

Environmental Stewardship Division
Environmental Approvals Branch
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5
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www.gov.mb.ca/conservation/eal

CLIENT FILE NO.: 5809.00

May 12, 2016

Dan Frederick, P.Eng.
Tundra Energy Marketing Limited
3100, 715 - 5th Ave. SW
Calgary AB T2P 2X6

Dear Mr. Frederick:

Enclosed is **Environment Act Licence No. 3179** dated May 12, 2016 issued to **Tundra Energy Marketing Limited** for the construction, operation and maintenance of the Two Creeks Pipeline Project consisting of a new 6 inch steel pipeline in the RM of Wallace from the existing Elcano Exploration Inc. battery facility at 34-12-27 WPM to the TEML Virden Pipeline System at 6-11-26 WPM, in accordance with the Proposal filed under *The Environment Act*, dated November 3, 2015, and additional information dated March 16, 2016.

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 Sustainable Development 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 - Environmental Compliance and Enforcement
Dwayne Donald - Matrix Solutions; Stacy McBride
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 3179 (by the Licensee only) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space below and provide a copy (letter only) to the Department by May 26, 2016

On behalf of Tundra Energy Marketing Ltd.

Date

LICENCE

Licence No. / Licence n° 3179

Issue Date / Date de délivrance May 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 :

TUNDRA ENERGY MARKETING LIMITED;
"the Licencee"

for the construction, operation and maintenance of the Two Creeks Pipeline Project consisting of a new 6 inch steel pipeline in the RM of Wallace from the existing Elcano Exploration Inc. battery facility at 34-12-27 WPM to the TEML Virden Pipeline System at 6-11-26 WPM, in accordance with the Proposal filed under The Environment Act, dated November 3, 2015, and additional information dated March 16, 2016, 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.

Approvals and 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 and all landowner agreements necessary for construction of the Development.

Additional Sampling and 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

Construction Schedule

6. The Licencee shall not undertake construction activities associated with the Development between March 15th and December 1st, in any year.

Notification

7. 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.
8. 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

9. 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.

Dangerous Goods Storage and Handling

10. 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.
11. 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.
12. 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.
13. 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

14. 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.
15. The Licencee shall, following the reporting of an event pursuant to Clause 14,
 - 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.
16. The Licencee shall, in a manner approved by the Environment Officer, remove and dispose of all spilled dangerous goods.
17. 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

18. 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

19. 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

20. 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

21. 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

22. The Licencee shall construct waterway crossings by horizontal directional drilling on the following seasonal waterways and wetlands identified in *Table 1 – Wetland Classification of the Two Creeks Pipeline Project Environmental Assessment*, dated November 3rd, 2015:

- Wetland ID #13 – Seasonal Waterway
- Wetland ID #15 – Seasonal Waterway
- Wetland ID #16 – Seasonal Waterway
- Wetland ID #21 – Seasonal Waterway

- Wetland ID #67 – Scallion Creek
 - Wetland ID #87 – Class IV Wetland
23. 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.
 24. 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.
 25. 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.
 26. 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.
 27. 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

28. 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.
29. The Licencee shall establish marshalling yards and vehicle trails in dry upland areas.
30. 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.
31. The Licencee shall, following construction of the Development, submit for approval of the Director a post-construction reclamation plan that includes:
 - a) an assessment of disturbances to wetlands and waterways;

- b) a proposal for wetland offsets if applicable based on suitable compensation ratios;
- c) an assessment of reclaimed disturbances in wetlands and waterways; and
- d) commitments for reclamation treatments for impacted wetlands and waterways beyond the first year of reclamation.

32. The Licencee shall implement the post-construction reclamation plan as approved by the Director, pursuant to Clause 31.

Wildlife

33. The Licencee shall not conduct clearing of vegetation in the vicinity of potential bird nesting habitat between April 21 and August 15, including large trees and shrubs.

34. The Licencee shall, where feasible, ensure that no frogs are buried during backfilling of excavated areas.

Invasive Plant Species

35. 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

36. The Licencee shall, during construction and maintenance of the Development, take all appropriate measures to prevent erosion.

37. 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.

38. The Licencee shall, in association with Clause 37 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.

39. 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

40. The Licencee shall contact the Water Stewardship Division of Manitoba Sustainable Development 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

41. 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.
42. If construction of the development has not commenced within three years of the date of this Licence, the Licence is revoked.
43. 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*.

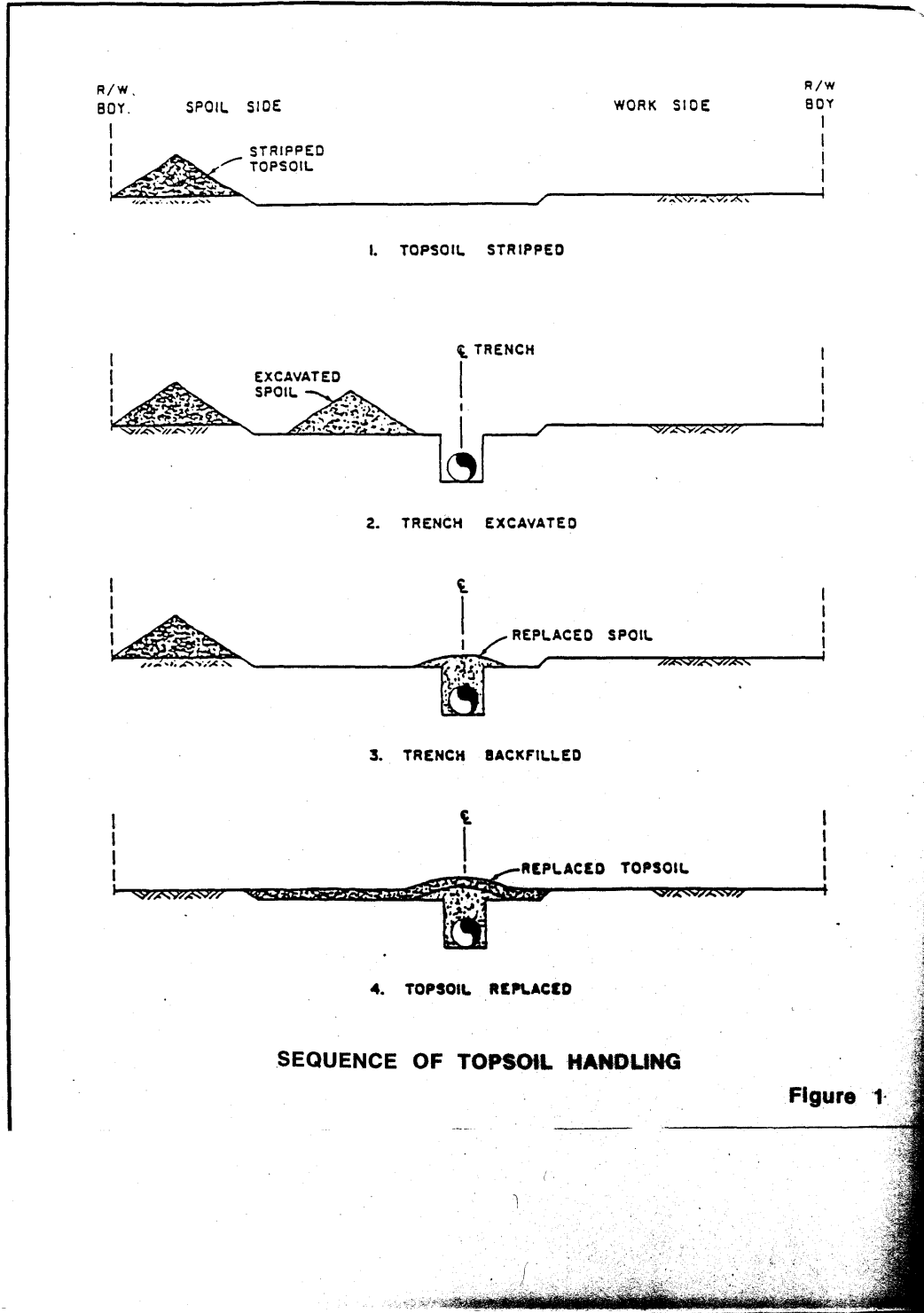
“original signed by”

Tracey Braun, M.Sc.
Director
Environment Act

File: 5809.00

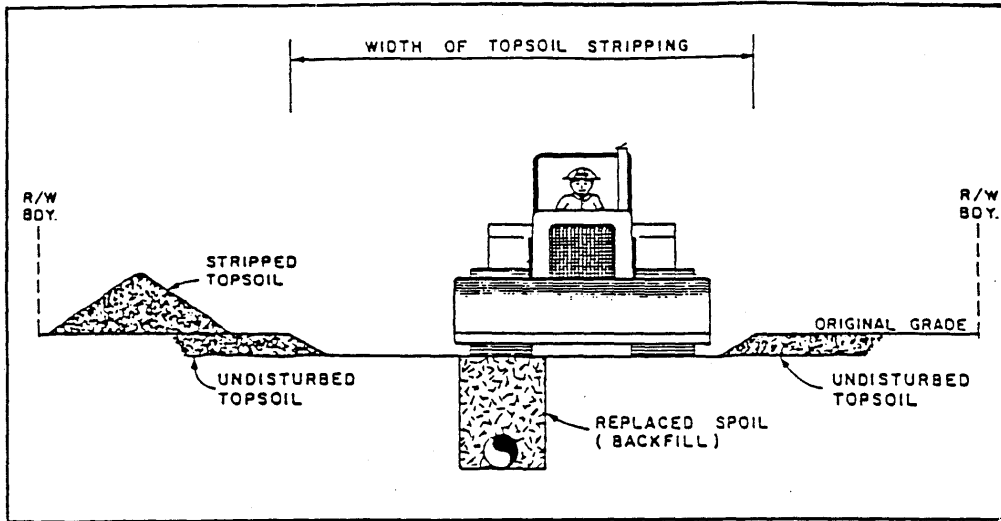
Figure 1 to Environment Act Licence No. 3179

Tundra Energy Marketing Limited – Two Creeks Pipeline Project



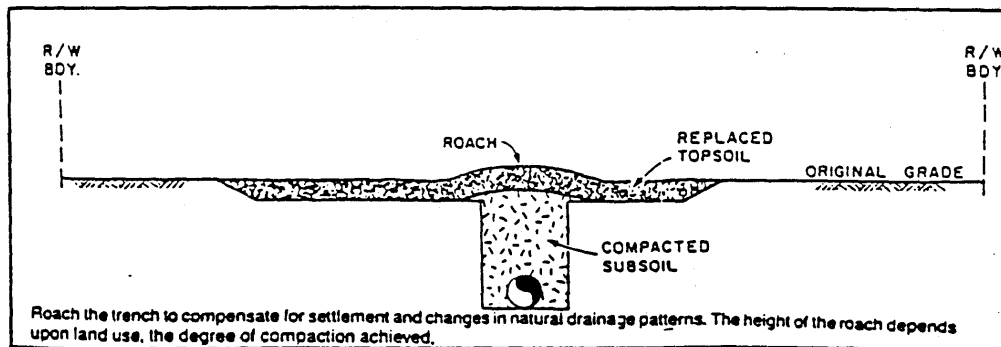
Figures 2 & 3 to Environment Act Licence No. 3179

Tundra Energy Marketing Limited – Two Creeks Pipeline Project



COMPACTION OF BACKFILL

Figure 2



ROACHING THE TRENCH

Figure 3