000,000 to 8,000,000 m^3

Estimated Volume Required for Construction and Operation (4,850,0000 m^3)

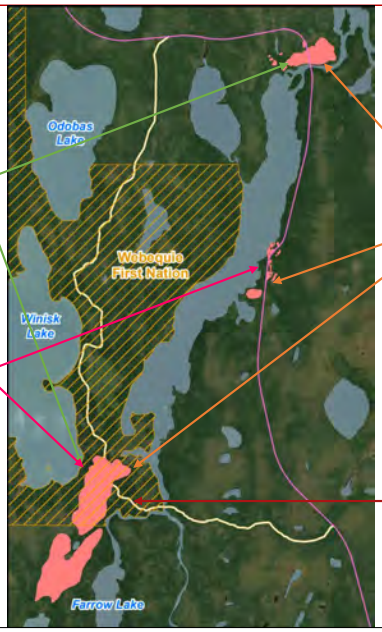
Alternatives that Meet the Required Volume:
- Option 1 – Use ARA-3 and ARA-4
- Option 2 – Use ARA-2 and ARA-4
- Option 3 – Use ARA-2, ARA-3 and ARA-4
- Option 4 – Use ARA-4 Only



POTENTIAL AGGREGATE SOURCE AREAS (EAST)

Option 2 – Use ARA-2 and ARA-4

Option 1 – Use ARA-3 and ARA-4



Option 3 – Use ARA-2, ARA-3 and ARA-4

Option 4 – Use ARA-4 Only

WSR
WEBEQUIE SUPPLY ROAD

ALTERNATIVE AGGREGATE SOURCE AREAS (RESULTS)

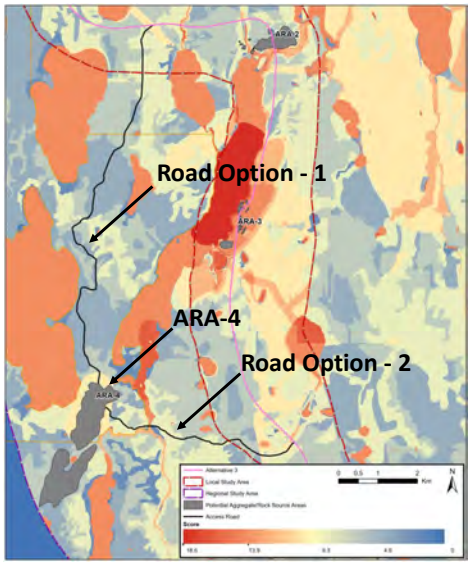
Option	Meets Quantity	Ability to Access	Proximity to Start of Construction (Webequie)	Long-term Source of Aggregates	Multi-Factor Score Ranking	Overall Rank
Option 1 - ARA-3 and ARA-4	YES	ARA-3 requires minimal access ARA-4 requires significant access road/bridge	NO	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)
Option 2 - ARA-2 and ARA-4	YES	ARA-2 requires minimal access ARA-4 requires significant access road/bridge	YES - ARA-2	YES - ARA-4	Lower	RANK 1
Option 3 - ARA-2, ARA-3 and ARA-4	YES	ARA-2 and ARA-3 requires minimal access ARA-4 requires significant access road/bridge	YES - ARA-2	YES - ARA-4	Higher	RANK 2
Option 4 - ARA-4 only	YES	ARA-4 requires significant access road/bridge	NO	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)	SCREENED OUT BECAUSE TOO FAR FROM WEBEQUIE COMMUNITY (CONSTRUCTION START)

ALTERNATIVE AGGREGATE SOURCE AREAS (RESULTS)



AGGREGATE ACCESS ROADS

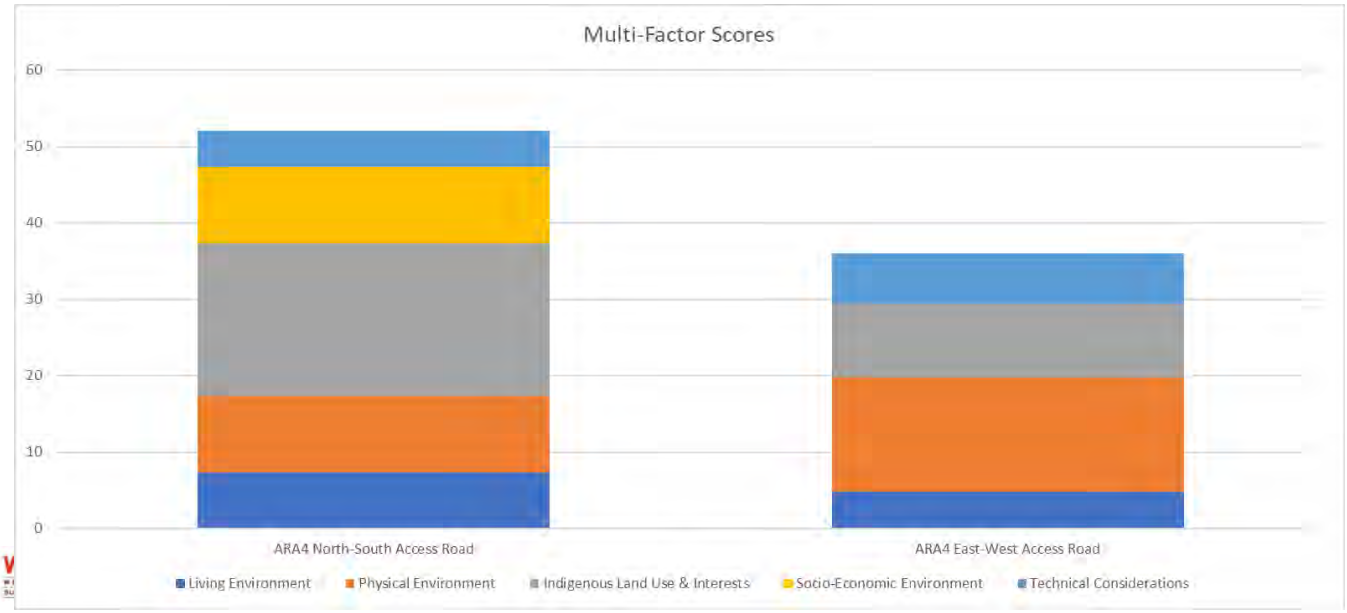
- Alternative access routes for aggregate/rock source areas ARA-2 and ARA-3 were also not considered as the source areas are within the footprint of the road or immediately nearby
- In above cases the routes for access roads minimized or avoided known environmental sensitivities or features of value (e.g., watercourse, habitat for wildlife, etc.)
- Two access road alternatives were evaluated for development of ARA-4:
  - Road Option - 1 (R-1) is 10 km in length with no watercourse crossings
  - Road Option - 2 (R-2) is 3.5 km in length with one major watercourse crossing



ALTERNATIVE ARA-4 AGGREGATE ACCESS ROAD (RESULTS)

Option	Route	Footprint	Multi-Factor Score Ranking	Overall Rank
Option 1 - 10 km in length with no watercourse crossings	No Watercourse Crossing 10 km Road	Larger	2 (Higher)	RANK 2
Option 2 - 3.5 km in length with one major watercourse crossing	Major Watercourse Crossing 3.5 km Road	Smaller	1 (Lower)	RANK 1

ALTERNATIVE ARA-4 AGGREGATE ACCESS ROAD (RESULTS)



CONSTRUCTION CAMPS

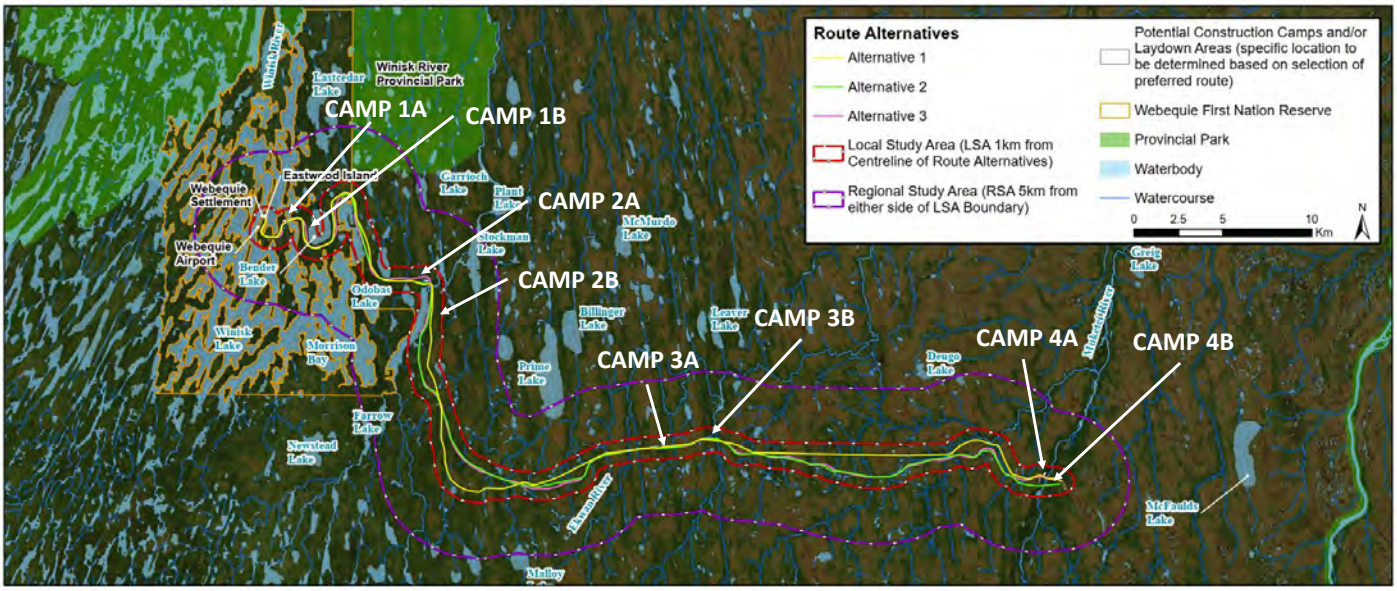
The construction camps may include:

- Accommodations (bunkhouse) for workers
- Construction office(s)
- Kitchen and dining hall
- First aid station
- Communications system
- Wastewater treatment system
- Groundwater water supply well
- Waste handling and storage facility area
- Electricity supply from diesel generators
- Above ground fuel storage tanks and refueling area
- Laydown/storage areas for equipment and materials

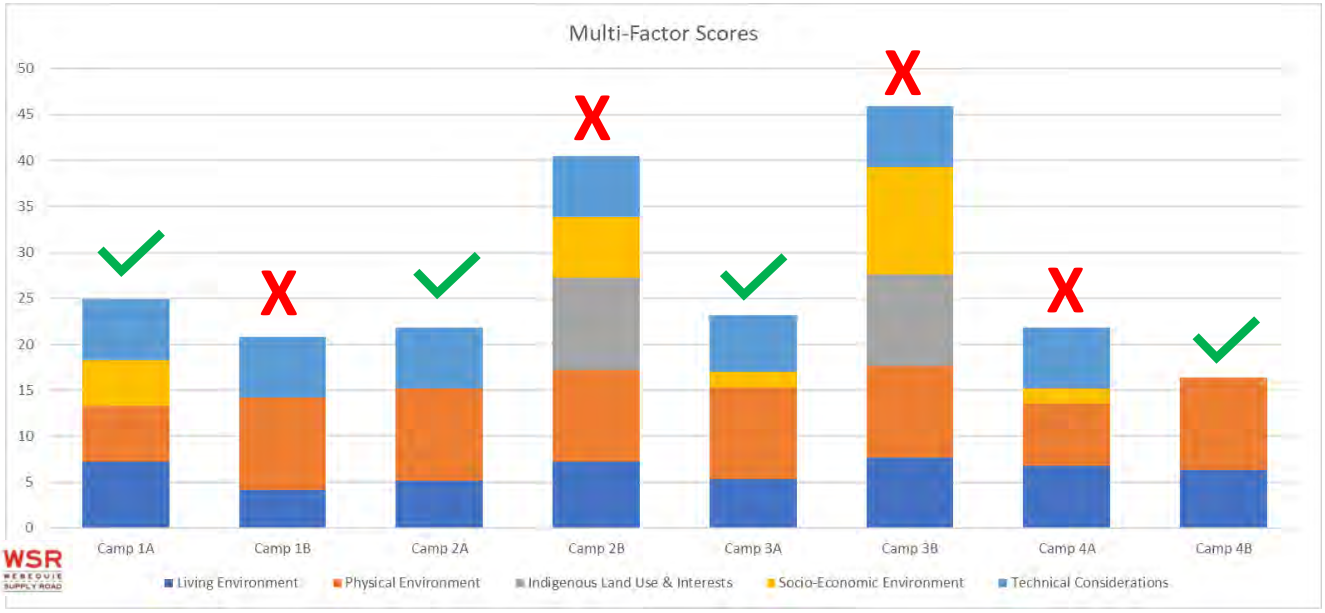


To allow for safety of workers and productive construction of the road, 4 construction camps are needed along the length of the route (2 in north to south section and 2 in west to east section)

POTENTIAL CONSTRUCTION CAMP LOCATIONS



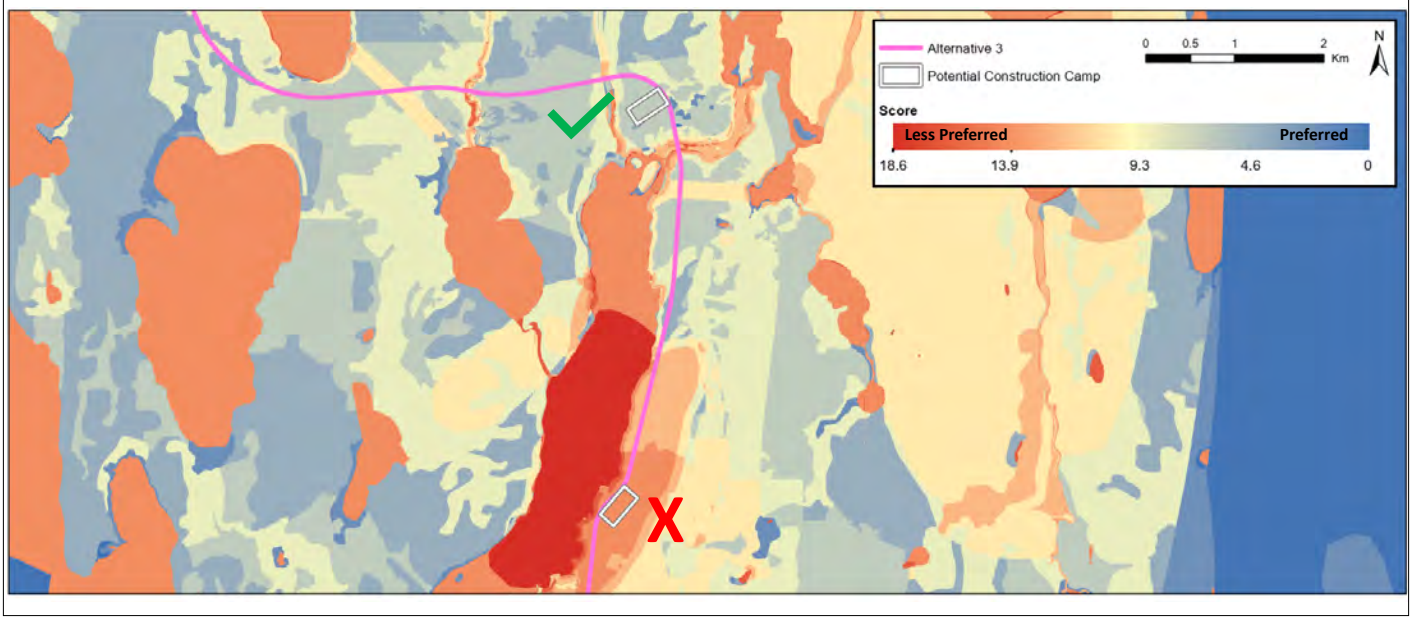
ALTERNATIVE CAMP AREAS (RESULTS)



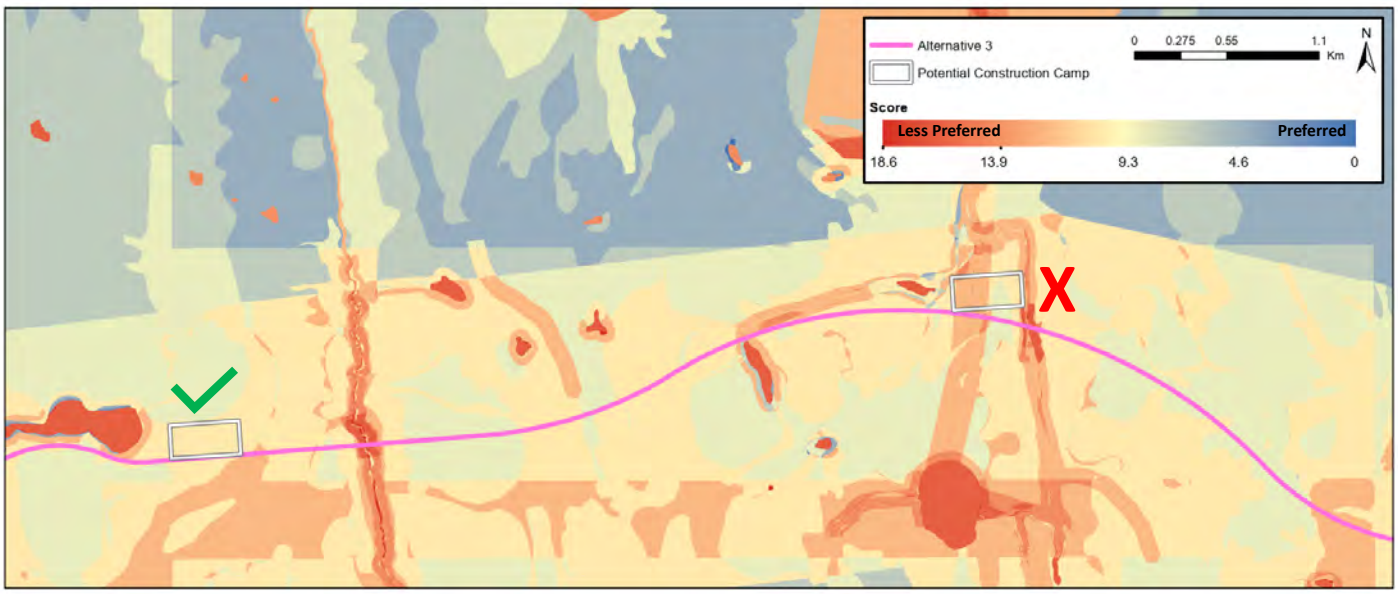
EVALUATION OF POTENTIAL CAMP LOCATIONS (1A AND 1B)



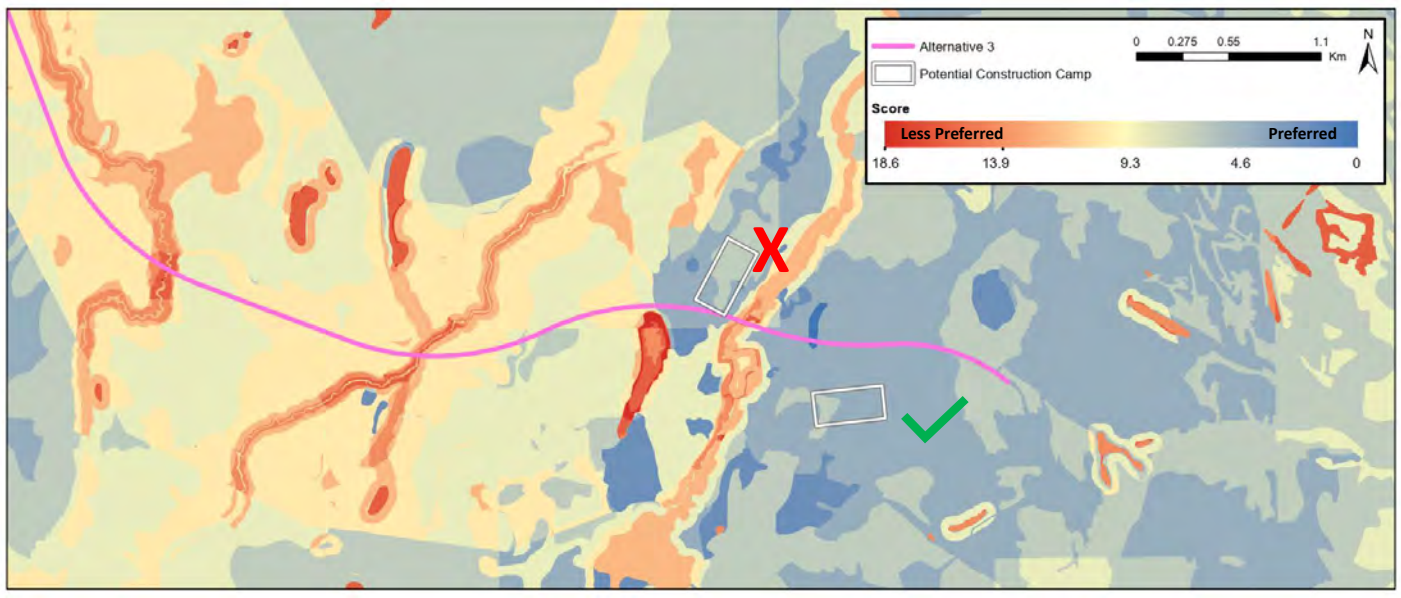
EVALUATION OF POTENTIAL CAMP LOCATIONS (2A AND 2B)



EVALUATION OF POTENTIAL CAMP LOCATIONS (3A AND 3B)



EVALUATION OF POTENTIAL CAMP LOCATIONS (4A AND 4B)



INITIAL FEEDBACK AND DISCUSSION



NEXT STEPS

WE ARE HERE NOW

- Consultation Round 2 - Receive feedback to finalize evaluation of alternatives and selection of preferred route and location of supportive infrastructure
- Continue efforts to finalize baseline studies
- Continue efforts to receive Indigenous Knowledge and Land and Resource Use Information

WINTER/SUMMER 2024

- Input to preliminary effects assessment of Project
- Input to proposed impact management, mitigation and follow-up monitoring

WINTER 2025/ SPRING 2026

- Review of Draft and Final EAR / IS


THANK YOU
MEEGWETCH

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Ontario Region
600–55 York Street
Toronto ON M5J 1R7

Région de l'Ontario
600–55, rue York
Toronto (Ontario) M5J 1R7

July 15, 2024 **Sent by email**

Chief Cornelius Wabasse
Webequie First Nation
P.O. Box 268
Webequie ON P0T 3A0
corneliusw@webequie.ca

Chief Cornelius Wabasse:

Subject: Key amendments to the *Impact Assessment Act*

On June 20, 2024, the *Budget Implementation Act, 2024*, *No. 1*, received Royal Assent and brought into force amendments to the *Impact Assessment Act* (the IAA). The purpose of this letter is to inform you of key amendments to the IAA, including the transitional provisions relevant to the Webequie Supply Road Project (the Project), and the next steps.

The amendments:

- ensure that federal decision-making, namely the designation decision, the screening decision, and the final decision at the end of the assessment, are focused on areas of federal jurisdiction;
- narrow the definition of effects within federal jurisdiction to correspond to areas of federal constitutional authority. This means that for activities that are primarily provincially regulated, the effects within federal jurisdiction that are the basis of decision-making and condition-setting under the IAA are aligned with federal constitutional heads of power. These areas of federal jurisdiction are: fish and fish habitat, aquatic species at risk, migratory birds, federal lands, impacts on Indigenous Peoples, and transboundary changes involving the pollution of transboundary waters and the marine environment;
- ensure that ongoing prohibitions or conditions are only imposed as required to prevent or mitigate adverse effects within federal jurisdiction;

.../2

Canada

- increase flexibility in the IAA to work collaboratively with provinces to ensure efficiency and avoid duplication of processes in conducting assessments under cooperation agreements; and
- include transitional provisions to bring designated projects under the amended IAA and to recognize voluntary actions to advance assessments during the interim period (October 13, 2023 to June 20, 2024), to ensure time was not lost.

Further to the Impact Assessment Agency of Canada's (IAAC) letter of December 7, 2023, IAAC confirms that the Project may result in adverse effects within federal jurisdiction, as defined in the amended IAA, and will remain subject to the amended IAA.

Transitional provision 305 of the *Budget Implementation Act, 2024, No. 1* (Enclosure 1) describes the steps by which IAAC or the Minister will bring designated projects under the amended IAA. By taking a step under any of sections 10 to 59 of the amended IAA related to a designated project and posting a notice on the Canadian Impact Assessment Registry Internet Site (the Registry), all steps taken before the day the amended IAA came into force with regard to a project are deemed to have been done under the amended IAA. A step must be taken within six months following the coming into force of the amended IAA. Transitional provision 305 also provides that IAAC may replace any time limit or period established by or under the amended IAA by another time limit or period to recognize voluntary actions to advance assessments during the interim period. If there is any variance of the time limit, IAAC must post a notice on the Registry.

In accordance with transitional provision 305(2), IAAC intends to post a notice on the Registry that it has taken the following step under the amended IAA:

- Subsection 19(2) Extension of time limit for provision of information and studies

IAAC intends to vary the time limit for the Project under transitional provision 305(4).

.../3

- 3 -

IAAC is available to meet jointly with you and the proponents of the Marten Falls Community Access Road Project and the Northern Road Link Project, to discuss the step to bring projects under the amended IAA, the timing of this step, as well as the need to replace the time limit for the impact statement phase. To this end, we would like to propose July 31, 2024, at 1:30 pm to 2:30 pm or August 8, 2024, at 2:00 pm to 3:00 pm for a meeting. We would appreciate a response **by July 25, 2024**, to facilitate the implementation of the transitional provisions.

If you have any questions, please do not hesitate to contact me by phone at 365-355-5773 or by email at *webequie@iaac-aeic.gc.ca*.

Sincerely,

Chinnadurai, Sita

Digitally signed by: Chinnadurai, Sita
DN: CN = Chinnadurai, Sita C = CA O = GC OU = EC-EC
Date: 2024.07.15 14:07:02 -04'00'

Sita Chinnadurai
A/Project Manager

Enclosure: 1) Transitional Provision 305 from the *Budget Implementation Act, 2024*

c.c.: Michael Fox, Project Lead

Enclosure 1: Transitional Provision 305 from the *Budget Implementation Act, 2024*

Designated projects

305 (1) This section applies in respect of a designated project if the Minister or the Agency [IAAC], during the six-month period that starts on the commencement day, takes a step with regard to that project under any of sections 10 to 59 of the amended Act.

Posting

(2) The Agency [IAAC] must post a notice on the Internet site that indicates the first step taken, the provision under which it was taken, the date on which it was taken and the designated project in respect of which it was taken.

Deeming

(3) Everything that was done before the commencement day with regard to a designated project in respect of which a notice is posted under subsection (2) is, if it may or must be done under the amended Act in respect of the designated project, deemed, as of the day on which the first step is taken, to have been done under the amended Act.

Agency's power

(4) The Agency [IAAC] may, when the first step is taken with regard to a designated project, replace, in respect of that project, any time limit or period established by or under the amended Act by another time limit or period.

Posting

(5) The Agency [IAAC] must post a notice on the Internet site that indicates, for each time limit or period that it replaces, the new time limit or period and the designated project with regard to which that new time limit or period applies.

Clarification

(6) For greater certainty, nothing in subsection (4) affects any power conferred on the Agency [IAAC] under the amended Act to extend or shorten any time limit or period.

Definition of *first step*

(7) In this section, *first step* means the first step taken by the Minister or the Agency [IAAC] under any of sections 10 to 59 of the amended Act in respect of a designated project during the six-month period that starts on the commencement day.

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.2 – Ministry of the Environment, Conservation and Parks

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of the Environment, Conservation and Parks **Provincial Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Mar 16, 2022 08:57 Method: E-mail
Topics to be Discussed: Submission of Revised Socio Economic Study Plan addressing IAAC and MECP comments and consultations
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod & Dororthy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP), Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC). The email included the Revised Socio-Economic Study Plan for the WSR project. Craig mentioned that updated study plan reflected the refinements to the spatial assessment boundaries and criteria and indicators based on past comments from the MECP and IAAC and consultation completed to date. The email also stated that a plain language fact sheet had been created for the Socio-Economic Study Plan for the purposes of engagement and consultation with Indigenous communities, the public and stakeholders.
Attached File: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf

Contact Date: Apr 01, 2022 11:56 Method: E-mail
Topics to be Discussed: MECP and MHSTCI comments on updated Socio Economic Study Plan
Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP), sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team to thank the the team for accepting the provincial comments on the updated Socio-Economic Study Plan, dated January 6, 2022, which was received by MECP on March 16, 2022. Included in the email were comments from the MECP Senior Advisor and the Ministry of Heritage, Sport, Tourism, and Culture (MHSTCI) (cultural heritage and tourism units). The Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) comments included August 2020 comments from the cultural heritage unit. She also mentioned that given some of the outstanding comments were remaining, that it would be helpful if the project team could follow up to demonstrate how the revised study plan will address/has addressed the provided comments so that concerns can be resolved and not run into later parts of the EA phase, and gave examples of comment-response table, revised study plan, discussion etc. The email stated that MECP has followed up with Ministry of Northern Development (NDM), Ministry of Economic Development, Job Creation and Trade (MEDJCT) and Ministry of Natural Resources and Forestry (NRF), and any additional comments will be shared with the WSR Project Team.
Attached File: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf
Attached File: MECP-MHSTCI Comments Table on Socio-Economic Work Plan-2022-03-01.pdf

Contact Date: Apr 25, 2022 15:05 Method: E-mail
Topics to be Discussed: Submission of updated Revised Socio Economic Study Plan addressing MECP and MHSTCI comments
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP). Craig thanked the MECP and Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) for providing comments on the Revised Socio-Economic Study Plan, and included the Project Team's responses to the comments received and the updated Revised Socio-Economic Study Plan, in order to conclude the relevant Study Plan.
Attached File: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf

Contact Date: Apr 29, 2022 15:30 Method: E-mail
Topics to be Discussed: Feedback from MECP and MHSTCI on the Updated Socio Economic Study Plan
Sasha McLeod of the Ministry of Environment, Conservation and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team. The email stated that the MECP and Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) had reviewed the project team’s responses to the comments provided on the updated socio-economic study plan submitted on April 25, 2022, and included feedback from the reviewers on the responses. She also thanked the WSR Project Team for providing responses and continued engagement with the Province, and for consulting MHSTCI on the Project.
Attached File: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf

Webequie Supply Road Project Consultation Log

Contact Date: Jun 30, 2022 10:19 Method: E-mail
Topics to be Discussed: Submission of Draft Natural Environment Existing Conditions Report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Alexandra Oakes of the Impact Assessment Agency of Canada (IAAC) Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP), and Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP). The email informed that the Project team had completed the Draft Natural Environment Existing Conditions Report for WSR and mentioned that due to the size of the document it would be sent separately through the SNC Lavalin document transfer system with the main report and appendices provided as separate documents. Craig requested applicable federal authorities and provincial agencies to review and provide comments on the report in approx. 30 days, if it was possible. Also, he requested that priority be given to selected sections of the report, in order for the Project Team to be aware of any major deficiencies/data gaps if identified by the review team; the email mentioned Fish and Fish Habitat, Wildlife, Vegetation and Species at Risk as the select sections for advance review.

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Oct 28, 2022 14:03 Method: E-mail
Topics to be Discussed: Consultation Progress Report - Round 1
Craig Wallace of SNC Lavalin, on behalf of the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) to submit the WSR Consultation Progress Report Round 1. Craig indicated that Appendix A of the report is the supportive Record of Consultation which would be sent by a file transfer service due to its large size. Also attached to the email was a zipfile containing the copies of the letters to the 22 Indigenous communities who are to receive a community specific report.
Attached File: Web-WSR Consultation Progress Report R1 MECP-2022-10-24.pdf

Contact Date: Oct 28, 2022 15:00 Method: Mail
Topics to be Discussed:
McKenna Baxter and Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team sent a package via Canada Post to Sasha McLeod and Dorothy Moszynski of Ministry of Environment, Conservation, and Parks (MECP) which included a USB, a cover letter, and a copy of the WSR Consultation Progress Report Round 1. The USB contained files supporting Record of Consultation. The letter explained that the Consultation Progress Report summarizes the documents from Round 1 of the Engagement and Consultation Program with Indigenous communities on the Project. The report being provided as per the requirements of the Terms of Reference (ToR) for the provincial Environmental Assessment (EA) process and the MECP ToR Notice of Approval which requires the proponent to provide Consultation Progress Reports to Indigenous communities at three key milestones throughout the EA. The letter further explained that Webequie First Nation is tentatively planning to conduct Consultation Round 2 for the Project from Winter 2023 to Summer 2023 and provided a list of topics and milestones which are proposed to be addressed as part of the engagement and consultation activities for Round 2. Michael's email and cell phone contact information was provided if MECP has any questions or comments.
Attached File: Web-WSR Consultation Progress Report R1 MECP-2022-10-24.pdf

Contact Date: Oct 31, 2022 07:53 Method: E-mail
Topics to be Discussed: Consultation Progress Report Round 1
Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) responded to the email sent by Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team on October 28, 2022 regarding the Consultation Progress Report Round 1 and Appendix A. Sasha indicated that she would let the WSR Project team know if there were any issues with downloading the report files and requested that the report be sent to Ely Weisbrot of Impact Assessment of Canada.

Contact Date: Nov 22, 2022 15:20 Method: E-mail
Topics to be Discussed: MECP Comments on WSR Consultation Progress Report Round 1
Attached File: MECP-Comment Response Table for Consultation Progress Report R1-2022-11-22.pdf

Contact Date: Jan 11, 2023 15:26 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Ely Wiesbrot of the Impact Assessment Agency of Canada (IAAC), and Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP). The email contained a summary of the comments received from the Government Review Team and IAAC review of the WSR Draft Natural Environment Existing Conditions Report (NEECR) provided in June 2022. From the Government Review Team, the WSR Project team received comments from MECP's Groundwater, Health, Surface Water, Air Quality/Climate Change, Environmental Assessment Branch, Species At Risk Branch, and Environmental Monitoring and Reporting Branch, as well as Indigenous Affairs Ontario, the Ministry of Mines, the Ministry of Transportation, and the Ministry of Natural Resources and Forestry. From IAAC, the WSR Project team received comments from the Federal Technical Reviewers. Attached to the email were the response tables to the comments received with the exception of MECP's Species At Risk Branch. Craig noted that the IAAC comment table will be reformatted and sent to IAAC once it is complete. For next steps, the email indicated that the WSR Project team would like to arrange meetings to further discuss comments and responses with federal and provincial technical reviewers. Attached to the email was an excel table with selected comments organized by topic. Craig requested IAAC and MECP to internally coordinate and provide their availability for the meetings to be held.
Attached File: Web-WSR Response to IAO Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR-Response to IAAC Draft NEECR Comments Table-2023-01-10.pdf
Attached File: Web-WSR Response to MECP AQ Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP CCA Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP EAB Draft NEECR Comments Table-2023-01-12.pdf
Attached File: Web-WSR Response to MECP GW Draft NEECR Comments Table-2023-01-12.pdf

Contact Date: Jan 12, 2023 09:31 Method: E-mail

Topics to be Discussed: Response to IAAC and MECP Comments from Review of Draft Natural Environment Existing Conditions Report (NEECR) and Next Steps

Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP). Sasha mentioned that she did not receive four response tables in the last correspondence from Craig on January 11, 2023; which were MECP - Environmental Assessment Branch (EAB), MECP - Climate Change Adaptation, MECP - Air Quality & MECP - Groundwater. Sasha requested calrification on the 'MECP Health' and 'MECP Surface Water' comments response tables, as the MECP Health and Surface Water experts had not provided any comments. Additionally she mentioned that the 'air quality/ climate change' were grouped together in Craig's response, however the comments were submitted separately by the MECP's air quality unit and MECP's climate change adaptation unit on August 24, 2022. Additionally she mentioned that as per her records Ministry of Mines had not submitted any comments other than the correspondence regarding the Ministry's name, and that a response table for Ministry of Mines was not observed. She requested confirmation that there was no response table, and stated that Ministry of Mines, Ministry of Tourism, Culture and Sport, and Ministry of Economic Development, Job Creation and Trade did not provide any comments.

10:50
Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team requesting the Project team's plans for the revised report, and whether the team planned on recirculating the report for GRT review again or whether it would be submitted with the draft Environmental Assessment report. She also posed a question on whether the relevant pages of the revised report could be provided to the reviewed, in the event if the reviewers request to check whether the comments have been addressed.

11:32
Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team. The email was with regard to the comments response tables for the draft natural environment existing conditions baseline report. Sasha mentioned that she had checked the response tables shared by Craig on January 11, 2023, and that she has seen that the "MECP_IAO Response Table" included IAO, EAB, GW and AQ responses, but she was not clear whether it included the Climate Change Adaptation unit's responses (which was a separate group than the AQ group). She requested separate files for each of the individual MECP experts comments and provided the requirement in a list. She also requested responses to her earlier questions on plan for submission of revised baseline report, and whether Ministry of Mines had provided a comments table or just requested to have the Ministry name updated.

15:51
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod, and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP). The email had attached separate files as requested, including the response to Climate Change Adaptation comments. The email was in response to the correspondences from Sasha earlier on the same day. Craig provided attached emails from Dorothy, MECP Climate Change mitigation, MECP Human Health, MECP Surface Water reviewers, where they had indicated that there are no comments on the baseline report. Attached email from Dorothy had provided comments from the Climate Change Adaptation Unit, however the Project team had missed providing the response. He included files separated as per Sasha's previous correspondence request, and also included the response table to the Climate Change Adaptation Unit comments. Additionally, he provided clarifications to the questions posed by Sasha in her previous correspondence, and clarified that the Project team had not planned on recirculating the baseline report for another review, and that as indicated in Project team's schedule the intention was to circulate a Pre-Draft EAR/IS, as optional step in the process, to provide an opportunity for reviewers to examine the changes to the baseline report. He mentioned that the request to extract pages from the revised report will be brought up during internal discussions. He also confirmed that Ministry of Mines did not provide a comments table.
Attached File: Web-WSR Response to MECP CCA Draft NEECR Comments Table-2023-01-12.pdf

Contact Date: Jan 13, 2023 14:04 Method: E-mail

Topics to be Discussed: MECP WSR NEECR Comments

Sasha McLeod of the Ministry of Environment Conservation and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team indicating that she has received feedback from MECP's groundwater unit and the Ministry of Transportation (MTO) on the WSR Project team's responses to their draft Natural Environment Existing Conditions Report. The email indicated that MECP Groundwater has no further comments, but reserves judgement on the credibility of the responses and that they look forward to reviewing the revised report, at which point they may have additional comments. MTO's comments noted the correct name for the division: MTO Transportation Infrastructure Management Division, Strategic Advisor Janet Leader. MTO indicated that they remain available to provide support as requested to Webequie First Nation as the Proponent for the Project. No further responses were needed at this time.

Contact Date: Jan 16, 2023 11:23 Method: E-mail

Topics to be Discussed: WSR Draft NEECR Comments Table

Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) as a follow up to the email sent on January 11, 2023. Attached to the email was the response table from MECP's Species At Risk Branch for the Draft Natural Environment Existing Conditions Report.
Attached File: Web-WSR-Response to MECP SAR Draft NEECR Comments Table-2023-01-16.pdf

Contact Date: Jan 26, 2023 09:49 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team regarding feedback from MECP's Climate Change Adaptation (CCA) Unit on the Proponent's responses to their comments on the WSR Draft Natural Environment Existing Conditions Report (NEECR). Michael Fox and Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) were copied on the email. Sasha indicated that MECP's CCA does not have any follow-up comments and are fine with how the proponent responded and MECP CCA will wait for the draft Environmental Assessment to be submitted to get a better sense of their climate considerations.

Contact Date: Jan 30, 2023 11:50 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team to indicate that MECP's Impact Assessment Officer is satisfied with the project team's responses to their comments on the Draft Natural Environment Existing Conditions Report (NEECR). Michael Fox and Marian Tibor-McMahon of Indigenous and Community Engagement were copied on the email.

12:08
Sasha McLeod of MECP sent another email to Craig Wallace of SNC Lavalin and the WSR Project team explaining that she has reviewed the responses to MECP's Environmental Assessment Branch comments on the draft NEECR. Sasha indicated that the responses were satisfactory and that they look forward to reviewing the draft Environmental Assessment to confirm the changes as noted in the project team's responses.

Contact Date: Jan 31, 2023 10:33 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team regarding a follow up comment from MECP's Air Quality Analyst on the draft Natural Environment Existing Conditions Report (NEECR) which was included in the email. Michael Fox and Marian Tibor-McMahon of Indigenous and Community Engagement were copied on the email. Sasha requested the Project team to let her know if a response could be provided now or if it will be addressed in the draft Environmental Assessment and/or revised NEECR. MECP's Air Quality Analyst responded to the Project team's response on comment MECP-AQA-2.

Contact Date: Feb 01, 2023 14:29 Method:
Topics to be Discussed: Draft NEECR MECP SARB Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) regarding follow up on MECP's Species at Risk Branch comments on the Draft Natural Environment Existing Conditions Report (NEECR). MECP noted a couple comments to bring to the Project team's attention.
Attached File: Web-MECP SARB Response to Comments on Draft NEECR-2023-02-01.pdf

Contact Date: Feb 03, 2023 08:59 Method: E-mail
Topics to be Discussed: MECP EMRB Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team to indicate that MECP's Environmental Monitoring and Reporting Branch (EMRB) is satisfied with the team's responses to MECP EMRB's comments on the Draft Natural Environment Existing Conditions Report.

Contact Date: Feb 03, 2023 10:17 Method: E-mail
Topics to be Discussed: MECP SARB Comments Draft NEECR
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team sent an email to Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) to thank her for providing the comments from MECP's Species at Risk Branch. Craig indicated that the Project team will let MECP know if there are any questions or comments. Craig noted the comments that MECP SARB brought forward, indicating that the NEECR will be revised to reflect changes to the listing of species under the ESA. Craig requested the updated general habitat description (GHD) for Caribou since the Project is moving into the formal evaluation of alternatives for the WSR with the effects assessment to be documented in the Pre-Draft Environmental Assessment Report / Impact Statement which is due in January 2024. Craig asked MECP to advise when the Project Team can expect this input from MECP SARB.

10:41
Sasha McLeod of MECP responded to the email to thank Craig for the feedback. Sasha indicated that she shared the email with MECP SARB and will get back to the Project Team on when MECP SARB anticipates being in a position to share the updated GHD.

Contact Date: Feb 14, 2023 12:52 Method: E-mail
Topics to be Discussed: Draft NEECR Comments
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team sent an email to Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) regarding MECP Air Quality's comments on the Draft Natural Environment Existing Conditions Report (NEECR) from January 31, 2023. The email provided clarification on the follow-up comment from the MECP air quality analyst. The email mentioned the response specific to one of the follow-up comments regarding estimates for baseline benzo(a)pyrene (B(a)P) concentrations.

Webequie Supply Road Project Consultation Log

Contact Date: Mar 08, 2023 10:02 Method: E-mail
Topics to be Discussed: Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team regarding comments from the Ministry of Natural Resources and Forestry (MNRF) on the Draft Natural Environment Existing Conditions Report (NEECR). Attached to the email was the comments table with MNRF's follow up comments to the Proponent's responses on the draft NEECR, as well as the accompanying report for comment MNRF-21. The email also highlighted an overall prefacing comment from the MNRF, which explained that while the Proponent's responses have satisfied the majority of MNRF's original comments, there are a number of comments and/or requests for clarification and/or additional information on 11 of the Proponent's responses provided in the table. The email noted that the MNRF did not have access to the revised NEECR as part of their review and they may have additional comments comments following the receipt of any responses that the Proponent may provide and/or following review of the future Environmental Assessment / Impact Statement Package.
Attached File: MNRF-Follow up to Proponents Comments Response Table-2023-03-08.pdf
Attached File: MNRF-Wetland Environmental IS Requirements Manual-2023-03-08.pdf

Contact Date: Mar 27, 2023 14:25 Method: E-mail
Topics to be Discussed: WSR Draft NEECR Comments
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team in response to the WSR Project Team's email sent on January 11, 2023 containing a table follow up questions about certain comments from the Impact Assessment Agency of Canada (IAAC) on the Draft Natural Environment Existing Conditions Baseline Report (NEECR). Attached to the email was feedback, where provided from MECP's Species At Risk Branch and the Ministry of Natural Resources and Forestry (MNRF). The comments noted that many of the follow-up questions that the WSR Project team had referenced federal comment IDs and the table provides provincial feedback on the WSR Project team's questions where the provincial reviewers can offer a response from their mandate areas. For any outstanding questions on provincial comments, the email requested that the WSR Project team identify them with the relevant provincial comment ID and specific question, and MECP would be happy to review and participate in any targeted discussions about the provincial comments if needed.
Attached File: MECP-MNRF-Feedback on Follow up Questions to Comment Responses Table-2023-03-27.pdf

Contact Date: Apr 18, 2023 12:47 Method: E-mail
Topics to be Discussed: Evaluation of Alternatives for EA/IA Feedback
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project Team sent an email to Sasha McLeod and Dorothy Mosynski of the Ministry of the Environment, Conservation, and Parks (MECP) and Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC) indicating that the WSR Project team would like to coordinate a workshop session in late summer with the provincial Government Review Team and interested federal authorities to present the evaluation of alternatives for the WSR Environmental Assessment / Impact Assessment and receive feedback. Craig explained that a formal agenda is being prepared with the intent of providing an alternatives package to participants prior to the workshop, and provided a list of preliminary agenda topics for the workshop session for MECP and IAAC's feedback.

Contact Date: Jun 15, 2023 08:06 Method: E-mail
Topics to be Discussed: WSR Data Sharing Agreements
Sasha McLeod of the Ministry of the Environment, Conservation, and Parks (MECP), on behalf of MECP, the Ministry of Mines, and Species at Risk Branch, sent an email to Craig Wallace and Don Parkinson of SNC Lavalin, Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team regarding requests that the proponents received from an Indigenous community for raw caribou data. The email was to provide the Project team with information regarding how the project team could go about a data sharing agreement between the proponent and an Indigenous community. The email explained that MECP uses legal documents developed specifically for the purpose of sharing sensitive data between the government and individuals/communities/governments/organizations which have a demonstrated need. As such, MECP noted that they do not have templates but they could look to data sharing agreements currently signed with government agencies as examples. The email explained that often these types of agreements will include conditions around timeframes for using the data, who has access to the data and for what purposes, and a requirement for signatories to have completed data sensitivity training available by contacting the Natural Heritage Information Centre (NHIC). A link to additional information on data sensitivity training was provided. In the email, MECP recommended that the project team work with legal counsel to prepare a tailored agreement between the proponent and Indigenous communities. The email also provided a fillable form from MTO and a template agreement, that MTO has for sharing engineering and geomatic data that is not publicly available.
Attached File: MTO-Data Sharing Guidelines-2023-06-15.pdf
Attached File: MTO-Data Distribution Guidelines Fillable Form -2023-06-15.pdf

Contact Date: Aug 18, 2023 09:25 Method: E-mail
Topics to be Discussed: Request for Review of WSR Draft Socio-Economic Existing Conditions Report
Craig Wallace of SNC Lavalin and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod and Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) and Ely Weisbrot of the Impact Assessment Agency of Canada (IAAC). The email mentioned that the Project Team had completed the Draft Socio-Economic Existing Conditions Report for the WSR project, and that the report is complete for the most part pending additional information from communities to help finalize the document. Craig mentioned that the report has areas identified where the pending additional information such as traditional Indigenous land and resource use were to be incorporated. The email stated that the report was divided into 2 parts and due to the size of the document it would be sent via the SNC Lavalin file transfer system, and requested confirmation from Ely whether the document should be uploaded to the Agency WSR/Proponent Portal. Craig requested the Agency and MECP to review the report and provide comments within 45 days, ideally by October 2, 2023.

Contact Date: Sep 22, 2023 15:28 Method: E-mail

Topics to be Discussed: Draft Natural Environment Existing Conditions Report - Ministry of Natural Resources and Forestry (MNRF) Follow-Comments and Project Team's Response

Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP), Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) and Jason Frechette of Ministry of Mines & Michael Fox & Heather Swan of Indigenous and Community Engagement (ICE). The email was with reference to Sasha's correspondence on March 8, 2023, and included an attached document with Project Team's responses to the follow-up comments from MNRF on Caribou, Bats, Waterfowl and Shorebirds, Land Bird Avian Modeling, Wildlife & Wildlife Resource Selection Modeling (RSM), Vegetation - Wetland Functional Assessment & Biodiversity, Fish and Fish Habitat.

Attached File: Web-WSR Response to MNRF Comments Re Draft NEECR-2023-09-22.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail

Topics to be Discussed: Notice of Public Information Centre #2 for EA

Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.

Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Sep 26, 2023 15:00 Method: E-mail

Topics to be Discussed: MTCS (Tourism) Comments - WSR Draft Socio-Economic Existing Conditions Report

Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team with the Ministry of Tourism, Culture and Sport-Tourism Policy Unit comments on the draft socio-economic existing conditions report attached to the email.

Attached File: MTCS-Tourism Policy Unit Comments on Draft SEECR-2023-09-26.pdf

Contact Date: Sep 27, 2023 12:00 Method: E-mail

Topics to be Discussed: Webequie Supply Road draft Socio-economic existing conditions MCM comment

Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team. The email referenced to the email trail for the comment from Ministry of Citizenship and Multiculturalism (MCM) where the cultural heritage component was discussed and MCM had mentioned that they would be interested in any updates on the Cultural Heritage work plan and timelines for associated reports, including the Cultural Heritage Existing Conditions and Preliminary Impact Assessment Report and the Stage 1 Archaeological Assessment. Dorothy emphasized on the MCM's interest and mentioned to keep MCM updated on the mentioned studies.

Contact Date: Sep 28, 2023 08:24 Method: E-mail

Topics to be Discussed: MECP Indigenous Advisor (EA Mod) Comments - WSR Draft Socio-Economic Existing Conditions Report

Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team. The email included the comments from MECP’s Indigenous Advisor in the Environmental Assessment Modernization Branch, for the draft Socio-Economic Existing Conditions Report.

Attached File: MECP-EA Modern Branch IA Comemnts on Draft SEECR-2023-09-28.pdf

Contact Date: Sep 28, 2023 13:53 Method: E-mail

Topics to be Discussed: MECP Environmental Assessment Branch (EAB) Comments - WSR Draft Socio-Economic Existing Conditions Report

Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP) sent an email to Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team. The email mentioned that MECP’s Environmental Assessment Branch had prepared comments on the draft socio-economic baseline report and as the comments were embedded into the report itself, the file was to be sent via a file transfer system. Sasha mentioned that there is a time limit for download of the time, and to inform if there are any issues with the download.

Webequie Supply Road Project Consultation Log

Contact Date: Nov 17, 2023 10:30 Method: Other

Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session

Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.

The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.

Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail

Topics to be Discussed: Notice of Public Information Center #3

Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

Activity Date: Mar 16, 2022 08:57
File Name: Web-WSR Socio-Economic Study Plan-2022-04-22.pdf
Activity Method: E-mail
Date Published: Apr 22, 2022

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Webequie Supply Road

Socio-Economic Study Plan

Webequie First Nation

20 April 2022

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1. Introduction

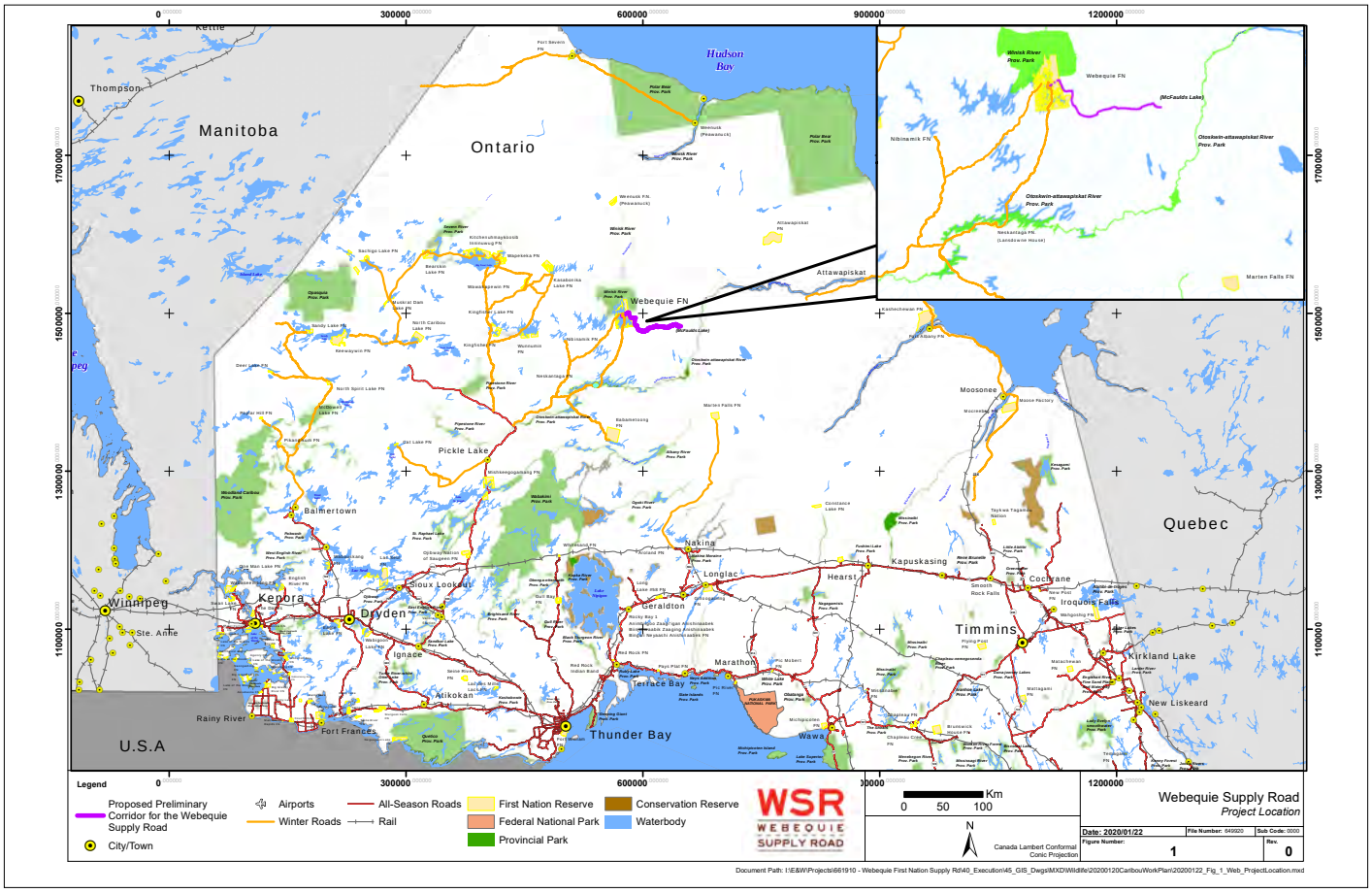
The proposed Webequie Supply Road (WSR) is a new all-season road of approximately 107 km in length from Webequie First Nation to the mineral deposit area near McFaulds Lake (also referred to as the Ring of Fire). A Location Plan for the Project is shown on **Figure 1**. The preliminary corridor for the road consists of a northwest-southeast segment running 51 km from Webequie First Nation to a 56 km segment running east-west before terminating near McFaulds Lake. A total of 17 km of the corridor is within Webequie First Nation Reserve lands.

The goals and objectives of the Webequie Supply Road Project are as follows:

- To facilitate the movement of materials, supplies and people from the Webequie Airport to the area of existing mineral exploration activities and proposed mine developments in the McFaulds Lake area;
- To provide employment and other economic development opportunities to WFN community members and businesses that reside in or around the community's reserve and traditional territory, while preserving their language and culture; and
- To provide experience/training opportunities for youth to help encourage pursuit of additional skills through post-secondary education.

On May 3, 2018, the Ontario Minister of the Environment, Conservation and Parks (then Minister of the Environment and Climate Change) signed a voluntary agreement with Webequie First Nation to make the Webequie Supply Road Project subject to an Individual Environmental Assessment under Ontario's *Environmental Assessment Act.* The Project is also subject to meeting the requirements of the federal *Impact Assessment Act.* For the purposes of discussion in this study plan, the term "EA / IA or assessments" is meant to include both the provincial environmental assessment and the federal impact assessment.

The Socio-Economic Study Plan is being submitted to the Impact Assessment Agency of Canada (IAAC) and the Ontario Ministry of the Environment, Conservation and Parks (MECP) requesting that a coordinated review be undertaken with the objective of providing Webequie with technical guidance in meeting the requirements of the federal Tailored Impact Statement Guidelines (TISG) for the Project and to fulfil the commitment as stated in the provincial Terms of Reference (ToR) for the Project, which is pending approval by Ontario. It should be noted that Ontario's review of the study plan is preliminary and secondary to any further review and decisions related to a final and approved ToR.


Manitoba
Ontario
Quebec
U.S.A
Hudson Bay
Thompson
Winnipeg
Kenora
Dryden
Sioux Lookout
Ignace
Atikokan
Rainy River
Fort Frances
Thunder Bay
Terrace Bay
Marathon
Geraldton
Longlac
Nakina
Hearst
Kapuskasing
Cochrane
Timmins
Iroquois Falls
Kirkland Lake
New Liskeard
Wawa
Balmertown
Pickle Lake
Webequie FN
Attawapiskat
Moosonee
Ste. Anne
Legend
Proposed Preliminary Corridor for the Webequie Supply Road
City/Town
Airports
Winter Roads
All-Season Roads
Rail
First Nation Reserve
Federal National Park
Provincial Park
Conservation Reserve
Waterbody
WSR
WEBEQUIE SUPPLY ROAD
Km
0 50 100
N
Canada Lambert Conformal Conic Projection
Webequie Supply Road
Project Location
Date: 2020/01/22
Figure Number: 1
Rev. 0

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2. Socio-Economic Study Plan

The following sections provide a description of the suggested approach to collecting information on existing socio-economic conditions; assessing socio-economic effects; identifying appropriate mitigation measures to eliminate or reduce potential effects; identifying "net" effects following mitigation; and assessing cumulative effects. The planned approach for baseline data collection and the assessment of the potential impacts of the WSR Project on social and economic components, including that of Indigenous peoples, is intended to meet the requirements of the TISG (Sections 10, 11, 12.3, 17 and 18) and, where applicable, the requirements of the MECP.

2.1. Methodology

The purpose of the socio-economic impact assessment (SEIA) is to characterize the manner and extent to which community socio-economic well-being could be affected (both positively and negatively) as a result of construction and operation/maintenance of the Webequie Supply Road. The SEIA will be integrated into the overall provincial and federal EA processes. The steps to be undertaken for this assessment are described in the following sections.

2.1.1. Indigenous Communities and Municipalities

The SEIA will include the 22 identified Indigenous communities that are to be consulted as part of the EA process, as shown in **Table 1** below. These communities have been identified by MECP and IAAC as communities whose exercise of Aboriginal and Treaty rights may be adversely affected by the Project and/or may have interests in the project. Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

WFN further reviewed the lists of identified communities and assessed them based on the following criteria:

- Geographically closer to the project area than others;
- Known to have traditionally used some of the potentially affected lands in the past, or currently;
- Downstream of the Project and may experience impacts as a result of effects to waterways;
- Considered to have closer familial/clan connections to the members of WFN; and/or
- Have been involved in all-season road planning in the Region, either directly with the WFN, or in consideration of all-season road planning that the WFN has been involved with in recent years.

Based on these factors, the 8 communities identified by Webequie will be offered the deepest or intensive consultation/engagement; this means that there will be 3 visits to these communities, with 2 visits to the remaining 14 communities and groups. However, where other communities may request more visits, this will be provided. Though technically not part of the SEIA, information garnered through this consultation/engagement process for the EA will be used to inform the SEIA where applicable.

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Table 1: Indigenous Communities to be Consulted and Included in the SEIA

Indigenous Community	Identified by WFN	Identified by MECP	Identified by IAAC
Webequie First Nation	✓	✓*	✓*
Aroland First Nation		✓*	✓*
Attawapiskat First Nation	✓	✓*	✓*
Constance Lake First Nation		✓*	✓
Eabametoong First Nation	✓	✓	✓*
Fort Albany First Nation		✓*	✓*
Ginoogaming First Nation		✓	✓
Kasabonika Lake First Nation	✓	✓*	✓*
Kaschechewan First Nation		✓*	✓
Kitchenuhmaykoosib Inninuwug		✓*	✓
Kingfisher Lake First Nation		✓*	
Long Lake #58 First Nation		✓	✓
Marten Falls First Nation	✓	✓*	✓*
Mishkeegogamang First Nation		✓	
Neskantaga First Nation	✓	✓*	✓*
Nibinamik First Nation	✓	✓*	✓*
North Caribou Lake First Nation		✓	
Wapekeka First Nation		✓*	
Wawakapewin First Nation		✓*	
Weenusk (Peawanuck) First Nation	✓	✓*	✓*
Wunnumin Lake First Nation		✓*	
Metis Nation of Ontario – Region 2		✓	

* Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

As noted in the ToR, municipalities to be included in the assessment were identified based on their proximity to the proposed Webequie Supply Road, and include:

- City of Thunder Bay
- Municipality of Greenstone
- Township of Pickle Lake
- City of Timmins
- Municipality of Sioux Lookout

As noted in IAAC's *Public Participation Plan* dated February 24, 2020 the following public and stakeholders will be engaged:

- General public (individual residents)
- Canada Chrome Corporation
- Canadian Environmental Law Association
- City of Thunder Bay
- Geraldton Chamber of Commerce
- Leuenberger Air Service
- Longlac Chamber of Commerce
- Mining Watch

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- Municipality of Greenstone
- Municipality of Sioux Lookout
- Mushkegowuk Council
- Noront Resources Ltd.
- Osgoode Hall Law School's Environmental Justice and Sustainability Clinic
- Township of Pickle Lake
- Wilderness North
- Wildlife Conservation Society

Comments received from these participants during consultation activities will be addressed and included in the assessment as part of the Record of Consultation (RoC). Again, though technically not part of the SEIA, information garnered through the consultation/engagement process for the EA with the public and stakeholders and Indigenous communities will be used to inform the SEIA where applicable.

2.1.2. Spatial and Temporal Boundaries

Spatial Boundaries

Spatial boundaries define the geographic extent within which the potential environmental effects of the Project are considered. As such, these spatial boundaries define the study areas for the effects assessment. Spatial boundaries are to be established for the EA / IA and will vary depending on the valued component and will be considered separately for each. The spatial boundaries to be used in the assessment will be refined and validated through input from federal and provincial departments and ministries, Indigenous groups, the public and other interested parties.

Spatial boundaries for the SEIA will be defined by taking into account the appropriate scale and spatial extent of potential socio-economic effects of the Project; community identified concerns and Indigenous Knowledge; and exercise of Aboriginal and Treaty rights.

At this stage, spatial boundaries proposed for the socio-economic effects assessment consist of three (3) study areas to capture the potential direct and indirect effects of the Project.

- **Project Footprint (PF)** - is the area of direct disturbance (i.e., the physical area required for Project construction and operation). The PF is defined as the Webequie Supply Road Right-of-Way of 35 metres in width to be selected through the evaluation of route Alternative 1 and Alternative 2; and temporary or permanent areas needed to support the Project that include laydown yards, storage yards, construction camps, access roads and aggregate extraction sites.

- **Local Study Area (LSA)** – is the area where largely direct, and indirect effects of the Project are likely to occur. The LSA is divided into two (2) sub-categories which reflect the differences between the criteria (or valued components) and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

    - The proposed LSA for **Population and Demographics, Community Services and Infrastructure and Local and Regional Economy** is defined as Webequie First Nation and those communities who have asserted shared territory with Webequie and/or who may experience the greatest potential effects of the Project. Listed below are First Nation communities included in the LSA (by distance from Alternative Routes 1 and 2 and supportive infrastructure):

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- Webequie First Nation
- Marten Falls First Nation
- Nibinamik First Nation
- Neskantanga First Nation
- Kasabonika Lake First Nation
- Eabametoong First Nation
- Attawapiskat First Nation
- Weenusk First Nation

- The LSA for **Land and Resource Use (land use compatibility, recreation and tourism, provincial parks and protected areas)** is proposed to correspond to the outermost boundaries of the combined LSAs for the fish and fish habitat, surface water, vegetation, general wildlife, and air quality valued components. It is defined as a 1 km buffer from either side of the centreline of the supply road Alternative 1 and Alternative 2, and 500 m from supportive infrastructure (camps, aggregate/rock source areas, access roads).

› **Regional Study Area (RSA)** – is the area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur. Similar to the LSA, the RSA is divided into two (2) sub-categories which reflect the differences between the criteria and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

- The RSA for **Population and Demographics, Community Services and Infrastructure, and Local and Regional Economy** encompasses the area outside of the LSA used to measure broader-scale existing socio-economic conditions and effects that may occur in a regional context. The proposed RSA consist of the 14 remaining First Nations as identified by the Crown (Canada/Ontario) for engagement and consultation that are located within the regional unorganized districts of Cochrane, Kenora and Thunder Bay; and the surrounding nearby townships and cities/municipalities (i.e., City of Thunder Bay, Municipality of Greenstone, Township of Pickle Lake, Municipality of Sioux Lookout). The RSA for Government Finances- an Indicator for **the Local and Regional Economy** VC, as documented in **Section 2.2** - will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

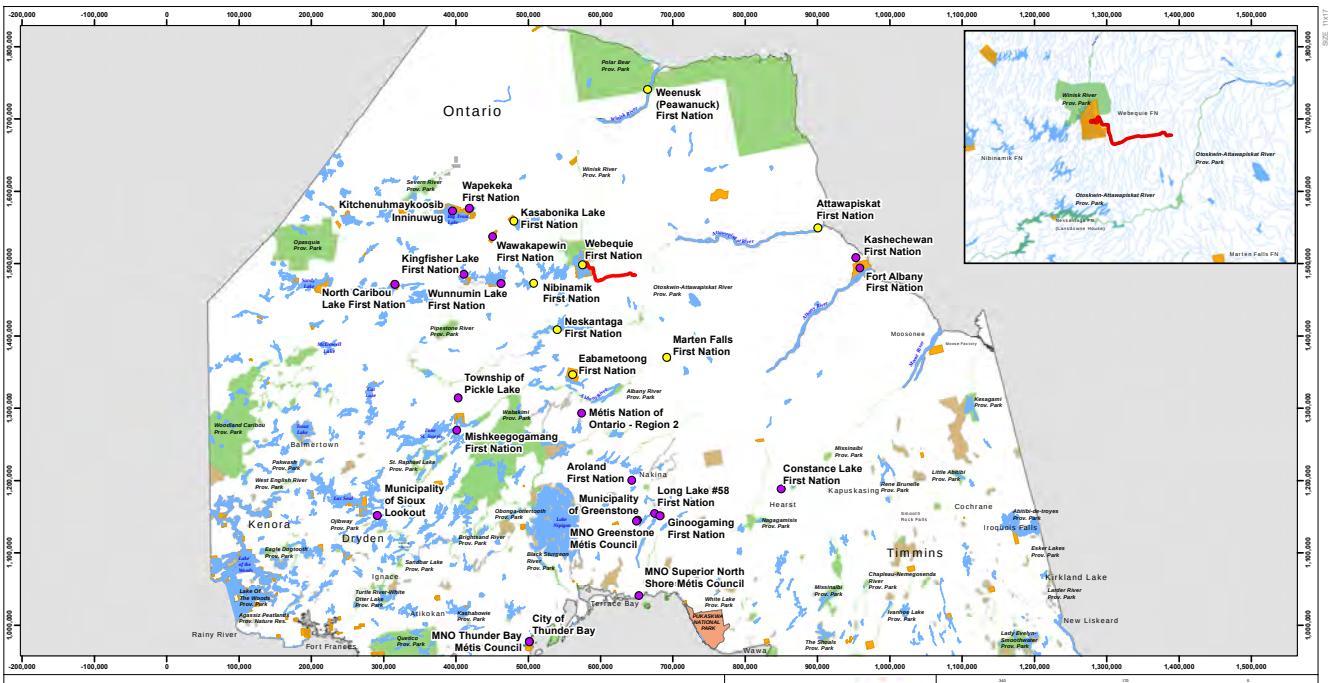
- The RSA for **Land and Resource Use (e.g., land use compatibility, recreation and tourism, provincial parks and protected areas)** corresponds to the outermost boundaries of the combined RSAs for fish and fish habitat, surface water, vegetation, and general wildlife valued components given that these components may be relied on by Indigenous peoples or others for land and resource use. The RSA is the combined area of the quaternary watersheds crossed by route Alternative 1 and Alternative 2.

The study areas were selected to characterize existing environmental conditions and predict the direct and indirect changes from the Project on the valued components of the socio-economic environment on a continuum of increasing spatial scales from the Project Footprint to broader, regional levels. The preliminary selection of study areas also considered the socio-economic valued components and related indicators for evaluation.

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In establishing the LSA and RSA, consideration was given to the extent to which the project potentially affects socio-economic valued components during each phase (construction and operation and maintenance) of the Project. Understanding the various aspects of the Project that affect these interests will be based on analysis of the socio-economic criteria listed in Section 2.2 once validated by Indigenous communities, the public and stakeholders. The Project Team will consult and engage with Indigenous communities and the public to determine and finalize the appropriate LSA and RSA for the socio-economic environment.

The collection of socio-economic baseline data and effects assessment relative to the spatial boundaries will focus on the set of supply road alternatives within the preliminary proposed 2 km wide corridor, as identified in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020). The alternatives include the Webequie First Nation community's preferred route (referred to as Alternative 1) along the centreline of an approximately 2 km wide preliminary proposed corridor, and the soil and terrain route (referred to as Alternative 2) within the same corridor. The route alternatives are shown in **Figure 2** with the LSA and RSA boundaries for each route alternative combined to reflect the socio-economic study area for the Project. At this stage of the EA / IA process, the supportive infrastructure components have yet to be determined and will be included in the Environmental Assessment Report / Impact Statement. While most of the Project components are expected to be located within the preliminary proposed 2 km wide corridor, benefits (e.g., reduced environmental disturbance, avoidance of sensitive features, concerns received through consultation) for locating Project components on lands outside this 2 km wide area may become known during the EA / IA process. If the need to locate Project components outside the 2 km wide area is determined to be required, or of benefit to the Project, the study area may be adjusted.


Ontario
Weenusk (Peawanuck) First Nation
Wapekeka First Nation
Kitchenuhmaykoosib Inninuwug
Kasabonika Lake First Nation
Wawakapewin First Nation
Webequie First Nation
Kingfisher Lake First Nation
Wunnumin Lake First Nation
North Caribou Lake First Nation
Nibinamik First Nation
Neskantaga First Nation
Eabametoong First Nation
Township of Pickle Lake
Mishkeegogamang First Nation
Métis Nation of Ontario - Region 2
Aroland First Nation
Municipality of Sioux Lookout
Municipality of Greenstone
Long Lake #58 First Nation
Ginoogaming First Nation
MNO Greenstone Métis Council
MNO Superior North Shore Métis Council
City of Thunder Bay
MNO Thunder Bay Métis Council
Attawapiskat First Nation
Kashechewan First Nation
Fort Albany First Nation
Marten Falls First Nation
Constance Lake First Nation
Kenora
Dryden
Timmins
Kirkland Lake
New Liskeard
Cochrane
Hearst
Moosonee
Nakina
Ignace
Atikokan
Rainy River
Fort Frances
Terrace Bay
Nipigon
Nibinamik FN
Webequie FN
Marten Falls FN
Legend:
Webequie Supply Road Corridor with Alternative Routes 1 and 2
Local Study Area
Regional Study
Waterbody
Federal National Park
First Nation Reserve
Provincial Park
Conservation Reserve
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
Webequie Supply Road (WSR)
Socio-Economic Study Areas
NOTES
DISCLAIMER
Figure Number:
REV:
PA
Client:
Webequie First Nation
Project Number:
661910
Date:
2021-12-15
DSC
DRN
CHK
APP
AD
LD
LD

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Temporal Boundaries

Implementation of the Project will occur in phases, which are temporal boundaries that establish a timeframe for consideration of baseline information and potential effects of the Project. The Project is planned to occur in two main phases as described below:

- **Construction Phase**: All the activities for development of the road and supportive infrastructure from the start of construction to the start of operation and maintenance of the WSR (estimated 3-6 years); and
- **Operations Phase**: All activities for operation and maintenance of the road and any permanent supportive infrastructure (e.g., maintenance yard, aggregate pit/quarry) that will start after construction (75-year period is used for assessment).

The Project is proposed to be operated for an indeterminate time period; therefore, retirement (decommissioning/abandonment/closure) is not anticipated and will not be considered in the EA / IA. The final temporal boundaries to be used for assessment will be based on regulatory agency guidance, professional judgement and input received through the consultation process for the Project.

2.1.3. Gender Based Analysis Plus (GBA+)

Gender Based Analysis Plus or GBA+ is a required analytical approach for any projects operating under Section 22 of the IAA and will need to be applied to the WSR SEIA. GBA+ is a required approach given the recognition that historical and current power structures (e.g., laws, policies, governments and other institutions) have shaped society and created inequalities. This is especially important with respect to legacies of colonialism and the impacts on Indigenous peoples and in particular, Indigenous women. Today, there is an epidemic of violence against Indigenous women and girls, where violence-related deaths among Indigenous women is five times higher than the national average for Canadian women (Kuokkanen 2011 cited in Bond and Quinlan 2018 p. 24), and the severity of this issue is often exacerbated by the presence of industrial projects near Indigenous communities (Bond and Quinlan 2018 p. 23). Indigenous women are also less likely to benefit from employment opportunities associated with resource development projects (Dalseg 2018).

In the context of EA / IA, GBA+ is a means to understand and assess how potential project effects could disproportionately impact more vulnerable groups including women, youth, two-spirited and gender diverse persons, and Elders. It is particularly important to consider how the impacts, benefits, and risks of a project could be unequally distributed across different sub-groups within a community. From there, more plans and mechanisms can be put in place to avoid and/or mitigate the disproportionate effects on these sub-groups.

GBA+ is not a method unto itself, but an approach that is associated with a variety of standard quantitative and qualitative data collection tools. Details regarding how GBA+ will be applied to baseline information collection and the effects assessment are detailed in the respective sections of this study plan.

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2.2. Criteria and Indicators

Valued components are human and physical aspects of the environment that people consider important from Indigenous, public, or scientific perspectives, therefore warranting detailed consideration in an EA / IA (Noble, 2015, p.105). The assessment will focus on valued components that have physical, biological, social, economic, cultural, and health importance to Indigenous groups, public, federal and provincial authorities and interested parties, and have the potential for change as a result of the Project. Socio-economic valued components have been identified in the federal WSR TISG and WSR ToR and are, in part, based on what Indigenous communities and groups, the public and stakeholders identify as important to them in the EA process to date for the WSR Project.

Preliminary socio-economic criteria and indicators were also identified to evaluate and measure the potential effects of the WSR Project. The SEIA will examine social and economic effects, including potential changes to social and/or economic conditions based on the indicators, and the positive and negative consequences of these changes.

Table 2 below presents a preliminary list of criteria and indicators and reflects input received during the WSR engagement and consultation activities undertaken to date, such as input into the WSR TISG and WSR ToR. Indicators for which GBA+ will be applied are also identified in this table. Indigenous communities, groups and the public will be consulted and will have the opportunity to provide input and feedback to help further refine the criteria and indicators. A comprehensive list is to be determined as part of the EA process and will be documented in the Environmental Assessment Report/Impact Statement (EAR/IS). The table includes a preliminary list of sources that have been or will be used in collecting baseline information for that particular socio-economic criterion. Note that the list of sources listed in the table is not exhaustive; this list will be provided in the EAR/IS once baseline information collection is complete.

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Table 2: Socio-Economic Criteria and Indicators

Domain	Criteria/Valued Component	Indicator	Sources
Demographics	Population and Demographics	• Change to population • Change in sub-group population (women, men, youth – GBA+)	• Statistics Canada - Aboriginal Population Profile, 2006, 2011, 2016 Census Results[1] • Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) First Nation Profiles • Municipal, provincial and Indigenous government websites • Municipal plans and reports • Provincial plans and reports ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration

[1] 2021 Census data to be added once available.

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Domain	Criteria/Valued Component	Indicator	Sources
Community Services and Infrastructure	Housing and Accommodations	• Demand for permanent and and/or temporary housing • Housing costs and affordability o Average housing cost o Average rent • Change to number of people living in a home • Supply of housing o Total number of new housing starts and completions • Quality of housing	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Statistics Canada Census Community Profiles and National Household Survey • Municipal and provincial government websites • Stakeholder engagement • Local Business operators and service providers • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health

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Domain	Criteria/Valued Component	Indicator	Sources
	Social and Infrastructure Services o Education o Childcare o Water o Waste o Energy o Communications	• Demand for community services and/or infrastructure • Supply and capacity of community services and/or infrastructure	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Municipal, provincial and Indigenous government websites, plans and reports • Local service providers • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health
	Transportation	• Road Transportation o Change in traffic volume (autos, trucks) on existing road connection (winter) to provincial road network o Change in opportunities for travel and road use • Air Transportation o Demand for air and shipping services	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Local service providers (i.e., winter road) • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Community Well-Being and Safety • Land Use Compatibility • Recreation and Tourism

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Domain	Criteria/Valued Component	Indicator	Sources
			• Regional and Local Economy • Human Health • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Community Well-Being and Safety	• Social Cohesion and Culture o Quantity of social connections o Quality of social connections • Participation in social and/or cultural events o Participation rate (by event) o Number of new (first-time) attendees to regularly held (e.g., annual) events o Total number of social and/or cultural events held • Safety o Perceptions of safety o Traffic safety o Domestic violence rate o Sexual assault rate o Physical assault rate • Nuisance o Air quality (e.g., dust) o Noise levels	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Socio-economic surveys • Focus groups • Key informant interviews • Police reports • Social service reports • Non-Government Organization and Interest group reports • Municipal, provincial and Indigenous government websites, plans and reports ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Land and Resource Use (non-indigenous)	Land Use Compatibility	• Compatibility with existing and proposed land uses	• Consultation and engagement activities • Key informant interviews

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Domain	Criteria/Valued Component	Indicator	Sources
			• Spatial data on existing planned land uses • Land use plans (municipal, provincial and federal) - Provincial Policy Statement 2020 (Ministry of Municipal Affairs and Housing 2020); and Growth Plan for Northern Ontario (Ministry of Northern • Development, Mines and Forestry 2011) • Community-based land use planning ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Recreation and Tourism • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Recreation and Tourism (camps, trails, waterways, etc.)	• Location/number/type of activities or users • Land and waterway disruption and access • Resource availability of select species (fish, wildlife) or their habitat	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Business Operators ***Links to other VCs may include:*** • Transportation • Land Use Compatibility • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

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Domain	Criteria/Valued Component	Indicator	Sources
	Provincial Parks and Protected Areas (Areas of Natural and Scientific Interest, Conservation Reserves)	• Total number and total disturbed area (ha) of Provincial Parks and Protected Areas	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • MNRF website • Business Operators • Desktop studies ***Links to other VCs may include:*** • Land Use Compatibility • Recreation and Tourism • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Economic	Regional and Local Economy	• Economic and Procurement Opportunities o Business opportunities o Regional economic activity o Change in output/ GDP value-added o Value of procurement opportunities • Labour Force and Employment o Employment/ job opportunities o Employment and unemployment rates o Labour force participation rate o Labour income o Training opportunities	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Statistics Canada information on economic sectors • Provincial and regional economic development reports • Business Operators • First Nations employment skills inventory • First Nations business inventory • Municipal, provincial and Indigenous government websites • Municipal plans and reports on economic development • Provincial plans and reports on regional sector development • Local service providers such as infrastructure and utility providers • Regional tourism reports • Industry reports (e.g., mining and forestry) • Municipal and Indigenous community financial statements • Socio-economic surveys • Focus groups • Key informant interviews • Spatial Data on existing mining and aggregate areas

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Domain	Criteria/Valued Component	Indicator	Sources
		• Government Finances[2] o Changes to expenditures o Taxation and Revenue • Cost of Living o Price changes at an order of magnitude level for key consumptive goods o Annual Average Consumer Price Index (CPI) o Average retail prices for select products (e.g., food, fuel, transportation) o Average annual spending on goods and services per household • Mining and Aggregate Activity o Area (ha) of significant aggregate deposits affected o Area (ha) or number of active mines o Area (ha) or number of mining claims	• Stakeholder group information • Ontario's Land Information (OLI) database ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Recreation and Tourism • Provincial Parks and Protected Areas • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

[2] Note: The RSA for Government Finances will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

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2.3. Collection of Baseline Information

Collection of socio-economic baseline information will involve a mixed methods approach. Mixed methods refer to a combination of quantitative and qualitative methods and associated data collection tools. By combining these methods, a better understanding of issues and complex phenomena can be developed than by either method alone (Creswell and Clark 2007). This is because quantitative and qualitative methods serve different study purposes and are designed to address different types of research questions and information needs. The quantitative approach allows the Project Team to collect information at a broader scale, on a wide range and number of indicators. The qualitative approach complements the quantitative approach as its purpose is to understand particular topics more in-depth from the perspective of lived experience, and the meanings attached to that experience (Winchester and Rofe, 2016). For the qualitative approach, the Project Team and community facilitators will pose guiding, open-ended questions to a small number of knowledgeable, informed, and diverse participants.

Socio-economic baseline information will also be collected through both primary and secondary information sources. Gaps found in secondary information have been used to inform the primary information needs of the Project.

2.3.1. Secondary Information

A desktop review of published social and economic data was conducted for the 22 Indigenous communities/groups potentially impacted by the WSR as well as the municipalities (public). While only secondary information is being collected for the municipalities, both primary and secondary information will be collected for the 22 potentially impacted Indigenous communities/groups. The review included a search of government websites (such as Statistics Canada 2016 Census Profiles, First Nations Community Profiles, Indigenous Services Canada), Indigenous community websites, municipal websites, local and provincial police and emergency service websites, municipal economic development plans and other open-source data to identify community demographics, infrastructure, economic development, social services, safety, housing, etc. In addition, the following WFN community documents were obtained from the community and reviewed:

- Webequie First Nation Draft Comprehensive Community Plan (2021).
- Webequie First Nation Community Based Land Use Plan. 3 V 4.3. 4 “Webequie Anishininniwuk Ahki Ohnahchiikaywin”. Prepared by WFN. 2019. (WFN, 2019a).
- Webequie First Nation On-Reserve Land Use Plan. Dated May 31, 2019. (WFN, 2019b).
- Webequie First Nation Community Well-Being Baseline Study Summary- Summary Report 2. June 2014.
- Webequie First Nation Housing Assessment. n.d.

Similar documents from other potentially impacted communities will be requested and reviewed where permitted. Where sources provide disaggregated data based on subgroups (i.e. male and female statistics, age, etc.), this data will be used in the baseline to characterize the sub-groups and to support the gender-based analysis plus (GBA+) framework.

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2.3.2. Primary Information

Community Socio-Economic Surveys

Socio-economic surveys are proposed to be administered to 22 potentially impacted Indigenous communities and groups. These surveys will be administered through a combination of in-person and online methods, including at community meetings, frequently visited locations within the community (e.g. a store and band office), and/or through the use of Survey Monkey, an online survey tool. The Project Team will engage with Indigenous communities to determine the appropriate approach to deliver the socio-economic survey, and this will also depend on the intensity/depth of consultation required. While a high response rate will aim to be achieved, this will at least partially depend on the administration method(s) used.[3] The administration method will vary according to community. The 8 Indigenous communities in the Local Study Area (refer to section 2.1.2) will receive a more intensive effort to participate in completing the survey and will include use of in-person trained survey administrators or community coordinators, as well as the online survey tool.

The other communities and groups located within the Regional Study Area will be provided with the survey at community consultation events and online. Administration methods may also depend on capacity, protocols, and factors such as COVID-19 restrictions in place. In order to undertake a GBA+ approach, the aim will be to achieve a diversity of responses from different sub-groups within the communities including women, men, youth, and Elders.

The surveys will include questions about demographics (age, gender, income, education, employment), housing, social services, safety, and social cohesion. The questions developed are based on the criteria and indicators for the WSR Project. All Indigenous communities will be notified about the survey via email/letter and they are also being made aware of the socio-economic survey through radio call-in shows and livestream sessions broadcast to all communities. A link to Survey Monkey will also be posted on community social media sites, with permission.

The survey will be written in plain-language and pilot tested to improve the validity and reliability of the data collection instrument. It will also be translated to Oji-Cree and/or Cree with the aid of a translator if/when it is being administered in person. The survey will include a guide with directions and explanations of the questions, and this will also be provided to any in-person survey administrators through a short training program. Information provided in the surveys will be anonymous and confidential and used solely for the purposes of the Project.

Survey statistics will be analyzed using Survey Monkey with further rigour added to the analytical process if needed through exporting results to Excel and applying Chi-square tests to the data[4]. Analysis to be undertaken will be based on criteria and indicators in **Table 2.0**. Data will be disaggregated by gender and age in order to address GBA+ requirements (see Table 2.0 for indicators where GBA+ will be applied). Survey findings will be available for viewing and feedback as part of community engagement activities on the draft baseline report.

[3] Certain administration methods would be expected to achieve higher response rates, such as in-person surveys (Gillham, 2008), but this also depends on other factors (de Vaus, 2014).
[4] The Chi-square test measures the relationship, or lack thereof, between variables. The test compares the pattern of observed responses against what we would expect to see if there was no relationship between the variables (Statistics Solutions, 2021). This test measures how likely the relationship is to be a result of chance (Gillham, 2008).

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Focus Groups

Four focus groups will be conducted for each of the 8 communities who are potentially more socially and economically impacted by the Webequie Supply Road Project (see Table 1 and section 2.1.2). Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. In contrast to the questionnaire surveys, participants will have an opportunity to talk at length about issues to facilitate greater understanding and contextual insights. In addition, participant interactions within focus groups produce a synergistic effect, which can generate a significant amount of information compared to interviews alone (Stewart, Shamdasani, and Rook, 2007; Berg, 1989 cited in Hay, 2016). As such, there will be four focus groups undertaken with adult women (mothers and non-mothers), Elders, and male and female youth. These will be undertaken with the goal of understanding the power disparities, inequalities, and vulnerabilities that are likely to exist in communities where industrial projects have the potential to exacerbate these vulnerabilities (Bond and Quinlan 2018 p. 23). The topics to be explored through these focus groups include the following, and are based on TISG requirements, with targeted focus groups to be conducted for each topic identified in brackets):

- Experiences with development and aspirations for, as well as concerns about development (all);
- Access, ownership and control of resources e.g. financial, information (women);
- Education and training needs and interests (all);
- Employment opportunities and barriers (women and youth);
- Safety and experiences of gender-based violence[5]; concerns about violence[6] in relation to the Project or future mining development (women, female Elders, and female youth);
- Transportation and mobility (all);
- Access to emergency and support services and networks (all).

For certain topics, particularly those that are more sensitive and where participants may be hesitant to disclose information about themselves, fictional examples may be introduced that participants can respond to (see for example Goss and Leinbach, 1996). Focus groups will aim to comprise 6-10 participants each (see Cameron, 2016) and take approximately 2-3 hours to complete. Participants will be recruited through the Webequie Project Team (for WFN) and/or other community gatekeepers who can help to identify potential participants. Cultural protocols will be followed (e.g. prayers and smudging), where requested. For the focus groups with Indigenous women and female youth, it would be ideal to have a trained female Indigenous facilitator who the participants may be familiar with and who they trust. In addition, it will most likely be necessary to have these focus groups carried out in-person (as opposed to virtually), though this will depend on provincial and community COVID-19 restrictions in place, as well as participant preferences and comfort levels. Focus groups will be recorded either by audio/video recording and also have a notetaker present. Focus group information will be organized and analysed with the aid of the NVivo qualitative software package that allows for systematic thematic analysis of large amounts of text-based information. Copies of transcripts and/or findings will be provided to focus group participants for validation and feedback.

[5] Given the nature and importance of this topic, it may be necessary to have focus groups entirely dedicated to these issues.

[6] Violence may be understood and interpreted in various forms, and this will also be dependent on participant constructions of violence. However, given the context of impact assessment and future industrial camps and possible mining activities in proximity to communities, particularly WFN, violence and vulnerabilities to Indigenous women and children may be in terms of sexual harassment and assault; domestic violence; sex trade and sex trafficking; and sexually transmitted infections among other issues.

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Key Informant Interviews

Key informant interviews will be conducted with individuals who have special knowledge or information to contribute to the Webequie Supply Road socio-economic baseline study. This special knowledge includes (for example) community infrastructure capacity and service availability and needs, history with developers, economic development aims, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants will be asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. Key informants could include Chiefs, Councillors, band administration staff, and social service providers who will be interviewed either by telephone, videoconference, or during in-person consultation and engagement activities. A preliminary list of potential key informants will be drafted, but the Project Team will also work with Chief and Council as well as gatekeepers in the Indigenous communities to identify and confirm key informants to participate in the interviews. Interviews will be recorded electronically to assist in the preparation of transcripts and findings will be organized thematically. All information collected will be subject to OCAP ® (ownership, control, access, and possession principles) (The First Nations Information Governance Centre 2021). Copies of transcripts and/or findings will be provided to interview participants for validation and feedback.

2.4. Effects Assessment Approach

The approach for the assessment has been developed to satisfy regulatory requirements under the Environmental Assessment Act and is based on the MECP Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (MOECC 2014), and the approved Terms of Reference for the Project (MECP notice of approval dated October 8, 2021). The approach for the assessment has also been developed to meet the requirements of the federal TISG and specifically Section 13 – Effects Assessment.

2.4.1. Consideration and Evaluation of Alternatives

The assessment process requires that two types of project alternatives be considered: “alternatives to” the Undertaking (i.e., functionally different ways of addressing an identified problem or opportunity to arrive at the preferred planning solution) and “alternative methods” of carrying out the Undertaking (options for implementing the preferred planning solution). The consideration and evaluation of alternatives to the Undertaking were documented in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020) and concluded that developing a new all-season road between Webequie and the McFaulds Lake area is the preferred alternative. This analysis and conclusion are not proposed to be re-examined as part of the assessment process but will be documented in the EAR/IS. Therefore, in keeping with the focused approach the preferred planning alternative (developing a new all-season road) has been carried forward to the initial consideration of alternative methods of carrying out the Undertaking.

The consideration of alternatives methods will focus on the supply road alternatives within the proposed preliminary corridor. These alternatives include the Webequie First Nation community’s preferred route (referred to as Alternative 1) for the supply road along the centreline of an approximately 2 km wide preliminary preferred corridor and the optimal geotechnical route (referred to as Alternative 2) within the same corridor (Refer to **Figure 2**).

In addition, the following alternative methods related to supportive infrastructure and the preferred supply route will be examined.

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- Alternative sites for temporary and/or permanent aggregate extraction pits and production facilities needed for construction and operation of the road, including access roads to these sites;
- Alternative sites for supportive infrastructure (i.e., temporary laydown and storage areas, construction camps, including access roads to these areas);
- Watercourse crossing structure types (i.e., culverts, bridges), span length, lifecycle, and construction staging methods at waterbody crossings;
- Road attributes, including roadbed foundation; horizontal alignment, vertical alignment (elevation/profile), and adjustments to the cross-section and right-of-way (ROW) width of the corridor.

The assessment of alternatives will include socio-economic criteria and indicators for the comparative analysis. As noted previously the criteria and indicators will be developed in detail as part of the assessment process through input from the engagement and consultation activities with Indigenous communities, the public and stakeholders. Both a quantitative and/or qualitative assessment of alternatives for each criterion will be conducted to allow for a comparison of the advantages and disadvantages and selection of a preliminary recommended route for the WSR and the sites/access routes for supportive infrastructure.

2.4.2. Assessment of Net Effects

A step-wise process will be used to assess the environmental effects of the Project in a systematic and transparent manner once the relevant project elements and activities and their interactions, assessment boundaries, and relevant environmental criteria and indicators are identified and finalized through the engagement and consultation process. The net effects assessment method will include the following primary steps:

- Identification of potential effects;
- Identification of technically and economically feasible mitigation measures;
- Prediction of net effects following implementation of mitigation measures; and
- Evaluation of the predicted net effects (i.e., describe and determine the magnitude, duration, extent, frequency, and significance of the predicted net effects).

2.4.2.1. Identification of Potential Socio-Economic Effects

The net effects assessment will consider the potential interactions between the project components and activities (the 'triggers') and the criteria within the identified spatial boundaries and phases of the Project (i.e., construction and operation). Potential effects of the Project on valued components and criteria will be determined by comparing baseline conditions to those expected to result from the construction and operation and maintenance of the Project. Potential effects will be described for each assessment criterion, including an indication of whether they are expected to be direct (i.e., as a result of a project component or activity affecting a valued component), or indirect (i.e., as a result of a change to one valued component affecting another valued component). Relevant project activities will be analysed individually to determine if there is a plausible pathway for an effect on valued components.

Potential socio-economic effects will be identified through a pathways of effects analysis. Potential Project-socio-economic interactions will be identified through a review of the Project Description and existing socio-economic conditions, as characterized by social surveys, focus groups, key informant interviews, consultation and engagement activities, public and stakeholder input, local knowledge, and

desktop research. The pathways of effects analysis will also take into consideration existing literature/case studies of similar types of projects. This review focuses on the possible interactions between the socio-economic criteria and the Project within the study areas. Associated Project works and activities will be assessed to determine potential effects on the criteria during Project construction and operation. This could take the form of a Multiple Account Benefit-Cost Analysis (MABCA) (Shaffer, 2010) with the use of flow diagrams, scenarios, and cause-effect matrices (Mackenzie Valley Environmental Impact Review Board, 2007).

Effects to the social and economic valued components indicators as a result of the Project will consider the specific items contained in Sections 17 and 18 of the TISG.

Application of GBA+ to Identification of Socio-Economic Effects

A GBA+ lens will be applied to identification of effects due to the Project using a pathways approach based on what is known about the Project, existing socio-economic conditions disaggregated by gender and age, engagement and consultation activities, as well as literature that identifies GBA+ effects based on similar types of projects, and the potential for disproportionately adverse effects on women, Elders, and/or youth. The identification of possible positive impacts on women, Elders, and youth will also be important.

2.4.2.2. Identification of Mitigation Measures

Once potential effects are identified, technically and economically feasible mitigation measures to avoid and minimize potential adverse effects will be identified for each phase of the Project. Design considerations and mitigation measures will be identified to offset, eliminate, or avoid potential adverse effects and will be described in the EAR/IS. Refinements to these measures may also be made in the future detail design phase of the Project. Mitigation measures will be developed for the Project based on:

- Knowledge and experience of the Project Team with linear infrastructure developments;
- Industry best management practices and applicable agency requirements and guidance; and
- Measures identified by Indigenous communities, the public and stakeholders through feedback received as part of the engagement and consultation program.

It is understood that mitigation measures may not always be fully effective, therefore, WFN will identify a compliance monitoring and effects monitoring program as part of the EA for implementation during the project phases (refer to Section 2.3.2.6).

Application of GBA+ to Identification of Mitigation Measures

Mitigation in the context of GBA+ asks the questions: how can we avoid or limit potential adverse impacts, and reduce the potential risks posed by the Project for vulnerable sub-groups? At the same time, how can we enhance the potential benefits for vulnerable sub-groups? Mitigation options will be proposed and explored in consultation with GBA+ socioeconomic study participants and through consultation and engagement activities. At a minimum, the TISG (Section 3.3) requires the following with respect to diversity and inclusion:

- Plans to encourage the recruitment, development and retention of underrepresented groups in the Project (e.g., set targets for employment for specific groups);
- Diversity and inclusion workforce development plans (e.g., youth with substance use programs);

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- Opportunities for diverse groups of women, and underrepresented groups, to be employed in higher-skilled jobs through provision of on-the-job training (e.g., surveyors, road safety auditors, and heavy equipment operators);
- Workplace policies and programs, including codes of conduct, workplace safety programs and cultural training programs;
- New or expanded social or emergency services, facilities or infrastructure.

2.4.2.3. Prediction of Net Effects

A net effect, or the alternative term residual effect, is considered an environmental (biophysical), social, economic or health effect from the Project and its related activities that is predicted to remain after the implementation of mitigation measures. A potential socio-economic effect is considered to occur where anticipated future conditions resulting from the Project differ from the conditions otherwise expected from natural change without the Project. In some situations, the recommended mitigation measures will eliminate a potential adverse effect, while in other situations mitigation measures may reduce, but not eliminate the effect. Mitigation measures may also enhance positive effects. A potential effect that will be eliminated, or considered unlikely after mitigation measures, will be identified as not resulting in a net effect (i.e., no net effect) and will not be considered further in the net effects assessment. An effect that may remain after the application of mitigation measures will be identified as a net effect and will be further considered in the effects assessment. Positive effects will also be considered further in the effects assessment, including means of enhancing benefits of the Project. Neutral changes will not be carried forward for the characterization of net effects, but where identified will be characterized in terms of the confidence in the predictions and the likelihood of the effect.

2.4.2.4. Characterizing the Net Effects

The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each assessment criterion. The objective of the method is to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or function of a valued component, and therefore, result in significant combined effects.

The magnitude of the potential effect will be qualitatively and quantitively assessed by inferring the anticipated changes relative to baseline conditions using the identified preliminary socio-economic criteria and indicators. In general, the magnitude is the intensity of the effect or a measure of the degree of change from existing conditions and will be defined by each discipline assessment. If a significant effect is identified, the contribution of the Project to the combined effect will be described. The assessment of significance of the net effects of the Project on the social and economic valued components will be informed by the interaction between significance factors (as defined below), in addition to those concerns raised by Indigenous groups, interested agencies, stakeholders, and the public during the consultation and engagement for the EA. Therefore, predicted net effects, where identified, will be described in terms of the following significance factors (MNRF, 2003), with integration of the assessment methodology identified in the federal TISG, as required.

- **Direction** - The direction of change in effect relative to the current value, state or condition, described in terms of Positive, Neutral, or Negative.
- **Magnitude** - The measure of the degree of change from existing (baseline) conditions predicted to occur in the criterion.

- **Geographic Extent** - The spatial extent of which an effect is expected to occur/can be detected and described in terms of the PF, LSA and RSA.
- **Severity** - The level of damage to the valued component from the effect that can reasonably be expected; typically measured as the degree of destruction or degradation within the spatial area of the PF, LSA and RSA. Severity would be characterized as: Extreme; Serious, Moderate or Slight.
- **Duration/Reversibility** - Duration is the period of time over which the effect will be present between the start and end of an activity or stressor, plus the time required for the effect to be reversed. Duration and reversibility are functions of the length of time a valued component is exposed to activities. Reversibility is an indicator of the degree to which potential effects can be reversed and the valued component restored at a future predicted time. For effects that are permanent, the effect is deemed to be irreversible. Duration/Reversibility would be characterized for each adverse effect as: Short-Term (0- 5 years), Medium-Term (6-20 years), Long-Term (21 to 100 years) or Permanent (>100 years).
- **Frequency** – Is the rate of occurrence of an effect over the duration of the Project, including any seasonal or annual considerations. Frequency would be characterized as: Infrequent; Frequent or Continuous.
- **Probability or Likelihood of Occurrence** – Is a measure of the probability or likelihood an activity will result in an environmental effect. Probability or likelihood of occurrence would be characterized as: Unlikely, Possible; Probable and Certain.

The definitions and description of the above factors will be described in detail in the EAR/IS. An effort will be made to express expected changes quantitatively / numerically. For example, the magnitude (intensity) of the effect may be expressed in absolute (e.g., number of businesses affected) or percentage values above (or below) baseline conditions (e.g., changes to crime rates). Additionally, the definition of effect levels may vary from one valued component or criterion to another, recognizing that the units and range of measurement are distinct for each.

Application of GBA+ to Net Effects

Importantly, effects may impact communities, Indigenous groups and stakeholders in different ways, including through a GBA+ lens, and vulnerable sub-groups may respond differently to the effects. Therefore, determining and characterizing effects will be based largely on the level of concern expressed through engagement with the Indigenous groups and community members, including women, youth, and Elders.

2.4.2.5. Assessment of Significance

MNRF's Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (MNRF, 2003) require the assessment of significance of environmental effects and provides guidance for assessing the significance of potential environmental effects under individual criteria, for a project as a whole, and for alternatives.

In addition to the Class EA guidance, the determination of significance of net effects and cumulative effects from the Project and other previous, existing, and reasonably foreseeable developments will generally follow the guidelines and principles of the *Draft Technical Guidance Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act* (CEA Agency, 2017) and the *Operational Policy Statement: Determining*

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Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012 (CEA Agency 2015).

In general, the assessment of significance of net effects will be applied to each valued component for which net effects are predicted, and net adverse effects or positive effects will be classified as significant or not significant (i.e., binary response). Given that determinations of significance are highly sensitive to context and shaped by human values and cultures (Baker and Rapaport 2005; Kjellerup 1999), efforts will be made to collaborate with Indigenous communities, particularly the 4 communities potentially most impacted socially and economically, as well as vulnerable sub-groups, in defining and assigning significance classifications to particular valued socio-economic components.

Additional details on the application of socio-economic criteria and definitions that would describe "significant" and "not significant" will be provided in the EAR/IS.

2.4.2.6. Identification of a Monitoring Framework

Webequie First Nation will develop a monitoring framework during the EA process for each project phase (construction and operation and maintenance). The two primary types of monitoring to be developed will include:

- Compliance monitoring; and
- Effects monitoring.

The compliance monitoring will assess and evaluate whether the Project has been constructed, implemented and/or operated in accordance with commitments made during the EA process, and any conditions of the federal IA and provincial EA approvals and other approvals required to implement the Project.

The effects monitoring will be designed to verify the prediction of the effects assessment, and to verity the effectiveness of the mitigation measures. This would include construction and operational monitoring that would identify actual effects, assess the effectiveness of the measures to minimize or eliminate adverse effects, and evaluate the need for any additional action to ensure that socio-economic commitments and obligations are fulfilled, and mitigation measures are effective. It is expected that the monitoring program will involve Indigenous participation in the design and implementation of the program.

2.5. Schedule and Reporting

The schedule for completion of the socio-economic baseline report is as follows:

- Desktop research – April 2021 to March 2022 (as remaining community documents become available);
- Social Surveys – July 2021 to May 2022;
- Focus Groups – January 2022 to May 2022;
- Key informant interviews– September 2021 to May 2022;
- Draft Baseline Report (including all primary information)– July 2022;
- Draft EAR/IS – May 2023;
- Consultation and engagement activities to confirm baseline information collected, discuss potential impacts and identification of mitigations – Ongoing.

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The baseline socio-economic primary information and data will be collected from summer 2021-spring 2022 and will be compiled into a Socio-Economic Existing Conditions Report that will include results and findings from the primary data collection activities (surveys, key focus groups, informant interviews, consultation and engagement activities) and desktop research. The overall baseline report is tentatively scheduled to be completed by July 2022 and Indigenous communities will be requested to validate the baseline information in the report as part of the process to finalize the document.

3. Aboriginal and Treaty Rights

The Webequie Project Team will engage with Indigenous communities regarding potential impacts of the project on the exercise of asserted or established rights, and where possible, the Project's interference with the exercise of those rights. Webequie First Nation and the Project Team will discuss with Indigenous communities their views on how best to reflect and capture impacts on the exercise of asserted and/or established rights in the EAR/IS. Should impacts on the exercise of Aboriginal and Treaty rights be identified, Webequie First Nation and the Project Team will work with Indigenous communities to determine appropriate mitigation measures to reduce or eliminate such impacts. Where no mitigation measures are proposed or mitigation is not possible, the Project Team will identify the adverse impacts or interference to the exercise of Aboriginal and Treaty rights and this will be described (e.g., level of severity) and documented in the EAR/IS. Webequie First Nation and the Project Team will advise Ontario and the Government of Canada on concerns Indigenous communities may have in relation to their exercise of Aboriginal and Treaty rights and whether their concerns cannot be addressed or mitigated by the Project Team.

4. Contribution to Sustainability

4.1. Overarching Approach

As recognized in the Agency's current guides to considering how a project will contribute to sustainability, it is not until baseline information has been collected and the potential effects of the Project are assessed that a full understanding or determination of the project's contribution(s) can be achieved/made. However, information and data requirements for sustainability have been considered from the outset of the WSR Project for planning purposes. In the absence of the potential effects assessment, this section outlines the general approach to determining sustainability contributions for the socio-economic valued component.

The approach is based on the goal of providing a broad or holistic description of the project's potential positive and negative effects, including the interactions among those effects and the long-term consequences of the effects. In the context of the IAA requirements, sustainability means "the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations", with the aim of "protecting the components of the environment and the health, social and economic conditions that are within the legislative authority of Parliament from adverse effects caused by a designated project", recognizing that the Minister's or the Governor in Council's public interest determination must include sustainability as one of five factors to be considered in rendering a final decision.

The approach also considers the level of effort required to assess a project's contribution to sustainability to be scalable, depending on the phase of the process and the context of the project, and can/will be

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adjusted/scoped as the impact assessment proceeds. For example, effects on future generations requires temporal scoping (i.e., consideration of next generation to "seventh generation"), based on expectations as to how many generations it will take for effects to become fully apparent, including return to VC baseline conditions; resilience of the VC; and whether a VC is expected to recover from effects.

As part of the public participation and Indigenous peoples engagement programs described in Sections 3.1 and 3.2, the Project Team has (and will continue to) facilitate early identification of values and issues to better inform the assessment of the project's contribution to sustainability; and identify VCs that should be carried forward into that assessment, scoping related criteria and indicators to reflect the project context. As part of sustainability considerations, this information has also been used (with regard to which VCs are considered most important to Webequie First Nation) to identify alternative means of carrying out the Project and select alternatives to be carried forward for an assessment of sustainability contributions. Ultimately, with the appropriate input from the engagement and consultation program, the sustainability assessment will culminate with the development of commitments to ensuring the sustainability of Indigenous livelihood, traditional use, culture and well-being.

In identifying and scoping key VCs for sustainability contributions, the Project Team will consider VCs that:

- could experience long-term effects, including how those effects could change over time, and how they could affect future generations;
- may interact with other VCs;
- may interact with potential effects of the designated project; and/or
- may interact with project activities.

4.2. Assessment of Contribution to Sustainability

During preparation of the Impact Statement, the four (4) Sustainability Principles identified in the Agency's guides and the TISG will be applied as follows:

Principle 1 - Consider the interconnectedness and interdependence of human-ecological systems

A systems approach will be used to determine/express VC interconnectedness. The degree of interconnectedness within systems and/or subsystems may vary greatly (may be characterized as very intricate and tight/direct, or quite loose and indirect). The focus will be on those aspects that are most important to communities, the social-ecological system and to the context of a project. All interactions, pathways and connections among effects to the environment, and to health, economic and social conditions will be described, as will how these interactions may change over time. The Project Team will ensure that the description of systems and the direct and indirect relationships are guided by input from Indigenous Knowledge. It is expected that a graphic with simple pictorial images will be developed to visually represent the connections between human and ecological systems to facilitate comprehension and encourage input/feedback.

Principle 2 - Consider the well-being of present and future generations

The long-term effects on the well-being of present and future generations will be assessed. To conduct an analysis on future generations, the Project Team will first determine the potential long-term effects on well-being. This will entail consideration of the elements of environmental, health, social and economic well-being, across a spectrum of VCs, that communities identified as being valuable to them. In the context of the socio-economic VC, well-being could include community cohesion, protection of the environment, culture, stress, or livelihoods. Available Comprehensive Community Plans (CCP) will be

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consulted to determine whether sustainability is a CCP central theme. How the environmental, health, social and economic effects on well-being could change over time will also be assessed, as information permits. Although effects on future generations could include effects beyond the lifecycle of a project, this is not expected to be a major consideration for the WSR Project, as no expected decommissioning or abandonment timeframe has been identified. With respect to temporal scoping, there is still a need to determine what the "future generation" is (i.e., how far into the future the project effects will be considered). Predicted potential effects on future generations will be assessed based on the supporting data or uncertainty; any uncertainty will be documented.

Principle 3 - Maximize overall positive benefits and minimize adverse effects of the designated project

The Impact Statement will include a consideration of ways to maximize the positive benefits of the Project and consider mitigation measures that are technically and economically feasible and would mitigate any adverse effects of the Project. Sustainability considerations will include: whether additional mitigation measures are required; have additional benefits been identified and, if so, how can they be maximized; does the direction of the impact (i.e., positive or negative) shift between different groups and sub-populations; are there particular strengths or vulnerabilities in the potentially affected communities that may influence impacts; do the impacts cause regional inequities; and do the near term benefits come at the expense of disadvantages for future generations.

Principle 4 - Apply the precautionary principle and consider uncertainty and risk of irreversible harm

The precautionary principle states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". All uncertainties and assumptions underpinning an analysis will be described. A precautionary approach will be applied in cases where there is risk of irreversible harm (irreversible harm refers to project-related effects from which a VC is not expected to recover; reversibility is influenced by the resilience of the VC). Taking such a conservative approach may include setting out worst-case scenarios for decision-makers to consider, particularly when there is uncertainty about the significance or irreversibility of potential effects. As appropriate, the precautionary approach may be extended to commitments regarding the project's design (to prevent adverse effects, prevent pollution, deal with unplanned events) and the development of monitoring and follow-up programs to verify effects predictions, or gauge the effectiveness of mitigation measures. Uncertainty may be characterized quantitatively (e.g., description of confidence levels of modelled predictions) or qualitatively (e.g., through descriptors such as "high", "medium", and "low"). Qualitative descriptions of uncertainty will explain how the level of uncertainty was determined, identify sources of uncertainty and data gaps, and describe where and how professional judgment was used.

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5. Closure

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Comments Table: Socio-Economic Work Plan
Webequie Supply Road Project

Comment #	Page/Section # in Work Plan	2nd Draft of Work Plan (Submitted June 11/20) – Provincial Comments	3rd Draft Work Plan March 16, 2022 Provincial Comments in Red	Webequie Project Team Response	Description of Change
Peter Brown, Senior Advisor (Indigenous Consultation), EA Modernization Branch, MECP					
1.	Section 2.1.2, Page 5 – Spatial and Temporal Boundaries	The work plan has been revised to include section 2.4 Study Areas. This section includes a description of the three study areas that will look at the direct and indirect effects of the project (Project Footprint, Local Study Area and Regional Study Area). It does not include a map of the local and regional study areas. Include maps of regional and local study areas in the EA and revised work plan (if one is prepared).	Socio-Economic Study Plan, Section 2.1.2, Page 5, LSA includes Webequie First Nation and (although implied) it should be added to bulleted list of communities in the LSA.	Noted. Webequie First Nation has been added to the list and will be included in the LSA for the baseline data collection and effects assessment for the EA/IA.	Revised Text: Listed below are First Nation communities included in the LSA (by distance from Alternative Routes 1 and 2 and supportive infrastructure): • Webequie First Nation • Marten Falls First Nation • Nibinamik First Nation • Neskantanga First Nation • Kasabonika Lake First Nation • Eabametoong First Nation • Attawapiskat First Nation • Weenusk First Nation
	Section 2.2, Table 2, Page 13 – Criteria and Indicators		Section 2.2, Table 2, Page 13, an appropriate RSA for Government Finances (Changes to expenditures, and Taxation and Revenue) may be the Province of Ontario, or an indication that it will be considered at that scale.	Noted. Section 2.1.2 under "Regional Study Area" has been updated to note this exception to the RSA, and a footnote has also been added to Government Finances in Section 2.2, Table 2. Moving forward with the baseline data collection and effects assessment of the EA/IA, Government Finances will be considered at a provincial scale.	Revised Text: Note: The RSA for Government Finances will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.
2.	Section 2.2, Table 2, Page 11 – Criteria and Indicators	This comment has not been addressed. It is still unclear what the difference is between the criteria "Traditional Land and Resource Uses" and "Aboriginal and Treaty Rights and Interests". The Traditional Land and Resource Uses criterion contains a number of impacts to Aboriginal and treaty rights and interests, while the criterion for Aboriginal and Treaty Rights and Interests does not contain a complete list of indicators. Request discussion about criteria, indicators, perhaps walking through examples. Consider for EA and revised work plan	Traditional Land and Resource Uses/Aboriginal Treaty Rights not part of Socio-Economic Study Plan. However related comments are below: Socio-Economic Study Plan Section 2.2, Table 2, Page 11, Consultation and engagement and Indigenous Knowledge should be a 'source' for all or most of the criteria. For example, Community Well Being and Safety would be informed by consultation/engagement and IK.	Noted. Consultation and engagement activities and Indigenous Knowledge and IKLU studies have been added as sources for criteria in Table 2 wherever applicable. Additionally, links to other VCs have been listed in the 'Sources' column for each VC in Table 2, ensuring consistency throughout. This includes socio-economic VCs and VCs from other study plans (including ATRI, Human Health, Air Quality, Noise & Vibration). Moving forward with the baseline data collection and effects assessment of the	(Example of Revised Text - Population and Demographics VC): **Links to other VCs may include:** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration

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		(if one is prepared): move the "Burial Sites" criterion to the "Archaeological Resources" criterion, as it is typically associated with archaeology.	And an impact on Indigenous or traditional land use could impact community well being. Those results, as well as impacts on e.g., services and infrastructure, economics, traffic, human health, visual, etc. could have an impact on CWB, in addition to EA air and noise studies. It would be good to clarify and be consistent about links to other VCs.	EA/IA, consultation and engagement and IKLU will be a "source" for Socio-Economic VCs wherever applicable and will be weaved/integrated into reporting. Additionally, links to other VCs will be considered and clearly communicated throughout the assessment.	
	Section 2.4.2.1, Page 18 – Identification of Potential Socio-Economic Effects		Section 2.4.2.1, Page 18, the 'pathways of effects analysis' could be better illustrated by listing all potential pathways for each VC as sources in Table 2 or somewhere else, or indicating that residual impacts on all VCs will be considered for indirect effects on all (other) socio-economic VCs.	Potential pathways for each VC have been demonstrated by listing them as sources in Table 2 (as indicated above). Moving forward with the baseline data collection and effects assessment of the EA/IA, residual impacts on Socio-Economic VCs will be considered for indirect effects on all linked VCs.	
3.	Section 2.4 – Effects Assessment Approach	Comment has been partially addressed. All componentshave been added to Table 2. It is unclear from the work plan as to how potential effects will be determined for allindicators. Request discussion on effects methodology, criteria/indicators and pathways.	Socio-economic Study Plan, Section 2.4, it is not clear how changes to some indicators will be evaluated. For example, no methods are included for how the economic modelling will be done (e.g., for 'Change in output/GDP value-added' or 'Cost of Living).	Noted. - Specific methodologies for each Socio-Economic indicator are in the process of being finalized as part of engagement and consultation and will be described in further detail in the Environmental Assessment Report/Impact Statement (EAR/IS).	No change to the Study Plan at this time- however a more detailed description of methodology will be included in the EAR/IS.
4.	Section 2.1.1, Page 4, Table 1 – Indigenous Communities and Municipalities	The revised work plan does not address this. Request discussion about integrating community input into work plan/EA.	Socio-Economics Study Plan Section 2.1.1, Page 4, Table 1: I think Wapekeka should be marked with an asterisk, as they are identified as a rights-based community in the MOU, etc.	Noted. – Change will be carried forward and reflected in the EAR/IS.	Asterisk added to Wapekeka in Table 1 of Study Plan.

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5.	Section 2.1.1, Page 5		Section 2.1.1, Page 5, should read "information garnered through the consultation/engagement process for the EA with the public and stakeholders and Indigenous communities will be used to inform the SEIA where applicable."	Noted and updated accordingly. Moving forward with the baseline data collection and effects assessment for the EA/IA, consultation/engagement with Indigenous communities will be explicitly addressed as being distinct from consultation/engagement with the public and other stakeholders.	Text revised as indicated.
Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) **Laura Romeo and Karla Barboza, Heritage Planner, Heritage Planning Unit** **Jim Antler, Policy Advisor, Tourism Policy Unit**					
1.	General		**Heritage Planning Unit** MHSTCI has reviewed the revised Socio-Economic work plans and we have some concerns with the revised work plan. The revised work plan has no mention of Built Heritage Resources and Cultural Heritage Landscapes in any section of the revised Socio-Economic WSR Study Plan. For your reference please find attached the comments from 2020 that MHSTCI provided on the Socio-economic work plan. All of the comments provided by MHSTCI in 2020 have not been addressed. MHSTCI requires further clarification on why the comments from 2020 were not adopted or whether cultural heritage will be addressed in another work plan? Attached: comments from 2020 that MHSTCI provided on the Socio-economic work plan	The assessment of effects to built heritage resources and cultural heritage landscapes, including historical and cultural components (e.g., sacred or spiritual sites to Indigenous communities) will be documented in a Cultural Heritage Existing Conditions and Preliminary Impact Assessment Report prepared by a qualified person with recent and relevant experience in consultation with Indigenous communities. The assessment will be completed in accordance with MHSTCI guidelines that include, but not limited to, the Ontario Heritage Tool Kit (Ministry of Culture 2006), Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes (Ministry of Tourism, Culture and Sport 2016), and Environmental Guide for Built Heritage and Cultural Heritage Landscapes (Ministry of Transportation 2007). To assess the potential effects of the Project on archaeological resources, a Stage 1 Archaeological Assessment will be undertaken by a licensed archaeologist in	N/A

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				accordance with the MHSTCI Standards and Guidelines for Consultant Archaeologists (2011). Cultural Heritage Resources are considered a distinct Valued Component and is now excluded from the Socio-Economic Study Plan. A plain language and technical Fact Sheet that outlines the proposed scope of work for cultural heritage resources are currently being prepared and will provide information on methodologies, spatial and temporal boundaries, criteria and indicators, effects assessment approach, and other details. The Fact Sheets will be used to seek input from Indigenous communities and others early in the consultation program for the Project and build on the cultural heritage scope of work described in the Terms of Reference (ToR). Note there is no commitment in the approved ToR to prepare a Cultural Heritage Resources Study Plan. Additionally, it is the Project Team's intent to provide draft reports related to cultural heritage resources for MHSTCI review prior to their inclusion in the EAR/IS.	
2.	Section 2.3: Criteria and indicators Page 6	The revised table (now Table 2) should indicate that thearchaeological resources indicator is also applicable to municipalities and/or non-indigenous communities.	**Heritage Planning Unit:** It is not clear why the Archaeological Resource indicator has been removed in its entirety from Table 2: Socio-Economic Criteria and Indicator. Further there is no mention of archaeological resources in any section of the revised Socio-Economic WSR Study Plan. MHSTCI continues to recommend that cultural heritage resources are	Refer to response to comment #1.	N/A

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			included as an indicator, as per MHSTCI 2020 comments.		
3.	Section 2.3: Criteria and indicators Page 6	The revised table (now Table 2) should indicate that the built heritage resources and cultural heritage landscapes indicator is also applicable to municipalities and/or non-indigenous communities. For transparency, the revised work plan should insert "The Standards and Guidelines for Conservation of Provincial Heritage Properties (prepared under the Ontario Heritage Act) apply to property that is owned orcontrolled by the Crown in right of Ontario or by a publicbody prescribed under Ontario Regulation 157/10".	**Heritage Planning Unit:** It is not clear why the Built Heritage Resources and Cultural Heritage Landscapes indicator has been removed in its entirety from Table 2: Socio-Economic Criteria and Indicator. Further there is no mention of Built Heritage Resources and Cultural Heritage Landscapes in any section of the revised Socio-Economic WSR Study Plan. MHSTCI continues to recommend that cultural heritage resources are included as an indicator, as per MHSTCI 2020 comments.	Refer to response to comment #1.	N/A
4.	Section 2.4: Collection of Baseline Information Page 6	This statement has not been included in the revised work plan. (The final work plan should indicate that non-Indigenous interests will also be directly engaged as a source of socio-economic baseline information.)	**Heritage Planning Unit:** This statement has not been included in the revised work plan. MHSTCI continues to recommend that its 2020 comments are addressed. **Tourism Policy Unit:** Section 2.3 (Collection of Baseline Information) of the final work plan continues to focus on information collection from only Indigenous communities and individuals. However, Table 2 (Socio-Economic Criteria and Indicators) in Section 2.2 includes Recreation and Tourism (camps, trails, waterways etc.) as a Criteria/Valued Component. Information sources identified for this Criteria/Valued Component and related indicators	Noted. In response to the Tourism Policy Unit's comment, SNC-Lavalin confirms that information sources for the "Recreation and Tourism" Valued Component will include both Indigenous and Non-Indigenous tourism business operators, where they may exist.	N/A

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			(e.g. location/number/type of activities or users) includes Business Operators. As long as those operators include both Indigenous and non-Indigenous tourism operators, where they may exist, then our original concern relating to engagement with non-Indigenous tourism interests should be addressed.		
5.	Section 2.4: Collection of Baseline Information Page 6	The revised work plan does not indicate that thisinformation will be collected via technical cultural heritage studies.	**Heritage Planning Unit:** The revised work plan does not address this comment. MHSTCI continues to recommend that its 2020 comments are addressed.	Refer to response to comment #1.	N/A
6.	Section 2.5: Effects Assessment and Mitigation Page 8	The revised work plan does not include impacts on non-Indigenous economic interests and activities will in the pathway of socio-economic effects.	**Heritage Planning Unit:** The revised work plan does not address this comment. MHSTCI continues to recommend that its 2020 comments are addressed. **Tourism Policy Unit:** Section 2.4.2.2 (Identification of Mitigation Measures) includes the following language – "Mitigation measures will be developed for the Project based on:… Measures identified by Indigenous communities, the public and stakeholders through feedback received as part of the engagement and consultation program." The comments relating to item 6 below also address input from stakeholders and the public in both Sections 2.4.1 and 2.4.2.1. This	Noted. In response to the Tourism Policy Unit's comment, SNC-Lavalin confirms that the definition of stakeholder within the study plan is intended to be interpreted broadly to also include any non-Indigenous tourism interests, and that non-Indigenous tourism business operators will be engaged as stakeholders as part of the consultation program for the Project.	N/A

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			helps to address the comment that non-Indigenous interests be included in the assessment of socio-economic effects as long as stakeholder is interpreted broadly to also include any non-Indigenous tourism interests (as per comment on Item 3 above).		
7.	Section 2.5: Effects Assessment and Mitigation Page 12	The revised work plan does not include that non-Indigenous interests will also be directly engaged as a source of socio-economic baseline information. Nor does it clarify whether the "ongoing consultation process" is different than engagement relating to the work plan. Section 2.3.1: Consideration and Evaluation of Alternatives in the revised document includes the following language. "The assessment of alternatives will include environmental, socio-economic, cultural and technical factors using criteria and indicators for the comparative analysis. This will also include specific consideration of community based Indigenous land and resource uses (e.g., fishing, hunting) and cultural (e.g., built; sacred or spiritual sites) criteria of value to Indigenous communities within the broader factors. As noted previously the criteria and indicators will be developed in detail as part of the EA through input from the engagement and consultation activities with Indigenous communities, the public and stakeholders." (underlining added) In addition, Section 2.3.2.1:	**Heritage Planning Unit:** The revised work plan does not address this comment. MHSTCI continues to recommend that its 2020 comments are addressed. **Tourism Policy Unit:** Section 2.4.1 (Consideration and Evaluation of Alternatives) includes the following language – "The assessment of alternatives will include socio-economic criteria and indicators for the comparative analysis. As noted previously the criteria and indicators will be developed in detail as part of the assessment process through input from the engagement and consultation activities with Indigenous communities, the public and stakeholders." (page 18) This is similar to the language previously found in Section 2.3.1 in the column to the left. This should help address the concern as long as stakeholder is interpreted broadly to also include non-Indigenous tourism interests (as per comment on Item 3 above).	Noted. In response to the Tourism Policy Unit's comment, SNC-Lavalin confirms that the definition of stakeholder within the study plan is intended to be interpreted broadly to also include any non-Indigenous tourism interests, and that non-Indigenous tourism business operators will be engaged as stakeholders as part of the consultation program.	N/A

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		Identification of Potential Environmental Effects includes the following language. "Potential socio-economic effects will be identified through a pathways of effects analysis. Potential Project-socio-economic interactions will be identified through a review of the Project Description and existing socio-economic conditions, as characterized by social surveys, key informant interviews, Indigenous knowledge and desktop research." There is consideration of public and stakeholder input in finalizing criteria and indicators. Section 2.3.2.1 could still be enhanced by broadening the language from just "social surveys, key informant interviews, Indigenous knowledge and desktop research" to include public input to better reflect information that may come forward outside of the inputs identified.	Section 2.4.2.1 (Identification of Potential Socio-Economic Effects) also includes the following language – "Potential Project-socio-economic interactions will be identified through a review of the Project Description and existing socio-economic conditions, as characterized by social surveys, focus groups, key informant interviews, **consultation and engagement activities, public and stakeholder input**, local knowledge, and desktop research." (pages 18-19 – bold added for emphasis) The addition of language around consultation and engagement activities, public and stakeholder input helps address the original concern as long as stakeholder is interpreted broadly to also include non-Indigenous tourism interests.		
8.	Section 2.5: Effects Assessment and Mitigation Page 9	The revised work plan does not indicate that this information will be collected via technical cultural heritage studies. The revised work plan does not indicate that that impacts on non- Indigenous cultural heritage interests, with key informant interviews, will be included, and that technical cultural heritage studies may require site visits for accurate evaluation and assessment.	**Heritage Planning Unit:** The revised work plan does not address this comment. MHSTCI continues to recommend that its 2020 comments are addressed.	Refer to response to comment #1.	N/A

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Webequie Supply Road

Socio-Economic Study Plan

Webequie First Nation

20 April 2022

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1. Introduction

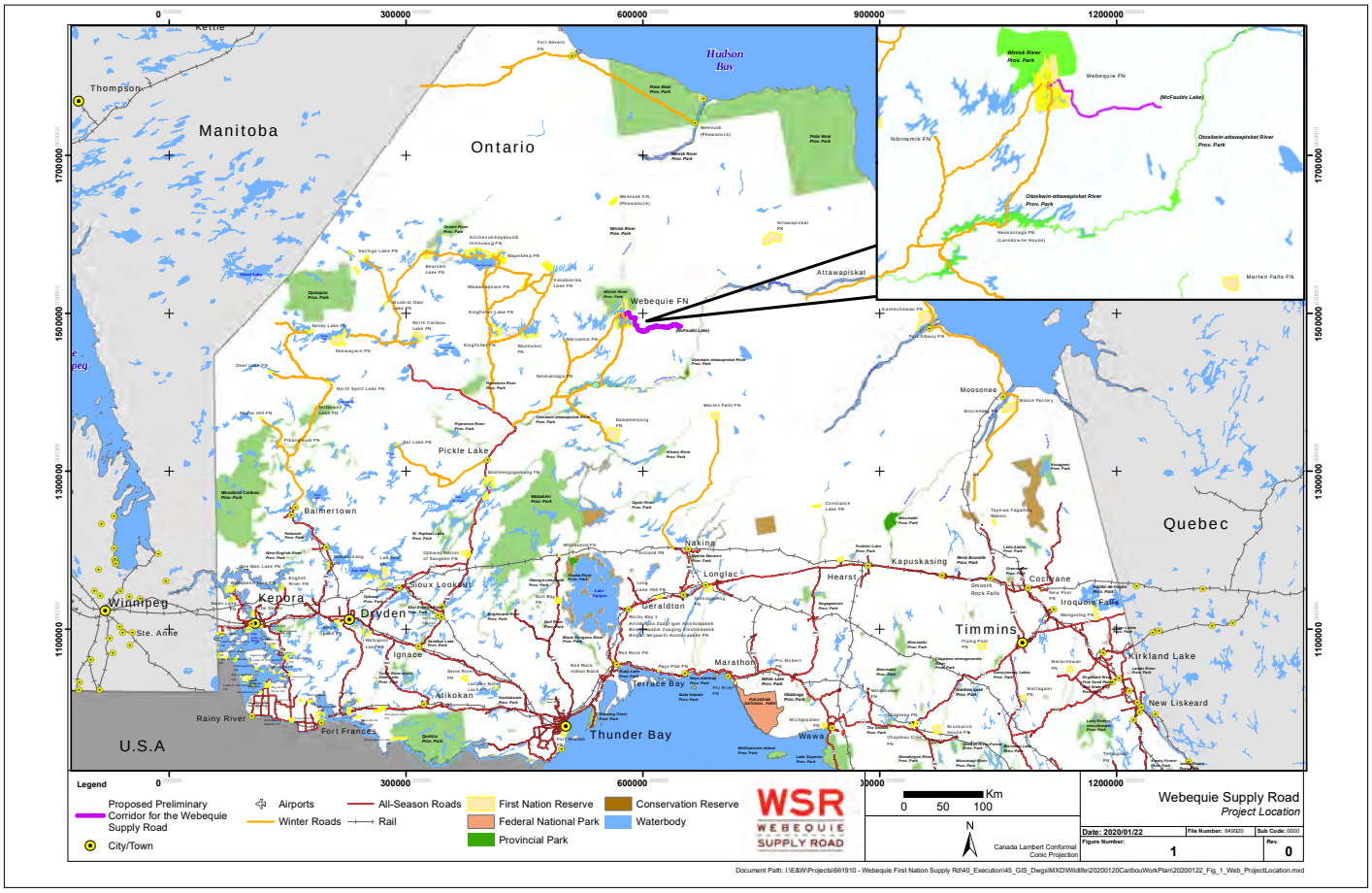
The proposed Webequie Supply Road (WSR) is a new all-season road of approximately 107 km in length from Webequie First Nation to the mineral deposit area near McFaulds Lake (also referred to as the Ring of Fire). A Location Plan for the Project is shown on **Figure 1**. The preliminary corridor for the road consists of a northwest-southeast segment running 51 km from Webequie First Nation to a 56 km segment running east-west before terminating near McFaulds Lake. A total of 17 km of the corridor is within Webequie First Nation Reserve lands.

The goals and objectives of the Webequie Supply Road Project are as follows:

- To facilitate the movement of materials, supplies and people from the Webequie Airport to the area of existing mineral exploration activities and proposed mine developments in the McFaulds Lake area;
- To provide employment and other economic development opportunities to WFN community members and businesses that reside in or around the community's reserve and traditional territory, while preserving their language and culture; and
- To provide experience/training opportunities for youth to help encourage pursuit of additional skills through post-secondary education.

On May 3, 2018, the Ontario Minister of the Environment, Conservation and Parks (then Minister of the Environment and Climate Change) signed a voluntary agreement with Webequie First Nation to make the Webequie Supply Road Project subject to an Individual Environmental Assessment under Ontario's *Environmental Assessment Act.* The Project is also subject to meeting the requirements of the federal *Impact Assessment Act.* For the purposes of discussion in this study plan, the term "EA / IA or assessments" is meant to include both the provincial environmental assessment and the federal impact assessment.

The Socio-Economic Study Plan is being submitted to the Impact Assessment Agency of Canada (IAAC) and the Ontario Ministry of the Environment, Conservation and Parks (MECP) requesting that a coordinated review be undertaken with the objective of providing Webequie with technical guidance in meeting the requirements of the federal Tailored Impact Statement Guidelines (TISG) for the Project and to fulfil the commitment as stated in the provincial Terms of Reference (ToR) for the Project, which is pending approval by Ontario. It should be noted that Ontario's review of the study plan is preliminary and secondary to any further review and decisions related to a final and approved ToR.


Manitoba
Ontario
Quebec
U.S.A
Hudson Bay
Thompson
Winnipeg
Kenora
Dryden
Sioux Lookout
Ignace
Atikokan
Rainy River
Fort Frances
Thunder Bay
Terrace Bay
Marathon
Geraldton
Longlac
Nakina
Hearst
Kapuskasing
Cochrane
Timmins
Iroquois Falls
Kirkland Lake
New Liskeard
Wawa
Balmertown
Pickle Lake
Webequie FN
Attawapiskat
Moosonee
Ste. Anne
Legend
Proposed Preliminary Corridor for the Webequie Supply Road
City/Town
Airports
Winter Roads
All-Season Roads
Rail
First Nation Reserve
Federal National Park
Provincial Park
Conservation Reserve
Waterbody
WSR
WEBEQUIE SUPPLY ROAD
Km
0 50 100
N
Canada Lambert Conformal Conic Projection
Webequie Supply Road
Project Location
Date: 2020/01/22
Figure Number: 1
Rev. 0

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2. Socio-Economic Study Plan

The following sections provide a description of the suggested approach to collecting information on existing socio-economic conditions; assessing socio-economic effects; identifying appropriate mitigation measures to eliminate or reduce potential effects; identifying "net" effects following mitigation; and assessing cumulative effects. The planned approach for baseline data collection and the assessment of the potential impacts of the WSR Project on social and economic components, including that of Indigenous peoples, is intended to meet the requirements of the TISG (Sections 10, 11, 12.3, 17 and 18) and, where applicable, the requirements of the MECP.

2.1. Methodology

The purpose of the socio-economic impact assessment (SEIA) is to characterize the manner and extent to which community socio-economic well-being could be affected (both positively and negatively) as a result of construction and operation/maintenance of the Webequie Supply Road. The SEIA will be integrated into the overall provincial and federal EA processes. The steps to be undertaken for this assessment are described in the following sections.

2.1.1. Indigenous Communities and Municipalities

The SEIA will include the 22 identified Indigenous communities that are to be consulted as part of the EA process, as shown in **Table 1** below. These communities have been identified by MECP and IAAC as communities whose exercise of Aboriginal and Treaty rights may be adversely affected by the Project and/or may have interests in the project. Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

WFN further reviewed the lists of identified communities and assessed them based on the following criteria:

- Geographically closer to the project area than others;
- Known to have traditionally used some of the potentially affected lands in the past, or currently;
- Downstream of the Project and may experience impacts as a result of effects to waterways;
- Considered to have closer familial/clan connections to the members of WFN; and/or
- Have been involved in all-season road planning in the Region, either directly with the WFN, or in consideration of all-season road planning that the WFN has been involved with in recent years.

Based on these factors, the 8 communities identified by Webequie will be offered the deepest or intensive consultation/engagement; this means that there will be 3 visits to these communities, with 2 visits to the remaining 14 communities and groups. However, where other communities may request more visits, this will be provided. Though technically not part of the SEIA, information garnered through this consultation/engagement process for the EA will be used to inform the SEIA where applicable.

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Table 1: Indigenous Communities to be Consulted and Included in the SEIA

Indigenous Community	Identified by WFN	Identified by MECP	Identified by IAAC
Webequie First Nation	✓	✓*	✓*
Aroland First Nation		✓*	✓*
Attawapiskat First Nation	✓	✓*	✓*
Constance Lake First Nation		✓*	✓
Eabametoong First Nation	✓	✓	✓*
Fort Albany First Nation		✓*	✓*
Ginoogaming First Nation		✓	✓
Kasabonika Lake First Nation	✓	✓*	✓*
Kaschechewan First Nation		✓*	✓
Kitchenuhmaykoosib Inninuwug		✓*	✓
Kingfisher Lake First Nation		✓*	
Long Lake #58 First Nation		✓	✓
Marten Falls First Nation	✓	✓*	✓*
Mishkeegogamang First Nation		✓	
Neskantaga First Nation	✓	✓*	✓*
Nibinamik First Nation	✓	✓*	✓*
North Caribou Lake First Nation		✓	
Wapekeka First Nation		✓*	
Wawakapewin First Nation		✓*	
Weenusk (Peawanuck) First Nation	✓	✓*	✓*
Wunnumin Lake First Nation		✓*	
Metis Nation of Ontario – Region 2		✓	

* Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.

As noted in the ToR, municipalities to be included in the assessment were identified based on their proximity to the proposed Webequie Supply Road, and include:

- City of Thunder Bay
- Municipality of Greenstone
- Township of Pickle Lake
- City of Timmins
- Municipality of Sioux Lookout

As noted in IAAC's *Public Participation Plan* dated February 24, 2020 the following public and stakeholders will be engaged:

- General public (individual residents)
- Canada Chrome Corporation
- Canadian Environmental Law Association
- City of Thunder Bay
- Geraldton Chamber of Commerce
- Leuenberger Air Service
- Longlac Chamber of Commerce
- Mining Watch

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- Municipality of Greenstone
- Municipality of Sioux Lookout
- Mushkegowuk Council
- Noront Resources Ltd.
- Osgoode Hall Law School's Environmental Justice and Sustainability Clinic
- Township of Pickle Lake
- Wilderness North
- Wildlife Conservation Society

Comments received from these participants during consultation activities will be addressed and included in the assessment as part of the Record of Consultation (RoC). Again, though technically not part of the SEIA, information garnered through the consultation/engagement process for the EA with the public and stakeholders and Indigenous communities will be used to inform the SEIA where applicable.

2.1.2. Spatial and Temporal Boundaries

Spatial Boundaries

Spatial boundaries define the geographic extent within which the potential environmental effects of the Project are considered. As such, these spatial boundaries define the study areas for the effects assessment. Spatial boundaries are to be established for the EA / IA and will vary depending on the valued component and will be considered separately for each. The spatial boundaries to be used in the assessment will be refined and validated through input from federal and provincial departments and ministries, Indigenous groups, the public and other interested parties.

Spatial boundaries for the SEIA will be defined by taking into account the appropriate scale and spatial extent of potential socio-economic effects of the Project; community identified concerns and Indigenous Knowledge; and exercise of Aboriginal and Treaty rights.

At this stage, spatial boundaries proposed for the socio-economic effects assessment consist of three (3) study areas to capture the potential direct and indirect effects of the Project.

- **Project Footprint (PF)** - is the area of direct disturbance (i.e., the physical area required for Project construction and operation). The PF is defined as the Webequie Supply Road Right-of-Way of 35 metres in width to be selected through the evaluation of route Alternative 1 and Alternative 2; and temporary or permanent areas needed to support the Project that include laydown yards, storage yards, construction camps, access roads and aggregate extraction sites.

- **Local Study Area (LSA)** – is the area where largely direct, and indirect effects of the Project are likely to occur. The LSA is divided into two (2) sub-categories which reflect the differences between the criteria (or valued components) and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

    - The proposed LSA for **Population and Demographics, Community Services and Infrastructure and Local and Regional Economy** is defined as Webequie First Nation and those communities who have asserted shared territory with Webequie and/or who may experience the greatest potential effects of the Project. Listed below are First Nation communities included in the LSA (by distance from Alternative Routes 1 and 2 and supportive infrastructure):

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- Webequie First Nation
- Marten Falls First Nation
- Nibinamik First Nation
- Neskantanga First Nation
- Kasabonika Lake First Nation
- Eabametoong First Nation
- Attawapiskat First Nation
- Weenusk First Nation

- The LSA for **Land and Resource Use (land use compatibility, recreation and tourism, provincial parks and protected areas)** is proposed to correspond to the outermost boundaries of the combined LSAs for the fish and fish habitat, surface water, vegetation, general wildlife, and air quality valued components. It is defined as a 1 km buffer from either side of the centreline of the supply road Alternative 1 and Alternative 2, and 500 m from supportive infrastructure (camps, aggregate/rock source areas, access roads).

› **Regional Study Area (RSA)** – is the area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur. Similar to the LSA, the RSA is divided into two (2) sub-categories which reflect the differences between the criteria and indicators for the socio-economic environment that have been identified in Section 2.2 of this Study Plan.

- The RSA for **Population and Demographics, Community Services and Infrastructure, and Local and Regional Economy** encompasses the area outside of the LSA used to measure broader-scale existing socio-economic conditions and effects that may occur in a regional context. The proposed RSA consist of the 14 remaining First Nations as identified by the Crown (Canada/Ontario) for engagement and consultation that are located within the regional unorganized districts of Cochrane, Kenora and Thunder Bay; and the surrounding nearby townships and cities/municipalities (i.e., City of Thunder Bay, Municipality of Greenstone, Township of Pickle Lake, Municipality of Sioux Lookout). The RSA for Government Finances- an Indicator for **the Local and Regional Economy** VC, as documented in **Section 2.2** - will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

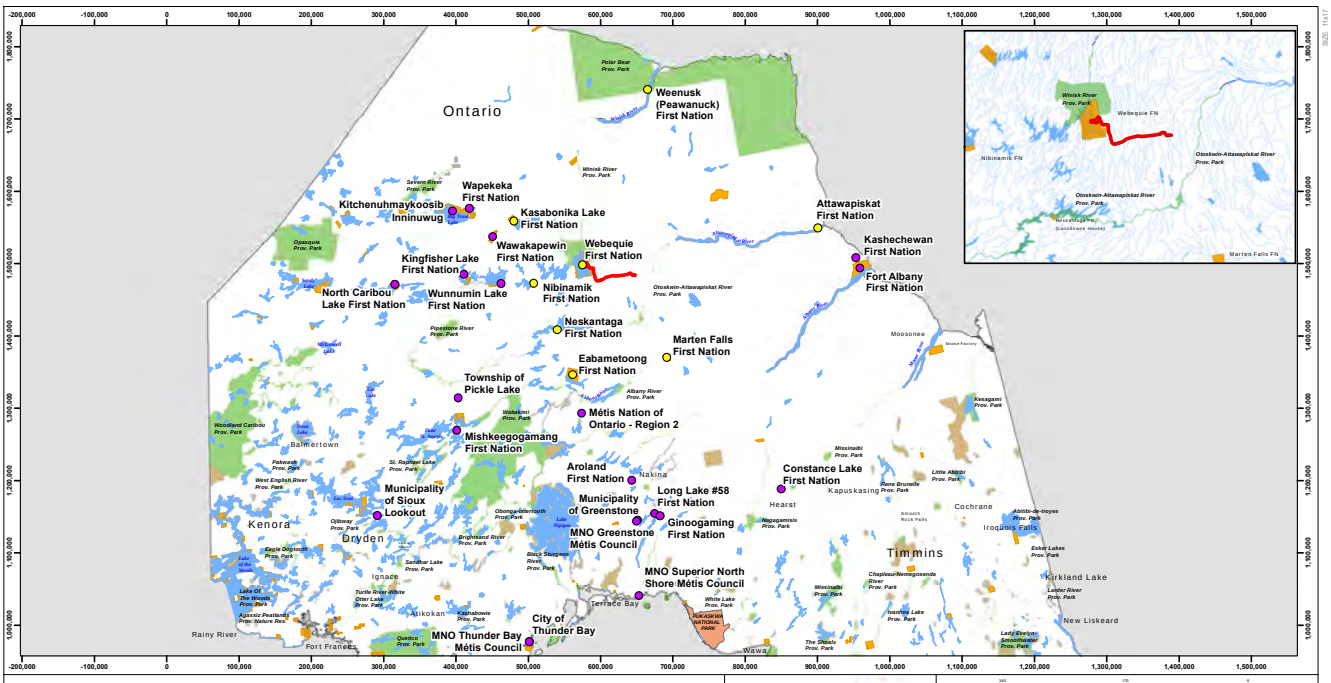
- The RSA for **Land and Resource Use (e.g., land use compatibility, recreation and tourism, provincial parks and protected areas)** corresponds to the outermost boundaries of the combined RSAs for fish and fish habitat, surface water, vegetation, and general wildlife valued components given that these components may be relied on by Indigenous peoples or others for land and resource use. The RSA is the combined area of the quaternary watersheds crossed by route Alternative 1 and Alternative 2.

The study areas were selected to characterize existing environmental conditions and predict the direct and indirect changes from the Project on the valued components of the socio-economic environment on a continuum of increasing spatial scales from the Project Footprint to broader, regional levels. The preliminary selection of study areas also considered the socio-economic valued components and related indicators for evaluation.

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In establishing the LSA and RSA, consideration was given to the extent to which the project potentially affects socio-economic valued components during each phase (construction and operation and maintenance) of the Project. Understanding the various aspects of the Project that affect these interests will be based on analysis of the socio-economic criteria listed in Section 2.2 once validated by Indigenous communities, the public and stakeholders. The Project Team will consult and engage with Indigenous communities and the public to determine and finalize the appropriate LSA and RSA for the socio-economic environment.

The collection of socio-economic baseline data and effects assessment relative to the spatial boundaries will focus on the set of supply road alternatives within the preliminary proposed 2 km wide corridor, as identified in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020). The alternatives include the Webequie First Nation community's preferred route (referred to as Alternative 1) along the centreline of an approximately 2 km wide preliminary proposed corridor, and the soil and terrain route (referred to as Alternative 2) within the same corridor. The route alternatives are shown in **Figure 2** with the LSA and RSA boundaries for each route alternative combined to reflect the socio-economic study area for the Project. At this stage of the EA / IA process, the supportive infrastructure components have yet to be determined and will be included in the Environmental Assessment Report / Impact Statement. While most of the Project components are expected to be located within the preliminary proposed 2 km wide corridor, benefits (e.g., reduced environmental disturbance, avoidance of sensitive features, concerns received through consultation) for locating Project components on lands outside this 2 km wide area may become known during the EA / IA process. If the need to locate Project components outside the 2 km wide area is determined to be required, or of benefit to the Project, the study area may be adjusted.


Ontario
Weenusk (Peawanuck) First Nation
Wapekeka First Nation
Kitchenuhmaykoosib Inninuwug
Kasabonika Lake First Nation
Wawakapewin First Nation
Webequie First Nation
Kingfisher Lake First Nation
Wunnumin Lake First Nation
North Caribou Lake First Nation
Nibinamik First Nation
Neskantaga First Nation
Eabametoong First Nation
Township of Pickle Lake
Mishkeegogamang First Nation
Métis Nation of Ontario - Region 2
Aroland First Nation
Municipality of Sioux Lookout
Municipality of Greenstone
Long Lake #58 First Nation
Ginoogaming First Nation
MNO Greenstone Métis Council
MNO Superior North Shore Métis Council
City of Thunder Bay
MNO Thunder Bay Métis Council
Attawapiskat First Nation
Kashechewan First Nation
Fort Albany First Nation
Marten Falls First Nation
Constance Lake First Nation
Kenora
Dryden
Timmins
Kirkland Lake
New Liskeard
Cochrane
Hearst
Moosonee
Nakina
Ignace
Atikokan
Rainy River
Fort Frances
Terrace Bay
Nipigon
Nibinamik FN
Webequie FN
Marten Falls FN
Legend:
Webequie Supply Road Corridor with Alternative Routes 1 and 2
Local Study Area
Regional Study
Waterbody
Federal National Park
First Nation Reserve
Provincial Park
Conservation Reserve
DRAFT
WSR
WEBEQUIE SUPPLY ROAD
Webequie Supply Road (WSR)
Socio-Economic Study Areas
NOTES
DISCLAIMER
Figure Number:
REV:
PA
Client:
Webequie First Nation
Project Number:
661910
Date:
2021-12-15
DSC
DRN
CHK
APP
AD
LD
LD

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Temporal Boundaries

Implementation of the Project will occur in phases, which are temporal boundaries that establish a timeframe for consideration of baseline information and potential effects of the Project. The Project is planned to occur in two main phases as described below:

- **Construction Phase**: All the activities for development of the road and supportive infrastructure from the start of construction to the start of operation and maintenance of the WSR (estimated 3-6 years); and
- **Operations Phase**: All activities for operation and maintenance of the road and any permanent supportive infrastructure (e.g., maintenance yard, aggregate pit/quarry) that will start after construction (75-year period is used for assessment).

The Project is proposed to be operated for an indeterminate time period; therefore, retirement (decommissioning/abandonment/closure) is not anticipated and will not be considered in the EA / IA. The final temporal boundaries to be used for assessment will be based on regulatory agency guidance, professional judgement and input received through the consultation process for the Project.

2.1.3. Gender Based Analysis Plus (GBA+)

Gender Based Analysis Plus or GBA+ is a required analytical approach for any projects operating under Section 22 of the IAA and will need to be applied to the WSR SEIA. GBA+ is a required approach given the recognition that historical and current power structures (e.g., laws, policies, governments and other institutions) have shaped society and created inequalities. This is especially important with respect to legacies of colonialism and the impacts on Indigenous peoples and in particular, Indigenous women. Today, there is an epidemic of violence against Indigenous women and girls, where violence-related deaths among Indigenous women is five times higher than the national average for Canadian women (Kuokkanen 2011 cited in Bond and Quinlan 2018 p. 24), and the severity of this issue is often exacerbated by the presence of industrial projects near Indigenous communities (Bond and Quinlan 2018 p. 23). Indigenous women are also less likely to benefit from employment opportunities associated with resource development projects (Dalseg 2018).

In the context of EA / IA, GBA+ is a means to understand and assess how potential project effects could disproportionately impact more vulnerable groups including women, youth, two-spirited and gender diverse persons, and Elders. It is particularly important to consider how the impacts, benefits, and risks of a project could be unequally distributed across different sub-groups within a community. From there, more plans and mechanisms can be put in place to avoid and/or mitigate the disproportionate effects on these sub-groups.

GBA+ is not a method unto itself, but an approach that is associated with a variety of standard quantitative and qualitative data collection tools. Details regarding how GBA+ will be applied to baseline information collection and the effects assessment are detailed in the respective sections of this study plan.

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2.2. Criteria and Indicators

Valued components are human and physical aspects of the environment that people consider important from Indigenous, public, or scientific perspectives, therefore warranting detailed consideration in an EA / IA (Noble, 2015, p.105). The assessment will focus on valued components that have physical, biological, social, economic, cultural, and health importance to Indigenous groups, public, federal and provincial authorities and interested parties, and have the potential for change as a result of the Project. Socio-economic valued components have been identified in the federal WSR TISG and WSR ToR and are, in part, based on what Indigenous communities and groups, the public and stakeholders identify as important to them in the EA process to date for the WSR Project.

Preliminary socio-economic criteria and indicators were also identified to evaluate and measure the potential effects of the WSR Project. The SEIA will examine social and economic effects, including potential changes to social and/or economic conditions based on the indicators, and the positive and negative consequences of these changes.

Table 2 below presents a preliminary list of criteria and indicators and reflects input received during the WSR engagement and consultation activities undertaken to date, such as input into the WSR TISG and WSR ToR. Indicators for which GBA+ will be applied are also identified in this table. Indigenous communities, groups and the public will be consulted and will have the opportunity to provide input and feedback to help further refine the criteria and indicators. A comprehensive list is to be determined as part of the EA process and will be documented in the Environmental Assessment Report/Impact Statement (EAR/IS). The table includes a preliminary list of sources that have been or will be used in collecting baseline information for that particular socio-economic criterion. Note that the list of sources listed in the table is not exhaustive; this list will be provided in the EAR/IS once baseline information collection is complete.

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Table 2: Socio-Economic Criteria and Indicators

Domain	Criteria/Valued Component	Indicator	Sources
Demographics	Population and Demographics	• Change to population • Change in sub-group population (women, men, youth – GBA+)	• Statistics Canada - Aboriginal Population Profile, 2006, 2011, 2016 Census Results[1] • Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) First Nation Profiles • Municipal, provincial and Indigenous government websites • Municipal plans and reports • Provincial plans and reports ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration

[1] 2021 Census data to be added once available.

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Domain	Criteria/Valued Component	Indicator	Sources
Community Services and Infrastructure	Housing and Accommodations	• Demand for permanent and and/or temporary housing • Housing costs and affordability o Average housing cost o Average rent • Change to number of people living in a home • Supply of housing o Total number of new housing starts and completions • Quality of housing	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Statistics Canada Census Community Profiles and National Household Survey • Municipal and provincial government websites • Stakeholder engagement • Local Business operators and service providers • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health

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Domain	Criteria/Valued Component	Indicator	Sources
	Social and Infrastructure Services o Education o Childcare o Water o Waste o Energy o Communications	• Demand for community services and/or infrastructure • Supply and capacity of community services and/or infrastructure	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Municipal, provincial and Indigenous government websites, plans and reports • Local service providers • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Transportation • Community Well-Being and Safety • Land Use Compatibility • Regional and Local Economy • Human Health
	Transportation	• Road Transportation o Change in traffic volume (autos, trucks) on existing road connection (winter) to provincial road network o Change in opportunities for travel and road use • Air Transportation o Demand for air and shipping services	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Key informant interviews • Socio-economic surveys • Local service providers (i.e., winter road) • Industry reports • Academic literature ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Community Well-Being and Safety • Land Use Compatibility • Recreation and Tourism

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Domain	Criteria/Valued Component	Indicator	Sources
			• Regional and Local Economy • Human Health • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Community Well-Being and Safety	• Social Cohesion and Culture o Quantity of social connections o Quality of social connections • Participation in social and/or cultural events o Participation rate (by event) o Number of new (first-time) attendees to regularly held (e.g., annual) events o Total number of social and/or cultural events held • Safety o Perceptions of safety o Traffic safety o Domestic violence rate o Sexual assault rate o Physical assault rate • Nuisance o Air quality (e.g., dust) o Noise levels	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Socio-economic surveys • Focus groups • Key informant interviews • Police reports • Social service reports • Non-Government Organization and Interest group reports • Municipal, provincial and Indigenous government websites, plans and reports ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Regional and Local Economy • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Land and Resource Use (non-indigenous)	Land Use Compatibility	• Compatibility with existing and proposed land uses	• Consultation and engagement activities • Key informant interviews

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Domain	Criteria/Valued Component	Indicator	Sources
			• Spatial data on existing planned land uses • Land use plans (municipal, provincial and federal) - Provincial Policy Statement 2020 (Ministry of Municipal Affairs and Housing 2020); and Growth Plan for Northern Ontario (Ministry of Northern • Development, Mines and Forestry 2011) • Community-based land use planning ***Links to other VCs may include:*** • Housing and Accommodations • Social and Infrastructure Services • Transportation • Recreation and Tourism • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
	Recreation and Tourism (camps, trails, waterways, etc.)	• Location/number/type of activities or users • Land and waterway disruption and access • Resource availability of select species (fish, wildlife) or their habitat	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Business Operators ***Links to other VCs may include:*** • Transportation • Land Use Compatibility • Provincial Parks and Protected Areas • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

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Domain	Criteria/Valued Component	Indicator	Sources
	Provincial Parks and Protected Areas (Areas of Natural and Scientific Interest, Conservation Reserves)	• Total number and total disturbed area (ha) of Provincial Parks and Protected Areas	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • MNRF website • Business Operators • Desktop studies ***Links to other VCs may include:*** • Land Use Compatibility • Recreation and Tourism • Regional and Local Economy • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity
Economic	Regional and Local Economy	• Economic and Procurement Opportunities o Business opportunities o Regional economic activity o Change in output/ GDP value-added o Value of procurement opportunities • Labour Force and Employment o Employment/ job opportunities o Employment and unemployment rates o Labour force participation rate o Labour income o Training opportunities	• Consultation and engagement activities • Indigenous Knowledge and IKLU studies • Statistics Canada information on economic sectors • Provincial and regional economic development reports • Business Operators • First Nations employment skills inventory • First Nations business inventory • Municipal, provincial and Indigenous government websites • Municipal plans and reports on economic development • Provincial plans and reports on regional sector development • Local service providers such as infrastructure and utility providers • Regional tourism reports • Industry reports (e.g., mining and forestry) • Municipal and Indigenous community financial statements • Socio-economic surveys • Focus groups • Key informant interviews • Spatial Data on existing mining and aggregate areas

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Domain	Criteria/Valued Component	Indicator	Sources
		• Government Finances[2] o Changes to expenditures o Taxation and Revenue • Cost of Living o Price changes at an order of magnitude level for key consumptive goods o Annual Average Consumer Price Index (CPI) o Average retail prices for select products (e.g., food, fuel, transportation) o Average annual spending on goods and services per household • Mining and Aggregate Activity o Area (ha) of significant aggregate deposits affected o Area (ha) or number of active mines o Area (ha) or number of mining claims	• Stakeholder group information • Ontario's Land Information (OLI) database ***Links to other VCs may include:*** • Population and Demographics • Housing and Accommodations • Social and Infrastructure Services • Transportation • Community Well-Being and Safety • Recreation and Tourism • Provincial Parks and Protected Areas • Human Health • Air Quality • Noise and Vibration • Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes • Indigenous Relationships to Traditional Lands and Resources • Cultural Continuity

[2] Note: The RSA for Government Finances will be extended to encompass the Province of Ontario, ensuring consideration of provincial expenditures, taxation and revenue.

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2.3. Collection of Baseline Information

Collection of socio-economic baseline information will involve a mixed methods approach. Mixed methods refer to a combination of quantitative and qualitative methods and associated data collection tools. By combining these methods, a better understanding of issues and complex phenomena can be developed than by either method alone (Creswell and Clark 2007). This is because quantitative and qualitative methods serve different study purposes and are designed to address different types of research questions and information needs. The quantitative approach allows the Project Team to collect information at a broader scale, on a wide range and number of indicators. The qualitative approach complements the quantitative approach as its purpose is to understand particular topics more in-depth from the perspective of lived experience, and the meanings attached to that experience (Winchester and Rofe, 2016). For the qualitative approach, the Project Team and community facilitators will pose guiding, open-ended questions to a small number of knowledgeable, informed, and diverse participants.

Socio-economic baseline information will also be collected through both primary and secondary information sources. Gaps found in secondary information have been used to inform the primary information needs of the Project.

2.3.1. Secondary Information

A desktop review of published social and economic data was conducted for the 22 Indigenous communities/groups potentially impacted by the WSR as well as the municipalities (public). While only secondary information is being collected for the municipalities, both primary and secondary information will be collected for the 22 potentially impacted Indigenous communities/groups. The review included a search of government websites (such as Statistics Canada 2016 Census Profiles, First Nations Community Profiles, Indigenous Services Canada), Indigenous community websites, municipal websites, local and provincial police and emergency service websites, municipal economic development plans and other open-source data to identify community demographics, infrastructure, economic development, social services, safety, housing, etc. In addition, the following WFN community documents were obtained from the community and reviewed:

- Webequie First Nation Draft Comprehensive Community Plan (2021).
- Webequie First Nation Community Based Land Use Plan. 3 V 4.3. 4 “Webequie Anishininniwuk Ahki Ohnahchiikaywin”. Prepared by WFN. 2019. (WFN, 2019a).
- Webequie First Nation On-Reserve Land Use Plan. Dated May 31, 2019. (WFN, 2019b).
- Webequie First Nation Community Well-Being Baseline Study Summary- Summary Report 2. June 2014.
- Webequie First Nation Housing Assessment. n.d.

Similar documents from other potentially impacted communities will be requested and reviewed where permitted. Where sources provide disaggregated data based on subgroups (i.e. male and female statistics, age, etc.), this data will be used in the baseline to characterize the sub-groups and to support the gender-based analysis plus (GBA+) framework.

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2.3.2. Primary Information

Community Socio-Economic Surveys

Socio-economic surveys are proposed to be administered to 22 potentially impacted Indigenous communities and groups. These surveys will be administered through a combination of in-person and online methods, including at community meetings, frequently visited locations within the community (e.g. a store and band office), and/or through the use of Survey Monkey, an online survey tool. The Project Team will engage with Indigenous communities to determine the appropriate approach to deliver the socio-economic survey, and this will also depend on the intensity/depth of consultation required. While a high response rate will aim to be achieved, this will at least partially depend on the administration method(s) used.[3] The administration method will vary according to community. The 8 Indigenous communities in the Local Study Area (refer to section 2.1.2) will receive a more intensive effort to participate in completing the survey and will include use of in-person trained survey administrators or community coordinators, as well as the online survey tool.

The other communities and groups located within the Regional Study Area will be provided with the survey at community consultation events and online. Administration methods may also depend on capacity, protocols, and factors such as COVID-19 restrictions in place. In order to undertake a GBA+ approach, the aim will be to achieve a diversity of responses from different sub-groups within the communities including women, men, youth, and Elders.

The surveys will include questions about demographics (age, gender, income, education, employment), housing, social services, safety, and social cohesion. The questions developed are based on the criteria and indicators for the WSR Project. All Indigenous communities will be notified about the survey via email/letter and they are also being made aware of the socio-economic survey through radio call-in shows and livestream sessions broadcast to all communities. A link to Survey Monkey will also be posted on community social media sites, with permission.

The survey will be written in plain-language and pilot tested to improve the validity and reliability of the data collection instrument. It will also be translated to Oji-Cree and/or Cree with the aid of a translator if/when it is being administered in person. The survey will include a guide with directions and explanations of the questions, and this will also be provided to any in-person survey administrators through a short training program. Information provided in the surveys will be anonymous and confidential and used solely for the purposes of the Project.

Survey statistics will be analyzed using Survey Monkey with further rigour added to the analytical process if needed through exporting results to Excel and applying Chi-square tests to the data[4]. Analysis to be undertaken will be based on criteria and indicators in **Table 2.0**. Data will be disaggregated by gender and age in order to address GBA+ requirements (see Table 2.0 for indicators where GBA+ will be applied). Survey findings will be available for viewing and feedback as part of community engagement activities on the draft baseline report.

[3] Certain administration methods would be expected to achieve higher response rates, such as in-person surveys (Gillham, 2008), but this also depends on other factors (de Vaus, 2014).
[4] The Chi-square test measures the relationship, or lack thereof, between variables. The test compares the pattern of observed responses against what we would expect to see if there was no relationship between the variables (Statistics Solutions, 2021). This test measures how likely the relationship is to be a result of chance (Gillham, 2008).

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Focus Groups

Four focus groups will be conducted for each of the 8 communities who are potentially more socially and economically impacted by the Webequie Supply Road Project (see Table 1 and section 2.1.2). Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. In contrast to the questionnaire surveys, participants will have an opportunity to talk at length about issues to facilitate greater understanding and contextual insights. In addition, participant interactions within focus groups produce a synergistic effect, which can generate a significant amount of information compared to interviews alone (Stewart, Shamdasani, and Rook, 2007; Berg, 1989 cited in Hay, 2016). As such, there will be four focus groups undertaken with adult women (mothers and non-mothers), Elders, and male and female youth. These will be undertaken with the goal of understanding the power disparities, inequalities, and vulnerabilities that are likely to exist in communities where industrial projects have the potential to exacerbate these vulnerabilities (Bond and Quinlan 2018 p. 23). The topics to be explored through these focus groups include the following, and are based on TISG requirements, with targeted focus groups to be conducted for each topic identified in brackets):

- Experiences with development and aspirations for, as well as concerns about development (all);
- Access, ownership and control of resources e.g. financial, information (women);
- Education and training needs and interests (all);
- Employment opportunities and barriers (women and youth);
- Safety and experiences of gender-based violence[5]; concerns about violence[6] in relation to the Project or future mining development (women, female Elders, and female youth);
- Transportation and mobility (all);
- Access to emergency and support services and networks (all).

For certain topics, particularly those that are more sensitive and where participants may be hesitant to disclose information about themselves, fictional examples may be introduced that participants can respond to (see for example Goss and Leinbach, 1996). Focus groups will aim to comprise 6-10 participants each (see Cameron, 2016) and take approximately 2-3 hours to complete. Participants will be recruited through the Webequie Project Team (for WFN) and/or other community gatekeepers who can help to identify potential participants. Cultural protocols will be followed (e.g. prayers and smudging), where requested. For the focus groups with Indigenous women and female youth, it would be ideal to have a trained female Indigenous facilitator who the participants may be familiar with and who they trust. In addition, it will most likely be necessary to have these focus groups carried out in-person (as opposed to virtually), though this will depend on provincial and community COVID-19 restrictions in place, as well as participant preferences and comfort levels. Focus groups will be recorded either by audio/video recording and also have a notetaker present. Focus group information will be organized and analysed with the aid of the NVivo qualitative software package that allows for systematic thematic analysis of large amounts of text-based information. Copies of transcripts and/or findings will be provided to focus group participants for validation and feedback.

[5] Given the nature and importance of this topic, it may be necessary to have focus groups entirely dedicated to these issues.

[6] Violence may be understood and interpreted in various forms, and this will also be dependent on participant constructions of violence. However, given the context of impact assessment and future industrial camps and possible mining activities in proximity to communities, particularly WFN, violence and vulnerabilities to Indigenous women and children may be in terms of sexual harassment and assault; domestic violence; sex trade and sex trafficking; and sexually transmitted infections among other issues.

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Key Informant Interviews

Key informant interviews will be conducted with individuals who have special knowledge or information to contribute to the Webequie Supply Road socio-economic baseline study. This special knowledge includes (for example) community infrastructure capacity and service availability and needs, history with developers, economic development aims, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants will be asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. Key informants could include Chiefs, Councillors, band administration staff, and social service providers who will be interviewed either by telephone, videoconference, or during in-person consultation and engagement activities. A preliminary list of potential key informants will be drafted, but the Project Team will also work with Chief and Council as well as gatekeepers in the Indigenous communities to identify and confirm key informants to participate in the interviews. Interviews will be recorded electronically to assist in the preparation of transcripts and findings will be organized thematically. All information collected will be subject to OCAP ® (ownership, control, access, and possession principles) (The First Nations Information Governance Centre 2021). Copies of transcripts and/or findings will be provided to interview participants for validation and feedback.

2.4. Effects Assessment Approach

The approach for the assessment has been developed to satisfy regulatory requirements under the Environmental Assessment Act and is based on the MECP Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (MOECC 2014), and the approved Terms of Reference for the Project (MECP notice of approval dated October 8, 2021). The approach for the assessment has also been developed to meet the requirements of the federal TISG and specifically Section 13 – Effects Assessment.

2.4.1. Consideration and Evaluation of Alternatives

The assessment process requires that two types of project alternatives be considered: “alternatives to” the Undertaking (i.e., functionally different ways of addressing an identified problem or opportunity to arrive at the preferred planning solution) and “alternative methods” of carrying out the Undertaking (options for implementing the preferred planning solution). The consideration and evaluation of alternatives to the Undertaking were documented in the federal Impact Assessment Detailed Project Description (November 2019) and the provincial Environmental Assessment Terms of Reference (August 2020) and concluded that developing a new all-season road between Webequie and the McFaulds Lake area is the preferred alternative. This analysis and conclusion are not proposed to be re-examined as part of the assessment process but will be documented in the EAR/IS. Therefore, in keeping with the focused approach the preferred planning alternative (developing a new all-season road) has been carried forward to the initial consideration of alternative methods of carrying out the Undertaking.

The consideration of alternatives methods will focus on the supply road alternatives within the proposed preliminary corridor. These alternatives include the Webequie First Nation community’s preferred route (referred to as Alternative 1) for the supply road along the centreline of an approximately 2 km wide preliminary preferred corridor and the optimal geotechnical route (referred to as Alternative 2) within the same corridor (Refer to **Figure 2**).

In addition, the following alternative methods related to supportive infrastructure and the preferred supply route will be examined.

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- Alternative sites for temporary and/or permanent aggregate extraction pits and production facilities needed for construction and operation of the road, including access roads to these sites;
- Alternative sites for supportive infrastructure (i.e., temporary laydown and storage areas, construction camps, including access roads to these areas);
- Watercourse crossing structure types (i.e., culverts, bridges), span length, lifecycle, and construction staging methods at waterbody crossings;
- Road attributes, including roadbed foundation; horizontal alignment, vertical alignment (elevation/profile), and adjustments to the cross-section and right-of-way (ROW) width of the corridor.

The assessment of alternatives will include socio-economic criteria and indicators for the comparative analysis. As noted previously the criteria and indicators will be developed in detail as part of the assessment process through input from the engagement and consultation activities with Indigenous communities, the public and stakeholders. Both a quantitative and/or qualitative assessment of alternatives for each criterion will be conducted to allow for a comparison of the advantages and disadvantages and selection of a preliminary recommended route for the WSR and the sites/access routes for supportive infrastructure.

2.4.2. Assessment of Net Effects

A step-wise process will be used to assess the environmental effects of the Project in a systematic and transparent manner once the relevant project elements and activities and their interactions, assessment boundaries, and relevant environmental criteria and indicators are identified and finalized through the engagement and consultation process. The net effects assessment method will include the following primary steps:

- Identification of potential effects;
- Identification of technically and economically feasible mitigation measures;
- Prediction of net effects following implementation of mitigation measures; and
- Evaluation of the predicted net effects (i.e., describe and determine the magnitude, duration, extent, frequency, and significance of the predicted net effects).

2.4.2.1. Identification of Potential Socio-Economic Effects

The net effects assessment will consider the potential interactions between the project components and activities (the 'triggers') and the criteria within the identified spatial boundaries and phases of the Project (i.e., construction and operation). Potential effects of the Project on valued components and criteria will be determined by comparing baseline conditions to those expected to result from the construction and operation and maintenance of the Project. Potential effects will be described for each assessment criterion, including an indication of whether they are expected to be direct (i.e., as a result of a project component or activity affecting a valued component), or indirect (i.e., as a result of a change to one valued component affecting another valued component). Relevant project activities will be analysed individually to determine if there is a plausible pathway for an effect on valued components.

Potential socio-economic effects will be identified through a pathways of effects analysis. Potential Project-socio-economic interactions will be identified through a review of the Project Description and existing socio-economic conditions, as characterized by social surveys, focus groups, key informant interviews, consultation and engagement activities, public and stakeholder input, local knowledge, and

desktop research. The pathways of effects analysis will also take into consideration existing literature/case studies of similar types of projects. This review focuses on the possible interactions between the socio-economic criteria and the Project within the study areas. Associated Project works and activities will be assessed to determine potential effects on the criteria during Project construction and operation. This could take the form of a Multiple Account Benefit-Cost Analysis (MABCA) (Shaffer, 2010) with the use of flow diagrams, scenarios, and cause-effect matrices (Mackenzie Valley Environmental Impact Review Board, 2007).

Effects to the social and economic valued components indicators as a result of the Project will consider the specific items contained in Sections 17 and 18 of the TISG.

Application of GBA+ to Identification of Socio-Economic Effects

A GBA+ lens will be applied to identification of effects due to the Project using a pathways approach based on what is known about the Project, existing socio-economic conditions disaggregated by gender and age, engagement and consultation activities, as well as literature that identifies GBA+ effects based on similar types of projects, and the potential for disproportionately adverse effects on women, Elders, and/or youth. The identification of possible positive impacts on women, Elders, and youth will also be important.

2.4.2.2. Identification of Mitigation Measures

Once potential effects are identified, technically and economically feasible mitigation measures to avoid and minimize potential adverse effects will be identified for each phase of the Project. Design considerations and mitigation measures will be identified to offset, eliminate, or avoid potential adverse effects and will be described in the EAR/IS. Refinements to these measures may also be made in the future detail design phase of the Project. Mitigation measures will be developed for the Project based on:

- Knowledge and experience of the Project Team with linear infrastructure developments;
- Industry best management practices and applicable agency requirements and guidance; and
- Measures identified by Indigenous communities, the public and stakeholders through feedback received as part of the engagement and consultation program.

It is understood that mitigation measures may not always be fully effective, therefore, WFN will identify a compliance monitoring and effects monitoring program as part of the EA for implementation during the project phases (refer to Section 2.3.2.6).

Application of GBA+ to Identification of Mitigation Measures

Mitigation in the context of GBA+ asks the questions: how can we avoid or limit potential adverse impacts, and reduce the potential risks posed by the Project for vulnerable sub-groups? At the same time, how can we enhance the potential benefits for vulnerable sub-groups? Mitigation options will be proposed and explored in consultation with GBA+ socioeconomic study participants and through consultation and engagement activities. At a minimum, the TISG (Section 3.3) requires the following with respect to diversity and inclusion:

- Plans to encourage the recruitment, development and retention of underrepresented groups in the Project (e.g., set targets for employment for specific groups);
- Diversity and inclusion workforce development plans (e.g., youth with substance use programs);

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- Opportunities for diverse groups of women, and underrepresented groups, to be employed in higher-skilled jobs through provision of on-the-job training (e.g., surveyors, road safety auditors, and heavy equipment operators);
- Workplace policies and programs, including codes of conduct, workplace safety programs and cultural training programs;
- New or expanded social or emergency services, facilities or infrastructure.

2.4.2.3. Prediction of Net Effects

A net effect, or the alternative term residual effect, is considered an environmental (biophysical), social, economic or health effect from the Project and its related activities that is predicted to remain after the implementation of mitigation measures. A potential socio-economic effect is considered to occur where anticipated future conditions resulting from the Project differ from the conditions otherwise expected from natural change without the Project. In some situations, the recommended mitigation measures will eliminate a potential adverse effect, while in other situations mitigation measures may reduce, but not eliminate the effect. Mitigation measures may also enhance positive effects. A potential effect that will be eliminated, or considered unlikely after mitigation measures, will be identified as not resulting in a net effect (i.e., no net effect) and will not be considered further in the net effects assessment. An effect that may remain after the application of mitigation measures will be identified as a net effect and will be further considered in the effects assessment. Positive effects will also be considered further in the effects assessment, including means of enhancing benefits of the Project. Neutral changes will not be carried forward for the characterization of net effects, but where identified will be characterized in terms of the confidence in the predictions and the likelihood of the effect.

2.4.2.4. Characterizing the Net Effects

The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each assessment criterion. The objective of the method is to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or function of a valued component, and therefore, result in significant combined effects.

The magnitude of the potential effect will be qualitatively and quantitively assessed by inferring the anticipated changes relative to baseline conditions using the identified preliminary socio-economic criteria and indicators. In general, the magnitude is the intensity of the effect or a measure of the degree of change from existing conditions and will be defined by each discipline assessment. If a significant effect is identified, the contribution of the Project to the combined effect will be described. The assessment of significance of the net effects of the Project on the social and economic valued components will be informed by the interaction between significance factors (as defined below), in addition to those concerns raised by Indigenous groups, interested agencies, stakeholders, and the public during the consultation and engagement for the EA. Therefore, predicted net effects, where identified, will be described in terms of the following significance factors (MNRF, 2003), with integration of the assessment methodology identified in the federal TISG, as required.

- **Direction** - The direction of change in effect relative to the current value, state or condition, described in terms of Positive, Neutral, or Negative.
- **Magnitude** - The measure of the degree of change from existing (baseline) conditions predicted to occur in the criterion.

- **Geographic Extent** - The spatial extent of which an effect is expected to occur/can be detected and described in terms of the PF, LSA and RSA.
- **Severity** - The level of damage to the valued component from the effect that can reasonably be expected; typically measured as the degree of destruction or degradation within the spatial area of the PF, LSA and RSA. Severity would be characterized as: Extreme; Serious, Moderate or Slight.
- **Duration/Reversibility** - Duration is the period of time over which the effect will be present between the start and end of an activity or stressor, plus the time required for the effect to be reversed. Duration and reversibility are functions of the length of time a valued component is exposed to activities. Reversibility is an indicator of the degree to which potential effects can be reversed and the valued component restored at a future predicted time. For effects that are permanent, the effect is deemed to be irreversible. Duration/Reversibility would be characterized for each adverse effect as: Short-Term (0- 5 years), Medium-Term (6-20 years), Long-Term (21 to 100 years) or Permanent (>100 years).
- **Frequency** – Is the rate of occurrence of an effect over the duration of the Project, including any seasonal or annual considerations. Frequency would be characterized as: Infrequent; Frequent or Continuous.
- **Probability or Likelihood of Occurrence** – Is a measure of the probability or likelihood an activity will result in an environmental effect. Probability or likelihood of occurrence would be characterized as: Unlikely, Possible; Probable and Certain.

The definitions and description of the above factors will be described in detail in the EAR/IS. An effort will be made to express expected changes quantitatively / numerically. For example, the magnitude (intensity) of the effect may be expressed in absolute (e.g., number of businesses affected) or percentage values above (or below) baseline conditions (e.g., changes to crime rates). Additionally, the definition of effect levels may vary from one valued component or criterion to another, recognizing that the units and range of measurement are distinct for each.

Application of GBA+ to Net Effects

Importantly, effects may impact communities, Indigenous groups and stakeholders in different ways, including through a GBA+ lens, and vulnerable sub-groups may respond differently to the effects. Therefore, determining and characterizing effects will be based largely on the level of concern expressed through engagement with the Indigenous groups and community members, including women, youth, and Elders.

2.4.2.5. Assessment of Significance

MNRF's Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (MNRF, 2003) require the assessment of significance of environmental effects and provides guidance for assessing the significance of potential environmental effects under individual criteria, for a project as a whole, and for alternatives.

In addition to the Class EA guidance, the determination of significance of net effects and cumulative effects from the Project and other previous, existing, and reasonably foreseeable developments will generally follow the guidelines and principles of the *Draft Technical Guidance Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act* (CEA Agency, 2017) and the *Operational Policy Statement: Determining*

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Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012 (CEA Agency 2015).

In general, the assessment of significance of net effects will be applied to each valued component for which net effects are predicted, and net adverse effects or positive effects will be classified as significant or not significant (i.e., binary response). Given that determinations of significance are highly sensitive to context and shaped by human values and cultures (Baker and Rapaport 2005; Kjellerup 1999), efforts will be made to collaborate with Indigenous communities, particularly the 4 communities potentially most impacted socially and economically, as well as vulnerable sub-groups, in defining and assigning significance classifications to particular valued socio-economic components.

Additional details on the application of socio-economic criteria and definitions that would describe "significant" and "not significant" will be provided in the EAR/IS.

2.4.2.6. Identification of a Monitoring Framework

Webequie First Nation will develop a monitoring framework during the EA process for each project phase (construction and operation and maintenance). The two primary types of monitoring to be developed will include:

- Compliance monitoring; and
- Effects monitoring.

The compliance monitoring will assess and evaluate whether the Project has been constructed, implemented and/or operated in accordance with commitments made during the EA process, and any conditions of the federal IA and provincial EA approvals and other approvals required to implement the Project.

The effects monitoring will be designed to verify the prediction of the effects assessment, and to verity the effectiveness of the mitigation measures. This would include construction and operational monitoring that would identify actual effects, assess the effectiveness of the measures to minimize or eliminate adverse effects, and evaluate the need for any additional action to ensure that socio-economic commitments and obligations are fulfilled, and mitigation measures are effective. It is expected that the monitoring program will involve Indigenous participation in the design and implementation of the program.

2.5. Schedule and Reporting

The schedule for completion of the socio-economic baseline report is as follows:

- Desktop research – April 2021 to March 2022 (as remaining community documents become available);
- Social Surveys – July 2021 to May 2022;
- Focus Groups – January 2022 to May 2022;
- Key informant interviews– September 2021 to May 2022;
- Draft Baseline Report (including all primary information)– July 2022;
- Draft EAR/IS – May 2023;
- Consultation and engagement activities to confirm baseline information collected, discuss potential impacts and identification of mitigations – Ongoing.

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The baseline socio-economic primary information and data will be collected from summer 2021-spring 2022 and will be compiled into a Socio-Economic Existing Conditions Report that will include results and findings from the primary data collection activities (surveys, key focus groups, informant interviews, consultation and engagement activities) and desktop research. The overall baseline report is tentatively scheduled to be completed by July 2022 and Indigenous communities will be requested to validate the baseline information in the report as part of the process to finalize the document.

3. Aboriginal and Treaty Rights

The Webequie Project Team will engage with Indigenous communities regarding potential impacts of the project on the exercise of asserted or established rights, and where possible, the Project's interference with the exercise of those rights. Webequie First Nation and the Project Team will discuss with Indigenous communities their views on how best to reflect and capture impacts on the exercise of asserted and/or established rights in the EAR/IS. Should impacts on the exercise of Aboriginal and Treaty rights be identified, Webequie First Nation and the Project Team will work with Indigenous communities to determine appropriate mitigation measures to reduce or eliminate such impacts. Where no mitigation measures are proposed or mitigation is not possible, the Project Team will identify the adverse impacts or interference to the exercise of Aboriginal and Treaty rights and this will be described (e.g., level of severity) and documented in the EAR/IS. Webequie First Nation and the Project Team will advise Ontario and the Government of Canada on concerns Indigenous communities may have in relation to their exercise of Aboriginal and Treaty rights and whether their concerns cannot be addressed or mitigated by the Project Team.

4. Contribution to Sustainability

4.1. Overarching Approach

As recognized in the Agency's current guides to considering how a project will contribute to sustainability, it is not until baseline information has been collected and the potential effects of the Project are assessed that a full understanding or determination of the project's contribution(s) can be achieved/made. However, information and data requirements for sustainability have been considered from the outset of the WSR Project for planning purposes. In the absence of the potential effects assessment, this section outlines the general approach to determining sustainability contributions for the socio-economic valued component.

The approach is based on the goal of providing a broad or holistic description of the project's potential positive and negative effects, including the interactions among those effects and the long-term consequences of the effects. In the context of the IAA requirements, sustainability means "the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations", with the aim of "protecting the components of the environment and the health, social and economic conditions that are within the legislative authority of Parliament from adverse effects caused by a designated project", recognizing that the Minister's or the Governor in Council's public interest determination must include sustainability as one of five factors to be considered in rendering a final decision.

The approach also considers the level of effort required to assess a project's contribution to sustainability to be scalable, depending on the phase of the process and the context of the project, and can/will be

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adjusted/scoped as the impact assessment proceeds. For example, effects on future generations requires temporal scoping (i.e., consideration of next generation to "seventh generation"), based on expectations as to how many generations it will take for effects to become fully apparent, including return to VC baseline conditions; resilience of the VC; and whether a VC is expected to recover from effects.

As part of the public participation and Indigenous peoples engagement programs described in Sections 3.1 and 3.2, the Project Team has (and will continue to) facilitate early identification of values and issues to better inform the assessment of the project's contribution to sustainability; and identify VCs that should be carried forward into that assessment, scoping related criteria and indicators to reflect the project context. As part of sustainability considerations, this information has also been used (with regard to which VCs are considered most important to Webequie First Nation) to identify alternative means of carrying out the Project and select alternatives to be carried forward for an assessment of sustainability contributions. Ultimately, with the appropriate input from the engagement and consultation program, the sustainability assessment will culminate with the development of commitments to ensuring the sustainability of Indigenous livelihood, traditional use, culture and well-being.

In identifying and scoping key VCs for sustainability contributions, the Project Team will consider VCs that:

- could experience long-term effects, including how those effects could change over time, and how they could affect future generations;
- may interact with other VCs;
- may interact with potential effects of the designated project; and/or
- may interact with project activities.

4.2. Assessment of Contribution to Sustainability

During preparation of the Impact Statement, the four (4) Sustainability Principles identified in the Agency's guides and the TISG will be applied as follows:

Principle 1 - Consider the interconnectedness and interdependence of human-ecological systems

A systems approach will be used to determine/express VC interconnectedness. The degree of interconnectedness within systems and/or subsystems may vary greatly (may be characterized as very intricate and tight/direct, or quite loose and indirect). The focus will be on those aspects that are most important to communities, the social-ecological system and to the context of a project. All interactions, pathways and connections among effects to the environment, and to health, economic and social conditions will be described, as will how these interactions may change over time. The Project Team will ensure that the description of systems and the direct and indirect relationships are guided by input from Indigenous Knowledge. It is expected that a graphic with simple pictorial images will be developed to visually represent the connections between human and ecological systems to facilitate comprehension and encourage input/feedback.

Principle 2 - Consider the well-being of present and future generations

The long-term effects on the well-being of present and future generations will be assessed. To conduct an analysis on future generations, the Project Team will first determine the potential long-term effects on well-being. This will entail consideration of the elements of environmental, health, social and economic well-being, across a spectrum of VCs, that communities identified as being valuable to them. In the context of the socio-economic VC, well-being could include community cohesion, protection of the environment, culture, stress, or livelihoods. Available Comprehensive Community Plans (CCP) will be

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consulted to determine whether sustainability is a CCP central theme. How the environmental, health, social and economic effects on well-being could change over time will also be assessed, as information permits. Although effects on future generations could include effects beyond the lifecycle of a project, this is not expected to be a major consideration for the WSR Project, as no expected decommissioning or abandonment timeframe has been identified. With respect to temporal scoping, there is still a need to determine what the "future generation" is (i.e., how far into the future the project effects will be considered). Predicted potential effects on future generations will be assessed based on the supporting data or uncertainty; any uncertainty will be documented.

Principle 3 - Maximize overall positive benefits and minimize adverse effects of the designated project

The Impact Statement will include a consideration of ways to maximize the positive benefits of the Project and consider mitigation measures that are technically and economically feasible and would mitigate any adverse effects of the Project. Sustainability considerations will include: whether additional mitigation measures are required; have additional benefits been identified and, if so, how can they be maximized; does the direction of the impact (i.e., positive or negative) shift between different groups and sub-populations; are there particular strengths or vulnerabilities in the potentially affected communities that may influence impacts; do the impacts cause regional inequities; and do the near term benefits come at the expense of disadvantages for future generations.

Principle 4 - Apply the precautionary principle and consider uncertainty and risk of irreversible harm

The precautionary principle states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". All uncertainties and assumptions underpinning an analysis will be described. A precautionary approach will be applied in cases where there is risk of irreversible harm (irreversible harm refers to project-related effects from which a VC is not expected to recover; reversibility is influenced by the resilience of the VC). Taking such a conservative approach may include setting out worst-case scenarios for decision-makers to consider, particularly when there is uncertainty about the significance or irreversibility of potential effects. As appropriate, the precautionary approach may be extended to commitments regarding the project's design (to prevent adverse effects, prevent pollution, deal with unplanned events) and the development of monitoring and follow-up programs to verify effects predictions, or gauge the effectiveness of mitigation measures. Uncertainty may be characterized quantitatively (e.g., description of confidence levels of modelled predictions) or qualitatively (e.g., through descriptors such as "high", "medium", and "low"). Qualitative descriptions of uncertainty will explain how the level of uncertainty was determined, identify sources of uncertainty and data gaps, and describe where and how professional judgment was used.

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5. Closure

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October 21, 2022

Sasha McLeod and Dorothy Moszynski
Environmental Assessment Branch
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135 St Clair Avenue West, 1st floor
Toronto, ON M4V 1P5

Re: Round 1 Consultation Progress Report
Webequie Supply Road Project
Environmental Assessment / Impact Assessment

Dear Ms. McLeod and Ms. Moszynski:

As you are aware, Webequie First Nation is the proponent of the Webequie Supply Road Project (the Project), a proposed 107 km all-season road that will facilitate the movement of materials and people from the Webequie Airport to the mineral deposit area near McFaulds Lake. An Environmental Assessment (EA) under the Ontario *Environmental Assessment Act* and an Impact Assessment (IA) under the federal *Impact Assessment Act* is being conducted to identify and assess how the Project may affect the natural environment as well as the health, socio-economic and cultural well-being of communities.

We are providing the attached Consultation Progress Report (electronic copy), which summarizes and documents Round 1 of the Engagement and Consultation Program with Indigenous communities on the Project. The Consultation Progress Report is provided as per the requirements of the Terms of Reference (ToR) for the provincial EA process and specifically the Ministry of the Environment, Conservation and Parks (MECP) ToR Notice of Approval that requires the proponent to provide Consultation Progress Reports to Indigenous communities and the MECP at three key milestones throughout the EA.

The Consultation Progress Report provides an overview of engagement activities to-date, as well as community-specific summaries of engagement and community feedback and input provided by community members. Consultation Round 1 of the Engagement and Consultation Program occurred in Spring/Summer 2022. Key milestones and topics covered in this round of consultation included:

- Overview of EA/IA process;
- Consultation to date and what we have heard (i.e. during the ToR phase);
- Study Plans for discipline studies (e.g., wildlife, fish, health, etc.);
- Criteria and indicators for evaluation and selection of a preferred route and Project effects assessment;
- Approach for evaluation of alternatives (e.g., routes, aggregate source areas);
- Overview and status of baseline studies;
- Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program; and,
- Consultation approach and next steps.

WSR
WEBEQUIE
SUPPLY ROAD

Webequie First Nation is tentatively planning to conduct Consultation Round 2 for the Project from Winter 2023 to Summer 2023. The following milestones and topics are proposed to be addressed as part of engagement and consultation activities for this round:

- Summary of input received from Consultation Round 1;
- Identification and evaluation of alternatives (routes, aggregate source areas, etc.,);
- Preliminary recommended preferred route and supportive infrastructure (aggregate/ rock source areas, construction camps, access roads), including rationale for selection;
- Preliminary engineering design elements of WSR (bridges/culverts); and,
- Next steps and schedule.

We welcome any feedback on the attached Consultation Progress Report. Should you have any questions or comments on the Consultation Progress Report, please feel free to contact me at 807-472-6147 or michael.fox@supplyroad.ca.

Thank you very much.

Sincerely,



Michael Fox

Regional Consultation Lead
Webequie Supply Road

c.c. Chief Cornelius Wabasse, Webequie First Nation
Craig Wallace, Project Manager, SNC-Lavalin Inc.

2

Consultation Progress Report – Round 1

Webequie Supply Road Project

Prepared for:

Webequie First Nation

Submitted to:

Ontario Ministry of the Environment, Conservation and Parks

October 24, 2022

Internal Ref: 661910 › Draft › V1

Notice to Reader

The Extension Request for Impact Assessment ("the document") for the Webequie Supply Road Project contains the expression of the professional opinion of SNC-Lavalin Inc. ("SNC-Lavalin") as to the matters set out herein, using its professional judgment and reasonable care. It is to be read in the context of the "Agreement" between SNC-Lavalin and Webequie First Nation (the "Client"), and the methodology, procedures and techniques used, SNC-Lavalin's assumptions, and the circumstances and constrains under which its mandate was performed. This document is written solely for the purpose stated in the Agreement, and for the sole and exclusive benefit of the Client, whose remedies are limited to those set out in the Agreement. This document is meant to be read as a whole, and sections or parts thereof should thus not be read or relied upon out of context.

Unless expressly stated otherwise, assumptions, data and information supplied by, or gathered from other sources (including the Client, other consultants, governmental authority, etc.) upon which SNC-Lavalin's opinion as set out herein is based has not been verified by SNC-Lavalin; SNC-Lavalin makes no representation as to its accuracy and disclaims all liability with respect thereto.

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October 24, 2022

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Appendices

Appendix A: Praxis Record of Consultation Report

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1 Introduction

1.1 Project Background

The proposed Webequie Supply Road (WSR) Project (the Project) is a new all-season road of approximately 107 kilometres (km) in length from Webequie First Nation to the mineral deposit area near McFaulds Lake (also referred to as the Ring of Fire) in the James Bay lowlands. The Project proponent is Webequie First Nation, a Matawa First Nation Ojibway community located in northwestern Ontario, approximately 525 km north of Thunder Bay, with remote access by air and seasonal winter road.

A road corridor of 35 metres (m) in width, within the broader approximately 2 km wide preliminary preferred corridor, is proposed for the Project to accommodate a permanent two (2)-lane gravel surface all-season road. Waterbody crossing structures, aggregate extraction and processing areas, construction camps and storage and laydown yards also form part of the Project components.

On May 3, 2018, the Ontario Minister of the Environment, Conservation and Parks (MECP) (then Minister of the Environment and Climate Change) signed a voluntary agreement with Webequie First Nation to make the Project subject to an Individual Environmental Assessment (EA) under Ontario's *Environmental Assessment Act*. The Project is also subject to an Impact Assessment (IA) through meeting the requirements of the federal *Impact Assessment Act*.

In August 2020, a draft Terms of Reference (ToR) for the EA was submitted to MECP. As part of the development of the ToR, consultation and engagement was initiated with 22 Indigenous communities (identified by the province as requiring consultation), as well as the public, government agencies, and stakeholders, and comments received during the review period were incorporated into the ToR as applicable.

In October 2021, a Notice of Approval (NoA) of the ToR was circulated by MECP, defining the framework for preparing the EA. This includes adhering to the approved ToR and all amendments made during its development. Finally, a Notice of Commencement (NoC) of the EA was published in November 2021, signifying the formal start of the EA/IA coordinated assessment process and related consultation and engagement activities.

1.2 Purpose

This Consultation Progress Report seeks to fulfill requirements that are defined within the NoA of the ToR. Per Amendment 3, "Consultation Reporting at Key EA Milestones", MECP specifies that Progress Reports must be prepared for consultation activities associated with each EA milestone, which have been conceptualized as the three consultation rounds further detailed in **Section 2.3** below. Furthermore, the Consultation Progress Report must:

- Be organized by Indigenous community;
- Contain a consultation log and summary that tracks consultation activities, information shared by Webequie First Nation with the community, any community input and Webequie First Nation's responses to such input; and
- Contain a discussion of how any input and information provided by Indigenous communities have informed the development of the EA milestone.

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The Consultation Progress Report must be provided to both MECP and each Indigenous community, with a copy of the community-specific portion of the Consultation Progress Report that relates to that community, before proceeding to the next EA milestone. The WSR Project Team will respond to any questions or concerns raised by MECP or an Indigenous community in response to the Consultation Progress Report including making any revisions to the Consultation Progress Report as considered applicable. Each final Consultation Progress Report must be appended to the record of consultation submitted with the Environmental Assessment Report/ Impact Statement (EAR/IS) for the Project. Therefore, this Consultation Progress Report supports the comprehensive documentation of consultation and engagement activities to facilitate successful completion of the EA/IA process for the Project.

The purpose of this Consultation Progress Report is to summarize the Engagement and Consultation Program for the EA/IA process and to document the results of activities carried out as part of Consultation Round 1. Key outcomes (including activities undertaken, feedback received, and responses provided by the Project Team)- are documented for each of the 22 Indigenous communities being consulted as part of the Project.

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2 Engagement and Consultation Program Background

2.1 Principles and Approach

2.1.1 Webequie-Led Indigenous Communities Consultation

The plan for Consultation Round 1 with Indigenous communities was developed in accordance with the following overarching components:

- Elders' guiding principles;
- Webequie First Nation Three-Tier approach to Indigenous community consultation/engagement; and
- Requirements of applicable legislation, policies and guidelines.

Elders provided guidance to the Project Team to ensure consultation and engagement were conducted in a respectful manner that reflects the culture and tradition of the Webequie people and their clans and neighbours outside the community. The Project Team ensured that all Project-related consultation and engagement activities were inclusive of the following guiding principles (and will continue to do so for Consultation Rounds 2 and 3):

- Mutual recognition of nation to nation;
- Mutual recognition of ancestral knowledge;
- Mutual recognition of traditional knowledge and practices;
- Mutual recognition of clan families and relationships;
- Mutual recognition of sustainable livelihood; and
- Mutual recognition of traditional protocols.

2.1.2 Duty to Consult with Indigenous Peoples

As further explained in the ToR, the Project falls under the jurisdiction of both the provincial *Environmental Assessment Act* (EA Act), and the federal *Impact Assessment Act*. The Crown can delegate some procedural aspects of the Duty to Consult to Project proponents, and Project proponents are obliged under the EA Act to consult with all interested parties, including Indigenous communities. To ensure each round of engagement and consultation with Indigenous communities is meaningful, it is recognized that Indigenous communities have varying rights and interests in respect of the Project, and community requests for different approaches to consultation and engagement have been accommodated wherever possible to mitigate impacts to their rights and interests. In addition, the "public" consultation process is also open to Indigenous communities.

The MECP and the Ministry of Northern Development and Mines (MNDM) (now Ministry of Northern Development and Ministry of Mines),on behalf of the Ontario Government, have also formally delegated some procedural aspects of consultation required under the EA Act to Webequie First Nation, as proponent.

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While some Duty to Consult responsibilities have been delegated to the proponent, the Government of Ontario (MECP and MNDM) will still retain overall responsibilities related to the Crown's obligations under the Duty to Consult.

A Memorandum of Understanding (MOU) between MECP, MNDM and Webequie First Nation, setting out how roles and responsibilities related to the Duty to Consult will be shared between the Crown and the proponent, was finalized on February 7, 2020. In general, Webequie First Nation is responsible for carrying out Statutory Consultation in respect of the Project in accordance with the EA Act and will consult with the Aboriginal Communities for that purpose; and the Crown may rely on Statutory Consultation in fulfilling its Duty to Consult. Further details regarding Webequie First Nation's roles and responsibilities in conducting Statutory Consultation for the Project are provided in Section 10.1.2 of the ToR.

2.2 Identification of Indigenous Communities and Organizations

In coordination with other provincial government agencies, Ontario (MECP) identified a list of 22 potentially affected Indigenous communities that are to be consulted by the WSR Project Team as part of its Project planning. These communities were identified by Ontario, as per direction provided in the letter from MECP to the Webequie First Nation on December 19, 2018, as potentially having their rights and/or interests affected by the Project. Of these Indigenous communities, 16 were identified as potentially being affected by the Project, while six other Indigenous communities may have an interest in the Project. For the purposes of the ToR, all 22 communities will be referred to as potentially affected. The full list of communities is presented in **Table 2-1** below.

Table 2-1: Indigenous Communities to be Engaged/Consulted

Tribal Council or Affiliation	Community or Organization
Matawa Tribal Council	Aroland First Nation Constance Lake First Nation Eabametoong First Nation Ginoogaming First Nation Long Lake #58 First Nation Marten Falls First Nation Neskantanga First Nation Nibinamik First Nation Webequie First Nation
Mushkegowuk Council	Attawapiskat First Nation Fort Albany First Nation Kashechewan First Nation

Table 2-1 (Cont'd): Indigenous Communities to be Engaged/Consulted

Tribal Council or Affiliation	Community or Organization

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Shibogama Council	Kasabonika Lake First Nation Kingfisher Lake First Nation Wapekeka First Nation Wawakapewin First Nation Wunnumin Lake First Nation
Windigo First Nations Council	North Caribou Lake First Nation
Independent First Nations	Kitchenuhmaykoosib Inninuwug (KI) Mishkeegogamang First Nation Weenusk (Peawanuck) First Nation
Métis Nation of Ontario	Métis Nation of Ontario – Lakehead/Nipigon/Michipicoten Traditional Territories Protocol Area (“Region 2”)

2.3 Overview of Consultation and Engagement Program

The Engagement and Consultation Program for the EA/IA has been categorized into three different rounds which are associated with distinct Project milestones, topics, and timelines. These rounds are defined in the sections below.

2.3.1 Round 1

Consultation Round 1 of the Engagement and Consultation Program occurred in Spring/Summer 2022. Key milestones and topics covered in this round of consultation included:

- Overview of EA/IA process;
- Consultation to date and what we have heard (i.e., during the ToR phase);
- Study Plans for discipline studies;
- Criteria and indicators for evaluation and selection of a preferred route and Project effects assessment;
- Approach for evaluation of alternatives (routes, aggregate areas);
- Overview and status of baseline studies;
- Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program; and,
- Consultation approach and next steps.

2.3.2 Round 2

Consultation Round 2 will be conducted from Fall 2022/Winter 2023 to Summer 2023. The following milestones and topics are proposed to be addressed as part of engagement and consultation activities for this round:

- Summary of input received from Consultation Round 1;
- Identification and evaluation of alternatives;
- Preliminary recommended preferred route and supportive infrastructure (aggregate/ rock source areas, construction camps, access roads), including rationale for selection;
- Preliminary engineering design elements of WSR (bridges/culverts); and,
- Next steps and schedule.

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2.3.3 Round 3

Consultation Round 3 is proposed to take place from Fall 2023/Winter 2024 to Winter 2026. As the final round of engagement and consultation activities for the EA/IA process, the following milestones and topics will be the focus for this round:

- Summary of input received from Consultation Round 2;
- Summary of preliminary effects assessment of the Project;
- Proposed impact management, mitigation and follow-up monitoring program; and,
- Next steps in EA/IA process.

2.4 Schedule of Consultation Activities

Table 2-2 below provides a high-level schedule of activities that are planned to occur in Consultation Rounds 1, 2, and 3 of the Engagement and Consultation Program for the Project. The schedule is subject to change. **Section 3** provides more detailed activity-specific schedules for activities that occurred during Consultation Round 1.

Table 2-2: Planned Activities by Consultation Round

Regulatory Milestone/Activity	Consultation Activity	Date(s)
CONSULTATION ROUND # 1		
Notice of Commencement of EA/IA	Notification letters, emails, fax	October – November 2021
Topic-Specific Information Sessions	Virtual live-stream sessions and Wawatay radio call-in shows	October 2021 – June 2022
Indigenous Knowledge and Land and Resource Use (IKLRU) Program	Invitation letters	December 2021
Socio-Economic Data Collection	Invitation letters	December 2021
	Key informant interviews and focus groups	October 2021 – July 2022
Chief and Council Meetings	Project update meetings with Webequie First Nation Chief and Council (as requested)	March – August 2022
Community Meetings	Round #1 virtual community information sessions with all 22 potentially affected communities	April – September 2022
	In-person on-reserve community meetings with Webequie First Nation	October – November 2021
Public Information Centre (PIC) #1	Open House for interested community members in Thunder Bay	August 2022
Project Website	Updates to Project website with communication materials, videos, and key Project information	Ongoing

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CONSULTATION ROUND #2		
Development and Evaluation of Alternatives	Notification letters, emails, fax	Winter 2023
Topic-Specific Information Sessions	Virtual live-stream sessions and Wawatay radio call-in shows	Fall 2022/Winter 2023
Chief and Council Meetings	Project update meetings with Chief and Councils from all potentially affected communities (as requested)	Winter 2023 to Summer 2023
Community Meetings	Round #2 virtual community information sessions with all 22 potentially affected communities	Winter 2023 to Summer 2023
	In-person on-reserve community meetings with all potentially affected communities (as requested)	Winter 2023 to Summer 2023
Off-Reserve Community Meeting	Open-house session in Thunder Bay	Summer 2023
Project Website	Updates to Project website with communication materials, videos, and key Project information	Ongoing
CONSULTATION ROUND #3		
Topic-Specific Information Sessions	Virtual live-stream sessions and Wawatay radio call-in shows	Fall 2023
Chief and Council Meetings	Engagement regarding Draft EAR/IS with Chief and Councils from all potentially affected communities (as requested)	Winter 2024 to Fall 2024
Community Meetings	In-person on-reserve community meetings with all potentially affected communities (as requested) regarding draft EAR/IS	Winter 2024 to Fall 2024
Off-Reserve Community Meeting	Open-house sessions in Thunder Bay regarding Draft EAR/IS	Fall 2024
Notice of Draft Environmental Assessment Report/ Impact Statement (EAR/IS) for Review	Notification letters, emails, fax	Winter 2025
Notice of Submission of Final EAR/IS for Review	Notification letters, emails, fax	Spring 2026
Project Website	Updates to Project website with communication materials, videos, and key Project information	Ongoing

3 Engagement and Consultation Activities During the EA/IA Process To-Date

During Consultation Round 1, various virtual and in-person activities were facilitated by the Project Team to ensure proactive engagement and consultation with all 22 potentially affected Indigenous communities. The following subsections provide an overview of all activities that have been carried out as part of Consultation Round 1, including dates, involved communities, general summaries, and other details as applicable. Further information is provided in the detailed Consultation Log in **Appendix A**.

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3.1 Chief and Council Meetings

Four Chief and Council meetings were held during Consultation Round 1, which involved providing Project updates, study-specific updates, and other information to Webequie First Nation's Chief Wabasse, and Council and Weenusk First Nation's Chief Hunter and Council. Details are provided in **Table 3-1**.

Table 3-1: Consultation Round 1 Chief and Council Meetings

#	Community	Date/Time	Meeting Summary
1	**Webequie First Nation**	March 30, 2022 12:00 PM	A meeting was held with Chief Wabasse and Council to provide a Project update to new council members following the recent election of officials, and to discuss upcoming EA/IA activities.
2	**Webequie First Nation**	June 20, 2022 2:00 PM	A meeting was held with Chief Wabasse and Council to provide an update on the socio-economic and human health studies and to coordinate a community visit to collect primary information to support both studies.
3	**Weenusk First Nation**	July 19, 2022 10:00 AM	A meeting was held with Chief Hunter and Council to provide information on topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach, IK, consideration of alternatives and consultation approach and next steps.
4	**Webequie First Nation**	August 26, 2022 11:00AM	A meeting was held with Chief Wabasse and Council to provide an update on the IKLRU program and to discuss next steps.

3.2 Virtual Community Information Sessions/ Open Houses

22 virtual community information sessions were held during Consultation Round 1 – one with each of the potentially affected Indigenous communities at the start of each week. The Virtual Information Sessions were scheduled for 1.5 hours. The actual length of the meetings varied depending on the number of participants and questions / comments raised. **Table 3-2** shows the schedule of sessions. Session duration and number of community participants is listed by each Indigenous community in **Section 4**. An invitation letter and poster were sent to the Chief of each community at least two weeks in advance of the event. Each session was hosted by the Project Team via Zoom and live-streamed via YouTube. Beginning in April 2022, each session was advertised in advance via event posts on Facebook, Instagram, and LinkedIn. Detailed analytics for each Virtual Community Information Session are presented in **Section 4**. Sessions included an introduction to the current status of the WSR Project, a pre-recorded video presentation summarizing topics for engagement and EA/IA activities to date, and a Q&A period, during which time responses were provided to questions raised by the community during the EA ToR phase. At the session, attendees were also encouraged to pose new questions to the Project team. After each session, the video of the recorded virtual information session was posted to the Project

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Website and YouTube, ensuring community members who were unable to attend could still watch the session pertaining to their community and submit questions and feedback. Comments received from each community and responses provided by the Project Team are detailed in **Section 4.1**.

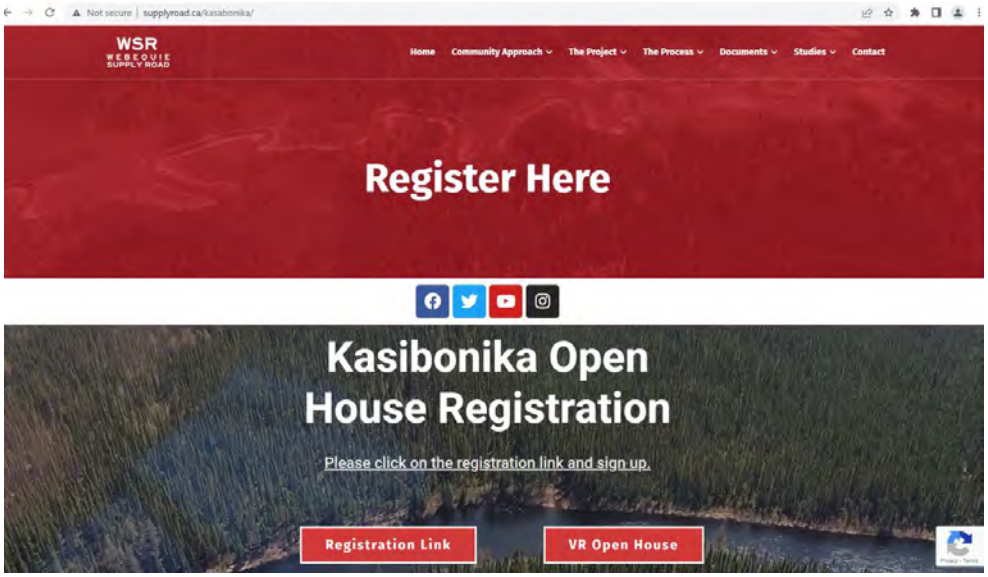


Figure 3-1: Example of custom webpage for Live Virtual Community Information Session

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Figure 3-2: Example of Facebook post for Live Virtual Community Information Session

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Figure 3-3: Example of LinkedIn post for Live Virtual Community Information Session

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Figure 3-4: Example of Instagram post for Live Virtual Community Information Session

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Table 3-2: Schedule for Consultation Round 1 Community Virtual Information Sessions

#	Indigenous Community/ Group	Session Date	Invitation Letter
1	**Webequie First Nation**	Monday, April 4, 2022	Tuesday, March 29, 2022
2	**Weenusk (Peawanuck) First Nation**	Monday, April 11, 2022	Tuesday, March 29, 2022
3	**Kaschechewan First Nation**	Tuesday, April 19, 2022	Monday, April 4, 2022
4	**Attawapiskat First Nation**	Monday, April 25, 2022	Monday, April 11, 2022
5	**Fort Albany First Nation**	Monday, May 2, 2022	Tuesday, April 19, 2022
6	**Marten Falls First Nation**	Monday, May 9, 2022	Monday, April 25, 2022
7	**Neskantaga First Nation**	Monday, May 16, 2022	Monday, May 2, 2022
8	**Kasabonika Lake First Nation**	Tuesday, May 24, 2022	Monday, May 9, 2022
9	**Eabametoong First Nation**	Monday, May 30, 2022	Monday, May 16, 2022
10	**Nibinamik First Nation**	Monday, June 6, 2022	Tuesday, May 24, 2022
11	**Aroland First Nation**	Monday, June 13, 2022	Tuesday, May 31, 2022
12	**Constance Lake First Nation**	Monday, June 20, 2022	Tuesday, June 7, 2022
13	**Ginoogaming First Nation**	Monday, June 27, 2022	Monday, June 13, 2022
14	**Kitchenuhmaykoosib Inninuwug First Nation**	Monday, July 4, 2022	Thursday, June 23, 2022
15	**Kingfisher Lake First Nation**	Monday, July 11, 2022	Monday, June 27, 2022
16	**Long Lake #58 First Nation**	Monday, July 18, 2022	Monday, July 4, 2022
17	**Mishkeegogamang First Nation**	Monday, July 25, 2022	Monday, July 11, 2022
18	**North Caribou Lake First Nation**	Tuesday, August 2, 2022	Monday, July 18, 2022
19	**Wapekeka First Nation**	Monday, August 8, 2022	Monday, July 25, 2022
20	**Wawakapewin First Nation**	Monday, August 15, 2022	Tuesday, August 2, 2022
21	**Wunnumin Lake First Nation**	Monday, August 22, 2022	Monday, August 8, 2022
22	**Métis Nation of Ontario – Region 2**	Monday, August 29, 2022	Monday, August 15, 2022

3.3 Project Notifications and Updates

3.3.1 Notices/ Invitations (i.e., Notice of Commencement of EA/IA)

Notices regarding key Project milestones and invitation letters for data gathering activities were sent to Indigenous communities via email, mail (Canada Post), and fax (where applicable), as further described in **Table 3-3**.

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Table 3-3: Notices/ Invitations Circulated During Consultation Round 1

#	Notice	Date(s)	Description
1	**Notice of Commencement of EA**	October 29, 2021 – Email November 3, 2021 – Mail	The NoC of EA/IA was circulated to all Indigenous communities/groups and stakeholders on the WSR Project contact list. The notice informed recipients that the ToR had been approved- with amendments- by MECP.
2	**IKLRU Program Invitation Letter**	December 13, 2021 – Email December 13, 2021 – Mail December 13, 2021 – Fax	The IKLRU invitation letter was sent to all 22 Indigenous communities to share information regarding the program and solicit participation.
3	**Socio-Economic Primary Data Collection Invitation Letter**	December 21, 2021 – Email December 20, 2021 – Mail December 20, 2021 – Fax	The Socio-Economic invitation letter was sent to all 22 Indigenous communities to introduce the socio-economic primary data collection program, including its purpose, methods, and criteria, and to solicit participation.
4	**Engagement Options Letter #1 (with information on virtual community information sessions, including past sessions)**	July 12, 2022 – Email July 12, 2022 – Fax	A letter was distributed to all 22 Indigenous communities to summarize all available engagement options and provide an overview of the status of virtual community information sessions, including where to access past sessions
5	**Engagement Options Letter #2 (with information on the Socio-Economic primary data collection program)**	July 26, 2022 – Email July 26, 2022 – Fax	A letter was distributed to all 22 Indigenous communities as a refresher on all available engagement options, also providing an overview of the Socio-Economic primary data collection program and reminding communities of opportunities for participation
6	**Engagement Options Letter #3 (with information on Consultation Round 2 topics)**	August 12, 2022 – Email August 12, 2022 – Fax	A letter was distributed to all 22 Indigenous communities as another refresher on all available engagement options, also providing information on the conclusion of Consultation Round 1 and topics to be covered in the upcoming Consultation Round 2.
7	**Notice of Public Information Centre #1**	August 17, 2022 – Newspaper August 18, 2022 – Email August 23, 2022 – Email	A Notice of PIC #1 was published in local newspapers, posted on the project website, and sent to all 22 Indigenous communities/groups and stakeholders on the WSR Project contact list. The notice informed recipients of the Project purpose, planning process, and PIC details including date, time, location, and contact information.

3.3.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were sent to all 22 potentially affected Indigenous communities via email, mail (50 copies through Canada Post), and fax, as further described in **Table 3-4**. They are also posted on the Project website, ensuring they are accessible to all community members. Additionally, WFN receives a community-specific newsletter

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on a quarterly basis that provides information and updates on the WSR Project with highlights on community participation and community-specific activities.

Table 3-4: Monthly Newsletters Circulated During Consultation Round 1

Issue	Month	Description of Newsletter Contents
5	**November 2021**	› Description of ToR approval and "what happens now that the ToR has been approved?" › Summary of (and link to) the Notice of Commencement of EA/IA › Overview of baseline studies and identification of alternatives to be completed › General description of the engagement and consultation approach
6	**January 2022**	› Reminder of ToR approval and what this means for the Project/ the difference between the federal IA and provincial EA › Overview of the role of study plans › List of field studies completed in the past year › What to expect in 2022
7	**February 2022**	› Reminder of the difference between federal IA and provincial EA › Overview of the coordinated assessment process › Description of what will be studied (valued components/indicators) › Summary of the IKLRU program, including its purpose, phases, and its role in the EA/IA
8	**March 2022**	› Reminder of what the coordinated provincial-federal assessment process entails › Overview of IKLRU, including the purpose of the IKLRU program, its importance in the EA/IA, and information being gathered › Summary of the socio-economic primary data collection program
9	**April 2022**	› Description of the current stage of the Project › Overview of upcoming virtual community information sessions › Summary of the socio-economic program, including "what are socio-economics?", what the primary data collection program entails, and methods that will be used to gather this information
10	**May 2022**	› Quick refresher on the current phase of the EA/IA › Description of virtual community information sessions › Summary of valued components, indicators, and fact sheets- which explain how these will be studied › Overview of additional upcoming engagement opportunities
11	**June 2022**	› Update on virtual community information sessions, including communities whose sessions have already occurred and those whose sessions are upcoming, how to watch recordings and submit comments, and a description of what each session involves › Overview of ongoing field studies
12	**July 2022**	› General description of the objective of field studies for the Project › Definition of key terms associated with cultural heritage assessment, including built heritage resources, cultural heritage landscapes, and cultural heritage resources › Summary of the objectives of fish and fish habitat assessments › Overview of ongoing virtual community information sessions
13	**August 2022**	› Overview of the outcomes/wrap-up of the virtual community information sessions › Introduction to activities and topics for Consultation Round 2 › Promotion of the upcoming WSR Open House on August 25th
14	**September 2022**	› Overview of July 26 & 27 community visit and upcoming fall visit › Introduction to Country Foods and Human Health surveys › Refresher on Socio-Economic Primary Data Collection and IKLRU Programs › Summary of August 25 WSR Open House

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3.4 Project Website

A dedicated website, www.supplyroad.ca, was created at the beginning of the Project (during the ToR phase) to provide Indigenous communities, Indigenous organizations and councils, and stakeholders with information on the Project, post notifications of upcoming activities and engagement events, and provide access to important documentation for review. Public notices/invitations, community information session presentations, and other relevant documents and communication materials (such as fact sheets and study plan summaries) are posted on the website to provide Indigenous community members and stakeholders easy access to Project information.

Throughout Consultation Round 1, recorded topic-specific live-streaming information sessions and community virtual information sessions have also been continuously uploaded to the website, ensuring community members who are unable to attend sessions can access Project information and provide their feedback to the Project team.

In addition, a unique webpage was created for each of the 22 potentially affected communities, which can be accessed by entering “supplyroad.ca/[communityname]” into the web browser. Each community-specific webpage contains the following:

- Videos with information on a range of topics related to the WSR Project;
- A live-stream recording of the community virtual information session;
- A Virtual Reality (VR) open house walkthrough, replicating a traditional open house setting with display boards presenting information on various aspects of the Project;
- A sign-up form for the WSR monthly newsletter; and,
- A comment form, allowing community members to ask questions or provide feedback to the Project Team with ease.

The website also provides interested individuals contact information. It is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner. Key documents are provided in Ojibway, Cree, Oji-Cree, French, and English.

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3.4.1 Frequently Asked Questions

Table 3-5 below contains a list of Frequently Asked Questions (FAQs) and corresponding responses, which represent key themes related to the WSR Project and are available to all interested parties on the Project website.

Table 3-5: FAQs from WSR Project Website

Question	Response
Will there be a hydro component to the Webequie Supply Road and if so, who will be the hydro provider?	At this time, Webequie First Nation is seeking approval for the development of a supply road; however, the basic corridor for the supply road that will undergo an Environmental / Impact Assessment will be wide enough to accommodate future communications (e.g., broadband fibre optic line) and low voltage power distribution lines, if and when connection is established to the provincial highway and electricity grid system. However, given the current uncertainty regarding how and when power and communications infrastructure will be extended into the Project area, these components have not been included in the scope of the Project. This means that details, such as potential hydro providers, are currently unknown.
How will the differences in vegetation types (i.e., string bogs versus muskegs) be accounted for in planning, constructing and operations and maintenance?	A vegetation study will be done to understand vegetation that may be affected by the Webquie Supply Road, as well as the species that inhabit those vegetation types. As part of the study, surveys will be conducted to collect information on various vegetation types, such as string bogs and muskeg. The goal of these surveys is to identify and consider the effects of the Project on vegetation, as well as to provide recommendations for minimizing negative environmental, health, social, project constructability and economic effects related to vegetation during construction and operation/maintenance of the Project. Potential effects to Upland, Wetland and Riparian Landcovers/Habitats will be assessed by determining the removals of landcover types because of the Project, including quality of vegetation available to wildlife species. The Assessment will also examine potential effects to any known or assumed critical life cycle role the habitats provide in the study areas. To learn more about how the Project Team is planning to study vegetation review the Fact Sheet and Study Plan Summary.
How will the Project Team determine the types of technologies for construction that best suit the environmental and geographic conditions of the Project area?	There are various technically feasible design and construction solutions for implementing all-season roads in Canada's northern regions which are being considered for this Project as well as proven technologies for construction of all-season roads in the challenging geographical conditions (e.g., use of styrofoam slabs and geotextile/geogrid in peat/muskeg soils).

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
Has consideration been given to using existing eskers as aggregate sources?	There are number of aggregate sources that provide options for extracting materials needed for the Project; however, several source locations will require further evaluation in the Environmental / Impact Assessment. Esker formations are a source option and are present along the north-south section and towards the end of the east-west section of the proposed supply road corridor. Temporary and permanent access roads from aggregate source locations to the Webequie Supply Road corridor will be required during the construction and operation phases of the Project. Alternative routes for access roads will be considered in the EA, with the goal of minimizing haul route distances and negative effects on the environment. Currently, the Project Team is collecting data on the terrain and information from: • Existing published literature; • Mapping; and • Field survey results. Data gathered will be incorporated into a map for evaluation which will include information on: • Information on eskers and other post-glacial deposits; • Geomorphology, topography and geotechnical characteristics in Project area, including the presence and distribution of eskers and permafrost; and Ground instability. Additionally, terrain and soil investigations will facilitate the identification of potential aggregate sources, characterization of stream crossings and mapping of route alternatives. To learn more about how the Project Team is planning to study geology, terrain, and soils review the Fact Sheet and Study Plan Summary.
How tall will the road be in comparison to the muskeg?	Where the proposed road is located in muskeg/peatlands there is low relief and the surface of the road will likely be typically about 1 m in height over the peatlands. Approaches to build the road may include the use of geo-fabric/geo-grid reinforcement at the road base-peatland interface with aggregate/fill material placed over it, with some compression of the peat expected. In this design scenario there would be minimal removal of the muskeg/peat. Other techniques to build roads over peatland include use of wick/sand drains, floating foundations, and piled foundation. Details of the optimal engineering solution and techniques for building in the road in the peatlands will presented the Environmental Assessment Report/Impact Statement for the Project.

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
How will construction on the Webequie Supply Road (WSR) be initiated? Will construction start at one end and proceed along the length of the road?	Construction of the WSR is estimated to occur within a 33-month period, after securing all of the required approvals, permits, licences, authorizations and clearances to construct. Construction will occur in two stages: • Pre-construction: Activities will include field delineation of vegetation buffers and known nearby features of cultural or environmental importance that may require specialized application of mitigation measures or monitoring during construction; and • Construction: Activities will continue year-round, with some construction activities being staged and implemented to avoid or minimize potential effects to Indigenous traditional land and resource use areas and/or culturally sensitive areas/uses, and life cycle periods of wildlife (i.e., by avoiding the clearing of vegetation during the migratory bird nesting period). The detailed construction plans and sequencing of the Project will be determined during the Detailed Design phase through discussions between Indigenous communities and the construction contractor.
Why is the Project Team proposing to build a supply road rather than flying materials to mine sites in the Ring of Fire area?	The Webequie First Nation (WFN) Reserve is currently serviced by the Webequie Airport. Since 2015, the community has been involved in the investigation of an all-season road corridor to better service the community and provide economic development opportunities for its members and businesses that reside in or around the community's reserve and traditional territory. The Webequie Supply Road could be constructed and operated as a facility that only provides a connection between WFN and the McFaulds Lake area to serve mineral exploration and future mining development activities, with no connection to the provincial highway system. However, with implementation of the Project and future mining and road infrastructure developments in the McFaulds Lake area, it is likely that WFN could gain year-round access to the provincial highway system.

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
How will the Indigenous Traditional Knowledge studies be undertaken?	The Webequie Supply Road Project Team is commencing an Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program. The IKLRU Program will provide important information that will inform the Environmental / Impact Assessments. The information gathered through the IKLRU Program will be used in combination with scientific approaches. Both knowledge systems will be given equal consideration in forming the baseline conditions and predicting potential Project effects, including potential effects to Indigenous rights and interests. The purpose of the IKLRU Program is to: • Promote sharing of IKLRU information relevant to the Project; • Help identify potential effects of the Project, including those on Indigenous rights and interests; and • Collaborate with Indigenous communities to enhance positive effects and/or to identify measures to avoid/reduce potential effects on Indigenous rights and interests. The IKLRU Program will occur in two phases: • Information Gathering Phase: Collecting existing Indigenous Knowledge and information on Indigenous land and resource use that communities are willing to share with the Project Team to help inform the early stages of the Assessments; and • Information Integration Phase: Completing project-specific Indigenous Knowledge and Lands & Resource Use studies or compiling information/data, for integration into the Assessment. Currently, the Project Team is determining which First Nations are interested in participating in the Program. Communities may share as much or as little IKLRU information as they wish, and in whatever form they prefer. The communities can also review the EAR / IS to ensure accuracy of IKLRU information, including if it has been adequately, appropriately, and respectfully represented within the Assessment. You can learn more about the IKLRU Program here.

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
What information are you seeking for the Socio-economic Study and how can First Nations participate?	The goal of the Socio-Economic Study is to understand how, and to what extent, community socio-economic well-being could be affected by the construction and operation/maintenance of the Webequie Supply Road. The study will involve: • Collecting information on existing socio-economic conditions; • Defining the study area(s) within which potential effects are considered; • Assessing socio-economic effects, including identifying criteria and indicators to evaluate and measure the potential effects; • Identifying appropriate mitigation measures to eliminate or reduce potential effects; • Identifying net effects following mitigation; and • Assessing cumulative effects. The Project Team is asking for participation from Indigenous communities to discuss and collect socio-economic information and to verify the information gathered so far. Participation options for First Nations include: • Community Socio-Economic Survey (communities can choose from various in-person and/or online survey delivery method options); • Focus Groups; and • Key Informant Interviews. Learn more about the Socio-economic Program.

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
How are cumulative effects and climate change being considered in the Webequie Supply Road (WSR) Assessment process?	The WSR Project Team is undertaking a Cumulative Effects Assessment and a Climate Change Assessment. The Cumulative Effects Assessment will aim to: • Identify and characterize the effects of the Project that remain after action has been taken to reduce or manage predicted adverse effects (referred to as residual or net effects). This will help focus the Cumulative Effects Assessment on selected Valued Components (VCs) (for example, fish/fish habitat, wildlife, surface water/groundwater, vegetation and wetlands, traditional land and resource use); • Define the area and timeframe within which the study will be done for each VC where net effects have been identified; • Identify other past, current and foreseeable projects and activities with effects likely to overlap with the predicted net effects of the Project; • Work with Indigenous communities to reflect their historical experiences of colonialism and environmental change through building an understanding and overview of events, activities, and policies that have impacted and disrupted Indigenous communities and their way of life in the region; • Predict the likely combined/cumulative effects of the WSR and other projects and activities under consideration, and develop additional mitigation measures, if warranted; and • Evaluate and determine the significance of the predicted cumulative effects. To learn more about how the Project Team is planning to study cumulative effects, review the Fact Sheet and Study Plan Summary. The Climate Change Assessment will aim to: • Understand the changes and trends in climate and the effects of these changes on traditional lands and resources from the perspective of Indigenous communities through consultation with these communities; • Incorporate information prepared by construction and operations / maintenance experts such as: o The description of related construction activities and camps; vehicle/equipment fuel consumption and emission rates; and duration and extent of vehicle/equipment emissions;

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
	o Expected volume and types of vehicular traffic on the new roadway; o Extent and frequency of maintenance operations on the new roadway; o Electric power usage for buildings sheltering maintenance vehicles/equipment • Collect historical and present climate data for the Project site and Northern Ontario from weather and water survey stations; • Project climatic conditions, using regional-scale models • Understand baseline air quality conditions from an assessment of existing ambient air monitoring stations located in Northern Ontario and other northern and or remote areas in Canada; and • Incorporate Indigenous Knowledge to assist in developing mitigation measures and monitoring commitments, where necessary. To learn more about how the Project Team is planning to study climate change, review the Fact Sheet and Study Plan Summary.
How will the potential effects of the Webequie Supply Road (WSR) on water be studied and assessed?	The Project Team is conducting two studies to understand the potential effects of the WSR on water. These studies are the Aquatic Habitat Study and the Groundwater and Surface Water Study. **Aquatic Habitat Study** This study will gather information regarding the existing aquatic conditions at the 26 waterbody crossings identified along the preliminary preferred corridor for the WSR. The information collected in this study includes information about fish habitats such as: • Habitat availability: both habitat quantity and quality; • Habitat quantity: will involve a quantitative assessment of potential changes to the total area of habitat and any known or assumed critical life cycle habitat (e.g., spawning, rearing, etc.) affected by the construction and operation/maintenance of the WSR; • Habitat quality: will examine changes to the quality of spawning, rearing, or overwintering type habitats for four criteria species (Brook Trout, Northern Pike, Walleye and Lake Sturgeon) as well as consideration of other species • that may be consumed or have Indigenous cultural importance (i.e., Lake Whitefish, Chain Pickerel, Yellow Perch, Cisco, Burbot, Longnose Sucker, White Sucker and Lake Chub); and

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
	• Habitat sensitivity: will be assessed and rated at each waterbody as rare, high, moderate, low, or no fish habitat based on species sensitivity, species dependence on habitat, rarity of certain types of habitat and ability of certain habitat to recover from change (resiliency). To learn more about how the Project Team is planning to study the aquatic habitat, review the Fact Sheet and Study Plan Summary. **Groundwater and Surface Water Study** This study will gather information about groundwater and surface water including: • Groundwater quantity: assessing potential changes to groundwater recharge, groundwater level (including seasonal changes) and groundwater flow/movement; • Groundwater quality: assessing the physical, chemical and biological properties of groundwater that may change as a result of the Project; • Surface Water Quantity: assessing potential changes to stream flows, water levels, and erosion and sedimentation processes at waterbody crossings, as well as overall drainage patterns within the Project area; and • Surface Water Quality: assessing potential changes to biological or chemical properties of surface water in the Project area. To learn more about how the Project Team is planning to study groundwater and surface water, review the Fact Sheet and Study Plan Summary.
How will the safety and well-being of Indigenous communities be considered as part of the Socio-economic Study?	As part of the Socio-economic Study, the Project Team is gathering information related to several preliminary criteria, also known as valued components (VCs). VCs are aspects of the environment that have physical, biological, social, economic, cultural, and health related importance to Indigenous communities, public, federal and provincial authorities and interested stakeholders. VCs may be affected by the Project in both positive and negative ways. One of the preliminary VCs the Project Team is considering is Community Well-Being and Safety. To examine this VC, the Project Team is looking for information about social cohesion and culture, participation in social and/or cultural events, domestic violence, physical/sexual assault and air quality and noise. To better understand Community Well-Being and Safety, the Project Team is conducting research by gathering information from publicly available sources such as: • Statistics Canada; • First Nations Community Profiles;

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
	• Community websites; and • Publicly available reports/studies. In addition, the Project Team will collect information from Indigenous communities using several methods including: • Surveys; • Community meetings; • Focus groups; and • Key-informant interviews. All data collection activities will respect and adhere to the community's cultural protocols and be subject to OCAP (ownership, control, access and possession) principles. Understanding how the Project may affect the social and economic conditions of Indigenous communities begins with understanding the current conditions in the communities potentially effected by the Project. Once the Project Team understands current socio-economic conditions in the communities, they can assess how the Project may affect Indigenous communities and provide measures to mitigate negative effects and enhance positive effects. Learn more about the Socio-economic Program and the Indigenous Knowledge and Traditional Land and Resource Use Program.
How does the Socio-economic Study plan to investigate the potential effects of the Webequie Supply Road (WSR) culture and community well-being and safety?	As part of the Socio-economic Study, the Project Team is gathering information related to several preliminary criteria, also known as valued components (VCs). VCs are aspects of the environment that have physical, biological, social, economic, cultural, and health related importance to Indigenous communities, public, federal and provincial authorities and interested stakeholders. VCs may be affected by the Project in both positive and negative ways. The VCs related to culture include: • Community Well-Being and Safety: including social cohesion, participation in social and/or cultural events, perceptions of safety; • Social and Infrastructure services: demand for community services and infrastructure such as education, training, childcare, water, waste management, energy and communications;

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Table 3-5 (Cont'd): FAQs from WSR Project Website

Question	Response
	• Land Use Compatibility: existing and proposed land uses; • Recreation and Tourism: land/waterway access and resource availability; • Provincial Parks and Protected Areas: areas of natural and scientific interest and conservation reserves; and • Regional and Local Economy: economic and procurement opportunities, labour force and employment, government finances, cost of living, and mining/aggregate activity. To better understand the VCs related to culture, the Project Team is conducting research by gathering information from publicly available sources such as: • Statistics Canada; • First Nations Community Profiles; • Community websites; and • Publicly available reports/studies. In addition, the Project Team will collect information from Indigenous communities using a number of methods including: • Surveys; • Community meetings; • Focus groups; and • Key-informant interviews. All data collection activities will respect and adhere to the community's cultural protocols and be subject to OCAP (ownership, control, access and possession) principles. Understanding how the WSR may affect the culture of Indigenous communities begins with understanding the current conditions in the communities potentially effected by the Project. Once the Project team understands the baseline conditions in the communities, they can assess how the Project may affect the culture of Indigenous communities and provide measures to mitigate negative effects and enhance positive effects. Learn more about the Socio-economic Program and the Indigenous Knowledge and Traditional Land and Resource Use Program.

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3.5 Virtual Topic-Specific Information Sessions and Radio Call-In Shows

Throughout Consultation Round 1, the Project Team hosted virtual topic-specific information sessions and radio call-in shows relevant to the WSR Project, as listed in **Table 3-6**. Each began with a live radio show at 2:30 PM EST on Wawatay Radio and was followed by a livestream topic-specific event on Facebook Live and YouTube at 4:30 PM EST. In the two weekdays leading up to each information session/radio call-in show, the Project Team ran a 30 second ad on Wawatay Radio three times each day to advertise the event.

Table 3-6: Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
October 8, 2021	WSR EA/ToR Approval	› Description of Project background and setting (regional and local) › Summary of Webequie First Nation's approach to engagement › Description of how the ToR was prepared and how the EA phase will proceed
October 12, 2021	Socio-Economic and Human Health Study Plans	› Project update, explaining that the ToR had been approved › Discussion of Socio-Economic and Human Health study plans- including their purpose and details of the activities associated with each
October 14, 2021	WSR EA/ToR Approval	› Description of Project background and setting (regional and local) › Summary of Webequie First Nation's approach to engagement › Description of how the ToR was prepared and how the EA phase will proceed
October 26, 2021	Acoustic Environment, Visual Environment, Climate Change/Air Quality and Cumulative Effects	› Project update, explaining that the ToR had been approved › Discussion of Acoustic Environment, Visual Environment, Climate Change/Air Quality, and Cumulative Effects study plans- including their purpose and details of the activities associated with each
November 9, 2021	Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat Study Plans	› Project update, explaining that the ToR had been approved › Discussion of Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat study plans- including their purpose and details of the activities associated with each

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Table 3-6 (Cont'd): Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
November 23, 2021	Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding Birds Study Plans	› Project update, explaining that the ToR had been approved › Discussion of Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding Birds study plans- including their purpose and details of the activities/ field studies associated with each
January 12, 2022	Looking Back and Ahead: WSR Activities in 2021 and 2022	› Current status from provincial regulatory perspective › Updates on activities related to engineering, noise, geotechnical, hydrogeology, socio-economic and biological studies › Completed and upcoming community engagement
January 26, 2022	What We Have Heard: Key Themes of Project Questions and Concerns	› Opportunities for providing Project feedback › Indigenous communities and organizations who have provided input › Discussion of key themes of input provided
February 9, 2022	The Provincial EA and Federal IA Processes	› Coordination of the two processes and a general comparison › Purpose of components of technical study plans › Explanation of valued components/indicators and discussion of assessment boundaries › Role and purpose of baseline studies
February 23, 2022	Indigenous Knowledge Part 1 – What is IK?	› General description of what IK entails › Discussion of the importance of IK in the EA/IA process and the blend of IK with western science › Summary of the WSR IK Program
March 9, 2022	Indigenous Knowledge Part 2 – Weaving IK into EAs and IAs	› Review of "What is IK?' › Specific examples of IK contribution from various disciplines › Presentation of a graphic showing the combination of IK and western science data collection methods
March 23, 2022	Indigenous Knowledge Part 3 – IK from a Community Member's Perspective	› Consisted of 3 videos, as follows: • The first provided a community Elder's explanation of Webequie's Three-Tier Model based on traditional use of the land • The second was a more detailed explanation of the Three-Tier Model including its relationship with government and industry • The third featured a community elder sharing stories on how Indigenous people moved within their homeland

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Table 3-6 (Cont'd): Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
April 6, 2022	Socio-Economics	› Definition of socio-economics › Discussion of socio-economic study plan, preliminary valued components, the local and regional study areas, baseline data collection, secondary information collection, Gender-Based Analysis Plus (GBA+) analysis, effects assessment, and mitigation of negative effects
April 20, 2022	Human Health	› Description of Health Impact Assessments (HIAs) › Discussion of HIA objectives, the Webequie First Nation proxy approach, the basis of an HIA, social determinants of health, First Nations health and wellness, and criteria and indicators
May 4, 2022	Air, Noise and Vibration	› Divided into two parts: (1) Noise and vibration, including a discussion of spatial boundaries, temporal boundaries, noise/vibration guidelines, measurement of background noise levels and results, noise monitoring locations, and mitigation methods › (2) Air Quality, including a discussion of information collection, valued components, and mitigation methods
May 18, 2022	Wildlife and Species at Risk (SAR)	› Objectives of the wildlife and SAR field studies › Description of field studies and criteria and indicators › Exploration of potential mitigation methods
June 1, 2022	Groundwater and Surface Water	› Objectives of the groundwater and surface water field studies › Discussion of study areas, field surveys, and potential mitigation methods
June 15, 2022	Fish and Fish Habitat	› Objectives of the fish and fish habitat field studies › Description of the various field surveys to be conducted and criteria and indicators › Explanation of potential mitigation methods
June 29, 2022	Cultural Heritage	› Key definitions associated with cultural heritage assessments › Description of the purpose of the assessment, regulatory requirements, and steps involved in identifying built heritage resources and cultural heritage landscapes › Overview of preliminary impact assessment methodology

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3.6 On-Reserve Community Meetings

Four in-person on-reserve community meetings were held during Consultation Round 1, three with Webequie First Nation and one with Weenusk First Nation (refer to **Table 3-7**). The purpose of each community meeting was to share information on the WSR EA/IA process, study plans for valued components, assessment approach, IKLRU, consideration of alternatives and consultation approach and next steps. The presentation materials were translated to Ojibway and Cree in real-time by local translators, and all COVID-19 protocols were adhered to. Each meeting ended with a Q&A period and an overview of other upcoming engagement and consultation opportunities.

Table 3-7: Consultation Round 1 On-Reserve Community Meetings

#	Community	Date/Time	Location	Topics Covered
1	**Webequie First Nation**	October 13, 2021 1:00 PM	Webequie First Nation Band Hall	› EA/IA process Study Plans for: › Socio-Economic/ › Human Health
2	**Webequie First Nation**	October 27, 2021 12:00 PM	Webequie First Nation Band Hall	› EA/IA Process Study Plans for: › Acoustic/Visual Environment › Climate Change/Air Quality › Cumulative Effects
3	**Webequie First Nation**	November 10, 2021 2:00 PM	Webequie First Nation Band Hall	› EA/IA Process Study Plans for: › Geology, Terrain & Soils › Vegetation, › Groundwater & Surface Water › Aquatic Habitat
4	**Weenusk First Nation**	July 19, 2022 7:00 PM	Community Centre	› Topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach, IKLRU, consideration of alternatives and consultation approach/ next steps

3.7 Off-Reserve Community Meetings

A meeting was held for Webequie First Nation off-reserve members at the Italian Cultural Centre in Thunder Bay on May 31, 2022, to provide information on topics in Consultation Round 1, including: EA/IA updates, study plans for valued components, assessment approach, IKLRU, consideration of alternatives and consultation approach and next steps.

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3.8 Public Information Centre (PIC) #1

The WSR Project Team hosted PIC #1 at the Valhalla Hotel and Conference Centre in Thunder Bay on August 25, 2022. This was an Open House for all interested community members, the public and stakeholders. It consisted of two sessions: one between 2:00 – 5:00 PM and the second from 6:00 – 9:00 PM, followed by an informal drop-in centre with display information about the Project. Topics covered during PIC #1 included Project updates since the ToR approval, the EA/IA process, studies being conducted for valued components, ongoing and future engagement and consultation opportunities, IKLRU, and the evaluation of alternatives. A total of 24 individuals attended the sessions. The main concern was heard was the need for the incorporation of Indigenous ways of communication in the process and the critical need for infrastructure in the communities.

Upon arriving at the PIC, attendees were greeted by the Project Team and encouraged to sign-in at the registration table. Communication materials provided at the open house included: 50 copies of the EA and Preliminary Engineering Fact Sheet in Ojibway and English; 50 copies of the ToR Fact Sheet in Ojibway and English; 50 copies of the Community Newsletter in English; 50 copies of Frequently Asked Questions in English; and 50 Community Meeting Feedback Forms. Project Team members encouraged attendees to complete the Feedback Forms and provide any comments and questions at the conclusion of the event to the Project Team.

3.9 Communication Materials

To compliment activities, meetings, and events that occurred during Consultation Round 1, communication materials were developed. These included presentation slide decks, study plan and general summary fact sheets for each valued component, handouts, display boards, video tutorials, and other materials. All materials were written/recorded in plain language free of technical jargon and have been produced to ensure that information is clear and easy to understand. Many are available on the Project Website to ensure community members and all interested parties can download them following engagement and consultation activities. More specifically, the following materials can be accessed on the Project website:

- **Fact Sheets** – a brief overview of the assessment purpose, study area, timeline, existing conditions, and data requirements for each valued component;
- **Study Plan Summaries** – a more in-depth summary of the objectives, assessment areas/ considerations, study methods, potential mitigations, study area boundaries, and criteria and indicators for each valued component;
- **Study-specific web-pages** – summarize ongoing field studies and the socio-economic and IKLRU programs, including data collection topics, methods, rationale, and ways to get involved;
- **Round #1 Virtual Community Information Session presentation slide deck** – provides an overview of the EA/IA process, Project description, engagement and consultation to date, study plans, assessment approach, baseline studies for select valued components, IKLRU program, evaluation of alternatives, and next steps;
- **Discipline-Specific Tutorial Videos** – provide tutorials on various disciplines, or VECs, that are being studied as part of the EA/IA process; and,
- **Virtual Community Information Session Videos** – videos of recorded virtual information sessions, allowing community members to watch their community-specific session on-demand and provide comments or feedback.

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4 Engagement and Consultation Results

4.1 Social Media and Associated Analytics – Definitions

The social media analytics described in Table 4-1 have been used to quantify engagement on the WSR Project via social media.

Table 4-1: Social Media Analytics Definitions Used for the WSR Project

Platform/Metric	Definition
Facebook	
Page likes	The number of people who liked your page.
Page followers	The number of people who have clicked on the 'follow' button on your page.
Page views	The number of people who have visited your page.
Engagement	Engagement is any action someone takes on your Facebook page or one of your posts. This includes the likes, reactions, number of likes and shares. It can also include saves, viewing a video or clicking on a link.
Reach	The number of people who saw your page posts on their news feed at least once.
Profile visits	This is the number of times a page's profile has been viewed by people, including people who are logged into Facebook and those who aren't.
Impressions	Impressions are the number of times any content from your page or about your page entered a person's screen. It is the number of times your post was seen. It can even be more than once.
Organic like	The likes you receive without the use of the promotions. You can use hashtags and trending keywords to help the post reach more people.
Paid like	If someone sees a promoted or sponsored post and likes it, it's counted as a paid like.
Page clicks	The number of people who clicked on your page after seeing your post, video or story.
Engagement by post type	This lets you know the engagement your page has by its type. We can get to know which kind of content will receive the most engagement (e.g., if it's an image or multiple images, or a video).

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Table 4-1 (Cont'd): Social Media Analytics Definitions Used for the WSR Project

Platform/Metric	Definition
Paid reach	The number of people who saw your post due to an ad you paid for.
Video minutes viewed	The total number of minutes your video was watched for.
LinkedIn	
Likes	The total number of likes/reactions on your post.
Comments	The total number of comments on your post.
Engagement	The total number of reactions, comments, clicks and shares on your LinkedIn posts published during the selected period.
Impressions	Impressions refers to the number of times your post is displayed on someone's news feed – regardless of whether they click on it or not.
Reach	The number of people who see your content.
Page views	The total number of times your company page was viewed during your specified date range.
Unique views	The total number of unique users that have viewed your company page. This number excludes multiple visits form a single user.
Average engagement rate per post	The average engagement rate for posts published during the selected date range. For each post, the engagement rate is calculated by taking the reactions, comments, clicks and shares received, divided by the number of followers at the time of the post.
Total reactions	The total number of reactions received on posts published during the selected period. This includes all types of responses such as like, celebrate, love, insightful and curious.
YouTube	
Channel	A YouTube page is referred to as a "channel".
New subscribers	YouTube's equivalent of a new follower.
Watch time (HOURS)	Watch time is the total amount of minutes viewers have spent watching your videos. The higher the watch time, the higher the chances of YouTube elevating your video in the recommended videos.

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Table 4-1 (Cont'd): Social Media Analytics Definitions Used for the WSR Project

Platform/Metric	Definition
Subscribers growth	This will show you which videos, locations, and periods gain and lose subscribers.
Audience retention	Audience retention shows you the percentage of viewers who watch and leave your video at every single moment of the video.
Engagement	Comments, shares, likes, and dislikes.
Impressions click-through rate	Impressions click-through rate measures your video's ability to prompt people to watch your video after seeing it on their homepage, recommendation section, or trending section.
View	YouTube counts a "view" when someone watches 30 seconds of your video.
Twitter (Tweets)	
Impression	Anytime a Twitter user sees your Tweet. Think of an impression as a Tweet that shows up on someone's monitor or mobile screen.
Engagement	The number of Likes/Favourites, ReTweets, Replies and Mentions received by a Twitter account.
Likes	Used to show appreciation for a Tweet.
Retweets	A re-posting of a Tweet.
Twitter (Live Stream)	
Views	Occurs when a user plays the live stream or joins a broadcast full screen or three seconds after a video starts to auto-play. Replays are considered as views as well.
Instagram (Posts)	
Likes	The total number of likes (favourable reactions) on your post
Comments	The number of comments on your post.
Saved	The number of unique accounts that saved your post.
Engagement	Anytime a user likes or comments on one of your post.
Impressions	The total number of times your post has been seen.

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Table 4-1 (Cont'd): Social Media Analytics Definitions Used for the WSR Project

Platform/Metric	Definition
Reach	The number of times your website was clicked because of a post.
Instagram (Stories)	
Views	An Instagram story is a picture, video or series of the two that is shared on Instagram for only 24 hours. Views are the number of times stories were viewed, even if they were just swiped right past.

4.2 Engagement and Consultation Activities Undertaken and Results by Indigenous Community/Group

4.2.1 Webequie First Nation

4.2.1.1 Key Consultation Activities Undertaken to Date

Table 4-2 below describes key consultation activities that occurred during Consultation Round 1 with Webequie First Nation.

Table 4-2: Key Consultation Activities Undertaken During Round 1 - Webequie First Nation

Date	Description of Key Consultation/Engagement Activities
October 2021 – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session
December 2021	IKLRU and Socio-Economic Program invitation letters
October 2021 – September 2022	Key informant interviews and focus groups
October 13, 2021	On-reserve community meeting at the WFN Band Hall regarding socio-economic and human health study plans
October 27, 2021	On-reserve community meeting at the WFN Band Hall regarding acoustic/visual environment, climate change/air quality, and cumulative effects study plans
November 10, 2021	On-reserve community meeting at the WFN Band Hall regarding geology, terrain and soils, vegetation, groundwater & surface water, and aquatic environment study plans
March 30, 2022	Chief and Council meeting – project update

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Table4-2 (Cont'd): Key Consultation Activities Undertaken During Round 1 - Webequie First Nation

April 4, 2022	Round #1 virtual community information session
May 31, 2022	Off-reserve community meeting at the Italian Cultural Centre in Thunder Bay regarding Consultation Round 1 topics
June 20, 2022	Chief and Council meeting regarding socio-economic and human health studies
August 2022	Notice of PIC #1 via email and newspaper
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
August 26, 2022	Chief and Council meeting to provide update on IKLRU program
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.1.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Webequie First Nation was held on Monday April 4, 2022, at 12:00pm EST. An invitation to participate was sent on March 29, 2022. The meeting was 87 minutes long and no community members attended. The session was advertised through word of mouth and via the "Webequie Virtual Bulletin Board" on Facebook . As of October 18, 2022, the recording of the session was viewed on YouTube 53 times. Detailed information regarding the social media outreach analytics for this session are presented below.

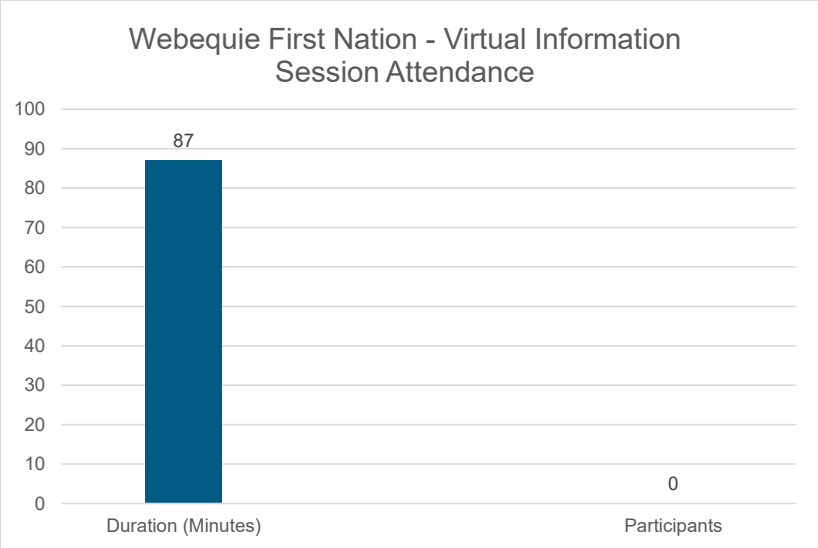


Figure 4-1: Webequie First Nation Virtual Information Session Attendance

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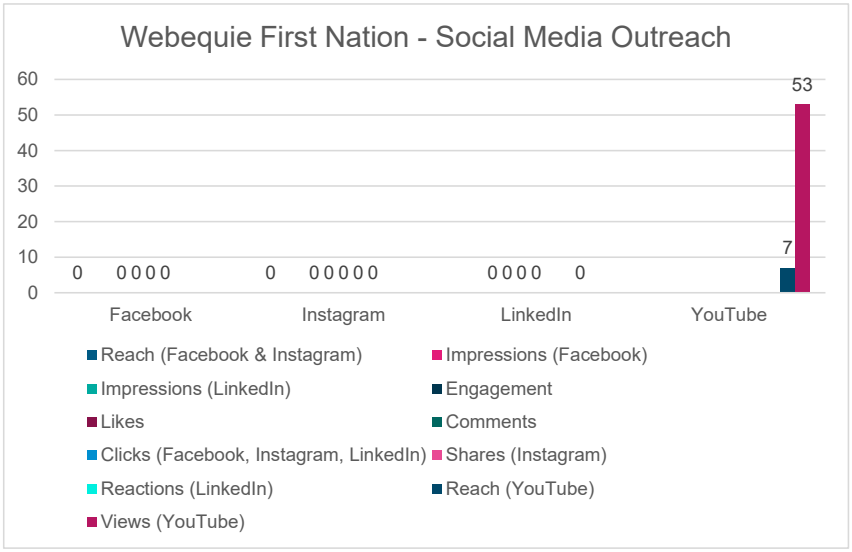


Figure 4-2: Webequie First Nation Social Media Outreach

4.2.1.1.2 Key Informant Interviews and Focus Group Sessions

During Consultation Round 1, key informant interviews were conducted with individuals possessing special knowledge or information to contribute to the WSR socio-economic baseline study. This special knowledge includes community infrastructure capacity and service availability/needs, history with developers, economic development goals and aspirations, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants included Webequie Chief and Council, band administration staff, social services providers, Elders, and other community members, who were asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. They were interviewed either by telephone, videoconference, or during in-person engagement and consultation activities. Interviews were recorded electronically to assist in the preparation of transcripts and findings were organized thematically.

Additionally, focus groups were undertaken with distinct sub-groups in the community, including youth, women, and Elders. Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. Focus groups were comprised of 3-6-participants each and lasted approximately 2-3 hours. Participants were recruited through the WSR Project Team and/or other community gatekeepers. The sessions were carried out either virtually via teleconference or in person, depending on provincial and community COVID-19 restrictions in place and participant preferences and comfort levels. They were recorded using audio/video recording with a notetaker present.

All interviews and focus groups completed during Consultation Round 1 were with Webequie First Nation community members. Copies of transcripts and/or findings are being provided to key informants and/or

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focus group participants for validation and feedback and all information collection adhered to the principles of OCAP ® (ownership, control, access, and possession principles) (First Nations Information Governance Centre 2021).

Error! Reference source not found.Table 4-3 lists all key informant interviews conducted during Consultation Round 1, including the name and role of each key informant, the date of each interview, and key discussion topics. Table 4-4 provides an overview of each focus group completed during Consultation Round 1, including the sub-group, number of participants, date, format, and key discussion topics. Interview and focus group findings and further information will be incorporated into the WSR Socio-Economic Baseline Report and Effects Assessment Report.

Table 4-3: Key Informant Interviews During Consultation Round 1

Name	Role	Interview Date	Key Discussion Topics
Glen Wabasse	Economic Development Officer	October 1, 2021	› Economic development › Local businesses › Procurement
Gordon Wabasse	Lands and Resources Director	March 1, 2022	› Land and resources use objectives › Current land and resource-related projects and/or studies
Cornelius Wabasse	Chief	March 1, 2022	› General social and economic issues and objectives/aspirations › Experiences with other development projects › Major community revenue sources
Leslie Spence	Community Coordinator/Off-Reserve Liaison	March 1, 2022	› General social and economic issues and objectives/aspirations › Opportunities and services that may be needed with the WSR – particularly for youth
Ananias Spence	Esteemed Elder	March 1, 2022	› General social and economic issues and objectives/aspirations › Opportunities and services that may be needed with the WSR
Jeffrey Jacobs	Health Director	March 2, 2022	› General social and economic issues and objectives/aspirations › Access to services for health, well-being, and safety in the community, as well as barriers › Future plans for service upgrades

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Table 4-3 (Cont'd): Key Informant Interviews During Consultation Round 1

Name	Role	Interview Date	Key Discussion Topics
Levi Sofea	Former Health Director	May 13, 2022	› General social and economic issues and objectives/aspirations › Access to services for health, well-being, and safety in the community, as well as barriers › Future plans for service upgrades
Harry Wabasse	Former Councillor	May 13, 2022	› General social and economic issues and objectives/aspirations › Experiences with other development projects › Major community revenue sources
Roy Spence	Former Councillor	May 13, 2022	› General social and economic issues and objectives/aspirations › Experiences with other development projects › Major community revenue sources
Mary Gardiner	School Principal	May 13, 2022	› General social and economic issues and objectives/aspirations › On-reserve and off-reserve school attendance rates › Barriers to achieving higher levels of education › Traditional education offerings
Travis Spence	Employment Coordinator	May 13, 2022	› General social and economic issues and objectives/aspirations › On-reserve employment opportunities, including for youth › Access to training and skills development
Marvin Wabasse	Housing Coordinator	May 13, 2022	› General social and economic issues and objectives/aspirations › On-reserve housing affordability › Housing supply and demand, including overcrowding › Housing quality › Plans for additional housing

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Table 4-3 (Cont'd): Key Informant Interviews During Consultation Round 1

Name	Role	Interview Date	Key Discussion Topics
Jonny Suganaqueb	Housing Coordinator	May 13, 2022	› General social and economic issues and objectives/aspirations › On-reserve housing affordability › Housing supply and demand, including overcrowding › Housing quality › Plans for additional housing
Elsie MacDonald	Former Chief and Councillor for WFN	July 21, 2022	› General social and economic issues and objectives/aspirations › Child and family services › Education and training › Public works and infrastructure › Community well-being, health and safety

Table 4-4: Focus Groups During Consultation Round 1

Sub-Group	# of Participants	Date	Format	Key Discussion Topics
Women	8	May 13, 2022	In Person	› Access to Land, Resources, Infrastructure and Services › Safety › Employment and Training
Youth (Initial)	2	May 13, 2022	In Person	› Enrolment and Education › Employment and Training › Access to Land, Resources, Infrastructure and Services › Safety

All 22 potentially affected communities were invited to participate in the socio-economic primary data collection program. Interviews and focus groups with other communities will be carried out during Consultation Rounds 2 and 3 based on expression of interest and availability to participate.

4.2.1.1 Summary of Feedback Received and Response

Table 4-5 below describes feedback received from Webequie First Nation during Consultation Round 1 for the WSR Project.

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Table 4-5: Feedback Received and Responses Provided During Consultation Round 1 - Webequie First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
26-Apr-2022	Email	x		Webequie First Nation Community Member	A community member from Webequie First Nation watched the Attawapiskat Virtual Information Session on April 25, 2022 and sent a question via email to the Webequie Supply Road (WSR) Project Team. The question was regarding whether the trees located near the road will be removed or not, and if any are removed, whether members of the public will be able to pick them up and use them for fuel.
1-May-2022	Email		x	Don Parkinson and Marian Tibor-McMahon (WSR Project Team)	Don Parkinson of SNC-Lavalin and Marian Tibor-McMahon of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team sent an email to a Webequie First Nation (WFN) community member in response to their question on April 26, 2022 regarding the harvesting of trees near the road. Marian responded that the owner(s) of the project, who have not yet been identified, will have the rights to the harvested timber. Marian indicated that if WFN isn't a project owner, the community could negotiate the rights to the wood so that it could be made available to community members.

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4.2.2 Aroland First Nation

4.2.2.1 Key Consultation Activities Undertaken to Date

Table 4-6 below describes key consultation activities that occurred during Consultation Round 1 with Aroland First Nation.

Table 4-6: Key Consultation Activities Undertaken During Round 1 - Aroland First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mail, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
May 31, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
June 13, 2022	Round #1 virtual community information session - including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.2.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Aroland First Nation was held on Monday June 13, 2022, at 12:00pm EST. An invitation to participate was sent on May 31, 2022. The meeting was 55 minutes long and 6 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 4 times. Detailed information regarding the social media outreach analytics for this session are presented below.

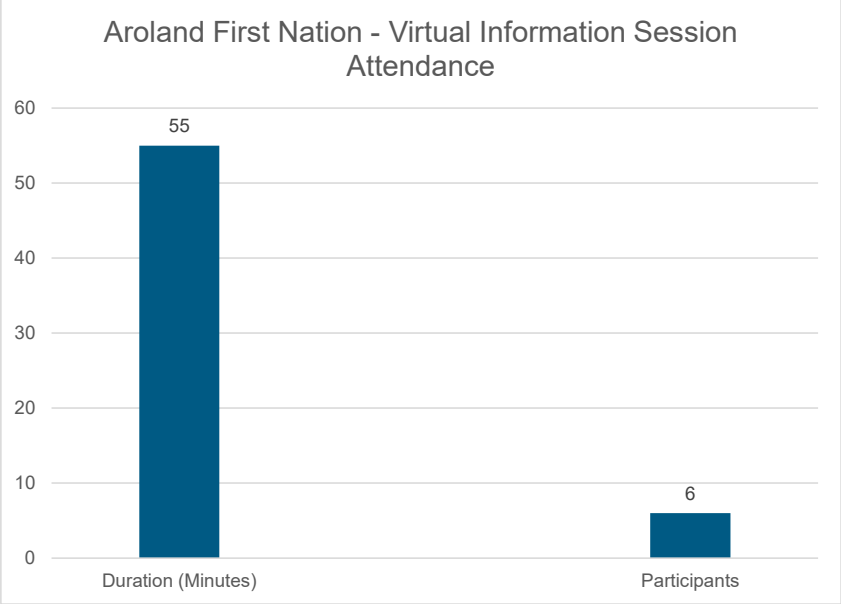


Figure 4-3: Aroland First Nation Virtual Information Session Attendance

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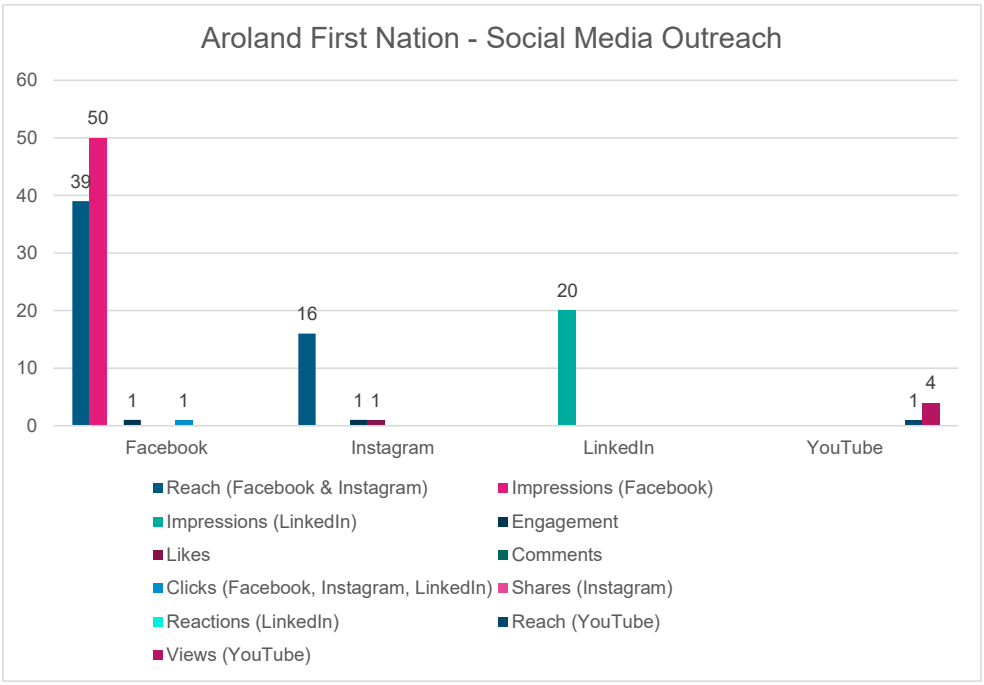


Figure 4-4: Aroland First Nation Social Media Outreach

4.2.2.2 Summary of Feedback Received and Response

No feedback was received from Aroland First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.3 Attawapiskat First Nation

4.2.3.1 Key Consultation Activities Undertaken to Date

Table 4-7 below describes key consultation activities that occurred during Consultation Round 1 with Attawapiskat First Nation.

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Table 4-7: Key Consultation Activities Undertaken During Round 1 - Attawapiskat First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 11, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 25, 2022	Round #1 virtual community information session - including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 5, 2022	Additional follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.3.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Attawapiskat First Nation was held on Monday April 25, 2022, at 12:00pm EST. An invitation to participate was sent on April 11, 2022. The meeting was 81 minutes long and 0 community members attended. The session was advertised through word of mouth. As of October 18, 2022, the recording of the session was viewed on YouTube 48 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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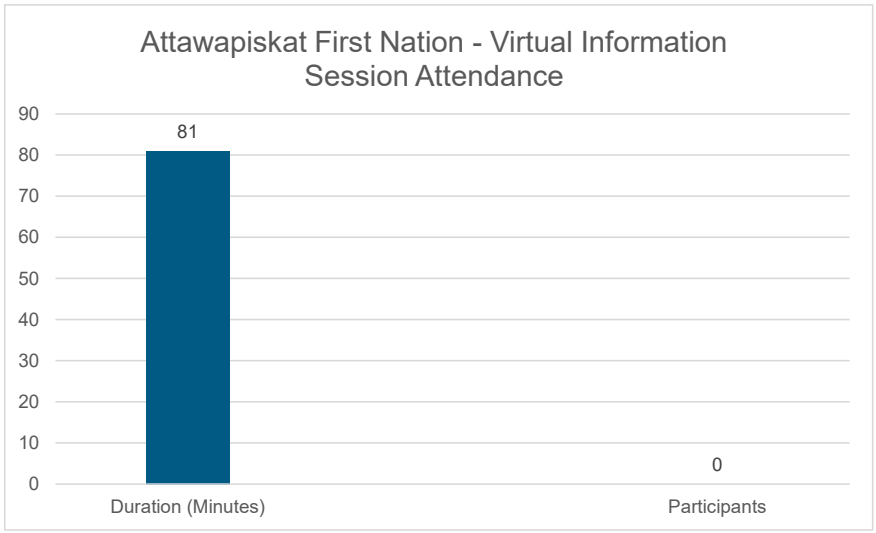


Figure 4-5: Attawapiskat First Nation Virtual Information Session Attendance

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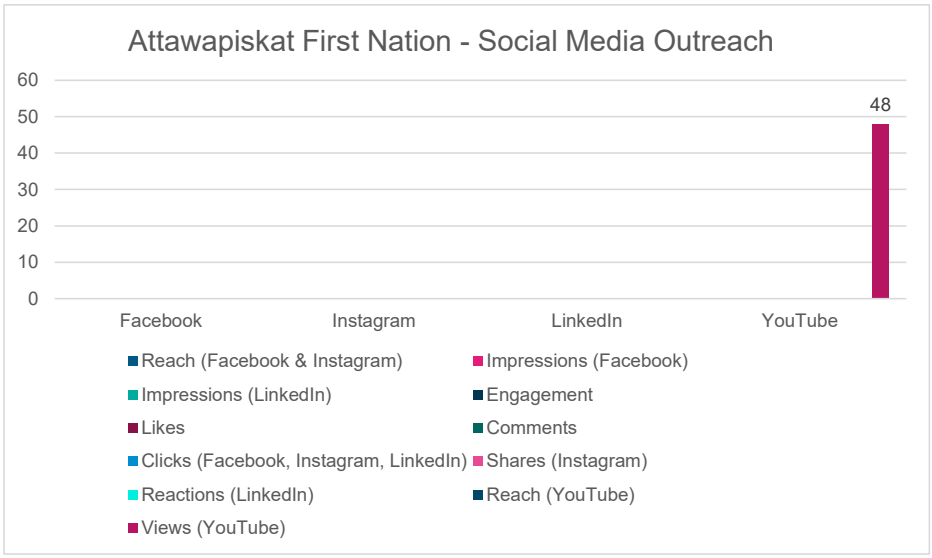


Figure 4-6: Attawapiskat First Nation Social Media Outreach

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4.2.3.2 Summary of Feedback Received and Response

Table 4-8 below describes feedback received from Attawapiskat First Nation during Consultation Round 1 for the WSR Project.

Table 4-8: Feedback Received and Responses Provided During Consultation Round 1 - Attawapiskat First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
27-Apr-2022	Email	x		Kate Kempton, Legal Advisor (Olthuis Kleer Townshend LLP, OKT) to Attawapiskat FN Kate Kempton	Kate Kempton, legal advisor of Attawapiskat First Nation (ATFN) sent an email to Michael Fox and Marian Tibor-McMahon of Indigenous and Community Engagement and Don Parkinson and Craig Wallace of SNC-Lavalin and the Webequie Supply Road (WSR) Project Team in response to the email Marian sent on April 26, 2022, regarding the WSR Socio-Economic Primary Data Collection Program. Kate stated that the WSR Project Team should copy ATFN advisors and staff on all correspondence moving forward. Kate also stated ATFN believes that pursuing any developments in the James Bay Lowlands region before a Regional Assessment (RA) is done may be harmful to ATFN and other First Nations. As such, ATFN is of the opinion that the Project Team should halt all activities related to the Environmental Assessment / Impact Assessment (EA / IA) of the WSR until a RA is complete and there is a good understanding of the potential impacts on First Nations from such developments. Kate indicated that the EA / IA process is not comprehensive enough to fully understand the cumulative effects of the project and that the process has previously been criticized by Indigenous peoples and Western science. Kate requested the Project Team respond to ATFN's request to halt EA / IA activities and if the response is no, to provide a full explanation as to why.
29-Apr-2022	Email	x		Kate Kempton (OKT)	Kate Kempton, legal advisor of Attawapiskat First Nation (ATFN) sent an email to Michael Fox of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on April 29, 2022, regarding upcoming livestream and radio show and engagement options for WSR. Kate inquired if Michael would be answering the question ATFN had previously asked to halt the Environmental Assessment/Impact Assessment processes in order to first complete an Indigenous-led regional assessment.

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Table 4-8 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 - Attawapiskat First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
6-May-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team sent an email to Chief David Nakogee of Attawapiskat First Nation (ATFN) and Kate Kempton, legal advisor of ATFN, in response to the email Kate sent on April 27, 2022 and April 29, 2022 regarding ATFN's request that the WSR Project Team halts all activities related to the Environmental Assessment / Impact Assessment (EA / IA) until a federal Regional Assessment (RA) for the Ring of Fire area is complete. Michael noted that the RA is the responsibility of the Impact Assessment Agency of Canada (the Agency) and indicated that in previous correspondence to ATFN it was noted that the Tailored Impact Statement Guidelines for the WSR Project and the federal Impact Assessment Act require that relevant information generated through the RA for the Ring of Fire Area be used to inform the WSR Project effects assessment as the information becomes available. As a result, Michael notes that the WSR EA / IA timelines are not impacted by the federal RA process and any questions related to the RA process should be directed to the Agency. Michael also stated that the WSR EA / IA and federal RA are distinct assessment processes and directly quoted specific sections in the Agency's draft agreement for the RA that reiterates this point. Michael provided details on where to find more information on the draft agreement. Michael acknowledged ATFN's request for the WSR to pause their EA / IA, stating that while there is a mechanism for proponents to seek an extension to the impact statement phase of the IA, the WSR Project Team is not currently seeking an extension. Michael indicated the WSR Project Team expects ATFN will engage with the EA / IA process so that community views, perspectives, knowledge, and rights and interests are understood and responded to accordingly.
6-May-2022	Email	x		Kate Kempton (OKT)	Kate Kempton, advisor of Attawapiskat First Nation (ATFN) replied to Michael's email stating that ATFN disagrees with Michael's response in that individual EA's do not provide a comprehensive cumulative effects analysis. Kate stated concerns that by not halting activities related to the EA / IA, the WSR Project Team is not addressing this gap.

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Table 4-8 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 - Attawapiskat First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
14-Jun-2022	Email	x		Kate Kempton (OKT)	Kate Kempton, legal advisor of Attawapiskat First Nation (ATFN) sent an email to Michael Fox of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on June 14, 2022, providing the WSR June newsletter. Kate stated her belief that the Virtual Information Sessions being held by the Project Team for each community are unilateral and cannot be considered consultation. Kate stated ATFN's position that the Environmental Assessment (EA) should be put on hold until the First Nations conduct a comprehensive Regional Assessment to fully understand the cumulative effects of development in the Project region. Kate indicated that ATFN would be happy to engage with the WSR Project if the EA is put on hold.
28-Jun-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team sent an email to Kate Kempton, advisor of Attawapiskat First Nation (ATFN) in response to the email Kate sent on June 14, 2022, with concerns regarding the WSR Environmental Assessment (EA). Michael noted the importance of the WSR Environmental Assessment / Impact Assessment (EA/IA) as a critical step to better understand and mitigate any potential impacts of the proposed Project. Michael stated that the WSR Project Team will be proceeding with the robust and rigorous EA/IA and provided the reasoning for this decision. Michael reminded ATFN that the Regional Assessment is a completely separate process from the EA/IA and is outside the scope of the WSR Project. Regarding the Virtual Community Information Sessions, Michael noted that they are one-on-one meetings where community members are able to ask questions, raise concerns, and have a discussion directly with WSR Project Team members. Michael indicated that the Project Team has made repeated attempts to engage and consult with the Attawapiskat council and community and highlighted the various methods that have been used to reach out. Michael stated the importance of engaging Indigenous communities to help ensure the WSR's assessments are informed by their concerns, Indigenous knowledge, and any potential impacts. A list of the various engagement options available to ATFN was provided. It was reiterated that anyone from ATFN can contact Michael to discuss options to sharing information or to hear from ATFN's leadership or membership.

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Table 4-8 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 - Attawapiskat First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
28-Jun-2022	Email	x		Kate Kempton (OKT)	Kate Kempton, legal advisor of Attawapiskat First Nation (ATFN) sent an email to Michael Fox of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on June 28, 2022, regarding the WSR Environmental Assessment/Impact Assessment (EA/IA) and engagement options. Kate stated ATFN's position that the WSR Project Team's reasoning for not putting the EA/IA on hold is illogical, since it is because the Regional Assessment is a separate process that the WSR EA/IA needs to be put on hold. Kate stated their belief that the EA/IA is not robust in considering the cumulative effects across the region. Kate noted that if Webequie First Nation (WFN) were to follow ATFN's request to the halt the assessments, ATFN would welcome WFN with open arms.
6-Jul-2022	Email	x		Chief David Nakogee via Orit Rivietz (OKT)	Orit Rivietz, assistant legal advisor for Attawapiskat First Nation (ATFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and Don Parkinson of SNC-Lavalin (SNC) and the Webequie Supply Road (WSR) Project Team in response to the email Marian Tibor-McMahon of ICE sent to ATFN on July 5, 2022, regarding the WSR Socio-Economic Program. Orit's response included a letter from Chief David Nakogee, stating ATFN's position that the WSR Project Team should pause the Environmental Assessment (EA) to allow an Indigenous-led Regional Assessment be completed first. Chief Nakogee explained this would allow for a cumulative effects assessment to understand the full impact of opening up the Ring of Fire to all-season road access. Chief Nakogee requested that the WSR Project Team send ATFN drafts of the EA chapters as they become available and before they are submitted to regulators to allow ATFN to integrate their Indigenous knowledge, and information about impacts to rights, directly into the EA. ATFN stated that this should not be taken to as an indication that ATFN consents to the processes of an individual EA for the north south corridor.

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Table 4-8 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 - Attawapiskat First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
26-Jul-2022	Email	x		Chief David Nakogee via Orit Rivietz (OKT)	Orit Rivietz, assistant legal advisor for Attawapiskat First Nation (ATFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Brianna Patrick of ICE sent to ATFN on July 12, 2022, regarding Engagement Options available to the community. Orit's response included a letter from Chief David Nakogee, re-stating ATFN's position outlined in their letter on July 6, 2022, that the WSR Project Team should pause the Environmental Assessment (EA) to allow an Indigenous-led Regional Assessment be completed first. Chief Nakogee explained this would allow for a cumulative effects assessment to understand the full impact of opening up the Ring of Fire to all-season road access. Chief Nakogee requested that the WSR Project Team send ATFN drafts of the EA chapters as they become available and before they are submitted to regulators to allow ATFN to integrate their Indigenous knowledge, and information about impacts to rights, directly into the EA. ATFN stated that this should not be taken as an indication that ATFN consents to the processes of individual EA for this segment of the north south corridor.
24-Aug-2022	Email	x		Nancy Carlson Jones (OKT)	Nancy Carlson Jones of OKT Law, on behalf of Attawapiskat First Nation (ATFN) sent an email to Qasim Saddique of Suslop and the Webequie Supply Road (WSR) Project team indicating that she will be the new contact for OKT Law on behalf of ATFN for the WSR, Northern Road Link, and Marten Falls First Nation Access Road. Nancy requested that Kate Kempton and Krista Nerland be removed from the contact list and that all future correspondences regarding the three road segments be forwarded to her instead.

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4.2.4 Constance Lake First Nation

4.2.4.1 Key Consultation Activities Undertaken to Date

Table 4-9 below describes key consultation activities that occurred during Consultation Round 1 with Constance Lake First Nation.

Table 4-9: Key Consultation Activities Undertaken During Round 1 - Constance Lake First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 26, 2021	Follow up on Socio-Economic Program invitation letter via email
June 7, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
June 20, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax, including thanking CLFN for expressing interest in participating
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.4.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Constance Lake First Nation was held on Monday June 20, 2022, at 12:00pm EST. An invitation to participate was sent on June 7, 2022. The meeting was 80 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 1 time. Detailed information regarding the social media outreach analytics for this session are presented below.

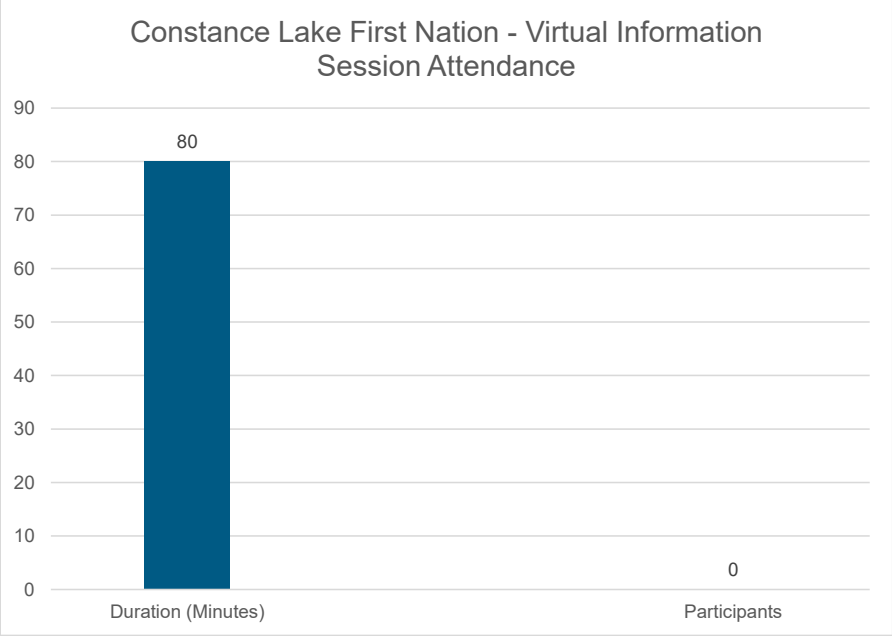


Figure 4-7: Constance Lake First Nation Virtual Information Session Attendance

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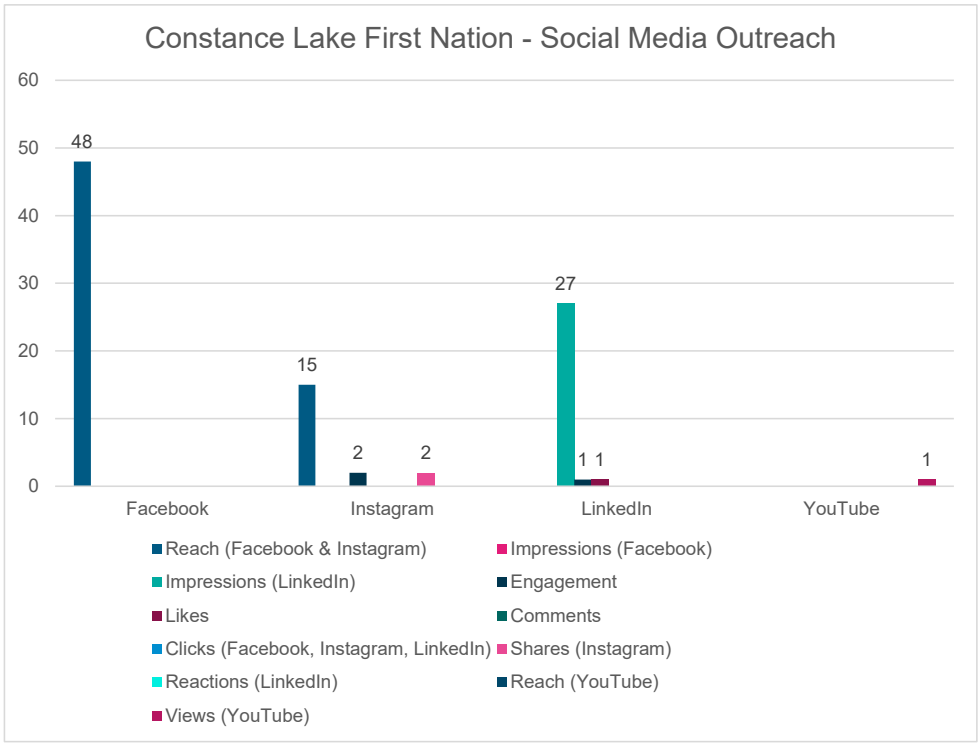


Figure 4-8: Constance Lake First Nation Social Media Outreach

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4.2.4.2 Summary of Feedback Received and Response

Table 4-10 below describes feedback received from Constance Lake First Nation during Consultation Round 1 for the WSR Project.

Table 4-10: Feedback Received and Responses Provided During Consultation Round 1 – Constance Lake First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
27-Jan-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Ramona Sutherland of Constance Lake First Nation (CLFN) sent an email to Brianna Patrick of Indigenous and Community Engagement (ICE) in response to the email Brianna sent on January 20, 2022 following up on the Indigenous Knowledge, Land and Resource Use (IKLRU) program. Chief Sutherland stated that she had included Wayne Neegan, who is CLFN's Councillor with this portfolio. Chief Sutherland stated that Wayne would schedule a meeting.
25-Feb-2022	Email	x		Kim Jorgenson (Matawa First Nations management)	Kim Jorgenson, Environmental Services Coordinator for Matawa First Nations Management, representing Constance Lake First Nation (CLFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and Craig Wallace of SNC-Lavalin (SNC) and the Webequie Supply Road (WSR) Project Team, noting that CLFN's Leadership has not yet had a chance to discuss their potential participation in the WSR Indigenous Knowledge, Land and Resource Use (IKLRU) Program. Kimberly indicated that the ongoing state of emergency in CLFN is hindering their ability to engage with the Program, but would be in touch when they are able.

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Table 4-10 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Constance Lake First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
4-Mar-2022	Email	x		Wayne Neegan (CLFN)	Wayne Neegan, Councillor of Constance Lake First Nation (CLFN), emailed Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to an email Michael sent on March 4, 2022 regarding the live stream session and radio show being hosted on March 9, 2022. Wayne indicated he would be in attendance.
12-Jul-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Ramona Sutherland of Constance Lake First Nation (CLFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on July 12, 2022 regarding engagement options. Chief Sutherland inquired whether First Nations are involved in the Environmental Assessment.
14-Jul-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Ramona Sutherland of Constance Lake First Nation (CLFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on July 14, 2022 sharing the WSR July Newsletter. Chief Sutherland requested a copy of the WSR Terms of Reference and re-stated GFN's question regarding whether First Nations are taking the lead in the Environmental Assessment (EA). Chief Sutherland noted that First Nations are stewards of the land and therefore should be leading the EA.

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Table 4-10 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Constance Lake First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
14-Jul-2022	Email		x	Michael Fox (WSR Project Team)	Michael responded to Chief Sutherland, noting that Webequie First Nation (WFN) is the proponent for the WSR Project, Marten Falls First Nation (MFFN) is the proponent for the Community Access Road project, and both WFN and MFFN are co-proponents for the recent Northern Road Link Project. Michael indicated he would welcome the opportunity to have a conversation with Chief Sutherland to provide additional information on the Projects and provided his phone number to be contacted at. Michael also provided links to the Project's website.
15-Jul-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Ramona Sutherland of Constance Lake First Nation (CLFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on July 14, 2022 answering Chief Sutherland's question regarding the Environmental Assessment. Chief Sutherland stated that being a proponent is not being an environmental assessor and asked again if any First Nations are involved with the Environmental Assessment. Chief Sutherland stated it would be irresponsible for Canada and Ontario to proceed without First Nation environmental assessors.
26-Jul-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Sutherland responded to Michael thanking him for the information and noted that the First Nations are not party at same level as federal and provincial governments.

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Table 4-10 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Constance Lake First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
10-Aug-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Constance Lake First Nation's (CLFN) Chief Ramona Sutherland in response to the Chief's email on July 15, 2022 inquiring whether any First Nations are involved with the Environmental Assessment/Impact Assessment (EA/IA). Michael stated that the Webequie Working Group is facilitating Indigenous Knowledge information from Webequie First Nation and other First Nations in a collaborative manner with the EA/IA Consultant Team to assess potential effects to each valued component, including measures to mitigate and/or avoid adverse effects, as well as follow-up monitoring programs to verify the accuracy of the effects assessment. Michael noted that for other First Nations that are willing to contribute Indigenous Knowledge, a validation process is proposed to provide communities with an opportunity to review the proponent's interpretation of the information provided, to add or revise draft results, and to provide informed consent for the use of the information in the EA/IA documentation. Michael invited CLFN to let the Project Team know if they need more information or would like to meet to discuss the WSR Project in further detail.
18-Aug-2022	Email	x		Chief Ramona Sutherland (CLFN)	Chief Ramona Sutherland of Constance Lake First Nation (CLFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on August 17, 2022 regarding the August newsletter. Chief Sutherland re-stated CLFN's position that the First Nations should be leading the environmental assessment and inquired if this was the case.

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Table 4-10 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Constance Lake First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
19-Aug-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Constance Lake First Nation's (CLFN) Chief Ramona Sutherland in response to the Chief's email on August 18, 2022 inquiring whether any First Nations are involved with the Environmental Assessment/Impact Assessment (EA/IA). Michael stated that Webequie First Nation (WFN) is the sole proponent for the WSR EA/IA and that WFN through its Working Group and Consultant Team will be assessing potential effects of each valued component. Michael referred to his previous response from August 10, 2022, stating that the Webequie Working Group is facilitating Indigenous Knowledge information from WFN and other First Nations in a collaborative manner with the EA/IA Consultant Team to assess potential effects to each valued component, including measures to mitigate and/or avoid adverse effects, as well as follow-up monitoring programs to verify the accuracy of the effects assessment. Michael noted that for other First Nations that are willing to contribute Indigenous Knowledge, a validation process is proposed to provide communities with an opportunity to review the proponent's interpretation of the information provided, to add or revise draft results, and to provide informed consent for the use of the information in the EA/IA documentation. Michael requested to meet with CLFN to discuss the WSR Project in further detail.

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4.2.5 Eabametoong First Nation

4.2.5.1 Key Consultation Activities Undertaken to Date

Table 4-11 below describes key consultation activities that occurred during Consultation Round 1 with Eabametoong First Nation.

Table 4-11: Key Consultation Activities Undertaken During Round 1 - Eabametoong First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
May 16, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
May 30, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
June 28, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.5.1.1 *Virtual Community Information Session*

A Live Virtual Community Information Session with Eabametoong First Nation was held on Monday May 30, 2022, at 12:00pm EST. An invitation to participate was sent on May 16, 2022. The meeting was 71 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 4 times. Detailed information regarding the social media outreach analytics for this session are presented below.

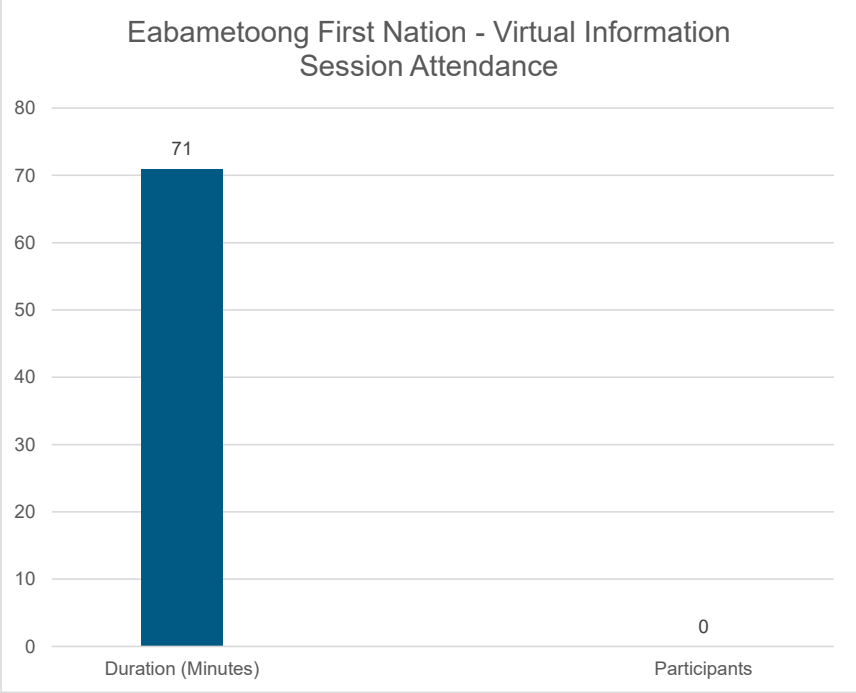


Figure 4-9: Eabametoong First Nation Virtual Information Session Attendance

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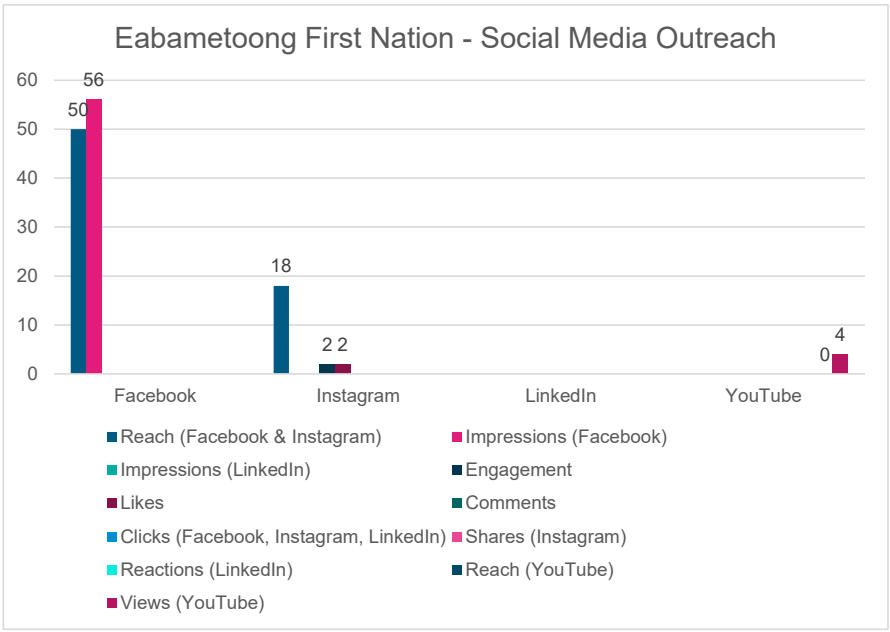


Figure 4-10: Eabametoong First Nation Social Media Outreach

4.2.5.2 Summary of Feedback Received and Response

No feedback was received from Eabametoong First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.6 Fort Albany First Nation

4.2.6.1 Key Consultation Activities Undertaken to Date

Table 4-12 below describes key consultation activities that occurred during Consultation Round 1 with Fort Albany First Nation.

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Table 4-12: Key Consultation Activities Undertaken During Round 1 - Fort Albany First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 18, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
April 28, 2022	Follow up on virtual community information session letter and poster via phone call from Project Team
May 2, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.6.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Fort Albany First Nation was held on Monday May 2, 2022, at 12:00pm EST. An invitation to participate was sent on April 19, 2022. The meeting was 75 minutes long and 1 community member attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 43 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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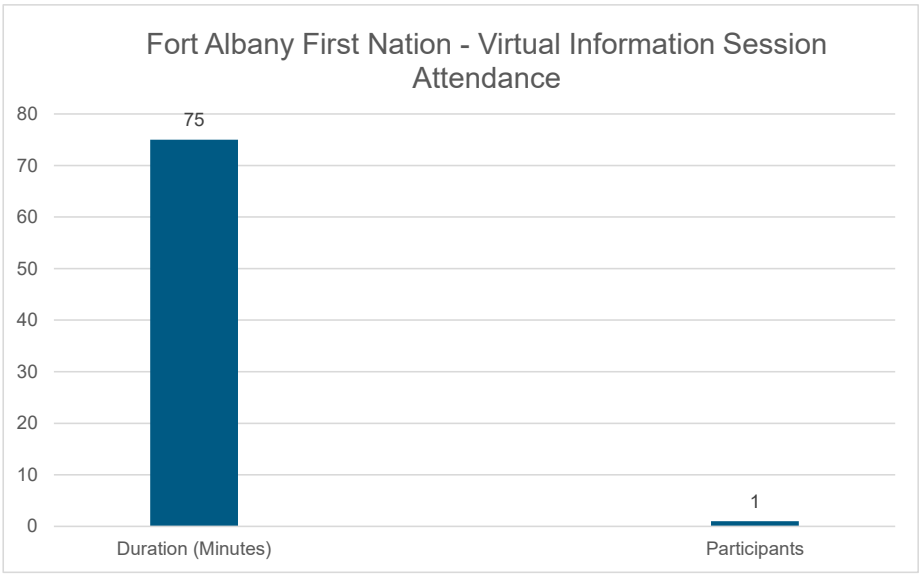


Figure 4-11: Fort Alabny First Nation Virtual Information Session Attendance

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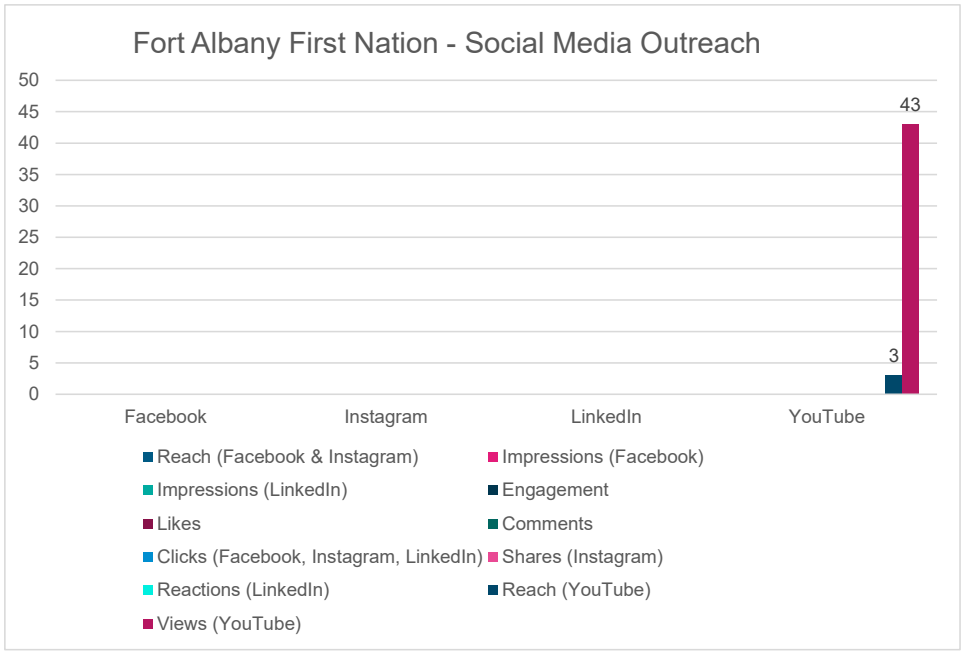


Figure 4-12: Fort Albany First Nation Social Media Outreach

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4.2.6.2 Summary of Feedback Received and Response

Table 4-13 below describes feedback received from Fort Albany First Nation during Consultation Round 1 for the WSR Project.

Table 4-13: Feedback Received and Responses Provided During Consultation Round 1 – Fort Albany First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
26-Jan-2022	Email	x		Sarah Beamish (FAFN)	Sarah Beamish, Lawyer for Fort Albany First Nation (FAFN), sent an email to Brianna Patrick of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team stating that Chief Robert Nakogee forwarded the email Brianna sent on January 20, 2022 regarding the Indigenous Knowledge, Land and Resource Use (IKLRU) Program. Sarah indicated that FAFN may be interested in participating, but would like to have a meeting to gather more information. Sarah requested a date and time for the meeting.
26-Jan-2022	Email	x		Sarah Beamish (FAFN)	Sarah Beamish, Lawyer for Fort Albany First Nation (FAFN), sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team stating that Chief Robert Nakogee forwarded the email Marian sent on January 25, 2022 regarding the Socio-Economic Primary Data Collection Program to her. Sarah indicated that FAFN may be interested in participating, but would like to have a meeting to gather more information. Sarah requested a date and time for the meeting.
26-Jan-2022	Phone		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team spoke with Sarah Beamish, Lawyer for Fort Albany First Nation (FAFN) on the phone to arrange a time to discuss the WSR Indigenous Knowledge, Land and Resource Use (IKLRU) Program and Socio-Economic Primary Data Collection Program.
28-Jan-2022	Meeting	N/A		Sarah Beamish and Maxwell Hill (FAFN)	Michael Fox, Brianna Patrick, and Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team had a virtual meeting via Zoom with Sarah Beamish, lawyer for Fort Albany First Nation (FAFN), and Maxwell Hill, Sarah's Associate, regarding the Indigenous Knowledge, Land and Resource Use (IKLRU) Program and Socio-

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Table 4-13 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Fort Albany First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
					Economic Primary Data Collection Program and the corresponding letters that were sent to FAFN with information about the two programs. FAFN through Sarah wanted additional clarification about the two programs and the information in the letters. Sarah's questions and concerns regarding the socio-economic primary data collection program were related to: (1) secondary sources used, (2) funding concerns, (3) how data collection is done, (4) socio-economic survey questions, and (5) translation of surveys. Sarah's questions and concerns regarding the IKLRU program were related to: (1) working with Firelight Group to get information on the Project Team, (2) funding concerns, (3) what kind of participation is required from First Nations, (4) providing a schedule of all planned WSR programs, (5) difference between consultation program and IKLRU program, (6) study areas for the IKLRU program, (7) IKLRU program phases, (8) draft report of the IKLRU program. (9) cohesiveness of WSR programs and meetings, and (10) sending feedback on a draft sharing agreement. The WSR Project Team provided answers to all Sarah's questions and indicated they would consider the concerns raised by Sarah and FAFN.
1-Feb-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Sarah Beamish, Lawyer for Fort Albany First Nation (FAFN) with attached documents and information Sarah requested at the January 28, 2022 meeting regarding the WSR Socio-Economic Primary Data Collection Program. The three documents included were: (1) WSR Socio-Economic Program – Focus Group Sample Questions and Key Contacts, (2) WSR Socio-Economic Key Informant Interviews – Sample Questions and Participants, and (3) WSR Socio-Economic Community Survey Questions – For Neighbouring Indigenous Communities. Marian also provided a list of secondary sources collected thus far on FAFN for the Socio-Economic Baseline.
24-Jun-2022	Email	x		Chief Robert Nakogee (FAFN)	Chief Robert Nakogee of Fort Albany First Nation (FAFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team asking Michael to review the attached document and let him know if he had any concerns or changes to make. There was no attachment with the email.

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Table 4-13 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Fort Albany First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
28-Jun-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Chief Robert Nakogee of Fort Albany First Nation (FAFN) in response to an email Chief Nakogee sent on June 24, 2022 asking Michael to review the attached document. Michael noted that there was no attached document associated with Chief Nakogee's email and asked him to resend it. Michael also provided his phone number if Chief Nakogee wanted to discuss it over a call instead.
18-Aug-2022	Email	x		Justine Page (FAFN)	Justin Page, advisor for Fort Albany First Nation (FAFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team noting he would be supporting FAFN's engagement in the Environmental Assessment/Impact Assessment (EA/IA) process for the WSR Project. Justin inquired whether the Project Team has a target date for submitting the EA/IA and whether the Project Team plans to provide draft chapters to FAFN for review and comment prior to formal submission.
19-Aug-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Justin Page, advisor for Fort Albany First Nation (FAFN), in response to the email Justin sent on August 18, 2022 with questions regarding the submission of the Environmental Assessment/Impact Assessment (EA/IA). Michael acknowledged receipt of Justin's email and noted he would be responding to his questions after discussions with the Project Team.

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4.2.7 Ginoogaming First Nation

4.2.7.1 Key Consultation Activities Undertaken to Date

Table 4-14 below describes key consultation activities that occurred during Consultation Round 1 with Ginoogaming First Nation.

Table 4-14: Key Consultation Activities Undertaken During Round 1 - Ginoogaming First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
June 13, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
June 27, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.7.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Ginoogaming First Nation was held on Monday June 27, 2022, at 12:00pm EST. An invitation to participate was sent on June 13, 2022. The meeting was 106

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minutes long and 3 community members and representatives attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 8 times. Detailed information regarding the social media outreach analytics for this session are presented below.

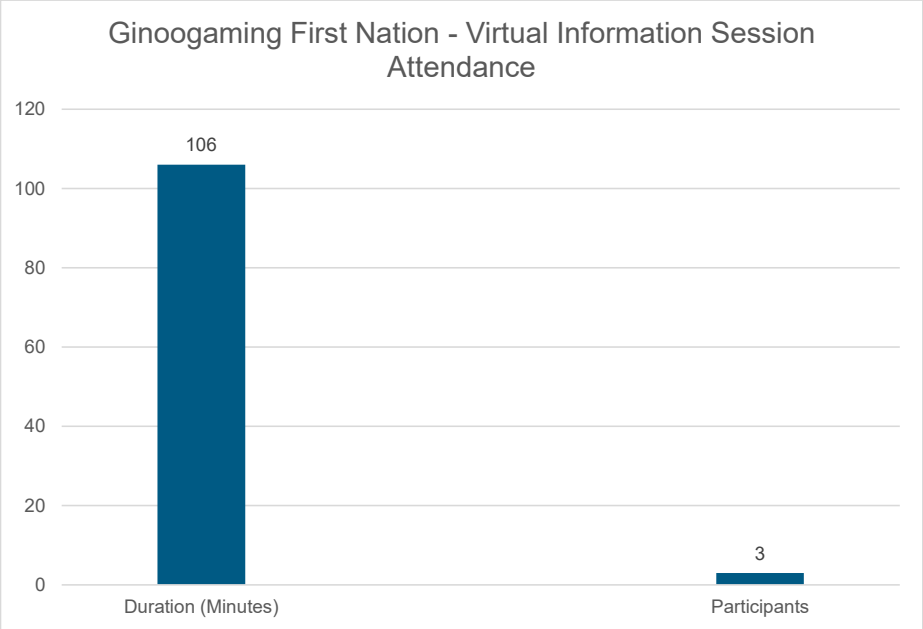


Figure 4-13: Ginoogaming First Nation Virtual Information Session Attendance

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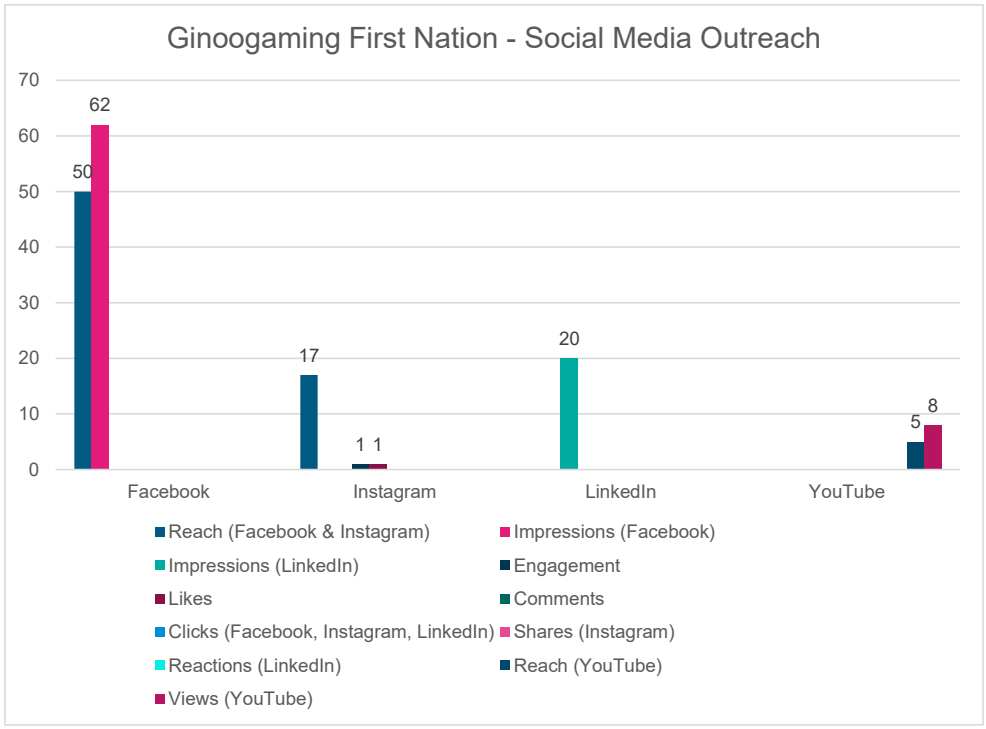


Figure 4-14: Ginoogaming First Nation Social Media Outreach

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WSR WEBEQUIE SUPPLY ROAD

SNC·LAVALIN

4.2.7.2 Summary of Feedback Received and Response

Table 4-15 below describes feedback received from Ginoogaming First Nation during Consultation Round 1 for the WSR Project.

Table 4-15: Feedback Received and Responses Provided During Consultation Round 1 – Ginoogaming First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
25-Feb-2022	Email	x		Kim Jorgenson (GFN)	Kim Jorgenson, Environmental Services Coordinator for Matawa First Nations Management representing Ginoogaming First Nation (GFN) sent an email to Brianna Patrick of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team, noting that GFN's Leadership has not yet had a chance to discuss their potential participation in the WSR Indigenous Knowledge, Land and Resource Use (IKLRU) Program. Kim indicated that the absence of provincial/proponent funding is hindering their ability to engage with the program, but would be in touch when they are able.
27-Apr-2022	Email	x		Kim Jorgenson (GFN)	Kim Jorgenson, advisor of Ginoogaming First Nation (GFN), sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road Project Team in response to the email Marian sent on April 26, 2022 regarding the WSR Socio-Economic Primary Data Collection Program. Kim indicated that GFN is interested in participating in the program and the WSR Environmental Assessment/Impact Assessment but have not been provided any participation funding by the Province of Ontario or the proponent. Kim explained that since GFN is underfunded and experiencing consultation fatigue, they currently do not have capacity to participate without funding. Kim requested the Project Team inform GFN on what supports are available.
20-Jun-2022	Email	x		Kim Jorgenson (GFN)	Kim Jorgenson, advisor of Ginoogaming First Nation (GFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road Project Team in response to the email Michael sent to Chief Sheri Taylor on June 13, 2022 inviting GFN to attend a virtual information session on June 27, 2022. Kim indicated that Chief Taylor requested that GFN's technical Lands and Resource Team be in attendance of the virtual information session. Kim asked Michael to send a Zoom invitation for the session to all individuals included in her email.

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Table 4-15 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Ginoogaming First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
27-Jun-2022	Email	x		Kim Jorgenson (GFN)	Kim Jorgenson, advisor of Ginoogaming First Nation (GFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road Project Team as a follow up to the email Kim sent on June 20, 2022 requesting Michael to send a Zoom invitation for GFN's virtual information session to all individuals included in her email. Kim reminded Michael to send the invitation to those individuals and noted that GFN has not been provided any funds to participate in consultation surrounding this Environmental Assessment, so any individuals in attendance would be receiving information only.
27-Jun-2022	Email		x	Don Parkinson (WSR Project Team)	Don Parkinson of SNC-Lavalin and the Webequie Supply Road (WSR) Project Team sent an email to Kim Jorgenson, advisor of Ginoogaming First Nation (GFN) apologizing for the delayed response to Kim's request for the virtual information session Zoom invitation. Don provided the link to the session in his email.
27-Jun-2022	Virtual Community Information Session (Q&A period)	x		Kim Jorgenson (GFN)	Kim Jorgenson noted that GFN has not been able to secure capacity funding from the Province, though a minor amount of federal funding has been secured. Kim noted that GFN's rights have the potential to be impacted by the WSR Project and believes that the cumulative effects from other project development in the Ring of Fire region should be considered.
27-Jun-2022	Virtual Community Information Session (Q&A period)		x	Michael Fox (WSR Project Team)	Michael responded to Kim Jorgenson's remarks during the virtual community information session, noting that other projects in the Ring of Fire are being conducted separately and that this consultation session is specifically focused on the WSR Project but will still be considered as part of the cumulative effects assessment for the WSR.
27-Jun-2022	Virtual Community Information Session (Q&A period)	x		Calvin Taylor (GFN)	Calvin Taylor, Councillor of GFN, explained that GFN has hosted Webequie community members before, and wishes to share their experiences with Webequie in terms of how a single road can impact the community. Calvin explained that they have seen various changes in their community since Highway 11 ("the Road") entered the community in 1929. This includes the various layers of provincial/ federal legislation that the community has had to navigate and the impacts on the community's overall sense of identity. The community recognizes the positive impact the Road has had in terms of cost of living, economic opportunities, etc., but believes it is also important to consider what might be lost.

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Table 4-15 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Ginoogaming First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
27-Jun-2022	Virtual Community Information Session (Q&A period)		x	Michael Fox (WSR Project Team)	Michael acknowledged and thanked Calvin Taylor for his remarks during the virtual community information session and noted that Webequie would be more than happy to meet with GFN Nation-to-Nation to share stories and discuss further.
27-Jun-2022	Email	x		Kim Jorgenson (GFN)	Kim Jorgenson, advisor of Ginoogaming First Nation (GFN), sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and Don Parkinson of SNC-Lavalin (SNC) and the Webequie Supply Road (WSR) Project Team with the meeting minutes from November 25, 2022 between WSR and GFN. Kim requested Don and Michael confirm the edited minutes have been included in the Record of Consultation for WSR.
30-Jun-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Kim Jorgenson, advisor of Ginoogaming First Nation (GFN) to confirm that the edited meeting minutes provided by GFN have been included in the Record of Consultation.

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4.2.8 Kasabonika Lake First Nation

4.2.8.1 Key Consultation Activities Undertaken to Date

Table 4-16 below describes key consultation activities that occurred during Consultation Round 1 with Kasabonika Lake First Nation.

Table 4-16: Key Consultation Activities Undertaken During Round 1 - Kasabonika Lake First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
May 9, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
May 24, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
June 28, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.8.1.1 *Virtual Community Information Session*

A Live Virtual Community Information Session with Kasabonika Lake First Nation was held on Tuesday May 24, 2022, at 12:00pm EST. An invitation to participate was sent on May 9, 2022. The meeting was 64 minutes long and 0 community members attended. The session was advertised through word of mouth. As of October 18, 2022, the recording of the session was viewed on YouTube 18 times. Detailed information regarding the social media outreach analytics for this session are presented below.

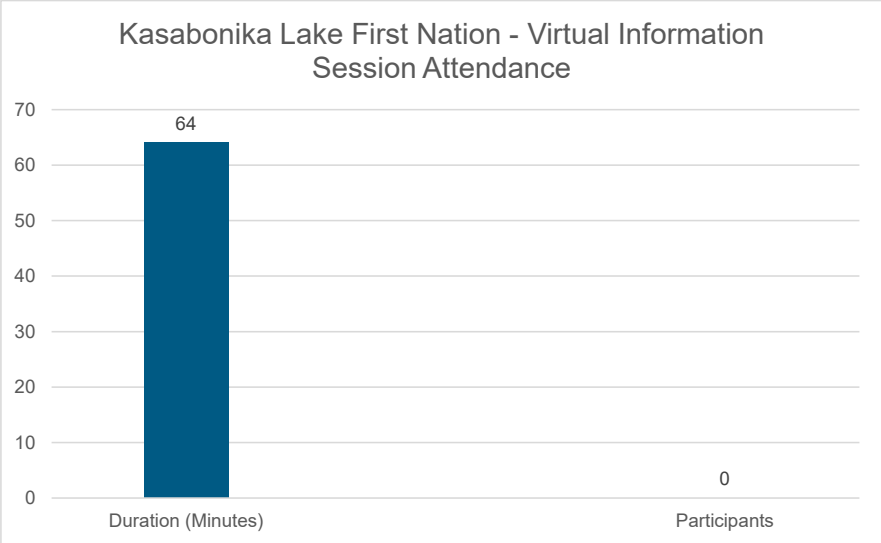


Figure 4-15: Kasabonika Lake First Nation Virtual Information Session Attendance

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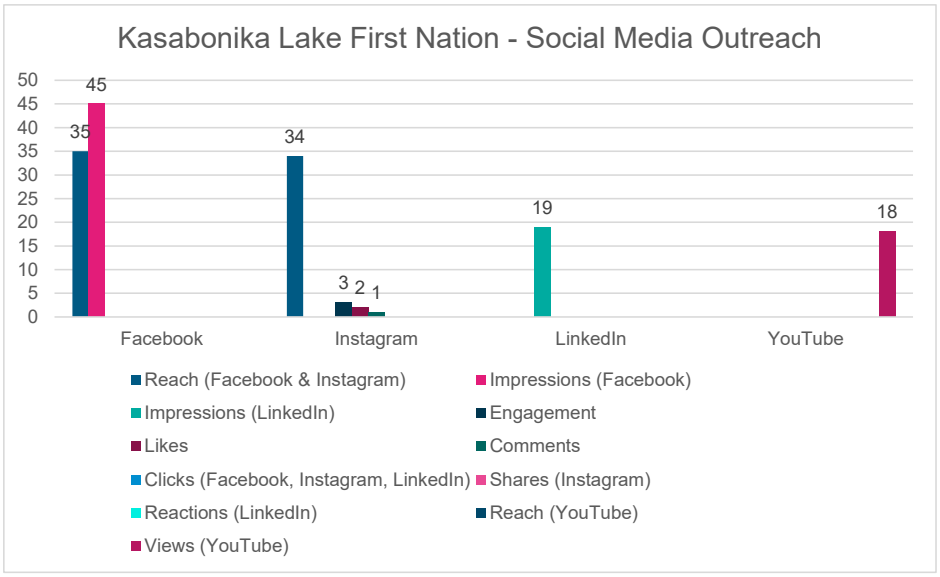


Figure 4-16: Kasabonika Lake First Nation Social Media Outreach

4.2.8.2 Summary of Feedback Received and Response

No feedback was received from Kasabonika Lake First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.9 Kashechewan First Nation

4.2.9.1 Key Consultation Activities Undertaken to Date

Table 4-17 below describes key consultation activities that occurred during Consultation Round 1 with Kashechewan First Nation.

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Table 4-17: Key Consultation Activities Undertaken During Round 1 - Kashechewan First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 4, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
April 19, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 14 circulated via email, mail, and fax

4.2.9.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Kashechewan First Nation was held on Monday April 19, 2022, at 12:00pm EST. An invitation to participate was sent on April 4, 2022. The meeting was 89 minutes long and 0 community members attended. The session was advertised through word of mouth. As of October 18, 2022, the recording of the session was viewed on YouTube 38 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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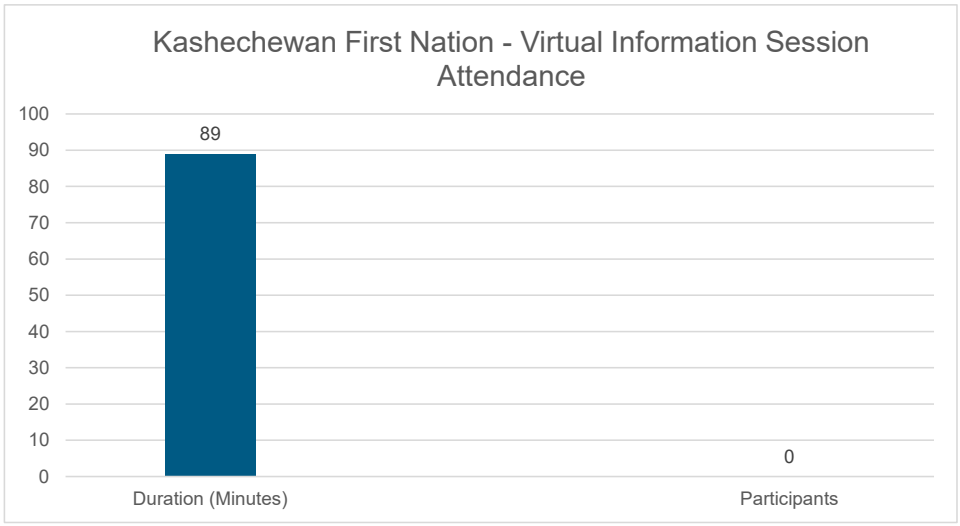


Figure 4-17: Kashechewan First Nation Virtual Information Session Attendance

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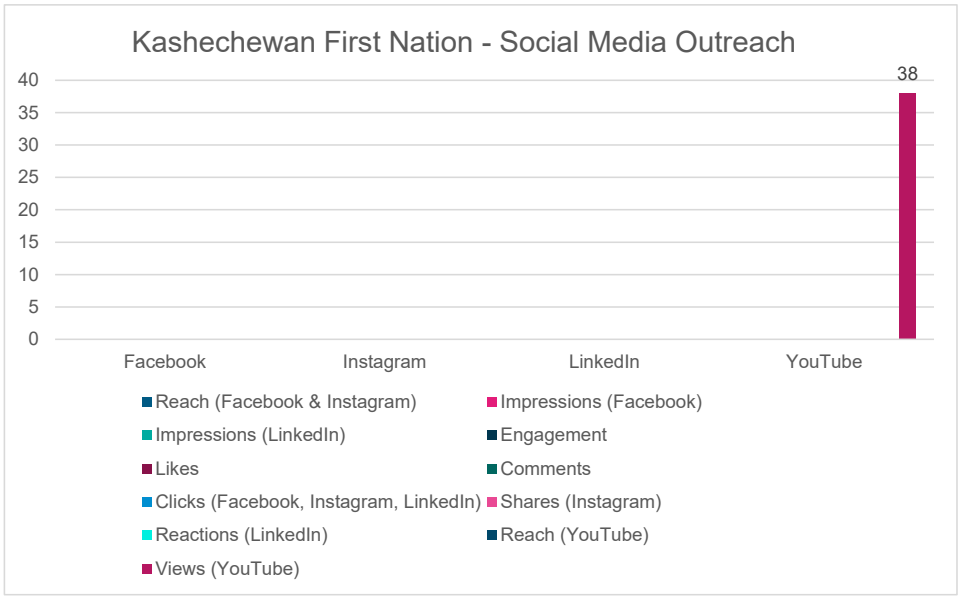


Figure 4-18: Kashechewan First Nation Social Media Outreach

4.2.9.2 Summary of Feedback Received and Response

No feedback was received from Kashechewan First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.10 Kingfisher Lake First Nation

4.2.10.1 Key Consultation Activities Undertaken to Date

Table 4-18 below describes key consultation activities that occurred during Consultation Round 1 with Kingfisher Lake First Nation.

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Table 4-18: Key Consultation Activities Undertaken During Round 1 - Kingfisher Lake First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
June 27, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 11, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.10.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Kingfisher Lake First Nation was held on Monday July 11, 2022, at 12:00pm EST. An invitation to participate was sent on June 27, 2022. The meeting was 50 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 13 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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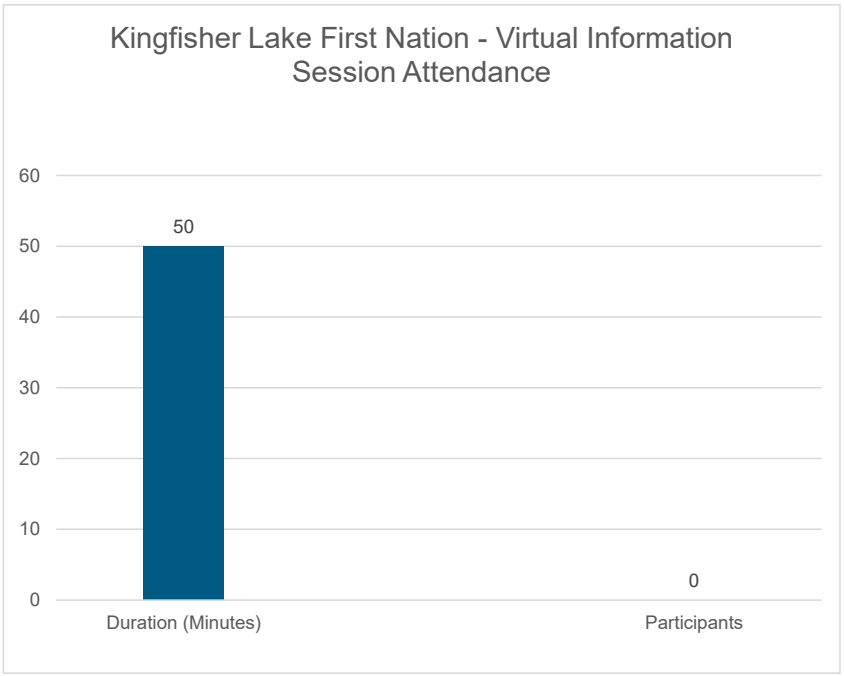


Figure 4-19: Kingfisher Lake First Nation Virtual Information Session Attendance

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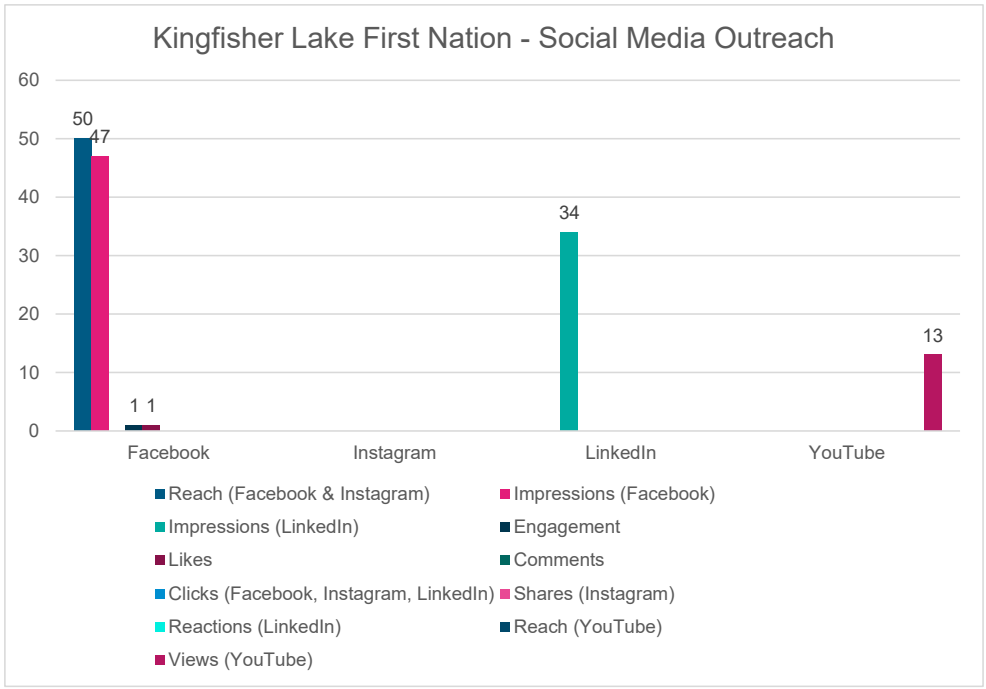


Figure 4-20: Kingfisher Lake First Nation Social Media Outreach

4.2.10.2 Summary of Feedback Received and Response

No feedback was received from Kingfisher Lake First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.11 Kitchenuhmaykoosib Inninuwug (KI) First Nation

4.2.11.1 Key Consultation Activities Undertaken to Date

Table 4-19 below describes key consultation activities that occurred during Consultation Round 1 with KI First Nation.

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Table 4-19: Key Consultation Activities Undertaken During Round 1 - KI First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
June 22, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 4, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.11.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Kitchenuhmaykoosib Inninuwug First Nation was held on Monday July 4, 2022, at 12:00pm EST. An invitation to participate was sent on June 23, 2022. The meeting was 42 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 5 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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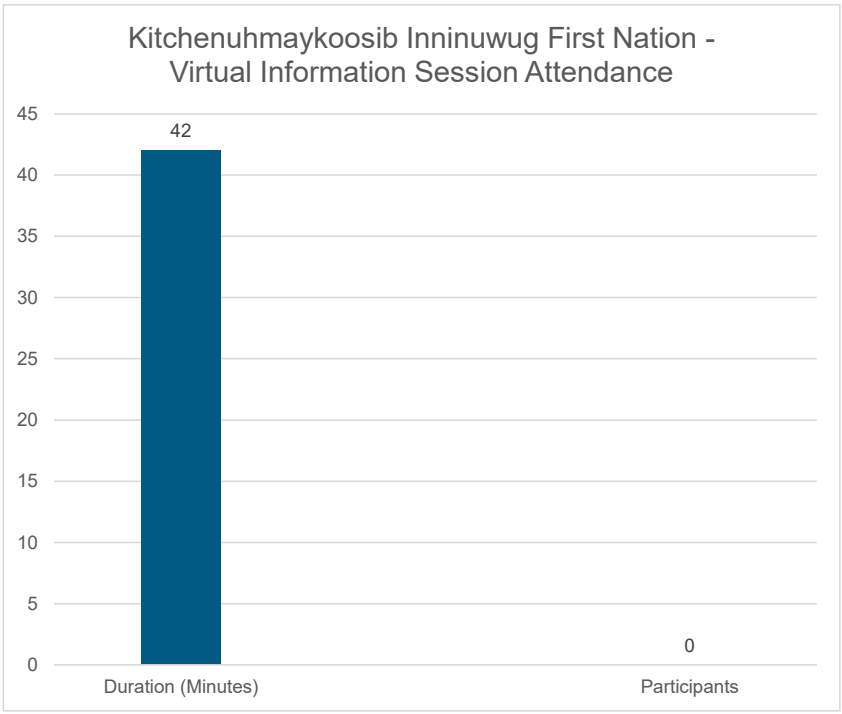


Figure 4-21: KI First Nation Virtual Information Session Attendance

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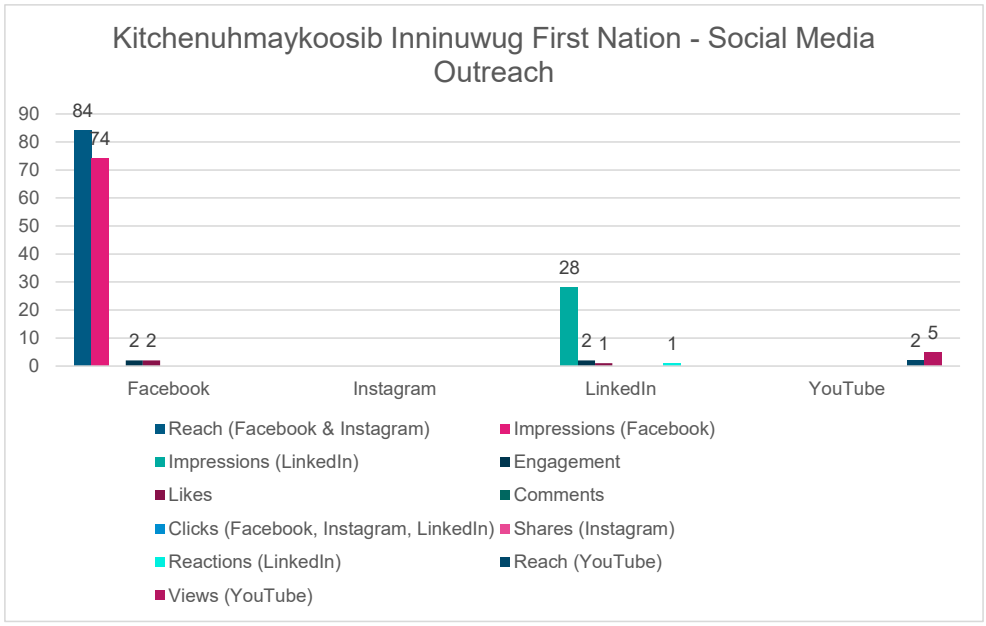


Figure 4-22: KI First Nation Social Media Outreach

4.2.11.2 Summary of Feedback Received and Response

No feedback was received from KI First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.12 Long Lake #58 First Nation

4.2.12.1 Key Consultation Activities Undertaken to Date

Table 4-20 below describes key consultation activities that occurred during Consultation Round 1 with Long Lake #58 First Nation.

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Table 4-20: Key Consultation Activities Undertaken During Round 1 - Long Lake #58 First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 4, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 18, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.12.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Long Lake #58 First Nation was held on Monday July 18, 2022, at 12:00pm EST. An invitation to participate was sent on July 4, 2022. The meeting was 43 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 20 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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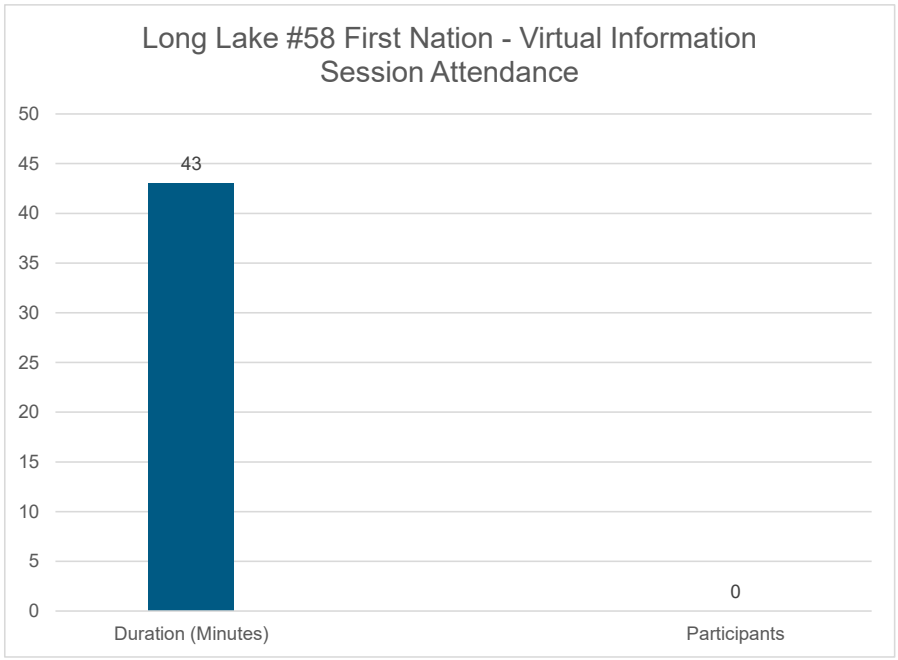


Figure 4-23: Long Lake #58 First Nation Virtual Information Session Attendance

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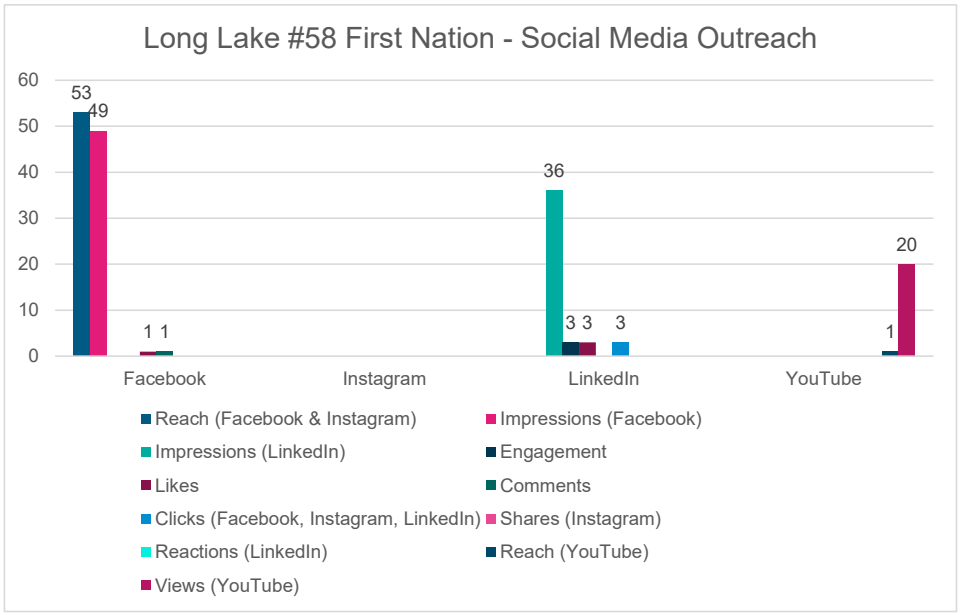


Figure 4-24: Long Lake #58 First Nation Social Media Outreach

4.2.12.2 Summary of Feedback Received and Response

No feedback was received from Long Lake #58 First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.13 Marten Falls First Nation

4.2.13.1 Key Consultation Activities Undertaken to Date

Table 4-21 below describes key consultation activities that occurred during Consultation Round 1 with Marten Falls First Nation.

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Table 4-21: Key Consultation Activities Undertaken During Round 1 - Marten Falls First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 25, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
May 9, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.13.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Marten Falls First Nation was held on Monday May 9, 2022, at 12:00pm EST. An invitation to participate was sent on April 25, 2022. The meeting was 92 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 2 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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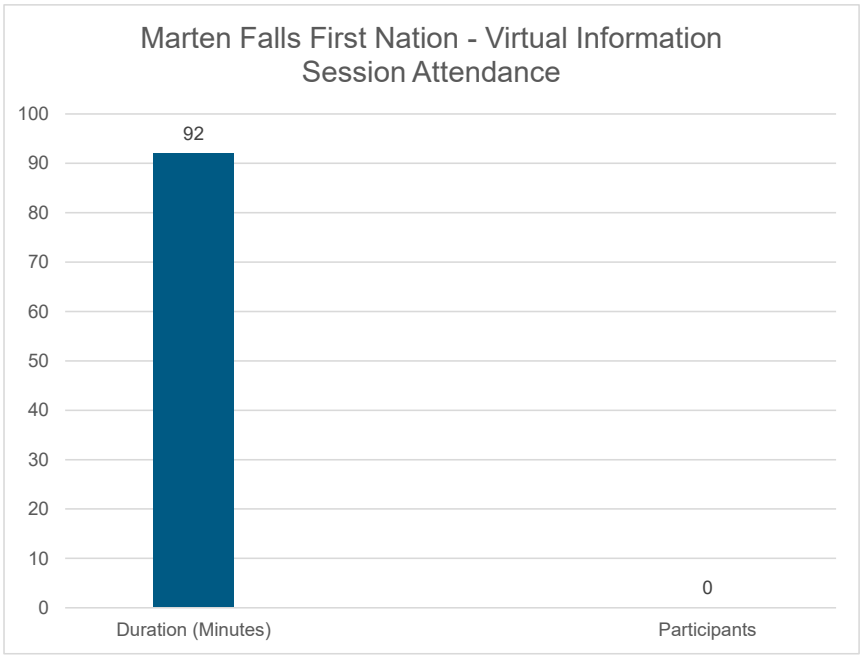


Figure 4-25: Marten Falls First Nation Virtual Information Session Attendance

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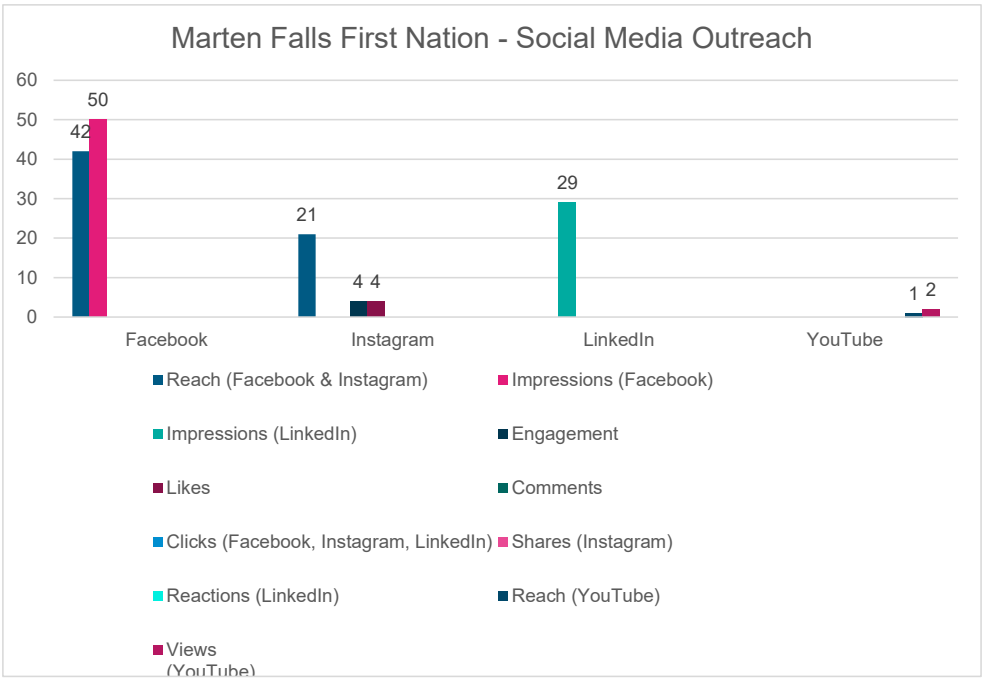


Figure 4-26: Marten Falls First Nation Social Media Outreach

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4.2.13.2 Summary of Feedback Received and Response

Table 4-22 below describes feedback received from Marten Falls First Nation during Consultation Round 1 for the WSR Project.

Table 4-22: Feedback Received and Responses Provided During Consultation Round 1 – Marten Falls First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
26-Apr-2022	Email	x		Chief Bruce Achneepineskum (MFFFN)	Chief Bruce Achneepineskum of Marten Falls First Nation (MFFN) sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team in response to the email Marian sent on April 26, 2022 regarding the WSR Socio-Economic Primary Data Collection Program. Chief Achneepineskum stated MFFN is interested in participating in the program and inquired what the next steps are.
4-May-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team sent an email to Chief Bruce Achneepineskum of Marten Falls First Nation (MFFN) in response to Chief Achneepineskum's email on April 26, 2022 regarding MFFN's interest in participating in the Socio-Economic Primary Data Collection Program. Marian thanked Chief Achneepineskum for their interest and indicated that the WSR Project Team would like to meet with MFFN to discuss information regarding the program and determine the methods of data collection that would work best for MFFN. Marian listed various dates and times that the WSR Project Team is available to meet and requested MFFN let the team know their availability.
28-Jun-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team emailed Chief Bruce Achneepineskum of Marten Falls First Nation (MFFN) to follow up regarding MFFN's interest in the WSR Socio-Economic Primary Data Collection Program. Marian requested dates and times from MFFN to meet virtually with the WSR Project team to discuss in detail the type of information that is being sought and the process for data collection.

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Table 4-22 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Marten Falls First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
14-Sept-2022	Email		x		Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team sent an email to Chief Bruce Achneepineskum of Marten Falls First Nation (MFFN), regarding the WSR Socio-Economic Collection Program. The email was a follow up to the previous email sent on June 28, 2022. Marian explained that the team is available to meet with Chief Achneepineskum and MFFN virtually to discuss the program in detail such as methods of data collection from the community and the types of data that the team is seeking. The project team requested MFFN to confirm their availability for a virtual meeting to take place.

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4.2.14 Mishkeegogamang First Nation

4.2.14.1 Key Consultation Activities Undertaken to Date

Table 4-23 below describes key consultation activities that occurred during Consultation Round 1 with Mishkeegogamang First Nation.

Table 4-23: Key Consultation Activities Undertaken During Round 1 - Mishkeegogamang First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 11, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 25, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.14.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Mishkeegogamang First Nation was held on Monday July 25, 2022, at 12:00pm EST. An invitation to participate was sent on July 11, 2022. The meeting was 42 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 6 times. Detailed information regarding the social media outreach analytics for this session are presented below.

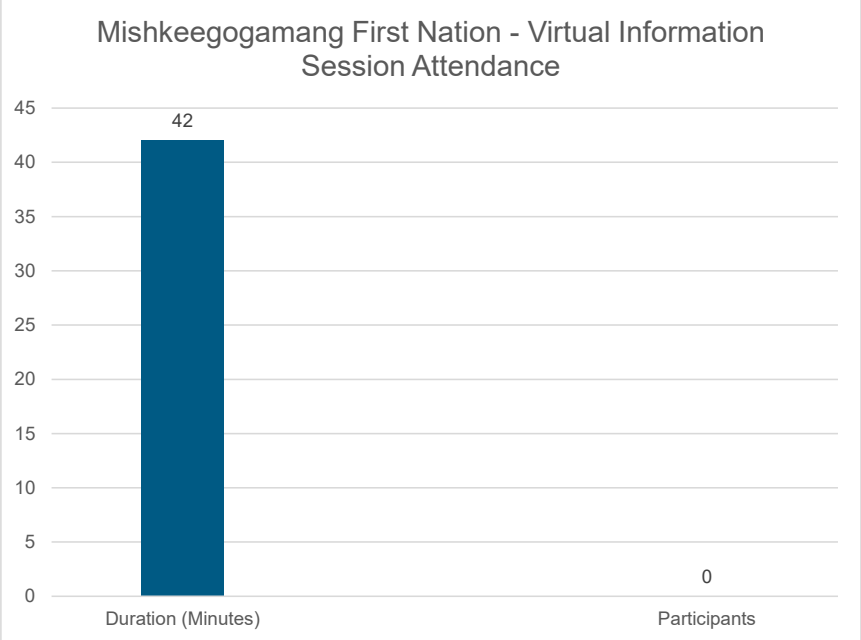


Figure 4-27: Mishkeegogamang First Nation Virtual Information Session Attendance

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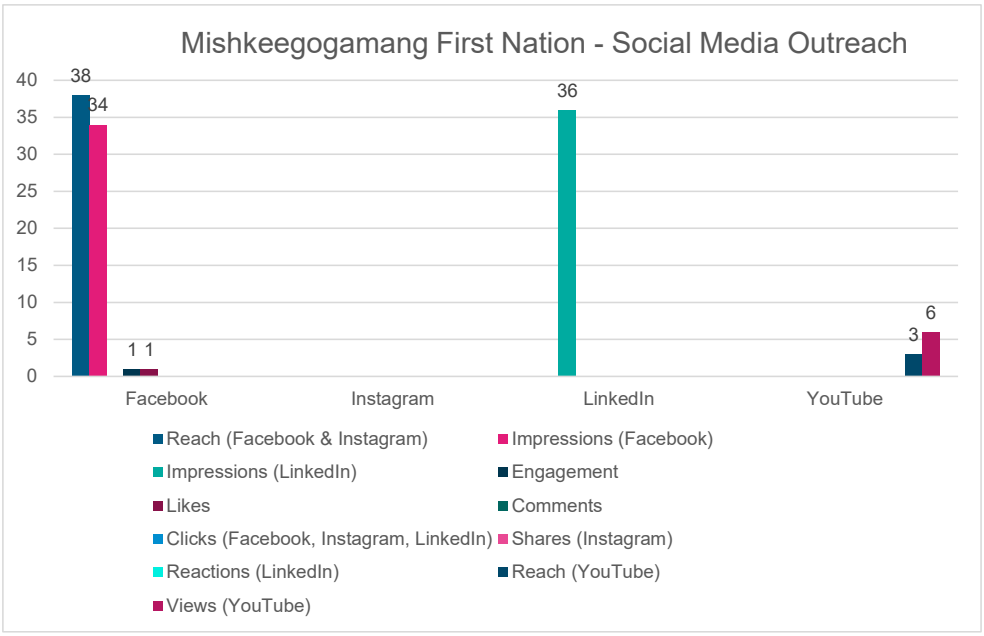


Figure 4-28: Mishkeegogamang First Nation Social Media Outreach

4.2.14.2 Summary of Feedback Received and Response

No feedback was received from Mishkeegogmang First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.15 Neskantaga First Nation

4.2.15.1 Key Consultation Activities Undertaken to Date

Table 4-24 below describes key consultation activities that occurred during Consultation Round 1 with Neskantaga First Nation.

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Table 4-24: Key Consultation Activities Undertaken During Round 1 - Neskantaga First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
May 2, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
May 16, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.15.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Neskantaga First Nation was held on Monday May 16, 2022, at 12:00pm EST. An invitation to participate was sent on May 2, 2022. The meeting was 120 minutes long and 3 community representatives attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 15 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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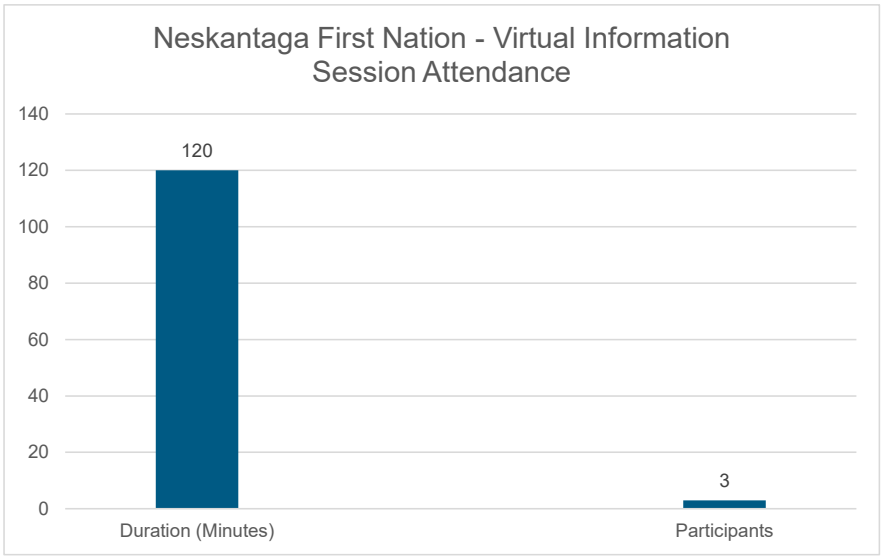


Figure 4-29: Neskantaga First Nation Virtual Information Session Attendance

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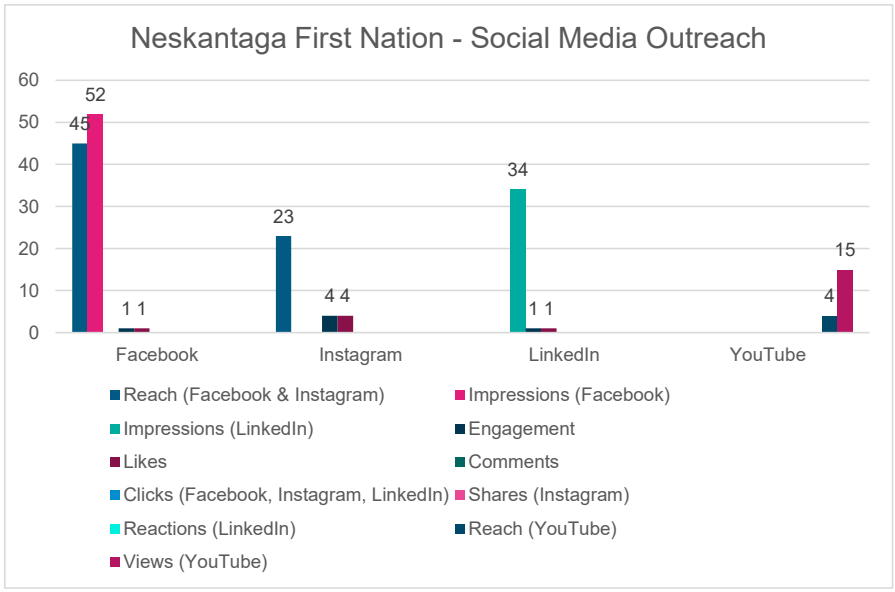


Figure 4-30: Neskantaga First Nation Social Media Outreach

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4.2.15.2 Summary of Feedback Received and Response

Table 4-25 below describes feedback received from Neskantaga First Nation during Consultation Round 1 for the WSR Project.

Table 4-25: Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
22-Dec-2021	Email	x		David Peerla (NFN)	David Peerla, advisor to Neskantaga First Nation (NFN) emailed Marian Tibor-McMahon of Indigenous Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Marian sent to NFN on December 21, 2021 regarding the Socio-Economic Primary Data Collection Program. David stated that the community focus was entirely on the Omicron wave of the COVID-19 pandemic, and that Chief and Council indicated that they would not have time to read the letter and provide input until the wave had passed. Additionally, David explained that most of the consultation activities in the letter could not be meaningfully or safely carried out in compliance with public health advice, given measures to stop large gatherings, and that it was NFN's view that the proponent should pause the EA process until the Omicron wave had been resolved. David explained that he would be the point of contact for the NFN community team until further notice. Finally, David requested that the WSR Project Team provide a copy of socio-economic information gathered from secondary sources on Neskantaga and a copy of the overall reference list for review and suggestion of other potential sources.
12-Jan-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor to Neskantaga First Nation (NFN) in response to the email David sent on December 22, 2021 to Marian regarding the Socio-Economic Primary Data Collection Program. Marian addressed the concerns David had regarding the current state of the COVID-19 pandemic with the Omicron variant, stating that as a result of the risks involved with in-person engagement, the Project Team had developed various virtual engagement options. Marian attached a list of these virtual engagement options. Marian responded to David's request that the Project Team provide him with a copy of the socio-economic information that has been gathered thus far from secondary sources on NFN by providing a link to the secondary sources. Marian indicated that once the draft baseline report is complete, the Project Team can provide NFN with an opportunity to review and validate the information in the report pertaining to NFN. It was stated

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Table 4-25 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
					that the Project Team would be happy to set up a call with NFN to discuss the information provided and ways in which NFN may be able to be engaged with during the study process.
20-Jan-2022	Email	x		David Peerla (NFN)	David Peerla, advisor to Neskantaga First Nation (NFN) emailed Brianna Patrick of Indigenous Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Brianna sent on December 13, 2021 to Chief Wayne Moonias regarding the Indigenous Knowledge, Land and Resource Use (IKLRU) Program. David stated that Chief and Council are entirely focused on the health and safety of their community given the current state of the COVID-19 pandemic and the Omicron variant. David raised concerns for NFN not being able to meaningfully engage with and participate in the IKLRU program as a result, and stated that the proponent should suspend or pause Environmental Assessment (EA) programs until the Omicron wave of the COVID-19 pandemic has passed. David indicated that NFN would be in touch regarding the IKLRU Program after the Omicron wave has passed.
4-Feb-2022	Email		x	Brianna Patrick (WSR Project Team)	Brianna Patrick of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor to Neskantaga First Nation (NFN) in response to the email David sent on January 20, 2022 to Brianna regarding the Indigenous Knowledge, Land and Resource Use (IKLRU) Program. Brianna addressed the concerns David had regarding the current state of the COVID-19 pandemic with the Omicron variant, stating that as a result of the risks involved with in-person engagement, the Project Team had developed various virtual engagement options. Brianna attached a list of these virtual information sharing engagement options. Brianna indicated that the Project Team would continue to offer these virtual engagement options to NFN until it is safe to resume in person engagement activities with COVID-19 protocols in place. Brianna stated that the Project Team would be happy to set up a call with NFN to discuss the information provided and ways in which NFN may be able to engage with the IKLRU Program.
15-Mar-2022	Email	x		David Peerla (NFN)	David Peerla, advisor to Neskantaga First Nation (NFN) emailed Brianna Patrick of Indigenous Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Brianna sent to NFN on February 4, 2022 regarding the Indigenous Knowledge, Land and Resource Use (IKLRU) Program. David stated that during their research, NFN came across an article on Webequie fisheries that may be

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Table 4-25 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
					helpful for the IKLRU Program. David also stated that NFN members have family that are connected to fishing on specific lakes mentioned in the article. The article provided information on the importance of subsistence fishing as a source of food for Webequie, the various field surveys that had been conducted, community harvest estimates, and details on various fish species.
1-Apr-2022	Email	x		David Peerla (NFN)	David Peerla, advisor to Neskantaga First Nation (NFN) emailed Michael Fox of Indigenous Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent to NFN on April 1, 2022 regarding the upcoming WSR Livestream and Radio Show and Engagement Options. David stated that NFN is aware the WSR Project Team indicated to the Impact Assessment Agency of Canada that the team would likely require an extension of the Impact Statement Phase. David inquired what this means for the provincial Environmental Assessment work, how long of an extension the team is requesting, and the rationale for requesting an extension.
7-Apr-2022	Email		x	Sasha McLeod (MECP)	Sasha McLeod of the Ministry of the Environment, Conservation and Parks (MECP) sent an email to David Peerla, advisor of Neskantaga First Nation (NFN), and cc'd Michael Fox, Marian Tibor-McMahon and Brianna Patrick of Indigenous and Community Engagement (ICE) and Don Parkinson, Craig Wallace and Laura Dumbrell of SNC-Lavalin (SNC) and the Webequie Supply Road (WSR) Project Team in response to the email David sent on April 1, 2022 regarding the WSR Impact Assessment and extension of the Impact Statement Phase. Sasha confirmed receipt of David's email and indicated that MECP would provide a response as soon as possible.
2-May-2022	Email	x		David Peerla (NFN)	David Peerla, advisor of Neskantaga First Nation (NFN), sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement and the Webequie Supply Road (WSR) Project Team in response to the email Marian sent on January 12, 2022 regarding the WSR Socio-Economic Primary Data Collection Program. David provided a document of an All-Season Community Road Study conducted by Webequie First Nation, Nibinamik First Nation, Neskantaga First Nation, and Eabametoong First Nation, for information on NFN's community profile and the socio-economic issues identified by NFN that would potentially arise from an all season road. David also provided a link to videos with statements from Chief Wayne Moonias and other NFN Councillors and advisors which address baseline socioeconomic conditions within NFN.

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Table 4-25 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
3-May-2022	Email	x		David Peerla (NFN)	David Peerla, advisor of Neskantaga First Nation (NFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Michael sent on May 2, 2022 regarding information on the upcoming Virtual Information Session being held for NFN on May 16, 2022. David requested the WSR Project Team share slide decks and any other written information that would be discussed at the session with NFN. David stated NFN's interest in any written responses the Project Team might have to their comments.
6-May-2022	Email	x		David Peerla (NFN)	David Peerla, advisor of Neskantaga First Nation (NFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team regarding a phone call that was made to the NFN band office by a WSR Project Team member. David stated that Chief Wayne Moonias prefers communication to be Chief to Chief and that technicians speak to technicians.
11-May-2022	Email		x	Don Parkinson (WSR Project Team)	Don Parkinson of SNC-Lavalin and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor of Neskantaga First Nation (NFN) in response to the email David sent on May 3, 2022 requesting the Project Team share any information that would be discussed at the Virtual Information Session for NFN on May 16, 2022. Don provided the presentation that would be shared during the session.
11-May-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor of Neskantaga First Nation (NFN) in response to the email David sent on May 6, 2022 regarding a phone call that was made to the band office by a WSR Project Team member. Michael stated that to his knowledge, no one from the WSR Project Team phoned the band office. Michael indicated that Don Parkinson of SNC-Lavalin (SNC) was cc'd on the email to see if any of the SNC team members made the phone call.
11-May-2022	Email	x		David Peerla (NFN)	David Peerla, advisor of Neskantaga First Nation (NFN) sent an email to Don Parkinson of SNC-Lavalin and the Webequie Supply Road (WSR) Project Team in response to Don's email on May 11, 2022 providing the presentation that would be shared during NFN's virtual information session. David stated that their partners from the Osgoode Hall Law School would be attending the session on behalf of NFN's leadership. David indicated that he does not want the Osgoode students to be treated in a less respectful manner during the session and asked the WSR Project Team to raise any issues they may have beforehand

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Table 4-25 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

13-May-2022	Email	x		Lo Stevenson (Osgoode Hall / NFN)	Lo Stevenson, a student with Osgoode Hall Law School's Environmental Justice & Sustainability Clinic, and representative of Neskantaga First Nation (NFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE), Craig Wallace of SNC-Lavalin (SNC), and Don Parkinson of SNC and the Webequie Supply Road (WSR) Project Team with a list of questions and comments from NFN for the WSR Project Team to review before the session.
13-May-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor of Neskantaga First Nation (NFN) and NFN's Chief Wayne Moonias, in response to the email David sent on May 11, 2022 stating that NFN's partners from the Osgoode Hall Law School would be attending the virtual information session on behalf of their leadership. Michael stated that while he appreciates NFN's decision to not directly participate in the WSR's virtual information session, he wanted to convey the intention of the First Nation-specific information sessions as per the approved WSR Terms of Reference (ToR). Michael highlighted sections in the ToR regarding meaningful input from Indigenous communities during the development of the Environmental Assessment (EA) and the preparation of progress reports on the consultation activities for each EA milestone. Michael explained that there will be three rounds of consultation efforts during the EA process and the Project is currently in round one. As such, the information sessions are specific to each Indigenous community with the intention of gathering community input, insights, and information to inform the Project. Michael encouraged NFN to participate in their session in order to fully benefit from the opportunity to be informed and provide direct feedback. Michael asked whether the external partners of NFN will be representing the interest of NFN during the discussions after the presentation. Michael also asked if NFN's legal advisor or lawyer would be in attendance.
16-May-2022	Email	x		David Peerla (NFN)	David Peerla, advisor of Neskantaga First Nation (NFN) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team, in response to Michael's email on May 13, 2022 regarding NFN's decision not to directly participate in the virtual information session. David stated that the Osgoode Hall Law School representatives may be able to provide clarification on NFN's previously expressed positions but will report any WSR questions back to the NFN leadership. David explained the role of the representatives is to gather information and keep the leadership informed on the WSR

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Table 4-25 (Cont'd): Feedback Received and Responses Provided During Consultation Round 1 – Neskantaga First Nation

				Environmental Assessment. David stated that NFN's lawyers would not be attending the session.
3-Jun-2022	Email	x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to David Peerla, advisor of Neskantaga First Nation (NFN) in response to the email David sent on April 1, 2022 with questions regarding the WSR Impact Assessment (IA) Phase. Michael stated that the proponent has three years to prepare and submit a satisfactory Impact Statement to the Impact Assessment Agency of Canada (IAAC) from the date of issuance of the Notice of Commencement of the IA (February 24, 2020). Michael stated that the WSR Team and IAAC are in preliminary discussions regarding an extension to the Impact Statement Phase, but no date has been set yet. However, the proponent intends to submit a formal extension request on September 24, 2022. Michael noted the rationale for an extension is due to the delay in receiving approval of the Environmental Assessment (EA) Terms of Reference and the COVID-19 global pandemic. Michael also stated this means that the proponent will align the provincial EA process with the federal Impact Statement Phase, where possible, including adjusting its project schedule and consultation program. Michael indicated that NFN and other Indigenous communities would be kept informed on any changes to the project schedule.
29-Aug-2022	Email	x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Lo Stevenson, a student with Osgoode Hall Law School's Environmental Justice & Sustainability Clinic, and representative of Neskantaga First Nation (NFN), providing responses to the list of questions sent by Neskantaga First Nation on May 13, 2022. Michael noted that the WSR Project Team was pleased to have received the list of comments and questions and looked forward to continued communications.

4.2.15.2.1 Response Table – List of Questions & Comments

Further to the summary of feedback received and responses provided, Table 4-26 below more specifically lists each question/comment sent by Neskantaga First Nation on May 13, 2022 via email. It also includes corresponding responses per the comment response table sent back to Neskantaga First Nation by the WSR Project Team on August 29, 2022 via email.

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Table 4-26: Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
1	Recent public comments by the Premier have created an impression that the Ontario government intends to approve this project regardless of the nature and extent of adverse impacts and significant levels of concern expressed by Neskantaga, other First Nations, Canada, and independent scientists, academics, members of the public and NGOs who will review the project.	It is not the role of the proponent to respond to comments from the Premier of Ontario as interpreted by Neskantaga First Nation.
2	Simply providing updates, teleconferences, virtual sessions, and general opportunities to comment does not rise to the level of required consultation and consent, particularly when suggestions and input provided are not incorporated. Meaningful negotiations with Neskantaga, and other First Nations, will be required.	The Webequie Supply Road (WSR) Environmental Assessment / Impact Assessment (EA/IA) is a critical step to the comprehensive approach to better understand and mitigate any potential impacts of the proposed project before it is constructed. The EA/IA will consider all existing information and evidence and will collect additional information that will inform decision-making about future development in this important area. Regarding your comment on consultation activities to date and level of required consent we note that a Virtual Community Information Session was offered to Neskantaga First Nation (NFN) leadership and its members on May 16, 2022, and which representatives of NFN attended (Osgoode Hall Law School's Environmental Justice & Sustainability Clinic). The intent of this session was to present an overview of WSR's EA/IA activities and hold question and answer period. In the session, community members are able to ask questions, raise concerns, and have a discussion directly with WSR Project Team members. The goal of the session with NFN, and with other First Nation communities, is to provide an opportunity for multilateral consultation and engagement. As previously mentioned in our correspondence to NFN, additional engagement sessions with Chief and Council members, advisors and staff, are available either virtually or in-person following COVID protocols. The Project Team has made repeated attempts to engage and consult with the NFN. We have reached out via mail, email, and fax on a nearly weekly basis. In these correspondences, we have provided various options for NFN to engage with the Project. It is our expectation that Indigenous communities will continue to participate in the EA/IA because that is how their specific concerns, particular issues, and any impacts will be known, documented, and mitigated. We would like to reiterate that we would like to engage and work with NFN (like we are doing with other Indigenous communities) to help ensure that the EA/IA for the WSR is informed by concerns raised about potential impacts and to receive Indigenous knowledge where a community is willing to share.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
3	Future meetings should be scheduled collaboratively with Neskantaga.	Refer to response to comment 2. Please provide a date when a future meeting can be arranged with NFN that is convenient to leadership and/or community members. The Project Team has provided a list of engagement options numerous times to Neskantaga First Nation. We would be more than happy to engage with Neskantaga First Nation using the engagement methods they prefer.
4	The proposed Noront nickel mine, and several other mining projects, are not just additional unrelated actions. They are described as depending on the building of the WSR, due to the infrastructure and other components it would provide. This is a key cumulative impact of the proposed project that should be clearly described in a summary section.	The purpose of the WSR is to connect Webequie First Nation with mining and mineral exploration activities in the McFaulds Lake area and specifically to provide employment and other economic development opportunities to community members and businesses that reside in or around the community. An interconnection with the provincial highway system is not necessary to facilitate the WSR. Infrastructure projects such as the Northern Road Link and Marten Falls Community Access Road, as well as mining developments in the region will be considered as part of the cumulative effects assessment for the WSR Project. The general study plan approach to the proposed cumulative effects assessment is available on the project website (www.supplyroad.ca) and the Project Team are prepared to meet with willing communities to discuss and receive input on this specific component of the assessment. The cumulative effects assessment will be documented in the Environmental Assessment Report / Impact Statement (EAR/IS) for the Project.
5	Will the EA/IS consider whether the proponent has the technical and financial capability to take action, to the extent reasonably practical, to prevent any significant adverse environmental impact, including damage to fish, wildlife, and their habitat?	Webequie First Nation is the proponent of the Webequie Supply Road Project for the purpose of the EA/ IA. At this point in time, it has not been determined who will construct, maintain and operate the Webequie Supply Road and is subject to further discussion between Webequie First Nation and Ontario. Commitments to mitigation measures that are intended to eliminate or minimize adverse effects will be recommended and documented in the EAR/IS for the Project and would the responsibility of the ultimate owner and operator of the WSR, including the technical and financial capabilities to implement such actions.
6	Do you have data on the range of the natural population variability of the fish in the impacted streams?	Fish and fish habitat studies to characterize existing conditions are on-going. In general, the objectives of aquatic assessment are to: identify potential fish habitat and species, including species at risk, at waterbody crossings potentially affected by the Project through fish community and spawning surveys; characterize benthic invertebrate species composition, richness and abundance at waterbody crossings; and provide a general characterization of fish and other aquatic species as defined in the Fisheries Act on the basis of resident and migratory species, food webs and trophic levels, structural and functional linkages, life history and population dynamics. Surveys are intended to collect data over a 2-year period to address seasonal and annual variability of data on fisheries.
7	Will the EA/IS analyze consequences to fish from alterations in groundwater pathways?	The EA/IS will assess changes to groundwater and surface water interactions from the Project, including potential linkage to harm fish and/or fish habitat.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
8	A stream sample site that seems to have low population numbers one year may have extraordinarily high numbers of fish at a different time of the year, or in different years. How will the EA/IS account for the variability in stream use by fish from a system perspective?	Refer to response to comment 6. Surveys are intended to collect data over a 2-year period to address seasonal and annual variability of data on fisheries.
9	Will the EAR/IS have any actual data on numbers of individual fish affected compared to existing fish populations?	Typically, in an EA/IA, the proponent does not specifically identify the number of individual species affected by the project in comparison to existing conditions. For the WSR Project, fish habitat will be assessed from several perspectives including potential effects to habitat availability (changes to quantity and/or quality); and effects to fish communities with respect to abundance (e.g., changes to population from physical activities or changes to habitat availability) and distribution (i.e., spatial configuration and connectivity of habitats for fish).
10	Wildfire in the area appears to be an increasing threat. What are the potential impacts on and/or risks of wildfire for the road?	Accidents and malfunctions as it relates to the construction and operations phases of the Project will be examined in later stages of EA/IA process, including their potential to increase the risk of fires. As part of the EA/IA it is expected that an Environmental Management Plan, with mitigation and best management practices and procedures, will be developed to address potential risks of fires from project activities; and also emergency and contingency measures to address naturally occurring wildfires affecting the road.
11	Will the discussion of truck and other road traffic be quantitative or qualitative?	Based on the functional road type categorization for the proposed WSR (i.e., Rural Collector Undivided), intended purpose of the road, and population in the community of Webequie, an average annual daily traffic (AADT) volume of less than 500 vehicles has been assumed for the Project and used as design criteria for the road. It is expected that traffic during the operations phase will comprise light to medium personal and commercial vehicles, and heavier trucks carrying industrial (mining) supplies and equipment. The road will not be used to transport mine products. Further discussion on road traffic will be presented in the EAR/IS.
12	Will references and/or a technical appendix that provides additional information and analysis supporting the conclusions in the EA/IS be provided to allow the reader to evaluate the conclusions?	Supplemental technical appendices for select valued components (VCs) (e.g., air quality, noise, human health) are expected to be produced and included in the EAR/IS, and as such will be available for review by the public, stakeholders and Indigenous communities.
13	Will there be a summary section that would allow the reader to gain an overview of the key impacts of the project and its alternatives, without poring through the detailed individual sections?	An executive summary of the EAR/IS in plain language is expected to be produced, along with other communication materials, to allow for readers of various levels of interest to review and understand the conclusions of the EA/IA for the Project. Note that all communication materials produced to support the EA/IA process, as well as the EAR/IS will be made available to Indigenous community members and the public on the project website.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
14	Will cumulatively impacts of all reasonably foreseeable future activities, as well as the key impacts of the WSR, be described in quantitative terms?	Depending on the available data and information, which is still to be determined, an appropriate methodology will be selected for characterizing the cumulative effects solely from the physical activities in the future scenarios with the WSR Project and without the Project. In accordance with the Interim Cumulative Effects Assessment Guidance Document (Canadian Environmental Assessment Agency, March 2018) the proposed methodology for determining cumulative effects is likely to be primarily qualitative, including descriptive narratives, graphic presentation or conceptual relationships. However, where feasible, comparison with and without the WSR Project may include quantitative elements to predict cumulative effects to valued components.
15	Identification of unavoidable adverse impacts is critical because it forms the basis of required compensatory mitigation. Will unavoidable adverse impacts of the project be specifically identified in the EA/IS sections, with a summary of these impacts in the EA/IS?	Predicted residual or net effects after the application of mitigation measures will be documented and summarized in the EAR/IS, including characterizing the net effects. The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each valued component. The objective of the method will be to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or ecological function of a valued component and, therefore, result in significant combined effects.
16	Will a summary of impacts be provided, indicating which impacts could be avoided or minimized versus those for which compensatory mitigation would be required? If not, why not?	Refer to response to comment 13. Where, significant residual effects for a valued component remain after mitigation, restitution for any damage caused by those effects will be identified and may include replacement, restoration, compensation or other means.
17	A full lifecycle assessment of carbon emissions associated with the mine[s] would be far higher than direct emissions at the site. Will estimates be provided of cumulative GHG emissions with reasonably foreseeable future activities that the project may facilitate by providing infrastructure?	After identifying and characterizing the net effects for each of the VCs they will be compiled and carried forward by the Project Team for integration in the cumulative effects assessment with input from consultation activities with Indigenous communities, the public and stakeholders. In general, the selected VCs for the cumulative effects are those most likely to be affected by the Project in combination with other projects and activities. The cumulative effects resulting from the past, present and reasonably foreseeable projects, as listed in the federal Tailored Impact Statement Guidelines for the WSR, will be considered by the Project Team within the larger cumulative effects spatial boundaries and temporal boundaries, to the extent possible. At this time in the assessment process, it is unclear if GHG estimates for future projects or activities will be considered as this will be contingent on the type, reliability, completeness and limitations to the available data and information sources regarding projects or activities and their predicted impact on the VC. For some activities or projects that have recently been implemented, or that are in the planning/approval phase, comprehensive data may be available and will be examined, to the extent possible. However, for projects or activities that are at conceptual level currently, or historic, limited data and information may be available.
18	Aggregate quarries located on eskers have high archaeological potential. What volume of rock is projected to be extracted from the quarries?	The preliminary estimate of aggregate/rock material needed to construct the WSR is 2,849,500 cubic metres.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
19	Do the wildlife and plant impact study areas include the proposed aggregate/rock source areas, and if not, why not?	The study areas for wildlife and vegetation include potential suitable aggregate sources identified at this time.
20	What factors are used to measure "habitat availability (quantity - hectare and quality)"?	The factors used to measure changes to habitat availability vary to some extent for VCs. As an example, for vegetation (uplands and wetlands) a quantitative measure (hectares) of removals would be used as well as quality (High, Moderate, Low) of vegetation associations available to wildlife species and their various life history stages.
21	Can you explain the impact of the new project timeline, given the recent extension?	As per our email correspondence to D. Peerla on June 3, 2022, for the WSR Project the two levels of government have indicated a willingness to follow a coordinated EA/IA process to the extent possible. Therefore, the proponent will align the provincial EA process with the federal Impact Statement Phase, where possible, including adjusting its project schedule and consultation program. The WSR Team and Impact Assessment Agency Canada (IAAC) are currently in preliminary discussions regarding an extension request to the Impact Statement Phase for the Project and no date has been set for an extension at this time. A decision regarding this matter will occur once the proponent submits a written request for an extension and IAAC evaluates the request based on the proponent's progress in the EA/IA process (e.g., baseline studies, engagement and consultation. etc.). It is the proponent's intent to submit a formal request for an extension to the Impact Statement Phase on September 24, 2022.
22	Can you explain how a cumulative effects approach, considering the impacts of extensive planned mining activity, contingent upon the proposed road system, will be incorporated into the WSR EA/IA?	Refer to response to comment 17. Reasonable foreseeable projects and activities will be included in the cumulative effects assessment, such as Eagle's Nest Mine and the Northern Road Link and Marten Falls Community Access Road that link the provincial road network to the Ring of Fire area.
23	Can you share details about any commitments made to enact the project's purpose regarding the provision of employment and training for Indigenous community members? a. For example, what proportion of positions will be reserved for community members? b. Of these positions, what proportion will be long-term, full-time, pensioned, and/or leadership positions?	Webequie First Nation, as the proponent of the WSR Project, is committed to maximizing Indigenous participation in all development phases of the Project (i.e., planning, construction, operations), with the goal to provide employment, training and business opportunities to its community members and others. At this early stage of the assessment process, specific proportions of positions for community members, including long-term, full-time, pensioned, and/or leadership positions are not known. As the socio-economic assessment is advanced, information on employment, training and business opportunities will be documented in the EAR/IS.
24	How will the EA/IA assess the likelihood of increased violence against Indigenous women and girls as a result of the new road access?	The approach to assess potential increase of violence against Indigenous women and girls will involve, but not be limited to, key informant interviews and focus groups to gather experience of Indigenous women/girls in communities on the issue and to review social studies that have examined the relationship and potential impacts of new road projects and Indigenous communities. Through consultation activities the Project Team will also engage with women and community members to help determine appropriate mitigation measures to reduce/minimize violence against Indigenous women and girls.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
25	What plans are in place for remediation of the aggregate quarries after closure, and have these costs been incorporated into cost-benefit projections?	A reclamation and restoration plan is proposed to be developed for aggregate pit or quarry areas following their closure. At this preliminary stage this may involve backfilling, regrading/contouring of areas and reforestation to restore vegetation communities representative of the area. Additional details related to closure are expected to be developed as part of the permit for the operation of aggregate pits/quarries for the Project under the Aggregate Resources Act.
26	Can you explain further any plans to collaborate and work with Indigenous communities? Does this include the use of Neskantaga consultation protocols?	The Project Team is eager and willing to collaborate with Indigenous communities in all key phases of the EA/IA, such as baseline data collection, evaluation of alternatives and the effects assessment, including identifying mitigation to address Indigenous peoples areas of concern. As an example of our plan to collaborate, in December 2021 an invitation letter was sent to all Indigenous communities seeking their interest to discuss and help with collection of socio-economic information (i.e., focus groups, surveys, etc.) or verify information gathered to date by the Project Team based on current research. For this specific initiative, D. Peerla provided a reply to the Project Team on December 22, 2021 that Neskantaga First Nation could not participate in the socio-economic primary data collection program, but did offer to review our list of secondary sources reviewed and provide additional sources to consider, where applicable. As well, in December 2021 the Project Team sent an invitation letter to all communities regarding participation in the Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program for the Project. One of the key objectives of this program is to collaborate and work with Indigenous communities to enhance positive impacts or to identify measures to avoid/reduce potential effects on Indigenous rights and interests. We welcome further discussion with Neskantaga on their consultation protocols and exploring opportunities to work collaboratively with the Project Team on the WSR Project.
27	Will the Indigenous Knowledge Program directly include Neskantaga in decision making, and if so, how?	As stated in the IKLRU Program invitation letter sent to NFN in December 2021 (refer to above response), the IKLRU Program is to help identify potential impacts of the Project, including those on Indigenous rights and interests; and is intended to be collaborative with opportunity for NFN to contribute to the decision-making process with respect to the planning and assessment of the Project. While the IKLRU Program is distinct from the Consultation Program for the WSR Project, the two are complementary and collectively serve to solicit Indigenous perspectives, values and inputs with respect to the Project. Opportunities for contributing to the decision-making process are available at 3 key milestones (i.e., 1 - Notice of Commencement, Study Plans, Baseline Studies; 2 – Identification and Evaluation of Alternatives; 3 Preliminary Effect Assessment of the Project) in the process as a requirement of the approved Terms of Reference for the Project, which involves the Project Team distributing consultation progress reports to each Indigenous community with the objective to seek their direct input into the EA/IA.

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
28	In the Indigenous Knowledge Program, how will Neskantaga's knowledge be validated, and why? IK that Neskantaga elders and knowledge holders share should not be assumed to require validation.	The purpose of the IKLRU validation is to provide an opportunity for a community and/or individuals to review IKLRU information they provided, to add or revise draft results, and to provide informed consent for the use of approved information in EA/IA documentation, as needed. A validation approach might involve a community validation workshop as a step in the data collection process to provide an opportunity for individuals that participated in a study to review IKLRU information derived from pre-existing and/or project-specific IKLRU studies to verify quality, representativeness and accuracy of the information presented, and to add or revise information presented. The community validation workshop could be conducted by the community's own research/consulting team and/or through a collaborative effort with the proponent's Project Team. Dependent on the community's wishes, the validation workshop can cover pre-existing or project-specific IKLRU information. Community participants that are involved in providing information for a study may be invited to review individual map biographies and/or interview transcripts. Participants would have the opportunity to add new data, and modify any points, or boundaries on their individual maps which they do not agree with. This process will ensure that the data on the maps will be accurate and validated by participants. Finally, decision-making authority of the community leadership will be followed to ensure the IKLRU information is presented and approved in accordance with community protocols.
29	How many days in the field have your biologists spent on the various fish, wildlife, etc. programs?	The Project Team does not track individual days of each field staff person by VCs (e.g., fisheries, wildlife), as in some cases staff are working on numerous field programs on a single field trip. In general, biological field surveys have occurred during the field season period between May 15 to October 30 in 2020 and 2021. As well, specific species at risk studies, such as caribou aerial surveys have occurred from January to March of 2019 to 2022, with future work planned in 2023.
30	Will the EA/IA contain a prediction of the induced changes to fish and wildlife population levels through increased harvests and other causes as a result of the new road access?	Prediction of induced changes to fish and wildlife due to potential increase in level of harvests will be considered in the EA/IA for the WSR and its intended purpose of connecting Webequie to the McFaulds Lake area.
31	Is there some point beyond which the predicted impacts to wildlife and wildlife habitat are so great that the viability of the road can be called into question? Is this point definable and, perhaps more importantly, is it measurable? What data would be required to determine whether this point has been reached or exceeded?	Environmental assessments are an important component of the planning and decision making process for projects. The EAR/IS for the WSR Project will present both the baseline conditions and Project-related effects on wildlife and wildlife habitat. As part of the assessment process, predicted residual or net effects after the application of mitigation measures will be documented and summarized in the EAR/IS, including characterizing the net effects and determination of significance with consideration of criteria such as magnitude, geographical extent, duration, frequency, reversibility, context, and probability of occurrence. As this stage the specific wildlife questions raised are considered premature as baseline data collection is ongoing and the effects assessment has not been started by the Project Team, including level of confidence of prediction of impacts to wildlife and wildlife habitat. As well, consultation with communities and Indigenous Knowledge and land and resource use studies are incomplete at this time and may

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Table 4-26 (Cont'd): Response Table - May 13, 2022 List of Questions & Comments from Neskantaga First Nation

#	Neskantaga First Nation Comment	Proponent Response
		contribute to what is defined as an acceptable point of impact. Indigenous communities will be provided with the opportunity to review and provide input to the EAR/IS, including conclusions around the determination adverse effects to wildlife and wildlife habitat.

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4.2.16 Nibinamik First Nation

4.2.16.1 Key Consultation Activities Undertaken to Date

Table 4-27 below describes key consultation activities that occurred during Consultation Round 1 with Nibinamik First Nation.

Table 4-27: Key Consultation Activities Undertaken During Round 1 - Nibinamik First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
May 24, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
June 6, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
June 28, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

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4.2.16.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Nibinamik First Nation was held on Monday June 6, 2022, at 12:00pm EST. An invitation to participate was sent on May 24, 2022. The meeting was 26 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 4 times. Detailed information regarding the social media outreach analytics for this session are presented below.

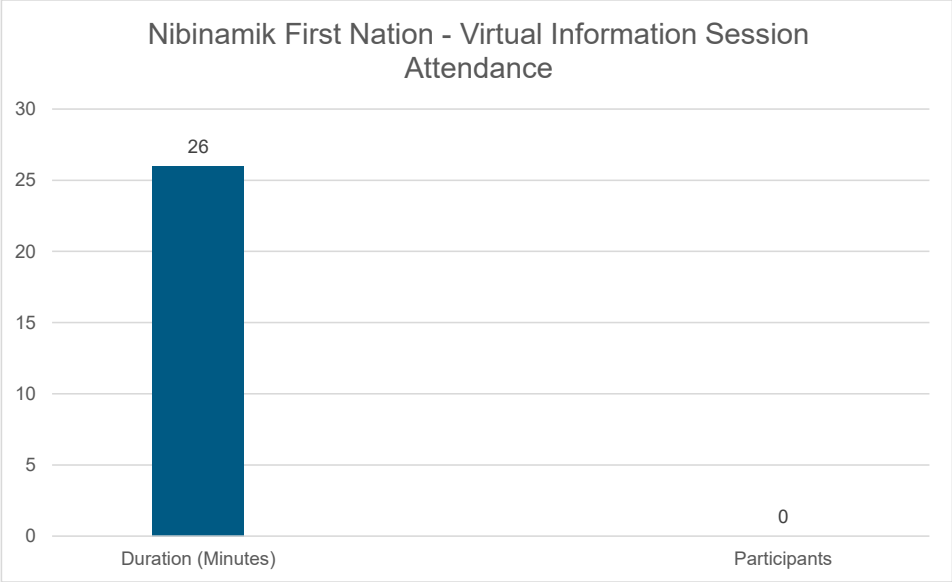


Figure 4-31: Nibinamik First Nation Virtual Information Session Attendance

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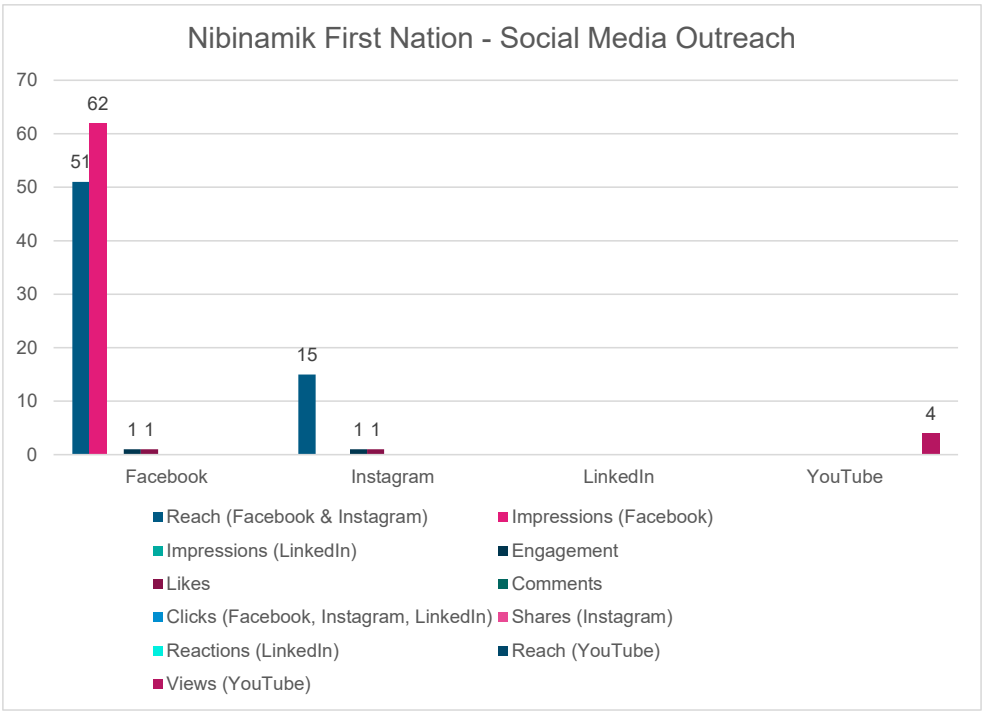


Figure 4-32: Nibinamik First Nation Social Media Outreach

4.2.16.2 Summary of Feedback Received and Response

No feedback was received from Nibinamik First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.17 North Caribou Lake First Nation

4.2.17.1 Key Consultation Activities Undertaken to Date

Table 4-28 below describes key consultation activities that occurred during Consultation Round 1 with North Caribou Lake First Nation.

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Table 4-28: Key Consultation Activities Undertaken During Round 1 - North Caribou Lake First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 18, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 2, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.17.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with North Caribou Lake First Nation was held on Tuesday August 2, 2022, at 12:00pm EST. An invitation to participate was sent on July 18, 2022. The meeting was 40 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 10 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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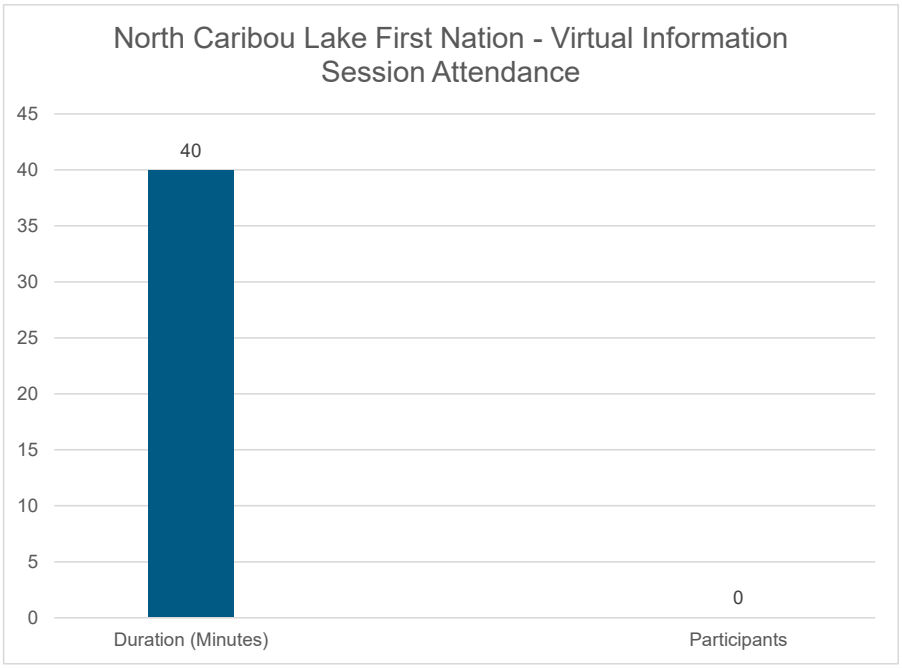


Figure 4-33: North Caribou Lake First Nation Virtual Information Session Attendance

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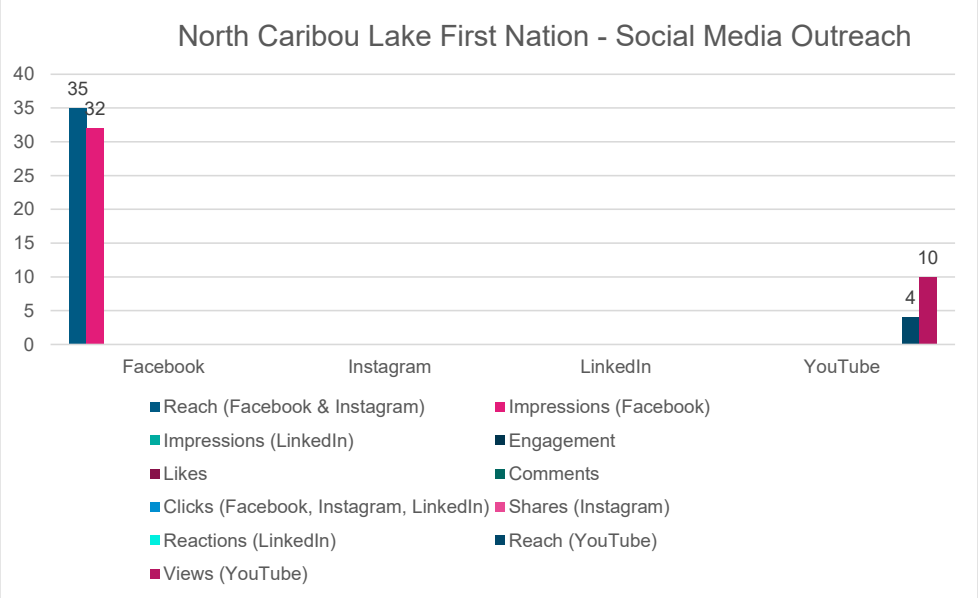


Figure 4-34: North Caribou Lake First Nation Social Media Outreach

4.2.17.2 Summary of Feedback Received and Response

No feedback was received from North Caribou Lake First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.18 Wapekeka First Nation

4.2.18.1 Key Consultation Activities Undertaken to Date

Table 4-29 below describes key consultation activities that occurred during Consultation Round 1 with Wapekeka First Nation.

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Table 4-29: Key Consultation Activities Undertaken During Round 1 - Wapekeka First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 25, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 8, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.18.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Wapekeka First Nation was held on Monday August 8, 2022, at 12:00pm EST. An invitation to participate was sent on July 25, 2022. The meeting was 39 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 0 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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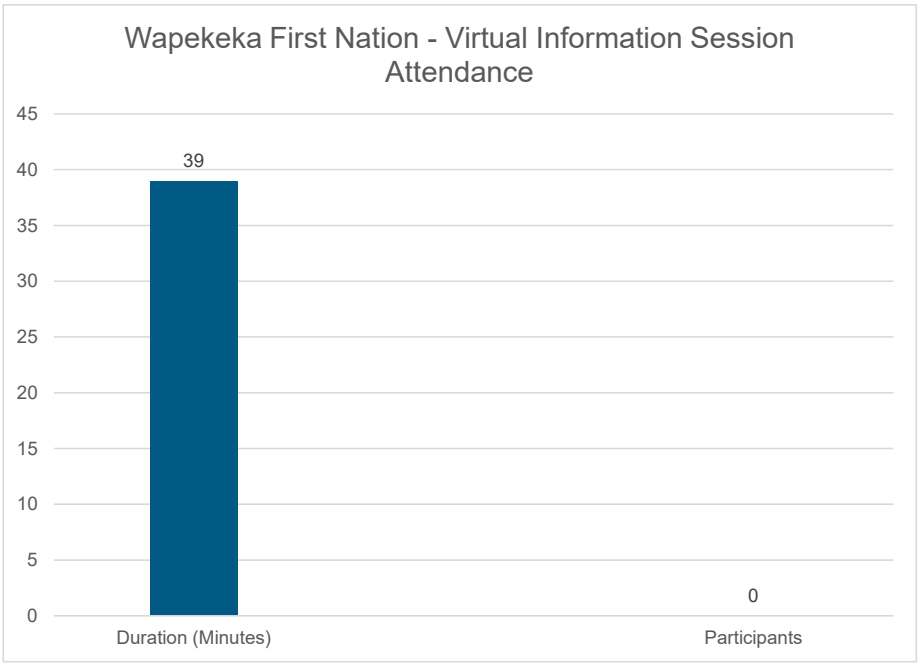


Figure 4-35: Wapekeka First Nation Virtual Information Session Attendance

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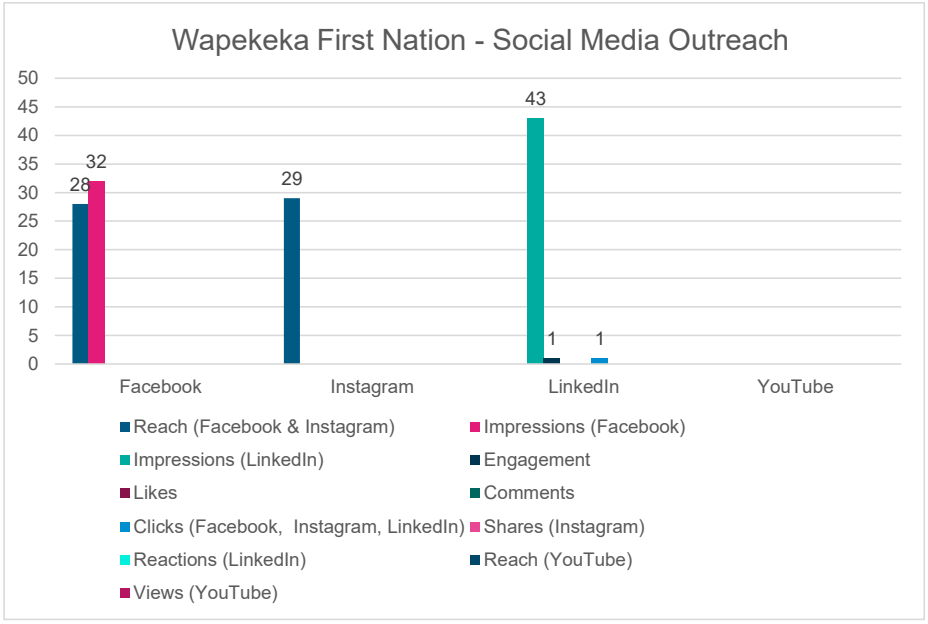


Figure 4-36: Wapekeka First Nation Social Media Outreach

4.2.18.2 Summary of Feedback Received and Response

No feedback was received from Wapekeka First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.19 Wawakapewin First Nation

4.2.19.1 Key Consultation Activities Undertaken to Date

Table 4-30 below describes key consultation activities that occurred during Consultation Round 1 with Wawakapewin First Nation.

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Table 4-30: Key Consultation Activities Undertaken During Round 1 - Wawakapewin First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 2, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 15, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.19.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Wawakapewin First Nation was held on Monday August 15, 2022, at 12:00pm EST. An invitation to participate was sent on August 2, 2022. The meeting was 45 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022 the recording of the session was viewed on YouTube 0 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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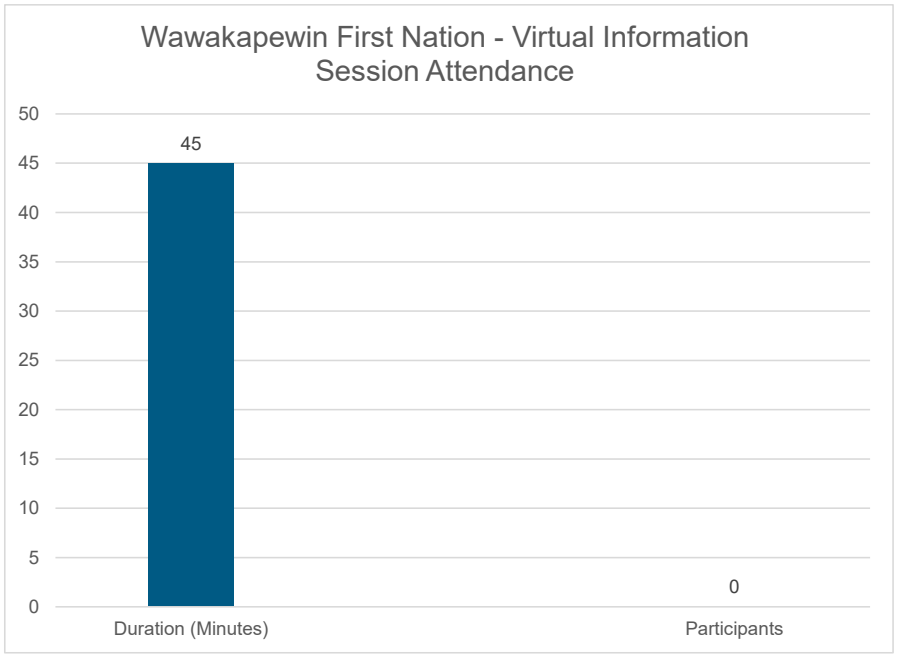


Figure 4-37: Wawakapewin First Nation Virtual Information Session Attendance

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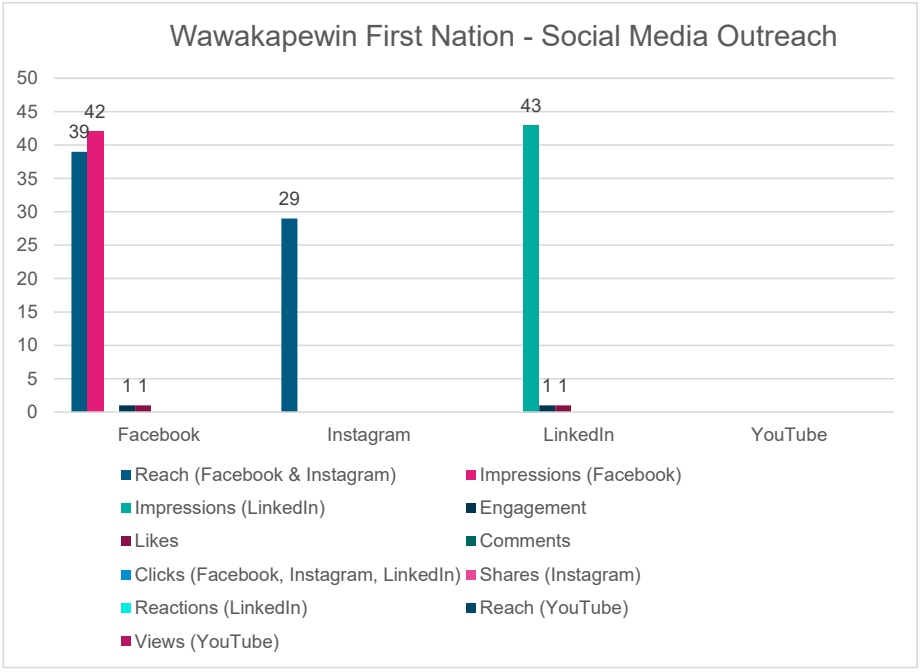


Figure 4-38: Wawakapewin First Nation Social Media Outreach

4.2.19.2 Summary of Feedback Received and Response

No feedback was received from Wawakapewin First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.20 Weenusk (Peawanuck) First Nation

4.2.20.1 Key Consultation Activities Undertaken to Date

Table 4-31 below describes key consultation activities that occurred during Consultation Round 1 with Weenusk (Peawanuck) First Nation.

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Table 4-31: Key Consultation Activities Undertaken During Round 1 - Weenusk (Peawanuck) First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
March 29, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
April 11, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
June 28, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 19, 2022	Chief and Council Meeting to provide update on Consultation Round 1 topics
July 19, 2022	On-reserve community meeting at the Weenusk Community Centre to discuss Consultation Round 1 topics
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 3, 2022	Additional follow up on IKLRU invitation letter via email and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
September 26, 2022	Virtual community meeting to discuss participation in the Socio-Economic primary data collection Program, including availability of accommodations for the WSR Project Team to stay in the community
Monthly (November 2021 – September 2022)	Newsletters 5 -13 circulated via email, mail, and fax

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4.2.20.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Weenusk First Nation was held on Monday April 11, 2022, at 12:00pm EST. An invitation to participate was sent on March 29, 2022. The meeting was 109 minutes long and 3 community members attended. The session was advertised through word of mouth. As of October 18,, 2022, the recording of the session was viewed on YouTube 18 times. Detailed information regarding the social media outreach analytics for this session are presented below.

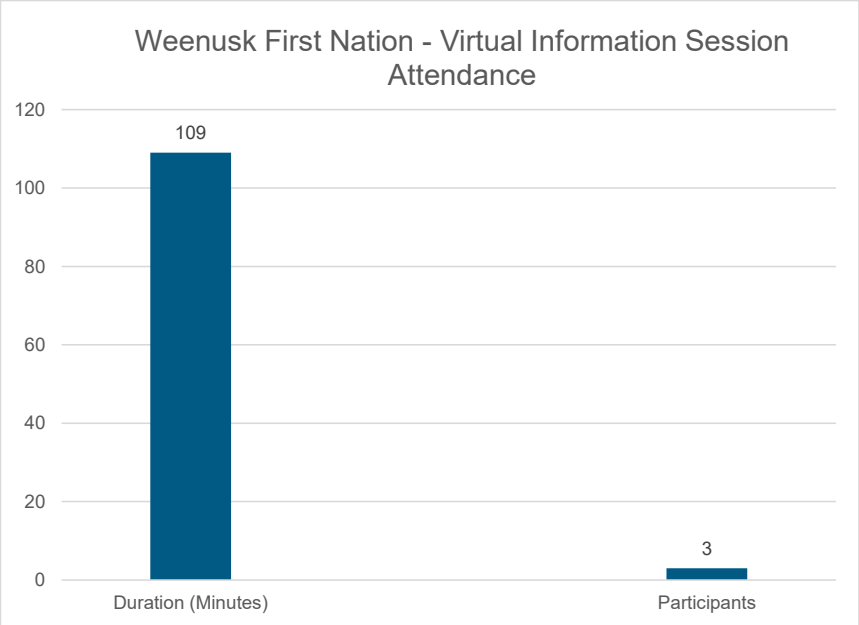


Figure 4-39: Weenusk First Nation Virtual Information Session Attendance

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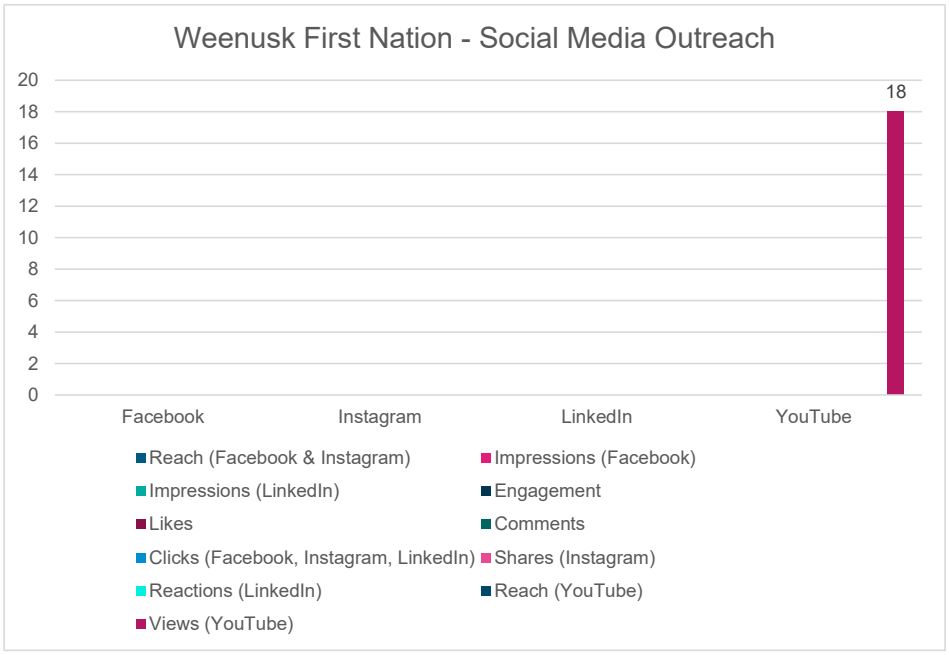


Figure 4-40: Weenusk First Nation Social Media Outreach

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4.2.20.2 Summary of Feedback Received and Response

Table 4-32 below describes feedback received from Weenusk (Peawanuck) First Nation during Consultation Round 1 for the WSR Project.

Table 4-32: Feedback Received and Responses Provided During Consultation Round 1 – Weenusk (Peawanuck) First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
22-Jun-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Jeff Hunter, the acting Chief of Weenusk First Nation (WEFN) requesting to visit the community on July 19 and 20, 2022 to conduct an information session with WEFN membership. Michael asked Chief Jeff Hunter to confirm if these dates work and confirm if representatives from the Ministry of Northern Development & Mines and Natural Resources & Forestry are welcome to attend with the WSR Project Team to explain their role related to the WSR Project.
13-Jul-2022	Email		x	Michael Fox (WSR Project Team)	Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email to Adena Vanderjagt, advisor for Weenusk First Nation (WEFN), requesting a meeting to discuss hosting an information session for WEFN. Michael provided his phone number to be contacted at.
22-Aug-2022	Email	x		Adena Vanderjagt (MNP/ WEFN)	Adena Vanderjagt of MNP and advisor for Weenusk First Nation (WEFN) sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team stated that WEFN is interested in participating in the Socio-Economic Primary Data Collection Program. Adena inquired what kind of data the Project Team will be collecting, how input from WEFN on this data can be provided and how it will be considered and incorporated, how WEFN can support the collection of any data from the community, and how WEFN can participate in the verification of information gathered to date based on current research. Adena noted that Clinton Patrick is the community coordinator and should be the main contact for this discussion, although MNP would be supporting WEFN as needed. Adena requested a meeting to discuss availability for future meetings.

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Table 4-33: Feedback Received and Responses Provided During Consultation Round 1 – Weenusk (Peawanuck) First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
14-Sep-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team sent an email to Adena Vanderjagt of MNP, consultant of Weenusk First Nation (WEFN), responding to the email sent on August 22, 2022 regarding the WSR Socio-Economic Data Collection Program. Marian explained that the WSR Project team would be happy to meet and discuss the program further and provided dates that the project team is available to meet. Marian requested that WEFN confirm their availability.
16-Sep-2022	Email	x		Adena Vanderjagt (MNP/ WEFN)	Adena Vanderjagt of MNP, consultant for Weenusk First Nation (WEFN), sent an email to Marian Tibor-McMahon of Indigenous Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team. The email was a response to the email Marian sent on September 14, 2022 regarding the Socio-Economic Primary Data Collection Program and potential meeting dates for WEFN. Adena indicated that Clinton Patrick, WEFN's community coordinator, has noted his availability for September 26, 2022.
19-Sep-2022	Email		x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) sent a zoom meeting invite to Adena Vanderjagt, of MNP, consultant for Weenusk First Nation (WEFN) for a meeting to discuss WEFN's participation in the Socio-Economic Primary Data Collection Program. Marian asked Adena to indicate if she had received the invitation. The email was a response to Adena's email on September 16, 2022.
26-Sep-2022	Meeting	N/A		Adena Vanderjagt (MNP/WEFN), Clinton Patrick (WEFN)	Michael Fox and Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team held a meeting via Zoom with Weenusk First Nation (WEFN). The purpose of the meeting was to discuss WEFN's participation in the Socio-Economic Primary Data Collection Program. The discussion included: Introductions; A brief description of the Socio-Economic Program; Answering questions from WEFN; Review of the type of data that the WSR Project Team is hoping to collect; Review of data input process, consideration process, and how data will be incorporated; How WEFN can support the collection of data from the community; How WEFN can participate in the verification of information gathered to date based on current research; and next steps moving forward. The action items included: (1) SNC and ICE team to send WEFN the questions for focus groups, key informant interviews and surveys, and (2) WEFN to identify participants and look into available accommodations.

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Table 4-34: Feedback Received and Responses Provided During Consultation Round 1 – Weenusk (Peawanuck) First Nation

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title
29-Sep-2022	Email	x	Marian Tibor McMahon (WSR Project Team)	Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) on behalf of the Webequie Supply Road (WSR) Project Team sent an email to Adena Vanderjagt of MNP, and Clinton Patrick of Weenusk First Nation (WEFN) as a follow up to the meeting on September 26, 2022. The purpose of the meeting was to discuss the Socio-Economic Primary Data Collection Program for the WSR Project. Attached to the email was Socio-Economic questions as requested by WEFN. The documents attached included: Socio-Economic Community Survey Questions, Socio-Economic Focus Groups Questions, and Socio-Economic Key Informant Questions. The team indicated that they would be happy to discuss further any specific questions WEFN may have.

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4.2.21 Wunnumin Lake First Nation

4.2.21.1 Key Consultation Activities Undertaken to Date

Table 4-35 below describes key consultation activities that occurred during Consultation Round 1 with Wunnumin Lake First Nation.

Table 4-35: Key Consultation Activities Undertaken During Round 1 - Wunnumin Lake First Nation

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
April 13, 2022	Follow up on IKLRU invitation letter via phone call from Project Team
April 26, 2022	Follow up on Socio-Economic Program invitation letter via email
July 12, 2022	Letter describing community engagement options and providing information on virtual information sessions (including past sessions) circulated via email and fax
July 26, 2022	Letter describing community engagement options and providing information on the Socio-Economic primary data collection program circulated via email and fax
August 8, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
August 12, 2022	Letter describing community engagement options and providing information on the conclusion of Consultation Round 1/ Round 2 topics circulated via email and fax
August 22, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.21.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Wunnumin Lake First Nation was held on Monday August 22, 2022, at 12:00pm EST. An invitation to participate was sent on August 8, 2022. The meeting

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was 43 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 3 times. Detailed information regarding the social media outreach analytics for this session are presented below.

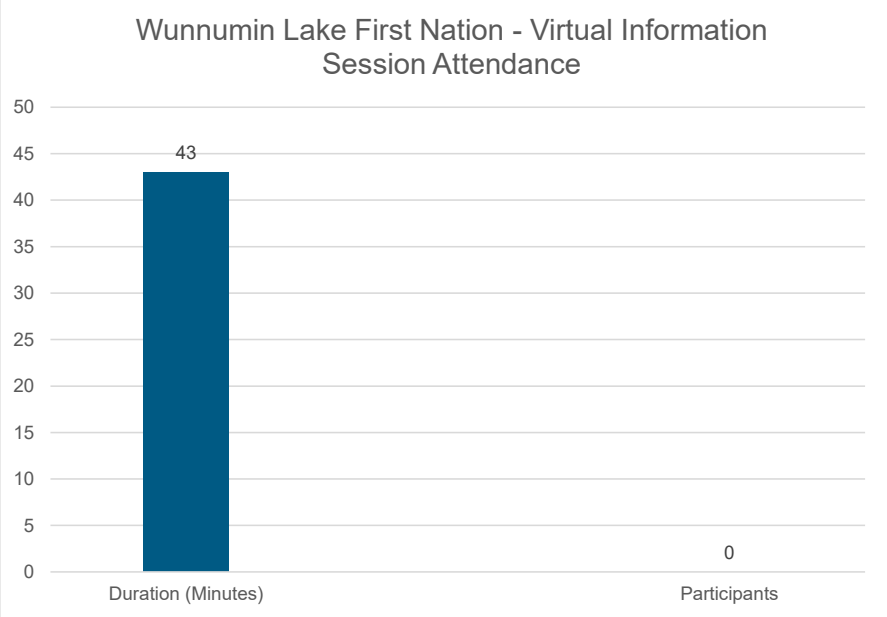


Figure 4-41: Wunnumin Lake First Nation Virtual Information Session Attendance

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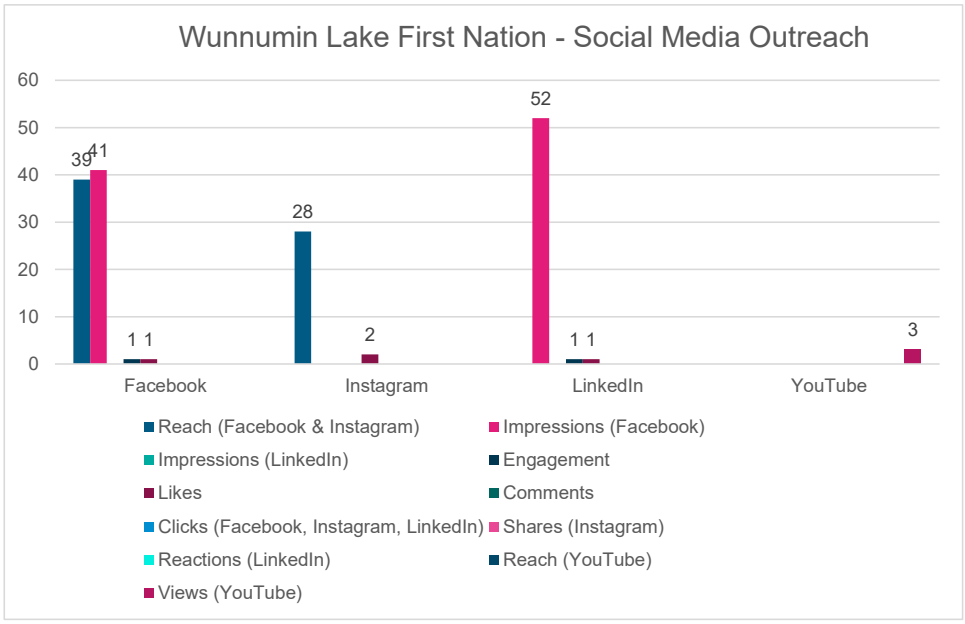


Figure 4-42: Wunnumin Lake First Nation Social Media Outreach

4.2.21.2 Summary of Feedback Received and Response

No feedback was received from Wunnumin Lake First Nation during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.22 Métis Nation of Ontario – Region 2

4.2.22.1 Key Consultation Activities Undertaken to Date

Table 4-36 below describes key consultation activities that occurred during Consultation Round 1 with the Métis Nation of Ontario.

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Table 4-36: Key Consultation Activities Undertaken During Round 1 - Métis Nation of Ontario

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows, including circulation of letters and posters to advertise each session via email, mal, and fax
December 2021	IKLRU and Socio-Economic Program invitation letters circulated via email, mail, and fax
August 15, 2022	Letter and poster advertising the upcoming virtual community information session circulated via email, mail, and fax
August 29, 2022	Round #1 virtual community information session including an introduction, video presentation summarizing EA/IA activities to date, and a Q&A period
August 18 & 23, 2022	Notice of PIC #1 circulated via email blast
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletters 5 - 13 circulated via email, mail, and fax

4.2.22.1.1 Virtual Community Information Session

A Live Virtual Community Information Session with Métis Nation of Ontario – Region 2 was held on Monday August 29, 2022, at 12:00pm EST. An invitation to participate was sent on August 15, 2022. The meeting was 40 minutes long and 0 community members attended. The session was advertised through word of mouth and through Facebook, Instagram and LinkedIn. As of October 18, 2022, the recording of the session was viewed on YouTube 0 times. Detailed information regarding the social media outreach analytics for this session are presented below.

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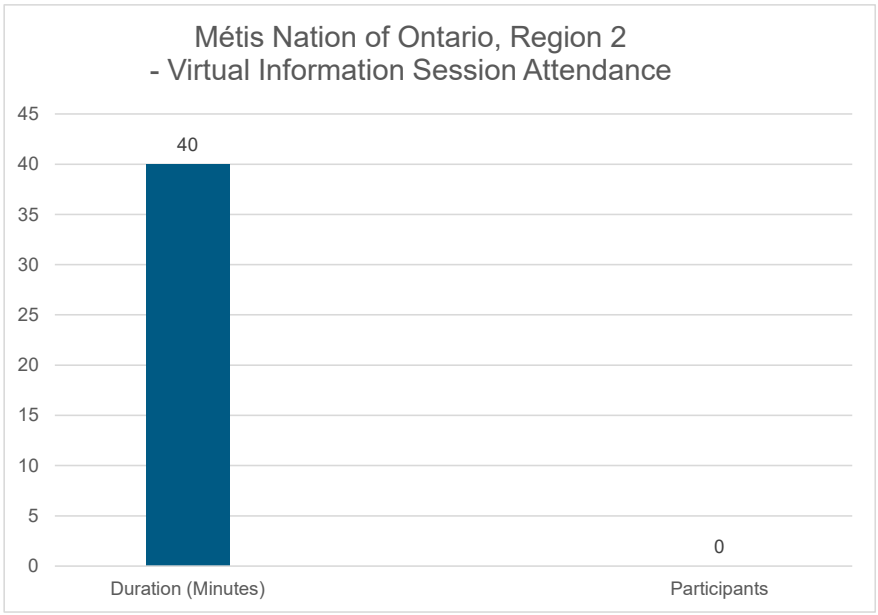


Figure 4-43: Métis Nation Of Ontario, Region 2 Virtual Information Session Attendance

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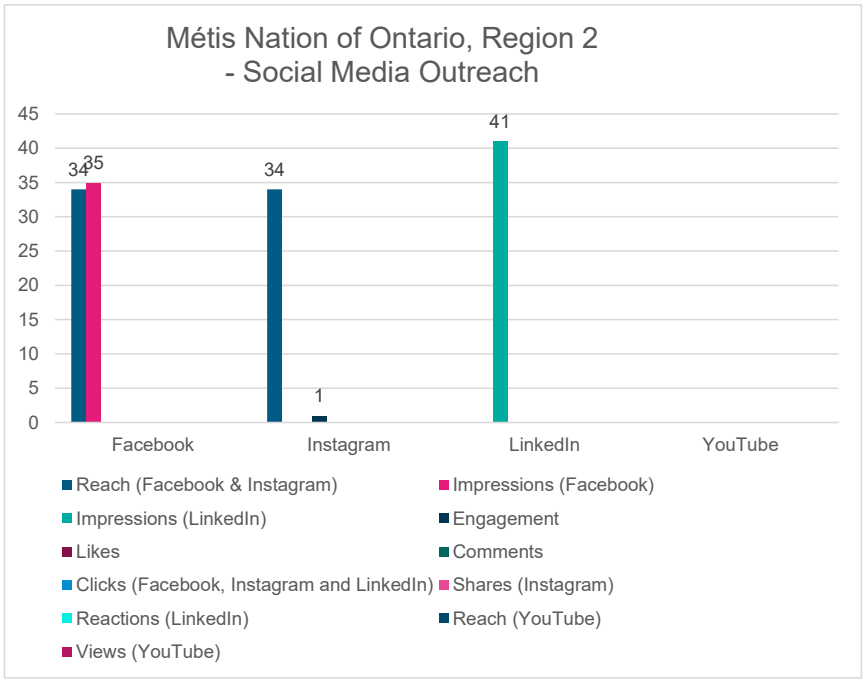


Figure 4-44: Métis Nation Of Ontario, Region 2 Social Media Outreach

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4.2.22.2 Summary of Feedback Received and Response

Table 4-37 below describes feedback received from the Métis Nation of Ontario during Consultation Round 1 for the WSR Project.

Table 4-37: Feedback Received and Responses Provided During Consultation Round 1 – Métis Nation of Ontario

Communication Date	Method of Engagement	Incoming	Outgoing	Contact Name and Title	Summary
27-Apr-2022	Email	x		Nick Richard (MNOR2)	Nick Richard of Métis Nation of Ontario – Region 2 (MNOR2) sent an email to Marian Tibor-McMahon of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team in response to the email Marian sent on April 26, 2022 regarding the WSR Socio-Economic Primary Data Collection Program. Nick corrected the email address that the WSR Project Team had for MNOR2. Nick also stated that MNOR2 appreciates the project updates and would like to continue receiving updates as the project progresses, however, MNOR2 is not actively seeking consultation on the WSR Project since it is not within Métis traditional territory. Nick stated that once the road network to the Ring of Fire is complete, there will be potential impacts to MNOR2's traditional territory.

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4.2.23 Indigenous Councils

4.2.23.1 Matawa Tribal Council

4.2.23.1.1 Key Consultation Activities Undertaken to Date

Table 4-38 below describes key consultation activities that occurred during Consultation Round 1 with Matawa Tribal Council.

Table 4-38: Key Consultation Activities Undertaken During Round 1 - Matawa Tribal Council

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows
December 2021	IKLRU and Socio-Economic Program invitation letters
August 2022	Notice of PIC #1 via email and newspaper
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletter circulated via email and mail

4.2.23.1.2 Summary of Feedback Received and Response

No feedback was received from Matawa Tribal Council during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.23.2 Mushkegowuk Council

4.2.23.2.1 Key Consultation Activities Undertaken to Date

Table 4-39 below describes key consultation activities that occurred during Consultation Round 1 with Mushkegowuk Council.

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Table 4-39: Key Consultation Activities Undertaken During Round 1 - Mushkegowuk Council

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows
December 2021	IKLRU and Socio-Economic Program invitation letters
August 2022	Notice of PIC #1 via email and newspaper
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletter circulated via email and mail

4.2.23.2.2 Summary of Feedback Received and Response

No feedback was received from Mushkegowuk Council during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

4.2.23.3 Shibogama Council

4.2.23.3.1 Key Consultation Activities Undertaken to Date

Table 4-40 below describes key consultation activities that occurred during Consultation Round 1 with Shibogama Council.

Table 4-40: Key Consultation Activities Undertaken During Round 1 - Sibogama Council

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows
December 2021	IKLRU and Socio-Economic Program invitation letters
August 2022	Notice of PIC #1 via email and newspaper
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletter circulated via email and mail

4.2.23.3.2 Summary of Feedback Received and Response

No feedback was received from Shibogama Council during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

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4.2.23.4 Windigo First Nations Council

4.2.23.4.1 Key Consultation Activities Undertaken to Date

Table 4-41 below describes key consultation activities that occurred during Consultation Round 1 with Windigo First Nations Council.

Table 4-41: Key Consultation Activities Undertaken During Round 1 - Windigo First Nations Council

Date	Description of Key Consultation/Engagement Activities
October – November 2021	NoC distributed via email and mail
October 2021 – September 2022	Virtual live-stream sessions and Wawatay radio call-in shows
December 2021	IKLRU and Socio-Economic Program invitation letters
August 2022	Notice of PIC #1 via email and newspaper
August 25, 2022	PIC #1 at Valhalla Hotel and Conference Centre in Thunder Bay
Monthly (November 2021 – September 2022)	Newsletter circulated via email and mail

4.2.23.4.2 Summary of Feedback Received and Response

No feedback was received from Windigo First Nations Council during the EA phase to date. Any feedback received and/or responses provided during Consultation Round 2 will be included in the next Consultation Progress Report.

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5 Integration of Feedback into the EA/IA Process

As part of Consultation Round 1, the engagement and consultation activities listed in **Section 3** (including Chief and Council Meetings, virtual and in-person open houses, virtual topic-specific information sessions and radio call-in shows, on-reserve and off-reserve community meetings, and posting of content on the Project website) sought to generate comments and feedback from the 22 potentially affected Indigenous communities regarding various aspects of the WSR Project and EA/IA study process. The feedback that has been received to date will be integrated into the ongoing EA/IA process and studies in various ways.

Study area boundaries and indicators (which represent a resource, feature, or issue that, if changed, may represent an effect on the environment) for each valued component will be refined and validated based on input from Indigenous communities generated during Consultation and Engagement as well as through the IKLRU program. Furthermore, this feedback will inform the Project Team's understanding of potential effects on Aboriginal and Treaty Rights and Interests and will be woven into the assessments for valued components (such as socio-economic, vegetation, human health, aquatic environment, wildlife, and others), as applicable.

Consultation and engagement with Indigenous communities could also result in the alteration of technically and economically feasible alternative methods of carrying out the Project, such as the alignment options for the road or aggregate source areas identified during the ToR phase, before the proposed or final Project development area/footprint (i.e., the Undertaking) is confirmed and presented in the EAR/IS. Any comments provided by Indigenous communities that influence the evaluation of alternatives and selection of the preferred alternative or commitments to mitigation and monitoring/reporting will be addressed in relevant sections of the EAR/IS. Other comments relating to the Project will be addressed in the Consultation Section of the EAR/IS and in a summary table within the final Record of Consultation, summarizing the comments and the responses provided. Where resolution of issues has not been possible by the time of publication of the Draft EAR/IS, this will be noted, along with a record of all attempts to resolve the issue.

In order to receive input and inform in the decision-making process for the planning and development of the Project, Indigenous communities will have the opportunity to review the Draft and Final EAR/IS. Copies of the Draft EAR/IS and Final EAR/IS for Indigenous communities' review and comment will be made available, including at the Administration office of each Indigenous community, at Tribal Council and Nishnawbe Aski Nation offices, at participating municipal offices and libraries, and through the Project website.

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6 Conclusions/ Next Steps

As demonstrated within this Consultation Progress Report, during the EA/IA phase of the Project, the WSR Project Team is committed to ongoing efforts to engage and consult with potentially affected communities through various activities and initiatives. The WSR Project Team will respond to any questions or concerns raised by MECP or an Indigenous community in response to the Consultation Progress Report, including making any revisions to the progress report as considered applicable. This report will also be appended to the record of consultation submitted with the EAR/IS.

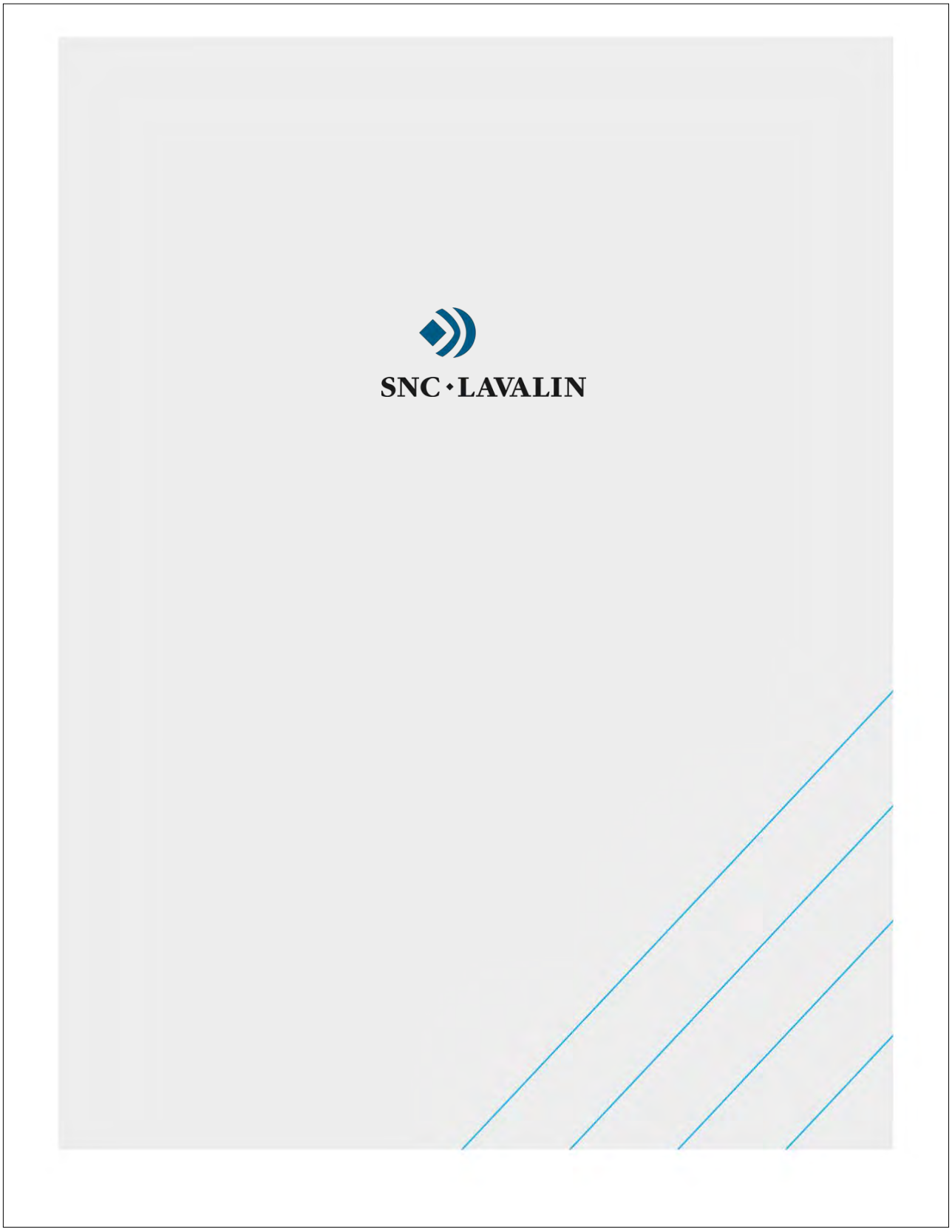
Next steps for the WSR Project consultation and engagement program will involve proceeding with various consultation and engagement activities as part of Consultation Round 2, which is tentatively scheduled to start in Winter 2022/2023 and continue through Summer 2023. Key milestones and topics to be included as part of the consultation program for this round include identification and evaluation of alternatives, preliminary recommended preferred route and supportive infrastructure (aggregate/ rock source areas, construction camps, access roads), including rationale for selection, and preliminary engineering design elements (bridges/culverts). Following Consultation Round 2, a second Consultation Progress Report will be produced in order to meet MECP's requirements as defined in the NoA of the ToR (Amendment 3 "Consultation Reporting at Key EA Milestones"). Finally, Consultation Round 3 will occur in Winter 2023/2024 and will focus on the outcomes of the preliminary effects assessment and the proposed impact management, mitigation, and follow-up monitoring program. This round will occur in tandem with the development and notice of the Draft and Final EAR/IS, which will include the final record of consultation (including the outcomes of consultation and engagement activities from all three rounds) and be circulated to all 22 potentially affected Indigenous communities for review and comment.

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Appendix A

Praxis Record of Consultation Report




SNC·LAVALIN

October 21, 2022

Sasha McLeod and Dorothy Moszynski
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St Clair Avenue West, 1st floor
Toronto, ON M4V 1P5

Re: Round 1 Consultation Progress Report
Webequie Supply Road Project
Environmental Assessment / Impact Assessment

Dear Ms. McLeod and Ms. Moszynski:

As you are aware, Webequie First Nation is the proponent of the Webequie Supply Road Project (the Project), a proposed 107 km all-season road that will facilitate the movement of materials and people from the Webequie Airport to the mineral deposit area near McFaulds Lake. An Environmental Assessment (EA) under the Ontario *Environmental Assessment Act* and an Impact Assessment (IA) under the federal *Impact Assessment Act* is being conducted to identify and assess how the Project may affect the natural environment as well as the health, socio-economic and cultural well-being of communities.

We are providing the attached Consultation Progress Report (electronic copy), which summarizes and documents Round 1 of the Engagement and Consultation Program with Indigenous communities on the Project. The Consultation Progress Report is provided as per the requirements of the Terms of Reference (ToR) for the provincial EA process and specifically the Ministry of the Environment, Conservation and Parks (MECP) ToR Notice of Approval that requires the proponent to provide Consultation Progress Reports to Indigenous communities and the MECP at three key milestones throughout the EA.

The Consultation Progress Report provides an overview of engagement activities to-date, as well as community-specific summaries of engagement and community feedback and input provided by community members. Consultation Round 1 of the Engagement and Consultation Program occurred in Spring/Summer 2022. Key milestones and topics covered in this round of consultation included:

- Overview of EA/IA process;
- Consultation to date and what we have heard (i.e. during the ToR phase);
- Study Plans for discipline studies (e.g., wildlife, fish, health, etc.);
- Criteria and indicators for evaluation and selection of a preferred route and Project effects assessment;
- Approach for evaluation of alternatives (e.g., routes, aggregate source areas);
- Overview and status of baseline studies;
- Indigenous Knowledge / Indigenous Land and Resource Use (IKLRU) Program; and,
- Consultation approach and next steps.

WSR
WEBEQUIE
SUPPLY ROAD

Webequie First Nation is tentatively planning to conduct Consultation Round 2 for the Project from Winter 2023 to Summer 2023. The following milestones and topics are proposed to be addressed as part of engagement and consultation activities for this round:

- Summary of input received from Consultation Round 1;
- Identification and evaluation of alternatives (routes, aggregate source areas, etc.,);
- Preliminary recommended preferred route and supportive infrastructure (aggregate/ rock source areas, construction camps, access roads), including rationale for selection;
- Preliminary engineering design elements of WSR (bridges/culverts); and,
- Next steps and schedule.

We welcome any feedback on the attached Consultation Progress Report. Should you have any questions or comments on the Consultation Progress Report, please feel free to contact me at 807-472-6147 or michael.fox@supplyroad.ca.

Thank you very much.

Sincerely,



Michael Fox

Regional Consultation Lead
Webequie Supply Road

c.c. Chief Cornelius Wabasse, Webequie First Nation
Craig Wallace, Project Manager, SNC-Lavalin Inc.

2

WSR Round 1 Consultation Progress Report

MECP Comment Response Table

Section / Page #	MECP Comment November 9, 2022	Project Team Response November 22, 2022	Action(s) (Note: report will not be re-circulated)
Cover Letter, Pg. 2	Page 2 of cover letter and page 5 of progress report: Topics to be discussed during Round 2 should include results of baseline studies (milestone #2 is Baseline Data Collection, Identification of Alternatives)	Noted and agreed – results of baseline studies will be added to the list of topics to be presented during Consultation Round 2.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports • Baseline study results to be incorporated into Consultation Round 2 materials
1.1, Pg. 1	"draft ToR" – Should say "proposed" as the proposed/final ToR was submitted Aug 14, 2020	Noted and agreed – to be revised.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports
1.1, Pg. 1	Does this refer to commitments made by the proponent as part of the ToR process, or amendments made as part of the ToR decision? If the latter, should say "and amendments made by the Minister of the Environment, Conservation and Parks as described in the NoA."	Refers to the latter – language to be updated accordingly.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports
2.1.2, Pg. 3	"MNDM" – Now Ministry of Mines (MINES)	Noted – to be revised (change to be carried forward for all WSR reporting).	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports • To be carried forward for all reporting
2.3.1, Pg. 5	"Spring/Summer 2022" – Can a more specific date range be added?	Yes – to be revised to "April – September" as the virtual community information sessions commenced in April.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports
2.3.1, Pg. 5	should include results of baseline studies, as per comment above	Noted and agreed – results of baseline studies will be added to the list of topics to be presented during Consultation Round 2.	• Report revision to be made for EAR/IS and/or

Section / Page #	MECP Comment	Response	Action(s) (Note: report will not be re-circulated)
			future Consultation Progress Reports • Baseline study results to be incorporated into Consultation Round 2 materials
2.4 - Table 2-2, Pg. 6	Where is 'criteria/indicators' and 'approach to evaluate alternatives' reflected in this table, per the topics included for Round 1 listed in 2.3.1?	These topics were presented/ included in the consultation materials produced for various activities listed in this table, including the Topic-Specific Information Sessions, Community Meetings, PIC #1 and Project Website. The topics covered in each of these activities can be detailed here at MECP's request, however the intent of this table is to serve as a high-level overview of activities offered for each consultation round, with more specific details provided in Section 3.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports
2.4 - Table 2-2, Pg. 6	I think these will be ongoing through round #2, particularly IKLRU program	Agreed – IKLRU Program and Socio-Economic Data Collection to be added to Consultation Round #2 section of the table.	• Report revision to be made for EAR/IS and/or future Consultation Progress Reports • IKLRU Program and Socio-Economic Data Collection to be included in future Consultation Round #2 Progress Report
2.4 - Table 2-2, Pg. 7	The ToR lists the draft and final EAs as separate 4th and 5th rounds/milestones. The Consultation Progress Report for round 3 is supposed to be issued prior to the draft EA so that communities can see how their input has been incorporated prior to the draft EA (which will include the full RoC for all rounds, and will have its own consultation/comment period associated).	Noted. This process is agreeable to the Project Team – items to be removed from Consultation Round #3 section of the table. Furthermore, this process will be clearly noted within the report (i.e., within the introductory paragraph to section 2.4).	• Report revisions to be made for EAR/IS and/or future Consultation Progress Reports
3.1, Pg. 8	May be helpful to start with notifications, to indicate that all communities were invited to meetings...	Noted and agreed – section will be re-ordered accordingly.	• Report revisions to be made for EAR/IS and/or

Section / Page #	MECP Comment	Response	Action(s) (Note: report will not be re-circulated)
			future Consultation Progress Reports
3.4.1, Pg. 17	If some of this information has been informed by input from Indigenous communities, consider if any of this could be used to contribute to a separate section (i.e. s. 5) that includes discussion of how any input and information provided by the Indigenous communities have informed the development of the EA milestone, per the ToR notice of approval requirement.	Noted – these FAQs and responses have been informed generally by input from Indigenous communities both during the ToR phase and EA Consultation Round # 1. The Project Team will expand on Section 5 by incorporating more detailed discussion around how feedback received from Indigenous communities during Consultation Round #1 (i.e., from Neskantaga, Weenusk) has informed this EA milestone and will continue to inform the EA approach (i.e., will note specific studies or EAR/IS sections).	• Report revisions to be made for EAR/IS and/or future Consultation Progress Reports
5, Pg. 144	In this section, please include a summary of the key comments or issues raised during this period and how they will be/are addressed (i.e., a summary of key or commonly-raised issues from the community-specific sections). Can be titled in a way that mirrors the ToR amendment requirement (e.g. how input received informed the milestone).	Noted – per the above response, the Project Team will add a new subsection (5.1) incorporating these details as available.	• Report revisions to be made for EAR/IS and/or future Consultation Progress Reports
6, Pg. 145	Ensure that round 3 and 3rd progress report are completed before draft EA is issued.	Noted – sentence to be revised to reflect this approach.	• Report revisions to be made for EAR/IS and/or future Consultation Progress Reports

WETLAND ENVIRONMENTAL IMPACT STUDY REQUIREMENTS; TECHNICAL MANUAL

Gartner Lee

PREPARED FOR:
ONTARIO MINISTRY OF MUNICIPAL AFFAIRS,
– **Provincial Facilitator's Office**
ONTARIO MINISTRY OF NATURAL RESOURCES,
– **Corporate Policy and Planning Secretariat**

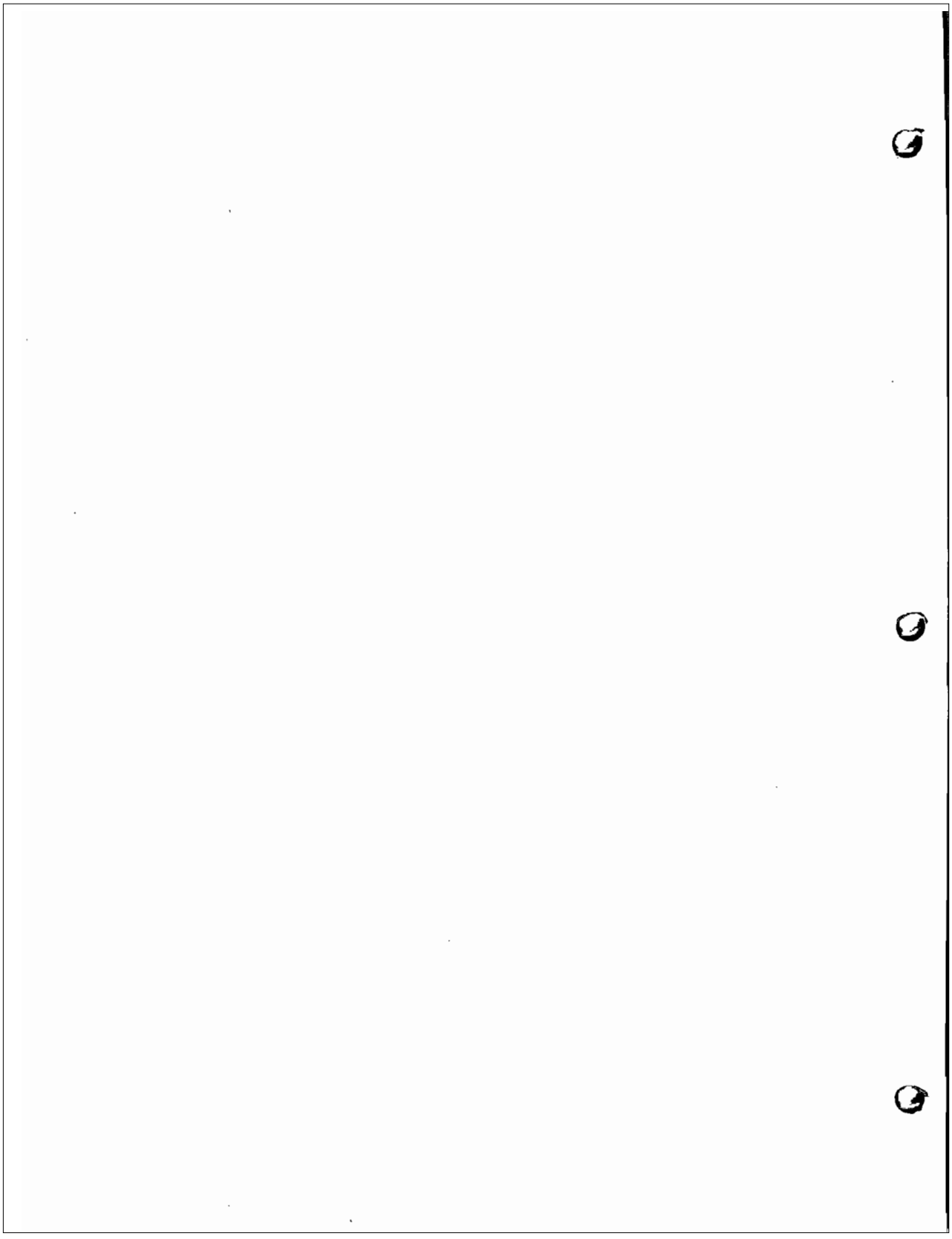
PREPARED BY:
GARTNER LEE LIMITED
in association with
MALONE GIVEN PARSONS LTD.

T.W. Hilditch, B. Bergsma and J.F. Gartner

FEBRUARY, 1995

GLL 93–289

Consultants In The Environment



HOW TO USE THIS MANUAL

One of the important objectives of an Environmental Impact Study (EIS) is to ensure the protection of provincially significant wetlands. This Technical Manual is a guide to the preparation and/or evaluation of Environmental Impact Studies required by the Provincial Wetlands Policy Statement issued under Section 3 of the Planning Act, RSO 1990 C.P. 13. This Technical Manual is suitable for use by Ministry of Natural Resources (MNR) personnel and other agency (including municipal) staff, and by proponents, consultants and others.

An EIS is a technical document which places particular importance upon the collection and interpretation of scientific information. The conduct and/or review of many EISs will require some expertise in the areas of biology/ecology, planning and physical sciences/engineering and the ability to integrate these elements effectively. The degree of expertise required will be influenced by the degree of complexity of the individual project. An EIS is required in response to proposed development activities in provincially significant wetlands and on lands adjacent to them, throughout Ontario, according to the Provincial Wetlands Policy Statement:

Policy Statements

2. ***In the Great Lakes – St. Lawrence Region***

2.1 ***Development*** shall not be permitted within ***Provincially Significant Wetlands***.

2.2 On ***Adjacent Lands, Development*** may be permitted only if it does not result in any of the following:

a) loss of ***Wetland Functions***;
b) subsequent demand for future ***Development*** which will negatively impact on existing ***Wetland Functions***;
c) conflict with existing site-specific wetland management practices; and
d) loss of contiguous ***Wetland Area***.

This shall be demonstrated by an ***Environmental Impact Study*** (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to d) inclusive.

2.3 On ***Adjacent Lands***, established ***Agricultural Activities*** are permitted without an EIS.

3. In the Boreal Region

3.1 In ***Provincially Significant Wetlands*** and ***Adjacent Lands, Development*** may be permitted only if it does not result in any of the following:

a) loss of ***Wetland Functions***;
b) subsequent demand for future ***Development*** which will negatively impact on existing ***Wetland Functions***; and
c) conflict with existing site–specific wetland management practices.

This shall be demonstrated by an ***Environmental Impact Study*** (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to c) inclusive.

3.2 On ***Adjacent Lands***, established ***Agricultural Activities*** are permitted without an EIS.

4. Approval Process for Utilities/Facilities

4.1 New utilities/facilities shall be located outside ***Provincially Significant Wetlands*** wherever possible. Approval authorities shall consider alternative methods and measures for minimizing impacts on ***Wetland Functions*** when reviewing proposals to construct transportation, communication, sanitation and other such utilities/facilities in ***Provincially Significant Wetlands***.

There are three types of EIS that differ in scope. One or more of these must be completed prior to the approval of any development proposal in or adjacent to Provincially Significant Wetlands as defined by policies 2.2 or 3.1 in the Wetlands Policy Statement:

1. Comprehensive;
2. Full Site; and
3. Scoped Site.

Each is specific to a different set of development scenarios. Generally, the Comprehensive EIS is a tool for landscape level (e.g., watershed, subwatershed, wetland complex) planning. It is fairly broad in scope, relying principally upon background or secondary source information, sometimes supplemented by the collection of considerable new data, especially if it is part of a watershed study. Wetland complexes, because of their larger size, are often best dealt with through a Comprehensive EIS; however, this would not apply where a particular complex covers a small area. A municipality or planning board may undertake a Comprehensive EIS for its political jurisdiction. In this case, the goal of the EIS is to incorporate broad based land use policies for development into the Official, Secondary

and Special Area Plans. A proponent of a site specific proposal would then generally prepare a Scoped Site EIS that would build upon the information compiled in the Comprehensive EIS and address the specific impacts of the proposed development within the policy framework established in the municipal plan.

The Full Site and Scoped Site EISs are conducted for specific developments within and/or adjacent to a provincially significant wetland. The selection of one versus another is dependent upon a number of considerations including the type and magnitude of the development, degree of expected effects, and whether a Comprehensive EIS has been prepared.

This Technical Manual is organized to help the reader decide what is relevant in a particular EIS and to identify the documentation requirements for each of these three EIS types. This Technical Manual includes a flow chart (Figure 1) to determine whether an EIS is required and an introduction and overview of the applicability of the Wetlands Policy Statement and the framework for conducting EISs. Chapter 2 is an overview of the EIS process developed specifically to allow early and open consultation among key stakeholders and to enable defensible and replicable documents to be produced in a reasonable manner. The main steps in this process and relevant sections of the technical manual are explained in Sections 3.0 to 7.0. They are supported by detailed technical appendices.

Section 3.0 – Initial Consultation and Potential Issues Summary Paper Requirement

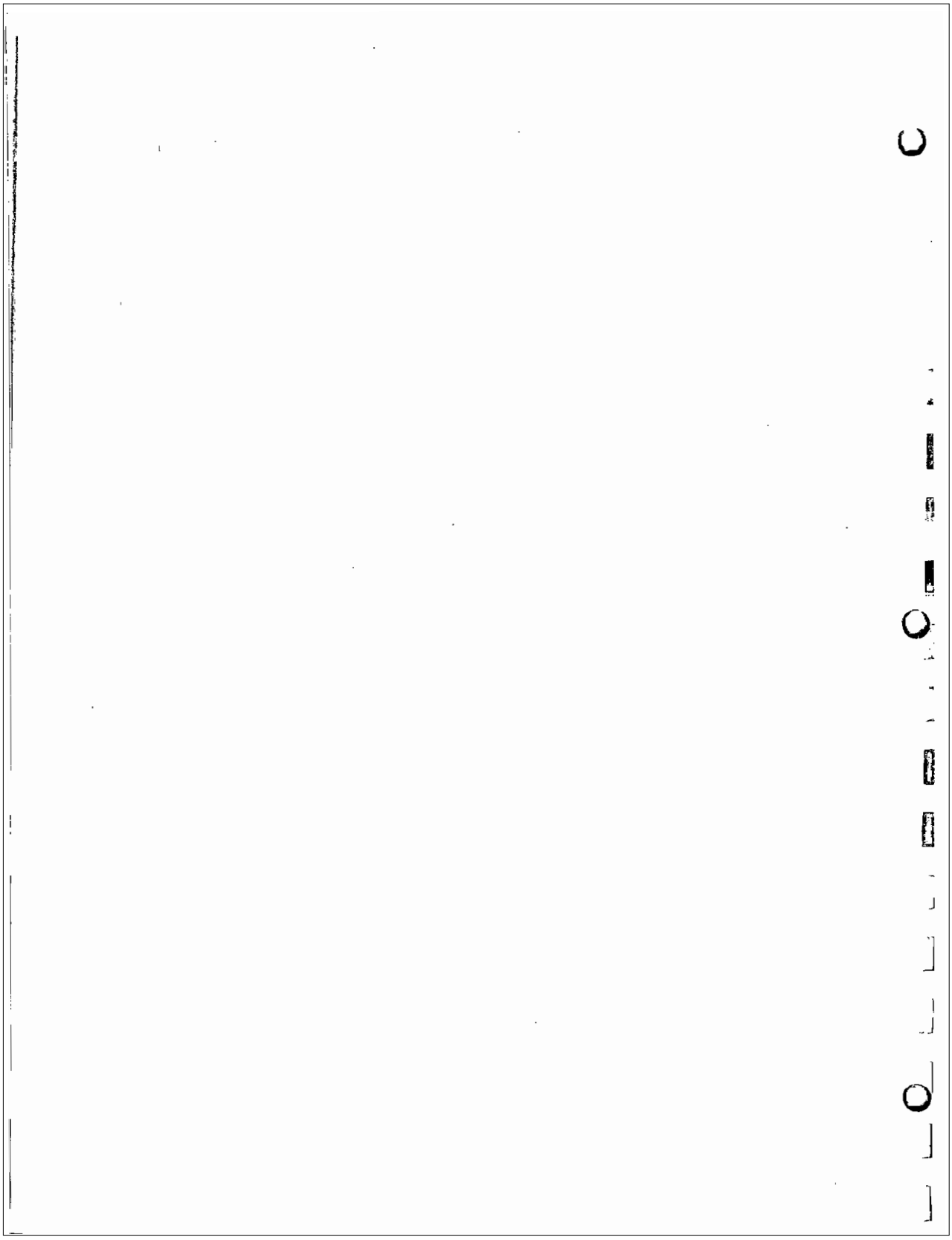
This section includes consultation activities, along with an initial assessment of the existing environment, and descriptions of the proposed development and potential effects of development activities on wetland functions. The product of this step is an Issues Summary Paper which can fulfill the requirements of a Scoped Site EIS or can form the outline of the Full Site EIS to be prepared. The Issues Summary Paper requirement should be discussed with the MNR and the planning authority. It will likely be required for most Full Site EISs and some scoped site EISs.

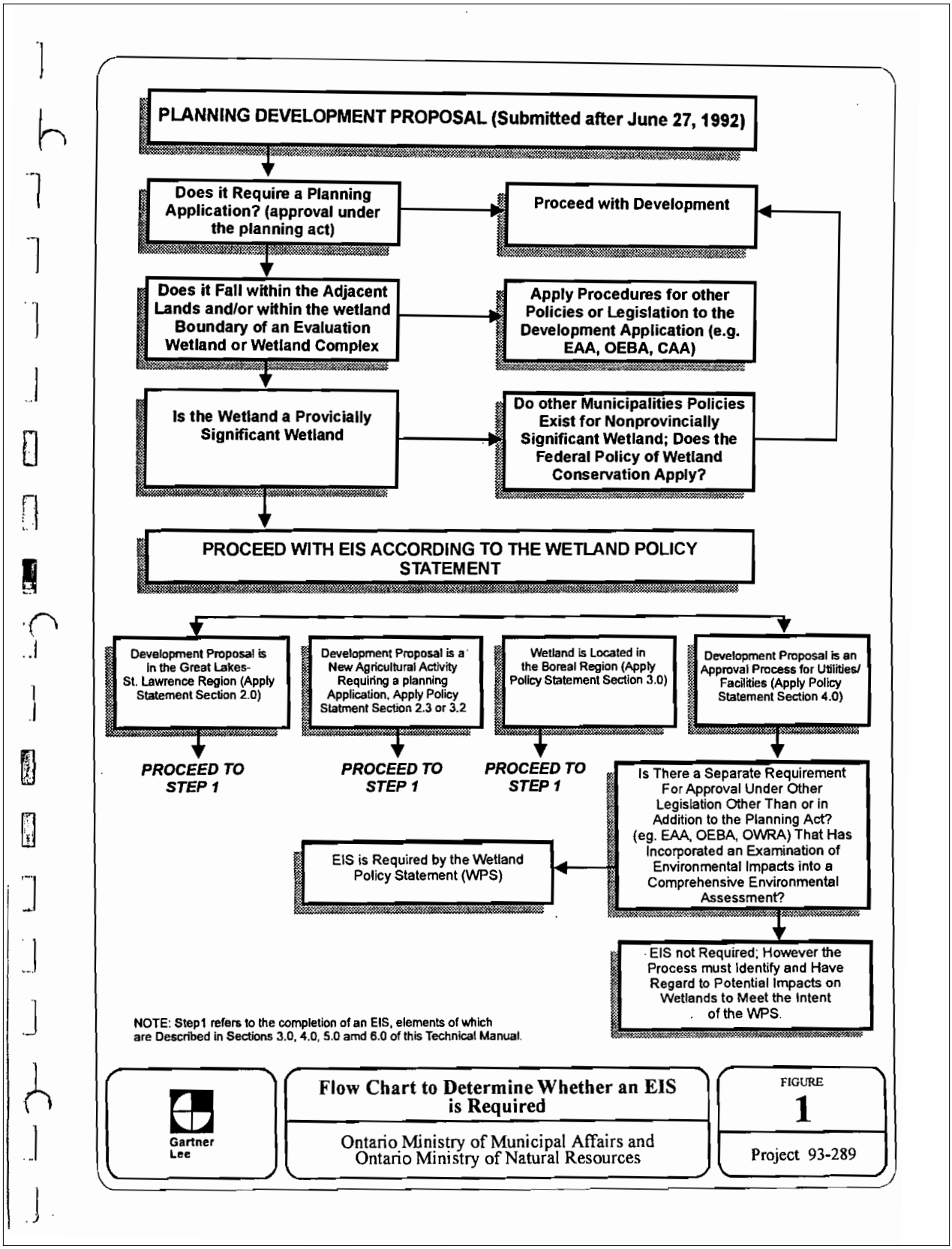
Sections 4.0, 5.0 and 6.0 – Scoped Site, Full Site and Comprehensive EIS Requirements

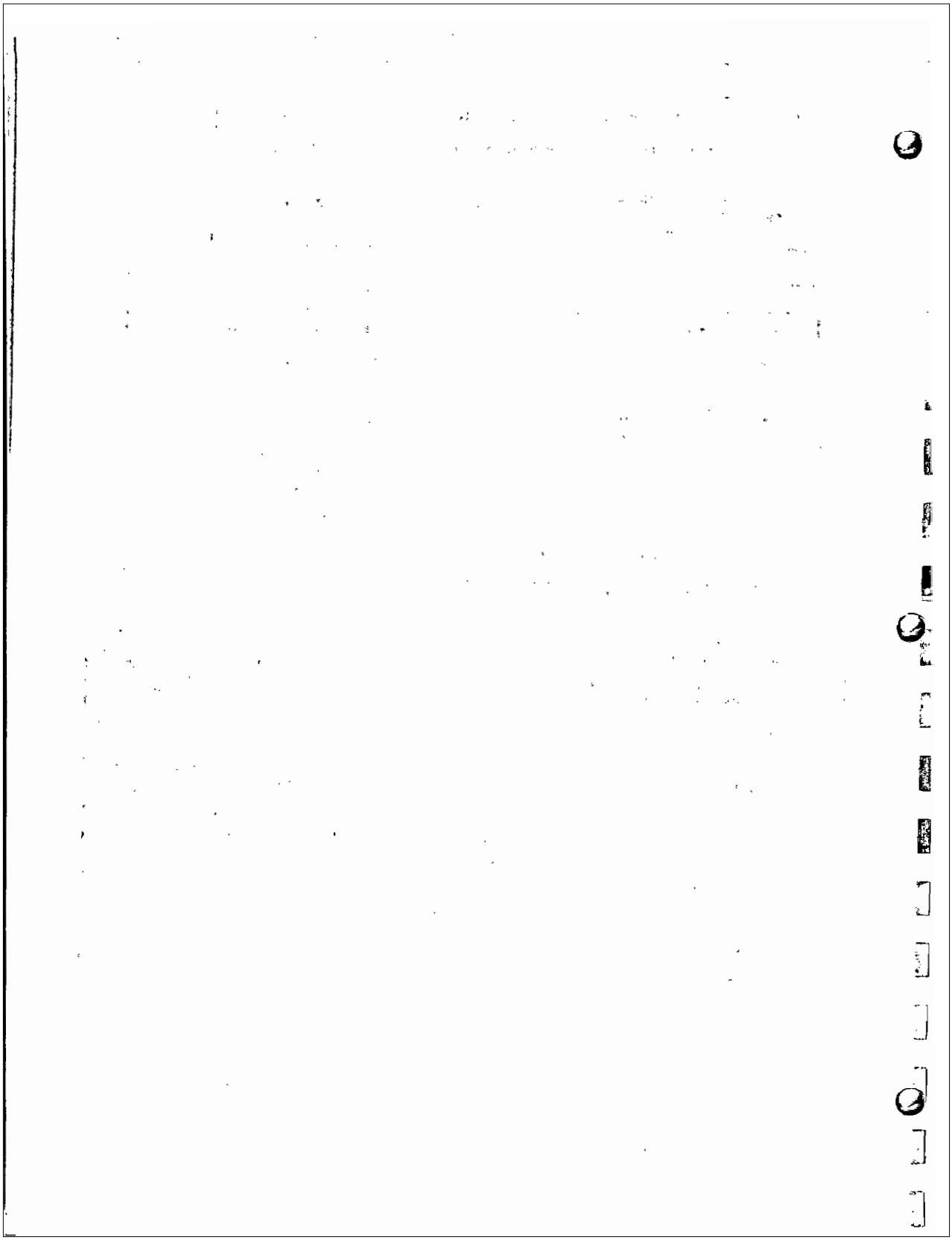
These can be based on information compiled in Section 3.0 (e.g., type of EIS, issues of interest, and the expected level of effort required). This step is the most important component of the Technical Manual. It provides the guidance required to characterize wetland functions and to carry key wetland functions through the impact/effect assessment process. The product of these sections are the Scoped Site, Full Site and Comprehensive EIS documents.

Section 7.0 – EIS Review and Recommendation

This is the review, recommendation and approval stage, when the municipality or planning board (approval agency) decides to accept with conditions, accept pending further detail, bump–up, or reject a development application based upon technical input provided by the EIS and guidance coordinated by the Ontario Ministry of Natural Resources (MNR).




PLANNING DEVELOPMENT PROPOSAL (Submitted after June 27, 1992)
Does it Require a Planning Application? (approval under the planning act)
Proceed with Development
Does it Fall within the Adjacent Lands and/or within the wetland Boundary of an Evaluation Wetland or Wetland Complex
Apply Procedures for other Policies or Legislation to the Development Application (e.g. EAA, OEBA, CAA)
Is the Wetland a Provicially Significant Wetland
Do other Municipalities Policies Exist for Nonprovincially Significant Wetland; Does the Federal Policy of Wetland Conservation Apply?
PROCEED WITH EIS ACCORDING TO THE WETLAND POLICY STATEMENT
Development Proposal is in the Great Lakes-St. Lawrence Region (Apply Statement Section 2.0)
Development Proposal is a New Agricultural Activity Requiring a planning Application, Apply Policy Statment Section 2.3 or 3.2
Wetland is Located in the Boreal Region (Apply Policy Statement Section 3.0)
Development Proposal is an Approval Process for Utilities/ Facilities (Apply Policy Statement Section 4.0)
PROCEED TO STEP 1
PROCEED TO STEP 1
PROCEED TO STEP 1
Is There a Separate Requirement For Approval Under Other Legislation Other Than or in Addition to the Planning Act? (eg. EAA, OEBA, OWRA) That Has Incorporated an Examination of Environmental Impacts into a Comprehensive Environmental Assessment?
EIS is Required by the Wetland Policy Statement (WPS)
EIS not Required; However the Process must Identify and Have Regard to Potential Impacts on Wetlands to Meet the Intent of the WPS.
NOTE: Step1 refers to the completion of an EIS, elements of which are Described in Sections 3.0, 4.0, 5.0 amd 6.0 of this Technical Manual.
Gartner Lee
Flow Chart to Determine Whether an EIS is Required
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE 1
Project 93-289



SPECIAL NOTES ABOUT THIS TECHNICAL MANUAL

A. Acknowledgements

This Technical Manual has been produced with extensive input from a variety of sources. Principal contributors are acknowledged in the following.

Particular thanks are owed to the core group of technical reviewers of this manual from the MNR including:

- Kevin Loftus
- Margaret McLaren
- Angus Norman
- John Riley

Many other MNR, staff contributed significant comments on the two drafts of this document. Wayne McMillan kindly provided liaison with Ontario's Conservation Authorities and assembled and organized their comments on previous documents. Mary Neumann contributed advice and comments on this manual throughout its production, on behalf of the MMA.

Many other groups and individuals assisted in the development of this manual by participating in a Wetland Function Workshop conducted early on in this Study and by providing their suggestions regarding this manual. Included in this group were:

- Ministry of Transportation
- Federation of Ontario Naturalists
- Ontario Federation of Anglers and Hunters
- Ducks Unlimited
- Association of Aggregate Producers of Ontario
- Urban Development Institute, and many others

Thanks are also owed to Ecological Services for Planning Limited for their lead role in the completion of this Technical Manual and in the development of complementary training materials and information.

B. Notes Regarding the Context For and Limitations of this Manual

This Technical Manual has been prepared to be as helpful a document as possible for those charged with the responsibility of conducting Wetland EISs. This manual provides guidance

about when and how an EIS should be undertaken. Each EIS will be different and this manual should not be treated as a recipe with specific recommendations for every situation.

More specific guidance will be offered as part of the two day training course created as a companion to this Technical Manual.

The use of this Technical Manual benefits from some familiarity with wetland ecology issues. There is an emphasis throughout this document on more commonly encountered situations and difficulties such as:

i) an emphasis on the Great Lakes – St. Lawrence Region, where EISs have been and are being undertaken much more frequently; and

ii) a focus on the loss of function test of compliance with the Wetlands Policy Statement.

This Technical Manual will be modified and revised over time in response to an increased understanding of wetland functions and in response to our collective experience in completing more EISs.

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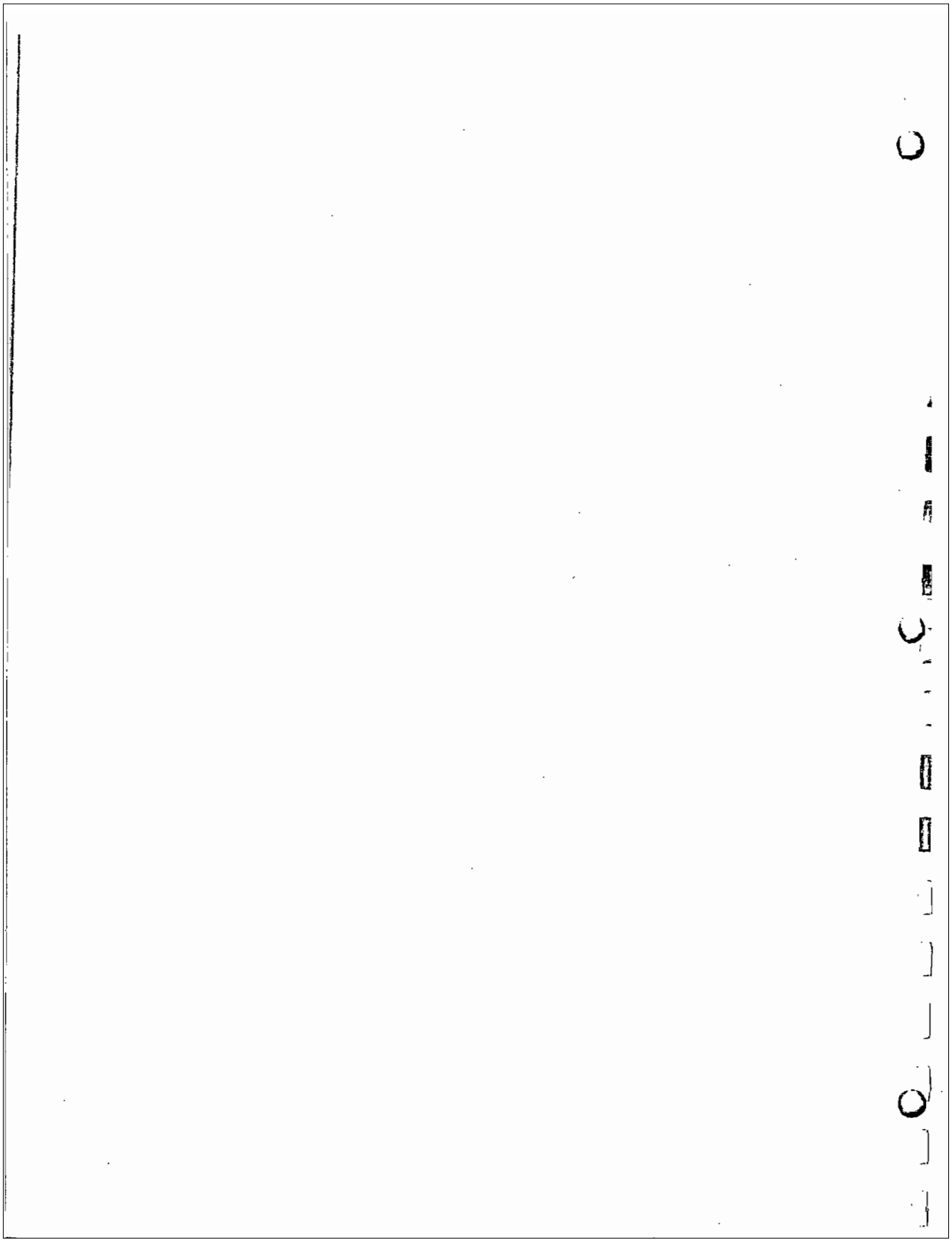
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1.0 INTRODUCTION

1.1 PURPOSE OF THIS TECHNICAL MANUAL AND POLICY CONTEXT

The purpose of this technical manual is to provide a guide to the preparation of Environmental Impact Studies required by the Provincial Wetlands Policy Statement issued under Section 3 of the Planning Act, RSO 1990 C.P.13. This Technical Manual explains why and when Environmental Impact Studies (EIS) are required and what they should include. It is to be read and used in conjunction with the Wetlands Policy Statement, the Manual of Implementation Guidelines for the Wetlands Policy Statement and the Wetland Evaluation Manual. This technical manual is suitable for use by MNR personnel, other agency or municipal staff, and by proponents and others.

This manual is the technical guideline that sets the standards for the identification, preparation and evaluation of EISs in a manner that is credible and defensible in terms of wetland science. More specifically, this manual provides sufficient detail describing how to collect and interpret information to address:

a) potential impacts associated with a proposal;
b) technical information requirements;
c) standards for data collection, analysis and presentation;
d) standard techniques for the impact assessment;
e) mitigation strategies;
f) monitoring requirements, if deemed necessary; and
g) the EIS evaluation process.

These information needs are identified for Comprehensive, Full Site and Scoped Site EISs.

This section contains important information about the applicability of the Wetlands Policy Statement. The Wetlands Policy Statement was issued under Section 3.0 of the Planning Act, RSO 1990 C.P. 13 and came into effect on June 27, 1992. Subsection 3(5) of the Act states that:

> *In exercising any authority that affects any planning matter, the council of every municipality, every local board, every minister of the Crown and every ministry, board, commission or agency of the government, including the Municipal Board and Ontario Hydro, shall have regard to policy statements issued under subsection (1). 1983,c.1,s.3.*

The wording "shall have regard to" was chosen to provide a degree of flexibility to the application of the policy under certain circumstances. On May 18, 1994, a Comprehensive Set of Policy Statements was released by the Minister of Municipal Affairs in which the wording was changed to **"shall be consistent with"**. This proposed change is considered to be a stronger mechanism for implementing policy than "shall have regard to".

The **"shall be consistent with"** standard would require planning authorities to make planning decisions in a manner that implements the stated goals and objectives of the applicable provincial policy statements consistent with the spirit of the government's policy direction. At the same time, this provision should be flexible enough to apply the policy statements to a variety of local circumstances and in ways that are practical and innovative, as long as the stated end result of the applicable policy statement is met.

This new wording is expected to be adopted in early 1995.

Policy

It is the policy of the Province of Ontario that:

1.1 All planning jurisdictions including municipalities, planning boards and resource management bodies within the Province shall protect ***provincially significant wetlands***.

1.2 Where ***provincially significant wetlands*** have been identified, all planning jurisdictions, including municipalities and planning boards, shall incorporate policies and protect ***provincially significant wetlands*** in official plans, zoning by-laws and other development decisions under the ***Planning Act***.

1.3 All planning jurisdictions, including municipalities and planning boards are encouraged to protect other ***Wetlands*** that are not provincially significant.

In preparation of this manual, all efforts have been made to simplify the process and to make it user friendly. However, it has been developed with the intention that users will also take a two day training course to ensure a standard and consistent application. This manual is not intended to provide specific answers, but rather technical guidance and how-to-decide information. The degree of expertise required to complete an EIS will vary. It is expected that some of the more complicated EISs will require high levels of expertise.

1.2 IMPLEMENTATION OF THE POLICY

The Wetlands Policy Statement, the Manual of Implementation Guidelines for the Wetlands Policy Statement and this document are jointly prepared by the Ontario Ministry of Municipal Affairs (MMA) and Ontario Ministry of Natural Resources (MNR). The Manual of Implementation Guidelines for the Wetlands Policy Statement and this Technical Manual are intended to assist in the achievement of the Wetlands Policy Statement goals and objectives, which are:

Goals

a) to ensure that **Wetlands** are identified and adequately protected through the land use planning process; and,

b) to achieve no loss of **provincially significant wetlands.**

Objectives

a) to ensure no loss of Wetland Function or Wetland Area of ***provincially significant wetlands*** in the Great Lakes – St. Lawrence Region;

b) to ensure no loss of ***Wetland Function*** of provincially significant wetlands in the Boreal Region; and

c) to encourage the conservation of other Wetlands (e.g., Classes 4 to 7 using the 2nd edition of the wetland evaluation system, or those wetlands not determined to be provincially significant using the 3rd edition of the wetland evaluation system – southern manual, or the 1st edition of the northern wetland evaluation system – northern manual) throughout Ontario.

The Wetlands Policy Statement provides the overall provincial direction regarding Wetlands. Four other manuals: The Manual of Implementation Guidelines for the Wetlands Policy Statement; The two Wetland Evaluation System Manuals – 1st edition Northern and 3rd edition Southern; and this Technical Manual, assist with either the interpretation or implementation of the Wetlands Policy Statement. The relationships between these previously published documents are summarized in the following.

1.2.1 Relationship with the Wetlands Policy Statement

The Wetlands Policy Statement was jointly prepared by the Ministry of Municipal Affairs (MMA) and the Ministry of Natural Resources (MNR) to identify the provincial interest with respect to the protection of wetlands under the Planning Act. All jurisdictions, including municipalities and planning boards **"shall be consistent with"** this Policy Statement in their decisions affecting any planning matter.

Policies 2.2 and 3.2 specifically require the completion and acceptance of an Environmental Impact Study before development can proceed in adjacent lands. Policy 2.2 sets direction for the Great Lakes St Lawrence Region while 3.3 addresses the Boreal Region. The only difference between the two is that the Boreal Region does not include d), (described in the following).

Policy 2.2 and 3.2 states:

> On *Adjacent Lands*, *Development* may be permitted if it does not result in any of the following:
>
> a) loss of *Wetland Functions*;
> b) subsequent demand for future *Development* which will negatively impact on existing *Wetland Functions*;
> c) conflict with existing site specific wetland management practices; and,
> d) loss of contiguous *Wetland Area* (only Great Lakes St Lawrence Region).
>
> This shall be demonstrated by an Environmental Impact Study (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to d) inclusive.

The effect of the Wetlands Policy Statement is that before a development proposal on lands within 120 m (adjacent land) of a Provincially Significant Wetland can be approved an Environmental Impact Study (EIS) must demonstrate that there will be no impacts on any of the above criteria. With respect to the approval of municipal policy documents, an EIS must be completed if the Official Plan is amended to permit a use that is not compatible with the protection of wetlands.

The Wetlands Policy Statement applies to wetlands and adjacent lands which are both specifically defined in terms of location. While some proposals for development beyond the limit of adjacent land may affect wetlands, this policy does not require that they be included in an EIS. The mandates of the municipality, local Conservation Authority, or other ministry may apply to these issues. **This Policy is not intended to limit other policies in place.**

Where development proposals occur in/adjacent to a non–provincially significant wetland, there are no formal requirements to apply the Wetlands Policy Statement. However, the goals of the Wetlands Policy Statement are to encourage protection of non–provincially significant wetlands as well as provincially significant wetlands. To that end, municipalities may, when incorporating the provisions of the Wetlands Policy Statement into their Official Plan, insert additional policies to require some form of EIS around non–provincially significant wetlands. Regardless of the provincial status of a wetland, the federal wetland policy would have to be applied to any development proposal that: might

have an environmental effect on an area of federal government responsibility; would require federal government commitment ; or, would be undertaken on or near wetlands administered by the federal government, including the offshore.

The application of the Wetlands Policy Statement was effective on June 27, 1992. Since that date, all new planning or development proposals which require approval under the Planning Act were to **be consistent with** the Wetlands Policy Statement. The application of the Policy Statement is not retroactive to proposals where previous approvals have been granted. The Manual of Implementation Guidelines for the Wetlands Policy Statement (Section 4.4) outlines an approach to be taken in determining the applicability of the Wetlands Policy Statement to specific planning applications submitted prior to June 27, 1992.

The approaches identified in this manual are not all inclusive. It is expected that refinements will be made on a case–by–case basis, in consultation with the MNR and either MMA and/or the appropriate local planning authority. However, implemented, all planning approaches must ensure that the goals of the Wetlands Policy Statement are met. Further information regarding the MNR and the land use planning process is provided in Appendix A.

1.2.2 Relationship With the Implementation Guidelines

The Manual of Implementation Guidelines for the Wetlands Policy Statement was jointly prepared by MMA and MNR to assist municipalities and provincial agencies with the interpretation and implementation of the Policy Statement. The Manual provides general direction on when and how an EIS is prepared. This Technical Manual is intended to complement the Manual of Implementation Guidelines by providing more specific direction with respect to the requirements of an EIS.

1.2.3 Relationship With the Wetland Evaluation System

The wetland evaluation system was designed to identify and measure the recognized values (benefits) of wetlands. Although the evaluation system is based on scientific criteria, it was developed primarily to serve the needs of Ontario's planning process. In this regard, the wetland evaluation system serves as an essential cornerstone of the provincial Wetlands Policy Statement under the Planning Act. Wetlands evaluated under this system are given a classification based on their score. If a wetland is evaluated as provincially significant, municipalities must **be consistent with** the Wetlands Policy Statement in land use planning.

The wetland evaluation system is a tool that allows the consideration of the relative value of different wetlands through the examination and ranking of a number of wetland functions. The evaluation system is used to translate the features of a wetland into quantified values, according to four specific

components: biological, hydrological, social and special features. One of the most important tasks of the evaluation is the accurate location and mapping of wetland boundaries. Detailed procedures for mapping the boundaries of the wetland as well as determining the limit of the adjacent lands for a single *wetland area* or a *wetland complex* are provided in the wetland evaluation system manuals. Recent revisions to these manuals (OMNR, 1994) contain more precise procedures for determining the adjacent lands, particularly of wetland complexes.

This evaluation tool allows a variety of scientists, planners, engineers and others to consider the relative value of different wetlands through the examination and ranking of a number of wetland functions. The assessment of vulnerability to various sorts of developments and pressures is outside the scope of the wetland evaluation system. Some information gathered for and presented in the evaluation can, however, assist in the prediction of some development effects. Similarly, the wetland evaluation system does not suggest kinds of management that would be best for a wetland. Rather, it can provide the basis for considering options and alternatives (Wetland Evaluation System, Southern Manual, 3rd edition, March 1993, pp. 1–3).

It is the responsibility of the MNR to identify provincially significant wetlands. These are identified by wetland evaluation using either the wetland evaluation system for southern Ontario covering Hills' Site Regions 6 and 7 (OMNR, 1993a), or the wetland evaluation system for northern Ontario covering Hills' Site Regions 2 to 5 (OMNR, 1993b).

1.2.4 Application of the Wetlands Policy Statement to Development Proposals Controlled by Other Legislation

The Wetlands Policy Statement cannot directly control activities such as grading, draining and filling which fall under the jurisdiction of other Ministries or agencies and are referenced under other legislative processes such as the Conservation Authorities Act, the Drainage Act, etc. **Approvals under the Planning Act do not supersede or take precedence over other legislative requirements.**

The Wetlands Policy Statement allows its EIS requirements to be folded into other Environmental Assessment (EA) processes, or other approval processes such as MNR work permits under the Public Lands or Lakes and Rivers Improvement Acts. For example, where a wetland performs a fisheries habitat function, portions of the Federal Fisheries Act may be applicable. Many infrastructure developments may be authorized under other legislation, including the Environmental Assessment Act, the Ontario Energy Board Act, and the Ontario Water Resources Act. Many of the developments that fall under Section 4.1 of the Wetlands Policy Statement (e.g., utilities, facilities), are in fact controlled by other legislation. Where this is the case, the provincial EA, or federal EARP requirements of the governing legislation applies.

Where duplication occurs with respect to the assessment of impacts on a provincially significant wetland, the wetland EIS guidelines identified in this technical manual cannot be applied in full. That is, an EIS will not be required. Instead it is recommended that as many as possible of the wetland EIS requirements identified in this Technical Manual be "folded into" those other EA processes. Every effort should be made to comply with the intent of the Wetlands Policy Statement.

Watershed or subwatershed plans being developed by Conservation Authorities in conjunction with provincial ministries, may also fulfill the requirements of Comprehensive EISs. **Duplicate processes are neither advocated nor recommended.** Appendix A.5 provides some additional information on the relationships of this technical manual to other EA proponents and to the Federal Environmental Assessment and Review Process.

1.2.5 Application of the Wetlands Policy Statement to Wetland Management Activities, Agricultural Activities and Crown Land Activities

Wetland management activities which include securement, rehabilitation, maintenance and sustainable use are addressed through mechanisms other than the Wetlands Policy Statement.

The intent of the Wetlands Policy Statement should be considered when wetland management proposals are being evaluated. Every effort should be made to ensure that as many key wetland functions are protected or enhanced as a result of management. See also page 27 of the Manual of Implementation Guidelines for further information regarding this matter.

It is not the intent of the Province of Ontario that the EIS guidelines identified in this technical manual be applied in full to wetland management proposals such as those proposed by the Eastern Habitat Joint Venture (EHJV). The EHJV's wetland management proposals are subject to both the provincial Environmental Assessment Act (EAA) and the federal Environmental Assessment and Review Process (EARP). A combined EA/EARP protocol has been developed to evaluate these projects. The intent of the Wetlands Policy Statement should be considered in this review process.

Existing agricultural activities are permitted on adjacent lands without an EIS. New agricultural activities that would require a planning application will require an EIS (e.g., lands currently zoned for uses other than agriculture where the landowner wishes to actively farm; this could require the submission of a zoning application).

The Wetlands Policy Statement must be applied in a comprehensive manner to Crown Land activities such as timber management and mining. In other words, these and other resource management activities undertaken on Crown Land will have to **be consistent with** the intent of the Wetlands Policy Statement. Protocols to assist with these matters will be developed by the MNR.

2.0 AN OVERVIEW OF THE EIS PROCESS AND IMPORTANT BACKGROUND INFORMATION

> *"The purpose of an Environmental Impact Study (EIS) is to prevent negative impacts on wetlands by providing the results of a careful analysis of possible impacts of development options at the outset of the planning process."* (Manual of Implementation Guidelines for the Wetlands Policy Statement, pg.86).

An EIS must provide sufficient information on a proposed development to determine possible impacts on wetland function, management practices and area. The specific level of detail required by the planning authority or municipality may be outlined in the Official Plan. The absence of this information in the Official Plan, however, does not preclude the necessity of an EIS in order to provide the means for the planning authority to reach decisions on a proposed development.

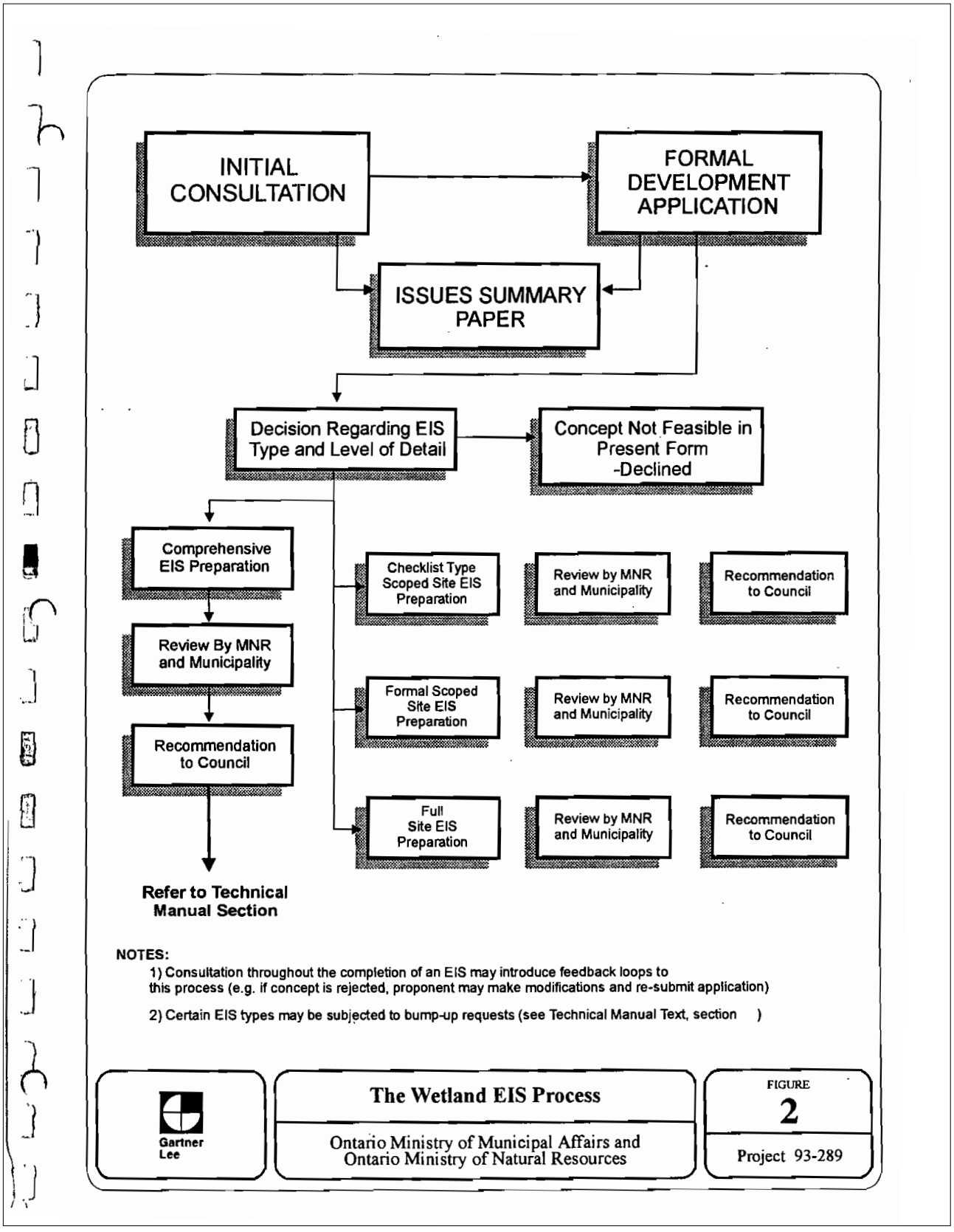
The approach to preparing a wetland EIS, as described in this Technical Manual, follows accepted environmental assessment and scientific methodologies. Standard environmental assessment (EA) methodology, for example, calls for assessment of a project using the following tasks: 1) scoping, 2) baseline data collection, 3) predicting effects, 4) evaluating effects, 5) proposal modifications, 6) mitigation identification, 7) monitoring identification, 8) reporting, and 9) monitoring implementation (Munro et al., 1986) The format of the wetland EIS procedure is similar but the approach in this Technical Manual has been customized to suit the specific requirements of the Wetlands Policy Statement. By incorporating some elements of the standard EA approach, it should be relatively easy for other agencies, which must conduct EAs under different legislation, to identify and "have regard to" potential impacts on wetlands, thus meeting the intent of the Wetlands Policy Statement.

The procedure outlined in this Technical Manual is not intended to limit the planning authority in any manner. Additional impact studies over and above those outlined in this technical manual or the Official Plan may be required (e.g., hydrological studies for subdivision planning).

2.1 OVERVIEW OF THE WETLAND EIS PROCESS

2.1.1 Initial Consultation

Figure 1 identifies when an EIS is required, while Figure 2 depicts an overview of the process leading to the production of an EIS. This figure is an expansion of Figure 16 in the Manual of Implementation Guidelines for the Wetlands Policy Statement.


INITIAL CONSULTATION
FORMAL DEVELOPMENT APPLICATION
ISSUES SUMMARY PAPER
Decision Regarding EIS Type and Level of Detail
Concept Not Feasible in Present Form -Declined
Comprehensive EIS Preparation
Review By MNR and Municipality
Recommendation to Council
Refer to Technical Manual Section
Checklist Type Scoped Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
Formal Scoped Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
Full Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
NOTES:
1) Consultation throughout the completion of an EIS may introduce feedback loops to this process (e.g. if concept is rejected, proponent may make modifications and re-submit application)
2) Certain EIS types may be subjected to bump-up requests (see Technical Manual Text, section)
Gartner Lee
The Wetland EIS Process
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE 2
Project 93-289

The first step, for a proponent, is to contact the planning authority (usually a municipality) and the MNR for an initial consultation. At this session, the planning authority can make it known whether there is a Comprehensive EIS in place, in progress or planned. The planning authority may require completion of a Comprehensive EIS before the proponent is permitted to go further in the planning process. It is also possible that, at this early stage, the MNR may be aware of factors that, because of the high probability of impact on wetland functions, will make the particular proposal unacceptable.

A consultant may or may not be required during this initial consultation. However, a consultant knowledgeable in wetland science is recommended (unnecessary where proponent possesses appropriate expertise inhouse) because often even "minor" development proposals, such as single lot severances that appear innocuous on the surface, can have significant impacts as a result of activities such as clearing and grading.

At the outset of a proposed development, the proponent may also choose to consult with other local regulatory agencies (i.e., Conservation Authority, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), MMA, MOEE as described in Appendix D (p.44) of the Guide to Provincial Planning Applications (MMA, 1993). This initial consultation will enable both the proponent and the review agencies to ensure that all relevant information, issues and relevant policies have been considered early on (e.g., Wetlands Policy Statement, Federal Policy of Wetland Conservation, other municipal policies contained in Official Plans, if a Comprehensive EIS is available for the study area, etc.).

While not generally considered to be developments, wetland management projects (for example, work carried out under the auspices of the North American Wetland Management Plan or other cooperators involved in improving waterfowl habitat, productivity, diversity, or sustainable use of wetland resources) should also be introduced to the MNR and the planning authority at a very early stage in planning. Depending upon the extent of the project, a Scoped Site EIS may be recommended to provide details on how impacts on wetland functions will be minimized and/or enhanced.

This initial consultation is also the best time for the MNR to raise any other concerns with respect to the upland portions of the property not necessarily addressed by the Wetlands Policy Statement. For instance, the presence of a nest of an upland dependent rare bird on or near the proponent's property should be identified. Avoidance and mitigation recommendations for the protection of these features could be considered at this state for incorporation into the development plan. Further reference to relationships between wildlife in wetlands and the adjacent lands is provided in Appendix G and Figure 3.

2.1.2 Potential Requirement for An Issues Summary Paper

The planning authority or the MNR may also request the completion of an Issues Summary Paper to help with their decision making regarding the type of EIS and level of effort required.

It is not intended that the proponent conduct a detailed investigation and assessment of the wetland in the Issues Summary Paper. Rather, the proponent should produce a brief document (e.g., a few pages with one or two figures) which flags key issues, wetland functions, potential activities (impacts) and effects that would either address fully the requirements of the Scoped Site EIS, or be made the focus of subsequent work for a more detailed assessment.

The Issues Summary Paper could:

a) confirm that potential impacts are of insufficient concern to warrant further investigation or documentation. In this case, the MNR may choose to accept the Issue Summary Paper (with or without minor revisions) as a Scoped Site EIS itself;
b) point out the need to supplement the Issues Summary Paper on specific matters to fulfill the requirements of a Scoped Site EIS;
c) validate the need to complete a Full Site EIS; or,
d) lead to the conclusion that in its current proposed form, the development would be unlikely to satisfy the requirements of the Wetlands Policy Statement, even with mitigation proposals.

2.1.3 EIS Decision Point

If this initial consultation and the Issues Summary Paper identify the potential feasibility of the development, the proponent submits a development application. At this stage, a decision must be made about the type of EIS and the level of detail required. A site inspection by MNR may be required before a decision can be made. The decision will depend on a number of factors including the size of the proposed development, the potential for impact on wetland function, and the existence of a Comprehensive EIS for the planning area. For larger proposals, or one where certain complexities rule out a straight forward Scoped Site EIS, a Full Site EIS may be required. Table 1 offers some examples of typical types of EIS requirements based upon a variety of activities.

A municipality may require that a Comprehensive EIS be prepared for a portion or all of their jurisdiction. This effort should be coordinated with other compatible exercises if underway (e.g. watershed and subwatershed planning, or municipal natural heritage systems or greenway strategies). The Comprehensive EIS is described in more detail in Section 6.0 of this Technical Manual. Its completion will define requirements for the completion of subsequent EIS documents.

A **Comprehensive EIS** will generally encompass a larger land area than either of the other types but will usually be at a lower level of detail. A Comprehensive EIS is based on a proactive planning

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Table 1: Examples of Development Proposals and Expected EIS Requirements

Activity	Comprehensive EIS	Full Site EIS	Scoped Site EIS	No EIS
Resource Activity	– multiple Pits and Quarries applications	– Major new agricultural activity requiring a Planning Act approval – New pit and quarry application	– Minor new agricultural activity requiring a Planning Act approval – Sustainable wetland management activities	– Existing agricultural activities – legally existing pit and quarry applications
Planning and Development Activity	– unapproved Official Plan – Update or Amendment – large or multiple proposals near large wetlands or wetland complexes	– New subdivision plan – Comprehensive zoning by–law change or amendment – Expansion or re–development of existing development on PWQ and adjacent lands	– Draft approved plan of subdivision and consents – New lot severance application – Minor variance	– Draft approved lot severance
Utilities and Facilities[1]	– Individual EA early planning stages	– Individual EA: preferred option and some complicated Class EAs	– Individual EAs; impact mitigation stage – Most Class EAs	– Screening exercises

(tab–1/93289/tpa/0295)

1. *These undertakings are not directly subject to the Wetlands Policy Statement, however, important information and techniques regarding wetland systems occur in this document in the sections specified below. These should be considered by EA proponents.*

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approach rather than the reactive approach of response to specific development applications. Particularly in areas where development pressures are strong the Comprehensive EIS will be the most efficient and effective means of dealing with successive development applications each of which would otherwise require a Full Site EIS. When a municipality conducts a Comprehensive EIS, it can set a policy framework within the Official Plan that establishes where development may occur and what types of development may occur. This will help in setting the level of detail for specific EISs (usually Scoped Site, but occasionally Full Site for major proposals) required for individual development proposals.

It should be recognized that the **Scoped Site EIS** and **Full Site EIS** occur along a continuum and that EIS requirements for any particular proposal will be subject to a range of possible levels of effort and detail. For example, where a small development that barely encroaches onto the adjacent lands is proposed, and where no effects are reasonably expected on key functions, a Scoped Site EIS is appropriate. For larger or more complex developments, where impacts on key wetland functions are likely unless mitigation is undertaken, a Full Site EIS would be required.

The decision that a Full Site EIS is necessary can come about in two ways: 1) when there is no Comprehensive EIS in place and the development clearly has the potential to have a significant impact on key wetland functions, or 2) as a result of information and/or recommendations contained in a Comprehensive EIS. In both cases, it is likely that an Issues Summary Paper will have been prepared to define and seek agreement upon the required level of effort. This paper will serve as the starting point for completing the formal EIS document.

Depending on the nature of the development proposal, the amount of detail required and the nature, extent and intensity of potential impacts; additional consultation during the preparation of this EIS may be advisable. The need for such additional consultation must be made on a case by case basis.

The Scoped Site EIS is less detailed than the Full Site EIS but, for project approval, it must still demonstrate that the requirements for acceptance laid out in the Wetlands Policy Statement, have been met. Where an Issues Summary Paper report has been prepared it may satisfy the documentation requirements of a Scoped Site EIS. This will occur when the municipality and MNR agree that the Issues Paper has demonstrated that the development satisfies the requirements of the Wetlands Policy Statement. Where this is not the case, the proposal will be subject to the specific requirements of a Scoped Site EIS.

During the Scoped Site EIS, additional consultation may be advisable, particularly if further investigation finds that predicted impacts have been underestimated. In this case, it is possible that the Scoped Site EIS would be 'bumped up' to a Full Site EIS. Again, the need for such additional consultation must be made on a case by case basis.

2.2 THE PREPARATION AND REVIEW OF AN EIS

Preparation of the EIS document will often require considerable technical work. It is unlikely that a proponent will be able to prepare any but the simplest EISs without the assistance of scientists, planners and engineers either inhouse or retained from external sources.

The list below provides an overview of the tasks required for an EIS. For a Comprehensive EIS, tasks a) to c) are undertaken in the context of the larger landscape, tasks d) and e) are discussed at a fairly general level, and tasks f) and h) are not relevant.

a) a detailed study area description including a characterization of the key wetland functions as they exist or are naturally evolving at the time of the development proposal;
b) the degree and extent of those functions as they exist or are naturally evolving;
c) for a Scoped Site or Full Site EIS, a detailed description of the proposed development and an identification of the proposed activities. For a Comprehensive EIS, a description of the type of development that may be permitted on adjacent lands of a provincially significant wetland in the Great Lakes–St. Lawrence Region or in a provincially significant wetland or on adjacent lands in the Boreal Region. This includes the description of any utilities/facilities developments that have been planned for future construction or may be planned in future. The Comprehensive EIS will also describe and/or identify situations when a Full Site or Scope Site EIS will be required;
d) predicted effects of the development proposal including direct, indirect and cumulative effects;
e) an identification and evaluation of options for avoidance, and where avoidance is unattainable, opportunities for other forms of mitigation and rehabilitation (e.g., setbacks);
f) the selection of the preferred mitigation/rehabilitation strategy;
g) a summary of predicted net effects after mitigation and rehabilitation; and
h) a proposed monitoring program (may not be necessary in every case depending on the nature of the development and/or the ability to predict effects accurately and/or whether cumulative effects are a concern).

Once the EIS is completed, the proponent submits it to the appropriate planning authority and, concurrently, to MNR (and other agencies and stakeholders, as required). MNR will make a judgement about the scientific adequacy of the EIS and, if the EIS is inadequate, will communicate

this to the proponent. If the EIS is scientifically adequate, MNR will make a recommendation regarding the acceptability of the proposal to the municipality. Municipal staff make a recommendation to Council specifically on matters related to the wetland. The recommendation can be full acceptance, acceptance with conditions such as compliance to a mitigation/monitoring program, acceptance pending further details (i.e., including the potential bump–up of an EIS to a different level) or outright rejection. Further details about the review and recommendations process are provided in Chapter 7.0.

In the case of utility/facility development proposals where other documentation (e.g., EA) is required in place of the EIS, the intent of the EIS review and recommendation process would form a part of the review for the EA report.

For a development proposal to be acceptable, the EIS must demonstrate that the proposal is in compliance with Sections 2.2 and 3.2 of the Wetlands Policy Statement. Because of the complexity of dealing with the 'no loss of function' requirement, a greater degree of guidance is given in Section 5.0 of this Technical Manual. More general guidance is provided regarding compliance with other tests of the Wetlands Policy Statement.

2.3. IMPORTANT BACKGROUND INFORMATION

Before conducting an EIS, there are a number of important pieces of information to understand, related to:

a) study area boundaries;
b) the identification of key wetland functions;
c) the functional assessment framework; and
d) testing compliance with the Wetlands Policy Statement.

2.3.1 Study Area Boundaries

Any development that must undergo a Full Site or Scoped Site EIS will have at least part of the area proposed to be developed falling within the adjacent lands of a provincially significant wetland in the Great Lakes – St. Lawrence Region and within the adjacent lands or within the provincially significant wetland itself, in the Boreal Region. At a minimum the study area of every EIS must include the boundaries of the development parcel and parts of the adjacent lands and the wetland potentially affected by the development. A site visit may be necessary to stake the boundary of the wetland and the adjacent lands.

The ecological boundaries of the area needed to adequately describe key wetland functions and mitigation of impacts on these functions, may be larger than the minimum study area described above. Boundaries of the study area to be addressed in the EIS should be agreed to by the proponent, the municipality and the MNR before the proponent begins detailed EIS work. This is particularly important in the case of a wetland complex where the adjacent lands can often include an area quite distant (i.e., greater than 120 m) from the boundary of an individual wetland unit of that complex. It should be noted that the formal approval of appropriate boundaries and other aspects of the EIS, lie with the planning authority, not the MNR.

The ecological boundary of the study area is defined by the terrain setting and by the areas in which all key wetland functions may be significantly affected. For example, if the provision of waterfowl habitat is identified as a key wetland function, the study area should include the extent of continuous important habitat, even if the habitat extends outside the adjacent lands zone and into lands under different ownership.

An example of an ecological boundary defined by hydrological functions is a development proposal depicting storm water discharge points on a portion of the property outside the adjacent lands, but within the subcatchment for the wetland. The potential for significant impacts on water quality and quantity functions could extend further and therefore the study area should include the entire subcatchment for these particular functions.

Some value functions (e.g., extent of areas of recreational fishing concentration) could also contribute to the definition of a study area boundary.

In summary, while the focus of the EIS and data collection will be within the adjacent lands (and/or within the boundaries of a provincially significant wetland in the Boreal Region), the general or broader study area should be related to an ecological boundary. It should encompass the entire area in which the key wetland functions are present and may be expected to be affected by a proposal. In these situations, clear scientific rationale for such an extension should be noted and the study area must be reasonable. The requirement to extend a study area boundary rests with the planning authority. It should also be noted that the level of effort expended in different parts of the study area may vary on potential zones of impact for the different key wetland functions affected.

If this broader study area falls on lands owned by another person, which is often the case, access to that property would need to be arranged if it is necessary to field check certain areas. However, much of the information within the larger study area can be obtained through secondary source information. It is reasonable to assume that the greatest impacts will occur nearest to the wetland where the development is taking place (i.e., the adjacent lands) and that impacts will diminish with increasing distance from the wetland. The application of various mitigation strategies (e.g., buffers) can contain/diminish effects. Determination of an appropriate buffer may be the most efficient way to protect wetland functions.

2.3.2 Identifying Key Wetland Functions

The determination of key wetland functions will depend on whether:

a) the function is measurable (i.e., can functional loss be predicted through quantitative sampling techniques and assessments, modelling theories, or other accepted scientific methods);
b) the function contributes significantly to the integrity or importance of the wetland ecosystem; and
c) the function has been identified as a particularly important feature from the wetland evaluation system data and discussions with the MNR.

In the Manual of Implementation Guidelines for the Wetlands Policy Statement, wetland functions have been identified as the "biological, hydrological, physical and social/economic interactions that occur in wetlands". Some of these are documented in the wetland evaluation data record (as wetland features). A prediction of a significant change in the wetland score would imply loss of function. Nevertheless, wetlands have many functions that are not documented in the evaluation, as it is designed simply to allow relative evaluation of one wetland against another.

A list of possible functions is included in Appendix E. Not all of these functions would be expected in every wetland. The identification of key functions of a particular wetland will be based on preliminary work by the proponent. Other wetland functions (e.g. from Appendix E) may be added to the proponent's list by the MNR should discussions determine that important functions have been overlooked or undervalued. The final list of key wetland functions will enable proponents to focus their detailed investigations on those functions to which the determination of functional loss will apply.

2.3.3 The Wetland EIS Functional Assessment Framework: A Basic Tool For Determining Key Wetland Functions and Assessing Impacts

This functional assessment framework has been developed as a tool to guide the technical assessment of wetland functions in an efficient and consistent manner (Table 2). The following description is provided to acquaint the reader with some important and fundamental information.

Functions are broadly defined and described in the Wetlands Policy Statement and the Implementation Guidelines as the "biological, hydrological, physical and social/economic interactions that occur in wetlands". The functional assessment framework (Table 2) identifies these *wetland functions* in terms of four functional groups: 1) process, 2) attribute, 3) linkage and 4) value. Within each group are a number of more specific functional descriptors. This terminology helps to focus and define wetland functions even further. The term wetland functions is not intended to imply that these

TABLE 2 : WETLAND EIS FUNCTIONAL ASSESSMENT FRAMEWORK

Functional Groups	Functional Descriptors	Characterization of Functions As They Exist Or Are Naturally Evolving	Sensitivity Assessment (Degree And Extent)	Proposed Activities (Impacts)	Predicted Effects		Proposed / Selected Mitigation	Predicted Net Effects	Proposed Monitoring (Optional)
					Direct	Indirect / Cumulative			
Process	Hydrological – water quantity (flow augmentation, storage) – water quality enhancement Biological – habitat (terrestrial / aquatic)								
Attribute	Significance and vulnerability – species (rare, threatened, endangered and other important species) Critical/vulnerable habitat								
Linkage	Landscape Linkages Biological – aquatic food chain/web support – terrestrial food chain/web support, patch dynamics								
Value	1) Recreational – angling, hunting, fuelwood, boating, nature appreciation / ecosystem study 2) Economically Valuable Product – wood products, fur bearers, wild rice, bait and commercial fish, bullfrogs and snapping turtles, cranberries 3) Cultural/Social – landscape aesthetics, traditional harvest, education, research, spiritual or ceremonial, cultural heritage								

functions are always within the wetland boundary. Interrelationships exist between wetlands and surrounding upland areas. Lands outside the wetland may provide support for important wetland functions (e.g., provision of ground water infiltration, upland waterfowl nesting habitat, foraging lands for wetland organisms during parts of their life cycles). This point is raised prior to the specific discussions about wetland functions to illustrate that development well outside wetland boundaries could affect some wetland functions. The following are definitions of terms which are specific to the functional approach adopted by this manual.

Process Functional Group

Processes can be considered as either physical or biological. The movement of quantities of both ground and surface water and their associated chemical characteristics are physical or hydrological processes. Examples include flow augmentation, carbon cycles and erosion control.

Biological processes are associated with the quantity and quality of the fish and wildlife habitat provided by aquatic and terrestrial communities. Quantity considers diversity and abundance while quality considers life histories and disturbance processes. Habitat is also thought of in terms of various types (food, shelter, breeding sites, migration or daily, seasonal or annual movement routes).

Attribute Functional Group

Those aspects of a wetland to which some special importance is attached for reasons of uniqueness and/or special vulnerability or sensitivity to impacts (e.g., significant species, seasonal concentrations of species, etc.).

Linkage Functional Group

Components of the ecosystem perform their functions in concert with each other, thus establishing relationships or linkages. These linkages occur within and between wetland areas, both above and below ground. They can be considered in terms of the movement of food and energy (nutrient and energy cycles, food webs) or the dispersal of wildlife and plants. The linkages between ground and surface water are an example of a below ground linkage. This linkage is also part of the hydrological process functional group. Understanding the linkages enables a better definition of pathways for potential effects. Another type of linkage is the series of interrelationships created by a mosaic of upland and wetland forest fragments on the landscape. This linkage type is described in terms of patch dynamics; most notably the movement of terrestrial fauna across the landscape.

These ecological linkages are those which should be principally examined in an EIS. Relationships between these ecological components and human values are more appropriately described under the value functional group.

Value Functional Group

Values recognize the direct human uses of wetlands. They can be divided into three subgroups:

1. *Recreational*

   These values provide humans with some direct satisfaction. They can either be sustainable or non–sustainable. The products do not pass through any form of economic market, but the use is often regulated. Simply because these products do not pass through any market, does not imply they possess no economic benefits. Much work has been done to quantify economic benefits associated with outdoor recreational activities. Examples include tourism generally, and angling, hunting and nature appreciation specifically. Only activities that are specifically dependent on the characteristics of the wetland are to be included.

2. *Product*

   Product values are assigned to those resources which are harvested for exchange in formal markets. The commercial cutting of timber in a forested wetland is an example of this value. Other examples include the harvest of furbearers, bait and commercial fish and wild rice.

3. *Cultural / Social*

   These values relate to functions of the wetland which contribute to enhanced social or cultural values. Examples include landscape aesthetics (distinctness, lack of disturbance), appreciation of a wetland by school groups for research or as an interpretive facility, traditional use by aboriginal people, or cultural/spiritual importance.

The vertical axis of Table 2 presents the wetland functions that are most commonly encountered in impact assessment methodologies and examples including those functions identified in the wetland evaluation system. Appendix E contains a more comprehensive listing of minor functions that can occur and that might infrequently be included in an EIS. The selection of the key wetland functions for the functional assessment framework is a reflection of those functions (in all functional groups) that are both important and measurable (i.e., quantifiable). Many of the minor functions (in all functional groups) included in Appendix E are either difficult to quantify, or are currently not well enough understood to be meaningful in an impact assessment.

The horizontal axis on the functional assessment framework is a guide to steps through the detailed impact assessment process. Wetland functions are simply characterized by presence or absence. *Sensitivity Assessment* describes the degree and extent of the function as it occurs in the wetland. The proposed activity (*impact*) that might affect the function is noted. Predictions are made about the type (e.g., direct, indirect/ cumulative) and degree of expected effects of impacts (e.g., significant positive, minor positive, none, minor adverse, significant adverse degrees). In many cases mitigation, including modifications to the development proposal, can be selected to avoid or minimize some or all effects. The predicted net effects after mitigation are the conclusions drawn forward in the EIS document. Monitoring is sometimes necessary in order to ensure the predicted net effect summary is correct.

The functional assessment framework is intended to serve as a template for the EIS. It ensures that a robust and standardized approach is taken in the completion of the detailed impact assessment work. The functional assessment framework can be used as a table in the EIS itself, to fill in the information required. It could also be used in other natural environment settings (e.g., uplands, ravines, woodlots, etc.).

2.3.4 Testing Compliance with the Wetlands Policy Statement

Regardless of the type of EIS that is prepared, review agencies must assess the report in light of the four (three in northern Ontario) requirements of the Wetlands Policy Statement, namely that the development will not result in:

a) loss of wetland function;
b) subsequent demand for future development which will negatively impact on existing wetland functions;
c) conflict with existing site–specific wetland management practices; and
d) loss of contiguous wetland area (Great Lakes – St. Lawrence Region).

Loss of Wetland Function

One of the goals of the Wetlands Policy Statement is to achieve no loss of function in provincially significant wetlands. It is clear from much of the scientific work underway in Canada and elsewhere and from a review of the functional assessment framework described in this document, that wetlands are complex systems which include a very long list of functions, some of which are quite complicated and interrelated. The challenge in demonstrating "no loss of function" stems principally from the fact that wetland functions can be defined both broadly and narrowly. For example, the Wetlands Policy Statement identifies eight broad functions. Each of these broad functions could, in turn, be broken down further into many more detailed functions.

For example, page 9 of the Wetlands Policy Statement discusses "habitat for fish and wildlife" a function which can easily be broken down into more detailed functions. Other species–specific and even life stage–specific functions could theoretically be identified for each and every life form that lives in and/or is dependent upon a particular wetland. It would be unreasonable to require that proponents address all of the detailed functions that one might be able to identify in an EIS.

Beyond numbers of functions, this complexity is increased by the spatial extent of some. Because of the complex interrelationships between wetland and upland components of the landscape and within wetlands themselves, effects from certain developments may extend some distance from wetlands. The challenge, then, is to focus EISs on those wetland functions that are relevant in a particular situation. The determination of key wetland functions (i.e., those which special importance is attached) allows the municipality, the proponent and the MNR to concentrate on the functions that have the greatest influence on the overall integrity of a wetland and/or its value. These functions should be discussed and agreed upon by these parties and should form the basis of intensive EIS investigations. By protecting key wetland functions, other functions may also be maintained or even enhanced.

Determining which functions should be included in an EIS in a particular situation can be accomplished through a screening process. Screening is most effective and defensible if one has a reasonable understanding of: a) the wetland and the surrounding adjacent lands, the flora and fauna, and the terrain setting; b) the nature of the development proposal; and c) the potential interactions between the two.

When screening, it is necessary to:

a) Identify those functions which one can reasonably expect to be affected by the proposal, either directly or indirectly, or, in the case of cumulative effects, those which might be affected as a result of those future developments which can reasonably be predicted. There is no point studying a function if there is no reasonable basis for expecting that it will be affected by a proposal, directly, indirectly, or otherwise. The list generated through this process can sometimes be long.

b) Examine this list of functions and identify those which: a) are of particular concern; or b) could serve as good indicators of effects; and c) are measurable/quantifiable, either in absolute (e.g., hectares or numbers, etc.), or relative (e.g., minor, major, small, large, important, unimportant, etc.) terms.

At the end of these two steps, one should have identified the key wetland functions.

Having identified the key wetland functions, an EIS can be undertaken. In the course of completing an EIS, potential impacts on these functions will be identified. Once identified, strategies can be identified to mitigate impacts and prevent functional loss.

In some situations, it may not be possible to completely mitigate against impacts on some key wetland functions, or, in other words, to eliminate all functional loss. In these cases, the municipality, in its role as the decision–making authority, and MNR, in its role as a commenting agency are required, under the Planning Act, to **"be consistent with"** the Wetlands Policy Statement. In doing so:

a) it may be concluded that it would be unreasonable to disallow a specific proposal in a particular situation. That is, the loss, while not desirable, may be considered tolerable and/or acceptable, in light of: a) the municipality's obligation to consider a number of factors in rendering planning decisions – not just wetlands; and b) the loss from MNR's perspective is not "significant". **or**;

b) it may be decided that the predicted loss of function cannot be tolerated. An example might be where a proposal was expected to result in a unmitigatable loss of habitat for a rare species or of habitat for a species which is significant for other reasons.

Some situations may arise where the municipality and MNR will not agree. Resolution may require an OMB hearing. A proponent who does not agree with a decision may request an OMB hearing.

Subsequent Demand for Future Development Which Will Negatively Impact on Existing Wetland Functions

During the completion of an EIS, consideration must be given to the potential for one specific development proposal to contribute to an increased demand for subsequent development. In this way, one will be required to understand the potential cumulative effects associated with a series of development proposals.

Examples of how increased demand and/or potential increased negative effects might be triggered include:

a) a proposed development might increase the accessibility of previously isolated areas, which in turn could trigger additional development applications;

b) a proposed development could increase the accessibility of extractable resources; and

c) a specific development may increase the stress(es) upon individual organisms or populations to a threshold of potential significant effects.

The principle that each development application may affect wetlands in different ways and to varying extents is important. Consideration of these cumulative effects must give some recognition to past developments and to other proposed future developments (present in the form of development applications, land use designations, etc.).

A variety of references are listed in Appendix L, to assist the EIS author in considering the spatial and temporal aspects of cumulative effects assessment. As this area of science and planning is evolving, it is expected that this component of the Technical Manual will be periodically updated. Some direction may be sought from efforts currently underway in other areas of provincial jurisdiction and/or interest (e.g., Oak Ridges Moraine, Niagara Escarpment).

Conflict with Existing Site–Specific Wetland Management Practices

Many of Ontario's wetlands are currently exposed to some form of management practice. Examples include:

a) water level control for a variety of purposes (e.g., waterfowl management, timber production, etc.);

b) fish and wildlife harvests;

c) harvests of other materials (e.g., wild rice); and

d) timber production.

Established management practices are existing wetland functions (value group). Therefore proposed development should not negatively affect these. These existing functions should be tested for their sustainability. Where they are determined to be completely or partially unsustainable, the practices themselves may be diminishing existing wetland functions. There will therefore exist, opportunities to modify these practices to more closely achieve the intent of the Wetlands Policy Statement.

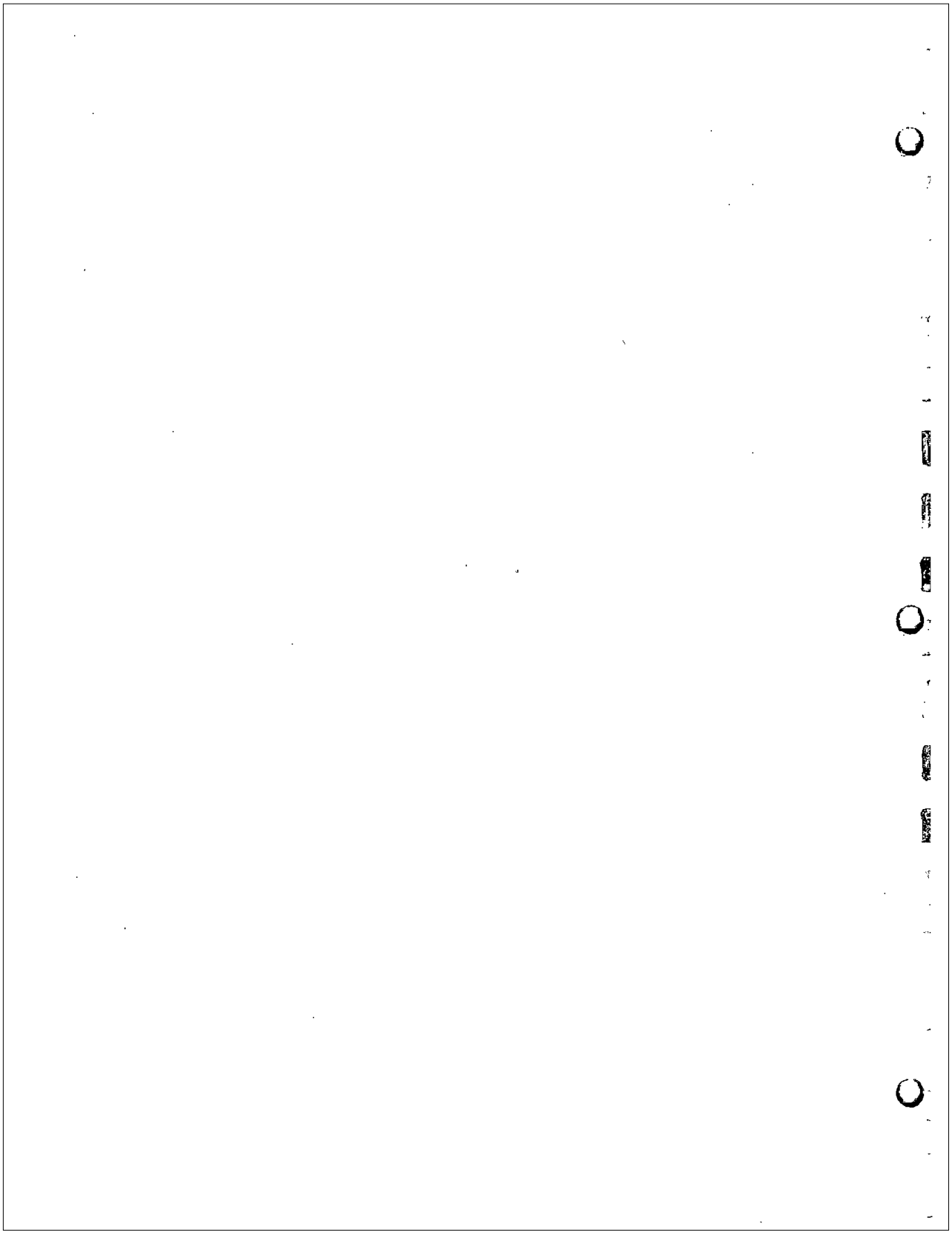
This test of compliance with the Wetlands Policy Statement will require considerable discussion amongst the: proponent; MNR; planning authority; and a range of stakeholders. There may in fact be conflicts between goals established to maintain functions (e.g., conflicts between targets for the various functional groupings; processes, attributes; linkages; and values).

Management of systems for the optimization of waterfowl or mammal populations, for example, may preclude the maintenance of existing attributes (e.g., rare plant species) or diversity generally, which respond to unmanaged or more natural hydrologic conditions.

Loss of Contiguous Wetland Area (Great Lakes – St. Lawrence Region)

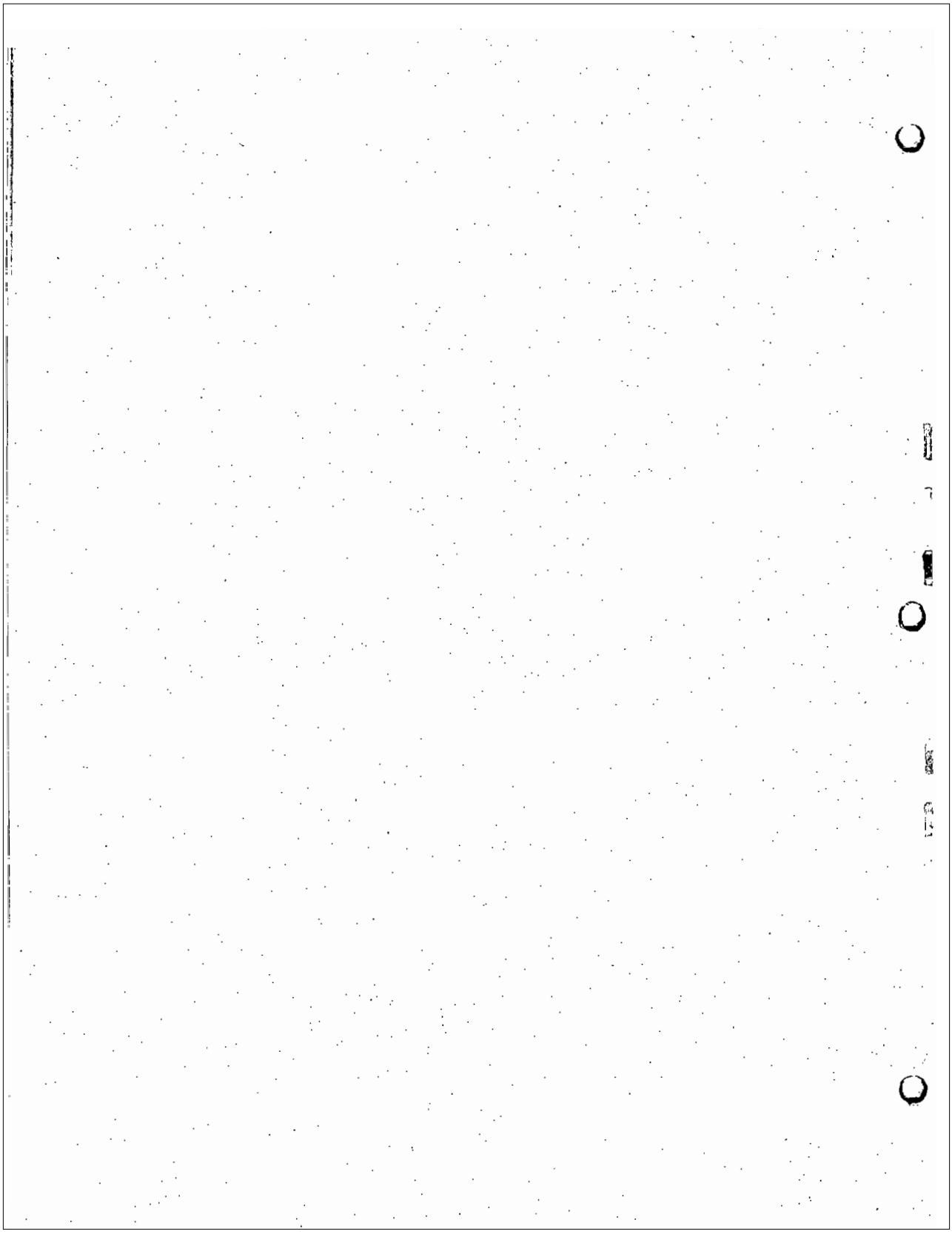
This test of compliance with the Wetlands Policy Statement requires that there be no disagreement amongst parties regarding the precise location of the wetland boundary. Flagging (and potentially surveying) this boundary in the field to the satisfaction of MNR will help ensure that development proposals respect this boundary.

No development proposal that calls for removal of wetland area and replacement with upland area (usually by filling and/or draining wetland areas) in the Great Lakes – St. Lawrence Region, will be deemed to comply with the Wetlands Policy Statement.



Step 1

Determining Basic EIS Requirements



3.0 INITIAL CONSULTATION AND POTENTIAL ISSUES SUMMARY PAPER REQUIREMENT

3.1 INITIAL CONSULTATION

At the outset of a proposed *development*, the proponent should consult with the MNR and the planning authority (e.g., municipality, planning board). Other local regulatory agencies (e.g., Conservation Authority, MMA, MOEE, etc.) may also be contacted as described in Appendix D (p.44) of the Guide to Provincial Planning Applications (MMA, 1993). This initial consultation will enable the proponent, MNR and the planning authority to ensure that all relevant information and issues are known early on, and that relevant policies be applied to the development application are also understood (e.g., Wetlands Policy Statement, Federal Policy of Wetland Conservation (see Appendix K), other municipal policies contained in Official Plans, if a Comprehensive EIS is available for the study area, etc.).

At this time, the MNR will confirm the requirement for an EIS (see Figure 1), based upon the identification of the proposed development within the adjacent lands of a provincially significant wetland (Provincially Significant Wetland) or wetland complex in the Great Lakes St. Lawrence Region and in or on the adjacent lands of a provincially significant wetland in the Boreal Region.

Wetland management projects such as those carried out under the North American Wetland Management Plan, which involve improving habitat, productivity, diversity, or sustainable use of wetland resources, should be introduced to the MNR at this stage. Discussions can then occur regarding how some of the EIS requirements may be folded into other processes (e.g., Class EA, Federal EARP) through which these projects are considered.

The initial meeting between the proponent and MNR is also the best time for the MNR to raise any information gaps and other concerns with respect to the upland portions of the property not necessarily addressed by the Wetlands Policy Statement. For instance, the presence of a nest of an upland-dependent rare bird on or near the proponent's property should be identified. Avoidance and mitigation recommendations for the protection of these features could be considered at this stage for incorporation into the development plan. Further reference to relationships between wildlife in wetlands and the adjacent lands is provided in Appendix G and Figure 3.

3.2 POTENTIAL ISSUES SUMMARY PAPER REQUIREMENT

For both the Scoped Site and Full Site EIS, an Issues Summary Paper may be required. An Issues Summary Paper, if requested, would be provided along with the submission of a development application to assist MNR and the planning authority in making a decision about what type of EIS is required. It would help to focus the more detailed work required for the EIS itself, to ensure that the exercise is conducted efficiently.

It is expected that an Issues Summary Paper will be requested for most Full Site EIS documents (except the most straight forward examples) and for some Scoped Site EIS documents. When reviewing this section, bear in mind that the Issues Summary Paper structure and content suggestions could be quite similar to Scope Site EIS documentation requirements. This Issues Summary Paper will form the basis of further EIS requirements (if necessary). Additional information required for the Scoped Site EIS is provided in Section 4.0 of this Technical Manual. Section 5.0 deals with Full Site EIS requirements.

This step requires the consideration of all readily available background material and in particular the current wetland evaluation data and scoring record. It is not intended that the proponent conduct a detailed investigation and assessment of the wetland for this step. Rather, it is expected that the proponent will, at the end of this step, produce a brief (e.g., a few pages with one or two figures) Issues Summary Paper. This document should flag key wetland functions and potential activities (impacts) and effects that would form the basis of subsequent EIS work. Consultation and an optional site visit are suggested for this step to facilitate broad and open discussions about the issues. This Issues Summary Paper may be considered to fulfill the requirements for a Scoped Site EIS. This is discussed further in Section 4.0 of this technical manual. Most Issues Summary Papers should be relatively simple and reasonable exercises. Depending upon the key functions and predicted effects, it is likely that professional guidance will be required for this work.

3.3 ISSUES SUMMARY PAPER DOCUMENTATION GUIDANCE

3.3.1 Description of the Environment

A general description must address the terrain and biological settings as well as land use patterns. A knowledge of existing management/use activities also contributes to an understanding of how the wetland currently functions. This description will enable the preliminary determination of how impacts will affect the resource. The study area for the impact assessment will, at a minimum, include that portion of the wetland area and adjacent lands relevant to the particular proposal. The study area boundaries will, however, generally be larger. They should show the development block in relation to the wetland, wetland boundary, adjacent lands and the landscape or terrain setting. More specific guidance regarding study area determination is provided in Section 2.3.1.

Terrain Setting

Plants, wildlife and the type of wetland itself are largely dictated by the terrain or physical conditions present. The source of water (ground or surface), the timing and locations of its delivery, and the nature of the topography and soils all contribute to this understanding of terrain. This understanding translates into an appreciation for how a wetland works. Understanding how it works enables an accurate assessment of potential development effects to be undertaken.

An examination of the terrain requires that the following information be collected and assessed for the study area:

a) a characterization of the surface and subsurface soils (e.g., clay, gravel, sand, silt, peat);
b) identification of local landform type(s) (e.g., morainal, glaciofluvial, glaciolacustrine, alluvial); and
c) identification of landform position (i.e., position of the wetland in the landform) and the site type (i.e., riverine, palustrine, isolated and lacustrine).

There are many tools available to characterize the terrain setting. In the Issues Summary paper, reliance should be upon existing information (e.g., Ontario Geological Survey Mapping or hydrogeological maps and reports, water well records, topographic and Ontario base maps, soils maps, floodplain mapping, fisheries mapping, airphotos, FRI maps and the wetland evaluation data record).

This terrain assessment produces, among other things, a general understanding of the role of ground water in the maintenance of the wetland. Appendix D provides some further guidance in this regard.

Surface water patterns are then determined by identifying:

a) the wetland area and its boundaries;
b) the hydrological catchment boundary or drainage basin;
c) overland flow contribution points and wetland outlets; and
d) hydrological processes.

Much of this information should be available from the wetland evaluation data record and mapping. Where the evaluation is not current, or changes have occurred since the evaluation was conducted, this information will need to be updated. The proponent may choose to reevaluate the wetland or collect only the information necessary to establish a current baseline of the study area. As well, this surface water assessment benefits from a review of the most recent and accurate scale of topographic mapping. If available, municipal storm sewer drawings and old municipal drain reports can be helpful. This archival material (e.g., old municipal drain reports) can provide clues as to the successional trends and disturbance processes in a wetland.

Together, this examination of terrain and surface water will produce information (that can be mapped) about the relevant drainage boundaries, inflow and outflow points, and the relative importance of surface and ground water in the maintenance of the wetland. A field inspection can provide confirmation of the permanence of flow in watercourses, channels and seepage zones.

Biological Setting

The biological setting of the study area is characterized by the following:

a) in the wetland or wetland complex itself, an identification of the wetland types (e.g., bog, fen, swamp, marsh);
b) an identification of the vegetation communities present in the wetland, on the adjacent lands and within the study area;
c) an identification of any important attributes in the wetland and adjacent lands, including critical or vulnerable habitats as identified by resource agencies; and
d) a listing of the plant and wildlife species that have already been identified as important (i.e., significant species or those for which management goals exist).

Examples of available information to complete this effort include:

a) the complete wetland evaluation data record and mapping;
b) local naturalist group and citizen interviews;
c) local hunters and trappers;
d) Committee on the Status of the Endangered Wildlife in Canada (COSEWIC) reports;
e) the Ontario Breeding Bird Atlas summaries;
f) the Ontario Herpetofaunal (reptiles and amphibians) Atlas;
g) Ontario Mammal Atlas (provisional);
h) Atlas of the Rare Vascular Plants of Ontario;
i) Forest Resource Inventory (FRI) maps and/or more recent cover type maps where available;
j) data bases that may be on file with Universities and the Natural Heritage Information Centre MNR (Peterborough);
k) rare species mapping for Southern Ontario;
l) Ontario Rare Breeding Bird Program data;
m) ESA and ANSI reports;
n) Parks files;
o) fisheries and wildlife files at the MNR and conservation authorities;
q) airphoto interpretation; and
r) Marsh Monitoring Program (MMP) for birds and amphibians.

A cursory field inspection at this stage combined with a review of the geological and hydrogeological setting, often yields additional useful information especially where the wetland evaluation is dated.

As an example, one should be able to conceptually predict ground water conditions that might have an impact upon fish habitat. It is not expected that all of these resources will be consulted at this stage. Those reasonably expected to be useful in an overview assessment should be consulted (varies from place to place).

This Issues Summary Paper should identify basic relationships between biological and terrain information (e.g., dependence of fishery in a wetland on provision of ground water baseflow).

Social / Cultural, Economic and Recreational Setting

The description of the social/cultural, economic and recreational setting at this point should be restricted to an identification of the existing land use patterns and any known wetland resource uses. For example, the latter could include discussions of significant hunting, fishing or other recreational uses of a wetland.

Much of this information is available from the wetland evaluation data record. Other possible sources of information include: basemaps, airphotos, discussions with the local municipality, conservation authority, MNR, OMAFRA, schools or groups that may use the wetland for education or recreation, or local conservation or field naturalist groups.

Some discussion regarding wetland resource use is helpful. There are some instances where school boards, conservation authorities and other government and non–government organizations make use of wetlands for education, recreation and research. In this exercise it is important to identify user groups and the current degree of various activities.

3.3.2 Characterization of Functions

The environmental information pertaining to terrain (hydrological and hydrogeological processes and linkages), biology (biological processes, attributes and linkages), and social, economic and recreational uses (value functions) should be translated or described as wetland functions. The Wetland EIS Functional Assessment Functional assessment framework (Table 2) is a useful tool in this regard, as it includes those key functions considered to be important in the majority of wetlands. For purposes of this Issues Summary Paper, a checklist of functions can be provided.

3.3.3 Description of the Development Proposal

A general description of the type and magnitude of the proposed development is required. This description should be accompanied by a map that depicts:

a) the wetland boundary;
b) the adjacent lands area;
c) the position of the proposed development within the overall wetland and adjacent lands area;
d) a conceptual site plan showing expected locations (not details) of buildings, roads or other services (e.g., on–site sewage and water taking systems);
e) general areas of proposed grading and filling and/or landscape modifications and/or drainage alterations; and
f) facilities or operations that could affect the existing uses of the wetland related to human values.

3.3.4 Application of Impact Assessment

The development description should be compared with the wetland functions identified earlier to highlight potential impacts and resultant effects. A review of Appendix F, a generic listing of most potential impacts and subsequent effects, is helpful in this regard.

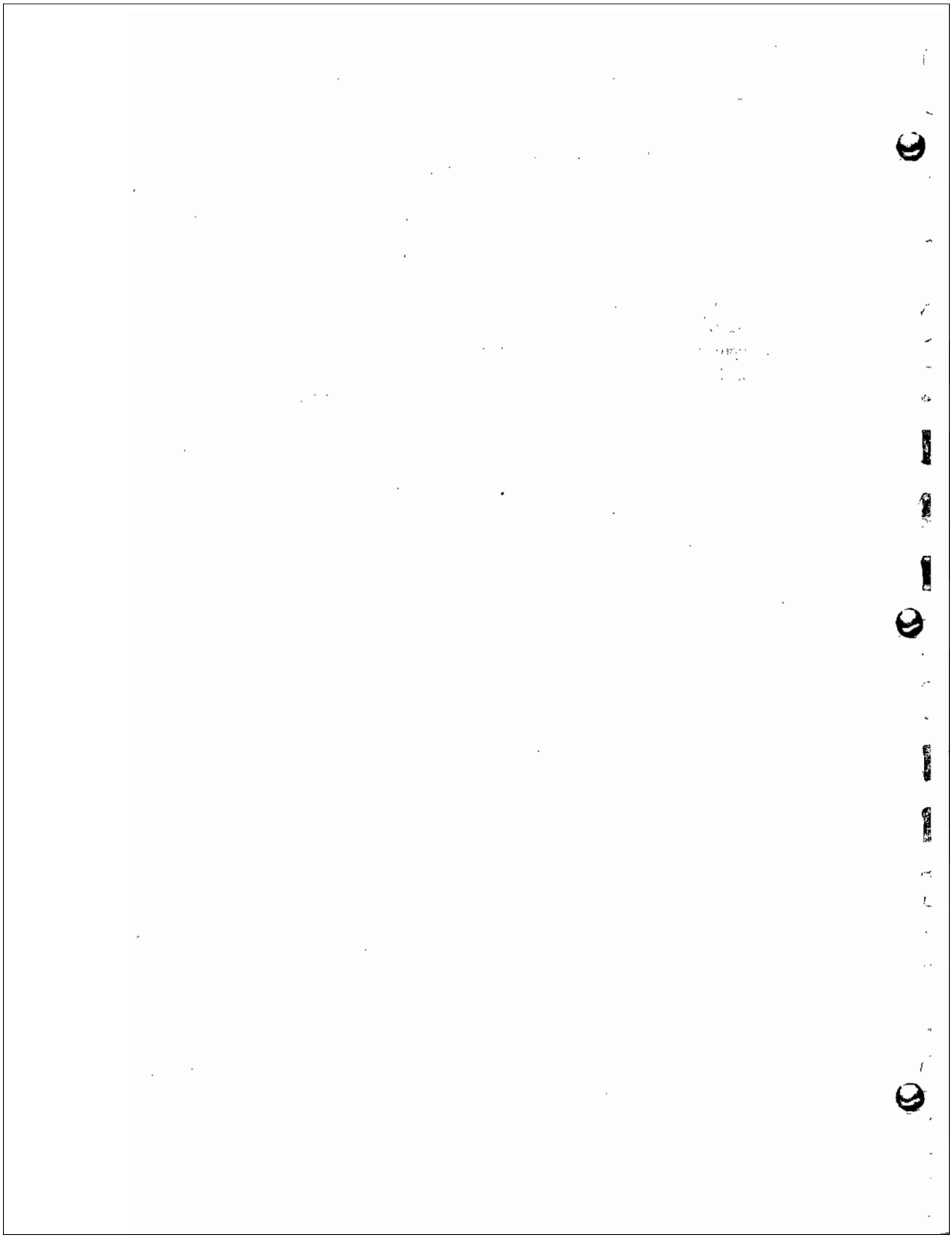
3.3.5 Completion and Submission of Document

The Issues Summary Paper should be brief (e.g., a few pages plus figure(s)) and should include:

a) an identification of the terrain setting with comments regarding roles of ground and surface water in maintaining the wetland;
b) an identification of the biological setting with:
   i) initial comments regarding the diversity of communities present;
   ii) highlights of communities; and
   iii) species accorded some special importance in background information;
c) an identification of existing land use and wetland resource use;
d) a list of key wetland functions;
e) a general description of the development; and
f) a list of potential impacts from the development activities and general mitigation advice.

The figure used to depict important environmental information, should include relevant development information in a conceptual manner. Where one figure will not depict a clear indication of potential impacts, two figures should be used.

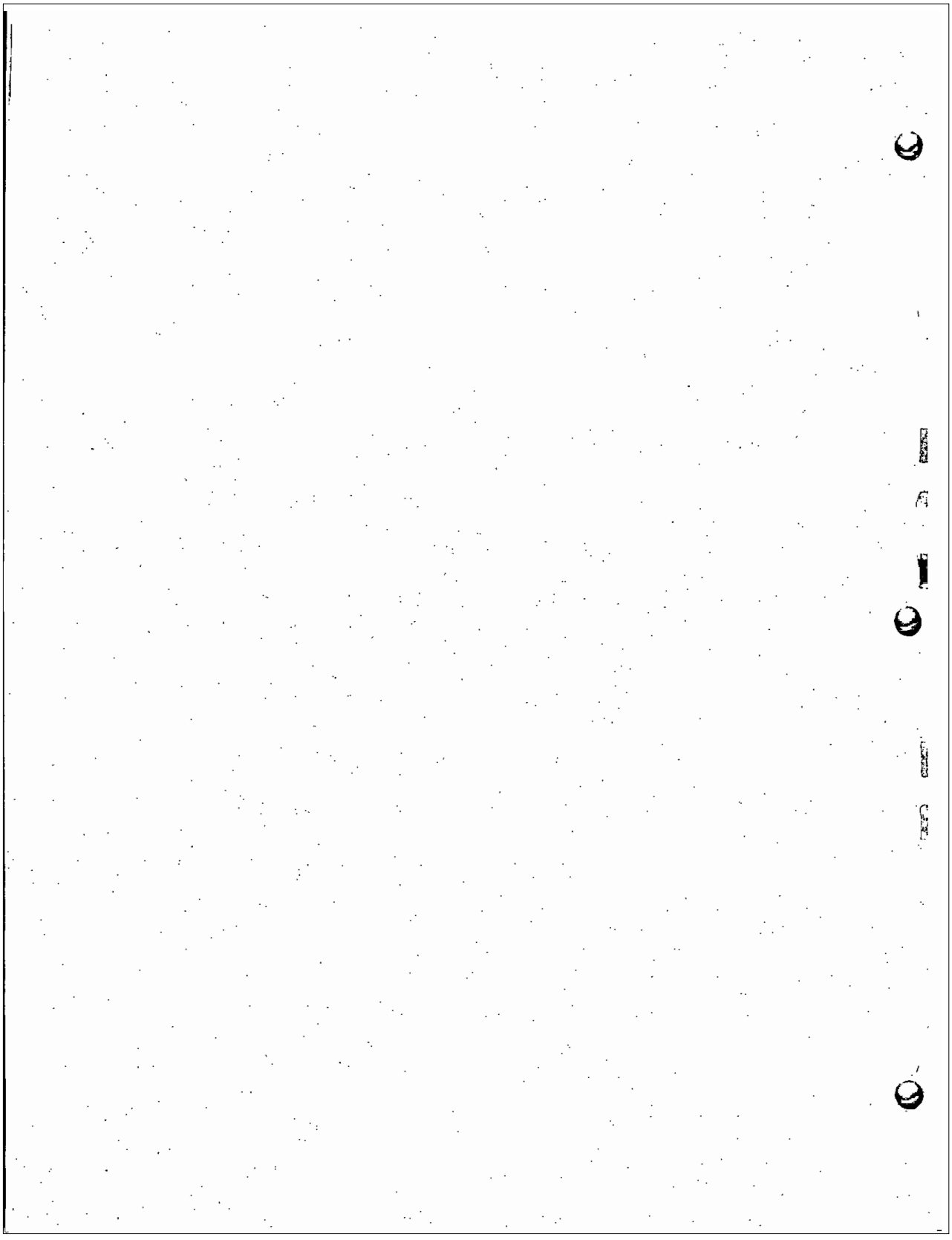
Documents should be distributed for comment according to the planning authority's requirements. Usually, the proponent will submit the Issues Summary Paper concurrently to the MNR and the planning authority (e.g., municipality). The MNR is responsible for the review of this summary document and will liaise with other ministries and resource management agencies as required. This is also an appropriate time for the municipality and the proponent to consult with the local Environmental Advisory Committee of Council (EEAC) (if such exists), and any other key stakeholders, to inform them of the development proposal. The planning authority, usually the municipality, is responsible for coordinating and leading this activity or process.



Step 2

Conducting the Detailed EIS

4.0 Comprehensive EIS
5.0 Full Site EIS
6.0 Scoped Site EIS



4.0 SCOPED SITE EIS

Most Scoped Site EISs should be relatively simple and reasonable exercises. However, depending upon the key wetland functions and predicted effects, there may be need to retain professional guidance for this work. In the case where an Issues Summary Paper has been requested, professional guidance will almost certainly be required. Authours of a Scoped Site EIS is advised to review Section 3.0 of this Technical Manual in detail. Much of the information related to the Issues Summary Paper also relates to and helps to develop the Scoped Site EIS.

The Scoped Site EIS can be either: 1) very simple, where MNR is reasonably certain that the proposal will have no impact on the wetland; or 2) more detailed. For the first category, a checklist approach may be appropriate. Appendix M contains a copy of one possible checklist. Various checklists are currently in use by MNR in some areas. Check with the MNR District in which you are working to determine whether a particular list exists and should be used. Regardless of the approach taken, the level of detail must be sufficient to demonstrate that the development will meet the four criteria for acceptance laid out in the Wetlands Policy Statement (see Section 2.3.4 for some further discussion). It is recommended that proponents structure the Scope Site EIS in the same way as the Issues Summary Paper so that they will not have to extensively revise the original documentation.

4.1 CHARACTERIZATION OF FUNCTIONS

The assessment of functions in a Scoped Site EIS will likely be restricted to one or two key functions and some minor functions. These key wetland functions should be assessed in a sound technical manner in order to demonstrate compliance with the Wetlands Policy Statement. When considering hydrological functions for this EIS, there is generally no need to install measuring devices, or to collect water quality samples. Visual observations of local drainage patterns should be made. For example, the degree of permanence for any watercourse and the general location of seepage areas, should be identified. Information on the extent of proposed grading, draining and filling should be available.

Habitat (aquatic and terrestrial) need only be characterized generally and be specific to the local study area. Broad vegetation groupings (e.g., deciduous, mixed, coniferous forest, thicket, field) can be used and mapped approximately.

Particular attention should be paid to the identification of known significant species and critical habitat. Specific field observations during the appropriate season (see Section 5.2.3), are not required to confirm previously documented attributes. It is important to offer, as precisely as possible, locational information and qualitative descriptions. Important environmental information should be depicted on a map of the study area.

Linkages and values are generally considered in a very cursory manner in this type of EIS, given the generally local study area. Effects such as restricted access to previously well–visited, important resource areas (for wildlife observation, hunting, fishing), should be noted. These will be considered to be effects on existing value functions. General comments regarding obvious linkages (e.g. well–connected patches of forest cover) should be recorded.

4.2 APPLICATION OF IMPACT ASSESSMENT

The impact assessment in a Scoped Site EIS while technically complete, will be restricted to fewer functions than will be typically addressed in the Full Site EIS. It is likely that a Scoped Site EIS will not require significant mitigation or monitoring options. Examples of impacts could include minor interruptions of surface and subsurface drainage, from excavations. There could well be some habitat removed (e.g., frequently this involves the removal of upland forested and non–forested habitat from adjacent lands.

4.3 MITIGATION

The Scoped Site EIS will require discussions with the MNR regarding the degree of impact/effect predicted and the potential for mitigation. Mitigation options will be restricted in this situation. The establishment of upland, naturalized habitat in adjacent lands, the installation of small scale drainage works (e.g., culverts) and even the maintenance of minor linkages or access points could contribute to mitigating effects.

5.0 FULL SITE EIS

Where a specific development requiring an approval under the Planning Act (e.g., residential, commercial, industrial, extractive, recreational) is proposed, and where effects on key wetland functions are likely, a Full Site EIS is required. The work required for this EIS has likely already been focused by the Issues Summary Paper described in Section 3.0 of this Technical Manual. Technical data gathered for that paper were used principally for identification purposes. That information can be carried forward and supplemented for use in this EIS with further interpretation required. In most cases this EIS will require the examination of many of the key wetland functions identified in the functional assessment framework (Table 2). As such, the Full Site EIS can be the most complex of the three types and can require the collection and interpretation of the most new data. The level of complexity will vary. Definitive direction regarding this level is beyond the scope of this manual and is more appropriately found in technical discussions with the MNR. The following discussion helps to define the more specific requirements. It is organized in three broad areas of discussion:

a) hydrogeological setting;
b) characterization of functions; and
c) application of the impact assessment process.

The definition of the wetland boundary is also an important first step in this process. The boundary defined during MNR evaluations is mapped at a scale of 1:10,000 or 1:20,000. A more accurate scale is necessary for this EIS. The boundary defined through this EIS will require ground truthing to examine soils, hydrology and vegetation.

5.1 HYDROGEOLOGICAL SETTING

The Terrain Setting will have been generally described as part of the preparation of the Issues Summary Paper. Given the more rigorous assessment required as part of a Full Site EIS, some additional tasks may be required (beyond those listed in Section 3.3.1) as preparation for a precise definition of functions. This work should occur especially where it appears that the wetland surface and ground water pathways are related in a substantial way (i.e., significant effects on key wetland functions could be expected from changes to either the surface or ground water regimes).

Additional work could include more site specific measurements such as the installation of boreholes and routine ground water monitoring. The installation of boreholes is appropriate in more complex geologic settings where little is known about the movement of ground water or the relationship between ground and surface water with respect to wetland levels.

5.2 CHARACTERIZATION OF FUNCTIONS

5.2.1 Process Group

Hydrological Processes

Surface water studies will typically be required to adequately address both quantity and quality characterization. The approach for each is described in the following, with the level of effort dependent upon the complexity of the project. Not every item described in this section of the Technical Manual will be required for every Full Site EIS. Decisions regarding the specific level of effort require consultation with the MNR and other relevant stakeholders.

Water Quantity Processes

At the outset of the study, before any hydrological characterization work is undertaken, several water level gauges (stage recorders) should be established in the wetland. Some wetlands, because of historical investigations, may already have established gauges which could be useful. If the proponent is a municipality or government agency, it would be advisable to collect hydrological data before the start of the study. The number of stage recorders should be based upon the wetland size. A minimum of three is recommended to reduce the potential for vandalism to affect observations. The gauges should be surveyed to geodetic datum and mapped to establish precise information regarding water level fluctuations.

If a municipality expects that a particular wetland will become the focus of an EIS in the near future, stage recorders should be established early on by the municipality in cooperation with resource management agencies (i.e., conservation authority, MOEE, MNR). This will increase the opportunity to gather sound background data, and regardless of when the stage recorders are installed, they will serve as useful post–development monitoring stations.

These water level recorders should be monitored regularly (ideally weekly), during the course of the EIS. To ensure a complete understanding of high and low water levels, observations should be made during both the spring and summer seasons. These data would complete one's understanding of the "hydroperiod" which includes the duration, frequency, depth and season of wetland flooding. The water levels should be observed more frequently (e.g., hourly, if possible) during a major rain event to gain an understanding of the wetland response to runoff from such events. In less accessible locations, a crest gauge could be used to demark the high water elevations. The proponent could look towards using local agency or municipal support or trained volunteer support to conduct this field exercise efficiently. These water level data will assist with the interpretation of biological data and hydrologic modelling. In situations where a decreased level of surface water analysis is applied, a rationale (e.g., demonstrated understanding of hydrological processes) is required.

Once the stage recorders are established, the hydrological processes can be assessed by:

a) determining catchment boundaries and drainage patterns;
b) determining the relative flow contribution of water from each subcatchment or basin;
c) conducting a water balance exercise for the area based on a nearby meteorological station; and
d) hydrologic modelling (if required).

Each is described further in the following sections.

Catchment Boundary and Drainage Pattern Identification

As described earlier (Section 3.3.1), catchment boundaries can be derived from current topographic mapping supplemented with an interpretation of aerial photographs. The terrain assessment exercise will contribute to this task. A variety of information sources should be consulted to confirm these boundaries, including old municipal drain reports, municipal sewer drawings and other historical information. The approximate catchment boundaries should also be confirmed in the field.

Similarly, drainage patterns (e.g., diffuse, radial, point source) should be identified using background information, and should be confirmed in the field. A distinction should be made between permanently flowing watercourses and intermittent swales. Human activities can greatly influence drainage patterns, therefore field observations should include particular attention to water diversion channels, filling and pumping activities. Recent activity may still be altering the functions of the wetland. Water taking permits are required from the MOEE for withdrawals of surface or ground water and can be used to verify existing water uses in conjunction with site visits to identify local, low consumptive uses.

Determining Contribution of Water

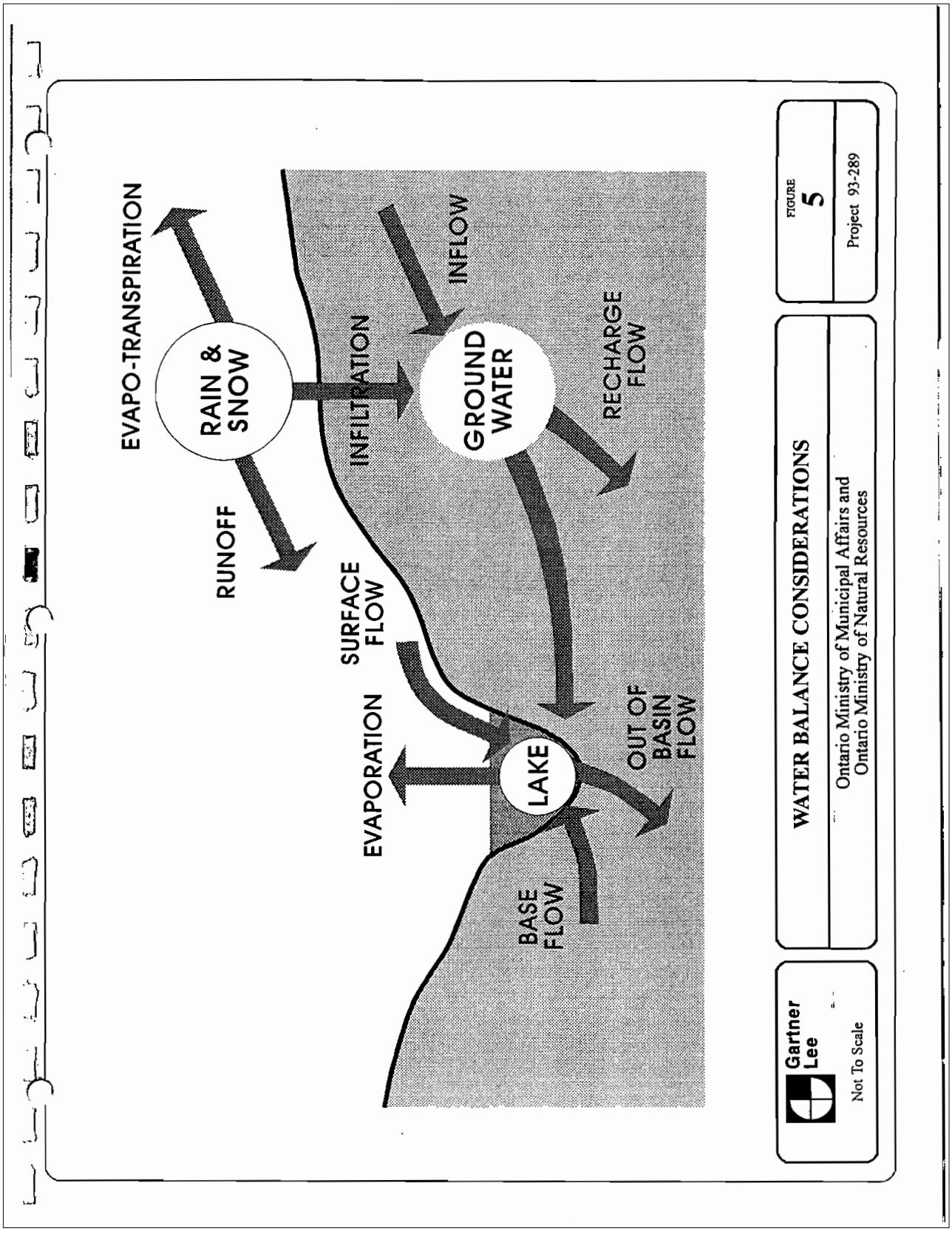
Quite often, the water flowing over the surface to the wetland originates from more than one separate subcatchment or basin. In these situations, the relative contribution of each basin to the wetland should be determined. This calculation requires an understanding of the soil textures, land use, and topography, so that a water budget can be used to estimate the amount of annual water surplus that infiltrates to recharge the ground water flow system and that which contributes to surface flow. This may require fairly specific information regarding permeability of the surficial soils in the study area. However, in relatively homogeneous settings, regional scale mapping of soil types could be used to determine the proportions of runoff and ground water recharge.

Conducting a Water Balance

Figure 5 depicts the elements to be considered in the water balance exercise. The purpose of this step is to identify how the water is being delivered to the wetland. This water balance becomes the tool by which changes in these pathways, as a result of development, can be assessed and quantified. This exercise should be conducted using standard water balance techniques (e.g., Thornwaite and Mather, 1957). Any water balance procedure requires data on precipitation, temperature and sunlight hours to determine the annual evaporation loss and annual surplus (runoff plus infiltration). Given the high variability of temperature data in Ontario, it is recommended that the water balance be carried out on a monthly basis. A water balance requires precipitation and temperature records from a nearby or regionally similar meteorologic stations. The monthly precipitation total less the calculated evapotranspiration yields the monthly water surplus. A further separation of the water surplus into infiltration and runoff estimates is possible with information on soils, slope, surface cover, and land use. There are other information sources which can assist in confirming the split of surface runoff and infiltration. These include Water Survey of Canada – Historical Streamflow Summary reports for nearby, similar watersheds and local flow measurements. In unusual circumstances (the most complex EISs and/or where important local information is unavailable), it may be necessary to install a meteorological station in a particular study area to collect precipitation/ temperature data.

Hydrologic Modelling

Using all of the previously described hydrologic information, it is possible to quantify the changes in hydrologic response due to a particular undertaking. This is a step required for complex proposals. One of the most common and effective techniques for this work is discrete or design event hydrologic modelling. This modelling is conducted, using the same rainfall input, to identify existing peak flow and runoff volume characteristics for comparison to runoff response under future land use conditions. Similarly, this technique, when combined with hydraulic modelling, if required, can produce a regulatory highwater mark for the wetland as may be required by the local conservation authority or MNR (e.g., Regional Storm or other guideline). This highwater mark is for flood control purposes only and ignores the regular fluctuations in water levels which may be important from a biological perspective. In Ontario, there are several accepted models used to conduct this work. A cautionary note should be raised here. Modelling is not required in every situation. In fact, some models listed in Appendix H are quite expensive, difficult to apply and only appropriate in specific situations. The need for modelling versus other predictive techniques should be carefully considered. This is described further in Section 5.3.1 along with some general modelling information in Appendix H. Continuous modelling, where several years of daily temperature and precipitation records are used, may suit very complex or sensitive sites. The requirement for detailed hydrologic modelling will be identified during initial consultation.


EVAPO-TRANSPIRATION
RAIN & SNOW
RUNOFF
INFILTRATION
INFLOW
GROUND WATER
RECHARGE FLOW
SURFACE FLOW
EVAPORATION
LAKE
OUT OF BASIN FLOW
BASE FLOW
Gartner Lee
Not To Scale
WATER BALANCE CONSIDERATIONS
Ontario Ministry of Municipal Affairs and
Ontario Ministry of Natural Resources
FIGURE 5
Project 93-289

Water Quality Processes

In many cases, the ability of a wetland to modify surface water quality will be carried forward in this assessment as a key function. Water quality is closely related to land use change and to the quantity of runoff where loadings are of concern. There may be existing water chemistry data available for analysis. If not, existing background conditions should be determined by sampling and laboratory testing for:

a) inorganic parameters (nutrients);
b) total suspended solids;
c) trace metals;
d) chlorides;
e) field measurements of temperature, pH, conductivity, and dissolved oxygen; and
f) organic parameter scan (Note: organic parameters are not required at all stations. One sample to test for the detection of organics may be sufficient. Should these parameters be present, more sampling may be needed).

This sampling will be geared towards understanding the inputs and outputs of the wetland, thereby helping to determine the role of the wetland in modifying water quality. Sampling ideally includes a range of seasons with samples being collected during both dry weather and wet weather conditions with a minimum of one sample under each of these conditions. It is particularly important to sample wet weather conditions to more accurately evaluate the effectiveness of the wetland at improving the quality of surface runoff from upstream areas.

The required level of sampling will depend upon the degree of existing information available. If information is available, some confirmatory sampling should be done under wet and dry conditions. If no information is available, a water sampling program should be established which includes four to six samples to all stations, at a frequency of one per month during the actively growing season, divided between wet and dry events. If the period of study for the EIS includes winter months, it would be useful to undertake one or two sampling runs under frozen conditions.

While water sampling is a good method of evaluating water quality conditions, it should be remembered that it only provides an indication of conditions at that point in time. For this reason it is suggested that water sampling be supplemented with sampling of the benthic organisms living on the bottom of the waterbody. Since these organisms exist in the station year-round, they reflect water quality conditions over time. Benthic samples should be collected at the same location where water samples are taken and should be sampled either in the spring or in the fall when they are most prevalent. One set of benthic samples is sufficient.

Some wetland systems (e.g., bog, fen) are known to be particularly sensitive to subtle shifts in surface water chemistry. Where these conditions are encountered, there may be a need for a more intensive water quality sampling program in order to more accurately predict the potential impacts of future land use change. The larger sample size, in this situation, allows greater precision which can be important when even slight alterations of chemical loadings can create marked impacts on sensitive wetland systems.

As just noted, the understanding of the water quality processes demands a determination of not only chemical concentrations, but also chemical loadings to a wetland. This requires an integration of both the quality and quantity information and is best accomplished by conducting a mass balance.

5.2.2 Biological Processes

Again, it merits drawing attention to the fact that there is a range of levels of detail possible within full site EISs. This variability limits the ability to provide explicit directions within this manual, for every EIS.

The habitat processes are separated into terrestrial and aquatic systems. This separation is used for simplicity. These systems overlap and are dynamic. In this situation different types of wetlands are considered aquatic (e.g., shallow open water and some types of marsh) while others are considered more related to terrestrial systems (some types of marshes, swamps, bogs, fens). Successional processes influence the character of habitat. Human activities can interfere with successional patterns leading to changes in diversity, productivity, etc. Some understanding of the dynamics of the habitat present is necessary to interpret biological processes.

Terrestrial Habitats

Wetlands are closely related to the surrounding upland habitats. To many organisms, the aquatic habitat is primary. Others rely upon various combinations of the aquatic and terrestrial. The latter are those that this section describes.

A variety of wildlife including birds, mammals, reptiles and amphibians have some association with the terrestrial habitats. For example, many waterfowl species are closely associated with a combination of naturally vegetated uplands in proximity to wetlands. Terrestrial habitat in conjunction with wetlands often completes the life cycle requirements (e.g., feeding, breeding, roosting) of a particular species. Many mammals, for example, rely upon the semi-aquatic and terrestrial habitats in wetlands for winter refuge. The interface between the terrestrial and aquatic habitats is known to present significant diversity and abundance. Some research has, for example, suggested that organisms in these habitats are both larger and possess higher degrees of reproductive success than do the same species in strictly upland conditions (Doyle, 1990).

The terrestrial habitats should be characterized in two basic ways: 1) mapping and describing the habitat available, and 2) inventorying and assessing the use of the habitat by the fauna present. The habitat characterization can be initiated with desktop materials including: aerial photographs, Forest Resource Inventory mapping, topographic and Ontario base mapping. Confirmation of identified characteristics within the study area does require some fieldwork. The development of the faunal inventory confirms relationships between habitat and species. The timing of inventories should reflect local conditions. Advice in this regard should be sought from the MNR. Together, these tools lead to a precise definition of the terrestrial functions in the study area. Each of these steps is further described in the following.

Habitat Characterization

The characterization of terrestrial habitats leads to a better understanding of relationships within and outside the wetland boundaries. Unlike faunal inventories, habitat characterization contributes to an understanding of past influences and identifies potential improvements or enhancements to the habitat. This exercise allows one to focus upon both the existing habitat functions and to address the potential enhancements through the identification and elimination of limiting factors.

There are several vegetation classification systems available to assist with habitat characterization. They vary from relatively simple definitions of upland and wetland, forested and non–forested systems, to more complex systems such as the Canadian Vegetation Classification System and the Forest Ecosystem Classification available for much of forested Ontario. The selected system should provide enough data to support conclusions regarding the quantity and quality of habitat available for groups of wildlife with similar ecological requirements.

Field verification of vegetation conditions should be conducted during the growing season. This creates some specific limitations to the timing for field visits (e.g., May through September in most parts of Ontario).

Specific quantitative vegetation sampling methods such as quadrant analysis, transects and point–centred quarter analyses may sometimes be necessary to precisely characterize habitat. Many of these sampling methods are described in general quantitative ecology books such as Brower and Zar, 1977; Krebs, 1972; Greig–Smith, 1964; and Kershaw, 1964.

A habitat map is an important product resulting from this effort. The map should depict:

a) the wetland boundary;
b) distinct vegetation community boundaries;
c) contiguous blocks of forested habitat, suitable for interior or area sensitive species;
d) degree of productivity of habitat for various species or groups of species (e.g., waterfowl); and
e) the presence of aquatic and terrestrial habitats.

The map can be used to derive information about habitat composition and vertical and horizontal structure, including:

a) the relative quality of available habitats;
b) ratios of various habitats (e.g., terrestrial to aquatic);
c) types and size of wildlife populations present (diversity and abundance),
d) presence of critical habitat components (e.g., cover, shelter, water, snags, etc.); and
e) indications of past influences (i.e., human caused such as drainage, logging, trapping, and; nature caused such as storm damage, beaver influences, successional patterns).

In some situations, species specific habitat mapping may be beneficial. For example, one species such as Osprey may contribute substantially to a key wetland function. A map depicting habitat use during various parts of the species lifecycle could facilitate a better understanding of potential habitat effects.

There are modelling techniques which rely upon less field verification and more upon the prediction of species use associated with habitat types and forms. A combination of techniques may be required, with the greater emphasis on the characterization of habitat. Some models are described in Appendix H.

At this time there are no requirements to use wildlife habitat models in an EIS except in very controversial or large scale developments where modelling may be the only means to confirm no loss of key wetland function. In the future, as models become available and have been adequately tested, they may become more widely used.

The following text describes some of the more commonly used and accepted means of conducting inventories of terrestrial fauna.

Terrestrial Fauna Inventory

Beyond the basic vegetation/ habitat information proposed, it is important to assess wildlife use. Wildlife can play a role as indicators of the quantity and/or quality of habitat present. For example, some bird species referred to as area sensitive, depend upon large forest tracts with some secure interior. Their successful breeding in and around a wetland can provide valuable insights into certain forested habitat quality and quantity. In this regard, wildlife observations can supplement observations and conclusions drawn from the vegetation characterization.

Terrestrial wildlife encountered in and around a wetland includes birds, mammals, reptiles, amphibians and invertebrates. The full site EIS should include some degree of observation (to be

discussed with the MNR) of all of these groups with an emphasis on determining the period of, and purpose of use of a particular study area (e.g., short term staging, breeding, winter concentration). Comments regarding sampling techniques are offered in the following, for each group.

Birds

Information should be gathered regarding the presence of bird species in a particular study area and about their dependence on the area (e.g., breeding, foraging, roosting, migrating). Data about the birds can be collected by visual and aural techniques such as those used by the Ontario Forest Bird Monitoring Program (FMBP), the Marsh Bird Monitoring Program (MBMP) and the Breeding Bird Survey (BBS). Other more intensive techniques such as Monitoring Avian Productivity and Survivorship (MAPS), which uses mist nets and banding are inappropriate for most EISs. Visual and aural techniques should be used to record the breeding status of birds observed or heard. The Atlas of Breeding Birds of Ontario (Cadman *et al.*, 1987) describes standard classification levels which should be used for evidence of bird breeding (i.e., observed, possible breeding, probable breeding, confirmed breeding). All bird species seen or heard in appropriate habitat during their breeding season should be considered probable breeders.

Mammals

This group of fauna is, in many ways, more difficult to census than birds. Many species are shy and/or nocturnal, with the only evidence being aural, or the observations of signs (e.g., scats, tracks). For most EISs, a reliance upon tracks and signs is sufficient. In addition, trapping records maintained at MNR area offices and wetland evaluation records may also be useful sources of information.

Tracks vary by species, but they can also vary according to the substrate characteristics (e.g., clay, sand, mud, snow) and according to season. Rezendes (1992) provides a useful guide to the identification of tracks and signs. The term signs refers to indications of a mammal's use of an area, other than tracks. Signs can include fecal pellets or scats, dens, food remains, mammal skeletal remains, marks on trees and shrubs (e.g., browse) and worn trails. The degree of use by species is important information to collect for this EIS.

Generally, these track and sign observations are adequate. In unusual circumstances where very detailed data are required, other techniques can be used. For example, drift fences can be installed to funnel small mammals towards pitfalls (cans or buckets installed flush to ground level) for identification. These pitfall traps can also be used in isolation of drift fences. Livetraps, snap traps and nest boxes can also be used effectively to sample small mammals. Details of these techniques are described by Mitchell *et al* (1993).

Reptiles

This group of wildlife includes turtles, snakes and lizards. Although there are variations from one species to another, turtles are generally warm weather animals that prefer warm bodies of water and sunny microclimates for thermoregulation (i.e., sunning to raise body temperature). They are easiest to observe in the spring and autumn when sunning behaviour is more frequent in response to cooler water temperatures.

One lizard and 15 snake species occur in Ontario. These animals are fairly fast moving and secretive. They are thus often difficult to observe. Like the turtles, snakes are most frequently sighted while sunning in open exposed locations, or by searching under rocks in suitable habitat.

Amphibians

This group can be described more specifically according to the groupings, frogs, toads and salamanders. Because frogs and toads all vocalize during their breeding season this group of fauna is particularly simple to census. This vocalization is the simplest means of identifying and estimating abundance of these animals. The spring and early summer are important periods to conduct this fieldwork.

As the most secretive of Ontario's amphibians, salamanders are a more difficult group to inventory. They spend much of their lives in rotten logs, burrowing in soil or underwater. Observations are difficult without substantial search time, at the optimal time of year. Observations frequently require disturbing habitat (e.g., moving woody debris on the forest floor). For these reasons, intensively inventorying amphibians is not recommended where they are not specifically identified as part of a key wetland function.

More effective amphibian sampling efforts, appropriate for most EISs, include spring observations of egg masses and migration observation. Probably the best times to observe these species is on early spring, rainy nights when these animals are migrating from breeding ponds to their summer ranges. Looking for egg masses in the breeding ponds is also an opportunity for observation. Specific life histories of species expected, given habitat conditions in an area, should be consulted when planning the field inventory program of this EIS.

In unusual or complex EISs, for reptiles and amphibians, there may be a need to go beyond primary techniques of directly observing or collecting by hand. They can also be censused using indirect techniques such as funnel traps, drift fences with pitfall traps and coverboards. Coverboards are plywood or metal shelters laid on the ground to attract amphibian and reptile species seeking some shelter (Mitchell *et al* 1993).

Invertebrates

The terrestrial component of this large group of fauna is generally overlooked in field components of EISs. Even if sampled there are few standard Ontario references to assist with a determination of importance or status. Butterflies are, however, an exception in this regard and may merit some attention in the EIS. There may be a specific reason to be concerned with this group (i.e., reported significance of an area for migration, feeding, presence of unusual species). Observations are best made later in the summer during the butterfly's active daytime period. A variety of standard identification texts exist along with a more recently produced Ontario Butterfly Atlas (Holmes *et al*, 1991).

Aquatic Habitats

The various types of wetlands often support different aquatic species. For example, bogs and fens typically support limited to no fisheries and if so are often only important seasonally. Many coldwater streams in Southern Ontario or are located in swamps. Marshes and shallow open water wetland types are frequently important for spawning, juvenile growth areas (nurseries) and adult feeding habitats. The degree of aquatic study will be determined in part by the wetland type, connections to rivers and lakes and in part by the type and degree of development proposed. Functional loss may be expected if: water levels are predicted to decline; or if filling of the wetland edge, either through direct or indirect means (erosion / sedimentation), is anticipated.

The aquatic habitat assessment requires mapping the quantity and diversity of habitat and assessing habitat quality. This is conducted primarily through fieldwork, the degree of which depends upon the amount of background information already available. The timing and number of field visits should be assessed and discussed in conjunction with the MNR. Fish are one of the most widely studied aquatic species. Since much information is often available on fish, they can be important indicator species in aquatic habitats. A minimum of one field visit is required where aquatic habitats are carried forward as a key wetland function. Fieldwork timing is to some degree dependent upon the species of interest; (e.g., if fish are the key species to study, northern pike spawn in early spring; largemouth bass spawn in late spring/early summer; juvenile habitat is used in July and August). The most important time for a visit is during the spawning season to characterize the habitat suitability for selected species. However, it is also necessary to understand the importance of the aquatic habitat for the other purposes mentioned (e.g., nursery). Where necessary, additional work should be conducted later in the summer to confirm the habitat conditions.

The MNR Aquatic Habitat Inventory Surveys Manual (Dodge *et al.*, 1982) presents detailed information about appropriate habitat assessment techniques. The following general information is drawn from that manual and other North American references.

Fish and other aquatic species (turtles, frogs, invertebrates) depend on different habitat characteristics to provide food, shelter, and spawning, rearing and resting areas. Understanding the habitat requirements of different species helps to define the data collection needs at each site. If habitat for only one species is of interest, then it may narrow the data collection needs. However, community base assessments recognize broader habitat usage. These community based assessments rely upon habitat mapping as a tool.

Habitat mapping is a visual description of the aquatic riparian habitat features throughout a study area accompanied by measurements of those features. This mapping should be undertaken during the summer period under low flow conditions with good visibility. Observations during other times of the year are not precluded, however, limitations such as poorer water clarity, must be recognized. Parameters that should be mapped include:

a) channel width and depth;
b) substrate type and distribution;
c) vegetative cover;
d) pools, riffles, runs and glides;
e) flow direction;
f) bank/shoreline stability;
g) riparian cover;
h) seepage areas;
i) side channels or floodplain connections;
j) pipes, discharges, culverts, filling, or other anthropogenic influences;
k) beaver dams or log/debris jams; and
l) permanent dams.

Incidental observations of species occurrence or spawning activity should be noted as well as existing activities or conditions which may be degrading or altering habitat (e.g., stream discharges, outfalls, dumping). Data collection should also consider the potential for post–mitigative impacts.

5.2.3 Attribute Group

The attribute information for this EIS type should be current and accurate, a reflection of the need for some detailed field investigations. As with the habitat processes, attributes are influenced by the successional patterns present. A maturing forest, for example, could displace a rare plant species which is dependent upon a more open canopy condition. Human activities can interfere with these successional patterns (e.g., forest management can artificially maintain a more open canopy through thinning operations). Understanding the influence of succession on the future attribute health is important to understanding and predicting effects associated with various developments. This also helps identify opportunities for rehabilitation and enhancement.

Historic and/or background reports should be verified during the appropriate season. For example, searches for significant breeding birds should be conducted in the late spring and early summer of the year, rather than in the late summer, after nesting for most species is complete. Confirmation of rare plant species is appropriately undertaken over the growing season (e.g., three visits from May to September) to enable observations at different flowering times. Confirmation of aquatic attributes requires careful consideration of timing given specific windows for activities such as fish spawning, migration, nursery, etc. Some attributes will require "off season" observations (e.g., winter deer concentration, critical areas of spring and fall waterbird staging along a flyway). It is important to remember that timing will differ depending upon the geographic location of the proposed development. Specific timing recommendations should be confirmed with the local MNR office.

The information to be gathered for the attribute group should be as quantitative as possible and should include:

a) an estimate of approximate community or population size;
b) an assessment of the health of the attribute (i.e., existing stresses);
c) an indication of reproductive success (e.g., seed/fruit producing, apparent influences of predation and parasitism on nesting success);
d) an assessment of rarity or uniqueness at the species level. Information regarding status sources is available from the MNR. Several references to accepted, published lists are included in the reference section of Appendix L.

Critical habitats should be identified and described in terms of:

a) their degree of importance relative to the maintenance of local or regional populations;
b) their provincial or national significance (e.g., unusual carolinian habitats);
c) the extent (spatial and temporal) of the habitat; and
d) influences of natural and human induced disturbances.

5.2.4 Linkage Group

Specific linkage information should be provided in the Full Site EIS. Much of the data already collected to define other functions can be used to interpret linkages. Both aquatic (and supporting physical processes) and terrestrial requirements are described further in the following.

Aquatic linkages are all intermittent and permanent watercourses in the study area. Interruptions to linkages can be described in terms of physical (e.g., dams, waterfalls) or chemical barriers (e.g., zones

near an outfall). Aquatic linkages can be defined using topographic information, airphoto analysis, water chemistry data and fish community and aquatic habitat assessment data. Permanence of flow and position within certain landform features will provide information about the relative importance of invisible linkages (connections between ground and surface water) in maintaining the aquatic habitat.

Terrestrial linkages are identified as continuous areas of forested and non-forested vegetation. The degree of linkage should be described in terms of width, length, degree of fragmentation, vegetation structure and composition. The importance of the linkage in the maintenance of wetland functions, should be assessed. This linkage discussion must be placed in a larger geographic context, with comments regarding relationships between the wetland and other local and regional natural areas.

5.2.5 Value Group

The characterization of value functions often requires a combination of background information review, discussions with a variety of stakeholders and some field observations.

Background information can include summaries produced regarding the use of parkland (i.e., user surveys) including the wetland. Often, there is little information available regarding the recreational and social/cultural uses. Some brief comments are presented in the wetland data record. This is a reasonable starting point from which to add supplemental information. For productive uses, there are additional sources of potential background information such as Forest Resource Inventory maps forest management agreements and aerial photographs which can reveal patterns of historic and current use such as drainage works and forest management activities.

Much of the value information will be derived from discussions with a variety of stakeholders such as:

a) local residents and ratepayer groups;
b) naturalist clubs;
c) school boards and individual school representatives;
d) government personnel;
e) industry representatives;
f) sports clubs including fish and game organizations; and
g) universities and colleges.

A list of organizations which might be helpful is included in Appendix K.

Should there be a concentration of functions from the value groups in a particular wetland (e.g., large interpretive centre, frequent use for fishing, etc.) there may be a benefit to collect primary data about

the wetland's use. This could be facilitated by a variety of techniques including: user questionnaires, public meetings and the installation of collection boxes in strategic locations to receive completed comment cards.

For the most complex EIS it may be helpful to retain expertise in the area of consultation and community liaison.

Regardless of approach, the Full Site EIS should include summaries of all feedback received. Original comment sheets may be appropriate to include in the EIS as an Appendix.

5.3 APPLICATION OF IMPACT ASSESSMENT

The Functional Assessment Framework (Table 2) depicts the impact assessment approach. The horizontal axis of the functional assessment framework requires that the key wetland functions must be described in terms of their degree of sensitivity to potential development impacts. This task generally requires an interpretation of supporting scientific literature and the application of best professional judgement.

The degree of sensitivity will also be affected by conditions within a particular wetland. Wetlands are dynamic systems; climate influences the physical processes that exist such as the average water level and range of water levels in a particular season. Hydrology can in turn, affect habitat, attributes and even linkages. The prediction of impacts must be undertaken within a temporal context. Effects associated with certain impacts may, for example, be greater in seasons with drought conditions. Populations of waterfowl or amphibians for instance, could decline in years with low spring and summer rainfall. Impacts which intensify predation in those periods may magnify effects on smaller prey populations.

In addition to this temporal context, the spatial extent of effects needs to be considered. The extent of some effects prior to and even after the implementation of a selected mitigation strategy, may extend well beyond the wetland boundary and even beyond the adjacent lands area. The spatial extent may also be highly variable and more closely associated with the patchiness of the vegetated landscape. The extent of effects on the linkage function within adjacent lands of a larger wetland complex may be broad indeed. The prediction of effects requires some understanding of the degree of reduction of effects over time and space, outwards from the impact source.

Direct effects are those which occur immediately or shortly after an impact. The term indirect effects is also used in this document to recognize that some effects can occur over a longer time frame. Where appropriate, these are identified under specific headings in Section 5.3.1.

The terms direct and indirect introduce the concept of time to the prediction of effects. It is important to note that the effects caused by a particular impact are diffused by both time and space. Over time for example, a particular effect may be reduced by a physical recovery of the landscape (e.g., succession of vegetation over a degraded area). Similarly, over time, certain species of fauna may display some adaptability to a particular impact. This adaptability could include the ability of a species to inhabit a range of conditions and to tolerate human intrusion into a wetland (i.e., boreal system) or into adjacent lands. The white tailed deer is an example of such a species.

The impacts may also be diffused over distance from the source. For example, noise associated with a development proposal will have a decreasing effect on wildlife over distance. The impact may lead to some adaptability of wildlife near the impact and/or it may lead to displacing fauna to a point in the protected system where noise is no longer audible.

Cumulative effects assessments are most easily undertaken by public proponents and agencies rather than by private proponents. The former are able to extend their mandate or area of investigating with less difficulty. These assessments should usually be conducted as a component of comprehensive EISs, rather than Full Site or Scoped Site. Comments related to where these can be considered in a Full Site EIS are included in Section 5.3.1. This topic is also discussed in Section 2.3.4 of this Technical Manual.

5.3.1 Identification of Proposed Impacts

This task requires a detailed review of the development to identify potential impacts associated with the proposal. Appendix F (Potential Impact Listing) provides a basis point for this exercise. Some further guidance is provided below, organized according to functional groups.

Hydrological Processes

In most wetlands, the surface and ground water are closely linked and modelling of the surface waters will also reflect ground water interactions.

The discrete event modelling conducted during the characterization of wetland hydrologic functions (Section 5.2.1.) is recommended for use in the prediction of impacts and effects on peak flows and, in particular, runoff volumes to the wetland. This translates to an assessment of the existing and future water level fluctuations and to a determination of potential effects from the undertaking. Discrete event modelling accounts for changes in slope, imperviousness and drainage area. This allows an assessment of future flow response, given a similar design storm event to existing conditions. These data (e.g., runoff volumes) also contribute to a determination of potential changes in loadings of chemical parameters to the wetland, in conjunction with the water quality assessment. These changes

may then be investigated in terms of potential effects on plant, fish and wildlife receivers. This step often requires a review of current literature as it relates to potential effects. Agencies such as the MOEE can provide particularly useful information in this regard. In many less complex sites, the above hydrologic assessment can be done without the detailed modelling noted in Section 5.2.1. A qualitative discussion may be acceptable further to consultations with MNR staff.

Biological Processes

Habitat effects should be addressed in terms of loss and degradation. The loss should be characterized in terms of amount of each vegetation community (terrestrial and aquatic) removed and the percentage removal within the larger study area. The location of the habitat should be addressed. In the Great Lakes – St. Lawrence region, loss is relevant to adjacent lands, whereas loss of habitat may refer to wetland area for Boreal wetlands. In particular the effects of removing upland habitat which occurs adjacent to wetland habitat should be considered. Habitat loss can be more precisely defined according to the specific role performed:

a) food;
b) shelter/cover;
c) nesting;
d) foraging; and
e) spawning, nursery or over–wintering habitats.

This relies upon a knowledge of a species relationship to various habitats. This relationship requires an understanding of habitat characteristics (e.g., differences in size, vertical laying, horizontal heterogeneity and composition) and the use of these components by a species during various parts of its lifecycle. An approach to conduct this analysis is presented in Appendix G.

Predictions for post–development human use effects on an area's resident wildlife population are also important. For example, will post–development use affect the reproductive success of various wildlife present (i.e., through intrusions by humans and domestic pets)? Will a development lead to an increase in more urban adapted predators (i.e., rats, raccoons) which could affect susceptible wetland wildlife populations over time? Will proposed contaminant loadings lead to the collapse of some groups of vegetation or wildlife (i.e., are there tolerance thresholds for species or habitats that may be exceeded?).

As in many areas of science, new biological ideas and information about impact prediction continue to emerge in the literature. Some selected papers and texts relating to this topic are identified in Appendix L. In some situations, where precise conclusions are not possible, these can be quite helpful in forming opinions and offering best professional judgement about impact prediction and mitigation assessment.

Attribute Group

Significant species to which some special importance is attached, require particular attention. Impact potential must consider the degree of sensitivity of these components. For example, some critical wetland or wetland habitat may support the entire local or even regional populations of certain rare fish and wildlife species. Some could serve as an important link in a waterfowl flyway. If these species were to be negatively affected, the result could be a relatively widespread population decline. In other situations, effects may relate to population reductions, decreased reproductive success or habitat abandonment.

Linkage Group

Terrestrial linkages can be temporarily or permanently affected in terms of: destruction or alteration of forested and/or non–forested lands which function as connecting patches across the landscape; and, interruptions of continuous, vegetated linear corridors through fragmentation or narrowing of the corridor.

While certain land uses (e.g., residential development) can permanently disrupt some linkages, other land uses (e.g., aggregate extraction) present opportunities to restore some linkages over time through rehabilitation.

Appendix G provides some additional guidance regarding which fauna should be specifically considered given the wetland focus of the Wetlands Policy Statement. It is important to assess the impacts with an understanding of the types of habitat (e.g., forested, field, agricultural) that the particular fauna depend upon.

Impacts can be addressed in terms of:

a) the amount of removal (hectares and percent of existing supply) of vegetated areas (natural vegetation and agricultural lands);
b) the position of the removed or diminished linkage relative to local and regional natural areas; and
c) the temporal nature of the impact (e.g., temporary versus permanent; during only certain periods of the day or year).

These discussions have referred principally to linkages across the local landscape. The role of some areas (e.g., tilled agricultural land) in terms of feeding and migrating fauna is another component of linkages which requires definition.

Aquatic linkages could be affected through the alteration of the wetland proper, tributary waters connecting the wetland or other bodies of water, or floodplain lands adjacent to the wetland which form part of the habitat used by individual species. For example, northern pike may migrate into tributary waters or onto floodplains to spawn; without the linkage between tributaries or the floodplain and the wetland, the ability to produce fish would be lost. These impacts would also be considered under biological processes and attributes.

Aquatic linkages can also be affected by the hydrologic processes and relationships which can impact surface water quality or quantity. Impairment of water quality may be a predicted impact and therefore may interrupt linkages by creating a zone not used or entered by aquatic organisms. Perhaps of greatest significance is the potential to alter water quantity and thus, the duration of linkages. Wetland water levels and adjacent floodplain tributaries typically remain elevated through the spring period, gradually declining. Changes to the hydrograph may reduce the period of inundation and result in lost linkages to open water, before the eggs are hatched or young are ready to emigrate.

Value Group

Impacts on existing and potential uses can be determined on an economic basis for product values (i.e., economically valuable products). The determination of effects on recreational and cultural/social values can be less precise. For these values, potential impacts may not be determinable as dollars lost, rather they could be characterized in a relative sense (i.e., negative, neutral, or positive). Impacts on existing management practices are also discussed in Section 2.3.4 of this Technical Manual.

Some additional comments are offered regarding potential impacts on recreational, product and social/culture functions.

Methods exist for the calculation of the value of recreational functions by considering their direct and indirect contribution to the economy. This should recognize the potential significance or degree of magnitude of economic input where a particular group is principally dependent upon wetland recreational values. The potential for a development to increase or decrease the degree of various recreational activities should be considered. To fully understand potential effects on these value functions, discussions should be held with affected parties.

Product value effects should be characterized in terms of both present and future loss. Attempts should be made to distinguish between the influence of a specific development application and the influences of general disturbance patterns or other ecological factors.

Social and cultural value functions are perhaps the most tangible group of functions to consider. Less economic understanding is available from current literature than for the recreational and product values. This function, more than anything else, demands communication with local and affected

individuals. Serious attempts should be made to adequately characterize the potential for a proposed development to affect functions such as aesthetic application and the maintenance of opportunities for current and future education, research and interpretation.

This functional group may require some reliance upon experts in areas including: resource and recreational economies, visual resources, philosophy, theology, etc.

5.3.2 Mitigation Assessment

The Manual of Implementation Guidelines for the Wetlands Policy Statement identifies mitigation in terms of:

a) avoiding impacts;
b) minimizing impacts; and
c) rehabilitation of the impacted areas/functions.

Given the nature of the Policy, avoidance is the most commonly expected technique. Exceptions to this, where minimization and rehabilitation are expected to receive greater attention include:

a) proposed development impacts within wetland boundaries and/or adjacent to wetlands in the Boreal Region;
b) proposed impacts adjacent to wetlands in the Great Lakes – St. Lawrence Region;
c) throughout Ontario, associated with new utilities and facilities (e.g., transportation, communication, sanitation); and
d) the enhancement of wetland functions degraded or diminished by historic impacts.

Mitigation is the responsibility of the development proponent in so far as it relates to impacts predicted from the specific development proposal. The mitigation and more particularly the rehabilitation of historic effects, is the responsibility of public agencies in conjunction with private proponents and interest groups; the precise roles to be determined on a case–by–case basis. In all cases technical aspects of mitigation proposals should be thoroughly discussed with MNR staff to ensure satisfaction of goals and objectives of the Wetlands Policy Statement.

Hydrological Processes

Some mitigation measures are more readily accepted than others. Certain measures (e.g., storm water facilities for quality and quantity control) will become the responsibility of the municipality after development is completed. Examples of mitigation strategies are offered below.

Balancing the pre– and post–development flow response as a means of mitigating drainage changes requires a careful assessment of the potential changes to runoff volumes (water levels), delivery points (biological changes) and peak flows (erosion potential). This mitigation needs to be addressed in conjunction with an assessment of how water quality impacts are mitigated. For example, the installation of Best Management Practices (BMP) (MOEE/MNR, 1991), can affect both quality and volume of runoff delivered to the wetland under smaller storm events.

Typical examples of BMP mitigation options could include:

a) street sweeping;
b) catch basin sumps;
c) oil and grit separators;
d) wet ponds;
e) constructed wetlands for waste or storm water treatment;
f) extended detention ponds;
g) infiltration methods;
h) vegetative filters, grassed swales; and
i) phasing of development.

As each EIS project will be unique, the proponent is encouraged to examine other mitigation strategies tailored to the proposed development and the wetland to be affected. The types of land uses to be drained to the wetland under post–development conditions should be assessed. Mitigation could involve directing runoff from paved surfaces away from a wetland system in order to meet quality and quantity objectives. Sedimentation during construction can damage/impair some wetland functions, therefore accepted sediment and erosion controls should be stringently designed and applied.

Biological Processes

Mitigation of impacts on terrestrial biological processes could be achieved through various municipal planning tools such as site plans, setbacks and storm water management facilities. Other specific mitigation measures could include:

a) retention of upland vegetation within a development proposal;
b) creation of a protective buffer or setback immediately adjacent to the wetland;
c) maintenance/creation of habitat outside of wetland boundary;
d) maintenance/creation of terrestrial linkages (addressed under linkage group);
e) establishment of plantings to reduce forest edge to interior ratio; and
f) development and implementation of a management plan for lands within and outside the wetland boundary to maintain or enhance biological processes.

These are briefly discussed in the following.

Vegetation outside the wetland boundary may be important to retain should it be performing or supporting important wetland functions. Continuous and patchy forest, successional or agricultural lands may be important to the life cycles of some wildlife during periods when they move outside the wetland itself. For example, agricultural lands that are located outside of the wetland could be performing functions such as foraging or nesting areas for waterfowl. While the functions of the wetland itself may be retained for waterfowl, some surrounding upland fields may be needed to support this and other groups of wildlife.

Habitat may also be created as part of a mitigation strategy. Creation would need to consider a variety of parameters including:

a) size;
b) shape; and
c) landscape position (e.g., ability to enhance other non–biological processes and linkages).

Management, both within and next to wetlands, can enhance biological processes. Planting specific forage crops in adjacent lands, the establishment of artificial structures for nesting, cover and loafing, and vegetation management targeted towards the enhancement of structure and/or composition are all examples of techniques available to enhance biological processes. Management has frequently been undertaken by groups including Ducks Unlimited, Ontario Federation of Anglers and Hunters, Eastern Habitat Joint Venture and Wildlife Habitat Canada. Effects on existing management practices are also discussed in Section 2.3.4 of this Technical Manual.

Protective vegetation buffers can perform an important role in mitigation programs. The use of buffers has, since the 1950s, been common practice in the forestry and agriculture industries, generally to protect water quality and aquatic ecosystems. The type and width of buffer are based upon the biological processes being protected. Effective buffers should be based upon the protection of all four functional groups (i.e., process, attribute, linkage, value). For the biological processes, buffers should consider the requirements for the maintenance of habitat (e.g., vegetation rooting system protection, aquatic habitat temperature/quality maintenance). In addition to mitigating effects, buffers can also increase the amount of interior forest present. It may be helpful to depict the interior forest where the wetland area and buffer contribute to its presence. Development effects on this interior should be illustrated. Much of the current literature identifies buffers in the order of 50 m width as being the typical width required to protect many wetland functions. This distance is offered only to present a sense of the magnitude of some buffers. Buffers may be determined to be appropriate narrower or under than that distance. Buffer widths need to be established on a case–by–case basis. In many cases, buffer width will vary around a wetland in response to changing, site specific conditions.

Where a loss of habitat which directly or indirectly contributes to fish production is indicated, the proponent also needs to comply with the requirements of the Federal Fisheries Act. Harmful alteration, disruption or destruction of fish habitat is not permitted without authorization by the Minister of Fisheries and Oceans Canada, Section 35(2), Fisheries Act Canada. Authorization is not issued unless acceptable measures to compensate for the habitat loss are developed and implemented by the proponent. In Ontario, the MNR is responsible for implementing the Act, while Fisheries and Oceans Canada retains the responsibility for issuing authorizations. The information collected and presented for this EIS should be sufficient to satisfy their requirements. However, where mitigation is considered to be insufficient to reduce or eliminate proposed impacts, then compensation is usually required to offset the losses or alteration. Compensation or other requirements of the Fisheries Act not considered in this manual.

Attribute Group

Mitigation for the maintenance of attributes generally relates to avoidance of effects. The degree of stress tolerable by attributes should be carefully considered.

Terrestrial attributes tend to have the greatest effect on the degree of protective vegetative buffer required. In particular, significant species of birds can often have relatively large territory requirements (wildlife disturbance zones) which extend well beyond the wetland boundary. The Manual of_Implementation Guidelines for the Wetlands Policy Statement provide some further discussion of this form of mitigation and its application to wildlife disturbance zones.

Linkage Group

Mitigation of impacts on terrestrial linkages are introduced in the preceding section dealing with the mitigation of biological processes. Linkage mitigation requires similar consideration as those discussed regarding habitat processes.

More specifically, terrestrial linkage mitigation could include:

a) avoidance of further landscape fragmentation;
b) revegetating contributing intermittent and permanent tributaries;
c) revegetating steep slopes;
d) minimizing degree of edge in linear corridors through strategic plantings, to reduce attractiveness to some edge species; and
e) management programs to limit the movement of mammalian predators along corridors (e.g., trapping).

Aquatic linkage mitigation could include:

a) removal of existing physical and chemical barriers;
b) rehabilitation of reaches to increase continuity of flow.

Value Group

Product values are important in the Boreal Region and will be less affected in the Great Lakes – St. Lawrence Region. Product values depend principally upon the maintenance of existing habitat as a source of timber, fish and wildlife. Mitigation of degraded systems enhances these resources. Recreational and cultural/social values also depend upon the maintenance and enhancement of wetland resources.

It is important to note that mitigation of impacts on existing and potential values may have an effect on other functions. For example, altering the water table to enhance timber production could result in the loss of a rare plant, or change understory vegetation to such an extent that the habitat for some important species is affected. This relationships between functions is important to understand, especially in relation to the value functional group.

It is necessary to note that within the value group, mitigation of one specific component could affect another. For example, water level management for the production of wild rice may negatively affect conditions required for timber production. An overriding principle in the determination of appropriate mitigation methods should be an interest in maintaining and promoting sustainable resource management.

The following examples of mitigation options should only be considering after a thorough assessment of impacts on other key wetland functions is completed.

Mitigation options for product values include:

a) timber harvests (selective, thinning, etc.);
b) reforestation;
c) modification of water table and drainage to enhance timber production;
d) water quality improvement for fisheries production enhancement; and
e) water level management to increase harvests of wild rice, etc.

Examples of mitigation measures for recreational and cultural/social values include:

a) improved access via trails, fishing and viewing platforms, boat landing points;
b) enhanced navigational pathways for boating;
c) tree marking for selective removal of fuelwood by individuals;
d) development and implementation of education and interpretation programs;
e) provision of research opportunities; and
f) exclusionary zones and/or setbacks.

5.3.3 Net Effects and Proposed Monitoring

The application of an appropriate mitigation strategy may eliminate all potential effects. More likely, however, development will lead to some residual positive and negative effects. These residual effects should be accurately characterized and presented in this component of the EIS.

Monitoring aims to verify and detect the effects predicted in the EIS from a particular development. This ensures that no additional effects go unnoticed or unaddressed. This may create an opportunity to refine mitigation measures already in place. Monitoring can also contribute important information about the response of wetland ecosystems to various stresses, thus adding to the body of available scientific information. This will over time, contribute to more precise effect predictions and mitigation strategies in subsequent applications. It will also contribute to the longer term identification of research needs.

Monitoring is not normally required (i.e., it is not recommended for Comprehensive or Scoped Site EISs, and may be required for certain Full Site EISs). It should be considered in situations where:

a) the large scale of a development or the sensitivity of the key functions are such that effects may be more difficult to predict and/or are relatively untested or unproven in the field;
b) the mitigation technology proposed is not proven in Ontario (e.g., new technology or imported technology from another climate); and/or
c) there are long term operations associated with a development (e.g., long term aggregate extraction operations), which could facilitate some future or ongoing refinement to the mitigation strategy.

Depending upon specific circumstances, monitoring may need to be undertaken in pre–construction, construction/operation and post–construction periods. Some programs may extend over long time horizons and should be developed in conjunction with independent researchers or institutions, such as the Wetland Research Institute (University of Waterloo). In such cases an agreed upon monitoring protocol should be established which is binding as a condition of project approval.

Details of the monitoring programs should be discussed and confirmed with the MNR and the municipality. The program should be established as a condition of approval with responsibilities and accountability remaining with the proponent. The compilation and storage of all monitoring results should be undertaken by the MNR to provide an accessible data base of the accuracy of impact predictions and the effectiveness of mitigation strategies.

Monitoring should be practical and should be designed to validate predictions and not to repeat technical studies already undertaken as part of the EIS. The program should focus on specific indicators and should not be seen principally as an opportunity to fill in gaps in the scientific literature.

Monitoring programs can include the selection of appropriate physical, chemical and/or biological indicators. It is often important to use biological indicators in conjunction with physical and chemical indicators. There are a variety of references, useful in the design of a monitoring program. These are included in Appendix L. Some general remarks are offered below.

Physical indicators could include the measurement of both baseflow and streamflow or the measurement of regional and local ground water levels. Chemical indicators could include surface and ground water quality parameters. Biological indicators can include plants, vertebrates and invertebrates.

An obvious indicator of wetland function health would be the maintenance of existing vegetative cover. Monitoring specific plant species can also be useful. One could select sensitive (e.g., high water table dependent) or significant species. As well the changes in invasive species (e.g., purple loosestrife) distributions can contribute to an understanding of quality.

Biological indicators have been referenced by many authors. Noss (1990), for example, describes an effective hierarchical approach which uses indicators at four levels to measure biodiversity. These four levels include the: regional landscape; community–ecosystem; population–species; and, genetic. For purposes of the full site EIS monitoring program there is merit in using this functional assessment framework for indicator selection, with particular emphasis on the community ecosystem and population–species levels. Noss (1990) identifies suitable indicators at each of these levels. For example, the community ecosystem level includes species richness and diversity, guilds and community information. The population species level includes five categories of species: ecological indicators; keystones; umbrellas; flagships and vulnerables. Some specific suggestions for indicators follow.

Aquatic organisms and terrestrial wildlife have been used extensively as indicators of stress, with varying success. Perhaps the most widely and effectively used are birds. Croonquist and Brooks (1991) concluded that avian guilds were more accurate predictive indicators than were mammalian guilds. They refer to guilds as groups of species that exploit the same class of environmental resources in a similar way. These authors and others classify response guilds in many ways such as: degree of wetland dependency, trophic level (e.g., position in the food chain), species status (e.g., rare, threatened and endangered), habitat specificity and seasonality (e.g., migrant). Depending upon the effect predicted, one or more response guilds could be selected. For example, should a predicted effect be the potential fragmentation of wetland forest cover, habitat specialists including area sensitive species may be the preferred guild.

6.0 COMPREHENSIVE EIS

Comprehensive EISs are undertaken for larger blocks or all of a particular municipality. Most recently, they have been conducted for watersheds and subwatersheds as a component of ecological planning efforts. The Manual of Implementation Guidelines for the Wetlands Policy Statement describe examples where these situations can arise during the development of an Official Plan. Comprehensive EISs are typically initiated by the local municipalities and are often lead by the Conservation Authority (if present), particularly if they are part of a watershed or similar study.

This type of EIS is best suited to regional and subregional study areas. Rather than a response to a single development application, it is more appropriately associated within a secondary planning block, a special planning area or an entire municipality. This approach also works well when one is investigating a large wetland complex, in order to lay the planning groundwork for subsequent development applications on all adjacent lands. The product of this exercise is the creation of a map which depicts the spatial extent of some wetland functions (e.g., surface water catchment, general regional ground water flow pattern, habitat types) in a large study area, along with an accompanying report.

This larger geographic study area may effectively make use of Geographic Information System (GIS) technologies, to illustrate and analyze the spatial distribution of mapped information. GIS is an analytical tool which facilitates the quantification of the supplies of various components (e.g., habitats) in the landscape.

The following are more specific directions regarding: the terrain setting, the characterization of functions and the application of the impact assessment process. They may build upon or be similar to the work completed for an Issues Summary Paper.

6.1 HYDROGEOLOGICAL SETTING

The following defines the terrain setting prior to characterizing functions. This will lead to a more precise understanding of how the ground water moves both regionally and locally. The terrain data should be translated onto a figure for the study area. The information to be depicted should be assembled and described as suggested for the Issues Summary Paper (Section 3.0). It should include:

a) all landform units;
b) regional and local ground water flow directions (new to this section);
c) the wetland site type (e.g., riverine, lacustrine, palustrine, isolated); and
d) the surface drainage systems (described further below).

The following tasks will assist in the determination of the ground water flow directions:

Task 1: Develop geological cross sections through the study area using geological landform boundaries, existing water well records and available geotechnical boreholes.

Task 2: Ground water flow conditions and hydrogeological characteristics should be estimated and integrated into the geological interpretation to produce a conceptual three–dimensional picture of the hydrogeological setting.

Task 3: General directions and gradients of ground water flow should be depicted, along with an identification of broad limits of recharge and discharge areas.

The regional ground water flow system has been defined in some jurisdictions as a result of extensive technical work supporting ground water supply investigations. In these cases there will be no need to conduct confirmatory drilling at this level of interpretation. Confirmatory or initial drilling will be required where sufficient data are not available. Absence of this technical activity in a program should be justified.

Once the terrain is better defined, the functional assessment framework (described in Section 2.3.3) should be used to characterize functions. These should be assessed according to the four functional groups (processes, attributes, linkages and values). The types of information required and the methods of presentation are described in the following section.

6.2 CHARACTERIZATION OF FUNCTIONAL GROUPS

6.2.1 Process Group

a) Hydrological Processes

The following tasks will define the quantity aspects of the surface water processes occurring in the wetland:

Task 1: Outline and measure the surface catchment area(s) for the wetland.

Task 2: Identify all surface drainage paths and other local wetlands within the wetland catchment area(s) (plus all other wetlands within the catchment).

Task 3: Identify all inflow and outflow points and structures (e.g., culverts, beaver dams, weirs) relevant to the wetland. Describe them generally in terms of their type of flow (e.g., diffuse, radial, point–source), relative importance to maintaining wetland hydrology, and in terms of their degree of permanence. Information that should be collected about beaver dams includes: dimensions, apparent integrity or condition and degree of activity. Historic aerial photographs can be quite helpful in assessing the age of such dams.

Task 4: Identify and quantify any human water takings, if any, from the wetland for potable supply, irrigation, livestock use, or other obvious uses.

Some additional information is offered regarding these steps. In most cases, watershed and subwatershed boundaries are already mapped and available from the local conservation authority, where one exists or municipality. Subwatersheds and smaller catchments can be identified using the best available topographic mapping, Ontario Base Mapping (1:10,000 or 1:2,000 scale, if available) and aerial photographs. In remote areas, larger scale NTS mapping (1:50,000 scale), airphotos and site observations will be used for this task.

Beyond the definition of boundaries, an indication of flow permanence should be provided for watercourses. These data should be used to draw some conclusions regarding the potential importance of a particular wetland in terms of flow storage and augmentation. These data will also be helpful to highlight areas of importance for aquatic and wildlife habitat.

The existing uses of the water should be noted. This information may prove useful during the consideration of potential for conflict with existing site–specific wetland management practices.

b) Biological Processes

At a regional scale, these processes are best defined as habitat. The richness and distribution of aquatic and terrestrial habitat types in the study area can be described in terms of:

a) amount present;
b) diversity;
c) the condition or quality;
d) the degree of continuous (non–fragmented) habitat; the interrelationships between habitat areas (e.g., pattern, patch dynamics, limiting habitats);
e) the commonness or uniqueness of the habitats present, described at a reasonable regional scale; and
f) the contribution of a particular wetland to the general diversity of regional wetland types (e.g., productive marsh, etc.).

While the EIS requires a focus on the wetland resources present, it is also necessary to examine the amount and distribution of upland habitat available in relation to the wetlands present, in order to understand the wildlife function. For example, a species could rely upon a wetland for breeding (e.g., many amphibians), but also require surrounding upland habitat for feeding and other life cycle requirements. Without both habitats, certain species could not persist. The interface between the wetland and upland is frequently a complex and highly diverse component of the landscape. This interface should be characterized in terms of quantity and quality. More comments about this interface are provided in Appendix G and illustrated on Figure 3.

In the case of both terrestrial and aquatic resources, habitat mapping can be a predictive tool used to determine the likely fish and wildlife resources present. For both, known information about the resources at this regional level can contribute to a greater understanding of the issues that will become the focus of a Full Site or a Scoped Site EIS.

6.2.2 Attribute Group

Varying levels of attribute information are available in different parts of Ontario. For example, some MNR offices have information regarding spot locations of endangered, threatened and vulnerable species, and important fisheries, deer concentration and waterfowl areas. Environmentally Significant/ Sensitive Areas (ESAs) studies may have been conducted by the local municipality or Conservation Authority, in some jurisdictions. These studies generally include information about the presence of rare species and critical habitat. The Natural Heritage Information Centre (MNR, Peterborough) is an important central repository for a variety of attribute information.

The attribute information available at a regional scale is often dated (e.g., MNR rare species and critical habitat information), and limitations associated with the use of such data should be identified in the EIS. Other more historic data (e.g., Forest Resource Inventory (FRI)) mapping and wetland mapping, can still provide relatively accurate baseline data, in the absence of significant land use changes.

6.2.3 Linkage Group

Most linkages are readily apparent when one examines the larger study area associated with a Comprehensive EIS. Aquatic linkages within and between wetlands on the landscape are identifiable as riparian areas, floodplains and valleylands. Minor tributaries will be more difficult to identify at this study level. Discussions should be held with the MNR to identify those headwaters considered to be more critical to wetland functions. Less obvious linkages include the links between ground and surface water which provide baseflow to, and support these aquatic communities and linkages. The terrain setting characterization (Section 6.1) will help to identify these pathways.

The terrestrial linkages can be defined by mapping the patterns of natural vegetation present. The role of linkages as dispersal pathways has been described positively in terms of allowing species to move back and forth between natural areas. Some have also suggested that they can serve a negative role by facilitating the movement of predators, introduced species and diseases, from disturbed to relatively undisturbed areas. Regardless, consideration should be given to the role of these terrestrial linkages. These can be in the form of forested, successional and even agricultural lands. There is generally a lesser degree of linkage related to developed lands. Many forms of wildlife rely upon closed forest canopy linkages; others can tolerate or prefer the more open conditions associated with forest edges and successional lands. Terrestrial linkages should be considered in terms of the movement patterns of various wildlife groups (e.g., forest birds, invertebrates, large mammals, etc.).

While much of the preceding information relates to linear aquatic and terrestrial linkages, another type of terrestrial linkage merits attention. In southern Ontario in particular the landscape has become characterized by patches of forested and non-forested lands, variable in size. These patches form discontinuous linkages which afford movement across the landscape and contribute to overall biodiversity. Pearce (1992) states that a review of various research suggests that these small isolated patches of forest contain lower diversity and abundance, fewer niches and smaller forest interior areas. This favours the invasion of the core of these fragments by edge species, predators, parasites and non-native plants.

The contribution of these discontinuous terrestrial linkages to general wildlife movement and support, should be considered. No definitive technical resources are available to precisely characterize this type of linkage. It will therefore require some interpretation by qualified individuals. Conclusions should be offered about the role of a particular wetland and its surroundings in maintaining these larger ecological linkages and relationships.

Given that the boreal landscape is more continuous, less emphasis on linkages will be expected in the EIS for boreal wetlands. Those references that do appear should attempt to prioritize the role of the wetlands themselves in the broad distribution of wildlife. For example, attempts should be made to define what fish and wildlife concentrations occur in and/or rely upon for movement across the landscape.

Within a Comprehensive EIS, important landscape ecology information can be gathered which will help determine the importance of these linkages. This will help to guide more specific investigations (e.g., ground level confirmation of linkage importance) in subsequent Full Site and Scoped Site EIS efforts.

6.2.4 Value Group

Within the Comprehensive EIS, information regarding wetland values can be defined rather broadly. For product values, for example, the availability of harvestable timber will be a reflection of the

distribution of forested wetlands. The Forestry Resource Inventory (FRI) maps, while somewhat dated in certain localities, also provide some indication of timber volumes. These should be discussed with the MNR to ensure conditions are accurately interpreted. The MNR also houses information about commercial and bait fishing licences, trap lines, hunting and wild rice harvesting. The EIS should identify the intensity and locations of these activities. The level of use should be generally reflected in terms of contribution to the regional or sub–regional economic base.

Defined recreational and cultural/social values of the wetlands on the landscape should be noted. The former could be accomplished through an identification of publicly owned land including conservation authority and MNR lands as well as municipally owned properties. The pattern of these lands and information related to their use should be examined and commented upon. In some area, utility corridors (e.g., hydro corridors) and institutional lands (e.g., schools, churches) also provide some recreational values. Any of these types of uses that appear to be dependent upon wetlands should be identified.

Regional recreational values of some wetlands are readily apparent from background statistical information (e.g., boating, fishing, hunting and camping user information. Parks data can very quickly highlight areas of concentration of this type of function in the regional landscape. Traditional hunting grounds and fishing derby use lend clues to the degree of functional importance of some areas. In portions of the province, especially in the northern portions of the Great Lakes–St. Lawrence Region and the Boreal Region, these recreational values are of regional significance. Livelihoods become dependent upon the role played by certain wetlands in the regional landscape. Substantial assistance in characterizing the relative degree of recreational values attributed to certain wetlands can be obtained from contact with key outfitters and angling and hunting organizations. As with other EIS types, the characterization of these value functions depends to a large degree upon interviews with important local sources of information.

Cultural and social value functions at a regional scale may also be understood in part, from a review of land ownership patterns. There may be some long established, traditional nature appreciation areas for example. Each year, certain areas of waterfowl and songbird concentrations draw thousands of birdwatchers and outdoors enthusiasts. These areas take on a certain degree of functional importance simply because of the concentration of attention and appreciation. Growth in ecotourism in most parts of Ontario has sparked an identification and recognition of many of these special areas. Concentration areas for large mammals, colonial nesting waterbird breeding locations and habitat for spot locations have begun to draw more attention to certain areas (with attendant potential for impact).

Other wetlands have attained particular functional value for less tangible features such as locations of traditional aboriginal activities or portage movement/historical interest. Even the role of some wetlands in contributing to the aesthetics of a region by drawing visitors simply to appreciate scenic value, has become recognized and established in some areas. At this broad scale, these wetland functions may simply be depicted as special areas which contribute significantly to the cultural and social fabric of the landscape.

6.3 APPLICATION OF IMPACT ASSESSMENT

The Comprehensive EIS deals with the sensitivity assessment of functions. As it is not responding to a specific proposal, impact/effect predictions and mitigation are considered only generally in response to potential patterns of land use change.

In many respects this EIS provides a constraint/opportunity analysis focused on the identification of key wetland functions at a larger landscape scale.

At this landscape level, the product of this EIS will serve as a tool to identify general degrees of constraints to and opportunities for development which minimize potential effects. Protection zones for the maintenance of wetland functions can also be identified. At this regional scale, the focus on wetlands becomes less distinct. Relationships between all elements of the landscape (e.g., forests valleys, wetlands, etc.) blend together and are often most conveniently examined in an integrated fashion such as MNR's Natural Heritage Systems approach (Riley and Mohr, 1994), or on a watershed or a subwatershed basis. This approach is the basis for components of the Comprehensive Set of Policy Statements. Where sufficient information is available, this assessment can be completed without additional field effort. At this assessment level, it is important to discuss the regional representation of wetland types and the relationships between provincially significant wetlands and non–provincially significant wetlands.

Generally this EIS will:

a) create a base map and understanding of functions as they relate to one or more specific wetlands in a particular landscape;
b) identify the constraints to and opportunities for development which will avoid effects on wetland functions;
c) provide a planning tool which recognizes the developed/developing landscape (existing and proposed); and
d) identify general areas where development will not be permitted.

A base map should be created including:

a) regional and local ground water flow patterns;
b) surface water patterns and indications of permanence and water quality;
c) the presence and character of aquatic and terrestrial ecosystems;
d) the presence of attributes within or adjacent to wetlands; and
e) the pattern of provincially significant and other wetlands on the landscape.

This landscape level assessment affords an opportunity to better understand the dynamics of the upland and wetland systems and their interrelationships. The size of the wetland, spatial distribution of natural areas, the dependencies between areas in providing adequate habitat for viable populations and the degree and effect of fragmentation on these systems are all examples of considerations within this EIS.

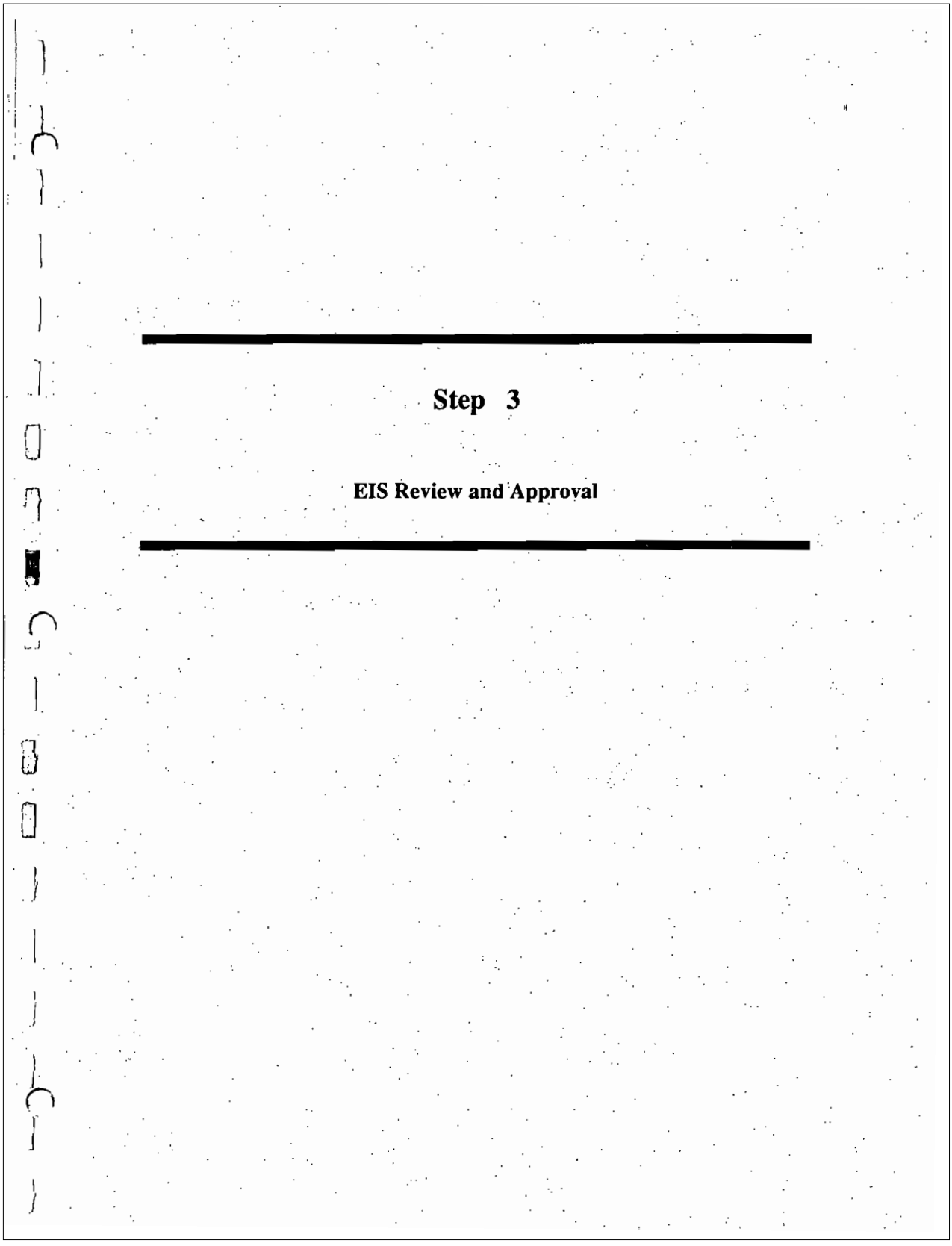
Once these surficial natural systems are mapped and linkages between the physical and biological systems are better understood, the existing and proposed developments can be examined to predict general impacts. Proposed uses including those adopted in municipal plans (e.g., roads, utilities, storm and sanitary services, etc.) should be identified. This lays the groundwork for subsequent site specific developments and can create guidelines for the prediction of development specific effects. For example, development adjacent to a wetland on soils with high permeability will need to address the sensitivity of the ground water regime in terms of providing uncontaminated water to the wetland. Wetlands in an area of documented importance for fish and wildlife sensitivity will be assessed in terms of habitat displacement and indirect affects associated with noise and intrusion. Proposed impacts and resultant effects at this scale, will be general in nature.

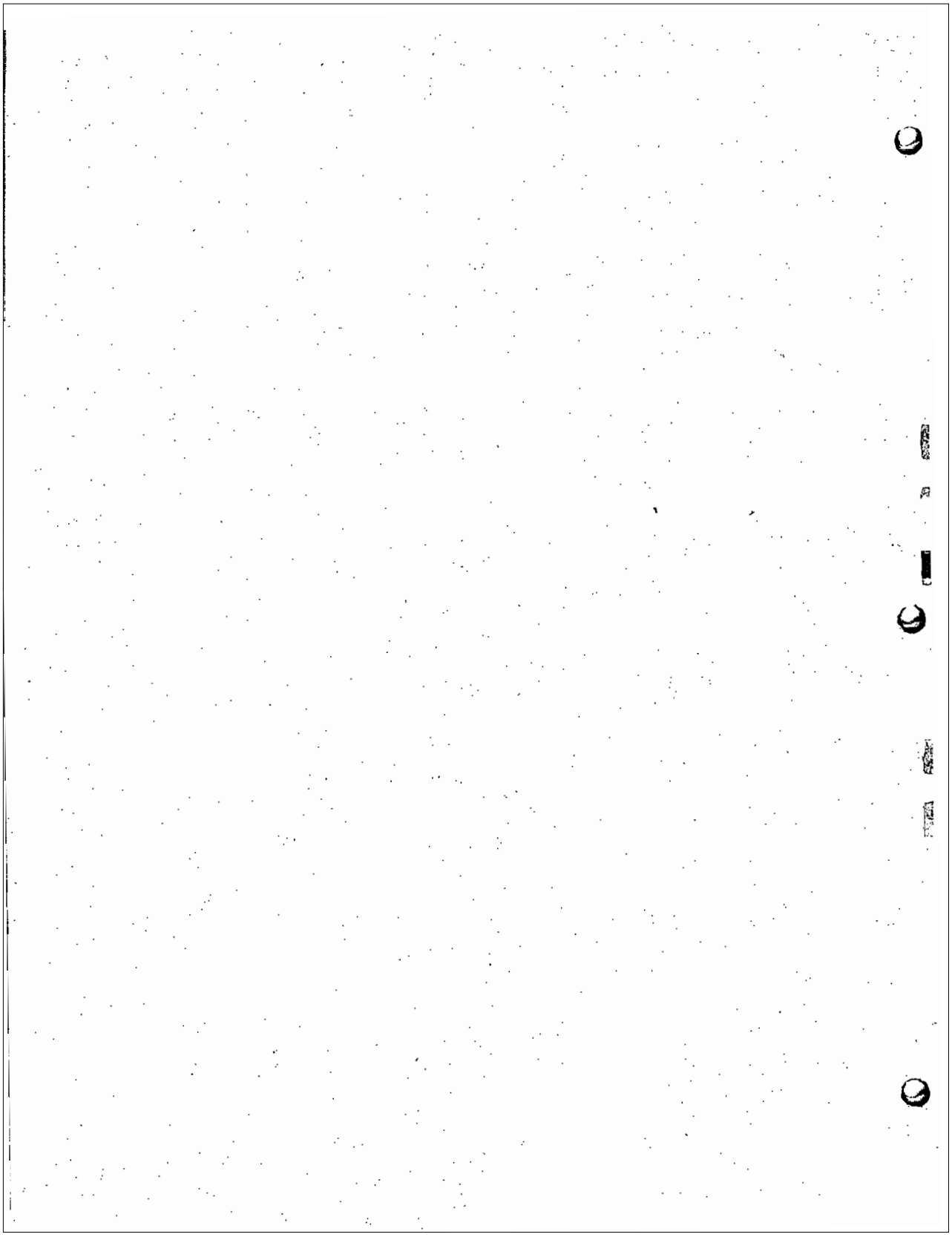
This exercise will also help us to understand the degree of degradation, if any, of existing wetland functions. This could lead to the identification of opportunities for the mitigation of existing effects on functions and/or those related to committed but not constructed development. Restoration and management opportunities could be generally identified. These could include or relate to:

a) infiltration (recharge/discharge) protection strategies;
b) water quality enhancement opportunities, including constructed wetlands for storm water or other wastewater treatment (e.g., storm water BMPs);
c) aquatic habitat enhancement through the removal of chemical or physical barriers;
d) habitat management opportunities for the optimization of certain fish or wildlife groups (e.g., waterfowl);
e) the maintenance and/or enhancement of certain linkages (e.g., enhanced terrestrial linkages, incorporation of naturalized linkages within designated institutional and open spaces, etc.);
f) mitigation and enhancement can include strategic plantings and succession management to increase patch size and to improve forest interior to edge ratios (i.e., reduce the amount of forest edge habitat in favour of forest interior habitat); thus enhancing landscape (including wetland) biodiversity;
g) the management of water flows or levels for the benefit of particular attributes (e.g., rare plant species dependent upon certain hydrologic cycles);
h) the enhancement or maintenance of critical habitat (e.g., heronry, roosting trees, loafing areas, spawning sites, etc.);

i) the improvement of trail or user access to particular portions of a wetland;
j) the resolution of existing management practice conflicts; and
k) the rehabilitation of areas/functions damaged by excessive use for various activities.

It is important to remember that even some mitigation and enhancement techniques (i.e., c) and d) in the above list) can also affect wetland functions. These potential effects should be borne in mind even at this landscape level assessment.


Step 3
EIS Review and Approval



7.0 EIS REVIEW AND RECOMMENDATION

The completed EIS document is submitted to the planning authority (e.g., municipality, planning board or MMA) and concurrently to the MNR (and other agencies and stakeholders, as required) by the proponent. Figure 4 shows the general process following submission. For Scoped Site and Full Site EISs, the review can be facilitated by using a review form to determine if all required components of the EIS were adequately addressed. A basic EIS review form is provided in Appendix I. Appendix C in the Manual of Implementation Guidelines for the Wetlands Policy Statement provides additional information to assist proponents and approving agencies in assessing development proposals with regard to some of the more common impacts on wetlands. The EIS should be reviewed on the grounds of completeness, technical accuracy and compliance with the Wetlands Policy Statement. In some cases, the MNR may not possess all necessary technical capabilities to review an EIS. Some external assistance may be required in these instances.

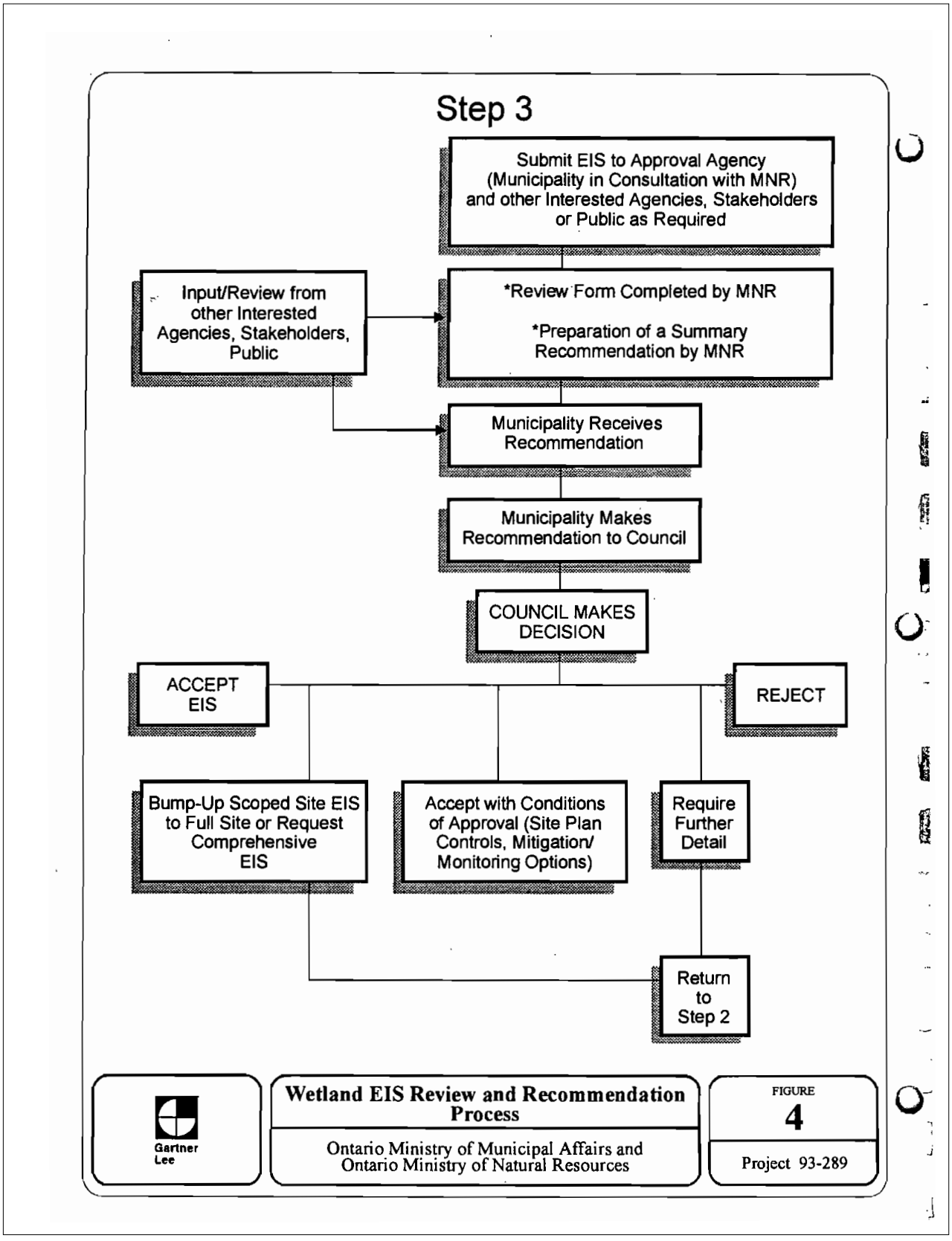
The planning authority (e.g., municipality, planning board or MMA) is the approval authority for the EIS. However, the MNR will have the greatest responsibility as a reviewer from both a resource and planning perspective. Appendix A further describes MNR's mandate in these matters. The MNR can best provide wetland evaluation information to municipalities and can assist with the interpretation of all wetland related (e.g., functional characterization assessment of validity of impact assessment and mitigation proposals) information.

If a municipality has an Environmental and Ecological Advisory Committee (EEAC) or similar group, they may enlist this committee to conduct a review of the EIS. Other agencies or stakeholders with wetland concerns may conduct their own independent review of the EIS document. Public input and review of the document may also be integrated into the process at this time.

Review comments must be reasonable. They must address the key wetland functions and the potential impacts as determined by the four criteria for the Great Lakes – St. Lawrence Region, and three criteria for the Boreal Region, of the Wetlands Policy Statement (see Section 2.3.4).

During the review process, the MNR and/or the planning authority, may request a meeting among all concerned parties to openly discuss significant outstanding issues prior to reaching a conclusion regarding the EIS approval recommendation.

The MNR will provide the review comment package to both the proponent and the municipality or planning board. The municipality will integrate this information with other planning–related recommendations and conditions, and will present the entire development proposal to municipal Council. In some situations, the municipality may seek a performance bond to ensure that mitigation is satisfactory.


Step 3
Submit EIS to Approval Agency (Municipality in Consultation with MNR) and other Interested Agencies, Stakeholders or Public as Required
Input/Review from other Interested Agencies, Stakeholders, Public
*Review Form Completed by MNR
*Preparation of a Summary Recommendation by MNR
Municipality Receives Recommendation
Municipality Makes Recommendation to Council
COUNCIL MAKES DECISION
ACCEPT EIS
REJECT
Bump-Up Scoped Site EIS to Full Site or Request Comprehensive EIS
Accept with Conditions of Approval (Site Plan Controls, Mitigation/ Monitoring Options)
Require Further Detail
Return to Step 2
Gartner Lee
Wetland EIS Review and Recommendation Process
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE 4
Project 93-289

Council will assess the merits of the planning application on the basis of the wetland EIS information, the advice and recommendations presented by the MNR and other planning–related documentation. Council will make the final decision about the acceptance or rejection of the planning application or conditions of approval and compliance orders. Formal appeals or referrals of the planning application are provided by the Planning Act. They are available to both the proponent and/or other public agencies or private interest groups or citizens. Such requests may ultimately redirect the proposal to the Ontario Municipal Board.

In the case of utility/facility development proposals or developments on Federal land where other documentation (e.g., EARP, EA) is required in place of the EIS, the intent of the EIS review and recommendation would be done as part of the review process of the EA report under the appropriate review and approval authorities. Appendix A.5 provides some additional information in this regard.

7.1 RECOMMENDATION FOR APPROVAL

If the MNR is satisfied with the submitted EIS, they will recommend it be approved by the planning authority. Approval can be recommended with certain specific recommendations for revision and/or the attachment of certain conditions. This would occur where minor or limited recommendations were offered. In other situations, approval may be granted based only upon the requirement for more extensive revisions.

If these revisions constitute a major change in the scope of the work (i.e., additional functions are added for study beyond those that were agreed to during the consultations described in Section 3.0), the MNR and/or the planning authority must include a reasonable justification for their inclusion at this late stage in the process. This justification should be supported by technical information or documentation that was originally overlooked, or that has become available since initial consultations. If there has been adequate and frequent consultation throughout the process, and documentation is thorough, the proponent should be reasonably assured that comments will be limited. Once the requested revisions are complete, the MNR will make a recommendation to the planning authority for their consideration of approval.

7.2 RECOMMENDATION FOR BUMP–UP

There are two situations where the MNR and/or planning authority may request a bump–up. Given the high level of effort early in the EIS process to ensuring the proper type and level of documentation have been requested, bump–up situations should occur infrequently.

7.2.1 Scoped Site EIS Bump–Up to Full Site EIS

If a Scoped Site EIS fulfilled the documentation requirements, but the assessment of impacts indicated a greater level of impact than was anticipated, the EIS can be "bumped up" to a Full Site EIS. The proponent would then be directed by the approval authority to rescope the work. Specific guidance on the scope of the work should be made available to the proponent through the review comments. It would be advisable for proponents to flag this situation prior to completing EIS documentation in order to streamline this rescoping exercise.

7.2.2 Scoped Site EIS or Full Site EIS Bumped–Up to Comprehensive EIS

In very unusual circumstances, a Full Site or Scoped Site EIS could also be bumped–up to a Comprehensive EIS. This could, for example, occur if there were indications that subsequent demand for development in the adjacent lands of the wetland or wetland complex were much higher than understood or agreed upon during earlier consultations or even after the production of an Issues Summary Paper. In this case, the municipality may wish to conduct a Comprehensive EIS in order to more accurately understand and more efficiently deal with several development proposals for the study area.

7.3 REVIEW OF MITIGATION STRATEGIES

Where the EIS puts forward mitigation options, the merits of these options need to be assessed to ensure that the desired effects are likely to be met. This assessment will more commonly be a review by experts with professional judgement as to the effectiveness of the mitigation proposals. The monitoring program, if required, will generally be established jointly by the MNR (and other key stakeholders), the municipality and the proponent. Conditions of approval (including the implementation of the monitoring program itself) may be attached to the recommendation for acceptance by the municipality. In the event that the mitigation measure(s) was not effective, the development could be stopped and/or some modifications may be made to the mitigation measures in place. This may not always be feasible.

7.4 RECOMMENDATION FOR REJECTION

An EIS would not be accepted where it clearly failed to reasonably address the four criteria for the Great Lakes – St. Lawrence Region or the three criteria for the Boreal Region in the Wetlands Policy Statement (see Section 2.3.4).

Appendix A

About the Ontario Ministry of Natural Resources (MNR)

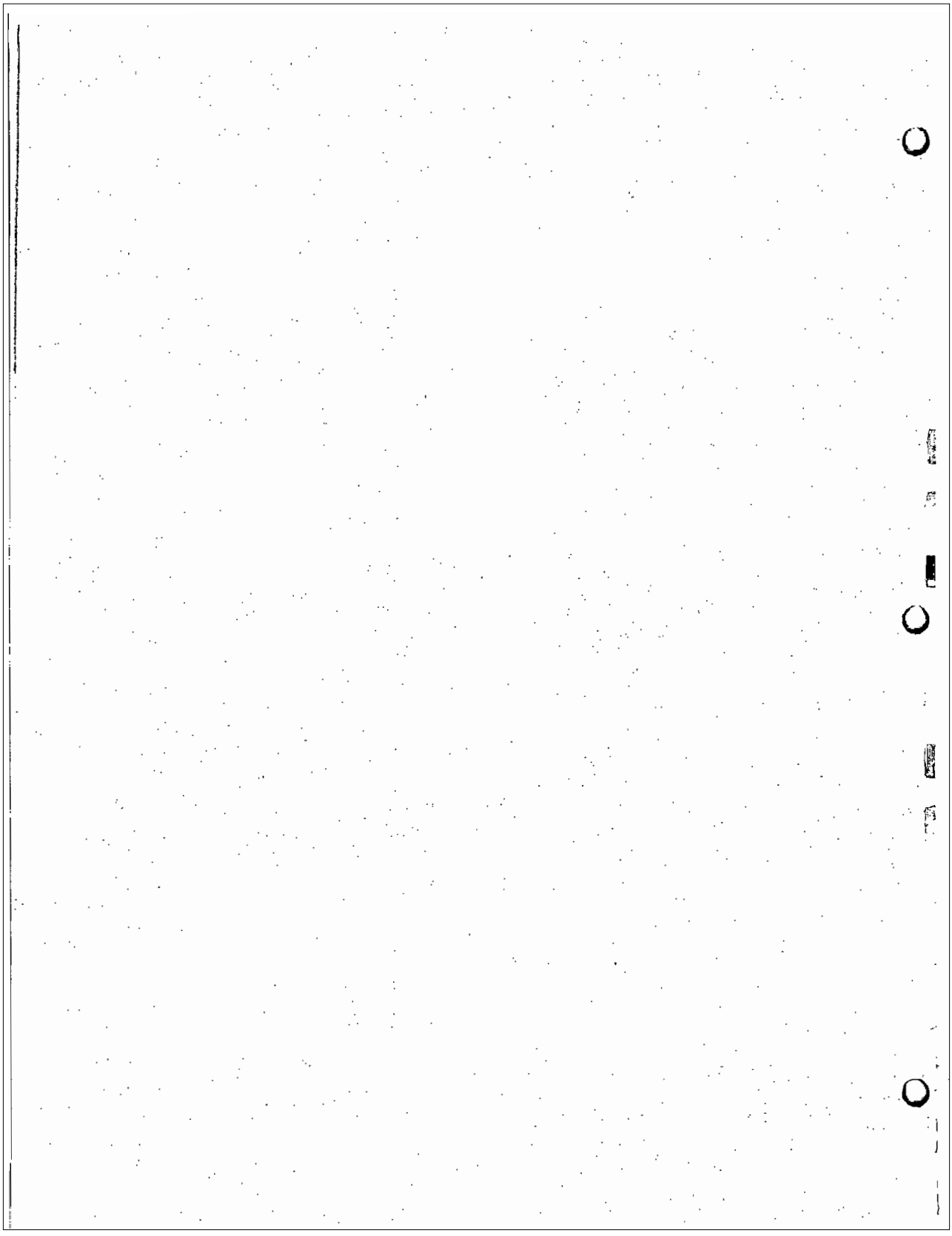
A.1 Mandate

A.2 The Ministry of Natural Resources' Responsibilities for Crown Land Management – General

A.3 Ministry of Natural Resources' Involvement in the Land Use Planning Process Under the Planning Act

A.4 Organizational Structure

A.5 Relationships of this EIS Technical Manual to Other EA Proponents



APPENDIX A

ABOUT THE MINISTRY OF NATURAL RESOURCES

A.1 MANDATE

The Minister of Natural Resources is responsible for administering provincial legislation and programs directed at the conservation and management of most of the natural resources in Ontario.

The Ministry of Natural Resources strategic plan or vision, Direction '90s, published in March 1991, represented a major shift in policy direction and program focus towards the ethic of sustainable development. The Ministry's Corporate Goal is:

- to contribute to the environmental, social and economic well–being of Ontario through the sustainable development of natural resources.

The objectives of the Ministry are:

a) to ensure the long–term health of ecosystems by protecting and conserving our valuable soil, aquatic resources, forest and wildlife resources as well as their biological foundations;
b) to ensure the continuing availability of natural resources for the long–term benefit of the people of Ontario; that is, to leave future generations a legacy of the natural wealth that we still enjoy today;
c) to protect natural heritage and biological features of provincial significance; and
d) to protect human life, the resource base and physical property from the threats of forest fires, floods and erosion.

A.2 THE MINISTRY OF NATURAL RESOURCES' RESPONSIBILITIES FOR CROWN LAND MANAGEMENT – GENERAL

The Ministry has management responsibility for a wide variety of natural resources over the entire province including all Crown land (87% of the Province). In keeping with this variety of responsibilities, the Ministry has developed approaches to management which encourage the balancing of competing interests and the achievement of multiple objectives, often on the same land

base. Many of the "multiple objectives" relate to the Ministry's own programs. Other Ministries, levels of government and resource stakeholders also have objectives which must be identified and considered as part of the Ministry's responsibility for stewardship of Crown land (e.g., Ministry of Transportation – provincial highways; Ministry of Northern Development and Mines – mineral extraction; Ministry of Culture, Tourism and Recreation – outfitter operations; etc.).

A.3 MINISTRY OF NATURAL RESOURCES' INVOLVEMENT IN THE LAND USE PLANNING PROCESS UNDER THE PLANNING ACT

Why is the Ministry of Natural Resources concerned with private land development and why is the Ministry's plan input and review program so important?

1. The Ministry of Natural Resources has little control over private land development.
2. In Southern Ontario, where little Crown Land remains, most natural resources are located on or adjacent to private land.
3. Development proposals on private land can negatively impact or restrict the availability of natural resources and/or introduce uses which would be incompatible with, or would be detrimental to, the natural resource base.

Municipalities carry out land use planning under the *Planning Act* to regulate new development. The Ministry of Natural Resources is a review and commenting agency under the *Planning Act*. As such, the municipal planning process under the *Planning Act* is extremely important to the Ministry of Natural Resources to ensure recognition of Ministry policies and objectives regarding natural resource management on private lands. These include: mineral aggregates; fisheries and fisheries management; flood plain management/flood hazards; natural heritage including areas of natural and scientific interest; wetlands; wildlife habitat; forest resources; and watershed management.

The Ministry of Natural Resources has various types of policies which are implemented through the municipal land use planning process:

a) Internal Ministry Approved Policies and Procedures based upon MNR legislation which directly affect matters under the Planning Act:

- *Aggregate Resources Act*;
- *Beds of Navigable Waters Act*;
- *Endangered Species Act*;
- *Fisheries Act (Federal)*;
- *Lakes and Rivers Improvement Act*; and
- *Public Lands Act*.

b) Policy Statements under Section 3 of the *Planning Act*:

- Mineral Aggregate Resources Planning Policy Statement;
- Flood Plain Planning Policy Statement; and
- Wetlands Policy Statement.

The following new policies resulted from Planning Reform and are scheduled to come into effect in 1995:

- Natural Heritage Features and Areas;
- Fish Habitat;
- Erosion;
- Great Lakes – St. Lawrence River Shorelines;
- Natural and Man–Made Hazards; and
- Petroleum Resources Policy.

c) Internal Policies, Procedures and Programs to address geographic issues;

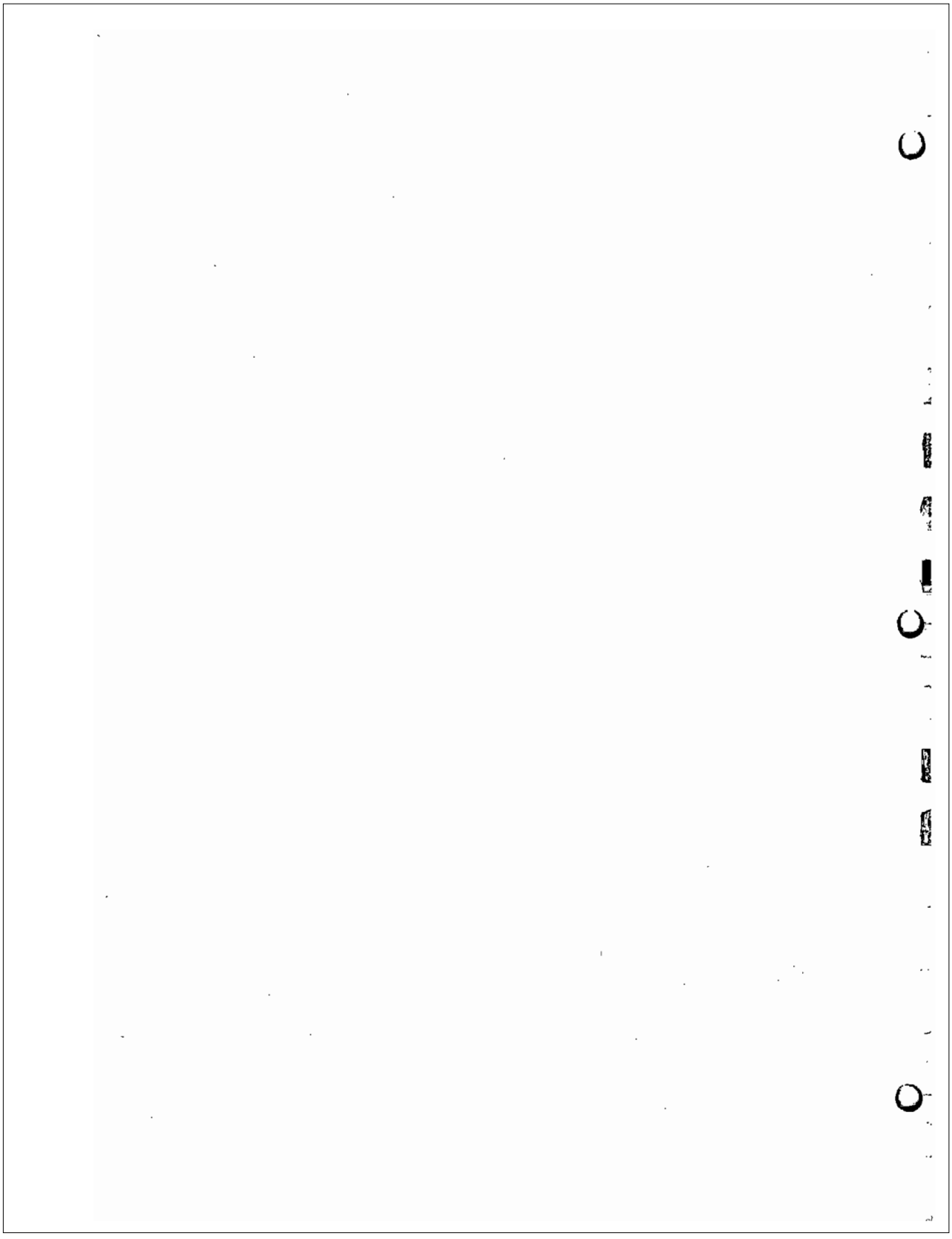
- MNR/MOE Agreement on Lake Trout Lakes;
- MNR Delegation of Flood Plain Management to Conservation Authorities;
- Canada/Ontario Fisheries Agreement;
- Strategic Land Use Plans; and
- District Land Use Guidelines.

d) Interministerial Guidelines to address issues:

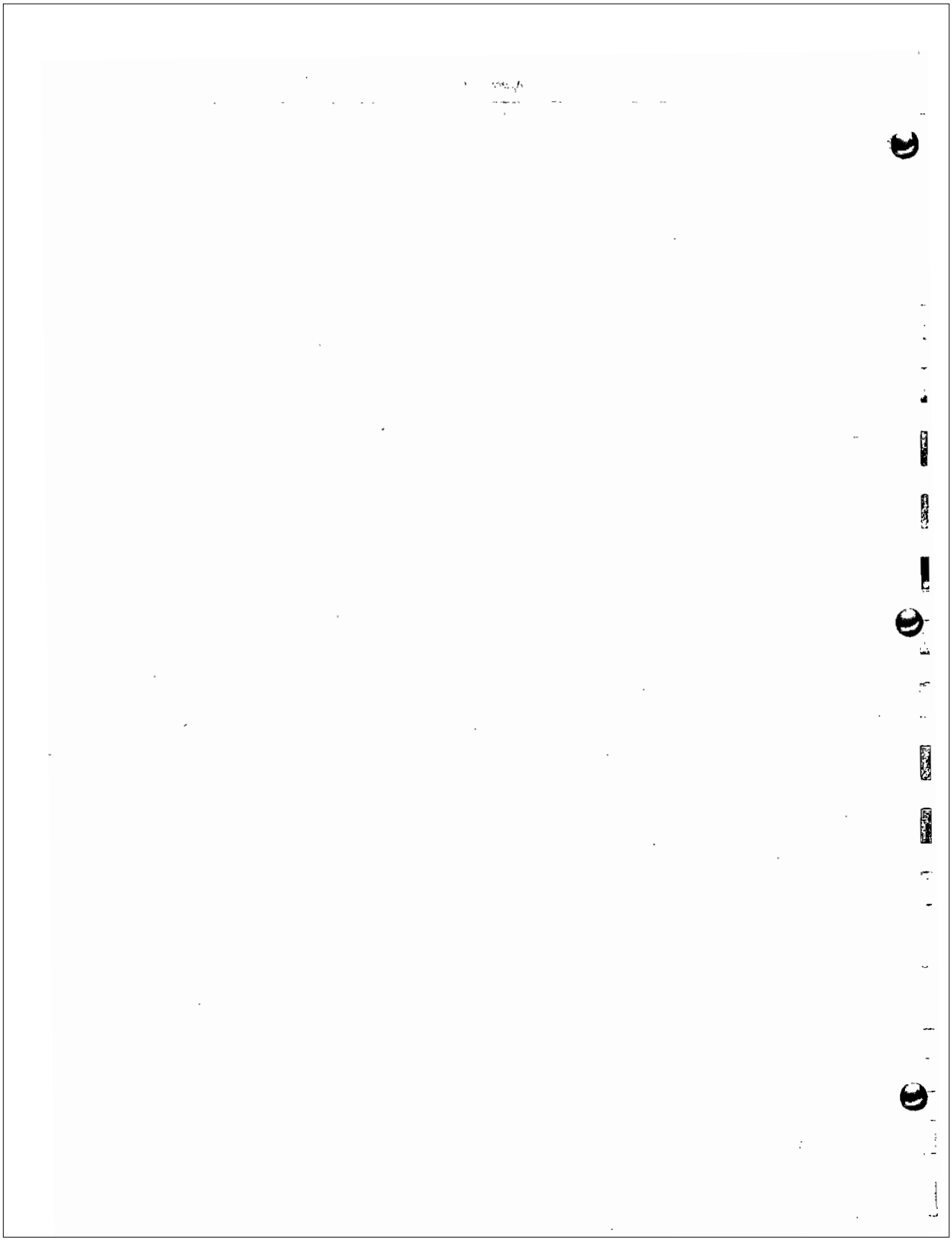
- Implementation Guidelines; Provincial Interest on the Oak Ridges Moraine of the Greater Toronto Area.

The Ministry of Natural Resources is involved in the municipal land use planning process through their highly decentralized plan input and review program. Through this process, the Ministry reviews and comments on policy documents such as official plans, official plan amendments and comprehensive zoning by–laws, and development proposals such as subdivisions, consents and zoning by–law amendments.

A.4 ORGANIZATIONAL STRUCTURE



Table



A.5 RELATIONSHIPS OF THIS EIS TECHNICAL MANUAL TO OTHER EA PROPONENTS

The Wetlands Policy Statement requires that new utilities and facilities be subject to its requirements (Policy Section 4.1). The Manual of Implementation Guidelines identifies pipelines, provincial highways, roads, electric power facilities and waste and water treatment facilities as examples of these undertakings. These are activities which do not fall under the direct authority of the Planning Act (the Act under which the Wetlands Policy Statement was promulgated), rather, they are regulated under other legislation including the: Environmental Assessment Act (EAA); municipal Class Environmental Assessment; Ontario Energy Board Act (OEBA); and, Ontario Water Resources Act (OWRA). As the Wetlands Policy Statement does not directly apply to these undertakings it was deemed useful to offer some guidance to utility and facility proponents to assist in the determination of the role of the EIS relative to the existing environmental assessment procedures. **A formal EIS in these instances, is not required.**

The variety of facilities in terms of type, magnitude and spatial and temporal study limits leads to the potential for a wide range of environmental studies. This variability prevents this Technical Manual from detailing instructions for each type of facility or utility, however, some general guidance is provided to assist these private or public proponents with their discussions with the MNR. This section first offers some comments regarding the characteristics of some of these Environmental Assessments (EAs) relative to the Wetland EIS. This is followed by some guidance regarding portions of the EIS approach that might be most helpful during the implementation of EAs.

Comments Regarding Environmental Assessments

There are a number of procedures for the completion of EAs, both provincially (EAA) and federally under the EARP. This section expresses some comments regarding these two processes.

The provincial Environmental Assessment Act addresses both individual and class environmental assessments. The Act applies to public undertakings and to specific larger private undertakings. The EAA has five specific "features" including:

a) consultation with affected parties;
b) consideration of reasonable alternatives;
c) consideration of all aspects of the environment (air, land, water);
d) a systematic evaluation of net environmental effects; and
e) a requirement for clear and complete documentation.

The EAA identifies a specific planning framework based upon a phased sequence of decision making, with each phase involving a more detailed assessment of a particular undertaking. At the earliest stages of planning, for example, little specific information may be known about the environment to identify alternatives. In the later stages, the level of detail increases and consideration given to all elements of the environment increases. Thus, it is easier to evaluate and compare alternatives to select the preferred option.

Individual EAs are required to examine all elements of the environment. This certainly includes wetlands and their associated functions but is more generally defined as air, land and water. Environment, under the EAA also includes the social, economic and cultural conditions that influence individuals and/or communities. Individual EAs are required for undertakings that are required to fulfil a specific need, and may have environmental effects that are not readily predictable or mitigatible. Some of the undertakings subject to this Act are large and broadly scoped planning exercises. Study areas for these EAs can also be fairly large. For example, linear transportation facility planning can include large study areas, especially early on in the planning process, when alternative corridors across the landscape are being identified and evaluated.

Class Environmental Assessments provide a series of planning requirements for a particular set of projects (e.g., municipal road projects, municipal water and wastewater projects, remedial flood and erosion control projects). These Class EAs are a method of dealing with projects which display the following common characteristics:

a) recurring;
b) usually similar in nature;
c) usually similar in scale;
d) have a predictable range of environmental effects; and
e) responsive to mitigating measures.

This approach maintains the same five features mentioned above (i.e., consultation with affected parties, etc.) and follows a staged planning and design process. Both Individual and Class EAs require the identification of alternatives to the undertaking along with alternative methods of implementing the preferred undertaking. This process requires the systematic evaluation of alternatives in terms of their advantages and disadvantages to determine their net effects.

The Federal Environmental Assessment and Review Process (EARP) is an important planning tool for predicting the potential environmental consequences of proposals that require a federal decision. Situations where the EARP would be used, that overlap with the provincial Wetlands Policy occur when:

a) the decision–making authority for a proposal rests with or is shared with a province or territory, and there is federal involvement. EARP can be applied cooperatively with provincial or territorial planning resource management processes or with associated environmental assessment processes;

b) the proposal might have an environmental effect on an area of federal government responsibility;

c) the proposal would require federal government commitment; or

d) the proposal would be undertaken on lands administered by the federal government including the offshore.

Comments Regarding the Wetland EIS Relative to the EA

Like the EA process, the EIS framework follows a similar progression in the levels of detail considered, moving from the more general Comprehensive EIS to the more specific Scoped Site EIS. As well, the undertaking at the Comprehensive EIS stage may not be defined in detail and may relate more to land use concepts.

It is unlikely that a wetland EIS will be conducted over a study area as large as that considered for a larger linear facility EA, however, the study area for a Comprehensive EIS may extend over a subwatershed or watershed. Some larger EAs (e.g., linear transportation facilities) are extensive, multi–year planning and design studies. A wetland EIS, while not extending over this longer duration, may still involve very detailed investigations of potential effects on ecological functions.

The EA process considers alternatives to an undertaking whereas a Wetland EIS considers alternative forms that a development may take. The private land holdings associated with most Wetland EIS projects limits the potential for consideration of alternatives to a particular undertaking. There are currently more formal opportunities for the participation of affected parties in the EA process than in the Wetland EIS process.

The use of a functional framework for the systematic evaluation of environmental effects in a Wetland EIS will likely lead to a better understanding of the importance of the terrain setting and of the relationships between the physical and biological settings. In some traditional EAs, the emphasis has been placed upon the identification and mapping of environmental features such as designated Environmentally Sensitive or Significant Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs), important wildlife concentration areas, etc. A more functional approach which defines concepts such as interrelationships and landscape linkages could provide technical information about constraints that would otherwise be overlooked in a traditional EA.

Because the EAA requires an assessment of an environment which includes more than wetland functions (e.g., air, land, water, social, economic and cultural components), the environment is treated more comprehensively than in a Wetland EIS. This can result, from an EA perspective, in decisions which balance elements of the environment and which may lead to affects on wetland area and/or function.

Use of the Wetland EIS Framework as input to the EA Process

The Wetland Policy Statement does not advocate duplicate planning processes. Rather, the intent is to fold relevant EIS information into the EA process. Some suggestions about how to accomplish this follow. Smaller and less complicated EAs and Class EAs may not need to refer to these EIS Guidelines, however, regardless of the specific environmental planning process, there are some suggestions offered in the following which could enhance the EA products and decision–making framework.

The use of a assessment functional framework in all levels of an EA may assist in the identification and characterization of some of the more complex interrelationships between earth and life sciences. This may be particularly relevant to relationships between wetlands and non–wetland systems. The framework adopted in this manual has been created in part for its potential application to all natural environment landscape features. This approach may be particularly helpful in EAs where there is a need to map recognized or designated features but also where it would be beneficial to assess and to understand the relative degree of all functions on a landscape.

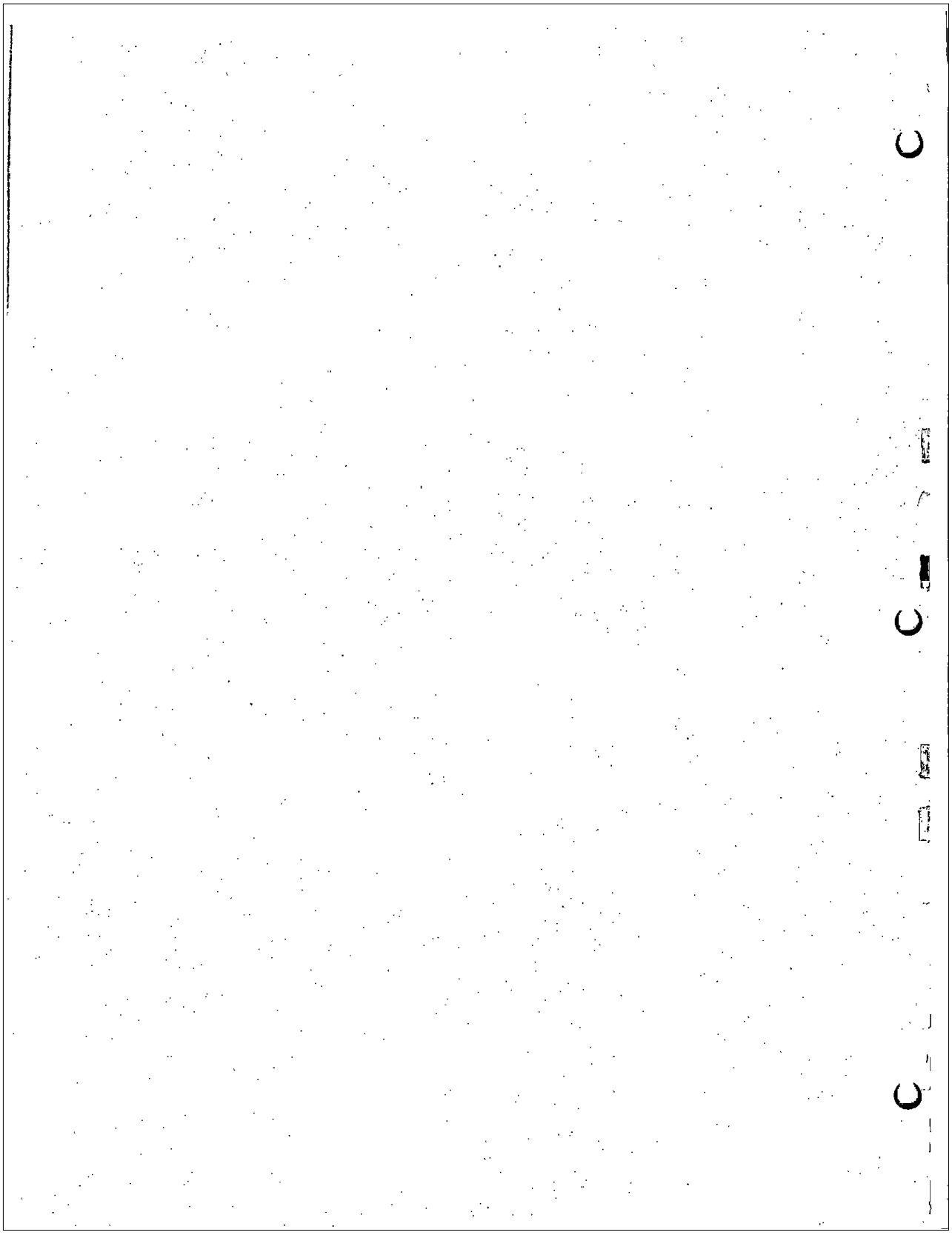
Large geographic study areas within an EA afford some of the landscape level analyses that are described in the Comprehensive EIS section of this manual.

EAs should ensure that: 1) the level of effort in each planning stage is adequate to characterize the type and degree of wetland function on the landscape (appropriate for the level of decision making required), and 2) the selection of the spatial and temporal limits of the study include consideration of wetland functions.

Examples of impacts, effects and mitigation included in this manual (Appendix F) may be of assistance to proponents in identifying effects associated with particular types of undertakings.

Appendix B

Emerging Trends in Assessment Frameworks



APPENDIX B

Wetlands have, for a number of decades, been the subject of detailed scientific investigations. Some of the earlier efforts in the 1950s and 1960s contributed significantly to our understanding of waterfowl relationships with wetlands and the benefits of wetlands to the enhancement of agricultural runoff. Much of the earliest work focused on individual components or processes within a wetland.

In Ontario, in the late 1970s and early 1980s, the emergence of the earliest provincial wetland evaluation system and draft policies, intensified the interest in wetlands on behalf of a variety of groups including scientists, planners and regulators. Ontario's wetland evaluation system is the result of the collective efforts of wetland scientists, planners, and engineers, with considerable input from a variety of non–government organizations (NGOs) with an interest in wetlands. Similar activities were occurring in the United States with initiatives such as the creation of Executive Order 11990 for the Protection of Wetlands in 1977 and the development of a wetland delineation manual in 1979. The Canadian Federal government, in the 1980s and 1990s also developed a Wetland Policy Statement, an Evaluation System and a series of scientific and planning publications.

A variety of methods exist to evaluate the components of an ecosystem. The provincial wetland evaluation system assesses wetlands based upon functions in four categories: biological, hydrological, social and special features. This system identifies these functions and quantifies some of them as input to a wetland classification. Information contained in individual evaluations is useful as baseline input to the more detailed functional assessment required in an EIS.

This system evaluates wetlands to determine potential provincial significance. As such it relates to the Wetland Policy Statement. The adjacent lands are a trigger to the requirement for an EIS. It sets an initial boundary from which no loss of wetland area (Great Lakes – St. Lawrence Region) can occur, and/or loss of function (Great Lakes – St. Lawrence and Boreal Regions) and an initial boundary from which all wetland functions are measured.

More recently, during the 1980s and 1990s, many scientists, principally in response to these policy and planning initiatives, initiated more detailed research into the definition and characterization of wetland functions. This functional approach to assessing wetland ecosystems relies upon the characterization of physical, chemical and biological functions and their interrelationships.

In many parts of the world, scientists and engineers are conducting functional assessments of individual wetlands as well as larger regional wetland systems. In Europe for example, four study areas (within Ireland, United Kingdom, France and Spain) are being investigated as part of a three year program to identify and understand key wetland processes (Maltby et al., 1992). Similar efforts have

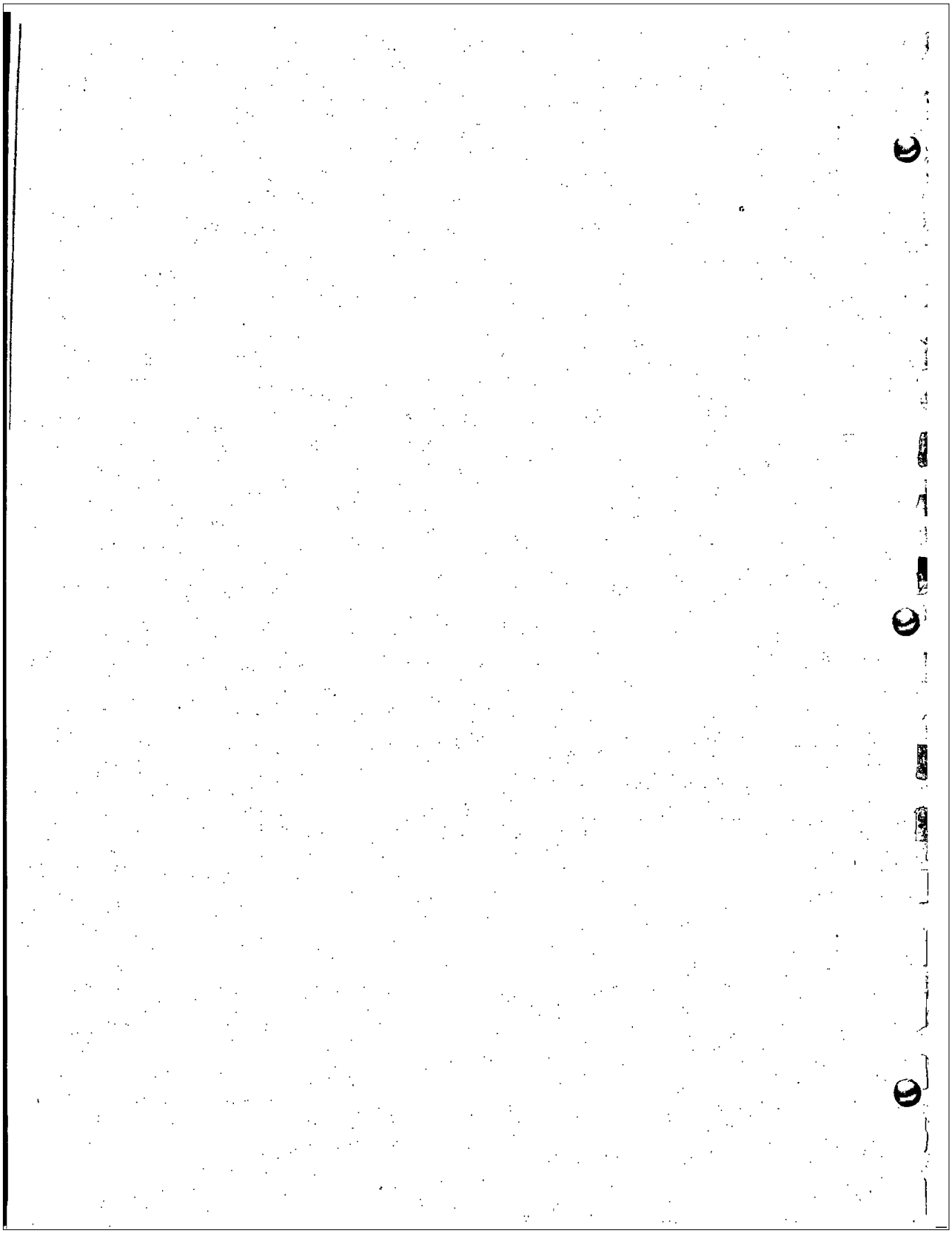
been underway in many parts of the United States (e.g., Massachusetts, Virginia and North Carolina). The US Environmental Protection Agency (EPA) (Leibowitz et al., 1992) has produced a comprehensive functional assessment approach for wetlands (Synoptic Approach To Cumulative Effects Assessment).

The functional assessment approach has been applied to more than wetlands. There have been a number of regional assessments and planning documents that make reference to this branch of landscape ecology. The findings of the Sewell and Crombie Commissions, the Kanter Report and the Oak Ridges Moraine work underway by the MNR (GTA District, Ontario, Canada) are all based to some extent, on this approach. During the development of an approach for this manual, some particular attention was paid to the proposed Comprehensive Policy Statement for Natural Heritage, Environmental Protection and Hazard Policies. All of these efforts recognize the complexity of the natural environment and acknowledge that individual wetland areas are part of a larger natural system.

A review of the various methodologies in use, in and outside of Ontario, led to the identification of the framework which is described further in Section 2.3.3 of this manual. Appendix L lists some further references for those interested in more information regarding the evaluation of more functionally–based wetland ecosystem assessment methodologies.

Appendix C

Glossary



APPENDIX C

GLOSSARY

A variety of terms are introduced in the text of the manual. Those that were deemed to be specific technical terms requiring further explanation, are included in this glossary.

Definitions have been drawn from the Wetlands Policy Statement (WPS) (OMMA & OMNR, 1992a) or Manual of Implementation Guidelines for the Wetlands Policy Statement (IG) (OMNR & OMMA, 1992b) if they appear in those sources. Where they do nor appear in those sources, other references were used, such as: the Ministry of Municipal Affairs Comprehensive Set of Policy Statements (CPS) (OMMA, 1994), the Ontario Wetland Evaluation System (WES) Southern and Northern Manuals (OMNR, 1993a,b) and revisions to these manuals (OMNR, 1994), and Liebowitz et al. (1992).

The most recent and definitive terms are those presented in the Comprehensive Set of Policy Statements.

Adjacent Lands:	Those lands within 120 m of an individual wetland area or all lands connecting individual wetland areas within a wetland complex.
Agricultural Activities:	Ploughing, seeding, harvesting, grazing, animal husbandry, buildings and structures associated with these farming activities. This includes such activities on areas lying fallow as part of a conventional rotation cycle.
Aquatic Linkage:	Aquatic components of the ecosystem which perform their functions in concert with each other.
Best Professional Judgement:	Decision–making tool involving the use of professional experience where better definitive technical information does not exist.
Boreal Region:	The area of Ontario north of the line shown on Figure 4 in the Wetlands Policy Statement.
Corridor:	The naturally vegetated or potentially revegetated areas that link or border natural areas and provide ecological functions such as habitat, passage, hydrological flow, connection or buffering from adjacent impacts. They can occur across or along uplands, lowlands or slopes. Ravine, valley, river and stream corridors are further defined as landform depressions, usually with water flowing through or standing in them for some period of the year. Ravine and valley corridors may be defined locally by considerations such as their natural features or functions, minimum setbacks from the crest of slope, top of ravine or valley bank or top of projected stable slope.
Cumulative Effects:	The combined environmental effects resulting from cumulative impacts, in a defined area over time.

Appendix C

Cumulative Impacts: The sum of all individual impacts occurring over space and time, including those of the foreseeable future.

Development:

a) the construction, erection or placing of a building or structure;
b) activities such as site grading, excavation, removal of top soil or peat and the placing or dumping of fill;
c) drainage works, except for the maintenance of existing municipal and agricultural drains.

Note: – The following are not considered as development:

* activities that create or maintain infrastructure authorized under an environmental assessment process;
* remedial works;
* those works subject to the Drainage Act;
* good forestry practices in accordance with the Trees Act, and associated buildings and structures; and
* agricultural practices or facilities

Drainage Basin: An area occupied by a closed drainage system, especially a region that collects surface runoff and contributes it to a stream channel, lake or other body of water. Also known as catchment or watershed. Divisions of this basin are known as subcatchments or subwatersheds.

Ecosystem: Any area with a boundary through which the input and output of energy and materials can be measured and related to some unifying factor, and includes the living and nonliving environment together with the population or community (IG).

Systems of plants, animals, and microorganisms, together with the non–living components of their environment, related ecological processes, and humans (CPS).

Effect: A physical, chemical or biological change that can result in environmental and/or socioeconomic impacts. Effects can be immediate (direct) or they can occur over time and space (indirect/cumulative).

Endangered Species: Any indigenous species of flora or fauna that is threatened with immediate extinction; identified in Regulations under the Endangered Species Act; endangered species as identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Environmental Impact Study: A study prepared in accordance with established procedures, to identify and assess the impacts of development on provincially significant wetlands.

Evaluation System: A system used to rate the values of Wetlands and determine their relative importance by measuring a number of indicative features, such as biological, hydrological, social, and special features, and approved for use in a region of Ontario by the Ministry of Natural Resources.

Food Chain: The transfer of food, energy and nutrients through living organisms, from one trophic level to another.

Functional Assessment Framework: A standard tool for use in conducting an Environmental Impact Statement, which focuses on the characterization of functions using the terms processes, attributes, linkages and values.

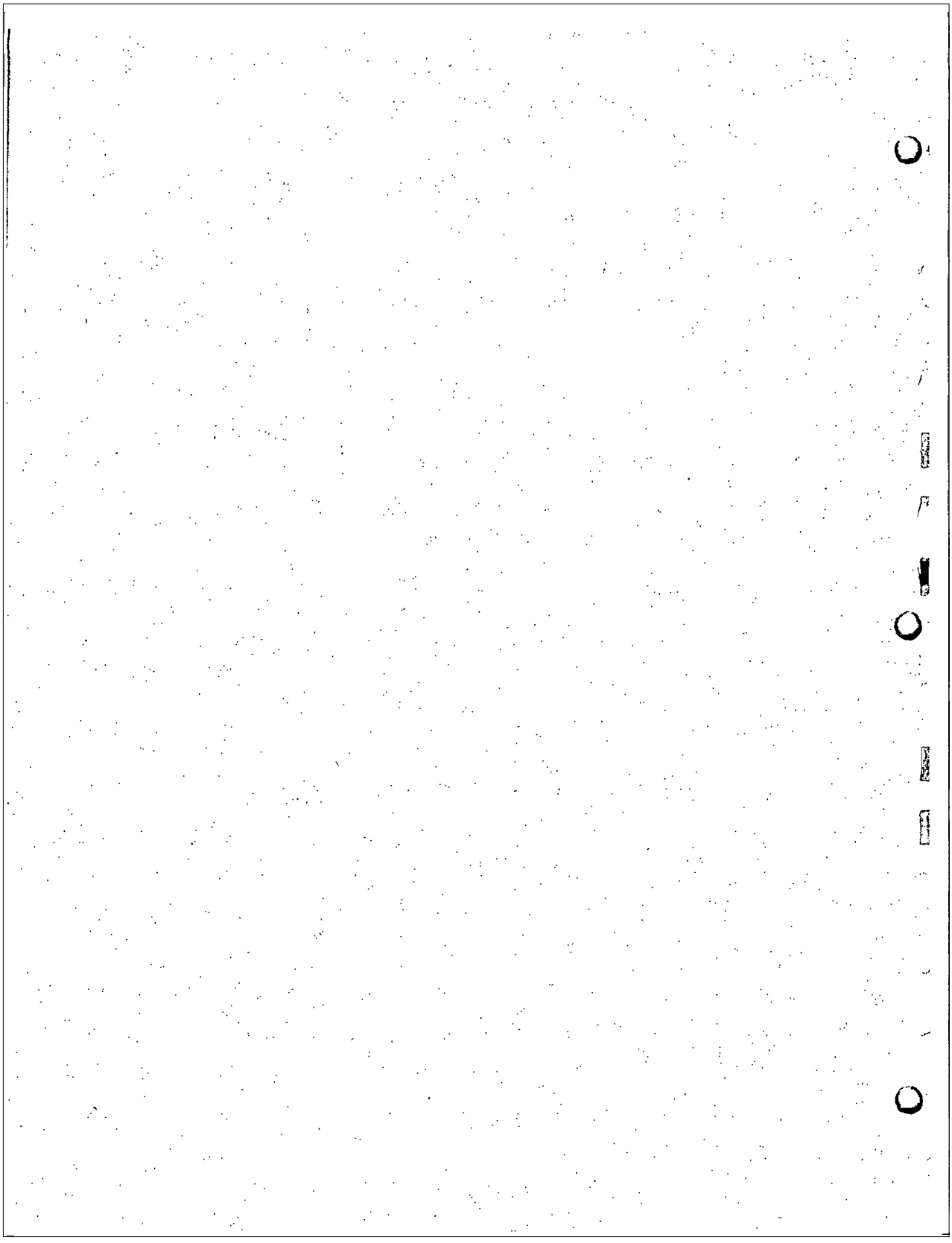
Food Web: An interconnected series of individual food chains in an ecosystem.

Function (wetland):	The processes (hydrological and biological), attributes, linkages and values related to a particular wetland.
Great Lakes – St. Lawrence Region:	The area of Ontario south of the line shown on Figure 4 in the Wetlands Policy Statement.
Guilds:	Species which are grouped together because of common strategies and/or use of areas for life cycle stages.
Hydrophytic Plants:	Vegetation commonly growing in water or in water–logged soil, which is water–tolerant.
Hydric Soils:	Soils that are characterized by the abundance of moisture, to the extent that the soils are either inundated or dominated by water–tolerant vegetation.
Impact:	A human generated activity that affects the characteristics of an ecosystem.
Indigenous :	Species which have originated naturally in a particular region or environment.
Key Wetland Function:	A function which is measurable; or contributes significantly to the integrity of the wetland ecosystem; or has been identified as an important feature in the wetland evaluation system data record; or the loss of which would have a significant impact on the wetland score.
Keystone Species:	A single species whose activities and role determine community structure.
Mitigation:	Includes the prevention, modification or alleviation of impacts on the natural environment. Also includes any action with the intent to enhance beneficial effects.
Monitor:	Procedures used to methodically inspect and collect data on ecological impacts.
Patch Dynamics:	Physical, chemical and biological interactions between irregularly shaped ecosystems, which occur within the broader landscape.
Policy Statement:	(also "Wetlands Policy Statement") The Policy Statement – Wetlands issued in 1992 under Section 3 of the *Planning Act*.
Provincially Significant Wetland:	a) class 1, 2 and 3 wetlands in that part of the Great Lakes – St. Lawrence Region below the line approximately the south edge of the Canadian Shield, defined in *An Evaluation System for Wetlands of Ontario South of the Precambrian Shield*. Second Edition, 1984, as amended from time to time; and b) those wetlands identified as Provincially Significant Wetlands by the Ministry of Natural Resources through an evaluation system(s) developed specifically for other areas of Ontario (WPS and IG). For both northern and southern Ontario a provincially significant wetland is any wetland that: 1. Achieves a total score of 600 or more points; or 2. Achieves a score of 200 or more points in either the Biological Component or the Special Features component (OMNR, 1994 revisions to the WES)
Sensitivity Assessment:	Assessment of the degree and spatial extent of wetland functions to determine their sensitivity to impacts from various land use activities.

Rare Species:	See *Significant Species.*
Rehabilitation:	To restore the ecosystem to some former condition, present prior to one or more impacts.
Significant Species:	Those species of plants, birds, mammals, reptiles and amphibians and fish that can be scored as endangered, provincially significant, regionally significant and locally significant according to the Ontario Wetland Evaluation System Manuals (OMNR, 1993a,b).
Terrestrial Linkage:	Terrestrial components of the ecosystem which perform their functions in concert with each other.
Threatened Species:	Any indigenous species of flora or fauna that is experiencing a non–cyclical decline throughout all or a portion of its range, and is likely to become endangered if conditions do not change; threatened species as defined by COSEWIC.
Trophic Levels:	An organism's feeding status in the movement of food energy through an ecosystem. Feeding status is determined by the organism's prey and predators.
Vulnerable Species:	Any indigenous species of flora or fauna that is represented in Ontario by small but relatively stable populations, and/or that occurs sporadically, or in a very restricted area of Ontario, or at the fringe of its range; vulnerable species as defined by COSEWIC.
Wetland:	Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of wetlands are: swamps, marshes, bogs and fens. Lands being used for agricultural purposes, that are periodically "soaked" or "wet", are not considered to be wetlands in this definition. Such lands, whether or not they were wetlands at one time are considered to have been converted to alternate uses.
Wetland Area:	A single contiguous wetland which may be composed of one or more wetland types.
Wetland Benefit:	Best characterized by the value group of functions. This term has previously been described as a derivative from an attribute, feature, characteristic, activity, expression or function of a wetland that has demonstrable worth to some segment of society.
Wetland Classification:	The result of a wetland evaluation, which designates the relative importance of a wetland, and whether or not it is provincially significant.
Wetland Complexes:	Two or more individual wetland areas, that are related in a functional manner, and are grouped within a common wetland boundary. The wetland areas in the complex are evaluated in one evaluation and given one classification. The upland areas within the complex boundary are not given the classification, only the wetland areas.
Wetland Functions:	The processes, attributes, linkages and values as defined in Section 2.3.3 of this Technical Manual. These have in the past, been expressed as the biological, hydrological, physical, and social/economic interactions that occur in wetlands.
Wetland Management:	Policies and/or activities that are designed with the intention of protecting and/or changing wetland functions.
Wetland Types:	The individual wetland ecosystems, that have specific characteristics, and are commonly called marshes, swamps, bogs and fens.

Appendix D

Understanding Terrain Setting



APPENDIX D

UNDERSTANDING TERRAIN SETTING

Many of the characteristics of wetlands are directly related to the type of geological landform in which the wetland was formed.

As an example, if a wetland was formed in a depression within an ancient lakebed (a glaciolacustrine landform), then one would expect the wetland to be a marsh, fen or a swamp, with the surface water within the wetland directly connected to the other surface drainage conditions found in other contiguous parts of the ancient lakebed. There may be little connection with the regional or even local ground water system.

On the other hand, if the wetland is formed within a depression with a flat sandy deposit (within a kettle hole in a granular outwash landform), then one would expect a bog, with direct hydraulic connection to the ground water table found within both the bog and the surrounding sandy plain.

These two examples represent two quite different wetlands with the potential for quite different functions: one relating water in the wetland to surface water, and the other to ground water.

It is important to evaluate the terrain conditions as an integral part of the EIS process. While each wetland will have its own unique and site specific characteristics, wetlands formed in different geological landforms will have certain similarities. The following exercise groups wetlands into four terrain landforms:

a) wetlands in terrain with level to undulating topography underlain by fine grained soils;
b) wetlands in hummocky to knob and kettle topographic relief underlain by permeable granular soils;
c) wetlands in level to undulating topography underlain by permeable granular soils; and
d) wetlands in Boreal forest settings (Precambrian Shield Rock Knob Terrain)

Wetland Characteristics Associated with Geological Landforms

a) Level or Undulating Landforms Underlain by Fine Grained Soils

These landforms include the following:

1. glaciolacustrine lake plains;
2. glaciomarine plains; and
3. ground moraines.

Within these landforms, wetlands are usually formed in regional or local depressions. Local climates often have a great deal to do with wetland formation in these areas. The long, cold spring season, high precipitation and humidity, low evaporation and minor winds along the south coast of Hudson Bay, and west of James Bay in Northern Ontario, produce good examples of wetlands formed on glaciomarine sediments.

b) Hummocky to Knob and Kettle Topographic Relief Underlain by Permeable Granular Soils

These landforms contain the following:

1. end moraines;
2. hummocky moraines;
3. kame moraines; and
4. esker chains.

Here, wetlands are usually formed within the poorly drained and often isolated depressions that are common within these landforms. Kettle holes form closed basins where drainage is either blocked or severely impeded, resulting in eutrophication and the formation of wetlands.

In these settings, the hydrology of the wetland is usually integrated with the ground water conditions surrounding the wetland. Water movement is usually very slow, or often stagnant, whereas the water movement in a fen or swamp within a glaciolacustrine environment is faster.

These settings can also contain wetlands with complex configurations, and locally deep deposits of peat, particularly in hummocky moraine terrain.

c) Level or Undulating Topography Underlain by Permeable, Granular Soils

These landforms contain the following:

1. glaciofluvial outwash;
2. glaciolacustrine / glaciomarine deltas;
3. kame deltas;
4. glaciolacustrine raised beaches; and
5. alluvial plains.

Within these landforms, wetlands are formed within kettle holes, in abandoned channel scars, adjacent to sluggish streams and between raised beaches. What is common to all is the interrelationship between the hydrologic conditions within the wetland and the surrounding ground water regime.

The deposits can be shallow and also connected to the surface water regime, as wetlands developed between raised beaches on an ancient sloping offshore plain, or as isolated and potentially deep peat deposits developed in closed basin kettle holes.

d) Precambrian Forest Setting (Rock Knob/Precambrian Shield)

Wetlands in the typically rock knob terrain in many parts of the Precambrian Shield of northern Ontario are found in the low, poorly drained depressions surrounded by high relief rock outcrop hills. As a general rule, the steeper the confining rock walls surrounding the wetland, the deeper the peat deposit within the wetland.

These wetlands will often have sluggish surface drainage connecting them to depressions in adjacent terrains. Often, beaver dams artificially raise the water table and flood some of the wetlands.

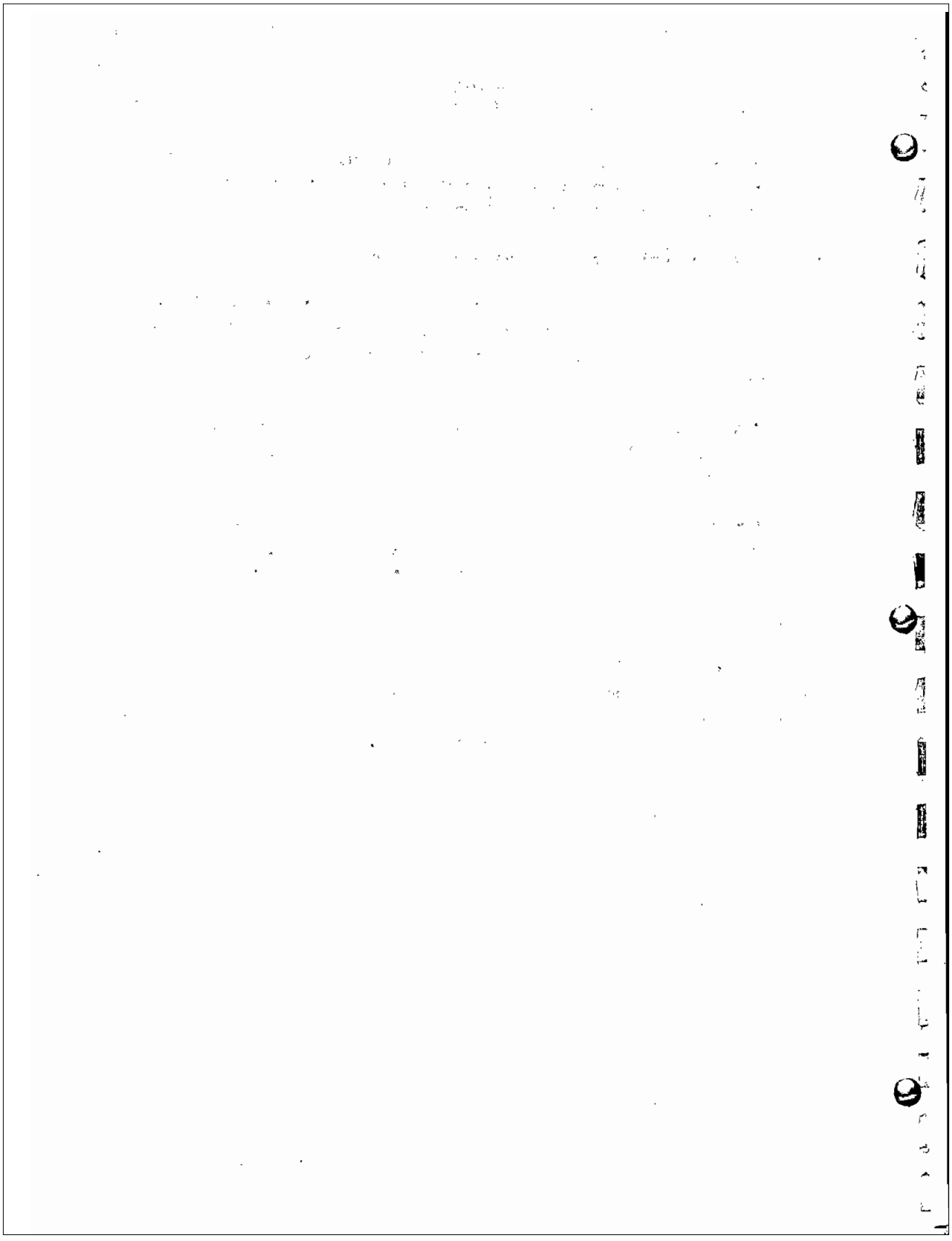
Because the surrounding confining landforms are Precambrian rock units, and ground water is found only in preferred fractures in the bedrock, there is reduced hydraulic connection between the ground water in the wetland and the ground water in the surrounding rock.

Summary Remarks

While there are many different classification systems for wetlands, this brief description of the relationship between geological terrain and the wetland, is not meant to usurp or add to any classification, but rather emphasize the importance of knowing the geological setting of the wetland as an important first step in understanding its environmental importance.

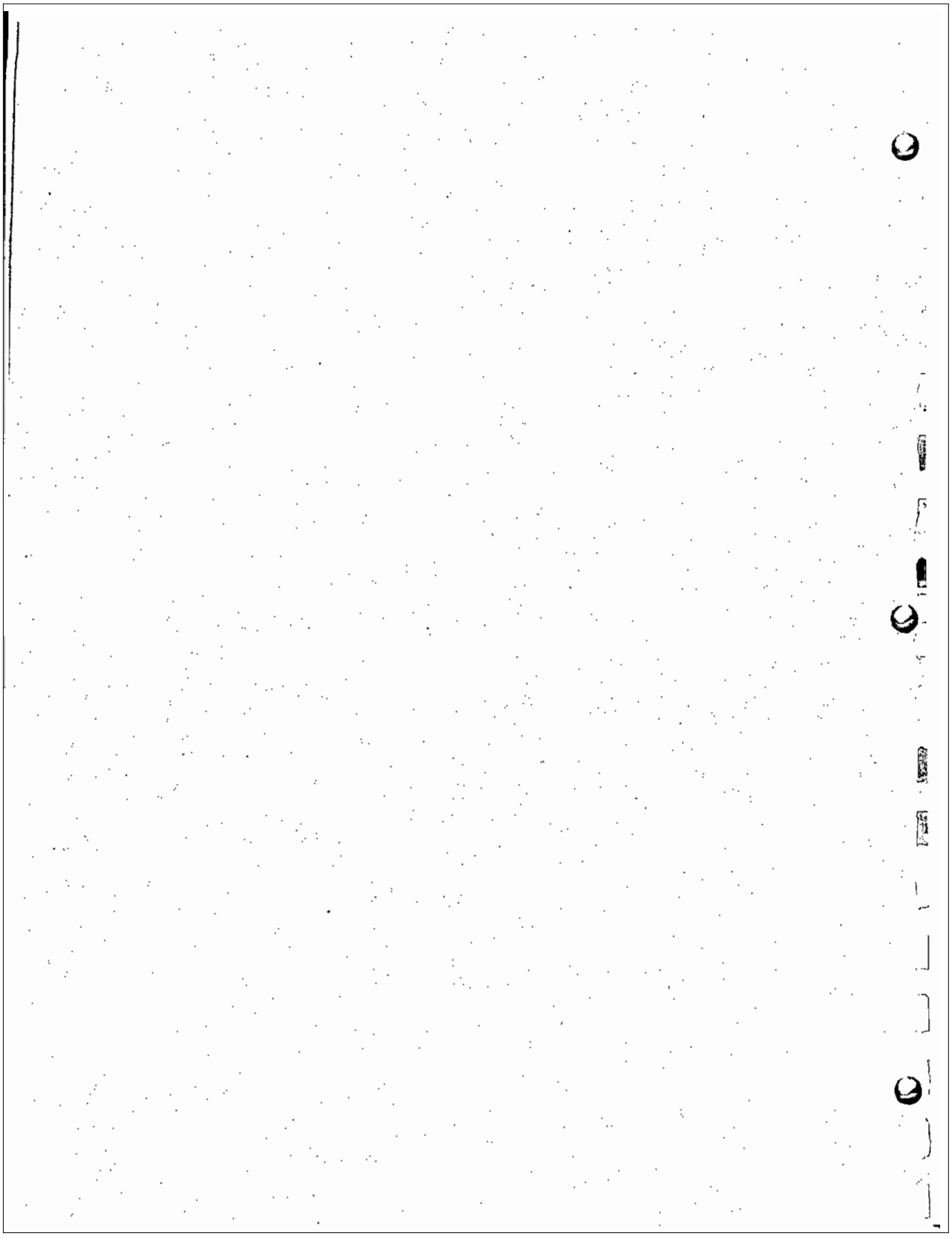
Reference:

Gartner, John F., J.D. Mollard and M.A. Roed, 1981:
Ontario Engineering Geology Terrain Study Users' Manual; Ontario Geological Survey, Northern Ontario Engineering Geology Terrain Study, 51 p.



Appendix E

Wetland Functions Listing



APPENDIX E

WETLAND FUNCTIONS LISTING

Section 2.3.3 of this manual defined wetland functions and described a functional assessment framework within which functions were placed. The framework deals with those functions which are measurable and which are most reasonably considered when predicting effects. This listing was principally compiled by participants during a workshop held during the development of this manual, which was specifically focused on the identification of wetland functions.

Table 3, in this Appendix lists additional functions and descriptors of functions. Many of these should be considered to be more detailed descriptors that can be used when filling out the functional assessment framework. The additional functions provided in Table 3 (beyond those depicted in the functional assessment framework) are often difficult to measure and in some cases, where measurable, produce information which does not contribute meaningfully to an assessment of wetland function or to impact predictions. This list is provided as a background reference and is not meant to be routinely used for the completion of EISs.

This table can also serve as a field or work sheet. Functions of a given wetland are indicated by their presence or absence. Additional comments are made from field observations, or information in wetland evaluation records and other background materials. These comments should focus on the degree or relative importance of a given function and/or the sensitivity of the function to stresses and impacts. Those functions present that have a key or important role in the wetland, and/or are sensitive to impacts will be the key wetland functions carried forward and assessed in detail in the EIS.

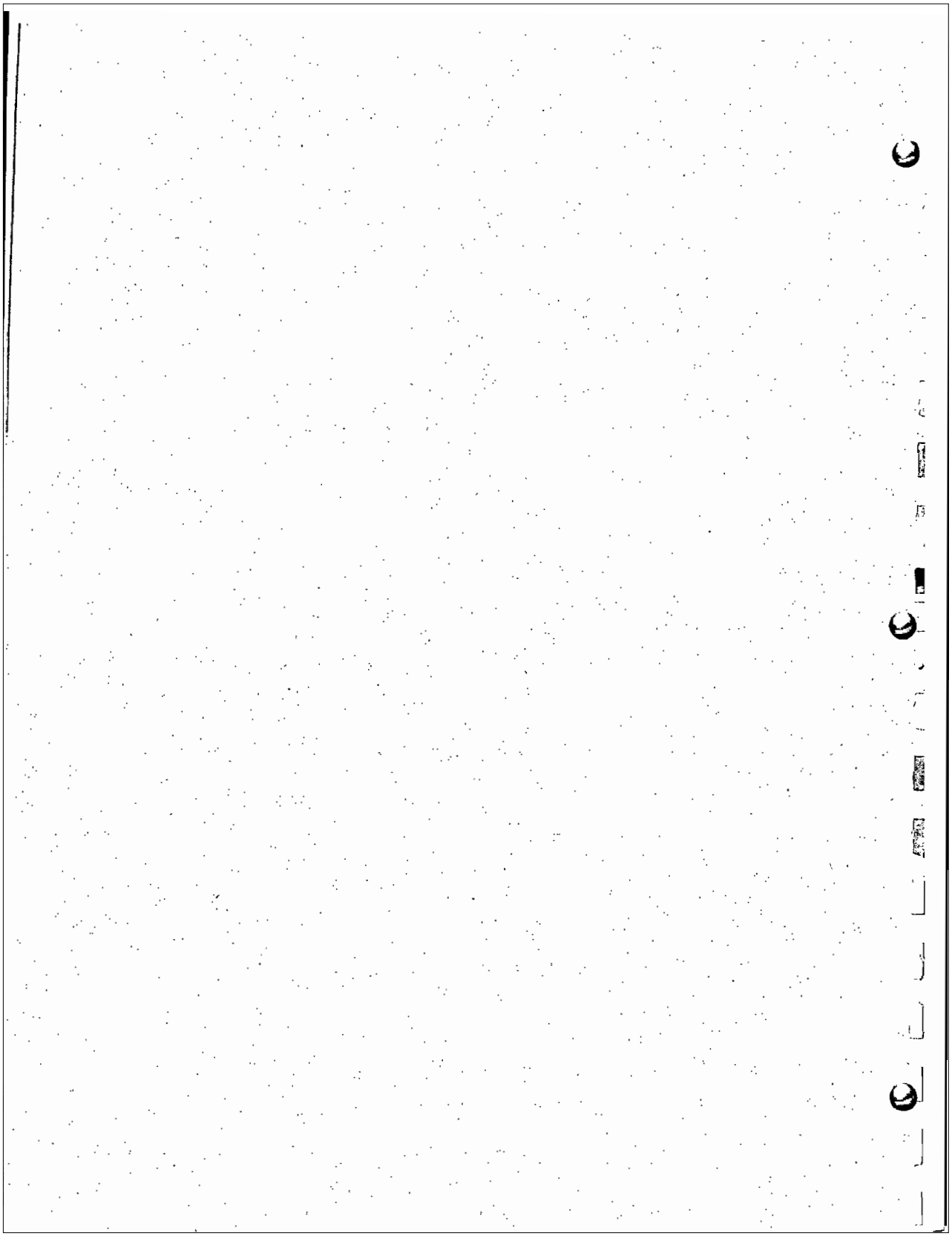
TABLE 3 : WETLAND FUNCTIONS LISTING

Functional Groups	Functional Descriptors	Presence (yes or no)	Comments: degree and/or sensitivity
Process	**Hydrogeological** – quality – quantity **Hydrological** – water quantity (flow augmentation, storage) – water quality enhancement * transformation * sediment trapping * immobilization * erosion control * nutrient cycling **Biological** – habitat (terrestrial / aquatic) * quantity and quality (degree of disturbance) * species life histories * habitat guilds * food chain * limiting habitat * indicator species * keystone species * productivity * diversity/ successional and disturbance processes * predation * population dynamics * introduced species * carbon cycle		
Attribute	**Significance and vulnerability** – species (rare, threatened, endangered and other important species) **Critical/vulnerable habitat** – concentrations of species – important migration areas		
Linkage	**Landscape Linkages** * energy cycles *patch dynamics **Biological** – aquatic food chain/web support * permanence of watercourse * degree of riparian cover * continuity * physical and chemical barriers – terrestrial food chain/web support, patch dynamics * degree of cover, forested and non–forested * continuous nature of cover		
Value	**1) Recreational** – angling, hunting, fuelwood, boating, nature appreciation / ecosystem study **2) Product(Economically valuable)** – wood products, fur bearers, wild rice, bait and commercial fish, bullfrogs and snapping turtles, cranberries **3) Cultural/Social** – landscape aesthetics, traditional harvest, education, research, spiritual or ceremonial, cultural heritage		

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Appendix F

Listing of Impacts, Effects and Mitigation



APPENDIX F

LISTING OF IMPACTS, EFFECTS AND MITIGATION

Wetland functions can be impaired by stresses or impacts from development activities. In many parts of the province, wetlands have already been subjected to various impacts associated with activities such as: forest clearing and drainage works for farming, logging, dredging, storm water detention and habitat disturbance. More traditional approaches to intensive agriculture, for example, have led to substantial inputs of sediments, nutrients, a variety of pesticides and in some cases, direct habitat effects associated with grazing livestock within these areas. Many of these impacts have been addressed with more innovative agricultural practices. Understanding past effects, like the agricultural example, may assist in the precise prediction of how a particular wetland will respond to a specific stress. This understanding will also lead to the ability to seriously consider enhancement strategies as part of the impact mitigation exercise.

The severity of functional impairment depends on several factors. These include:

a) the types and degree of impacts, including also the intensity, duration and frequency of impacts;
b) the wetland type, such as bog, fen, marsh or swamp;
c) the terrain setting, for example, an isolated morainal depression versus a riparian floodplain; and
d) the location, including climatic, geochemical and land use characteristics and their spatial and temporal configuration.

For example, an increased growing season in a wetland in the Great Lakes–St. Lawrence region presents opportunities for more resiliency than a similar wetland type in the Boreal region. Appendix D provides some further comments regarding the terrain setting. Some general comments are offered regarding the sensitivity of different wetland types to impacts. The consideration of sensitivity is separate from a consideration of significance. For example, although marshes are generally resilient to many impacts, the only marsh within a particular study area may take on some special importance.

Marshes and thicket swamps are generally younger systems. They are dominated by vegetation that shows resilience to impacts through rapid recolonization given the restoration of appropriate physical conditions. Marshes are generally adapted to more frequent and rapid movements of water, and in fact can depend upon these conditions to maintain diversity. Treed swamps include some younger forested stands that will also display some resiliency to impacts such as periodic water table fluctuations. More permanent inundation of these systems can cause significant decline and a shift to a wetland system which is more typical of shallow open water and marsh.

Bogs and fens generally tend to be more sensitive to a range of effects. Bogs, for example, are often located in small hydrologically isolated depressions and can therefore be affected by undertakings within these small catchments. They require specific conditions in terms of precipitation input and the maintenance of acidic and relatively nutrient poor conditions. Fens which are more closely associated with moving water also generally possess more specific chemistry which can be sensitive to certain impacts. Obviously, one cannot generalize with precision about the responses of all wetland types in all settings to various effects. The degree of sensitivity of a particular study area should be carefully considered given the information discussed above. This should be a topic of discussion between the planning authority, the proponent and the MNR.

Two other introductory points should be made regarding impacts. The effects of a particular undertaking may extend some distance beyond the wetland boundary into surrounding upland areas. The spatial and temporal limits of effects must be carefully considered. Similarly, from a temporal perspective, cumulative effects should be given some consideration. Cumulative effects guidance is offered generally in the section of this manual (and in Section 2.3.4) which deals with Comprehensive EISs. The Wetlands Policy Statement requires that an undertaking not result in the subsequent demand for additional development. This aspect of cumulative effects should be identified and addressed. These effects should also be addressed for undertakings that include significant expansions to existing facilities which are affecting a wetland.

Table 4 provides information about some activities (stresses) which can generate impacts on wetland functions. This table has drawn heavily from and adapted information contained in impact tables presented in A Synoptic Approach to Cumulative Impact Assessment by Leibowitz *et al.* (1992). Examples of effects and mitigation are also provided. More specific information should be generated during discussions with the MNR, the planning authority and the proponent. As mitigation technologies develop and as monitoring generates a better understanding of mitigation effectiveness, this section should be updated. In association with Table 2, the following characteristics of a development should be considered when predicting effects.

a) development location relative to wetland and adjacent lands areas;
b) magnitude of the development;
c) timeframe over which the development will occur;
d) degree of impervious surface created;
e) modifications to the existing ground and surface water movement patterns required;
f) amount and type of natural vegetation removed;
g) the post–development use of the site and surrounding areas by humans;
h) type and effectiveness of mitigation measures proposed;
i) predation effects caused by site modification and people's pets; and
j) effects of species introduced by development and associated disturbances.

This generic list (Table 4) is provided to assist in the identification of types of effects that should be considered. While all activities can have a range of impacts and resultant effects, only those most commonly encountered have been filled in on the table. This table is meant to be illustrative rather than exhaustive. As each wetland is unique, there may be some additional effects which should be considered on a case by case basis. The need to consider other potential effects should be discussed with the MNR as the need arises during the EIS process. The degree to which effects are assessed depends upon the type of EIS being conducted.

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TABLE 4 A : POTENTIAL IMPACT LISTINGS – HYDROLOGICAL PROCESSES

PREDICTED IMPACT	EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
HYDROLOGICAL PROCESSES		
Inundation	– Long term increase in soil moisture with susequent shift in species composition and structure	– Control areas and periods of inundation to mimic natural fluctuations
Dehydration	– Decreased moisture contributed to wetland could lead to a shift in species composition and structure	– Match current moisture regime in short and long term: avoid excavations into watertable within or near wetlands
Compaction/Erosion and Sedimentation	– Reduction in water storage and interference with biological processes (e.g. depressed photosynthesis)	– Sediment and erosion controls; use of vegetative buffers and Best Management Practices (BMP). – Controls on equipment access and movement
Nutrient Loading	– Increased biological activity , denitrification and stabilization	– Crop tillage and erosion control practice modification : use of vegetative buffers and BMPs.
Contaminant Loading	– Effects related to type of contaminants; can affect biological receptors through decreased productivity or mortality.	– Controls at source: use of BMPs
Turbidity/Shading	– Reduction in photosythesis and possibly biological uptake – Depression of denitrification and decreased temperature	– see compaction / erosion and sedimentation (above)
Thermal Warming	– Increased rates of chemical and biological processes/activity	– Minimize detention surface area and detention duration: use shading mechanisms

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TABLE 4 B : POTENTIAL IMPACT LISITNGS – BIOLOGICAL PROCESSES, ATTRIBUTES, LINKAGES

PREDICTED IMPACT		EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
BIOLOGICAL			
Habitat removal / fragmentation	● ● ● ● ● ● ● ●	– Decreased evapotranspiration, increased run–off velocity – Decreased capabilities for erosion control – Decreased richness and abundance of species – Decreased biodiversity – Increase in colonization, predation and parasitism. – Increase in non–native species – Fragmentaion of existing terrestial and aquatic linkages – Change in fisheries related to temperature, chemical, and physical shifts. – Removal of significant species – Removal of critical habitat: diminished population size, reproductive success. – Resultant indirect effects on vegetation from exposure to wind, solar radiation.	– Minimize habitat removal – Maintain existing degree or decrease forest fragmentation – Use protective buffer areas to reduce indirect effects – Provide special buffer areas to maintain the integrity of critical habitat – Protect rare species – Mitigate by transplanting or relocating where the technology in proven.
Indirect biological impacts (eg. increased human activity)	● ● ●	– Indirect effects on vegetation from atmospheric pollution (dust, automobile emissions), related contaminants (chlorides) and trampling – Indirect effects on wildlife associated with increased noise and intrusion into natural areas (decreased reproductive success, habitat abandonment, etc.)	– Control access to less sensitive portions of the wetland – Limit intrusions by humans/pets where predator prone: nesting/ denning activities are occuring – Install planned trails early during the activity planning stage to minimize indirect effects – Provide signage to direct use.

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File Name: MNRF-Wetland Environmental IS Requirements Manual-2023-03-08.pdf Date Published: Mar 8, 2023

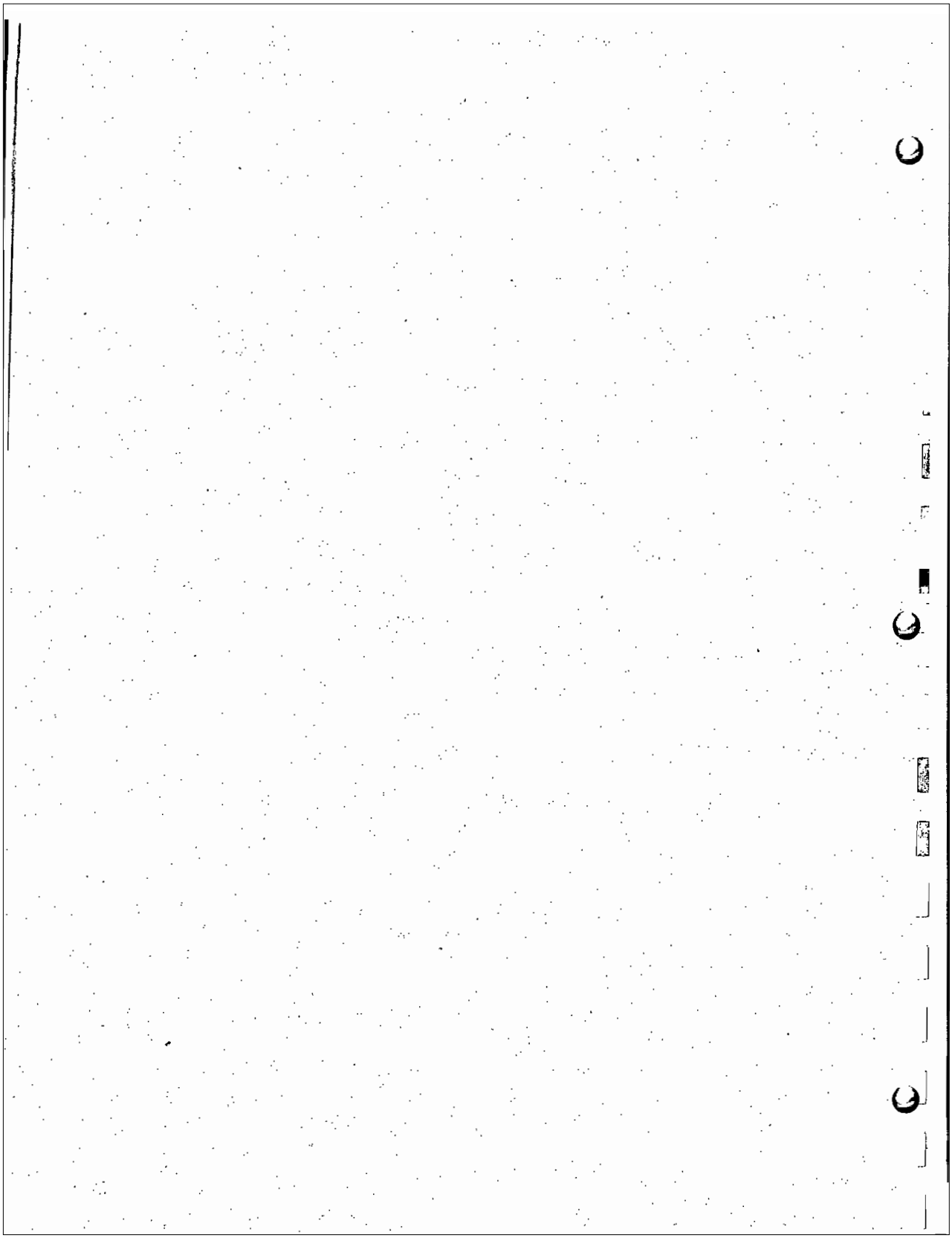
TABLE 4 C : POTENTIAL IMPACT LISTINGS – VALUES

PREDICTED IMPACT		EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
VALUES			
Product–resource extraction	● ● ● ●	– Removal of both renewable (e.g. timber) and non–renewable (e.g. peat) resources – Generation of economic productivity – Hydrological and biological effects can be generated ; degree of effects will be different for sustainable versus non–sustainable activities.	– Promotion of sustainable resource use and harvests – Use of mitigation to control hydrologieal and biological effects
Recreational – disruption of wetland wetland dependent activities	● ● ● ● ● ● ● ●	– Increased accesibility to wetland and resources – Increased appreciation of resource – Includes some population effects from small–scale recreational harvests (e.g fishing, hunting)	– Control indirect and direct biological effects
Provision of increased wetland dependent recreation	● ●	increased use/appreciation for wetlands potential increased recreational effects (sustainable or non–sustainable)	– control potential intrusion or intense user pressure
Social/Cultural –increased use by humans –decreased use by humans	● ● ● ● ● ●	– Increased accessibility to wetlands – Increased appreciation of resource by humans – Decreased appreciation of resource by humans – Decreased appreciation of resource by humans	– Control indirect and direct biological effects – Promote education and stewardhip – Maintain some areas for these values for these values – Provide enhanced access for appreciation in retained areas – create compensatory interpretive programs – intensify community rehabiliation efforts

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Appendix G

Wildlife, Wetlands and Adjacent Lands



APPENDIX G

WILDLIFE, WETLANDS AND ADJACENT LANDS

Adjacent lands can play an important role in supporting the wildlife functions associated with a wetland. Many species of wildlife depend upon wetlands for a portion of their life cycle, spending other periods in forested and non–forested uplands (Figure 4). This is somewhat complicated in southern Ontario, in particular, where large tracts of upland forested habitat are absent. In these less forested areas, remaining wetland forests can attract species that would typically be considered to be more upland dependent. Some consideration of geographic setting (e.g. southwestern Ontario, central Ontario, northern Ontario) and of local ecosystem supply (e.g. availability of upland and lowland forest) must be given in this assessment.

This appendix identifies an approach that should be undertaken when addressing the wildlife functions of a wetland in the EIS. This approach is meant to assist in sorting wildlife species into three specific categories which will determine whether or not they should be considered to be a key wetland function for purposes of an EIS. The development of species lists in an EIS, which are sorted according to these categories could facilitate a review of functions. Assistance in the determination of wetland/upland dependence should be sought from the MNR. This dependence may differ from place to place in Ontario. Over time, the development of matrices which place species along a wetland continuum could be useful. As well, the species lists could provide an indication of habitat use (i.e., breeding or feeding). This will be useful in assessing the degree of and seasonality of wetland dependence.

The following are the steps to follow when assessing the wildlife habitat function. Species and guilds of species (e.g., species which are grouped together because of common strategies and/or use of areas for life cycle stages) are used in this section as indicators of habitat type (e.g., upland, wetland).

The wildlife species encountered or recorded in the study area should be considered in terms of three categories:

a) wetland dependent;
b) wetland/upland dependent (or transitional); and
c) upland dependent.

The Wetlands Policy Statement relates to the wetland dependent and wetland/upland dependent groups of fauna. The segregation of wildlife into one of these three categories is somewhat artificial

in that animals do not necessarily respect the divisions we have created. Given typical behaviour and habitat requirements, the majority of species can be assigned to the most appropriate category. Recognizing that the supporting science is still evolving, the application of best professional judgement will be required. This exercise is most accurately conducted in an iterative manner with biological advice from the local MNR office.

A particular development proposal may affect one or more of the three categories directly, through habitat loss and species displacement, or indirectly through effects associated with human intrusion, noise, dust and increases in predation and parasitism. The effects assessment should describe both direct and indirect effects associated with the wetland and transitional categories.

When conducting this analysis some basic information needs are required for species and groups of species, including:

a) seasonal habitat requirements;
b) habitat type and size requirements;
c) critical habitat locations (e.g., traditional courtship, nesting, feeding, staging, hibernation, sites); and
d) traditional movement corridors between habitat areas.

In many situations, guilds can be discussed because of common habitat requirements. Another technique that can be used to assess wildlife use is to define the ratio of upland to lowland habitat. This technique is widely used to gauge the suitability of an area for waterfowl production. When using this approach, the type and quality of habitat must be used in addition to areal extent. Care should be taken when applying this approach in predominantly agricultural lands to ensure habitat quality is considered. The degree to which upland habitat areas contribute to wetland wildlife functions may be less in certain field types. The ratio calculated should be used as one of a number of measures to assist in the characterization of functions. Optimal ratios exist for many species of waterfowl (Habitat Sustability Indices). This technique along with other approaches may clearly identify areas where upland habitat could, through enhancement, become more productive and therefore, potentially increase some functions.

Some additional information, specific to each of the three wildlife/study area categories is provided below.

Wetland Dependent

Fish can be directly dependent upon wetlands for spawning areas, juvenile growth areas and for adult feeding. Because of their limited potential to extend their range beyond the high water mark of the

wetland, they are not discussed further. While partially dependent upon the drier forested edges of wetlands, Muskrat, River Otter and Beaver are principally wetland dependent. In terms of amphibians and reptiles, most fall in the second category (transitional or wetland/upland dependent), although species such as Bullfrog can be appropriately designated as wetland dependent. Most bird species require both wetland and upland habitat. Waterfowl can be considered wetland dependent during migration and staging periods. Particularly along the Great Lakes shoreline, the value of large, offshore, open water areas adjacent to wetlands is critical for staging. Other examples of wetland dependent birds include Bittern, Sora and Rails. Generally, because of dependence on a range of habitats, birds can be a more difficult group of wildlife to characterize in terms of wetland functions.

Wetland/Upland (Transitional) Dependent

In identifying whether a species or guild fits within this category one must ask whether a species depends heavily on both habitats. If the answer is yes, the species should appropriately be addressed in this category and should be considered to be a wetland function. Care should be taken to avoid assigning all species of wildlife that may at some point during their life cycle, pass through, fly over, or visit a wetland. This category is meant to reasonably identify those species and guilds that are significantly dependent upon both wetland and upland habitats.

Examples of mammals that fit into this category include Moose, White-tailed Deer and American Mink. Other mammals tend to be more heavily dependent upon upland situations. As a group, amphibians merit close attention in this category. They are very dependent upon both aquatic and terrestrial habitat. Their eggs are laid in water while much of their adult life is spent on dry land. Development that removes upland habitat but does not affect wetland habitat could still result in the removal of some amphibian species, and hence could affect this element of wetland function. Examples of these indicators could include the Eastern Gray Treefrog and the Spotted Salamander.

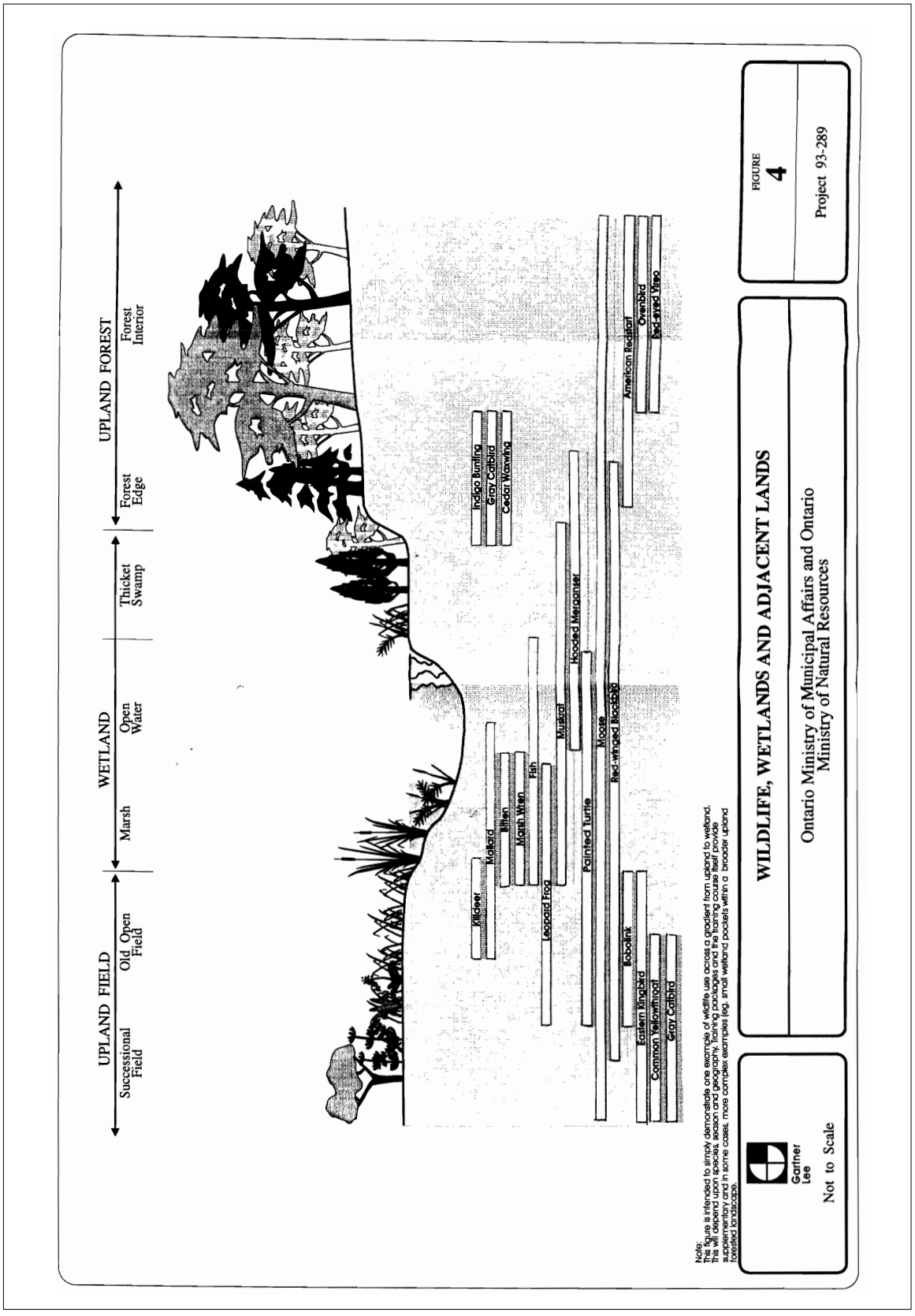
Like the amphibians there are some groups of birds that are heavily dependent upon both wetlands and uplands (e.g. waterfowl). Many waterfowl species spend much of their life in wetlands and areas of open water. They can, however, require upland areas for nesting, a critical period of their lifecycle. When assessing waterfowl, attention must be paid to the existing patterns of use for nesting, feeding, and staging, and the potential for development to affect those existing patterns. Consideration needs to be given to the sensitivity of individual species to changing land use patterns. Some of the more secretive species (e.g., Hooded Merganser) may be negatively affected, while other more adaptable species (e.g., Mallard and Canada Goose) could benefit from some proposals.

Wetlands tend to provide important nesting and feeding grounds for some raptors (e.g., Osprey, Northern Harrier, Barred Owl, Short-eared Owl), herons and egrets and some songbirds (e.g., Palm, Prothonotary and Mourning Warblers). Again, development proposed in adjacent lands that could

affect the use by these transitional species for a particular component of their lifecycle, could affect wetland functions.

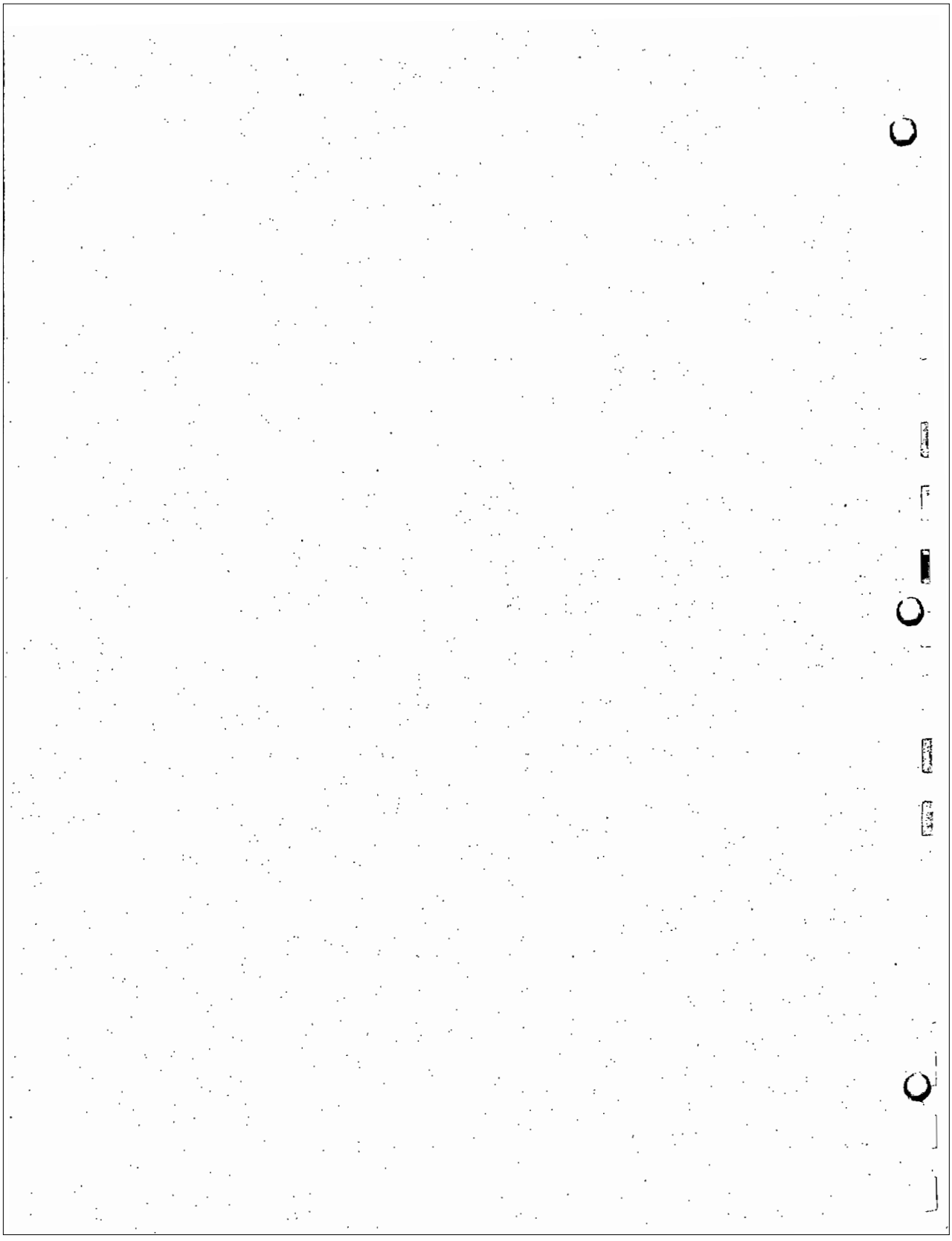
Upland Dependent Species

There are many species of wildlife that depend principally upon forested and non–forested uplands. While it is true that these species can play a role in the habitat function (e.g., food chain by the provision of prey to wetland predators), they should not generally be considered wetland functions and they should not therefore be addressed in most EIS documentation.


UPLAND FIELD
Successional Field
Old Open Field
WETLAND
Marsh
Open Water
Thicket Swamp
UPLAND FOREST
Forest Edge
Forest Interior
Killdeer
Mallard
Bittern
Marsh Wren
Leopard Frog
Muskrat
Painted Turtle
Moose
Red-winged Blackbird
Bobolink
Eastern Kingbird
Common Yellowthroat
Gray Catbird
Hooded Merganser
Indigo Bunting
Gray Catbird
Cedar Waxwing
American Redstart
Ovenbird
Red-eyed Vireo
Note:
This figure is intended to simply demonstrate one example of wildlife use across a gradient from upland to wetland.
This will depend upon species, season and geography. Training packages and the training course itself provide
supplementary and in some cases, more complex examples (eg. small wetland pockets within a broader upland
forested landscape.
Gartner Lee
Not to Scale
WILDLIFE, WETLANDS AND ADJACENT LANDS
Ontario Ministry of Municipal Affairs and Ontario
Ministry of Natural Resources
FIGURE
4
Project 93-289

Appendix H

Impact Assessment Modelling Tools



APPENDIX H

IMPACT ASSESSMENT MODELLING TOOLS

Models help us describe how we think the biological world functions and can aid in making predictions about effects. Both conceptual and quantitative modelling have been recognized as sound scientific tools for impact assessment, mitigation, or management evaluations. The former models are more intuitive while the latter are based upon mathematical simulation techniques. Conceptual modelling was suggested by Beanlands and Duinker (1983) to be more appropriate given the controversy associated with assigning numbers to ecosystem characteristics. This appendix offers some comments regarding models as tools for impact assessment.

The use of wildlife–habitat models, succession–habitat models, habitat suitability/capability models, indicator species models, species/habitat matrices will generally not be a requirement for an EIS, particularly for smaller development proposals. Some more complex full site EISs or the assessment of extensive management plans may benefit from application of community or species models and hydrologic models. Community models are ideally suited for use with Geographic Information Systems (GIS) software. For a Comprehensive EIS that covers a large area, complex analyses can be efficiently conducted using GIS, remotely sensed data and measurements of site–specific habitat variables.

The use of modeling to shape decisions, project future impacts and estimate the course of mitigation or management is a challenging development for increasingly complex resource development. It is presented here in an overview fashion for consideration. As state–of–the–art technology advances in this field, the use of certain habitat/wildlife models will become standard, acceptable scientific practice. It is anticipated that this Appendix will be updated over time.

All models have limitations and assumptions that must be clearly stated in order that they are applied within appropriate limits. Models must be used with caution because they simplify complex ecological processes by measuring selected components of the system and often the databases used for model parameterizaton are incomplete. For some functions that are difficult to measure, the use of models that have been adequately tested in a geographic area may be the best means of making impact predictions.

H.1 HYDROLOGIC / HYDROGEOLOGIC / HYDRAULIC MODELS

A variety of hydrologic models exist and have demonstrated their value in wetland EISs. The OTTHYMO89/INTERHYMO model is frequently used for storm water management design. The QUALHYMO model is useful for the design of site specific BMP facilities. The applicability of these modelling techniques will depend on the level of field data and complexity of the site.

GAWSER is commonly used for simulating water quality and quantity processes, non–point source sediment wash–off (i.e., loading) and transport.

MODFLOW, produced by the U.S. Geological Survey is used to model ground water flow. It can also simulate interactions between ground and surface water including baseflow and ground water recharge from streams.

HEC–2 and HEC–6, produced by the U.S. Army Corps of Engineers allow one–dimensional floodplain mapping and one–dimensional scour deposition modelling respectively.

QUAL2E produced by the U.S. Environmental Protection Agency, allows water quality modelling to simulate effects on the biotic and abiotic water quality constituents.

H.2 BIOLOGIC MODELS

Community–level and single–species models are two broad categories of modelling approaches. The relationship between wildlife and habitat forms the basis of the Habitat Suitability Index models of the U.S. Fish and Wildlife Service. The Habitat Suitability Indices (HSI) provide life history data for individual species and are geared to providing data about the specific habitat requirements of these species. There are over 65 HSI Models available for fish, birds, mammals, amphibians and reptiles. These existing models can be simplified and customized to fit local information and data availability. For example, the HSI aquatic model describing adult habitat contains three or four variables. A simpler model can be developed using aquatic macrophyte density alone, which will provide a good indication of potential habitat value (providing that the thermal regime is acceptable).

HSI's can be very useful, particularly in situations where they may be the only available tool. As with all models, they must be used with care and caution.

The HSI models are available as word (descriptive) models and mathematical models. Word models can be used to describe the suitability of the habitats in the study area for the species of interest. The word models also provide numerical values for various habitat features over a range of suboptimal through optimal conditions for the species of interest. They are expected to provide sufficient indication of the quality of habitat present for a given species, although they may need to be used with care as the suitability of habitats may vary regionally.

Mathematical models are often used in applied ecology to test hypotheses and make quantitative predictions about ecological processes. Such models utilize existing theoretical frameworks to calculate changes that may occur due to a given impact.

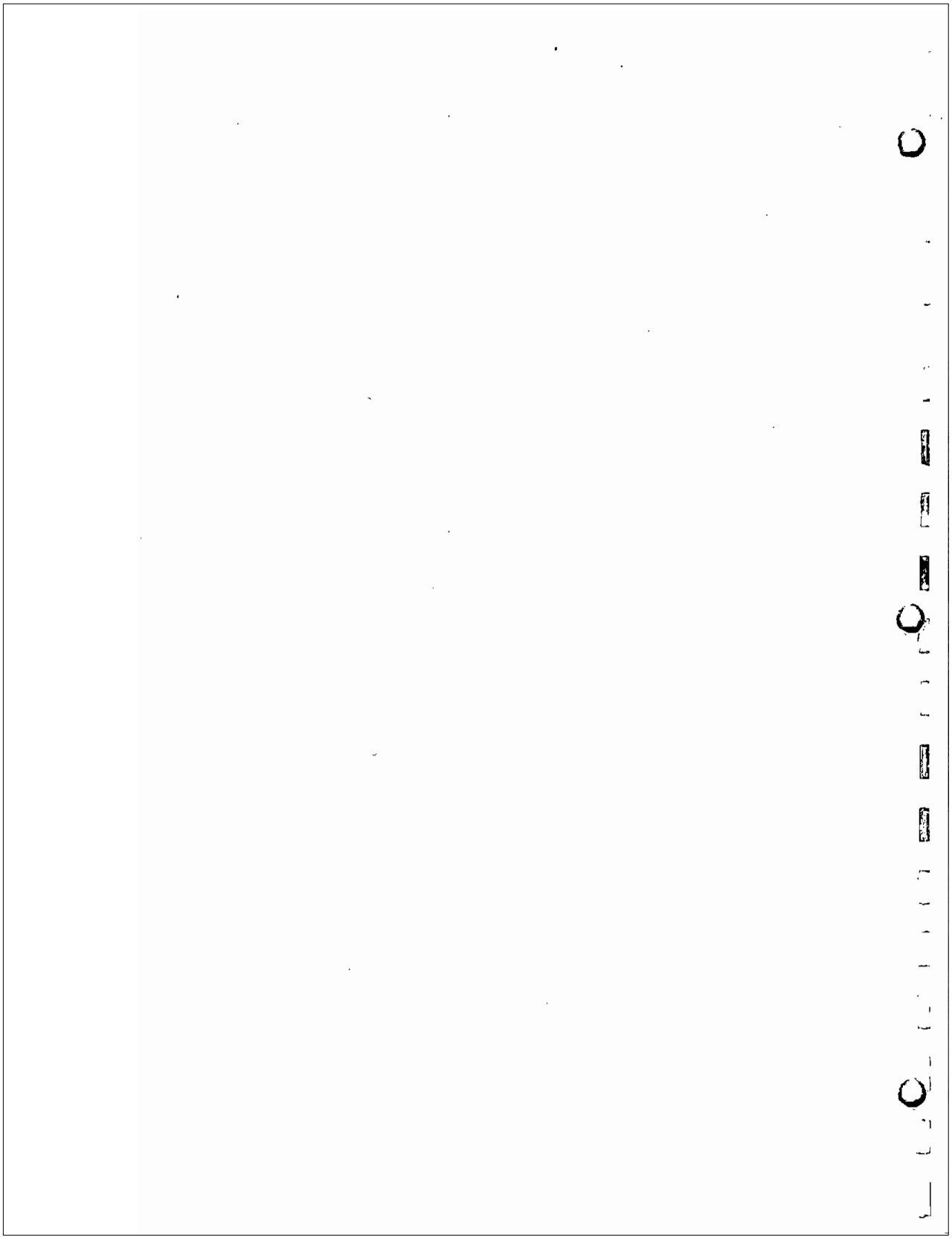
These functional studies of ecology deal with relationships of populations and communities as they exist and can be measured now. They complement descriptive and evolutionary ecology approaches that deal with descriptions of the ecosystem and the selective forces which have shaped the ecological systems over time.

Many mathematical models are described in Krebs, 1972; Kershaw, 1964; Greig–Smith, 1964; and Pielou, 1969.

Although most HSI models were developed for individual species, many of the concepts can be applied to community approaches as well. A community model is used when the goal is to obtain a larger view of the system than is possible with a single species approach. A community–level habitat model predicts the status or quality of a specific attribute of particular wildlife assemblages based on habitat and spatial variables (for example, species richness, guild richness, biomass or trophic structure) (Schroeder and Haire, 1993).

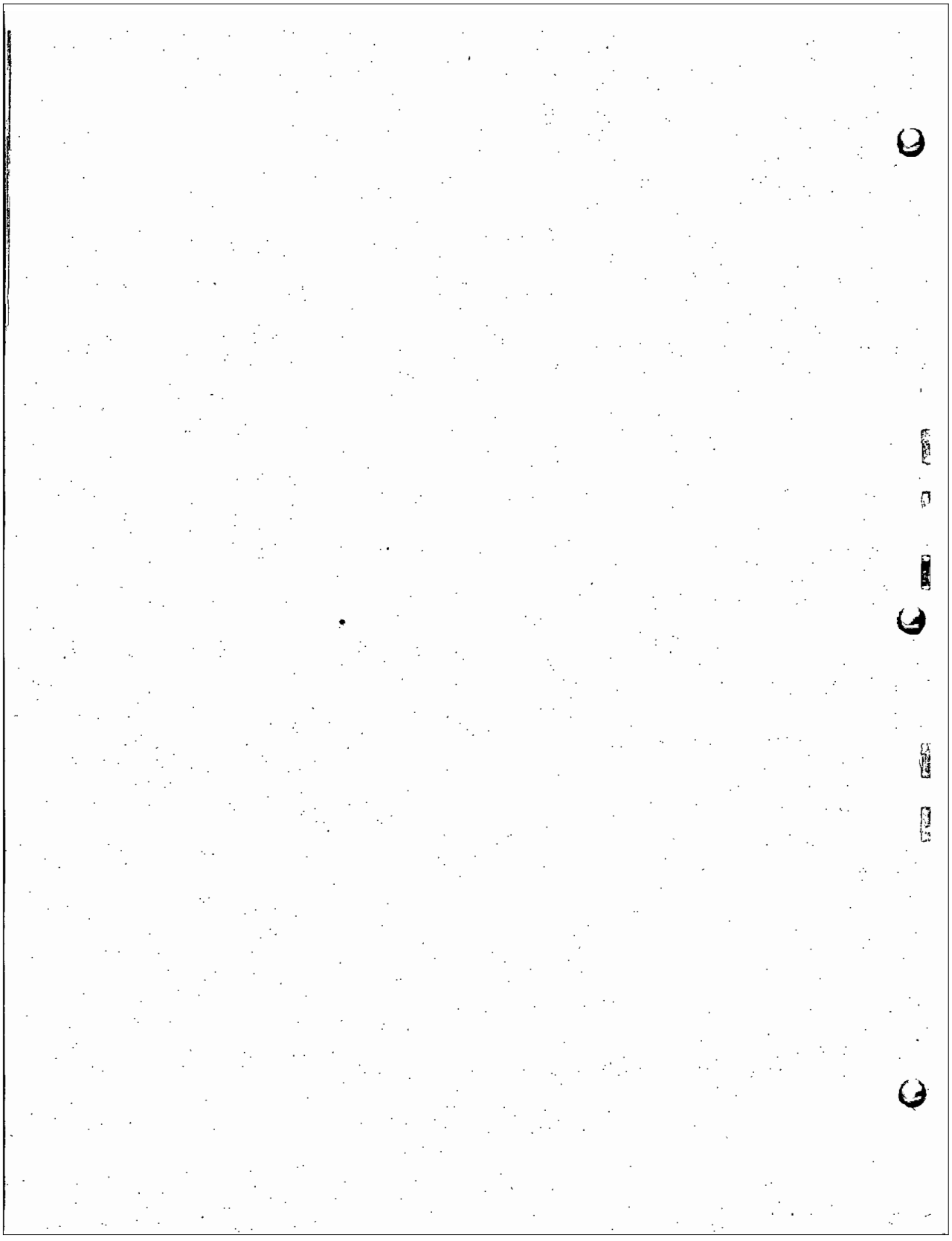
In Ontario, there has been ongoing research and development of forest bird/habitat relationships. Hounsell (1989) developed a species/habitat matrix for displaying the major macro–habitat relationships of Ontario's forest–dependent breeding bird species. Impact prediction models were then developed for assessing the relative vulnerability of forest birds and their habitats to direct and indirect effects of forest clearing and fragmentation, particularly related to transmission line disturbance.

These matrices and models are currently being adapted and expanded by the Ministry of Transportation to develop indices for birds and other wildlife related to highway development and also to relate to the components of the wetland evaluation system. This type of model will be very useful in making impact predictions about wildlife. Presently, this is one of the areas where measurement and prediction are difficult to quantify.



Appendix I

EIS Review Form



Appendix I: EIS Review Form

4.2 Full Site EIS *map scale; 1:10,000 or 1:5,000*

Ensure it includes:

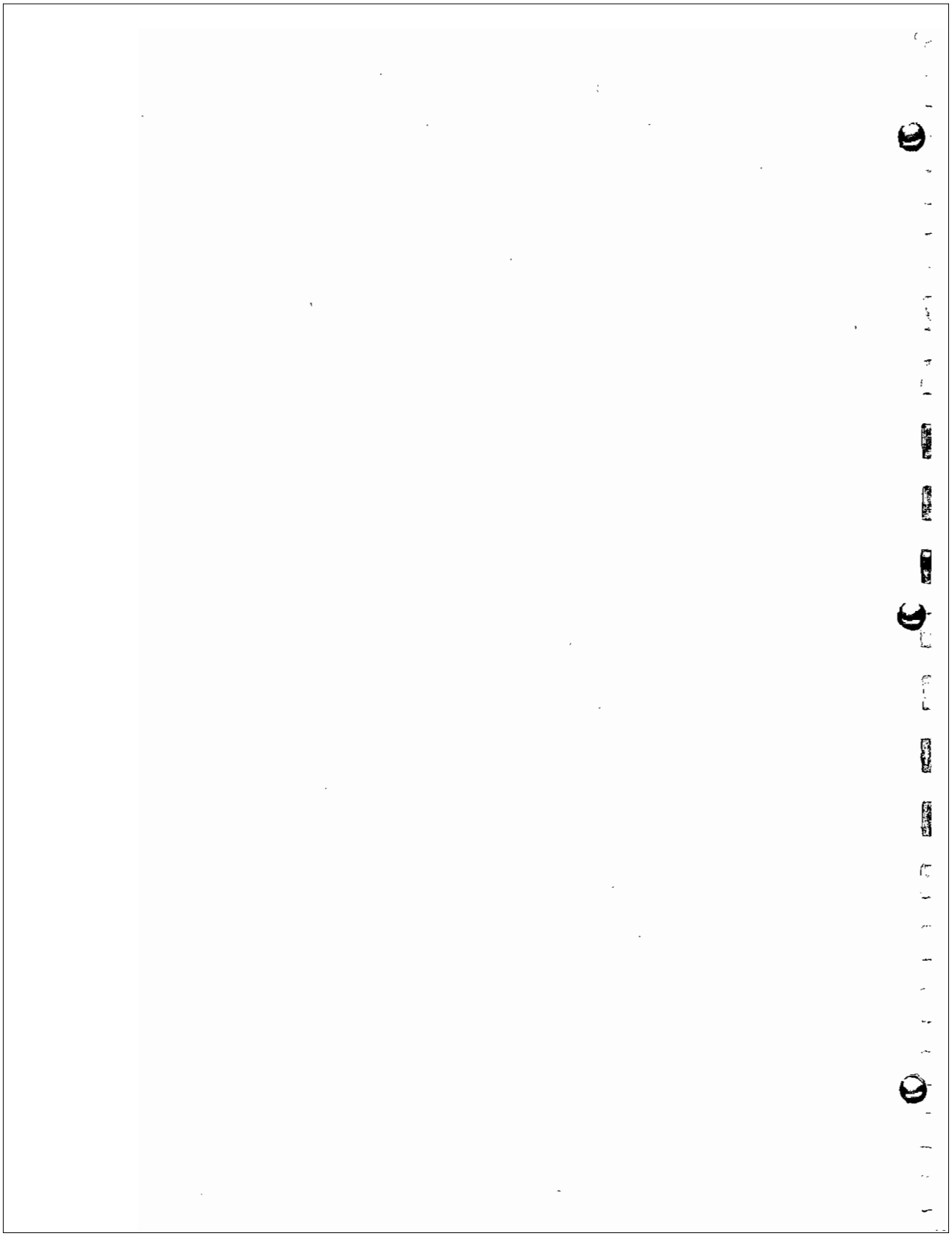
- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- wetland area and adjacent lands
- detailed drainage patterns; inflows, outflows
- presence of control structures, culverts, etc.
- water level gauge locations
- basins and sub–basins
- soil textures
- regional and local ground water flow patterns (conceptual)
- water quality sampling locations
- detailed terrestrial and aquatic habitat information (i.e., community boundaries)
- spot locations of significant flora and fauna
- locations of critical habitat
- general cover types of adjacent lands
- locations of terrestrial and aquatic linkages
- locations of trails, boardwalk, visitor facilities
- locations of resource harvest / use
- impact/effect identification:
  - drainage boundary changes
  - outfall locations
  - detailed development footprint (e.g., pervious and impervious surface, excavation locations and depths, grading information)
  - habitat removal
  - attribute removal
  - linkage fragmentation
  - value displacement*
  - habitat, attribute, linkage, value degradation (indirect/cumulative)
- mitigation measure identification:
  - BMP facility locations
  - protective barriers (temporary and permanent)
  - rehabilitation/enhancement measures
  - plantings
- monitoring location identification

4.3 Scoped Site EIS (* variable depending upon specific type of development) *map scale; 1:2,000*

Generally should include:

- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- wetland boundary
- adjacent land boundary
- development description / footprint
- impact / mitigation locations

* In many instance this will be inferred from habitat removal.



5.0 MONITORING REQUIREMENTS

6.0 CONCLUSIONS AND RECOMMENDATIONS

7.0 LITERATURE CITED AND TECHNICAL REFERENCES

LIST OF FIGURE(S)*

1. Existing Conditions
2. Proposed Development
3. Impacts / Effects / Mitigation

APPENDICES

A. Functional Assessment Framework (completed for EIS)
B. Species Lists (flora and fauna)
C. Water Balance Calculations
D. Modelling Support Material (optional)
E. List of Field Dates and Technical Staff Involved

* Depending upon the complexity of the site, one or more figure(s) will be required.

APPENDIX J

MODEL EIS TABLE OF CONTENTS

The following is an example Table of Contents, particularly suited to a Full Site EIS. Other EIS types will require this Table of Contents be customized. It has been developed bearing in mind the generic EIS requirements identified in the Comprehensive set of Policy Statements and companion Implementation Guidelines (available only in draft format at the time this Technical Manual was produced).

TABLE OF CONTENTS

Executive Summary

1.0 INTRODUCTION

2.0 EXISTING NATURAL ENVIRONMENTAL AND DEVELOPMENT PROPOSAL
- 2.1 Site Description and Landscape Context
  - terrain setting
  - biological setting
  - land and resource use
- 2.2 Summary of Development Proposal

3.0 ECOSYSTEM FUNCTION CHARACTERIZATION AND IMPACT ASSESSMENT
- 3.1 Characterization of Functions and Sensitivity Assessment
  - 3.1.1 Process Group
  - 3.1.2 Attribute Group
  - 3.1.3 Linkage Group
  - 3.1.4 Value Group
- 3.2 Impact Assessment and Effect Prediction

4.0 MITIGATION AND NET EFFECT PREDICTION
- 4.1 Mitigation Method Assessed
- 4.2 Mitigation Method Selected
- 4.3 Net Effect Prediction

Appendix I: EIS Review Form

3.3 Comprehensive *All points (identified and described):*					
▪ all landform units					
▪ regional and local ground water flow directions					
▪ broad areas of recharge and discharge					
▪ detailed surface drainage information (e.g., inflow and outflow points, drainage type and permanence)					
▪ watershed and subwatershed boundaries					
▪ detailed habitat mapping with indication of diversity, quality and interrelationships					
▪ identification of landscape level linkages					
▪ more specific value information (e.g., concentrations of recreational activity)					
▪ landscape level functional sensitivity assessment					
▪ successional pathways and habitat changes					
▪ compatibility with municipal natural heritage systems, or greenland strategies					

4.0 EIS GRAPHICS

The graphics required will depend upon the type of EIS and the development character. The following are suggestions for the standardization of these graphics:

4.1 Comprehensive EIS *map scale; 1:25,000*

Ensure it includes:

- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- all wetland areas and adjacent lands
- drainage patterns
- watershed, subwatershed and/or municipal natural heritage system boundaries
- general wetland functions and sensitivities to guide landscape level planning
- general cover types of adjacent lands

Appendix I: EIS Review Form

3.0 EIS DOCUMENTS

3.1 Scope Site EIS (* variable depending upon specific type of development) *Appropriate / relevant points under Section 2.0, along with:*

▪ description of specific mitigation measures proposed						
3.2 Full Site EIS *All points (identified and described):*						
▪ detailed understanding of hydrogeological setting (i.e., three–dimensional conceptual model)						
▪ detailed hydrologic flow information (including relative flow contribution from each basin)						
▪ water balance exercise						
▪ hydrologic modelling						
▪ water quality information						
▪ habitat assessment details for terrestrial and aquatic systems						
▪ modelling of habitat if required						
▪ confirmation and detailed characterization of attribute information (with fieldwork)						
▪ detailed characterization of visible linkages (terrestrial and aquatic)						
▪ detailed characterization of existing values						
▪ detailed characterization of impacts/effects on wetland functions						
▪ detailed mitigation strategy, net effects predictions and monitoring recommendations (where necessary)						
▪ compatibility with municipal natural heritage systems, or greenland strategies						

Appendix I: EIS Review Form

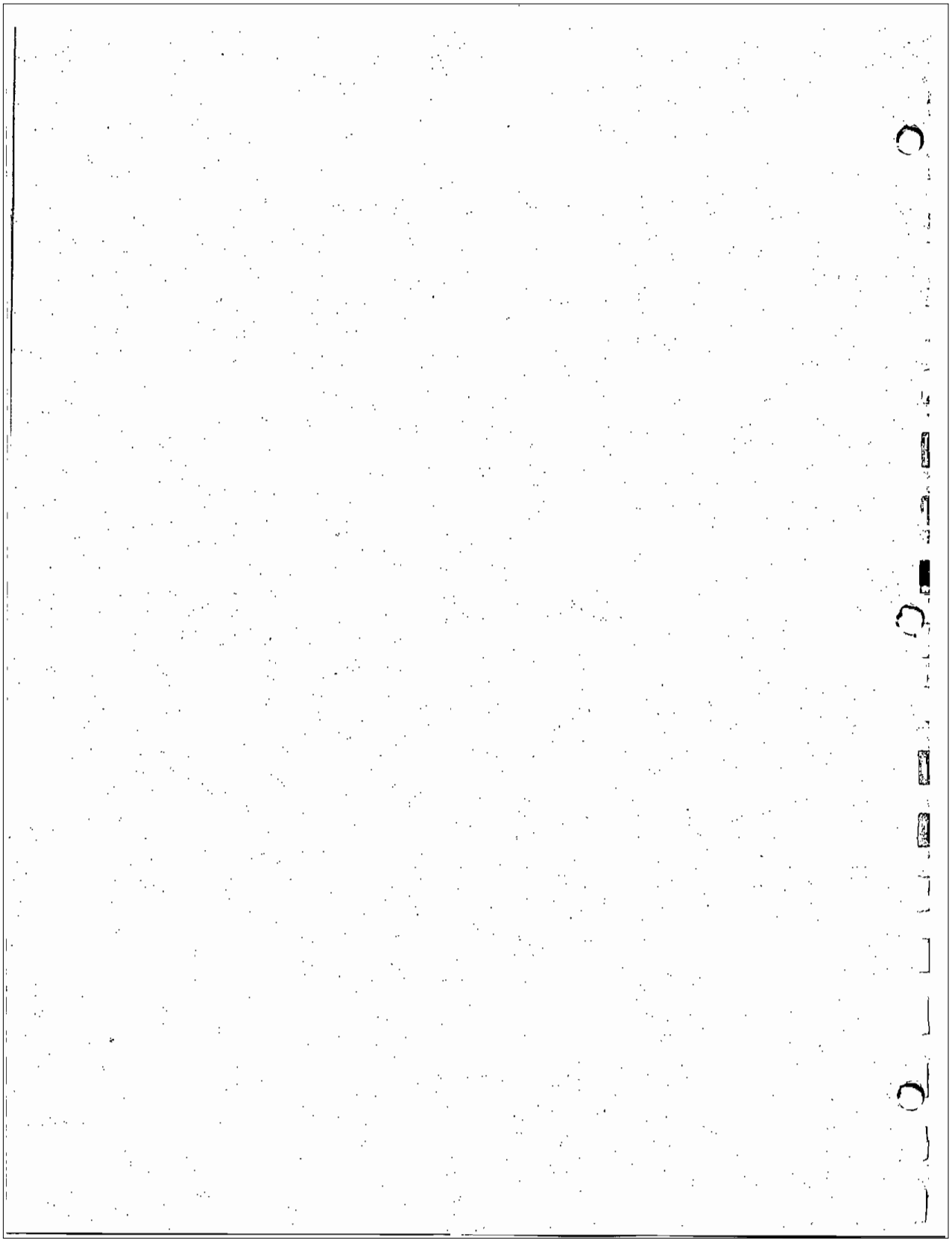
	Dicussed & Agreed to	Included	Not included	Comment
1.0 GENERAL INFORMATION *(check if included)*				
▪ Proponent Identified				
▪ Proponent Representatives (consultants) Identified				
▪ EIS Submission Date Present				
▪ Executive Summary Included				
2.0 ISSUES SUMMARY PAPER *Are the following generally described?*				
▪ surface and subsurface soils				
▪ landform type				
▪ landform position				
▪ wetland boundary				
▪ catchment boundary				
▪ drainage pattern				
▪ wetland types				
▪ vegetation communities				
▪ general habitats				
▪ critical habitats				
▪ significant species				
▪ land use patterns				
▪ resource use				
▪ type/position of the development				
▪ summary of wetland functions				
▪ proposed impacts				
▪ predicted effects				

APPENDIX I

EIS REVIEW FORM

The following was developed as a guide to the MNR for their review of EISs. It is meant to be used as a tool to ensure that the basic information required has been provided. Used both during the preparation of the EIS (by the planning authority, the MNR and the proponent) and at the time of submission, this form can help to streamline the approvals process. The proponent should discuss the review form with the planning authority and the MNR to determine whether this form has been customized for the specific study area. This form is different from the checklist in Appendix M in that, the latter is used by the MNR and municipality to conduct a streambed EIS exercise.

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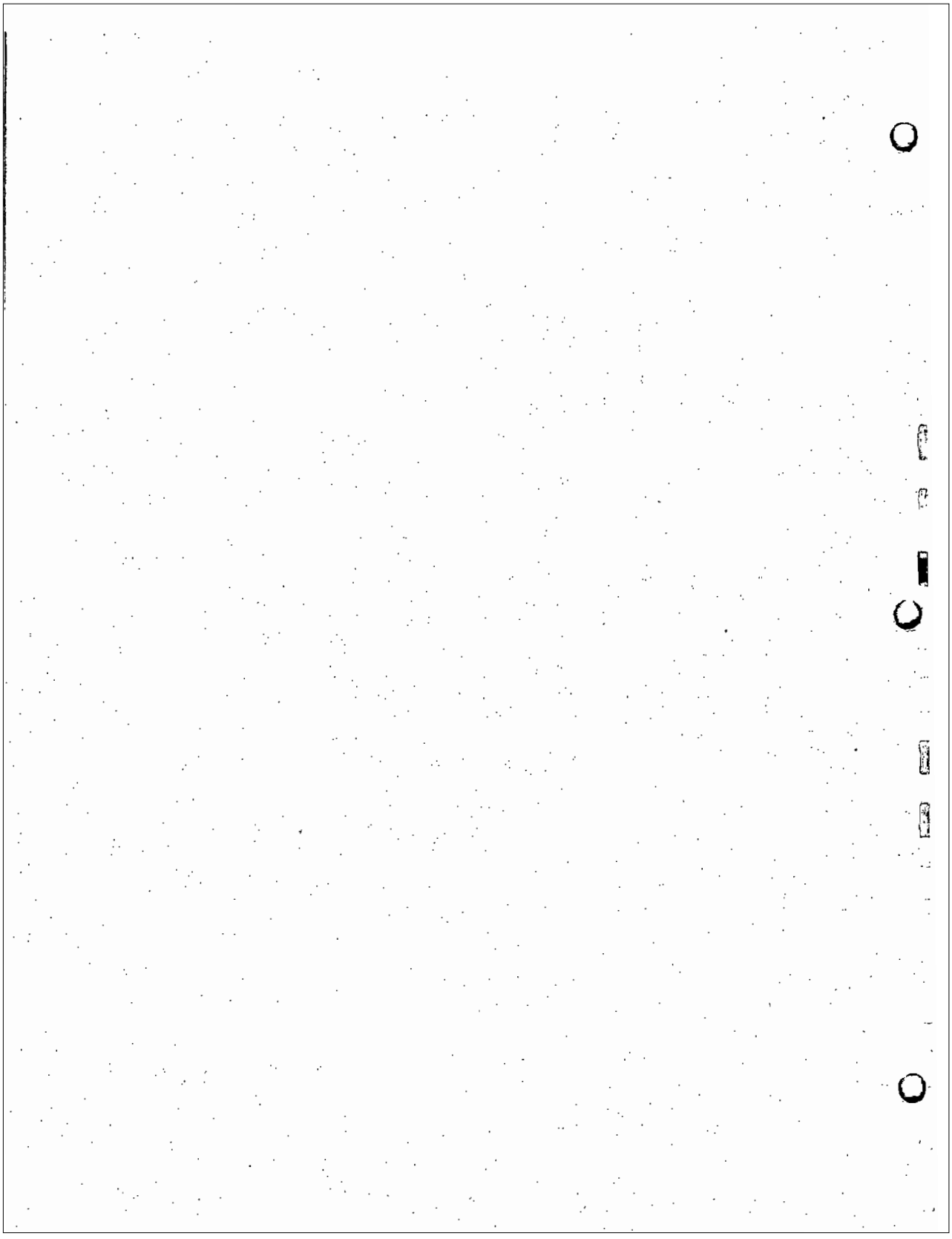


Appendix J

Model EIS Table of Contents

Appendix K

Important Stakeholder Information



APPENDIX K

STAKEHOLDER INFORMATION

Wetlands across Ontario are held in both public and private ownership. As such, they are controlled and managed by government municipalities, ministries and agencies, private organizations and interest groups, and individual citizens.

The following is a list of those stakeholders that are involved in wetlands protection, management and conservation. Those listed could become involved in a particular project as a regulator, a provider of information or as a party interested in the outcome of an EIS. Information was obtained principally from the Wetlands Implementation Guidelines (OMNR & OMMA, 1992), Cox (1993) and Bertulli (1988).

K.1.0 GOVERNMENT

K.1.1 FEDERAL

Environment Canada

Environment Canada issued the Federal Policy on Wetland Conservation on March 9, 1992. The Canadian Wildlife Service (CWS) is the initiating and coordinating agency of this Policy. All departments of the Government of Canada are responsible for its implementation. The objective of the Federal Government with respect to wetland conservation is to:

> *promote the conservation of Canada's wetlands to sustain their ecological and socioeconomic functions, now and in the future.*

The federal wetland policy will apply to any development proposal if:

a) the proposal is for a federal development;
b) the proposal is receiving financial assistance from the Federal Government;
c) the proposal falls under federal jurisdiction and the proponent requires a permit from the Federal Government;
d) the proposal falls within any federal lands or water;
e) the proposal has the potential to impact any federal program; or
f) the proposal affects any federal/provincial agreements or policy.

The Canadian Wildlife Service is involved in the securement and management of migratory bird habitat. It is a partner in the implementation of the North American Waterfowl Management Plan throughout Canada.

North American Wetlands Conservation Council (NAWCC)

The NAWCC, established in April 1990, provides a national forum to oversee the coordination and implementation of Canadian Joint Ventures of the North American Waterfowl Management Plan (NAWMP). The Eastern Habitat, Arctic Goose and Black Duck Ventures are significant to Ontario.

Fisheries and Oceans Canada

The Department of Fisheries and Oceans (Fish Habitat Management) has the responsibility for implementing the Fisheries Act. This Act prohibits the harmful alteration, disruption, or destruction of fish habitat through physical, chemical or mechanical mechanisms. An authorization may be required should habitat alteration be indicated.

K.1.2 PROVINCIAL / MUNICIPAL

Local Municipalities

Many municipalities have protected wetland areas through the land use planning process, as well as management of green spaces, environmentally sensitive areas and parks within their jurisdictions. Some municipalities also have environmental advisory committees (e.g., EEAC, EEPAC) made up of public citizens and local technical experts. These committees generally assist with the review of planning applications.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

OMAFRA is responsible for the implementation of a wide range of legislation and other policies which have an impact on the protection of wetlands. In particular, their involvement with wetlands falls under the Drainage Act.

Ontario Ministry of Culture, Tourism and Recreation

The MCC, through the Ontario Heritage Foundation, protects and communicates the values of wetlands through its program of natural heritage conservation.

Ontario Ministry of the Environment and Energy (MOEE)

The MOEE is concerned with wetlands as they are critical to maintaining base flow in streams and providing other hydrological (surface water quality) and hydrogeological (ground water resources) benefits to citizens.

Ontario Ministry of Municipal Affairs (MMA)

The MMA is responsible for the administration of the Planning Act. As such, it must ensure that the objectives of the Wetlands Policy Statement are implemented.

Ontario Ministry of Natural Resources (MNR)

The MNR has been engaged in wetlands management for several decades. They maintain a comprehensive program of wetlands management which focus on:

a) wetland evaluation;
b) securing of wetland habitat;
c) the Conservation Land Act;
d) waterfowl management;
e) wetland research;
f) planning;
g) management of Crown land wetlands; and
h) administration of other legislation which affects wetlands.

The MNR has a number of management and securement agreements as well as initiatives which focus on acquisition, stewardship and partnerships. The implementation of the North American Waterfowl Management Plan in the Ontario Region of the Eastern Habitat Joint Venture is one such initiative that reflects the broad interests of many partners to protect and improve the waterfowl and biodiversity values of wetlands throughout the province. Partner organizations include Environment Canada, Agriculture and Agri-Food Canada, Ontario Ministries of Natural Resources and Agriculture, Food and Rural Affairs, Ducks Unlimited Canada, Wildlife Habitat Canada and the Nature Conservancy of Canada.

In Ontario, the MNR is responsible for implementing the Fisheries Act. Development proposals are reviewed for their potential to affect fish habitat and are referred to Fisheries and Oceans Canada if harmful alterations are proposed. This federal agency is responsible for issuing authorization.

K.2.0 OTHER AGENCIES

Conservation Authorities (CAs)

CAs work in partnership with the MNR to protect wetlands through evaluation, acquisition and preservation. Where they exist, CAs are responsible for the management of water on a watershed basis. They administer the Conservation Authorities Act which regulates dredging, filling and drainage activities.

Ontario Heritage Foundation (OHF)

The OHF was formed in 1967, as an agency of the Ministry of Culture and Communication to preserve, protect and promote Ontario's archaeological, architectural, historical, cultural, and natural heritage. It is now part of the Ministry of Culture, Tourism and Recreation. Through its Natural Heritage Program, the OHF works with individuals and groups to increase their awareness, understanding and involvement in protection of Ontario's natural heritage, including wetlands.

K.3.0 PRIVATE ORGANIZATIONS AND INTEREST GROUPS

Ducks Unlimited Canada (DU)

Ducks Unlimited is an international, non-profit conservation organization operating in Canada for over half a century and active in Ontario since 1976. Their mission is to conserve, restore and manage wetlands for the benefit of waterfowl and a wide variety of other plants and animals.

Ducks Unlimited works in close cooperation with all federal, provincial and territorial governments as well as with other partner groups such as the conservation authorities, the Nature Conservancy of Canada and the Wye Marsh Centre. They work with farmers and other private landowners in conserving habitat.

Besides habitat projects, Ducks Unlimited is dedicated to education about wetlands. Ducks Unlimited operates the Institute of Wetlands and Waterfowl Research in Canada, Mexico and United States.

As well, Ducks Unlimited has established partnerships with a number of conservation education facilities in Ontario including the Kortright Centre, Wye Marsh, Hillman Marsh and Cooper Marsh.

Federation of Ontario Naturalists (FON)

Since the 1930s, the FON has strongly supported wetland preservation. The FON is an independent not–for–profit nature and conservation organization supported by its membership. The FON has taken a lead role in stimulating and monitoring the wetland policy development process, is involved with wetland acquisition and management and produces educational materials on wetland conservation.

Local Land Conservancy Organizations

There are several local organizations that promote private land stewardship activities and/or have interests in ecologically significant lands, including holding the lands in trust. Some organizations have conducted inventories in natural areas. These organizations may be a source of local information. Organizations with active programs include the Muskoka Heritage Foundation, the Georgian Bay Trust, the Couchiching Conservancy, the Thousand Islands Conservancy, and the Lower Grand River Trust Foundation.

Naturalist Clubs

Local naturalist clubs are present in most parts of Ontario. They are a good source for information and expertise about their local area. Many clubs have records of wildlife and flora that often span many years of ongoing study and documentation.

Natural Heritage League (NHL)

The NHL is a network of private and public agencies related to the identification, protection and management of natural heritage areas in Ontario. Many of these agencies are mentioned in this listing, including the MNR.

Nature Conservancy of Canada (NCC)

The NCC is involved in the acquisition of important natural environment areas in Canada. It is a partner in Ontario with several interest groups and is a partner in projects under the North American Waterfowl Management Plan.

Ontario Federation of Anglers and Hunters (OFAH)

Since its beginning in 1926, OFAH members have been committed to the responsible use of natural resources and the protection and enhancement of fish and wildlife habitats. Its 70,000 members and

480 conservation clubs are actively involved in all aspect of wetland conservation at local, regional and provincial levels. OFAH submitted input into development of the Wetland Policy, Implementation Guidelines, and the Wetland Evaluation Systems.

Ontario Natural Heritage Information Centre (NHIC)

Established in 1993, the NHIC is a joint venture between the Ministry of Natural Resources (MNR) and three partners: Nature Conservancy Canada, Natural Heritage League, and The Nature Conservancy. The centre is located at Trent University in Peterborough, Ontario.

The Natural Heritage Information Centre (NHIC) complies, maintains and provides information on rare, threatened and endangered species and spaces in Ontario. This information is stored in a central repository containing a computerized database, map files and an information library, which are accessible for conservation applications, land use development planning, park management, etc.

Wildlife Habitat Canada (WHC)

WHC is a national, non-profit foundation dedicated to working with private citizens, governments and industry to protect, enhance and restore wildlife habitats including wetlands. It provides funding for the acquisition of significant wetlands, private stewardship initiatives and agriculture-wildlife management issues.

APPENDIX L

LITERATURE CITED AND KEY TECHNICAL REFERENCES

This section provides suggestions regarding further reading under a variety of topics. The Ontario Wetland Evaluation System (OMNR, 1993a,b) and Liebowitz *et al.*, 1992, provide quite useful; detailed reference lists as well. The references were organized into headings specific to several topics. These include:

- Evaluation Methodologies
- Conservation, Policy and Process
- General Wetland References related to Functions, Indicators and Ecology
- Cumulative Effects
- Mitigation / Buffers
- Fish and Wildlife Habitat
- Hydrology

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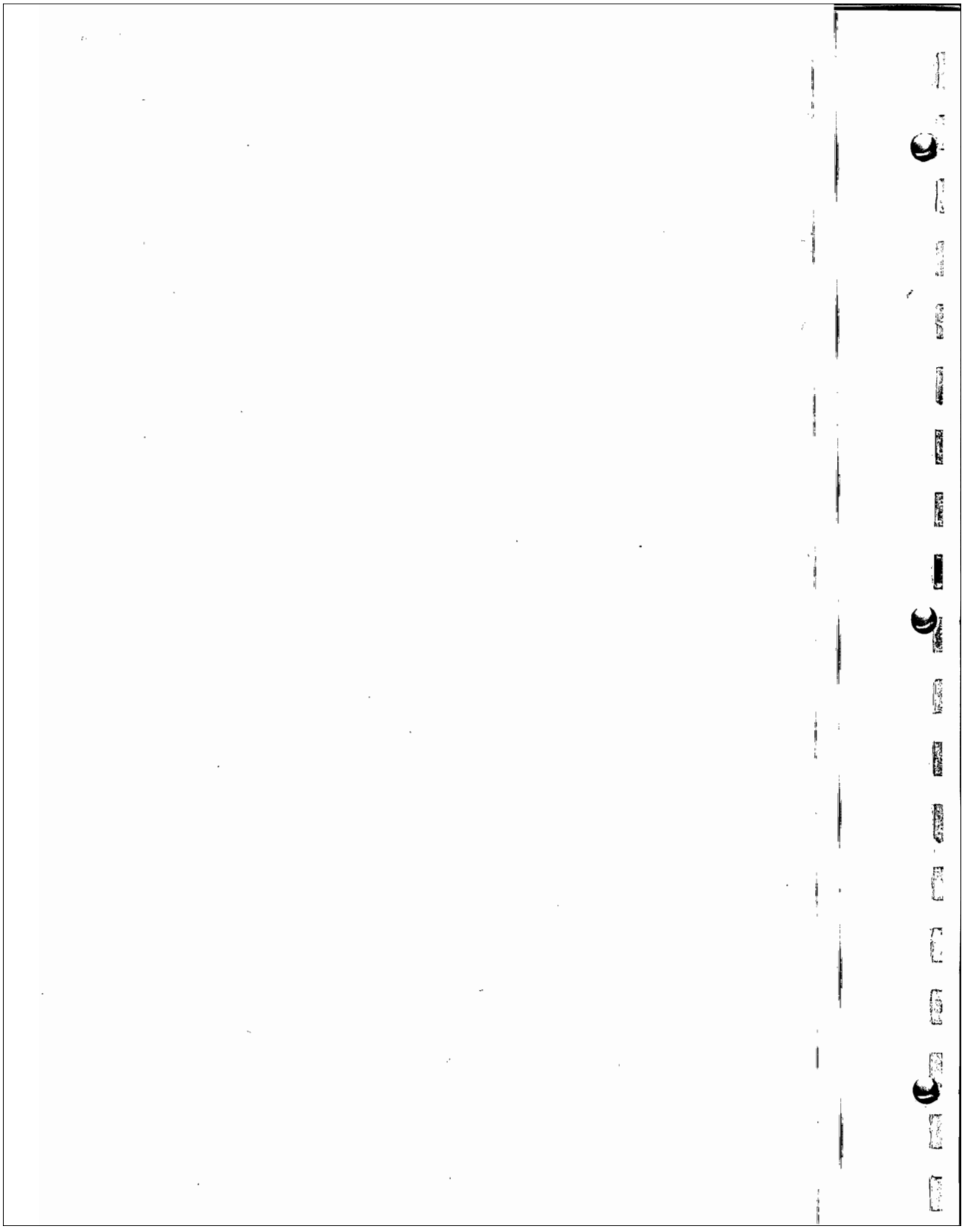
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Wilson, L.G., 1967:
Sediment Removal From Flood Water by Grass Filtration. *In*: Transactions of the ASAE, Vol. 10(1).



DATA SHARING GUIDELINES

Prepared by:
Regional Geomatics Sections and
Geomatics Office (Provincial Office)

Date of Last Revision – January 2018

The following Guidelines are provided to clarify and update the ministry's policy on handling Requests for Information from external requestors. Since the information sources may be in digital or hardcopy format (or both), it is presumed that these guidelines pertain to both formats, with any exceptions duly noted.

This document is provided for use as a guideline only. Requests of an unusual nature should be referred to the section's manager as applicable (i.e. Senior Surveyor, Head, Deputy Chief Surveyor, Chief Surveyor).

PROCEDURE

Before undertaking any external request for information, the ministry provider shall confirm the specific nature of the request. If the request is found to be too general or vague in nature, the ministry provider shall ask the requestor to be more specific, or deny the request.

Do NOT perform research functions that requestors can undertake themselves at applicable offices or agencies.

REQUESTS FOR INFORMATION FOR LITIGATION AGAINST THE CROWN

For queries from lawyers' offices seeking data/information for accident investigations, etc., Legal Services Branch (LSB) must be consulted so as to not prejudice the Ministry in any action. LSB must be informed of such specific requests in order to monitor the release of records, information, and etcetera, as authorized by Legal Services Office.

Accident investigators, lawyers - Contact your Regional Solicitor from Legal Services Office for direction. **NOTE**: Data is not available for viewing purposes until Regional staff have consulted with their MTO Regional Solicitor. Legal Services reviews the request, and if there is civil litigation to coordinate the request with MTO litigation counsel. Generally, Legal Services requires the request to be in writing from the requestor with information about the parties and the date of the incident associated with the lawsuit, be it a forthcoming or current legal action. No copies should be distributed until after the consultation with Legal Services Office.

FREEDOM OF INFORMATION (FOI) REQUESTS

All Freedom of Information requests come through the Regional Services Office (RSO). For each request an estimate of time and resources to fulfil the request is first prepared and the estimate goes back to the requestor to decide whether they are willing to pay the estimated amount. If the requestor decides to have the request fulfilled, they will indicate so and we then proceed with providing that information as coordinated through RSO.

For requests where there are concerns with releasing certain types of requested information, please refer to the section's manager as applicable (i.e. Senior Surveyor, Head, Deputy Chief Surveyor, Chief Surveyor).

Queries regarding, or Freedom of Information requests can be directed to:

MTO Corporate Services Division
Freedom of Information and Privacy Office
College Park, 27th Floor, 777 Bay Street
Toronto, ON M7A 2J8
General Inquiry telephone: (416) 212-1894
Manager telephone: (416) 212-1923

CONTROL DATA

Includes Horizontal Control and Bench Mark Information, including Federal Benchmarks.

All external requests for data held by MNRF are to be referred directly to MNRF. MNRF has the mandate to disseminate this information and does so through the COSINE Provincial Geodetic Database. Requestors can log onto the COSINE On-Line homepage. The website address is COSINE On-Line homepage

COSINE On-Line is available to all users free of charge.

Contact: Provincial Georeferencing Office
2nd Floor North, Robinson Place
300 Water Street, P.O. Box 7000
Peterborough, ON K9J 8M5
Telephone: (705)-755-2135

All requests for new and/or unpublished MTO control data (such as CSIS) should be referred to the Geomatics Office:

Contact: Geomatics Office
2nd Floor South, Garden City Tower
301 St. Paul Street
St. Catharines, ON L2R 7R4

Attention: Control Surveys Co-ordinator
Telephone: (905) 704-2307

ENGINEERING SURVEY DATA

Includes engineering plates (ETRs), B & C plans, Site plans, H&V (horizontal and vertical) control sheets, base mapping, DTMs (digital terrain models), original cross sections, profiles, etc.

Requestors	Policy
Members of the public, Ontario Land Surveyors, developers and Service Providers NOT WORKING on MTO projects, or municipal /utility projects.	Data available for viewing only. No digital vector based/CAD data to be distributed.
Service Providers working on MTO projects.	Provide information as needed if request comes through the project engineer/manager. Copy the transmittal letter to Project Engineer (PE)/Project Manager (PM).
Municipalities, public agencies and utilities, First Nations, etcetera, (including Service Providers/Engineering firms in their employ).	Requests must come directly from the municipality, agency or utility. Information may be forwarded directly to their Service Provider with the cover letter copied to the municipality, agency or utility. Provide information as needed, however, the municipality will be responsible for any issues the ministry suffers as a result of the Service Provider's non-compliance with the terms of the License to Use Agreement. MTO and the municipality to sign the Licence To Use Agreement (Appendix A) and the municipality will be authorized to allow its Service Providers to access/use the information, however, the municipality will be responsible for controlling access/use by its Service Providers.

AERIAL PHOTOGRAPHY

Includes aerial photographs, photo mosaics, enlargements, etcetera owned by MTO.

Note: For aerial photography (data/information) held by other agencies such as Geomatics Canada, MNRF, etcetera, the requestor should be directed to the applicable agency, as MTO does not have any rights of re-distribution. Although MTO purchases photos from these other sources or agencies, the data/information is used for internal purposes only and, as such, must not be re-distributed beyond this relationship. Imagery available through MNRF's Imagery Strategy are available for free from MNRF if it has been superseded by more current imagery of the same area. For current imagery, requestors must be a member of the OGDE to have access to the imagery or they can request digital images for a fee through MNRF.

Requestors	Policy
Members of the public, Ontario Land Surveyors, developers & Service Providers NOT WORKING on MTO, municipal or utility projects.	All photo products in MTO's inventory are available for viewing. If copies of MTO photo products are requested, refer requestor to Geomatics Office.
Service Providers working on MTO projects.	Provide information as needed if request comes through the project engineer/manager (copy transmittal letter to PE/PM).
Municipalities, public agencies and utilities, First Nations, etcetera, (including Service Providers/Engineering firms in their employ).	Requests must come directly from the municipality, agency or utility. Information may be forwarded directly to their Service Provider with the cover letter copied to the municipality, agency or utility. Provide information as needed, however, the municipality will be responsible for any issues the ministry suffers as a result of the Service Provider's non-compliance with the terms of the License to Use Agreement. MTO and the municipality to sign the Licence To Use Agreement (Appendix A) and the municipality will be authorized to allow its Service Providers to access/use the information, however, the municipality will be responsible for controlling access/use by its Service Providers.

Contact: MTO Geomatics Office
Photogrammetric Surveys Coordinator
301 St. Paul Street 2nd F.S.
St. Catharines, ON L2R 7R4
E-Mail: Rod.Scott@ontario.ca Telephone : (905) 704-2309

For Requests for air photo information held by:

MNRF/Archives of Ontario
Contact: Archives of Ontario
134 Ian Macdonald Boulevard
Toronto, ON M7A 2C5
Attention: Telephone: (416) 327-1600 or 1 (800) 668-9933
E-Mail: reference@ontario.ca

Geomatics Canada

Geomatics Canada
National Air Photo Library
615 Booth Street Room 180
Ottawa, ON K1A 0E9
Telephone: (613) 995-4560 or 1(800) 230-6275
E-Mail: NAPL@NRCan.gc.ca

LEGAL SURVEY DATA

Includes Title records, P-Plans, A-plans and Legal Documents (Orders In Councils (O.I.C.), Notices, Transfers, etcetera and related registered (legal) documents prepared by MTO.

Requestors	Policy
Ontario Land Surveyors, engineers, municipalities, members of the public, First Nations, etc.	Data available for viewing only. Direct requestors to the Land Registry Office for registered documents. Requests shall be filled only if not available through the Land Registry Office. If O.I.C.s are not available (i.e. missing) direct requestor to contact the Ontario Archives: For pre-1989 Orders-in-Council (and some to 1992) **Telephone:** (416) 327-1600 or 1 (800) 668-9933, or (post 1917) and quote. ref. code RG 75-57. For post 1989 Orders-In-Council, direct requestor to the Coordinator, O.I.C.s and Special Projects at Cabinet Office. **Telephone:** (416) 325-7685 or **E-Mail**: ana.demelo@ontario.ca
Service Providers working on MTO projects.	Provide information as needed if request comes through the project engineer/manager (copy transmittal letter to PE/PM).

Exceptions
Legal Survey Field Notes – All requests for MTO field notes must be handled in accordance with the legislative requirements under the Surveys Act. They are only to be provided to Ontario Land Surveyors. Do not re-distribute copies of other Ontario Land Surveyors' field notes in MTO's possession.

Local Roads Board Plans (Z-Plans) - As indicated in the appropriate regulation, Local Roads Board plans are filed in Geomatics, North Bay. Since this is the official and only current source of the plans, they should be provided to the public and the LICENCE TO USE AGREEMENT is not applicable.

Note to staff: Do not perform research functions that requestors can undertake themselves at the Land Registry Office.

GEOSPATIAL (GIS) DATA

Open Data/Publicly-Available Data

Many GIS data sets are available through Ontario's Open Data or through Land Information Ontario (LIO). These datasets can be found using on-line data catalogues:

Ontario Open Data Catalogue
Land Information Ontario (LIO) Metadata Catalogue

Use of open data is governed by the Ontario Open Government Licence

LIO data that is not open data will have data use licence information in its metadata. Data can only be distributed according to the data license agreement. For example, Ontario parcel data can only be distributed according to the Ontario Parcel Data Licence Agreement.

Requesters of these datasets should be directed to the catalogue sites so that they can locate and download the required data.

Internal MTO Data

All external requests for geospatial (GIS) information shall be directed to the data owner. The data owner should be indicated in the GIS metadata for each data set.

If the data owner is not clear in the metadata for the GIS data, the request should be directed to the data custodian. The data custodian for Regional GIS data sets is typically the Regional GIS Coordinator. The custodian for provincial GIS datasets is typically the Geomatics Office, and enquiries should be directed to the Land Information Coordinator. Geomatics GIS Data Owner or Data Custodian contacts:

GIS data set extent	Contact	Attention
Provincial	Geomatics Office 2nd Floor South, Garden City Tower 301 St. Paul Street St. Catharines, ON L2R 7R4	Land Information Coordinator **Telephone:** (905) 704-2331 **E-Mail**: Laura.Kingston@ontario.ca
West Region	Geomatics Section Floor 3, 659 Exeter Road London, ON N6E 1L3	Regional GIS Coordinator **Telephone:** (519) 873-4416 **E-Mail**:Michael.P.Brown@ontario.ca
Central Region	Geomatics Section 159 Sir William Hearst Avenue Toronto, ON M3M 0B7	Regional GIS Coordinator **Telephone:** (416) 235-4128 **E-Mail**: Dean.Dunlop@ontario.ca
Eastern Region	Geomatics Section Floor 2, 1355 John Counter Boulevard Kingston, ON K7L 5A3	Regional GIS Coordinator **Telephone:** (613) 547-1760 **E-Mail**: Michael.See@ontario.ca
Northeastern Region	Geomatics Section 447 McKeown Avenue, Suite 301 North Bay, ON P1B 9S9	Regional GIS Coordinator **Telephone:** (705) 497-6914 **E-Mail**: Nedim.Oren@ontario.ca
Northwestern Region	Geomatics Section Floor 3, 615 James Street South Thunder Bay, ON, P7E 6P6	Regional GIS Coordinator **Telephone:** (807) 474-2976 **E-Mail**: Debbie.McIlwrath@ontario.ca

If the GIS data is owned by the Regional Geomatics Sections or the Geomatics Office:

Requestors	Policy
Members of the public, Ontario Land Surveyors, developers & Service Providers NOT WORKING on MTO projects, or municipal /utility projects.	Data available for viewing only. No GIS data to be distributed.
Service Providers working on MTO projects.	Provide information as needed if request comes through the project engineer/manager (copy transmittal letter to PE/PM).
Municipalities, public agencies and utilities, First Nations, etcetera, (including Service Providers/Engineering firms in their employ).	Requests must come directly from the municipality, agency or utility. Information may be forwarded directly to their Service Provider with the cover letter copied to the municipality, agency or utility. Provide information as needed, however, the municipality will be responsible for any issues the ministry suffers as a result of the Service Provider's non-compliance with the terms of the License to Use Agreement. MTO and the municipality to sign the Licence To Use Agreement (Appendix A) and the municipality will be authorized to allow its Service Providers to access/use the information, however, the municipality will be responsible for controlling access/use by its Service Providers.

CARTOGRAPHIC MAP PRODUCTS

Ontario Road Map
All requests to use the Office Road Map of Ontario (ORM) should be directed to the Cartographic Applications Officer. The ORM is copyrighted and an established internal process is used for these requests.

Contact: Geomatics Office
2nd Floor South, Garden City Tower
301 St. Paul Street
St. Catharines, ON L2R 7R4

Attention: Cartographic Applications Officer
Telephone: (905) 704-2343
E-Mail: Lori.Martin@ontario.ca

General Map Products
Notes on MTO cartographic map products should indicate the product's requestor (client) and the office that created the product. External requests for these products should be first directed to the map requestor, and then the map creator. If the requestor/creator cannot be identified, the Regional GIS Coordinator or Cartographic Applications Officer (Geomatics Office) may be able to assist.

Map extent	Contact	Attention
Provincial	Geomatics Office 2nd Floor South, Garden City Tower 301 St. Paul Street St. Catharines, ON L2R 7R4	Cartographic Applications Officer **Telephone:** (905) 704-2343 **E-Mail**: Lori.Martin@ontario.ca
West Region	Geomatics Section Floor 3, 659 Exeter Road London, ON N6E 1L3	Regional GIS Coordinator **Telephone:** (519) 873-4416 **E-Mail**: Michael.P.Brown@ontario.ca
Central Region	Geomatics Section 159 Sir William Hearst Avenue Toronto, ON M3M 0B7	Regional GIS Coordinator **Telephone:** (416) 235-4128 **E-Mail**: Dean.Dunlop@ontario.ca
Eastern Region	Geomatics Section Floor 2, 1355 John Counter Boulevard Kingston, ON K7L 5A3	Regional GIS Coordinator **Telephone:** (613) 547-1760 **E-Mail**: Michael.See@ontario.ca
Northeastern Region	Geomatics Section 447 McKeown Avenue, Suite 301 North Bay, ON P1B 9S9	Regional GIS Coordinator **Telephone:** (705) 497-6914 **E-Mail**: Nedim.Oren@ontario.ca
Northwestern Region	Geomatics Section Floor 3, 615 James Street South Thunder Bay, ON P7E 6P6	Regional GIS Coordinator **Telephone:** (807) 474-2976 **E-Mail**: Debbie.McIlwrath@ontario.ca

Cartographic map products created for the Regional Geomatics Section or Geomatics Office:

Requestors	Policy
Members of the public, Ontario Land Surveyors, developers & Service Providers NOT WORKING on MTO projects, or municipal /utility projects.	Map available for viewing only. No digital map product to be distributed.
Service Providers working on MTO projects.	Provide information as needed if request comes through the project engineer/manager (copy transmittal letter to PE/PM).
Municipalities, public agencies and utilities, First Nations, etcetera, (including Service Providers/Engineering firms in their employ).	Requests must come directly from the municipality, agency or utility. Information may be forwarded directly to their Service Provider with the cover letter copied to the municipality, agency or utility. Provide information as needed, however, the municipality will be responsible for any issues the ministry suffers as a result of the Service Provider's non-compliance with the terms of the License to Use Agreement. MTO and the municipality to sign the Licence To Use Agreement (Appendix A) and the municipality will be authorized to allow its Service Providers to access/use the information, however, the municipality will be responsible for controlling access/use by its Service Providers.

APPENDIX "A"

LICENCE TO USE AGREEMENT

MTO Engineering Office - Geomatics Section

_____

_____

Has provided the following survey/geospatial related data/information in response to a Request for information dated _____, by;

Name _____
Company _____
Address _____
_____
_____
Telephone _____
Email _____

Purpose of Request: _____
_____
_____

NOTE: The survey/geospatial related data/information being provided (and as listed below) is to be used only by the requestor, and only for the above stated purpose(s). It is not to be copied or re-distributed for any other purpose.
□ **see attachment.**

INFORMATION PROVIDED - DATE:
_____
_____
_____
_____

File Name:	Description, Remarks and Time/Date Stamp (i.e. last modified)	Projection, Datum, (if applicable)

□ **see attached list.**

The above data/information is up to____ years old. No reliance should be placed upon its current accuracy or content.

Additional Comments: _____
_____
_____
_____

Issued by: _____ Date: _____

Additional Notes/Cautions:

The Ministry has provided this information free of charge. No monies shall be received by the requestor for this data from any third party user of this data. The Ministry shall not be held responsible or liable for the data/information contained herein. The licensee will be authorized to allow its Service Providers to access/use the information and the licensee will be responsible for controlling access/use by its Service Providers.

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LICENCE AGREEMENT made in triplicate is effective as of the Effective Date

BETWEEN:

THE QUEEN'S PRINTER FOR ONTARIO
(The "Queen's Printer")

- and –

HER MAJESTY THE QUEEN in right of Ontario
as represented by the Minister of Transportation
(the "Ministry")
(collectively, the "Licensor")

And –

_____
(referred to as the "Licensee")

RECITALS

A. The Ministry is the custodian of the Licensed Product.
B. The Crown in right of Ontario is the owner of all rights, including Intellectual Property Rights, in the Licensed Product.
C. The Queen's Printer holds title to the copyright in the Licensed Product and on behalf of the Crown in right of Ontario.
D. Licensee has requested a licence to the Licensed Product.

NOW THEREFORE THIS LICENCE AGREEMENT WITNESSES that in consideration of the mutual covenants and agreements contained herein and other good and valuable consideration and subject to the terms and conditions herein, the parties covenant and agree as follows:

ARTICLE 1 – Definitions

1.01 Defined Terms

When used in the Licence Agreement, the following words or expressions shall have the following meanings:

"**Effective Date**" means the latest of the dates the parties have signed this Licence Agreement;

"**Indemnified Parties**" means each of the following and their directors, officers, advisors, agents, appointees and employees: Ontario, the Queen's Printer for Ontario, and the members of the Executive Council of Ontario;

"**Intellectual Property Rights**" means any intellectual or industrial property rights protected or protectable under the laws of Canada, any foreign country, or any political subdivision of any country, including any intellectual property rights protected by legislation (such as legislation governing copyrights, industrial designs, integrated circuit topographies, patents or trademarks), or by common law (such as confidential information and trade secrets); and at any time in the future, with respect to any licence to exercise Intellectual Property Rights, includes any intellectual or industrial property rights protected or protectable at such time under the laws of Canada, any foreign country, or any political subdivision of any country;

"**Licensed Product**" means information or data which has Intellectual Property Rights and that are offered for use under the terms of this Licence Agreement.

"**Moral Rights**" has the same meaning as in the ***Copyright Act***, R.S.C. 1985, c. C-42, as amended or replaced from time to time, and includes comparable rights in applicable jurisdictions;

"**Ontario**" means the Crown in right of Ontario;

"**Personnel**" means employees, independent contractors, and other individuals who are authorized by Licensee to access or use the Licensed Product;

ARTICLE 2 – Intellectual Property

2.01 Ministry Intellectual Property

The Licensee acknowledges and agrees that copyright in the Licensed Product belongs to the Queen's Printer and that all other Intellectual Property Rights and any other right, title and interest in and to the Licensed Product shall remain the sole property of the Crown in right of Ontario at all times.

2.02 No Use of Ontario Government Insignia

The Licensee shall not use any insignia or logo of the Crown in right of Ontario except where required to comply with its obligations under a contract with the Crown for which the Licensed Product is used.

2.03 Licence Rights

Subject to the termination rights herein, Licensor hereby grants Licensee a nonexclusive, non-transferable, royalty-free, limited licence to use the Licensed Product for Licensee's internal use only. The Licensee may use the data for its professional or non-commercial end-use only.
Rights not specifically granted herein are reserved by Licensor.

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2.04 Licence Restrictions

(a) Licensee shall ensure that only authorized Personnel have access to the Licensed Product and that the Licensed Product is only used for the Authorized Purpose.
(b) Licensee is responsible for each Personnel's compliance with the terms and conditions in this Licence Agreement.

(c) Licensee shall not:

(i) remove or modify any program markings or any notice of Licensor's proprietary rights;
(ii) make the Licensed Product available or accessible directly or indirectly in any manner to any third party, unless specifically authorized under the terms of this Licence Agreement;
(iii) copy any of the Licensed Product, or parts thereof;
(iv) give, distribute or transfer the Licensed Product or an interest in it to another individual or entity.

(c) this Licence Agreement does not grant Licensee any right to use:

(i) Personal Information or information or Records not accessible under the Ontario ***Freedom of Information and Protection of Privacy Act***, all terms as defined therein;
(ii) Third party rights Licensor is not authorized to license;
(iii)The names, crests, logos, or other official symbols of Licensor; and
(iv) Information subject to other intellectual property rights, including patents, trademarks and official marks.

(d) Licensee acknowledges and agrees that Licensor has no obligation whatsoever to provide updates or corrections to the Licensed Product or to provide any notices to the Licensor with respect to the Licensed Products.

(e) No monies or other form of compensation shall be received from any third party by Licensee, directly or indirectly, for access to, use of, or other dealings with, the Licensed Products.

2.05 Survival

This Article 2 shall survive the termination or expiry of the Licence Agreement.

ARTICLE 3 – Confidentiality

3.01 Licensed Product

Licensee shall: (a) keep the Licensed Product confidential and secure; (b) limit the disclosure of the Licensed Product to only those of Licensee's Personnel who have a need to know it for the purpose of exercising the licence rights herein, who have been specifically authorized to have access to the Licensed Product, and who have agreed to comply with the applicable terms herein; (c) not directly or indirectly disclose, destroy, exploit or use the Licensed Product except for the Authorized Purpose without first obtaining the written consent of Licensor; and (d) provide the Licensed Product to Licensor on demand, with no copy or portion kept by the Licensee.

3.02 Restrictions on Copying

Other than as authorized herein, Licensee shall not copy the Licensed Product, in whole or in part. On each copy made by Licensee, Licensee must reproduce all notices which appear on the original.

3.02.1 Survival

This Article shall survive any termination or expiry of the Licence Agreement.

ARTICLE 4 – Indemnity

4.01 Licensee Indemnity

Licensee shall indemnify and hold harmless the Indemnified Parties from and against all Losses and Proceedings, by whomever made, sustained, incurred, brought or prosecuted, arising out of, or in connection with the Licensed Product, and/or this Licence Agreement, whether such Losses and Proceedings are incurred or brought by Licensee and/or any Personnel or by any third party.

4.02 IP Indemnification

Licensee hereby agrees at all times to defend, indemnify and hold harmless the Indemnified Parties from and against any and all liability, losses, costs, damages, expenses (including all reasonable legal, expert and consultant fees), causes of action, and Proceedings by whomever made, sustained, brought or prosecuted in any way based upon, occasioned by or attributable to any actual or possible use, infringement, inducement of infringement or violation of any Intellectual Property Rights or infringement of any Moral Rights that results from or is alleged to result from the use of, or other dealing with, the Licensed Product by Licensee, any Personnel authorized by Licensee, or by any third party in connection with the rights granted to Licensee herein.

This Article 4 shall survive the termination or expiry of this Licence Agreement.

ARTICLE 5 – No Warranty or Representation

5.01 Disclaimer of Warranty/Representation and Exclusive Remedies

Licensor makes no warranties of any kind with respect to the Licensed Products, including any warranties that the Licensed Product (or any information contained in the Licensed Product) will be accurate, effective, complete or up-to-date, or free of errors or omissions, in whole or in part, or that any Licensed Product will be fit for any purpose.

Licensee acknowledges and agrees that the Licensed Product is being licensed by licensor on an "as is" basis, without any representation or warranty of any kind. Moreover, Licensor disclaims all obligations, liabilities, warranties, and representations, express and implied, including without limitation, any implied warranties of merchantability, fitness for a particular purpose or non-infringement

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Licensor shall have no liability of any kind under any legal theory (including negligence, product liability, or breach of contract whether or not a fundamental breach or breach of a fundamental term), including any liability for any errors or omissions in the Licensed Product. This limitation of liability is intended to be, and is considered to be, exhaustive in scope, and Licensee acknowledges that this is the only basis on which Licensor has agreed to enter into this agreement with Licensee.

Licensor shall in no event be liable, in any manner whatsoever, for any direct, indirect, incidental, special, punitive or consequential damages or other loss, or damages for loss of profits, revenue, data or data use, incurred by Licensee, Licensee's personnel or any third party, whether in an action in contract or tort, even if Licensor had been advised of the possibility of such damages.

ARTICLE 6 – Term and Termination

6.01 Term

The term of this Licence Agreement begins on the Effective Date and continues until terminated by either party in accordance with the terms of this Licence Agreement.

6.02 Immediate Termination of Contract

Licensor may, without any liability whatsoever, and without notice, immediately terminate this Licence Agreement where Licensee breaches any of the terms of this Agreement. Licensor may terminate this Licence Agreement at any time, without cause and without any liability whatsoever, upon giving written notice to Licensee. In the event of termination of the Licence Agreement for any reason whatsoever, Licensor shall destroy the Licensed Product and all copies thereof.

ARTICLE 7 – Endorsements

7.01 Non-Endorsement

This Licence Agreement does not grant any right to use the Licensed Products in a way that suggest any official status or that the Licensor endorses Licensee, its Personnel or any third party with respect to use of the Licensed Products.

ARTICLE 8 - General

8.01 Entire Agreement

This Licence Agreement embodies the entire agreement between the parties with respect to the licensing of the Licensed Product.

8.02 Governing Law

The Licence Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and applicable laws of Canada. Legal proceedings related to this Licence Agreement may only be brought in the courts of Ontario.

8.03 Changes By Written Amendment Only

Any changes to the Licence Agreement shall be by written amendment signed by the parties. No changes shall be effective or shall be carried out in the absence of such an amendment.

In Witness Whereof the parties hereto have executed this Licence Agreement on the dates indicated below.

The Queen's Printer for Ontario

and

Her Majesty the Queen in right of Ontario as represented by the Minister of Transportation

Signature:_____

Name:_____

Title:_____

Date of Signature:_____

Pursuant to delegated authority

_____

<Licensee>

Signature:_____

Name:_____

Title:_____

I have authority to bind the Licensee

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APPENDIX "A"

LICENCE TO USE AGREEMENT

MTO Engineering Office - Geomatics Section

_____

_____

Has provided the following survey/geospatial related data/information in response to a Request for information dated _____, by;

Name _____
Company _____
Address _____
_____
_____
Telephone _____
Email _____

Purpose of Request: _____
_____
_____

NOTE: The survey/geospatial related data/information being provided (and as listed below) is to be used only by the requestor, and only for the above stated purpose(s). It is not to be copied or re-distributed for any other purpose.
□ **see attachment.**

INFORMATION PROVIDED - DATE:
_____
_____
_____
_____

File Name:	Description, Remarks and Time/Date Stamp (i.e. last modified)	Projection, Datum, (if applicable)

□ **see attached list.**

The above data/information is up to____ years old. No reliance should be placed upon its current accuracy or content.

Additional Comments: _____
_____
_____
_____

Issued by: _____ Date: _____

Additional Notes/Cautions:

The Ministry has provided this information free of charge. No monies shall be received by the requestor for this data from any third party user of this data. The Ministry shall not be held responsible or liable for the data/information contained herein. The licensee will be authorized to allow its Service Providers to access/use the information and the licensee will be responsible for controlling access/use by its Service Providers.

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.3 – Ministry of Natural Resources

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Natural Resources and Forestry **Provincial Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Mar 08, 2023 10:02 Method: E-mail
Topics to be Discussed: Draft NEECR Comments
Attached File: MNRF-Follow up to Proponents Comments Response Table-2023-03-08.pdf
Attached File: MNRF-Wetland Environmental IS Requirements Manual-2023-03-08.pdf

Contact Date: Sep 22, 2023 15:28 Method: E-mail
Topics to be Discussed: Draft Natural Environment Existing Conditions Report - Ministry of Natural Resources and Forestry (MNRF) Follow-Comments and Project Team's Response
Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team, sent an email to Sasha McLeod of the Ministry of Environment, Conservation, and Parks (MECP), Dorothy Moszynski of the Ministry of Environment, Conservation, and Parks (MECP) and Jason Frechette of Ministry of Mines & Michael Fox & Heather Swan of Indigenous and Community Engagement (ICE). The email was with reference to Sasha's correspondence on March 8, 2023, and included an attached document with Project Team's responses to the follow-up comments from MNRF on Caribou, Bats, Waterfowl and Shorebirds, Land Bird Avian Modeling, Wildlife & Wildlife Resource Selection Modeling (RSM), Vegetation - Wetland Functional Assessment & Biodiversity, Fish and Fish Habitat.
Attached File: Web-WSR Response to MNRF Comments Re Draft NEECR-2023-09-22.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Nov 17, 2023 10:30 Method: Other

Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session

Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.

The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.

Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail

Topics to be Discussed: Notice of Public Information Center #3

Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022					
Comment #	**NEECR Section / Page #**	**Comments & Rationale**	**Proposed Action/Solution**	**Project Team Response (January 11, 2023)**	**MNRF Response to PT Response (March 6, 2023)**
MNRF – 8 Peatlands	p. 153 section 7.3.3	MNRF is required to consider its Statement of Environmental Values when making environmentally significant decisions, including consideration of Climate Change (e.g., supporting efforts to enhance carbon sequestration and storage by natural environments). The Hudson Bay Lowlands is the second largest peatland in the world and plays a pivotal role in mitigating against warming temperatures. Given their national and internationals significance, and the potential for the road project to impact on peatland function, it is important that appropriate baseline information about peatland carbon and greenhouse gases is presented in the EA to inform the assessment of potential effects of the road on their ability to sequester carbon, potential effectiveness of proposed mitigations to address any loss of function, and to inform future, long-term monitoring. The Natural Resources Canada's carbon modelling websites provide insight into the interest and effort to include peatlands into Canada's carbon reporting of land-use, land use change, and forestry. This resource may be of value when considering the baseline condition and importance of the region. See: https://www.nrcan.gc.ca/simply-science/natural-solutions-climate- change/21544; and https://cfs.nrcan.gc.ca/publications?id=37017 The following papers may also help to inform parameters to measure: Bona et al. 2020 The Canadian model for Peatlands (CaMP): A peatland carbon model for national greenhouse gas reporting. Ecological Modelling, 431, 109164 https://www.sciencedirect.com/science/article/pii/S0304380020302350 Harris et al. 2021. The essential carbon service provided by northern peatlands. Frontiers in Ecology and the Environment. 20(4): 222-230. https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2437?utm_campaign=R3MR425&utm_content=LifeSciences&utm_medium=paidsearch&utm_source=google	Please provide baseline conditions of carbon and greenhouse gasses for the study area for which the impacts of the project can be evaluated against.	The concept of carbon sequestration that existing wetland and forest provide within the study area has been added to Section 7.3.3. The quantification and assessment of whether the Project brings an increase and/or decrease in carbon sequestration and storage and GHG emissions will be documented in the EAR/IS.	MNRF appreciates that a section on carbon sequestration has been added to the report and looks forward to reviewing this revised section as part of the future EA/IS review package. Please ensure the methodology for the quantification and assessment of carbon sequestration, storage and GHG is well explained in the future EA/IS. This will help enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document.
MNRF – 12 Natural Heritage	9. Vegetation and Wetlands p.259	Quantify, delineate, and describe wetlands (fens, bogs, peatlands, etc.) […] A) Will swamps and marshes also be quantified, delineated, and described? How will peatlands be defined? Clarity is requested given each additional wetland type that falls under the etcetera can entail a substantial amount of work. There needs to be a clear understanding of the work that is being proposed and associated rationale B) Is Significant Wildlife Habitat being captured under this as well if associated with plant species? What about Areas of Natural and Scientific Interest (ANSIs)?.	A) Please elaborate on what the etcetera shall include. B) Please address what features will be considered as a part of this section at the outset.	The text referred to has been revised to read: • "Identification and description plant species and/or plant assemblages of conservation concern (i.e., plants listed as species at risk, locally rare communities, designated sensitivities such as Areas of Natural and Scientific Interest (ANSI's) or Provincially Significant Wetlands (PSW's)) or have Indigenous cultural importance; and • Quantify, delineate, and describe wetlands (e.g., peatlands such as fens, bogs, swamps, marshes.), including their functions and ecological services in the project area (e.g., hydrological, hydrogeological, water quality, flood protection, species richness, and wildlife usage)." Significant Wildlife habitat is captured in the wildlife and SAR sections (10 and 11). This section does utilize wildlife usage information as part of the wetland function assessment. Text has been revised to provide clarity.	Thank you for revising the text to include mention of swamps and marshes as parts of the wetlands to be assessed. MNRF looks forward to reviewing this revised section as part of the future EA/IS review package. Please provide more information on how you intend to identify PSWs in the project area as the current Ontario Wetland Evaluation System does not apply within the Far North. What assessment method is the project team proposing to use to make this determination? Providing detailed explanation in the future EA/IS will help enable MNRF and other reviewers to determine of the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document. Also, will the project team be identifying and describing conservation concern vegetation communities and species that have a subnational ranking provincially (i.e., S1-S3 and SH) as part of the assessment of the impact of the project on vegetation communities? Including this information in the future EA/IS will help enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn about impacts the project will have on these features and the effectiveness of monitoring and mitigation options presented to minimize any potential impacts.

Webequie Supply Road - Comments Received on WSR Draft Natural Environment Existing Conditions Report (NEECR), June 2022

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022					
Comment #	**NEECR Section / Page #**	**Comments & Rationale**	**Proposed Action/Solution**	**Project Team Response (January 11, 2023)**	**MNRF Response to PT Response (March 6, 2023)**
MNRF - 13 Natural Heritage	9.1 Spatial Boundaries p.259 (In Vegetation and Wetlands Section 9)	Local Study Area – extends 1 km from the centreline of the supply road route Alternatives 1 and 2, and 500 metres (m) from the temporary or permanent supportive infrastructure. The ToR states that "The boundaries of each LSA will extend a specified distance from the project footprint boundary to capture the direct and nearby indirect effects on an environmental component/criterion". As road and supporting infrastructure width may vary, it is recommended that the 1 km and 500 m study area be applied to the Project Footprint boundary rather than the centreline to ensure consistent vegetation and wetland consideration along the entirety of the project. Alternatively, the LSA could be delineated to better reflect ecological features and functions. In particular, wetland communities can be very susceptible to changes in water flows. Road developments situated within wetlands have the potential to significantly change the adjacent wetland communities depending on whether the infrastructure provides for an adequate movement of water. Now that wetland mapping has been refined, we suggest that the LSA be modified to reflect identified wetland features/complexes where they extend beyond the current LSA 1km or 500m boundary to ensure direct impacts to a contained ecological unit are considered.	Please align the LSA to be consistent with the description in the ToR (as a minimum commitment). Alternatively, we recommend that the refined wetland mapping be used to further refine the extent of the potential direct effects (i.e., LSA) – particularly within wetlands. Where this is not considered, please describe how the EA will address the direct impacts to these wetland features that extend beyond the current 1km/500m LSA.	The Local and Regional Study Areas (LSA/RSA) defined for the vegetation program are designed to inform sampling selection and detailed baseline characterization and will be used for the effects assessment. Although general study areas are defined int the ToR they are intended to be refined and selected with input from engagement and consultation early in the EA/IA process. Note that the study areas for other disciplines/Valued Components (VCs) may differ such as surface water which extend beyond the study area limits defined for vegetation. For example, the RSA for surface water/ hydrology is the "combined area of the quaternary watersheds crossed by the supply road route Alternatives 1 and 2". Pathways and linkages of vegetation with other VCs will be described in Environmental Assessment Report / Impact Statement (EAR/IS).	The response provided about the difference in the LSA and RSA from the ToR to the NEECR does not directly address MNRF's comment/concerns. MNRF's perspective is that this different approach to the study area boundary can yield a significant difference in the overall area being studied for impacts. For example, specifications for the width of the future roadway right-of-way (RoW) have not yet been confirmed and are likely to vary at different segments along its length. This variable RoW width could potentially result in a large amount of landbase (habitat features, water bodies, etc.) no longer being captured within the LSA parameters if the LSA is measured from the centreline. Furthermore, forgoing an assessment of impacts from ROW boundary line could reduce the built-in flexibility of the EA/IA (i.e., for effects assessment and also future permitting) if the ROW needs to move to address an encountered issue. MNRF is not requesting further baseline data collection at this time; however, more rationale is requested about how the change to working from the centreline of the supply road route alternatives rather than from the Project Footprint boundary will not limit the validity of the effects assessment and conclusions drawn about the impacts the project is expected to have on natural heritage values.
MNRF -16 Natural Heritage	9.2.3 Field Survey Site Selection p.265-	1.2019 Survey Site Selection Site selection was done manually and sampled 43 discrete vegetation units, representing 21 different vegetation classes. 2. 2020 Survey Site Selection Random sample with some modification to capture a very limited number of extremely rare vegetation classes and landforms. 37 sites sampled, representing 30 different vegetation classes. 9.2.3.3 2021 Survey Site Selection Balanced spatial dispersion was used to identify 50 additional sites to sample in 2021, representing _____different vegetation classes. The intent of the field program could be better explained in the Methods. Our understanding is that the intent of the field surveys is to support vegetation mapping in the study area. Despite the challenges to access field sites and the changes to field site selection design, did the sampling conducted throughout the 3 field seasons meet the intended sampling targets? It is unclear whether the number of field plots surveyed impacted the confidence of the results.	Please provide a breakdown of the number of samples for each vegetation class (and include in the results the # of sites actually visited) so the reader can make inferences on the robustness of the data. Please report on whether the number field sites sampled impacted the confidence of the results.	Tables 9.4 and 9.5 provides summaries of 2019-2021 Field Program Ecosite Sampling Plots by vegetation class. Section 9.3.3.1 provides an assessment of the statistical accuracy of the sampling program vs the mapped vegetation classes. In our opinion the sampling conducted to capture seasonal variation over a 2-year period provides a reasonable level of confidence in the resulting typing, although not completely meeting the objective targeted number of samples. As per Section 9.3.3.1 indicates: "By Revision 4 accuracy had improved considerably, with an overall accuracy rate of 85%"	Thank you for identifying where this information can be found. To support the review of the EA/IS when it is submitted, MNRF requests that tables be referenced within the text for greater clarity, ease of finding relevant information, and making it easier to track information presented, i.e., we suggest that the tables should be referenced alongside the numbers provided within the text, if they provide the targeted vs. accomplished site selection information. Greater clarity and rationale are still requested regarding the methodology behind each survey selection, and why selection methods changed from year to year. Is it currently the intent of the field programs to inform vegetation mapping? Or are there additional reasons for the selections made? Providing more information in the future EA/IS about site selection for vegetation will better enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document.
MNRF - 19 Natural Heritage	9.2.4.2 Wetland Ecosystem Surveys p.276	*[…] and inform the determination of the function and conservation status of the wetland types at a local, regional, and provincial level.* The report does not appear to define the various conservation statuses and how the local, regional and provincial designations are assigned. It is unclear whether the soil investigations documented the depth of organics as part of the sampling program.	Please outline and define various conservation statuses and how local, regional, and provincial levels are being assigned. Please clarify whether the soil investigations also document depth of organics. If the depth of organics was not collected, please provide rationale.	The subject statement is incorrect and has been removed. The determination of Regional and Provincial conservations status is determined using existing official designations such as ANSI, PSW or NHIC rankings (See Section 9.3.5). The determination of locally rare is not an official designation since none exist in the study area. This designation is project driven, based on the rarity within the study area. The soil investigations were carried out as per the ELC methodology using a 1m core sampler, which has been clarified in text. Information on the actual depth of organics at selected locations can be found in Section 4.3.2.3: Terrain and Soils.	MNRF appreciates this correction being made and more details being provided about the soil investigation methodology; we look forward to reviewing this revised section as part of the future EA/IS review package. Please note that locally and regionally rare species are not designated by NHIC rankings or through PSW evaluations (and, to MNRF's knowledge, there have been no PSW evaluations completed in the geography of the project). Please correct any statement in the revised Section 9.3.5 as required. Rare species may have been noted in approved or candidate ANSI check sheet reports. If the project team is interested in such data, MNRF can investigate whether this information can be made available. Given the lack of data, available assessments and research

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					conducted in the project area (i.e., the area has not been well-studied), the statement that there are no locally rare species in the study area may not be true. It is possible that locally and regionally rare species are present; an assessment would need to be completed to make that determination. As such, MNRF continues to request greater clarity and rationale about the methodology being followed to identify or assign local and regional designations.
MNRF-20 Natural Heritage	9.2.6 Riparian Ecosystem Surveys p.277	It is unclear what a level 1, 2 and 3 assessment is. The wetland assessments conducted in the Far North are based on evaluations methods from the United States (Wisconsin and Minnesota).	a) Please describe and define what a Level 1, 2 and 3 assessment is, and what combination was utilized and why. Please describe how the wetland evaluation methods developed for conditions much farther south in the United States have been adapted to conditions in the Far North.	The Vegetation Study Plan prepared early in the EA/IA process was designed to provide a preliminary description of the approach for discussion. As worked proceeded aspects of this approach proved problematic and were revised. It is acknowledged that the methodology section of the draft NEECR does not adequately reflect the changes made to the Study Plan, which has evolved. Upon review of the Wetland Functions Assessment Approaches, in Section 4 of the WEFAOA, a tiered approach was considered to be the most viable way forward in determining the final approach for use in the Project. The tiered assessment is comprised of three levels of detail: Level 1: Landscape Level - considers the broader landscape (e.g., regional study area) to identify the relative importance of wetland functions within the landscape using the relative abundance of wetlands in the landscape to provide a description of the various wetlands in relation to other wetlands (Hanson and Calkins 1996). Level 2: Rapid Assessment – These are assessments that have been developed to streamline the site assessment process using standardized data collection "Check Lists" that are designed to capture various observable wetland functions. Numerous methods have been developed in the form of Wetland Evaluations, and more defined Provincial and State Rapid Assessments; and, Level 3: Detailed Assessment - Kusler (2006) listed seven different groups of detailed assessment models (Approaches (WEFAOA: Hanson et, al., 2008). These include detailed field observations, hydrologic and hydraulic models, stream hydrologic geomorphic stability, Index of Biological Integrity (IBI), wetland replacement evaluation procedure, Hydrogeomorphic Approach (HGM), and area wide assessments. A review of the data requirements and applicability of the levels listed above was then conducted to inform field data collection, and the further development of the Wetlands Function approach. The following approaches were reviewed: ***Level 1: Landscape Level*** USACE - Wetland Evaluation Technique (WET) Hydrogeomorphic (HGM) Approach to Assessing Wetland Functions: Guidelines for Developing Guidebooks (Version 2) ***Level 2/3: Rapid/Detailed Assessment*** Ontario Wetland Evaluation System – Northern Manual (OWES) Minnesota Routine Assessment Method (MnRAM) Evaluating Wetland Function, (Version 3.4, 2000) Functional Assessment of Wetlands - Introduction to Nova Scotia Wetland Evaluation Technique (NovaWET 3.0) Wisconsin Wetland Rapid Assessment Methodology (Version 2.0, WDNR, 2014) *Alberta Wetland Rapid Evaluation Tool –Actual (ABWRET- A, 2015)* Following initial field investigations and attempts at using these methods, it was determined that their suitability for the study area and sampling sites were not meaningful in terms of assessing wetland function for the Project. For example, according to the Ontario Wetland Evaluation System, (OWES) Northern Manual, Version 1.2, "as one moves north into the boreal forest and into the Hudson Bay Lowlands, extensive wetlands, often covering hundreds of square kilometres, dominate the landscape, (as a result the OWES) evaluation system cannot be used to evaluate these extensive wetlands and they must be protected through other mechanisms such as Provincial Parks, Conservation Reserves, and ANSIs, etc." The methodologies outlined require inputs for data that are targeted at the assessment of discrete wetland parcels within a fragmented or developed landscape. As a result, many of the criteria required for these functional assessments were either not	Thank you for the additional information about the tiered assessment approach. MNRF has further questions about the approach and the rationale for it use in the WSR environment which the ministry would like to see addressed. Specifically, going forward please provide a more detailed breakdown of the assessment components being used for the Wetlands Function approach for Level 1 and Level 2/3 assessments alongside the descriptions provided by the Project Team in its response. This breakdown should identify the sections of each assessment protocol that were used along with the rationale for using that section for a given wetland function assessment level (at present, it is unclear which component(s) of the listed sources are being applied). The wetland function approach is based on criteria derived from the Wetland Ecological Functions Assessment (Section 9.4.1), which was produced by the Canadian Wildlife Service for Atlantic Canada. Please provide rationale for why this assessment approach is being used in this geography. Providing the above information will better enable MNRF and other reviewers to determine the validity of the effects assessment, the conclusions drawn about impacts the project will have on vegetation features (including wetlands), and the monitoring and mitigation options presented to minimize any potential impacts. Moving forward, please consider these two resources in the tiered assessment if they haven't already been considered by the project team: Wetlands of the Hudson Bay Lowland: An Ontario Overview by John L. Riley, Nature Conservancy of Canada, 2011. Canadian Wetland Classification by the National Wetlands Working Group, 1st Edition 1997 (referenced as a background information source, but not mentioned within the response as one of the referenced assessment approaches).

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				applicable, or would yield identical results for all wetland types, limiting their ability to differentiate function. Many other criteria were not able to be answered for the sites sampled as they required data that cannot be collected in a single visit; rather they are designed to be collected from a single site continuously throughout a sampling season. Given the location of the project study area this approach is untenable given that approximately 90% of the RSA is categorized as wetland occupying huge wetland complexes interspersed with open water bodies (6%), and small upland areas (4%). The level of individual sample site data requirements was also problematic given the remote nature of the study area and logistical issues and the need to provide a vegetation and wetlands sampling program that both met the Random Spatial Distribution requirements outlined in the TISG and also robust enough to adequately type vegetation within the study area to support the EA/IS effect assessment. The data requirements of a Wetland Function Analysis also require the collection of multidisciplinary criteria (e.g., wildlife, fish, amphibians, soils, hydrology/groundwater) which are collected separately by the respective discipline teams each of which have specific sampling programs and site location distribution requirements that were typically not assessed at the same location, as those selected for the vegetation and wetlands program, as these separate individual programs are designed to ensure they capture their respective targeted data needs across the LSA and RSA. Consequently, these data sets do not yield satisfactory or complete results when attempting to incorporate them into the functional assessment methodologies reviewed. As a result, it was determined that a modified landscape level assessment of wetland function was the most appropriate approach for the Project.	
MNRF-21 Natural Heritage	9.2.6 Wetland Function Assessment p.277-278	*The detailed development of the final Wetlands Function Assessment procedure will continue with input from provincial agencies, federal authorities, Indigenous communities and stakeholders during the EA / IA process.* Does the Wetlands Function Assessment preliminary list group species at risk (i.e., special concern species) with wildlife considerations (i.e., maintenance of characteristic wildlife habitat structure)? Did the Wetlands Function Assessment take into consideration the Wetlands Environmental Impact Study Requirements Technical Manual, 1995 by Gartner Lee?	Please clarify whether the Wetlands Function Assessment considers species at risk (i.e., special concern) as a wildlife consideration. Please consider the 1995 Wetlands Environmental Impact Study Requirements Technical Manual by Gartner Lee if not already done so.	Species a risk probability of use was not considered as a separate metric in the Wetlands Function Assessment. It was assumed to be adequately captured by Birds and Mammal wildlife usage. Thank you for the recommendation to consider reference. We have been unable to locate a copy of the subject reference manual. If a copy can be provided, the Project Team will review and consider.	Thank you for the additional information and please ensure the statement *"Species at risk probability of use… wildlife usage"* is included in the future EA/IS report so that this assumption is clearly identified. MNRF is providing a copy of the 1995 *Wetlands Environmental Impact Study Requirements Technical Manual* by Gartner Lee for your consideration (see attached).
MNRF-25 Natural Heritage	A) 9.3.2 Field Survey Results p.287 B) 9.4.4.8 Model Results and Discussion p.334 (Assessment of wetland function on maintenance of characteristics of wildlife habitat structure) C) Species Layer Biodiversity Page 235/246 D) 9.5.3.1 Landscape Patch Analysis - Number of Patches page 351	The report identifies several challenges or limitations of field sampling and/or analysis. In many cases, the implications of these challenges/limitations are not discussed in full. For example: *A) The selection of plot locations for vegetation community sampling was somewhat limited by access considerations.* Where data gaps exist because of restricted access, will additional surveys be required? B) *It would be optimal to have equal sample sizes for model training and testing, but there were insufficient positive observations (presence) to do this and still allow training of a robust model. Test statistics for the confusion matrix nonetheless still revealed strong performance of the GBRT model, with almost all models having a predictive accuracy of >70%. In a number of cases either specificity or sensitivity was low, but testing results almost certainly are affected by low sample size. Any additional data collected in future surveys would probably be best used to improve testing of the current models rather than applying the data to refine or develop new models.* Is there a plan to collect additional data to better test the model or is 70% accuracy considered sufficient for the purposes of the EA/IS? What is the impact? C) *Other community types which were observed by aerial surveys but were not included in field surveys either due to their small size or issues with accessibility, were Cattail Marsh and Rich Conifer Forest (Cedar dominated).*	Please review these sections to add recommendations and rationale for why further work is or is not required to support the EA/IS. If further work is not recommended, describe the implications of these limitations on the EA/IS	Though there were access challenges, the sampling program was robust enough to capture adequate sample sizes of the mappable vegetation classes within the study area. Low sampling values were more significantly affected by rarity within the environment (e.g., hardwood swamp, marshes), and/or were typically found mosaiced among more extensive common features such as swamps, fens, bogs, as well as riverine and lacustrine shores with aerial extents below the ELC 0.5 ha limit for mappable classes. Efforts were made during the 2020 and 2021 (See Sections 9.2.3.2 and 9.2.3.3) sampling programs to target these classes. The result is that, even with the access challenges, these classes have been sampled at a greater rate, disproportionate to the proportions they represent within the environment. Text has been modified for clarity. Additional data will be used to test the existing models prior to refinement or development of new models. Additional ARU data from WSR, which was processed after model development, and ARU data gathered for the Northern Road Link, which abuts the WSR on the east side of the project, will be used to test the existing models using independent data (e.g., area under the ROC curve). Th results from this testing will be included in the updated report. There could be some changes to the biodiversity analysis for inclusion of rich conifer forest (cedar dominated) communities. However, given their small size, these communities have only been encountered on an incidental basis and of such small size as to not represent their own sampling plots. They tend to be small inclusions within a sampled polygon. Their inclusion could raise the biodiversity indicators for the conifer forest group but these values already indicate high biodiversity for this community type and it would be unlikely to change any overall conclusions. Cattail marsh communities have only been noted in very select locations, and where observed, have been very small (<0.01 ha), it would be difficult to include them in the	Thank you for the further information. Please ensure that this additional text is included in the future EA/IS report so that assumptions made are clearly found. MNRF has additional questions based on the responses provided. Specifically: - Is it, therefore, anticipated that sufficient data will be available once the additional ARU data from the WSR and NRL projects are gathered for the upcoming updated report? Or is data volume still potentially limiting? How will using data from a separate study area (i.e., NRL) be anticipated to alter the outcome - Given the findings thus far, does the very small - small presence size warrant considering these communities as regionally rare where they have been encountered? Will subsequent assessment work take place during the detailed design phase? - If the intent is to follow-up with further reconnaissance during the detailed design phase, how will the presently identified communities be addressed? Does their rarity warrant consideration as regionally rare vegetation communities for the EAR/IS? Please ensure rationale is incorporated into future documents. MNRF encourages future effects assessment within the detailed design phase. Please note, Ontario recently amended the Species at Risk Ontario list, which includes updating Short-eared Owl from special concern to threatened status. MECP should be contacted for further guidance on the consideration of this species.

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022					
Comment #	**NEECR Section / Page #**	**Comments & Rationale**	**Proposed Action/Solution**	**Project Team Response (January 11, 2023)**	**MNRF Response to PT Response (March 6, 2023)**
	E) 10.2.5.4 Breeding Bird Point Counts Surveys – sample representation page 381 F) 10.3.2.2.4 Winter Season, Page 441 G) 10.3.2.3 Avian Distribution and Abundance Modelling, p. 452	What are the implications of not including these community types in the biodiversity assessment? Is it recommended that either of these two community types be further investigated to be better accounted for in further assessment work? D) *A number of vegetation classes within the mapping occur only in a few patches and may be difficult to detect at a landscape scale owing to their size, geographic restriction within the landscape, or difficulty in being resolved from larger patches/classes without ground-truthed species data.* Is there a plan to address this in further assessment work? E) *The number of breeding bird survey stations that were surveyed were significantly different than the expected number of survey stations based on the proportion of habitat within the LSA.* Is additional fieldwork planned to ensure treed wetlands are adequately sampled (i.e., no longer under-sampled)? If not, what are the implications of not sampling and how will this impact the bird diversity assessment in this particular habitat? F) *Due to the heavy recording schedule implemented for the ARUs and the inability to service the stations in the winter, collected data was limited to the early winter period within the month of November, with the latest recording occurring on November 23rd.* As a result, will addition ARUs be deployed to target the stretch of time between late November through to the spring when ARUs were deployed in 2020/2021? Nocturnal Owl Surveys typically occur in early April. Would this be something that would be considered where servicing is feasible? G) *In general, statistical power appears to be a function of the number of positive observations for a species, the relative proportion of the landcover type, and the strength of the relationship between the explanatory variable and the species' abundance. This suggests that increasing power for the less abundant species will most likely come from targeting additional sample effort in those rarer habitats that are selected by the species.* Given the suggestion above, will additional sampling effort need to be carried out to properly assess impacts in the upcoming effects/impact assessment?		analysis although they are captured in the overall species list for the project. There are no plans to specifically sample these areas. Given their small size and the nature of the randomized stratified sampling program, these are only be encountered on a chance basis, unless the field team is already aware of their location and targets them specifically. Based on current observations from our field work this is not consistent with the criteria for selection of sampling points under the existing methodology. This statement on Patch rarity within the environment (e.g., hardwood swamp, marshes), was included to highlight the rarity of these vegetation classes and the potential need to do further sampling at later development stages of the Project (i.e., Detail Design Phase). Efforts were made during the 2020 and 2021 (See Sections 9.2.3.2 and 9.2.3.3) sampling programs to target these classes. The main difficulty relates to the size of these areas and the fact that they are typically found mosaiced among more extensive common features such as swamps, fens, bogs, as well as along riverine and lacustrine shores with aerial extents below the ELC 0.5 ha limit for mappable classes. E) While it is acknowledged that stations were surveyed at proportions different than found within the LSA, this is not necessarily indicative of under-sampling in under-representative habitats. However, sampling effort will be assessed to determine if further sampling is required. F) While it is acknowledged that winter bird sampling did not occur within the timeframe outlined in the TISG, however samples recordings were obtained in late November which is outside of the migration window giving insight into winter use. Additionally, winter avian residents of the region are well known based on existing data sources. Given that habitat associations are likely to remain consistent for resident species through the fall and winter season and the extensive availability of fall data, winter usage can likely be inferred from fall ARU data, and therefore no further field surveys are proposed. Owl species are one group that we acknowledge are not covered by existing recordings as they are often most vocal in the winter. For many species the data gathered for raptor nest surveys will account for Owl habitat use as they reuse old raptor and corvid nests. ARU recordings are also unlikely to account for Short-eared Owls as they are generally a non-vocal species. While more baseline data may be required for future effects monitoring this could be gathered in future development phases of the Project (e.g., detail design phase). G) The statistical power of the models will be explored in order to determine if further sampling is needed in order to properly assess impacts in the upcoming effects/impact assessment. The report will be updated to include this analysis. The outcome of this exploration will determine if further sampling is warranted. Note that some habitat patches were quite rare, and virtually all of these have already been sampled, so increasing sample effort in rare habitats will be dependent on the availability of additional habitat patches.	In instances of rare habitat types, does their limited presence on the landscape warrant them being considered as regional rare vegetation communities within the EAR/IS? This additional information is requested so that the MNRF and other reviewers are better enabled to determine the validity of the effects assessment (including the assumptions made as part of that assessment), the conclusions drawn about impacts the project will have on the various natural heritage features, and the monitoring and mitigation options presented to minimize any potential impacts.
MNRF-30 Natural Heritage	9.4.5 Maintenance of Characteristic Fish/Amphibian Habitat p.340	*Given the extensive nature of the wetlands within the study area, for this functional assessment the maintenance of Characteristic Fish/Amphibian Habitat will be focused on those wetlands proximal to open waterbodies (lakes/rivers) with the potential for direct access to provide support for fish and amphibian life processes.* What size of open waterbodies were considered? Amphibians can utilize seasonal and small woodland pools, including fishless waterbodies.	Please provide more detail, particularly for the amphibian habitat as MNRF would like to better understand the criteria set out for this part of the assessment.	All mapped open waterbodies, the smallest of which is 0.002495 ha were used in the analysis. The majority of the 4,589 wetlands (235946.95 ha) present in the study area provide some form of support for amphibians. The goal was to identify and rank (low, medium, and high) those areas most likely to support critical life processes such as overwintering and breeding. As described in Section 9.4.5: "With the exception of large bogs and fens, all open wetland types adjacent to open waterbodies are considered have a high potential for the maintenance of characteristic fish/amphibian habitat. Large treed or non-treed units (e.g., rivers, and large lakes), that abut open waterbodies, for greater than 1000 m are also considered high, those between 500m and 1000 m, are considered medium, and all other units that intersect open waterbodies for less than 500 m are considered to be low".	Thank you for providing additional information on the assessment methodology for amphibians. Please ensure that this additional information detailing the ranking of waterbodies as low, medium, and high for amphibian life processes can be found in the future EA/IS. MNRF disagrees that wetlands and pools (including vernal pools) < 500m2 (about 25m diameter) should be automatically considered as low-quality habitat. In our experience, small wetlands and pools can support high species diversity, amphibian breeding, and be considered significant. Furthermore, small or ephemeral habitats likely are not identified or captured in the mapped open waterbody layer; however, they also can support important amphibian breeding habitats. To address this possibility, MNRF recommends that these smaller

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022					
Comment #	**NEECR Section / Page #**	**Comments & Rationale**	**Proposed Action/Solution**	**Project Team Response (January 11, 2023)**	**MNRF Response to PT Response (March 6, 2023)**
					waterbodies be examined for amphibian presence/absence during the construction phase of the project, so that mitigation of these features can occur if found. MNRF would be happy to discuss this further with the Project Team.
MMRF-33 Natural Heritage	A) 10.1 Terrestrial Habitat and Wildlife p.358 B) Table 11-1 Local and Regional Study Areas for SAR p.486	The description in the ToR is that the LSA begins at the edge of the project footprint, as opposed to the centreline. The study area descriptions in the baseline report are not consistent with the ToR description. ***Local Study Area*** *– the area where largely direct, and indirect effects of the Project are likely to occur* *Extends 1 km from the centreline of the supply road route Alternatives 1 and 2, and 500 metres (m) from the temporary or permanent supportive infrastructure.* ***Regional Study Area*** *– the area where potential, largely indirect and cumulative effects of the project in the broader, regional context may occur.* *Extends 5km from either side of the Local Study Area boundaries.* Related: It is not clear whether the cumulative effects assessment will include both direct and indirect effects (this is also applicable to the definition of LSA and RSA in section 9). It is highly recommended that the cumulative effects assessment includes both direct and indirect effects, and as a result should encompass the geography of both the LSA and RSA. B) *Caribou* *Local Study Area – 11 km from the centreline of route alternative 1 and 2, and from supportive infrastructure* *Migratory Bird SAR* *Local Study Area – 1 km from the centreline of the route alternative 1 and 3 and 500m from supportive infrastructure*	Please align the LSA to be consistent with the description of it in the ToR (as a minimum commitment). (See Comment #13 as well) Please provide ecological rationale for the selection of LSA and RSA boundaries.	The local and regional study areas (LSA/RSA) as described in the wildlife section and SAR section are consistent with the description of the LSA and RSA in Section 2 of the NEECR - Spatial and Temporal Boundaries, which states the LSA extends from the centreline of the alternative routes and from the footprint of supportive infrastructure. Ecological rationales for the LSA and RSA for terrestrial habitat and wildlife have been added to the report. As part of cumulative effects assessment scoping step, VCs for which net environmental effects are expected will be identified, including determining the spatial and temporal boundaries applicable to a VC, and identifying physical activities, including other projects, which may interact with the WSR Project net effects within the identified boundaries. In the context of the EA/IS, cumulative effects are the net effects from the WSR Project that overlap temporally and spatially with all past, present and reasonably foreseeable activities, as well as activities of the Project itself from multiple emissions and discharges (e.g., simultaneous operations) within the LSA and RSA to understand synergistic or additive effects. Note there will be a separate stand-alone section in the EAR/IS for the cumulative effects assessment.	The response provided about the difference in the LSA and RSA from the ToR to the NEECR does not directly address MNRF's comment / concerns. MNRF's perspective is that this different approach to the study area boundary can yield a significant difference in the overall area being studied for impacts. For example, specifications for the width of the future roadway right-of-way (RoW) have not yet been confirmed and are likely to vary at different segments along its length. This variable RoW width could potentially result in a large amount of landbase (habitat features, water bodies, etc.) no longer being captured within the LSA parameters if the LSA is measured from the centreline. Furthermore, forgoing an assessment of impacts from ROW boundary line could reduce the built-in flexibility of the EA/IA (i.e., for effects assessment and also future permitting) if the ROW needs to move to address an encountered issue. MNRF is not requesting further baseline data collection at this time; however, more rationale is requested about how the change to working from the centreline of the supply road route alternatives rather than from the Project Footprint boundary will not limit the validity of the effects assessment and conclusions drawn about the impacts the project is expected to have on natural heritage values.
MNRF-53 Natural Heritage	10.3.2.6.7 Waterfowl Nesting Areas p.468	Field Survey Results *Field data indicated that a variety of waterfowl nesting within the LSA, including Canada Goose, Mallard, American Widgeon, Ring-necked Duck, Common Merganser, and Hooded Merganser. No waterfowl nesting area SWH that met the criteria for this habitat type were confirmed through field observations within the LSA or RSA.* MNRF understands the above statement to mean that fieldwork did not confirm any of the candidate SWH (waterfowl nesting habitat areas) to be significant. Please elaborate on the degree of effort afforded to looking for waterfowl nesting areas. Were the candidate areas specifically targeted or were these areas not confirmed to be SWH through incidental observations? If this is described elsewhere, please reference the applicable sub-section and provide a high-level summary within the text of this sub-section. It is also unclear what defining criteria are being used for determining significance.	Please provide added clarity on the method/criteria used for identifying/confirming SWH.	No targeted surveys were done for Waterfowl Nesting Areas to identify/confirm them as SWH. Some migration surveys were done later in the season and stretched into the beginning of the nesting period which showed that a variety of waterfowl were nesting within the LSA, including Canada Goose, Mallard, American Widgeon, Ring-necked Duck, Common Merganser, and Hooded Merganser. While this provided field data on nesting species it did not allow the confirmation of any nesting area as SWH.	Thank you for the clarification. While the Project Team did not specifically look for nor were able to confirm significant waterfowl nesting habitats with the baseline data collected, MNRF requests that the future EA/IS consider and mitigate any potential impacts the project may have on waterfowl nesting as part of the EA/IS, if suitable candidate Significant Wildlife Habitat (SWH) for waterfowl nesting are found within the project footprint (e.g., appropriate candidate ecosites and general habitat use captured by incidental nesting observations). MNRF is requesting this information be presented in the EA/IS to better enable the ministry to determine the validity of the effects assessment (including the assumptions made as part of that assessment), the conclusions drawn about impacts the project will have on waterfowl nesting areas that contribute to the SWH within the project area, and the monitoring and mitigation options presented to minimize any potential impacts on these features.

WETLAND ENVIRONMENTAL IMPACT STUDY REQUIREMENTS; TECHNICAL MANUAL

Gartner Lee

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ONTARIO MINISTRY OF MUNICIPAL AFFAIRS,
– Provincial Facilitator's Office
ONTARIO MINISTRY OF NATURAL RESOURCES,
– Corporate Policy and Planning Secretariat

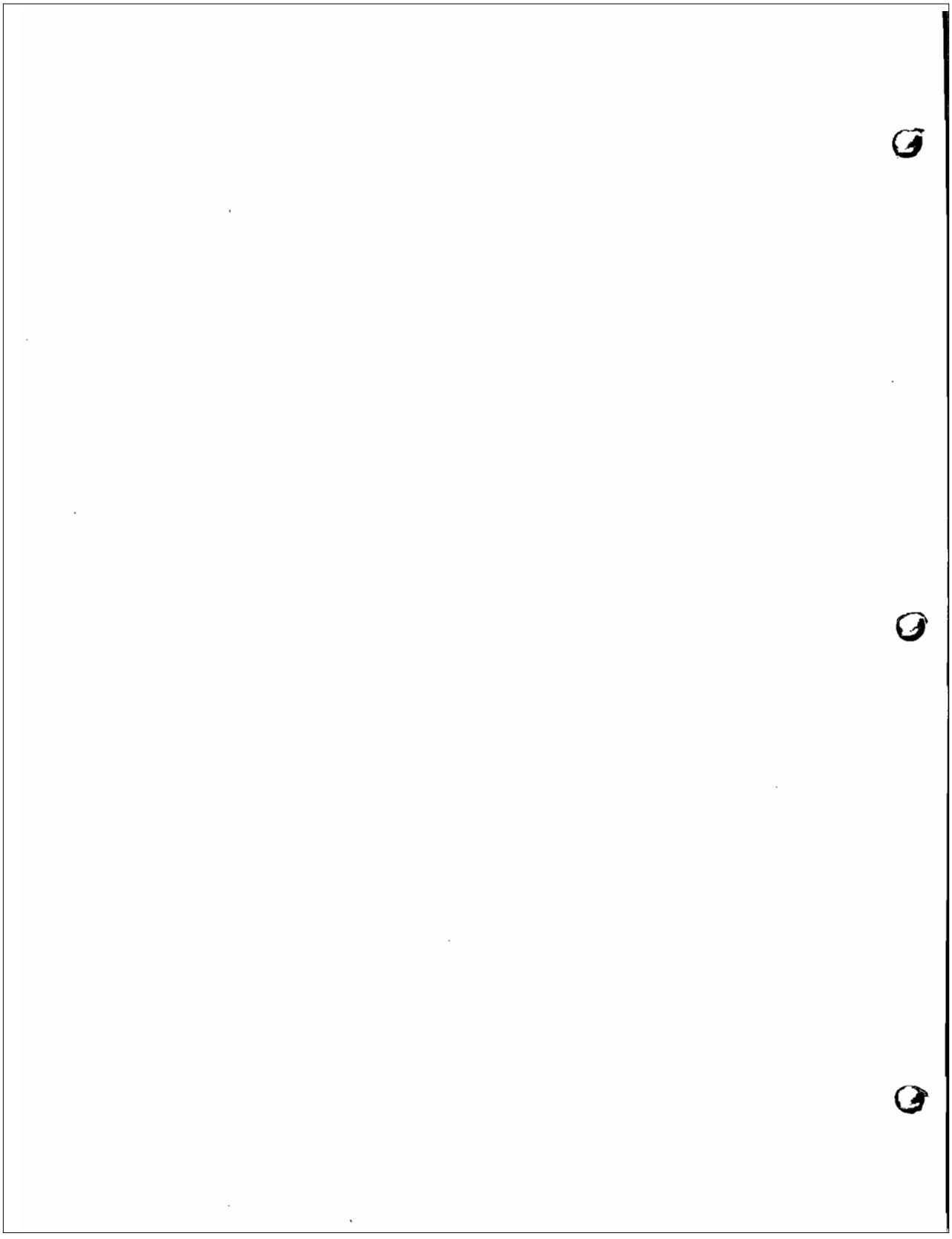
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FEBRUARY, 1995

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Consultants In The Environment



HOW TO USE THIS MANUAL

One of the important objectives of an Environmental Impact Study (EIS) is to ensure the protection of provincially significant wetlands. This Technical Manual is a guide to the preparation and/or evaluation of Environmental Impact Studies required by the Provincial Wetlands Policy Statement issued under Section 3 of the Planning Act, RSO 1990 C.P. 13. This Technical Manual is suitable for use by Ministry of Natural Resources (MNR) personnel and other agency (including municipal) staff, and by proponents, consultants and others.

An EIS is a technical document which places particular importance upon the collection and interpretation of scientific information. The conduct and/or review of many EISs will require some expertise in the areas of biology/ecology, planning and physical sciences/engineering and the ability to integrate these elements effectively. The degree of expertise required will be influenced by the degree of complexity of the individual project. An EIS is required in response to proposed development activities in provincially significant wetlands and on lands adjacent to them, throughout Ontario, according to the Provincial Wetlands Policy Statement:

Policy Statements

2. ***In the Great Lakes – St. Lawrence Region***

2.1 ***Development*** shall not be permitted within ***Provincially Significant Wetlands***.

2.2 On ***Adjacent Lands, Development*** may be permitted only if it does not result in any of the following:

a) loss of ***Wetland Functions***;
b) subsequent demand for future ***Development*** which will negatively impact on existing ***Wetland Functions***;
c) conflict with existing site-specific wetland management practices; and
d) loss of contiguous ***Wetland Area***.

This shall be demonstrated by an ***Environmental Impact Study*** (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to d) inclusive.

2.3 On ***Adjacent Lands***, established ***Agricultural Activities*** are permitted without an EIS.

3. In the Boreal Region

3.1 In ***Provincially Significant Wetlands*** and ***Adjacent Lands, Development*** may be permitted only if it does not result in any of the following:

a) loss of ***Wetland Functions***;
b) subsequent demand for future ***Development*** which will negatively impact on existing ***Wetland Functions***; and
c) conflict with existing site–specific wetland management practices.

This shall be demonstrated by an ***Environmental Impact Study*** (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to c) inclusive.

3.2 On ***Adjacent Lands***, established ***Agricultural Activities*** are permitted without an EIS.

4. Approval Process for Utilities/Facilities

4.1 New utilities/facilities shall be located outside ***Provincially Significant Wetlands*** wherever possible. Approval authorities shall consider alternative methods and measures for minimizing impacts on ***Wetland Functions*** when reviewing proposals to construct transportation, communication, sanitation and other such utilities/facilities in ***Provincially Significant Wetlands***.

There are three types of EIS that differ in scope. One or more of these must be completed prior to the approval of any development proposal in or adjacent to Provincially Significant Wetlands as defined by policies 2.2 or 3.1 in the Wetlands Policy Statement:

1. Comprehensive;
2. Full Site; and
3. Scoped Site.

Each is specific to a different set of development scenarios. Generally, the Comprehensive EIS is a tool for landscape level (e.g., watershed, subwatershed, wetland complex) planning. It is fairly broad in scope, relying principally upon background or secondary source information, sometimes supplemented by the collection of considerable new data, especially if it is part of a watershed study. Wetland complexes, because of their larger size, are often best dealt with through a Comprehensive EIS; however, this would not apply where a particular complex covers a small area. A municipality or planning board may undertake a Comprehensive EIS for its political jurisdiction. In this case, the goal of the EIS is to incorporate broad based land use policies for development into the Official, Secondary

and Special Area Plans. A proponent of a site specific proposal would then generally prepare a Scoped Site EIS that would build upon the information compiled in the Comprehensive EIS and address the specific impacts of the proposed development within the policy framework established in the municipal plan.

The Full Site and Scoped Site EISs are conducted for specific developments within and/or adjacent to a provincially significant wetland. The selection of one versus another is dependent upon a number of considerations including the type and magnitude of the development, degree of expected effects, and whether a Comprehensive EIS has been prepared.

This Technical Manual is organized to help the reader decide what is relevant in a particular EIS and to identify the documentation requirements for each of these three EIS types. This Technical Manual includes a flow chart (Figure 1) to determine whether an EIS is required and an introduction and overview of the applicability of the Wetlands Policy Statement and the framework for conducting EISs. Chapter 2 is an overview of the EIS process developed specifically to allow early and open consultation among key stakeholders and to enable defensible and replicable documents to be produced in a reasonable manner. The main steps in this process and relevant sections of the technical manual are explained in Sections 3.0 to 7.0. They are supported by detailed technical appendices.

Section 3.0 – Initial Consultation and Potential Issues Summary Paper Requirement

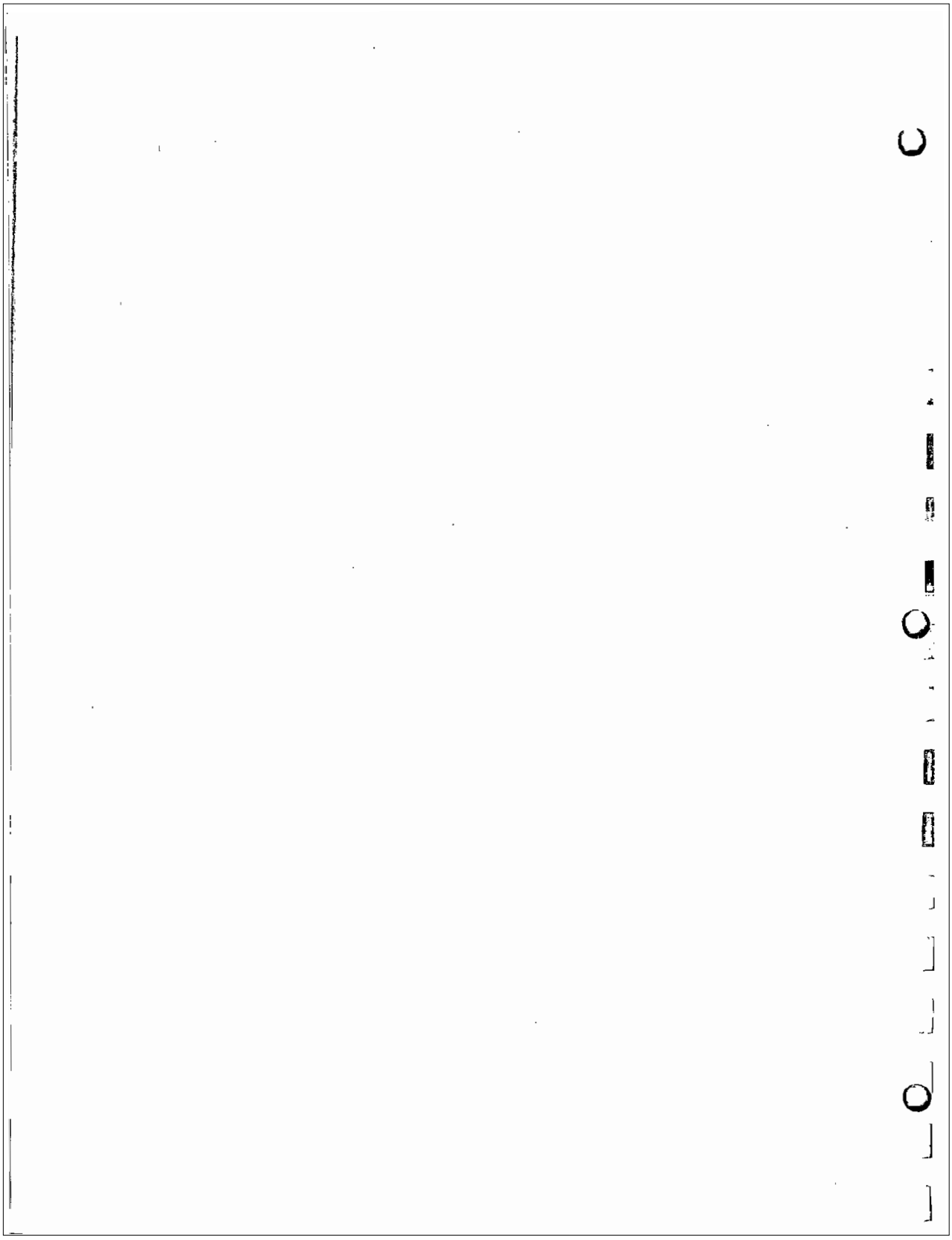
This section includes consultation activities, along with an initial assessment of the existing environment, and descriptions of the proposed development and potential effects of development activities on wetland functions. The product of this step is an Issues Summary Paper which can fulfill the requirements of a Scoped Site EIS or can form the outline of the Full Site EIS to be prepared. The Issues Summary Paper requirement should be discussed with the MNR and the planning authority. It will likely be required for most Full Site EISs and some scoped site EISs.

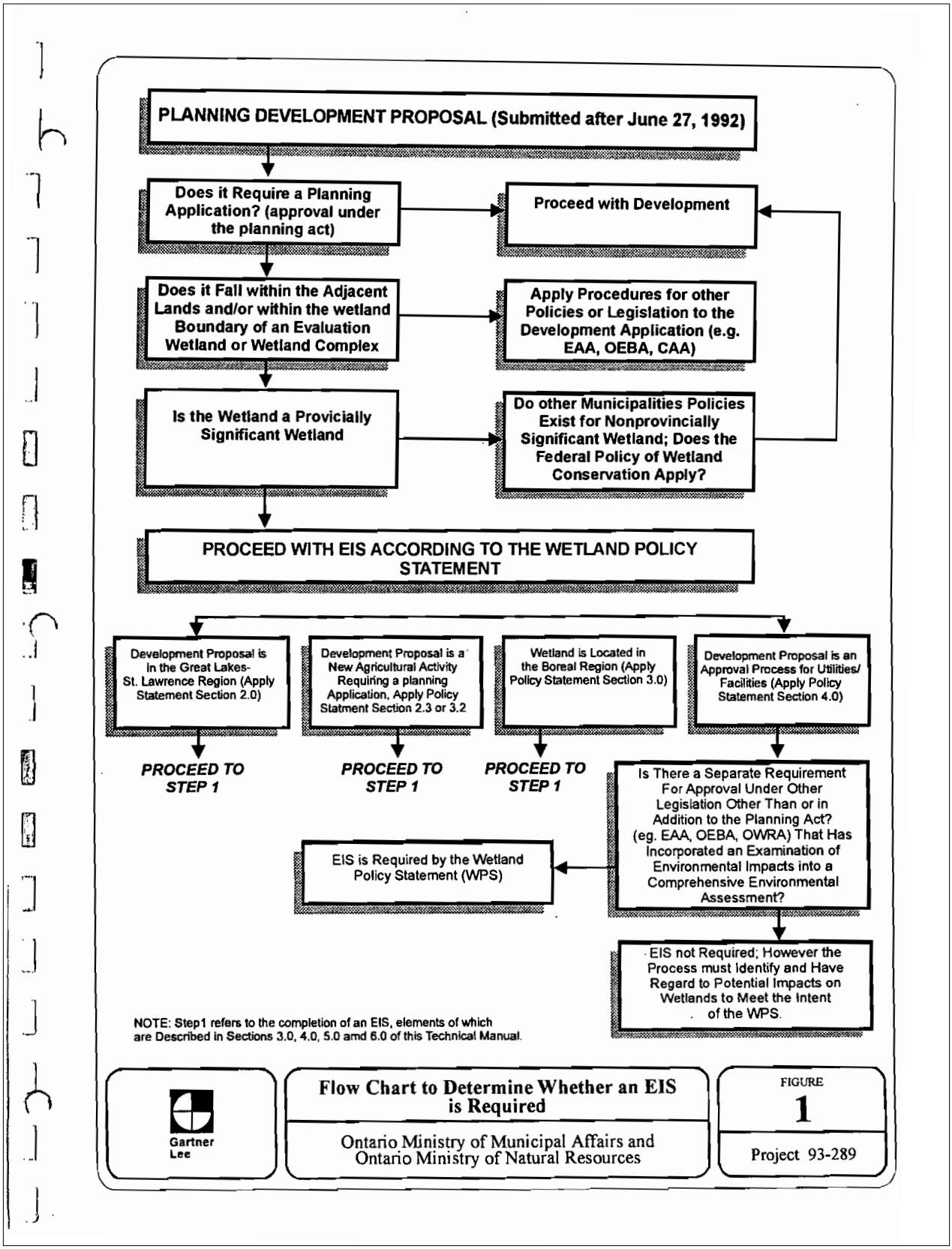
Sections 4.0, 5.0 and 6.0 – Scoped Site, Full Site and Comprehensive EIS Requirements

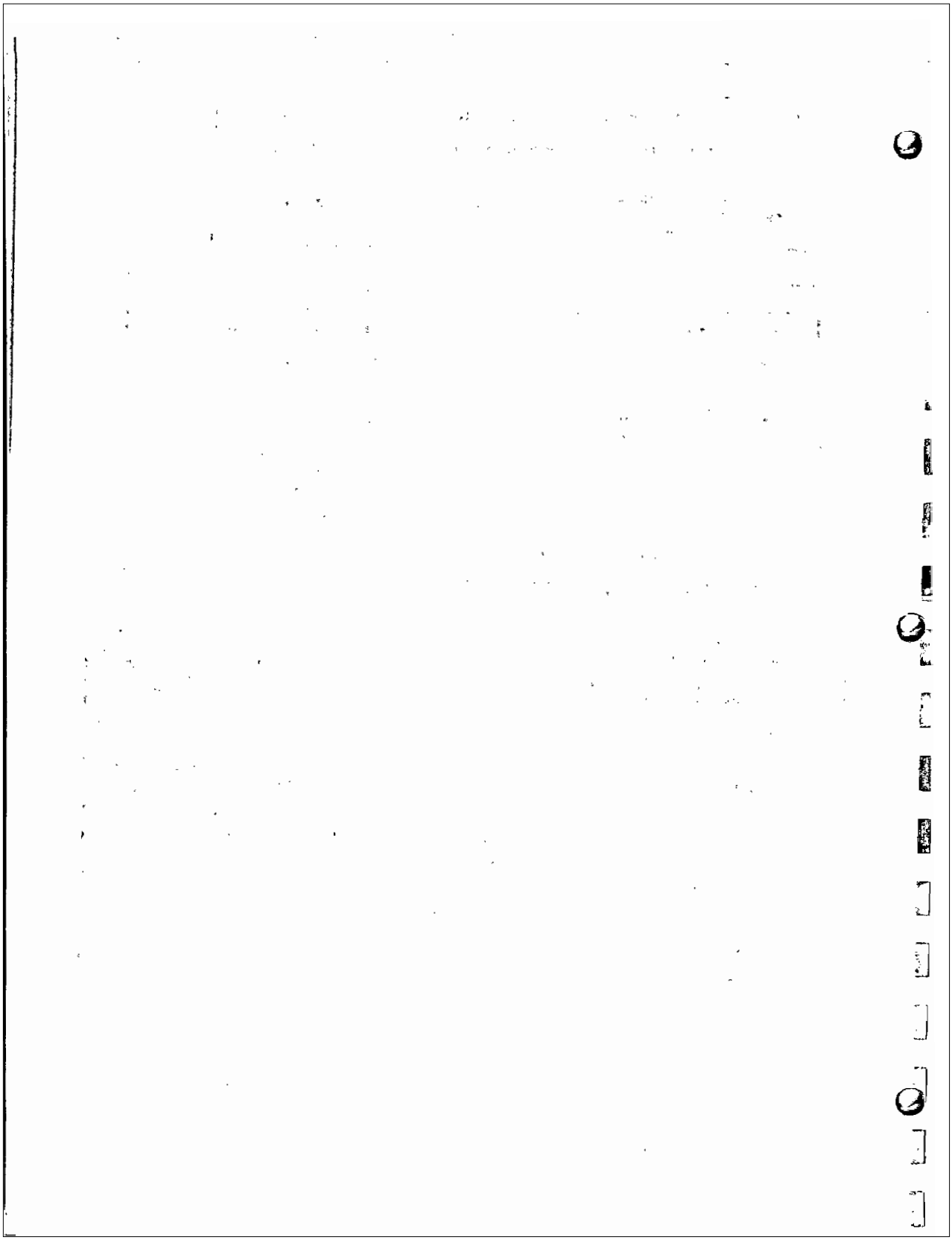
These can be based on information compiled in Section 3.0 (e.g., type of EIS, issues of interest, and the expected level of effort required). This step is the most important component of the Technical Manual. It provides the guidance required to characterize wetland functions and to carry key wetland functions through the impact/effect assessment process. The product of these sections are the Scoped Site, Full Site and Comprehensive EIS documents.

Section 7.0 – EIS Review and Recommendation

This is the review, recommendation and approval stage, when the municipality or planning board (approval agency) decides to accept with conditions, accept pending further detail, bump–up, or reject a development application based upon technical input provided by the EIS and guidance coordinated by the Ontario Ministry of Natural Resources (MNR).




PLANNING DEVELOPMENT PROPOSAL (Submitted after June 27, 1992)
Does it Require a Planning Application? (approval under the planning act)
Proceed with Development
Does it Fall within the Adjacent Lands and/or within the wetland Boundary of an Evaluation Wetland or Wetland Complex
Apply Procedures for other Policies or Legislation to the Development Application (e.g. EAA, OEBA, CAA)
Is the Wetland a Provicially Significant Wetland
Do other Municipalities Policies Exist for Nonprovincially Significant Wetland; Does the Federal Policy of Wetland Conservation Apply?
PROCEED WITH EIS ACCORDING TO THE WETLAND POLICY STATEMENT
Development Proposal is in the Great Lakes-St. Lawrence Region (Apply Statement Section 2.0)
Development Proposal is a New Agricultural Activity Requiring a planning Application, Apply Policy Statment Section 2.3 or 3.2
Wetland is Located in the Boreal Region (Apply Policy Statement Section 3.0)
Development Proposal is an Approval Process for Utilities/ Facilities (Apply Policy Statement Section 4.0)
PROCEED TO STEP 1
PROCEED TO STEP 1
PROCEED TO STEP 1
Is There a Separate Requirement For Approval Under Other Legislation Other Than or in Addition to the Planning Act? (eg. EAA, OEBA, OWRA) That Has Incorporated an Examination of Environmental Impacts into a Comprehensive Environmental Assessment?
EIS is Required by the Wetland Policy Statement (WPS)
EIS not Required; However the Process must Identify and Have Regard to Potential Impacts on Wetlands to Meet the Intent of the WPS.
NOTE: Step1 refers to the completion of an EIS, elements of which are Described in Sections 3.0, 4.0, 5.0 amd 6.0 of this Technical Manual.
Gartner Lee
Flow Chart to Determine Whether an EIS is Required
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE 1
Project 93-289



SPECIAL NOTES ABOUT THIS TECHNICAL MANUAL

A. Acknowledgements

This Technical Manual has been produced with extensive input from a variety of sources. Principal contributors are acknowledged in the following.

Particular thanks are owed to the core group of technical reviewers of this manual from the MNR including:

- Kevin Loftus
- Margaret McLaren
- Angus Norman
- John Riley

Many other MNR, staff contributed significant comments on the two drafts of this document. Wayne McMillan kindly provided liaison with Ontario's Conservation Authorities and assembled and organized their comments on previous documents. Mary Neumann contributed advice and comments on this manual throughout its production, on behalf of the MMA.

Many other groups and individuals assisted in the development of this manual by participating in a Wetland Function Workshop conducted early on in this Study and by providing their suggestions regarding this manual. Included in this group were:

- Ministry of Transportation
- Federation of Ontario Naturalists
- Ontario Federation of Anglers and Hunters
- Ducks Unlimited
- Association of Aggregate Producers of Ontario
- Urban Development Institute, and many others

Thanks are also owed to Ecological Services for Planning Limited for their lead role in the completion of this Technical Manual and in the development of complementary training materials and information.

B. Notes Regarding the Context For and Limitations of this Manual

This Technical Manual has been prepared to be as helpful a document as possible for those charged with the responsibility of conducting Wetland EISs. This manual provides guidance

about when and how an EIS should be undertaken. Each EIS will be different and this manual should not be treated as a recipe with specific recommendations for every situation.

More specific guidance will be offered as part of the two day training course created as a companion to this Technical Manual.

The use of this Technical Manual benefits from some familiarity with wetland ecology issues. There is an emphasis throughout this document on more commonly encountered situations and difficulties such as:

i) an emphasis on the Great Lakes – St. Lawrence Region, where EISs have been and are being undertaken much more frequently; and

ii) a focus on the loss of function test of compliance with the Wetlands Policy Statement.

This Technical Manual will be modified and revised over time in response to an increased understanding of wetland functions and in response to our collective experience in completing more EISs.

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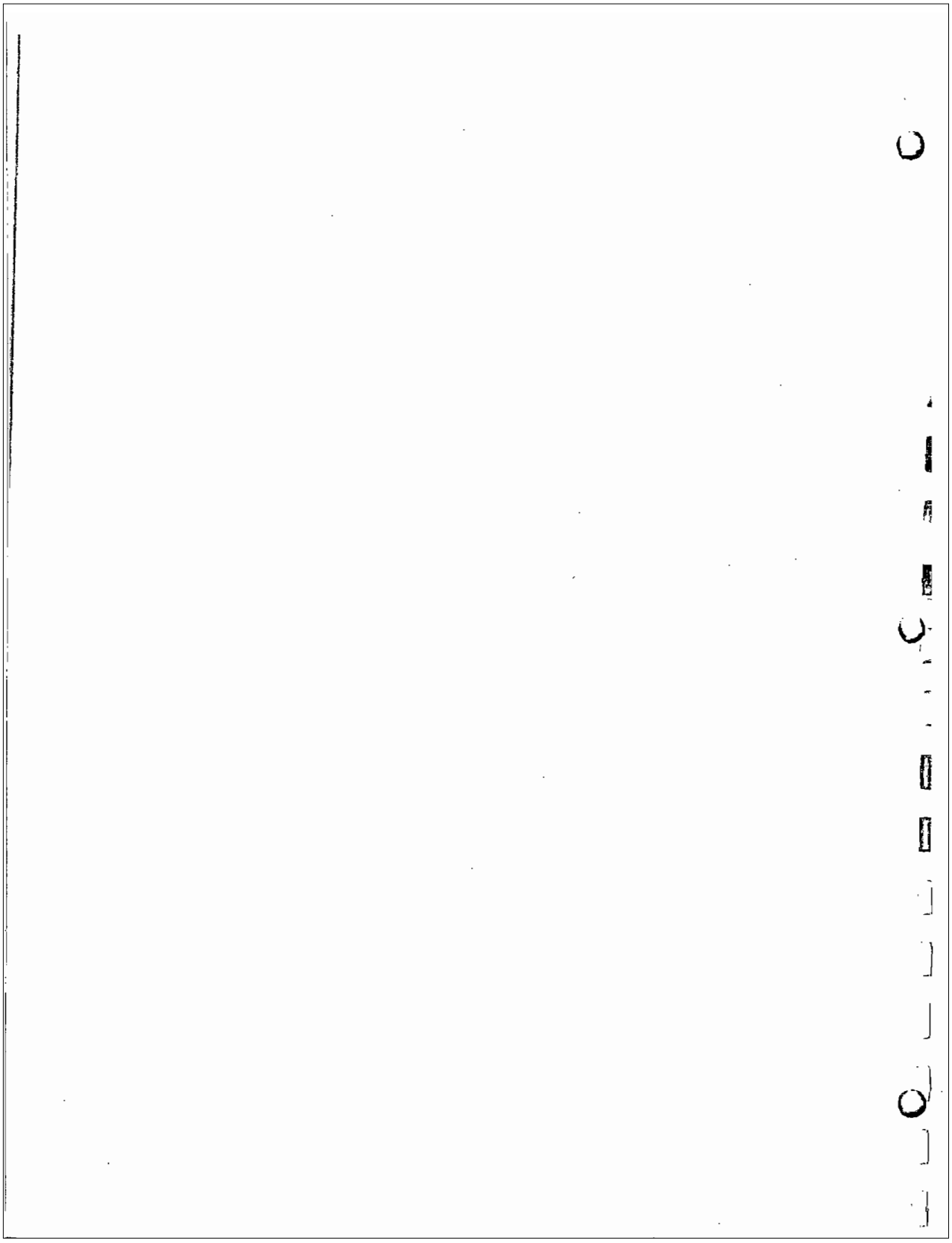
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1.0 INTRODUCTION

1.1 PURPOSE OF THIS TECHNICAL MANUAL AND POLICY CONTEXT

The purpose of this technical manual is to provide a guide to the preparation of Environmental Impact Studies required by the Provincial Wetlands Policy Statement issued under Section 3 of the Planning Act, RSO 1990 C.P.13. This Technical Manual explains why and when Environmental Impact Studies (EIS) are required and what they should include. It is to be read and used in conjunction with the Wetlands Policy Statement, the Manual of Implementation Guidelines for the Wetlands Policy Statement and the Wetland Evaluation Manual. This technical manual is suitable for use by MNR personnel, other agency or municipal staff, and by proponents and others.

This manual is the technical guideline that sets the standards for the identification, preparation and evaluation of EISs in a manner that is credible and defensible in terms of wetland science. More specifically, this manual provides sufficient detail describing how to collect and interpret information to address:

a) potential impacts associated with a proposal;
b) technical information requirements;
c) standards for data collection, analysis and presentation;
d) standard techniques for the impact assessment;
e) mitigation strategies;
f) monitoring requirements, if deemed necessary; and
g) the EIS evaluation process.

These information needs are identified for Comprehensive, Full Site and Scoped Site EISs.

This section contains important information about the applicability of the Wetlands Policy Statement. The Wetlands Policy Statement was issued under Section 3.0 of the Planning Act, RSO 1990 C.P. 13 and came into effect on June 27, 1992. Subsection 3(5) of the Act states that:

> *In exercising any authority that affects any planning matter, the council of every municipality, every local board, every minister of the Crown and every ministry, board, commission or agency of the government, including the Municipal Board and Ontario Hydro, shall have regard to policy statements issued under subsection (1). 1983,c.1,s.3.*

The wording "shall have regard to" was chosen to provide a degree of flexibility to the application of the policy under certain circumstances. On May 18, 1994, a Comprehensive Set of Policy Statements was released by the Minister of Municipal Affairs in which the wording was changed to **"shall be consistent with"**. This proposed change is considered to be a stronger mechanism for implementing policy than "shall have regard to".

The **"shall be consistent with"** standard would require planning authorities to make planning decisions in a manner that implements the stated goals and objectives of the applicable provincial policy statements consistent with the spirit of the government's policy direction. At the same time, this provision should be flexible enough to apply the policy statements to a variety of local circumstances and in ways that are practical and innovative, as long as the stated end result of the applicable policy statement is met.

This new wording is expected to be adopted in early 1995.

Policy

It is the policy of the Province of Ontario that:

1.1 All planning jurisdictions including municipalities, planning boards and resource management bodies within the Province shall protect ***provincially significant wetlands***.

1.2 Where ***provincially significant wetlands*** have been identified, all planning jurisdictions, including municipalities and planning boards, shall incorporate policies and protect ***provincially significant wetlands*** in official plans, zoning by-laws and other development decisions under the ***Planning Act***.

1.3 All planning jurisdictions, including municipalities and planning boards are encouraged to protect other ***Wetlands*** that are not provincially significant.

In preparation of this manual, all efforts have been made to simplify the process and to make it user friendly. However, it has been developed with the intention that users will also take a two day training course to ensure a standard and consistent application. This manual is not intended to provide specific answers, but rather technical guidance and how-to-decide information. The degree of expertise required to complete an EIS will vary. It is expected that some of the more complicated EISs will require high levels of expertise.

1.2 IMPLEMENTATION OF THE POLICY

The Wetlands Policy Statement, the Manual of Implementation Guidelines for the Wetlands Policy Statement and this document are jointly prepared by the Ontario Ministry of Municipal Affairs (MMA) and Ontario Ministry of Natural Resources (MNR). The Manual of Implementation Guidelines for the Wetlands Policy Statement and this Technical Manual are intended to assist in the achievement of the Wetlands Policy Statement goals and objectives, which are:

Goals

a) to ensure that **Wetlands** are identified and adequately protected through the land use planning process; and,

b) to achieve no loss of **provincially significant wetlands.**

Objectives

a) to ensure no loss of Wetland Function or Wetland Area of ***provincially significant wetlands*** in the Great Lakes – St. Lawrence Region;

b) to ensure no loss of ***Wetland Function*** of provincially significant wetlands in the Boreal Region; and

c) to encourage the conservation of other Wetlands (e.g., Classes 4 to 7 using the 2nd edition of the wetland evaluation system, or those wetlands not determined to be provincially significant using the 3rd edition of the wetland evaluation system – southern manual, or the 1st edition of the northern wetland evaluation system – northern manual) throughout Ontario.

The Wetlands Policy Statement provides the overall provincial direction regarding Wetlands. Four other manuals: The Manual of Implementation Guidelines for the Wetlands Policy Statement; The two Wetland Evaluation System Manuals – 1st edition Northern and 3rd edition Southern; and this Technical Manual, assist with either the interpretation or implementation of the Wetlands Policy Statement. The relationships between these previously published documents are summarized in the following.

1.2.1 Relationship with the Wetlands Policy Statement

The Wetlands Policy Statement was jointly prepared by the Ministry of Municipal Affairs (MMA) and the Ministry of Natural Resources (MNR) to identify the provincial interest with respect to the protection of wetlands under the Planning Act. All jurisdictions, including municipalities and planning boards **"shall be consistent with"** this Policy Statement in their decisions affecting any planning matter.

Policies 2.2 and 3.2 specifically require the completion and acceptance of an Environmental Impact Study before development can proceed in adjacent lands. Policy 2.2 sets direction for the Great Lakes St Lawrence Region while 3.3 addresses the Boreal Region. The only difference between the two is that the Boreal Region does not include d), (described in the following).

Policy 2.2 and 3.2 states:

> On *Adjacent Lands*, *Development* may be permitted if it does not result in any of the following:
>
> a) loss of *Wetland Functions*;
> b) subsequent demand for future *Development* which will negatively impact on existing *Wetland Functions*;
> c) conflict with existing site specific wetland management practices; and,
> d) loss of contiguous *Wetland Area* (only Great Lakes St Lawrence Region).
>
> This shall be demonstrated by an Environmental Impact Study (EIS), prepared in accordance with established procedures, and carried out by a proponent addressing a) to d) inclusive.

The effect of the Wetlands Policy Statement is that before a development proposal on lands within 120 m (adjacent land) of a Provincially Significant Wetland can be approved an Environmental Impact Study (EIS) must demonstrate that there will be no impacts on any of the above criteria. With respect to the approval of municipal policy documents, an EIS must be completed if the Official Plan is amended to permit a use that is not compatible with the protection of wetlands.

The Wetlands Policy Statement applies to wetlands and adjacent lands which are both specifically defined in terms of location. While some proposals for development beyond the limit of adjacent land may affect wetlands, this policy does not require that they be included in an EIS. The mandates of the municipality, local Conservation Authority, or other ministry may apply to these issues. **This Policy is not intended to limit other policies in place.**

Where development proposals occur in/adjacent to a non–provincially significant wetland, there are no formal requirements to apply the Wetlands Policy Statement. However, the goals of the Wetlands Policy Statement are to encourage protection of non–provincially significant wetlands as well as provincially significant wetlands. To that end, municipalities may, when incorporating the provisions of the Wetlands Policy Statement into their Official Plan, insert additional policies to require some form of EIS around non–provincially significant wetlands. Regardless of the provincial status of a wetland, the federal wetland policy would have to be applied to any development proposal that: might

have an environmental effect on an area of federal government responsibility; would require federal government commitment ; or, would be undertaken on or near wetlands administered by the federal government, including the offshore.

The application of the Wetlands Policy Statement was effective on June 27, 1992. Since that date, all new planning or development proposals which require approval under the Planning Act were to **be consistent with** the Wetlands Policy Statement. The application of the Policy Statement is not retroactive to proposals where previous approvals have been granted. The Manual of Implementation Guidelines for the Wetlands Policy Statement (Section 4.4) outlines an approach to be taken in determining the applicability of the Wetlands Policy Statement to specific planning applications submitted prior to June 27, 1992.

The approaches identified in this manual are not all inclusive. It is expected that refinements will be made on a case–by–case basis, in consultation with the MNR and either MMA and/or the appropriate local planning authority. However, implemented, all planning approaches must ensure that the goals of the Wetlands Policy Statement are met. Further information regarding the MNR and the land use planning process is provided in Appendix A.

1.2.2 Relationship With the Implementation Guidelines

The Manual of Implementation Guidelines for the Wetlands Policy Statement was jointly prepared by MMA and MNR to assist municipalities and provincial agencies with the interpretation and implementation of the Policy Statement. The Manual provides general direction on when and how an EIS is prepared. This Technical Manual is intended to complement the Manual of Implementation Guidelines by providing more specific direction with respect to the requirements of an EIS.

1.2.3 Relationship With the Wetland Evaluation System

The wetland evaluation system was designed to identify and measure the recognized values (benefits) of wetlands. Although the evaluation system is based on scientific criteria, it was developed primarily to serve the needs of Ontario's planning process. In this regard, the wetland evaluation system serves as an essential cornerstone of the provincial Wetlands Policy Statement under the Planning Act. Wetlands evaluated under this system are given a classification based on their score. If a wetland is evaluated as provincially significant, municipalities must **be consistent with** the Wetlands Policy Statement in land use planning.

The wetland evaluation system is a tool that allows the consideration of the relative value of different wetlands through the examination and ranking of a number of wetland functions. The evaluation system is used to translate the features of a wetland into quantified values, according to four specific

components: biological, hydrological, social and special features. One of the most important tasks of the evaluation is the accurate location and mapping of wetland boundaries. Detailed procedures for mapping the boundaries of the wetland as well as determining the limit of the adjacent lands for a single *wetland area* or a *wetland complex* are provided in the wetland evaluation system manuals. Recent revisions to these manuals (OMNR, 1994) contain more precise procedures for determining the adjacent lands, particularly of wetland complexes.

This evaluation tool allows a variety of scientists, planners, engineers and others to consider the relative value of different wetlands through the examination and ranking of a number of wetland functions. The assessment of vulnerability to various sorts of developments and pressures is outside the scope of the wetland evaluation system. Some information gathered for and presented in the evaluation can, however, assist in the prediction of some development effects. Similarly, the wetland evaluation system does not suggest kinds of management that would be best for a wetland. Rather, it can provide the basis for considering options and alternatives (Wetland Evaluation System, Southern Manual, 3rd edition, March 1993, pp. 1–3).

It is the responsibility of the MNR to identify provincially significant wetlands. These are identified by wetland evaluation using either the wetland evaluation system for southern Ontario covering Hills' Site Regions 6 and 7 (OMNR, 1993a), or the wetland evaluation system for northern Ontario covering Hills' Site Regions 2 to 5 (OMNR, 1993b).

1.2.4 Application of the Wetlands Policy Statement to Development Proposals Controlled by Other Legislation

The Wetlands Policy Statement cannot directly control activities such as grading, draining and filling which fall under the jurisdiction of other Ministries or agencies and are referenced under other legislative processes such as the Conservation Authorities Act, the Drainage Act, etc. **Approvals under the Planning Act do not supersede or take precedence over other legislative requirements.**

The Wetlands Policy Statement allows its EIS requirements to be folded into other Environmental Assessment (EA) processes, or other approval processes such as MNR work permits under the Public Lands or Lakes and Rivers Improvement Acts. For example, where a wetland performs a fisheries habitat function, portions of the Federal Fisheries Act may be applicable. Many infrastructure developments may be authorized under other legislation, including the Environmental Assessment Act, the Ontario Energy Board Act, and the Ontario Water Resources Act. Many of the developments that fall under Section 4.1 of the Wetlands Policy Statement (e.g., utilities, facilities), are in fact controlled by other legislation. Where this is the case, the provincial EA, or federal EARP requirements of the governing legislation applies.

Where duplication occurs with respect to the assessment of impacts on a provincially significant wetland, the wetland EIS guidelines identified in this technical manual cannot be applied in full. That is, an EIS will not be required. Instead it is recommended that as many as possible of the wetland EIS requirements identified in this Technical Manual be "folded into" those other EA processes. Every effort should be made to comply with the intent of the Wetlands Policy Statement.

Watershed or subwatershed plans being developed by Conservation Authorities in conjunction with provincial ministries, may also fulfill the requirements of Comprehensive EISs. **Duplicate processes are neither advocated nor recommended.** Appendix A.5 provides some additional information on the relationships of this technical manual to other EA proponents and to the Federal Environmental Assessment and Review Process.

1.2.5 Application of the Wetlands Policy Statement to Wetland Management Activities, Agricultural Activities and Crown Land Activities

Wetland management activities which include securement, rehabilitation, maintenance and sustainable use are addressed through mechanisms other than the Wetlands Policy Statement.

The intent of the Wetlands Policy Statement should be considered when wetland management proposals are being evaluated. Every effort should be made to ensure that as many key wetland functions are protected or enhanced as a result of management. See also page 27 of the Manual of Implementation Guidelines for further information regarding this matter.

It is not the intent of the Province of Ontario that the EIS guidelines identified in this technical manual be applied in full to wetland management proposals such as those proposed by the Eastern Habitat Joint Venture (EHJV). The EHJV's wetland management proposals are subject to both the provincial Environmental Assessment Act (EAA) and the federal Environmental Assessment and Review Process (EARP). A combined EA/EARP protocol has been developed to evaluate these projects. The intent of the Wetlands Policy Statement should be considered in this review process.

Existing agricultural activities are permitted on adjacent lands without an EIS. New agricultural activities that would require a planning application will require an EIS (e.g., lands currently zoned for uses other than agriculture where the landowner wishes to actively farm; this could require the submission of a zoning application).

The Wetlands Policy Statement must be applied in a comprehensive manner to Crown Land activities such as timber management and mining. In other words, these and other resource management activities undertaken on Crown Land will have to **be consistent with** the intent of the Wetlands Policy Statement. Protocols to assist with these matters will be developed by the MNR.

2.0 AN OVERVIEW OF THE EIS PROCESS AND IMPORTANT BACKGROUND INFORMATION

> *"The purpose of an Environmental Impact Study (EIS) is to prevent negative impacts on wetlands by providing the results of a careful analysis of possible impacts of development options at the outset of the planning process."* (Manual of Implementation Guidelines for the Wetlands Policy Statement, pg.86).

An EIS must provide sufficient information on a proposed development to determine possible impacts on wetland function, management practices and area. The specific level of detail required by the planning authority or municipality may be outlined in the Official Plan. The absence of this information in the Official Plan, however, does not preclude the necessity of an EIS in order to provide the means for the planning authority to reach decisions on a proposed development.

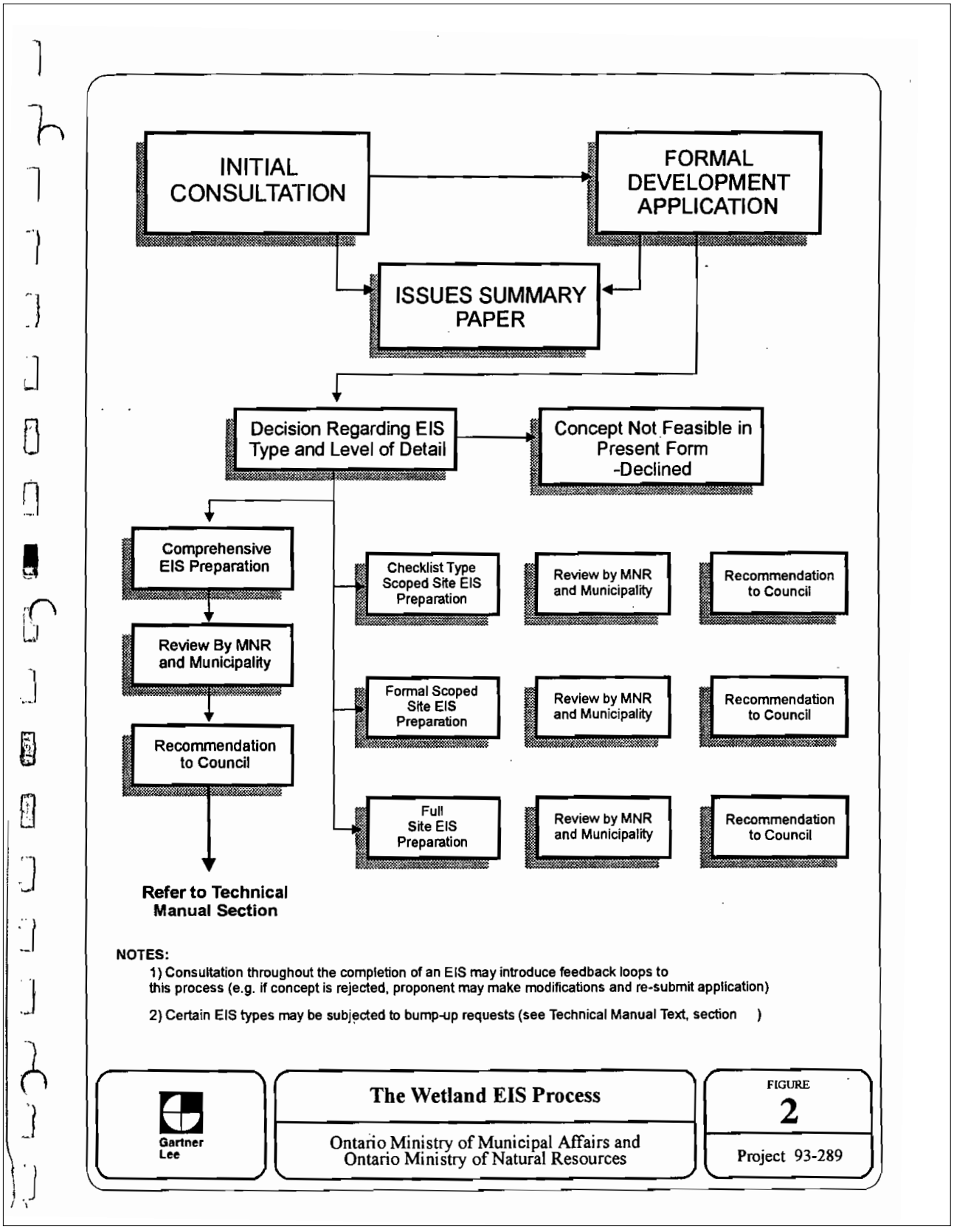
The approach to preparing a wetland EIS, as described in this Technical Manual, follows accepted environmental assessment and scientific methodologies. Standard environmental assessment (EA) methodology, for example, calls for assessment of a project using the following tasks: 1) scoping, 2) baseline data collection, 3) predicting effects, 4) evaluating effects, 5) proposal modifications, 6) mitigation identification, 7) monitoring identification, 8) reporting, and 9) monitoring implementation (Munro et al., 1986) The format of the wetland EIS procedure is similar but the approach in this Technical Manual has been customized to suit the specific requirements of the Wetlands Policy Statement. By incorporating some elements of the standard EA approach, it should be relatively easy for other agencies, which must conduct EAs under different legislation, to identify and "have regard to" potential impacts on wetlands, thus meeting the intent of the Wetlands Policy Statement.

The procedure outlined in this Technical Manual is not intended to limit the planning authority in any manner. Additional impact studies over and above those outlined in this technical manual or the Official Plan may be required (e.g., hydrological studies for subdivision planning).

2.1 OVERVIEW OF THE WETLAND EIS PROCESS

2.1.1 Initial Consultation

Figure 1 identifies when an EIS is required, while Figure 2 depicts an overview of the process leading to the production of an EIS. This figure is an expansion of Figure 16 in the Manual of Implementation Guidelines for the Wetlands Policy Statement.


INITIAL CONSULTATION
FORMAL DEVELOPMENT APPLICATION
ISSUES SUMMARY PAPER
Decision Regarding EIS Type and Level of Detail
Concept Not Feasible in Present Form -Declined
Comprehensive EIS Preparation
Review By MNR and Municipality
Recommendation to Council
Refer to Technical Manual Section
Checklist Type Scoped Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
Formal Scoped Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
Full Site EIS Preparation
Review by MNR and Municipality
Recommendation to Council
NOTES:
1) Consultation throughout the completion of an EIS may introduce feedback loops to this process (e.g. if concept is rejected, proponent may make modifications and re-submit application)
2) Certain EIS types may be subjected to bump-up requests (see Technical Manual Text, section)
Gartner Lee
The Wetland EIS Process
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE 2
Project 93-289

The first step, for a proponent, is to contact the planning authority (usually a municipality) and the MNR for an initial consultation. At this session, the planning authority can make it known whether there is a Comprehensive EIS in place, in progress or planned. The planning authority may require completion of a Comprehensive EIS before the proponent is permitted to go further in the planning process. It is also possible that, at this early stage, the MNR may be aware of factors that, because of the high probability of impact on wetland functions, will make the particular proposal unacceptable.

A consultant may or may not be required during this initial consultation. However, a consultant knowledgeable in wetland science is recommended (unnecessary where proponent possesses appropriate expertise inhouse) because often even "minor" development proposals, such as single lot severances that appear innocuous on the surface, can have significant impacts as a result of activities such as clearing and grading.

At the outset of a proposed development, the proponent may also choose to consult with other local regulatory agencies (i.e., Conservation Authority, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), MMA, MOEE as described in Appendix D (p.44) of the Guide to Provincial Planning Applications (MMA, 1993). This initial consultation will enable both the proponent and the review agencies to ensure that all relevant information, issues and relevant policies have been considered early on (e.g., Wetlands Policy Statement, Federal Policy of Wetland Conservation, other municipal policies contained in Official Plans, if a Comprehensive EIS is available for the study area, etc.).

While not generally considered to be developments, wetland management projects (for example, work carried out under the auspices of the North American Wetland Management Plan or other cooperators involved in improving waterfowl habitat, productivity, diversity, or sustainable use of wetland resources) should also be introduced to the MNR and the planning authority at a very early stage in planning. Depending upon the extent of the project, a Scoped Site EIS may be recommended to provide details on how impacts on wetland functions will be minimized and/or enhanced.

This initial consultation is also the best time for the MNR to raise any other concerns with respect to the upland portions of the property not necessarily addressed by the Wetlands Policy Statement. For instance, the presence of a nest of an upland dependent rare bird on or near the proponent's property should be identified. Avoidance and mitigation recommendations for the protection of these features could be considered at this state for incorporation into the development plan. Further reference to relationships between wildlife in wetlands and the adjacent lands is provided in Appendix G and Figure 3.

2.1.2 Potential Requirement for An Issues Summary Paper

The planning authority or the MNR may also request the completion of an Issues Summary Paper to help with their decision making regarding the type of EIS and level of effort required.

It is not intended that the proponent conduct a detailed investigation and assessment of the wetland in the Issues Summary Paper. Rather, the proponent should produce a brief document (e.g., a few pages with one or two figures) which flags key issues, wetland functions, potential activities (impacts) and effects that would either address fully the requirements of the Scoped Site EIS, or be made the focus of subsequent work for a more detailed assessment.

The Issues Summary Paper could:

a) confirm that potential impacts are of insufficient concern to warrant further investigation or documentation. In this case, the MNR may choose to accept the Issue Summary Paper (with or without minor revisions) as a Scoped Site EIS itself;
b) point out the need to supplement the Issues Summary Paper on specific matters to fulfill the requirements of a Scoped Site EIS;
c) validate the need to complete a Full Site EIS; or,
d) lead to the conclusion that in its current proposed form, the development would be unlikely to satisfy the requirements of the Wetlands Policy Statement, even with mitigation proposals.

2.1.3 EIS Decision Point

If this initial consultation and the Issues Summary Paper identify the potential feasibility of the development, the proponent submits a development application. At this stage, a decision must be made about the type of EIS and the level of detail required. A site inspection by MNR may be required before a decision can be made. The decision will depend on a number of factors including the size of the proposed development, the potential for impact on wetland function, and the existence of a Comprehensive EIS for the planning area. For larger proposals, or one where certain complexities rule out a straight forward Scoped Site EIS, a Full Site EIS may be required. Table 1 offers some examples of typical types of EIS requirements based upon a variety of activities.

A municipality may require that a Comprehensive EIS be prepared for a portion or all of their jurisdiction. This effort should be coordinated with other compatible exercises if underway (e.g. watershed and subwatershed planning, or municipal natural heritage systems or greenway strategies). The Comprehensive EIS is described in more detail in Section 6.0 of this Technical Manual. Its completion will define requirements for the completion of subsequent EIS documents.

A **Comprehensive EIS** will generally encompass a larger land area than either of the other types but will usually be at a lower level of detail. A Comprehensive EIS is based on a proactive planning

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Table 1: Examples of Development Proposals and Expected EIS Requirements

Activity	Comprehensive EIS	Full Site EIS	Scoped Site EIS	No EIS
Resource Activity	– multiple Pits and Quarries applications	– Major new agricultural activity requiring a Planning Act approval – New pit and quarry application	– Minor new agricultural activity requiring a Planning Act approval – Sustainable wetland management activities	– Existing agricultural activities – legally existing pit and quarry applications
Planning and Development Activity	– unapproved Official Plan – Update or Amendment – large or multiple proposals near large wetlands or wetland complexes	– New subdivision plan – Comprehensive zoning by–law change or amendment – Expansion or re–development of existing development on PWQ and adjacent lands	– Draft approved plan of subdivision and consents – New lot severance application – Minor variance	– Draft approved lot severance
Utilities and Facilities[1]	– Individual EA early planning stages	– Individual EA: preferred option and some complicated Class EAs	– Individual EAs; impact mitigation stage – Most Class EAs	– Screening exercises

(tab–1/93289/tpa/0295)

1. *These undertakings are not directly subject to the Wetlands Policy Statement, however, important information and techniques regarding wetland systems occur in this document in the sections specified below. These should be considered by EA proponents.*

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approach rather than the reactive approach of response to specific development applications. Particularly in areas where development pressures are strong the Comprehensive EIS will be the most efficient and effective means of dealing with successive development applications each of which would otherwise require a Full Site EIS. When a municipality conducts a Comprehensive EIS, it can set a policy framework within the Official Plan that establishes where development may occur and what types of development may occur. This will help in setting the level of detail for specific EISs (usually Scoped Site, but occasionally Full Site for major proposals) required for individual development proposals.

It should be recognized that the **Scoped Site EIS** and **Full Site EIS** occur along a continuum and that EIS requirements for any particular proposal will be subject to a range of possible levels of effort and detail. For example, where a small development that barely encroaches onto the adjacent lands is proposed, and where no effects are reasonably expected on key functions, a Scoped Site EIS is appropriate. For larger or more complex developments, where impacts on key wetland functions are likely unless mitigation is undertaken, a Full Site EIS would be required.

The decision that a Full Site EIS is necessary can come about in two ways: 1) when there is no Comprehensive EIS in place and the development clearly has the potential to have a significant impact on key wetland functions, or 2) as a result of information and/or recommendations contained in a Comprehensive EIS. In both cases, it is likely that an Issues Summary Paper will have been prepared to define and seek agreement upon the required level of effort. This paper will serve as the starting point for completing the formal EIS document.

Depending on the nature of the development proposal, the amount of detail required and the nature, extent and intensity of potential impacts; additional consultation during the preparation of this EIS may be advisable. The need for such additional consultation must be made on a case by case basis.

The Scoped Site EIS is less detailed than the Full Site EIS but, for project approval, it must still demonstrate that the requirements for acceptance laid out in the Wetlands Policy Statement, have been met. Where an Issues Summary Paper report has been prepared it may satisfy the documentation requirements of a Scoped Site EIS. This will occur when the municipality and MNR agree that the Issues Paper has demonstrated that the development satisfies the requirements of the Wetlands Policy Statement. Where this is not the case, the proposal will be subject to the specific requirements of a Scoped Site EIS.

During the Scoped Site EIS, additional consultation may be advisable, particularly if further investigation finds that predicted impacts have been underestimated. In this case, it is possible that the Scoped Site EIS would be 'bumped up' to a Full Site EIS. Again, the need for such additional consultation must be made on a case by case basis.

2.2 THE PREPARATION AND REVIEW OF AN EIS

Preparation of the EIS document will often require considerable technical work. It is unlikely that a proponent will be able to prepare any but the simplest EISs without the assistance of scientists, planners and engineers either inhouse or retained from external sources.

The list below provides an overview of the tasks required for an EIS. For a Comprehensive EIS, tasks a) to c) are undertaken in the context of the larger landscape, tasks d) and e) are discussed at a fairly general level, and tasks f) and h) are not relevant.

a) a detailed study area description including a characterization of the key wetland functions as they exist or are naturally evolving at the time of the development proposal;
b) the degree and extent of those functions as they exist or are naturally evolving;
c) for a Scoped Site or Full Site EIS, a detailed description of the proposed development and an identification of the proposed activities. For a Comprehensive EIS, a description of the type of development that may be permitted on adjacent lands of a provincially significant wetland in the Great Lakes–St. Lawrence Region or in a provincially significant wetland or on adjacent lands in the Boreal Region. This includes the description of any utilities/facilities developments that have been planned for future construction or may be planned in future. The Comprehensive EIS will also describe and/or identify situations when a Full Site or Scope Site EIS will be required;
d) predicted effects of the development proposal including direct, indirect and cumulative effects;
e) an identification and evaluation of options for avoidance, and where avoidance is unattainable, opportunities for other forms of mitigation and rehabilitation (e.g., setbacks);
f) the selection of the preferred mitigation/rehabilitation strategy;
g) a summary of predicted net effects after mitigation and rehabilitation; and
h) a proposed monitoring program (may not be necessary in every case depending on the nature of the development and/or the ability to predict effects accurately and/or whether cumulative effects are a concern).

Once the EIS is completed, the proponent submits it to the appropriate planning authority and, concurrently, to MNR (and other agencies and stakeholders, as required). MNR will make a judgement about the scientific adequacy of the EIS and, if the EIS is inadequate, will communicate

this to the proponent. If the EIS is scientifically adequate, MNR will make a recommendation regarding the acceptability of the proposal to the municipality. Municipal staff make a recommendation to Council specifically on matters related to the wetland. The recommendation can be full acceptance, acceptance with conditions such as compliance to a mitigation/monitoring program, acceptance pending further details (i.e., including the potential bump–up of an EIS to a different level) or outright rejection. Further details about the review and recommendations process are provided in Chapter 7.0.

In the case of utility/facility development proposals where other documentation (e.g., EA) is required in place of the EIS, the intent of the EIS review and recommendation process would form a part of the review for the EA report.

For a development proposal to be acceptable, the EIS must demonstrate that the proposal is in compliance with Sections 2.2 and 3.2 of the Wetlands Policy Statement. Because of the complexity of dealing with the 'no loss of function' requirement, a greater degree of guidance is given in Section 5.0 of this Technical Manual. More general guidance is provided regarding compliance with other tests of the Wetlands Policy Statement.

2.3. IMPORTANT BACKGROUND INFORMATION

Before conducting an EIS, there are a number of important pieces of information to understand, related to:

a) study area boundaries;
b) the identification of key wetland functions;
c) the functional assessment framework; and
d) testing compliance with the Wetlands Policy Statement.

2.3.1 Study Area Boundaries

Any development that must undergo a Full Site or Scoped Site EIS will have at least part of the area proposed to be developed falling within the adjacent lands of a provincially significant wetland in the Great Lakes – St. Lawrence Region and within the adjacent lands or within the provincially significant wetland itself, in the Boreal Region. At a minimum the study area of every EIS must include the boundaries of the development parcel and parts of the adjacent lands and the wetland potentially affected by the development. A site visit may be necessary to stake the boundary of the wetland and the adjacent lands.

The ecological boundaries of the area needed to adequately describe key wetland functions and mitigation of impacts on these functions, may be larger than the minimum study area described above. Boundaries of the study area to be addressed in the EIS should be agreed to by the proponent, the municipality and the MNR before the proponent begins detailed EIS work. This is particularly important in the case of a wetland complex where the adjacent lands can often include an area quite distant (i.e., greater than 120 m) from the boundary of an individual wetland unit of that complex. It should be noted that the formal approval of appropriate boundaries and other aspects of the EIS, lie with the planning authority, not the MNR.

The ecological boundary of the study area is defined by the terrain setting and by the areas in which all key wetland functions may be significantly affected. For example, if the provision of waterfowl habitat is identified as a key wetland function, the study area should include the extent of continuous important habitat, even if the habitat extends outside the adjacent lands zone and into lands under different ownership.

An example of an ecological boundary defined by hydrological functions is a development proposal depicting storm water discharge points on a portion of the property outside the adjacent lands, but within the subcatchment for the wetland. The potential for significant impacts on water quality and quantity functions could extend further and therefore the study area should include the entire subcatchment for these particular functions.

Some value functions (e.g., extent of areas of recreational fishing concentration) could also contribute to the definition of a study area boundary.

In summary, while the focus of the EIS and data collection will be within the adjacent lands (and/or within the boundaries of a provincially significant wetland in the Boreal Region), the general or broader study area should be related to an ecological boundary. It should encompass the entire area in which the key wetland functions are present and may be expected to be affected by a proposal. In these situations, clear scientific rationale for such an extension should be noted and the study area must be reasonable. The requirement to extend a study area boundary rests with the planning authority. It should also be noted that the level of effort expended in different parts of the study area may vary on potential zones of impact for the different key wetland functions affected.

If this broader study area falls on lands owned by another person, which is often the case, access to that property would need to be arranged if it is necessary to field check certain areas. However, much of the information within the larger study area can be obtained through secondary source information. It is reasonable to assume that the greatest impacts will occur nearest to the wetland where the development is taking place (i.e., the adjacent lands) and that impacts will diminish with increasing distance from the wetland. The application of various mitigation strategies (e.g., buffers) can contain/diminish effects. Determination of an appropriate buffer may be the most efficient way to protect wetland functions.

2.3.2 Identifying Key Wetland Functions

The determination of key wetland functions will depend on whether:

a) the function is measurable (i.e., can functional loss be predicted through quantitative sampling techniques and assessments, modelling theories, or other accepted scientific methods);
b) the function contributes significantly to the integrity or importance of the wetland ecosystem; and
c) the function has been identified as a particularly important feature from the wetland evaluation system data and discussions with the MNR.

In the Manual of Implementation Guidelines for the Wetlands Policy Statement, wetland functions have been identified as the "biological, hydrological, physical and social/economic interactions that occur in wetlands". Some of these are documented in the wetland evaluation data record (as wetland features). A prediction of a significant change in the wetland score would imply loss of function. Nevertheless, wetlands have many functions that are not documented in the evaluation, as it is designed simply to allow relative evaluation of one wetland against another.

A list of possible functions is included in Appendix E. Not all of these functions would be expected in every wetland. The identification of key functions of a particular wetland will be based on preliminary work by the proponent. Other wetland functions (e.g. from Appendix E) may be added to the proponent's list by the MNR should discussions determine that important functions have been overlooked or undervalued. The final list of key wetland functions will enable proponents to focus their detailed investigations on those functions to which the determination of functional loss will apply.

2.3.3 The Wetland EIS Functional Assessment Framework: A Basic Tool For Determining Key Wetland Functions and Assessing Impacts

This functional assessment framework has been developed as a tool to guide the technical assessment of wetland functions in an efficient and consistent manner (Table 2). The following description is provided to acquaint the reader with some important and fundamental information.

Functions are broadly defined and described in the Wetlands Policy Statement and the Implementation Guidelines as the "biological, hydrological, physical and social/economic interactions that occur in wetlands". The functional assessment framework (Table 2) identifies these *wetland functions* in terms of four functional groups: 1) process, 2) attribute, 3) linkage and 4) value. Within each group are a number of more specific functional descriptors. This terminology helps to focus and define wetland functions even further. The term wetland functions is not intended to imply that these

TABLE 2 : WETLAND EIS FUNCTIONAL ASSESSMENT FRAMEWORK

Functional Groups	Functional Descriptors	Characterization of Functions As They Exist Or Are Naturally Evolving	Sensitivity Assessment (Degree And Extent)	Proposed Activities (Impacts)	Predicted Effects		Proposed / Selected Mitigation	Predicted Net Effects	Proposed Monitoring (Optional)
					Direct	Indirect / Cumulative			
Process	Hydrological – water quantity (flow augmentation, storage) – water quality enhancement Biological – habitat (terrestrial / aquatic)								
Attribute	Significance and vulnerability – species (rare, threatened, endangered and other important species) Critical/vulnerable habitat								
Linkage	Landscape Linkages Biological – aquatic food chain/web support – terrestrial food chain/web support, patch dynamics								
Value	1) Recreational – angling, hunting, fuelwood, boating, nature appreciation / ecosystem study 2) Economically Valuable Product – wood products, fur bearers, wild rice, bait and commercial fish, bullfrogs and snapping turtles, cranberries 3) Cultural/Social – landscape aesthetics, traditional harvest, education, research, spiritual or ceremonial, cultural heritage								

functions are always within the wetland boundary. Interrelationships exist between wetlands and surrounding upland areas. Lands outside the wetland may provide support for important wetland functions (e.g., provision of ground water infiltration, upland waterfowl nesting habitat, foraging lands for wetland organisms during parts of their life cycles). This point is raised prior to the specific discussions about wetland functions to illustrate that development well outside wetland boundaries could affect some wetland functions. The following are definitions of terms which are specific to the functional approach adopted by this manual.

Process Functional Group

Processes can be considered as either physical or biological. The movement of quantities of both ground and surface water and their associated chemical characteristics are physical or hydrological processes. Examples include flow augmentation, carbon cycles and erosion control.

Biological processes are associated with the quantity and quality of the fish and wildlife habitat provided by aquatic and terrestrial communities. Quantity considers diversity and abundance while quality considers life histories and disturbance processes. Habitat is also thought of in terms of various types (food, shelter, breeding sites, migration or daily, seasonal or annual movement routes).

Attribute Functional Group

Those aspects of a wetland to which some special importance is attached for reasons of uniqueness and/or special vulnerability or sensitivity to impacts (e.g., significant species, seasonal concentrations of species, etc.).

Linkage Functional Group

Components of the ecosystem perform their functions in concert with each other, thus establishing relationships or linkages. These linkages occur within and between wetland areas, both above and below ground. They can be considered in terms of the movement of food and energy (nutrient and energy cycles, food webs) or the dispersal of wildlife and plants. The linkages between ground and surface water are an example of a below ground linkage. This linkage is also part of the hydrological process functional group. Understanding the linkages enables a better definition of pathways for potential effects. Another type of linkage is the series of interrelationships created by a mosaic of upland and wetland forest fragments on the landscape. This linkage type is described in terms of patch dynamics; most notably the movement of terrestrial fauna across the landscape.

These ecological linkages are those which should be principally examined in an EIS. Relationships between these ecological components and human values are more appropriately described under the value functional group.

Value Functional Group

Values recognize the direct human uses of wetlands. They can be divided into three subgroups:

1. *Recreational*

   These values provide humans with some direct satisfaction. They can either be sustainable or non–sustainable. The products do not pass through any form of economic market, but the use is often regulated. Simply because these products do not pass through any market, does not imply they possess no economic benefits. Much work has been done to quantify economic benefits associated with outdoor recreational activities. Examples include tourism generally, and angling, hunting and nature appreciation specifically. Only activities that are specifically dependent on the characteristics of the wetland are to be included.

2. *Product*

   Product values are assigned to those resources which are harvested for exchange in formal markets. The commercial cutting of timber in a forested wetland is an example of this value. Other examples include the harvest of furbearers, bait and commercial fish and wild rice.

3. *Cultural / Social*

   These values relate to functions of the wetland which contribute to enhanced social or cultural values. Examples include landscape aesthetics (distinctness, lack of disturbance), appreciation of a wetland by school groups for research or as an interpretive facility, traditional use by aboriginal people, or cultural/spiritual importance.

The vertical axis of Table 2 presents the wetland functions that are most commonly encountered in impact assessment methodologies and examples including those functions identified in the wetland evaluation system. Appendix E contains a more comprehensive listing of minor functions that can occur and that might infrequently be included in an EIS. The selection of the key wetland functions for the functional assessment framework is a reflection of those functions (in all functional groups) that are both important and measurable (i.e., quantifiable). Many of the minor functions (in all functional groups) included in Appendix E are either difficult to quantify, or are currently not well enough understood to be meaningful in an impact assessment.

The horizontal axis on the functional assessment framework is a guide to steps through the detailed impact assessment process. Wetland functions are simply characterized by presence or absence. *Sensitivity Assessment* describes the degree and extent of the function as it occurs in the wetland. The proposed activity (*impact*) that might affect the function is noted. Predictions are made about the type (e.g., direct, indirect/ cumulative) and degree of expected effects of impacts (e.g., significant positive, minor positive, none, minor adverse, significant adverse degrees). In many cases mitigation, including modifications to the development proposal, can be selected to avoid or minimize some or all effects. The predicted net effects after mitigation are the conclusions drawn forward in the EIS document. Monitoring is sometimes necessary in order to ensure the predicted net effect summary is correct.

The functional assessment framework is intended to serve as a template for the EIS. It ensures that a robust and standardized approach is taken in the completion of the detailed impact assessment work. The functional assessment framework can be used as a table in the EIS itself, to fill in the information required. It could also be used in other natural environment settings (e.g., uplands, ravines, woodlots, etc.).

2.3.4 Testing Compliance with the Wetlands Policy Statement

Regardless of the type of EIS that is prepared, review agencies must assess the report in light of the four (three in northern Ontario) requirements of the Wetlands Policy Statement, namely that the development will not result in:

a) loss of wetland function;
b) subsequent demand for future development which will negatively impact on existing wetland functions;
c) conflict with existing site–specific wetland management practices; and
d) loss of contiguous wetland area (Great Lakes – St. Lawrence Region).

Loss of Wetland Function

One of the goals of the Wetlands Policy Statement is to achieve no loss of function in provincially significant wetlands. It is clear from much of the scientific work underway in Canada and elsewhere and from a review of the functional assessment framework described in this document, that wetlands are complex systems which include a very long list of functions, some of which are quite complicated and interrelated. The challenge in demonstrating "no loss of function" stems principally from the fact that wetland functions can be defined both broadly and narrowly. For example, the Wetlands Policy Statement identifies eight broad functions. Each of these broad functions could, in turn, be broken down further into many more detailed functions.

For example, page 9 of the Wetlands Policy Statement discusses "habitat for fish and wildlife" a function which can easily be broken down into more detailed functions. Other species–specific and even life stage–specific functions could theoretically be identified for each and every life form that lives in and/or is dependent upon a particular wetland. It would be unreasonable to require that proponents address all of the detailed functions that one might be able to identify in an EIS.

Beyond numbers of functions, this complexity is increased by the spatial extent of some. Because of the complex interrelationships between wetland and upland components of the landscape and within wetlands themselves, effects from certain developments may extend some distance from wetlands. The challenge, then, is to focus EISs on those wetland functions that are relevant in a particular situation. The determination of key wetland functions (i.e., those which special importance is attached) allows the municipality, the proponent and the MNR to concentrate on the functions that have the greatest influence on the overall integrity of a wetland and/or its value. These functions should be discussed and agreed upon by these parties and should form the basis of intensive EIS investigations. By protecting key wetland functions, other functions may also be maintained or even enhanced.

Determining which functions should be included in an EIS in a particular situation can be accomplished through a screening process. Screening is most effective and defensible if one has a reasonable understanding of: a) the wetland and the surrounding adjacent lands, the flora and fauna, and the terrain setting; b) the nature of the development proposal; and c) the potential interactions between the two.

When screening, it is necessary to:

a) Identify those functions which one can reasonably expect to be affected by the proposal, either directly or indirectly, or, in the case of cumulative effects, those which might be affected as a result of those future developments which can reasonably be predicted. There is no point studying a function if there is no reasonable basis for expecting that it will be affected by a proposal, directly, indirectly, or otherwise. The list generated through this process can sometimes be long.

b) Examine this list of functions and identify those which: a) are of particular concern; or b) could serve as good indicators of effects; and c) are measurable/quantifiable, either in absolute (e.g., hectares or numbers, etc.), or relative (e.g., minor, major, small, large, important, unimportant, etc.) terms.

At the end of these two steps, one should have identified the key wetland functions.

Having identified the key wetland functions, an EIS can be undertaken. In the course of completing an EIS, potential impacts on these functions will be identified. Once identified, strategies can be identified to mitigate impacts and prevent functional loss.

In some situations, it may not be possible to completely mitigate against impacts on some key wetland functions, or, in other words, to eliminate all functional loss. In these cases, the municipality, in its role as the decision–making authority, and MNR, in its role as a commenting agency are required, under the Planning Act, to **"be consistent with"** the Wetlands Policy Statement. In doing so:

a) it may be concluded that it would be unreasonable to disallow a specific proposal in a particular situation. That is, the loss, while not desirable, may be considered tolerable and/or acceptable, in light of: a) the municipality's obligation to consider a number of factors in rendering planning decisions – not just wetlands; and b) the loss from MNR's perspective is not "significant". **or**;

b) it may be decided that the predicted loss of function cannot be tolerated. An example might be where a proposal was expected to result in a unmitigatable loss of habitat for a rare species or of habitat for a species which is significant for other reasons.

Some situations may arise where the municipality and MNR will not agree. Resolution may require an OMB hearing. A proponent who does not agree with a decision may request an OMB hearing.

Subsequent Demand for Future Development Which Will Negatively Impact on Existing Wetland Functions

During the completion of an EIS, consideration must be given to the potential for one specific development proposal to contribute to an increased demand for subsequent development. In this way, one will be required to understand the potential cumulative effects associated with a series of development proposals.

Examples of how increased demand and/or potential increased negative effects might be triggered include:

a) a proposed development might increase the accessibility of previously isolated areas, which in turn could trigger additional development applications;

b) a proposed development could increase the accessibility of extractable resources; and

c) a specific development may increase the stress(es) upon individual organisms or populations to a threshold of potential significant effects.

The principle that each development application may affect wetlands in different ways and to varying extents is important. Consideration of these cumulative effects must give some recognition to past developments and to other proposed future developments (present in the form of development applications, land use designations, etc.).

A variety of references are listed in Appendix L, to assist the EIS author in considering the spatial and temporal aspects of cumulative effects assessment. As this area of science and planning is evolving, it is expected that this component of the Technical Manual will be periodically updated. Some direction may be sought from efforts currently underway in other areas of provincial jurisdiction and/or interest (e.g., Oak Ridges Moraine, Niagara Escarpment).

Conflict with Existing Site–Specific Wetland Management Practices

Many of Ontario's wetlands are currently exposed to some form of management practice. Examples include:

a) water level control for a variety of purposes (e.g., waterfowl management, timber production, etc.);

b) fish and wildlife harvests;

c) harvests of other materials (e.g., wild rice); and

d) timber production.

Established management practices are existing wetland functions (value group). Therefore proposed development should not negatively affect these. These existing functions should be tested for their sustainability. Where they are determined to be completely or partially unsustainable, the practices themselves may be diminishing existing wetland functions. There will therefore exist, opportunities to modify these practices to more closely achieve the intent of the Wetlands Policy Statement.

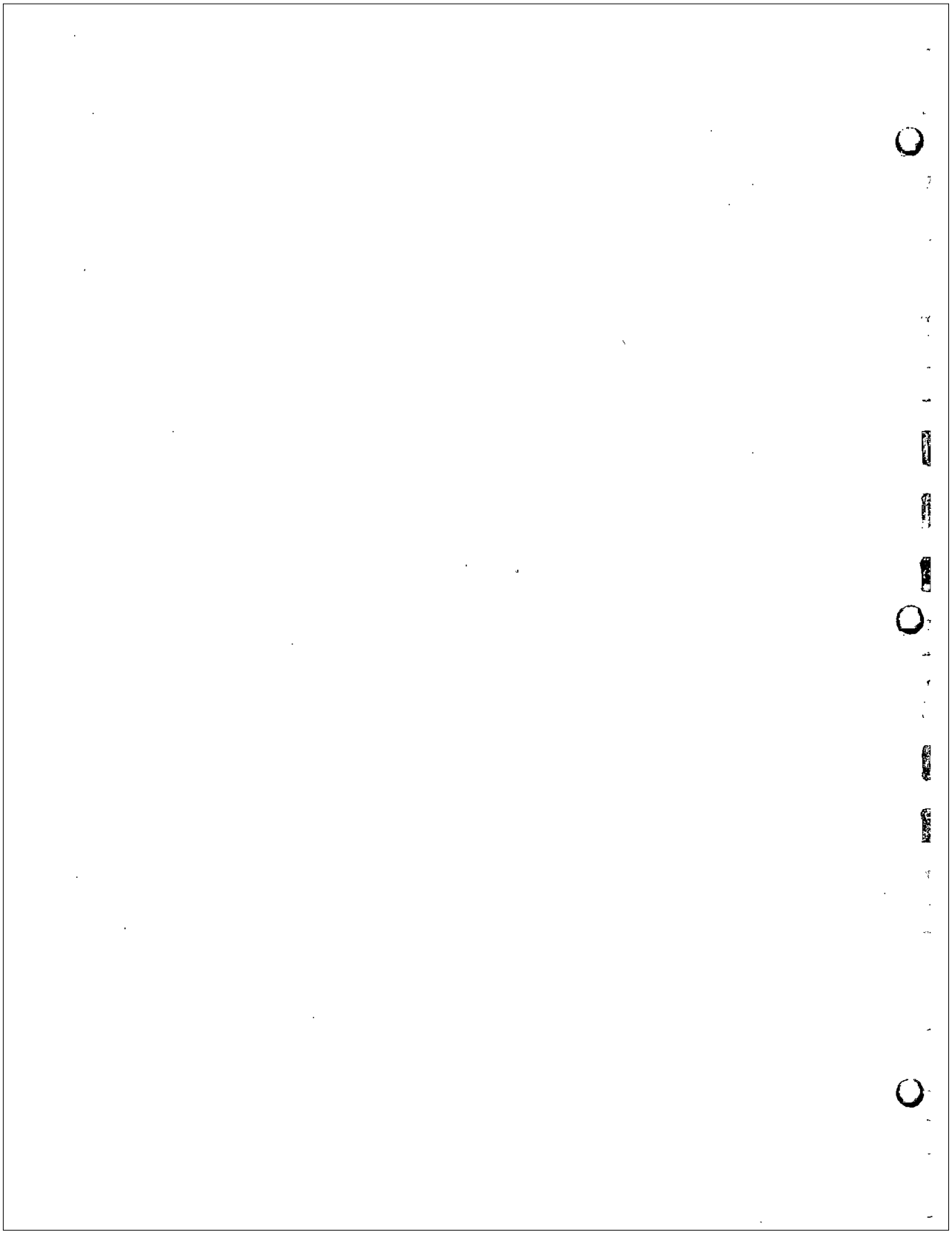
This test of compliance with the Wetlands Policy Statement will require considerable discussion amongst the: proponent; MNR; planning authority; and a range of stakeholders. There may in fact be conflicts between goals established to maintain functions (e.g., conflicts between targets for the various functional groupings; processes, attributes; linkages; and values).

Management of systems for the optimization of waterfowl or mammal populations, for example, may preclude the maintenance of existing attributes (e.g., rare plant species) or diversity generally, which respond to unmanaged or more natural hydrologic conditions.

Loss of Contiguous Wetland Area (Great Lakes – St. Lawrence Region)

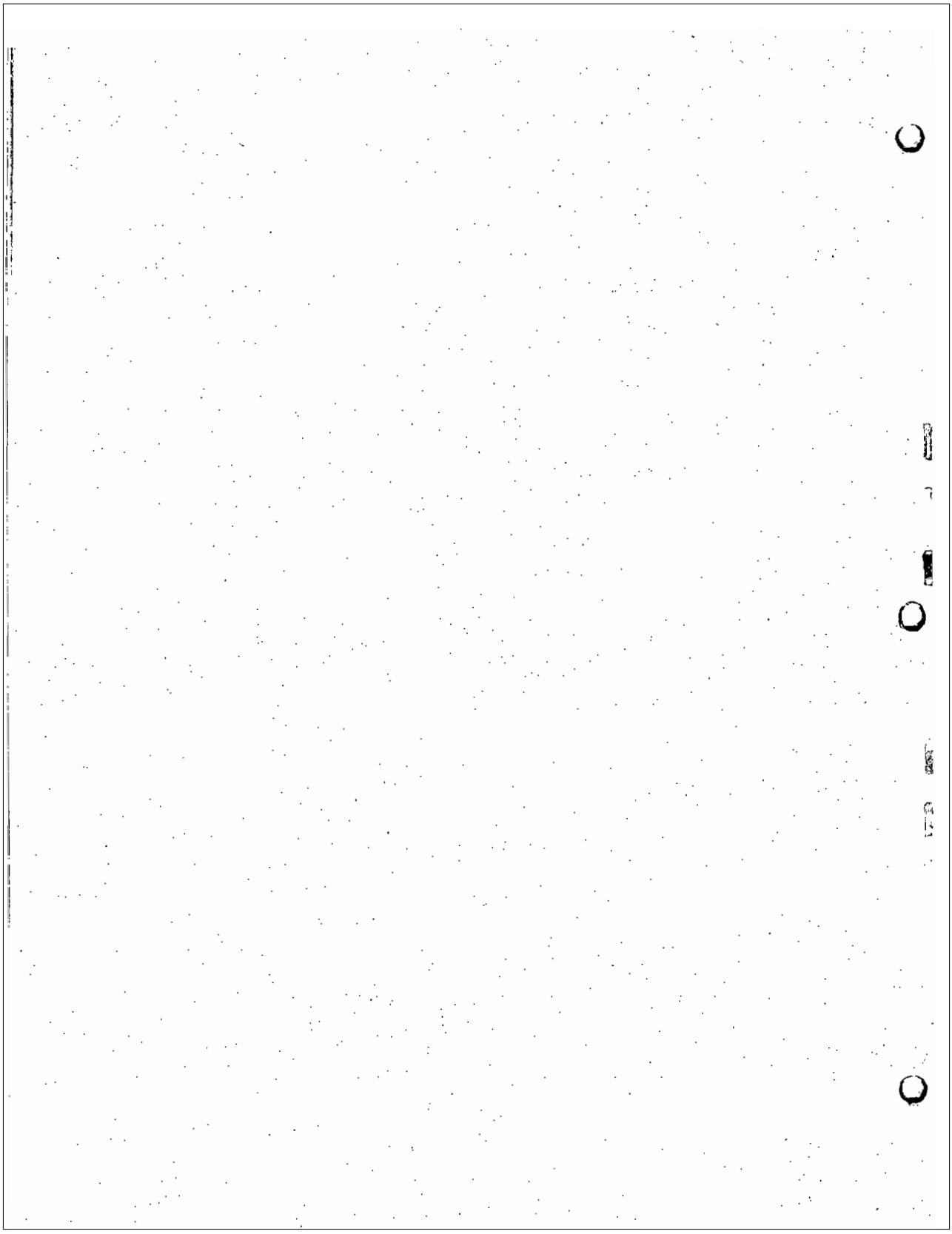
This test of compliance with the Wetlands Policy Statement requires that there be no disagreement amongst parties regarding the precise location of the wetland boundary. Flagging (and potentially surveying) this boundary in the field to the satisfaction of MNR will help ensure that development proposals respect this boundary.

No development proposal that calls for removal of wetland area and replacement with upland area (usually by filling and/or draining wetland areas) in the Great Lakes – St. Lawrence Region, will be deemed to comply with the Wetlands Policy Statement.



Step 1

Determining Basic EIS Requirements



3.0 INITIAL CONSULTATION AND POTENTIAL ISSUES SUMMARY PAPER REQUIREMENT

3.1 INITIAL CONSULTATION

At the outset of a proposed *development*, the proponent should consult with the MNR and the planning authority (e.g., municipality, planning board). Other local regulatory agencies (e.g., Conservation Authority, MMA, MOEE, etc.) may also be contacted as described in Appendix D (p.44) of the Guide to Provincial Planning Applications (MMA, 1993). This initial consultation will enable the proponent, MNR and the planning authority to ensure that all relevant information and issues are known early on, and that relevant policies be applied to the development application are also understood (e.g., Wetlands Policy Statement, Federal Policy of Wetland Conservation (see Appendix K), other municipal policies contained in Official Plans, if a Comprehensive EIS is available for the study area, etc.).

At this time, the MNR will confirm the requirement for an EIS (see Figure 1), based upon the identification of the proposed development within the adjacent lands of a provincially significant wetland (Provincially Significant Wetland) or wetland complex in the Great Lakes St. Lawrence Region and in or on the adjacent lands of a provincially significant wetland in the Boreal Region.

Wetland management projects such as those carried out under the North American Wetland Management Plan, which involve improving habitat, productivity, diversity, or sustainable use of wetland resources, should be introduced to the MNR at this stage. Discussions can then occur regarding how some of the EIS requirements may be folded into other processes (e.g., Class EA, Federal EARP) through which these projects are considered.

The initial meeting between the proponent and MNR is also the best time for the MNR to raise any information gaps and other concerns with respect to the upland portions of the property not necessarily addressed by the Wetlands Policy Statement. For instance, the presence of a nest of an upland-dependent rare bird on or near the proponent's property should be identified. Avoidance and mitigation recommendations for the protection of these features could be considered at this stage for incorporation into the development plan. Further reference to relationships between wildlife in wetlands and the adjacent lands is provided in Appendix G and Figure 3.

3.2 POTENTIAL ISSUES SUMMARY PAPER REQUIREMENT

For both the Scoped Site and Full Site EIS, an Issues Summary Paper may be required. An Issues Summary Paper, if requested, would be provided along with the submission of a development application to assist MNR and the planning authority in making a decision about what type of EIS is required. It would help to focus the more detailed work required for the EIS itself, to ensure that the exercise is conducted efficiently.

It is expected that an Issues Summary Paper will be requested for most Full Site EIS documents (except the most straight forward examples) and for some Scoped Site EIS documents. When reviewing this section, bear in mind that the Issues Summary Paper structure and content suggestions could be quite similar to Scope Site EIS documentation requirements. This Issues Summary Paper will form the basis of further EIS requirements (if necessary). Additional information required for the Scoped Site EIS is provided in Section 4.0 of this Technical Manual. Section 5.0 deals with Full Site EIS requirements.

This step requires the consideration of all readily available background material and in particular the current wetland evaluation data and scoring record. It is not intended that the proponent conduct a detailed investigation and assessment of the wetland for this step. Rather, it is expected that the proponent will, at the end of this step, produce a brief (e.g., a few pages with one or two figures) Issues Summary Paper. This document should flag key wetland functions and potential activities (impacts) and effects that would form the basis of subsequent EIS work. Consultation and an optional site visit are suggested for this step to facilitate broad and open discussions about the issues. This Issues Summary Paper may be considered to fulfill the requirements for a Scoped Site EIS. This is discussed further in Section 4.0 of this technical manual. Most Issues Summary Papers should be relatively simple and reasonable exercises. Depending upon the key functions and predicted effects, it is likely that professional guidance will be required for this work.

3.3 ISSUES SUMMARY PAPER DOCUMENTATION GUIDANCE

3.3.1 Description of the Environment

A general description must address the terrain and biological settings as well as land use patterns. A knowledge of existing management/use activities also contributes to an understanding of how the wetland currently functions. This description will enable the preliminary determination of how impacts will affect the resource. The study area for the impact assessment will, at a minimum, include that portion of the wetland area and adjacent lands relevant to the particular proposal. The study area boundaries will, however, generally be larger. They should show the development block in relation to the wetland, wetland boundary, adjacent lands and the landscape or terrain setting. More specific guidance regarding study area determination is provided in Section 2.3.1.

Terrain Setting

Plants, wildlife and the type of wetland itself are largely dictated by the terrain or physical conditions present. The source of water (ground or surface), the timing and locations of its delivery, and the nature of the topography and soils all contribute to this understanding of terrain. This understanding translates into an appreciation for how a wetland works. Understanding how it works enables an accurate assessment of potential development effects to be undertaken.

An examination of the terrain requires that the following information be collected and assessed for the study area:

a) a characterization of the surface and subsurface soils (e.g., clay, gravel, sand, silt, peat);
b) identification of local landform type(s) (e.g., morainal, glaciofluvial, glaciolacustrine, alluvial); and
c) identification of landform position (i.e., position of the wetland in the landform) and the site type (i.e., riverine, palustrine, isolated and lacustrine).

There are many tools available to characterize the terrain setting. In the Issues Summary paper, reliance should be upon existing information (e.g., Ontario Geological Survey Mapping or hydrogeological maps and reports, water well records, topographic and Ontario base maps, soils maps, floodplain mapping, fisheries mapping, airphotos, FRI maps and the wetland evaluation data record).

This terrain assessment produces, among other things, a general understanding of the role of ground water in the maintenance of the wetland. Appendix D provides some further guidance in this regard.

Surface water patterns are then determined by identifying:

a) the wetland area and its boundaries;
b) the hydrological catchment boundary or drainage basin;
c) overland flow contribution points and wetland outlets; and
d) hydrological processes.

Much of this information should be available from the wetland evaluation data record and mapping. Where the evaluation is not current, or changes have occurred since the evaluation was conducted, this information will need to be updated. The proponent may choose to reevaluate the wetland or collect only the information necessary to establish a current baseline of the study area. As well, this surface water assessment benefits from a review of the most recent and accurate scale of topographic mapping. If available, municipal storm sewer drawings and old municipal drain reports can be helpful. This archival material (e.g., old municipal drain reports) can provide clues as to the successional trends and disturbance processes in a wetland.

Together, this examination of terrain and surface water will produce information (that can be mapped) about the relevant drainage boundaries, inflow and outflow points, and the relative importance of surface and ground water in the maintenance of the wetland. A field inspection can provide confirmation of the permanence of flow in watercourses, channels and seepage zones.

Biological Setting

The biological setting of the study area is characterized by the following:

a) in the wetland or wetland complex itself, an identification of the wetland types (e.g., bog, fen, swamp, marsh);
b) an identification of the vegetation communities present in the wetland, on the adjacent lands and within the study area;
c) an identification of any important attributes in the wetland and adjacent lands, including critical or vulnerable habitats as identified by resource agencies; and
d) a listing of the plant and wildlife species that have already been identified as important (i.e., significant species or those for which management goals exist).

Examples of available information to complete this effort include:

a) the complete wetland evaluation data record and mapping;
b) local naturalist group and citizen interviews;
c) local hunters and trappers;
d) Committee on the Status of the Endangered Wildlife in Canada (COSEWIC) reports;
e) the Ontario Breeding Bird Atlas summaries;
f) the Ontario Herpetofaunal (reptiles and amphibians) Atlas;
g) Ontario Mammal Atlas (provisional);
h) Atlas of the Rare Vascular Plants of Ontario;
i) Forest Resource Inventory (FRI) maps and/or more recent cover type maps where available;
j) data bases that may be on file with Universities and the Natural Heritage Information Centre MNR (Peterborough);
k) rare species mapping for Southern Ontario;
l) Ontario Rare Breeding Bird Program data;
m) ESA and ANSI reports;
n) Parks files;
o) fisheries and wildlife files at the MNR and conservation authorities;
q) airphoto interpretation; and
r) Marsh Monitoring Program (MMP) for birds and amphibians.

A cursory field inspection at this stage combined with a review of the geological and hydrogeological setting, often yields additional useful information especially where the wetland evaluation is dated.

As an example, one should be able to conceptually predict ground water conditions that might have an impact upon fish habitat. It is not expected that all of these resources will be consulted at this stage. Those reasonably expected to be useful in an overview assessment should be consulted (varies from place to place).

This Issues Summary Paper should identify basic relationships between biological and terrain information (e.g., dependence of fishery in a wetland on provision of ground water baseflow).

Social / Cultural, Economic and Recreational Setting

The description of the social/cultural, economic and recreational setting at this point should be restricted to an identification of the existing land use patterns and any known wetland resource uses. For example, the latter could include discussions of significant hunting, fishing or other recreational uses of a wetland.

Much of this information is available from the wetland evaluation data record. Other possible sources of information include: basemaps, airphotos, discussions with the local municipality, conservation authority, MNR, OMAFRA, schools or groups that may use the wetland for education or recreation, or local conservation or field naturalist groups.

Some discussion regarding wetland resource use is helpful. There are some instances where school boards, conservation authorities and other government and non–government organizations make use of wetlands for education, recreation and research. In this exercise it is important to identify user groups and the current degree of various activities.

3.3.2 Characterization of Functions

The environmental information pertaining to terrain (hydrological and hydrogeological processes and linkages), biology (biological processes, attributes and linkages), and social, economic and recreational uses (value functions) should be translated or described as wetland functions. The Wetland EIS Functional Assessment Functional assessment framework (Table 2) is a useful tool in this regard, as it includes those key functions considered to be important in the majority of wetlands. For purposes of this Issues Summary Paper, a checklist of functions can be provided.

3.3.3 Description of the Development Proposal

A general description of the type and magnitude of the proposed development is required. This description should be accompanied by a map that depicts:

a) the wetland boundary;
b) the adjacent lands area;
c) the position of the proposed development within the overall wetland and adjacent lands area;
d) a conceptual site plan showing expected locations (not details) of buildings, roads or other services (e.g., on–site sewage and water taking systems);
e) general areas of proposed grading and filling and/or landscape modifications and/or drainage alterations; and
f) facilities or operations that could affect the existing uses of the wetland related to human values.

3.3.4 Application of Impact Assessment

The development description should be compared with the wetland functions identified earlier to highlight potential impacts and resultant effects. A review of Appendix F, a generic listing of most potential impacts and subsequent effects, is helpful in this regard.

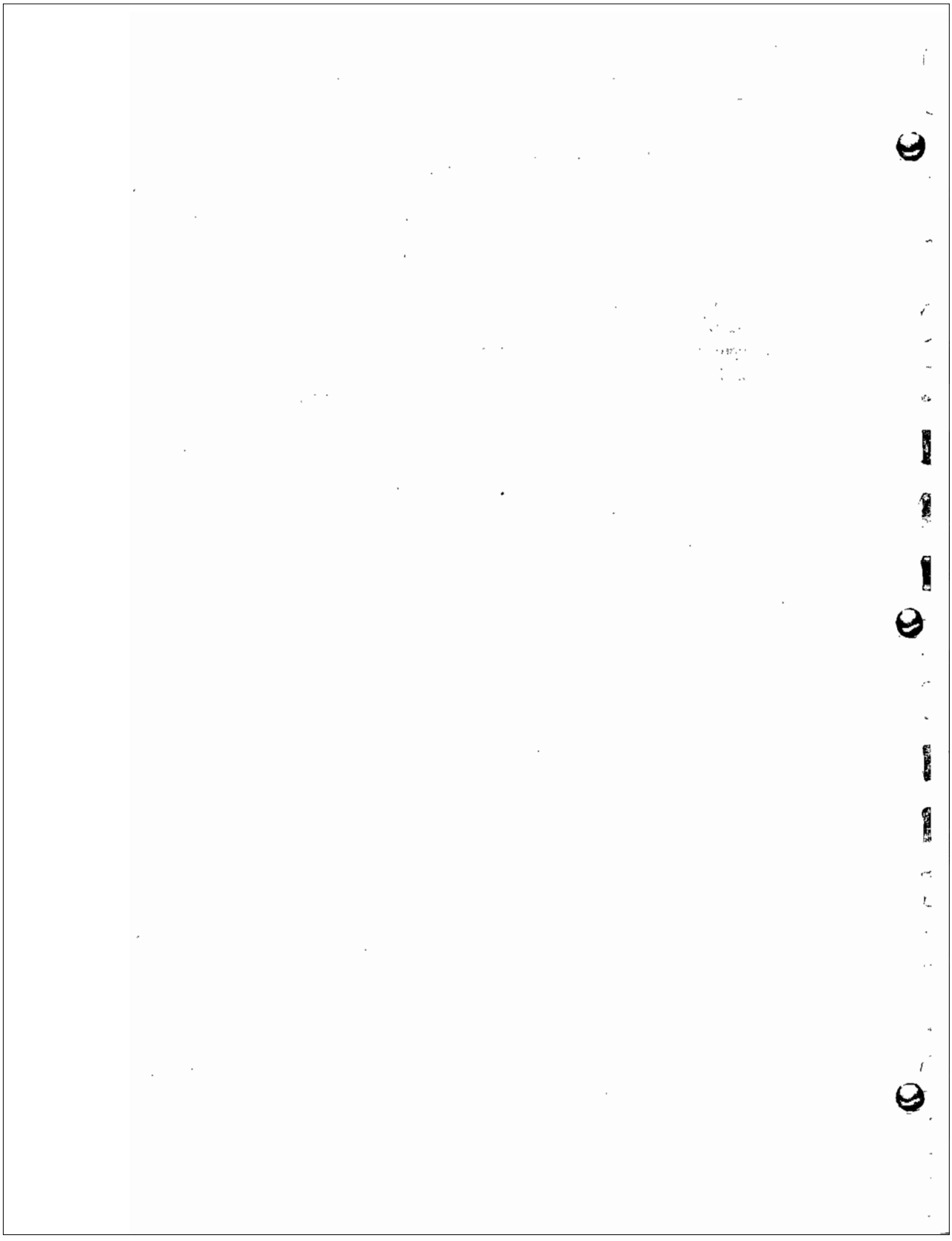
3.3.5 Completion and Submission of Document

The Issues Summary Paper should be brief (e.g., a few pages plus figure(s)) and should include:

a) an identification of the terrain setting with comments regarding roles of ground and surface water in maintaining the wetland;
b) an identification of the biological setting with:
   i) initial comments regarding the diversity of communities present;
   ii) highlights of communities; and
   iii) species accorded some special importance in background information;
c) an identification of existing land use and wetland resource use;
d) a list of key wetland functions;
e) a general description of the development; and
f) a list of potential impacts from the development activities and general mitigation advice.

The figure used to depict important environmental information, should include relevant development information in a conceptual manner. Where one figure will not depict a clear indication of potential impacts, two figures should be used.

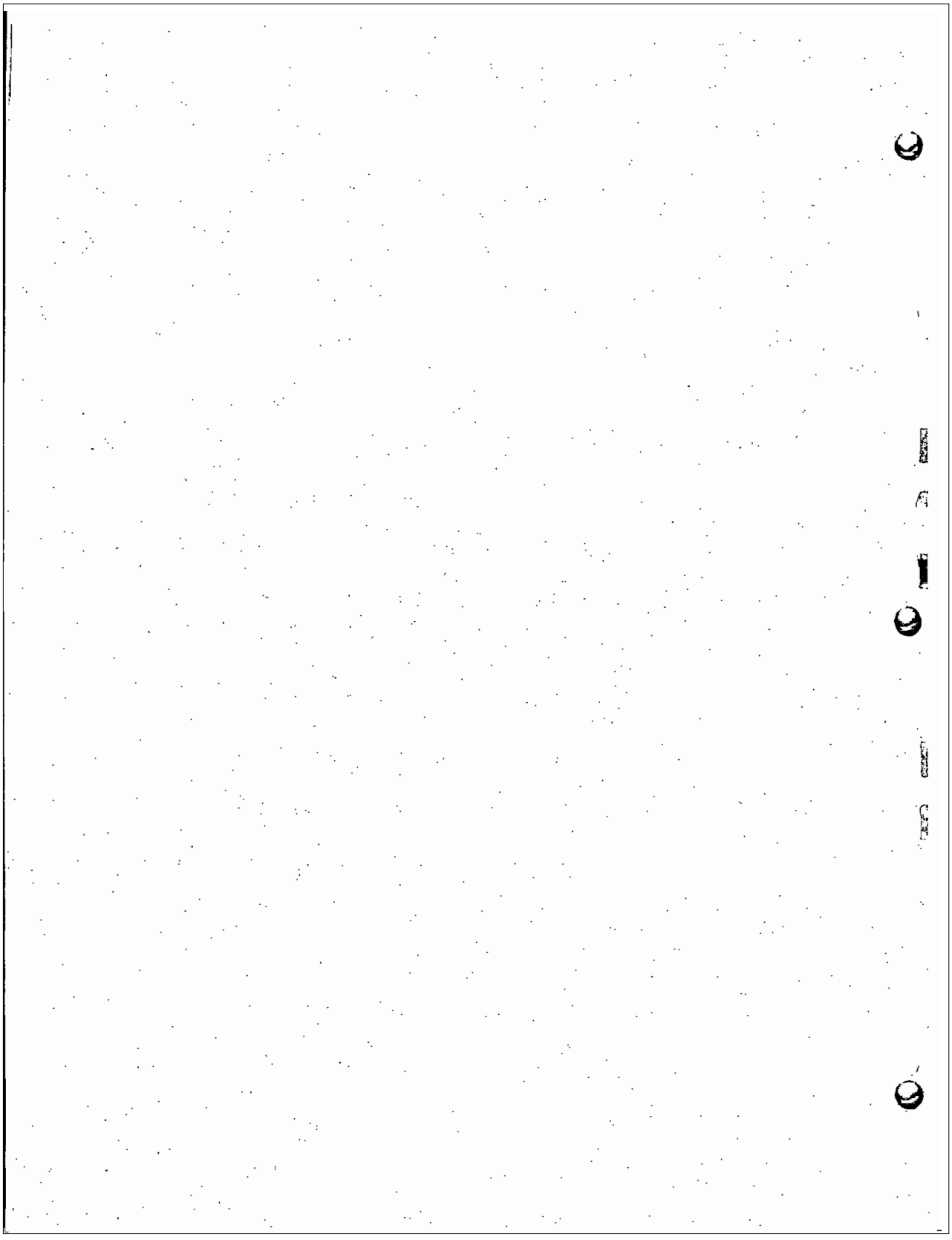
Documents should be distributed for comment according to the planning authority's requirements. Usually, the proponent will submit the Issues Summary Paper concurrently to the MNR and the planning authority (e.g., municipality). The MNR is responsible for the review of this summary document and will liaise with other ministries and resource management agencies as required. This is also an appropriate time for the municipality and the proponent to consult with the local Environmental Advisory Committee of Council (EEAC) (if such exists), and any other key stakeholders, to inform them of the development proposal. The planning authority, usually the municipality, is responsible for coordinating and leading this activity or process.



Step 2

Conducting the Detailed EIS

4.0 Comprehensive EIS
5.0 Full Site EIS
6.0 Scoped Site EIS



4.0 SCOPED SITE EIS

Most Scoped Site EISs should be relatively simple and reasonable exercises. However, depending upon the key wetland functions and predicted effects, there may be need to retain professional guidance for this work. In the case where an Issues Summary Paper has been requested, professional guidance will almost certainly be required. Authours of a Scoped Site EIS is advised to review Section 3.0 of this Technical Manual in detail. Much of the information related to the Issues Summary Paper also relates to and helps to develop the Scoped Site EIS.

The Scoped Site EIS can be either: 1) very simple, where MNR is reasonably certain that the proposal will have no impact on the wetland; or 2) more detailed. For the first category, a checklist approach may be appropriate. Appendix M contains a copy of one possible checklist. Various checklists are currently in use by MNR in some areas. Check with the MNR District in which you are working to determine whether a particular list exists and should be used. Regardless of the approach taken, the level of detail must be sufficient to demonstrate that the development will meet the four criteria for acceptance laid out in the Wetlands Policy Statement (see Section 2.3.4 for some further discussion). It is recommended that proponents structure the Scope Site EIS in the same way as the Issues Summary Paper so that they will not have to extensively revise the original documentation.

4.1 CHARACTERIZATION OF FUNCTIONS

The assessment of functions in a Scoped Site EIS will likely be restricted to one or two key functions and some minor functions. These key wetland functions should be assessed in a sound technical manner in order to demonstrate compliance with the Wetlands Policy Statement. When considering hydrological functions for this EIS, there is generally no need to install measuring devices, or to collect water quality samples. Visual observations of local drainage patterns should be made. For example, the degree of permanence for any watercourse and the general location of seepage areas, should be identified. Information on the extent of proposed grading, draining and filling should be available.

Habitat (aquatic and terrestrial) need only be characterized generally and be specific to the local study area. Broad vegetation groupings (e.g., deciduous, mixed, coniferous forest, thicket, field) can be used and mapped approximately.

Particular attention should be paid to the identification of known significant species and critical habitat. Specific field observations during the appropriate season (see Section 5.2.3), are not required to confirm previously documented attributes. It is important to offer, as precisely as possible, locational information and qualitative descriptions. Important environmental information should be depicted on a map of the study area.

Linkages and values are generally considered in a very cursory manner in this type of EIS, given the generally local study area. Effects such as restricted access to previously well–visited, important resource areas (for wildlife observation, hunting, fishing), should be noted. These will be considered to be effects on existing value functions. General comments regarding obvious linkages (e.g. well–connected patches of forest cover) should be recorded.

4.2 APPLICATION OF IMPACT ASSESSMENT

The impact assessment in a Scoped Site EIS while technically complete, will be restricted to fewer functions than will be typically addressed in the Full Site EIS. It is likely that a Scoped Site EIS will not require significant mitigation or monitoring options. Examples of impacts could include minor interruptions of surface and subsurface drainage, from excavations. There could well be some habitat removed (e.g., frequently this involves the removal of upland forested and non–forested habitat from adjacent lands.

4.3 MITIGATION

The Scoped Site EIS will require discussions with the MNR regarding the degree of impact/effect predicted and the potential for mitigation. Mitigation options will be restricted in this situation. The establishment of upland, naturalized habitat in adjacent lands, the installation of small scale drainage works (e.g., culverts) and even the maintenance of minor linkages or access points could contribute to mitigating effects.

5.0 FULL SITE EIS

Where a specific development requiring an approval under the Planning Act (e.g., residential, commercial, industrial, extractive, recreational) is proposed, and where effects on key wetland functions are likely, a Full Site EIS is required. The work required for this EIS has likely already been focused by the Issues Summary Paper described in Section 3.0 of this Technical Manual. Technical data gathered for that paper were used principally for identification purposes. That information can be carried forward and supplemented for use in this EIS with further interpretation required. In most cases this EIS will require the examination of many of the key wetland functions identified in the functional assessment framework (Table 2). As such, the Full Site EIS can be the most complex of the three types and can require the collection and interpretation of the most new data. The level of complexity will vary. Definitive direction regarding this level is beyond the scope of this manual and is more appropriately found in technical discussions with the MNR. The following discussion helps to define the more specific requirements. It is organized in three broad areas of discussion:

a) hydrogeological setting;
b) characterization of functions; and
c) application of the impact assessment process.

The definition of the wetland boundary is also an important first step in this process. The boundary defined during MNR evaluations is mapped at a scale of 1:10,000 or 1:20,000. A more accurate scale is necessary for this EIS. The boundary defined through this EIS will require ground truthing to examine soils, hydrology and vegetation.

5.1 HYDROGEOLOGICAL SETTING

The Terrain Setting will have been generally described as part of the preparation of the Issues Summary Paper. Given the more rigorous assessment required as part of a Full Site EIS, some additional tasks may be required (beyond those listed in Section 3.3.1) as preparation for a precise definition of functions. This work should occur especially where it appears that the wetland surface and ground water pathways are related in a substantial way (i.e., significant effects on key wetland functions could be expected from changes to either the surface or ground water regimes).

Additional work could include more site specific measurements such as the installation of boreholes and routine ground water monitoring. The installation of boreholes is appropriate in more complex geologic settings where little is known about the movement of ground water or the relationship between ground and surface water with respect to wetland levels.

5.2 CHARACTERIZATION OF FUNCTIONS

5.2.1 Process Group

Hydrological Processes

Surface water studies will typically be required to adequately address both quantity and quality characterization. The approach for each is described in the following, with the level of effort dependent upon the complexity of the project. Not every item described in this section of the Technical Manual will be required for every Full Site EIS. Decisions regarding the specific level of effort require consultation with the MNR and other relevant stakeholders.

Water Quantity Processes

At the outset of the study, before any hydrological characterization work is undertaken, several water level gauges (stage recorders) should be established in the wetland. Some wetlands, because of historical investigations, may already have established gauges which could be useful. If the proponent is a municipality or government agency, it would be advisable to collect hydrological data before the start of the study. The number of stage recorders should be based upon the wetland size. A minimum of three is recommended to reduce the potential for vandalism to affect observations. The gauges should be surveyed to geodetic datum and mapped to establish precise information regarding water level fluctuations.

If a municipality expects that a particular wetland will become the focus of an EIS in the near future, stage recorders should be established early on by the municipality in cooperation with resource management agencies (i.e., conservation authority, MOEE, MNR). This will increase the opportunity to gather sound background data, and regardless of when the stage recorders are installed, they will serve as useful post–development monitoring stations.

These water level recorders should be monitored regularly (ideally weekly), during the course of the EIS. To ensure a complete understanding of high and low water levels, observations should be made during both the spring and summer seasons. These data would complete one's understanding of the "hydroperiod" which includes the duration, frequency, depth and season of wetland flooding. The water levels should be observed more frequently (e.g., hourly, if possible) during a major rain event to gain an understanding of the wetland response to runoff from such events. In less accessible locations, a crest gauge could be used to demark the high water elevations. The proponent could look towards using local agency or municipal support or trained volunteer support to conduct this field exercise efficiently. These water level data will assist with the interpretation of biological data and hydrologic modelling. In situations where a decreased level of surface water analysis is applied, a rationale (e.g., demonstrated understanding of hydrological processes) is required.

Once the stage recorders are established, the hydrological processes can be assessed by:

a) determining catchment boundaries and drainage patterns;
b) determining the relative flow contribution of water from each subcatchment or basin;
c) conducting a water balance exercise for the area based on a nearby meteorological station; and
d) hydrologic modelling (if required).

Each is described further in the following sections.

Catchment Boundary and Drainage Pattern Identification

As described earlier (Section 3.3.1), catchment boundaries can be derived from current topographic mapping supplemented with an interpretation of aerial photographs. The terrain assessment exercise will contribute to this task. A variety of information sources should be consulted to confirm these boundaries, including old municipal drain reports, municipal sewer drawings and other historical information. The approximate catchment boundaries should also be confirmed in the field.

Similarly, drainage patterns (e.g., diffuse, radial, point source) should be identified using background information, and should be confirmed in the field. A distinction should be made between permanently flowing watercourses and intermittent swales. Human activities can greatly influence drainage patterns, therefore field observations should include particular attention to water diversion channels, filling and pumping activities. Recent activity may still be altering the functions of the wetland. Water taking permits are required from the MOEE for withdrawals of surface or ground water and can be used to verify existing water uses in conjunction with site visits to identify local, low consumptive uses.

Determining Contribution of Water

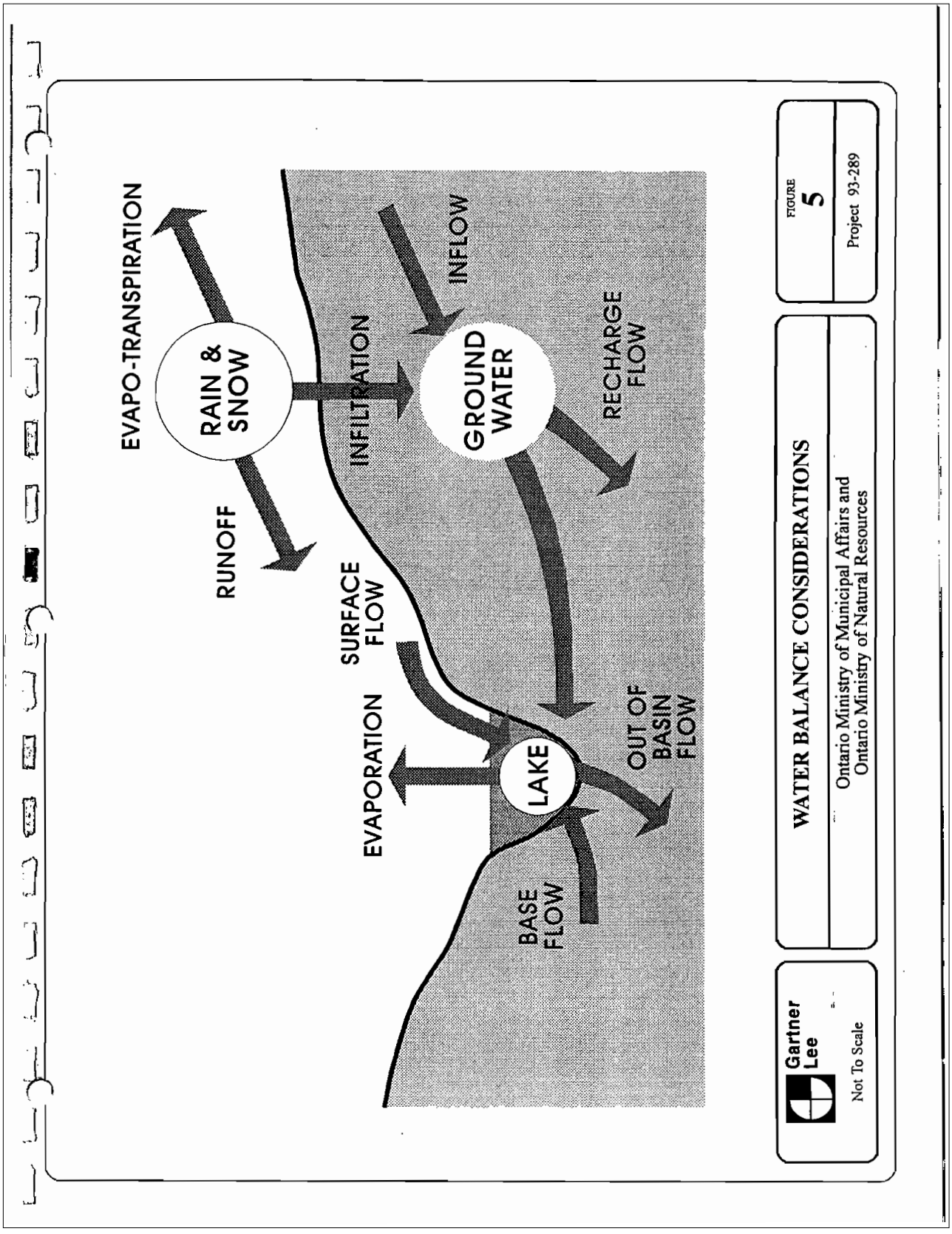
Quite often, the water flowing over the surface to the wetland originates from more than one separate subcatchment or basin. In these situations, the relative contribution of each basin to the wetland should be determined. This calculation requires an understanding of the soil textures, land use, and topography, so that a water budget can be used to estimate the amount of annual water surplus that infiltrates to recharge the ground water flow system and that which contributes to surface flow. This may require fairly specific information regarding permeability of the surficial soils in the study area. However, in relatively homogeneous settings, regional scale mapping of soil types could be used to determine the proportions of runoff and ground water recharge.

Conducting a Water Balance

Figure 5 depicts the elements to be considered in the water balance exercise. The purpose of this step is to identify how the water is being delivered to the wetland. This water balance becomes the tool by which changes in these pathways, as a result of development, can be assessed and quantified. This exercise should be conducted using standard water balance techniques (e.g., Thornwaite and Mather, 1957). Any water balance procedure requires data on precipitation, temperature and sunlight hours to determine the annual evaporation loss and annual surplus (runoff plus infiltration). Given the high variability of temperature data in Ontario, it is recommended that the water balance be carried out on a monthly basis. A water balance requires precipitation and temperature records from a nearby or regionally similar meteorologic stations. The monthly precipitation total less the calculated evapotranspiration yields the monthly water surplus. A further separation of the water surplus into infiltration and runoff estimates is possible with information on soils, slope, surface cover, and land use. There are other information sources which can assist in confirming the split of surface runoff and infiltration. These include Water Survey of Canada – Historical Streamflow Summary reports for nearby, similar watersheds and local flow measurements. In unusual circumstances (the most complex EISs and/or where important local information is unavailable), it may be necessary to install a meteorological station in a particular study area to collect precipitation/ temperature data.

Hydrologic Modelling

Using all of the previously described hydrologic information, it is possible to quantify the changes in hydrologic response due to a particular undertaking. This is a step required for complex proposals. One of the most common and effective techniques for this work is discrete or design event hydrologic modelling. This modelling is conducted, using the same rainfall input, to identify existing peak flow and runoff volume characteristics for comparison to runoff response under future land use conditions. Similarly, this technique, when combined with hydraulic modelling, if required, can produce a regulatory highwater mark for the wetland as may be required by the local conservation authority or MNR (e.g., Regional Storm or other guideline). This highwater mark is for flood control purposes only and ignores the regular fluctuations in water levels which may be important from a biological perspective. In Ontario, there are several accepted models used to conduct this work. A cautionary note should be raised here. Modelling is not required in every situation. In fact, some models listed in Appendix H are quite expensive, difficult to apply and only appropriate in specific situations. The need for modelling versus other predictive techniques should be carefully considered. This is described further in Section 5.3.1 along with some general modelling information in Appendix H. Continuous modelling, where several years of daily temperature and precipitation records are used, may suit very complex or sensitive sites. The requirement for detailed hydrologic modelling will be identified during initial consultation.


EVAPO-TRANSPIRATION
RAIN & SNOW
RUNOFF
INFILTRATION
INFLOW
GROUND WATER
RECHARGE FLOW
SURFACE FLOW
EVAPORATION
LAKE
OUT OF BASIN FLOW
BASE FLOW
Gartner Lee
Not To Scale
WATER BALANCE CONSIDERATIONS
Ontario Ministry of Municipal Affairs and
Ontario Ministry of Natural Resources
FIGURE 5
Project 93-289

Water Quality Processes

In many cases, the ability of a wetland to modify surface water quality will be carried forward in this assessment as a key function. Water quality is closely related to land use change and to the quantity of runoff where loadings are of concern. There may be existing water chemistry data available for analysis. If not, existing background conditions should be determined by sampling and laboratory testing for:

a) inorganic parameters (nutrients);
b) total suspended solids;
c) trace metals;
d) chlorides;
e) field measurements of temperature, pH, conductivity, and dissolved oxygen; and
f) organic parameter scan (Note: organic parameters are not required at all stations. One sample to test for the detection of organics may be sufficient. Should these parameters be present, more sampling may be needed).

This sampling will be geared towards understanding the inputs and outputs of the wetland, thereby helping to determine the role of the wetland in modifying water quality. Sampling ideally includes a range of seasons with samples being collected during both dry weather and wet weather conditions with a minimum of one sample under each of these conditions. It is particularly important to sample wet weather conditions to more accurately evaluate the effectiveness of the wetland at improving the quality of surface runoff from upstream areas.

The required level of sampling will depend upon the degree of existing information available. If information is available, some confirmatory sampling should be done under wet and dry conditions. If no information is available, a water sampling program should be established which includes four to six samples to all stations, at a frequency of one per month during the actively growing season, divided between wet and dry events. If the period of study for the EIS includes winter months, it would be useful to undertake one or two sampling runs under frozen conditions.

While water sampling is a good method of evaluating water quality conditions, it should be remembered that it only provides an indication of conditions at that point in time. For this reason it is suggested that water sampling be supplemented with sampling of the benthic organisms living on the bottom of the waterbody. Since these organisms exist in the station year-round, they reflect water quality conditions over time. Benthic samples should be collected at the same location where water samples are taken and should be sampled either in the spring or in the fall when they are most prevalent. One set of benthic samples is sufficient.

Some wetland systems (e.g., bog, fen) are known to be particularly sensitive to subtle shifts in surface water chemistry. Where these conditions are encountered, there may be a need for a more intensive water quality sampling program in order to more accurately predict the potential impacts of future land use change. The larger sample size, in this situation, allows greater precision which can be important when even slight alterations of chemical loadings can create marked impacts on sensitive wetland systems.

As just noted, the understanding of the water quality processes demands a determination of not only chemical concentrations, but also chemical loadings to a wetland. This requires an integration of both the quality and quantity information and is best accomplished by conducting a mass balance.

5.2.2 Biological Processes

Again, it merits drawing attention to the fact that there is a range of levels of detail possible within full site EISs. This variability limits the ability to provide explicit directions within this manual, for every EIS.

The habitat processes are separated into terrestrial and aquatic systems. This separation is used for simplicity. These systems overlap and are dynamic. In this situation different types of wetlands are considered aquatic (e.g., shallow open water and some types of marsh) while others are considered more related to terrestrial systems (some types of marshes, swamps, bogs, fens). Successional processes influence the character of habitat. Human activities can interfere with successional patterns leading to changes in diversity, productivity, etc. Some understanding of the dynamics of the habitat present is necessary to interpret biological processes.

Terrestrial Habitats

Wetlands are closely related to the surrounding upland habitats. To many organisms, the aquatic habitat is primary. Others rely upon various combinations of the aquatic and terrestrial. The latter are those that this section describes.

A variety of wildlife including birds, mammals, reptiles and amphibians have some association with the terrestrial habitats. For example, many waterfowl species are closely associated with a combination of naturally vegetated uplands in proximity to wetlands. Terrestrial habitat in conjunction with wetlands often completes the life cycle requirements (e.g., feeding, breeding, roosting) of a particular species. Many mammals, for example, rely upon the semi-aquatic and terrestrial habitats in wetlands for winter refuge. The interface between the terrestrial and aquatic habitats is known to present significant diversity and abundance. Some research has, for example, suggested that organisms in these habitats are both larger and possess higher degrees of reproductive success than do the same species in strictly upland conditions (Doyle, 1990).

The terrestrial habitats should be characterized in two basic ways: 1) mapping and describing the habitat available, and 2) inventorying and assessing the use of the habitat by the fauna present. The habitat characterization can be initiated with desktop materials including: aerial photographs, Forest Resource Inventory mapping, topographic and Ontario base mapping. Confirmation of identified characteristics within the study area does require some fieldwork. The development of the faunal inventory confirms relationships between habitat and species. The timing of inventories should reflect local conditions. Advice in this regard should be sought from the MNR. Together, these tools lead to a precise definition of the terrestrial functions in the study area. Each of these steps is further described in the following.

Habitat Characterization

The characterization of terrestrial habitats leads to a better understanding of relationships within and outside the wetland boundaries. Unlike faunal inventories, habitat characterization contributes to an understanding of past influences and identifies potential improvements or enhancements to the habitat. This exercise allows one to focus upon both the existing habitat functions and to address the potential enhancements through the identification and elimination of limiting factors.

There are several vegetation classification systems available to assist with habitat characterization. They vary from relatively simple definitions of upland and wetland, forested and non–forested systems, to more complex systems such as the Canadian Vegetation Classification System and the Forest Ecosystem Classification available for much of forested Ontario. The selected system should provide enough data to support conclusions regarding the quantity and quality of habitat available for groups of wildlife with similar ecological requirements.

Field verification of vegetation conditions should be conducted during the growing season. This creates some specific limitations to the timing for field visits (e.g., May through September in most parts of Ontario).

Specific quantitative vegetation sampling methods such as quadrant analysis, transects and point–centred quarter analyses may sometimes be necessary to precisely characterize habitat. Many of these sampling methods are described in general quantitative ecology books such as Brower and Zar, 1977; Krebs, 1972; Greig–Smith, 1964; and Kershaw, 1964.

A habitat map is an important product resulting from this effort. The map should depict:

a) the wetland boundary;
b) distinct vegetation community boundaries;
c) contiguous blocks of forested habitat, suitable for interior or area sensitive species;
d) degree of productivity of habitat for various species or groups of species (e.g., waterfowl); and
e) the presence of aquatic and terrestrial habitats.

The map can be used to derive information about habitat composition and vertical and horizontal structure, including:

a) the relative quality of available habitats;
b) ratios of various habitats (e.g., terrestrial to aquatic);
c) types and size of wildlife populations present (diversity and abundance),
d) presence of critical habitat components (e.g., cover, shelter, water, snags, etc.); and
e) indications of past influences (i.e., human caused such as drainage, logging, trapping, and; nature caused such as storm damage, beaver influences, successional patterns).

In some situations, species specific habitat mapping may be beneficial. For example, one species such as Osprey may contribute substantially to a key wetland function. A map depicting habitat use during various parts of the species lifecycle could facilitate a better understanding of potential habitat effects.

There are modelling techniques which rely upon less field verification and more upon the prediction of species use associated with habitat types and forms. A combination of techniques may be required, with the greater emphasis on the characterization of habitat. Some models are described in Appendix H.

At this time there are no requirements to use wildlife habitat models in an EIS except in very controversial or large scale developments where modelling may be the only means to confirm no loss of key wetland function. In the future, as models become available and have been adequately tested, they may become more widely used.

The following text describes some of the more commonly used and accepted means of conducting inventories of terrestrial fauna.

Terrestrial Fauna Inventory

Beyond the basic vegetation/ habitat information proposed, it is important to assess wildlife use. Wildlife can play a role as indicators of the quantity and/or quality of habitat present. For example, some bird species referred to as area sensitive, depend upon large forest tracts with some secure interior. Their successful breeding in and around a wetland can provide valuable insights into certain forested habitat quality and quantity. In this regard, wildlife observations can supplement observations and conclusions drawn from the vegetation characterization.

Terrestrial wildlife encountered in and around a wetland includes birds, mammals, reptiles, amphibians and invertebrates. The full site EIS should include some degree of observation (to be

discussed with the MNR) of all of these groups with an emphasis on determining the period of, and purpose of use of a particular study area (e.g., short term staging, breeding, winter concentration). Comments regarding sampling techniques are offered in the following, for each group.

Birds

Information should be gathered regarding the presence of bird species in a particular study area and about their dependence on the area (e.g., breeding, foraging, roosting, migrating). Data about the birds can be collected by visual and aural techniques such as those used by the Ontario Forest Bird Monitoring Program (FMBP), the Marsh Bird Monitoring Program (MBMP) and the Breeding Bird Survey (BBS). Other more intensive techniques such as Monitoring Avian Productivity and Survivorship (MAPS), which uses mist nets and banding are inappropriate for most EISs. Visual and aural techniques should be used to record the breeding status of birds observed or heard. The Atlas of Breeding Birds of Ontario (Cadman *et al.*, 1987) describes standard classification levels which should be used for evidence of bird breeding (i.e., observed, possible breeding, probable breeding, confirmed breeding). All bird species seen or heard in appropriate habitat during their breeding season should be considered probable breeders.

Mammals

This group of fauna is, in many ways, more difficult to census than birds. Many species are shy and/or nocturnal, with the only evidence being aural, or the observations of signs (e.g., scats, tracks). For most EISs, a reliance upon tracks and signs is sufficient. In addition, trapping records maintained at MNR area offices and wetland evaluation records may also be useful sources of information.

Tracks vary by species, but they can also vary according to the substrate characteristics (e.g., clay, sand, mud, snow) and according to season. Rezendes (1992) provides a useful guide to the identification of tracks and signs. The term signs refers to indications of a mammal's use of an area, other than tracks. Signs can include fecal pellets or scats, dens, food remains, mammal skeletal remains, marks on trees and shrubs (e.g., browse) and worn trails. The degree of use by species is important information to collect for this EIS.

Generally, these track and sign observations are adequate. In unusual circumstances where very detailed data are required, other techniques can be used. For example, drift fences can be installed to funnel small mammals towards pitfalls (cans or buckets installed flush to ground level) for identification. These pitfall traps can also be used in isolation of drift fences. Livetraps, snap traps and nest boxes can also be used effectively to sample small mammals. Details of these techniques are described by Mitchell *et al* (1993).

Reptiles

This group of wildlife includes turtles, snakes and lizards. Although there are variations from one species to another, turtles are generally warm weather animals that prefer warm bodies of water and sunny microclimates for thermoregulation (i.e., sunning to raise body temperature). They are easiest to observe in the spring and autumn when sunning behaviour is more frequent in response to cooler water temperatures.

One lizard and 15 snake species occur in Ontario. These animals are fairly fast moving and secretive. They are thus often difficult to observe. Like the turtles, snakes are most frequently sighted while sunning in open exposed locations, or by searching under rocks in suitable habitat.

Amphibians

This group can be described more specifically according to the groupings, frogs, toads and salamanders. Because frogs and toads all vocalize during their breeding season this group of fauna is particularly simple to census. This vocalization is the simplest means of identifying and estimating abundance of these animals. The spring and early summer are important periods to conduct this fieldwork.

As the most secretive of Ontario's amphibians, salamanders are a more difficult group to inventory. They spend much of their lives in rotten logs, burrowing in soil or underwater. Observations are difficult without substantial search time, at the optimal time of year. Observations frequently require disturbing habitat (e.g., moving woody debris on the forest floor). For these reasons, intensively inventorying amphibians is not recommended where they are not specifically identified as part of a key wetland function.

More effective amphibian sampling efforts, appropriate for most EISs, include spring observations of egg masses and migration observation. Probably the best times to observe these species is on early spring, rainy nights when these animals are migrating from breeding ponds to their summer ranges. Looking for egg masses in the breeding ponds is also an opportunity for observation. Specific life histories of species expected, given habitat conditions in an area, should be consulted when planning the field inventory program of this EIS.

In unusual or complex EISs, for reptiles and amphibians, there may be a need to go beyond primary techniques of directly observing or collecting by hand. They can also be censused using indirect techniques such as funnel traps, drift fences with pitfall traps and coverboards. Coverboards are plywood or metal shelters laid on the ground to attract amphibian and reptile species seeking some shelter (Mitchell *et al* 1993).

Invertebrates

The terrestrial component of this large group of fauna is generally overlooked in field components of EISs. Even if sampled there are few standard Ontario references to assist with a determination of importance or status. Butterflies are, however, an exception in this regard and may merit some attention in the EIS. There may be a specific reason to be concerned with this group (i.e., reported significance of an area for migration, feeding, presence of unusual species). Observations are best made later in the summer during the butterfly's active daytime period. A variety of standard identification texts exist along with a more recently produced Ontario Butterfly Atlas (Holmes *et al*, 1991).

Aquatic Habitats

The various types of wetlands often support different aquatic species. For example, bogs and fens typically support limited to no fisheries and if so are often only important seasonally. Many coldwater streams in Southern Ontario or are located in swamps. Marshes and shallow open water wetland types are frequently important for spawning, juvenile growth areas (nurseries) and adult feeding habitats. The degree of aquatic study will be determined in part by the wetland type, connections to rivers and lakes and in part by the type and degree of development proposed. Functional loss may be expected if: water levels are predicted to decline; or if filling of the wetland edge, either through direct or indirect means (erosion / sedimentation), is anticipated.

The aquatic habitat assessment requires mapping the quantity and diversity of habitat and assessing habitat quality. This is conducted primarily through fieldwork, the degree of which depends upon the amount of background information already available. The timing and number of field visits should be assessed and discussed in conjunction with the MNR. Fish are one of the most widely studied aquatic species. Since much information is often available on fish, they can be important indicator species in aquatic habitats. A minimum of one field visit is required where aquatic habitats are carried forward as a key wetland function. Fieldwork timing is to some degree dependent upon the species of interest; (e.g., if fish are the key species to study, northern pike spawn in early spring; largemouth bass spawn in late spring/early summer; juvenile habitat is used in July and August). The most important time for a visit is during the spawning season to characterize the habitat suitability for selected species. However, it is also necessary to understand the importance of the aquatic habitat for the other purposes mentioned (e.g., nursery). Where necessary, additional work should be conducted later in the summer to confirm the habitat conditions.

The MNR Aquatic Habitat Inventory Surveys Manual (Dodge *et al.*, 1982) presents detailed information about appropriate habitat assessment techniques. The following general information is drawn from that manual and other North American references.

Fish and other aquatic species (turtles, frogs, invertebrates) depend on different habitat characteristics to provide food, shelter, and spawning, rearing and resting areas. Understanding the habitat requirements of different species helps to define the data collection needs at each site. If habitat for only one species is of interest, then it may narrow the data collection needs. However, community base assessments recognize broader habitat usage. These community based assessments rely upon habitat mapping as a tool.

Habitat mapping is a visual description of the aquatic riparian habitat features throughout a study area accompanied by measurements of those features. This mapping should be undertaken during the summer period under low flow conditions with good visibility. Observations during other times of the year are not precluded, however, limitations such as poorer water clarity, must be recognized. Parameters that should be mapped include:

a) channel width and depth;
b) substrate type and distribution;
c) vegetative cover;
d) pools, riffles, runs and glides;
e) flow direction;
f) bank/shoreline stability;
g) riparian cover;
h) seepage areas;
i) side channels or floodplain connections;
j) pipes, discharges, culverts, filling, or other anthropogenic influences;
k) beaver dams or log/debris jams; and
l) permanent dams.

Incidental observations of species occurrence or spawning activity should be noted as well as existing activities or conditions which may be degrading or altering habitat (e.g., stream discharges, outfalls, dumping). Data collection should also consider the potential for post–mitigative impacts.

5.2.3 Attribute Group

The attribute information for this EIS type should be current and accurate, a reflection of the need for some detailed field investigations. As with the habitat processes, attributes are influenced by the successional patterns present. A maturing forest, for example, could displace a rare plant species which is dependent upon a more open canopy condition. Human activities can interfere with these successional patterns (e.g., forest management can artificially maintain a more open canopy through thinning operations). Understanding the influence of succession on the future attribute health is important to understanding and predicting effects associated with various developments. This also helps identify opportunities for rehabilitation and enhancement.

Historic and/or background reports should be verified during the appropriate season. For example, searches for significant breeding birds should be conducted in the late spring and early summer of the year, rather than in the late summer, after nesting for most species is complete. Confirmation of rare plant species is appropriately undertaken over the growing season (e.g., three visits from May to September) to enable observations at different flowering times. Confirmation of aquatic attributes requires careful consideration of timing given specific windows for activities such as fish spawning, migration, nursery, etc. Some attributes will require "off season" observations (e.g., winter deer concentration, critical areas of spring and fall waterbird staging along a flyway). It is important to remember that timing will differ depending upon the geographic location of the proposed development. Specific timing recommendations should be confirmed with the local MNR office.

The information to be gathered for the attribute group should be as quantitative as possible and should include:

a) an estimate of approximate community or population size;
b) an assessment of the health of the attribute (i.e., existing stresses);
c) an indication of reproductive success (e.g., seed/fruit producing, apparent influences of predation and parasitism on nesting success);
d) an assessment of rarity or uniqueness at the species level. Information regarding status sources is available from the MNR. Several references to accepted, published lists are included in the reference section of Appendix L.

Critical habitats should be identified and described in terms of:

a) their degree of importance relative to the maintenance of local or regional populations;
b) their provincial or national significance (e.g., unusual carolinian habitats);
c) the extent (spatial and temporal) of the habitat; and
d) influences of natural and human induced disturbances.

5.2.4 Linkage Group

Specific linkage information should be provided in the Full Site EIS. Much of the data already collected to define other functions can be used to interpret linkages. Both aquatic (and supporting physical processes) and terrestrial requirements are described further in the following.

Aquatic linkages are all intermittent and permanent watercourses in the study area. Interruptions to linkages can be described in terms of physical (e.g., dams, waterfalls) or chemical barriers (e.g., zones

near an outfall). Aquatic linkages can be defined using topographic information, airphoto analysis, water chemistry data and fish community and aquatic habitat assessment data. Permanence of flow and position within certain landform features will provide information about the relative importance of invisible linkages (connections between ground and surface water) in maintaining the aquatic habitat.

Terrestrial linkages are identified as continuous areas of forested and non-forested vegetation. The degree of linkage should be described in terms of width, length, degree of fragmentation, vegetation structure and composition. The importance of the linkage in the maintenance of wetland functions, should be assessed. This linkage discussion must be placed in a larger geographic context, with comments regarding relationships between the wetland and other local and regional natural areas.

5.2.5 Value Group

The characterization of value functions often requires a combination of background information review, discussions with a variety of stakeholders and some field observations.

Background information can include summaries produced regarding the use of parkland (i.e., user surveys) including the wetland. Often, there is little information available regarding the recreational and social/cultural uses. Some brief comments are presented in the wetland data record. This is a reasonable starting point from which to add supplemental information. For productive uses, there are additional sources of potential background information such as Forest Resource Inventory maps forest management agreements and aerial photographs which can reveal patterns of historic and current use such as drainage works and forest management activities.

Much of the value information will be derived from discussions with a variety of stakeholders such as:

a) local residents and ratepayer groups;
b) naturalist clubs;
c) school boards and individual school representatives;
d) government personnel;
e) industry representatives;
f) sports clubs including fish and game organizations; and
g) universities and colleges.

A list of organizations which might be helpful is included in Appendix K.

Should there be a concentration of functions from the value groups in a particular wetland (e.g., large interpretive centre, frequent use for fishing, etc.) there may be a benefit to collect primary data about

the wetland's use. This could be facilitated by a variety of techniques including: user questionnaires, public meetings and the installation of collection boxes in strategic locations to receive completed comment cards.

For the most complex EIS it may be helpful to retain expertise in the area of consultation and community liaison.

Regardless of approach, the Full Site EIS should include summaries of all feedback received. Original comment sheets may be appropriate to include in the EIS as an Appendix.

5.3 APPLICATION OF IMPACT ASSESSMENT

The Functional Assessment Framework (Table 2) depicts the impact assessment approach. The horizontal axis of the functional assessment framework requires that the key wetland functions must be described in terms of their degree of sensitivity to potential development impacts. This task generally requires an interpretation of supporting scientific literature and the application of best professional judgement.

The degree of sensitivity will also be affected by conditions within a particular wetland. Wetlands are dynamic systems; climate influences the physical processes that exist such as the average water level and range of water levels in a particular season. Hydrology can in turn, affect habitat, attributes and even linkages. The prediction of impacts must be undertaken within a temporal context. Effects associated with certain impacts may, for example, be greater in seasons with drought conditions. Populations of waterfowl or amphibians for instance, could decline in years with low spring and summer rainfall. Impacts which intensify predation in those periods may magnify effects on smaller prey populations.

In addition to this temporal context, the spatial extent of effects needs to be considered. The extent of some effects prior to and even after the implementation of a selected mitigation strategy, may extend well beyond the wetland boundary and even beyond the adjacent lands area. The spatial extent may also be highly variable and more closely associated with the patchiness of the vegetated landscape. The extent of effects on the linkage function within adjacent lands of a larger wetland complex may be broad indeed. The prediction of effects requires some understanding of the degree of reduction of effects over time and space, outwards from the impact source.

Direct effects are those which occur immediately or shortly after an impact. The term indirect effects is also used in this document to recognize that some effects can occur over a longer time frame. Where appropriate, these are identified under specific headings in Section 5.3.1.

The terms direct and indirect introduce the concept of time to the prediction of effects. It is important to note that the effects caused by a particular impact are diffused by both time and space. Over time for example, a particular effect may be reduced by a physical recovery of the landscape (e.g., succession of vegetation over a degraded area). Similarly, over time, certain species of fauna may display some adaptability to a particular impact. This adaptability could include the ability of a species to inhabit a range of conditions and to tolerate human intrusion into a wetland (i.e., boreal system) or into adjacent lands. The white tailed deer is an example of such a species.

The impacts may also be diffused over distance from the source. For example, noise associated with a development proposal will have a decreasing effect on wildlife over distance. The impact may lead to some adaptability of wildlife near the impact and/or it may lead to displacing fauna to a point in the protected system where noise is no longer audible.

Cumulative effects assessments are most easily undertaken by public proponents and agencies rather than by private proponents. The former are able to extend their mandate or area of investigating with less difficulty. These assessments should usually be conducted as a component of comprehensive EISs, rather than Full Site or Scoped Site. Comments related to where these can be considered in a Full Site EIS are included in Section 5.3.1. This topic is also discussed in Section 2.3.4 of this Technical Manual.

5.3.1 Identification of Proposed Impacts

This task requires a detailed review of the development to identify potential impacts associated with the proposal. Appendix F (Potential Impact Listing) provides a basis point for this exercise. Some further guidance is provided below, organized according to functional groups.

Hydrological Processes

In most wetlands, the surface and ground water are closely linked and modelling of the surface waters will also reflect ground water interactions.

The discrete event modelling conducted during the characterization of wetland hydrologic functions (Section 5.2.1.) is recommended for use in the prediction of impacts and effects on peak flows and, in particular, runoff volumes to the wetland. This translates to an assessment of the existing and future water level fluctuations and to a determination of potential effects from the undertaking. Discrete event modelling accounts for changes in slope, imperviousness and drainage area. This allows an assessment of future flow response, given a similar design storm event to existing conditions. These data (e.g., runoff volumes) also contribute to a determination of potential changes in loadings of chemical parameters to the wetland, in conjunction with the water quality assessment. These changes

may then be investigated in terms of potential effects on plant, fish and wildlife receivers. This step often requires a review of current literature as it relates to potential effects. Agencies such as the MOEE can provide particularly useful information in this regard. In many less complex sites, the above hydrologic assessment can be done without the detailed modelling noted in Section 5.2.1. A qualitative discussion may be acceptable further to consultations with MNR staff.

Biological Processes

Habitat effects should be addressed in terms of loss and degradation. The loss should be characterized in terms of amount of each vegetation community (terrestrial and aquatic) removed and the percentage removal within the larger study area. The location of the habitat should be addressed. In the Great Lakes – St. Lawrence region, loss is relevant to adjacent lands, whereas loss of habitat may refer to wetland area for Boreal wetlands. In particular the effects of removing upland habitat which occurs adjacent to wetland habitat should be considered. Habitat loss can be more precisely defined according to the specific role performed:

a) food;
b) shelter/cover;
c) nesting;
d) foraging; and
e) spawning, nursery or over–wintering habitats.

This relies upon a knowledge of a species relationship to various habitats. This relationship requires an understanding of habitat characteristics (e.g., differences in size, vertical laying, horizontal heterogeneity and composition) and the use of these components by a species during various parts of its lifecycle. An approach to conduct this analysis is presented in Appendix G.

Predictions for post–development human use effects on an area's resident wildlife population are also important. For example, will post–development use affect the reproductive success of various wildlife present (i.e., through intrusions by humans and domestic pets)? Will a development lead to an increase in more urban adapted predators (i.e., rats, raccoons) which could affect susceptible wetland wildlife populations over time? Will proposed contaminant loadings lead to the collapse of some groups of vegetation or wildlife (i.e., are there tolerance thresholds for species or habitats that may be exceeded?).

As in many areas of science, new biological ideas and information about impact prediction continue to emerge in the literature. Some selected papers and texts relating to this topic are identified in Appendix L. In some situations, where precise conclusions are not possible, these can be quite helpful in forming opinions and offering best professional judgement about impact prediction and mitigation assessment.

Attribute Group

Significant species to which some special importance is attached, require particular attention. Impact potential must consider the degree of sensitivity of these components. For example, some critical wetland or wetland habitat may support the entire local or even regional populations of certain rare fish and wildlife species. Some could serve as an important link in a waterfowl flyway. If these species were to be negatively affected, the result could be a relatively widespread population decline. In other situations, effects may relate to population reductions, decreased reproductive success or habitat abandonment.

Linkage Group

Terrestrial linkages can be temporarily or permanently affected in terms of: destruction or alteration of forested and/or non–forested lands which function as connecting patches across the landscape; and, interruptions of continuous, vegetated linear corridors through fragmentation or narrowing of the corridor.

While certain land uses (e.g., residential development) can permanently disrupt some linkages, other land uses (e.g., aggregate extraction) present opportunities to restore some linkages over time through rehabilitation.

Appendix G provides some additional guidance regarding which fauna should be specifically considered given the wetland focus of the Wetlands Policy Statement. It is important to assess the impacts with an understanding of the types of habitat (e.g., forested, field, agricultural) that the particular fauna depend upon.

Impacts can be addressed in terms of:

a) the amount of removal (hectares and percent of existing supply) of vegetated areas (natural vegetation and agricultural lands);
b) the position of the removed or diminished linkage relative to local and regional natural areas; and
c) the temporal nature of the impact (e.g., temporary versus permanent; during only certain periods of the day or year).

These discussions have referred principally to linkages across the local landscape. The role of some areas (e.g., tilled agricultural land) in terms of feeding and migrating fauna is another component of linkages which requires definition.

Aquatic linkages could be affected through the alteration of the wetland proper, tributary waters connecting the wetland or other bodies of water, or floodplain lands adjacent to the wetland which form part of the habitat used by individual species. For example, northern pike may migrate into tributary waters or onto floodplains to spawn; without the linkage between tributaries or the floodplain and the wetland, the ability to produce fish would be lost. These impacts would also be considered under biological processes and attributes.

Aquatic linkages can also be affected by the hydrologic processes and relationships which can impact surface water quality or quantity. Impairment of water quality may be a predicted impact and therefore may interrupt linkages by creating a zone not used or entered by aquatic organisms. Perhaps of greatest significance is the potential to alter water quantity and thus, the duration of linkages. Wetland water levels and adjacent floodplain tributaries typically remain elevated through the spring period, gradually declining. Changes to the hydrograph may reduce the period of inundation and result in lost linkages to open water, before the eggs are hatched or young are ready to emigrate.

Value Group

Impacts on existing and potential uses can be determined on an economic basis for product values (i.e., economically valuable products). The determination of effects on recreational and cultural/social values can be less precise. For these values, potential impacts may not be determinable as dollars lost, rather they could be characterized in a relative sense (i.e., negative, neutral, or positive). Impacts on existing management practices are also discussed in Section 2.3.4 of this Technical Manual.

Some additional comments are offered regarding potential impacts on recreational, product and social/culture functions.

Methods exist for the calculation of the value of recreational functions by considering their direct and indirect contribution to the economy. This should recognize the potential significance or degree of magnitude of economic input where a particular group is principally dependent upon wetland recreational values. The potential for a development to increase or decrease the degree of various recreational activities should be considered. To fully understand potential effects on these value functions, discussions should be held with affected parties.

Product value effects should be characterized in terms of both present and future loss. Attempts should be made to distinguish between the influence of a specific development application and the influences of general disturbance patterns or other ecological factors.

Social and cultural value functions are perhaps the most tangible group of functions to consider. Less economic understanding is available from current literature than for the recreational and product values. This function, more than anything else, demands communication with local and affected

individuals. Serious attempts should be made to adequately characterize the potential for a proposed development to affect functions such as aesthetic application and the maintenance of opportunities for current and future education, research and interpretation.

This functional group may require some reliance upon experts in areas including: resource and recreational economies, visual resources, philosophy, theology, etc.

5.3.2 Mitigation Assessment

The Manual of Implementation Guidelines for the Wetlands Policy Statement identifies mitigation in terms of:

a) avoiding impacts;
b) minimizing impacts; and
c) rehabilitation of the impacted areas/functions.

Given the nature of the Policy, avoidance is the most commonly expected technique. Exceptions to this, where minimization and rehabilitation are expected to receive greater attention include:

a) proposed development impacts within wetland boundaries and/or adjacent to wetlands in the Boreal Region;
b) proposed impacts adjacent to wetlands in the Great Lakes – St. Lawrence Region;
c) throughout Ontario, associated with new utilities and facilities (e.g., transportation, communication, sanitation); and
d) the enhancement of wetland functions degraded or diminished by historic impacts.

Mitigation is the responsibility of the development proponent in so far as it relates to impacts predicted from the specific development proposal. The mitigation and more particularly the rehabilitation of historic effects, is the responsibility of public agencies in conjunction with private proponents and interest groups; the precise roles to be determined on a case–by–case basis. In all cases technical aspects of mitigation proposals should be thoroughly discussed with MNR staff to ensure satisfaction of goals and objectives of the Wetlands Policy Statement.

Hydrological Processes

Some mitigation measures are more readily accepted than others. Certain measures (e.g., storm water facilities for quality and quantity control) will become the responsibility of the municipality after development is completed. Examples of mitigation strategies are offered below.

Balancing the pre– and post–development flow response as a means of mitigating drainage changes requires a careful assessment of the potential changes to runoff volumes (water levels), delivery points (biological changes) and peak flows (erosion potential). This mitigation needs to be addressed in conjunction with an assessment of how water quality impacts are mitigated. For example, the installation of Best Management Practices (BMP) (MOEE/MNR, 1991), can affect both quality and volume of runoff delivered to the wetland under smaller storm events.

Typical examples of BMP mitigation options could include:

a) street sweeping;
b) catch basin sumps;
c) oil and grit separators;
d) wet ponds;
e) constructed wetlands for waste or storm water treatment;
f) extended detention ponds;
g) infiltration methods;
h) vegetative filters, grassed swales; and
i) phasing of development.

As each EIS project will be unique, the proponent is encouraged to examine other mitigation strategies tailored to the proposed development and the wetland to be affected. The types of land uses to be drained to the wetland under post–development conditions should be assessed. Mitigation could involve directing runoff from paved surfaces away from a wetland system in order to meet quality and quantity objectives. Sedimentation during construction can damage/impair some wetland functions, therefore accepted sediment and erosion controls should be stringently designed and applied.

Biological Processes

Mitigation of impacts on terrestrial biological processes could be achieved through various municipal planning tools such as site plans, setbacks and storm water management facilities. Other specific mitigation measures could include:

a) retention of upland vegetation within a development proposal;
b) creation of a protective buffer or setback immediately adjacent to the wetland;
c) maintenance/creation of habitat outside of wetland boundary;
d) maintenance/creation of terrestrial linkages (addressed under linkage group);
e) establishment of plantings to reduce forest edge to interior ratio; and
f) development and implementation of a management plan for lands within and outside the wetland boundary to maintain or enhance biological processes.

These are briefly discussed in the following.

Vegetation outside the wetland boundary may be important to retain should it be performing or supporting important wetland functions. Continuous and patchy forest, successional or agricultural lands may be important to the life cycles of some wildlife during periods when they move outside the wetland itself. For example, agricultural lands that are located outside of the wetland could be performing functions such as foraging or nesting areas for waterfowl. While the functions of the wetland itself may be retained for waterfowl, some surrounding upland fields may be needed to support this and other groups of wildlife.

Habitat may also be created as part of a mitigation strategy. Creation would need to consider a variety of parameters including:

a) size;
b) shape; and
c) landscape position (e.g., ability to enhance other non–biological processes and linkages).

Management, both within and next to wetlands, can enhance biological processes. Planting specific forage crops in adjacent lands, the establishment of artificial structures for nesting, cover and loafing, and vegetation management targeted towards the enhancement of structure and/or composition are all examples of techniques available to enhance biological processes. Management has frequently been undertaken by groups including Ducks Unlimited, Ontario Federation of Anglers and Hunters, Eastern Habitat Joint Venture and Wildlife Habitat Canada. Effects on existing management practices are also discussed in Section 2.3.4 of this Technical Manual.

Protective vegetation buffers can perform an important role in mitigation programs. The use of buffers has, since the 1950s, been common practice in the forestry and agriculture industries, generally to protect water quality and aquatic ecosystems. The type and width of buffer are based upon the biological processes being protected. Effective buffers should be based upon the protection of all four functional groups (i.e., process, attribute, linkage, value). For the biological processes, buffers should consider the requirements for the maintenance of habitat (e.g., vegetation rooting system protection, aquatic habitat temperature/quality maintenance). In addition to mitigating effects, buffers can also increase the amount of interior forest present. It may be helpful to depict the interior forest where the wetland area and buffer contribute to its presence. Development effects on this interior should be illustrated. Much of the current literature identifies buffers in the order of 50 m width as being the typical width required to protect many wetland functions. This distance is offered only to present a sense of the magnitude of some buffers. Buffers may be determined to be appropriate narrower or under than that distance. Buffer widths need to be established on a case–by–case basis. In many cases, buffer width will vary around a wetland in response to changing, site specific conditions.

Where a loss of habitat which directly or indirectly contributes to fish production is indicated, the proponent also needs to comply with the requirements of the Federal Fisheries Act. Harmful alteration, disruption or destruction of fish habitat is not permitted without authorization by the Minister of Fisheries and Oceans Canada, Section 35(2), Fisheries Act Canada. Authorization is not issued unless acceptable measures to compensate for the habitat loss are developed and implemented by the proponent. In Ontario, the MNR is responsible for implementing the Act, while Fisheries and Oceans Canada retains the responsibility for issuing authorizations. The information collected and presented for this EIS should be sufficient to satisfy their requirements. However, where mitigation is considered to be insufficient to reduce or eliminate proposed impacts, then compensation is usually required to offset the losses or alteration. Compensation or other requirements of the Fisheries Act not considered in this manual.

Attribute Group

Mitigation for the maintenance of attributes generally relates to avoidance of effects. The degree of stress tolerable by attributes should be carefully considered.

Terrestrial attributes tend to have the greatest effect on the degree of protective vegetative buffer required. In particular, significant species of birds can often have relatively large territory requirements (wildlife disturbance zones) which extend well beyond the wetland boundary. The Manual of_Implementation Guidelines for the Wetlands Policy Statement provide some further discussion of this form of mitigation and its application to wildlife disturbance zones.

Linkage Group

Mitigation of impacts on terrestrial linkages are introduced in the preceding section dealing with the mitigation of biological processes. Linkage mitigation requires similar consideration as those discussed regarding habitat processes.

More specifically, terrestrial linkage mitigation could include:

a) avoidance of further landscape fragmentation;
b) revegetating contributing intermittent and permanent tributaries;
c) revegetating steep slopes;
d) minimizing degree of edge in linear corridors through strategic plantings, to reduce attractiveness to some edge species; and
e) management programs to limit the movement of mammalian predators along corridors (e.g., trapping).

Aquatic linkage mitigation could include:

a) removal of existing physical and chemical barriers;
b) rehabilitation of reaches to increase continuity of flow.

Value Group

Product values are important in the Boreal Region and will be less affected in the Great Lakes – St. Lawrence Region. Product values depend principally upon the maintenance of existing habitat as a source of timber, fish and wildlife. Mitigation of degraded systems enhances these resources. Recreational and cultural/social values also depend upon the maintenance and enhancement of wetland resources.

It is important to note that mitigation of impacts on existing and potential values may have an effect on other functions. For example, altering the water table to enhance timber production could result in the loss of a rare plant, or change understory vegetation to such an extent that the habitat for some important species is affected. This relationships between functions is important to understand, especially in relation to the value functional group.

It is necessary to note that within the value group, mitigation of one specific component could affect another. For example, water level management for the production of wild rice may negatively affect conditions required for timber production. An overriding principle in the determination of appropriate mitigation methods should be an interest in maintaining and promoting sustainable resource management.

The following examples of mitigation options should only be considering after a thorough assessment of impacts on other key wetland functions is completed.

Mitigation options for product values include:

a) timber harvests (selective, thinning, etc.);
b) reforestation;
c) modification of water table and drainage to enhance timber production;
d) water quality improvement for fisheries production enhancement; and
e) water level management to increase harvests of wild rice, etc.

Examples of mitigation measures for recreational and cultural/social values include:

a) improved access via trails, fishing and viewing platforms, boat landing points;
b) enhanced navigational pathways for boating;
c) tree marking for selective removal of fuelwood by individuals;
d) development and implementation of education and interpretation programs;
e) provision of research opportunities; and
f) exclusionary zones and/or setbacks.

5.3.3 Net Effects and Proposed Monitoring

The application of an appropriate mitigation strategy may eliminate all potential effects. More likely, however, development will lead to some residual positive and negative effects. These residual effects should be accurately characterized and presented in this component of the EIS.

Monitoring aims to verify and detect the effects predicted in the EIS from a particular development. This ensures that no additional effects go unnoticed or unaddressed. This may create an opportunity to refine mitigation measures already in place. Monitoring can also contribute important information about the response of wetland ecosystems to various stresses, thus adding to the body of available scientific information. This will over time, contribute to more precise effect predictions and mitigation strategies in subsequent applications. It will also contribute to the longer term identification of research needs.

Monitoring is not normally required (i.e., it is not recommended for Comprehensive or Scoped Site EISs, and may be required for certain Full Site EISs). It should be considered in situations where:

a) the large scale of a development or the sensitivity of the key functions are such that effects may be more difficult to predict and/or are relatively untested or unproven in the field;
b) the mitigation technology proposed is not proven in Ontario (e.g., new technology or imported technology from another climate); and/or
c) there are long term operations associated with a development (e.g., long term aggregate extraction operations), which could facilitate some future or ongoing refinement to the mitigation strategy.

Depending upon specific circumstances, monitoring may need to be undertaken in pre–construction, construction/operation and post–construction periods. Some programs may extend over long time horizons and should be developed in conjunction with independent researchers or institutions, such as the Wetland Research Institute (University of Waterloo). In such cases an agreed upon monitoring protocol should be established which is binding as a condition of project approval.

Details of the monitoring programs should be discussed and confirmed with the MNR and the municipality. The program should be established as a condition of approval with responsibilities and accountability remaining with the proponent. The compilation and storage of all monitoring results should be undertaken by the MNR to provide an accessible data base of the accuracy of impact predictions and the effectiveness of mitigation strategies.

Monitoring should be practical and should be designed to validate predictions and not to repeat technical studies already undertaken as part of the EIS. The program should focus on specific indicators and should not be seen principally as an opportunity to fill in gaps in the scientific literature.

Monitoring programs can include the selection of appropriate physical, chemical and/or biological indicators. It is often important to use biological indicators in conjunction with physical and chemical indicators. There are a variety of references, useful in the design of a monitoring program. These are included in Appendix L. Some general remarks are offered below.

Physical indicators could include the measurement of both baseflow and streamflow or the measurement of regional and local ground water levels. Chemical indicators could include surface and ground water quality parameters. Biological indicators can include plants, vertebrates and invertebrates.

An obvious indicator of wetland function health would be the maintenance of existing vegetative cover. Monitoring specific plant species can also be useful. One could select sensitive (e.g., high water table dependent) or significant species. As well the changes in invasive species (e.g., purple loosestrife) distributions can contribute to an understanding of quality.

Biological indicators have been referenced by many authors. Noss (1990), for example, describes an effective hierarchical approach which uses indicators at four levels to measure biodiversity. These four levels include the: regional landscape; community–ecosystem; population–species; and, genetic. For purposes of the full site EIS monitoring program there is merit in using this functional assessment framework for indicator selection, with particular emphasis on the community ecosystem and population–species levels. Noss (1990) identifies suitable indicators at each of these levels. For example, the community ecosystem level includes species richness and diversity, guilds and community information. The population species level includes five categories of species: ecological indicators; keystones; umbrellas; flagships and vulnerables. Some specific suggestions for indicators follow.

Aquatic organisms and terrestrial wildlife have been used extensively as indicators of stress, with varying success. Perhaps the most widely and effectively used are birds. Croonquist and Brooks (1991) concluded that avian guilds were more accurate predictive indicators than were mammalian guilds. They refer to guilds as groups of species that exploit the same class of environmental resources in a similar way. These authors and others classify response guilds in many ways such as: degree of wetland dependency, trophic level (e.g., position in the food chain), species status (e.g., rare, threatened and endangered), habitat specificity and seasonality (e.g., migrant). Depending upon the effect predicted, one or more response guilds could be selected. For example, should a predicted effect be the potential fragmentation of wetland forest cover, habitat specialists including area sensitive species may be the preferred guild.

6.0 COMPREHENSIVE EIS

Comprehensive EISs are undertaken for larger blocks or all of a particular municipality. Most recently, they have been conducted for watersheds and subwatersheds as a component of ecological planning efforts. The Manual of Implementation Guidelines for the Wetlands Policy Statement describe examples where these situations can arise during the development of an Official Plan. Comprehensive EISs are typically initiated by the local municipalities and are often lead by the Conservation Authority (if present), particularly if they are part of a watershed or similar study.

This type of EIS is best suited to regional and subregional study areas. Rather than a response to a single development application, it is more appropriately associated within a secondary planning block, a special planning area or an entire municipality. This approach also works well when one is investigating a large wetland complex, in order to lay the planning groundwork for subsequent development applications on all adjacent lands. The product of this exercise is the creation of a map which depicts the spatial extent of some wetland functions (e.g., surface water catchment, general regional ground water flow pattern, habitat types) in a large study area, along with an accompanying report.

This larger geographic study area may effectively make use of Geographic Information System (GIS) technologies, to illustrate and analyze the spatial distribution of mapped information. GIS is an analytical tool which facilitates the quantification of the supplies of various components (e.g., habitats) in the landscape.

The following are more specific directions regarding: the terrain setting, the characterization of functions and the application of the impact assessment process. They may build upon or be similar to the work completed for an Issues Summary Paper.

6.1 HYDROGEOLOGICAL SETTING

The following defines the terrain setting prior to characterizing functions. This will lead to a more precise understanding of how the ground water moves both regionally and locally. The terrain data should be translated onto a figure for the study area. The information to be depicted should be assembled and described as suggested for the Issues Summary Paper (Section 3.0). It should include:

a) all landform units;
b) regional and local ground water flow directions (new to this section);
c) the wetland site type (e.g., riverine, lacustrine, palustrine, isolated); and
d) the surface drainage systems (described further below).

The following tasks will assist in the determination of the ground water flow directions:

Task 1: Develop geological cross sections through the study area using geological landform boundaries, existing water well records and available geotechnical boreholes.

Task 2: Ground water flow conditions and hydrogeological characteristics should be estimated and integrated into the geological interpretation to produce a conceptual three–dimensional picture of the hydrogeological setting.

Task 3: General directions and gradients of ground water flow should be depicted, along with an identification of broad limits of recharge and discharge areas.

The regional ground water flow system has been defined in some jurisdictions as a result of extensive technical work supporting ground water supply investigations. In these cases there will be no need to conduct confirmatory drilling at this level of interpretation. Confirmatory or initial drilling will be required where sufficient data are not available. Absence of this technical activity in a program should be justified.

Once the terrain is better defined, the functional assessment framework (described in Section 2.3.3) should be used to characterize functions. These should be assessed according to the four functional groups (processes, attributes, linkages and values). The types of information required and the methods of presentation are described in the following section.

6.2 CHARACTERIZATION OF FUNCTIONAL GROUPS

6.2.1 Process Group

a) Hydrological Processes

The following tasks will define the quantity aspects of the surface water processes occurring in the wetland:

Task 1: Outline and measure the surface catchment area(s) for the wetland.

Task 2: Identify all surface drainage paths and other local wetlands within the wetland catchment area(s) (plus all other wetlands within the catchment).

Task 3: Identify all inflow and outflow points and structures (e.g., culverts, beaver dams, weirs) relevant to the wetland. Describe them generally in terms of their type of flow (e.g., diffuse, radial, point–source), relative importance to maintaining wetland hydrology, and in terms of their degree of permanence. Information that should be collected about beaver dams includes: dimensions, apparent integrity or condition and degree of activity. Historic aerial photographs can be quite helpful in assessing the age of such dams.

Task 4: Identify and quantify any human water takings, if any, from the wetland for potable supply, irrigation, livestock use, or other obvious uses.

Some additional information is offered regarding these steps. In most cases, watershed and subwatershed boundaries are already mapped and available from the local conservation authority, where one exists or municipality. Subwatersheds and smaller catchments can be identified using the best available topographic mapping, Ontario Base Mapping (1:10,000 or 1:2,000 scale, if available) and aerial photographs. In remote areas, larger scale NTS mapping (1:50,000 scale), airphotos and site observations will be used for this task.

Beyond the definition of boundaries, an indication of flow permanence should be provided for watercourses. These data should be used to draw some conclusions regarding the potential importance of a particular wetland in terms of flow storage and augmentation. These data will also be helpful to highlight areas of importance for aquatic and wildlife habitat.

The existing uses of the water should be noted. This information may prove useful during the consideration of potential for conflict with existing site–specific wetland management practices.

b) Biological Processes

At a regional scale, these processes are best defined as habitat. The richness and distribution of aquatic and terrestrial habitat types in the study area can be described in terms of:

a) amount present;
b) diversity;
c) the condition or quality;
d) the degree of continuous (non–fragmented) habitat; the interrelationships between habitat areas (e.g., pattern, patch dynamics, limiting habitats);
e) the commonness or uniqueness of the habitats present, described at a reasonable regional scale; and
f) the contribution of a particular wetland to the general diversity of regional wetland types (e.g., productive marsh, etc.).

While the EIS requires a focus on the wetland resources present, it is also necessary to examine the amount and distribution of upland habitat available in relation to the wetlands present, in order to understand the wildlife function. For example, a species could rely upon a wetland for breeding (e.g., many amphibians), but also require surrounding upland habitat for feeding and other life cycle requirements. Without both habitats, certain species could not persist. The interface between the wetland and upland is frequently a complex and highly diverse component of the landscape. This interface should be characterized in terms of quantity and quality. More comments about this interface are provided in Appendix G and illustrated on Figure 3.

In the case of both terrestrial and aquatic resources, habitat mapping can be a predictive tool used to determine the likely fish and wildlife resources present. For both, known information about the resources at this regional level can contribute to a greater understanding of the issues that will become the focus of a Full Site or a Scoped Site EIS.

6.2.2 Attribute Group

Varying levels of attribute information are available in different parts of Ontario. For example, some MNR offices have information regarding spot locations of endangered, threatened and vulnerable species, and important fisheries, deer concentration and waterfowl areas. Environmentally Significant/ Sensitive Areas (ESAs) studies may have been conducted by the local municipality or Conservation Authority, in some jurisdictions. These studies generally include information about the presence of rare species and critical habitat. The Natural Heritage Information Centre (MNR, Peterborough) is an important central repository for a variety of attribute information.

The attribute information available at a regional scale is often dated (e.g., MNR rare species and critical habitat information), and limitations associated with the use of such data should be identified in the EIS. Other more historic data (e.g., Forest Resource Inventory (FRI)) mapping and wetland mapping, can still provide relatively accurate baseline data, in the absence of significant land use changes.

6.2.3 Linkage Group

Most linkages are readily apparent when one examines the larger study area associated with a Comprehensive EIS. Aquatic linkages within and between wetlands on the landscape are identifiable as riparian areas, floodplains and valleylands. Minor tributaries will be more difficult to identify at this study level. Discussions should be held with the MNR to identify those headwaters considered to be more critical to wetland functions. Less obvious linkages include the links between ground and surface water which provide baseflow to, and support these aquatic communities and linkages. The terrain setting characterization (Section 6.1) will help to identify these pathways.

The terrestrial linkages can be defined by mapping the patterns of natural vegetation present. The role of linkages as dispersal pathways has been described positively in terms of allowing species to move back and forth between natural areas. Some have also suggested that they can serve a negative role by facilitating the movement of predators, introduced species and diseases, from disturbed to relatively undisturbed areas. Regardless, consideration should be given to the role of these terrestrial linkages. These can be in the form of forested, successional and even agricultural lands. There is generally a lesser degree of linkage related to developed lands. Many forms of wildlife rely upon closed forest canopy linkages; others can tolerate or prefer the more open conditions associated with forest edges and successional lands. Terrestrial linkages should be considered in terms of the movement patterns of various wildlife groups (e.g., forest birds, invertebrates, large mammals, etc.).

While much of the preceding information relates to linear aquatic and terrestrial linkages, another type of terrestrial linkage merits attention. In southern Ontario in particular the landscape has become characterized by patches of forested and non-forested lands, variable in size. These patches form discontinuous linkages which afford movement across the landscape and contribute to overall biodiversity. Pearce (1992) states that a review of various research suggests that these small isolated patches of forest contain lower diversity and abundance, fewer niches and smaller forest interior areas. This favours the invasion of the core of these fragments by edge species, predators, parasites and non-native plants.

The contribution of these discontinuous terrestrial linkages to general wildlife movement and support, should be considered. No definitive technical resources are available to precisely characterize this type of linkage. It will therefore require some interpretation by qualified individuals. Conclusions should be offered about the role of a particular wetland and its surroundings in maintaining these larger ecological linkages and relationships.

Given that the boreal landscape is more continuous, less emphasis on linkages will be expected in the EIS for boreal wetlands. Those references that do appear should attempt to prioritize the role of the wetlands themselves in the broad distribution of wildlife. For example, attempts should be made to define what fish and wildlife concentrations occur in and/or rely upon for movement across the landscape.

Within a Comprehensive EIS, important landscape ecology information can be gathered which will help determine the importance of these linkages. This will help to guide more specific investigations (e.g., ground level confirmation of linkage importance) in subsequent Full Site and Scoped Site EIS efforts.

6.2.4 Value Group

Within the Comprehensive EIS, information regarding wetland values can be defined rather broadly. For product values, for example, the availability of harvestable timber will be a reflection of the

distribution of forested wetlands. The Forestry Resource Inventory (FRI) maps, while somewhat dated in certain localities, also provide some indication of timber volumes. These should be discussed with the MNR to ensure conditions are accurately interpreted. The MNR also houses information about commercial and bait fishing licences, trap lines, hunting and wild rice harvesting. The EIS should identify the intensity and locations of these activities. The level of use should be generally reflected in terms of contribution to the regional or sub–regional economic base.

Defined recreational and cultural/social values of the wetlands on the landscape should be noted. The former could be accomplished through an identification of publicly owned land including conservation authority and MNR lands as well as municipally owned properties. The pattern of these lands and information related to their use should be examined and commented upon. In some area, utility corridors (e.g., hydro corridors) and institutional lands (e.g., schools, churches) also provide some recreational values. Any of these types of uses that appear to be dependent upon wetlands should be identified.

Regional recreational values of some wetlands are readily apparent from background statistical information (e.g., boating, fishing, hunting and camping user information. Parks data can very quickly highlight areas of concentration of this type of function in the regional landscape. Traditional hunting grounds and fishing derby use lend clues to the degree of functional importance of some areas. In portions of the province, especially in the northern portions of the Great Lakes–St. Lawrence Region and the Boreal Region, these recreational values are of regional significance. Livelihoods become dependent upon the role played by certain wetlands in the regional landscape. Substantial assistance in characterizing the relative degree of recreational values attributed to certain wetlands can be obtained from contact with key outfitters and angling and hunting organizations. As with other EIS types, the characterization of these value functions depends to a large degree upon interviews with important local sources of information.

Cultural and social value functions at a regional scale may also be understood in part, from a review of land ownership patterns. There may be some long established, traditional nature appreciation areas for example. Each year, certain areas of waterfowl and songbird concentrations draw thousands of birdwatchers and outdoors enthusiasts. These areas take on a certain degree of functional importance simply because of the concentration of attention and appreciation. Growth in ecotourism in most parts of Ontario has sparked an identification and recognition of many of these special areas. Concentration areas for large mammals, colonial nesting waterbird breeding locations and habitat for spot locations have begun to draw more attention to certain areas (with attendant potential for impact).

Other wetlands have attained particular functional value for less tangible features such as locations of traditional aboriginal activities or portage movement/historical interest. Even the role of some wetlands in contributing to the aesthetics of a region by drawing visitors simply to appreciate scenic value, has become recognized and established in some areas. At this broad scale, these wetland functions may simply be depicted as special areas which contribute significantly to the cultural and social fabric of the landscape.

6.3 APPLICATION OF IMPACT ASSESSMENT

The Comprehensive EIS deals with the sensitivity assessment of functions. As it is not responding to a specific proposal, impact/effect predictions and mitigation are considered only generally in response to potential patterns of land use change.

In many respects this EIS provides a constraint/opportunity analysis focused on the identification of key wetland functions at a larger landscape scale.

At this landscape level, the product of this EIS will serve as a tool to identify general degrees of constraints to and opportunities for development which minimize potential effects. Protection zones for the maintenance of wetland functions can also be identified. At this regional scale, the focus on wetlands becomes less distinct. Relationships between all elements of the landscape (e.g., forests valleys, wetlands, etc.) blend together and are often most conveniently examined in an integrated fashion such as MNR's Natural Heritage Systems approach (Riley and Mohr, 1994), or on a watershed or a subwatershed basis. This approach is the basis for components of the Comprehensive Set of Policy Statements. Where sufficient information is available, this assessment can be completed without additional field effort. At this assessment level, it is important to discuss the regional representation of wetland types and the relationships between provincially significant wetlands and non–provincially significant wetlands.

Generally this EIS will:

a) create a base map and understanding of functions as they relate to one or more specific wetlands in a particular landscape;
b) identify the constraints to and opportunities for development which will avoid effects on wetland functions;
c) provide a planning tool which recognizes the developed/developing landscape (existing and proposed); and
d) identify general areas where development will not be permitted.

A base map should be created including:

a) regional and local ground water flow patterns;
b) surface water patterns and indications of permanence and water quality;
c) the presence and character of aquatic and terrestrial ecosystems;
d) the presence of attributes within or adjacent to wetlands; and
e) the pattern of provincially significant and other wetlands on the landscape.

This landscape level assessment affords an opportunity to better understand the dynamics of the upland and wetland systems and their interrelationships. The size of the wetland, spatial distribution of natural areas, the dependencies between areas in providing adequate habitat for viable populations and the degree and effect of fragmentation on these systems are all examples of considerations within this EIS.

Once these surficial natural systems are mapped and linkages between the physical and biological systems are better understood, the existing and proposed developments can be examined to predict general impacts. Proposed uses including those adopted in municipal plans (e.g., roads, utilities, storm and sanitary services, etc.) should be identified. This lays the groundwork for subsequent site specific developments and can create guidelines for the prediction of development specific effects. For example, development adjacent to a wetland on soils with high permeability will need to address the sensitivity of the ground water regime in terms of providing uncontaminated water to the wetland. Wetlands in an area of documented importance for fish and wildlife sensitivity will be assessed in terms of habitat displacement and indirect affects associated with noise and intrusion. Proposed impacts and resultant effects at this scale, will be general in nature.

This exercise will also help us to understand the degree of degradation, if any, of existing wetland functions. This could lead to the identification of opportunities for the mitigation of existing effects on functions and/or those related to committed but not constructed development. Restoration and management opportunities could be generally identified. These could include or relate to:

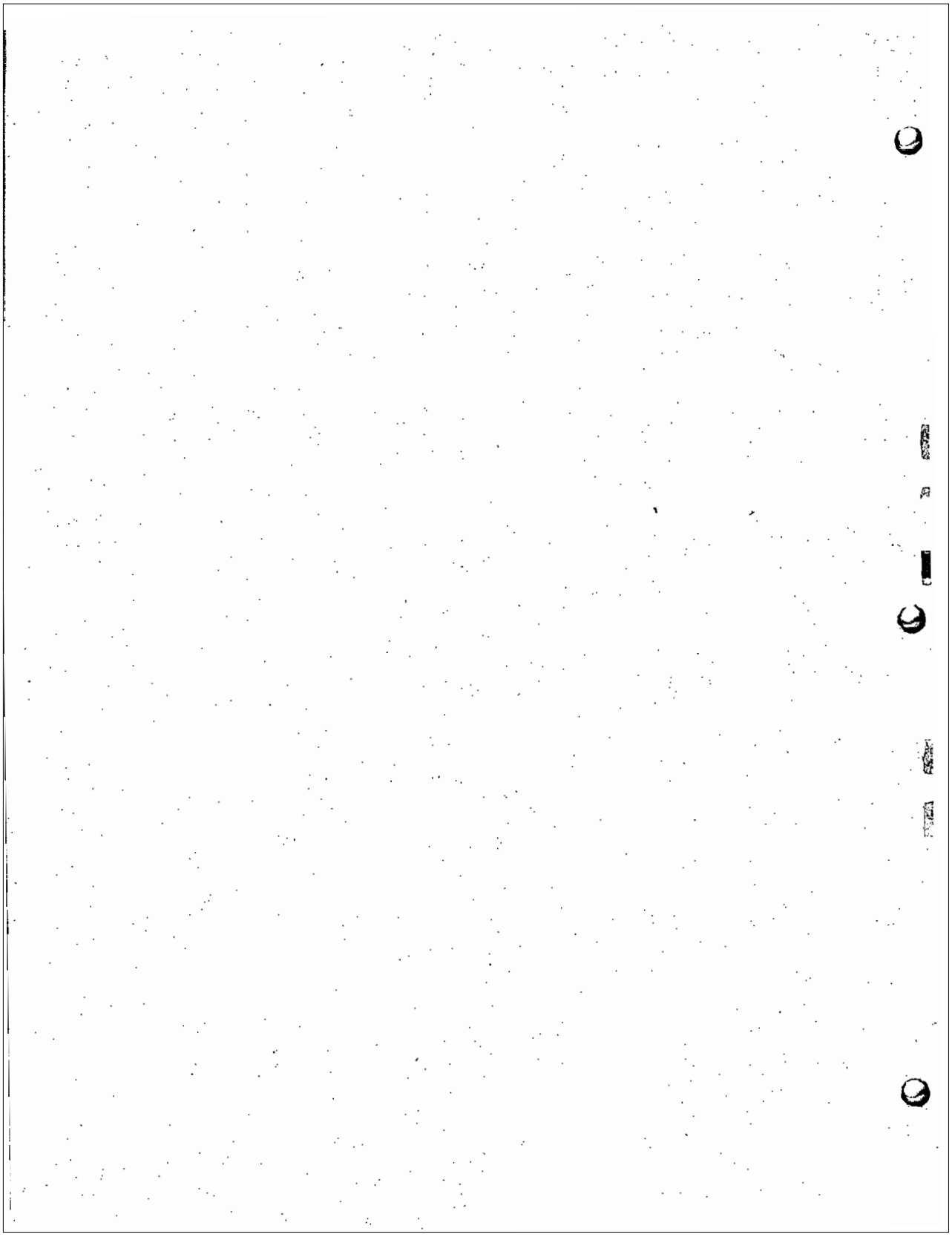
a) infiltration (recharge/discharge) protection strategies;
b) water quality enhancement opportunities, including constructed wetlands for storm water or other wastewater treatment (e.g., storm water BMPs);
c) aquatic habitat enhancement through the removal of chemical or physical barriers;
d) habitat management opportunities for the optimization of certain fish or wildlife groups (e.g., waterfowl);
e) the maintenance and/or enhancement of certain linkages (e.g., enhanced terrestrial linkages, incorporation of naturalized linkages within designated institutional and open spaces, etc.);
f) mitigation and enhancement can include strategic plantings and succession management to increase patch size and to improve forest interior to edge ratios (i.e., reduce the amount of forest edge habitat in favour of forest interior habitat); thus enhancing landscape (including wetland) biodiversity;
g) the management of water flows or levels for the benefit of particular attributes (e.g., rare plant species dependent upon certain hydrologic cycles);
h) the enhancement or maintenance of critical habitat (e.g., heronry, roosting trees, loafing areas, spawning sites, etc.);

i) the improvement of trail or user access to particular portions of a wetland;
j) the resolution of existing management practice conflicts; and
k) the rehabilitation of areas/functions damaged by excessive use for various activities.

It is important to remember that even some mitigation and enhancement techniques (i.e., c) and d) in the above list) can also affect wetland functions. These potential effects should be borne in mind even at this landscape level assessment.

Step 3

EIS Review and Approval



7.0 EIS REVIEW AND RECOMMENDATION

The completed EIS document is submitted to the planning authority (e.g., municipality, planning board or MMA) and concurrently to the MNR (and other agencies and stakeholders, as required) by the proponent. Figure 4 shows the general process following submission. For Scoped Site and Full Site EISs, the review can be facilitated by using a review form to determine if all required components of the EIS were adequately addressed. A basic EIS review form is provided in Appendix I. Appendix C in the Manual of Implementation Guidelines for the Wetlands Policy Statement provides additional information to assist proponents and approving agencies in assessing development proposals with regard to some of the more common impacts on wetlands. The EIS should be reviewed on the grounds of completeness, technical accuracy and compliance with the Wetlands Policy Statement. In some cases, the MNR may not possess all necessary technical capabilities to review an EIS. Some external assistance may be required in these instances.

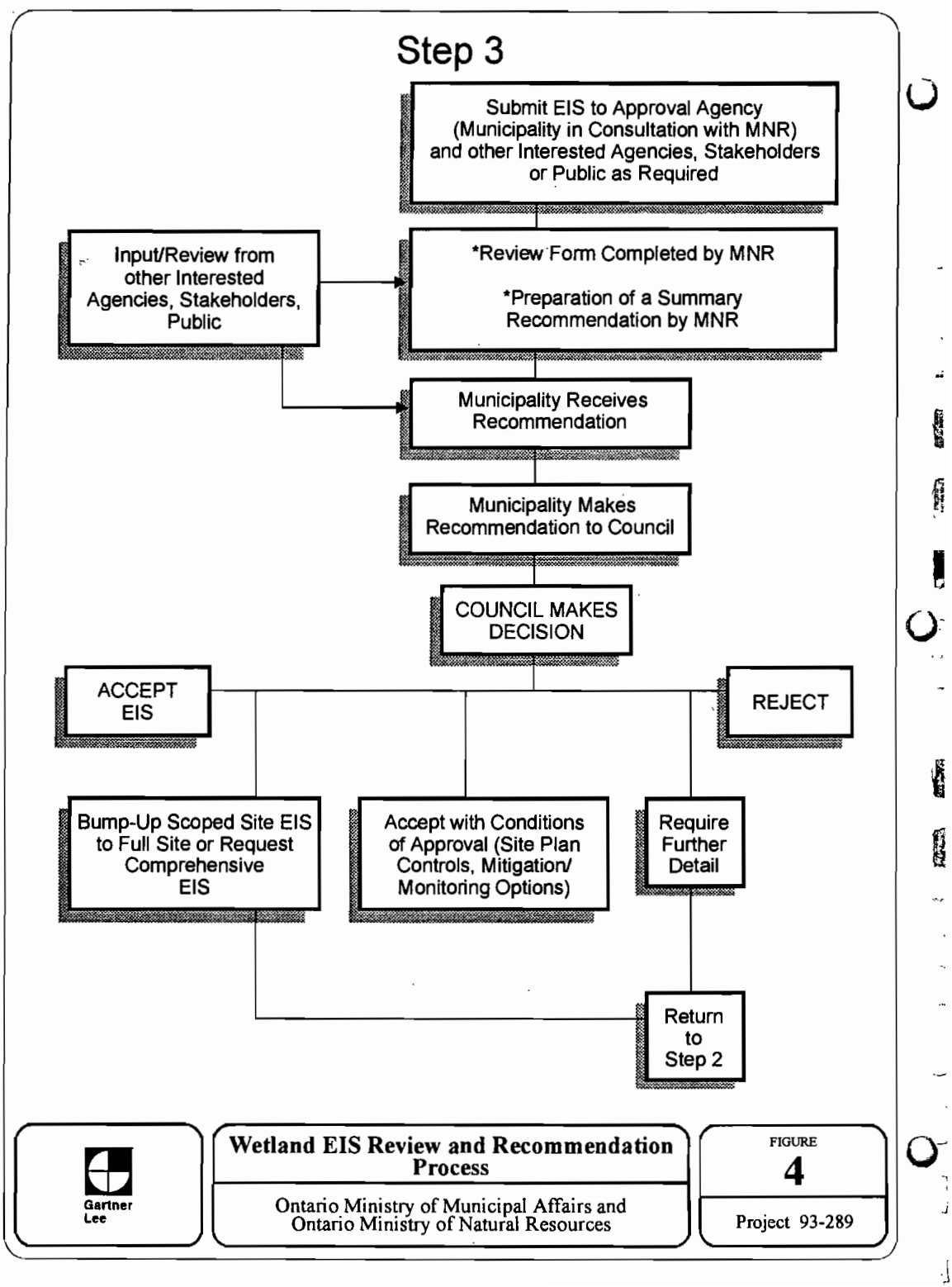
The planning authority (e.g., municipality, planning board or MMA) is the approval authority for the EIS. However, the MNR will have the greatest responsibility as a reviewer from both a resource and planning perspective. Appendix A further describes MNR's mandate in these matters. The MNR can best provide wetland evaluation information to municipalities and can assist with the interpretation of all wetland related (e.g., functional characterization assessment of validity of impact assessment and mitigation proposals) information.

If a municipality has an Environmental and Ecological Advisory Committee (EEAC) or similar group, they may enlist this committee to conduct a review of the EIS. Other agencies or stakeholders with wetland concerns may conduct their own independent review of the EIS document. Public input and review of the document may also be integrated into the process at this time.

Review comments must be reasonable. They must address the key wetland functions and the potential impacts as determined by the four criteria for the Great Lakes – St. Lawrence Region, and three criteria for the Boreal Region, of the Wetlands Policy Statement (see Section 2.3.4).

During the review process, the MNR and/or the planning authority, may request a meeting among all concerned parties to openly discuss significant outstanding issues prior to reaching a conclusion regarding the EIS approval recommendation.

The MNR will provide the review comment package to both the proponent and the municipality or planning board. The municipality will integrate this information with other planning–related recommendations and conditions, and will present the entire development proposal to municipal Council. In some situations, the municipality may seek a performance bond to ensure that mitigation is satisfactory.


Step 3
Submit EIS to Approval Agency (Municipality in Consultation with MNR) and other Interested Agencies, Stakeholders or Public as Required
Input/Review from other Interested Agencies, Stakeholders, Public
*Review Form Completed by MNR
*Preparation of a Summary Recommendation by MNR
Municipality Receives Recommendation
Municipality Makes Recommendation to Council
COUNCIL MAKES DECISION
ACCEPT EIS
REJECT
Bump-Up Scoped Site EIS to Full Site or Request Comprehensive EIS
Accept with Conditions of Approval (Site Plan Controls, Mitigation/ Monitoring Options)
Require Further Detail
Return to Step 2
Gartner Lee
Wetland EIS Review and Recommendation Process
Ontario Ministry of Municipal Affairs and Ontario Ministry of Natural Resources
FIGURE
4
Project 93-289

Council will assess the merits of the planning application on the basis of the wetland EIS information, the advice and recommendations presented by the MNR and other planning–related documentation. Council will make the final decision about the acceptance or rejection of the planning application or conditions of approval and compliance orders. Formal appeals or referrals of the planning application are provided by the Planning Act. They are available to both the proponent and/or other public agencies or private interest groups or citizens. Such requests may ultimately redirect the proposal to the Ontario Municipal Board.

In the case of utility/facility development proposals or developments on Federal land where other documentation (e.g., EARP, EA) is required in place of the EIS, the intent of the EIS review and recommendation would be done as part of the review process of the EA report under the appropriate review and approval authorities. Appendix A.5 provides some additional information in this regard.

7.1 RECOMMENDATION FOR APPROVAL

If the MNR is satisfied with the submitted EIS, they will recommend it be approved by the planning authority. Approval can be recommended with certain specific recommendations for revision and/or the attachment of certain conditions. This would occur where minor or limited recommendations were offered. In other situations, approval may be granted based only upon the requirement for more extensive revisions.

If these revisions constitute a major change in the scope of the work (i.e., additional functions are added for study beyond those that were agreed to during the consultations described in Section 3.0), the MNR and/or the planning authority must include a reasonable justification for their inclusion at this late stage in the process. This justification should be supported by technical information or documentation that was originally overlooked, or that has become available since initial consultations. If there has been adequate and frequent consultation throughout the process, and documentation is thorough, the proponent should be reasonably assured that comments will be limited. Once the requested revisions are complete, the MNR will make a recommendation to the planning authority for their consideration of approval.

7.2 RECOMMENDATION FOR BUMP–UP

There are two situations where the MNR and/or planning authority may request a bump–up. Given the high level of effort early in the EIS process to ensuring the proper type and level of documentation have been requested, bump–up situations should occur infrequently.

7.2.1 Scoped Site EIS Bump-Up to Full Site EIS

If a Scoped Site EIS fulfilled the documentation requirements, but the assessment of impacts indicated a greater level of impact than was anticipated, the EIS can be "bumped up" to a Full Site EIS. The proponent would then be directed by the approval authority to rescope the work. Specific guidance on the scope of the work should be made available to the proponent through the review comments. It would be advisable for proponents to flag this situation prior to completing EIS documentation in order to streamline this rescoping exercise.

7.2.2 Scoped Site EIS or Full Site EIS Bumped-Up to Comprehensive EIS

In very unusual circumstances, a Full Site or Scoped Site EIS could also be bumped-up to a Comprehensive EIS. This could, for example, occur if there were indications that subsequent demand for development in the adjacent lands of the wetland or wetland complex were much higher than understood or agreed upon during earlier consultations or even after the production of an Issues Summary Paper. In this case, the municipality may wish to conduct a Comprehensive EIS in order to more accurately understand and more efficiently deal with several development proposals for the study area.

7.3 REVIEW OF MITIGATION STRATEGIES

Where the EIS puts forward mitigation options, the merits of these options need to be assessed to ensure that the desired effects are likely to be met. This assessment will more commonly be a review by experts with professional judgement as to the effectiveness of the mitigation proposals. The monitoring program, if required, will generally be established jointly by the MNR (and other key stakeholders), the municipality and the proponent. Conditions of approval (including the implementation of the monitoring program itself) may be attached to the recommendation for acceptance by the municipality. In the event that the mitigation measure(s) was not effective, the development could be stopped and/or some modifications may be made to the mitigation measures in place. This may not always be feasible.

7.4 RECOMMENDATION FOR REJECTION

An EIS would not be accepted where it clearly failed to reasonably address the four criteria for the Great Lakes – St. Lawrence Region or the three criteria for the Boreal Region in the Wetlands Policy Statement (see Section 2.3.4).

Appendix A

About the Ontario Ministry of Natural Resources (MNR)

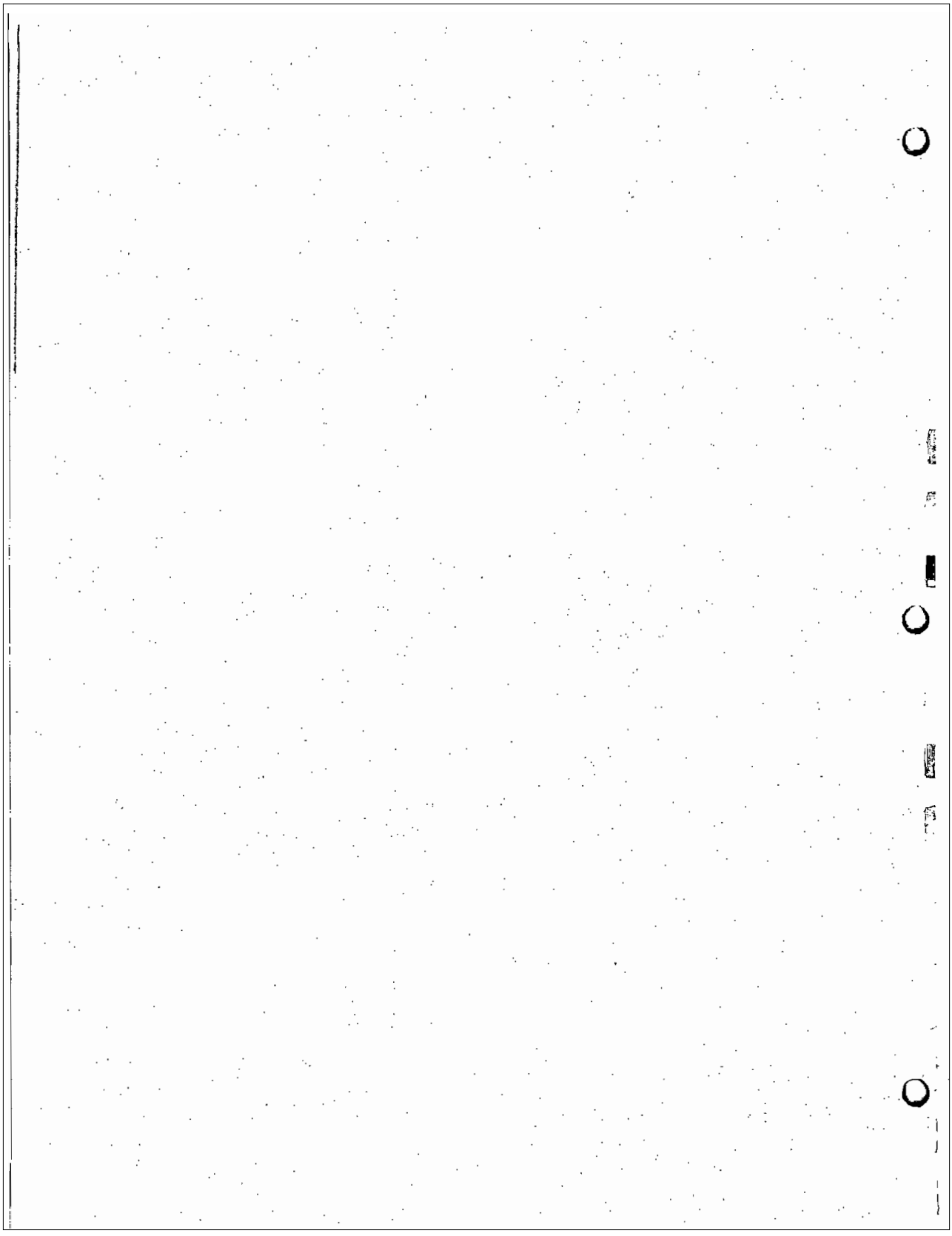
A.1 Mandate

A.2 The Ministry of Natural Resources' Responsibilities for Crown Land Management – General

A.3 Ministry of Natural Resources' Involvement in the Land Use Planning Process Under the Planning Act

A.4 Organizational Structure

A.5 Relationships of this EIS Technical Manual to Other EA Proponents



APPENDIX A

ABOUT THE MINISTRY OF NATURAL RESOURCES

A.1 MANDATE

The Minister of Natural Resources is responsible for administering provincial legislation and programs directed at the conservation and management of most of the natural resources in Ontario.

The Ministry of Natural Resources strategic plan or vision, Direction '90s, published in March 1991, represented a major shift in policy direction and program focus towards the ethic of sustainable development. The Ministry's Corporate Goal is:

- to contribute to the environmental, social and economic well–being of Ontario through the sustainable development of natural resources.

The objectives of the Ministry are:

a) to ensure the long–term health of ecosystems by protecting and conserving our valuable soil, aquatic resources, forest and wildlife resources as well as their biological foundations;
b) to ensure the continuing availability of natural resources for the long–term benefit of the people of Ontario; that is, to leave future generations a legacy of the natural wealth that we still enjoy today;
c) to protect natural heritage and biological features of provincial significance; and
d) to protect human life, the resource base and physical property from the threats of forest fires, floods and erosion.

A.2 THE MINISTRY OF NATURAL RESOURCES' RESPONSIBILITIES FOR CROWN LAND MANAGEMENT – GENERAL

The Ministry has management responsibility for a wide variety of natural resources over the entire province including all Crown land (87% of the Province). In keeping with this variety of responsibilities, the Ministry has developed approaches to management which encourage the balancing of competing interests and the achievement of multiple objectives, often on the same land

base. Many of the "multiple objectives" relate to the Ministry's own programs. Other Ministries, levels of government and resource stakeholders also have objectives which must be identified and considered as part of the Ministry's responsibility for stewardship of Crown land (e.g., Ministry of Transportation – provincial highways; Ministry of Northern Development and Mines – mineral extraction; Ministry of Culture, Tourism and Recreation – outfitter operations; etc.).

A.3 MINISTRY OF NATURAL RESOURCES' INVOLVEMENT IN THE LAND USE PLANNING PROCESS UNDER THE PLANNING ACT

Why is the Ministry of Natural Resources concerned with private land development and why is the Ministry's plan input and review program so important?

1. The Ministry of Natural Resources has little control over private land development.
2. In Southern Ontario, where little Crown Land remains, most natural resources are located on or adjacent to private land.
3. Development proposals on private land can negatively impact or restrict the availability of natural resources and/or introduce uses which would be incompatible with, or would be detrimental to, the natural resource base.

Municipalities carry out land use planning under the *Planning Act* to regulate new development. The Ministry of Natural Resources is a review and commenting agency under the *Planning Act*. As such, the municipal planning process under the *Planning Act* is extremely important to the Ministry of Natural Resources to ensure recognition of Ministry policies and objectives regarding natural resource management on private lands. These include: mineral aggregates; fisheries and fisheries management; flood plain management/flood hazards; natural heritage including areas of natural and scientific interest; wetlands; wildlife habitat; forest resources; and watershed management.

The Ministry of Natural Resources has various types of policies which are implemented through the municipal land use planning process:

a) Internal Ministry Approved Policies and Procedures based upon MNR legislation which directly affect matters under the Planning Act:

- *Aggregate Resources Act*;
- *Beds of Navigable Waters Act*;
- *Endangered Species Act*;
- *Fisheries Act (Federal)*;
- *Lakes and Rivers Improvement Act*; and
- *Public Lands Act*.

b) Policy Statements under Section 3 of the *Planning Act*:

- Mineral Aggregate Resources Planning Policy Statement;
- Flood Plain Planning Policy Statement; and
- Wetlands Policy Statement.

The following new policies resulted from Planning Reform and are scheduled to come into effect in 1995:

- Natural Heritage Features and Areas;
- Fish Habitat;
- Erosion;
- Great Lakes – St. Lawrence River Shorelines;
- Natural and Man–Made Hazards; and
- Petroleum Resources Policy.

c) Internal Policies, Procedures and Programs to address geographic issues;

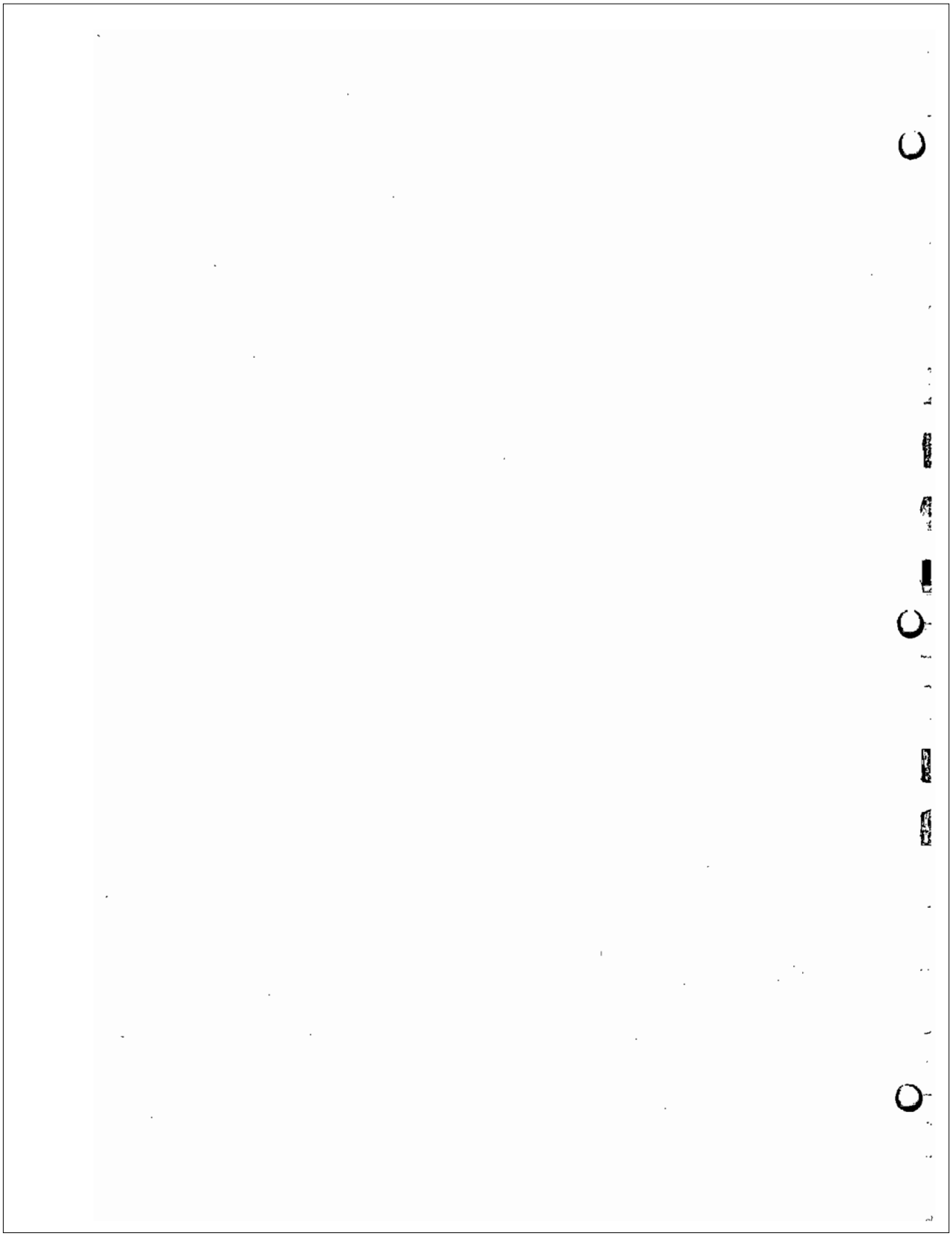
- MNR/MOE Agreement on Lake Trout Lakes;
- MNR Delegation of Flood Plain Management to Conservation Authorities;
- Canada/Ontario Fisheries Agreement;
- Strategic Land Use Plans; and
- District Land Use Guidelines.

d) Interministerial Guidelines to address issues:

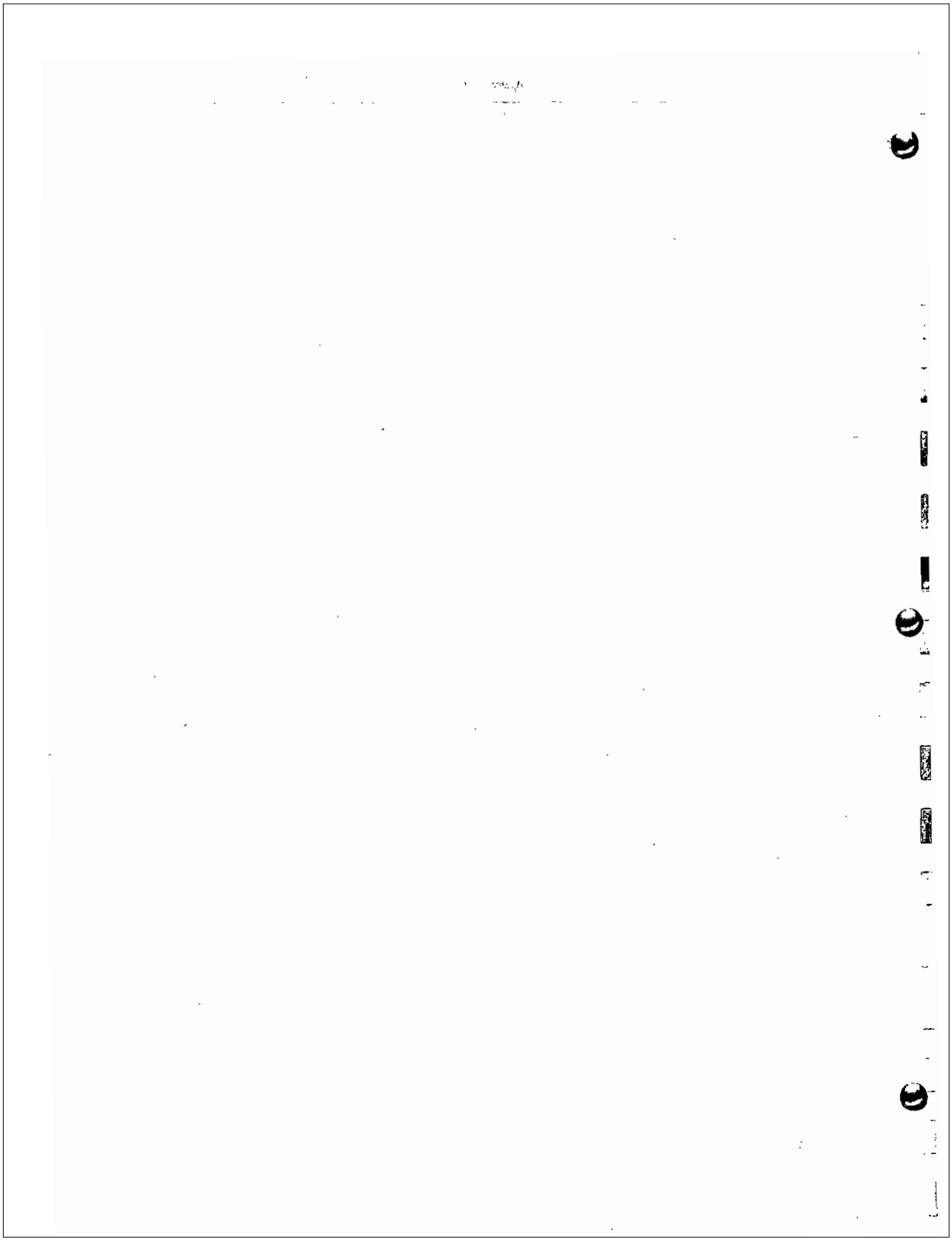
- Implementation Guidelines; Provincial Interest on the Oak Ridges Moraine of the Greater Toronto Area.

The Ministry of Natural Resources is involved in the municipal land use planning process through their highly decentralized plan input and review program. Through this process, the Ministry reviews and comments on policy documents such as official plans, official plan amendments and comprehensive zoning by–laws, and development proposals such as subdivisions, consents and zoning by–law amendments.

A.4 ORGANIZATIONAL STRUCTURE



Table



A.5 RELATIONSHIPS OF THIS EIS TECHNICAL MANUAL TO OTHER EA PROPONENTS

The Wetlands Policy Statement requires that new utilities and facilities be subject to its requirements (Policy Section 4.1). The Manual of Implementation Guidelines identifies pipelines, provincial highways, roads, electric power facilities and waste and water treatment facilities as examples of these undertakings. These are activities which do not fall under the direct authority of the Planning Act (the Act under which the Wetlands Policy Statement was promulgated), rather, they are regulated under other legislation including the: Environmental Assessment Act (EAA); municipal Class Environmental Assessment; Ontario Energy Board Act (OEBA); and, Ontario Water Resources Act (OWRA). As the Wetlands Policy Statement does not directly apply to these undertakings it was deemed useful to offer some guidance to utility and facility proponents to assist in the determination of the role of the EIS relative to the existing environmental assessment procedures. **A formal EIS in these instances, is not required.**

The variety of facilities in terms of type, magnitude and spatial and temporal study limits leads to the potential for a wide range of environmental studies. This variability prevents this Technical Manual from detailing instructions for each type of facility or utility, however, some general guidance is provided to assist these private or public proponents with their discussions with the MNR. This section first offers some comments regarding the characteristics of some of these Environmental Assessments (EAs) relative to the Wetland EIS. This is followed by some guidance regarding portions of the EIS approach that might be most helpful during the implementation of EAs.

Comments Regarding Environmental Assessments

There are a number of procedures for the completion of EAs, both provincially (EAA) and federally under the EARP. This section expresses some comments regarding these two processes.

The provincial Environmental Assessment Act addresses both individual and class environmental assessments. The Act applies to public undertakings and to specific larger private undertakings. The EAA has five specific "features" including:

a) consultation with affected parties;
b) consideration of reasonable alternatives;
c) consideration of all aspects of the environment (air, land, water);
d) a systematic evaluation of net environmental effects; and
e) a requirement for clear and complete documentation.

The EAA identifies a specific planning framework based upon a phased sequence of decision making, with each phase involving a more detailed assessment of a particular undertaking. At the earliest stages of planning, for example, little specific information may be known about the environment to identify alternatives. In the later stages, the level of detail increases and consideration given to all elements of the environment increases. Thus, it is easier to evaluate and compare alternatives to select the preferred option.

Individual EAs are required to examine all elements of the environment. This certainly includes wetlands and their associated functions but is more generally defined as air, land and water. Environment, under the EAA also includes the social, economic and cultural conditions that influence individuals and/or communities. Individual EAs are required for undertakings that are required to fulfil a specific need, and may have environmental effects that are not readily predictable or mitigatible. Some of the undertakings subject to this Act are large and broadly scoped planning exercises. Study areas for these EAs can also be fairly large. For example, linear transportation facility planning can include large study areas, especially early on in the planning process, when alternative corridors across the landscape are being identified and evaluated.

Class Environmental Assessments provide a series of planning requirements for a particular set of projects (e.g., municipal road projects, municipal water and wastewater projects, remedial flood and erosion control projects). These Class EAs are a method of dealing with projects which display the following common characteristics:

a) recurring;
b) usually similar in nature;
c) usually similar in scale;
d) have a predictable range of environmental effects; and
e) responsive to mitigating measures.

This approach maintains the same five features mentioned above (i.e., consultation with affected parties, etc.) and follows a staged planning and design process. Both Individual and Class EAs require the identification of alternatives to the undertaking along with alternative methods of implementing the preferred undertaking. This process requires the systematic evaluation of alternatives in terms of their advantages and disadvantages to determine their net effects.

The Federal Environmental Assessment and Review Process (EARP) is an important planning tool for predicting the potential environmental consequences of proposals that require a federal decision. Situations where the EARP would be used, that overlap with the provincial Wetlands Policy occur when:

a) the decision–making authority for a proposal rests with or is shared with a province or territory, and there is federal involvement. EARP can be applied cooperatively with provincial or territorial planning resource management processes or with associated environmental assessment processes;
b) the proposal might have an environmental effect on an area of federal government responsibility;
c) the proposal would require federal government commitment; or
d) the proposal would be undertaken on lands administered by the federal government including the offshore.

Comments Regarding the Wetland EIS Relative to the EA

Like the EA process, the EIS framework follows a similar progression in the levels of detail considered, moving from the more general Comprehensive EIS to the more specific Scoped Site EIS. As well, the undertaking at the Comprehensive EIS stage may not be defined in detail and may relate more to land use concepts.

It is unlikely that a wetland EIS will be conducted over a study area as large as that considered for a larger linear facility EA, however, the study area for a Comprehensive EIS may extend over a subwatershed or watershed. Some larger EAs (e.g., linear transportation facilities) are extensive, multi–year planning and design studies. A wetland EIS, while not extending over this longer duration, may still involve very detailed investigations of potential effects on ecological functions.

The EA process considers alternatives to an undertaking whereas a Wetland EIS considers alternative forms that a development may take. The private land holdings associated with most Wetland EIS projects limits the potential for consideration of alternatives to a particular undertaking. There are currently more formal opportunities for the participation of affected parties in the EA process than in the Wetland EIS process.

The use of a functional framework for the systematic evaluation of environmental effects in a Wetland EIS will likely lead to a better understanding of the importance of the terrain setting and of the relationships between the physical and biological settings. In some traditional EAs, the emphasis has been placed upon the identification and mapping of environmental features such as designated Environmentally Sensitive or Significant Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs), important wildlife concentration areas, etc. A more functional approach which defines concepts such as interrelationships and landscape linkages could provide technical information about constraints that would otherwise be overlooked in a traditional EA.

Because the EAA requires an assessment of an environment which includes more than wetland functions (e.g., air, land, water, social, economic and cultural components), the environment is treated more comprehensively than in a Wetland EIS. This can result, from an EA perspective, in decisions which balance elements of the environment and which may lead to affects on wetland area and/or function.

Use of the Wetland EIS Framework as input to the EA Process

The Wetland Policy Statement does not advocate duplicate planning processes. Rather, the intent is to fold relevant EIS information into the EA process. Some suggestions about how to accomplish this follow. Smaller and less complicated EAs and Class EAs may not need to refer to these EIS Guidelines, however, regardless of the specific environmental planning process, there are some suggestions offered in the following which could enhance the EA products and decision–making framework.

The use of a assessment functional framework in all levels of an EA may assist in the identification and characterization of some of the more complex interrelationships between earth and life sciences. This may be particularly relevant to relationships between wetlands and non–wetland systems. The framework adopted in this manual has been created in part for its potential application to all natural environment landscape features. This approach may be particularly helpful in EAs where there is a need to map recognized or designated features but also where it would be beneficial to assess and to understand the relative degree of all functions on a landscape.

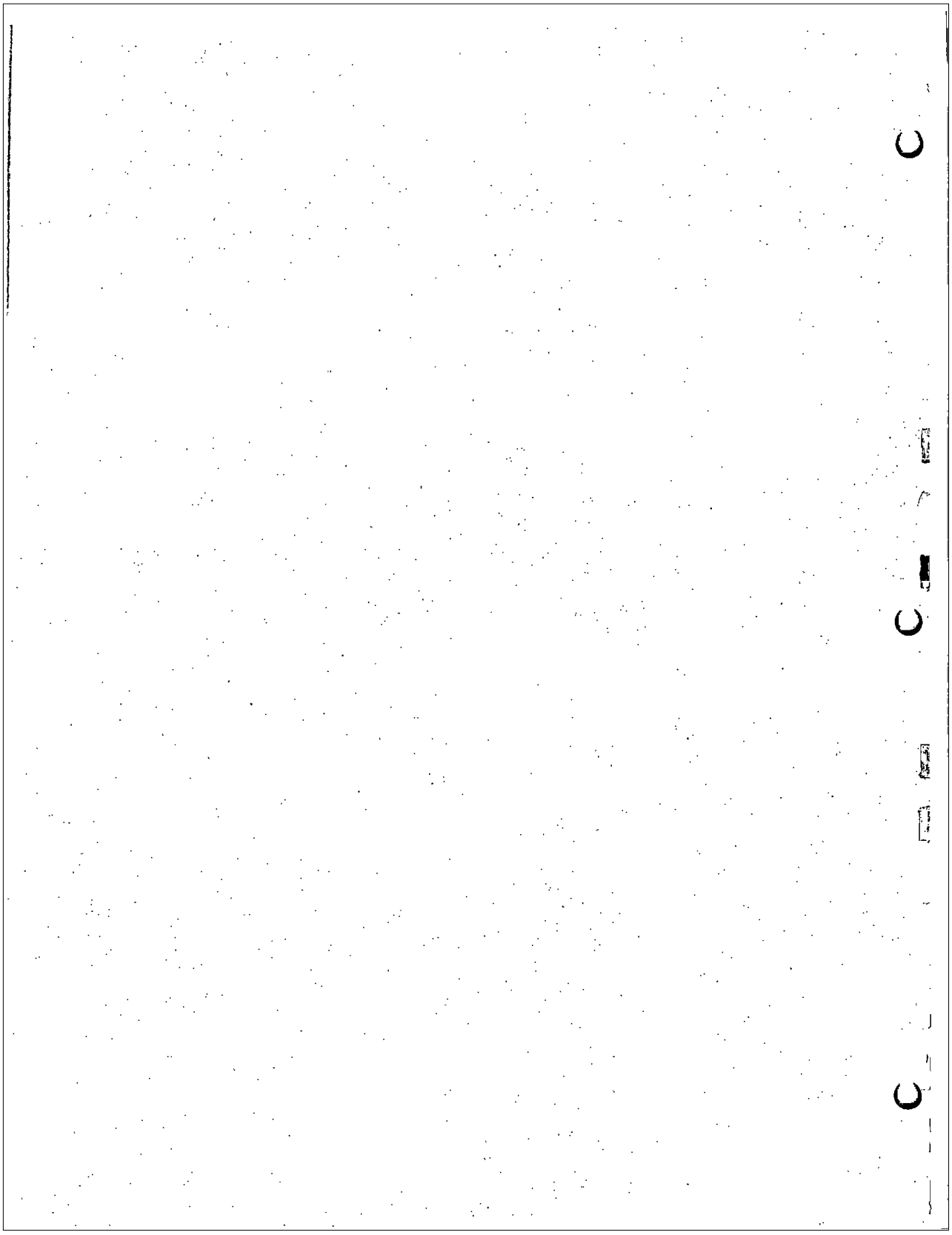
Large geographic study areas within an EA afford some of the landscape level analyses that are described in the Comprehensive EIS section of this manual.

EAs should ensure that: 1) the level of effort in each planning stage is adequate to characterize the type and degree of wetland function on the landscape (appropriate for the level of decision making required), and 2) the selection of the spatial and temporal limits of the study include consideration of wetland functions.

Examples of impacts, effects and mitigation included in this manual (Appendix F) may be of assistance to proponents in identifying effects associated with particular types of undertakings.

Appendix B

Emerging Trends in Assessment Frameworks



APPENDIX B

Wetlands have, for a number of decades, been the subject of detailed scientific investigations. Some of the earlier efforts in the 1950s and 1960s contributed significantly to our understanding of waterfowl relationships with wetlands and the benefits of wetlands to the enhancement of agricultural runoff. Much of the earliest work focused on individual components or processes within a wetland.

In Ontario, in the late 1970s and early 1980s, the emergence of the earliest provincial wetland evaluation system and draft policies, intensified the interest in wetlands on behalf of a variety of groups including scientists, planners and regulators. Ontario's wetland evaluation system is the result of the collective efforts of wetland scientists, planners, and engineers, with considerable input from a variety of non–government organizations (NGOs) with an interest in wetlands. Similar activities were occurring in the United States with initiatives such as the creation of Executive Order 11990 for the Protection of Wetlands in 1977 and the development of a wetland delineation manual in 1979. The Canadian Federal government, in the 1980s and 1990s also developed a Wetland Policy Statement, an Evaluation System and a series of scientific and planning publications.

A variety of methods exist to evaluate the components of an ecosystem. The provincial wetland evaluation system assesses wetlands based upon functions in four categories: biological, hydrological, social and special features. This system identifies these functions and quantifies some of them as input to a wetland classification. Information contained in individual evaluations is useful as baseline input to the more detailed functional assessment required in an EIS.

This system evaluates wetlands to determine potential provincial significance. As such it relates to the Wetland Policy Statement. The adjacent lands are a trigger to the requirement for an EIS. It sets an initial boundary from which no loss of wetland area (Great Lakes – St. Lawrence Region) can occur, and/or loss of function (Great Lakes – St. Lawrence and Boreal Regions) and an initial boundary from which all wetland functions are measured.

More recently, during the 1980s and 1990s, many scientists, principally in response to these policy and planning initiatives, initiated more detailed research into the definition and characterization of wetland functions. This functional approach to assessing wetland ecosystems relies upon the characterization of physical, chemical and biological functions and their interrelationships.

In many parts of the world, scientists and engineers are conducting functional assessments of individual wetlands as well as larger regional wetland systems. In Europe for example, four study areas (within Ireland, United Kingdom, France and Spain) are being investigated as part of a three year program to identify and understand key wetland processes (Maltby et al., 1992). Similar efforts have

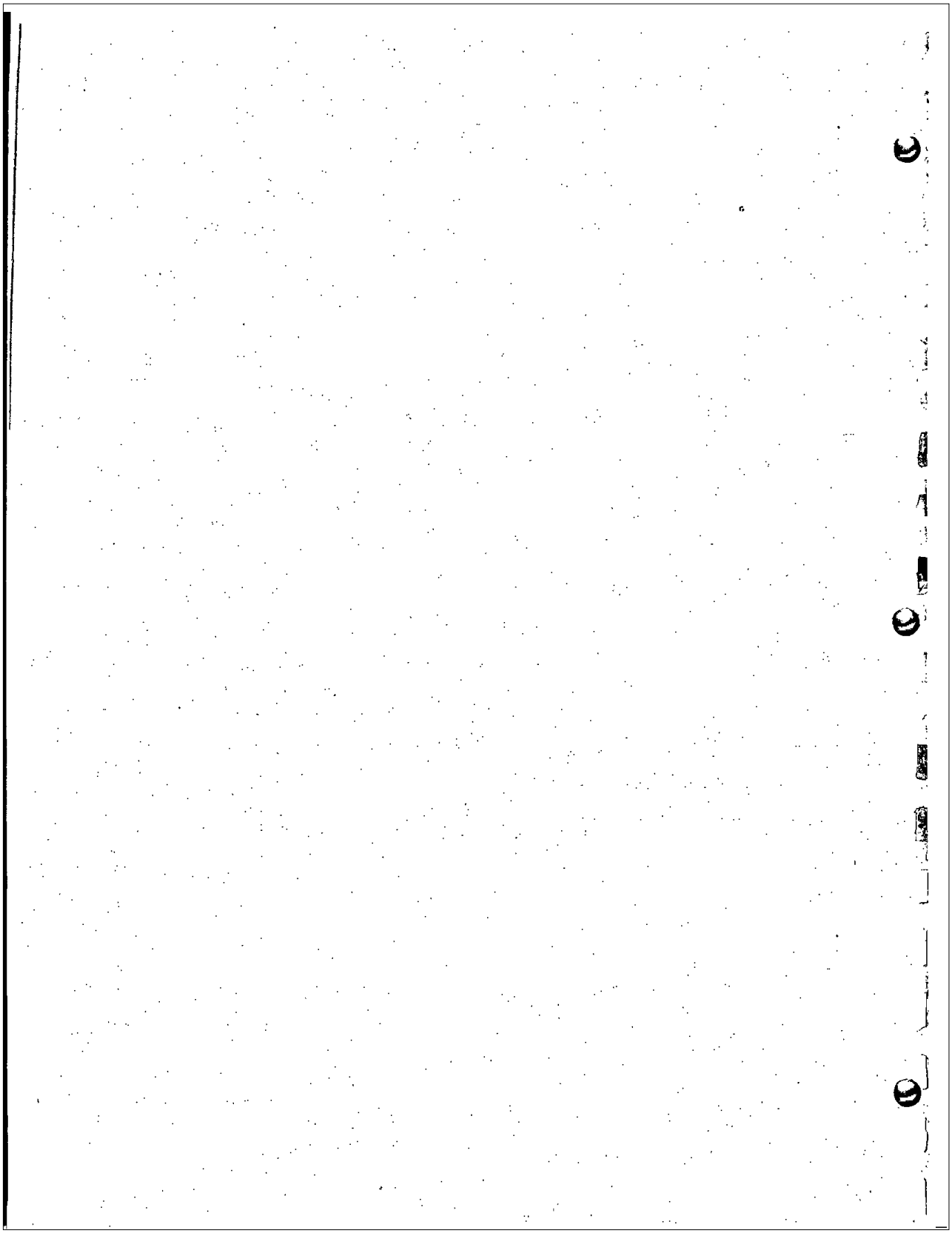
been underway in many parts of the United States (e.g., Massachusetts, Virginia and North Carolina). The US Environmental Protection Agency (EPA) (Leibowitz et al., 1992) has produced a comprehensive functional assessment approach for wetlands (Synoptic Approach To Cumulative Effects Assessment).

The functional assessment approach has been applied to more than wetlands. There have been a number of regional assessments and planning documents that make reference to this branch of landscape ecology. The findings of the Sewell and Crombie Commissions, the Kanter Report and the Oak Ridges Moraine work underway by the MNR (GTA District, Ontario, Canada) are all based to some extent, on this approach. During the development of an approach for this manual, some particular attention was paid to the proposed Comprehensive Policy Statement for Natural Heritage, Environmental Protection and Hazard Policies. All of these efforts recognize the complexity of the natural environment and acknowledge that individual wetland areas are part of a larger natural system.

A review of the various methodologies in use, in and outside of Ontario, led to the identification of the framework which is described further in Section 2.3.3 of this manual. Appendix L lists some further references for those interested in more information regarding the evaluation of more functionally–based wetland ecosystem assessment methodologies.

Appendix C

Glossary



APPENDIX C

GLOSSARY

A variety of terms are introduced in the text of the manual. Those that were deemed to be specific technical terms requiring further explanation, are included in this glossary.

Definitions have been drawn from the Wetlands Policy Statement (WPS) (OMMA & OMNR, 1992a) or Manual of Implementation Guidelines for the Wetlands Policy Statement (IG) (OMNR & OMMA, 1992b) if they appear in those sources. Where they do nor appear in those sources, other references were used, such as: the Ministry of Municipal Affairs Comprehensive Set of Policy Statements (CPS) (OMMA, 1994), the Ontario Wetland Evaluation System (WES) Southern and Northern Manuals (OMNR, 1993a,b) and revisions to these manuals (OMNR, 1994), and Liebowitz et al. (1992).

The most recent and definitive terms are those presented in the Comprehensive Set of Policy Statements.

Adjacent Lands:	Those lands within 120 m of an individual wetland area or all lands connecting individual wetland areas within a wetland complex.
Agricultural Activities:	Ploughing, seeding, harvesting, grazing, animal husbandry, buildings and structures associated with these farming activities. This includes such activities on areas lying fallow as part of a conventional rotation cycle.
Aquatic Linkage:	Aquatic components of the ecosystem which perform their functions in concert with each other.
Best Professional Judgement:	Decision–making tool involving the use of professional experience where better definitive technical information does not exist.
Boreal Region:	The area of Ontario north of the line shown on Figure 4 in the Wetlands Policy Statement.
Corridor:	The naturally vegetated or potentially revegetated areas that link or border natural areas and provide ecological functions such as habitat, passage, hydrological flow, connection or buffering from adjacent impacts. They can occur across or along uplands, lowlands or slopes. Ravine, valley, river and stream corridors are further defined as landform depressions, usually with water flowing through or standing in them for some period of the year. Ravine and valley corridors may be defined locally by considerations such as their natural features or functions, minimum setbacks from the crest of slope, top of ravine or valley bank or top of projected stable slope.
Cumulative Effects:	The combined environmental effects resulting from cumulative impacts, in a defined area over time.

Appendix C

Cumulative Impacts: The sum of all individual impacts occurring over space and time, including those of the foreseeable future.

Development:

a) the construction, erection or placing of a building or structure;
b) activities such as site grading, excavation, removal of top soil or peat and the placing or dumping of fill;
c) drainage works, except for the maintenance of existing municipal and agricultural drains.

Note: – The following are not considered as development:

* activities that create or maintain infrastructure authorized under an environmental assessment process;
* remedial works;
* those works subject to the Drainage Act;
* good forestry practices in accordance with the Trees Act, and associated buildings and structures; and
* agricultural practices or facilities

Drainage Basin: An area occupied by a closed drainage system, especially a region that collects surface runoff and contributes it to a stream channel, lake or other body of water. Also known as catchment or watershed. Divisions of this basin are known as subcatchments or subwatersheds.

Ecosystem: Any area with a boundary through which the input and output of energy and materials can be measured and related to some unifying factor, and includes the living and nonliving environment together with the population or community (IG).

Systems of plants, animals, and microorganisms, together with the non–living components of their environment, related ecological processes, and humans (CPS).

Effect: A physical, chemical or biological change that can result in environmental and/or socioeconomic impacts. Effects can be immediate (direct) or they can occur over time and space (indirect/cumulative).

Endangered Species: Any indigenous species of flora or fauna that is threatened with immediate extinction; identified in Regulations under the Endangered Species Act; endangered species as identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Environmental Impact Study: A study prepared in accordance with established procedures, to identify and assess the impacts of development on provincially significant wetlands.

Evaluation System: A system used to rate the values of Wetlands and determine their relative importance by measuring a number of indicative features, such as biological, hydrological, social, and special features, and approved for use in a region of Ontario by the Ministry of Natural Resources.

Food Chain: The transfer of food, energy and nutrients through living organisms, from one trophic level to another.

Functional Assessment Framework: A standard tool for use in conducting an Environmental Impact Statement, which focuses on the characterization of functions using the terms processes, attributes, linkages and values.

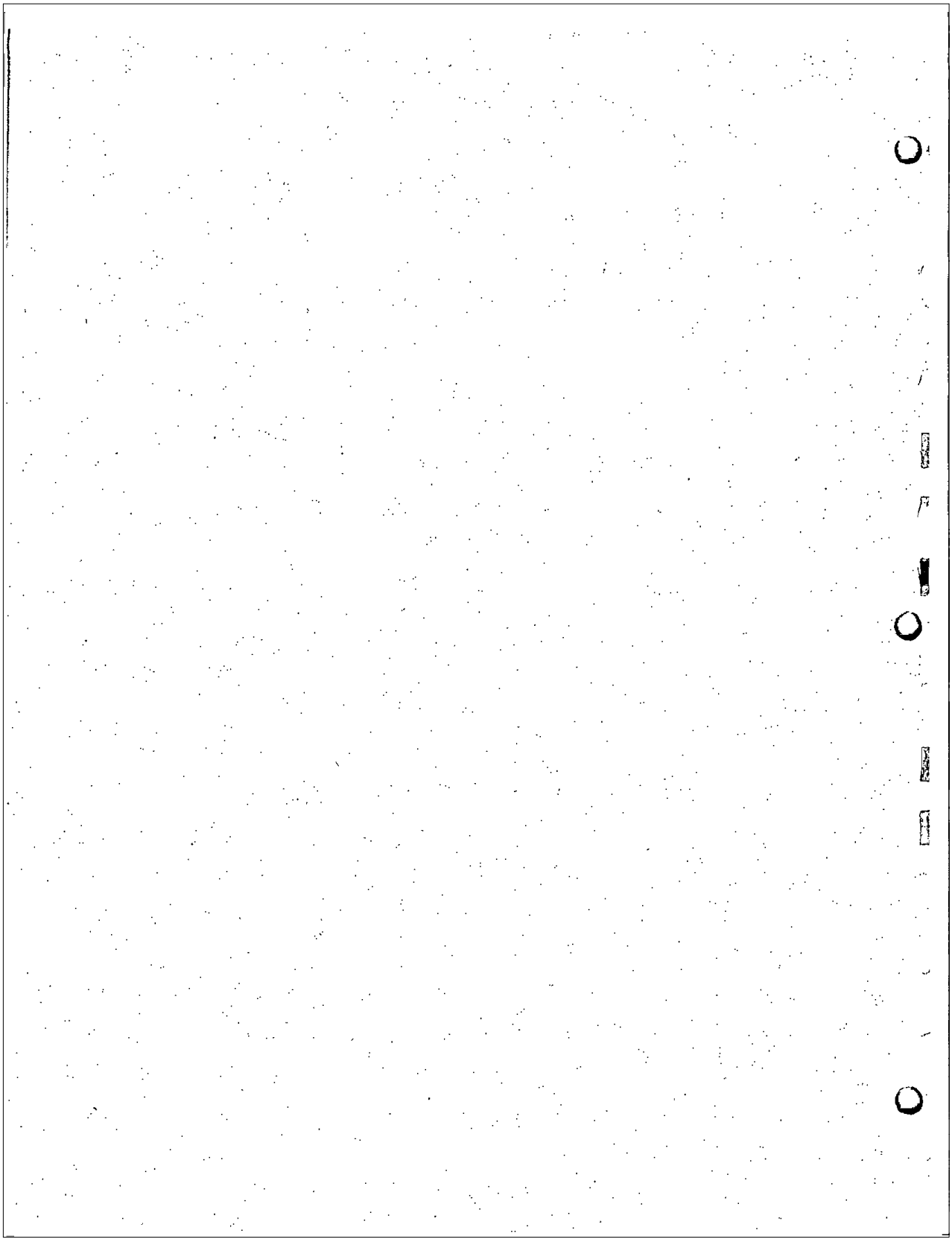
Food Web: An interconnected series of individual food chains in an ecosystem.

Function (wetland):	The processes (hydrological and biological), attributes, linkages and values related to a particular wetland.
Great Lakes – St. Lawrence Region:	The area of Ontario south of the line shown on Figure 4 in the Wetlands Policy Statement.
Guilds:	Species which are grouped together because of common strategies and/or use of areas for life cycle stages.
Hydrophytic Plants:	Vegetation commonly growing in water or in water–logged soil, which is water–tolerant.
Hydric Soils:	Soils that are characterized by the abundance of moisture, to the extent that the soils are either inundated or dominated by water–tolerant vegetation.
Impact:	A human generated activity that affects the characteristics of an ecosystem.
Indigenous :	Species which have originated naturally in a particular region or environment.
Key Wetland Function:	A function which is measurable; or contributes significantly to the integrity of the wetland ecosystem; or has been identified as an important feature in the wetland evaluation system data record; or the loss of which would have a significant impact on the wetland score.
Keystone Species:	A single species whose activities and role determine community structure.
Mitigation:	Includes the prevention, modification or alleviation of impacts on the natural environment. Also includes any action with the intent to enhance beneficial effects.
Monitor:	Procedures used to methodically inspect and collect data on ecological impacts.
Patch Dynamics:	Physical, chemical and biological interactions between irregularly shaped ecosystems, which occur within the broader landscape.
Policy Statement:	(also "Wetlands Policy Statement") The Policy Statement – Wetlands issued in 1992 under Section 3 of the *Planning Act*.
Provincially Significant Wetland:	a) class 1, 2 and 3 wetlands in that part of the Great Lakes – St. Lawrence Region below the line approximately the south edge of the Canadian Shield, defined in *An Evaluation System for Wetlands of Ontario South of the Precambrian Shield*. Second Edition, 1984, as amended from time to time; and b) those wetlands identified as Provincially Significant Wetlands by the Ministry of Natural Resources through an evaluation system(s) developed specifically for other areas of Ontario (WPS and IG). For both northern and southern Ontario a provincially significant wetland is any wetland that: 1. Achieves a total score of 600 or more points; or 2. Achieves a score of 200 or more points in either the Biological Component or the Special Features component (OMNR, 1994 revisions to the WES)
Sensitivity Assessment:	Assessment of the degree and spatial extent of wetland functions to determine their sensitivity to impacts from various land use activities.

Rare Species:	See *Significant Species.*
Rehabilitation:	To restore the ecosystem to some former condition, present prior to one or more impacts.
Significant Species:	Those species of plants, birds, mammals, reptiles and amphibians and fish that can be scored as endangered, provincially significant, regionally significant and locally significant according to the Ontario Wetland Evaluation System Manuals (OMNR, 1993a,b).
Terrestrial Linkage:	Terrestrial components of the ecosystem which perform their functions in concert with each other.
Threatened Species:	Any indigenous species of flora or fauna that is experiencing a non–cyclical decline throughout all or a portion of its range, and is likely to become endangered if conditions do not change; threatened species as defined by COSEWIC.
Trophic Levels:	An organism's feeding status in the movement of food energy through an ecosystem. Feeding status is determined by the organism's prey and predators.
Vulnerable Species:	Any indigenous species of flora or fauna that is represented in Ontario by small but relatively stable populations, and/or that occurs sporadically, or in a very restricted area of Ontario, or at the fringe of its range; vulnerable species as defined by COSEWIC.
Wetland:	Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of wetlands are: swamps, marshes, bogs and fens. Lands being used for agricultural purposes, that are periodically "soaked" or "wet", are not considered to be wetlands in this definition. Such lands, whether or not they were wetlands at one time are considered to have been converted to alternate uses.
Wetland Area:	A single contiguous wetland which may be composed of one or more wetland types.
Wetland Benefit:	Best characterized by the value group of functions. This term has previously been described as a derivative from an attribute, feature, characteristic, activity, expression or function of a wetland that has demonstrable worth to some segment of society.
Wetland Classification:	The result of a wetland evaluation, which designates the relative importance of a wetland, and whether or not it is provincially significant.
Wetland Complexes:	Two or more individual wetland areas, that are related in a functional manner, and are grouped within a common wetland boundary. The wetland areas in the complex are evaluated in one evaluation and given one classification. The upland areas within the complex boundary are not given the classification, only the wetland areas.
Wetland Functions:	The processes, attributes, linkages and values as defined in Section 2.3.3 of this Technical Manual. These have in the past, been expressed as the biological, hydrological, physical, and social/economic interactions that occur in wetlands.
Wetland Management:	Policies and/or activities that are designed with the intention of protecting and/or changing wetland functions.
Wetland Types:	The individual wetland ecosystems, that have specific characteristics, and are commonly called marshes, swamps, bogs and fens.

Appendix D

Understanding Terrain Setting



APPENDIX D

UNDERSTANDING TERRAIN SETTING

Many of the characteristics of wetlands are directly related to the type of geological landform in which the wetland was formed.

As an example, if a wetland was formed in a depression within an ancient lakebed (a glaciolacustrine landform), then one would expect the wetland to be a marsh, fen or a swamp, with the surface water within the wetland directly connected to the other surface drainage conditions found in other contiguous parts of the ancient lakebed. There may be little connection with the regional or even local ground water system.

On the other hand, if the wetland is formed within a depression with a flat sandy deposit (within a kettle hole in a granular outwash landform), then one would expect a bog, with direct hydraulic connection to the ground water table found within both the bog and the surrounding sandy plain.

These two examples represent two quite different wetlands with the potential for quite different functions: one relating water in the wetland to surface water, and the other to ground water.

It is important to evaluate the terrain conditions as an integral part of the EIS process. While each wetland will have its own unique and site specific characteristics, wetlands formed in different geological landforms will have certain similarities. The following exercise groups wetlands into four terrain landforms:

a) wetlands in terrain with level to undulating topography underlain by fine grained soils;
b) wetlands in hummocky to knob and kettle topographic relief underlain by permeable granular soils;
c) wetlands in level to undulating topography underlain by permeable granular soils; and
d) wetlands in Boreal forest settings (Precambrian Shield Rock Knob Terrain)

Wetland Characteristics Associated with Geological Landforms

a) Level or Undulating Landforms Underlain by Fine Grained Soils

These landforms include the following:

1. glaciolacustrine lake plains;
2. glaciomarine plains; and
3. ground moraines.

Within these landforms, wetlands are usually formed in regional or local depressions. Local climates often have a great deal to do with wetland formation in these areas. The long, cold spring season, high precipitation and humidity, low evaporation and minor winds along the south coast of Hudson Bay, and west of James Bay in Northern Ontario, produce good examples of wetlands formed on glaciomarine sediments.

b) Hummocky to Knob and Kettle Topographic Relief Underlain by Permeable Granular Soils

These landforms contain the following:

1. end moraines;
2. hummocky moraines;
3. kame moraines; and
4. esker chains.

Here, wetlands are usually formed within the poorly drained and often isolated depressions that are common within these landforms. Kettle holes form closed basins where drainage is either blocked or severely impeded, resulting in eutrophication and the formation of wetlands.

In these settings, the hydrology of the wetland is usually integrated with the ground water conditions surrounding the wetland. Water movement is usually very slow, or often stagnant, whereas the water movement in a fen or swamp within a glaciolacustrine environment is faster.

These settings can also contain wetlands with complex configurations, and locally deep deposits of peat, particularly in hummocky moraine terrain.

c) Level or Undulating Topography Underlain by Permeable, Granular Soils

These landforms contain the following:

1. glaciofluvial outwash;
2. glaciolacustrine / glaciomarine deltas;
3. kame deltas;
4. glaciolacustrine raised beaches; and
5. alluvial plains.

Within these landforms, wetlands are formed within kettle holes, in abandoned channel scars, adjacent to sluggish streams and between raised beaches. What is common to all is the interrelationship between the hydrologic conditions within the wetland and the surrounding ground water regime.

The deposits can be shallow and also connected to the surface water regime, as wetlands developed between raised beaches on an ancient sloping offshore plain, or as isolated and potentially deep peat deposits developed in closed basin kettle holes.

d) Precambrian Forest Setting (Rock Knob/Precambrian Shield)

Wetlands in the typically rock knob terrain in many parts of the Precambrian Shield of northern Ontario are found in the low, poorly drained depressions surrounded by high relief rock outcrop hills. As a general rule, the steeper the confining rock walls surrounding the wetland, the deeper the peat deposit within the wetland.

These wetlands will often have sluggish surface drainage connecting them to depressions in adjacent terrains. Often, beaver dams artificially raise the water table and flood some of the wetlands.

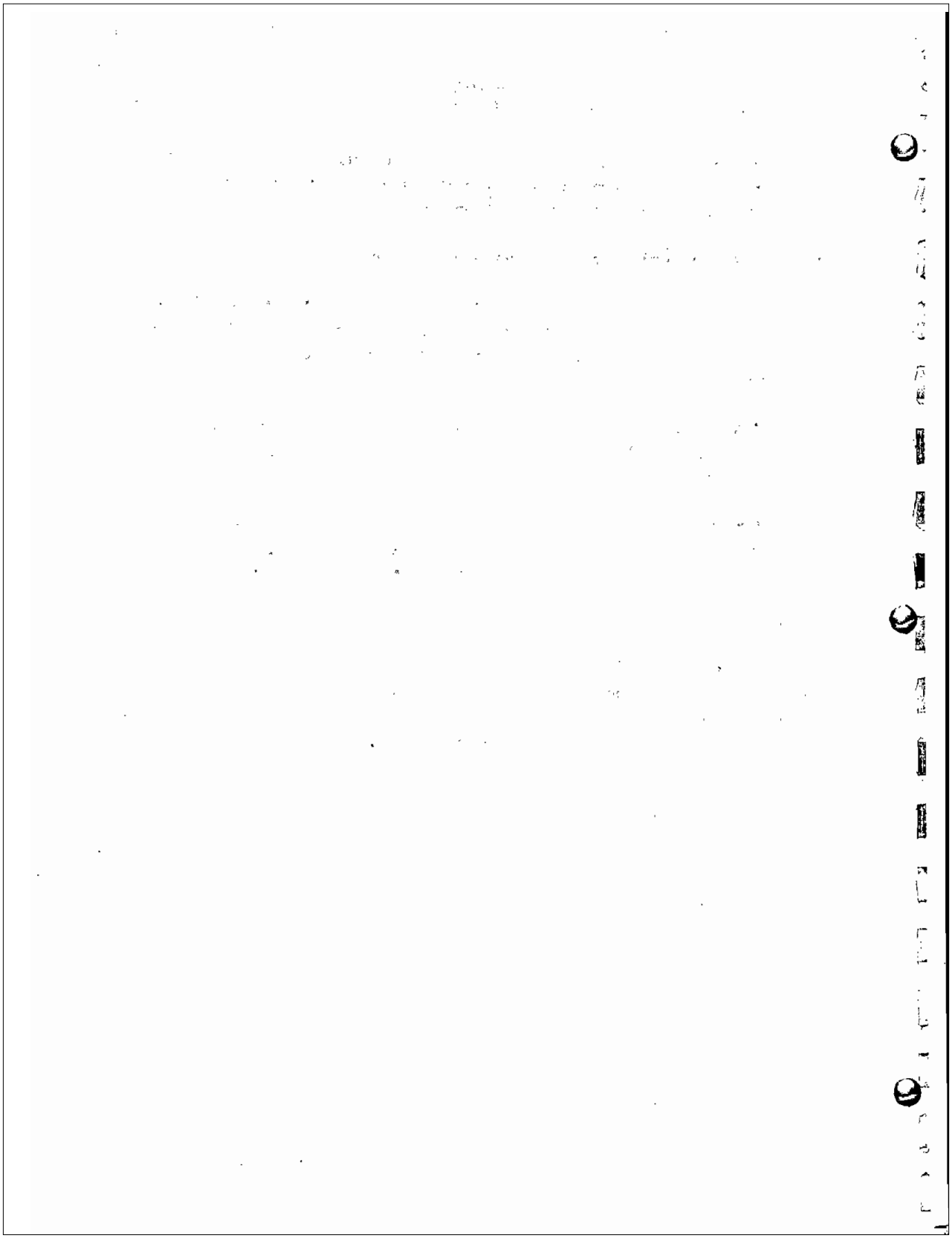
Because the surrounding confining landforms are Precambrian rock units, and ground water is found only in preferred fractures in the bedrock, there is reduced hydraulic connection between the ground water in the wetland and the ground water in the surrounding rock.

Summary Remarks

While there are many different classification systems for wetlands, this brief description of the relationship between geological terrain and the wetland, is not meant to usurp or add to any classification, but rather emphasize the importance of knowing the geological setting of the wetland as an important first step in understanding its environmental importance.

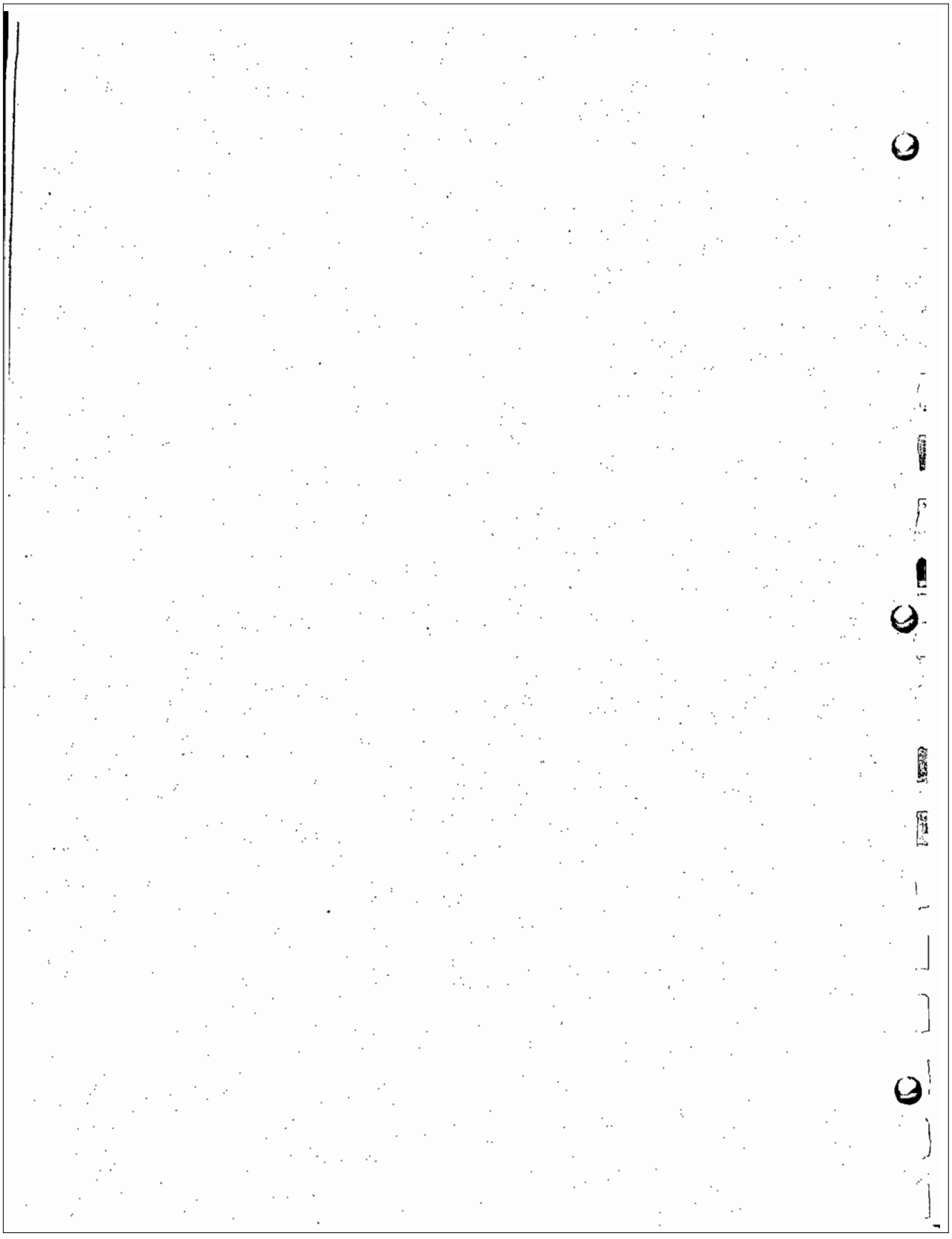
Reference:

Gartner, John F., J.D. Mollard and M.A. Roed, 1981:
Ontario Engineering Geology Terrain Study Users' Manual; Ontario Geological Survey, Northern Ontario Engineering Geology Terrain Study, 51 p.



Appendix E

Wetland Functions Listing



APPENDIX E

WETLAND FUNCTIONS LISTING

Section 2.3.3 of this manual defined wetland functions and described a functional assessment framework within which functions were placed. The framework deals with those functions which are measurable and which are most reasonably considered when predicting effects. This listing was principally compiled by participants during a workshop held during the development of this manual, which was specifically focused on the identification of wetland functions.

Table 3, in this Appendix lists additional functions and descriptors of functions. Many of these should be considered to be more detailed descriptors that can be used when filling out the functional assessment framework. The additional functions provided in Table 3 (beyond those depicted in the functional assessment framework) are often difficult to measure and in some cases, where measurable, produce information which does not contribute meaningfully to an assessment of wetland function or to impact predictions. This list is provided as a background reference and is not meant to be routinely used for the completion of EISs.

This table can also serve as a field or work sheet. Functions of a given wetland are indicated by their presence or absence. Additional comments are made from field observations, or information in wetland evaluation records and other background materials. These comments should focus on the degree or relative importance of a given function and/or the sensitivity of the function to stresses and impacts. Those functions present that have a key or important role in the wetland, and/or are sensitive to impacts will be the key wetland functions carried forward and assessed in detail in the EIS.

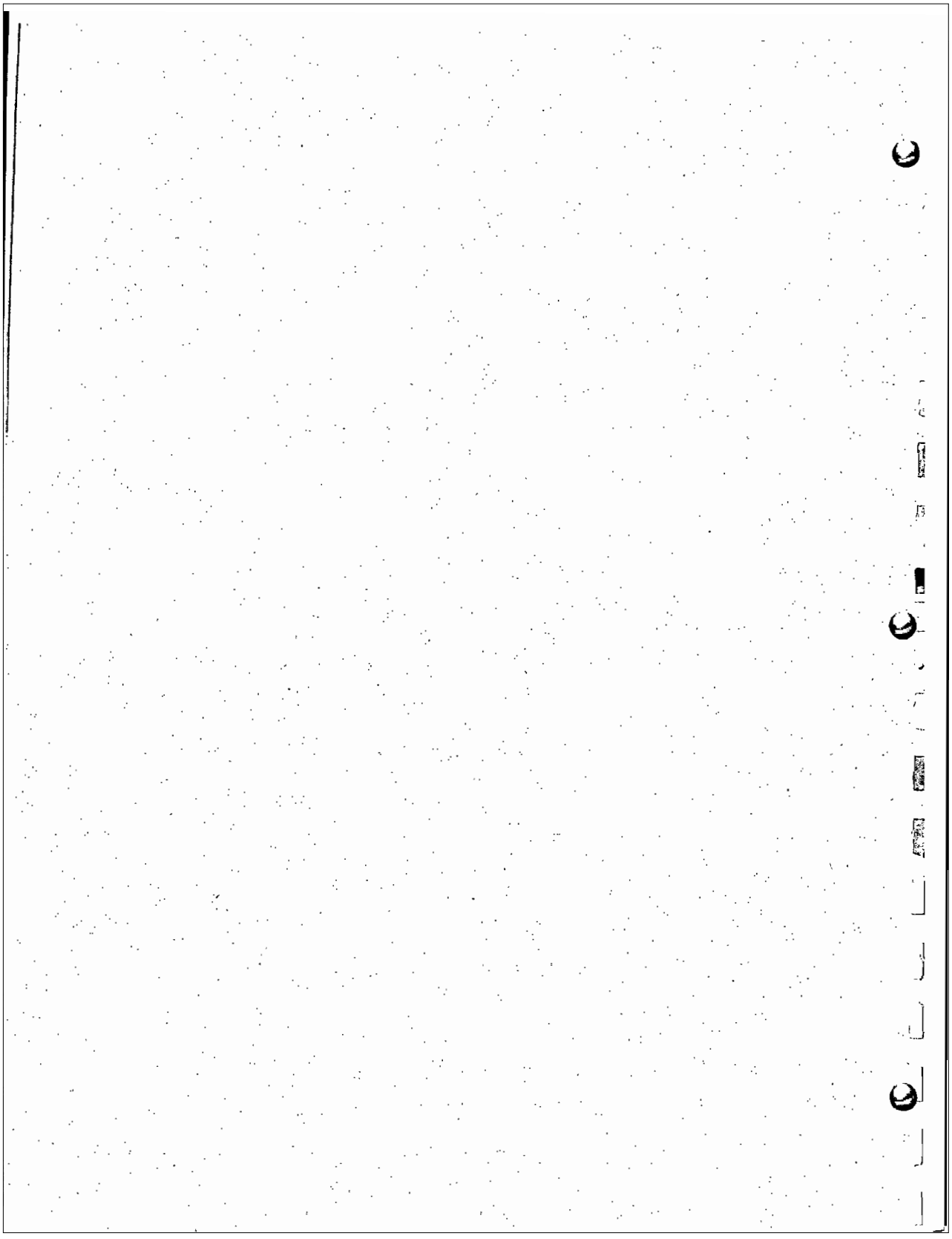
TABLE 3 : WETLAND FUNCTIONS LISTING

Functional Groups	Functional Descriptors	Presence (yes or no)	Comments: degree and/or sensitivity
Process	**Hydrogeological** – quality – quantity **Hydrological** – water quantity (flow augmentation, storage) – water quality enhancement * transformation * sediment trapping * immobilization * erosion control * nutrient cycling **Biological** – habitat (terrestrial / aquatic) * quantity and quality (degree of disturbance) * species life histories * habitat guilds * food chain * limiting habitat * indicator species * keystone species * productivity * diversity/ successional and disturbance processes * predation * population dynamics * introduced species * carbon cycle		
Attribute	**Significance and vulnerability** – species (rare, threatened, endangered and other important species) **Critical/vulnerable habitat** – concentrations of species – important migration areas		
Linkage	**Landscape Linkages** * energy cycles *patch dynamics **Biological** – aquatic food chain/web support * permanence of watercourse * degree of riparian cover * continuity * physical and chemical barriers – terrestrial food chain/web support, patch dynamics * degree of cover, forested and non–forested * continuous nature of cover		
Value	**1) Recreational** – angling, hunting, fuelwood, boating, nature appreciation / ecosystem study **2) Product(Economically valuable)** – wood products, fur bearers, wild rice, bait and commercial fish, bullfrogs and snapping turtles, cranberries **3) Cultural/Social** – landscape aesthetics, traditional harvest, education, research, spiritual or ceremonial, cultural heritage		

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Appendix F

Listing of Impacts, Effects and Mitigation



APPENDIX F

LISTING OF IMPACTS, EFFECTS AND MITIGATION

Wetland functions can be impaired by stresses or impacts from development activities. In many parts of the province, wetlands have already been subjected to various impacts associated with activities such as: forest clearing and drainage works for farming, logging, dredging, storm water detention and habitat disturbance. More traditional approaches to intensive agriculture, for example, have led to substantial inputs of sediments, nutrients, a variety of pesticides and in some cases, direct habitat effects associated with grazing livestock within these areas. Many of these impacts have been addressed with more innovative agricultural practices. Understanding past effects, like the agricultural example, may assist in the precise prediction of how a particular wetland will respond to a specific stress. This understanding will also lead to the ability to seriously consider enhancement strategies as part of the impact mitigation exercise.

The severity of functional impairment depends on several factors. These include:

a) the types and degree of impacts, including also the intensity, duration and frequency of impacts;
b) the wetland type, such as bog, fen, marsh or swamp;
c) the terrain setting, for example, an isolated morainal depression versus a riparian floodplain; and
d) the location, including climatic, geochemical and land use characteristics and their spatial and temporal configuration.

For example, an increased growing season in a wetland in the Great Lakes–St. Lawrence region presents opportunities for more resiliency than a similar wetland type in the Boreal region. Appendix D provides some further comments regarding the terrain setting. Some general comments are offered regarding the sensitivity of different wetland types to impacts. The consideration of sensitivity is separate from a consideration of significance. For example, although marshes are generally resilient to many impacts, the only marsh within a particular study area may take on some special importance.

Marshes and thicket swamps are generally younger systems. They are dominated by vegetation that shows resilience to impacts through rapid recolonization given the restoration of appropriate physical conditions. Marshes are generally adapted to more frequent and rapid movements of water, and in fact can depend upon these conditions to maintain diversity. Treed swamps include some younger forested stands that will also display some resiliency to impacts such as periodic water table fluctuations. More permanent inundation of these systems can cause significant decline and a shift to a wetland system which is more typical of shallow open water and marsh.

Bogs and fens generally tend to be more sensitive to a range of effects. Bogs, for example, are often located in small hydrologically isolated depressions and can therefore be affected by undertakings within these small catchments. They require specific conditions in terms of precipitation input and the maintenance of acidic and relatively nutrient poor conditions. Fens which are more closely associated with moving water also generally possess more specific chemistry which can be sensitive to certain impacts. Obviously, one cannot generalize with precision about the responses of all wetland types in all settings to various effects. The degree of sensitivity of a particular study area should be carefully considered given the information discussed above. This should be a topic of discussion between the planning authority, the proponent and the MNR.

Two other introductory points should be made regarding impacts. The effects of a particular undertaking may extend some distance beyond the wetland boundary into surrounding upland areas. The spatial and temporal limits of effects must be carefully considered. Similarly, from a temporal perspective, cumulative effects should be given some consideration. Cumulative effects guidance is offered generally in the section of this manual (and in Section 2.3.4) which deals with Comprehensive EISs. The Wetlands Policy Statement requires that an undertaking not result in the subsequent demand for additional development. This aspect of cumulative effects should be identified and addressed. These effects should also be addressed for undertakings that include significant expansions to existing facilities which are affecting a wetland.

Table 4 provides information about some activities (stresses) which can generate impacts on wetland functions. This table has drawn heavily from and adapted information contained in impact tables presented in A Synoptic Approach to Cumulative Impact Assessment by Leibowitz *et al.* (1992). Examples of effects and mitigation are also provided. More specific information should be generated during discussions with the MNR, the planning authority and the proponent. As mitigation technologies develop and as monitoring generates a better understanding of mitigation effectiveness, this section should be updated. In association with Table 2, the following characteristics of a development should be considered when predicting effects.

a) development location relative to wetland and adjacent lands areas;
b) magnitude of the development;
c) timeframe over which the development will occur;
d) degree of impervious surface created;
e) modifications to the existing ground and surface water movement patterns required;
f) amount and type of natural vegetation removed;
g) the post–development use of the site and surrounding areas by humans;
h) type and effectiveness of mitigation measures proposed;
i) predation effects caused by site modification and people's pets; and
j) effects of species introduced by development and associated disturbances.

This generic list (Table 4) is provided to assist in the identification of types of effects that should be considered. While all activities can have a range of impacts and resultant effects, only those most commonly encountered have been filled in on the table. This table is meant to be illustrative rather than exhaustive. As each wetland is unique, there may be some additional effects which should be considered on a case by case basis. The need to consider other potential effects should be discussed with the MNR as the need arises during the EIS process. The degree to which effects are assessed depends upon the type of EIS being conducted.

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TABLE 4 A : POTENTIAL IMPACT LISTINGS – HYDROLOGICAL PROCESSES

PREDICTED IMPACT	EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
HYDROLOGICAL PROCESSES		
Inundation	– Long term increase in soil moisture with susequent shift in species composition and structure	– Control areas and periods of inundation to mimic natural fluctuations
Dehydration	– Decreased moisture contributed to wetland could lead to a shift in species composition and structure	– Match current moisture regime in short and long term: avoid excavations into watertable within or near wetlands
Compaction/Erosion and Sedimentation	– Reduction in water storage and interference with biological processes (e.g. depressed photosynthesis)	– Sediment and erosion controls; use of vegetative buffers and Best Management Practices (BMP). – Controls on equipment access and movement
Nutrient Loading	– Increased biological activity , denitrification and stabilization	– Crop tillage and erosion control practice modification : use of vegetative buffers and BMPs.
Contaminant Loading	– Effects related to type of contaminants; can affect biological receptors through decreased productivity or mortality.	– Controls at source: use of BMPs
Turbidity/Shading	– Reduction in photosythesis and possibly biological uptake – Depression of denitrification and decreased temperature	– see compaction / erosion and sedimentation (above)
Thermal Warming	– Increased rates of chemical and biological processes/activity	– Minimize detention surface area and detention duration: use shading mechanisms

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TABLE 4 B : POTENTIAL IMPACT LISITNGS – BIOLOGICAL PROCESSES, ATTRIBUTES, LINKAGES

PREDICTED IMPACT		EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
BIOLOGICAL			
Habitat removal / fragmentation	● ● ● ● ● ● ● ●	– Decreased evapotranspiration, increased run–off velocity – Decreased capabilities for erosion control – Decreased richness and abundance of species – Decreased biodiversity – Increase in colonization, predation and parasitism. – Increase in non–native species – Fragmentaion of existing terrestial and aquatic linkages – Change in fisheries related to temperature, chemical, and physical shifts. – Removal of significant species – Removal of critical habitat: diminished population size, reproductive success. – Resultant indirect effects on vegetation from exposure to wind, solar radiation.	– Minimize habitat removal – Maintain existing degree or decrease forest fragmentation – Use protective buffer areas to reduce indirect effects – Provide special buffer areas to maintain the integrity of critical habitat – Protect rare species – Mitigate by transplanting or relocating where the technology in proven.
Indirect biological impacts (eg. increased human activity)	● ● ●	– Indirect effects on vegetation from atmospheric pollution (dust, automobile emissions), related contaminants (chlorides) and trampling – Indirect effects on wildlife associated with increased noise and intrusion into natural areas (decreased reproductive success, habitat abandonment, etc.)	– Control access to less sensitive portions of the wetland – Limit intrusions by humans/pets where predator prone: nesting/ denning activities are occuring – Install planned trails early during the activity planning stage to minimize indirect effects – Provide signage to direct use.

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File Name: MNRF-Wetland Environmental IS Requirements Manual-2023-03-08.pdf Date Published: Mar 8, 2023

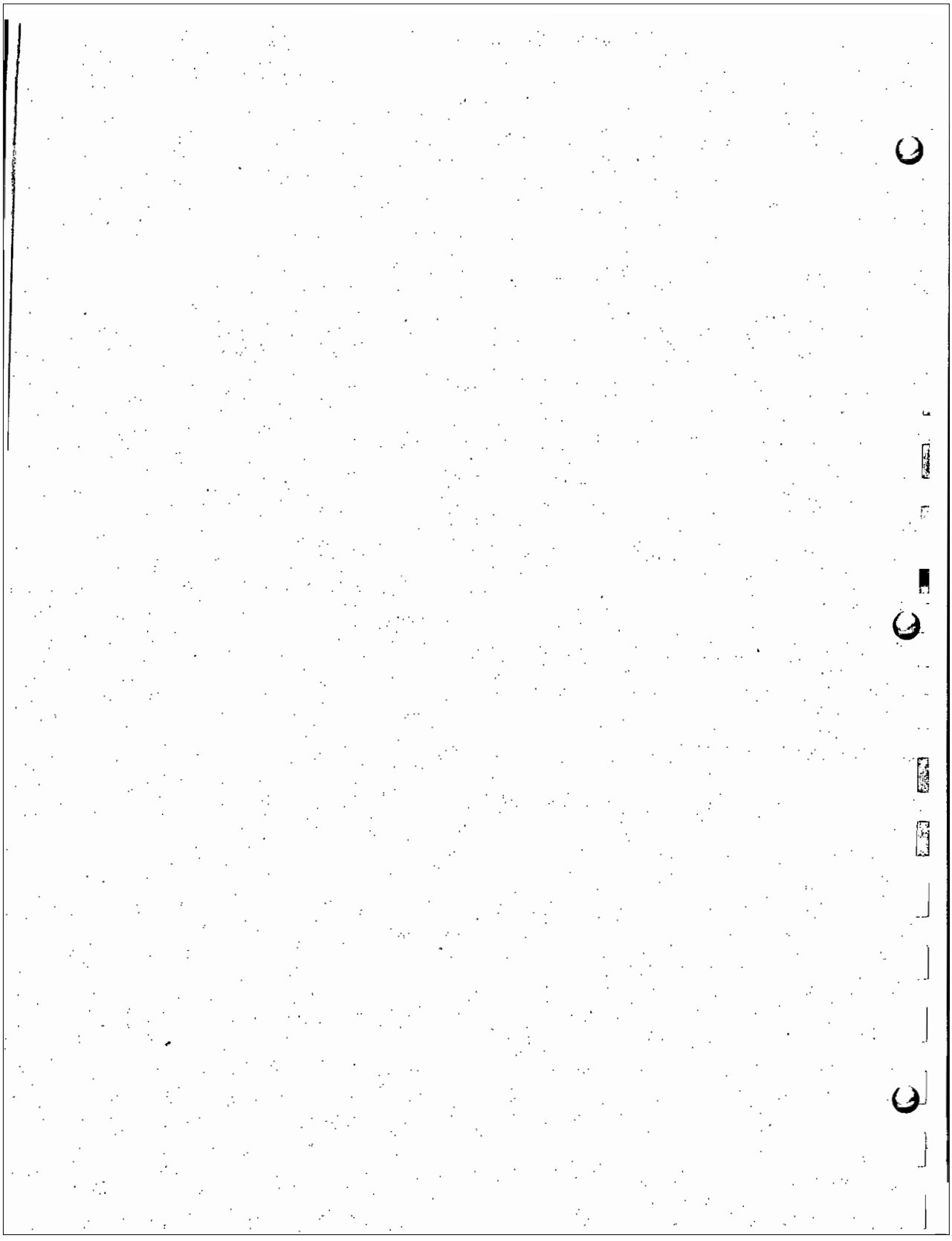
TABLE 4 C : POTENTIAL IMPACT LISTINGS – VALUES

PREDICTED IMPACT		EXAMPLES OF EFFECTS	EXAMPLES OF MITIGATION
VALUES			
Product–resource extraction	● ● ● ●	– Removal of both renewable (e.g. timber) and non–renewable (e.g. peat) resources – Generation of economic productivity – Hydrological and biological effects can be generated ; degree of effects will be different for sustainable versus non–sustainable activities.	– Promotion of sustainable resource use and harvests – Use of mitigation to control hydrologieal and biological effects
Recreational – disruption of wetland wetland dependent activities	● ● ● ● ● ● ● ●	– Increased accesibility to wetland and resources – Increased appreciation of resource – Includes some population effects from small–scale recreational harvests (e.g fishing, hunting)	– Control indirect and direct biological effects
Provision of increased wetland dependent recreation	● ●	increased use/appreciation for wetlands potential increased recreational effects (sustainable or non–sustainable)	– control potential intrusion or intense user pressure
Social/Cultural –increased use by humans –decreased use by humans	● ● ● ● ● ●	– Increased accessibility to wetlands – Increased appreciation of resource by humans – Decreased appreciation of resource by humans – Decreased appreciation of resource by humans	– Control indirect and direct biological effects – Promote education and stewardhip – Maintain some areas for these values for these values – Provide enhanced access for appreciation in retained areas – create compensatory interpretive programs – intensify community rehabiliation efforts

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Appendix G

Wildlife, Wetlands and Adjacent Lands



APPENDIX G

WILDLIFE, WETLANDS AND ADJACENT LANDS

Adjacent lands can play an important role in supporting the wildlife functions associated with a wetland. Many species of wildlife depend upon wetlands for a portion of their life cycle, spending other periods in forested and non–forested uplands (Figure 4). This is somewhat complicated in southern Ontario, in particular, where large tracts of upland forested habitat are absent. In these less forested areas, remaining wetland forests can attract species that would typically be considered to be more upland dependent. Some consideration of geographic setting (e.g. southwestern Ontario, central Ontario, northern Ontario) and of local ecosystem supply (e.g. availability of upland and lowland forest) must be given in this assessment.

This appendix identifies an approach that should be undertaken when addressing the wildlife functions of a wetland in the EIS. This approach is meant to assist in sorting wildlife species into three specific categories which will determine whether or not they should be considered to be a key wetland function for purposes of an EIS. The development of species lists in an EIS, which are sorted according to these categories could facilitate a review of functions. Assistance in the determination of wetland/upland dependence should be sought from the MNR. This dependence may differ from place to place in Ontario. Over time, the development of matrices which place species along a wetland continuum could be useful. As well, the species lists could provide an indication of habitat use (i.e., breeding or feeding). This will be useful in assessing the degree of and seasonality of wetland dependence.

The following are the steps to follow when assessing the wildlife habitat function. Species and guilds of species (e.g., species which are grouped together because of common strategies and/or use of areas for life cycle stages) are used in this section as indicators of habitat type (e.g., upland, wetland).

The wildlife species encountered or recorded in the study area should be considered in terms of three categories:

a) wetland dependent;
b) wetland/upland dependent (or transitional); and
c) upland dependent.

The Wetlands Policy Statement relates to the wetland dependent and wetland/upland dependent groups of fauna. The segregation of wildlife into one of these three categories is somewhat artificial

in that animals do not necessarily respect the divisions we have created. Given typical behaviour and habitat requirements, the majority of species can be assigned to the most appropriate category. Recognizing that the supporting science is still evolving, the application of best professional judgement will be required. This exercise is most accurately conducted in an iterative manner with biological advice from the local MNR office.

A particular development proposal may affect one or more of the three categories directly, through habitat loss and species displacement, or indirectly through effects associated with human intrusion, noise, dust and increases in predation and parasitism. The effects assessment should describe both direct and indirect effects associated with the wetland and transitional categories.

When conducting this analysis some basic information needs are required for species and groups of species, including:

a) seasonal habitat requirements;
b) habitat type and size requirements;
c) critical habitat locations (e.g., traditional courtship, nesting, feeding, staging, hibernation, sites); and
d) traditional movement corridors between habitat areas.

In many situations, guilds can be discussed because of common habitat requirements. Another technique that can be used to assess wildlife use is to define the ratio of upland to lowland habitat. This technique is widely used to gauge the suitability of an area for waterfowl production. When using this approach, the type and quality of habitat must be used in addition to areal extent. Care should be taken when applying this approach in predominantly agricultural lands to ensure habitat quality is considered. The degree to which upland habitat areas contribute to wetland wildlife functions may be less in certain field types. The ratio calculated should be used as one of a number of measures to assist in the characterization of functions. Optimal ratios exist for many species of waterfowl (Habitat Sustability Indices). This technique along with other approaches may clearly identify areas where upland habitat could, through enhancement, become more productive and therefore, potentially increase some functions.

Some additional information, specific to each of the three wildlife/study area categories is provided below.

Wetland Dependent

Fish can be directly dependent upon wetlands for spawning areas, juvenile growth areas and for adult feeding. Because of their limited potential to extend their range beyond the high water mark of the

wetland, they are not discussed further. While partially dependent upon the drier forested edges of wetlands, Muskrat, River Otter and Beaver are principally wetland dependent. In terms of amphibians and reptiles, most fall in the second category (transitional or wetland/upland dependent), although species such as Bullfrog can be appropriately designated as wetland dependent. Most bird species require both wetland and upland habitat. Waterfowl can be considered wetland dependent during migration and staging periods. Particularly along the Great Lakes shoreline, the value of large, offshore, open water areas adjacent to wetlands is critical for staging. Other examples of wetland dependent birds include Bittern, Sora and Rails. Generally, because of dependence on a range of habitats, birds can be a more difficult group of wildlife to characterize in terms of wetland functions.

Wetland/Upland (Transitional) Dependent

In identifying whether a species or guild fits within this category one must ask whether a species depends heavily on both habitats. If the answer is yes, the species should appropriately be addressed in this category and should be considered to be a wetland function. Care should be taken to avoid assigning all species of wildlife that may at some point during their life cycle, pass through, fly over, or visit a wetland. This category is meant to reasonably identify those species and guilds that are significantly dependent upon both wetland and upland habitats.

Examples of mammals that fit into this category include Moose, White-tailed Deer and American Mink. Other mammals tend to be more heavily dependent upon upland situations. As a group, amphibians merit close attention in this category. They are very dependent upon both aquatic and terrestrial habitat. Their eggs are laid in water while much of their adult life is spent on dry land. Development that removes upland habitat but does not affect wetland habitat could still result in the removal of some amphibian species, and hence could affect this element of wetland function. Examples of these indicators could include the Eastern Gray Treefrog and the Spotted Salamander.

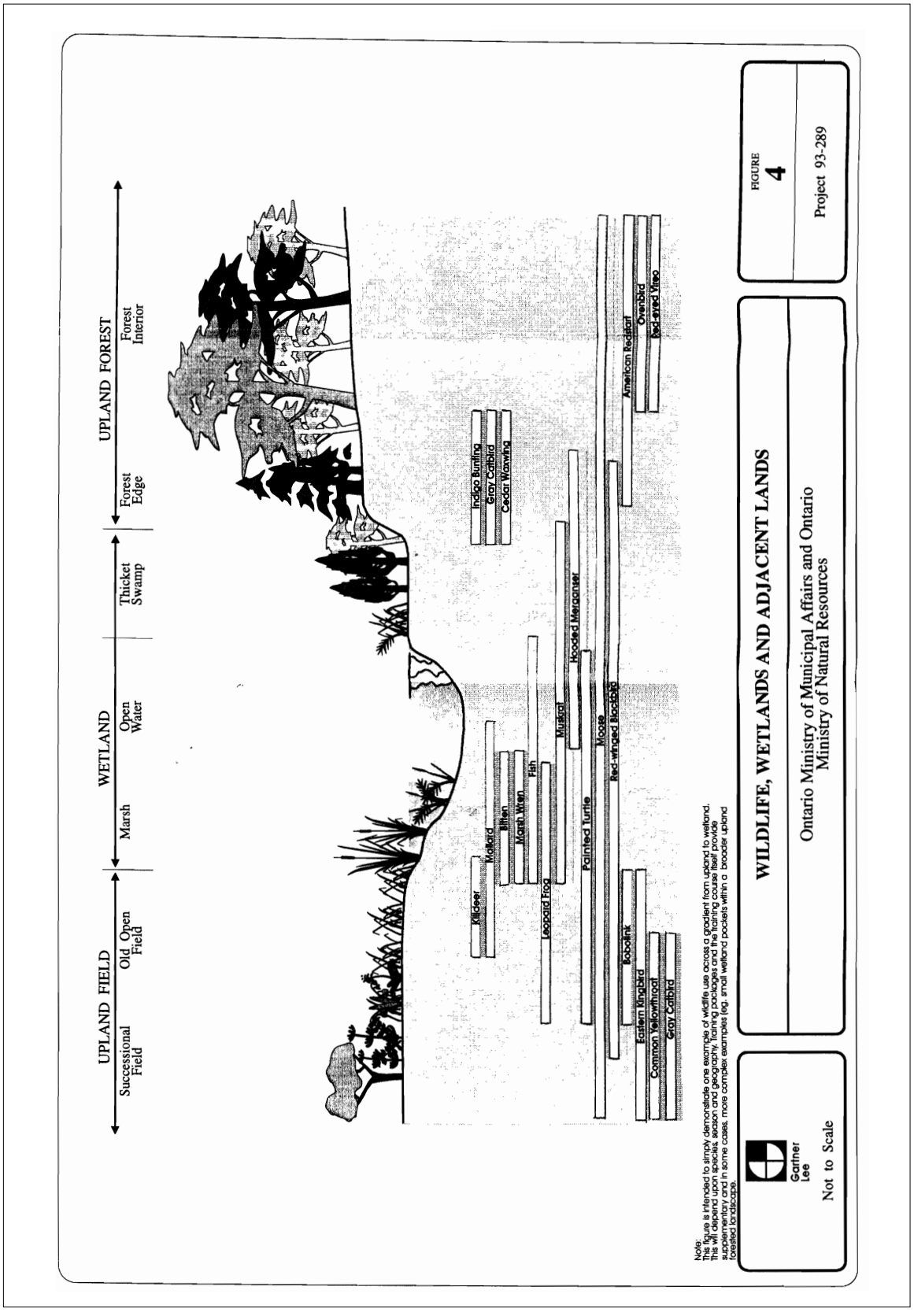
Like the amphibians there are some groups of birds that are heavily dependent upon both wetlands and uplands (e.g. waterfowl). Many waterfowl species spend much of their life in wetlands and areas of open water. They can, however, require upland areas for nesting, a critical period of their lifecycle. When assessing waterfowl, attention must be paid to the existing patterns of use for nesting, feeding, and staging, and the potential for development to affect those existing patterns. Consideration needs to be given to the sensitivity of individual species to changing land use patterns. Some of the more secretive species (e.g., Hooded Merganser) may be negatively affected, while other more adaptable species (e.g., Mallard and Canada Goose) could benefit from some proposals.

Wetlands tend to provide important nesting and feeding grounds for some raptors (e.g., Osprey, Northern Harrier, Barred Owl, Short-eared Owl), herons and egrets and some songbirds (e.g., Palm, Prothonotary and Mourning Warblers). Again, development proposed in adjacent lands that could

affect the use by these transitional species for a particular component of their lifecycle, could affect wetland functions.

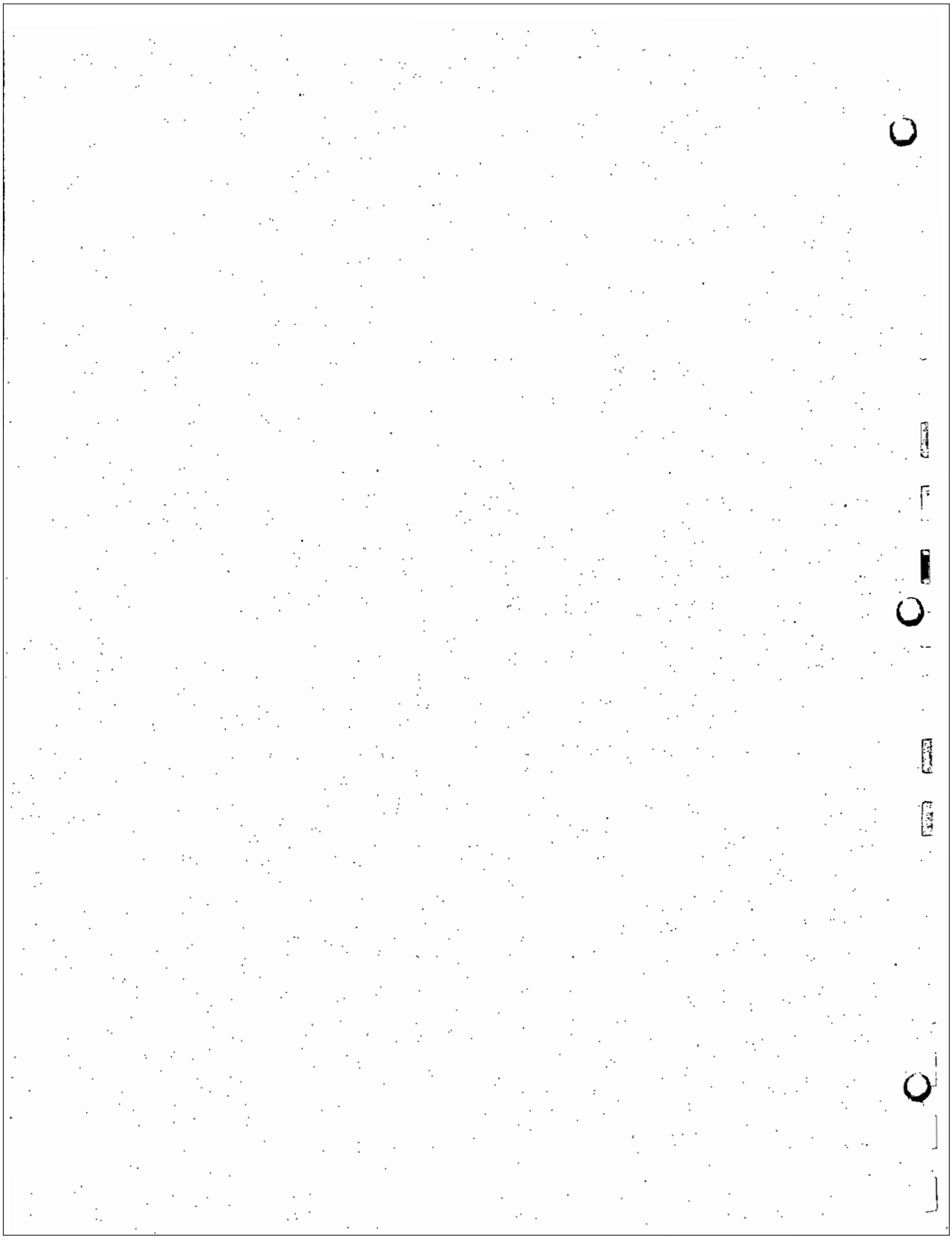
Upland Dependent Species

There are many species of wildlife that depend principally upon forested and non–forested uplands. While it is true that these species can play a role in the habitat function (e.g., food chain by the provision of prey to wetland predators), they should not generally be considered wetland functions and they should not therefore be addressed in most EIS documentation.


UPLAND FIELD
Successional Field
Old Open Field
WETLAND
Marsh
Open Water
Thicket Swamp
UPLAND FOREST
Forest Edge
Forest Interior
Killdeer
Mallard
Bittern
Marsh Wren
Leopard Frog
Muskrat
Painted Turtle
Moose
Red-winged Blackbird
Bobolink
Eastern Kingbird
Common Yellowthroat
Gray Catbird
Hooded Merganser
Indigo Bunting
Gray Catbird
Cedar Waxwing
American Redstart
Ovenbird
Red-eyed Vireo
Note:
This figure is intended to simply demonstrate one example of wildlife use across a gradient from upland to wetland.
This will depend upon species, season and geography. Training packages and the training course itself provide
supplementary and in some cases, more complex examples (eg. small wetland pockets within a broader upland
forested landscape.
Gartner Lee
Not to Scale
WILDLIFE, WETLANDS AND ADJACENT LANDS
Ontario Ministry of Municipal Affairs and Ontario
Ministry of Natural Resources
FIGURE
4
Project 93-289

Appendix H

Impact Assessment Modelling Tools



APPENDIX H

IMPACT ASSESSMENT MODELLING TOOLS

Models help us describe how we think the biological world functions and can aid in making predictions about effects. Both conceptual and quantitative modelling have been recognized as sound scientific tools for impact assessment, mitigation, or management evaluations. The former models are more intuitive while the latter are based upon mathematical simulation techniques. Conceptual modelling was suggested by Beanlands and Duinker (1983) to be more appropriate given the controversy associated with assigning numbers to ecosystem characteristics. This appendix offers some comments regarding models as tools for impact assessment.

The use of wildlife–habitat models, succession–habitat models, habitat suitability/capability models, indicator species models, species/habitat matrices will generally not be a requirement for an EIS, particularly for smaller development proposals. Some more complex full site EISs or the assessment of extensive management plans may benefit from application of community or species models and hydrologic models. Community models are ideally suited for use with Geographic Information Systems (GIS) software. For a Comprehensive EIS that covers a large area, complex analyses can be efficiently conducted using GIS, remotely sensed data and measurements of site–specific habitat variables.

The use of modeling to shape decisions, project future impacts and estimate the course of mitigation or management is a challenging development for increasingly complex resource development. It is presented here in an overview fashion for consideration. As state–of–the–art technology advances in this field, the use of certain habitat/wildlife models will become standard, acceptable scientific practice. It is anticipated that this Appendix will be updated over time.

All models have limitations and assumptions that must be clearly stated in order that they are applied within appropriate limits. Models must be used with caution because they simplify complex ecological processes by measuring selected components of the system and often the databases used for model parameterizaton are incomplete. For some functions that are difficult to measure, the use of models that have been adequately tested in a geographic area may be the best means of making impact predictions.

H.1 HYDROLOGIC / HYDROGEOLOGIC / HYDRAULIC MODELS

A variety of hydrologic models exist and have demonstrated their value in wetland EISs. The OTTHYMO89/INTERHYMO model is frequently used for storm water management design. The QUALHYMO model is useful for the design of site specific BMP facilities. The applicability of these modelling techniques will depend on the level of field data and complexity of the site.

GAWSER is commonly used for simulating water quality and quantity processes, non–point source sediment wash–off (i.e., loading) and transport.

MODFLOW, produced by the U.S. Geological Survey is used to model ground water flow. It can also simulate interactions between ground and surface water including baseflow and ground water recharge from streams.

HEC–2 and HEC–6, produced by the U.S. Army Corps of Engineers allow one–dimensional floodplain mapping and one–dimensional scour deposition modelling respectively.

QUAL2E produced by the U.S. Environmental Protection Agency, allows water quality modelling to simulate effects on the biotic and abiotic water quality constituents.

H.2 BIOLOGIC MODELS

Community–level and single–species models are two broad categories of modelling approaches. The relationship between wildlife and habitat forms the basis of the Habitat Suitability Index models of the U.S. Fish and Wildlife Service. The Habitat Suitability Indices (HSI) provide life history data for individual species and are geared to providing data about the specific habitat requirements of these species. There are over 65 HSI Models available for fish, birds, mammals, amphibians and reptiles. These existing models can be simplified and customized to fit local information and data availability. For example, the HSI aquatic model describing adult habitat contains three or four variables. A simpler model can be developed using aquatic macrophyte density alone, which will provide a good indication of potential habitat value (providing that the thermal regime is acceptable).

HSI's can be very useful, particularly in situations where they may be the only available tool. As with all models, they must be used with care and caution.

The HSI models are available as word (descriptive) models and mathematical models. Word models can be used to describe the suitability of the habitats in the study area for the species of interest. The word models also provide numerical values for various habitat features over a range of suboptimal through optimal conditions for the species of interest. They are expected to provide sufficient indication of the quality of habitat present for a given species, although they may need to be used with care as the suitability of habitats may vary regionally.

Mathematical models are often used in applied ecology to test hypotheses and make quantitative predictions about ecological processes. Such models utilize existing theoretical frameworks to calculate changes that may occur due to a given impact.

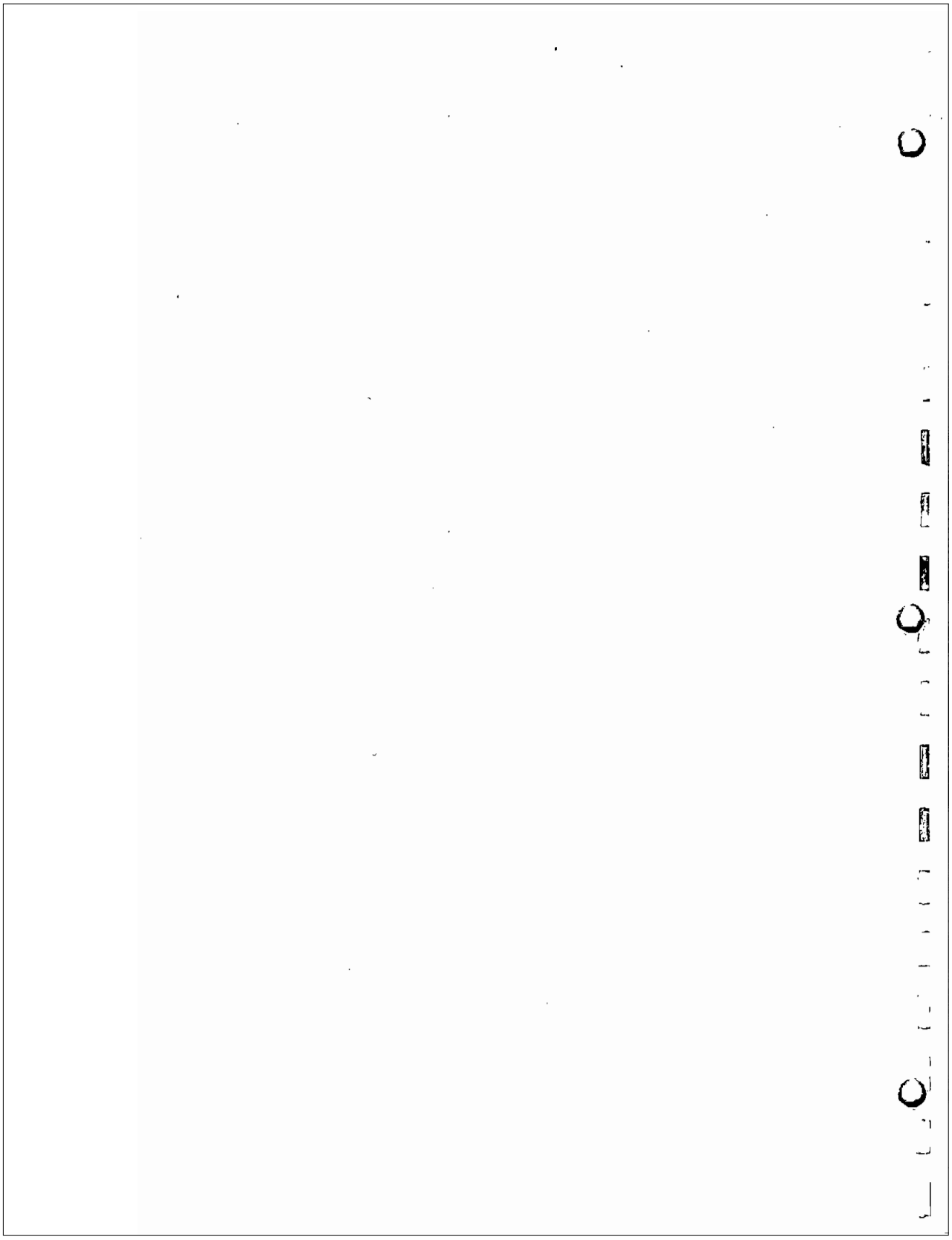
These functional studies of ecology deal with relationships of populations and communities as they exist and can be measured now. They complement descriptive and evolutionary ecology approaches that deal with descriptions of the ecosystem and the selective forces which have shaped the ecological systems over time.

Many mathematical models are described in Krebs, 1972; Kershaw, 1964; Greig–Smith, 1964; and Pielou, 1969.

Although most HSI models were developed for individual species, many of the concepts can be applied to community approaches as well. A community model is used when the goal is to obtain a larger view of the system than is possible with a single species approach. A community–level habitat model predicts the status or quality of a specific attribute of particular wildlife assemblages based on habitat and spatial variables (for example, species richness, guild richness, biomass or trophic structure) (Schroeder and Haire, 1993).

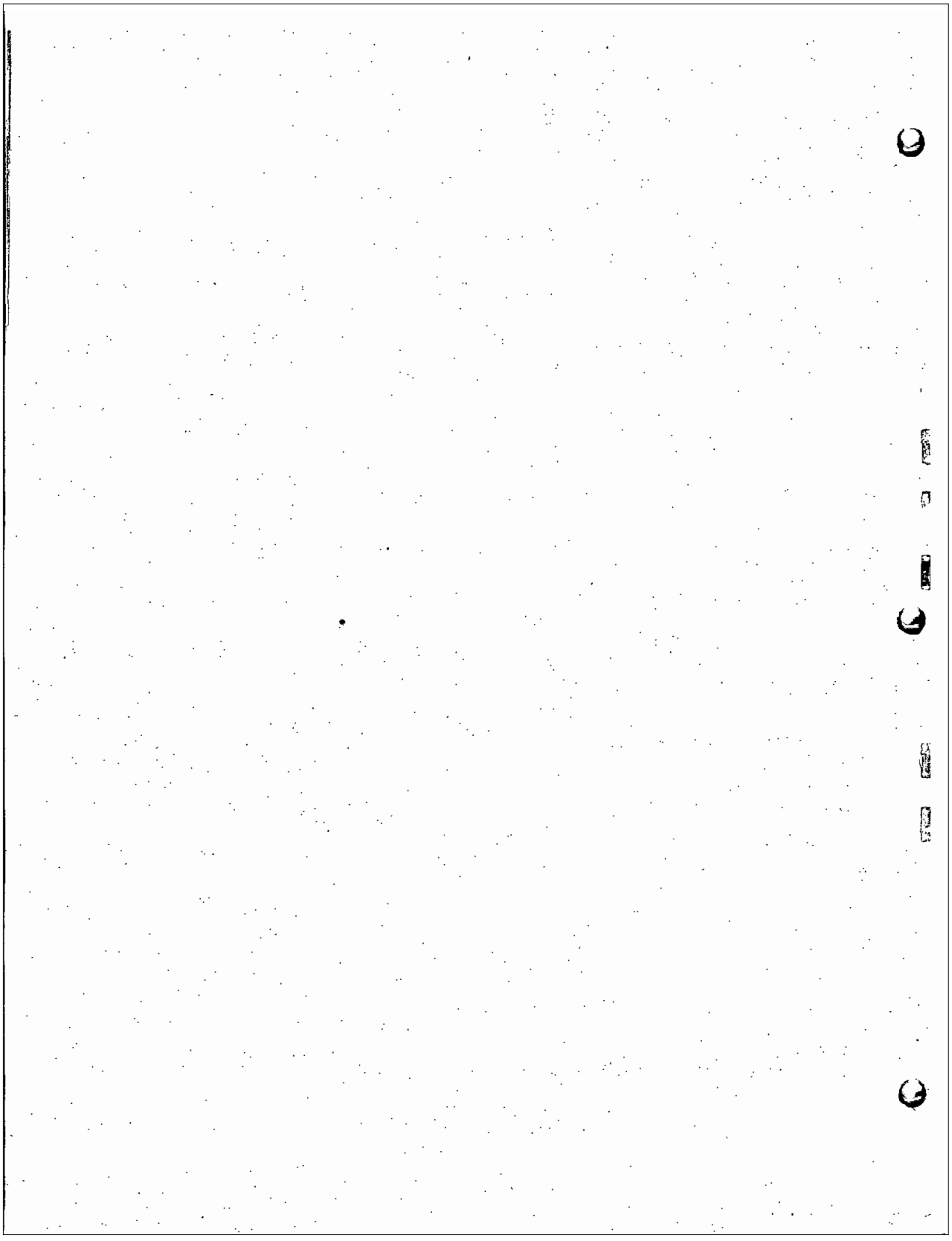
In Ontario, there has been ongoing research and development of forest bird/habitat relationships. Hounsell (1989) developed a species/habitat matrix for displaying the major macro–habitat relationships of Ontario's forest–dependent breeding bird species. Impact prediction models were then developed for assessing the relative vulnerability of forest birds and their habitats to direct and indirect effects of forest clearing and fragmentation, particularly related to transmission line disturbance.

These matrices and models are currently being adapted and expanded by the Ministry of Transportation to develop indices for birds and other wildlife related to highway development and also to relate to the components of the wetland evaluation system. This type of model will be very useful in making impact predictions about wildlife. Presently, this is one of the areas where measurement and prediction are difficult to quantify.



Appendix I

EIS Review Form



Appendix I: EIS Review Form

4.2 Full Site EIS *map scale; 1:10,000 or 1:5,000*

Ensure it includes:

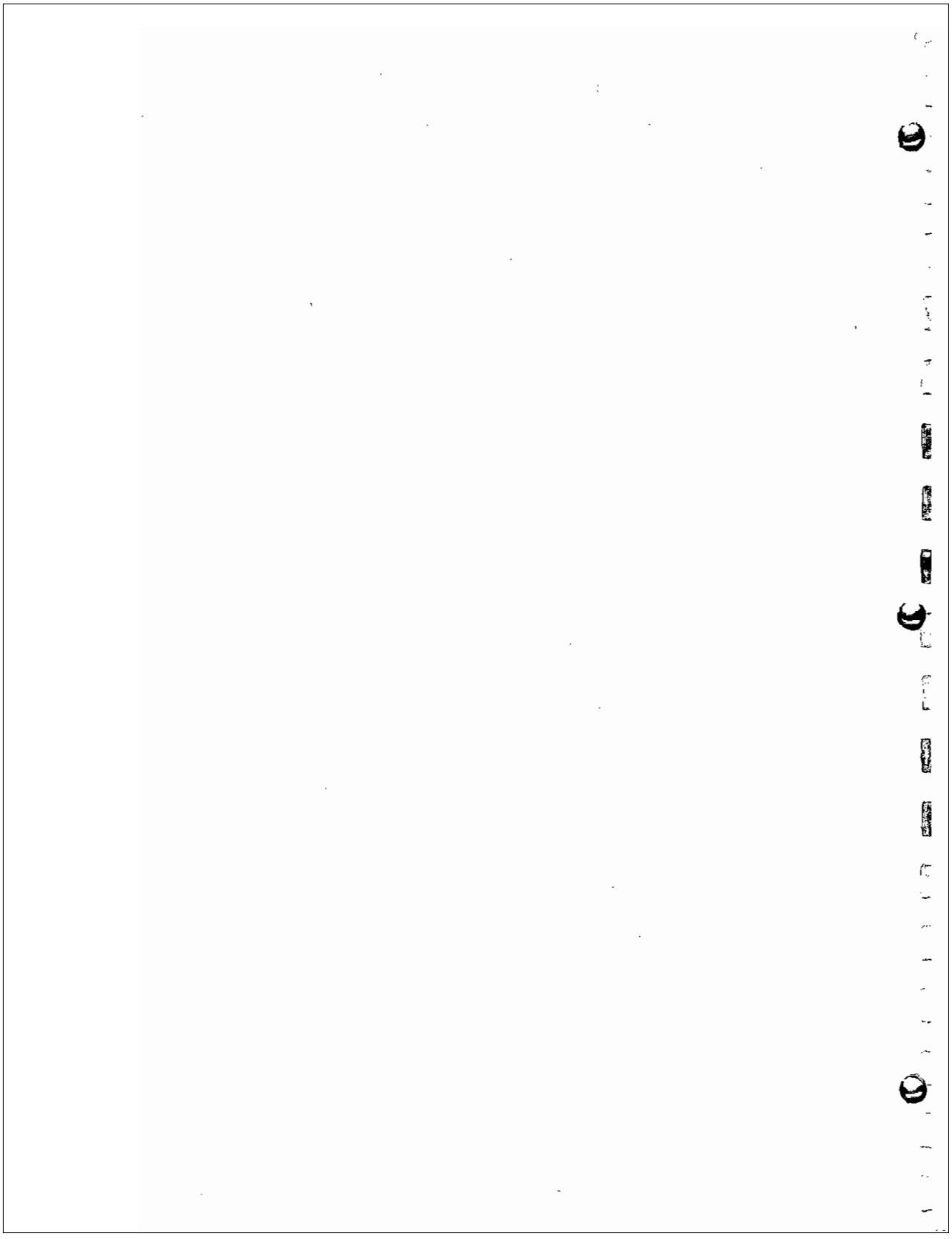
- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- wetland area and adjacent lands
- detailed drainage patterns; inflows, outflows
- presence of control structures, culverts, etc.
- water level gauge locations
- basins and sub–basins
- soil textures
- regional and local ground water flow patterns (conceptual)
- water quality sampling locations
- detailed terrestrial and aquatic habitat information (i.e., community boundaries)
- spot locations of significant flora and fauna
- locations of critical habitat
- general cover types of adjacent lands
- locations of terrestrial and aquatic linkages
- locations of trails, boardwalk, visitor facilities
- locations of resource harvest / use
- impact/effect identification:
  - drainage boundary changes
  - outfall locations
  - detailed development footprint (e.g., pervious and impervious surface, excavation locations and depths, grading information)
  - habitat removal
  - attribute removal
  - linkage fragmentation
  - value displacement*
  - habitat, attribute, linkage, value degradation (indirect/cumulative)
- mitigation measure identification:
  - BMP facility locations
  - protective barriers (temporary and permanent)
  - rehabilitation/enhancement measures
  - plantings
- monitoring location identification

4.3 Scoped Site EIS (* variable depending upon specific type of development) *map scale; 1:2,000*

Generally should include:

- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- wetland boundary
- adjacent land boundary
- development description / footprint
- impact / mitigation locations

* In many instance this will be inferred from habitat removal.



5.0 MONITORING REQUIREMENTS

6.0 CONCLUSIONS AND RECOMMENDATIONS

7.0 LITERATURE CITED AND TECHNICAL REFERENCES

LIST OF FIGURE(S)*

1. Existing Conditions
2. Proposed Development
3. Impacts / Effects / Mitigation

APPENDICES

A. Functional Assessment Framework (completed for EIS)
B. Species Lists (flora and fauna)
C. Water Balance Calculations
D. Modelling Support Material (optional)
E. List of Field Dates and Technical Staff Involved

* Depending upon the complexity of the site, one or more figure(s) will be required.

APPENDIX J

MODEL EIS TABLE OF CONTENTS

The following is an example Table of Contents, particularly suited to a Full Site EIS. Other EIS types will require this Table of Contents be customized. It has been developed bearing in mind the generic EIS requirements identified in the Comprehensive set of Policy Statements and companion Implementation Guidelines (available only in draft format at the time this Technical Manual was produced).

TABLE OF CONTENTS

Executive Summary

1.0 INTRODUCTION

2.0 EXISTING NATURAL ENVIRONMENTAL AND DEVELOPMENT PROPOSAL
- 2.1 Site Description and Landscape Context
  - terrain setting
  - biological setting
  - land and resource use
- 2.2 Summary of Development Proposal

3.0 ECOSYSTEM FUNCTION CHARACTERIZATION AND IMPACT ASSESSMENT
- 3.1 Characterization of Functions and Sensitivity Assessment
  - 3.1.1 Process Group
  - 3.1.2 Attribute Group
  - 3.1.3 Linkage Group
  - 3.1.4 Value Group
- 3.2 Impact Assessment and Effect Prediction

4.0 MITIGATION AND NET EFFECT PREDICTION
- 4.1 Mitigation Method Assessed
- 4.2 Mitigation Method Selected
- 4.3 Net Effect Prediction

Appendix I: EIS Review Form

3.3 Comprehensive *All points (identified and described):*					
▪ all landform units					
▪ regional and local ground water flow directions					
▪ broad areas of recharge and discharge					
▪ detailed surface drainage information (e.g., inflow and outflow points, drainage type and permanence)					
▪ watershed and subwatershed boundaries					
▪ detailed habitat mapping with indication of diversity, quality and interrelationships					
▪ identification of landscape level linkages					
▪ more specific value information (e.g., concentrations of recreational activity)					
▪ landscape level functional sensitivity assessment					
▪ successional pathways and habitat changes					
▪ compatibility with municipal natural heritage systems, or greenland strategies					

4.0 EIS GRAPHICS

The graphics required will depend upon the type of EIS and the development character. The following are suggestions for the standardization of these graphics:

4.1 Comprehensive EIS *map scale; 1:25,000*

Ensure it includes:

- north arrow
- scale
- legend; date of production / revision, proponent's and representative's identification
- all wetland areas and adjacent lands
- drainage patterns
- watershed, subwatershed and/or municipal natural heritage system boundaries
- general wetland functions and sensitivities to guide landscape level planning
- general cover types of adjacent lands

Appendix I: EIS Review Form

3.0 EIS DOCUMENTS

3.1 Scope Site EIS (* variable depending upon specific type of development) *Appropriate / relevant points under Section 2.0, along with:*

▪ description of specific mitigation measures proposed					
3.2 Full Site EIS *All points (identified and described):*					
▪ detailed understanding of hydrogeological setting (i.e., three–dimensional conceptual model)					
▪ detailed hydrologic flow information (including relative flow contribution from each basin)					
▪ water balance exercise					
▪ hydrologic modelling					
▪ water quality information					
▪ habitat assessment details for terrestrial and aquatic systems					
▪ modelling of habitat if required					
▪ confirmation and detailed characterization of attribute information (with fieldwork)					
▪ detailed characterization of visible linkages (terrestrial and aquatic)					
▪ detailed characterization of existing values					
▪ detailed characterization of impacts/effects on wetland functions					
▪ detailed mitigation strategy, net effects predictions and monitoring recommendations (where necessary)					
▪ compatibility with municipal natural heritage systems, or greenland strategies					

Appendix I: EIS Review Form

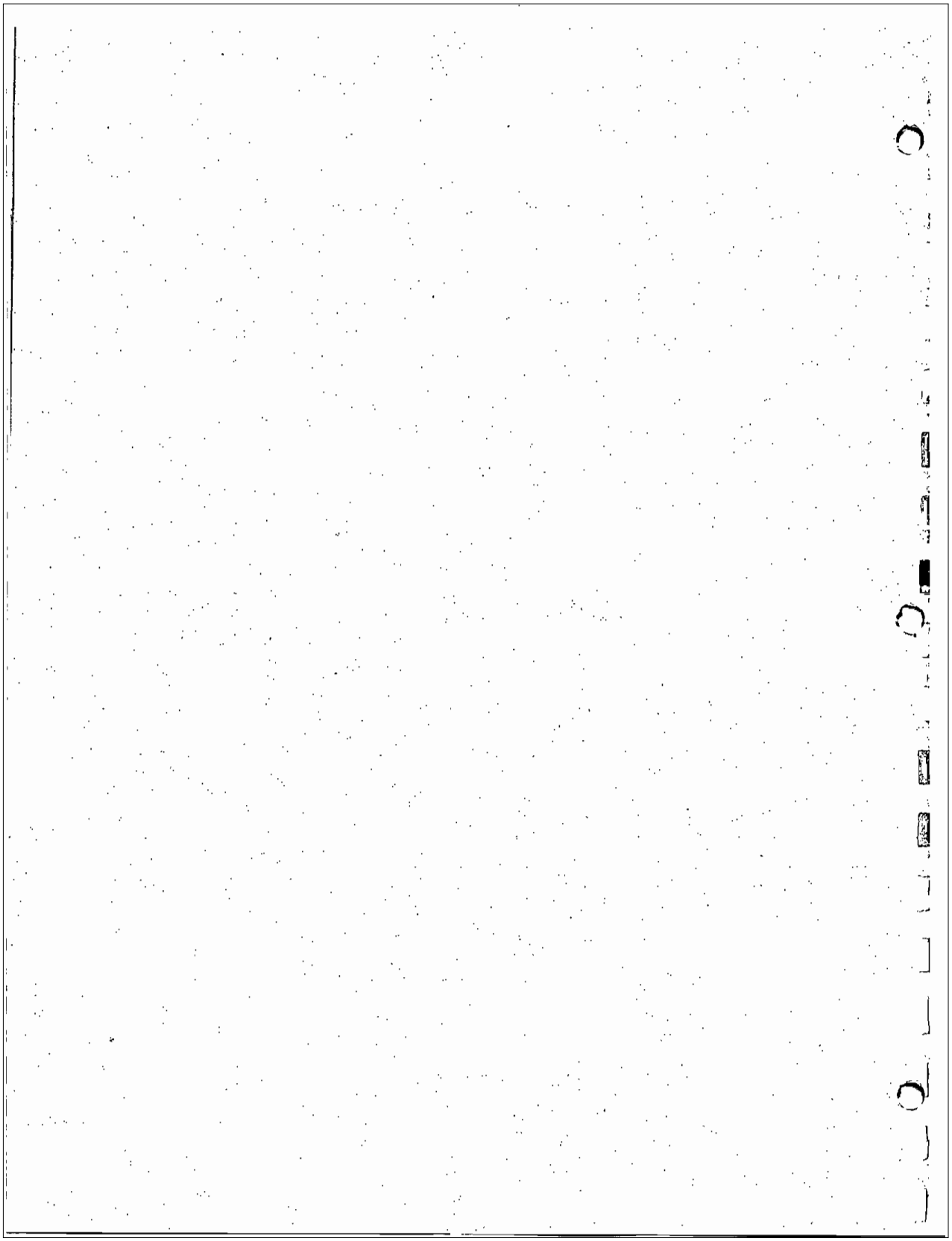
	Dicussed & Agreed to	Included	Not included	Comment
1.0 GENERAL INFORMATION *(check if included)*				
▪ Proponent Identified				
▪ Proponent Representatives (consultants) Identified				
▪ EIS Submission Date Present				
▪ Executive Summary Included				
2.0 ISSUES SUMMARY PAPER *Are the following generally described?*				
▪ surface and subsurface soils				
▪ landform type				
▪ landform position				
▪ wetland boundary				
▪ catchment boundary				
▪ drainage pattern				
▪ wetland types				
▪ vegetation communities				
▪ general habitats				
▪ critical habitats				
▪ significant species				
▪ land use patterns				
▪ resource use				
▪ type/position of the development				
▪ summary of wetland functions				
▪ proposed impacts				
▪ predicted effects				

APPENDIX I

EIS REVIEW FORM

The following was developed as a guide to the MNR for their review of EISs. It is meant to be used as a tool to ensure that the basic information required has been provided. Used both during the preparation of the EIS (by the planning authority, the MNR and the proponent) and at the time of submission, this form can help to streamline the approvals process. The proponent should discuss the review form with the planning authority and the MNR to determine whether this form has been customized for the specific study area. This form is different from the checklist in Appendix M in that, the latter is used by the MNR and municipality to conduct a streambed EIS exercise.

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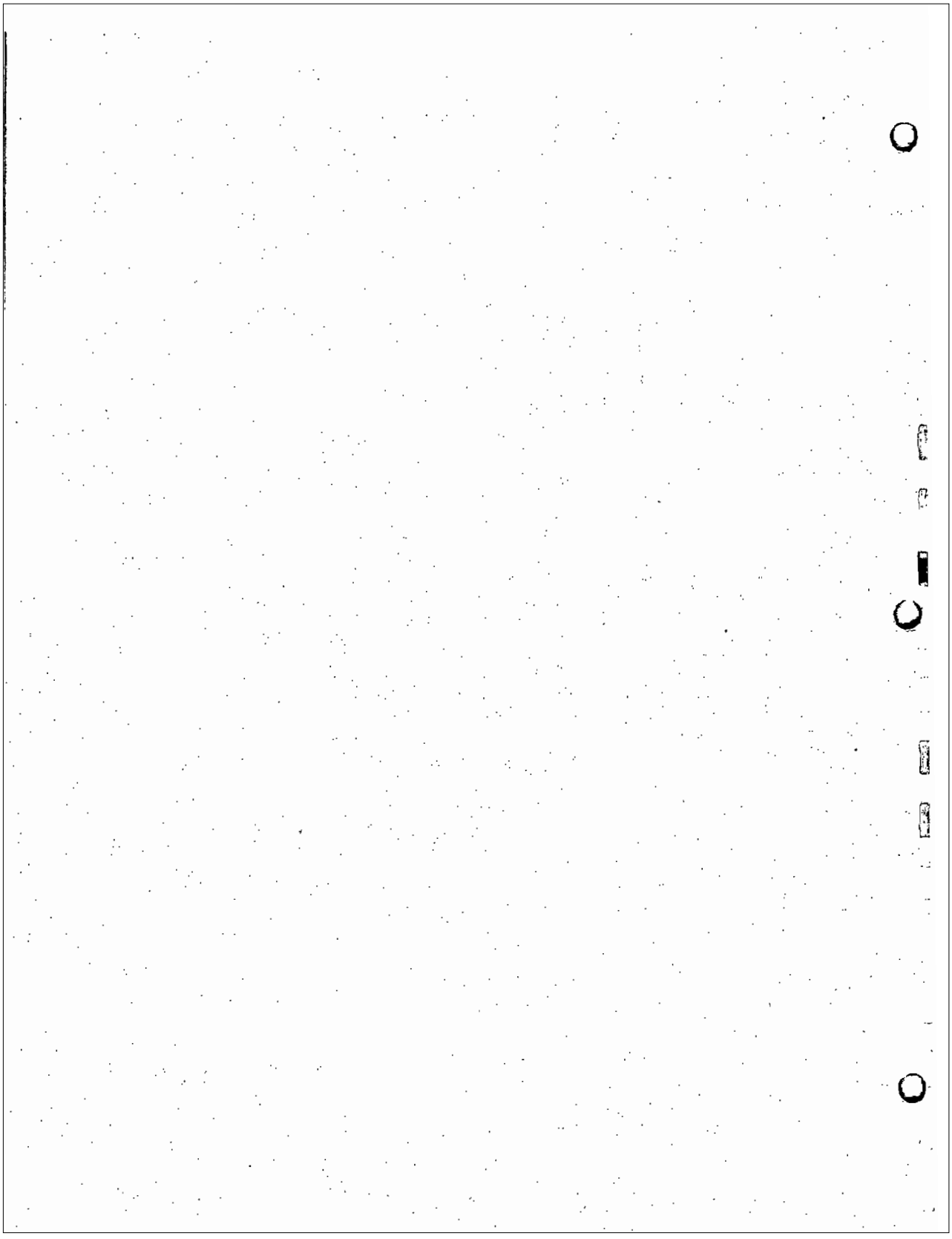


Appendix J

Model EIS Table of Contents

Appendix K

Important Stakeholder Information



APPENDIX K

STAKEHOLDER INFORMATION

Wetlands across Ontario are held in both public and private ownership. As such, they are controlled and managed by government municipalities, ministries and agencies, private organizations and interest groups, and individual citizens.

The following is a list of those stakeholders that are involved in wetlands protection, management and conservation. Those listed could become involved in a particular project as a regulator, a provider of information or as a party interested in the outcome of an EIS. Information was obtained principally from the Wetlands Implementation Guidelines (OMNR & OMMA, 1992), Cox (1993) and Bertulli (1988).

K.1.0 GOVERNMENT

K.1.1 FEDERAL

Environment Canada

Environment Canada issued the Federal Policy on Wetland Conservation on March 9, 1992. The Canadian Wildlife Service (CWS) is the initiating and coordinating agency of this Policy. All departments of the Government of Canada are responsible for its implementation. The objective of the Federal Government with respect to wetland conservation is to:

> *promote the conservation of Canada's wetlands to sustain their ecological and socioeconomic functions, now and in the future.*

The federal wetland policy will apply to any development proposal if:

a) the proposal is for a federal development;
b) the proposal is receiving financial assistance from the Federal Government;
c) the proposal falls under federal jurisdiction and the proponent requires a permit from the Federal Government;
d) the proposal falls within any federal lands or water;
e) the proposal has the potential to impact any federal program; or
f) the proposal affects any federal/provincial agreements or policy.

The Canadian Wildlife Service is involved in the securement and management of migratory bird habitat. It is a partner in the implementation of the North American Waterfowl Management Plan throughout Canada.

North American Wetlands Conservation Council (NAWCC)

The NAWCC, established in April 1990, provides a national forum to oversee the coordination and implementation of Canadian Joint Ventures of the North American Waterfowl Management Plan (NAWMP). The Eastern Habitat, Arctic Goose and Black Duck Ventures are significant to Ontario.

Fisheries and Oceans Canada

The Department of Fisheries and Oceans (Fish Habitat Management) has the responsibility for implementing the Fisheries Act. This Act prohibits the harmful alteration, disruption, or destruction of fish habitat through physical, chemical or mechanical mechanisms. An authorization may be required should habitat alteration be indicated.

K.1.2 PROVINCIAL / MUNICIPAL

Local Municipalities

Many municipalities have protected wetland areas through the land use planning process, as well as management of green spaces, environmentally sensitive areas and parks within their jurisdictions. Some municipalities also have environmental advisory committees (e.g., EEAC, EEPAC) made up of public citizens and local technical experts. These committees generally assist with the review of planning applications.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

OMAFRA is responsible for the implementation of a wide range of legislation and other policies which have an impact on the protection of wetlands. In particular, their involvement with wetlands falls under the Drainage Act.

Ontario Ministry of Culture, Tourism and Recreation

The MCC, through the Ontario Heritage Foundation, protects and communicates the values of wetlands through its program of natural heritage conservation.

Ontario Ministry of the Environment and Energy (MOEE)

The MOEE is concerned with wetlands as they are critical to maintaining base flow in streams and providing other hydrological (surface water quality) and hydrogeological (ground water resources) benefits to citizens.

Ontario Ministry of Municipal Affairs (MMA)

The MMA is responsible for the administration of the Planning Act. As such, it must ensure that the objectives of the Wetlands Policy Statement are implemented.

Ontario Ministry of Natural Resources (MNR)

The MNR has been engaged in wetlands management for several decades. They maintain a comprehensive program of wetlands management which focus on:

a) wetland evaluation;
b) securing of wetland habitat;
c) the Conservation Land Act;
d) waterfowl management;
e) wetland research;
f) planning;
g) management of Crown land wetlands; and
h) administration of other legislation which affects wetlands.

The MNR has a number of management and securement agreements as well as initiatives which focus on acquisition, stewardship and partnerships. The implementation of the North American Waterfowl Management Plan in the Ontario Region of the Eastern Habitat Joint Venture is one such initiative that reflects the broad interests of many partners to protect and improve the waterfowl and biodiversity values of wetlands throughout the province. Partner organizations include Environment Canada, Agriculture and Agri-Food Canada, Ontario Ministries of Natural Resources and Agriculture, Food and Rural Affairs, Ducks Unlimited Canada, Wildlife Habitat Canada and the Nature Conservancy of Canada.

In Ontario, the MNR is responsible for implementing the Fisheries Act. Development proposals are reviewed for their potential to affect fish habitat and are referred to Fisheries and Oceans Canada if harmful alterations are proposed. This federal agency is responsible for issuing authorization.

K.2.0 OTHER AGENCIES

Conservation Authorities (CAs)

CAs work in partnership with the MNR to protect wetlands through evaluation, acquisition and preservation. Where they exist, CAs are responsible for the management of water on a watershed basis. They administer the Conservation Authorities Act which regulates dredging, filling and drainage activities.

Ontario Heritage Foundation (OHF)

The OHF was formed in 1967, as an agency of the Ministry of Culture and Communication to preserve, protect and promote Ontario's archaeological, architectural, historical, cultural, and natural heritage. It is now part of the Ministry of Culture, Tourism and Recreation. Through its Natural Heritage Program, the OHF works with individuals and groups to increase their awareness, understanding and involvement in protection of Ontario's natural heritage, including wetlands.

K.3.0 PRIVATE ORGANIZATIONS AND INTEREST GROUPS

Ducks Unlimited Canada (DU)

Ducks Unlimited is an international, non-profit conservation organization operating in Canada for over half a century and active in Ontario since 1976. Their mission is to conserve, restore and manage wetlands for the benefit of waterfowl and a wide variety of other plants and animals.

Ducks Unlimited works in close cooperation with all federal, provincial and territorial governments as well as with other partner groups such as the conservation authorities, the Nature Conservancy of Canada and the Wye Marsh Centre. They work with farmers and other private landowners in conserving habitat.

Besides habitat projects, Ducks Unlimited is dedicated to education about wetlands. Ducks Unlimited operates the Institute of Wetlands and Waterfowl Research in Canada, Mexico and United States.

As well, Ducks Unlimited has established partnerships with a number of conservation education facilities in Ontario including the Kortright Centre, Wye Marsh, Hillman Marsh and Cooper Marsh.

Federation of Ontario Naturalists (FON)

Since the 1930s, the FON has strongly supported wetland preservation. The FON is an independent not–for–profit nature and conservation organization supported by its membership. The FON has taken a lead role in stimulating and monitoring the wetland policy development process, is involved with wetland acquisition and management and produces educational materials on wetland conservation.

Local Land Conservancy Organizations

There are several local organizations that promote private land stewardship activities and/or have interests in ecologically significant lands, including holding the lands in trust. Some organizations have conducted inventories in natural areas. These organizations may be a source of local information. Organizations with active programs include the Muskoka Heritage Foundation, the Georgian Bay Trust, the Couchiching Conservancy, the Thousand Islands Conservancy, and the Lower Grand River Trust Foundation.

Naturalist Clubs

Local naturalist clubs are present in most parts of Ontario. They are a good source for information and expertise about their local area. Many clubs have records of wildlife and flora that often span many years of ongoing study and documentation.

Natural Heritage League (NHL)

The NHL is a network of private and public agencies related to the identification, protection and management of natural heritage areas in Ontario. Many of these agencies are mentioned in this listing, including the MNR.

Nature Conservancy of Canada (NCC)

The NCC is involved in the acquisition of important natural environment areas in Canada. It is a partner in Ontario with several interest groups and is a partner in projects under the North American Waterfowl Management Plan.

Ontario Federation of Anglers and Hunters (OFAH)

Since its beginning in 1926, OFAH members have been committed to the responsible use of natural resources and the protection and enhancement of fish and wildlife habitats. Its 70,000 members and

480 conservation clubs are actively involved in all aspect of wetland conservation at local, regional and provincial levels. OFAH submitted input into development of the Wetland Policy, Implementation Guidelines, and the Wetland Evaluation Systems.

Ontario Natural Heritage Information Centre (NHIC)

Established in 1993, the NHIC is a joint venture between the Ministry of Natural Resources (MNR) and three partners: Nature Conservancy Canada, Natural Heritage League, and The Nature Conservancy. The centre is located at Trent University in Peterborough, Ontario.

The Natural Heritage Information Centre (NHIC) complies, maintains and provides information on rare, threatened and endangered species and spaces in Ontario. This information is stored in a central repository containing a computerized database, map files and an information library, which are accessible for conservation applications, land use development planning, park management, etc.

Wildlife Habitat Canada (WHC)

WHC is a national, non-profit foundation dedicated to working with private citizens, governments and industry to protect, enhance and restore wildlife habitats including wetlands. It provides funding for the acquisition of significant wetlands, private stewardship initiatives and agriculture-wildlife management issues.

APPENDIX L

LITERATURE CITED AND KEY TECHNICAL REFERENCES

This section provides suggestions regarding further reading under a variety of topics. The Ontario Wetland Evaluation System (OMNR, 1993a,b) and Liebowitz *et al.*, 1992, provide quite useful; detailed reference lists as well. The references were organized into headings specific to several topics. These include:

- Evaluation Methodologies
- Conservation, Policy and Process
- General Wetland References related to Functions, Indicators and Ecology
- Cumulative Effects
- Mitigation / Buffers
- Fish and Wildlife Habitat
- Hydrology

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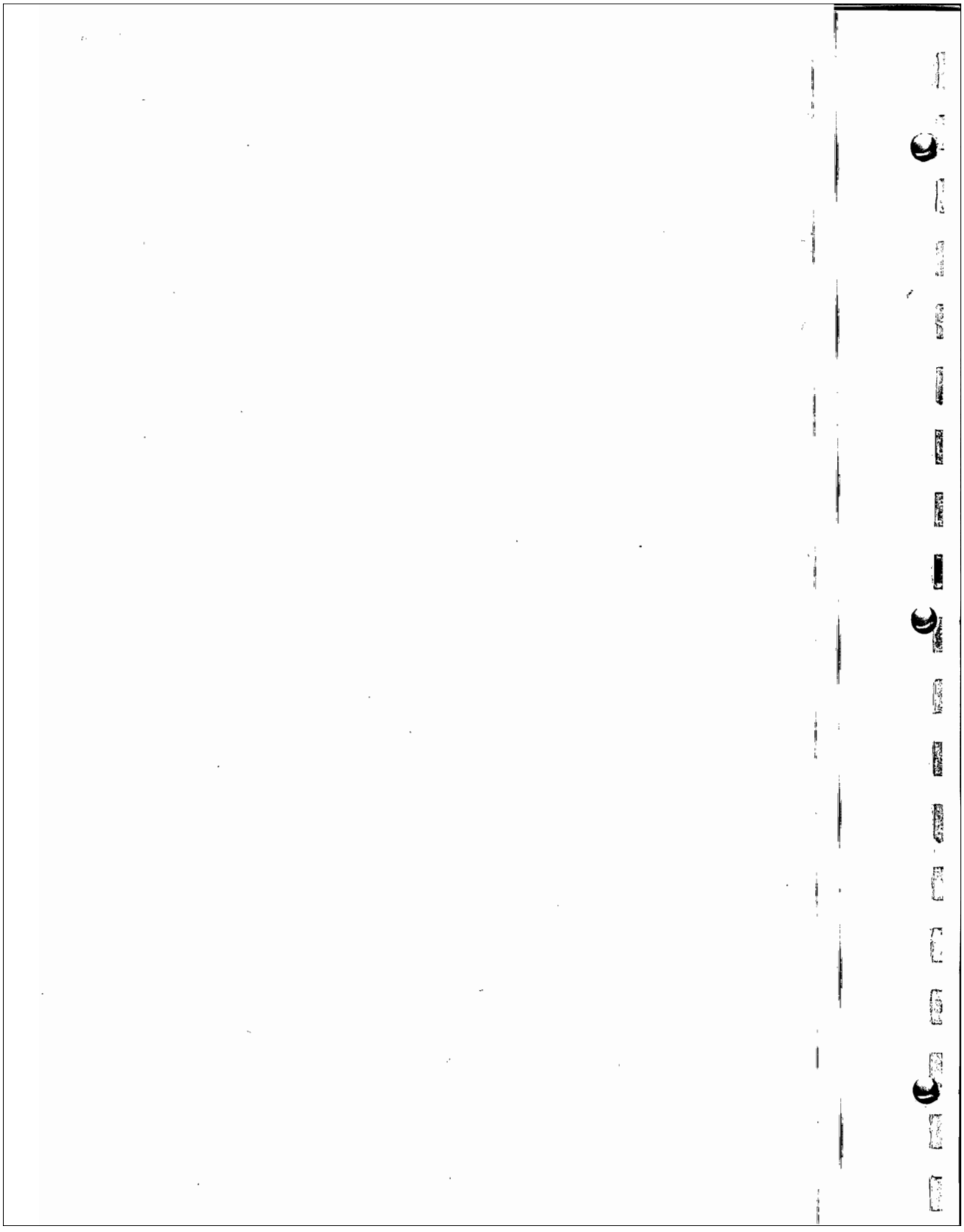


Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022

Comment #	NEECR Section / Page #	Comments & Rationale	Proposed Action/Solution	Project Team Response (January 11, 2023)	MNRF Follow-up Response to Project Team (March 6, 2023)	Project Team Response to MNRF (September 19, 2023)
MNRF – 8 Peatlands	p. 153 section 7.3.3	MNRF is required to consider its Statement of Environmental Values when making environmentally significant decisions, including consideration of Climate Change (e.g., supporting efforts to enhance carbon sequestration and storage by natural environments). The Hudson Bay Lowlands is the second largest peatland in the world and plays a pivotal role in mitigating against warming temperatures. Given their national and internationals significance, and the potential for the road project to impact on peatland function, it is important that appropriate baseline information about peatland carbon and greenhouse gases is presented in the EA to inform the assessment of potential effects of the road on their ability to sequester carbon, potential effectiveness of proposed mitigations to address any loss of function, and to inform future, long-term monitoring. The Natural Resources Canada's carbon modelling websites provide insight into the interest and effort to include peatlands into Canada's carbon reporting of land-use, land use change, and forestry. This resource may be of value when considering the baseline condition and importance of the region. See: https://www.nrcan.gc.ca/simply-science/natural-solutions-climate- change/21544; and https://cfs.nrcan.gc.ca/publications?id=37017 The following papers may also help to inform parameters to measure: Bona et al. 2020 The Canadian model for Peatlands (CaMP): A peatland carbon model for national greenhouse gas reporting. Ecological Modelling, 431, 109164 https://www.sciencedirect.com/science/article/pii/S0304380020302350 Harris et al. 2021. The essential carbon service provided by northern peatlands. Frontiers in Ecology and the Environment. 20(4): 222-230. https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2437?utm_campaig n=R3MR425&utm_content=LifeSciences&utm_medium=paidsearch&utm_sou rce=google	Please provide baseline conditions of carbon and greenhouse gasses for the study area for which the impacts of the project can be evaluated against.	The concept of carbon sequestration that existing wetland and forest provide within the study area has been added to Section 7.3.3. The quantification and assessment of whether the Project brings an increase and/or decrease in carbon sequestration and storage and GHG emissions will be documented in the EAR/IS.	MNRF appreciates that a section on carbon sequestration has been added to the report and looks forward to reviewing this revised section as part of the future EA/IS review package. Please ensure the methodology for the quantification and assessment of carbon sequestration, storage and GHG is well explained in the future EA/IS. This will help enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document.	Noted.
MNRF – 12 Natural Heritage	9. Vegetation and Wetlands p.259	Quantify, delineate, and describe wetlands (fens, bogs, peatlands, etc.) […] A) Will swamps and marshes also be quantified, delineated, and described? How will peatlands be defined? Clarity is requested given each additional wetland type that falls under the etcetera can entail a substantial amount of work. There needs to be a clear understanding of the work that is being proposed and associated rationale B) Is Significant Wildlife Habitat being captured under this as well if associated with plant species? What about Areas of Natural and Scientific Interest (ANSIs)?.	A) Please elaborate on what the etcetera shall include. B) Please address what features will be considered as a part of this section at the outset.	The text referred to has been revised to read: • "Identification and description plant species and/or plant assemblages of conservation concern (i.e., plants listed as species at risk, locally rare communities, designated sensitivities such as Areas of Natural and Scientific Interest (ANSI's) or Provincially Significant Wetlands (PSW's)) or have Indigenous cultural importance; and • Quantify, delineate, and describe wetlands (e.g., peatlands such as fens, bogs, swamps, marshes.), including their functions and ecological services in the project area (e.g., hydrological, hydrogeological, water quality, flood protection, species richness, and wildlife usage)."	Thank you for revising the text to include mention of swamps and marshes as parts of the wetlands to be assessed. MNRF looks forward to reviewing this revised section as part of the future EA/IS review package. Please provide more information on how you intend to identify PSWs in the project area as the current Ontario Wetland Evaluation System does not apply within the Far North. What assessment method is the project team proposing to use to make this determination? Providing detailed explanation in the future EA/IS will help enable MNRF and other reviewers to determine of the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document.	The identification of official PSW's and conservation concern vegetation communities, rare species and species that have a subnational ranking provincially (i.e., S1-S3 and SH) is entirely based on published Federal and Provincial data. SARA, and COSEWIC and Geohub provincially tracked species (1km grid) datasets were used to identify potentially rare species in the area. PSW, and Conservation concern vegetation communities data (plant communities, wildlife concentration areas and natural areas) were derived from The Ontario Natural Heritage Information website. Currently there are no plans to make a determination of wetland status (i.e., Provincially Significant Wetlands) as part of the Project vegetation program since there are no officially accepted methodologies in place to make that determination for PSW's within the unique project study area/Hudson Bay Lowlands (see OWES). Efforts were made to locate conservation concern vegetation communities and species that have a subnational ranking provincially (i.e., S1-S3 and SH). None of the surveyed ecosites are considered provincially rare according to NHIC and no vegetation communities ranked S3 or higher were identified. Based on our field sessions and mapping, locally rare communities include: Hardwood Forest (14 sites), Mixed Forest (21 sites), Hardwood Swamp (1 sites), Meadow Marsh (4 sites), and Open Water Marsh (2 sites). These were the only occurrences identified at a mappable scale across the 5686 mapped features within the LSA+RSA. The combined area of these

				Significant Wildlife habitat is captured in the wildlife and SAR sections (10 and 11). This section does utilize wildlife usage information as part of the wetland function assessment. Text has been revised to provide clarity.	Also, will the project team be identifying and describing conservation concern vegetation communities and species that have a subnational ranking provincially (i.e., S1-S3 and SH) as part of the assessment of the impact of the project on vegetation communities? Including this information in the future EA/IS will help enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn about impacts the project will have on these features and the effectiveness of monitoring and mitigation options presented to minimize any potential impacts.	communities occupy approximately 544.6 total ha (or 0.43%) of the 133921.55 ha found within the LSA/RSA. We note that these communities may occur in greater quantities but are difficult to map as they may be complexed with other larger vegetation communities (e.g., Conifer forests or Swamps, and shoreline fen/swamp/bog complexes).

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MNRF - 13 Natural Heritage	9.1 Spatial Boundaries p.259 (In Vegetation and Wetlands Section 9)	Local Study Area – extends 1 km from the centreline of the supply road route Alternatives 1 and 2, and 500 metres (m) from the temporary or permanent supportive infrastructure. The ToR states that "The boundaries of each LSA will extend a specified distance from the project footprint boundary to capture the direct and nearby indirect effects on an environmental component/criterion". As road and supporting infrastructure width may vary, it is recommended that the 1 km and 500 m study area be applied to the Project Footprint boundary rather than the centreline to ensure consistent vegetation and wetland consideration along the entirety of the project. Alternatively, the LSA could be delineated to better reflect ecological features and functions. In particular, wetland communities can be very susceptible to changes in water flows. Road developments situated within wetlands have the potential to significantly change the adjacent wetland communities depending on whether the infrastructure provides for an adequate movement of water. Now that wetland mapping has been refined, we suggest that the LSA be modified to reflect identified wetland features/complexes where they extend beyond the current LSA 1km or 500m boundary to ensure direct impacts to a contained ecological unit are considered .	Please align the LSA to be consistent with the description in the ToR (as a minimum commitment). Alternatively, we recommend that the refined wetland mapping be used to further refine the extent of the potential direct effects (i.e., LSA) – particularly within wetlands. Where this is not considered, please describe how the EA will address the direct impacts to these wetland features that extend beyond the current 1km/500m LSA.	The Local and Regional Study Areas (LSA/RSA) defined for the vegetation program are designed to inform sampling selection and detailed baseline characterization and will be used for the effects assessment. Although general study areas are defined int the ToR they are intended to be refined and selected with input from engagement and consultation early in the EA/IA process. Note that the study areas for other disciplines/Valued Components (VCs) may differ such as surface water which extend beyond the study area limits defined for vegetation. For example, the RSA for surface water/ hydrology is the "combined area of the quaternary watersheds crossed by the supply road route Alternatives 1 and 2". Pathways and linkages of vegetation with other VCs will be described in Environmental Assessment Report / Impact Statement (EAR/IS).	The response provided about the difference in the LSA and RSA from the ToR to the NEECR does not directly address MNRF's comment/concerns. MNRF's perspective is that this different approach to the study area boundary can yield a significant difference in the overall area being studied for impacts. For example, specifications for the width of the future roadway right-of- way (RoW) have not yet been confirmed and are likely to vary at different segments along its length. This variable RoW width could potentially result in a large amount of landbase (habitat features, water bodies, etc.) no longer being captured within the LSA parameters if the LSA is measured from the centreline. Furthermore, forgoing an assessment of impacts from ROW boundary line could reduce the built-in flexibility of the EA/IA (i.e., for effects assessment and also future permitting) if the ROW needs to move to address an encountered issue. MNRF is not requesting further baseline data collection at this time; however, more rationale is requested about how the change to working from the centreline of the supply road route alternatives rather than from the Project Footprint boundary will not limit the validity of the effects assessment and conclusions drawn about the impacts the project is expected to have on natural heritage values.	The LSA and RSA were determined prior to the development of the road profile and finalization to the ROW for any of the 3 alternatives being examined. The anticipated PF is approximately 35 m (17.5 m to either side of the centerline) with laydown areas. The LSA and RSA were calculated, at 1km and 6km respectively, from the centerline of all alternative alignments resulting in significant overlaps. The combined LSA's were aggregated into a single LSA and holes/gaps between the resulting LSA's were included as part of the total LSA which is approximately 2.2 km wide in areas where the alignments coincide and almost 4.3 km at the most divergent point. This relationship is similar for the RSA. Given that in most case the excess values (200m and 2.3km) are significantly larger than the potential shortfall if 17.5 m resulting from not using the ROW as a starting point. At those points, north or south, where the alignment of a particular alternative results in only a 1km and 6km (LSA and RSA) from the centerline, a 17.5 m shortfall will occur. That said the majority of effects will be calculated within the LSA and the shortfall will be captured by the RSA extent.

Webequie Supply Road - Comments Received on WSR Draft Natural Environment Existing Conditions Report (NEECR), June 2022

MNRF -16 Natural Heritage	9.2.3 Field Survey Site Selection p.265-	.2019 Survey Site Selection Site selection was done manually and sampled 43 discrete vegetation units, representing 21 different vegetation classes. . 2020 Survey Site Selection Random sample with some modification to capture a very limited number of extremely rare vegetation classes and landforms. 37 sites sampled, representing 30 different vegetation classes. 9.2.3.3 2021 Survey Site Selection Balanced spatial dispersion was used to identify 50 additional sites to sample in 2021, representing _____different vegetation classes. The intent of the field program could be better explained in the Methods. Our understanding is that the intent of the field surveys is to support vegetation mapping in the study area. Despite the challenges to access field sites and the changes to field site selection design, did the sampling conducted throughout the 3 field seasons meet the intended sampling targets? It is unclear whether the number of field plots surveyed impacted the confidence of the results -	Please provide a breakdown of the number of samples for each vegetation class (and include in the results the # of sites actually visited) so the reader can make inferences on the robustness of the data. Please report on whether the number field sites sampled impacted the confidence of the results.	Tables 9.4 and 9.5 provides summaries of 2019-2021 Field Program Ecosite Sampling Plots by vegetation class. Section 9.3.3.1 provides an assessment of the statistical accuracy of the sampling program vs the mapped vegetation classes. In our opinion the sampling conducted to capture seasonal variation over a 2-year period provides a reasonable level of confidence in the resulting typing, although not completely meeting the objective targeted number of samples. As per Section 9.3.3.1 indicates: "By Revision 4 accuracy had improved considerably, with an overall accuracy rate of 85%"	Thank you for identifying where this information can be found. To support the review of the EA/IS when it is submitted, MNRF requests that tables be referenced within the text for greater clarity, ease of finding relevant information, and making it easier to track information presented, i.e., we suggest that the tables should be referenced alongside the numbers provided within the text, if they provide the targeted vs. accomplished site selection information. Greater clarity and rationale are still requested regarding the methodology behind each survey selection, and why selection methods changed from year to year. Is it currently the intent of the field programs to inform vegetation mapping? Or are there additional reasons for the selections made? Providing more information in the future EA/IS about site selection for vegetation will better enable MNRF and other reviewers to determine the validity of the effects assessment, conclusions drawn, and the monitoring and mitigation presented in the document.	The vegetation field program was initiated prior to the receipt of the TISG and site selection was based on acquiring an adequate sampling of the initial mapping and typing. The following year, following receipt of the TISG and the requirement a stratified random sampling design, a random stratified Sampling Design Tool for ArcGIS, developed by NOAA was used. In 2021, we acquired the services of biostatistician Rob Rempel (FERIT Environmental Consulting). He looked at the NOAA tool and suggested that a the GRTS sample design tool would be better suited to the requirements. This was then used in conjunction with the sites already sampled to select the 2021 sampling locations. Following the final mapping revision, statistical analysis was conducted to determine the accuracy of the mapping. The accuracy assessment used methods typically applied in assessment of raster maps, but because assessment was based on polygon values rather than raster cells, sample size was much smaller than if raster maps were used. This also gives the impression that a very small area was assessed, however a single polygon can encompass a fairly large area. The polygon maps could have been rasterized to create a larger sample size by selecting multiple homogeneous pixels within a delineated field survey polygon, but accuracy results would not have changed. In addition, analysis based on a sample size of 40 points was sufficient to estimate a reasonable 95% confidence interval (0.702 - 0.943) for the estimated 85% overall accuracy.
MNRF - 19 Natural Heritage	9.2.4.2 Wetland Ecosystem Surveys p.276	*[...] and inform the determination of the function and conservation status of the wetland types at a local, regional, and provincial level.* The report does not appear to define the various conservation statuses and how the local, regional and provincial designations are assigned. It is unclear whether the soil investigations documented the depth of organics as part of the sampling program.	Please outline and define various conservation statuses and how local, regional, and provincial levels are being assigned. Please clarify whether the soil investigations also document depth of organics. If the depth of organics was not collected, please provide rationale.	The subject statement is incorrect and has been removed. The determination of Regional and Provincial conservations status is determined using existing official designations such as ANSI, PSW or NHIC rankings (See Section 9.3.5). The determination of locally rare is not an official designation since none exist in the study area. This designation is project driven, based on the rarity within the study area. The soil investigations were carried out as per the ELC methodology using a 1m core sampler, which has been clarified in text. Information on the actual depth of organics at selected locations can be found in Section 4.3.2.3: Terrain and Soils.	MNRF appreciates this correction being made and more details being provided about the soil investigation methodology; we look forward to reviewing this revised section as part of the future EA/IS review package. Please note that locally and regionally rare species are not designated by NHIC rankings or through PSW evaluations (and, to MNRF's knowledge, there have been no PSW evaluations completed in the geography of the project). Please correct any statement in the revised Section 9.3.5 as required. Rare species may have been noted in approved or candidate ANSI check sheet reports. If the project team is interested in such data, MNRF can investigate whether this information can be made available. Given the lack of data, available assessments and research conducted in the project area (i.e., the area has not been well-studied), the statement that there are no locally rare species in the study area may not be true. It is possible that locally and regionally rare species are present; an assessment would need to be completed to make that determination. As such, MNRF continues to request greater clarity and rationale about the methodology being followed to identify or assign local and regional designations.	Understood. Rare species and species that have a subnational ranking provincially (i.e., S1-S3 and SH) is entirely based on published Federal and Provincial data. **SARA**, and **COSEWIC. NHIC** Geohub provincially tracked species (1km grid) datasets were used to supplement these datasets and help identify potential occurrences within the study area. We found no recorded ANSI or PSW occurrences within the study area. The closest was the Attawapiskat Upriver Section Life Science Candidate ANSI 15km to the east. We would appreciate any information that could be provided for this The text has been revised to describe that two S2-S4 species of vascular plants and four lichens identified in Ontario for the first time, were identified in range of the study area but were not identified by field surveys. McCalla's Willow (Salix maccalliana- S3), located near the Webequie community and Quill Spikerush (Eleocharis nitida – S2), (Lathagrium undulatum var. granulosum (Degel.) M. Schulz & McCune – S4?), and (Ephebe hispidula (Ach.) Horw – SU located near the Attawapiskat River, and (Chaenothecopsis marcineae Selva – S4) and (Epilichen scabrosus (Ach.) Clem. ex Hafellner – SU), located near the Muketei River. Official local and regional designations are based on published information.

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MNRF-20 Natural Heritage	9.2.6 Riparian Ecosystem Surveys p.277	It is unclear what a level 1, 2 and 3 assessment is. The wetland assessments conducted in the Far North are based on evaluations methods from the United States (Wisconsin and Minnesota).	a) Please describe and define what a Level 1, 2 and 3 assessment is, and what combination was utilized and why. Please describe how the wetland evaluation methods developed for conditions much farther south in the United States have been adapted to conditions in the Far North.	The Vegetation Study Plan prepared early in the EA/IA process was designed to provide a preliminary description of the approach for discussion. As worked proceeded aspects of this approach proved problematic and were revised. It is acknowledged that the methodology section of the draft NEECR does not adequately reflect the changes made to the Study Plan, which has evolved. Upon review of the Wetland Functions Assessment Approaches, in Section 4 of the WEFAOA, a tiered approach was considered to be the most viable way forward in determining the final approach for use in the Project. The tiered assessment is comprised of three levels of detail: Level 1: Landscape Level - considers the broader landscape (e.g., regional study area) to identify the relative importance of wetland functions within the landscape using the relative abundance of wetlands in the landscape to provide a	Thank you for the additional information about the tiered assessment approach. MNRF has further questions about the approach and the rationale for it use in the WSR environment which the ministry would like to see addressed. Specifically, going forward please provide a more detailed breakdown of the assessment components being used for the Wetlands Function approach for Level 1 and Level 2/3 assessments alongside the descriptions provided by the Project Team in its response. This breakdown should identify the sections of each assessment protocol that were used along with the rationale for using that section for a given wetland function assessment level (at present, it is unclear which	For clarity, it is agreed that the methodology section of the draft NEECR did not adequately reflect the changes made to the final approach used to determine wetland function, and it has been revised to clearly describe the current approach to assess functions of wetlands found within the Project study areas. Please see revisions below that will be reflected in the final NEECR and/or in the draft EAR/IS: Upon review of the *Wetland Ecological Functions Assessment: An Overview of Approaches* (Hanson et. al., 2008) (WEFA), it was determined that a landscape level Wetland Function Assessment was the most appropriate methodology to apply to the wetlands found within the project study areas. The following approaches/methodologies were reviewed prior to reaching this conclusion: ***Level 1: Landscape Level*** - considers the broader landscape (e.g., regional study area) to identify the relative importance of wetland functions within the landscape using the relative

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				description of the various wetlands in relation to other wetlands (Hanson and Calkins 1996). Level 2: Rapid Assessment – These are assessments that have been developed to streamline the site assessment process using standardized data collection "Check Lists" that are designed to capture various observable wetland functions. Numerous methods have been developed in the form of Wetland Evaluations, and more defined Provincial and State Rapid Assessments; and, Level 3: Detailed Assessment - Kusler (2006) listed seven different groups of detailed assessment models (Approaches (WEFAOA: Hanson et. al., 2008). These include detailed field observations, hydrologic and hydraulic models, stream hydrologic geomorphic stability, Index of Biological Integrity (IBI), wetland replacement evaluation procedure, Hydrogeomorphic Approach (HGM), and area wide assessments. A review of the data requirements and applicability of the levels listed above was then conducted to inform field data collection, and the further development of the Wetlands Function approach. The following approaches were reviewed: ***Level 1: Landscape Level*** USACE - Wetland Evaluation Technique (WET) Hydrogeomorphic (HGM) Approach to Assessing Wetland Functions: Guidelines for Developing Guidebooks (Version 2) ***Level 2/3: Rapid/Detailed Assessment*** Ontario Wetland Evaluation System – Northern Manual (OWES) Minnesota Routine Assessment Method (MnRAM) Evaluating Wetland Function, (Version 3.4, 2000) Functional Assessment of Wetlands - Introduction to Nova Scotia Wetland Evaluation Technique (NovaWET 3.0) Wisconsin Wetland Rapid Assessment Methodology (Version 2.0, WDNR, 2014) *Alberta Wetland Rapid Evaluation Tool –Actual (ABWRET- A, 2015)* Following initial field investigations and attempts at using these methods, it was determined that their suitability for the study area and sampling sites were not meaningful in terms of assessing wetland function for the Project. For example, according to the Ontario Wetland Evaluation System, (OWES) Northern Manual, Version 1.2, "as one moves north into the boreal forest and into the Hudson Bay Lowlands, extensive wetlands, often covering hundreds of square kilometres, dominate the landscape, (as a result the OWES) evaluation system cannot be used to evaluate these extensive wetlands and they must be protected through other mechanisms such as Provincial Parks, Conservation Reserves, and ANSIs, etc." The methodologies outlined require inputs for data that are targeted at the assessment of discrete wetland parcels within a fragmented or developed landscape. As a result, many of the criteria required for these functional assessments were either not applicable, or would yield identical results for all wetland types, limiting their ability to differentiate function. Many other criteria were not able to be answered for the sites sampled as they required data that cannot be collected in a single visit; rather they are designed to be collected from a single site continuously throughout a sampling season. Given the location of the project study area this approach is untenable given that approximately 90% of the RSA is categorized as wetland occupying huge wetland complexes interspersed with open water bodies (6%), and small upland areas (4%).	component(s) of the listed sources are being applied). The wetland function approach is based on criteria derived from the Wetland Ecological Functions Assessment (Section 9.4.1), which was produced by the Canadian Wildlife Service for Atlantic Canada. Please provide rationale for why this assessment approach is being used in this geography. Providing the above information will better enable MNRF and other reviewers to determine the validity of the effects assessment, the conclusions drawn about impacts the project will have on vegetation features (including wetlands), and the monitoring and mitigation options presented to minimize any potential impacts. Moving forward, please consider these two resources in the tiered assessment if they haven't already been considered by the project team: Wetlands of the Hudson Bay Lowland: An Ontario Overview by John L. Riley, Nature Conservancy of Canada, 2011. Canadian Wetland Classification by the National Wetlands Working Group, 1st Edition 1997 (referenced as a background information source, but not mentioned within the response as one of the referenced assessment approaches).	abundance of wetlands in the landscape to provide a description of the various wetlands in relation to other wetlands (Hanson and Calkins 1996). • USACE - Wetland Evaluation Technique (WET) • Hydrogeomorphic (HGM) Approach to Assessing Wetland Functions: Guidelines for Developing Guidebooks (Version 2) ***Level 2/3: Rapid/Detailed Assessment*** – are either, assessments that have been developed to streamline the site assessment process using standardized data collection "Check Lists" that are designed to capture various observable wetland functions, or include detailed field observations, hydrologic and hydraulic models, stream hydrologic geomorphic stability, Index of Biological Integrity (IBI), wetland replacement evaluation, Hydrogeomorphic Approach (HGM), and area wide assessments. The WEFA (Hanson et, al., 2008) listed a number of different groups of rapid and detailed assessment models which were reviewed for applicability to the current study area conditions: • Ontario Wetland Evaluation System – Northern Manual (OWES) • Minnesota Routine Assessment Method (MnRAM) Evaluating Wetland Function, (Version 3.4, 2000) • Functional Assessment of Wetlands - Introduction to Nova Scotia Wetland Evaluation Technique (NovaWET 3.0) • Wisconsin Wetland Rapid Assessment Methodology (Version 2.0, WDNR, 2014) • *Alberta Wetland Rapid Evaluation Tool –Actual (ABWRET- A, 2015)* Following a review of the data requirements of the rapid/detailed assessment levels listed above it was determined that the suitability of these methods was not appropriate for the James/Hudson's Bay Lowlands wetland environment found within the study areas. The LSA and RSA for the study area is almost entirely composed of vast wetland complexes which comprise 80.76 % of the mapped vegetation classifications, and the RSA is categorized as wetland occupying huge wetland complexes interspersed with open water bodies (6%), and small upland areas (4%) mainly found in the western and eastern portions of the study area. These methodologies request data inputs are targeted for the assessment of discrete wetland parcels within a fragmented and/or developed landscape. As a result, many of the criteria required for these functional assessments were either not applicable, or would yield identical results for all wetland types, limiting their ability to differentiate function (e.g., distance to nearest upland, proximity to development/ disturbance, contamination/effluent inputs etc.). Many of the geophysical criteria also proved to be problematic. Given the mosaiced nature of the wetland system encountered it was concluded that information of hydrologic flows would be extremely difficult to capture and calculate since the majority of the discreet wetlands demonstrate dispersed inflow and outflows over the majority of their boarders, and those wetlands with channel definition also exhibited these dispersed flow characteristics in the study areas. The unsuitability of standard methods for evaluating wetland function in the Project study areas is explicitly stated in the Ontario Wetland Evaluation System, (OWES) Northern Manual, Version 1.2, which states: "as one moves north into the boreal forest and into the Hudson Bay Lowlands, extensive wetlands, often covering hundreds of square kilometres, dominate the landscape, (as a result the OWES) evaluation system cannot be used to evaluate these extensive wetlands and they must be protected through other mechanisms such as Provincial Parks, Conservation Reserves, and ANSIs, etc." The data requirements of a Wetlands Function Analysis also require the collection of multidisciplinary biological criteria (e.g., wildlife, fish, amphibians, soils, hydrology/groundwater) which are collected separately by the respective discipline teams each of which have specific sampling programs and site location distribution requirements that were typically not assessed at the same location, as those selected (as per Stratified Random Sampling requirements) for the Vegetation and Wetlands program. As a result of the above noted issues and challenges, it was determined that a modified landscape level assessment of wetland function was the most appropriate approach for the

				The level of individual sample site data requirements was also problematic given the remote nature of the study area and logistical issues and the need to provide a vegetation and wetlands sampling program that both met the Random Spatial Distribution requirements outlined in the TISG and also robust enough to adequately type vegetation within the study area to support the EA/IS effect assessment. The data requirements of a Wetland Function Analysis also require the collection of multidisciplinary criteria (e.g., wildlife, fish, amphibians, soils, hydrology/groundwater) which are collected separately by the respective discipline teams each of which have specific sampling programs and site location distribution requirements that were typically not assessed at the same location, as those selected for the vegetation and wetlands program, as these separate individual programs are designed to ensure they capture their respective targeted data needs across the LSA and RSA. Consequently, these data sets do not yield satisfactory or complete results when attempting to incorporate them into the functional assessment methodologies reviewed. As a result, it was determined that a modified landscape level assessment of wetland function was the most appropriate approach for the Project.		Project. Three approaches/modifications were used/made to define the Functional Rating for the values selected. This involved either an assignation of ratings based on published information (as used in WET), spatial analysis, and/or statistical modelling. Below is a description of each value examined and the source of the Functional Assessment ratings: • Maintenance of Characteristic Hydrologic Regime (Flood / Stormwater/ Attenuation /Shoreline Protection) from published papers/studies and spatial analysis • Biogeochemical/Water Quality Functions (nutrient cycling, biomass production, soil production) from published papers/studies • Carbon Sequestration/Exchange and Climate Regulation from published papers/studies (Climate Change Team) • Groundwater Recharge/Discharge – field data and published papers/studies (Groundwater Team Mapping) • Maintenance of Vegetative and SAR Vegetation Diversity/Integrity - field data and statistical modelling • Maintenance of Characteristic Breeding Bird Wildlife Habitat - field data and statistical modelling (Wildlife Team) • Maintenance of Characteristic Waterfowl Bird Wildlife Habitat - field data and statistical modelling (Wildlife Team) • Maintenance of Characteristic Mammal Wildlife Habitat - field data and statistical modelling (Wildlife Team) • Maintenance of Characteristic Amphibian Habitat - field data and statistical modelling • (Wildlife Team) • Maintenance of Characteristic Fish Habitat – spatial analysis (Aquatic Team) • First Nations/Public Uses/Aesthetics/ Recreation/Education, and Commercial Uses The following methods were used to determine the geophysical, ecological, and traditional/socio-economic functional values of the wetlands in the study areas. ***Geophysical Wetland Functions*** In addition to qualitative descriptions of wetland relative functional value, landscape level (Tier 1), semi-quantitative assessments (i.e., ordinal values) were modelled in R to assess specific wetland geophysical functions in terms of probability that specific wetlands (ELC polygons) provide functional value. Relative probability values were based on a review of published literature and other environmental assessments, and were assigned to wetland types, ranging from 0 to 1. The hydrology (flood attenuation/erosion protection), hydrogeology (recharge/discharge), biochemical nutrient cycling, water quality, carbon sequestration, and climate regulation functional values were estimated based on a review of published scientific papers and studies, as well as other environmental assessments in similar environments. The details of the rationale for the ordinal values are discussed in Sections 9.4.2 to 9.4.6 of the NECCER, and the value assignments are found in Tables 9-18 (Flood Attenuation/Erosion), 9-19 (Groundwater Discharge/Recharge), 9.20 (Biochemical/Nutrient Cycling and Water Quality), and 9-21 (Carbon Sequestration and Climate Regulation Potential). These ordinal values are based on a simple relationship that was established between qualitative value and relative probability of the specific wetland type providing high functional value: i.e., high (1), moderate/high (0.8), moderate (0.6), low/moderate (0.4), and low (0.2). The modelled values are then mapped at the ELC polygon level and extrapolated across the RSA, LSA, and PF/PSA. Models are applied to individual wetlands, then weighted averages calculated across the 3 study areas. In addition to providing a landscape level baseline assessment of functional value, the functional probabilities provide a high-level starting point for functional loss assessment, as the weighted-averages can be recalculated after proposed road-development options are overlayed on the baseline map in the GIS, resulting in either changes or losses to specific wetlands. Functional value averages would again be calculated at the RSA, LSA, and the final PF scales to assess percent change in the semi-quantitative estimates of relative functional value.

						Note that the collection of site-specific information on surface water and groundwater are presented in Sections 5 and 6 of the draft NEECR and includes information on field studies to evaluate water chemistry, discharge/recharge, water flow, flood attenuation, soil/peat characteristics, local hydrology, and hydraulic connectivity, and those details are not repeated in Section 9. More detailed hydrologic and carbon/climate, and nutrient cycling data collection and modelling procedures will be defined as part of the development of the monitoring program to be outlined in the draft EAR/IS. This will include commitments to collect supplemental baseline data during the future detail design phase of the Project (pre-construction) and monitoring program during construction and post-construction (operations and maintenance phase) to assess how the Project may alter the capacity of wetlands to perform hydrological, biochemical, habitat, and climate functions by comparing existing functions (pre-project) with predicted functions (post-project). ***Biophysical Wetland Functions*** The biophysical functional habitats are those resource areas, or wetland types that provide life-history needs of a plant or animal, and the functional assessment is the process by which the value of resources is estimated. Using data acquired during the conduct of the wildlife and vegetation field programs, a statistical modeling technique termed the Resource Selection Function (RSF) has been used to provide the ability to quantity the absolute or relative probability that a plant or animal animals uses a specific resource (e.g., wetland or landcover type) (Manly 2002, Johnson et al. 2006, Lele et al. 2013). This also supports the TISG biodiversity analysis requirement to document the strength of habitat associations and spatial patterns of occurrence. Note that abundance and density will be modeled as part of the wildlife portion of the NEECR using related techniques. The proposed RSF modeling technique can be used to quantify the importance of various environmental factors, such as wetland types, conifer forest, or eskers, and to predict the distribution and importance of habitat and how that functional habitat supports biodiversity. Such habitat models can then be easily incorporated into a GIS platform to produce distributional maps of species as a function of resource types, and to map change (e.g., loss) of functional habitat as a result of proposed development activities. This approach supports the wetland function and biodiversity analysis of flora and fauna within the study areas, and by integrating spatial maps of future development activities allows for quantitative assessment of possible impacts on biodiversity, including distribution and habitat value assessed across multiple spatial scales. These RSF predictions of high/low value habitat (at a species level) constitute one of the metrics used for assessment of existing biodiversity functional value and estimating potential future negative impacts on these values. The functional values for the maintenance of fish habitat were derived using spatial analysis to determine the relative level of interaction with open water fish habitat. The values were then enumerated to provide a numeric scale for the final assessment of functional values as follows; high (1), moderate/high (0.8), moderate (0.6), low/moderate (0.4), and low (0.2). To normalize the values of the modelled and semi-quantitative indices, values for each class were summed, and a quantile classification was applied to develop the final functional rating. The final functional values, by ELC polygon within the study areas are shown in the draft NEECR (Section 9). ***First Nations/Public Uses/Aesthetics/ Recreation/ Education, and Commercial Uses*** There is not enough project-specific data for this value component within the study areas to adequately apply to the wetlands function assessment. For this assessment, the limited data sets that are available (Indigenous knowledge and land and resource uses) will be used as surrogate for the ecological attributes/functions of these wetland environments with context that the majority of potential uses of wetland are by Indigenous peoples and is closely related to harvesting of plant and animals for food, medicinal, and spiritual uses. To do this assessment, the typical grouping of ecological indicators to derive a single ecology indicator of wetland function will not be applied. Instead, each of the ecological indicators (waterfowl, breeding birds, mammals, vegetation, and fish/amphibian habitat maintenance) have been considered separately, with

						equal weight in determining the final functional values of the wetlands. The Project Team is of the opinion that the landscape level functional models currently developed are sufficient for characterization of existing conditions and determination of net effects that will be documented in the EAR/IS. As discussed earlier, more detailed hydrologic and carbon/climate, and nutrient cycling data collection and modelling procedures will be defined as part of the development of the monitoring program to be outlined in the draft EAR/IS. For example, once the final PF/PDA are defined, then a more detailed functional loss assessment can be conducted for specific values during the effect assessment stage of the Project. For example, hydrologic modelling of changes in flood attenuation can be conducted using techniques such as those used in the HEC-HMS (Hydrologic Engineering Center's Hydrologic Modeling System). For carbon/climate functional loss assessment, the functional value of wetlands in the study areas in terms of carbon sequestration will be estimated using the Fluxnet data network (e.g., FLUXNET Canada Research Network - Canadian Carbon Program Data Collection, 1993-2014 (ornl.gov)) to provide carbon flux tower-estimates for boreal wetland type found in the study area. Models would be developed in R using in part the lloyd_taylor() function from the FluxNet package to estimate carbon flux based on the Lloyd-Taylor method. It takes the Net Ecosystem Exchange (NEE), Photosynthetically Active Radiation (PAR), and Air Temperature (Tair) as input and returns the estimated carbon flux. Once carbon flux has been modelled, then values would be applied to specific wetland types based on carbon flux per m^2 estimates using GIS, and functional loss assessment can be estimated resulting from proposed changes to wetlands (fens and bogs) caused by the Project.

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022

Comment #	NEECR Section / Page #	Comments & Rationale	Proposed Action/Solution	Project Team Response (January 11, 2023)	MNRF Response to PT Response (March 6, 2023)	Project Team Response to MNRF (September 19, 2023)
MNRF-21 Natural Heritage	9.2.6 Wetland Function Assessment p.277-278	*The detailed development of the final Wetlands Function Assessment procedure will continue with input from provincial agencies, federal authorities, Indigenous communities and stakeholders during the EA / IA process.* Does the Wetlands Function Assessment preliminary list group species at risk (i.e., special concern species) with wildlife considerations (i.e., maintenance of characteristic wildlife habitat structure)? Did the Wetlands Function Assessment take into consideration the Wetlands Environmental Impact Study Requirements Technical Manual, 1995 by Gartner Lee?	Please clarify whether the Wetlands Function Assessment considers species at risk (i.e., special concern) as a wildlife consideration. Please consider the 1995 Wetlands Environmental Impact Study Requirements Technical Manual by Gartner Lee if not already done so.	Species a risk probability of use was not considered as a separate metric in the Wetlands Function Assessment. It was assumed to be adequately captured by Birds and Mammal wildlife usage. Thank you for the recommendation to consider reference. We have been unable to locate a copy of the subject reference manual. If a copy can be provided, the Project Team will review and consider.	Thank you for the additional information and please ensure the statement "*Species at risk probability of use.. wildlife usage*" is included in the future EA/IS report so that this assumption is clearly identified. MNRF is providing a copy of the 1995 *Wetlands Environmental Impact Study Requirements Technical Manual* by Gartner Lee for your consideration (see attached).	Noted.

Webequie Supply Road - Comments Received on WSR Draft Natural Environment Existing Conditions Report (NEECR), June 2022

MNRF-25 Natural Heritage	A) 9.3.2 Field Survey Results p.287 B) 9.4.4.8 Model Results and Discussion p.334 (Assessment of wetland function on maintenance of characteristics of wildlife habitat structure) C) Species Layer Biodiversity Page 235/246 D) 9.5.3.1 Landscape Patch Analysis - Number of Patches page 351	The report identifies several challenges or limitations of field sampling and/or analysis. In many cases, the implications of these challenges/limitations are not discussed in full. For example: *A) The selection of plot locations for vegetation community sampling was somewhat limited by access considerations.* Where data gaps exist because of restricted access, will additional surveys be required? *B) It would be optimal to have equal sample sizes for model training and testing, but there were insufficient positive observations (presence) to do this and still allow training of a robust model. Test statistics for the confusion matrix nonetheless still revealed strong performance of the GBRT model, with almost all models having a predictive accuracy of >70%. In a number of cases either specificity or sensitivity was low, but testing results almost certainly are affected by low sample size. Any additional data collected in future surveys would probably be best used to improve testing of the current models rather than applying the data to refine or develop new models.* Is there a plan to collect additional data to better test the model or is 70% accuracy considered sufficient for the purposes of the EA/IS? What is the impact? *C) Other community types which were observed by aerial surveys but were not included in field surveys either due to their small size or issues with accessibility, were Cattail Marsh and Rich Conifer Forest (Cedar dominated).*	Please review these sections to add recommendations and rationale for why further work is or is not required to support the EA/IS. If further work is not recommended, describe the implications of these limitations on the EA/IS	Though there were access challenges, the sampling program was robust enough to capture adequate sample sizes of the mappable vegetation classes within the study area. Low sampling values were more significantly affected by rarity within the environment (e.g., hardwood swamp, marshes), and/or were typically found mosaiced among more extensive common features such as swamps, fens, bogs, as well as riverine and lacustrine shores with aerial extents below the ELC 0.5 ha limit for mappable classes. Efforts were made during the 2020 and 2021 (See Sections 9.2.3.2 and 9.2.3.3) sampling programs to target these classes. The result is that, even with the access challenges, these classes have been sampled at a greater rate, disproportionate to the proportions they represent within the environment. Text has been modified for clarity. Additional data will be used to test the existing models prior to refinement or development of new models. Additional ARU data from WSR, which was processed after model development, and ARU data gathered for the Northern Road Link, which abuts the WSR on the east side of the project, will be used to test the existing models using independent data (e.g., area under the ROC curve). Th results from this testing will be included in the updated report. There could be some changes to the biodiversity analysis for inclusion of rich conifer forest (cedar dominated) communities. However, given their small size, these communities have only been encountered on an incidental basis and of such small size as to not represent their own sampling plots. They tend to be small inclusions within a sampled polygon. Their inclusion could raise the biodiversity indicators for the conifer forest group but these values already indicate high biodiversity for this community type and it would be unlikely to change any overall conclusions. Cattail marsh communities have only been noted in very select locations, and where observed, have been very small (<0.01 ha), it would be difficult to include them in the analysis although they are captured in the overall species list for the project. There are no plans to specifically sample these areas. Given their small size and the nature of the randomized stratified sampling program, these are only be encountered on a chance basis, unless the field team is already aware of their location and targets them specifically. Based on current observations from our field work this is not consistent with the criteria for selection of sampling points under the existing methodology. This statement on Patch rarity within the environment (e.g., hardwood swamp, marshes), was included to highlight the rarity of these vegetation classes and the potential need to do further sampling at later development stages of the Project (i.e., Detail Design Phase). Efforts were made during the 2020 and 2021 (See Sections 9.2.3.2 and 9.2.3.3) sampling programs to target these classes. The main difficulty relates to the size of these areas and the fact that they are typically found mosaiced among more extensive common features such as swamps, fens, bogs, as well as along riverine and lacustrine shores with aerial extents below the ELC 0.5 ha limit for mappable classes. While it is acknowledged that stations were surveyed at proportions different than found within the LSA, this is not necessarily indicative of under-sampling in under- representative habitats. However, sampling effort will be assessed to determine if further sampling is required	Thank you for the further information. Please ensure that this additional text is included in the future EA/IS report so that assumptions made are clearly found. MNRF has additional questions based on the responses provided. Specifically: - Is it, therefore, anticipated that sufficient data will be available once the additional ARU data from the WSR and NRL projects are gathered for the upcoming updated report? Or is data volume still potentially limiting? How will using data from a separate study area (i.e., NRL) be anticipated to alter the outcome - Given the findings thus far, does the very small – small presence size warrant considering these communities as regionally rare where they have been encountered? Will subsequent assessment work take place during the detailed design phase? - If the intent is to follow-up with further reconnaissance during the detailed design phase, how will the presently identified communities be addressed? Does their rarity warrant consideration as regionally rare vegetation communities for the EAR/IS? Please ensure rationale is incorporated into future documents. MNRF encourages future effects assessment within the detailed design phase. Please note, Ontario recently amended the Species at Risk Ontario list, which includes updating Short-eared Owl from special concern to threatened status. MECP should be contacted for further guidance on the consideration of this species.	The NEECR has been updated to discuss sample size. Section 10.3.2.3.1 Assessment of Survey Design and Power, examines a number of questions related to the study design and in summary found the design was sufficient in precision and power to detect changes caused by environmental impacts. As stated, the WSR and Northern Road Link (NRL) LSAs and RSAs overlap at the eastern end of the WSR Project area with comparable bird communities and habitat associations, including NRL data in the testing phase is not anticipated to alter the outcome of the analysis. Short-eared owl has been included as a section in the NEECR. However, no targeted surveys could be completed for the species. Developed field survey protocols for short-eared owl are visual and conducted in the evening which the Project cannot complete due to access/safety as the sites are remote and helicopters cannot be used due to flight limitations (daylight). Additionally, Short eared owls rarely call so ARUs are not effective for their detection. Given the limitations the on ability to detect short-eared owl directly, the project has developed a habitat suitability model to identify suitable habitats within the Project Area. Additionally, the project will examine suitable habitats (open areas) for Short-eared Owl presence/absence during the construction phase of the project, so that mitigation can occur. Cattail Marsh as well as a number of other vegetation communities have been identified a locally rare in the NEECR: "locally Rare communities include: Hardwood Forest (14 sites), Mixed Forest (21 sites), Hardwood Swamp (1 sites), Meadow Marsh (4 sites), and Open Water Marsh (2 sites). These were the only occurrences identified at a mappable scale across the 5686 mapped features within the LSA and RSA. The combined area of these communities occupies approximately 544.6 total ha (or 0.43%) of the 133,921.55 ha found within the LSA/RSA. These communities may occur in greater quantities but are difficult to map as they may be complexed with other larger vegetation communities (e.g., Conifer forests or Swamps, and shoreline fen/swamp/bog complexes)." These communities will be subject to particular attention in the EAR/IS, including the net effects assessment and development of mitigation measures designed to help inform the requirements/commitments related to these communities during the future detailed design stage of the Project. This may include subsequent field programs to derive site specific data within and adjacent to the Project Footprint and efforts to avoid of mitigate the potential effects of the development on these communities.

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Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022

Comment #	NEECR Section / Page #	Comments & Rationale	Proposed Action/Solution	Project Team Response (January 11, 2023)	MNRF Response to PT Response (March 6, 2023)	Project Team Response to MNRF (September 19, 2023)
	E) 10.2.5.4 Breeding Bird Point Counts Surveys – sample representation page 381 F) 10.3.2.2.4 Winter Season, Page 441 G) 10.3.2.3 Avian Distribution and Abundance Modelling, p. 452	What are the implications of not including these community types in the biodiversity assessment? Is it recommended that either of these two community types be further investigated to be better accounted for in further assessment work? D) *A number of vegetation classes within the mapping occur only in a few patches and may be difficult to detect at a landscape scale owing to their size, geographic restriction within the landscape, or difficulty in being resolved from larger patches/classes without ground-truthed species data.* Is there a plan to address this in further assessment work? E) *The number of breeding bird survey stations that were surveyed were significantly different than the expected number of survey stations based on the proportion of habitat within the LSA.* Is additional fieldwork planned to ensure treed wetlands are adequately sampled (i.e., no longer under-sampled)? If not, what are the implications of not sampling and how will this impact the bird diversity assessment in this particular habitat? F) *Due to the heavy recording schedule implemented for the ARUs and the inability to service the stations in the winter, collected data was limited to the early winter period within the month of November, with the latest recording occurring on November 23rd.* As a result, will addition ARUs be deployed to target the stretch of time between late November through to the spring when ARUs were deployed in 2020/2021? Nocturnal Owl Surveys typically occur in early April. Would this be something that would be considered where servicing is feasible? G) *In general, statistical power appears to be a function of the number of positive observations for a species, the relative proportion of the landcover type, and the strength of the relationship between the explanatory variable and the species' abundance. This suggests that increasing power for the less abundant species will most likely come from targeting additional sample effort in those rarer habitats that are selected by the species.* Given the suggestion above, will additional sampling effort need to be carried out to properly assess impacts in the upcoming effects/impact assessment?		While it is acknowledged that winter bird sampling did not occur within the timeframe outlined in the TISG, however samples recordings were obtained in late November which is outside of the migration window giving insight into winter use. Additionally, winter avian residents of the region are well known based on existing data sources. Given that habitat associations are likely to remain consistent for resident species through the fall and winter season and the extensive availability of fall data, winter usage can likely be inferred from fall ARU data, and therefore no further field surveys are proposed. Owl species are one group that we acknowledge are not covered by existing recordings as they are often most vocal in the winter. For many species the data gathered for raptor nest surveys will account for Owl habitat use as they reuse old raptor and corvid nests. ARU recordings are also unlikely to account for Short-eared Owls as they are generally a non-vocal species. While more baseline data may be required for future effects monitoring this could be gathered in future development phases of the Project (e.g., detail design phase). The statistical power of the models will be explored in order to determine if further sampling is needed in order to properly assess impacts in the upcoming effects/impact assessment. The report will be updated to include this analysis. The outcome of this exploration will determine if further sampling is warranted. Note that some habitat patches were quite rare, and virtually all of these have already been sampled, so increasing sample effort in rare habitats will be dependent on the availability of additional habitat patches.	In instances of rare habitat types, does their limited presence on the landscape warrant them being considered as regional rare vegetation communities within the EAR/IS? This additional information is requested so that the MNRF and other reviewers are better enabled to determine the validity of the effects assessment (including the assumptions made as part of that assessment), the conclusions drawn about impacts the project will have on the various natural heritage features, and the monitoring and mitigation options presented to minimize any potential impacts.	

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MNRF-30 Natural Heritage	9.4.5 Maintenance of Characteristic Fish/Amphibian Habitat p.340	*Given the extensive nature of the wetlands within the study area, for this functional assessment the maintenance of Characteristic Fish/Amphibian Habitat will be focused on those wetlands proximal to open waterbodies (lakes/rivers) with the potential for direct access to provide support for fish and amphibian life processes.* What size of open waterbodies were considered? Amphibians can utilize seasonal and small woodland pools, including fishless waterbodies.	Please provide more detail, particularly for the amphibian habitat as MNRF would like to better understand the criteria set out for this part of the assessment.	All mapped open waterbodies, the smallest of which is 0.002495 ha were used in the analysis. The majority of the 4,589 wetlands (235946.95 ha) present in the study area provide some form of support for amphibians. The goal was to identify and rank (low, medium, and high) those areas most likely to support critical life processes such as overwintering and breeding. As described in Section 9.4.5: "With the exception of large bogs and fens, all open wetland types adjacent to open waterbodies are considered have a high potential for the maintenance of characteristic fish/amphibian habitat. Large treed or non-treed units (e.g., rivers, and large lakes), that abut open waterbodies, for greater than 1000 m are also considered high, those between 500m and 1000 m, are considered medium, and all other units that intersect open waterbodies for less than 500 m are considered to be low".	Thank you for providing additional information on the assessment methodology for amphibians. Please ensure that this additional information detailing the ranking of waterbodies as low, medium, and high for amphibian life processes can be found in the future EA/IS. MNRF disagrees that wetlands and pools (including vernal pools) < 500m2 (about 25m diameter) should be automatically considered as low-quality habitat. In our experience, small wetlands and pools can support high species diversity, amphibian breeding, and be considered significant. Furthermore, small or ephemeral habitats likely are not identified or captured in the mapped open waterbody layer; however, they also can support important amphibian breeding habitats. To address this possibility, MNRF recommends that these smaller waterbodies be examined for amphibian presence/absence during the construction phase of the project, so that mitigation of these features can occur if found. MNRF would be happy to discuss this further with the Project Team.	We acknowledge that small wetlands and pools can support high levels of amphibians. In the NEECR wetlands function assessment, the potential for amphibian presence/usage has been modified, and is now determined using a statistical modelling technique termed the Resource Selection Function (RSF). This has been used to provide the ability to quantity the absolute or relative probability that a plant or animal uses a specific resource (e.g., wetland or landcover type) (Manly, 2002; Johnson et al., 2006, Lele et al., 2013). This also supports the TISG biodiversity analysis requirement to report on strength of habitat associations and spatial patterns of occurrence. This model does not differentiate between large and small waterbodies and/or wetlands. The size restriction of < 500m2 (about 25m diameter) is purely a function of the resolution of the current ELC mapping. It is also noted that further site-specific field studies will be recommended to be conducted to identify and map smaller waterbodies and amphibian presence/absence during the detailed design to help supplement baseline data and further refine avoidance and/or mitigation of the potential effects to these features. As such at this time we are of opinion there is adequate data for completing the EA/IA for the Project.

Table MNRF-A: Comments Received from the Ministry of Natural Resources and Forestry, Nancy Berglund, Resource Development Planning Coordinator, October 13, 2022

Comment #	NEECR Section / Page #	Comments & Rationale	Proposed Action/Solution	Project Team Response (January 11, 2023)	MNRF Response to PT Response (March 6, 2023)	Project Team Response to MNRF (September 19, 2023)
MMRF-33 Natural Heritage	A) 10.1 Terrestrial Habitat and Wildlife p.358 B) Table 11-1 Local and Regional Study Areas for SAR p.486	The description in the ToR is that the LSA begins at the edge of the project footprint, as opposed to the centreline. The study area descriptions in the baseline report are not consistent with the ToR description. ***Local Study Area*** *– the area where largely direct, and indirect effects of the Project are likely to occur* *Extends 1 km from the centreline of the supply road route Alternatives 1 and 2, and 500 metres (m) from the temporary or permanent supportive infrastructure.* ***Regional Study Area*** *– the area where potential, largely indirect and cumulative effects of the project in the broader, regional context may occur.* *Extends 5km from either side of the Local Study Area boundaries.* Related: It is not clear whether the cumulative effects assessment will include both direct and indirect effects (this is also applicable to the definition of LSA and RSA in section 9). It is highly recommended that the cumulative effects assessment includes both direct and indirect effects, and as a result should encompass the geography of both the LSA and RSA. B) *Caribou* *Local Study Area – 11 km from the centreline of route alternative 1 and 2, and from supportive infrastructure* *Migratory Bird SAR* *Local Study Area – 1 km from the centreline of the route alternative 1 and 3 and 500m from supportive infrastructure*	Please align the LSA to be consistent with the description of it in the ToR (as a minimum commitment). (See Comment #13 as well) Please provide ecological rationale for the selection of LSA and RSA boundaries.	The local and regional study areas (LSA/RSA) as described in the wildlife section and SAR section are consistent with the description of the LSA and RSA in Section 2 of the NEECR - Spatial and Temporal Boundaries, which states the LSA extends from the centreline of the alternative routes and from the footprint of supportive infrastructure. Ecological rationales for the LSA and RSA for terrestrial habitat and wildlife have been added to the report. As part of cumulative effects assessment scoping step, VCs for which net environmental effects are expected will be identified, including determining the spatial and temporal boundaries applicable to a VC, and identifying physical activities, including other projects, which may interact with the WSR Project net effects within the identified boundaries. In the context of the EA/IS, cumulative effects are the net effects from the WSR Project that overlap temporally and spatially with all past, present and reasonably foreseeable activities, as well as activities of the Project itself from multiple emissions and discharges (e.g., simultaneous operations) within the LSA and RSA to understand synergistic or additive effects. Note there will be a separate stand-alone section in the EAR/IS for the cumulative effects assessment.	The response provided about the difference in the LSA and RSA from the ToR to the NEECR does not directly address MNRF's comment / concerns. MNRF's perspective is that this different approach to the study area boundary can yield a significant difference in the overall area being studied for impacts. For example, specifications for the width of the future roadway right-of-way (RoW) have not yet been confirmed and are likely to vary at different segments along its length. This variable RoW width could potentially result in a large amount of landbase (habitat features, water bodies, etc.) no longer being captured within the LSA parameters if the LSA is measured from the centreline. Furthermore, forgoing an assessment of impacts from ROW boundary line could reduce the built-in flexibility of the EA/IA (i.e., for effects assessment and also future permitting) if the ROW needs to move to address an encountered issue. MNRF is not requesting further baseline data collection at this time; however, more rationale is requested about how the change to working from the centreline of the supply road route alternatives rather than from the Project Footprint boundary will not limit the validity of the effects assessment and conclusions drawn about the impacts the project is expected to have on natural heritage values.	Also see response to MNRF 13. The LSA and RSA established for baseline data collection were determined prior to the selection of preferred route for the WSR and consider the 3 proposed alternatives routes. The anticipated PF for the road is approximately 35 m (17.5 m to either side of the centerline). The LSA and RSA were calculated, at 1km and 6km respectively, from the centerline of **all** alternative alignments resulting in significant overlaps. The combined LSA's were aggregated into a single LSA and holes/gaps between the resulting LSA's were included as part of the total LSA which is approximately 2.2 km wide in areas where the alignments coincide and almost 4.3 km at the most divergent point. The use of the combined ROW that incorporates all the routing options should address the concern over land base (habitat features, water bodies, etc.) no longer being captured within the LSA parameters. Once a recommended preferred route is selected, the effects assessment will detail potential impacts to habitat/features and this will be separated within the PF of the road (35 m ROW), LSA which is buffered from the PF and RSA which is buffered from the LSA. It is our opinion the above approach will not compromise the validity of the effects assessment and conclusions drawn about the impacts of the Project on natural heritage values and features.
MNRF-53 Natural Heritage	10.3.2.6.7 Waterfowl Nesting Areas p.468	Field Survey Results *Field data indicated that a variety of waterfowl nesting within the LSA, including Canada Goose, Mallard, American Widgeon, Ring-necked Duck, Common Merganser, and Hooded Merganser. No waterfowl nesting area SWH that met the criteria for this habitat type were confirmed through field observations within the LSA or RSA.* MNRF understands the above statement to mean that fieldwork did not confirm any of the candidate SWH (waterfowl nesting habitat areas) to be significant. Please elaborate on the degree of effort afforded to looking for waterfowl nesting areas. Were the candidate areas specifically targeted or were these areas not confirmed to be SWH through incidental observations? If this is described elsewhere, please reference the applicable sub-section and provide a high-level summary within the text of this sub-section. It is also unclear what defining criteria are being used for determining significance.	Please provide added clarity on the method/criteria used for identifying/confirming SWH.	No targeted surveys were done for Waterfowl Nesting Areas to identify/confirm them as SWH. Some migration surveys were done later in the season and stretched into the beginning of the nesting period which showed that a variety of waterfowl were nesting within the LSA, including Canada Goose, Mallard, American Widgeon, Ring-necked Duck, Common Merganser, and Hooded Merganser. While this provided field data on nesting species it did not allow the confirmation of any nesting area as SWH.	Thank you for the clarification. While the Project Team did not specifically look for nor were able to confirm significant waterfowl nesting habitats with the baseline data collected, MNRF requests that the future EA/IS consider and mitigate any potential impacts the project may have on waterfowl nesting as part of the EA/IS, if suitable candidate Significant Wildlife Habitat (SWH) for waterfowl nesting are found within the project footprint (e.g., appropriate candidate ecosites and general habitat use captured by incidental nesting observations). MNRF is requesting this information be presented in the EA/IS to better enable the ministry to determine the validity of the effects assessment (including the assumptions made as part of that assessment), the conclusions drawn about impacts the project will have on waterfowl nesting areas that contribute to the SWH within the project area, and the monitoring and mitigation options presented to minimize any potential impacts on these features.	We will consider and mitigate any potential impacts the project may have on waterfowl nesting as part of the EA/IS. This will be based on habitat analysis and incidental nesting observations.

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.4 – Ministry of Transportation

Records Found: 1

Ministry of Transportation — Provincial Government

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: May 17, 2023 08:57 Method: Other
Topics to be Discussed: Engineering Approach for Three Road Projects
Attached File: Web-Project Team meeting with MTO re Engineering Approach-2023-05-17.pdf

Contact Date: May 26, 2023 08:37 Method: E-mail
Topics to be Discussed: MTO Road Design Considerations Workshop
Andy Lock of the Ministry of Mines (MINES) sent an email to Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team with an attached report from the Ministry of Transportation regarding road design considerations in the Ring of Fire region.
Attached File: MTO-Recommendations for ROF Highways Report-2023-05-26.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Nov 17, 2023 10:30 Method: Other

Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session

Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.

The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.

Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail

Topics to be Discussed: Notice of Public Information Center #3

Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

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MEETING: **NRL/WSR/MFCAR MTO Engineering**

PURPOSE: To ensure there is an acceptable and consistent engineering approach for the three projects, located within the Hudson Bay lowlands, a remote area with no roads and unique terrain.

Date: Wednesday, May 17, 2023

Attendee	Ministry/ Firm/Group	Email	Role/Title
Joanna Long	MTO	joanna.long@ontario.ca	Manager, Engineering Program Delivery, NW Region
Bruce Caldwell	MTO	Bruce.Caldwell@ontario.ca	Manager, Highway Operations, NW Region
Ataur Rahman	MTO	Ataur.Rahman@ontario.ca	Head of Structural Engineering, NW Region
Mike Satten	MTO	Mike.Satten@ontario.ca	Head of Geotechnical Section, NW Region
Steve Zurevinski	MTO	Steve.Zurevinski@ontario.ca	Aggregate Supervisor, NW Region
Olu Olusanya	MTO	Olu.Olusanya@ontario.ca	Head of Design Standards
Tony Sangiuliano	MTO	tony.j.sangiuliano@ontario.ca	Head of Foundations
Tyler McQuaker	MTO	Tyler.McQuaker@ontario.ca	Head of Capital Planning
Glenn Mitchell	MTO	Glenn.Mitchell@ontario.ca	Head, Project Delivery
Janet Leader	MTO	Janet.Leader@ontario.ca	Strategic Advisor, Transportation Infrastructure Management
Alain Beaulieu	MTO	Alain.Beaulieu@ontario.ca	Director, Design and Engineering Branch
Paul MacInnis	MINES	Paul.MacInnis@ontario.ca	Indigenous Liaison Officer, Ring of Fire
Jason Frechette	MINES	Jason.Frechette@ontario.ca	Indigenous Liaison Officer, Ring of Fire
Agni Papageorgiou	MINES	Agni.Papageorgiou@ontario.ca	Sr Policy Advisor, Ring of Fire Co-ordination Branch
Heather Nelson	MNRF	Heather.Nelson@ontario.ca	Regional Planner, NW Region (one-window contact MNRF)
Nancy Berlund	MNRF	Nancy.Berglund@ontario.ca	
Michael Fox	ICE	michael.fox@indigenousengagement.ca	PM, WSR/ Co-Lead for NRL, President, ICE
Qasim Saddique	Suslop	qsaddique@suslop.com	Co-Lead NRL, Project Director MFCAR, Suslop Inc
Roy Spence	Webequie	spenceroy770@gmail.com	NRL & WSR Working Group
Gordon Wabasse	Webequie	gordonw@webequie.ca	NRL & WFN Working Group
Alanna Downey Baxter	NRL	alanna.downeybaxter@gmail.com	MFFN, NRL & MFCAR Working Group
Jennifer Bruin	MFCAR	jennifer@jbruinassociates.com	Environmental Asssment, MFCAR
Bob Baxter	MFCAR	bbaxter48@gmail.com	MFCAR Project Team
Lawrence Baxter	MFCAR/NRL	lawrencebax@gmail.com	MFFN, NRL & MFCAR Working Group
Iris Fawcett	SNC-Lavalin	iris.fawcett@snclgroup.com	Engineering Lead for WSR and NRL
Lyndsey MacBride	SNC-Lavalin	lyndsey.macbride@snclgroup.com	Co-Project Manager for NRL
Reza Manoochehri	SNC-Lavalin	reza.manoochehri2@snclgroup.com	Highway Engineering for WSR and NRL
Craig Wallace	SNC-Lavalin	craig.wallace@snclgroup.com	PM/Senior EA Lead for WSR
Michael Asante-Nimako	SNC-Lavalin	michael.asante-nimako@snclgroup.com	Senior Structural Engineer, WSR and NRL
Tom Xue	SNC-Lavalin	tom.xue@snclgroup.com	Senior Geotechnical Engineer, WSR and NRL
Beth Robertson	SNC-Lavalin	beth.robertson@snclgroup.com	Senior Hydrotechnical Engineer, WSR and NRL
Illya Romansky	SNC-Lavalin	illya.romanskyy@snclgroup.com	Senior Civil Engineer, NRL

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Jenny Zhang	SNC-Lavalin	jenny.zhang@snclgroup.com	Structural Engineer, NRL and WSR
James McCutchon	AECOM	james.mccutchon@aecom.com	MFCAR PM
Nolan Domenico	AECOM	nolan.domenico@aecom.com	Project Engineering MFCAR
Dan Kuenstler	Dillon	dkuenstler@dillon.ca	Assist. PM MFCAR, Engineering Lead MFCAR & NRL
Mike Lau	Dillon	mlau@dillon.ca	Bridge Engineer
Jason Cosford	JDMA	cosford@jdmollard.com	Terrain Mapping, WSR and NRL
Absent Attendee	**Ministry/ Firm/Group**	**Email**	**Role/Title**
Ange Brooks	SNC-Lavalin	angela.brooks@snclgroup.com	Co-Project Manager for NRL
Lynden Penner	JDMA	penner@jdmollard.com	Terrain Lead WSR and NRL
Saleem Muhammed	SNC-Lavalin	muhammad.saleem@snclgroup.com	Geotechnical Engineer, NRL and WSR
Ingrid Trimble	AECOM	itrimble@aecom.com	Project Lead

Background:

- The Northern Road Link (NRL), Webbequie Supply Road (WSR) and Marten Falls Access Road (MFCAR) projects are connected, and the proponents wish to ensure an appropriate and consistent approach
- The projects are new highways located within the Hudson Bay lowlands:
  - the terrain and access are unique for Ontario highways
  - background data and other information is more limited
  - Ontario Provincial Standards (OPS), Ontario Provincial Standard Drawings (OPSD) and other MTO criteria were not developed based upon peatlands
- The purpose of the meeting is to discuss:
  - risk management concerns
  - proposed engineering criteria and approaches
  - testing requirements

Structures

- In general, SNC/Dillon/AECOM are generally proposing to follow the MTO structural criteria
- Project team is requesting input on the appropriate structural width, including shoulders, for structures with spans greater than 50 m.
- Different approaches have been proposed by the projects and are requesting MTO input
- Ataur Rahman (MTO) noted that MTO recently prepared a document that incorporated MTO engineering recommendations for the projects
  - This document was provided to Andy Loch and submitted to the Minister of Mines.
  - The document included recommendations for structure widths for N-S and E-W structure widths. The recommendations were developed based upon highway classifications.
- Project team will review this document and upon review, will confirm if the issues raised are resolved.

Action Item: Project team to review MTO documentation for structures and follow up with MTO if required. MINES provided the MTO document to project team on May 26, 2023.

Hydrology Modelling/Design Storm/Criteria

- Available hydrological data is limited in the study area and is not consistent for all projects. Available data can include field notes, Google imagery, Water Survey of Canada Monitoring Stations, Ring of Fire Baseline Environmental Monitoring Program. It was noted that OFAT is not available for NRL

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- Beth Robertson (SNC-Lavalin) noted that the standard for design flow is 25-year for spans less than 6 m and 50-year storm for spans greater than 6 m.
- However, as the roadways are very isolated and will be the only road in and out of the communities/mines once completed, there are big risks if the roadways were not operational for extended periods of time due to stream flow damage. The remote location also limits the ability and potential speed of repairs to roadways and increases potential downtime
- As a result, project team are recommending using a 100-year design flow approach for modelling and structure sizing and requested MTO support of the proposed approach
- Ataur Rahman (MTO) noted that the project team had a very solid point regarding the use of the 100-year design flow criteria due to the remoteness and lack of data. He asked that this request be documented with appropriate examples and justifications and submitted to MTO. Although he indicated it seemed to be a reasonable approach, he requested further input on potential cost implications.
- Joanna Long (MTO) also noted that MTO can provide recommendations but could not approve the proposed approach today without the documentation requested by Ataur.
- Bruce Caldwell (MTO) noted that remote areas have a much higher risk of road closure due to repair times and material supply issues.
- Olu Olusanya (MTO) requested that the documentation include the consideration of IDF curves and was concerned about potential cost implications of upsizing culverts, etc

Action Item: Project team to provide memo with information to MTO for review and recommendation.

Hydrology: Climate Change Modelling

- The project team is requesting clarity on the most appropriate climate change model to use for the three projects
    - There is limited climate, streamflow and snowmelt impact data available in the study area. There are further limitations due to data quality and other unknowns
    - Climate change projections are added to the Design Flow to identify appropriate structural freeboard/clearance requirements
- The project team noted that a more conservative approach has the potential to reduce future risks due to climate change for storm damage and flooding, but this more conservative approach could result in some changes to current structure sizing, costing and type
- There are different climate change models that predict potential future increases in rainfall intensities; the current one for WSR considers a 30%/50 year increase due to climate change by 2080 but a more conservate model that could be implemented uses a 40% /100 year increase due to climate change by 2100
- Project team completed an analysis using WSR as an example to identify the potential for changes if the more conservative model is used
- Beth Robertson (SNC-Lavalin) noted that the culverts and bridges for WSR were originally sized for 50 year and 30% increase. She completed an analysis to determine the potential impact if the more conservative 100-year plus 40% approach were used. In general, there was not a major difference to structure sizing and thus not a major cost increase. There will be some additional costs to the approach road.
- Joanna Long (MTO) noted that if the design team is recommending a deviation from the standard MTO approach due to climate change, risk reduction, remoteness, reduced potential for road closure, etc., then MTO requests that it provides a memo that documents and justifies the approach, including examples/other jurisdictional approaches. She also requested that the team identify potential cost implications. Once MTO has reviewed the document, it should be in a position to provide a recommendation and support an approach.

Action Item: Project team to provide memo with information to MTO for review and recommendation.

Hydrology: Ice Jam Modelling

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- Ice jams are a greater issue in northern latitudes.
    - Data required to develop design solutions and mitigation strategies. Information on watercourse hydraulic characteristics and potential for ice jam formation are required
    - Remote sensing technologies, such as satellite imagery or LiDAR data, can be beneficial.
    - Such data can help develop modelling to identify potential flooding risks and inform the design of appropriate infrastructure, such as culverts and bridges, that can withstand ice jams and other extreme hydraulic events.
- Project team is proposing to undertake a regional analysis that would encompass all three projects and using the tools developed in that analysis, analyze individual streams for the potential for ice jamming
- This would allow the team to develop appropriate protection requirements for the structures and mitigation measures to ensure that the structures are not impacted and waterflow is not impeded.

Action Item: Project team to provide a short memo to document the proposed approach

Hydrology: Roadway Overtopping

- Iris Fawcett (SNC) noted that there are both safety and roadway risks associated with overtopping. Those risks are higher for these projects due to remote nature, northern location and long travel distances
- Project team has to balance the risk of overtopping vs the risks/costs associated with raising the roadway
- The project team would like some input
- Olu Olusanya (MTO) noted that they would appreciate some additional information from the project team and a proposed recommendation.
- The project team has recommended no-overtopping in wetland/peat areas and to undertake design measures in non-peat areas to manage flows.
- Paul MacInnis (MINES) noted that a higher roadbed can negatively impact wildlife, especially caribou's ability to cross the road.
- Bruce Caldwell (MTO) noted that risk management is a big issue in remote northern Ontario and noted that designing the roadway to reduce the potential is beneficial. He led the emergency response during the recent flooding in northwestern Ontario and noted there were major impacts due to closed, damaged roads.
- He noted that he would recommend a more conservative approach to reduce risk and safety issues, especially for roads that are the only way in/out of a community, like this one will be.

Action Item: Project team to provide memo with information to MTO for review and recommendation.

Proposed Safety/Respite and Maintenance Areas

- Iris Fawcett (SNC) noted that there are anticipated safety and traffic hazards for all three projects
    - long travel times on each roadway and long distances from on-highway communities to reach the roadways
    - high potential for poor weather conditions
    - no lighting
    - no roadside resources or communities until the user reaches an endpoint
    - Once Ring of Fire resources are developed, anticipated high levels of mine traffic, especially large double B-train ore trucks, on NRL and the N-S portion of MFCAR
- In addition to known concerns, there will be emergencies like vehicle breakdowns, health issues, respite and other issues
    - There is a need for safety and respite areas located along the roadways
    - The AADT on NRL and N-S MFCAR is anticipated to be under 1,000 but the mine truck traffic is anticipated to represent between 25% and 50% of the total traffic during mine operations
    - Maintenance operations will require facilities to turn around and/or store vehicles for summer and winter operations

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- Project team has identified options for safety/respite areas that would occur on a regular basis along the roadway.
    - Number of facilities will be less on east-west roadways as they have reduced AADT and no mine traffic
    - Maintenance facilities (turn-around and storage) will be required less frequently, and the project team was considering incorporating them into the passenger vehicle safety-respite areas
    - All locations would include an area to pull off and rest, park damaged vehicles or temporarily store maintenance vehicles
    - Signage would indicate their locations along the roadway so that users are aware of where they are. Project team is requesting input on the proposed safety/respite solution
- Considering a turnout to allow slow moving passenger vehicles to pull out of through lane to allow following faster/larger vehicles or convoys to pass
    - Passing lanes are not recommended
    - Recommending that maintenance turn-around be designed so that U-turns cannot be completed within the live lanes
    - Proposed options are mostly used on lower volume roads with platoons and/or difficult terrain conditions
    - Surface is 5.0 m wide with a length between 170 m to 200 m to reduce potential us as a passing lane; sight distance of 300 m each direction
- Joanna Long (MTO) noted that when the surface is gravel, it is hard to mark and reliant on signage; users may use the pull-out lane as a passing lane
- Bruce Caldwell (MTO) noted that it may be problematic to combine passenger vehicle safety and respite "rest areas" for travelers with areas for maintenance vehicles.
- Bruce noted that we should consider different solutions for different parts of the road (terrain in some portions may be better suited to allow for wider areas). He preferred the design with the deceleration lane removed from the live lanes to reduce the risk of someone parking in a live lane with fast moving vehicles.
- Paul MacInnis (MINES) was concerned that safety respite has not been provided on some older roads. It was noted that project team must meet current MTO requirements.
- There was a concern about an overbuild at the outset. It was noted that the project team has to identify the ultimate footprint required for the roadways for the EA and this includes such safety and maintenance areas. However, the completion schedule of those areas can be confirmed during detailed design; some may be deferred to a later date.

Action Item: Project team to provide memo with information to MTO for review and recommendation.

Proposed Design Criteria in Peatland Areas

- Iris Fawcett (SNC) noted that the project team is aware that the peatlands are an important resource and that that Hudson Bay Lowlands are an important environmental area.
- Project team want to ensure that the roadway is constructed in way that ensures unimpeded groundwater flows in peat areas
    - Impeded groundwater flows will result in dead/brown areas downstream of roadway
- Project team is aware that is more usual to chase or excavate peat in southern areas of the province but are requesting that MTO approve of an alternative approach to managing peat area
    - Leave peat in place ("raft over peat") and not excavate any peat
    - Place permeable material (blast rock or screened large aggregate) on top of peat
    - Envelope permeable material with one/two layers of geo-grid/ geo-synthetics
    - Incorporate 900 mm equalization culverts

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  - Geosynthetics provide drainage or filtration but prevent silts and other materials from impacting the permeable materials
- Dan Kuenstler (Dillon) provided information about how this technique has been used successfully in Manitoba when constructing roads in similar peat lands in similar latitudes.
  - This approach prevents damage to peat lands downstream by ensuring continuous flow of groundwater
- Heather Nelson (MNRF) noted that peat is considered a crown resource managed by MNRF. No permit needed if peat is left in place, but a permit is required if we excavate.
- It was requested that MTO provide a memo to justify the proposed approach with a special note to provide examples where it has been used in other jurisdictions

Action Item: Project team to provide memo with information to MTO for review and recommendation.

Permafrost Areas

- Iris Fawcett (SNC) noted that there are ice-rich permafrost areas within the peatlands that will and are thawing
- Permafrost is not continuous in the study area, rather there are isolated pockets of permafrost which are visible from aerial photos and other desktop mechanisms
- Project team will review and map permafrost areas within the thermos-karst terrain unit.

Navigable Waters

- Iris Fawcett (SNC) noted that there is limited information available currently on navigable waters in the study area
- IK programs for the projects are not yet complete; this will provide additional information on which watercourses are or could be used for navigation
- Project team is proposing to use a conservative approach. If a watershed has run-off that results in a watercourse with sufficient water to float a canoe or kayak and is wide enough to allow one to pass, will assume that the watercourse is navigable.
  - proposing a maximum Q2 Flow of 2.4 cm with a conservative size of 14 km^2
  - Culvert dimensions to be approximately 3 m wide x 2 m high.
- Ataur Rahman (MTO) suggested that the project team review the Navigable Waters website. Need to consider current and potential future users of water.
- Paul MacInnis (MINES) noted that south of the project, there are a number of NGOs that paddle in waters that would be aware of watercourses in this area and likely want to access them.

Action Item: Project team to provide memo with information to MTO for review and recommendation.
Project team to review MTO information
MINES to provide information on navigable waters from paddling community.

Geo-technical Testing for Structure Foundations

- Iris Fawcett (SNC) noted that the study area is very difficult terrain to drill in. It is very remote and there are no roads – strictly fly in as the winter roads only access the communities and not the study areas.
- Delays due to winter weather, wet conditions in the spring and limitations due to species at risk limit the drilling window. The project team is consider obtaining a permit to extend the drilling window into the summer.
- It was noted that, due to the costs, drilling time and other constraints, the project team is proposing two holes (one per each side of the watercourse) for structures greater than 50 m and one per bridge between 20 m and 50 m and selected culverts greater than 20 m.

SNC·LAVALIN

Environment & Geoscience
195 The West Mall
Toronto, Ontario, Canada M9C 5K1
416-252-5311

MEETING MINUTES

- Project team is also proposing to limit drilling to preferred route once selected. Drilling this fall is on common segments that would be part of the preferred route regardless of the option selected.
- MTO provided updated guidelines in the spring of 2022. It was however not specific with the drilling required for preliminary design to support EA submission.
- The information available and access is much more limited that in the south. Drill rigs must be flown in, as are the drilling crews, and the portable nature limits drilling
- Project team is requesting direction from MTO on what is required with regards to constraints faced by the project team in the study area. It will be easier to drill during detailed design after EA approval; access can be provided via a cleared row and temporary crossings which is not possible at this stage of the projects
- Tony Sangiuliano (MTO) noted that MTO can provide clarification but at present MTO expectation is that the drilling requirements for preliminary design are significantly less than detailed design.
- MTO suggested one borehole on each side of crossing regardless of span width and type which is more than what project is proposing (one/crossing between 20 m and 50 m and one per side over 50 m, few culverts).
- SNC noted that this would require significantly more drilling time next year and significantly more cost. This would require reforecasting for millions of dollars this fall.
- MTO requested that the project team submit a memo with details on what is proposed, the issues involved, costing of drilling program options. MTO would like to discuss this further to identify the most appropriate option for the projects.

Action Item: *Project team to provide memo with information (including list of crossings, estimated length of span) to MTO and MTO to review and make an informed recommendation.*

Connecting Link to Highway Network

- Iris Fawcett (SNC) requested an update on EA status of connecting link road upgrades required to connect MFCAR (and NRL/WSR) to the highway network
- Joanna Long (MTO) stated that there was not a lot to report as of yet as the EA has not yet been initiated. The key difference is these roads that are part of the proposed connecting links are already exist and are being upgraded as opposed to being new builds/corridors like NRL
- The connecting links will not be built exactly as NRL/WSR/MFCAR as they cannot be built like a new build. There are corridor constraints with the alignment and other limitations.
- Dan Kuenstler (Dillon) stated that the MFCAR project team is currently looking at multiple options to connect MFCAR to existing road network. Once the preferred route is selected, the connection point to the connecting link will be identified.
- Once the preferred route is selected, MTO will proceed with the EA; MTO has held off with initiating the EA so that MTO doesn't presuppose the EA process for MFCAR.

Action Item: *Follow up with MTO once MFCAR preferred alignment is selected*

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DESIGN CONSIDERATIONS FOR THE RING OF FIRE HIGHWAYS MTO

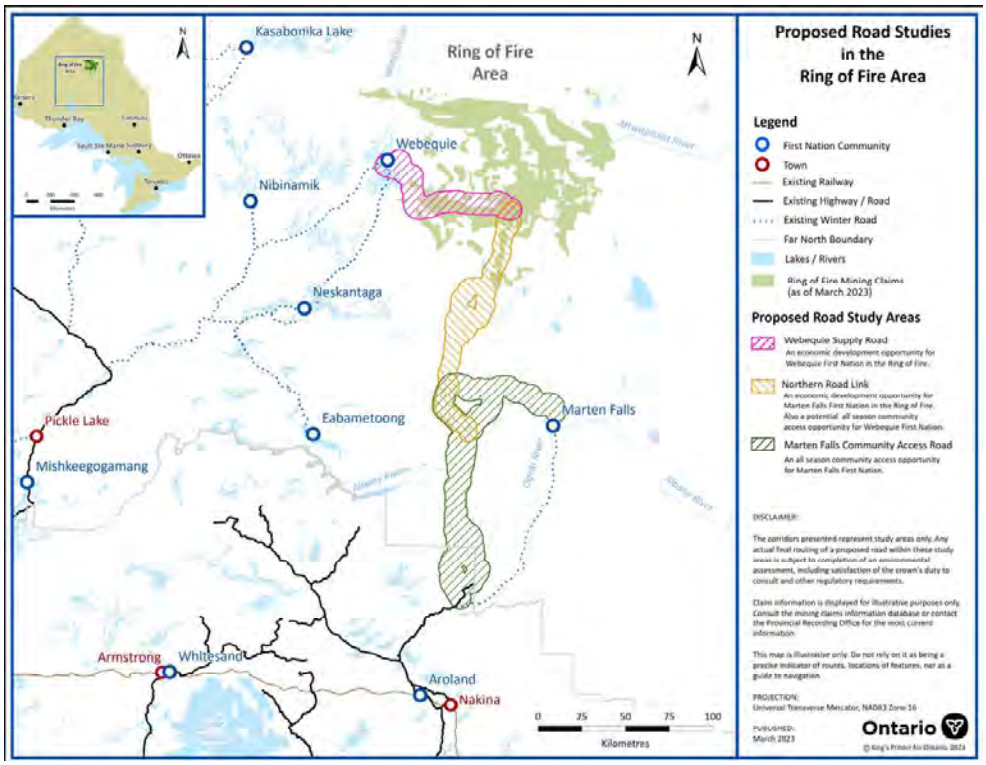
April 2023

Prepared by MTO –
Design and Engineering Branch

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Ring of Fire Road Projects

Design Considerations Memo



Context/Overview

This document was prepared to capture the major technical considerations that project proponents may want to consider as the projects advance. There are a number of other technical, environmental, and socio-economic considerations that are beyond the intended scope of this document.

The various Ring of Fire (ROF) road projects extend northerly from Highway 643 to the ROF area in northern Ontario. The projects and proponents are as follows:

- Anaconda and Painter Lake Roads (A/PLR)
  - Proponent: MTO
- Martin Falls Community Access Road (MFCAR)
  - Proponent: Martin Falls First Nation
- Northern Road Link (NRL)
  - Proponents: Martin Falls First Nation and Webequie First Nation

- Webequie Supply Road (WSR)
  - Proponent: Webequie First Nation

MTO is the proponent of the A/PLR project and provides technical input for the other projects when requested. MTO's role, if any, in the future phases of the other projects has not been determined.

Existing Highways

Highway 584

Highway 584 is a provincial highway approximately 53 km long that begins approximately 16.4 km north of Highway 11 and ends in Nakina. Highway 643 intersects with Highway 584 approximately 62.3 km north of Highway 11. The town of Geraldton (Municipality of Greenstone) has control and jurisdiction of the 16.4km section of road connecting Highway 11 and Highway 584.

Road History:

Highway 584 was originally constructed in the 1950s and was surface treated sometime after. It was then paved in the early 1980s with 40 mm of hot mix asphalt. Over the years it underwent numerous maintenance treatments including patching to address frost heaves and distortions.

The general terrain in this area is relatively flat, with poor surface drainage, numerous swamps, and poor subgrade soils. The highway has been performing poorly, due to the poor drainage, weak and wet subgrade soils, organics beneath the highway (constructed over swamps in some locations), and old corduroy construction.

Improvements were made in the late 2000s which included strengthening the sub-base by pulverizing the old asphalt and the addition of new granular A. It also included drainage improvements and paving with 50-60 mm of hot mix asphalt pavement. The highway continued to perform poorly in areas.

In 2020/2021, the north section was reconstructed which involved pulverizing the asphalt, adding granular A for distribution, significant grade raises in the poor performing areas, use of geogrids, additional drainage improvements, and paving with 90 mm of Superpave. The south section will be undergoing a similar type of treatment in the coming years.

Highway 584 has the following characteristics:

Classification:

- Rural, collector, undivided
- 80 km/h design and posted speed with a reduced 50 km/h posted speed zone within the Town of Nakina.

Traffic:

- Municipality of Greenstone north limits – Highway 11 to Highway 643
  - 2016: 270 AADT, 300 SADT, 22.5% Trucks
  - 2026: 200 AADT, 240 SADT
    - The projected traffic volumes do not take into consideration ROF development

Road Surface:

- 50 mm surface course and 40 mm binder course of Superpave 12.5

Highway 643

Highway 643 is a provincial highway connecting to the southern end of the Anaconda / Painter Lake Roads project.

Road History:

Highway 643 begins at the junction of Highway 584 and continues northwest 19.6 km to its terminus at Anaconda Road. The highway provides access to Aroland First Nation and natural resource roads.

In 2009, Highway 643 was improved with a double application of surface treatment. In 2011 and 2017, single applications of surface treatment were applied. Prior to 2016 little maintenance work was required likely due to the sandy strata in that area.

Contract 2017-6039 was completed as part of ROF early works. This included widening the existing platform,10 alignment improvements (combination of vertical and horizontal), culvert replacements, drainage improvements, in-place processing of surface treatment and underlying granular materials, granular grade raises of up to 0.6 m in select locations and paving with 50 mm SP 12.5.

Highway 643 has the following characteristics:

Classification:

- Rural, local, undivided
- 80 km/h design and posted speed with a reduced posted speed zone of 60 km/h through Aroland First Nation.

Traffic:

- Highway 584 to Anaconda Road - End of highway
  - 2016: 200 AADT, 220 SADT, 19% Trucks
  - 2026: 170 AADT, 200 SADT
    - The projected traffic volumes do not take into consideration ROF development

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Road Surface:

- 50 mm Superpave 12.5

Major Technical Considerations for Design of New Highways

There are a number of technical considerations that are important to help ensure the safety of the highway for travellers using the road. To help maintain design consistency and meet driver expectations for the ROF projects, the MTO has summarized some technical considerations/suggestions for the A/PLR project.

These considerations include:

- Design Speed
- Road Classification
- Traffic Volumes/Composition
- Road Cross Section
- Road Alignment (Horizontal and Vertical)
- Pavement Structure
- Bridge Design
- Facilities

For the purpose of outlining the technical considerations, all ROF roads have been considered as secondary highways.

The following sections provide some additional detail regarding these considerations

Design Speed

Many factors influence and constrain the selection of the appropriate design speed for a given highway facility, which include:

- Traffic conditions, such as volumes, composition, and trip length
- Character of terrain
- Socio-economic-political characteristics of the area, i.e., population density and land development and travel habits of the local residents
- Environmental quality and aesthetics
- Economics

The posted speed is anticipated to be 80 km/h on the ROF roads. The desirable practice of selecting the design speed for new construction and reconstruction is 20 km/h greater than the proposed legal speed. There was an earlier discussion with MTO staff where it was shared that it was not uncommon to have secondary highways with the design speed equal to the posted speed. While this may be true in the case of an existing highway where it is not economically feasible to upgrade, we would not recommend constructing a new road where the design speed and posted speed are the same.

A higher design speed improves visibility allowing drivers to see and avoid pedestrians, wildlife, and other hazards. In addition, the design speed increases safety in inclement weather because of increased visibility (due to flatter curves) and more forgiving design features such as wider lanes and shoulders.

The design speed is a major factor when determining road cross section and alignment design parameters.

Road Classification

Road classification is the orderly grouping of roads into systems according to the type of service they provide to the public. The predominant characteristic of the adjacent land is rural. In addition, the ROF roads are anticipated to be undivided, therefore the roads are considered rural undivided roads.

The classification is further divided into four divisions; freeway, arterial, collector, and local. The north-south portion consists of A/PLR, a portion of MFCAR, and the NRL and is anticipated to serve as a major route connecting the province with industrial concentrations within the ROF which is classified as a rural arterial road.

The east-west portions consist of WSR and a portion of MFCAR. Traffic volumes would likely be lower than the north-south segment. Traffic characteristics will be different compared to north-south segment. The east-west portion would provide direct traffic service for the First Nation communities which is classified as a rural collector road. It is expected to have lower traffic volumes, more commuter vehicles compared to heavy trucks, and more pedestrian / off-road vehicle usage.

Traffic Volumes/Composition

Traffic volumes are critical in the selection of the appropriate classification, as well as in the selection of road cross-sectional features and intersection design which affect the capacity and level of service.

Due to unknowns with the ROF devolvement, future traffic volumes for the ROF roads are difficult to accurately estimate. A 2013 Noront Report estimated 400 ore trucks daily travelling at least 330 days per year for the Eagle's Nest mine. In addition, there will be commercial traffic such as freight and heavy equipment as well as other industry that supports mining. Given these unknowns, a conservative approach is to design to an average annual daily traffic (AADT) volume of greater than 1000 vehicles per day.

It should be noted that the horizontal and vertical alignment standards do not change with traffic volumes however road cross section elements such as lane and shoulder width could increase in width with increasing traffic volume. .

Road Cross Section

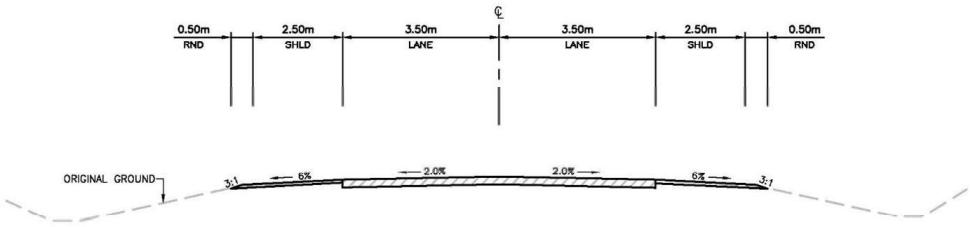
Generally, road cross section is based on the design speed, traffic volumes, and percentage of commercial vehicles (long trucks) in the traffic stream. As outlined below, the shoulder width for the ROF roads would vary based on traffic volume and % commercial vehicles:

Design Standard for secondary highways with a 100 km/h design speed:

AADT	Lane (m)	Shoulder (m)	Rounding (m)
400 - 1000	3.5	1.0	0.5
>1000	3.5	2.0*	0.5

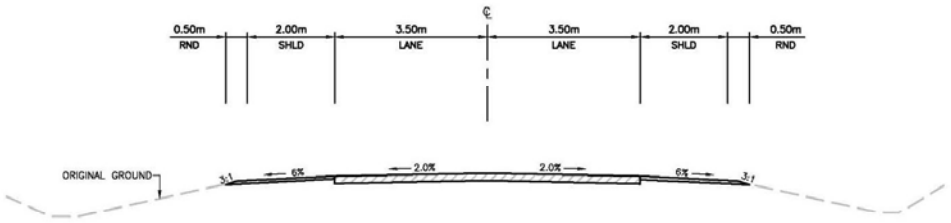
*If commercial motor vehicle percentage exceeds 25% of AADT shoulder width to increase by 0.50 m.

Based on the above information, the Ministry recommends 2.5 m shoulders on the North-South section to accommodate large trucks and 2.0 m shoulders on the East-West sections. Drawings of the recommended cross sections are below:



TANGENT SECTION

North-South Section



TANGENT SECTION

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East-West Sections

Road Alignment (Horizontal and Vertical)

The primary goal in developing the road alignment is to provide a road which delivers strong and consistent positive guidance to motorists, reducing the possibility of on-road collisions and departures from the roadway.

The horizontal alignment is a relatively permanent feature of a roadway and is typically difficult and expensive to modify after initial construction is complete. Generally, the minimum horizontal curve is based on the design speed. For the ROF roads, with a design speed of 100 km/h, the minimum horizontal curve radius is 450 m.

There are two types of vertical curves, crest curves which occur on hills, and sag curves which occur in valleys. Vertical curves are defined by a parabolic number, referred to as a k factor, the more abrupt the curve the smaller the k value. Design speed is a major factor is selecting the minimum vertical curves. For these roads the minimum vertical curves are K-crest of 60 and K-sag of 45.

The maximum grade is also a factor to consider in the vertical alignment. The grade along the roadway is expressed as a percentage. The maximum grade for these type of roads is 6 to 8%.

Please note, a roadway alignment should not be designed to the minimum standard. All efforts should be made to work with the existing topography. The minimum design standard should be used when all other viable options are exhausted.

Selection of Driving Surface

The objective of pavement design is to develop a cost-effective pavement structure that addresses site specific performance, serviceability, and safety requirements. It requires an understanding of soils and paving materials and their behaviour under different traffic and climatic loading conditions. Pavement design is not an exact science and there are many variables that influence pavement performance making the analysis complex.

Traffic loading is one of the most important pavement design factors and includes traffic volume, growth rates, axle loads and distribution, tire pressures and vehicle suspension characteristics. Environmental considerations include precipitation, moisture in pavement layers, temperature ranges, and freeze-thaw cycles. Subgrade soil type, moisture content and other physical properties also have a significant influence on the pavement design. Equivalent Single Axle Loads (ESAL) are calculated to determine the overall traffic loading to the pavement. ESAL is a concept developed from data collected at the American Association of State Highway Officials (AASHO) Road Test to establish a damage relationship for comparing the effects of axles carrying different loads.

ESAL Example:

- AADT of 1000, 20% commercial vehicles, truck factor of 2.4.
- Total ESALs = 365 days/year x 1000 AADT x 20% x 0.5 (per lane) x 2.4 x 20 years (design life) = 1,752,000 ESALs.

Generally, for conditions in Northwestern Ontario, 90 mm of asphalt pavement is required to support this example traffic load.

The expenditures for highway infrastructure are spread over the life of the road and are referred to as the Life Cycle Costs (LCC). When comparisons are made between options, whether for capital construction or routine maintenance, it is necessary to relate all costs to a common benchmark. To facilitate this, the influence of interest or discount rate as well as the inflation must be considered. Below is a summary of potential driving surfaces for the ROF Roads.

Driving Surface	Advantages	Disadvantages	Notes
Gravel	• lowest initial cost • lowest LCC • shortest construction time • less environmental impacts (i.e. "Greenest" option) • potentially no spring load restrictions	• roughest ride • reduced posted speeds • highest maintenance demands • dust generated reduces visibility/safety • prone to potholes and rutting especially in wet weather • least skid resistant, • snow packed surface in winter	1. Requires continual maintenance (weekly in summer and daily during thaw)
Surface Treatment	• Lower initial and LCC than hot mix • Smoother ride and more skid resistant than gravel • Less maintenance than gravel	• Load reduction requirements during spring thaw to prevent structural damage • Follow up treatments required every ~5 years • Rougher ride, less skid resistant, and more dust generated than asphalt	1. Construction estimate includes double surface treatment in last year of construction followed up by a single surface treatment the following year 2. Typically follow up with a single surface treatment in year 6 and 11, a pulverize and double surface treatment in year 16, and so on. 3. Initial direct paving cost of ~$60k/lane-km*
Single Lift Asphalt	• Smoothest ride • Highest skid resistance • Long initial life (12-15 years) • Low maintenance	• High initial and LCC • Requires more virgin aggregate and asphalt cement than gravel or surface treatment • Lowest LCC	1. Paving split 50/50 between last two years of construction. 2. Minimal maintenance required. Occasional hot mix patching and crack sealing 3. Initial direct paving cost of ~$100k/lane-km*

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	demands • No spring load restrictions	• Requires min temp of 10 degrees Celsius to pave	
Two Lifts of Asphalt	• Smoothest ride • Highest skid resistance • Longest initial life (15-18 years) • Lowest maintenance demands • No spring load restrictions	• Highest initial and LCC • Requires most virgin aggregate and asphalt cement • Longest construction time • Requires min temp of 10 degrees Celsius to pave	1. Paving split 50/50 between last two years of construction. 2. Minimal maintenance required. Occasional hot mix patching and crack sealing 3. Initial direct paving cost of $200k/lane-km*
Cold Constructed Asphalt Pavement (CCAP)	• Improved flexibility compared to hot mix • Lower carbon emissions compared to hot mix • Can be paved at lower temperatures than hot mix • Lower initial and LCC than hot mix • No spring load restrictions • Less dust, higher friction, and smoother ride than surface treatment or gravel • Minimal maintenance demands • lowest LCC	• Prone to deformations at stop/go and truck turning locations • Rougher ride than hot mix	1. CCAP is a cold mix asphalt placed with traditional paving equipment, with a gelled multi-grade asphalt binder to allow for improved flexibility in northern climates 2. Initial direct paving cost of $75k/lane-km*
*cost estimates may be heavily influenced by market conditions, availability of materials, remoteness of work, etc			

Bridge Design

There are many variables and standards that influence bridge design. The bridge sites are located at remote areas. To minimise maintenance needs and avoid vehicle impacts on truss members of typical modular bridges, it is recommended to build concrete bridges. To ensure uninterrupted service to these remote roads, modular bridges should not be used. It is normal practice to meet the Canadian Highway Bridge Design Code

(CHBDC) for the design of bridges on provincial highways. However, other design standards may apply as shown below.

Potential bridge design standards for these roads include:

- CAN/CSA S6 Canadian Highway Bridge Design Code (CHBDC).
- MTO Structural Manual
- Transportation Association of Canada (TAC) Geometric Design Guide (GDG) for Canadian Roads
- MTO Design Supplement for TAC Geometric Design Guide (GDG) for Canadian Roads

Other items that should be considered:

- Bridge design may consider special loading based on the anticipated vehicle types and weight, heavier than CL -625 ONT, for example CL-800. The terms CL-625 and CL-800 refer to the gross weights of design vehicles 625 kN and 800 kN, respectively.
- Biennial inspections
- Bridge cross section elements should match with those of the approach roadway. However, additional horizontal clearance (shoulder width) may be required as shown in Exhibit 4-V of MTO Design Supplement for TAC Geometric Design Guide (GDG) for Canadian Roads (see Appendix D). Considering the roadway widths given under Road Cross Section in this document and needs for additional horizontal clearance, the clear widths of bridges would range between 11.0 m and 12.5 m. To remain consistent, recommended minimum clear widths of bridges in East-West and North-South roadway sections are 11.5 m and 12.5 m, respectively.
- To accommodate staging of future rehabilitation, refer to Exhibit 4-T of MTO Design Supplement for TAC Geometric Design Guide (GDG) for Canadian Roads (see Appendix E).

Facilities

Rest areas and service centres guidance is provided from the *Northern Ontario Highway Rest Areas Design and Implementation Guidance – November 2018.* See Appendix C for Recommended Maximum Rest Area Spacing by Rest Area Type and by Highway Class in Northern Ontario from the manual.

Suggested Approach

Anaconda and Painter Lake Roads (A/PLR)

The A/PLR project is approximately 76.5 km.

It is anticipated A/PLR will serve as a major route connecting the province with industrial concentrations within the ROF which is classified as a rural arterial road. It is proposed

to upgrade the A/PLR to 100 km/h which is consistent with current practices of 20 km greater the posted speed. The recommended characteristics include:

- Rural Arterial Undivided Service Function
- 100 km/h design speed with an 80 km/h posted speed
- 3.5 m lane width
- 2.5 m shoulder
- 0.5 m rounding
- Single lift hot-mix asphalt driving surface

Marten Falls Community Access Road (MFCAR)

MFCAR project is approximately 217 km. The north-west section is approximately 142 km and the east-west section is approximately 70 km.

The north-south segment is anticipated to serve as a major route connecting the province with industrial concentrations within the ROF which is classified as a rural arterial road. It is proposed to upgrade the A/PLR to 100 km/h which is consistent with current practices of 20 km greater the posted speed. The recommended characteristics include:

- Rural Arterial Undivided Service Function
- 100 km/h design speed with an 80 km/h posted speed
- 3.5 m lane width
- 2.5 m shoulder
- 0.5 m rounding
- Single lift hot-mix asphalt driving surface

There is greater flexibility with the east-west segment. Traffic volumes would likely be lower than the north-south segment. Traffic characteristics will be different compared to north-south segment. The east-west portion would provide direct traffic service for Marten Falls First Nation which is classified as a rural collector road. It is expected to have lower traffic volumes, more commuter vehicles compared to heavy trucks, and more pedestrian / off-road vehicle usage. The design standard for this type of road includes a 1.0 m shoulder however to accommodate disabled vehicles in this remote location a 2.0 m shoulder is suggested. The recommended characteristics include:

- Rural Collector Undivided Service Function
- 100 km/h design speed with an 80 km/h posted speed
- 3.5 m lane width
- 2.0 m shoulder
- 0.5 m rounding
- Single lift hot-mix asphalt driving surface

These suggestions should be re-evaluated once the AADT volume is assessed as part of the project's EA/IA.

Northern Road Link (NRL)

The NRL project is approximately 126 km.

It is anticipated to serve as a major route connecting the province with industrial concentrations within the ROF which is classified as a rural arterial road. It is proposed to upgrade the A/PLR to 100 km/h which is consistent with current practices of 20 km greater the posted speed. The recommended characteristics include:

- Rural Arterial Undivided Service Function
- 100 km/h design speed with an 80 km/h posted speed
- 3.5 m lane width
- 2.5 m shoulder
- 0.5 m rounding
- Single lift hot-mix asphalt driving surface

These suggestions should be re-evaluated once the AADT volume is assessed as part of the project's EA/IA.

Webequie Supply Road (WSR)

WSR project is approximately 110 km.

Dependant on the ROF development, there may be greater flexibility with this road corridor. Traffic volumes could be lower than the north-south corridor and traffic characteristics may be different.

WSR would provide direct traffic service for Webequie First Nation which is classified as a rural collector road. It could have lower traffic volumes, more commuter vehicles compared to heavy trucks, and more pedestrian / off-road vehicle usage. The design standard for this type of road includes a 1.0 m shoulder however to accommodate disabled vehicles in this remote location a 2.0 m shoulder is suggested. The recommended characteristics include:

- Rural Collector Undivided Service Function
- 100 km/h design speed with an 80 km/h posted speed
- 3.5 m lane width
- 2.0 m shoulder
- 0.5 m rounding
- Single lift hot-mix asphalt driving surface

These suggestions should be re-evaluated once the AADT volume is assessed as part of the project's EA/IA and further information is available on the extent of the development of the ROF.

Appendix A

GEOMETRIC DESIGN STANDARDS FOR SECONDARY HIGHWAYS (6% SUPERELEVATION)

Design Speed	Design Year Traffic Volume		Max Grade	Width (metres)			Minimum Curves			Minimum Stopping Sight Distance
							Horiz.	Vertical		
km/h	AADT	DHV	%	Lane	Shoulder	Rounding	Radius (m)	K-Crest	K-Sag	m
100	>1000	>150	6 - 8	3.50	2.00 (B)	0.50	450	60	45	185
	400-1000	60-150	6 - 8	3.50	1.00					
	<400	<60	-	-	-					
90	>1000	>150	6 - 8	3.25	2.00	0.50	340	40	40	160
	400-1000	60-150	6 - 8	3.25	1.00					
	<400	<60	-	-	-					
80	>1000	>150	6 - 8	3.25	2.00	0.50	250	30	30	130
	400-1000	60-150	6 - 8	3.25 (A)	1.00					
	<400	<60	8	3.25 (A)	1.00 (C)					
70	>1000	>150	6 - 12	3.00	1.00	0.50	190	18	25	105
	400-1000	60-150	6 - 12	3.00	1.00					
	<400	<60	12	3.00	1.00 (C)					
60	>1000	>150	6 - 12	3.00	1.00	0.50	130	12	18	85
	400-1000	60-150	6 - 12	3.00	1.00					
	<400	<60	12	3.00	1.00 (C)					
50	>1000	>150	-	-	-	0.50	90	8	15	65
	400-1000	60-150	-	-	-					
	<400	<60	12	2.75	1.00 (C)					

NOTES:

A. 3.00m lane width may be acceptable where the type, size, and volume of trucks are not significant.

B. If commercial motor vehicle percentage exceeds 25% of AADT (or AADT > 2000) shoulder width to increase by 0.50 m.

C. Shoulder width of 0.50 m is acceptable on where there is no foreseeable possibility of the road being paved within a 20-year period. Where guide rail is installed, shoulder width must be 1.00 m.

- Major secondary highways shall have a minimum lane width of 3.50 m.
- For design use DHV if available.
- Lane width may be increased by 0.25 m to a maximum of 3.50 m if warranted by type, size and volume of commercial motor vehicles.
- Minimum shoulder width for pavement support: 0.50 m paved, 1.00 m granular surfaced.
- Minimum usable shoulder width for disabled vehicle: 2.00 m.
- Minimum stopping sight distance is for level terrain only

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Appendix B
Additional Requested Information - Highways with a Similar Function

At the workshop, the following items were requested to help your team develop a design for a new road:

1. Provide examples of Ministry owned roads that would be considered to have low traffic volumes (less than 1000 AADT)
    a. Please refer to the attached *Appendix A*, which lists MTO NWR secondary highways that have less than 1000 AADT, but also lists the correlating % commercial and pavement structure with the associated thicknesses.

2. Provide general maintenance standards that are used on low volume roads.
    a. NORT Road from Pickle Lake to Windigo, 187.5 km gravel road
        i. Summer maintenance
            1. The contractor is required to perform full width grading during the summer months (beginning after spring thaw and up to first snowfall) to maintain drivability at locations where potholes, distortions or corrugations require drivers to reduce their speed by more than 10 km/h below the posted speed limit. To achieve this, the contractor provides a grader meeting the minimum specifications dedicated to the NORT Road. The contractor will patrol the NORT Road a minimum of once a week and report any deficiencies to the contract administrator for consideration as extra work.
        ii. Winter maintenance
            1. The contractor provides a grader meeting the minimum specifications dedicated to the NORT Road during the Winter Season. Grading operations are required when accumulation on any section of the roadway reaches 10 cm and continue operations until snowpack condition is reached. No salting and/or sanding are required on this roadway. The contractor patrols the NORT Road a minimum of once a week and reports any deficiencies to the contract administrator for consideration as extra work.
    b. The majority of Highway 599 is surface treated and is on a typical 5–7-year reconstruction schedule. MTO is working towards upgrading the entire highway to asphalt pavement over the next several years. A 62.5 km section of the NORT Road from Pickle Lake northerly was paved under Contract 2017-6032.

Appendix C
MTO NWR Secondary Highways with <1000 AADT

Highway	2016 AADT	% Comm (approx)	Pavement Structure	Thickness (mm)
502	420 - 520	23 to 33	Pavement (50 - 100mm)	50 - 100
516	200 - 1800	10 to 23	Pavement/Surface Treatment	50 - 90
525	170	-	Surface Treatment	-
527	170 - 1000	15 to 17	Pavement/Surface Treatment	50 - 110
580	170	-	Surface Treatment	-
582	40	-	Surface Treatment	-
584	270 - 440	29	Pavement	60 - 90
585	400	-	Surface Treatment	-
586	170	-	Surface Treatment	-
587	150 - 660	-	Surface Treatment	-
588	260 - 1500	7 to 10	Pavement/Surface Treatment	50
589	240 - 2050	64	Pavement/Surface Treatment	140
591	920	-	Surface Treatment	-
593	80	-	Surface Treatment	-
594	290 - 1850	10	Pavement/Surface Treatment	90
595	210 - 320	-	Surface Treatment	-
596	300 - 1300	-	Surface Treatment	-
597	270	-	Surface Treatment	-
599	150 - 470	33	Pavement/Surface Treatment	50
600	80 - 150	-	Surface Treatment	-
601	120 - 1200	-	Surface Treatment	-
602	80	-	Surface Treatment	-
603	40	-	Gravel	-
605	370	-	Surface Treatment	-
608	340 - 710	-	Surface Treatment	-
609	90 - 100	-	Surface Treatment/Gravel	-
611	220 - 610	-	Surface Treatment	-
613	120 - 650	-	Surface Treatment	-
614	390	9 to 28	Pavement	60
615	80 - 190	-	Surface Treatment	-
617	400	-	Surface Treatment	-
618	540 - 940	5 to 7	Pavement	50
619	40	-	Surface Treatment	-
621	260 - 360	-	Surface Treatment	-
622	100 - 600	17 to 33	Pavement/Surface Treatment	50 - 60
623	130	13	Pavement	50
625	140	-	Surface Treatment	-
627	670	11	Pavement	50
628	830	14	Pavement	90
633	130	-	Surface Treatment	-
641	460	-	Surface Treatment	-
642	90 - 300	-	Surface Treatment	-
643	200	19	Pavement	50
647	540	-	Surface Treatment	-
658	260 - 1100	7 to 10	Pavement	60
665	90 - 770	-	Surface Treatment	-

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671	160 - 280	-	Surface Treatment	-
673	210	-	Surface Treatment	-
802	30 - 40	-	Gravel	-
804	60	-	Gravel	-
811	160	-	Gravel	-

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Appendix D

Exhibit 4-V

MINIMUM HORIZONTAL CLEARENCE AT BRIDGES ON RURAL ROADS

Roadway	Design Speed (km/h)	Short Overpass (<50m)			Long Overpass (>50m)		
		Left (m)	Right (m)		Left (m)	Right (m)	
			No Sidewalk	Sidewalk (A)		No Sidewalk	Sidewalk (A)
Undivided Local	50	-	1.25	0.50	-	1.00	1.00
	60	-	1.25	0.50	-	1.00	1.00
	70	-	1.25	0.50	-	1.00	1.00
	80	-	1.25	0.50	-	1.25	1.00
	90	-	1.25	0.50	-	1.25	-
	100	-	1.25	0.50	-	1.50	-
Undivided Collector	60	-	1.50	1.00	-	1.25	1.00
	70	-	1.50	1.25	-	1.25	1.00
	80	-	2.00	1.25	-	1.00	1.00
	90	-	2.00	1.50	-	1.25	-
	100	-	2.50	1.50	-	1.50	-
Divided Collector	70	1.25	1.50	1.25	1.00	1.25	1.00
	80	1.25	2.00	1.25	1.00	1.25	1.00
	90	1.25	2.00	1.50	1.00	1.25	-
	100	1.25	2.50	1.50	1.00	1.50	-
Undivided Arterial	80	-	2.50	1.50	-	1.50	-
	90	-	2.75	1.50	-	1.50	-
	100	-	3.00	2.00	-	1.75	-
	110	-	3.00	2.50	-	1.75	-
	120	-	3.00	2.50	-	2.00	-
	130	-	3.00	2.50	-	2.00	-
Divided Arterial	80	1.50	2.50	-	1.00	1.5	-
	90	1.50	2.75	-	1.00	1.5	-
	100	2.00	3.00	-	1.00	1.75	-
	110	2.00	3.00	-	1.00	1.75	-
	120	2.00	3.00	-	1.00	2.00	-
	130	2.00	3.00	-	1.00	2.00	-
Freeway	100	2.50	3.00	-	1.50	2.00	-
	110	2.50	3.00	-	1.50	2.00	-
	120	2.50	3.00	-	1.50	2.00	-
	130	2.50	3.00	-	1.50	2.00	-

A. If a barrier is to be placed between the sidewalk and roadway, then clearance should be the

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Appendix E

Exhibit 4-T

MINIMUM BRIDGE WIDTHS TO ACCOMMODATE FUTURE REHABILITATION

Roadway	Temp Clearance (m)	Barrier Overlap* (m)	Minimum Width (m)
Freeway	4.50	2.8	11.8
Trans-Canada	4.50	2.4	11.4
King's Highway	4.00	2.2	10.2
Secondary Highway / Arterial	3.75	1.7	9.2
Collector / Local Road	3.40	1.7	8.5

*Barrier Overlap includes two positions of a Temporary Construction Barrier, plus the buffer distance behind for barrier deflection and overlap of the waterproofing and asphalt.

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Appendix F

Maintenance Facilities – Patrol Yards, Material Storage, Turnarounds, etc. (Similar to what is in place for NORT Road)

Rest Area Type	Approximate Spacing by Highway Type Travel times are under ideal travel conditions		
	Trans-Canada Highway	Other Primary Highway	Secondary Highway
Rest Centres and existing 24-h commercial roadside services with truck parking	**1 hour** (70 to 100 km) as close as **½ hour** from urban centres	**1.5 hours** (100 to 140 km) as close as **½ hour** from urban centres	**2 hours** (140 to 180 km) as close as **½ hour** from urban centres
Outdoor Rest Areas – supplementing above	**½ hour** (35 to 50 km)	**½ to 1 hour** (40 to 80 km)	**1 to 1½ hours** (60 to 100 km)
Seasonal Rest Areas – supplementing above and where seasonal traffic and levels of use warrant	Review safety value on a case-by-case basis		
Roadside Pull-Offs – Supplementing rest areas and outdoor rest centres, and other existing pull-off opportunities	**10–25 km**		

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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.5 – Ministry of Indigenous Affairs and First Nations Economic Reconciliation

AtkinsRéalis

WSR WEBEQUIE SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Indigenous Affairs — Aboriginal Businesses

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
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Contact Date: Aug 18, 2022 14:52 Method: E-mail
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Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
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Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.6 – Ministry of Community Safety and Correctional Services

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Community Safety and Correctional Services **Businesses**

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
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Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.7 – Ministry of Economic Development, Job Creation and Trade

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Economic Development, Job Creation and Trade **Provincial Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.8 – Ministry of Municipal Affairs and Housing

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Municipal Affairs and Housing **Provincial Government**

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.9 – Ministry of Energy and Mines (formally Ministry of Mines; and Ministry Northern Development and Mines)

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 2

Ministry of Energy — Provincial Government

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
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Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.10 – Ministry of Citizenship and Multiculturalism (formally Ministry of Heritage, Sport, Tourism and Culture)

AtkinsRéalis

WSR WEBEQUIE SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Ministry of Heritage, Sport, Tourism and Culture Industries **Provincial Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
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Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 14:52 Method: E-mail
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Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.11 – Ontario Provincial Police

AtkinsRéalis

WSR WEBEQUIE SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Ontario Provincial Police — Provincial Government

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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.12 – Environment and Climate Change Canada

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Environment and Climate Change Canada **Environmental NGO / Group**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
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Topics to be Discussed:
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Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Nov 17, 2023 10:30 Method: Other
Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session
Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.
The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.
Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail
Topics to be Discussed: Notice of Public Information Center #3
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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.13 – Fisheries and Oceans Canada

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Department of Fisheries and Oceans **Federal Government**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.14 – Crown-Indigenous Relations and Northern Affairs Canada

Webequie Supply Road Project Consultation Log

Records Found: 1

Crown Indigenous Relations and Northern Affairs Canada **Federal Government**

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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.15 – Indigenous Services Canada

Webequie Supply Road Project Consultation Log

Records Found: 1

Indigenous Services Canada — Federal Government

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Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Nov 17, 2023 10:30 Method: Other
Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session
Craig Wallace of AtkinsRéalis and the Webequie Supply Road (WSR) Project team held a meeting with the GRT and Federal Authorities representatives to present and discuss the evaluation of alternatives process for WSR. The meeting aimed to present the preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project and gather initial feedback from federal authorities and the Ontario Government Review Team (GRT) on the methodology and evaluation. This session was part of the second round of consultations with Indigenous communities, stakeholders, and the public, focusing on the alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the project. A copy of the presentation was attached to the meeting notes.
The meeting began with a Health, Safety, and Environment (HSE) moment, followed by a project overview. Attendees were then presented with a review of the alternatives assessment process. Part 1 covered “alternatives to” the project and the assessment of alternative routes within the identified 2 km wide corridor. Part 2 focused on evaluating alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads, and road design elements of the proposed WSR. A question and answer session followed these sessions. Due to time constraints, the meeting concluded with thanks to all participants. The Project Team reminded attendees to direct any further questions or clarifications to Craig Wallace.
Attached File: "Web-WSR Consultation Round 2 Meeting with GRT and IAAC Summary-2023-11-28 ".pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail

Topics to be Discussed: Notice of Public Information Center #3

Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.16 – Transport Canada

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

Transport Canada — Federal Government

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
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Contact Date: Nov 17, 2023 10:30 Method: Other
Topics to be Discussed: Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session
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APPENDIX P2.J.1

Government Stakeholders

- P2.J.1.17 – Federation of Northern Ontario

Webequie Supply Road Project Consultation Log

Records Found: 1

Federation of Northern Ontario — Businesses

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
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Contact Date: Aug 18, 2022 14:52 Method: E-mail
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Contact Date: Aug 29, 2024 15:26 Method: E-mail
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APPENDIX P2.J.2

Other Stakeholders and the Public

- De Beers Canada Inc.

Webequie Supply Road Project Consultation Log

Records Found: 1

De Beers Canada Inc. — Businesses

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
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Contact Date: Sep 22, 2023 18:41 Method: E-mail
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Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail
Topics to be Discussed: Notice of Public Information Center #3
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APPENDIX P2.J.2

Other Stakeholders and the Public

- Matawa First Nations Management Inc.

Webequie Supply Road Project Consultation Log

Records Found: 1

Matawa First Nations Management Inc. **Aboriginal Businesses**

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 15:33 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre
Brianna Patrick and Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email blast to all Indigenous communities and organizations with a Notice of Public Information Centre being held on August 25, 2022 at 2:00pm to 5:00pm and at 6:00pm to 9:00pm at the Valhalla Hotel inn, Thunder Bay to provide interested parties an opportunity to learn about the ongoing Environmental Assessment/Impact Assessment (EA/IA) study for the WSR Project and provide feedback. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Aug 23, 2022 12:57 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre
Brianna Patrick and Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team sent an email blast to all Indigenous communities and organizations as a reminder about the Public Information Centre being held on August 25, 2022 at 2:00pm to 5:00pm and at 6:00pm to 9:00pm at the Valhalla Hotel inn, Thunder Bay to provide interested parties an opportunity to learn about the ongoing Environmental Assessment/Impact Assessment (EA/IA) study for the WSR Project and provide feedback. The email included a Notice of Public Information Centre which provided information on the Project purpose, details of the EA/IA, and the contact information of Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Feb 01, 2023 12:07 Method: E-mail
Topics to be Discussed: ATRI Forum Invitation
McKenna Baxter and Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team sent an email to Peter Moses of Matawa First Nations Management regarding the invitation for the Aboriginal and Treaty Rights and Interests (ATRI) Forum hosted by the Province of Ontario in Thunder Bay on February 8 & 9, 2023. The email explained that it is not too late to RSVP for the event. Attached to the email was the poster which explained that the 2-day forum will focus on discussing potential impacts to Northern Indigenous Communities ATRI as they relate to the WSR, Northern Road Link (NRL), and Marten Falls First Nation Community Access Road (MFCAR) Projects. The poster provided more information on how community representatives can attend, the purpose of the forum, who should attend from each community, and an email address for the community to RSVP. A preliminary agenda was also included on the poster. The Province of Ontario, Michael Fox of WSR, Andrea Nokleby of MFCAR, and Mishal Neesar of NRL provided their emails on the poster for further information for any questions or comments.

15:38
Peter Moses of Matawa First Nations Management sent responded to the email from Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project Team regarding the invitation to the Aboriginal Treaty Rights and Interests (ATRI) Forum in Thunder Bay. Peter thanked Michael for the email and indicated that he looks forward to attending.
Attached File: Invitation - 2 Day Aboriginal and Treaty Rights and Interests Forum - Thunder Bay February 2023.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Apr 25, 2024 11:58 Method: E-mail
Topics to be Discussed: WSR WFN Infra Data Release
Lindsay Jupp of Matawa First Nations Management sent an email to Mark Knell of AtkinsRealis and the Webequie Supply Road (WSR) Project team with a list of reports and documents related to infrastructure available to share with the WSR Project team, given Webequie First Nation's approval. The list included: 1) Draft extended ACRS 2023-2024; 2) Neegan Burnside Winter Road Study 2009; 3) Sampson's winter road .kmx files; 4) Capital Planning Study 2014; 5) Airport Development Phase 2 report 2016; 6) FNIIP 2023-2024; 7) Closing the Infrastructure Gap by 2030. In return, Lindsay indicated Matawa's interest in receiving, given WFN's approval: 1) community profile document for review/comment; 2) .kmz files for potential road paths & drilling results at major crossings; and 3) Land use plans (draft or final). For inquiries about the Power Generation & Distribution, Lindsay provided a contact at HORCI.

Contact Date: May 06, 2024 10:58 Method: E-mail
Topics to be Discussed: WSR Information
Mark Knell of AtkinsRéalis and the Webequie Supply Road (WSR) Project team sent an email to Lindsay Jupp of Matawa First Nations Management with the preliminary right of way attached for the WSR Project. Mark indicated that he would get back to Lindsay about any available drilling data and noted Glen Wabasse and James Suqanaqueb will be in touch with Lindsay during the week about the release of reports for review as part of the Environmental Assessment and Impact Assessment.

Contact Date: Jun 11, 2024 09:00 Method: Open House
Topics to be Discussed: Three Roads Project Gathering and Expo
Michael Fox of Indigenous and Community Engagement (ICE) and the Webequie Supply Road (WSR) Project team was one of three hosts for the Three Roads Projects Gathering & Expo (Gathering) held at the Superior Inn and Conference Centre in Thunder Bay on June 11-13, 2024.

The purpose of the Gathering was to create a respectful, and collaborative space for consultation to continue to build an understanding of the three road projects and their potential impacts by: 1) Providing a comfortable space for Elders to gather and discuss the Projects; 2) Creating opportunities to engage directly with the Project proponents and consulting teams sharing information about the Projects and; 3) Discussing the upcoming draft Environmental Assessment Report / Impact Statement (EAR/IS) Review Process for WSR and the Marten Falls Community Access Road (MFCAR) Project.

Day 1 was set aside exclusively as an Elders Gathering to gather and engage with the individual Project Teams for all three projects to share their perspectives. By design, there were no government representatives in attendance on Day 1; only Indigenous people and Indigenous consultants, to encourage a more open and comfortable discussion. This was a new and innovative approach to engaging with Indigenous communities by the creation of a sacred space that was authentic, comfortable and open.

Day 2 was open to all participants. The morning focused on a series of technical presentations on key issues identified in previous engagement and consultation opportunities (peatlands (and other terrain), building roads on peatlands, aspects of water and fish populations). The afternoon was an Expo where participants could visit a series of booths to have one-on-one conversations with Project Team members from each of the road projects, various technical aspects of the Projects, Ontario and the Impact Assessment Agency of Canada.

Day 3 was also open to all participants. This session was a half day workshop on a common approach to reviewing the upcoming circulation of draft EAR/ISs for two of the three road projects so that there would be sufficient time to review and provide feedback. Each project team wanted to share the common approach to reviewing the draft EAR/ISs with Indigenous Nations early so that there was a shared understanding of what to expect and when. This would allow Indigenous communities to prepare themselves in advance with respect to resources to assist in the review.

Eligible Indigenous communities were invited to attend with 3 participants from each community being funded by the province. A total of 44 individuals signed in for Day one of the gathering, A total of 62 individuals signed in for Day 2, and a total of 48 individuals signed in for Day 3, but please note that not all participants opted to sign in. In total 3 participants from Matawa First Nations Management, Four Rivers, attended the Gathering over the 3 days; Kimberly Jorgenson, Jennifer Duncan, Jasmin Baxter.

Contact Date: Aug 09, 2024 13:07 Method: E-mail
Topics to be Discussed: EA Hard Copy Request
Jennifer Duncan of Four Rivers Environmental Services Group, of Matawa First Nations Management group sent an email to Michael Fox of Indigenous and Community Engagement (ICE), Don Parkinson of AtkinsRéalis and the Webequie Supply Road (WSR) Project Team. The email requested hard copies of the Environmental Assessment (EA) for Matawa and Constance Lake First Nation (CLFN) and provided the contact information for Jennifer Duncan of Matawa and Bertha Sutherland of CLFN, to send the hard copies to when the EA is released. The email also requested a draft copy of the table of contents ahead of the release of the full draft EA to help in the review of the EA.

Contact Date: Aug 29, 2024 15:26 Method: E-mail
Topics to be Discussed: Notice of Public Information Center #3
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf

APPENDIX P2.J.2

Other Stakeholders and the Public

- Norton Resources Ltd.

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Webequie Supply Road Project Consultation Log

Records Found: 1

NORONT Resources Ltd. — Businesses

Contact Date: Oct 29, 2021 16:30 Method: E-mail
Topics to be Discussed: Notice of Commencement of Environmental Assessment
Don Parkinson of SNC Lavalin Inc (SNC) emailed the Notice of Commencement of Environmental Assessment (EA) for the Webequie Supply Road (WSR) Project to all stakeholders including the public, Indigenous communities, agencies and other interested parties. The email informed the stakeholders that the Terms of Reference (ToR) with amendments for the WSR EA Study was approved by the Minister of the Environment, Conservation and Parks (MECP) on October 8th, 2021. The email also informed them that the approved ToR and Notice of Approval can be accessed on the project website. It further encouraged participation in future consultations.
Attached File: SNC-Public Notice of Commencement of EA-2021-10-21.pdf

Contact Date: Aug 18, 2022 14:52 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don noted that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Aug 24, 2022 15:37 Method: E-mail
Topics to be Discussed:
Don Parkinson, Consultation Lead of SNC-Lavalin Inc, emailed the Notice of Public Information Centre #1 (PIC #1) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #1 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Thursday, August 25, 2022, from 2:00pm to 5:00pm and 6:00pm to 9:00pm at the Valhalla Hotel and Convention Centre in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #1-2022-08-05.pdf

Contact Date: Sep 22, 2023 18:41 Method: E-mail
Topics to be Discussed: Notice of Public Information Centre #2 for EA
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #2 (PIC #2) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #2 will consist of a presentation at 2:00pm and 6:00pm followed by an informal drop-in session with display information about the project. The PIC has been scheduled to be on Monday, October 2, 2023 and Tuesday, October 3, 2023 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Victoria Inn Hotel & Convention Centre in Thunder Bay, Ontario and Thursday, October 12, 2023 from 6:00pm to 8:00pm at the Cedar Meadows Resort & Spa in Timmins, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads. The Notice also included a map of the Project area and two alternative road locations.
Attached File: WSR-Notice of Public Information Centre #2-2023-09-25.pdf

Contact Date: Aug 29, 2024 15:26 Method: E-mail
Topics to be Discussed: Notice of Public Information Center #3
Don Parkinson, Consultation Lead of AtkinsRéalis, emailed the Notice of Public Information Centre #3 (PIC #3) for the Environmental Assessment Phase of the Webequie Supply Road Project to public and private stakeholders, land tenure and claim holders, federal and provincial agencies, and other interested parties. Don reminded that a Public Information Centre (PIC) is being held to provide interested parties an opportunity to learn and provide feedback on the Environmental Assessment / Impact Assessment (EA/IA) for the Webequie Supply Road. The email also informed that the PIC #3 will consist of a presentation followed by an informal drop-in session with display information about the project. The PIC #3 has been scheduled to be on Tuesday, September 10, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Best Wetsern Premier Northwood Hotel in Timmins, Ontario, and Thursday, September 12, 2024 from 2:00pm to 4:00pm and 6:00pm to 8:00pm at the Superior Inn Hotel in Thunder Bay, Ontario. The Notice provided information on the Project purpose, details of the EA/IA, and the contact information of the Project Leads.

Attached File: WSR-Notice of Public Information Centre #3- 2024-07-24.pdf