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April 19, 2016

Client File 5792.00  
Licence No. 3163

Director  
Environmental Approvals Branch  
Manitoba Conservation and Water Stewardship  
Suite 160, 123 Main Street  
Winnipeg, MB R3C 1A5

Dear Ms. Braun:

**Northwest Gas Transmission Project Environmental Protection Plan**

Please find attached the Construction Environmental Protection Plan prepared to meet clause 8 of the Northwest Gas Transmission Project *Environment Act* Licence 3163.

Should you have any questions or require clarification, please contact me at 360-4394.

Yours truly,

***Original Signed by Shannon Johnson***

Shannon Johnson, Manager  
Licensing & Environmental Assessment Department,  
Transmission Planning & Design  
Transmission

Attachments: 1

# NORTHWEST GAS TRANSMISSION PROJECT ENVIRONMENTAL PROTECTION PLAN

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Prepared by Manitoba Hydro

Transmission Planning & Design Division  
Licensing & Environmental Assessment  
04/06/2016

Prepared for:  
Manitoba Hydro  
Gas Design and Construction



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# 1. INTRODUCTION

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## 1.1. PROJECT OVERVIEW

The Project includes the construction of a 12 inch diameter steel pipeline that will connect to the existing 16 inch Oak Bluff pipeline located at the Rosser Gate Station (GS-031) in the Rural Municipality (R.M.) of Rosser (Map 1). The pipeline will run approximately 39 km north and east to connect to the existing 12 inch Liss Road Pipeline located in the R.M. of St. Andrews. A 12 inch pipeline will also be constructed from an existing 12 inch pipeline at Lockport Road in the R.M. of St. Andrews to the existing Selkirk Gate Station (GS-004) located immediately north of Railway Road in the City of Selkirk, for approximately 10.5 km to connect the existing Iles de Chenes pipeline. The Project also involves the construction of approximately 8.5 km of a new 6 inch diameter steel pipeline from NW-30-12- 2EPM north to tie-in to an existing Stonewall Gate Station (GS-010) located in NW-19-13-2EPM at the south end of the town of Stonewall.

The Project is being constructed under *Environment Act* Licence 3163 (Appendix A). All measures outlined in the licence must be adhered to.

## 1.2. MANITOBA HYDRO ENVIRONMENTAL POLICIES

Manitoba Hydro's Corporate Vision is:

*"To be recognized as a leading utility in North America with respect to safety, reliability, rates, customer satisfaction and environmental leadership."*

One of the corporation's goals is *"To protect the environment in everything we do"*. This goal can only be achieved with the full commitment of Manitoba Hydro management, employees, consultants and contractors at all project stages from planning and design through the construction and operational phases.

Manitoba Hydro is ISO 14001 certified and has a corporate Environmental Management System (EMS) consistent with that standard. The certificate scope of registration for the corporate EMS is the provision of environmental management guidance and direction from Manitoba Hydro's corporate office for the construction, generation, transmission and distribution of electricity and the distribution and retail sale of natural gas in Manitoba. The corporation's Environmental Management Policy states that:

*"Manitoba Hydro is committed to protecting the environment by:*

- preventing or minimizing any adverse impacts, on the environment, and enhancing positive impacts
- continually improving our Environmental Management System
- meeting regulatory, contractual and voluntary requirements
- considering the interests and utilizing the knowledge of our customers, employees, communities, and stakeholders who may be affected by our actions
- reviewing our environmental objectives and targets annually to ensure improvement in our environmental performance
- documenting and reporting our activities and environmental performance

Manitoba Hydro's strategic objectives and goals, and environmental management policy have been incorporated into this Environmental Protection Plan (EnvPP) for the Project.

### **1.3. ENVIRONMENTAL ASSESSMENT REPORT**

The Northwest Gas Transmission Project (the Project) Environmental Assessment Report (EA Report) provides information on the Project's main components and activities, the environmental effects of the Project including accidents and malfunctions, measures to mitigate adverse effects, and follow-up requirements. The Report also provides information on regulatory requirements, environmental guidelines and best practices. Chapter 11 of the Report describes how mitigation measures and follow-up will be implemented through this ENVPP. The Report is a major source of input to environmental protection measures for this ENVPP. Included in the Report is reference to several key guidance documents (listed below) that must be followed to ensure compliance with applicable legislation:

- NEB Onshore Pipeline Regulations, 1999 (Amended April 2013)
- Activity Setback Distance Guidelines for Prairie Plant Species at Risk (Henderson 2011)
- The Pipeline Industry and the Migratory Birds Act (Canadian Pipeline Environment Committee 2004)
- Petroleum Industry Activity Guidelines for Wildlife Species at Risk in the Prairie and Northern Region (Environment Canada 2009)
- Pipeline Associated Watercourse Crossings Third Edition (Canadian Pipeline Water Crossing Committee, 2005);
- DFO Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2014a);
- Manitoba Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat (DFO 2014b);
- DFO Freshwater Intake End-of-Pipe Fish Screen Guidelines (DFO 1995)
- Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat (DFO and MNR 1996)
- Transport Canada *Navigable Waters Protection Act*. Pipeline Crossings.TP 14593 (12/2009)

Where required, key mitigation measures have been pulled from these documents and included in the mitigation measures outlined in Section 3.

## **1.4. ENVIRONMENTAL PROTECTION PLANS**

Environmental protection plans (EnvPP) document environmental protection measures as part of the overall Environmental Protection Program (EPP) to ensure compliance with regulatory and other requirements, and to achieve environmental protection goals consistent with corporate environmental policies. Environmental protection measures supplement project specifications to avoid or minimize potential adverse environmental effects arising during the construction and operation phases of the project. Environmental protection plans are designed as “user-friendly” reference documents that provide Manitoba Hydro construction inspectors as well as contractors with detailed environmental protection measures. Environmental protection measures are organized by project component and activity, in addition to environmental component and issue. This approach is used to assist project personnel in implementing mitigation measures for a variety of project components and activities, and protecting environmentally sensitive sites.

A number of Environmentally Sensitive Sites (ESS) have been identified for the Project. ESS are locations, features, areas, activities or facilities that were identified in the EA Report to be ecologically, socially, economically or culturally important or sensitive to disturbance and require protection during construction of the project.

A Map book has been developed for the Project to present the location and spatial extent of ESS (Appendix D). The map book has corresponding tabular summary information including ESS feature information and relevant mitigation measures to address the potential environmental effects at each ESS site.

## **1.5. PURPOSE**

The purpose of this EnvPP is to provide for the effective implementation of mitigation measures and follow-up actions as well as regulatory requirements, environmental guidelines and best practices identified in the EA Report. The plan is also intended to provide assurance to regulatory reviewers, environmental organizations, and the general public that commitments made in the Report will be implemented, monitored, evaluated and reported on in a responsible and accountable manner.

The Contractor shall meet all requirements with respect to the environment, public health and safety. It is intended that key project staff will be familiar with the contents of the EnvPP. The document shall be available at the project work site. The EnvPP will be thoroughly reviewed with the Contractor at the pre-job meeting. Questions regarding the implementation of environmental protection measures by the Contractor’s staff will be directed to the Manitoba



Hydro Construction Inspector and/or Environmental Inspector. Further discussion items regarding the EnvPP will be included on the agendas of regular safety and environment meetings scheduled for the duration of the construction work.

This EnvPP describes the environmental protection measures used during the construction, testing, and commissioning of the pipeline in order to minimize any potential environmental impacts, and is a practical response to the Legislation, Regulations, Licences, and Permits for specific situations at specific locations. All parties shall be familiar with the project specifications, licences, permits and guidelines, and shall have access to these documents. This format encourages use of this EnvPP in the field. It should be noted that all Manitoba Hydro staff and contractors must comply with all regulatory requirements relating to the construction of projects and facilities, and specific requirements of construction may be provided by a regulator.

## 2. ENVIRONMENTAL PROTECTION MEASURES

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This Section of the Environmental Protection Plan provides general environmental protection measures that address potential environmental issues and effects of the Project. Environmental protection measures are provided in list form for major Project components and activities.

This EnvPP has been incorporated into the construction specifications and forms part of the Contract Document. All project participants will ensure that project activities are carried out in compliance with applicable legislation, guidelines (Appendix B), contractual obligations and environmental protection plan provisions.

Manitoba Hydro will use a qualified environmental inspector to monitor implementation of the EnvPP during critical phases of construction. The following summarizes the general environmental protection measures that shall be applied to construction of new plants and facilities.

### 2.1. LICENCE CONDITIONS

*The Environment Act* Licence 3163 (Appendix A) outlines several specific mitigation measures that must be followed:

- The Licencee shall not conduct clearing of large trees and shrubs between April 21 and August 15 (Condition 30)
- The Licencee shall, where feasible, ensure that no frogs are buried during backfilling of excavated areas (Condition 31)
- The Licencee shall, during construction and maintenance of the Development, take measures to prevent the introduction and spread of foreign aquatic and terrestrial biota (see Appendix C for Agricultural Biosecurity Standard Operating Procedures).
- The Licencee shall, during construction and maintenance of the Development, take all appropriate measures to prevent erosion.
- The Licencee shall contact the Water Stewardship Division of Conservation and Water Stewardship to obtain criteria for the withdrawal of water for hydrostatic testing and for the discharge of hydrostatic test water associated with the Development. Hydrostatic test water shall be withdrawn and discharged according to these criteria.

### 2.2. ENVIRONMENTALLY SENSITIVE SITES

Important environmental considerations for pre-construction planning and construction activities are required at environmentally sensitive sites (ESS). These ESS specific mitigation during construction.

ESS for the project include shelterbelts, potential nesting sites for sensitive bird species and major water crossings.

### **2.2.1. ESS Map Book**

The ESS map book (Appendix D) provides an overview of Environmentally Sensitive Sites (ESS), with specific mitigation requirements related to these ESS.

## **2.3. GENERAL ENVIRONMENTAL PROTECTION MEASURES**

General environmental protection measures include:

- 1) mitigation measures identified in the EA Report;
- 2) regulatory requirements, environmental guidelines and best practices;
- 3) Manitoba Hydro policies and commitments; and
- 4) results from stakeholder and Aboriginal consultations that mitigate potential adverse effects on sensitive sites.

The protection measures have wide-ranging application to the Project including the various project components and activities as well as important environmental components and issues.

Each environmental protection measure is numbered for future reference. Wording of the protection measures is affirmative with the view of avoiding or minimizing adverse environmental effects, following an environmental guideline or complying with a regulatory requirement. References are provided to source legislation, environmental guidelines or best practices.

### 2.3.1. General Mitigation tables

<b>Access Roads and Trails (PC-1)</b>	
<b>ID</b>	<b>Mitigation</b>
PC-1.07	Approach grades to waterbodies will be minimized to limit disturbance to riparian areas.
PC-1.09	Contractor will be restricted to established roads and trails, and cleared construction areas.
PC-1.10	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.
PC-1.11	Equipment, machinery and vehicles will only travel on cleared access roads and trails.
PC-1.12	Existing access roads or trails will be used to the extent possible.
PC-1.15	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.
PC-1.19	Surface water runoff will be directed away from disturbed and erosion prone areas but not directly into waterbodies.

<b>Agricultural Areas (EC-1)</b>	
<b>ID</b>	<b>Mitigation</b>
EC-1.01	All fences and gates will be left in "as-found" condition.
EC-1.02	Any necessary access on agricultural lands will be discussed in advance with the landowner.
EC-1.03	Construction areas and sites will be assessed for compaction and if required will be deep ploughed by the contractor to mitigate any compaction prior to returning them to agricultural use.
EC-1.04	Erosion protection and sediment control measures will be established before construction work commences in agricultural areas where necessary.
EC-1.05	Excess construction materials (i.e. waste, granular fill; clay) will be removed from construction sites and areas located on agricultural lands. Area will be restored to pre-existing conditions.
EC-1.06	Existing access to agricultural lands will be utilized to the extent possible.
EC-1.07	Required travel off existing roads will be minimized and restricted to previously designated and approved routes.
EC-1.08	Vehicular travel on agricultural lands will follow existing roads, trails and paths to the extent possible.

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**Backfilling (PA-11)**

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<b>ID</b>	<b>Mitigation</b>
PA-11.1	Compact backfill to minimize settlement by running one tread of crawler tractor over the backfill when the trench has been backfilled to the level of the surrounding ground. Where support for the pipe or appurtenance is critical, the backfill shall be compacted in 0.3m lifts.
PA-11.2	Re-contour the right-of-way and restore original grades and drainage channels. Where re-contouring of the right-of-way could result in potential unstable terrain, the right-of-way will be re-graded to a maximum 3:1 slope or as advised by the Engineer.
PA-11.3	Avoid scalping of the sod layer on native grassland when moving the spoil pile during backfill.
PA-11.4	Spread topsoil evenly over portions of the right-of-way which were stripped.
PA-11.5	Crown trench to a minimum height of 0.2m to allow for settlement. Leave breaks in trench mound at obvious drainages to minimize interference with natural drainage.
PA-11.6	Do not leave graded material on the slopes or closer than 10m to the crest of the slopes.

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**Built-up and Populated Areas (EC-2)**

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<b>ID</b>	<b>Mitigation</b>
EC-2.01	Construction activities and equipment will be managed to avoid damage and disturbance to adjacent properties, structures and operations.
EC-2.02	Mud, dust and vehicle emissions will be managed in a manner that ensures safe and continuous public activities near construction sites where applicable.
EC-2.03	Noisy construction activities where noise and vibration may cause disturbance and stress in built-up areas will be limited to daylight hours.

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**Demobilizing and Cleaning Up (PA-4)**

<b>ID</b>	<b>Mitigation</b>
PA-4.01	Buildings, structures, trailers, equipment, utilities, waste materials, etc will be removed from construction areas and sites when work is completed.
PA-4.03	Construction areas and sites will be rehabilitated and re-vegetated as appropriate immediately after demobilizing and clean-up.
PA-4.04	Construction areas no longer required will be demobilized and rehabilitated in accordance with provincial regulations.
PA-4.05	Petroleum product and other hazardous substances storage areas will be cleaned up, assessed and, if necessary, remediated in accordance with provincial guidelines and Manitoba Hydro guidelines.

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**Draining (PA-5)**

<b>ID</b>	<b>Mitigation</b>
PA-5.01	Blockage of natural drainage patterns by construction activities will be avoided.
PA-5.04	Drainage water from construction areas will be diverted through vegetated areas, existing drainage ditch(s) or a means of sediment control prior to entering a waterbody.
PA-5.05	Erosion protection and sediment control will be provided in accordance with the Erosion Protection and Sediment Control Plan.
PA-5.06	Existing, natural drainage patterns and flows will be maintained to the extent possible.
PA-5.07	No debris or slash is allowed to be placed in drainage channels/ditches

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**Directional Drilling (PA-13)**

<b>ID</b>	<b>Mitigation</b>
PA-13.1	A written directional drilling execution plan that meets or exceeds the requirements of CSA Z662, current edition will be prepared prior to the start of drilling (see Appendix E for a sample).
PA-13.2	A frac-out contingency plan will be prepared that includes measures to stop work, contain the drilling mud and prevent its further migration into the watercourse (See Appendix F for sample).
PA-13.3	The geotechnical survey of the crossing will be reviewed prior to initiating drilling.
PA-13.4	The drill entry and exit points will be far enough from the banks of the watercourse to have minimal

## Directional Drilling (PA-13)

	impact on these areas.
PA-13.5	A dugout/settling basin at the drilling exit site will be constructed to contain drilling mud to prevent sediment and other deleterious substances from entering the watercourse. If this cannot be achieved, silt fences or other effective sediment and erosion control measures will be installed to prevent drilling mud from entering the watercourse.
PA-13.6	Excess drilling mud, cuttings and other waste materials will be disposed of at an adequately sized disposal facility located away from the water to prevent it from entering the watercourse.
PA-13.7	The watercourse will be monitored to observe signs of surface migration (frac-out) of drilling mud during all phases of construction.
PA-13.8	Drilling equipment will be set up a minimum of 15 m from the edge of the watercourse; clearing or grading within this 15 m zone will not be permitted.
PA-13.9	When boring through rock, construct sump to handle drilling fluids prior to the start of boring
PA-13.10	Keep all material and equipment needed to contain and clean up drilling mud releases on site and readily accessible in the event of a frac-out.
PA-13.11	In the event of a frac-out, implement the frac-out contingency plan and notify all applicable authorities. Prioritize clean-up activities relative to the risk of potential harm and dispose of the drilling mud in a manner that prevents re-entry into the watercourse.
PA-13.12	Stabilize any waste materials removed from the work site to prevent them from entering the watercourse. This could include covering spoil piles with biodegradable mats or tarps or planting them with preferably native grass or shrubs.
PA-13.13	Vegetate any disturbed areas, adjacent to waterbodies, by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring.
PA-13.14	Maintain effective sediment and erosion control measures until re-vegetation of disturbed areas is achieved.
PA-13.15	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).
PA-13.16	Water, to mix the drilling mud, either shall be brought in from off site and stored in tanks at the entry locations or be withdrawn only from streams within the same watershed area where it will be used.
PA-13.17	Water shall not be withdrawn from a watercourse until Manitoba Hydro has secured the proper permits, and they are available onsite during construction.

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**Drilling (PA-6)**

<b>ID</b>	<b>Mitigation</b>
PA-6.01	Abandoned drill holes will be sealed with bentonite or other effective sealers to prevent interconnection and cross-contamination of ground and surface waters.
PA-6.03	Drilling equipment and machinery will not be serviced within 100 m of waterbodies or riparian areas.
PA-6.04	Drilling fluids and waste materials will not be allowed to drain into waterbodies, riparian areas or wetlands.
PA-6.05	Drilling in environmentally sensitive sites, features and areas will not be permitted unless approved in advance by Environmental Inspector and mitigation measures are implemented.
PA-6.07	Drilling will not be permitted within established buffer zones and setback distances from waterbodies.
PA-6.08	Spill control and clean-up equipment will be provided at all drilling locations.
PA-6.09	The drilling contractor will ensure that equipment and materials are available on site for sealing drill holes.
PA-6.10	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.
PA-6.11	Where there is potential for mixing of surface and ground water, precautions will be taken to prevent the interconnection of these waters.

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**Emergency Response (EI-2)**

<b>ID</b>	<b>Mitigation</b>
EI-2.01	All fires will be reported in accordance with fire reporting procedures in the Emergency Preparedness and Response Plan.
EI-2.02	All spills at construction sites will be reported in accordance with provincial legislation and guidelines, and Manitoba Hydro Guidelines.
EI-2.03	All vehicles hauling petroleum products will carry spill containment and clean-up equipment.
EI-2.04	Clean-up and the disposal of contaminated materials will be managed in accordance with provincial guidelines and Manitoba Hydro guidelines.
EI-2.05	Emergency Preparedness and Response Plans and procedures will be communicated to all project staff and a copy will be made available at the project site.
EI-2.06	Emergency spill response and clean-up materials and equipment will be available at construction sites, marshalling yards, fuel storage facilities and standby locations.
EI-2.08	Orientation for Contractor and Manitoba Hydro employees working in construction areas will include emergency response awareness.



## Emergency Response (EI-2)

EI-2.09	Post audit assessments will be carried out for all major spills and fires reported to ensure that procedures are followed and plans remain effective.
EI-2.11	Reasonable precautions will be taken to prevent fuel, lubricant, fluids or other products from being spilled during equipment operation, fuelling and servicing.
EI-2.12	Spill response and clean-up equipment will be capable of containing and recovering the largest release possible and be suitable for the site location.
EI-2.14	The Emergency Preparedness and Response Plan will be prepared by the Contractor, approved by the Construction Supervisor/Site Manager prior to construction and updated annually.
EI-2.15	The Manitoba Hydro hazardous materials incident report form will be completed when reporting a spill.
EI-2.16	The on-site Emergency Spill Response Coordinator will be notified of hazardous substance releases immediately in accordance with the Emergency Preparedness and Response Plan.

## Erosion Protection and Sediment Control (EI-3)

<b>ID</b>	<b>Mitigation</b>
EI-3.01	Accumulated sediment will be removed from silt fences and other barriers to ensure proper functioning.
EI-3.02	Construction activities will be suspended during extreme wet weather events where erosion protection and sediment control measures are compromised.
EI-3.04	Erosion protection and sediment control installations will only be removed after disturbed areas are protected and sediments are disposed of.
EI-3.05	Erosion protection and sediment control measures will be left in place and maintained until either natural vegetation or permanent measures are established.
EI-3.06	Erosion protection and sediment control measures will be put in place prior to commencement of construction activities and will remain intact for the duration of the project.
EI-3.07	Orientation for Contractor and Manitoba Hydro employees working in construction areas will include erosion protection and sediment control techniques and procedures.
EI-3.08	The Contractor will be responsible for implementing and maintaining Erosion Protection and Sediment Control measures prior to commencement of construction activities.
EI-3.09	The Contractor will be responsible for modifying erosion protection and sediment control installations to ensure continued effectiveness.
EI-3.10	The Contractor will communicate erosion protection and sediment control information to all project staff and a copy will be made available at the project site.
EI-3.11	The Environmental Inspector will make regular inspections of erosion protection and sediment control

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**Erosion Protection and Sediment Control (EI-3)**

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	measures to confirm implementation and continued effectiveness.
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**Fish Protection (EC-3)**

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<b>ID</b>	<b>Mitigation</b>
EC-3.01	Construction activities will not be carried out within established buffer zones and setback distances from waterbodies, wetlands and riparian areas without prior written notification of Manitoba Hydro.
EC-3.02	Disturbances to waterbodies, shorelines, riparian areas, etc. will be rehabilitated immediately upon completion of construction activities.
EC-3.03	Erosion protection and sediment control measures will be put in place at all project locations where surface drainage is likely to flow into fish bearing waters.
EC-3.04	Fish and fish habitat will be protected in accordance with federal legislation and federal and provincial guidelines.
EC-3.06	Project personnel will be prohibited from fishing at project locations or along rights-of-way

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**Grading (PA-7)**

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<b>ID</b>	<b>Mitigation</b>
PA-7.02	Grading for gravel pads for construction areas and access roads will be limited to areas where it is needed for the safe and efficient operation of vehicles, machinery and construction equipment.
PA-7.04	Grading will not be permitted within established buffer zones and setback distances from waterbodies
PA-7.05	Grading will only be permitted within rights-of-ways and construction areas.
PA-7.06	Gravel pads will be graded so the surface runoff is directed away from waterbodies, riparian areas and wetlands.
PA-7.07	Required erosion protection and sediment control measures will be put in place prior to grading.

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## Hazardous Materials (EI-4)

ID	Mitigation
EI-4.02	Access to hazardous materials storage areas will be restricted to authorized and trained Contractor and Manitoba Hydro personnel.
EI-4.03	An inventory of WHMIS controlled substances will be prepared by the Contractor and maintained at each project site and updated as required by provincial legislation.
EI-4.04	Bulk waste oil will be stored in approved aboveground tanks provided with secondary containment in accordance with provincial legislation.
EI-4.05	Containers of hazardous substances stored outside will be labeled, weatherproof, placed on spill containment pallets and covered by a weatherproof tarp.
EI-4.06	Contractor personnel will be trained and certified in the handling of hazardous materials including emergency response procedures in accordance with provincial legislation.
EI-4.07	Contractor personnel will receive WHMIS training in accordance with provincial legislation.
EI-4.08	Controlled substances will be labeled in accordance with WHMIS requirements, required documentation will be displayed and current Materials Safety Data Sheets will be available at each project site.
EI-4.09	Empty hazardous waste containers will be removed to a licenced or approved disposal site.
EI-4.10	Hazardous materials storage sites will be secured, and signs will be posted that include hazard warnings, contacts in case of a release, access restrictions and under whose authority the access is restricted.
EI-4.11	Hazardous materials will be adequately contained and will be protected from wind and rain to prevent entry of fine particles into streams through runoff of dust deposition.
EI-4.12	Hazardous substance and WHMIS inventories will be completed prior to construction. Inventories will be updated in accordance with regulatory requirements and Manitoba Hydro policies.
EI-4.13	Hazardous substances management procedures will be communicated to all project staff and a copy will be made available at the project site.
EI-4.14	Hazardous substances storage areas including coke materials for ground electrode facilities will be located a minimum of 100 m from the ordinary high water mark of a waterway and above the 100-year flood level.
EI-4.15	Hazardous substances will be transported, stored and handled according to the procedures prescribed by provincial legislation and at a minimum follow Manitoba Hydro policies.
EI-4.16	Hazardous waste substances will be segregated and stored by type.
EI-4.17	Indoor storage of flammable and combustible substances will be in fire resistant and vented enclosed storage area or building in accordance with national codes and standards.
EI-4.18	Manitoba Hydro will approve all hazardous materials that are used on the project prior to their arrival on-site.

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**Hazardous Materials (EI-4)**

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EI-4.19	Non-hazardous products will be used in place of hazardous substances to the extent possible.
EI-4.20	Orientation for Contractor and Manitoba Hydro employees working in construction areas will include hazardous substance awareness.
EI-4.21	Pesticide storage will be in accordance with provincial legislation and Manitoba Hydro guidelines.
EI-4.22	The Contractor will be responsible for the safe use, handling, storage and disposal of hazardous substances including waste as well as procedures for emergency conditions in accordance with provincial and federal legislation and standards.
EI-4.23	The Contractor will monitor containers of hazardous substance containers regularly for leaks and to ensure that labels are displayed.
EI-4.24	The Environmental Inspector will make routine inspections of hazardous substance storage sites to ensure that environmental protection measures are implemented and effective.
EI-4.25	Waste oil will be transported by licenced carriers to licenced or approved waste oil recycling facilities.
EI-4.26	Wet batteries will be stored and transported to licenced or approved waste recycling facilities.

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**Heritage Resources (EC-5)**

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<b>ID</b>	<b>Mitigation</b>
EC-5.01	All archaeological finds discovered during site preparation and construction will be left in their original position until the Project Archaeologist is contacted and provides instruction.
EC-5.03	Environmental protection measures for heritage resources will be reviewed with the Contractor and employees prior to commencement of any construction activities.
EC-5.04	Orientation for project staff working in construction areas will include heritage resource awareness and training including the nature of heritage resources and the management of any resources encountered.
EC-5.05	Orientation information will include typical heritage resource materials and reporting procedures.
EC-5.06	The contractor will report heritage resource materials immediately to the construction supervisor who will cease construction activities in the immediate vicinity until the project archaeologist is contacted and prescribes instruction.
EC-5.08	The inspector will inspect borrow pits and other excavations regularly for the presence of heritage resource materials.

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**Management Measures (MM)**

<b>ID</b>	<b>Mitigation</b>
MM-01	All licences, permits, contracts, project specifications, guidelines and other applicable documents will be in the possession of both the contractor and Manitoba Hydro prior to commencement of work.
MM-02	All project participants will ensure that project activities are carried out in compliance with applicable legislation, guidelines contractual obligations and environmental protection plan provisions.
MM-03	Environmental concerns will be identified and discussed at planning meetings on an as required basis.
MM-05	Manitoba Hydro will contact local municipal authorities prior to project start-up.
MM-08	Manitoba Hydro will meet the contractor at the beginning of each new contract to review environmental protection requirements including mitigation measures, inspections and reporting.
MM-10	Manitoba Hydro will provide the contractor with a stakeholders list with names, organizations and contact information for the purpose of contacting stakeholders as necessary.
MM-11	Project construction update meetings will be held weekly for the ongoing review of environmental and safety issues.
MM-12	Relevant documents including licences, permits, approvals, legislation, guidelines, environmental protection plans, orthophotos maps, etc will be made available to all project participants.
MM-13	Response to enforcement actions by regulatory authorities will be in accordance with Manitoba Hydro policy P602.
MM-14	The contractor will obtain all licences, permits, contracts and approvals other than those that are Manitoba Hydro's responsibility prior to project start-up.
MM-15	The contractor will review terms and conditions of all authorizations, contract specifications, agreements, etc. prior to project start-up and will discuss any questions or concerns with Manitoba Hydro.

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**Marshalling Yards (PC-5)**

<b>ID</b>	<b>Mitigation</b>
PC-5.01	Contractor employees responsible for receipt and distribution of hazardous substances will be trained in handling and transportation of dangerous goods, and WHMIS.
PC-5.03	Erosion protection, sediment control and drainage management measures will be put in place prior to construction.
PC-5.04	Fire breaks will be established around marshalling yards in areas where there is a risk of fire.
PC-5.05	Garbage and debris will be stored in approved containers, sorted for recycling and disposed of at a licenced or approved waste disposal site.

## Marshalling Yards (PC-5)

PC-5.06	Hazardous substances entering and leaving the marshalling yards will be inventoried and accounted for.
PC-5.07	Hazardous substances will be stored in accordance with provincial legislation, and provincial and national codes and standards.
PC-5.08	Marshalling yards will be located based on criteria that consider soils, topography, land form type, permafrost, wildlife habitat and other environmental factors.
PC-5.09	Marshalling yards will be located in existing clearings or natural openings.
PC-5.10	Marshalling yards will be located, constructed, operated and decommissioned in accordance with contract specifications.
PC-5.11	Once marshalling yards are no longer required, structures, equipment, materials, fences, etc. will be dismantled and moved to storage or a new location.
PC-5.12	Organic material, topsoil and sub-soil stripped during site preparation will be stockpiled separately for later use in site rehabilitation.
PC-5.13	Petroleum products will only be stored, handled and dispensed in designated areas within marshalling yards in accordance with provincial legislation and guidelines.
PC-5.14	Spill control and clean-up equipment to be located at designated areas within marshalling yards.
PC-5.15	Staging and work storage areas no longer required will be decommissioned and rehabilitated.
PC-5.17	Vehicle, machinery and equipment maintenance and repairs will be carried out in designated areas within marshalling yards.
PC-5.18	Waste hazardous substances, fuel containers and other materials will be stored in approved containers and transported to licenced or approved waste disposal facilities by a licenced carrier.
PC-5.19	Welding mats will be used to minimize the risk of fire.

## Petroleum Products (EI-5)

ID	Mitigation
EI-5.01	Aboveground tanks will be equipped with overfill protection and spill containment consisting of perimeter dykes or secondary containment in the tank design.
EI-5.02	All aboveground petroleum product tanks with a capacity greater than 5,000 L will be registered with Manitoba Conservation and Water Stewardship and have a valid operating permit.
EI-5.03	Construction, installation or removal of petroleum product storage tank systems will only occur under the supervision of a registered licenced petroleum technician.
EI-5.04	Containment measures, such as secondary containment (i.e., berms) will be used at all locations where

## Petroleum Products (EI-5)

	stationary oil-filled equipment is used.
EI-5.05	Contractors will inspect all mobile and stationary equipment using petroleum products on a regular basis to ensure that measures are taken immediately to stop any leakage discovered.
EI-5.06	Fuelling of equipment or portable storage tanks will be a minimum of 100 m from the ordinary high water mark of any waterbody.
EI-5.07	Fuelling operations require the operator to be visually observing the process 100% of the time.
EI-5.08	If dykes are used, the containment areas will be dewatered after rainfall events and the containment water disposed of as specified in contract specifications.
EI-5.10	Only approved aboveground petroleum storage tanks will be used during the construction phase of the project. No underground tanks will be permitted.
EI-5.11	Orientation for Contractor and Manitoba Hydro employees working in construction areas will include petroleum product storage and handling awareness.
EI-5.12	Petroleum product dispensing systems will be secured and locked when not in use by authorized personnel.
EI-5.13	Petroleum product inventories will be taken weekly by the owner/operator on all aboveground tanks greater than 5,000 L and retained for inspection by Manitoba Hydro or Manitoba Conservation upon request.
EI-5.14	Petroleum product storage containers in excess of 230 L will be located on level ground and will incorporate secondary containment with a capacity of 110% of the largest container volume.
EI-5.15	Petroleum product storage sites and mobile transportation units will be equipped with fire suppressant equipment and products.
EI-5.16	Petroleum product storage tanks will be protected from vehicle collisions by concrete filled bollards.
EI-5.17	Petroleum product storage will be located a minimum of 100 m from the ordinary high water mark of waterbodies, riparian areas or wetlands.
EI-5.18	Petroleum products stored outside will be in waterproof and labeled containers, placed on spill containment pallets.
EI-5.19	Petroleum products will be transported and handled according to the procedures prescribed by provincial legislation.
EI-5.20	Petroleum products will display required signage, placards and labeling, and will be stored and handled in accordance with provincial legislation.
EI-5.21	Petroleum products will only be stored and handled within designated areas at construction camps and marshalling yards.
EI-5.22	Portable petroleum product storage containers will be placed on spill trays with a capacity of 110% of the largest container when not in use.

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**Petroleum Products (EI-5)**

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EI-5.23	Slip tanks and barrels will be securely fastened to the vehicle during transport and fuelling operations.
EI-5.24	Spill control and clean-up equipment and materials will be available at all petroleum product storage and dispensing locations.
EI-5.25	Spill trays will remain impervious at very low temperatures (-45 °C) and have accumulated precipitation removed regularly.
EI-5.26	The Contractor will be responsible for the safe use, handling, storage and disposal of petroleum products including waste as well as procedures for emergency conditions in accordance with provincial and federal legislation and standards.
EI-5.27	The Contractor will inspect all petroleum product storage tanks and containers regularly for leaks, and product inventories will be recorded and retained for inspection by Manitoba Hydro and Manitoba Conservation and Water Stewardship.
EI-5.28	There will be no ignition sources in and adjacent to petroleum product storage areas.
EI-5.29	Transfer of petroleum products between storage areas and work sites not exceed daily requirements and will be in accordance with provincial legislation and guidelines.
EI-5.30	Used petroleum products (including empty containers) will be collected and transported to a licenced oil recycling facility in approved storage containers.
EI-5.31	Vehicles hauling petroleum products will carry equipment and materials for emergency spill containment and clean-up.
EI-5.32	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.

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**Pressure Testing (PA-12)**

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<b>ID</b>	<b>Mitigation</b>
PA-12.1	Where applicable, consult with Engineer to ensure that necessary approvals have been secured for the source of water to be used for testing.
PA-12.2	Follow all conditions and instructions as provided by Engineer in sourcing test water and disposing of test water.
PA-12.3	Dissipate water energy and utilize haybales and heavy poly tarps, or other protective rip-rap to minimize erosion of soils during dewatering. If erosion control measures are found to be inadequate, reduce the discharge rate so that further erosion does not occur or suspend dewatering until adequate methods are in place.
PA-12.4	Ensure necessary approvals are obtained prior to discharging test water to road side ditches or to non-cultivated land. No discharges to cultivate land unless approved by the landowner/lessee.



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**Pressure Testing (PA-12)**

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PA-12.5	Ensure methanol injection and recovery systems are closed, and properly dispose of methanol when used for pipeline drying.
PA-12.6	Spill kits shall be onsite and readily accessible during methanol wash and pipeline test.
PA-12.7	Proper signage shall be displayed during testing to warn personnel and public of the potential dangers.

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**Rehabilitating and Re-vegetation (PA-9)**

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<b>ID</b>	<b>Mitigation</b>
PA-9.03	Organic material, topsoil and subsoil stripped from construction areas will be stockpiled and protected to be used for future site rehabilitation.
PA-9.04	Rehabilitation of construction areas will incorporate erosion protection and sediment control measures as required.

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**Rights-of-Way (PC-8)**

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<b>ID</b>	<b>Mitigation</b>
PC-8.01	Access to the pipeline right-of-way will utilize existing roads and trails to the extent possible.
PC-8.03	Additional clearing outside established rights-of-way will be approved by the Construction Supervisor/Site Manager prior to clearing and may require an amendment to contract specifications.
PC-8.04	Clearing and disturbance will be limited to defined rights-of-way and associated access routes to the extent possible.
PC-8.05	Clearing of rights-of-way will occur under frozen or dry ground conditions during established timing windows to minimize rutting and erosion where applicable.
PC-8.06	Construction vehicles will be wide-tracked or equipped with high floatation tires to minimize rutting and limit damage and compaction to surface soils.
PC-8.09	In situations where the ROW doesn't have completely frozen or have dry ground conditions alternate products such as construction mats will be used.

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**Safety and Health (EI-6)**

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<b>ID</b>	<b>Mitigation</b>
EI-6.01	Orientation for Contractor and Manitoba Hydro employees working in construction areas will include safety and health awareness.
EI-6.02	Safety and health information will be posted at each project location and made available to all project personnel.

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**Safety and Health (EI-6)**

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EI-6.03	Workplace safety and health committees will be established and safety meetings will be held as required by provincial legislation and Manitoba Hydro guidelines at all project locations.
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**Soil Contamination (EI-7)**

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<b>ID</b>	<b>Mitigation</b>
EI-7.01	A closure report will be prepared for completed remediation projects in accordance with provincial and Manitoba Hydro guidelines.
EI-7.02	A Remediation Plan will be prepared by the Contractor for sites contaminated by project activities and will remediate soils according to provincial standards.
EI-7.03	All spills and releases reported will be responded to in accordance with provincial legislation and guidelines and Manitoba Hydro guidelines.
EI-7.04	Any contaminated soil treatment areas must be designed and constructed to contain surface runoff and prevent leaching to soil and groundwater.
EI-7.05	Contractor personnel will take all reasonable steps to prevent soil, groundwater and surface water contamination.
EI-7.06	If contamination is suspected or evident, a Phase II Environmental Site Assessment will be carried out on previously used construction sites following Manitoba Hydro procedures.
EI-7.07	If laboratory results show that the soil is contaminated the soil must be treated on-site or transported to an approved landfill or land farm for remediation in accordance with a Remediation Plan.
EI-7.08	If laboratory results show that the soil is not contaminated then the soils may be used in accordance with contact specifications.
EI-7.09	Remediation Plans will be prepared by the Contractor and approved by the Construction Supervisor/Site Manager prior to implementation if remediation of contaminated soils is determined to be required.
EI-7.10	The Contractor will assess previously used construction sites for potential contamination following Canadian Standards Association Environmental Site Assessment (CSA Z768- 01 and Z769-00) procedures.
EI-7.11	The Contractor will carry out a CSA Phase II Environmental Site Assessment (CSA Z769-00) at abandoned construction camps, marshalling yards, petroleum product storage and dispensing areas and hazardous substance storage areas if contamination is suspected
EI-7.12	The Environmental Inspector will inspect contaminated site assessment and remediation work regularly to ensure that environmental protection measures are implemented and effective.

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**Stream Crossings (PC-9)**

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ID	Mitigation
PC-9.03	Directional Drilling under stream crossings will follow the Fisheries and Oceans Canada measures to avoid causing harm to fish and fish habitat.

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**Stripping (PA-10)**

ID	Mitigation
PA-10.01	Construction areas containing soil with high silt content, artesian springs or areas of previous erosion will receive special erosion protection and sediment control techniques.
PA-10.02	Erosion protection and sediment control measures will put be in place prior to stripping.
PA-10.03	In areas of known salinity, excavated or stripped soil will be stored on liners or in designated areas were possible.
PA-10.04	Mineral topsoils and surficial organic materials should be stripped separately from subsoils, segregated, and stockpiled for later use in backfilling, contouring and rehabilitation. Soils should be replaced in the reverse order to which they were removed.
PA-10.05	Stockpiled materials from stripping will not block natural drainage patterns.
PA-10.07	Stripping will not be permitted within established buffer zones and setback distances from waterbodies except where approved in work permits, authorizations or contract specifications.
PA-10.08	The Contractor will stabilize construction areas requiring extensive stripping as soon as possible to minimize erosion.

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**Uncoiling, Stringing, Welding, Fusing, Trenching and Lowering (PA-10)**

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ID	Mitigation
PA-10.1	String pipe, weld/fuse, then trench, thereby minimizing the time the trench will be left open, potential for wind erosion or interference with landowners.
PA-10.3	Do not pump water onto cultivated land. Pump water onto well vegetated areas or through straw bales in manner that does not cause erosion.
PA-10.4	Water down working side of trench with water truck when excessively dry conditions exist to minimize dust problems and disturbance of workers and the public.
PA-10.5	Do not dispose of any solid waste in the pipeline trench. Collect welding rods, rags, bottles, cans, oil and grease containers, broken skids, papers, insulation blankets, etc., and either recycle or dispose of at an appropriate disposal area.
PA-10.6	Obtain blasting permit and conduct operations in as short a time period as possible using as small a blasting charge as possible. Use blasting mats or other mitigative measures as required.

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**Vehicle and Equipment Maintenance (EI-9)**

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<b>ID</b>	<b>Mitigation</b>
EI-9.01	An Emergency Preparedness and Response Plan and spill control and clean-up equipment will be provided at all designated vehicle, equipment and machinery maintenance areas.
EI-9.02	Emergency vehicle, equipment and machinery maintenance repairs will contain waste fluids and will use drip trays and tarps.
EI-9.03	Unnecessary idling of vehicles, equipment and machinery will be avoided to the extent practical.
EI-9.04	Vehicle, equipment and machinery maintenance and repairs will be carried out in designated areas located at least 100 m from the ordinary high water mark of a waterbody, riparian area or wetland.
EI-9.05	Vehicle, equipment and machinery operators will perform a daily inspection for fuel, oil and fluid leaks and will immediately shutdown and repair any leaks found. All machinery working near watercourses will be kept clean and free of leaks.
EI-9.06	Vehicles transporting dangerous goods or hazardous products will display required placards and labeling in accordance with provincial legislation and Manitoba Hydro guidelines.
EI-9.07	Vehicles, equipment and machinery must arrive on site in clean condition free of fluid leaks and weed seeds.
EI-9.08	Vehicles, equipment and machinery that carry fuel, hydraulic oil and other petroleum products will also carry spill control and clean-up equipment and materials.

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**Waste Management (EI-10)**

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<b>ID</b>	<b>Mitigation</b>
EI-10.03	Construction sites will be kept tidy at all times and bins will be provided wherever solid wastes are generated.
EI-10.04	Indiscriminate burning, dumping, littering or abandonment will not be permitted.
EI-10.05	Kitchen wastes will be stored in closed containers to minimize wildlife interactions.
EI-10.06	Solid waste materials will be collected and transported to a licenced or approved waste disposal facility.
EI-10.07	Waste materials remaining at snow disposal sites after melting will be disposed of at a licenced or approved landfill.

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**Wildlife Protection (EC-9)**

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<b>ID</b>	<b>Mitigation</b>
EC-9.01	Any wildlife killed or injured by vehicles will be reported to Manitoba Conservation and Water Stewardship.
EC-9.07	Hunting and harvesting of wildlife by project staff will not be permitted while working on the project sites.
EC-9.11	No firearms will be permitted at construction sites.
EC-9.12	Orientation for Contractor and Manitoba Hydro employees will include awareness of environmental protection measures for wildlife and wildlife habitat.
EC-9.13	Problem wildlife will be reported immediately to Manitoba Conservation and Water Stewardship.
EC-9.18	Wildlife and wildlife habitat will be protected in accordance with provincial and federal legislation and provincial and federal guidelines.
EC-9.19	Wildlife will not be fed, befriended or harassed at construction areas.
EC-9.20	To avoid interaction with nesting migratory birds that could be present in the adjacent riparian area, construction activities take place outside the general bird nesting window (April 21 – August 15)

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### 3. REFERENCES

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Canadian Pipeline Environment Committee. 2004. The Pipeline Industry and the Migratory Birds Act. Available at <http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/nvrnmnt/lfcclprch/pplndstrmgrtrbrdcnvtntct2004CPEC-eng.pdf>

Canadian Pipeline Environment Committee. 2005. Pipeline Associated Watercourse Crossings Third Edition. Available at <http://www.cepa.com/wp-content/uploads/2014/01/Pipelines-Associated-Watercourse-Crossings.pdf>

Canadian Association of Petroleum Producers. 2004. Planning Horizontal Directional Drilling for Pipeline Construction. CAPP Publication No. 2004-0022.

Environment Canada. 2009. Petroleum Industry Activity Guidelines for Wildlife Species at Risk in the Prairie and Northern Region. Canadian Wildlife Service, Environment Canada, Prairie and Northern Region, Edmonton Alberta. 64p.

Fisheries and Oceans Canada (DFO). 2014a. Measures to Avoid Causing Harm to Fish and Fish Habitat. Available at: <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>.

Fisheries and Oceans Canada (DFO). 2014b. Manitoba Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat. Available at: <http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/mb-eng.html>.

Fisheries and Oceans Canada. 1995. Freshwater Intake End-of-Pipe Fish Screen Guidelines. Available at <http://www.dfo-mpo.gc.ca/library/223669.pdf>

Fisheries and Oceans Canada (DFO) and Manitoba Natural Resources (MNR). 1996. Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat. Available at <http://www.gov.mb.ca/waterstewardship/fisheries/habitat/sguide.pdf>

National Energy Board. 2013. Onshore Pipeline Regulations. SOR/99-294. Amended April 2013.

Transport Canada Navigable Waters Protection Act. Pipeline Crossings.TP 14593 (12/2009) Available at <http://www.tc.gc.ca/publications/bil/tp14593/pdf/hr/tp14593b.pdf>





# Northwest Gas Transmission Project

## Key to Features

- Preferred Route
- Existing Natural Gas Transmission Pipeline
- Provincial Road
- Provincial Trunk Highway
- Existing Valve Site
- Proposed Valve Site

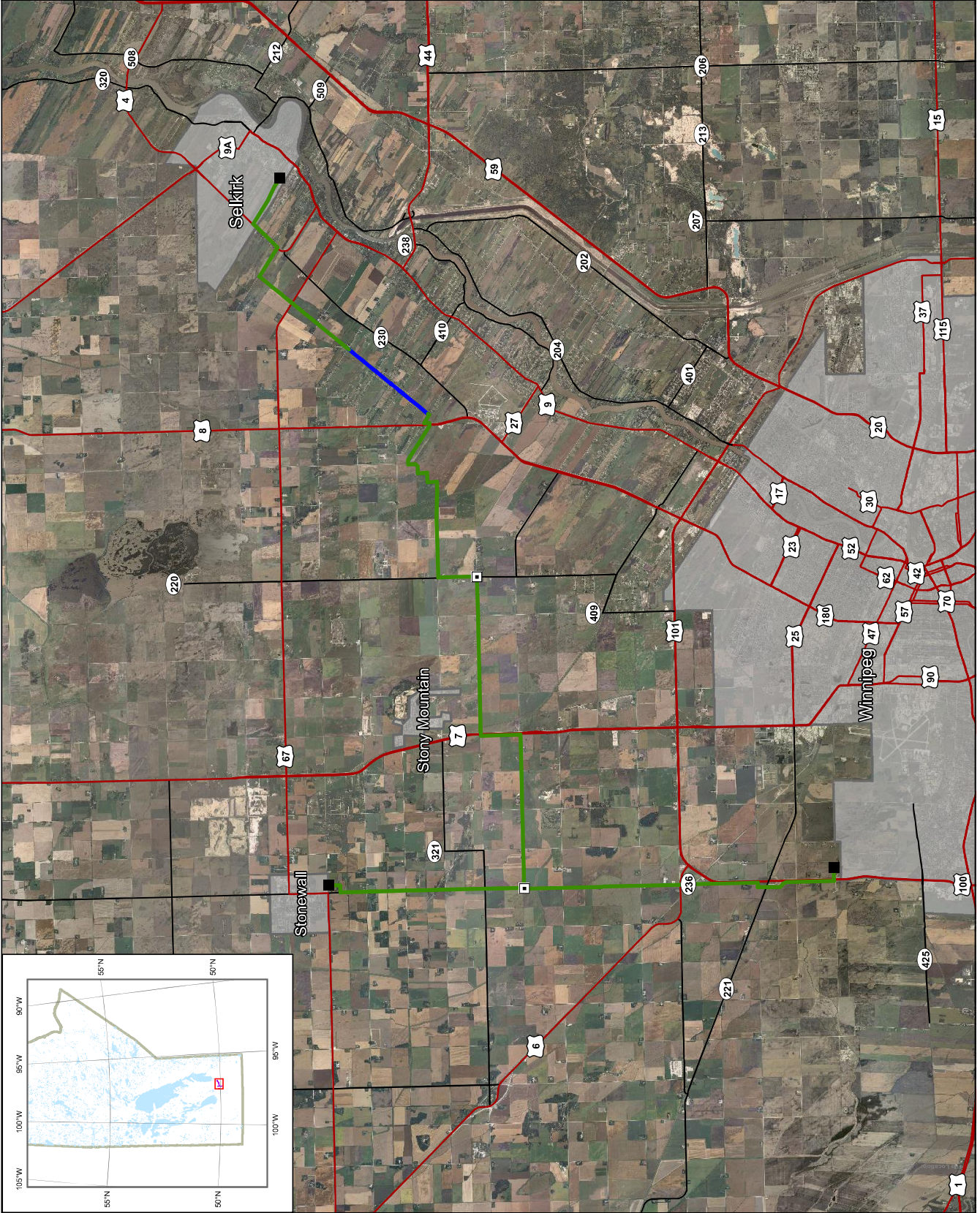
Coordinate System: UTM Zone 14N NAD83  
Data Source: MBHydro; Manitoba Land Initiative  
Date Created: June 2015

1:150,000

# Northwest Gas Transmission Project Preferred Route

Map 3-2

*Draft. For Discussion Purposes Only*







# APPENDICES





**APPENDIX A**

**ENVIRONMENT ACT LICENCE 3163**





**Conservation and Water Stewardship**

Environmental Stewardship Division  
Environmental Approvals Branch  
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5  
T 204 945-8321 F 204 945-5229  
www.gov.mb.ca/conservation/eal

**CLIENT FILE : 5792.00**

January 12, 2016

Shannon Johnson, Manager, Licensing & Environmental Assessment  
Manitoba Hydro  
820 Taylor Avenue  
Winnipeg MB R3M 3T1

Dear Ms. Johnson:

Enclosed is **Environment Act Licence No. 3163** dated January 12, 2016 issued to **Manitoba Hydro** for the construction, operation and maintenance of approximately 39 km of 12 inch diameter steel pipeline connecting the existing Oak Bluff pipeline located at the Rosser Gate Station in the R.M. of Rosser to the Liss Pipeline located in the R.M. of St. Andrews, approximately 10.5 km of new 12 inch pipeline between Lockport Road in the R.M. of St. Andrews to the existing Selkirk Gate Station located in the City of Selkirk, approximately 9.5 km of new 6 inch pipeline from NW 10-13-2 EPM to the existing Stonewall Gate Station in the town of Stonewall and two new valve sites at NW 30-12-2 EPM and SE 5-13-3 EPM, in accordance with the Proposal filed under The Environment Act, dated July 10, 2015, and additional information dated October 28, 2015.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

For further information on the administration and application of the Licence, please feel free to contact Peter Crocker, Environment Officer at 204-726-6565.

Pursuant to Section 27 of *The Environment Act*, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation within 30 days of the date of the Licence.

Yours truly,

**"original signed by"**

Tracey Braun, M.Sc.  
Director, Environment Act

c: Don Labossiere, Tim Prawdzik, Peter Crocker , Environmental Compliance and Enforcement  
Jasmine Langhan, Manitoba Metis Federation; Public Registries; Public: Devin and Kristin Long

**NOTE:** Confirmation of Receipt of this Licence No. 3163 (by the Licensee only) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by January 26, 2016.

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On behalf of Manitoba Hydro

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Date

**\*\*A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES\*\***

# LICENCE

Licence No. / Licence n° 3163

Issue Date / Date de délivrance January 12, 2016

In accordance with *The Environment Act* (C.C.S.M. c. E125) /  
Conformément à la *Loi sur l'environnement* (C.P.L.M. c. E125)

Pursuant to Section 11(1) / Conformément au Paragraphe 11(1)

THIS LICENCE IS ISSUED TO : / CETTE LICENCE EST DONNÉE À :

**MANITOBA HYDRO;**  
**"the Licencee"**

for the construction, operation and maintenance of approximately 39 km of 12 inch diameter steel pipeline connecting the existing Oak Bluff pipeline located at the Rosser Gate Station in the R.M. of Rosser to the Liss Pipeline located in the R.M. of St. Andrews, approximately 10.5 km of new 12 inch pipeline between Lockport Road in the R.M. of St. Andrews to the existing Selkirk Gate Station located in the City of Selkirk, approximately 9.5 km of new 6 inch pipeline from NW 10-13-2 EPM to the existing Stonewall Gate Station in the town of Stonewall and two new valve sites at NW 30-12-2 EPM and SE 5-13-3 EPM, in accordance with the Proposal filed under The Environment Act, dated July 10, 2015, and additional information dated October 28, 2015, and subject to the following specifications, limits, terms and conditions:

### **DEFINITIONS**

In this Licence:

“**affected area**” means a geographical area, excluding the property of the Development;

“**Director**” means an employee so designated pursuant to *The Environment Act*;

“**Environment Officer**” means an employee so designated pursuant to *The Environment Act*;

“**noise nuisance**” means an unwanted sound, in an affected area, which is annoying, troublesome, or disagreeable to a person:

- a) residing in an affected area;

- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to the members of the public;

if the unwanted sound

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90 day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c) and the Director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90 day period from 5 different persons and who do not live in the same household;

**“riparian area”** means an area of land on the banks or in the vicinity of a waterbody, which due to the presence of water supports, or in the absence of human intervention would naturally support, an ecosystem that is distinctly different from that of adjacent upland areas (*The Water Protection Act 2005*);

**“shelterbelt”** means a barrier of trees or shrubs providing protection to soils, crops or livestock;

**“waterbody”** means any body of flowing or standing water, whether naturally or artificially created, and whether the flow or presence of water is continuous, intermittent or occurs only during a flood, including but not limited to a lake, river, creek, stream, and wetland (slough, marsh, swamp, etc.), including ice on any of them (*The Water Protection Act 2005*); and

**“wetland”** means land that is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophytic vegetation, and various kinds of biological activity which are adapted to a wet environment. They are generally less than approximately 2 metres in depth (National Wetland Working Group 1997).

## **GENERAL TERMS AND CONDITIONS**

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

### **Compliance**

1. The Licencee shall adhere to the commitments made in the Proposal, supporting information filed in association with the Proposal, and plans submitted and approved pursuant to this licence during construction, maintenance, operation and decommissioning of the Development.



### **Permits**

2. The Licencee shall, prior to commencing construction of the Development, apply for and obtain all necessary provincial licences, authorizations, permits and/or approvals for construction of the Development.

### **Additional Reporting**

3. The Licencee shall, in addition to any of the specifications, limits, terms and conditions specified in this Licence, upon the request of the Director:
  - a) sample, monitor, analyse or investigate specific areas of concern regarding any segment, component or aspect of the Development for such duration and at such frequencies as may be specified;
  - b) determine the environmental impact associated from the Development;
  - c) conduct specific investigations in response to the data gathered during environmental monitoring programs; or
  - d) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and other information as may from time to time be requested.

### **Environmental Inspection**

4. The Licencee shall, during construction of the Development, employ qualified environmental inspectors to ensure that all the environmental practices outlined in the Proposal and supporting information are carried out.

### **Reporting Format**

5. The Licencee shall submit all information required to be provided to the Director or Environment Officer under this Licence, in written or electronic format, in such form (including number of copies) and of such content as may be required by the Director or Environment Officer, and each submission shall be clearly labelled with the Licence Number and Client File Number associated with this Licence.

## **SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS**

### **Notification**

6. The Licencee shall, prior to beginning construction of the Development, provide notification to the Environment Officer responsible for the administration of this Licence of the intended start date of construction and the name of the contractor(s) responsible for the construction.

7. The Licencee shall, prior to construction, provide a copy of this Licence to the contractor(s) and subcontractor(s) involved in the Development.

#### **Construction Environmental Protection Plan**

8. The Licencee shall submit an Environmental Protection Plan for the approval of the Director for the construction of the Development. This plan shall describe the approach to be used by the Licencee to ensure that mitigative measures are applied systematically, and in a manner consistent with the commitments made in the Proposal. Separate plans may be submitted for different components or phases of the Development. Specifically, the plan shall:
  - a) describe the environmental management system;
  - b) provide field construction personnel with clear instructions on the mitigation measures to be implemented and on the appropriate lines of communication and means of reporting to be followed throughout the life cycle of the project;
  - c) summarize environmental sensitivities and mitigation actions and emergency response plans and reporting protocols;

#### **Dangerous Goods Storage and Handling**

9. The Licencee shall comply with all the applicable requirements of:
  - a) *Manitoba Regulation 188/2001*, or any future amendment thereof, respecting *Storage and Handling of Petroleum Products and Allied Products*.
  - b) *The Dangerous Goods Handling and Transportation Act*, and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development; and
  - c) the Office of the Fire Commissioner – Province of Manitoba.
10. The Licencee shall provide containment for all vessels containing chemicals in each area of the development where the chemicals are stored, loaded, transferred, used or otherwise handled, in compliance with the National Fire Code of Canada (2010), or any future amendment thereof, such that any product leakage or spillage and any contaminated liquid generated is contained within the Development and contamination of groundwater is prevented.
11. The Licencee shall establish any fuel storage areas required for the construction and operation of the Development a minimum distance of 100 metres from any waterbody.
12. The Licencee shall, during construction and maintenance of the Development, operate, maintain, and store all materials and equipment in a manner that prevents any deleterious substances including fuel, oil, grease, hydraulic fluid, coolant, and other similar substances from entering any waterbody. An emergency spill kit for in-water use shall be readily available on site during construction.

### **Spill Response**

13. The Licencee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling the 24-hour environmental accident reporting line at 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.
14. The Licencee shall, following the reporting of an event pursuant to Clause 13,
  - a) identify the repairs required to the mechanical equipment;
  - b) undertake all repairs to minimize unauthorized discharges of a pollutant;
  - c) complete the repairs in accordance with any written instructions of the Director; and
  - d) submit a report to the Director about the causes of breakdown and measures taken, within one week of the repairs being done.
15. The Licencee shall, in a manner approved by the Environment Officer, remove and dispose of all spilled dangerous goods.
16. The Licencee shall, following construction of the Development, verify that terrestrial contamination of the environment has not occurred in work areas of the Development. Any areas of contamination shall be remediated to the satisfaction of the Environment Officer.

### **Noise Nuisance**

17. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate a noise nuisance.

### **Onsite Wastewater Disposal**

18. The Licencee shall, during construction of the Development, dispose of all wastewater from on-site sanitary facilities in accordance with *Manitoba Regulation 83/2001*, or any future amendment thereof, respecting *Onsite Wastewater Management Systems*.

### **Waste Disposal**

19. The Licencee shall dispose of non-reusable construction debris and solid waste from the construction and maintenance of the Development at a waste disposal ground operating under the authority of a permit issued under *Manitoba Regulation 150/91*, or any future amendment thereof, respecting *Waste Disposal Grounds*, or a licence issued pursuant to *The Environment Act*.

### **Shelterbelts**

20. The Licencee shall, where possible, minimize disturbance to existing shelterbelts not located on road rights-of-way and horizontally directional drill areas where shelterbelts would be potentially affected by conventional trenching methods.

### **Water Crossings**

21. The Licencee shall construct waterway crossings on flowing waterways, including Omand's Creek, East Branch Colony Creek, Grassmere Creek Drain, and Parks Creek by horizontal directional drilling. Open cut crossings on flowing waterways shall not be made unless prior consultation with Manitoba Conservation and Water Stewardship and Department of Fisheries and Oceans staff has occurred and the prior written approval of the Director has been obtained. Dry or non-flowing (i.e. hydraulically unconnected to downstream flowing water) natural and artificial waterways may be crossed with open cut techniques where approval has been obtained where necessary from the authority responsible for the channel.
22. The Licencee shall complete augered, tunneled or bored waterway crossings in accordance with the Fisheries and Oceans Canada Manitoba Operational Statement on High-Pressure Directional Drilling, and notify the Environment Officer if a frac out occurs.
23. The Licencee shall, where conditions allow, excavate endpoints for directional drilling operations a minimum of 30 m from the high water mark of third and higher order waterways, and a minimum of 15 m from the high water mark of first and second order waterways.
24. The Licencee shall, where open cut stream crossing techniques are used on intermittent waterways and artificial drainage channels, not construct open cut crossings associated with the Development between March 15 and June 15 of any year.
25. The Licencee shall construct open cut stream crossings associated with the Development in accordance with the methodologies described in the October, 2005 publication "Pipeline Associated Watercourse Crossings Third Edition", published by the Canadian Pipeline Water Crossing Committee, and the May, 1996 publication "Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat", published by the Department of Fisheries and Oceans and Manitoba Natural Resources.
26. The Licencee shall, during construction and maintenance of the Development associated with any waterbody crossings:
  - a) minimize disturbance to riparian areas;
  - b) implement erosion control measures within dry waterbodies to ensure sediment does not enter downstream waters in the event of rain;
  - c) re-contour the bed and banks of the waterbody to their original elevations and shapes;
  - d) stabilize the disturbed soils once the bed and banks are re-contoured; and

- e) re-vegetate disturbed areas using a seed mix native to the area, or other effective methods, to prevent the establishment of invasive plant species.

### **Wetlands and Drainage**

- 27. The Licencee shall not, during construction, clear, compact, grade or fill any wetlands or native upland habitat, which are not required for the construction of right-of-way of the Development.
- 28. The Licencee shall establish marshalling yards and vehicle trails in dry upland areas.
- 29. The Licencee shall not alter local drainage patterns by the construction of the Development, including inflows and outflows from small wetlands adjacent to the Development.

### **Wildlife**

- 30. The Licencee shall not conduct clearing of large trees and shrubs between April 21 and August 15.
- 31. The Licencee shall, where feasible, ensure that no frogs are buried during backfilling of excavated areas.

### **Invasive Plant Species**

- 32. The Licencee shall, during construction and maintenance of the Development, take measures to prevent the introduction and spread of foreign aquatic and terrestrial biota.

### **Revegetation**

- 33. The Licencee shall, during construction and maintenance of the Development, take all appropriate measures to prevent erosion.
- 34. The Licencee shall, immediately upon completion of construction of the Development, where native habitat existed prior to the disturbance, re-vegetate areas exposed during the construction to pre-existing conditions with locally produced native seed mixes. Follow-up monitoring, re-seeding, maintenance, and weed control shall be conducted until disturbed areas are re-vegetated to the satisfaction of Conservation and Water Stewardship.
- 35. The Licencee shall, in association with Clause 34 of this Licence, file a copy of a post construction environmental monitoring report with the Director, prior to January 31st of each year following construction of the Development, until the Director deems the reclamation is satisfactory. The report shall outline the results of the reclamation of native prairie along the right-of-way.
- 36. The Licencee shall separate and replace topsoil from backhoe and trenching operations associated with the Development in accordance with the methodology described in Figures 1, 2 and 3 attached to this Licence. This requirement is not applicable where the topsoil has been previously disturbed due to the construction of roads or drains.

**Hydrostatic Test Water**

37. The Licencee shall contact the Water Stewardship Division of Conservation and Water Stewardship to obtain criteria for the withdrawal of water for hydrostatic testing and for the discharge of hydrostatic test water associated with the Development. Hydrostatic test water shall be withdrawn and discharged according to these criteria.

**REVIEW AND REVOCATION**

38. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.

39. If construction of the development has not commenced within three years of the date of this Licence, the Licence is revoked.

40. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of *The Environment Act*.

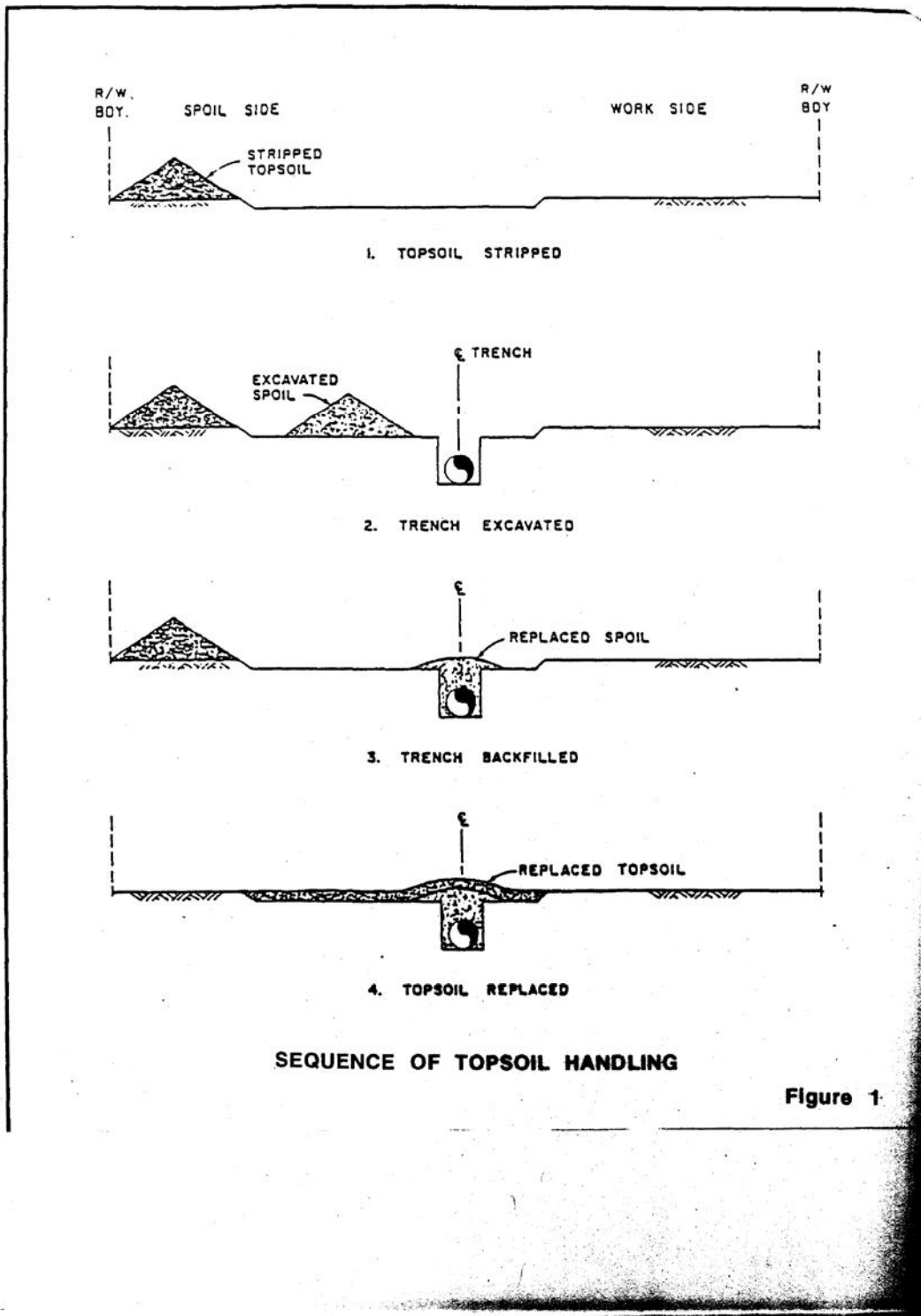
*“original signed by”*

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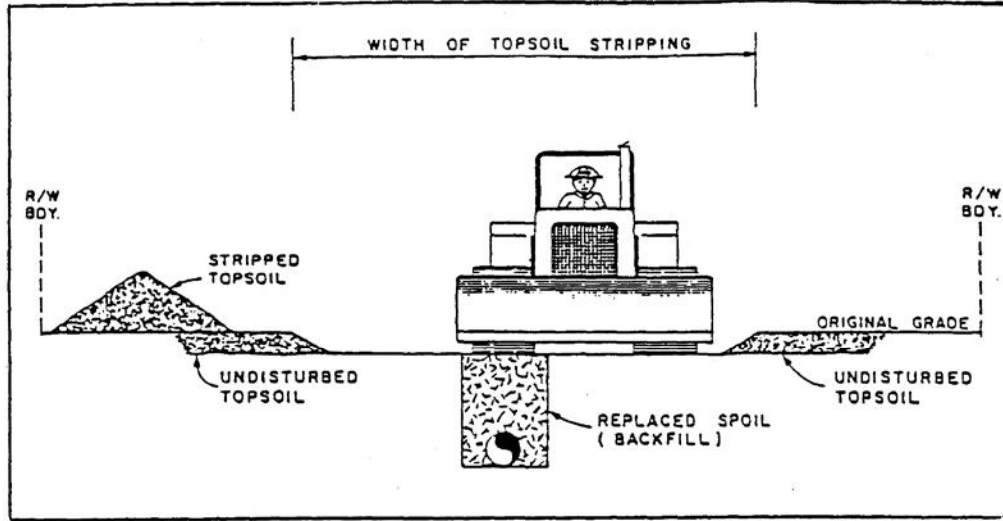
**Tracey Braun, M.Sc.**  
**Director**  
**Environment Act**

**File: 5792.00**

**Figure 1 to Environment Act Licence No. 3163**

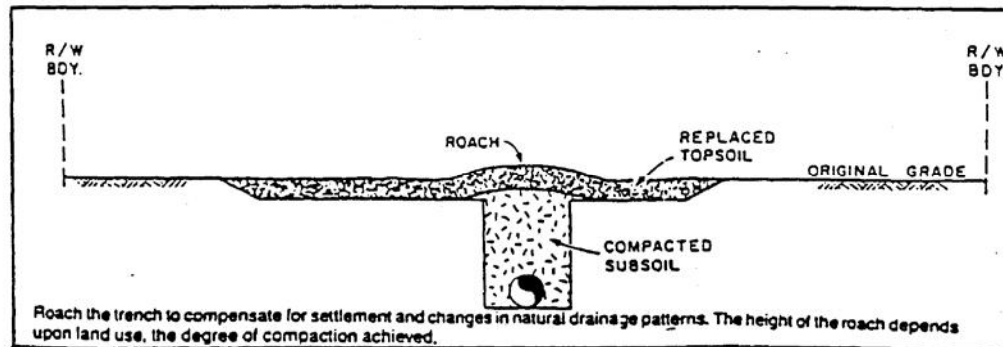


**Figure 2 & 3 to Environment Act Licence No. 3163**



**COMPACTION OF BACKFILL**

**Figure 2**



**ROACHING THE TRENCH**

**Figure 3**





## **APPENDIX B**

### **APPLICABLE GUIDELINES**

## **APPLICABLE GUIDELINES**

Canadian Pipeline Environment Committee. 2004. The Pipeline Industry and the Migratory Birds Act. Available at <http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/nvrnmnt/lfcclpprch/pplndstrmqtrtrbrdcnvtntct2004CPEC-eng.pdf>

Canadian Pipeline Environment Committee. 2005. Pipeline Associated Watercourse Crossings Third Edition. Available at <http://www.cepa.com/wp-content/uploads/2014/01/Pipelines-Associated-Watercourse-Crossings.pdf>

Environment Canada. 2009. Petroleum Industry Activity Guidelines for Wildlife Species at Risk in the Prairie and Northern Region. Canadian Wildlife Service, Environment Canada, Prairie and Northern Region, Edmonton Alberta. 64p.

Fisheries and Oceans Canada (DFO). 2014a. Measures to Avoid Causing Harm to Fish and Fish Habitat. Available at: <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>. Accessed February 01, 2014.

Fisheries and Oceans Canada (DFO). 2014b. Manitoba Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat. Available at: <http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/mb-eng.html>. Accessed February 01, 2014.

Fisheries and Oceans Canada. 2007. Manitoba Operational Statement for Timing Windows, Version 3.0. Available at [http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territories-territoires/mb/pdf/os-eo21\\_e.pdf](http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territories-territoires/mb/pdf/os-eo21_e.pdf)

Fisheries and Oceans Canada. 2007. Manitoba Operational Statement for High Pressure Directional Drill, Version 3.0. Available at [http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territories-territoires/mb/pdf/os-eo09\\_e.pdf](http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territories-territoires/mb/pdf/os-eo09_e.pdf)

Fisheries and Oceans Canada. 1995. Freshwater Intake End-of-Pipe Fish Screen Guidelines. Available at <http://www.dfo-mpo.gc.ca/library/223669.pdf>

Fisheries and Oceans Canada (DFO) and Manitoba Natural Resources (MNR). 1996. Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat. Available at <http://www.gov.mb.ca/waterstewardship/fisheries/habitat/sguide.pdf>

Henderson, Darcy, C. 2011. Activity Setback Distance Guidelines for Prairie Plant Species at Risk. Canadian Wildlife Service, Prairie and Northern Region.

National Energy Board. 2013. Onshore Pipeline Regulations. SOR/99-294. Amended April 2013.

Transport Canada Navigable Waters Protection Act. Pipeline Crossings. TP 14593 (12/2009) Available at <http://www.tc.gc.ca/publications/bil/tp14593/pdf/hr/tp14593b.pdf>