



**Manitoba Hydro**  
**D604I 500kV Manitoba-Minnesota**  
**Transmission Project (MMTP): Section 2**

**Contractor's**  
**Environmental Management Plan**  
**(EMP)**

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### Disclaimer

*This Environmental Management Plan is subject to revision based on Project-specific environmental requirements, construction schedule, site conditions and communications with Manitoba Hydro.*

*Please refer to Valard's Environmental Management System (EMS) document (included separately), which describes Valard's system for maintaining compliance with Project environmental standards, regulatory requirements and deliverables. Valard will work with Manitoba Hydro and/or its designated environmental representative(s) as required to refine and implement the EMP for the work according to Manitoba Hydro and regulatory requirements.*

## Key Project Contacts – Environment

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<b>Valard Construction</b> Site Safety Advisor	Shane Sauve <a href="mailto:ssauve@valard.com">ssauve@valard.com</a>	204-979-5840
<b>Environmental Incident Reporting (EIR)</b>	<b>Valard Project Environmental Lead</b>  <b>MH Environmental Protection Officer</b>  <b>All incident reports must be emailed to</b> <a href="mailto:envincidents@valard.com">envincidents@valard.com</a>	<b>204-218-5069</b>  <b>204-803-6658</b>

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## 1. INTRODUCTION

The following outlines Valard Construction LP's (Valard) approach and Contractor's Environmental Management Plan (EMP) for maintaining compliance with environmental requirements for D604I 500kV Manitoba-Minnesota Transmission Project (MMTP) - Section 2, based on information provided in Manitoba Hydro's Request for Proposal (RFP) 040693 and Rev 1.

### 1.1 VALARD HSE MISSION STATEMENT

Valard maintains a proactive Health Safety and Environmental Management System (HSE) to mitigate and eliminate incidents and injuries on all of the work we do. To achieve this, Valard:

- Provides a work environment that puts top importance on the health and welfare of the employee, client and community; and,
- Operates in a way that preserves and protects the environment.

### 1.2 VALARD ENVIRONMENTAL POLICY STATEMENT

Valard is committed to acting in an environmentally responsible manner. We affirm our commitment to our stockholders, our employees, our clients, and our neighbours through the following policy:

Valard is committed to protecting human health and the environment through compliance with applicable Federal, provincial and local environmental laws and regulations and by continually striving to reduce the environmental impact associated with our operations. We will achieve this commitment through the application of the following principals:

1. Valard will comply with all applicable environmental laws and regulations.
2. Valard will not create unacceptable new risks to the environment and will strive to minimize risks from existing environmental conditions.
3. Valard will strive to minimize the quantity and degree of hazardous waste resulting from its operation
4. Valard will strive to become a leader in respect to environmental protection and enhancement.

Valard's Environmental Policy was adopted in 2002 and is applicable to all operations.

### 1.3 MANITOBA HYDRO'S ENVIRONMENTAL POLICY

Valard understands that the proposed work is subject to the conditions of Manitoba Hydro's environmental plans and policies and shall ensure that Valard employees and subcontractors:

- are familiar with and abide by applicable environmental requirements;
- are aware of all environmental aspects of their work through Orientation and training;
- comply with any site-specific environmental plans and/or emergency procedures, including Manitoba Hydro's Environmental Emergency Response Procedures;
- take, if required by Manitoba Hydro, Environmental Awareness Training in accordance with facility-specific environmental training procedures;
- report any unforeseen environmental issues immediately.

### 1.4 PURPOSE AND USE OF THIS ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The purpose of this EMP is to demonstrate Valard's commitment to undertake works in an environmentally responsible manner and in accordance with Manitoba Hydro's environmental requirements, applicable Regulatory and/or permit requirements, legislation and/or industry standard Best Management Practices (BMP).

This EMP will work in conjunction with Manitoba Hydro's general and site-specific mitigation measures identified in the **Manitoba–Minnesota Transmission Project Construction Environmental Protection Plan (CEnvPP)** (Manitoba Hydro, May 2019) including 'Part 2' Mapbook and in accordance with the following Manitoba Hydro Project Specific Plans:

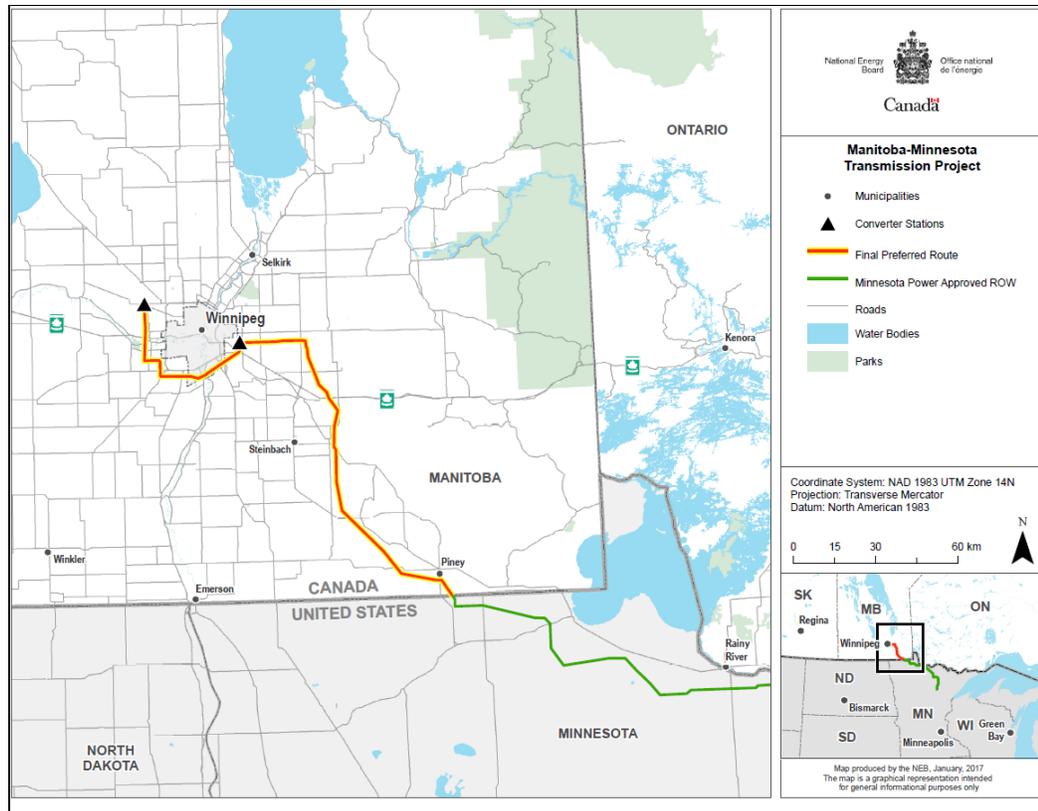
- Access Management Plan;
- Clearing Management Plan;
- Waste and Recycling Management Plan;
- Rehabilitation and Invasive Species Management Plan;
- Erosion and Sediment Control Management Plan;
- Cultural and Heritage Resources Protection Plan;
- Reptile and Amphibian Protection Document
- Species of Concern Contingency Measures
- Biosecurity Management Plan;
- Saturated/Thawed Soils Operating Guidelines;
- Blasting Management Plan;
- Navigation and Navigation Safety Plan; and
- Other - Applicable Regulatory Permits, Approvals or Legislation

This EMP outlines the anticipated Environmental risks and requirements, roles and responsibilities and proposed Environmental Management System (EMS) that may be employed to manage and mitigate construction activities in order to maintain environmental compliance. It describes how environmental risks are identified and mitigated through planning, work management, and reporting.

## 1.5 PROJECT LOCATION AND SCOPE OF WORK

The overall D604I 500kV Transmission Line is a 213 km single circuit 500 kV AC transmission line that extends from Dorsey Station to near the US Border crossing near Piney, Manitoba (the "US Border") (Figure 1). The Scope of Work generally includes construction access, geotechnical exploration, clearing, foundations and anchor installation, tower assembly, tower erection, conductor stringing, and optical ground wire (OPGW) stringing for the D604I 500kV Transmission Line. The Scope of Work is divided into Section 1 (Dorsey Station to Vivian) and Section 2 (Vivian to US Border).

This EMP is for Section 2, located from Vivian Corner to the US Border. Section 2 is 121 Km and includes Tower 226 to Tower 496. Specific information for Environmentally Sensitive Sites (ESS) and recommended mitigation for this section is on map sheets 23-53 of the Manitoba Hydro CEnvEPP (May 2019) construction section mapbook, 'Part 2'.



**Figure 1: MMTP Project overview map (from NEB Decision, file EH-001-2017, November 2018).**

## 1.6 VALARD ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

Valard has developed and maintains a corporate 'Environmental Management System' (EMS) for construction projects (provided under separate cover). Valard's EMS specifies the tools, personnel and processes for delivering Project environmental compliance, due diligence and reporting.

The Valard EMS has undergone numerous revisions based on internal audits for improvement. Overall, the EMS is designed to:

- Ensure that Project environmental constraints, commitments, permit conditions and other regulatory requirements are identified and understood prior to construction, and achieved throughout all project phases;
- Ensure that the proposed Project construction schedule is achievable within environmental constraints;
- Identify potential environmental issues proactively to ensure that work is planned and conducted in an environmentally responsible manner;
- Monitor, track and/or document Valard's environmental compliance performance; and,
- Support continuous improvement of Valard's Construction EMS program.

The Project specific Environmental Management Plan (EMP) is a key component of the EMS and is updated throughout construction, as required. The EMP describes the specific Project scope and environmental risks, requirements or activity-specific mitigation outlined in contract specifications and/or any applicable local environmental legislation or regulations (permits, approvals, commitments, etc.). The Valard EMP also describes Best Management Practices (BMPs) to avoid or mitigate potential environmental impacts and outlines the specific procedures and direction with respect to managing, communicating and reporting environmental incidents. The

EMS is the system by which compliance with the EMP and associated documents is achieved. The following components of the EMS shall apply:

- The Pre-Construction Environmental Screening (see associated Valard EMS document) will be completed prior to mobilizing any personnel or equipment to site to ensure that all regulatory and Owner environmental requirements are identified, understood and adhered to. The screening process is guided by a checklist (see EMS) and is reviewed and signed by the Valard Project and/or Construction Manager to document understanding of environmental requirements, identification of any information, equipment or personnel gaps and the planning or application of appropriate mitigation measures or follow-up actions to maintain compliance.
- The Valard Construction Manager and crew Supervisors, including Subcontractors have read and understood the environmental requirements outlined in the EMP and communicate these to crews during weekly safety meetings;
- Environmental orientation and/or training will be delivered to Valard Supervisors and Subcontractors as applicable to the scope of work. Training will include presentations, communications and/or videos from Valard Environment and may include, but not be limited to: Spill Response, Waste Management, Incident Reporting and Sediment and Erosion Control, Wildlife Management.
- Daily tailboard meetings are held prior to work at any site. These meetings are to review project environmental issues and mitigation measures, site specific mitigation measures, contingency plans, rules and regulations. Environmental issues and requirements will be a component of daily tailboard discussions and recorded when applicable to the work.

Valard's Environmental Management System (EMS) for construction is attached.

## **2. ROLES AND RESPONSIBILITIES**

### **2.1 MANITOBA HYDRO RESPONSIBILITIES**

Manitoba Hydro maintains a Senior Environmental Assessment Officer, Environmental Specialist(s) and Environmental Officer(s) for the Project.

**The Senior Environmental Assessment Officer** will be responsible for establishing and leading the environmental affairs of the proposed Project, providing advice and guidance on environmental protection matters, reviewing inspection reports and monitoring information, and preparing the annual report as per regulatory requirements. The Senior Environmental Assessment Officer also issues environmental improvement and stop work orders as required for noncompliance issues and liaises with Manitoba Sustainable Development, Environmental Approvals Branch.

The Manitoba Hydro **Environmental Specialist** is responsible for the implementation of CEnvPP (May 2019) and:

- Liaises with regional regulatory authorities and other regulatory authorities where required
- Provides advice and guidance to construction supervisors and MH Environmental Protection Officer for non-compliance situations, environmental incidents and emergencies
- Supervises MH Environmental Protection Officer and monitors, provides support and guidance to contractors regarding CEnvPP

- Responsible for implementing and ongoing compliance monitoring to ensure consistent and accurate reporting into the MH Environmental Protection Information Management System (EPIMS).

The MH **Environmental Protection Officer** reports to the Senior Environmental Assessment Officer and provides advice and guidance to the Construction Supervisor. The MH Environmental Protection Officer is responsible for ongoing compliance monitoring of project activities to ensure consistent implementation of the CEnvPP and accurate reporting into the Environmental Protection Information Management System. The Environmental Protection Officer's role is to:

- Provide support and guidance in developing solutions for environmental issues on-site with the Construction Supervisor and the Contractor and where applicable with the input from the Senior Environmental Assessment Officer
- Provide support and guidance to the Contractor regarding CEnvPP
- Assist the Contractor's Environmental Representative in ensuring that all necessary information is covered in the Contractors pre-project employee orientation and record is kept (Appendix H)
- Provide advice and guidance to the Construction Supervisor for non-compliance situations, environmental incidents and emergencies
- Conduct site inspections regularly and ensures that reports containing information on activities carried out as well as effectiveness of actions and outstanding issues are submitted to Environmental Protection Information Management System
- Prescribe follow-up mitigation measures and ensures that they are implemented
- Confirm that all ESS sites are correctly identified, delineated and flagged/marked by the Construction Contractor in the field
- Monitor the project for compliance of the CEnvPP, Environmental License and other environmental regulatory requirements
- Liaise with regional regulatory authorities and other regulatory authorities where required or applicable

## **2.2 VALARD'S QUALIFIED ENVIRONMENTAL PROFESSIONALS (QP)**

Valard maintains a team of Qualified Environmental Professionals (QP) on staff to support environmental and regulatory compliance. Valard's HSE staff are responsible for:

- Understanding the Project requirements outlined in Manitoba Hydro's Environmental Protection Plan, policies and procedures as well as any applicable environmental legislation, permits or approvals;
- Implementing systems to monitor compliance and establishing a communication protocol with the Manitoba Hydro representative;
- Communicating environmental requirements to construction teams;
- Ensuring that environmental education and compliance training occurs on a continuing basis via discussion and/or presentations at safety meetings and tailgate meetings, and documenting training that is provided to personnel;
- Providing additional internal environmental training for specific topics (via video presentations) as required (i.e.: Spill Response, Bear Aware, Working around Water, Erosion and Sediment Control);
- Ensuring that all sub consultants understand the environmental requirements of the Work;
- Resolving environmental issues to the satisfaction of regulatory personnel and Manitoba Hydro;
- Initiating and implementing environmental corrective and preventative action plans, as required;

- Preparing site-specific mitigation plans to support construction;
- Monitoring construction work and ensuring compliance with environmental requirements
- Maintaining documentation (including photos) of environmental incidents and environmental mitigation undertaken.

For the proposed project, the following staff will be available on and off-site to execute Valard's EMS, support regulatory compliance and meet construction environmental requirements.

Resumes are included in the Valard submission. Additions and/or substitutions to the Valard environment team may be made throughout the Project, depending on availability.

**Off-Site Environment & Regulatory Support:**

- Luce Paquin, MSc, RP. Bio - Project Environment Manager/Senior Resource Biologist
- Rebecca Brough, D.Tech, ASCT - Operations Manager, Environment

The Project Environmental Manager provides senior level professional oversight, advice and input with respect to overall project environmental & regulatory compliance, management and mitigation. The Environmental Manager liaises with Valard Construction personnel, Manitoba Hydro and Regulatory Agencies as required to meet project goals and objectives. The Project Environment Manager also provides strategic risk assessment and professional mitigation advice to Valard's Project team on unforeseen environmental issues and incidents.

The Environmental Operations Manager oversees and audits the implementation of Valard's EMS on the Project and assigns internal and external (3<sup>rd</sup> Party) environmental resources and specialists as required to meet Project environmental compliance requirements.

**On-Site Project Environmental Support:**

- James Phibbs, MSc, RP. Bio - Project Environmental Lead
- Katey Miller, C.E.T. - Environmental Coordinator
- Shayden Bell - Environmental Monitor

The **Environmental Coordinator** is responsible for:

- Implementation, coordination and verification of pre-project employee environmental orientation.
- Understanding and monitoring CEnvPP and EMP compliance
- Providing information and advice to the construction crews on environmental protection and compliance
- Implementing environmental emergency response and hazardous materials plans
- Liaising with MH Environmental Protection Officer and MH field safety officers.
- Delineating and flagging all environmentally sensitive sites, access, ROW and other applicable boundaries in as identified in CEnvPP in the field as per flagging and signage standards.
- Reviewing and understanding all Project-related environmental requirements, permits, licences and conditions;
- Developing and/or revising the Project EMP;
- Liaising with Valard's Environment Manager, Construction Manager, Manitoba Hydro and Regulatory Agencies, as required;
- Preparing and submitting permit applications and environmental documentation as required;
- Managing, investigating and/or reporting on environmental incidents, as required;

- Coordinating the use of Environmental Resource Specialists (e.g. fisheries biologist, bird specialist, etc.) as and when necessary;
- Implementing and overseeing the Valard Environmental Management System (EMS) for construction, including issues tracking, mitigation, documentation and reporting.
- Guiding short and long term environmental priorities as per work schedule and scope.
  - Conducting routine environmental inspections;
  - Identifying, developing and installing mitigation measures, as required;
  - Training and mentoring local Environmental Monitors, as required;
  - Communicating environmental restrictions and requirements to crews during daily safety and/or toolbox meetings and during construction activities.
  - Stopping work if damage to the environment is occurring or imminent.

**Valard's Environmental Coordinator (EC)** is responsible for communicating the environmental requirements to the construction team(s), delivering Project environmental orientation/awareness training and supporting the Valard Construction Manager and site personnel with any questions, concerns or incidents related to project environmental compliance. The Valard EC will work with Manitoba Hydro personnel and Valard's construction team(s) and sub-contractors to review the work schedule, scope and environmental restrictions or requirements, in order to proactively mitigate issues, prevent construction delays and maintain compliance.

This includes reviewing and managing compliance/reporting/corrective actions associated with any **Environmental Improvement Orders** or **Environmental Stop Work Orders** issued by Manitoba Hydro, as described in Section 5.5 and 58.6 and the Project CEnvEPP (May 2019).

Valard's **Construction Manager** is responsible for reviewing this EMP, ensuring regular communication with the Valard EC and supporting Valard construction team(s) with the implementation of this EMP and any site-specific mitigation plans for the proposed work. This includes communicating the Project environmental requirements to on-site Supervisors and Foremen, and fostering a 'top-down' culture of compliance.

**On-site Work Supervisors and/or Foremen** are responsible for ensuring compliance in their crews' work activities, including addressing environmental requirements and mitigation in tailboard discussions, seeking the advice of the Environmental Coordinator(s) as required, and conducting the work according to Project requirements.

### 3. REGULATORY AND LEGISLATIVE REQUIREMENTS

All relevant regulatory approvals for the Project will be obtained by Manitoba Hydro prior to construction. Manitoba Hydro will provide Valard with copies of all available permits, licences, approvals and authorizations obtained for the Project. Electronic copies of all permits are available for download from Manitoba Hydro's Environmental Protection Information Management System (EPIMS). All documentation will be kept on-site by both Valard and Manitoba Hydro personnel.

All Project regulatory requirements and/or permit conditions will be reviewed and adhered to by Valard, and:

- Non-conformance(s) i.e. any violation of the Manitoba Hydro Construction Environmental Protection Plan (Manitoba Hydro May 2019) and associated Management Plans will be reported as soon as practical (or within 2 hours and immediately in case of fires) to the Manitoba Hydro Environmental Protection Officer.
- Non-compliance(s) will be reported as soon as practical (or within 2 hours) to the Manitoba Hydro Environmental Protection Officer and appropriate regulatory agency within 24hrs.

- A copy of all environmental and construction permits (if required) will be provided to Manitoba Hydro and will be kept on site at all times while on the Work site.
- In the event of crew changes, new personnel arriving on site will be fully informed of all applicable environmental protection conditions, permits and approvals.

### 3.1 PERMITS AND APPROVALS

#### 3.1.1 NATIONAL ENERGY BOARD (NEB) APPROVAL

On December 16, 2016, Manitoba Hydro filed a Project Application with the National Energy Board (NEB) under sections 45(1) and 58.11 of the *National Energy Board Act* (NEB Act) to construct and operate the MMTP Project. The NEB authorized the Project under the *Canadian Environmental Assessment Act, 2012* (CEAA) (File EH-001-2017) in November 2018.

Under the NEB Act, the Board may set out conditions to mitigate potential risks and effects associated with the project. The Board imposed 28 conditions for the Project found in 'Appendix III, Certificate Conditions' of the NEB decision (File EH-001-2017, November, 2018).

Valard understands that all Project activities must comply with the NEB Certificate Conditions, in addition to any commitments made by Manitoba Hydro in its Application or in its related submissions, which have become regulatory requirements through the NEB proceedings. To be satisfied that Manitoba Hydro complies with all of its commitments for this Project, Condition 15 requires Manitoba Hydro to file a Commitments Tracking Table for the Project. The following overarching conditions set the regulatory stage for the Project:

- Condition 1 – requires compliance with all conditions;
- Condition 2 – provides an expiry date of the Certificate;
- Condition 3 – requires that all commitments made in the proceeding be implemented;
- Condition 4 – requires that the Project be constructed, operated, and abandoned in accordance with the standards and other information referred to in the Application and proceedings;
- Condition 10 – requires an updated Project-specific Construction Environmental Protection Plan (CEPP) and associated plans;
- Condition 26 – requires Manitoba Hydro to file a Wetland Offset Measures Plan within 90 days of commencing operation of the Project; and,
- Condition 28 – requires annual reports regarding Manitoba Hydro's continued operation of the Project.

Valard understand that the NEB will monitor and enforce compliance with these terms and conditions throughout the Project through audits, inspections, and other compliance and enforcement tools, as applicable under the NEB Act. Valard shall ensure that a QP is on-site to support construction compliance management and reporting as requested by MH (and as per Valard's EMS).

#### 3.1.2 OTHER PERMITS AND APPROVALS

Other potential Project environmental permits to be obtained by MH or Valard are listed in Table 1.

Valard understands that work will not proceed unless all applicable Permits and Approvals have been obtained.

**Table 1: Potential Project Environmental Permits.**

Environmental Permits/ Approval Required For Construction	Responsibility	Related Environmental Construction Conditions
Environment Act Licence (Class 3)	MB Hydro	Manitoba Hydro to provide details.
Crown Lands Act (work Permit)	MB Hydro	Manitoba Hydro to provide details.
Crown Lands Act (General Permit)	MB Hydro	Manitoba Hydro to provide details.
Permit to cut timber on Crown Lands (Forest Act)	MB Hydro	TBD upon review of permit approval
Wildfires Act (Work Permit)	MB Hydro	TBD upon review of permit approval
Storage and Handling of Gasoline & Associated Products Regulation, Generator Registration and Carrier Licencing Regulation (Dangerous Goods Handling and Transportation Act).	Contractor - Valard	TBD upon review of permit approval
Highways Protection Act	MB Hydro	TBD upon review of permit approval
The Heritage Resources Act (When Required)	MB Hydro	TBD upon review of permit approval
Rail line crossing at temporary access road intersections	MB Hydro	TBD upon review of permit approval
A permit from Manitoba Infrastructure and Transportation (MIT) is required for any construction above or below ground level that falls within 250 ft. of a Provincial Trunk Highway right-of-way edge or within 150 ft of a Provincial Road right-of-way edge.	MB Hydro	TBD upon review of permit approval
Public Health/Food Services	Contractor - Valard	TBD upon review of permit approval
Private Land Owner Permissions	Contractor - Valard	TBD upon review of permit approval
Temporary Camp Permit, including all other camp permits (e.g. sewage disposal)	Contractor - Valard	TBD upon review of permit approval
Temporary Water Use Permit	Contractor - Valard	TBD upon review of permit approval

## 4. REVIEW OF PROJECT-SPECIFIC ENVIRONMENTAL FEATURES AND MITIGATION

A number of environmentally sensitive sites (ESS) have been identified for the Project, and in particular, Section 2 contains numerous wetland habitats and potential for environmental timing restrictions and/or setbacks. ESS are features identified in the Project environmental impact statement to be ecologically, socially, economically, culturally or spiritually important or sensitive to disturbance that require protection during construction of the project. Mapsheets have been developed for the Project (Part 2, CEnvEPP Mapbook) to present the location and spatial extent of ESS, including species of concern habitat(s); each map has corresponding tabular summary information including ESS feature information and relevant mitigation measures to address the potential environmental effects at each ESS site.

The CenvEPP and Project ESS maps were reviewed to provide a high level summary of project-specific environmental considerations and requirements, particularly those with the potential to impact schedule (Table 2). For the identified ESS features, it will be important to ensure that assessments are conducted and mitigation is developed well in advance of construction schedules; particularly for work that must be completed during non-frozen conditions and/or during Reduced Risk Timing Windows.

Valard's HSE team must work closely with MH Environmental Protection Officer to ensure that any required additional site specific assessments and mitigation plans are completed and approved in a timely manner, in advance of construction, in order to avoid delays and potential non-compliances. This is particularly important in light of the scope of work that may be required (to maintain schedule) outside of the winter/frozen period.

The Manitoba Hydro Construction Supervisor and Environmental Protection Officer must be immediately notified of any environmental incidents or if any sensitive environmental or heritage occurrences are encountered during contract clearing activities that are not identified in the project specific Environmental Protection Plan; no work can occur within the specific area until it has been assessed by Manitoba Hydro and any additional mitigation measures have been communicated to all applicable project workers.

### 4.1 PROJECT-SPECIFIC WILDLIFE CONSIDERATIONS

The CEnvEPP indicates that areas where reptiles and amphibians, such as garter snakes, frogs, and toads, mate and lay eggs (i.e., breed) are sensitive to ground disturbance. Heavy equipment traffic and ground clearing activities that coincide with breeding activities can have a measurable effect on local populations. Amphibians should be assumed to be present in all wetland or shallow water areas supporting emergent vegetation (cattails, bulrushes, lily pads) during the amphibian emergence and breeding period (April 1st to August 15th). Mitigation for amphibians may include restricting access to shallow water areas to protect breeding ponds, or, where avoidance is not possible, salvaging amphibians to areas outside of the construction area. Exclusion fencing (e.g., sedimentation fence) may be installed prior to activities occurring in areas of breeding habitat (e.g., wetland features, low-lying ephemeral ponds) to minimize the risk of frogs entering the work area.

The CEnvEPP notes that potential Project effects on Northern leopard frog and common snapping turtle during construction include habitat loss and alteration. As these species are mainly found in riparian areas near large rivers, bodies of water or productive marshes, standard mitigation, such as the implementation of riparian buffers, will help to protect these species. Mortality could increase in the project study area during construction due to increased road traffic. Northern leopard frogs are particularly susceptible to road mortality during migration and dispersal. The Northern leopard frog is protected under SARA (Schedule 1; Special Concern). Should amphibians be identified during work, Valard's QP will develop an appropriate mitigation strategy in consultation with Manitoba Hydro and regulatory agencies, as required.

Section 6.5 of this EMP outlines BMPs for wildlife; Project and/or species-specific mitigation options for identified ESS/wildlife/habitat(s) will be reviewed as required throughout construction in consultation with the Manitoba Hydro Environmental Specialist and regulators, as required.

**Table 2. High Level Summary of Environmental Considerations for Section 2.**

ESS Mapsheet	Structures	ESS Group	Assessment and Mitigation Requirements?
24	229-239	Birds, groundwater, water crossing, wetlands	Several components potentially requiring setbacks and significant wetland presence (5-6 towers in wetland habitat). Complete assessments and develop mitigation well in advance of work.
25	240-249	Arch, birds, groundwater, habitat, water crossing, wetland	Large bird corridor, 2 towers in wetland, setback requirements in spring/summer. Complete assessments and develop mitigation well in advance of work.
26	250-258	Birds, forestry, line of sight buffer, species of concern, species of traditional use, wetlands	Several components potentially requiring setbacks and significant wetland presence. Complete assessments and develop mitigation well in advance of work.
27	259-267	Habitat, water crossing, arch, birds, wetland	Several components potentially requiring setbacks and significant wetland presence (4 towers in wetlands). Complete assessments and develop mitigation well in advance of work.
28	267-275	Birds, cultural, wetlands	Extensive wetlands, potential setbacks and timing restrictions. Complete assessments and develop mitigation well in advance of work.
29	277-286	Birds, recreation, species of concern, trail, wetland	Several components potentially requiring setbacks and significant wetland presence. Complete assessments and develop mitigation well in advance of work.
30	287-295	Birds, species of concern, wetlands	Several components potentially requiring setbacks and wetland presence. Complete assessments and develop mitigation well in advance of work.
31	296-304	Birds, conservation, water crossing, wetland	Several components potentially requiring setbacks and wetland presence. Complete assessments and develop mitigation well in advance of work.
32	305-313	Arch, birds, forestry, groundwater, wetlands	Arch assessment, bird setbacks, some wetland features (2 towers in wetlands). Complete assessments and develop mitigation well in advance of work.
33	314-323	Arch, birds, forestry, groundwater, invasive species, line of sight, recreation, TU, water crossing, wetlands	Arch assessment, bird setbacks, some wetland features, additional assessments for veg and invasive species, etc. Complete assessments and develop mitigation well in advance of work.
34	324-333	Arch, birds, invasive species, line of sight, recreation, species of traditional use, water crossing	Arch assessment, bird setbacks, some wetland features, additional assessments for veg and invasive species required. Potential for impacts to schedule – complete assessments and develop mitigation well in advance of work.
35	335-342	Arch, birds, line of sight, species of traditional use, water crossings	Arch sites and bird areas limited to eastern portion (near Tower 343) potential bird sweeps; complete assessments and develop mitigation well in advance of work.
36	343-351	Arch, birds, invasive species, species of traditional use, wetland	Arch sites and bird areas on western portion near Tower 343-347. Potential for impacts to schedule – complete assessments and develop mitigation well in advance of work.

37	352-359	Birds, wetland	Additional studies (wetland and bird sweeps); Potential for impacts to schedule – complete assessments and develop mitigation well in advance.
38	360-368	Bird, wetland	Limit wetland bird presence to western area adjacent to Tower 360.
41	386-396	Conservation, wetlands	Mitigation measures, potential wildlife setbacks from wetlands. Assess and schedule appropriately, well in advance of work.
42	394-402	Line of sight, species of concern, species of traditional use.	Wetlands, mitigation measures required; potential for impacts to schedule – complete assessments and develop mitigation well in advance of work.
43	403-411	Arch, birds, line of sight, species of concern, species traditional use, water crossing, wetland	Additional studies (Arch, wetlands, bird sweeps). Potential for impacts to schedule – complete assessments and develop mitigation well in advance of work.
44	412-420	Habitat, line of site, Arch, birds, species of traditional use, wetlands	Additional studies (Arch, wetlands, bird sweeps). Potential for impacts to schedule – complete assessments and develop mitigation well in advance.
45	421-429	Birds, cultural, species of traditional use, line of sight, wetlands	Significant wetland presence, additional studies required, likely some spring/summer setbacks. Potential for impacts to schedule – complete assessments and develop mitigation well in advance.
46	430-437	Bird, historic, wetlands	Significant wetland presence, additional studies required, likely some spring/summer setbacks. Potential for impacts to schedule – complete assessments and develop mitigation well in advance.
47	438-446	Line of sight, species of concern, species of traditional use, water crossing, wetland	Wetlands mainly associated with western side. Potential for impacts to schedule – complete assessments and develop mitigation well in advance of work.
48	448-455	Line of sight, wetland	Small wetland, mitigation required if non-frozen working conditions.
49	456-463	Water crossing, wetland	Wetland and water crossing, site specific mitigation required if non-frozen conditions.
50	464-472	Birds, groundwater, species of traditional use, wetland	5 towers in wetland area, require additional studies – complete assessments and develop mitigation well in advance of work.
51	473-482	Birds, groundwater, line of sight, species of traditional use, wetland	Only 2 towers in wetlands, complete assessments and develop mitigation well in advance of work.
52	484-491	Arch, birds, groundwater, species of concern, water crossing	Complete assessments and develop mitigation well in advance of work.
53	492-496	Arch, water, wetland	1-2 towers in wetland area, arch assessment required, complete assessments and develop mitigation well in advance of work.

#### 4.2 PROJECT-SPECIFIC ESS FLAGGING AND SIGNAGE

As outlined in the CEnvEPP, clear identification of ESS locations and applicable buffers in the field is an important part of proactive and successful environmental mitigation. Establishing consistent use of signage and

flagging tape across the project is important to reduce confusion and for the clear identification of Environmentally Sensitive Sites (ESS) and travel routes. A system of standardized flagging colors have been established to reduce the potential for confusion during construction where there are multiple or overlapping areas are being identified. Due to a large number of Environmentally Sensitive Sites the flagging has grouped and categorized, each category. This color pattern used to identify categories is found below and is also identified with the ESS in the associated CEnvPP Mapbook.

- Yellow/Black- Heritage (Archaeological, Cultural or Historic importance)
- Orange/Black- Access routes (Intersections with trails etc), Land Use (Conservation, Crown Land Encumbrance, Recreation, Residential) Resource Use (Agriculture, Food/Medicinal, Forestry, Hunting/Fishing, Trapping)
- Pink/Black- Ecosystem (Habitat, Research or Species of concern, Invasive Species, Traditional Use) Soils and Terrain (Erosion, Terrain) Wildlife (Birds and Habitat, Mammals and Habitat, Reptiles/Amphibians and Habitat)
- Blue/White- Water (Water Crossings, Wetlands, Ground Water)

A cross-hatched flagging has been chosen as it is distinct from other flagging present during construction. Figure 3 shows the currently approved patterns and colors.

**Figure 2: Project-Specific ESS Flagging Colors**



#### 4.2.1 SIGNAGE

Signage can be used in conjunction with flagging. Identification of vegetation clearing types, access or bypass trails as well as identification of ESS can be accomplished through the use of signage. Access signs are orange with black lettering, Bypass signs are yellow with black lettering and ESS signs are reflective white with black lettering. Signs will be a minimum of 12 inches by 12 inches.

### 4.3 CLEARING – ELM TREES

When elm trees are removed the stump will be debarked to the soil line, or it will be ground or removed to flush or just below the soil line. Elm wood will be immediately disposed of onsite by chipping or transported to a designated elm disposal site.

## 5. ENVIRONMENTAL AND REGULATORY COMPLIANCE MANAGEMENT

### 5.1 COMPLIANCE STATEMENT

Valard understands that Project work is subject to environmental protection requirements outlined in the CEnvEPP contract documents, permits and approvals for the work. Valard shall take all reasonable steps to protect the environment during all stages of the work, including compliance with any applicable environmental legislation or license(s), and to mitigate or limit any potential damage or nuisance to people and property resulting from construction-related pollution, noise and other results of operations associated with the works.

Valard's EMS (under separate cover) provides specific tools and processes to support Valard HSE staff in the delivery of environmental and regulatory compliance management.

## 5.2 TRACKING AND REPORTING

Valard's EMS outlines specific tools and process by which Valard will ensure that environmental deliverables are provided to Manitoba Hydro in a timely manner. The Valard EMS allows Valard to identify and track mitigation requirements, permit conditions, fulfillment of those conditions, and mitigation measures applied.

Regular documentation of environmental compliance during Construction activities typically consists of:

- EMS Documentation (EMS Tracking Table)
- Routine Environmental Monitoring Reports (completed by Environmental Coordinators);
- Routine Internal Environmental Audits (Camp, EMS);
- Environmental Incident Reports (EIR) (see EMS document);
- Weekly and/or Monthly Environmental Summary Reports (as required); and
- Equipment Inspection Reports (as required).

For the specific scope of work described herein, the following additional reports or deliverables may be required from Valard:

- Bird Survey Forms
- Amphibian Survey Forms
- Landowner Permission Forms
- Biosecurity Forms
- Timber scaling records and copies of load slips
- Copies of all permits and approvals acquired by Valard
- Emergency response and hazardous materials management plans

Valard shall prepare and submit to the Engineer as part of the Weekly Progress Report a Weekly Environmental Report, which shall include environmental information, descriptions, and statistics for the Contractor's Site activities, including:

- Environmental incidents of non-compliance with the MH Environmental Protection Plan (CenvEPP);
- Inspections or interactions with landowners, environmental regulators, including, but not limited to, Manitoba Sustainable Development;
- Reportable and non-reportable spills (as applicable);
- Avian nest sweep results (as applicable);
- Environmental stop work orders and environmental improvement orders (if applicable); and
- All other pertinent information reasonably required by the Engineer.

## 5.3 SITE -SPECIFIC MITIGATION PLANS

Valard will implement or develop plans, such as watercourse/wetland crossing plans, amphibian habitat \or nest site mitigation and monitoring plans as required to support construction scope and schedule. Valard will aim to submit plans for approval to Manitoba Hydro as much as possible in advance of the proposed work activity; at least one week and no later than 48 hours prior to starting the proposed work at that site.

The Manitoba Hydro Senior Environmental Assessment Officer will be responsible for making the final decision on mitigation measures to be applied, in consultation with Environmental Protection Officer, a qualified biologist, Project Engineer and when uncertainty exists, the appropriate Provincial or Federal regulatory authorities. All sites and associated mitigation measures within the Project development area will be added to the Construction Environmental Protection Plan (CenvEPP).

In the event that rare plants, wildlife species or rare ecological communities are identified or suspected along the construction right-of-way during construction (e.g., during survey activities, prior to clearing and construction). Suspend work immediately in the vicinity of any newly discovered species of concern and follow the measures outlined in the Project CEnvEPP **Appendix N: Species of Concern Contingency Measures**.

## **5.4 ENVIRONMENTAL IMPROVEMENT ORDERS**

Valard understands that failure to comply with the Project's environmental protection requirements or unsatisfactory performance in regards to any other environmental-related matter may result in Manitoba Hydro issuing environmental improvement orders.

The environmental improvement order, once communicated verbally or in writing is considered "effective immediately". Manitoba Hydro will establish a compliance date for each environmental improvement order issued. Valard will provide, within the timeframe specified on the order, written documentation of the mitigation actions taken, including measures taken to remedy the contravention and any measures yet to be taken. A copy of the report shall be sent to the Manitoba Hydro representative who made the order as well as all individuals cc'd on the transmittal document, and if applicable, provide a copy of the report to the employee(s) involved. Valard shall review the contravention with all employees at a regular weekly meeting and post in a prominent place at or near the worksite

## **5.5 MANITOBA HYDRO ENVIRONMENTAL STOP WORK ORDER**

Manitoba Hydro may issue an environmental stop work order where any activities which are being, or are about to be, carried on at a worksite, involve or are likely to involve an imminent risk of serious impact to the environment, or where a contravention specified in an environmental improvement order was not remedied and warning was given. The environmental stop work order, once communicated verbally or in writing is considered "effective immediately and may require work activities to be halted, that all or part of the worksite be vacated, that work activities will not resume until the order is withdrawn by Manitoba Hydro.

## **6. ENVIRONMENTAL MANAGEMENT AND BEST MANAGEMENT PRACTICES**

Standard environmental considerations and Best Management Practices (BMPs) that apply to the proposed work are described in the sections below for the following topics:

- Waste and Recycling Management
- Spill Prevention and Response
- Aquatic Habitat and Working Near Water
- Erosion and Sediment Control (ESC)
- Agricultural Lands Management and Security
- Wildlife Habitat Protection and Mitigation
- Air Quality/Dust Control
- Heritage Resources

Note: these sections may be revised or updated in consultation with Manitoba Hydro in order to better address any Project-specific environmental requirements and comply with the CenvEPP and specific conditions associated with regulatory permits and approvals for the work.

## 6.1 WASTE AND RECYCLING MANAGEMENT

Waste and Recycling Management will be conducted in accordance with Manitoba Hydro's Waste and Recycling Management Plan.

Management of wastes is subject to both provincial and municipal jurisdiction, depending on whether activity occurs on the provincial road right-of-way or on surrounding areas under municipal control. Construction wastes will be collected, sorted and disposed of in accordance with applicable Project requirements, provincial legislation / regulation and applicable municipal bylaws.

Personnel will be aware of waste management strategies and adhere to on-site implementation. All Project sites including laydowns and right of way areas will comply with the following waste management principals and procedures:

- The Project site(s) will be kept neat and clean at all times.
- No unauthorized dumping or burning of garbage, non-wood construction wastes, food wrappings, bottles/cans, sanitary wastes or other non-wood materials will occur.
- Inert waste (e.g.: scrap steel, wood) may be temporarily stored in a designated staging area until disposal to an approved recycling or waste management facility occurs.
- Personnel will be aware of waste management strategies via Environmental Orientation and adhere to site requirements.
- Wastes will be categorized and segregated on-site for disposal as follows:
  - Hazardous wastes: petroleum products, fuels, solvents, coolants, etc.
  - Construction materials: wood, tires, etc.
  - Recyclable Wastes: beverage containers, aluminium, steel, etc.
  - Domestic solid waste: non-recyclable waste, food waste.
- Work sites and/or material yards will have designated areas for waste segregation and recycling, with appropriate containers for each type of waste.
- Stored waste materials will be transferred regularly to regional disposal, recycling or scrap metal facilities with backhauls or as required, either by a local waste management contractor or appropriately trained/certified Valard personnel.
- Food waste and domestic garbage will be stored in appropriate wildlife-proof containment, and will be routinely collected and disposed at an approved landfill;
- Personnel shall be educated during project orientation to:
  - retain their daily trash (lunch wastes, wrappers) for appropriate disposal; and
  - not leave litter lying about.

### 6.1.1 HAZARDOUS MATERIALS MANAGEMENT

Hazardous materials and wastes used or generated during construction will be stored and handled in a manner compliant with relevant legislation and/or regulations, including containment to prevent or minimize spills or loss and to ensure recovery in the event of a spill (refer to Appendix A Hazardous Substance Management Plan).

Specific areas will be designated for the segregation, temporary storage and transfer of hazardous materials/wastes; these sites, materials and containers will be clearly labelled and appropriately managed to ensure proper handling and disposal. Designated hazardous waste disposal containers will be provided, clearly marked and contained in a manner compliant with applicable legislation.

Personnel working on Project construction sites will have WHMIS training, as required, and may be further trained in appropriate transport, handling and storage of 'Dangerous Goods' and 'Controlled Products' used

on-site, as applicable. Material Safety Data Sheets (MSDS) for ‘Dangerous Goods’ and ‘Controlled Products’ proposed for use will be maintained by the on-site safety coordinator and available to personnel on-site.

Used oil, filter and grease cartridges, lubrication containers, used spill response materials, contaminated soils and other waste equipment maintenance products will be collected in designated waste containers and disposed of at the nearest hazardous waste facility, according to regulations.

Documentation (waste manifests) shall be maintained to demonstrate compliance with requirements for TDG and Hazardous Waste Regulations and appropriate disposal. A licensed waste contractor may be used to collect/transport/dispose of hazardous and/or other wastes generated by the project, in accordance with relevant legislation and/or regulations.

Accumulations of full hazardous waste and used oil containers will be stored in a centralized area designed to ensure non-compatible by-products are segregated and located in designated areas to optimize control. Storage areas will be:

- Located on level ground located a minimum of 30 m from streams and other Environmentally Sensitive Areas (ESAs).
- Marked / signed to ensure proper segregation;
- Covered to keep out rainwater;
- Provided with covered secondary containment (e.g., soil berm with a high density polyethylene (HDPE) liner or manufactured secondary containment system) designed to contain 125% of volume of the largest container;
- Equipped with fire extinguisher(s);
- Equipped with spill kits appropriate to the type and amount of hazardous waste stored; and
- Located away from existing drainage paths to offsite areas to prevent accidental spills from reaching sensitive areas.

#### 6.1.2 SANITARY AND LIQUID WASTE

Temporary onsite sewage collection and disposal systems may be set up at various locations on the Project. The systems will be selected, designed and installed in accordance with Project and/or local regulatory requirements. The following guidelines shall apply:

- Equip all temporary toilets with approved septic tanks with closed holding tanks that are emptied only into approved treatment plants or sewage tanker trucks;
- Do not discharge sanitary wastes into watercourses or on the soil surface;
- Locate on-site temporary toilets away from environmentally sensitive areas and secure them to avoid or minimize damage from vandalism; and
- Manage other liquid wastes according to applicable legislation, regulation and BMPs.
- In the unlikely event of a major sewage leak or spill, such an event will be treated as a spill to the natural environment and will be reported on an EIR.
- Sewage and grey water holding tanks will be sited in accordance with provincial legislation, and federal and provincial guidelines, and a minimum of 100 m from the ordinary high water mark of any waterbody.

#### 6.1.3 STORAGE AND HANDLING OF HYDROCARBON PRODUCTS

Hydrocarbon storage and handling facilities will comply with relevant regulations and adhere to the following guidelines:

- Fuel storage, handling, fuelling and equipment repair/maintenance areas will be located on flat, stable ground, away from environmentally sensitive areas, such as riparian areas and wetlands.
- Petroleum product storage tanks will have adequate collision protection.
- Refuelling, refilling or transfer of all fuels will be conducted in a location greater than 30 m from any waterbody.
- Plastic containers used to contain petroleum products will be specifically designated for that purpose and will be no more than five years old.
- Fuel storage containers will be inspected regularly to ensure that they do not leak, are sealed with a properly fitting cap/lid, and are labelled according to the TDGA regulations.
- Containers less than 23 L and holding hydrocarbons will be transported in the equipment box of a vehicle large enough to contain the total quantity of liquid, if spilled.
- Containers greater than 23 L (including fuel drums) will be transported upright and secure to prevent shifting or toppling.
- Hydrocarbon storage containers greater than 23 L will have secondary containment (110% of volume stored), such as polyethylene containment tubs or other constructions.
- Impermeable containment will be used for both stationary and mobile fuel storage units remaining on-site overnight.
- Construction sites, access areas and marshalling yards will have the Spill Response Plan available on-site. The Spill Response Plan will specify contact information and procedures for personnel to follow in the event of a spill.
- At helicopter-access work sites, the following spill prevention will be implemented:
  - compressors/generators will be placed in secondary containment (110% of fuel volume) in the form of polyethylene containment tubs or other; and
  - 'fly box' tool kits will contain absorbent pads and other necessary spill containment items.
- Transfer of petroleum products between storage areas and work sites will not exceed daily requirements and will be in accordance with provincial legislation and guidelines.
- Used petroleum products (including empty containers) will be collected and transported to a licensed oil recycling facility in approved storage containers.
- Vehicles hauling petroleum products will carry equipment and materials for emergency spill containment and clean-up.
- Warning signs will be posted in visible locations around petroleum product storage areas. Signs will indicate hazard warning, contact in case of a spill, access restrictions and authority.
- All slip tanks are to be a ULC approved double walled design.
- Drip containers will be placed beneath all Slip tank nozzles when not in use and regularly monitored, any accumulation removed and appropriately disposed.
- Nozzles used for dispensing petroleum products will have their lever catches removed so that the operator will be present while product is being dispensed.
- Spill control and clean-up equipment and materials will be available at all petroleum product storage and dispensing locations. When a spill or release is identified, it shall be flagged off to prevent disruption of that area until clean up takes place.

- Valard shall report all hydrocarbon spills to Manitoba Hydro within 2 hours, with a written report due in 24 hours.
- In the case of an externally reportable spill, Valard shall contact an MH Environmental Protection Officer immediately

#### 6.1.4 CONTAMINATED MATERIALS MANAGEMENT

In the event that suspect contaminated material is encountered during construction, based on observation of visual staining or odours, the following general procedures will be followed.

- Valard will immediately stop work, isolate the area or suspect material and contact the Environmental Monitor and Construction Supervisor.
- The Environmental Monitor will visually assess the suspect contaminated material and surrounding area to clarify the potential presence or absence of contamination and extent of the contaminated area (if any).
- Following visual assessment of the area, the site Supervisor or Environmental Monitor will inform Manitoba Hydro of the suspect contaminated material and discuss potential intrusive assessment and remediation options.
- Valard will work under the direction of Manitoba Hydro to manage suspect contaminated materials and adhere to applicable provincial and federal regulatory requirements.
- Valard will document the stop work date, time and location due to the presence of suspect contaminated material.
- The Environmental Monitor will document visually observed suspect contamination.
- Approval to resume work will be provided to Manitoba Hydro following complete assessment and/or remediation of the suspect contaminated area.
- Valard will document the date and time when they are approved to resume work in the assessed and/or remediated area.

## 6.2 SPILL PREVENTION AND EMERGENCY RESPONSE

Valard is committed to ensuring adequate Spill Prevention and Response measures for Project work (refer to Appendix B for a detailed site specific Spill Response Plan).

Valard's HSE Policy, provides the following direction with respect to Spill Prevention and Response.

### 6.2.1 PREVENTING THE RELEASE OF CONTAMINANTS

The prevention of the release of contaminants into the environment is achieved through the following means:

- Compliance with all government legislation;
- Safety and Environmental Hazard Awareness Training;
- Preventative maintenance and inspections of vehicles and equipment;
- Posted Spill Response Plans;
- Emergency Response Training; and,
- Immediate action when spills occur.

The release of a contaminant may happen as a result of equipment malfunctions, human error or accidental spills. In the event of a release of a contaminant, Valard will respond by:

- Ensuring the safety and health of its employees, subcontractors and the public;

- Mobilizing the necessary crews and equipment to contain and clean up the contaminant to protect the environment as soon as possible;
- Reporting the release of the contaminant to the appropriate contacts and/or government agencies immediately; and
- Providing information for completion of an Environmental Incident Report Form.

To prevent and control spills or unplanned releases of hazardous substances during Project Work, Valard will:

- Implement controls and utilize containment;
- Use spill trays when transferring liquids between containers, or working near drains, and sensitive areas;
- Ensure adequate spill response materials and equipment are available for use;
- Store all hazardous liquids in appropriate containers, and place in suitable containment; and
- Post and train workers to follow the **6 Basic Steps of Spill Response** (below).

### **6 Basic Steps of Spill Response – To be Posted at Site**

#### **1. Be Safe – Asses the Risk:**

- Never rush in.
- Warn others in the area.
- If safe to do so, identify product and select appropriate PPE using MSDS.
- Eliminate all sources of ignition.
- Stay upwind of vapours.

#### **2. Call for Assistance:**

- Call co-worker/Supervisor/Safety Department or Environmental Manager for help.

#### **3. Stop the Flow:**

- If safe to do so, set containers upright.
- Close valves, shut off pumps, plug leaks.
- Place contents of a leaking container into a secure container.

#### **4. Contain the Spill:**

- Block drains, scuppers, and other escape points.
- Contain spill with sorbents, earth, sand or other non-combustible materials.
- Do not use detergents to disperse oil products.

#### **5. Clean up:**

- Collect all used sorbent material using clean non-sparking tools.
- Place all waste materials in labeled, sealed containers or plastic bags.
- Use appropriate waste contractor for disposal.

#### **6. Report:**

- Report details of the spill verbally to a Supervisor, Environmental Representative or to the Safety department ASAP.
- Complete Incident Reporting as required.

- Determine the requirement for internal or external reporting based on the nature and details of the release (Table 3).

#### 6.2.2 GENERAL CONTAINMENT AND CLEAN-UP ACTIONS

Spill containment will depend on the physical and chemical properties of the substance.

1. If solid, cover material with plastic; if liquid contain the spill using booms or other materials designed for this purpose.
2. Isolate/block drainages without increasing environmental impact.
3. Clean up and recover material using protective gear. Material recovery may utilize pumps or sorbets as appropriate for type of spill.
4. Store/transport recovered material and review the mode of disposal.

Plastic bags will be contained in the spill kit for temporary storage of soiled material. The bags will be placed in a pickup or a designated area for transport to an appropriate waste disposal facility. Contents of a spill kit must be replenished immediately following its use.

#### 6.2.3 DISPOSAL OF CONTAMINATED MATERIAL

Valard shall clean up spills and dispose of waste materials at an approved disposal site and restore the area to the satisfaction of the environmental agencies.

If excavated material is contaminated, Valard will follow site-specific guidance/direction provided by Manitoba Hydro.

#### 6.2.4 SPILL COMMUNICATIONS AND REPORTING

The person reporting the spill will provide a verbal report to the Valard Supervisor, who will initiate the written documentation of the incident (Environmental Incident Report – Appendix E) including items listed below:

- Reporter's name and telephone number;
- Name(s) and telephone number(s) of the person or persons involved in the spill;
- Location and time of the spill;
- Type and quantity of the substance spilled;
- Cause and effect of the spill;
- Details of action taken or proposed to stop, contain and minimize the effects of the spill;
- Description of the spill location and of the area surrounding the spill;
- Details of further action contemplated or required;
- Names of agencies on the scene; and
- Names of other persons or agencies advised concerning the spill.

An EIR must be completed as soon as possible after the spill has been controlled (a verbal report to MH should be completed within 2 hours, with a written report/EIR within 24 hours). The report will be forwarded to Valard's Environmental Manager and [envincidents@valard.com](mailto:envincidents@valard.com) for tracking and/or distribution as required.

An investigation into the cause and remediation of the spill will be completed as required, depending on the severity of the incident. An investigation into the cause and remediation of the spill will be completed as required, depending on the severity of the incident.

Table 3 lists externally reportable spill quantities. Manitoba Conservation maintains a 24-hour reporting line for spills and environmental emergencies: **(204) 944-4888**. Reporting of environmental incidents that meet the thresholds in Table 3 in Manitoba is required by regulation.

**Table 3. Reportable Spill Quantities.**

Substance	Quantity	External Reporting Requirements	Internal Reporting Requirements
Any Spill	Any amount	Manitoba Hydro	Environmental Incident Report (EIR) <a href="mailto:envincidents@valard.com">envincidents@valard.com</a>
All flammable liquids			
	≥100 litres	MANITOBA CONSERVATION (204) 944-4888	
Oil with >50 ppm PCB	≥1 kilogram		
Flammable or Non-Flammable Gas	≥ 10 kilograms		
Toxic or Corrosive Waste	≥ 5 litres or kilograms		
Hazardous Waste	≥5 litres or kilograms		
Explosives	Any quantity that could pose a danger to the public or 50 kg		

### 6.2.5 AQUATIC HABITAT AND WORKING NEAR WATER

Power infrastructure is designed, as much as possible, to avoid wetland, lake and watercourse features; however, due to engineering constraints, limited work may be required within riparian areas. The intent is to always complete this type of work according to DFO Operational Statements (O/S) and industry standard BMPs wherever possible. The following BMPs may be employed individually or together to mitigate potential Project-related effects to aquatic and riparian habitat:

- Work under frozen conditions in riparian areas and wetlands wherever possible;
- Where in-stream work on fish-bearing waters cannot be avoided, contact the Valard QP and/or MH Environmental Protection Officer to obtain advice and/or develop mitigation plans in consultation with Manitoba Hydro and/or Regulators.
- Comply with applicable in-stream work timing windows (periods of least risk) wherever possible;
- Comply with the conditions of Project permits relevant to fish and fish habitat;
- Minimize disturbance of riparian areas as follows:
  - minimize disturbance of low-growing vegetation and ground cover;
  - flag RVMAs to prevent unauthorized entry or works.
  - Minimize disturbance to riparian areas by implementing a machine free Riparian Vegetation Management Area (RVMA) of 15 m from top of bank for all watercourses;
  - Existing riparian vegetation will be left intact. If vegetation clearing is necessary near a waterbody, it will be conducted by hand and with the appropriate approvals.

- Avoid placement of equipment or materials within 30 m of the ordinary high water mark of any watercourse;
- Install sediment and erosion control measures where construction has the potential to cause sediment to enter a waterbody;
- Do not deposit any deleterious substances into any wet or aquatic environments;
- No refueling, servicing, or fuel storage will occur within 100 m of a waterbody. If the 100 m limit cannot be met, approved procedures/containment must be implemented;
- Washing vehicles and construction equipment in waterbodies will be strictly prohibited;
- Equipment operating near any watercourse shall be properly maintained, in sound mechanical condition and free of any fuel, oil, and hydraulic fluid or coolant leaks.
- When obtaining water from fish bearing waterways all pump intakes will be screened according to the Freshwater Intake End-of-Pipe Fish Screen Guideline (DFO 1995).
- The withdrawal of any water will not result in reduction in the wetted width of a stream, in order to maintain existing fish habitat
- In watercourses where mussel species of conservation concern are known to occur, watercourse crossings may occur by boat or barge, or during winter (i.e., under frozen conditions) to prevent mortality of the mussels.

#### 6.2.6 TEMPORARY STREAM CROSSINGS

In general, clearing for temporary stream crossings shall adhere to the following guidelines:

- All work must be in accordance with the Owner's requirements, EMP and applicable legislation/regulations or notifications.
- Stream crossings will be constructed according to BMPs and under frozen conditions wherever possible;
- Construct approaches to watercourses perpendicular to the watercourse;
- All temporary stream crossings must be built such that they can and will be completely removed when the stream crossing is no longer required.
- Temporary stream crossings shall be removed before spring run-off, or sized to accommodate freshet flows.

#### 6.2.7 RIPARIAN MANAGEMENT AND MITIGATION

Riparian buffers **of a minimum 30 m in width**, will be applied to riparian habitats, including streams, rivers, lakes and wetlands/permafrost areas with the work area. This means all shrub and herbaceous vegetation will be retained and all trees that do not violate Manitoba Hydro's vegetation clearance requirements will be retained.

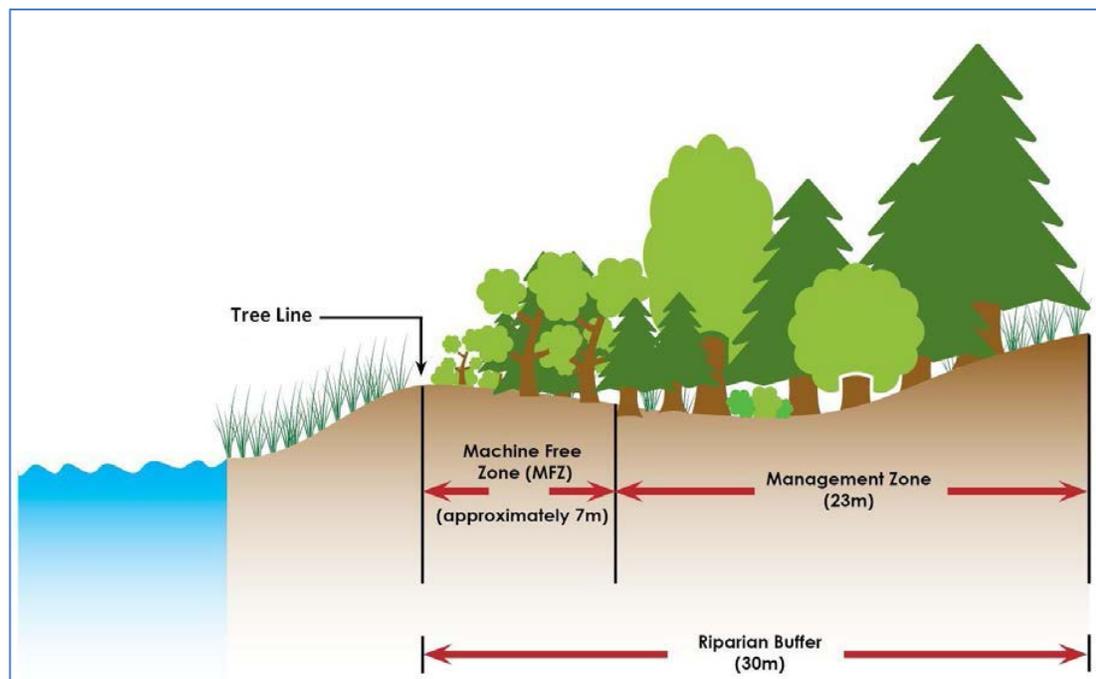
Riparian Buffers are measured from the Ordinary High Water Mark (OHWM), and are composed of two zones: a management zone (variable width based on slope, Table 4) that allows equipment to conduct low ground disturbance clearing **and a minimum 7 m machine free zone** (Figure 3) which only allows reaching into zone with equipment but not entering the zone except at trail crossing.

Clearing will be completed within the reduced risk time period for wildlife wherever possible. If clearing within the restricted activity period(s) for birds or wildlife is required, additional mitigation planning by a QP and approval from Manitoba Hydro will be obtained.

**Table 4. Riparian Buffer Distances Based on Slope.**

Slope of Land Entering Waterway (%)	Width of Machine Free Zone (m)	Width of Riparian Buffer Management Zone (m)
10	7	30
20	10	40
30	15	55
40	20	70

\*Slopes over 40% require special assessment by a QP.



**Figure 3: Examples of zones within a 30 m riparian buffer (from Project CEnvEPP, May 2019)**

In instances where structure placements require guy wires be located within a riparian buffer, a tracked excavator will be allowed to excavate the anchor foundation while minimizing ground disturbance as much as possible. **The excavator must make one trail only and exit on that same trail.** Each site where this occurs will be noted by MH Environmental Protection Officer for monitoring by vegetation specialist the following season to determine if any further re-vegetation or rehabilitation is required.

#### 6.2.8 CONCRETE AND CONCRETE PRODUCTS

Due to the alkalinity of concrete products, and the toxicity of concrete to fish, any concrete works will be isolated from surrounding watercourses to prevent a change in pH to the water bodies. Water quality will be preserved by adhering to the following guidelines:

- Precast structures will be used, wherever feasible and cost effective.
- Concrete works will be completely isolated from any water.
- Uncured concrete products or lime containing construction materials will not be deposited into watercourses or wetlands.

- Above ground concrete forms will be inspected for tight seals prior to pouring concrete.
- Where possible, washouts will not be performed on site; waste/wastewater will be disposed at the concrete supplier's plant. If off-site disposal is not practical, a dedicated wash site will be located on level ground, at least 100 m from any watercourse for cleaning concrete trucks and equipment.
- In the event of a spill into a waterbody, the spilled material will be immediately removed from the water where possible and emergency mitigation and clean-up procedures will be implemented. All spills will be immediately reported to Manitoba Hydro who will notify relevant agencies.
- For concrete work occurring within 30 m of a waterbody, the downstream pH will be monitored until completion of the concrete work. If the pH has change more than 1.0 pH unit above background (upstream reference), or is above 9.0 or below 6.0, contingency measures will implemented as required.
- Cast-in-place concrete and grouting will be isolated from fish bearing waters for 48 hrs (ambient air temperature >0°C) to 72 hours (ambient air temperature <0°C), while curing.
- Water that has contacted uncured concrete may be contained and neutralized to restore a pH of 6.5-9 and turbidity of <25 NTU as per the relevant Provincial/CCME Guidelines.

#### 6.2.9 WATER QUALITY MONITORING

Water quality will be monitored (as required to document compliance and/or mitigation efforts) before, during and after construction activities with potential to contaminate water bodies. This can include work near water where sedimentation or introduction of deleterious substances (i.e.: concrete wash water) is a risk, or following environmental spills or incidents where there is potential to contaminate a water body or water supply area.

Water quality monitoring may include:

- measuring turbidity and/or other physical parameters (temperature, pH, conductivity) that can be obtained in-situ to determine potential project effects to water quality; or,
- water sampling, as required, to test for presence of hydrocarbons, heavy metals or other contaminants.

Water quality monitoring shall be implemented at the discretion of the PEL or EC or as directed by Manitoba Hydro, to maintain/document compliance and/or to assess the effectiveness of mitigation.

#### 6.3 EROSION AND SEDIMENT CONTROL

Erosion and Sediment Control (ESC) measures will be planned, implemented, and monitored as required to maintain environmental compliance and water quality.

Work in riparian zones, wetlands and/or highly erodible ground (including permafrost areas), will consider local weather forecasts prior to initiating works and will be completed during dry or frozen conditions whenever possible. When heavy rainfall warnings are forecast, works in these areas may be postponed if possible. If it is not possible to postpone work, site specific ESC and/or mitigation plans will be developed in consultation with the MH Environmental Monitor(s).

Construction field crews will typically have access to sediment and erosion control materials such as:

- silt fencing with stakes;
- geotextile fabric, landscape fabric, tarps or similar products for ground cover;
- sand/plastic bags and/or poly rolls (for use in temporary dams);
- shovels and small sledge hammers;
- certified weed-free seed mix appropriate for the area; and
- pumps, hoses, and other fittings as needed during installations of foundation excavations.

When working in riparian areas and near wetlands, field Supervisors will arrange to have contingency sediment control materials at the site.

Crews will advise the Supervisors when materials have been used and the Supervisors will liaise with the Valard's Construction Manager to organize replacement supplies.

### 6.3.1 EROSION AND SEDIMENT CONTROL FOR KEY CONSTRUCTION ACTIVITIES

ESC measures will be installed around work areas where erodible ground is exposed and has the potential to leach into surrounding watercourses. These work areas may include clearing and structure placement. Mitigation measures will be appropriate for the site location and ground disturbance. Some techniques that may be applied are described below.

- Schedule construction activities at erosion-prone sites during favourable weather periods and cease construction works during periods of significant or prolonged precipitation when surface runoff from exposed sites cannot be adequately managed.
- Avoid structure placements in low-lying areas where possible, including those with permafrost soils.
- Place temporary material stockpiles on level ground, as far as practical from drainage channels.
- Situate temporary construction material stockpiles containing erodible material at locations where sediment and/or deleterious runoff can be contained and prevented from entering any watercourse.
- Dispose waste material in a borrow site or along the cleared corridor or previously disturbed sites, in such a manner as to prevent erosion and sediment transportation into watercourses, wetlands, or drainages (seasonal or permanent).
- Re-contour excavated waste material to a stable slope not exceeding 1½:1, where possible, in a manner which minimizes potential runoff to a watercourse, and seed re-contoured area immediately upon completion.
- Control sedimentation by directing sediment laden water to stilling ponds or catchment basin for settlement prior to discharge, or direct it to well-vegetated areas away from watercourses for natural infiltration.
- Incorporate sediment control features prior to construction activities on site-specific bases throughout the Project to avoid introduction of sediment to the environment. Sediment control features include filter cloth fences, straw bale fences, and gravel or vegetative filters. Ensure that sediment and erosion control features in place are functional and are maintained.
- Stockpile additional erosion and sediment control materials on-site for ready use as needed to ensure no significant increases in suspended sediments to streams.
- Re-vegetate disturbed areas upon completion of works, as specified in Contract documents.
- Do not place materials within the ordinary high water mark of the watercourse.
- Soft work areas or areas with a high proportion of fine grained material may be covered with swamp mats or other means to reduce surface pressure and avoid surface deterioration.
- Maintain erosion protection and sediment control measures by removing accumulated sediment when required.

Sediment control methods will remain on-site until all work is completed and the site has been stabilized, rehabilitated or re-vegetated as required.

## 6.4 AGRICULTURAL LANDS MANAGEMENT & BIOSECURITY

Valard shall follow Manitoba Hydro's CEnvEPP, Biosecurity Management Plan, which uses a risk matrix to identify and manage potential biosecurity risks. To carry out work on Agricultural Lands, Valard shall refer to and comply with the requirements of the Biosecurity Management Plan.

**Low Risk Activities** are those that are typically completed in frozen conditions, or on dry ground with little soil disturbance. For low risk activities, Valard shall:

1. Ensure all equipment and clothing, including access mats, is clean prior to entering onto agricultural land.
2. When leaving the field, check clothing, footwear, and equipment for seeds, soil, or manure and if required, brush off prior to leaving the field. The use of a brush will remove most surface soil, plant material, and foreign matter from clothing and equipment.
3. Fill out a Vehicle and Equipment Cleaning Record.

**Higher Risk Activities** occur on wet or heavy soils, such as clay, with the potential for large soil accumulations on equipment and footwear. It also applies to livestock settings or in cases where manure is confirmed to have been spread on fields. For proposed higher risk activities, Valard shall:

1. If possible, re-schedule activities to occur when ground conditions are more favourable.
2. If activities cannot be re-scheduled, ensure that proper care and attention is paid to cleaning equipment and footwear prior to leaving the site.
3. Equipment may require fine cleaning to remove remaining soil. This includes pressure washing to rinse off remaining soil or manure. Initial cleaning (i.e. mechanical brushing) should be done at the field approach, and full pressure washing can be completed off site if the equipment is taken directly to a commercial wash facility.
4. In cases where there is a risk of spreading soil (such as vehicle tires), pressure washing must occur before leaving the site. Disinfecting of the equipment through the use of a disinfectant such as Virkon should be applied to all surfaces that have been in contact with soil.
5. Use safety footwear that can be easily cleaned. Use a brush to remove visible soil or manure and disinfect or change footwear when leaving the field.
  - Disinfectants such as 1% Virkon may be carried in a household spray bottle or a larger container if required.
  - If washing footwear in the field with disinfectant, ensure wastewater is contained and appropriately disposed of offsite.
6. Fill out the Vehicle and Equipment Cleaning Record.

In addition to these measures, Valard shall:

- Ensure that all construction equipment and materials arrive on the project site in a clean condition, free of any remnant soil to minimize the risk of weed introduction.
- Ensure that equipment is inspected before accessing work sites; any equipment, which arrives in a dirty condition, will not be allowed on the ROW or facility site until the equipment has been cleaned either by hand (track shovel), high pressure water, or compressed air.
- Incorporate training and orientation for crews on biosecurity, weed control and the levels of cleaning required will into Valard's Project Specific Environmental Orientation.
- Develop weed control measures in conjunction with Manitoba Hydro /landowner/lessee.
- Implement additional washing and/or cleaning stations along the Project, as required.
- Confine vehicle traffic to established trails to the extent possible
- In the event of ground disturbance refer to Rehabilitation and Invasive Species Management Plan and for mitigation measures.

#### 6.4.1 EQUIPMENT ACCESS

Construction activities will be confined to the Project right-of-way and existing access will be used wherever possible. In addition, the following requirements and guidelines apply to Project access:

- Access roads and trails required for future monitoring, inspection or maintenance will be maintained in accordance with the Access Management Plan.
- Access roads and trails will be constructed to a minimum length and width to accommodate the safe movement of construction equipment.
- Access roads and trails will be constructed and operated in accordance with contract specifications.
- Access roads and trails will be provided with erosion and sediment control measures in accordance with the Erosion and Sediment Control Plan.
- All season access roads will not be permitted within established buffer zones and setback distances from waterbodies, wetlands, riparian areas and water bird habitats.
- Approach grades to waterbodies will be minimized to limit disturbance to riparian areas.
- Bypass trails, sensitive sites and buffer areas will be clearly marked prior to clearing, to identify that prescribed selective clearing is to occur as per map sheets.
- Travel will be restricted to established roads and trails, and cleared construction areas in accordance with the Access Management Plan.
- During winter construction, where necessary (i.e. unfrozen wetlands, creeks), equipment will be wide-tracked or equipped with high flotation tires to minimize rutting and limit damage and compaction to surface soils. If wet conditions exist the use of construction matting/temporary bridge is also permitted.
- Equipment, machinery and vehicles will only travel on cleared access roads and trails, and will cross waterways at established temporary and permanent crossings.
- Travel and work activities will be confined to the right-of-way and designated/approved Project areas such as designated quarries, borrow pits, camps, laydowns, materials storage/staging areas or fly-yards;
- When possible, the boundaries of the ROW and Workspaces will be clearly marked to ensure that construction vehicles do not trespass off the right-of-way.
- Unless approved otherwise, vehicular access in and/or through sites that are designated environmentally sensitive is strictly prohibited.
- Vehicular access through wet areas (i.e. sloughs, wetlands, creeks, rivers) shall be done only under frozen or unsaturated/stable ground conditions and/or with appropriate approvals and/or mitigation (clear span, matting, etc) in place.
- Rig-matting may be installed on access and work areas as required to prevent excessive rutting or damage to soils.
- Recreational use of all-terrain vehicles by construction personnel will be prohibited. Vehicles, including all-terrain vehicles, are to be driven in a responsible and environmentally respectful manner.
- Any landowner conditions and contact list will be provided to Valard, who will review the list to determine if landowners wish to be contacted prior to entering their land. Valard shall follow the landowners' conditions required to enter onto their land.
- All gates shall be left in 'as found' condition.

- Ensure that drainage patterns on agricultural lands are not altered, any anticipated diversions of surface water will require authorization under The Water Rights Act. This applies to creating new drainage, blocking natural drainage or diverting flows around a site.
- No chemical melting agents are to be utilized.
- Only water and approved dust suppression products will be used to control dust on access roads where required. Oil or petroleum products will not be used.
- All constructed access points onto Manitoba Infrastructure (MI) roadways (Provincial Roads or Provincial Trunk Highways) will require a permit from MI.
- Heavy equipment will not be allowed access to MI roadways without the appropriate protection and permits.
- Access roads and trails that use or cross MI roadways care will be taken to ensure excessive amounts of material are not tracked onto the roadway, with contractor being responsible for cleanup.
- Any temporary constructed access and associated debris within an MIT right of way will need to be removed seasonally and once the project is completed.

#### 6.4.2 ACCESS MATTING

The following BMPs and mitigation apply to the use of access matting as a Project mitigation for wet/thawed/soft soils:

- Verify that mats are clean and free of soil, debris and plant material when they arrive for use on site.
- Mats cannot be constructed of chemically treated wood products.
- In wetlands three mats is the maximum number that can be stacked and used in one location.
- Follow the biosecurity management plan for cleaning washing and disinfecting matting prior to moving it to a new project location.
- Matting should not impede or redirect natural drainage patterns or watercourses.
- Mat removal will take place from the existing mat road, working in a backwards fashion (from work site to initial access point). When mat removal is complete all remaining matting debris will be cleaned, up and transported to an approved waste disposal facility.
- When matting is removed, soils will be assessed to determine if de-compacting is required; compacted soils will be rehabilitated.

#### 6.4.3 WET WEATHER / THAWED SOILS CONTINGENCY

If excessive rain, wet weather or flood-like conditions occur or are anticipated, or during spring break-up conditions, the following contingency measures may be implemented as required (refer to Appendix C Wet Weather Protocol):

- Notify Construction Supervisor that contingency measures may be required as a result of wet weather/thawed/saturated soils;
- Re-schedule work or reduce traffic in areas where soils are prone to rutting;
- Restrict construction traffic, where feasible, to equipment with low-ground pressure tires or wide pad tracks.
- During extreme wet conditions, work only in non-problem areas, such as well-drained soil or well-sodded lands, until conditions improve;
- Install matting or geotextiles in problem areas to allow for continued work, where possible; and

- In extreme cases, work may be suspended until soils dry out or appropriate mitigation to prevent soil disturbance can be put in place.

Refer to the Project **CEnvEPP (May 2019) Appendix H: Saturated/Thawed Soils Operating Guidelines** for further guidance.

## 6.5 WILDLIFE HABITAT PROTECTION AND MITIGATION

The following wildlife habitat protection and mitigation measures will be implemented in accordance with Project requirements as follows:

- Work will be planned in consideration of Reduced Risk Timing Windows whenever possible, including efforts to avoid or reduce construction and vegetation removal in sensitive areas during the migratory bird nesting period from April 15 to August 30 or per Canadian Wildlife Service recommendations.
- Setbacks for the protection of species or habitats shall be established in accordance with available guidelines, wherever possible.
- Where activities overlap with the sensitive period or recommended setback distances, pre-construction nesting and/or wildlife surveys will be conducted to identify the occurrence of rare or listed species on or adjacent to the ROW.
- Site-specific mitigation and monitoring will be developed in consultation with Manitoba Hydro and appropriate regulatory agencies in the event that active nests or other key wildlife or habitat features are found during Project activities.
  - Valard's QP will work with Manitoba Hydro and/or Regulators to develop appropriate mitigation plans to reduce work delays, while maintaining appropriate wildlife protection measures.
  - Environmental monitoring will be completed by a qualified individual with appropriate wildlife biology experience.
  - Preliminary 'Species of Concern' contingency measures outlined in the CEnvEPP, Appendix N (May 2019) will be followed. In the event that wildlife species of concern or their site-specific habitat are discovered during wildlife studies or work along the transmission line route, the wildlife or habitat will be assessed based on the following criteria:
    - the location of the wildlife or habitat feature with respect to the project development area;
    - the presence of topographic features or vegetation to effectively screen the wildlife or habitat from construction activities;
    - the existing level of disturbance and ongoing sensory disturbance at the site;
    - the timing of construction versus the critical timing constraints for the species;
    - the potential for an alteration of construction activities to reduce or avoid sensory and/or physical disturbance;
    - the wildlife species, its conservation status and specific habitat needs relative to the area of development.

Potential mitigation measures available for wildlife include, but are not limited to, the following:

- abide by reduced risk timing windows within the recommended setback/buffer distances wherever possible;
- narrow down the proposed area of disturbance and protect the site using fencing or clearly mark the site using flagging;

- alter or delay construction activities to avoid sensory disturbance (e.g., no burning);
- inform project staff of access restrictions in the vicinity of flagged or fenced sites;
- adjust tower locations to avoid the site;
- install nest boxes or platforms, or otherwise replace or enhance habitat during reclamation or restoration; and
- with the appropriate approval, relocate species (i.e., amphibians) or features (i.e., unoccupied stick nests), if practical.

#### 6.5.1 GENERAL WILDLIFE BMPS

The following general BMPs apply to the protection of wildlife and wildlife habitat:

- Wildlife proof garbage containers shall be used for the storage/disposal of food wastes.
- Access trails will be sited to avoid known high-value habitat areas (e.g., wetland and riparian areas) and known habitat features (e.g., raptor nests, mammal dens).
- No crew member will attempt in any manner to capture, kill, injure or harass a migratory bird, nest or egg.
- If any crew member discovers or becomes aware of an active nest, the Environment Coordinator or Line Inspector will be notified promptly.
- Activity restriction setbacks established by the Environmental Coordinator will be respected, unless approved, site-specific mitigation is in place.
- Construction-related wildlife deaths will be immediately reported to the Valard and Manitoba Hydro's Environmental representative(s) and communicated promptly to regulatory agencies.
- Place structures away from microhabitat features such as talus slopes, rocky outcrops, and wetlands, where feasible.
- Avoid activities in identified wildlife buffer zones, important habitat areas and features as much as possible, and in accordance with applicable permits and regulations.
- Where additional habitats are identified by Manitoba Hydro, these will be communicated to the Valard Environmental Manager for review and mitigation planning.

#### 6.5.2 REDUCED RISK TIMING WINDOWS

Construction was originally scheduled to occur primarily during the winter season, which is optimal for avoiding most sensitive timing windows. If work must occur during sensitive time periods to achieve project schedule requirements, additional assessment and mitigation (as outlined in Section 6.5) will be developed and implemented in consultation with MH and regulators as required. Work will be completed during Wildlife Reduced Risk Timing Windows whenever possible.

#### 6.5.3 HUMAN-WILDLIFE INTERACTIONS

Direct disturbance to and/or by wildlife on the Project should be minimized by adhering to the following mitigation:

- Employees are prohibited from engaging in fishing or hunting on the Project site;
- Crews will receive wildlife awareness training;
- Crews are prohibited from feeding wildlife;
- Crews are prohibited from having pets in the construction footprint area;

- Food wastes will be properly contained and removed from site daily;
- Problem wildlife will be reported immediately to Manitoba Sustainable Development.
- Possession of Firearms is prohibited on the Project.

The following mitigation measures will be used to minimize effects associated with transportation:

- Vehicles will adhere to safe speed limits, particularly around blind corners;
- Vehicles will yield to wildlife on roads;
- Observations of wildlife will be reported to the Environmental Coordinator;
- Wildlife - vehicle collisions will be reported to the Environmental Coordinator; and
- Wildlife sightings and appropriate mitigation, if any, will be discussed during the tailgate meetings.

#### 6.5.4 RAPTORS AND MIGRATORY BIRDS

Valard will aim to schedule construction works in accordance with established timing windows for migratory birds and raptors unless a site-specific mitigation plan has been approved to allow work to proceed. Setbacks or buffers to protect active nests of individual species will be established in consultation with Manitoba Hydro's Breeding Bird Buffer Guidelines, which are outlined in the Project CenvEPP, Appendix E-6 (buffers range from 25 to 200 m or more, depending on species). Specific assessment and mitigation measures may be required and implemented to guide construction activities to avoid or minimize impacts to birds. These may include the following:

- Conducting pre-construction nest sweeps;
- Flagging required riparian buffers with a 7 m machine-free zone;
- Installing bird deflectors in required areas to minimize impacts to migrating birds;
- Conducting stick nest survey(s) prior to clearing and construction activities to detect raptor nesting near the Project area.

If work cannot be completed outside of the breeding season or recommended setbacks, a construction mitigation plan will be developed by a Valard QP for review, input and approval by Manitoba Hydro and the regulator. Mitigation may include nest monitoring by a qualified Environmental Monitor prior to and during construction activities to identify and report on baseline bird behaviour and response(s) to disturbance.

Construction works conducted during the breeding season should adhere to the following mitigation measures:

- Conduct pre-construction auditory and nest search surveys during the breeding season to determine if birds with specified set-back distances are present near work locations.
- If nests are found, follow recommended setback distances in Appendix E-6 of the CEnvEPP.
- If construction within the setback or the nesting timing window is required, a site specific mitigation plan developed by a QP with expertise in birds will be required.
  - Mitigation may include provisions for Environmental Monitor(s) to observe the behaviour of nesting birds and document activity-related disturbance, if any.
  - If birds are obviously disturbed by work activity, construction should be temporarily be halted.

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## 6.6 DRILLING

The following BMPs apply to drilling operations during construction:

- Abandoned drill holes will be sealed with bentonite or other effective sealers to prevent interconnection and cross-contamination of ground and surface waters.
- Drilling equipment and machinery will not be serviced within 100 m of waterbodies or riparian areas.
- Drilling fluids and waste materials will be contained and not allowed to drain into waterbodies, riparian areas or wetlands.
- Drilling in environmentally sensitive sites, features and areas will not be permitted unless approved in advance by MH Environmental Protection Officer and mitigation measures are implemented.
- Drilling will not be permitted within established buffer zones and setback distances from waterbodies unless approved in advance by MH Environmental Protection Officer.
- Spill control and clean-up equipment will be provided at all drilling locations.
- The drilling contractor will ensure that equipment and materials are available on site for sealing drill holes.
- The drilling contractor will inspect drilling equipment and machinery for fuel and oil leaks prior to arrival at the project site, and will inspect for fuel and oil leaks and spills regularly.
- Where there is potential for mixing of surface and groundwater, precautions will be taken to prevent the interconnection of these waters.

## 6.7 AIR QUALITY/ DUST CONTROL

As work may be conducted in an enclosed space, maintaining air quality is important; air quality management strategies may include:

- Turning off equipment when not in use and minimizing idling;
- Ensuring all original equipment emissions and pollution control equipment is in place and functional; and,
- Implementing dust control measures as required.

## 6.8 FIRE PREVENTION AND MITIGATION FOR BURNING

The proposed work involves industrial activity with medium to high fire risk. Industrial hazards associated with this construction project may include:

- Use of welding, cutting, gas burning or cutting tools; and
- Refueling equipment and gasoline and diesel storage.

Construction equipment will be maintained in good working condition and the exhaust and engine systems will be equipped with spark arrestors or mufflers. All machines will be kept free of the accumulations of flammable material. All hydraulic lines will be kept in sound condition and checked regularly. In addition:

- No smoking will be allowed near any flammable storage facility; smoking is only allowed in designated smoking areas;
- Ignition sources (i.e. smoking) must be at least 7.5m from petroleum product storage areas;
- Flammable materials will be properly identified, stored and handled;
- All flammable containers will be stored in UL certified containers;
- Worksite will be kept free of debris and combustible materials;

- Re-fuelling of equipment will be done with the engines off;
- All motorized vehicles will carry a fully charged fire extinguisher;
- All fires will be reported immediately and in accordance with fire reporting procedures in the Emergency Response Plan (ERP); and
- Burning of any material is not permitted on Manitoba Infrastructure (MI) roadway ROWs.

## **6.9 CONSTRUCTION CAMP**

The following BMPs apply to the development and operations of Construction Camp:

- Construction camp will be located based on criteria that consider soil type, topography, land form type, wildlife habitat and other environmental factors.
- If a prospective camp is to be located on private land, a private land agreement must be submitted to MH for approval prior to any setup occurring.
- Construction camp site will be kept tidy at all times; waste materials including litter will be stored to prevent wildlife attraction, and collected regularly for disposal at an approved facility.
- Food handling permits will be obtained from the local public health inspector prior to the operation of kitchens.
- Liquid and solid sewage wastes held in tanks will be removed in accordance with the Water Management Plan (Appendix D) by a licensed contractor and taken to licensed or approved disposal areas.
- Propane tanks for camp use will be stored in dedicated, vehicle protected and secure areas at a safe distance from kitchen and sleeping quarters in accordance with provincial legislation and national codes.
- Waste and recyclables will be sorted, segregated and removed in accordance with the Waste and Recycling Management Plan to a licensed or approved waste management facilities site and/or recycling facility.
- Food, greases and wastes will be stored in sealed, air-tight containers and managed to avoid attracting wildlife. Animal-proof garbage containers with regular removal of food waste to approved waste management facilities will be used to manage food waste.
- Spill control and clean-up equipment and materials will be provided for construction camp in accordance with the Emergency Preparedness and Response Plan.
- Potable water samples will be collected from wells every two weeks and submitted for analysis according to provincial sampling and analysis protocol.

## **6.10 ARCHAEOLOGICAL OR HERITAGE RESOURCE CHANCE FINDS**

The Culture and Heritage Resource Protection Plan will be adhered to during preconstruction and construction activities. Potential archaeological or heritage resources should be suspected when the following are discovered:

- artifacts of stone or other material, including single or scattered artifacts;
- old-looking pits in the ground (large or small, circular or rectangular);
- cabins and other old-looking structures;
- old industrial, ranching, and other remains of possible heritage significance;
- culturally modified trees (CMTs) – mature trees with well-defined bark scars; and
- trails, burial sites, fire pits, hearths.

The procedures below should be followed if project activities inadvertently uncover what are believed to be human remains, artifacts, or other kinds of heritage resources ('chance find'). If a person comes across such evidence, the person should:

- Immediately stop any work that might disturb the site.
- Do not move or otherwise disturb the artifacts or other remains present.
- Stake or flag off effected location with a 35 m buffer to prevent additional disturbances.
- As soon as possible, notify the Construction Manager or Foreman and Manitoba Hydro Representative, who in turn will notify the Archaeology and Registry Services Branch (ARSB), contact the First Nations with an interest in the area, and engage a heritage consultant. ARSB will recommend follow-up actions in consultation with the Owner's Representative, First Nations, and the consultant.
- Report findings or incidents involving heritage resources to Manitoba Hydro, who will initiate external reporting.

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**APPENDIX A – HAZARDOUS SUBSTANCES MANAGEMENT PLAN**

## HAZARDOUS SUBSTANCE MANAGEMENT PLAN

Valard and its sub-contractor personnel will be aware of waste management strategies and adhere to on-site requirements, as outlined in Table 1.0 below. Standard best practices shall be implemented on the Project sites, including, but not limited to:

- Keep all work areas neat and clean at all times. Good housekeeping practices are mandatory.
- Segregate and store wastes on the construction camp/laydown yard at the designated waste management area that meet EPP and regulatory requirements for containment, signage and labelling. Waste streams will be segregated as:
  - Industrial Recyclables (i.e., scrap metal);
  - Regional/Municipal Landfill Wastes (i.e. household/office non-recyclables; inert concrete, food scraps, etc.); and,
  - Contaminated or Hazardous Wastes (used oil, lubricants, batteries, spill clean-up materials, aerosol cans, used filters, etc.)
- A licensed waste carrier (Green For Life) will be retained for transport and disposal, according to the type of waste and associated regulations or legislation.
- No unauthorized dumping, burying or burning of garbage, non-wood construction wastes, food wrappings, bottles/cans, sanitary wastes, or other materials shall occur. In certain cases, permission may be obtained to burn or bury inert wastes such as wood or cured/waste concrete – please contact your Valard Environmental Coordinator for advice before burning or burying any waste materials.
- Store all food/kitchen wastes and other attractants (i.e.: antifreeze) in wildlife-proof containers and dispose of in a timely manner, in order to avoid attracting animals to work sites.
- Collect daily trash (lunch wastes, wrappers, beverage containers) and do not leave litter *anywhere* on the project site, including inside trucks, truck beds or equipment. Bears and other animals will destroy equipment to access food wastes left inside. Dispose of daily trash at the end of each day in the waste bins located at the camp/laydown yard.
- Remove and dispose all wastes upon project completion as per applicable requirements; leave all areas of the Project site in a neat, clean and safe condition.
- Do not leave any construction debris or garbage behind at any work site. Dispose of construction debris in the waste bins located at the camp/laydown yard.

The Valard Environmental Coordinator and Environmental Monitor shall regularly inspect waste management facilities and practices, document findings and communications on the Daily Monitoring Report or Weekly Camp Inspection Report and complete an EIR for any spills, regulatory non-compliances or CEPP violations.

Designated Valard personnel will be responsible for managing hazardous materials and will have WHMIS and TDG training to ensure the appropriate transport, handling and storage of any hazardous materials used on-site. Safety Data Sheets (SDS) will be maintained by the on-site Safety Coordinator and available to all personnel on-site.

Safety Data Sheets (SDS), formerly known as Material Safety Data Sheets (MSDS) communicate the chemical properties, hazards, first aid requirements, toxicity, ecological information, emergency procedures, protective equipment, storage and handling, and proper methods of containment, cleanup and disposal for controlled products.

A designated area for the temporary storage of hazardous materials and wastes, including SDS sheets, will be established at the camp/laydown yard. Hazardous materials and wastes will be labeled, stored, transported and disposed in accordance with applicable regulations, Project requirements and in compliance with the Transportation of Dangerous Goods Act (TDGA).

- Containers/drums dedicated to the collection of hazardous materials and wastes shall be provided at project sites.

- Hazardous materials shall be stored outside within secondary containment or on spill containment pallets with weatherproof labels. The area must be covered by a roof or weatherproof tarp to prevent the buildup of rainwater and/or snow (i.e.: a designated hazardous materials sea-can is typically used for the temporary storage of on-site wastes).
- Throughout construction the Valard HSE representative (or delegate) shall regularly inspect the hazardous materials storage area to ensure compliance with EPP and Regulatory requirements.
- Copies of transport and disposal documents (i.e.: waste manifests) shall be maintained for all hazardous waste disposal (or obtained from Green For Life or associated waste management contractors listed in Table 1).

The HSE representative shall confirm that all hazardous materials and wastes are stored, tracked and disposed of according to applicable legislation and regulations.

**Table 1. Waste and Hazardous Waste Table.**

<b>ITEM</b>	<b>Collection, Handling, Storage, Treatment and Transport</b>	<b>Required Approvals</b>
Aerosol Spray Cans (fluids from)	<p>Fluids recovered from emptying non-CFC-containing aerosol spray cans are considered hazardous waste.</p> <p>Spent aerosol spray cans will be stored in properly labeled drums in the temporary on-site hazardous waste storage area/transfer site to be transported off site by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.</p>	<p>TDG Waste Manifest</p> <p>Hazardous Waste Generator number required</p>
Construction and Demolition Material (concrete, metal, wood, rubble, plastic, etc.)	<p>Waste wood from construction will be re-used when possible. Wood waste unable to be re-used will be stored on the construction camp in a designated 30-yard bin and collected by GFL for transfer to Perimeter Lumber to be Recycled. Remaining C&amp;D waste will be stored in the temporary on-site waste storage area/transfer site and transported by local community waste hauler if possible or Green For Life to MidCanada Landfill for disposal (or 1090 Kenaston pending any contamination).</p>	N/A
Drums / Barrels/ Containers (Empty)	<p>Empty drums/barrels must be stored on their sides with their top lids on and/or all bungs in place, in the temporary on-site waste storage area/transfer site for transportation by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.</p> <p>Drums/barrels classified as HW-type material must be stored in the temporary on-site</p>	<p>TDG Waste Manifest</p> <p>Hazardous Waste Generator number required</p>

	hazardous waste storage area/transfer site for transportation by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.	
Scrap Metal	Scrap metal from construction will be re-used when possible – remaining scrap metal will be stored in the temporary on-site waste storage area/transfer site and transported by Western Scrap Metals for reuse.	N/A
Aluminum	Aluminum waste mainly from domestic garbage i.e. pop cans will be separated and stored in the construction camp in 30 yard bin with wildlife-proof lid. Bin will be collected by GFL and transferred to Cascades Recovery for recycling.	N/A
Contaminated Soils – Solvents/Hydraulic Oil/Chemicals (soil, vegetation, snow/ice contaminated with hydraulic oil, chemicals due to a spill, accident or leak)	<p>Excavated/collected solid spill debris will be stored in properly labeled waste bins in an unlined, unbermed area provided they are completely covered by a secured canvas tarp, thick polyethylene sheet, or a lid, are free of holes and are lined with a plastic liner. Fly bags lined with plastic liner may also be used provided they are stored within a lined, bermed area if required to prevent run-off. May only be stored for 3 months maximum.</p> <p>Properly labeled and sealed barrels full of excavated/collected solid spill debris will be stored in the temporary on-site waste storage area/transfer site. Material of this type must not be stored in open-topped barrels.</p> <p>Properly labeled and lidded plastic totes containing recovered liquid/sludge-like spill debris will be stored in an area that is lined and bermed to contain run-off and prevent impacts to surrounding ground.</p> <p>Pending analytical results, contaminated soils will be sent to GFL's MidCanada landfill.</p>	<p>TDG Waste Manifest</p> <p>Hazardous Waste Generator number required</p>
Waste Oil	Waste oil will be collected in properly labeled waste drums or lidded, plastic totes within a lined/bermed area for removal off site by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.	<p>TDG Waste Manifest</p> <p>Recycle Docket</p> <p>Hazardous Waste</p>

		Generator number required
Oily Rags and Sorbents	Oily rags and oily sorbents will be collected in waste drums and transported by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.	TDG Waste Manifest  Hazardous Waste Generator number required
Used Oil Filters	Used oil filters will be collected in waste drums and transported by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.	TDG Waste Manifest  Recycle Docket  Hazardous Waste Generator number required
Waste Solvents	Waste solvents will be collected in waste drums and transported by Green For Life to GFL Winnipeg at 1090 Kenaston Blvd for disposal.	TDG Waste Manifest  Hazardous Waste Generator number required

**APPENDIX B – SPILL AND OTHER ENVIRONMENTAL INCIDENT RESPONSE PLAN**

## **HAZARDOUS MATERIAL and/ or SPILL EMERGENCY RESPONSE**

**REPORT ALL SPILLS TO VALARD ENVIRONMENT AS SOON AS IT IS SAFE TO DO SO.**

Hazardous materials include:

- **fuels, oils, grease, lubricants and solvents;**
- **bitumen;**
- **cement and/or grout**
- **paints;**
- **cleaners;**
- **used fuel and oil filters;**
- **asbestos containing materials;**
- **batteries; and,**
- **used spill response materials**

When responding to spills of hazardous materials in quantities that could affect worker health or safety, or the environment, attempt to contain the spill only after all hazards have been identified, controlled, and safe to do so. When safe, take the following steps as appropriate:

1. **Notify the crew and stop operations if workers, the environment or infrastructure are endangered and move a safe distance away up-wind or crosswind.**
2. **Refer to Product *MSDS* and/or call CANUTEC for information about appropriate spill response.**
3. **If safe to approach and you have the required PPE, stop the product flow and / or secure the site. Act quickly. Shut off pumps, close valves, etc.**
4. **Contact Valard Environment and notify them of the spill or hazardous material. Details should include:**
  - **Location**
  - **type of material and volume**
  - **your name and contact number**
5. **Contain the spill. Block off ditches. Surround product with dirt or clay, peat, straw, sand, or commercial absorbents to assist with containment.**
6. **Develop a remediation plan with Manitoba Hydro's approval and commence recovery, clean-up and restorative action as appropriate.**

Valard Environment will verbally notify Manitoba Hydro immediately, provide a spill notification within 2 hours and a final spill report within 24 hours of the incident.

**ENVIRONMENTAL NON-COMPLIANCE EMERGENCY RESPONSE**  
**OTHER THAN SPILLS**

**REPORT NON-COMPLIANCE TO VALARD ENVIRONMENT AS SOON AS IT IS SAFE TO DO SO.**

Environmental non-compliances other than spills include the following:

- **Unauthorized stream crossing;**
- **Disturbance to Environmentally Sensitive Sites (including riparian areas, permafrost, heritage, wildlife and habitat);**
- **Unauthorized land trespass (work or travel outside of permitted ROW access routes);**
- **Unauthorized fires;**
- **Impacts to water quality (including equipment/vehicles breaking through ice roads);**
- **Waste management violations; and,**
- **Wildlife Management violations.**

Valard Environment will verbally notify Manitoba Hydro immediately, provide a spill notification within 2 hours and a final spill report within 24 hours of the incident.

<b>CONTACT INFORMATION</b>	
<b>Organization/Role/Name</b>	<b>Phone Number</b>
Valard Environment – Katey Miller	204-228-3156
Valard Environment – Shayden Bell	780-289-9814
Valard Project Management – Jamie Creasy	204-509-0946
Valard Construction Management – Ryan Budzinski	403-333-9943
Valard Project Coordinator – Jaime Governo	204-979-5233
Valard Safety Lead – Joe Johnson	204-488-2244
Manitoba Hydro Environmental Protection Officer – Evan Johansson	204-803-6658
Manitoba Hydro Construction Supervisor – Todd Fisette	204-981-4403
<b>MILLER ENVIRONMENT 24 hour Emergency Response (spill response, clean-up)</b>	<b>1-204-957-6327</b>
<b>CANUTEC 24 hour Emergency Number</b>	<b>1-888-226-8832 or *666 on cellular phones</b>

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**APPENDIX C – WET WEATHER PROTOCOLS**

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## **WET WEATHER PROTOCOL**

If construction during wet or thawed ground conditions is necessary, the following mitigation measures, as outlined in the Construction Environmental Protection Plan (Manitoba Hydro May 2019) shall be implemented.

The decision to continue or suspend particular construction activities on lands with excessively wet/thawed soils will be made by the Construction Foreman in consultation with the Environmental Coordinator. A record of the location, timing and reason for implementation of the Wet/Thawed Soils Contingency Plan will be maintained by the Environmental Coordinator.

Soils are considered to be excessively wet when the planned activity could cause significant damage to soils either due to rutting by traffic through the topsoil into the subsoil; soil structure damage during soil handling; or compaction and associated pulverization of topsoil structure damage due to heavy traffic.

Contingency measures will be implemented, if warranted, once one of the following indicators occurs:

- Excessive rutting of topsoil to the extent that admixing is occurring;
- Excessive wheelslip;
- Excessive build-up of mud on tires and cleats; and
- Excessive tracking of mud as vehicles leave the work or travel area.

To reduce terrain disturbance and soil structure damage through rutting or compaction due to wet/thawed soil conditions, construction alternatives will be employed, as necessary, in the event of thawed soils during frozen conditions and/or an excessively wet surface during non-frozen conditions. The contingency measures listed below will be implemented individually or in combination, as necessary, based on site-specific conditions.

### **WET SOIL CONTINGENCY MEASURES**

- Restrict construction traffic, where practical, to equipment with low-ground pressure tires or wide pad tracks.
- Work only in non-problem areas, such as well-drained soil or well-sodded lands, until conditions improve.
- Install geotextiles or matting in problem areas.
- Consider salvaging an additional width of topsoil in wet areas.
- Suspend construction until soils dry out.

### **THAWED SOIL CONTINGENCY MEASURES**

- Restrict construction traffic, where practical, to equipment with low-ground-pressure tires or wide pad tracks.
- Work only in non-problem areas, such as frozen or well-drained soils, until conditions improve.
- Postpone construction until evening or early morning when the ground is frozen.
- Install geotextiles or matting in problem areas.
- Employ frost inducement measures such as snow packing or plowing to increase the load-bearing capacity of thawed ground.
- Suspend construction until soils dry out or freeze.

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**APPENDIX D – WATER MANAGEMENT PLAN**

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## WATER MANAGEMENT PLAN

Project activities involve both water use, transport and discharge, which must be managed to maintain regulatory standards for water quality and to prevent non-compliances. In addition, site run-off from snow melt or precipitation can pick up sediment following clearing or construction activities and/or other deleterious materials that can then contaminate clean surface and ground water sources.

Surface water quality is potentially impacted by a variety of Project activities and managed through compliance with the Project CEPP (Manitoba Hydro, 2019), NEB Commitments and other regulatory requirements. These include, but are not limited to, BMPs for clearing and access development, stream crossings, spill preparedness and response, soil handling and stockpile management, fuel storage and containment, waste management (hazardous, liquid and sanitary wastes) concrete production/use, materials storage and handling and erosion and sediment control.

The Project CEPP (Manitoba, 2019, Section 5.2) identifies Project activities, components and issues by which surface and/or groundwater may be impacted by Project work and associated impact mitigation measures, with direction to consult associated management plans (as listed below) for mitigation guidance.

- Access Management Plan
- Biosecurity Management Plan
- Clearing Management Plan
- Erosion and Sediment Control Plan
- Waste and Recycling Management Plan

## WATER TAKING

Water use, or water takings in Manitoba are governed by *Manitoba Sustainable Development* which requires anyone taking more than a total of 25,000 liters of water in a day, with some exceptions, is to obtain a Water Use Licence Permit. A permit is not required to take less than 25,000 liters of water per day, or take water for passive and/or active in-stream diversions for construction purposes, or to receive water supplied by someone with a valid Water Use Permit.

The following BMPs shall apply with respect to Project water use:

- Potable water for work sites, temporary construction camp, and temporary laydown areas will be obtained from local suppliers via water tank trucks or via surface water and/or ground water sources with appropriate treatment as needed.
- Engagement with nearby water well owners that could be affected during pumping. If issues arise, determine the source of the issue and, if Project-related, take appropriate action.
- Well water will be tested before being used at temporary construction camp. If groundwater contamination is identified during construction, then an investigation will be completed and the water will be managed and disposed of as per appropriated regulations.
- All water supply wells at the temporary construction camp will be installed and decommissioned by a licensed water well driller in accordance with provincial regulations.

Water taking is generally required for transmission line construction to support the following activities:

## POTABLE WATER

Up to 40,000 L water/day/camp may be required from on-site drilled wells. The requirement for a permit to support camp operations will be based on the water supply source for each camp and the number of camp operating consecutively on the Project.

## CONCRETE PRODUCTION

Water is required for concrete production for foundations and anchors. This requires up to 500 L per structure. Water use for concrete production is anticipated at a maximum of 2000 L/day based on typical production rates. When required, water is typically sourced locally and brought to tower sites by truck. A screened intake is used during water withdrawals, as per DFO Freshwater Intake End of Pipe Fish Screen Guideline - <http://www.dfo-mpo.gc.ca/Library/223669.pdf>).

### **ICE BRIDGES**

Water is used for developing temporary ice roads or bridges for winter access. The water is collected and applied in stages as the site is flooded, frozen and re-flooded slowly to develop a thick, competent ice layer.

### **CONSTRUCTION DEWATERING**

Construction water (i.e., water from site dewatering) will be discharged in compliance with provincial and federal regulations, where applicable.

Installation of a typical (grillage) foundation is preferentially completed in dry conditions. Water ingress can occur during excavation as ground pressure is released, and a standard 2" submersible pump is used control flows into the excavation (max capacity of approximately 2400 L/hour). In cases where significant hydraulic pressure/ground water is anticipated (as determined through pre-construction geotechnical investigations) a deeper foundation type (driven pile) or anchored type (micro-pile) is selected to reduce risk to the long term performance of the foundation.

Given that foundation production rates average about 1/day (depending on type) it is not likely that dewatering for construction will exceed 25,000L/day at any point during construction. If significant dewatering requirements are encountered that may exceed the daily limit, Valard shall notify Manitoba Hydro immediately.

In the event that contaminated soil or groundwater is encountered during construction, an investigation will be completed and the soil or groundwater will be disposed and managed according to applicable requirements and regulations.

### **WASTEWATER AND GREY WATER**

The onsite sewage system at LaBroquerie construction camp has a design capacity greater than 10,000 L/Day and therefore requires a permit under the Manitoba *Environment Act* which requires wastewater to be disposed of in accordance with the Onsite Wastewater Management Systems Regulation.

Domestic wastewater from temporary construction camp and work sites will be disposed of in two ways. Wastewater from toilets at temporary construction camp and portable sanitation facilities at work sites will be collected, in approved vehicles, by local waste hauler Rene's Septic Service (Provincial Registration Number OWMF; H-0152) and hauled to the existing LaBroquerie lagoon.

Grey water (i.e., relatively clean waste water from baths, sinks, washing machines) will be discharged into holding tanks at the temporary construction camp and hauled by Rene's Septic Service to the existing LaBroquerie lagoon.

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**APPENDIX E – ENVIRONMENTAL INCIDENT REPORT**



**ENVIRONMENTAL INCIDENT REPORT (EIR)**

<b>Project Name:</b>	<b>EIR Number:</b>
<b>Report Date:</b>	
<b>Report Prepared By:</b>	
<b>Environmental Incident Date and Time:</b>	<b>Weather:</b>
<b>Valard Crew Supervisor and/or Subcontractor Involved:</b>	<b>Temperature:</b>

<b>A. CAUSE/NATURE OF SPILL OR INCIDENT</b>	
<b>Nature/type of substance released</b>	
<b>Direct cause of spill or incident</b>	
<b>Contributing events leading up to spill or incident</b>	
<b>Total volume released (including in containment)</b>	
<b>Volume released to environment (outside of containment)</b>	
<b>Magnitude of incident (number of people, total area, equipment involved, etc.)</b>	
<b>Time and Duration of release/incident</b>	

<b>B. AFFECTED AREA</b>	
<b>Nearest town / landmark</b>	
<b>Reference Access Road/Structure Number</b>	
<b>UTM</b>	
<b>Aquatic resources affected (Y/N) and description</b>	
<b>Distance to nearest watercourse?</b>	
<b>Terrestrial resources affected (Y/N) and description</b>	
<b>Cultural resources affected (Y/N) and description</b>	
<b>Additional Actions/Comments (area flagged, etc.?)</b>	

<b>C. ACTION TAKEN</b>	
<b>Actions to control spill/incident</b>	
<b>Actions to contain spill or manage incident receptors</b>	
<b>Actions taken to clean-up spill or manage the incident</b>	

<b>D. ADDITIONAL MITIGATION OR FOLLOW UP ACTIONS RECOMMENDED:</b>	
<b>Person responsible for follow up:</b>	Communications, Tasks and/or Target Date for Follow-up ( <b>ADD TO EMS TRACKING SHEET</b> )

EIR 1 / 2



**ENVIRONMENTAL INCIDENT REPORT (EIR)**

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E. COMMUNICATIONS - INTERNAL/EXTERNAL REPORTING		
<i>External Reporting to Regulators required as per thresholds in CEMP or EPP? Note if reporting completed or delegated</i>		
Date	Type of communication	Individuals contacted

F. SAMPLES COLLECTED	
Type (Water, Soil, etc)	Description: Note collection method, Chain of Custody -Time Collected /Sent to/ Follow up?

G. OTHER INFORMATION	
Who owns equipment involved?	
Equipment type & unit number	
Who owns/has tenure on the site involved?	
Additional comments	

H. PHOTOGRAPHS
<i>Take &amp; Attach relevant incident site photos.</i>

I. LESSONS LEARNED (DESCRIBE HOW PROCESSES OR SYSTEMS COULD BE IMPROVED TO AVOID REPEAT OF SPILL/INCIDENT)

<b>EM/EC Involved</b>	<i>(print name)</i>	<i>(Sign and Date)</i>
<b>Other (ie: supervisor)</b>	<i>(print name)</i>	<i>(Sign and Date)</i>
<b>Other (ie: supervisor)</b>	<i>(print name)</i>	<i>(Sign and Date)</i>

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**APPENDIX F – WASTE AND RECYCLING PLAN**

## WASTE AND RECYCLING PLAN

Waste and Recycling Management will be conducted in accordance with Manitoba Hydro's Waste and Recycling Management Planning Framework. Waste bins will be set up at the construction camp and will be collected, sorted and disposed of in accordance with applicable Project requirements, provincial legislation / regulation and applicable municipal bylaws. The construction camp will have designated bins and containers for all waste and recycling streams (non-hazardous). Bins for scrap metal, construction wood waste etc. may be placed along the ROW in designated areas such as fly yards with Manitoba Hydro's approval.

Personnel will be aware of waste management strategies and adhere to on-site implementation. The Project site(s) will be kept neat and clean at all times.

- No unauthorized dumping or burning of garbage, food wrappings, bottles/cans will occur.
- Personnel will be aware of waste management strategies via Environmental Orientation and adhere to site requirements.
- Wastes will be categorized and segregated on-site for disposal as follows:
  - Recyclable Wastes: plastics, cardboard, beverage containers, aluminium, scrap metal, construction wood etc.
  - Domestic solid waste: non-recyclable waste, food waste.
- Stored waste materials will be transferred regularly by a local contractor for disposal and recycling as required, or by appropriately trained/certified Valard personnel.
- Food waste, domestic garbage and recyclables will be stored in appropriate wildlife-proof containment, and will be routinely collected disposed of or recycled at an approved class I landfill;

**Table 1.0 Waste and Recycling categories**

ITEM	Collection, Handling, Storage, Treatment and Transport
Cardboard	Cardboard waste mainly from domestic garbage will be separated into a large 30 yard bin with lid at the construction camp and collected by GFL for transfer to Cascades Recovery to be recycled.
Aluminum	Aluminum waste mainly from domestic garbage will be separated into recycle bins. Bins will be located throughout the camp in convenient locations (kitchen, common areas, etc.). Bins will be emptied into 30 yard bin with wildlife-proof lids on the construction camp, collected and transferred by GFL to Cascades Recovery to be recycled.
Plastics	Plastic wastes such as water bottles will be separated into recycle bins. Bins will be located throughout the camp in convenient locations (kitchen, common areas, etc.) and be emptied into a 30 yard bin with wildlife-proof lids in the construction camp, collected and transferred by GFL to Cascades Recovery to be recycled.
Scrap metal	Scrap metal from construction will be reused where possible. All remaining scrap metal will be collected and stored on site in a scrap metal specific bin provided by Western Scrap Metals. Bins will be provided and collected as needed by Western Scrap Metals. Western

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	Scrap Metals will purchase the scrap metal (to be subtracted from cost of bins and transfer) from Valard.
Construction wood	Construction wood waste (non-treated wood waste) will be collected in a 30 yard bin at the construction camp and collected by GFL and transported to Perimeter Lumber for reuse.
Solid waste	Solid waste such as non-recyclable waste, food waste will be stored in wildlife-proof 30-yard bins at the construction camp and will be collected by GFL and transferred to Mid Canada Class I Landfill or Prairie Green Class I Landfill.