



**TUNDRA
ENERGY MARKETING LIMITED**

3100 – 715 5th Ave SW, Calgary, AB T2P 2X6 TEL: 403-536-0800

Ms. Stacy McBride

Petroleum Branch
Ministry of Innovation, Energy and Mines
Box 1359, 227 King Street West
Virden, Manitoba
R0M 2C0

October 9, 2015

RE: Virden Interconnecting Pipelines

Dear Ms. McBride,

Tundra Energy Marketing Limited hereby makes application under section 149 (2) of the Oil and Gas Act for a Pipeline Construction Permit for five (5) pipelines from 13-16-09-28 to 12-16-09-28 WPM.

Documentation requested by Manitoba Innovation, Energy and Mines department for such Pipeline Construction Permit Application is included in the enclosed package.

Sincerely,

Sam Stephenson
VP, Engineering & Construction
Tundra Energy Marketing Limited

cc. Petroleum Branch, Winnipeg, MB



**An Application to
Manitoba Innovation, Energy and Mines
Petroleum Branch**

**to
Construct Five New Crude Oil Pipelines**

**Between TEML's
Virden and Cromer Truck Terminals**

**(Virden Truck Terminal in 13-16-09-28 W1M
Cromer Truck Terminal in 12-16-09-28 W1M)**

**Prepared by Asher Engineering Ltd.
October 9, 2015**

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1. Introduction

Tundra Energy Marketing Limited (hereafter referred to as “TEML”) proposes to build, own, and operate five new steel pipelines between their Cromer Truck Terminal (“CTT”) in 12-16-09-28 W1M and Virden Truck Terminal (“VTT”) in 13-16-09-28 W1M.

The installation of these pipelines will bring numerous benefits both to the direct users of the pipeline system, and to those indirectly affected by system operations. Several of these benefits may include:

- Establishing an interconnection between TEML’s newly acquired Virden assets and the existing Cromer facility, reducing shipping efforts and minimizing required product trucking;
- A reduction in length of existing in-service pipelines;
- A reduction in operating pressures within the CTT for access to downstream pipelines;
- Improved efficiency in leak detection and metering of downstream pipelines;
- A reduction in environmental impact for future pipeline maintenance, and minimal environmental disruption for construction by installing all of the proposed pipelines in a single Right of Way (“RoW”).

In accordance with Section 149(2) of the Oil and Gas Act, TEML hereby makes application to Manitoba Innovation, Energy and Mines - Petroleum Branch, for approval of a pipeline construction permit.

2. Applicant Information

All of the newly proposed pipelines will be owned and operated by TEML which is a wholly-owned subsidiary of Winnipeg-based James Richardson & Sons, Limited (“JRSL”). JRSL is a multi-disciplined enterprise with operations in agriculture, food processing, financial services, property management and energy exploration in Manitoba and the prairies.

TEML is experienced in the operation of similar oil pipelines. The proposed pipelines will be operated out of TEML’s Cromer field office.

The pipeline will be designed by Asher Engineering Ltd. Asher has been in the consulting engineering business since 1993, is licensed to practice engineering in Manitoba, and has specific experience with the design of these types of pipelines.

3. Overview of the Application

This application is for five new steel pipelines, all approximately 600m long; as detailed below:

1. One 168.3 mm OD (NPS6) steel pipeline, between the CTT in 12-16-09-28 W1M and the VTT in 13-16-09-28 W1M. This pipeline is associated with the previously approved NPS 6 Waskada Pipeline, currently licensed under Operating License No. 23.
2. One 168.3 mm OD (NPS 6) steel pipeline, between the VTT in 13-16-09-28 W1M and the CTT in 12-16-09-28 W1M. This pipeline is associated with the Virden Pipeline System and will extend DY-03 into the CTT. The pipeline was recently transferred from Enbridge Virden to TEMPL and has Operating License 2015-03.
3. One 219.1mm OD (NPS 8) steel pipeline, between the CTT in 12-16-09-28 W1M and the VTT in 13-16-09-28 W1M. This pipeline is associated with the Virden Pipeline System and will extend ENB-02A pipeline to originate from the CTT.
4. One 219.1mm OD (NPS 8) steel pipeline, between the CTT in 12-16-09-28 W1M and the VTT in 13-16-09-28 W1M. This pipeline is associated with the Virden Pipeline System and will extend ENB-02B pipeline to originate from the CTT. Although this pipeline will not be placed into service immediately, the early installation is required to minimize impact on the environment and landowners along the route.
5. One 219.1mm OD (NPS 8) steel pipeline, between the CTT in 12-16-09-28 W1M and the VTT in 13-16-09-28 W1M. This pipeline is associated with the Virden Pipeline System and will be a new segment. Although this pipeline will not be placed into service immediately, the early installation is required to minimize impact on the environment and landowners along the route

The new pipelines will be constructed in a single 30 m RoW, with environmental disturbance minimized wherever practical.

The below have been included with this application; in accordance with the requirements of Manitoba Petroleum Guideline 1:

- a) A Survey Plan (provided in Appendix A) indicating the pipeline RoW, both the Cromer and Virden terminals, crossing locations, etc.

As the pipeline does not require any major water crossings, valves for isolating the lines are only required at the endpoints.

There are no tanks associated with this project application.

- b) Plot plans for the Cromer and Virden terminals are included in Appendix B.
- c) A project typical crossing drawing for pipeline or utility crossings can be found in Appendix C.
- d) A Process Flow Diagram (PFD) for the five proposed pipelines, showing direction of flow and tie-in points, can be found in Appendix D.
- e) A shape or DXF file of the proposed pipeline route is enclosed.

4. Intended Use and Need

The intent of the installation of these pipelines is to connect TEML's recently acquired Virden System assets to the existing TEML Cromer facility and from the TEML Cromer facility to Enbridge Cromer Terminal, all in a safe and efficient manner. The connections will shorten the required length of one outlet pipeline, thus reducing pipeline operating pressure and the pressure required to operate the CTT.

Leak detection and product metering accuracies will be enhanced through use of the CTT's recently constructed, modern pipeline measurement, leak detection and monitoring systems.

5. Pipeline Description

- a) The pipelines will run between 13-16-09-28 and 12-16-09-28 W1M.
- b) The pipelines will transport LVP crude oil.
- c) Each of the proposed pipelines will be approximately 600m in length.
- d) The new pipelines will be 168.3mm OD and 219.1mm OD. All other pipeline specifications, including wall thicknesses and pipe grades, can be found tabulated in Appendix E.
- e) Corrosion Control: The steel pipelines will be externally coated with an extruded polyethylene coating. Pipeline girth welds will be protected by compatible shrink type sleeves. The pipelines will be cathodically protected using an impressed current system to provide additional external corrosion control. Test stations will be installed at end points, at foreign crossings where required by agreement with the foreign pipeline owner, and at field boundaries where practical. Upon completion of construction and as part of a routine maintenance program the pipelines will be batch filmed with corrosion inhibitor. Corrosion inhibitor will also be continuously injected into the product stream and monitored as part of an integrity management plan. Corrosion monitoring spools ("fish bellies") will be installed as a part of the tie-in to the Cromer facility, to allow routine ultrasonic inspection for additional corrosion monitoring. The pipelines will be routinely pigged to remove water and / or sediment that

may collect in low areas. The design of the pipelines will include pigging facilities and long radius risers that will accommodate the use of smart pig technology to monitor the pipeline condition. The corrosion control system will comply with Clause 9.0 of CSA Z662-15.

Spill Risk Mitigation: The Cromer facility is designed and equipped with shutdown systems including automated valves and pressure monitoring, metering systems, samplers, pumps, and a SCADA system. The Virden Terminal will in general act as an intermediate facility, however, it will be equipped with valving and pressure controls as necessary to ensure a safe and efficient operation.

Leak detection will be managed by integrating the new connections into the existing computational leak detection system. Alarms will be triggered in the event of a leak, and TEMPL operators will be responsible for managing the response.

Operators will receive alarms to issue a shutdown should the pressure of any pipeline deviate above or below the set pressures.

Expected Hourly Flow: The expected flow rates will vary for each pipeline within the terminal interconnect, and are anticipated to range 8m³/hr to 180m³/hr. Flow rate details on a pipeline specific basis can be found in Appendix E.

Terminal Storage Capacity: No additional crude oil storage is proposed at the terminal in connection with this application.

- f) The design pressure and the maximum operating pressure that the pipelines are expected to be qualified to by pressure testing is included in Appendix E.
- g) Material specifications and standards for the pipe, valves, flanges and other fittings for the pipeline are included in Appendix E.
- h) No process vessels are a part of this application.
- i) The proposed pipelines will carry liquid LVP product and as such, in the unlikely event of a pipeline rupture, spills would not result in significant vapor dispersion.

6. Proof of Consultation and Access

The following confidential information is contained in the Line List; included in this document as Appendix F:

- a) The names and addresses of all landowners, occupants and residents, complete with land location, within the following areas:

- i) 1.5 km radius of each endpoint of the pipeline and
 - ii) a radius of 0.5 km along the length of the proposed line.
- b) A copy of the notice and proof of consultation with all parties listed in 6.a above.
- c) A description of the applicant's consultations with all parties listed in 6.a above including a summary of any concerns raised during the consultation process and all actions taken or proposed to be taken by the applicant to address concerns, and
- d) Proof of the right to access the proposed surface RoW.

7. Environmental Protection Plan

Matrix Solutions Inc is currently drafting a general Environmental Protection Plan for use by TEMPL. TEMPL intends to go to construction for several projects simultaneous to the interconnection project as outlined in this application, and this general EPP will be used to govern all construction. The TEMPL EPP can be provided upon request. Matrix has conducted a pre-development assessment of the RoW and will be monitoring construction to ensure environmentally responsible construction.

TEMPL will use a corporate level Emergency Response Plan (ERP) which is intended to handle any emergency situations that may arise. Tundra's emergency telephone number is 1-844-333-6789. This number is attended 24 hours a day, 7 days a week. The ERP will be amended to include the new pipelines.

8. Other Approvals

- a) **Municipalities**
The R.M. of Pipestone has been notified of the proposed project and discussions are underway regarding zoning requirements.
- b) **Urban Municipality**
The pipelines are not located within 1.5 km of an urban municipality.
- c) **Historic Resources Branch**
Matrix Solutions has completed an environmental pre-development assessment of the proposed RoW. Screening results by the Manitoba Historic Resources Branch indicate that no previously recorded heritage sites have been identified and the potential of the pipelines to impact significant heritage resources is considered low.
- d) **Manitoba Infrastructure and Transportation**
Manitoba Infrastructure and Transportation has been notified of the proposed project. There are no road crossings associated with this project, and as such no agreements are required.

- e) **Railway Crossings**
There are no railway crossings associated with this project.
- f) **Waterway Crossings**
There are no major water crossings associated with this project.
- g) **Utility or Foreign Pipeline Crossings**
Utilities and foreign pipeline companies have been notified of the proposed pipelines and crossing agreements are being obtained.
- h) **Surface Landowners**
All surface landowners have been notified of the proposed project and agreements are being discussed.
- i) **Indian Bands**
There are no First Nations, Métis Communities or other Aboriginal communities in the area of the proposed pipelines.
- j) **Pipeline Modifications**
Pipeline Modification Applications will be required for the interconnection pipeline tie-ins. This will include modifications to the existing NPS 6 DY-03 Virden System Pipeline, NPS 6 Waskada Pipeline and NPS 8 Enbridge Connection Pipeline (ENB-02A). These applications will be drafted and submitted to the Manitoba Petroleum Branch under separate cover.

9. Environmental Licence

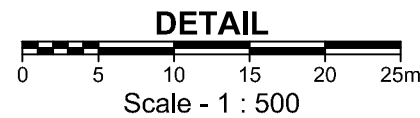
The proposed pipelines are approximately 600m in length and are to be constructed across a single quarter of land. The Environmental Approvals Branch has been notified of the project and it has been determined that an Environmental License will not be required. Matrix Solutions has completed a pre-construction review of the RoW and will be available for monitoring during critical stages of construction to ensure that no new environmental concerns arise between submission of this document and construction.

10. Initial Aboriginal Consultation Assessment


An Initial Aboriginal Consultation Assessment is being sent to Mr. Keith Lowdon, Director of the Petroleum Branch.

Appendix A

Survey Plans



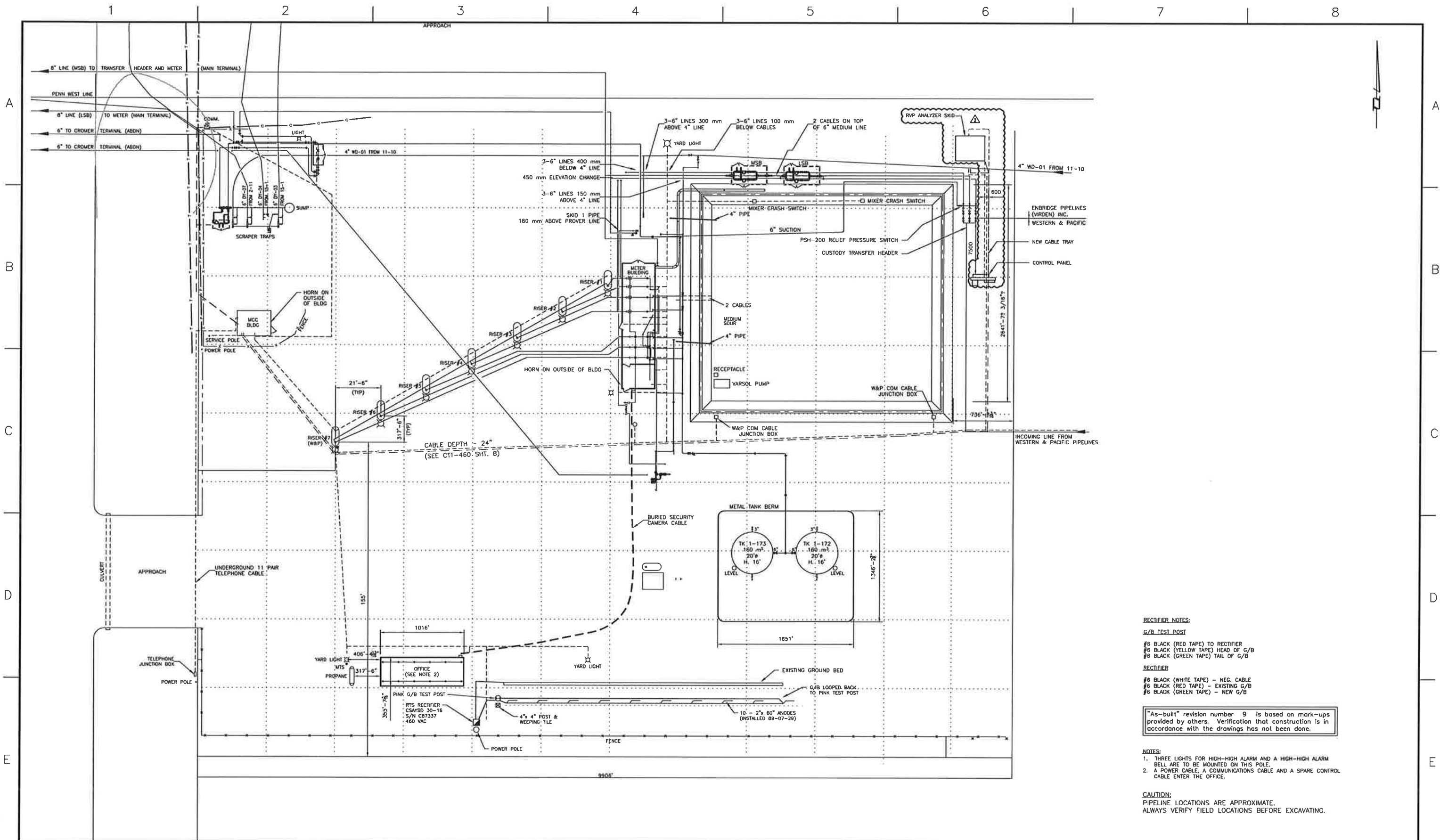
* The revision stated in the Status column refers to the Construction Plan revision.

AFE No.:		
Client File No.:		SEGMENT:
REV.	File : 188813PL	Job: 188813
	Survey Date : Sept 28, 2015 To Sept 30, 2015	

Appendix B

Plot Plans



S:\LOCATIONS\13-16-09-28 W1M VIRDEN TRUCK TERMINAL\DRAWINGS\13160928WPM_PP-1025.DWG, Wednesday, 2015-Oct-14, 9:13 AM
LAST SAVED: Wednesday, 2015-Oct-14, 9:13 AM
BY: G.SHEPHERD



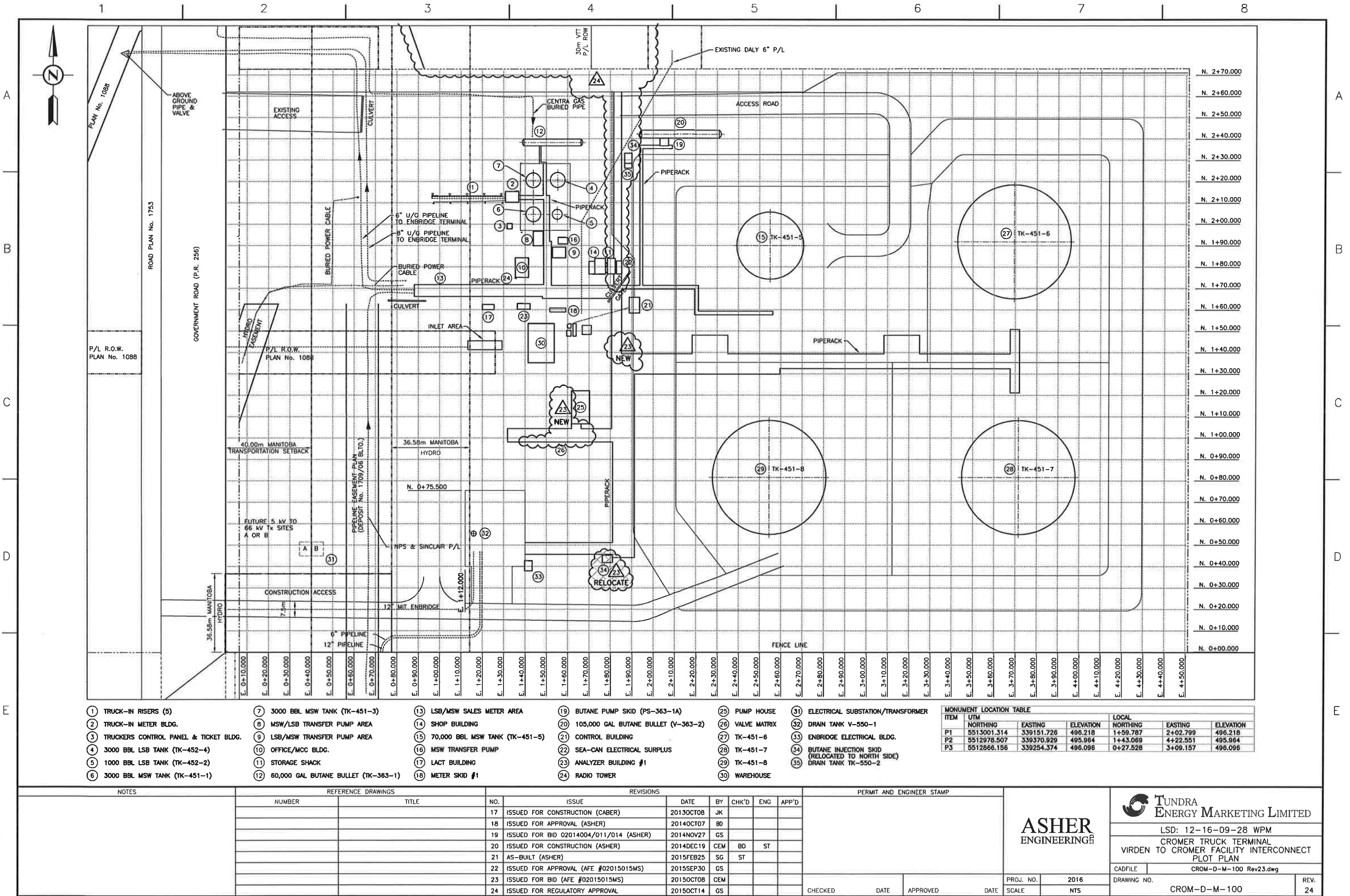
RECTIFIER NOTES:
G/B TEST POST
#6 BLACK (RED TAPE) TO RECTIFIER
#6 BLACK (YELLOW TAPE) HEAD OF G/B
#6 BLACK (GREEN TAPE) TAIL OF G/B
RECTIFIER
#6 BLACK (WHITE TAPE) - NEG. CABLE
#6 BLACK (RED TAPE) - EXISTING G/B
#6 BLACK (GREEN TAPE) - NEW G/B
"As-built" revision number 9 is based on mark-ups provided by others. Verification that construction is in accordance with the drawings has not been done.

NOTES:
1. THREE LIGHTS FOR HIGH-HIGH ALARM AND A HIGH-HIGH ALARM BELL ARE TO BE MOUNTED ON THIS POLE.
2. A POWER CABLE, A COMMUNICATIONS CABLE AND A SPARE CONTROL CABLE ENTER THE OFFICE.

CAUTION:
PIPELINE LOCATIONS ARE APPROXIMATE.
ALWAYS VERIFY FIELD LOCATIONS BEFORE EXCAVATING.

NOTES		REFERENCE DRAWINGS		REVISIONS								PERMIT AND ENGINEER STAMP				 ASHER ENGINEERING		 TUNDRA ENERGY MARKETING LIMITED			
1. REVISION A BASED ON ENBRIDGE DWG. B-CIT-410, SHT. 1, REV 21.		NUMBER	TITLE	NO.	ISSUE	DATE	BY	CHK'D	ENG	APP'D	CHECKED		DATE	APPROVED	DATE					PROJ. NO.	2011
		B-CIT-410	ENBRIDGE PLOT PLAN REV. 21	A	ISSUED FOR APPROVAL	2015.OCT.14	GS	JM									SCALE	1:250	13160928WPM_PP1025.dwg	13-16-09-28WPM PP-1025	2


S:\LOCATIONS\12-16-09-28 W1M CROMER TRUCK TERMINAL\DRAWINGS\LOT-PLANS-VIRIDEN-CROMER-TEMP.DWG, Wednesday, 2015-Oct-14, 4:52 PM
LAST SAVED: Wednesday, 2015-Oct-14, 4:45 PM BY: G.SHEPHERD



Appendix C


Crossing Typical

7. FOREIGN PIPELINE, CABLE, UTILITY SHALL BE SUPPORTED AT CROSSING LOCATION, IF REQUIRED.
8. TEST LEADS TO BE INSTALLED AT FIELD BOUNDARY, AS PRACTICAL.

<div>NOTES</div> <div>1. INSTALLATION SHALL MEET REQUIREMENTS OF CSA Z662, LATEST EDITION.</div> <div>2. MINIMUM CLEARANCE SHALL BE 300mm OR AS SPECIFIED IN THE CROSSING AGREEMENT, WHICHEVER IS GREATER.</div> <div>3. IF THE FOREIGN PIPELINE CONTAINS SOUR GAS, APPROPRIATE SAFETY EQUIPMENT SHALL BE AVAILABLE AT THE WORKSITE.</div> <div>4. ALL THE TERMS AND CONDITIONS OF THE CROSSING AGREEMENT SHALL BE STRICTLY ADHERED TO.</div> <div>5. FOREIGN PIPELINE, CABLE, UTILITY SHALL BE HAND OR HYDROVAC DAYLIGHTED PRIOR TO GROUND DISTURBANCE.</div> <div>6. NO MACHINE EXCAVATION SHALL TAKE PLACE WITHIN 2000mm OF A FOREIGN PIPELINE, CABLE, UTILITY, CROSSING, OR WITHIN SUCH DISTANCE AS IS SPECIFIED IN THE CROSSING AGREEMENT.</div>	REFERENCE DRAWINGS		REVISIONS							PERMIT AND ENGINEER STAMP				<div>TUNDRA ENERGY MARKETING LIMITED</div> <div>LSD: 13-16-09-28W1M</div> <div>VTT/CTT INTERCONNECT TYPICAL FOREIGN CROSSING DETAIL</div> <div>CADFILE13160928WPM_T-9341 RevA.dwg</div> <div>DRAWING NO. 13-16-09-28W1M_T-9341</div> <div>REV. A</div>	
	NUMBER	TITLE	NO.	ISSUE	DATE	BY	CHK'D	ENG	APP'D	<div>PRELIMINARY</div>		<div>ASHER ENGINEERING</div>			
			A	ISSUED FOR APPROVAL	2015OCT14	SG									
						CHECKED	DATE	APPROVED	DATE	PROJ. NO.	2011	SCALE	NTS		

Appendix D

Process Flow Diagram

PERMIT AND ENGINEER STAMP		 TUNDRA ENERGY MARKETING LIMITED			
<div style="border: 1px solid black; padding: 10px; text-align: center;"> <h1>PRELIMINARY</h1> </div>				ASHER ENGINEERING LTD.	
		VTT/CTT INTERCONNECT PROCESS FLOW DIAGRAM SOUR OIL SALES PIPELINES			
		CADFILE	1316092BW1M_F-2015 RevA.dwg		
CHECKED	DATE	APPROVED	DATE		
		PROJ. NO. 2011 SCALE NTS	DRAWING NO. 13-16-09-2BW1M F-2015 RevA		
			REV. A		

Appendix E

Pipeline Technical Data

Tundra Energy Marketing Limited
Proposed Pipeline Details

		NPS 6 - DY-03 Virden System	NPS 6 - Waskada	NPS 8 - ENB-02A	NPS 8 - ENB-02B	NPS 8 - Future
Starting LSD & Facility		13-16-09-28 W1M Virden Truck Terminal	12-16-09-28 W1M Cromer Truck Terminal	12-16-09-28 W1M Cromer Truck Terminal	12-16-09-28 W1M Cromer Truck Terminal	13-16-09-28 W1M Virden Truck Terminal
Ending LSD & Facility		12-16-09-28 W1M Cromer Truck Terminal	13-16-09-28 W1M Virden Truck Terminal	13-16-09-28 W1M Virden Truck Terminal	13-16-09-28 W1M Virden Truck Terminal	12-16-09-28 W1M Cromer Truck Terminal
Fluid being transported		Crude oil & LVP products	Crude oil & LVP products	Crude oil & LVP products	Crude oil & LVP products	Crude oil & LVP products
Length (Apprx.)	m	600	600	600	600	600
Outside Diameter	mm	168.3	168.3	219.1	219.1	219.1
Wall Thickness	mm	6.4	6.4	6.4	6.4	6.4
Grade		Grade 359 Cat II Sour	Grade 359 Cat II Sour	Grade 359 Cat II Sour	Grade 359 Cat II Sour	Grade 359 Cat II Sour
External Coating		YJ	YJ	YJ	YJ	YJ
Expected Flow rate	m³/hr	8 - 180	38 - 154	45 - 180	45 - 180	40 - 76
Design Pressure	kPag	9930	9930	9930	9930	9930
Maximum Operating Pressure	kPag	9930	9930	9930	9930	9930
Line Pipe Standard		CSA Z245.1-14	CSA Z245.1-14	CSA Z245.1-14	CSA Z245.1-14	CSA Z245.1-14
Valves Standard		CSA Z245.15-13 or Note below	CSA Z245.15-13 or Note below	CSA Z245.15-13 or Note below	CSA Z245.15-13 or Note below	CSA Z245.15-13 or Note below
Flanges Standard		CSA Z245.12-13 or Note below	CSA Z245.12-13 or Note below	CSA Z245.12-13 or Note below	CSA Z245.12-13 or Note below	CSA Z245.12-13 or Note below
Fittings Standard		CSA Z245.11-13 or Note below	CSA Z245.11-13 or Note below	CSA Z245.11-13 or Note below	CSA Z245.11-13 or Note below	CSA Z245.11-13 or Note below

- Notes:**
1. Pipe, valves, and fittings that will be used are in accordance with the requirements of CSA Z662-15.
 2. The CSA Z662 requirements include the above listed CSA Z245.XX-YY standards as well as others.
 3. All NPS 6 pipes will be of the same specification
 4. All NPS 8 pipes will be of the same specification

Appendix F

Line List

SENT BY SEPARATE SUBMISSION