

Description of a Designated Project

Hardisty Rail Terminal Expansion (Interim, Phase 2 and 2A)

USD Terminals Canada II ULC

Hardisty, Alberta, Canada November 9, 2015



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Description of a Designated Project Hardisty Rail Terminal Expansion (Interim, Phase 2 and 2A)

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CEAA Project Description Concordance Table

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^{*} Source: Guide to Preparing a Description of a Designated Project under the Canadian Environmental Assessment Act (2012), Canadian Environmental Assessment Agency, as modified March 2015



1 General Information and Contacts

This Project Description has been prepared in accordance with the Prescribed Information for the Description of a Designated Project Regulations and the Guide to Preparing a Description of a Designated Project under the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012). The numbers and titles used as main headings in this document are aligned with this guide for ease of reference.

USD Terminals Canada II ULC is a company engaged in the development and operation of rail loading and unloading facilities in North America for energy related products. The Hardisty Rail Terminal (the Project) is its first pipeline to rail loading project in Canada.

1.1 Nature and Proposed Location of the Project

USD Terminals Canada II ULC (USD Terminals Canada) pursuant to the Alberta Energy Regulator (AER) under the requirements of *Directive 056: Energy Development Applications and Schedules* and other relevant directives and regulations, plans to expand its Hardisty Rail Terminal (the Project) which began operating in 2014. The Hardisty Rail Terminal was constructed to provide an alternative and supplemental method to the use of pipelines to ship crude oil to market. The Hardisty Rail Terminal is USD Terminals Canada's first project in Canada; however its parent company is the premier developer of rail facilities for handling crude oil and bio-fuels across North America with eleven similar facilities constructed in the last ten years.

The existing USD Hardisty Rail Terminal (Phase 1) is a railcar loading terminal for light crude oil capable of loading up to two 120-car unit trains per day, located on part of the SW ¼, and NE and NW ¼ sections of 23-42-9W4M, approximately 10 km southeast of Hardisty, within the Rosyth Area Plan, in the Municipal District of Provost #52. Gibson Energy Partnership developed a pipeline and the specific infrastructure required to move crude oil from Gibson's Hardisty terminal to the facility. CP Rail transports the rail shipments of crude oil from the site via the existing CP Rail line that runs parallel to Highway 13.

The purpose of the proposed expansion projects is to expand product handling of the facility to include propane, butane, and heavy crude oil and improve the ability of USD Terminals Canada to be able to respond to both the short term and long term market demands of its customers. The Hardisty Rail Terminal expansion phases are needed to continue to provide a supplemental method to the use of pipelines for delivering products to market and to reduce transportation constraints of oil products in a cost effective and environmentally responsible manner. The expansion involves three phases:

- An Interim expansion which will include the installation of a mobile truck to rail
 loading area and two tracks on the west side of the existing facility, that would be
 used to load propane, butane and heavy crude from trucks to rail cars. This has been
 identified as an interim project designed to address short-term commercial needs for
 material transport.
- 2. The Phase 2 expansion to double the capability of the Phase 1 facility to handle and ship light crude oil from pipeline to rail within the existing facility footprint.



3. The Phase 2A expansion will expand the capability of the Phase 1 facility to handle and ship heavy crude oil.

The Interim expansion will result in the addition of two tracks totalling 3,660 track feet (approximately 1.1 km), within the existing Phase 1 facility site. Phases 2 and 2A will require the addition of nine tracks totalling 64,681 track feet (approximately 19.7 km) to the existing Phase 1 facility site and the SE and SW 1/4 sections of 26-42-9W4M, USDowned property located north of Township Road 424. Note: the Interim expansion tracks will be modified to become part of the Phase 2A tracks.

The Project site includes part of SW ¼ section 23-42-9W4M, NW and NE ¼ sections 23-42-9W4M and the SW and SE 1/4 sections 26-42-9W4M as follows:

- Phase 1, the existing Hardisty Rail Terminal occupies part of the SW 1/4 section 23-42-9W4M, NW and NE 1/4 sections 23-42-9W4M.
- The Interim expansion is located in the NW and NE ¼ sections 23-42-9W4M.
- The Phase 2 expansion is located in the NW and NE ¼ sections 23-42-9W4M.
- The Phase 2A expansion will be located in the NW and NE 1/4 sections 23-42-9W4M and the SW and SE 1/4 sections 26-42-9W4M.

The coordinates of the centroid of the Project area for Phase 1, the Interim expansion and Phase 2 are:

Latitude: 52°38'1.8240" N

Longitude: 111°11'32.9928" W

The coordinates of the centroid of the Project area for Phase 2A are:

Latitude: 52°38'29.2020" N

Longitude: 111°11'33.9216" W

The general location of the Project is shown on Figure 1. Further details regarding the location of the project are provided in Figure 4.

1.2 **Proponent Contact Information**

Project Name

Hardisty Rail Terminal Expansion (Interim, Phase 2 and 2A)

Proponent Name

USD Terminals Canada II ULC 423051 Range Road 92 P.O. Box 140, Hardisty, Alberta T0B 1V0

CEO or equivalent

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1.3 List of Jurisdictions and Other Parties Consulted

Consultation and public disclosure for Phase 2 and 2A of the Project was combined. The reports specific to the Phase 1 consultation for the existing facility and consultation regarding the Phase 2/2A expansions are available upon request.

USD Terminals Canada has consulted with the following parties:

- Landowners, occupants and residents located within 0.5 km of the Project site;
- Landowners and occupants located within 1.5 km of the Project site;
- Municipal District of Provost #52;
- Town of Hardisty;
- Alberta Transportation;
- Alberta Energy Regulator (AER);
- Alberta Environment and Parks (AEP) (formerly Alberta Environment and Sustainable Resource Development [AESRD]);
- Canadian Pacific Limited: and
- Ducks Unlimited Canada.

No consultation has been undertaken with Aboriginal peoples regarding this Project todate. Alberta guidance for First Nation and Métis consultation and decisions (AESRD), and guidance provided by the Alberta Aboriginal Consultation Unit, indicated that First Nation consultation would not be required given:

- The distance to any First Nation's reserves;
- As no potential impacts to crown land has been identified; and
- As the Project location has no recognized historic resource value potential (see Figure 4).



Contact has been made with the Aboriginal Consultation Office (ACO) for a preconsultation assessment to determine if First Nations Consultation is required for the *License of Occupation & Water Act* approvals from the AER.

1.4 Other Regulatory Requirements

1.4.1 Interim Expansion of the Existing Facility

The approvals/permits associated with the Interim expansion are as follows:

- No approvals under Alberta's Environmental Protection and Enhancement Act (EPEA) are required for the Interim expansion, as it does not meet any of the requirements for designation under this Act;
- The Interim expansion is confined to the existing site. Previous assessments found
 no evidence of presence or nesting/breeding of species listed as threatened or
 endangered and no active nests for any migratory game birds were observed on the
 site. No fish or fish habitat has been identified on the site. No wildlife areas or
 migratory bird sanctuaries are located on or near the Project site;
- Consultation with the AER has determined that the Interim expansion of the USD Hardisty Rail Terminal would be exempt from requiring a routine application for a License in accordance with AER Directive 056;
- USD Terminals Canada has designed the Interim expansion to meet all applicable regulatory requirements for a pipeline loading/unloading terminal, including all applicable CSA Z662 design requirements and AER Directives including directives related to containment, noise and control of air emissions;
- USD Terminals Canada will apply to Alberta Transportation for a Roadside
 Development Permit, as well as an Approval to Construct the industrial railway
 expansion in accordance with the design standards for industrial railways in Alberta;
- USD Terminals Canada will apply to the Municipal District of Provost #52 for a
 development permit for additional structures associated with the Interim expansion,
 and for an approach consent required for two new site entrances. Building and
 electrical permits will be applied for as required.

1.4.2 Phase 2 Expansion of Existing Facility

The approvals/permits associated with the Phase 2 expansion are as follows:

- No approvals under Alberta's Environmental Protection and Enhancement Act
 (EPEA) are required for the facility, as the Phase 2 expansion does not meet any of
 the requirements for designation under this Act;
- The Phase 2 expansion is confined to the existing site. Previous assessments found
 no evidence of presence or nesting/breeding of species listed as threatened or
 endangered and no active nests for any migratory game birds were observed on the
 site. No fish or fish habitat has been identified on the site. No wildlife areas or
 migratory bird sanctuaries are located on or near the Project site;



- Consultation with the AER has determined that the USD Hardisty Rail Terminal
 Phase 2 would be exempt from requiring a routine application for a License in
 accordance with AER Directive 056. Consultation has been completed to determine
 if there were any concerns/objections to the expansion that may require a nonroutine application. No objections or statements of concern have been made
 regarding the components of the project subject to the authority of the AER;
- USD Terminals Canada has designed the expansion to meet all applicable regulatory requirements for a pipeline loading/unloading terminal, including all applicable CSA Z662 pipeline design requirements and AER Directives including directives related to containment, noise and air emissions, design and operation of the vapour combustion units to control emissions;
- USD Terminals Canada applied to Alberta Transportation for a Roadside
 Development Permit, as well as an Approval to Construct the industrial railway
 expansion. Combined applications for both Phase 2 and Phase 2A for Approval to
 Construct and the Roadside Development Permit have been submitted, and were
 approved by Alberta Transportation as of August 17, 2015. These permits regulate
 the construction of a new facility near existing transportation infrastructure (Hwy 13)
 and require compliance with the design standards for industrial railways in Alberta. A
 submission for Approval to Operate will be submitted in 2016, which will require
 compliance with the standards for operation of industrial railways in Alberta;
- USD Terminals Canada applied to the Municipal District of Provost #52 for a
 development permit for the additional structures associated with the Phase 2
 expansion which was approved as of July 14, 2015 as well as the proposed
 construction of the sanitary sewage lagoon system which will be subject to a permit
 application. No concerns or issues were raised during the public comment period on
 this application or by the municipality. Building and other permits will be applied for
 as required.

1.4.3 Phase 2A Expansion North of Township Road 424

The Phase 2A expansion, which includes an integrity return system (tanks and steam house) and additional track to allow for loading of heavy crude, will require some additional approvals as follows:

- No approvals under Alberta's Environmental Protection and Enhancement Act
 (EPEA) are required for the facility, as the Phase 2A expansion does not meet any of
 the requirements for designation under this Act;
- The Phase 2A expansion area has been used for agriculture (field crops and grazing). Assessments and biological field studies completed to-date indicate that there is minimal habitat or species that would be affected by the expansion in this area. Supporting documentation is available regarding the wetland assessment and field studies undertaken for the Phase 2A expansion area;
- Consultation with the AER indicates that an application for a license under the *Pipelines Act* is not required with the addition of the integrity return system and tankage. Consultation has been completed to determine if there were any concerns/objections to the expansion that may require a non-routine application. No



objections or statements of concern have been made regarding the components of the project subject to the authority of the AER;

- USD Terminals Canada has designed the expansion to meet all applicable regulatory requirements for a pipeline loading/unloading terminal, including all applicable CSA Z662 pipeline design requirements and AER Directives including directives related to containment, noise and air emissions, design and operation of the vapour combustion units to control emissions;
- One small surface water body just south of Township Road 424, classified as a Class IV wetland, will be affected by the track expansion (Figure 9). This water body has not been identified as fish habitat and has no hydraulic connection off the site. There are a number of small water bodies classified as Class I to IV wetlands north of Township Road 424 that will be affected by the construction of the additional track. These water bodies have not been identified as fish habitat and have no hydraulic connection off the site (see Figure 10). The following will be required for these water bodies:
 - An application to the AESRD for confirmation of a Crown claim of ownership which has been submitted;
 - An application for compensation of wetland impacts;
 - Pending the decision from the AESRD to confirm which water bodies are crown claimable, an application for a License of Occupation through the AER;
 - An application to the AER under the Alberta Water Act for approval of the proposed changes to the water bodies.
- As noted above, USD Terminals Canada applied to Alberta Transportation for a
 Roadside Development Permit, as well as Approval to Construct and Approval to
 Operate the industrial railway expansion. Combined applications for both Phase 2
 and Phase 2A for Approval to Construct and the Roadside Development Permit were
 submitted and approved by Alberta Transportation. The submission for Approval to
 Operate will be submitted in 2016;
- USD Terminals Canada applied to the Municipal District of Provost #52 for an Approach Consent for access to the Phase 2A site, as well as for an agreement to occupy the right of way for Township Road 424 with the two level railway crossings and the toe of the railway embankment, both of which were approved as of July 14, 2015. The approach consent and agreements associated with the level crossings, require that the design of the access roads comply with municipal requirements, and include conditions in the agreement related to construction, maintenance and operation of the level crossings within the municipal ROW. No concerns or issues were raised during the public comment period on this application or by the municipality.

1.4.4 Canadian Environmental Protection Act (CEPA)

Canadian Environmental Protection Act regulations do not apply to the Interim expansion, Phase 2 or Phase 2A.



1.4.5 Historical Resources Act

Alberta Culture and Tourism is responsible, under the *Historical Resources Act*, for evaluating and coordinating development projects, and their potential to impact historical resources. Historical resources include: archaeological, paleontological; historic sites or structures and First Nations traditional use site(s). The *Act* applies to all developments in Alberta, including those on both public and private lands, except lands under federal authority.

Alberta Culture and Community Spirit's Listing of Historic Resources was reviewed to determine if there is a potential to impact known historic resources. This list is updated twice a year (February and August) and provides project developers advance notice of potential historic resource concerns within an area. Land parcels are assigned a Historical Resource Value (HRV) between 1 and 5, with HRV 1 having the highest level of protection under the Historic Resources Act.

A review of the public registry did not identify any HRV listings for either the NE/NW ¼ sections of 23-42-9W4M or the SE/SW ¼ sections of 26-42-94WM. Historical Resources Act approval was received August 19, 2015.

1.5 Regional Environmental Studies

The federal Project Description requires reference to regional studies completed under CEAA 2012 (as per Sections 73 and 74 of the Act). The Project is not located in a region that has been the subject of a regional study for any environmental parameters (air, noise, etc.).

Air quality monitoring was conducted in 2005 and 2006 by Alberta Environment to assess the air quality in the area of the Hardisty Bulk Petroleum Storage Terminals, located approximately 9 km to the west of the Project site. The ambient concentrations for H₂S, NO_x, CO, PM (Total Suspended Particulate and PM_{2.5}), and SO₂ as measured in this study were used as the worst case background ambient air concentrations in the air modeling completed for the Hardisty Rail Terminal. No exceedance of the Alberta Ambient Air Quality Objective (AAAQO) has been determined as resulting from the operation of the Hardisty Rail Terminal.

No requirement for regular environmental monitoring studies of the Hardisty Rail Terminal has been identified by any authority. USD Terminals Canada monitors and retains records regarding the operation of the vapour control system for the facility and reports on the volume of vapour managed through the system. There are no industrial discharges to soil, surface water or groundwater associated with the facility and thus no monitoring requirement has been identified.

Studies have been completed for the facility including noise, air, soil, vegetation and wildlife and are available upon request.



2 Project Information

2.1 General Description and Objectives

As noted in Section 1.1, USD Terminals Canada is planning to expand its Hardisty Rail Terminal, which began operating in 2014. The existing USD Hardisty Rail Terminal is a railcar loading terminal for light crude oil in proximity to the Hardisty area, within the Rosyth Area Plan, in the Municipal District of Provost #52. The expansion will double the footprint and capacity of the existing facility; increase the product types that can be shipped from the facility; and add a mobile truck to rail capability. This project is a component of a larger project that is not listed in the *Regulations Designating Physical Activities*. The expansion involves three phases:

- An interim expansion which will include the installation of a mobile truck to rail loading area and two tracks in the area of the existing facility, that would be used to load propane, butane and heavy crude from trucks to rail cars. This has been identified as an interim project designed to address short-term commercial needs for material transport.
- 2. The Phase 2 expansion to double the capability of the Phase 1 facility to handle and ship light crude oil from pipeline to rail within the existing facility footprint.
- 3. The Phase 2A expansion will expand the capability of the Phase 1 facility to handle and ship heavy crude oil.

The transportation of crude oil to market remains a constraint within the marketplace. The proposed expansion of the Hardisty Terminal when fully developed in Phase 2A would increase the loading capacity of the facility from two to a maximum of four 120-car trains per day and handle the transportation of a wider spectrum of products in order to meet market demand. Note: based on market demand, it is possible that the project build out may proceed to part-way between Phase 2 and 2A, with the full development of components of the Project on the NW and NE ¼ sections 23-42-9W4M which would allow loading of up to 3 trains per day, with development of the remaining components only when full commercialization of the project is supported.

The proposed Project will generate long term value for USD Terminals Canada and Albertans by providing an alternative cost effective and environmentally responsible method to ship multiple grades of light and heavy crude oil to markets across North America. This Project will support Alberta's economy and the responsible development of a mature crude oil basin, enabling more value to be generated through the province's natural resources.

The existing facility and proposed expansions are shown on Figure 2 and 3, and are described below. An artists rendering of the expanded facility is provided in Figure 8.



2.1.1 Existing Hardisty Rail Terminal (Phase 1)

The existing Hardisty Rail Terminal is located on part of the SW ¼ and the NE and NW 1/4 Sections of 23-42-9W4M. The facility commenced operation in June 2014 and is capable of loading up to two 120 car unit trains per day with light crude oil. The crude oil is delivered to the site via a pipeline owned and operated by Gibsons from the Gibsons Hardisty terminal. CP Rail transports the rail shipments of crude oil from the site via the existing CP Rail line that runs parallel to Highway 13.

The primary components of the existing facility are:

- A wye track connecting into two loop tracks to access the site from the CP Rail main track and facilitate loading of unit trains. The rail tracks are located a minimum of 50 feet (15.2 m) inside of the property lines.
- A fixed railcar loading rack with 30 loading positions located along the southern portion of the loop tracks, including a structure entirely covering the rack for inclement weather protection. A vapour handling system was included to control and process any emissions generated from the rail cars during loading operations. A small thermal relief tank (8 m³) was also included to facilitate operations.
- A unit train staging area (six parallel tracks) to accommodate up to six unit trains and manifest (or single railcars that are not handled as a unit train) cars handled separately from the unit trains.
- In total, the rail tracks that make up Phase 1 of the facility include a continuous 'loop' coming in on the wye track, around the site, through the loading rack and then out through the wye track, with five additional parallel tracks around the main part of the loop. The total length of the Phase 1 tracks is 52,451 track feet or approximately 16 km.
- The facility includes an on-site office and an operations facility, and access to the site by a main entrance from Range Road 92 and a secondary entrance off of the unopened road allowance for Range Road 91.
- Stormwater retention ponds are located around the property to contain surface water runoff and recharge local groundwater resources.

2.1.2 Interim Expansion of Existing Facility

A commercial opportunity has recently been determined, to expand the capability of the Phase 1 facility to transload propane, butane and heavy crude from truck to rail, within the existing facility footprint. This expansion is planned to address a shorter term or interim opportunity. This expansion will involve the addition of:

- Two additional tracks within the NW and NE ½ sections of 23-42-9W4M, 3,660 track feet (1.1 km);
- Mobile loading racks;
- Space for loading of 9 crude railcars, and 10 propane rail cars at a time;
- Integrated vapour control within the mobile units;
- A small staff building to accommodate operators;



New truck access off of Range Road 92 and off of Township Road 424.

Details of the Project components and activities for the Interim expansion are presented in Section 2.3.1.

2.1.3 Phase 2 Expansion of Existing Facility

The Phase 2 expansion will expand the capability of the Phase 1 facility to handle and ship additional volumes of light crude oil within the existing facility footprint. This expansion will involve the addition of:

- Three additional tracks within the NW and NE ¼ sections of 23-42-9W4M, 15,880 track feet, 4.8 km;
- Thirty additional loading positions on the fixed railcar loading rack within the existing structure that covers the rack for inclement weather protection;
- One additional vapour control unit to control and process emissions from the expanded loading rack;
- An expansion to the operations facility to accommodate 20 additional staff.

Details of the Project components and activities for Phase 2 are presented in Section 2.3.1.

2.1.4 Phase 2A Expansion North of Township Road 424

The Phase 2A expansion will expand the capability of the Phase 1 facility to handle and ship heavy crude oil. This expansion will require the addition of industrial railway components to the existing facility site and to the SE and SW ¼ sections of 26-42-9W4M (USD-owned property located north of Township Road 424). The expansion will include:

- The development of six additional staging/holding tracks (48,801 track feet, 14.9 km), each having the capacity to hold one unit train, and connecting tracks between the northern and southern components. The work would include modifying the Interim expansion tracks so that the 3,000 track feet bad order track becomes part of one Phase 2A track, and the 660 track feet propane transload track is either realigned or is removed;
- The construction of two at-grade signed level crossings across Township Road 424;
- The construction of an integrity return system to facilitate the shipment of both heavy and light crude oil;
- The closure of two existing access points to the SE and SW ¼ sections of 26-42-9W4M on Township Road 424, and the construction of a new access point for an internal access road;
- Modification of an existing small waterbody within the NW ¼ section of 23-42-9W4M to contain surface water runoff and recharge local groundwater resources. The proposed modification is provided in Figure 9.
- The development of stormwater retention ponds within the SE and SW ¼ sections of 26-42-9W4M to contain surface water runoff and recharge local groundwater



resources. This includes modifications of some existing waterbodies. The existing drainage pattern is provided in Figure 10 and the proposed drainage in Figure 11.

Details of the Project components and activities for Phase 2A are presented in Section 2.3.1.

2.2 Regulation Designating Physical Activities

The Canadian Environmental Assessment Agency may require a federal environmental assessment pursuant to the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) for certain rail projects. The *Regulations Designating Physical Activities* set out which projects may be subject to an environmental assessment under CEAA 2012. The following paragraph of the *Regulations Designating Physical Activities* is applicable to this project:

- 25. The construction, operation, decommissioning and abandonment of a new
 - (b) railway yard with seven or more yard tracks or a total track length of 20 km or more.

The Interim expansion includes two tracks with an overall length of 3,660 track feet or approximately 1.1 km; however, these tracks will be modified (connections and alignment adjusted) to become part of the tracks required for the Phase 2A expansion. Specifically, the new bad order track (3,000 ft) will become part of Phase 2A Track J, and the 660 ft propane transload track will either be realigned or removed. The Phase 2 expansion includes 3 tracks with a total length of 15,880 track feet (4.8 km) and the Phase 2A expansion includes 6 tracks with a total length of 48,801 track feet (14.9 km), for an overall total of 9 tracks with a length of 19.7 km.

The existing facility and expansions are not located within a wildlife area or migratory bird sanctuary.

2.3 Components and Activities

2.3.1 Physical Works Associated with the Designated Project

Interim Expansion of Existing Facility

The proposed components of the Interim expansion will be located entirely within the existing Hardisty Rail Terminal property. The primary components of the Interim expansion, which is designed to expand the capability of the facility to handle and ship propane, butane and heavy crude oil within the existing footprint of the facility, are:

- Two additional tracks totalling 3,660 track feet (approximately 1.1 km) within the NW and NE ¼ sections of 23-42-9W4M. These tracks would be modified during the Phase 2A expansion described below such that the bad order track (3,000 track feet) will become part of the Phase 2A track J and the propane transload track (660 track feet) is realigned or removed.
- Mobile loading positions for 9 crude railcars and 10 propane/butane rail cars along the west side of the loop tracks.



- Integrated vapour control within the mobile loading units.
- New access/egress points for trucks on Range Road 92 and on Township Road 424, as well as truck staging areas, capable of handling up to 40 trucks per day.
- A small operators shed.

The Interim expansion would be supported through the addition or reallocation of one operator from the existing facility.

Safety systems are currently in place at the existing facility which will apply to the facility expansion. Additional safety systems to be installed for the Interim expansion include: installation of spills containment within the crude transload area. USD Terminals Canada maintains a formal Safety Management System for the Hardisty Rail Terminal. This dictates how environmental and safety matters are to be managed throughout the operation, defines responsibilities, and describes the processes and procedures that will protect the safety of all of USD Terminals Canada's employees, contractors, the community and environment around the terminal facilities. This system includes procedures for the identification of 'bad order' railcars, through inspection of cars that arrive at the site to determine if any railcars have a mechanical defect or has safety violations such that they would not be loaded. These cars are removed from the unit train and set aside for return to CP on the bad order track.

USD Terminals Canada will update and maintain the Emergency Response Plan for the facility and will continue to communicate with the Municipal District of Provost #52 emergency and fire department contacts.

Interim Operations

The Interim expansion operations will involve the loading of railcars from transport trucks delivering propane, butane or crude oil to the site. Empty trains will be brought onto the site by a CP locomotive and will be held until it is time to load. Propane or butane trucks will enter the site and the site operator will direct the trucks to the propane/butane transload area which will be long enough to hold/load 10 rail cars. The transport trucks will be connected to mobile transload units that will transfer the product to the railcars. Once the truck is unloaded, the railcar will be capped and the unloaded trucks will leave the propane/butane loading area. Crude oil trucks will be unloaded in a similar process. The crude oil transload area will be long enough to hold/load 10 rail cars. Once full, the railcars will be placarded and the train will be held until CP is ready to transport the train offsite. The volume and type of products loaded will be recorded and reported through PETRINEX, a government-industry petroleum information sharing network.

Additional Buildings and Structures

The Interim expansion will involve the installation of a small mobile operators building.

Septic and Potable Water

No changes are proposed to the provision of septic treatment and potable water to the site.



Site Access and Traffic

Access for propane and butane trucks to the propane/butane transload staging and loading area will be via a new entrance to the west of the Project on Range Road 92. Propane/butane trucks will exit via the existing road entrance from Range Road 92. Access for crude trucks to the crude transload staging and loading area will be via a new entrance to the north of the Project on Township Road 424. Crude trucks will exit via the same point on Range Road 92 used for the propane/butane truck access. Currently, it is estimated that the maximum number of trucks accessing the Interim expansion area will be 40 trucks per day.

USD Terminals Canada anticipates that the large majority of all traffic to the site will travel from the west or east along Hwy 13, north on Range Road 92 and into the site at the access points described above.

USD Terminals Canada has entered into an agreement with the Municipal District of Provost #52 for hardening the surface of Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424. This work would be completed prior to the start of the Interim expansion construction to mitigate potential changes in road conditions during construction and emissions of dust from road transport.

The site will be manned and operated 24 hours a day, 7 days a week.

Phase 2 Expansion of Existing Facility

The proposed components of the Phase 2 expansion will be located entirely within the existing Hardisty Rail Terminal property. The primary components of the Phase 2 expansion, which is designed to expand the capability of the facility to handle and ship light crude oil within the existing footprint of the facility, are:

- Three additional tracks totalling 15,880 track feet (approximately 4.8 km) within the NW and NE ¼ sections of 23-42-9W4M.
- Thirty additional loading positions on the fixed railcar loading rack located along the southern portion of the loop tracks, within the existing structure that covers the rack for inclement weather protection. Some modifications of the existing structure that covers the rack would be made, to include: additional external stairs; a new pipe rack on the north side of the building; and constructing new foundations for a prover and sampler.
- One additional vapour control unit to control and process emissions from the expanded loading rack. The existing facility includes two vapour control units (one operational, one back-up) for the existing loading operations.
- An expansion to the operations facility to accommodate additional staff, which
 includes an additional staff building, additional parking, and modifications to the
 existing private sewage system on the site.

The operations of the expanded facility would be supported by a maximum of 70 staff positions (an increase of 20 positions from the existing facility), required to run a 24/7 operation, 365 days a year. The standard shift size would be approximately 35 personnel, including administrative, clerical and operations staff.



Safety systems are currently in place at the existing facility which will apply to the facility expansion. Additional safety systems to be installed for the Phase 2 expansion include installation of additional spills containment under the new loading tracks within the existing loading structure. USD Terminals Canada maintains a formal Safety Management System for the Hardisty Rail Terminal. This dictates how environmental and safety matters are to be managed throughout the operation, defines responsibilities, and describes the processes and procedures that will protect the safety of all of USD Terminals Canada's employees, contractors, the community and environment around the terminal facilities. This system includes procedures for the identification of 'bad order' railcars, through inspection of cars that arrive at the site to determine if any railcars have a mechanical defect or has safety violations such that they would not be loaded. These cars are removed from the unit train and set aside for return to CP on the bad order track. USD Terminals Canada will update and maintain the Emergency Response Plan for the facility and will continue to communicate with the Municipal District of Provost #52 emergency and fire department contacts.

Phase 2 Operations

The Phase 2 operations will involve the loading of railcars with light crude from a pipeline delivering product to the site. Empty trains will be brought onto the site by a CP locomotive and will be held until it is time to load. Trains will enter the loading rack structure, which has 30 loading positions. Trained operators uncap the railcars and connect the cars to the loading rack system that transfers product from the pipeline that brings product to the site to the railcars. The railcars are loaded under negative pressure, the vapour handling system controls and processes any emissions generated from the rail cars during loading operations. The 120 unit trains will proceed through the loading rack structure, 30 cars at a time, until the train is full. Once full, the railcars will be placarded and held until CP is ready to transport the train offsite. The volume and type of products loaded will be recorded and reported through PETRINEX.

Additional Buildings and Structures

The Phase 2 expansion will involve the development of a new staff locker room building and modifications to the existing canopy of the loading rack.

The new staff locker room building will be a 14.63 m by 21.95 m single storey, 4.6 m high, pre-engineering modular building with an overall area of 321 m², with an exterior surface constructed of prefinished metal walls and roof panels. The locker room building will house lockers and amenities for the site operations staff, and will be located over 220 m inside the property boundary of the Project site. Approximately 58 new employee parking spaces will be provided for this building.

Modifications will be made to the existing canopy for the loading rack, which protects the loading rack and operating staff from inclement weather. The canopy runs parallel to the tracks and loading rack, and has openings at either end to allow for passage of trains into and out of the canopy for loading of crude. The pre-engineered metal structure, installed on drilled piers, has an area of 7,525 m² constructed of prefinished exterior metal walls and roof panels, and is long enough to accommodate 30 rail cars at a time. The modifications to this structure include two new sets of enclosed stair towers on the east and west ends of the structure and one additional enclosed stair tower on the north



side of the structure. A new pipe rack will be installed along the north side of the structure. Containment for the modified structure will be consistent with that currently in place.

Other new structures include: pipe rack; sampler skid pad; strainer pad; lift station and valve vault; vapour combustion unit pad; and HVAC and duct support concrete pad.

Septic and Potable Water

Potable water will continue to be provided using the drilled well located to the east of the existing utility building. This is a deep well, with on-site treatment for disinfection and hardness.

Phase 1 is currently served by a septic tank located to the west of the existing CP crew building, which manages sanitary flows from the staff amenities (toilets, showers). There are no industrial sources of waste water that would be treated. USD Terminals Canada has determined that the most suitable long-term approach for septic treatment would be a lagoon system, based on the projected waste water generation rates for the expanded facility, and geotechnical analysis of the site. The location identified for the lagoon system, which has been designed in accordance with the Alberta Private Sewage System Standards, is approximately 150 m to the southwest of the new staff building, and over 200 m away from the existing well. The design of the lagoon system allows for above ground containment and evapotranspiration of water from the sanitary sewage, and periodic removal of solids by a licensed contractor. It is approximately 50 m from the closest property line (CP Rail Right of Way), and over 90 m from Highway 13. There are no water courses in the vicinity of the site and the proposed lagoon.

Site Access and Traffic

Primary access to the office and operations facility and for other site operations will be the existing road entrance from Range Road 92. This access point would be used for the majority of traffic to and from the site during construction of Phase 2 and operations of the facility. USD Terminals Canada anticipates that the large majority of all traffic to the site will travel from the west or east along Hwy 13, north on Range Road 92 and into the site at the primary access point. The secondary access through the unopened road allowance for Range Road 91 along the eastern boundary of the Project site will continue to be used.

USD Terminals Canada has entered into an agreement with the Municipal District of Provost #52 for hardening the surface of Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424. This work would be completed prior to the start of the Interim expansion construction to mitigate potential changes in road conditions during construction and emissions of dust from road transport.

During operations, the expanded facility will employ up to 70 staff. USD Terminals Canada will run crews of approximately 35 staff, 24 hours a day, and 7 days a week. The type of traffic will predominately be single passenger vehicles used by employees commuting to and from the site. Other than the occasional delivery truck, there will be minimal additional large truck traffic, as the crude oil for Phase 2 arrives at the site via pipeline, and departs via rail. Once the proposed expansion is complete, at peak operations there would be a peak of 70 staff vehicles per shift change (35 arriving, 35



departing), 2 shifts per day, 7 days per week. The site will be manned and operated 24 hours a day, 7 days a week.

Phase 2A Expansion North of Township Road 424

The proposed components of the Phase 2A expansion will be primarily located within SE and SW 1/4 sections of 26-42-9W4M, the USD-owned lands to the north of Township Road 424. Some facility components will be constructed within the NE and NW 1/4 sections of 23-42-9W4M including the integrity return system, and rail connections between the two sites. The primary components of the Phase 2A expansion, which is designed to expand the capability of the facility to handle and ship heavy crude oil, are:

- Six additional staging/holding tracks, each having the capacity to hold one unit train, and connecting tracks between the northern and southern components totalling 48,801 track feet (approximately 14.9 km). As noted above, the two tracks included in the Interim expansion would be modified to such that the bad order track (3,000 track feet) will become part of the Phase 2A Track J and the propane transload track (660 track feet) is realigned or removed;
- Two at-grade signed level crossings over Township Road 424. The level crossings will be designed and constructed in accordance with Transport Canada's Grade Crossing Standards (2014);
- An integrity return system including tankage (less than 10,000 m³ one10,000 barrel [1,590 m³] tank) to facilitate the shipment of both heavy and light crude oil, including a small natural gas fired steam boiler house to support the loading of heavy crude. A 2 m lined berm has been proposed for containment purposes for the tank. The integrity return system will be located within the NW 1/4 section of 23-42-9W4M, just to the north of the loading rack inside the loop tracks. The tank will be used to remove either light or heavy crude oil from the header within the loading system to be able to switch between the two products. The 500,000 hp natural gas fired boiler will be used to generate steam to keep the heavy crude warm enough to flow within the system. It is designed to heat the crude to 97/98 degrees C. There will also be two heat exchangers as part of the system, one in the header and one in the tank;
- Closure of two existing access points to the SE and SW ¼ sections of 26-42-9W4M on Township Road 424, and the construction of a new access point providing access to the interior of the loop track;
- Modification to drainage within the NW 1/4 section of 23-42-9W4M affecting one small water body (Figure 9) and construction of stormwater retention ponds within the SE and SW 1/4 sections of 26-42-9W4M to contain surface water runoff and recharge local groundwater resources. The existing drainage pattern is provided in Figure 10 and the proposed drainage in Figure 11.

Various safety systems are currently in place at the existing facility which will apply to the facility expansion. Additional safety systems to be installed for the Phase 2A expansion include: signage, lighting and procedures that will be employed to operate the level crossings. USD Terminals Canada maintains a formal Safety Management System for the Hardisty Rail Terminal. This dictates how environmental and safety matters are to be managed throughout the operation, defines responsibilities, and describes the processes



and procedures that will protect the safety of all of USD Terminals Canada's employees, contractors, the community and environment around the terminal facilities. This system includes procedures for the identification of 'bad order' railcars, through inspection of cars that arrive at the site to determine if any railcars have a mechanical defect or has safety violations such that they would not be loaded. These cars are removed from the unit train and set aside for return to CP on the bad order track. USD Terminals Canada will update and maintain the Emergency Response Plan for the facility and will continue to communicate with the Municipal District of Provost #52 emergency and fire department contacts.

Phase 2A Operations

Generally Phase 2A operations will be similar to Phase 2, with the exception being that steam from the steam boiler house will be used to heat heavy crude transferred to the site by pipeline, so that it has the appropriate viscosity for loading through the loading rack that would in effect as of Phase 2. In addition, the integrity return system (tank) will be used to hold any product that may remain in the lines following loading, until the next 'similar' product is ready for loading.

Additional Buildings and Structures

The new heavy crude area to the north of the existing loading rack will house the crude oil tank, pump pad and associated containment area as well as the steam boiler house. The steam boiler house will be required to support loading of heavy crude. This boiler house will be located north of the existing loading rack, with proposed dimensions of 15.24 m by 15.24 m. Similar to other structures on the site, this building would utilize prefinished metal wall and roof panels with windows, man doors, and overhead doors. Although the location and general dimensions of this structure have been determined, the detailed design of this structure and other components for Phase 2A have not yet been completed.

Site Access and Traffic

For construction and operation of Phase 2A on the SE and SW ¼ sections of 26-42-08-W4, it is proposed that the two existing points of access to the SE ¼ section from Township Road 424 be closed, and a new point of access constructed on Township Road 424, approximately mid-way between these points. This new access road for the site will allow USD Terminals Canada operational traffic to travel through a tunnel under the proposed tracks, to access the central portion of the site. This access would be gated, and the entirety of the SE and SW ¼ sections of 26-42-08-W4 would be fenced, to restrict public access. The facility will fully comply with all applicable laws and regulations in regards to prevention of unauthorized entry. The terminal is staffed at all times, and will be fully fenced with locked gates.

2.3.2 Anticipated Size of the Project

The Interim expansion will require the addition of two tracks totalling 3,660 track feet (approximately 1.1 km) as indicated on Figure 2 and described previously, these tracks will be modified (connections and alignment adjusted) to become part of the tracks required for Phase 2A.The Interim expansion will allow the facility to receive and load up



to one train per week with heavy crude and one with propane/butane from truck to rail, in the interim period prior to development of Phase 2/2A. The propane loading operation in the Interim expansion is a short-term activity to address an immediate market need, that would cease within a couple of years or when Phase 2A is developed, whichever comes first.

The Phase 2 and 2A expansions will result in the addition of a total of nine tracks totalling 64,681 track feet (approximately 19.7 km) to the existing Phase 1 facility site and to the SE and SW ¼ sections of 26-42-9W4M, a 320 acre USD-owned property located north of Township Road 424. This is greater than the "seven or more yard tracks" referred to in the *Regulations Designating Physical Activities*, but slightly less than "20 km or more total track length". The site layout for Phase 2 and 2A is shown on Figure 3. Figure 8 provides an artists rendering of the Project.

The Phase 2 and Phase 2A expansions will increase the capacity of the facility to receive and load railcars with light and heavy crude oil. Currently the facility can load up to two 120 car unit trains per day; at full capacity the expanded facility would have the capacity to load up to four 120 car unit trains per day of light or heavy crude. Currently, the train traffic along the Hardisty/Wetaskiwin CP Rail line is approximately one train every three hours. The Phase 2 and 2A expansions are anticipated to increase the traffic to approximately one train every two to three hours.

The site will be manned and operated 24 hours a day, 7 days a week, 365 days per year.

Each railcar can hold approximately 600 to 700 barrels of oil; with the proposed expansion, the facility will have a loading capacity of between 252,000 and 336,000 barrels per day.

The estimated operational life of the facility would be a minimum of 25 years.

2.3.3 Size and Nature of the Expansion

As noted in Section 2.3.2, the total number of tracks at completion of the Phase 2 and 2A expansions will be nine tracks totalling 64,681 track feet (approximately 19.7 km). This is greater than the "seven or more yard tracks" referred to in the *Regulations Designating Physical Activities*, but slightly less than "20 km or more total track length". The project is not an expansion as per the *Regulations Designating Physical Activities*.

2.3.4 Incidental Project Activities

The Interim, Phase 2 and 2A expansions include installation and connection of utilities, including natural gas and electricity. This would include supplying power to project features such as lighted crossing signals at the at-grade crossings along Township Road 424.

Gibsons Energy is responsible for delivering crude oil by pipeline to the facility from its Hardisty Terminal. The existing pipeline, and expansion of the pipeline required for Phase 2 and 2A, and associated permitting, are the responsibility of Gibsons Energy. The planned pipeline expansion would result in the twinning of the existing pipeline within the existing pipeline ROW. The route of the existing 24 inch pipeline, under license 55905-001 is indicated on Figure 3, which provides the site location plan and area land use.

CP Rail will be responsible for delivering the rail cars to the expanded Hardisty Rail Terminal. USD Terminal Canada staff will oversee the arrival and departure of the rail cars and will follow CP site operating procedures.

The Natural Gas Co-op 52 Ltd. owns and operates three natural gas lines that occupy a ROW that crosses the NW and NE ¼ sections 26-42-9W4M, which would be affected by the Phase 2A expansion. The depth of burial of these gas lines is too shallow to support the construction of the loop tracks in this area. USD Terminals Canada is currently negotiating with the Natural Gas Co-op 52 Ltd. to relocate these gas lines to a new ROW along the northern property boundary of NW and NE ¼ sections 26-42-9W4M. The Co-op would be responsible for obtaining approval from the AER under Directive 056 for the relocation of the lines.

There are two well bores and a pipeline located within the NW and NE ¼ sections 26-42-9W4M in the area of the Phase 2A expansion. Access to the well bores is provided in the design of Phase 2A (Figure 3). The loop track in this area would cross the gas line twice, once in the NE ¼ section and again in the NW ¼ section. USD Terminals Canada is currently negotiating with Penn West for Penn West to assign its entire interest in the two wellbores and associated pipeline to USD Terminals Canada. Upon the assignment, USD Terminals Canada would make a determination as to if the wellbore and pipeline would be abandoned.

USD Terminals Canada has entered into an agreement with the Municipal District of Provost #52 (MD of Provost) for hardening the surface of Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424. This work would be completed by the MD of Provost in 2015 prior to the start of the Interim, and subsequently, Phase 2 and 2A construction. This road improvement will mitigate potential changes in road conditions during construction including emissions of dust from road transport, and will serve to address the increase in operational truck traffic resulting from the Interim expansion.

2.4 Emissions, Discharges and Waste

2.4.1 Atmospheric Emissions

Air

Dust and exhaust emissions from construction equipment are anticipated to occur during normal working hours throughout the construction of the Interim, Phase 2 and 2A expansions, and will be temporary in nature. If required, mitigation of on-site dust emissions associated with earth moving and construction roads will be addressed through appropriate dust suppression measures. No complaints were received regarding dust or exhaust emissions during the Phase 1 construction period. Similar emissions may be experienced during decommissioning pending determination of the extent of heavy equipment requirements to dismantle and remove facility components and the extent of regrading that would be appropriate.

During operations of the Interim expansion, there is potential for emissions of road dust and engine exhaust from transport trucks. As noted previously, Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424 will be hardened



under an agreement with the MD of Provost, which will minimize road dust emissions. As necessary, mitigation of on-site road dust emissions associated with truck movement on internal access roads will be addressed through appropriate dust suppression measures.

During the Interim, Phase 2 and 2A operations, there is the potential for emissions from rail cars when they are uncapped for loading, and from loading rack operations. There would also be some emissions from the train engines required to move trains around the site, and potential emissions from the natural gas fired steam boiler. These emissions however would be small in comparison to the potential for emissions of volatile organics from the loading operations which will be addressed through the vapour recovery system.

The existing vapour recovery and thermal destruction system will be expanded with an additional vapour combustion unit to address potential emissions from the rail cars and from loading rack operations. Potential emissions were identified based on the crude oil specifications, maximum loading rates and assumptions related to the performance of valves, pump seals, flanges, meters and vents that are part of the system as well as the vapor capture rates and combustion efficiency of the VCUs. Potential air parameters emitted include H₂S, NOx, CO, PM _{2.5}, Total PM, Lead, SO₂, Arsenic, Chromium, Manganese, Nickel, Benzo(a)pyrene, Formaldehyde, Benzene, Ethyl Benzene, Hexane, Toluene, and m-Xylene. Modelled maximum emissions from the facility were predicted to be considerably below the Alberta Ambient Air Quality Objectives (AAAQO). Modeled facility impacts were sufficiently small so as to be considered insignificant as compared to the AAAQO.

USD Terminals Canada will continue to comply with all applicable provincial and federal regulations and where possible, exceed those requirements including those specific to air emissions for a facility such as this. The existing vapour recovery and thermal destruction system is fully enclosed, and has been in operation since 2014. Any unusual odours are directed to be reported immediately to the local Operations representative at the Hardisty Rail Terminal facility. During operations USD Terminals Canada will promptly investigate and ensure any problems are corrected. No complaints or incidents regarding emissions have been reported since the facility began operations June 2014.

Noise

There may be short-term temporary noise increases during construction and decommissioning.

USD Terminals Canada's existing facility was designed to minimize noise impacts during operations. Minimal noise is attributed to the operation of USD's stationary components at the facility, such as the loading rack which is covered, and the thermal destruction units for vapour management which are fully enclosed. USD Terminals Canada is continuing to observe the facility for operational noise, and will examine additional mitigation options if an issue is detected.

Noise associated with the operation of trains on the site has been addressed through the design of the loop track. The track is designed so that the unit trains are moved around the site in a forward direction as a 'unit' minimizing the need to decouple and move separate railcars around the site and minimizing the noise associated with the reversal of



trains. The Project includes the construction of additional loop track on two ¼-sections to the north of the existing terminal site. The new loop track will be designed similar to the existing loop track to minimize the need for decoupling and the reversal of trains. Site features such as surrounding topography and vegetation also assist in addressing the potential for noise.

Within the USD Terminals Canada facility, short train whistles are used at certain points in the train movement, which would include crossing the level crossings on Township Road 424. Operational procedures focus the use of whistles to meet operational requirements, and to limit the unnecessary use and/or length of time that the whistles are blown.

2.4.2 Liquid Discharges

Surface Water

Surface water/stormwater management is limited to managing surface water on the Project site from rain and snowfall events. All stormwater will be directed to surface water management ponds throughout the Project site. This stormwater will not have any contact with any industrial sources of contaminants, it may be in contact with gravel road surfaces, ballast from the rail lines and surface soils in areas prior to full growth of the vegetative cover on the site. Deposition of suspended particulate matter from stormwater is expected in the grassed swales and stormwater management ponds. Given that the site will be fully vegetated as soon as possible after construction, that there are few gravel road surfaces and that the ballast from the rail lines is largely free of small particulate, a low rate of sediment accumulation in the surface water ditches and ponds is anticipated. The surface water management system has been designed to retain clean surface water on-site for groundwater recharge, replicating current conditions on the site. No surface water would be discharged off of the property to any water body. Further details are provided below.

No water washes are included in the project, and no industrial waste water will be generated or discharged with the exception of sanitary flow which will be directed to the sewage lagoons described below.

Spill containment at the integrity return tank and loading racks as discussed below, will contain any potentially contaminated surface water and prevent it from entering the surface water management ponds. In the event of a spill, contaminated water would be retained and hauled off-site for treatment.

The Interim expansion will not require any changes to the existing surface water management ponds, but will require some modifications to drainage swales on the west side of the existing loop tracks. There is no potential for discharge to surface water, associated with the propane/butane transload area given the volatility of the product. Precast concrete curbs will be provided around the entire crude unloading area to provide containment for spills of heavy crude, with the exception of the truck entrance and exit that will be provided with the equivalent of a 'speed bump' to provide containment. Stormwater exiting the crude unloading area will be controlled through the use of catch basins with post indicating valves on the interior of the containment area. These measures, combined with the low viscosity of heavy crude would allow for the



containment of a full railcar load of heavy crude within the crude unloading area. Any spills within the loading area would likely require the excavation and removal of the contaminated surface gravel/ballast in the area of the spill which would be hauled off-site for treatment by a licensed disposal company.

The proposed Phase 2 expansion will be constructed on the existing facility site. No changes to the existing surface water management drainage and ponds will be required at the existing facility. Containment within the modified loading rack structure will be consistent with that currently in place for Phase 1.

The proposed Phase 2A expansion will be constructed on the USD-owned SE and SW ¼ sections of 26-42-9W4M, and across Township Road 424 for the construction of the atgrade crossings. The expansion has been designed and will be constructed appropriately to address surface water management and to minimize any potential change in surface water flow to adjacent properties. One small water body within the NW ¼ section of 23-42-9W4M will require modification (Figure 9). Stormwater retention ponds will be developed within the SE and SW ¼ sections of 26-42-9W4M to contain surface water runoff and recharge local groundwater resources. The existing drainage pattern is provided in Figure 10 and the proposed drainage in Figure 11. All of the drainage within the site will be retained on site for infiltration and evapotranspiration as per existing conditions, and there would be no changes to the volume or quality of surface water discharge to or from the site. Groundwater was generally not observed in the boring holes during geotechnical investigations.

Sanitary Sewage

USD Terminals Canada has determined that the most suitable long-term approach for sanitary sewage treatment from the staff buildings and water from the iron filter/water softener from the water well on the site would be a lagoon system. The projected waste water generation rates for the expanded facility and geotechnical analysis of the site indicate that a lagoon system would be more effective than a septic bed. The lagoon system has been designed in accordance with the Alberta Private Sewage System Standards, and will be located in accordance with code requirements, far from the existing well that services the facility and water courses/water bodies. The private sewage standards set out design standards, installation standards and material requirements for on-site private sewage systems handling less than 25 cubic metres (5,500 Imperial gallons) sewage volume per day. Design, installation and operation of the private sewage system (lagoon) in accordance with these standards will mitigate potential for effects to the environment and human health.

The existing septic tank will be retained, and piping and a lift station would be used to direct flows to a two-stage lagoon system. The lagoon system is designed to retain the sanitary flows within fully lined lagoons designed to have a surface area that would facilitate evaporation of the waste water. Based on an assumed flow of 1,370 gallons per day, published evaporation and precipitation rates for the Hardisty area provided in the Alberta "Private Sewage Systems Standard of Practice 2009", a lagoon surface area of 81,000 square feet would be sufficient to evaporate the annual sanitary sewage flows. Accumulated solids in the lagoons would be periodically removed by licensed haulers.



Upon future decommissioning of the facility, equipment serving the lagoon system (i.e. pumps, piping) would be removed, remaining materials in the lagoons would be pumped and hauled off-site for disposal by a licensed hauler, and the lagoons would be filled with soil, covered in top soil and seeded.

2.4.3 Types of Waste and Intended Disposal

The rail facility is currently in operation and will continue to generate recyclable and non-recyclable solid waste proportionately to the number of staff working at the facility. Staffing is projected to increase from 25 to 35 staff per shift. All wastes will be disposed of according to the Waste Control Regulation and the requirements for each waste classification outlined in the Alberta Waste Users Guide for Waste Managers. Recyclable material will be separated into containers and removed from the site for recycling by a qualified carrier. Non-recyclable domestic waste will be collected on-site and then sent to the county landfill through a licensed carrier. Overall, waste management has been integrated into the existing waste management programs and procedures already developed for the Hardisty Rail Terminal.

During construction, construction debris will be removed from the site by a licensed hauler and disposed at a licensed facility.

No hazardous waste is generated under normal operations. In the event that a spill occurs on the facility, it will be addressed through the spills and containment procedures for the facility and the resulting waste will be disposed through a licensed hauler at a licensed facility. The USD Hardisty facility has been registered as an Alberta hazardous waste consignor in the event that disposal of any hazardous residues is required.

A summary of waste that could be generated by the project and the associated waste management approach is included below:

Table 2-1 Summary of Wastes and Waste Management Methods

Waste Type	Management Method
Domestic Solid Waste, Construction Debris	Contracted Disposal
Recyclables	Contracted Recycling
Hazardous Waste (not normally generated, includes materials contaminated by spills)	Licensed Hauler and Approved Disposal Facility
Septic Waste	Licensed, Contracted Disposal

2.5 Project Phases and Scheduling

2.5.1 Anticipated Scheduling, Duration and Staging of Key Project Phases

Table 2-3 summarizes the anticipated development timelines for the Interim Project expansion as of September 2015.



Table 2-2 Estimated Development Timelines for the Interim Expansion

Task/Milestone	Timeframe
Design / Engineering	October 1, 2015 to December 31, 2015
Approvals / Permitting	October 1, 2015 to November 13 , 2015
Construction Start	January 1, 2016
Construction Completed	May 31, 2016
Operations Commence (start up and commissioning)	May 1, 2016
Modification of Tracks to Phase 2A Configuration	Earliest date: October 1 to December 26, 2016

The decision by USD Terminals Canada to proceed with the Interim expansion, Phase 2 and 2A of the Project will be contingent upon the result of discussions and development of commercial agreements with product shippers. The anticipated dates for the construction and commissioning of the Interim Expansion, Phase 2 and 2A are based upon consideration of the earliest dates when commercial agreements could be in place, and does not currently factor in the time required for an environmental assessment under CEAA 2012 should an assessment be required.

Table 2-3 summarizes the anticipated development timelines for Phase 2 and 2A of the Project as of September 2015.

Table 2-3 Estimated Development Timelines for Phases 2 and 2A of the Project

Task/Milestone	Timeframe
Design / Engineering	September 1, 2014 to October 31, 2015
Approvals / Permitting	September 1, 2014 to October 31 , 2015
Phase 2 Earthworks	January 1, 2016 to August 31, 2016
Phase 2 Construction Start	January 1, 2016 to August 31, 2016
Phase 2 Construction Completed	August 31, 2016
Phase 2 Operations Commence (start up and commissioning)	September 1, 2016
Phase 2A Clearing and Earthworks	February 1 to March 31, 2016
Phase 2A Construction Start	April 1 to December 26, 2016
Phase 2A Construction Completed	December 26, 2016
Phase 2A Operations Commence (start up and commissioning)	December 11, 2016

2.5.2 Main Activities in Each Phase of the Project

Design, Engineering, Approvals and Permitting

Design, engineering, approvals and permitting are ongoing activities, which tend to overlap with the construction of a project. Regulatory approvals are discussed in Section 1.4, and the facility design is described in a number of the preceding sections.



Interim Expansion Construction

The Interim expansion will be constructed on the site of the existing facility, which was previously disturbed during the construction of Phase 1; therefore, site preparation activities will be minimal. No land clearing will be required, and the majority of the site preparation activities will include grading and excavation in previously disturbed areas. Main activities include:

- Developing the three truck access points, one internal from the existing access road and two 'new' access points, one on Range Road 92 in the same location as used for construction access for Phase 1, and one on Township Road 424.
- Development of internal access roads and truck loading areas. The loading area
 for crude oil will be constructed to include perimeter containment to address the
 potential for any spills during truck to rail transload and to prevent any spills from
 travelling down perimeter ditching to the stormwater drainage ponds.
- Constructing new propane loading track adjacent to the west side of the existing loop track for the propane/butane loading area and a new bad order track on the east side of the existing loop track, as the existing bad order track will be reallocated for transloading crude.
- Installing the operator building and electrical supply for the mobile loading rack units.

Phase 2 Construction

The Phase 2 expansion will be constructed on the site of the existing facility, which was previously disturbed during the construction of Phase 1; therefore, site preparation activities will be minimal. No land clearing will be required, and the majority of the site preparation activities will include grading and excavation. Main activities include:

- Installing 30 additional loading positions within the existing loading shed.
- Constructing new loop track adjacent to existing loop track.
- Installing an additional Vapour Combustion Unit to capture and destruct potential vapours when rail cars being loaded.
- Converting the existing septic system. The existing septic holding tank will remain. New piping and a lift station will be installed to direct the sewage to a two-stage lined lagoon system. The lagoons will be excavated and lined with a 60 mil HDPE liner that will be anchored using anchor trenches around the lagoon. Gas vents will be installed around the periphery of the lagoon.

Phase 2A Construction

The proposed development of the expanded loop track for the Hardisty Rail Terminal will require vegetation removal and grading to accommodate the rail track and a new access road. In general, the site will be graded to minimize the amount of earthworks. The access road will be installed through a tunnel under the tracks to the internal area within the loop track. Main activities include:



- Vegetation removal and grading, which will be timed so as to fall outside of the window for migratory breeding bird activity.
- Constructing new loop tracks.
- Modification of tracks constructed for the Interim expansion to the Phase 2A configuration (Figure 3) such that the bad order track will be integrated as part of Track J and the propane/butane loading track would be realigned or removed.
- Constructing two at-grade crossings across Township Road 424 to provide access between the NE and NW 1/4 sections of 23-42-9W4M and the SE and SW 1/4 sections of 26-42-9W4M.
- Installing an integrity return system (a 10,000 bbl tank and steam plant) to facilitate the shipment of both heavy and light crude oil.
- Development of the site drainage including stormwater retention ponds. The proposed site drainage plan is identified in Figures 9 and 11.

Grassed swales will be developed adjacent to the rail tracks to capture excess surface runoff resulting from the grading of the loop track and access road. The overall internal drainage pattern will be modified to ensure that surface runoff is conveyed away from the rail tracks and access road to avoid flooding. A total of fifteen (15) culverts will be installed onsite to convey runoff to retention ponds, which will include both modified existing wetlands and new retention ponds.

A number of erosion and sediment control measures will be established for the duration of construction. These measures include the following:

- Minimize the area exposed at any time.
- Apply soil cover as soon as possible after the soil is disturbed.
- Sediment will be intercepted as close to the source as possible. Proposed sediment controls include the installation of sediment control fences around disturbed areas.
- Provision and installation of erosion blankets/mats, rock check dams and filter logs in ditches and swales.
- Double silt fences with straw bale reinforcing will be installed at the boundary of the remaining existing wetlands to ensure the protection of the wetlands.
- Ensure that sediment control structures are properly constructed, inspected and maintained.

Perimeter fencing will be installed around the Phase 2A expansion to restrict public access.

Interim Expansion, Phase 2 and Phase 2A Operations

The operations of the Interim expansion, Phase 2, and Phase 2A facilities were described in Section 2.3.1. The Interim expansion would operate for as long as possible prior to and during the construction of Phase 2 and 2A. During the latter part of the Phase 2A track construction, the Interim expansion operations would cease, to allow for the modification of the two interim tracks to become part of the tracks required for Phase 2A. There will be no overlap in operations of the Interim and Phase 2A tracks.

Large areas of the site will be re-vegetated following construction of the facility. In these areas, grass will be cut regularly to minimize potential for grass-fires and weed growth, reseeding will be undertaken where required, and spot treatment for weed control will occur as necessary.

The facility (access roads, tracks, buildings, equipment) will be regularly inspected and maintenance will be completed during the operational period as appropriate ensure the safe operation of the facility. USD Terminals Canada employs a preventative maintenance program designed to address all aspects of the facility operations.

USD Hardisty Rail Terminal Decommissioning

The Hardisty Rail Terminal is anticipated to have a minimum operational period of 25 years. At the end of life of the facility, it would be decommissioned in an environmentally sound manner to 'a condition similar to what existed prior to the activity on the land'. This would include removal of tracks and other infrastructure (such as access roads and buildings) and remediation, where necessary.

Unlike many industrial facilities, once the track and buildings are in place, the large majority of the project area is fully vegetated with either the original vegetation or through planting of native grasses and recolonized vegetation which would be largely physically undisturbed during the operational period. Construction of the facility and expansion phases also includes creating new ponds and changing site drainage. At the time of decommissioning, the site would be assessed to determine the best reclamation approach that would cause the least negative effects to the environment. Returning the landscape of the site and site drainage to previous condition has the potential to result in negative effects to habitat on the property which will have been in place for many years. The project developer would not be bound by specific reclamation criteria; however, they may use the 2010 Reclamation Criteria for cultivated lands as guidance and use adjacent lands as a representative control to return the site to an appropriate level of predevelopment condition.

The majority of the top soil that is disturbed during construction of the facility will have been used to revegetate side slopes and other disturbed areas post-construction. Some top soil removed during construction and stored on site, would be used in areas such as the access roads and track alignment to support vegetation growth on reclaimed areas.

It is anticipated that Project decommissioning would take approximately one year.



3 Project Location

3.1 Description of the Project's Location

3.1.1 Coordinates of the Project Site

The Project is located approximately 10 km southeast of the Hardisty area, within the Rosyth Area Structure Plan (ASP), in the Municipal District of Provost #52.

The coordinates of the Project are as follows:

Interim and Phase 2 expansion:

NE/NW ¼ Sections of 23-42-9W4M

Latitude: 52°38'1.8240" N

Longitude: 111°11'32.9928" W

Phase 2A expansion:

SE/SW ¼ Sections of 26-42-9W4M

Latitude: 52°38'29.2020" N

Longitude: 111°11'33.9216" W

3.1.2 Site Plan

Figure 2 illustrates the layout of the existing facility and provides the details regarding the Interim expansion. Figure 3 provides the layout of the existing facility and the Phase 2 and Phase 2A expansions. An artists rendering of the Project is provided in Figure 8.

3.1.3 Maps

Figure 4 indicates the location of the USD Hardisty Terminal, the expansion area, surrounding land use and provides details regarding the location of features located within 5 km (or more) of the Project site including:

- Land use designations based on the Rosyth Area Structure Plan (ASP) (Municipal District of Provost No. 52, 2009). The project is located on lands designated Agricultural Reserve in the Rosyth ASP.
- Lakes and water bodies. The closest off-site (unnamed) water bodies are located approximately 1.5 km to the south east of the Project. The closest major water body is the Battle River, over 6 km to the west of the Project.
- Environmentally sensitive areas and key wildlife and biodiversity areas. The
 Project is located within the Sharp Tailed Grouse Nesting Zone. Spring lek
 surveys were conducted during the breeding season, and no sharp-tailed grouse
 were detected.
- There are no environmentally sensitive areas or key wildlife and biodiversity areas located within 5 km or more of the Project.



- Well sites and pipelines are located throughout the vicinity of the Project including the major oil and gas terminal development just outside of the Town of Hardisty and multiple existing and planned pipelines.
- Historical Resource Value (HRV) sites. No known HRV sites are located on the property. The closest HRV site (HRV 5: believed to contain a historic resource) is located approximately 0.8 km east of the Project.
- Land use and land ownership. The most recent land ownership mapping has been used to identify land-owners within the area of the Project. The Project lands are owned by USD Terminal Canada II ULC. The immediately adjacent lands are privately owned. Crown lands are also identified.

Figure 4 does not include the location of Aboriginal groups as the closest reserves and settlement areas are located over 90 km from the Project.

Figures 12 through 17 identify the location of the Project site in relation to the First Nations communities in Alberta and Saskatchewan, Alberta Métis settlements, Alberta Métis Regions and Saskatchewan Métis Regions.

3.1.4 Photographs of Work Locations

Figures 5, 6 and 7 provide representative photographs that illustrate the work locations for the Interim, Phase 2 and Phase 2A expansions.

3.1.5 Proximity of the Project

Proximity of the Project to Residences

There are 16 private property owners located within 1.5 km of the Interim, Phase 2 and 2A Project site. The nearest residence is located approximately 0.6 km southeast from the existing Hardisty Terminal buildings, on the south side of Hwy 13.

Proximity of the Project to Traditional Territories

The Project is located within the area of Treaty 6. It is located approximately 89 km from the closest First Nation reserve, Poundmaker Indian Reserve No. 114-6A3 to the east across the Saskatchewan border (Figures 12 and 14) (Aboriginal Affairs and Northern Development, 2009). The closest First Nation reserves within Alberta are the Saddle Lake Cree Nation and Frog Lake First Nation located approximately 140 km to the west of the Project (Aboriginal Affairs and Northern Development, 2014). The project is located within Métis Nation of Alberta Region 2. The closest Métis Region in Saskatchewan is the Western Region 1a North Battleford. The closest Métis Settlement Area is the Elizabeth Settlement Area in Alberta.

USD Terminals Canada has reviewed the public records available on-line for other energy developments in the Hardisty Area and near the Project location, to identify if traditional or current land-use or occupancy has been identified in proximity to the Project location. Some Aboriginal communities have identified sites and areas of interest west of Hardisty including spiritual/historical sites or plant and wildlife sites. Heritage resource sites have been identified in the Battle River Valley just to the east of Hardisty, of interest to a number of Aboriginal Communities (Figure 4), The Battle River lies approximately



7.5 km to the west of the USD Terminals Canada Project location. To-date, no information has been identified that indicates that there is traditional or current land-use or occupancy within or in the immediate vicinity of the Project location which is approximately 10 km east of Hardisty.

Proximity of the Project to Federal Lands

The closest large block of federal land to the Project is Canadian Forces Base (CFB) Wainwright, located approximately 30 km to the northeast. Elk Island National Park is located approximately 35 km east of Edmonton, and approximately 150 km to the northwest of the Project. The Project is not anticipated to result in any changes or effects to federal lands.

3.2 Land and Water Use

3.2.1 Zoning Designation and Land Use Plan

The Project lands are located within the Municipal District of Provost #52 Agricultural District per Land Use Bylaw No. 2157 (amended 2010), and are included under the Rosyth Area Structure Plan (Rosyth ASP) (Municipal District of Provost No. 52. 2009). Within the Rosyth ASP, the subject lands are designated as "Agricultural Reserve". Discretionary uses identified for lands designated as "Agricultural Reserve" within the Rosyth ASP include "Natural Resource Processing". This is defined in the Rosyth ASP as "the processing, storage and transmission of natural resources, including oil and gas, peat, metallic and non-metallic minerals (such as sand, gravel, coal, limestone, gypsum, granite and salt)". The USD Hardisty Rail Terminal facility is classified as Natural Resource Processing.

The Municipal District of Provost #52 (MD of Provost) Municipal Development Plan defers to the Rosyth ASP for land use provisions per Bylaw 2202 (2009). The MD of Provost has approved and issued Development Permits for Phase 1 and the proposed Phase 2 and 2A developments. An application will be submitted for the Development Permit for the Interim Expansion.

3.2.2 Legal Land Description

The existing Hardisty Rail Terminal, site for the Interim and Phase 2 expansion is located on part SW, and the NE and NW ¼ sections of 23-42-9W4M. The Phase 2A expansion would extend the facility to the SE and SW ¼ sections of 26-42-9W4M.

The surface rights for the lands involved in the Interim, Phase 2 and 2A expansions are owned by USD Terminals Canada II ULC. Leases for the mineral rights have reverted back to the crown. The land and mineral titles are available.

As noted in Section 1.4.2, Water bodies have been identified in Phase 2 and 2A for which an application to the AEP (formerly the AESRD) for confirmation of a Crown claim of ownership has been submitted. It is anticipated that the five Class IV wetlands in Phase 2 and 2A which will be affected by the Project will be found to be Crown claimable. Pending the decision from the AEP, an application for a License of Occupation through the AER will be submitted for these wetlands.



3.2.3 Land and Water Use

The Project falls within the area covered by the Rosyth Area Structure Plan (Rosyth ASP) and the Municipal District of Provost #52 (MD of Provost) Municipal Development Plan. No details are available regarding the level of public consultation undertaken during development of these plans. No other land use, water use (including ground water), resource management or conservation plans are applicable to or near the Project site.

3.2.4 Traditional Land Use

The Project occurs in an area that includes current and historical agriculture and oil and gas activities. No HRV's occur within the Project site and there are no known traditional use claims on or in the immediate vicinity of the Project site which have been identified to-date. The MD of Provost No. 52 provides access to some historical records of settlements in the hamlet of Rosyth and the surrounding areas including the Project site. Records indicate agricultural homesteading on the Project site and surrounding area dating back to 1905 when the area was surveyed and the first noted settlers arrived (Farm Women's Union). The CP Rail line through the area was developed shortly thereafter. The Project lands have been in private land tenure and agricultural production for both field crops and grazing, for generations, based on the tenancy of the families that owned the properties prior to acquisition by USD Terminals Canada. The private land tenure and agricultural land use would appear to limit the possibility of traditional activities being practiced on the Project lands in recent history.

The Project does not require access to, use or occupation of, or the exploration, development and production of lands and resources that have been publicly identified at this time as being used for traditional purposes by Aboriginal peoples.

4 Federal Involvement

4.1 Federal Financial Support

There is no proposed or anticipated federal financial support that federal authorities are, or may be, providing to support the carrying out of the Project.

4.2 Federal Lands

No federal lands will be used for the purpose of carrying out the Project, including easements, right of ways, or transfers of ownership.

4.3 Federal Legislative Requirements

No other federal permits, licences or other authorizations are required to carry out the Project.



5 Environmental Effects

5.1 Physical and Biological Setting

The Hardisty Rail Terminal is located within the Rosyth Area Structure Plan, in the Municipal District of Provost #52. The rail terminal and the proposed expansion area are approximately 10 km southeast of Hardisty, Alberta. The proposed Project occurs within the Eastern AB Plains physiographic region, and falls within the Aspen Parkland Region and Central Parkland sub-region (Natural Regions Committee, 2006). Land uses within the Central Parkland sub-region are dominated by oil and gas uses, grazing and cultivated cropland. Vegetation, in general, is comprised of patches of aspen clones interspersed with open grassland dominated by plains rough fescue. No *Environmentally Significant Areas of Alberta* occur within the vicinity of the Project (Fiera Biological Consulting, 2014).

The Interim and Phase 2 expansions will be carried out on the existing facility site south of Township Road 424 on the NE and NW 1/4 sections of 26-42-9W4M. The Phase 2A expansion includes additional lands located at the northeast corner of Range Road 92 and Township Road 424, on the SE and SW 1/4 sections of 26-42-9W4M. The additional lands included in the proposed Phase 2A expansion area are approximately 320 acres in size. The site is bordered by cultivated cropland to the north, cattle rangeland to the east, Township Road 424 to the south, and Range Road 92 to the west.

The eastern portion of the Phase 2A Project site is currently being used for cattle grazing. The topography is rolling, with high points and low points dotting the entire site. The western portion of the Phase 2A Project site is cultivated and most recently producing canola. The topography is relatively flat. Two Penn West well sites are located within both the SE and SW ¼ sections of 26-42-9W4M, and an abandoned farmstead and associated outbuildings is located approximately midway along the southern boundary of the Project site along Township Road 424. In addition to the open grassland areas that are being grazed and active crop production on the Project site, there are copses of aspen and shrubs. Typical shrub species in the region include: saskatoon, prickly rose, beaked hazelnut, hay sedge, creeping juniper, and a variety of forbs and grasses.

The Project site is underlain by deposits of Quaternary age glacial ice contact, moraine, and advance outwash deposits. Groundwater was generally not observed except in one borehole location at approximately 9 m below ground indicating that the static groundwater table may be located relatively deep at the site.

Drainage in the Project site is characterized by numerous localized depression areas which form wetlands with temporary or permanent water features, depending on the contributing catchment, overland flow from upstream areas and the potential spill elevations. Overland runoff is being stored on-site within the localized depression areas, and that surface runoff is infiltrated to the underlying aquifers and depletes over the season through evaporation and evapotranspiration.

In the Interim and Phase 2 expansion area south of Township Road 424, there is one very small Class IV wetland along the north edge of the property which is not affected by the Interim or Phase 2 expansions. This wetland is a closed system and is not fish

bearing. The drainage features within the Interim and Phase 2 area have been developed as part of the existing facility and require minimal modification. These features were designed as a closed system and do not direct any drainage off of the property. The small Class IV wetland would be modified as part of the Phase 2A expansion (Figure 9).

Figure 10 provides an overview of the current drainage pattern in the Phase 2A expansion area north of Township Road 424. The majority of the Phase 2A expansion area, 316 acres, directs overland flow to depression areas or wetlands within the site. Approximately 1 acre of the site drainage area directs overflow to the properties adjacent to the east of the Project site. North of the site, approximately 11 acres of external drainage area directs flows into the depression areas within the site. In total, the Phase 2A expansion area is divided into 43 subcatchments based on each depression area and existing wetlands (Figure 10). All wetlands within the Phase 2A expansion area were classified as Class I-IV (ephemeral, temporary, seasonal or semi-permanent). All wetlands on the site have been affected by anthropogenic activities such as cattle grazing and agricultural production. The wetlands occur within a closed system and are not connected to fish-bearing water bodies and are not fish bearing. Impacts to wetlands will be mitigated at a ratio of 3:1 through agreement with Ducks Unlimited Canada. Mitigation funds will be provided to reclaim wetlands at a suitable location(s) away from the Project site within the Province of Alberta in accordance with Provincial guidance.

A general field survey and literature review was completed to address the potential presence of species identified under the *Species at Risk Act* (SARA), and the Alberta *Wildlife Act*. The field assessment did not identify any suitable habitat for species listed as threatened or endangered. No wildlife areas or migratory bird sanctuaries were located on or near the site.

The AEP (formerly AESRD) listed three sensitive species as having potential to occur on the Project site: Least Flycatcher, Sora and Swainson's hawk. In addition, Abadata showed the Project site is located within Sharp-tailed Grouse habitat. Spring lek surveys were conducted in 2015 during the breeding season, and no sharp-tailed grouse were detected. Wildlife observations in October 2014 included song birds, stick nests, ungulate tracks and fur-bearing mammals. One species of conservation concern from the Alberta Sensitive Species list was observed, the Northern Harrier. No fish were observed. No sensitive or at-risk species were observed on the Project site during site visits.

Database searches yielded no occurrences of sensitive or non-sensitive plant species. Vegetation species observed included native, non-native and invasive species indicative of wetland or wet soil conditions.

Water quality was measured in four of the wetlands on the Project site as part of the wetland assessment. The parameters measured (pH, temperature, electrical conductivity, total dissolved solids, oxidation reduction potential, dissolved oxygen, salinity and turbidity) were within the relevant surface water quality guidelines, for those parameters where a value has been identified in the *Environmental Quality Guidelines* for Alberta Surface Waters.



Changes Predicted as a Result of the Project 5.2

5.2.1 Fish, Fish Habitat, as Defined in the Fisheries Act

A field survey and a wetland assessment determined that no fish habitat occurs within the Project site. The Project falls within the Prairie Pothole region of Alberta. These potholes are depressions/wetlands that collect water; although they play an important role in groundwater recharge, they are not connected to each other and often ephemeral. Because of their lack of connection, they are, as noted in Section 5.1, part of a closed system and are not fish bearing. Because wetlands within the Project site are not connected to fish-bearing water bodies the Project is not anticipated to have an effect on fish or fish habitat as defined in the Fisheries Act.

As per the Stormwater Management Guidelines for Province of Alberta, water quality control is required to treat stormwater runoff due to the potential contamination from the rail tracks and access road activities. Approximately 99.6% of the site runoff will be retained on-site for infiltration and evapotranspiration within the proposed retention ponds and wetlands (Figure 11). Runoff from the rail tracks and access roads will be captured via shallow sloped swales for conveyance. The conveyance grassed swales adjacent to the rail tracks will provide initial water quality treatment. The conveyance swales have shallow channel slopes that direct flows into the retention ponds. Based on the AESRD's, Part 5 Stormwater Management Guidelines, retention ponds have the capability to remove soluble and solid pollutants. In addition, proposed retention ponds and remaining wetlands provide potential benefits for aquatic and vegetation habitat and groundwater recharge. Short term impacts to aquatic vegetation will occur where Class III or Class IV wetlands will be modified. No change in surface water quality is anticipated as a result of this project.

There were no aquatic SAR observed onsite or that are known to occur within the Project site.

5.2.2 Marine Plants, as Defined in the Fisheries Act

There are no marine environments in proximity to the Project location and therefore no impacts are anticipated to marine plants.

5.2.3 Migratory Birds, as Defined in the Migratory Birds Convention Act, 1994

A general field survey was completed to address the potential presence of species identified under the federal Migratory Birds Convention Act, 1994 (MBCA). The field assessment did not identify any suitable habitat for migratory species listed as threatened or endangered. Habitat for species protected under the MBCA occurs within the project site; however, species specific surveys were not conducted since impacts to migratory bird species will be avoided by clearing vegetation outside of the breeding bird nesting season. If vegetation removal is not completed outside of the nesting/breeding season, a pre-vegetation clearing survey will be conducted to flag and avoid the location of nests of species protected under the Act.



Migratory bird species, such as red-winged blackbirds, were observed nesting in vegetation adjacent to wetland areas. A loss of nesting habitat will occur when vegetation is removed; however, breeding birds will not be interrupted during their nesting period. Potential habitat occurs on lands adjacent to the project area.

As discussed in Section 2.4.2 and 5.2.1 above, the stormwater management system will manage essentially clean stormwater, replicating the current surface water flow regime on the Project site. It is anticipated that following completion of construction of the facility, migratory birds will make use of the surface water ponds similar to their current use of habitat on the Project site. No change in surface water quality is anticipated.

5.3 Potential Changes to Federal Lands

The closest large block of federal land to the Project site is Canadian Forces Base (CFB) Wainwright, located approximately 30 km to the northeast. The next closest major block of federal lands in proximity to the Project site is Elk Island National Park, located approximately 35 km east of Edmonton, and approximately 150 km to the northwest.

There are no anticipated changes to the environment, as a result of carrying out the designated project on federal lands, in a province outside of Alberta, or outside of Canada.

5.4 Predicted Effects on Aboriginal Peoples

No First Nation or Métis communities occur in the area surrounding the Project Site. Todate, no information has been identified that indicates that there is traditional or current land-use or occupancy within or in the immediate vicinity of the Project location. The effects of the Interim expansion, and Phases 2 and 2A will be similar to impacts from the construction and operation of the existing rail terminal, with minimal short term effects on plants and wildlife on the Project Site and no identified off-site effects.

The Project is located within the area of Treaty 6. It is located approximately 89 km from the closest First Nation reserve, Poundmaker Indian Reserve No. 114-6A3 to the east across the Saskatchewan border (Figures 12 and 14) (Aboriginal Affairs and Northern Development, 2009). The closest First Nation reserves within Alberta are the Saddle Lake Cree Nation and Frog Lake First Nation located approximately 140 km to the west of the Project (Aboriginal Affairs and Northern Development, 2014). The project is located within Métis Nation of Alberta Region 2. The closest Métis Region in Saskatchewan is the Western Region 1a North Battleford. The closest Métis Settlement Area is the Elizabeth Settlement Area in Alberta.

The Project will not require access to, use of or the exploration, development and production of resources or lands that have been publicly identified at this time as being used for traditional purposes by Aboriginal peoples. To-date, no information has been identified that indicates that there is traditional or current land-use or occupancy within or in the immediate vicinity of the Project location. The private land tenure and agricultural land use limit the possibility of traditional activities being practiced on the Project lands in recent history.



Description of a Designated Project Hardisty Rail Terminal Expansion (Interim, Phase 2 and 2A)

> The Project is not anticipated to have an effect on the health or socioeconomic conditions of Aboriginal peoples due to the distance of the Project from First Nations reserves, Métis communities, resources and lands used for traditional purposes.

A search of Alberta Culture and Tourism's listing of HRV sites was conducted. No HRV's sites occur within the Interim expansion, Phase 2 or 2A project areas, and the closest site (HRV 5: believed to contain a historic resource) is located approximately 0.8 km east of the Project.

No Aboriginal consultation activities, other than consultation with the ACO were conducted as it relates to municipal approvals, provincial approval of the industrial railway, and AER licensing due to the absence of First Nation or Métis communities within 75 km of the Project. Consultation with the ACO is in progress as a requirement of the Water Act approval and License of Occupation application needed for the wetland modifications on the Project site. Further consultation will occur if ACO consultation identifies any concerns from communities contacted during initial consultation.



6 Engagement and Consultation with Aboriginal Groups

No consultation has been undertaken with Aboriginal peoples regarding this Project todate as it relates to municipal approvals, provincial approval of the industrial railway, and AER licensing:

- Approvals were not required from AEP (formerly Environment and Sustainable Resource Development) as the Project is being developed on lands owned by USD Terminals Canada;
- Alberta guidance (AESRD) for First Nation and Métis consultation and decisions and guidance provided by the Alberta Aboriginal Consultation Unit indicated that First Nation consultation would not be required – given the distance to any First Nation reserves or Métis communities and considering potential impacts to crown land and as this land has no recognized historic resource value potential.

It is anticipated that Class IV wetlands within the Project site will be claimed by the Crown. Pending a determination of crown claimability of wetlands that will be affected by the Project, and initiation of the Land Disposition Application through the AER related to those wetlands will require an assessment of the need for consultation with Aboriginal groups. A request for a pre-consultation assessment has been initiated through the Aboriginal Consultation Office (ACO) to determine if First Nations Consultation for the *License of Occupation & Water Act* approvals will be required.

In the event that consultation with Aboriginal groups is required and/or if an Aboriginal group self-identifies and indicates interest in the Project, a Consultation Plan will be developed to ensure that open and meaningful communication and engagement is established between all involved parties. The Aboriginal Consultation Plan will identify the processes and approaches used to share, collect and provide feedback on the Project. Dialogue with Aboriginal peoples would help in determining the level of interest in the Project and any potential need to address accommodation of that level of interest.

Table 6-1 identifies the First Nation and Métis communities located in proximity to the Project Site and their approximate distance from the rail terminal. Figures 12 to 16 show First Nation and Métis communities within 150 km of the Project Site, and the location of Alberta and Saskatchewan First Nation and Métis communities.

Table 6-1 First Nation and Métis Communities Located in Proximity of Project Site

Province	First Nation or Métis Community	Approximate Distance to Project
Alberta	Samson Cree Nation	150 km
	Ermineskin Cree Nation	155 km
	Onion Lake Cree Nation (sits on Alberta/Saskatchewan border)	145 km
	Montana First Nation	160 km
	Louis Bull Tribe	160 km
	Alexander First Nation	>200 km



	Siksika First Nation	>250 km
	Stoney Nakoda First Nation	>300 km
	Saddle Lake Cree Nation	150 km
	Whitefish Lake First Nation #128	180 km
	Frog Lake First Nation	135 km
	Métis Nation of Alberta Region 2 (Central Eastern Alberta)	Project area located within Region
	Métis Nation of Alberta Region 3 (Southern Alberta)	Project area located 6 km north of boundary
	Métis Nation of Alberta Region 4 (Central Western Alberta)	Project area located 90 km east of boundary
	Lac Ste. Anne Métis	270 km
	Tsuu T'ina Nation	270 km
	Foothills Ojibway First Nation	Not a status First Nation, therefore no reserve lands
	Chipewyan Prairie Dene First Nation	230 km
	Fort McMurray First Nation	415 km
	Paul First Nation	230 km
Saskatchewan	Poundmaker Indian Reserve No. 114-6A3	89 km
	Poundmaker Indian Reserve No. 114	150 km
	Little Pine First Nation	110 km
	Onion Lake Cree Nation (sits on Alberta/Saskatchewan border)	145 km
	Métis Nation – Saskatchewan Western Region la (closest point)	60 km
	Métis Nation – Saskatchewan Western Region IIa (closest point)	80 km

As appropriate, information would be provided primarily in the form of personal contact by telephone and face-to-face meetings, with the Aboriginal community and any other parties identified by the community who would have an interest in the Project. Notification and documents would be issued via registered mail packages. Documentation provided would include any public information related to the Project of interest to the community. In addition, email, telephone and the USD Terminals Canada website would be used to ensure that information is accessible to all parties.

Through in person discussion, USD Terminals Canada would gather feedback and assess the needs of the community for information, engagement and potential accommodation. USD Terminals Canada would consider all matters raised in discussion, and would identify the appropriate approach to address these matters, which would be



subject to additional discussion and confirmation with that aboriginal community. The appropriate approach will vary; it could include providing additional information, undertaking additional studies/investigations, modifications of the design of the project or another form of accommodation.

USD Terminals Canada would maintain a record of all documentation issued and feedback received through all forms of contact as well as the approaches identified to address matters raised during engagement with Aboriginal communities.

7 Consultation with the Public and Other Parties

7.1 Stakeholders and Related Consultation Activities

7.1.1 Potentially Affected and Interested Stakeholders

Non-Aboriginal stakeholders identified by USD Terminals Canada who may be potentially affected and/or have an interest in the Project are summarized in Table 7-1.

Table 7-1 Stakeholders Potentially Affected by or Interested in the Project

Federal	Canadian Environmental Assessment Agency
Provincial	Alberta Energy Regulator (AER)
	Alberta Environment and Parks (AEP) (formerly Alberta Environment and Sustainable Resource Development [AESRD])
	Alberta Transportation
	Ducks Unlimited Canada (in its role as the Agency responsible for wetland mitigation in Alberta)
Municipal	Municipal District of Provost #52
	Town of Hardisty
Local Landowner, Occupants and Residents	Landowners, occupants and residents located within 0.5 km of the Project site
	Landowners and occupants located within 1.5 km of the Project site
Utilities, other	Canadian Pacific Ltd.
	Natural Gas Co-op 52 Ltd.
	Penn West

7.1.2 Overview of Stakeholder Consultation Activities to Date

Consultation/Public Disclosure for Phase 2 and 2A of the Project was combined, and included the following:



- Issuance of AER Information Package: An information package pursuant to the AER
 Directive 56 requirements was issued to all landowners and occupants located within
 1.5 km of the Project site (loading rack) as well as local and provincial authorities on
 February 9, 2015.
- Landowner Contact by Telephone: Telephone contact was made with individuals on the Tract Activity list to confirm contact information. Additional calls (personal consultation) were made to individuals residing to the north and south of the Project, including individuals with property located within 0.5 km of the Project site (loading rack), to discuss the Project and to arrange face to face meetings as appropriate.
- Meetings with Landowners: Face to face meetings were held with two landowners, one within 0.5 km of the Project site (loading rack), and with one landowner adjacent to the north expansion area, but not within 0.5 km of Project site. Offers were made to other landowners.
- Open House held February 25th, 2015: A meeting was held on February 25th in the Town of Hardisty, at the Hardisty Community Hall. A notice was issued to all landowners and occupant located within 1.5 km of the Project site as well as local and provincial authorities. This notice was also published in local newspapers. A total of 22 attendees signed-in at the door. Two comment sheets regarding the Project were received from attendees.
- Mail-out #2 April 7th, 2015: On April 7th, 2015, an updated Frequently Asked
 Questions document was mailed out to all landowners and occupants located within
 1.5 km of the Project site as well as local and provincial authorities. The updated
 document included clarification on questions heard at the open house, including
 information on how the level crossing would be designed and operated to mitigate
 delays for vehicle passage on Township Road 424.
- Request for Confirmation of Non-Objection April 8th, 2015: On April 8th, 2015, a
 request for confirmation of non-objection was mailed to the three landowners within
 0.5 km of the Project site, along with a self-addressed stamped envelope. As of
 June 3, 2015, follow up contact has been made with these individuals. USD
 Terminals Canada is awaiting written or verbal confirmation of non-objection. No
 objections or statements of concern have been received.
- Consultation with regulatory authorities by telephone and/or in person, including the Municipal District of Provost #52, Alberta Transportation and the AER.

Consultation with the AER has indicated that consultation is not required under Directive 056 for the Interim Expansion, as the extent of the Interim expansion is contained within the footprint of Phase 2/2A and as the proposed activity is exempt from requiring a license from the AER.

7.2 Key Comments and Concerns Expressed by Stakeholders

Comments raised in discussion with landowners regarding the Project related to:



- The removal of topsoil and fence during Phase 1 construction, which has been resolved through seeding of the area and compensation for the expense of restoring the fence;
- Noise and light impacts, which have been addressed through the facility design and proposed operational plans, as noted in the Project information issued through the two mail-outs.
- Access and potential delays along Township Road 424 as a result of the at-grade train crossings, including potential delays to emergency vehicles and what might happen if they were delayed by a train blocking Township Road 424 and the need to ensure farm access for those in the area. These comments were addressed through the provision of Project information including specific details regarding the operation of the at-grade train crossings.

Comments provided at the open house regarding the Project included:

- Positive comments regarding employment opportunities and the facility operations;
- Whether residents in proximity to the facility would be able to subdivide their property into smaller residential lots, an issue which is unrelated to the Project and more specific to the provisions of the Rosyth Area Structure Plan under the jurisdiction of the Municipal District of Provost #52; and,
- Comments about how traffic and potentially emergency vehicles may be impacted if a train is blocking Range Road 424 at the proposed at-grade crossing(s). A second information mail out was prepared to address the questions regarding operation of the at-grade crossings. In addition, USD Terminals Canada has voluntarily proposed the use of lighted signage at key intersections on Township RD 424 to provide advanced warning of that the at-grade crossings ahead may be occupied by a train, signage which is not warranted under the provincial requirements for industrial railways.

7.3 Consultation with Other Jurisdictions

USD Terminals Canada and its representatives have held multiple meetings and/or teleconferences and email contact with applicable regulatory authorities. In summary this has included:

- The Municipal District of Provost #52 was consulted to confirm details and requirements for approval of the Approach Consents, Development Permit and Level Crossing Agreement for the facility. Items addressed in these discussions included:
 - Agreement to harden the surface of Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424. USD Terminals Canada agreed to cover the cost of this work.



 Agreement for the installation of the two at-grade crossings, including allocation of responsibility for construction and operation, and the lighted signage at two intersections as noted above.

There was no public attendance or comments at the advertised public meeting in regards to the applications which received unanimous approval by Council. USD Terminals Canada will continue to engage the municipality during the construction of the expansions and in other supporting activities such as the updates to the facility Emergency Response Plan.

- Ducks Unlimited Canada was contacted to discuss wetland mitigation options and process.
- The AER was consulted to discuss the crown claim of bed and shore of Class III
 and IV wetlands and disposition process (License of Occupation) as well as the
 Water Act approvals. The AER was also consulted to confirm the licensing
 requirements for the facility under Directive 056.
- The AEP was consulted regarding need and protocol for sharp-tailed grouse surveys.

There are no unresolved matters regarding the Project and these authorities.

7.4 On-going or Proposed Consultation Activities

Outreach with local residents will continue in order to maintain good relations within the community. USD Terminals Canada encourages an open-door policy with local property owners if they have any questions or concerns.

Specific planned outreach measures for the public and regulatory authorities include:

- Pre-construction notification to the MD of Provost and local residents;
- USD will update the Emergency Response Plan for the facility and will continue
 to communicate with the MD of Provost Emergency and Fire department
 contacts. USD recently arranged for and held training with local fire officials on
 how to address fires on rail cars, and will continue to look for training
 opportunities that could benefit the local community.
- USD Terminals Canada has engaged with officials from Alberta Energy, Market Diversification and International Policy group to demonstrate how crude to rail operations function.
- USD Terminals Canada has been engaged to provide feedback to the Alberta Energy Regulatory Review of Transloading Facilities, which is currently underway.
- USD Terminals Canada will proceed with the development and implementation of an Aboriginal Consultation Plan to engage with any Aboriginal groups that may be identified with as part of the ACO process, or who identify themselves during the Project Description review process.



8 References

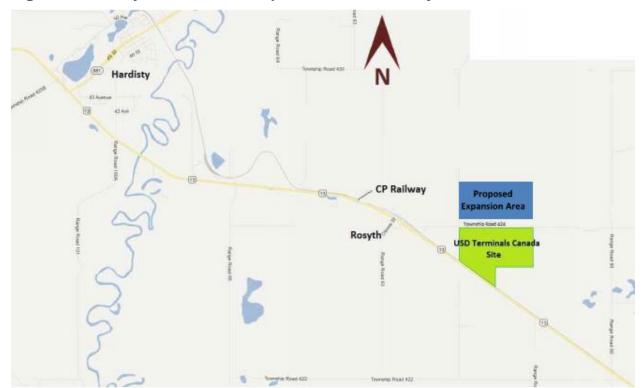
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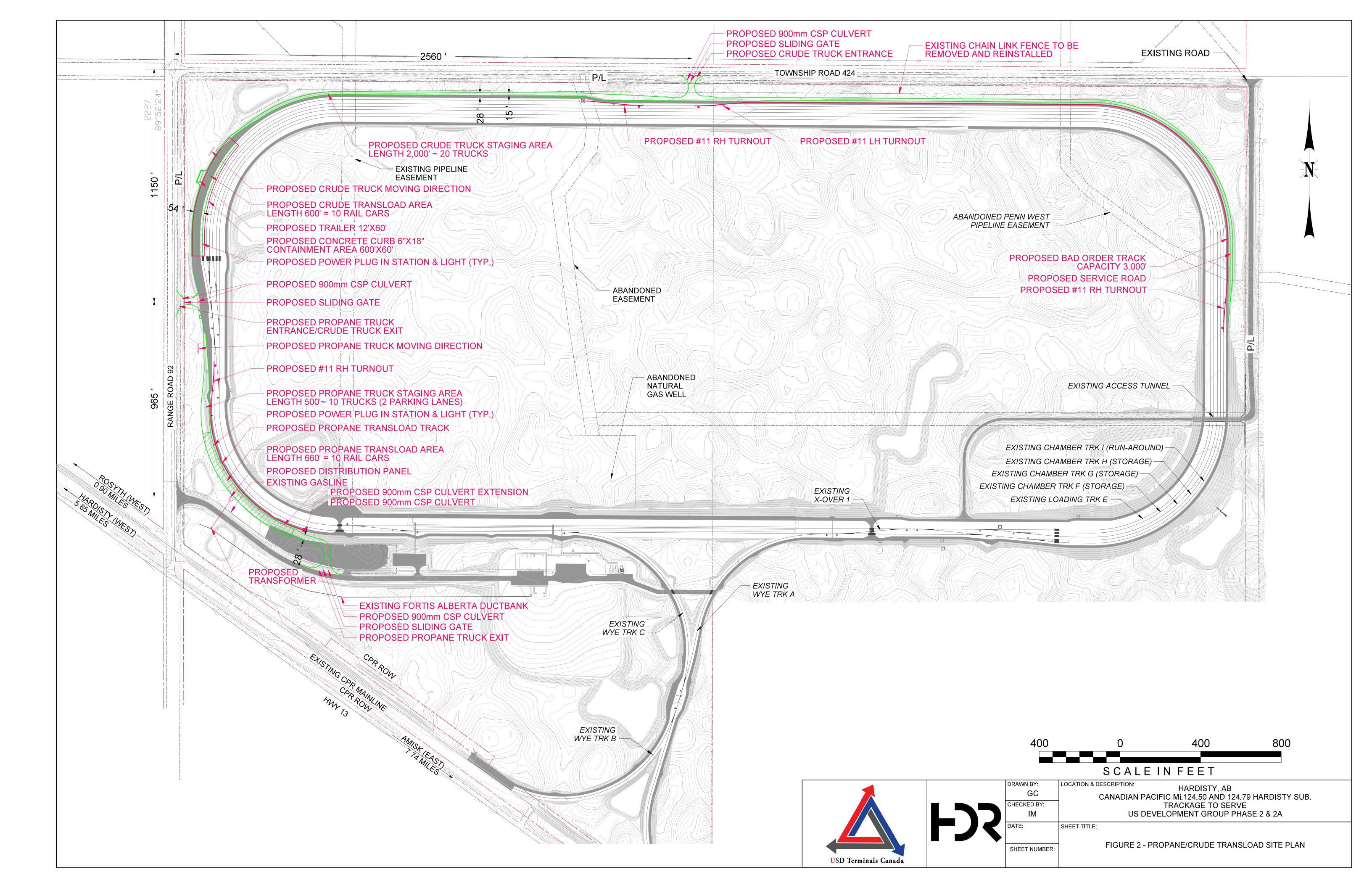
Attachment 1: Figures

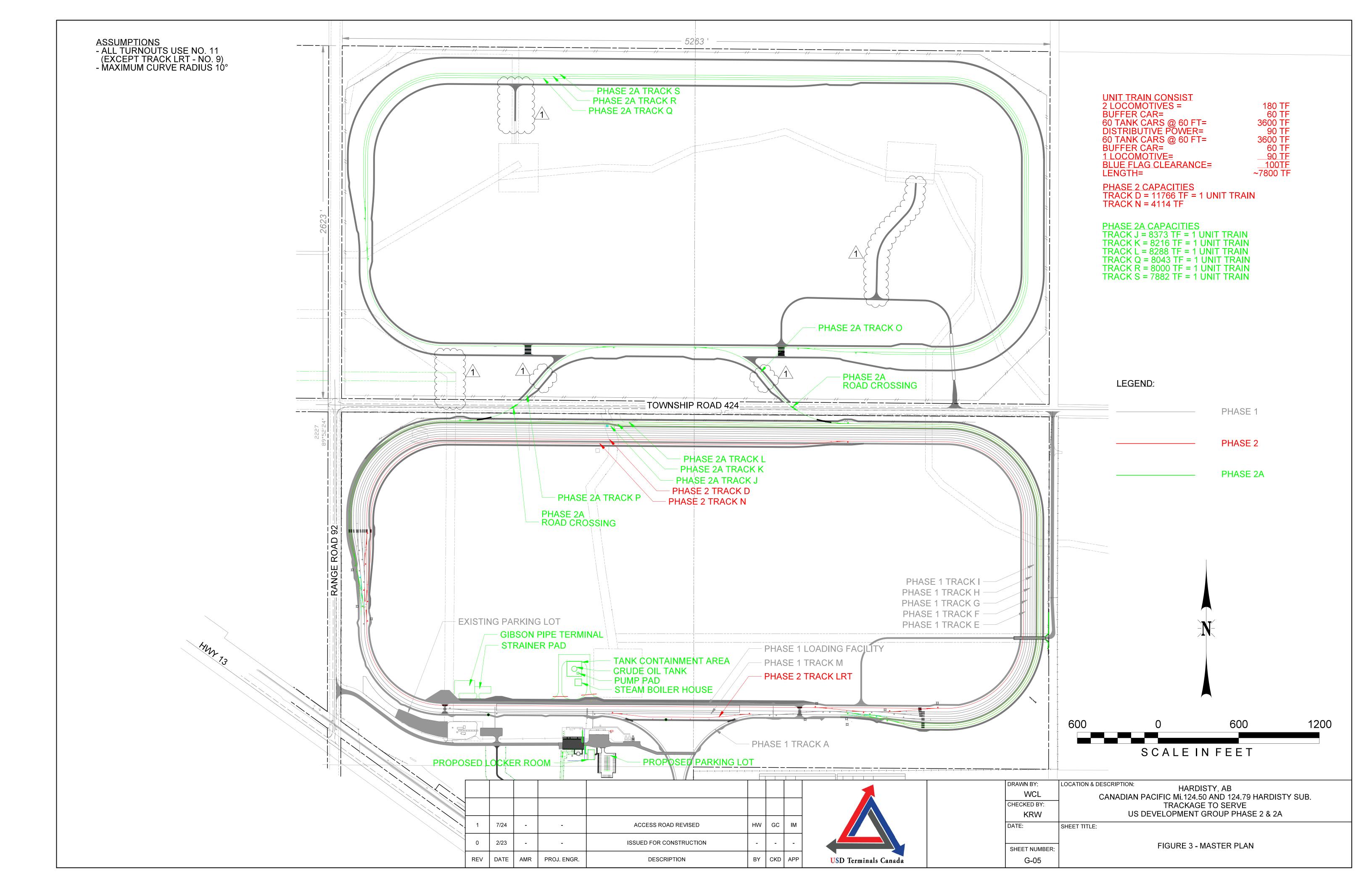


Figure 1 Hardisty Rail Terminal Expansion General Project Location












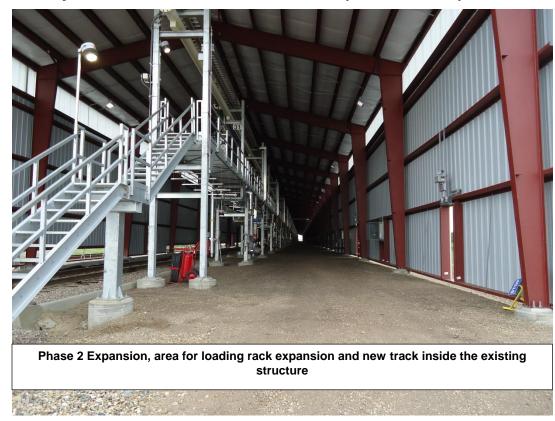
Figure 5 Hardisty Rail Terminal: Overview of Landscape, Interim Expansion

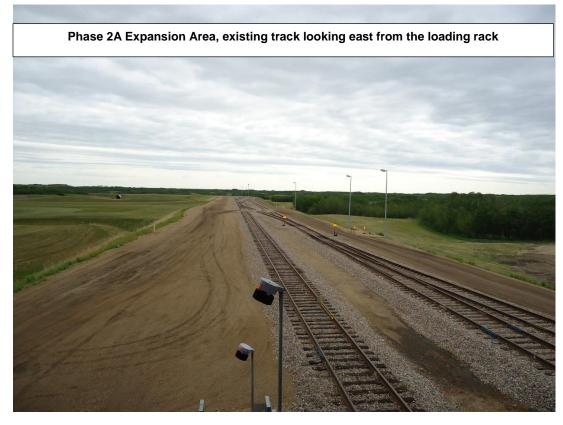


Interim Expansion Area (photo looking southeast from the intersection of Range Road 92 and Township Road 424)



Figure 6 Hardisty Rail Terminal: Overview of Landscape, Phase 2 Expansion







Phase 2 Expansion Area, Interior of Loop Track, Looking west towards the Loading Facility





Figure 7 Hardisty Rail Terminal: Overview of Landscape, Phase 2A Expansion









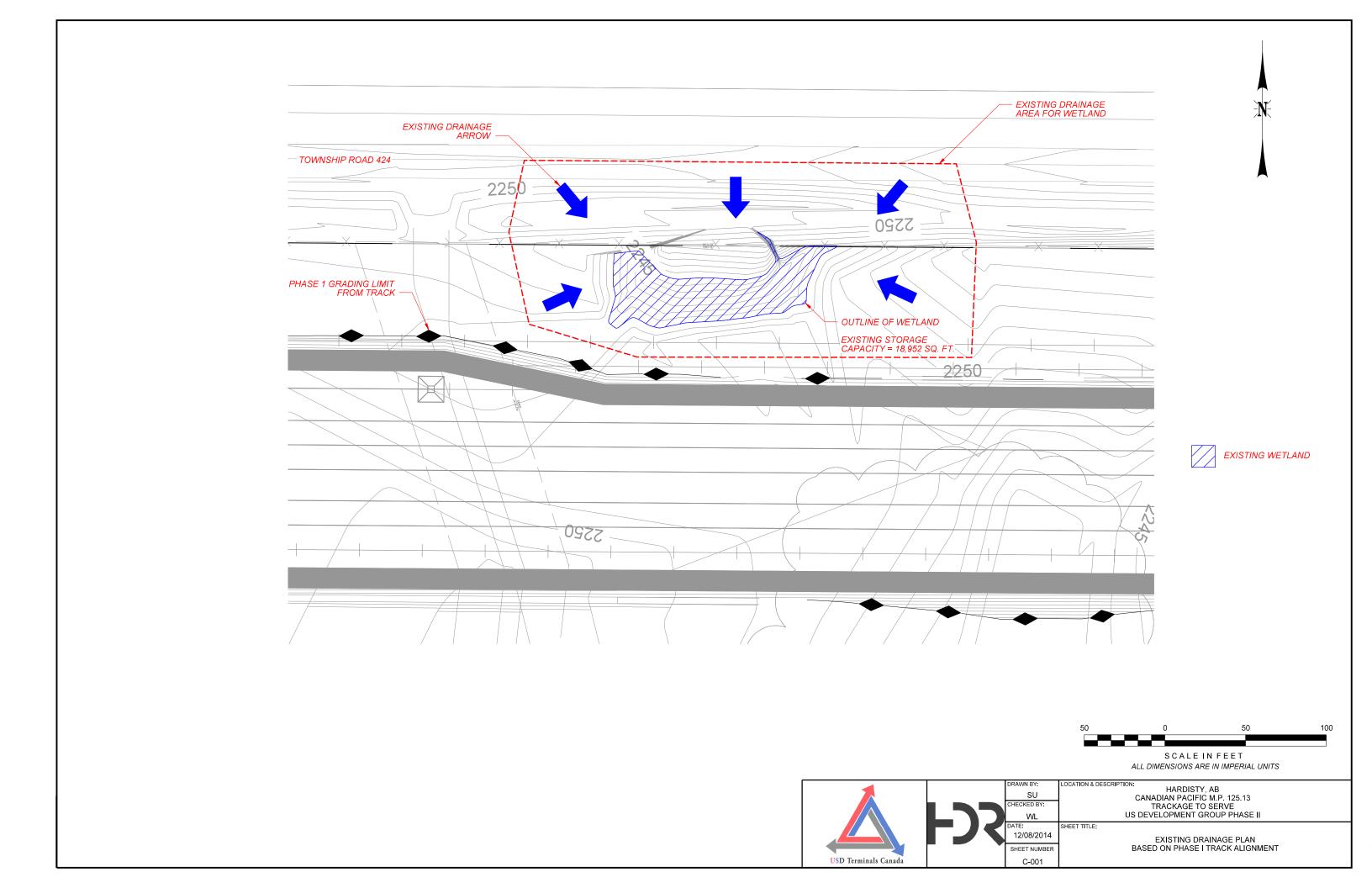
Phase 2A, Location of West Level Crossing, Looking East on Township Road 424

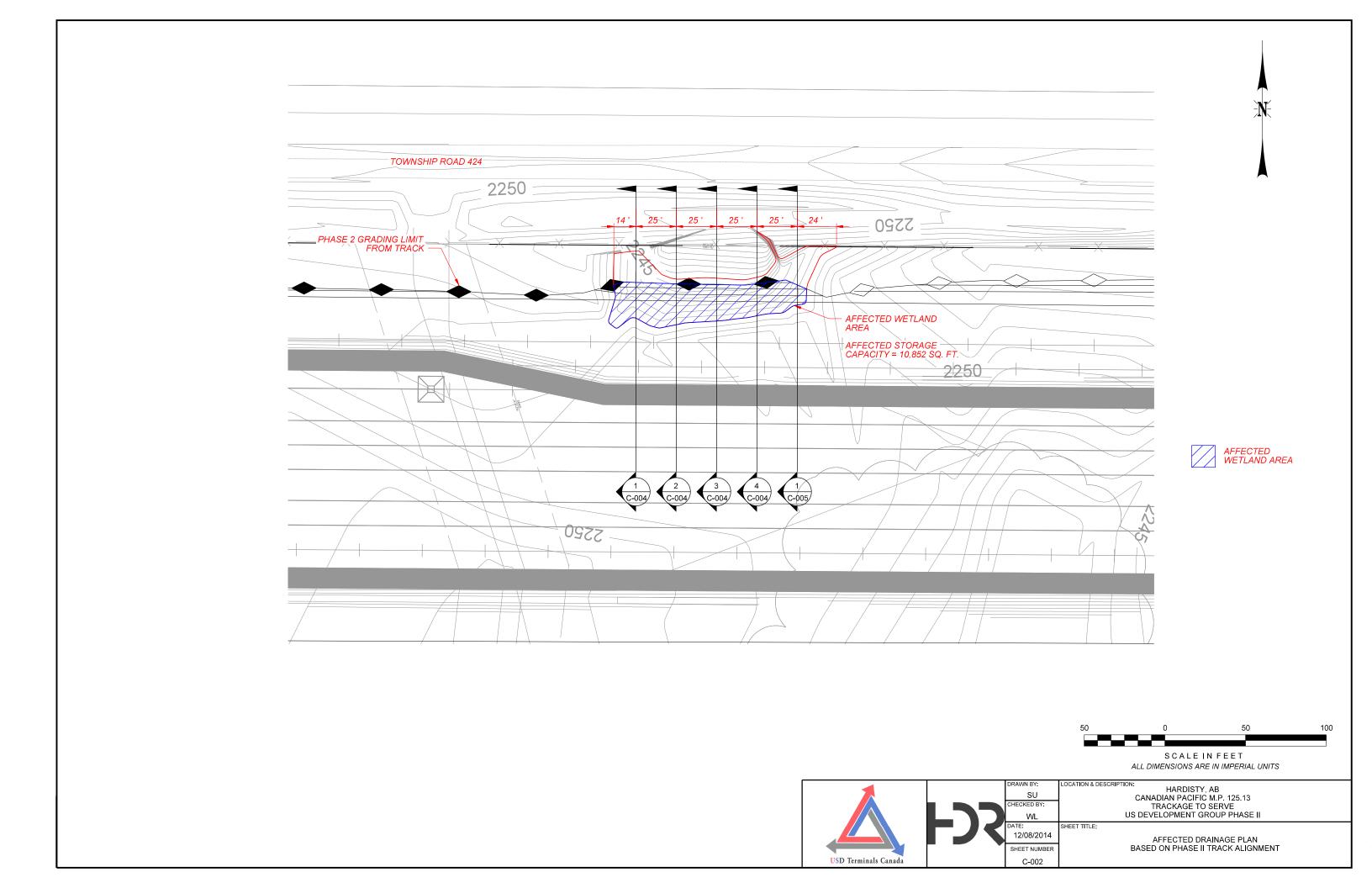


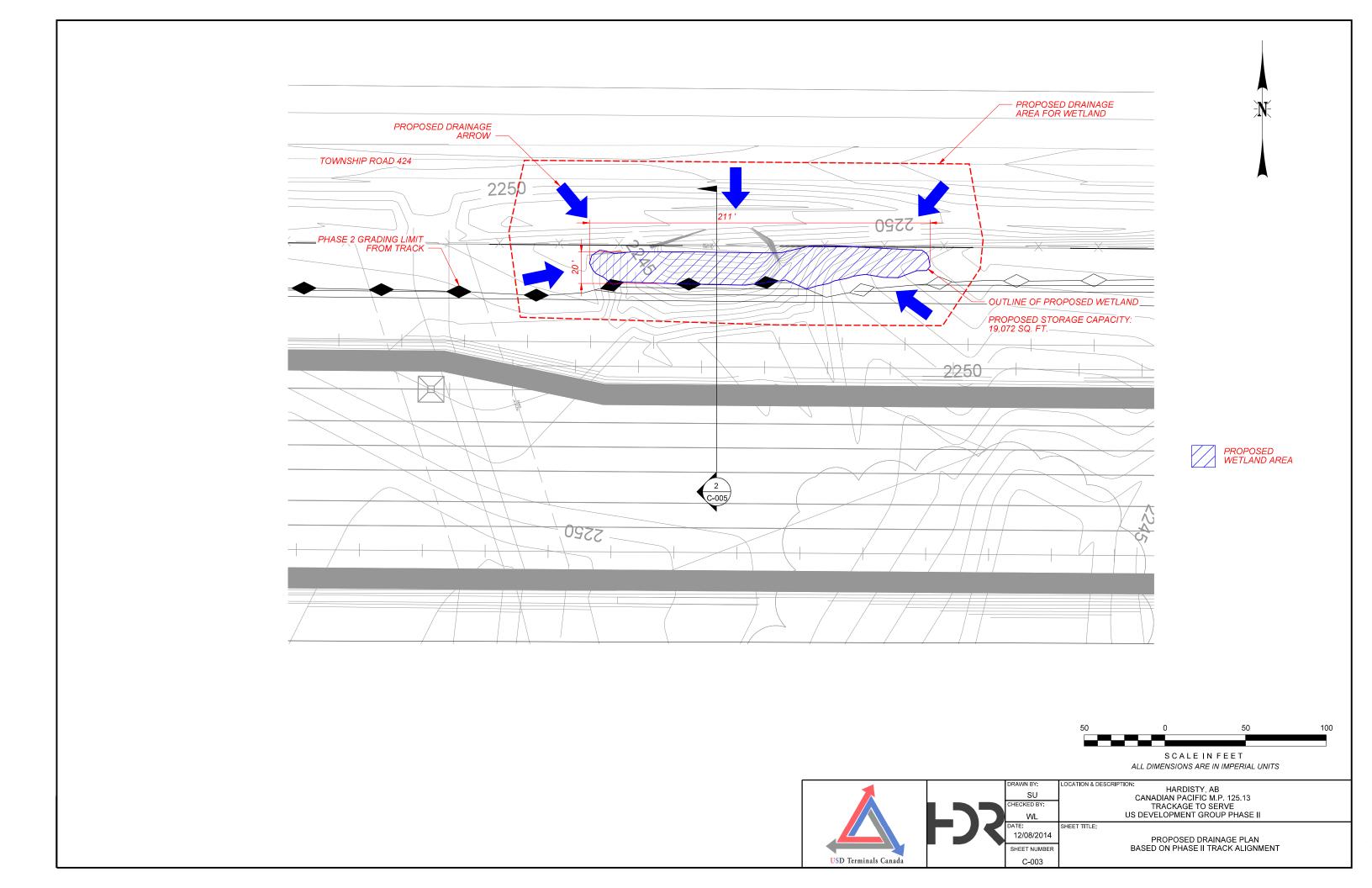
Phase 2A, Location of East Level Crossing, Looking West on Township Road 424

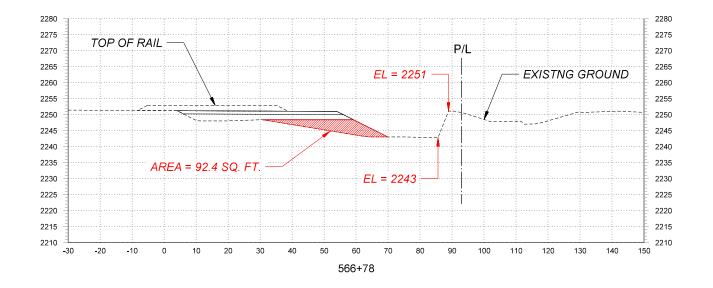




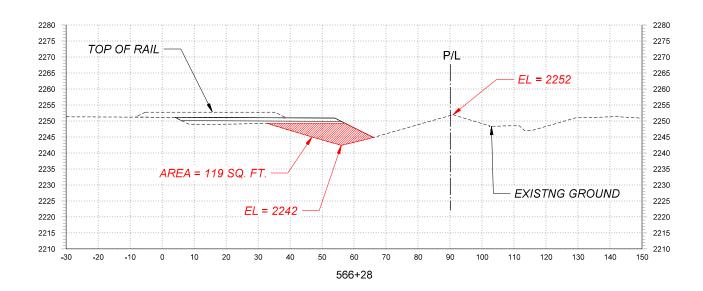




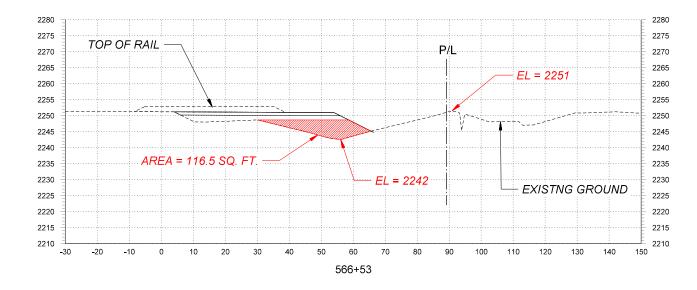




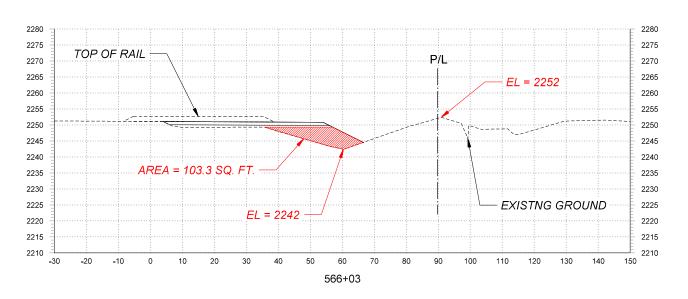
















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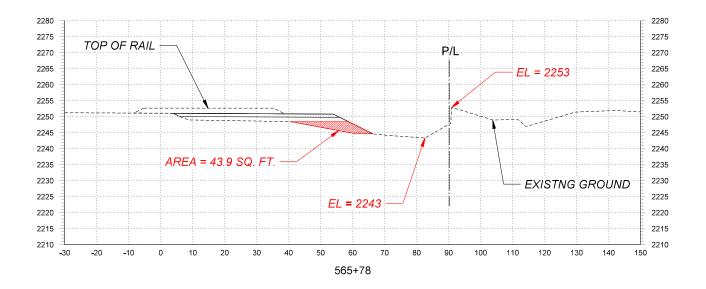
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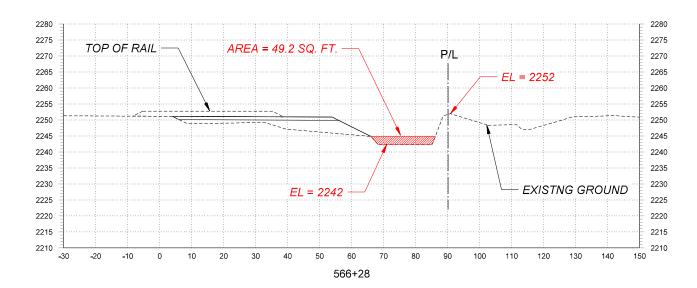
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TRACKAGE TO SERVE
US DEVELOPMENT GROUP PHASE II

HEET TITLE:

CROSS SECTIONS STA.566+78 TO STA.566+03



CROSS SECTION 1



CROSS SECTION OF PROPOSED WETLAND 2
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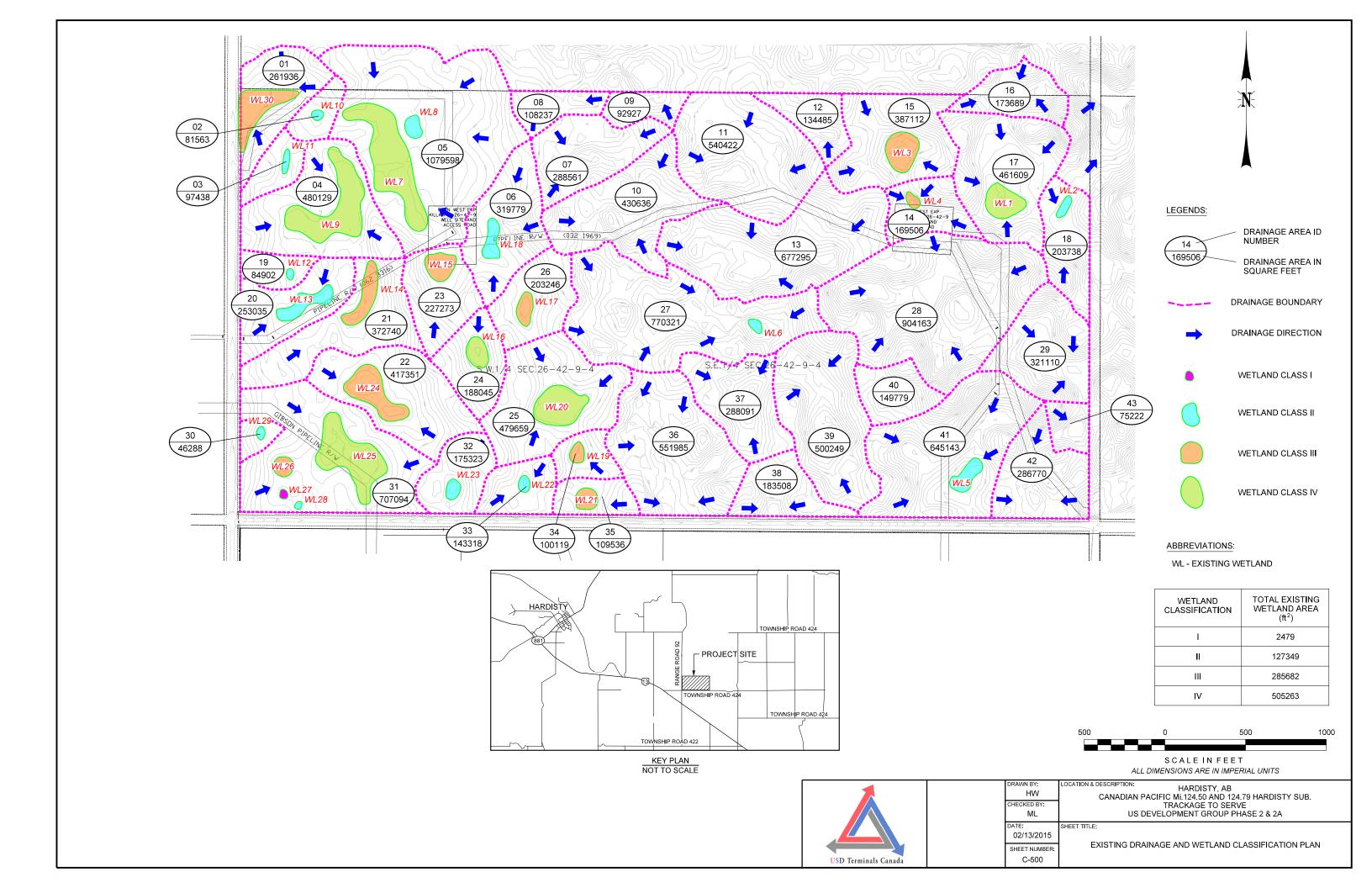




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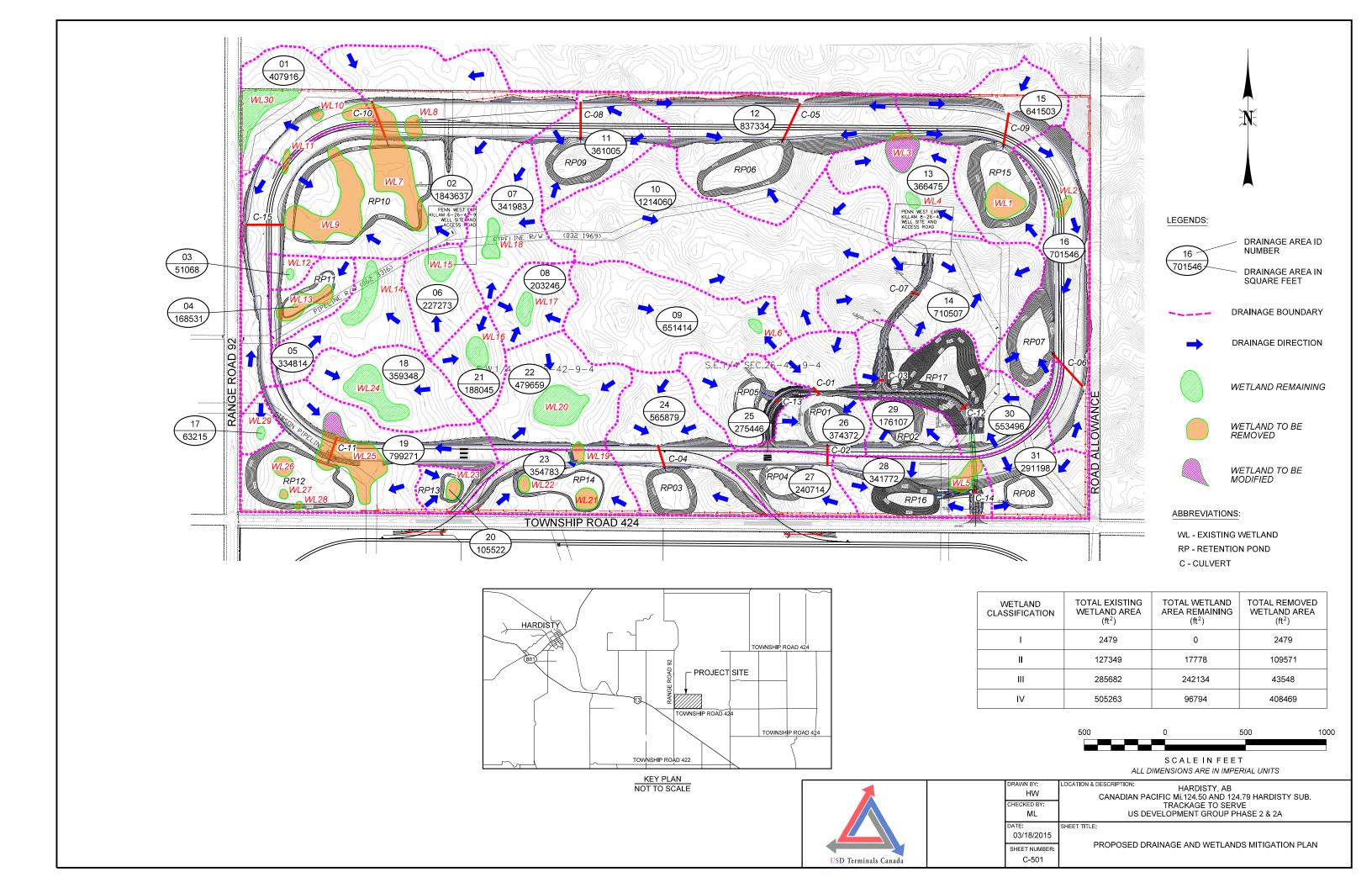
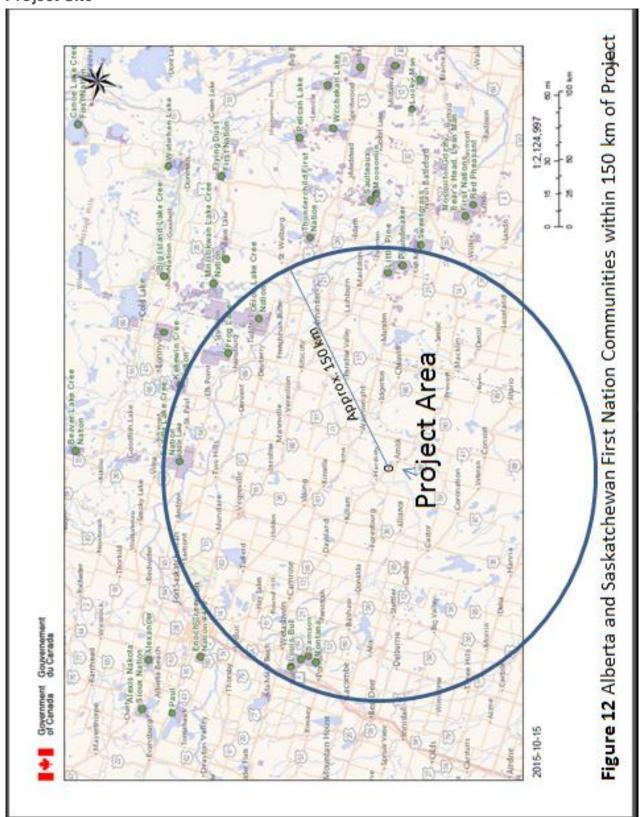


Figure 12 Alberta and Saskatchewan First Nation Communities within 150 km of Project Site





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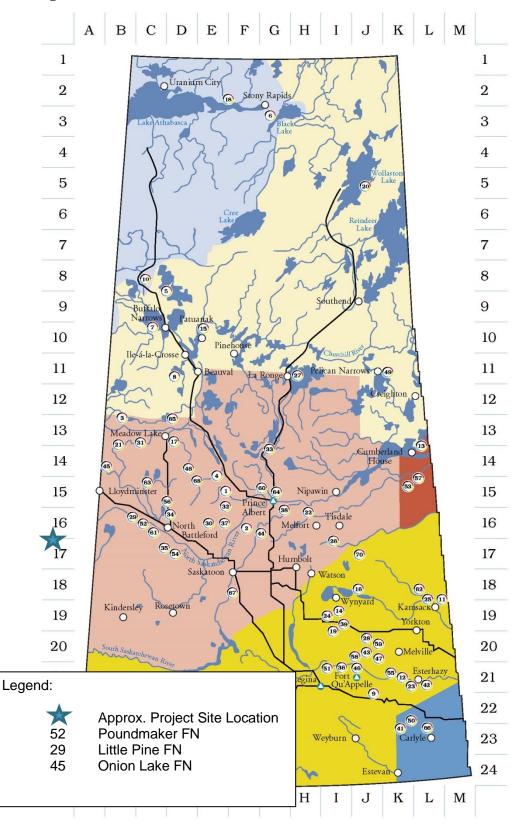
Figure 13 Alberta First Nation Communities



(Indian & Northern Affairs Canada 2009)



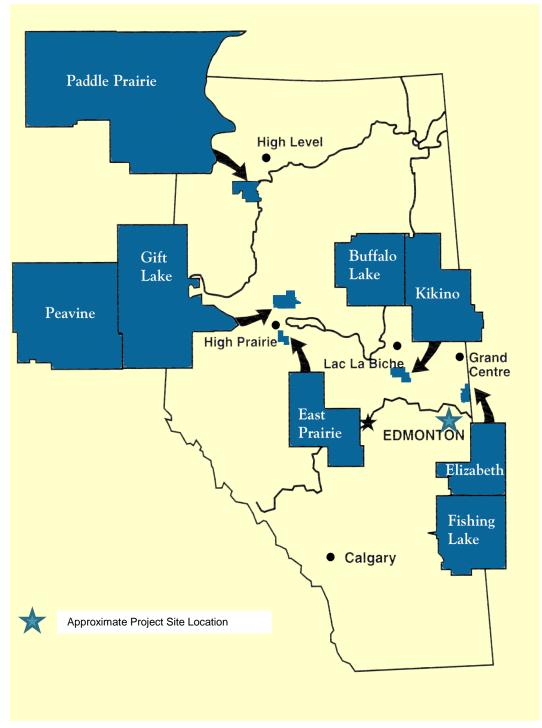
Figure 14 Saskatchewan First Nation Communities



(Aboriginal Affairs and Northern Development Canada 2015)



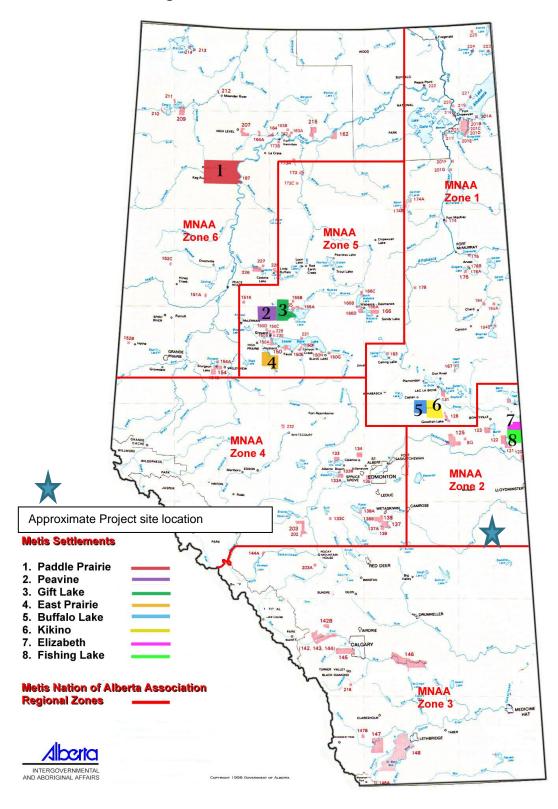
Figure 15 Alberta Métis Settlements



(University of Alberta 2015)



Figure 16 Alberta Métis Regions



(Alberta Intergovernmental and Aboriginal Affairs, 2015)



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Northern Region II Wolaston Lake Northern Region I Descharme Lake Northern Region III La Ronge Eastern Western Region I Region I Meadow Western Region II Western Region la Hudson Bay Prince Albert North Battleford Eastern Project Site Region II Western Region IIa Yorkton Eastern Regina Region IIa Western Region III Swift Current Eastern Region III

Figure 17 Saskatchewan Métis Nation Regions

(Métis Economic Development 2011)



Attachment 2: Summary of the Project Description







Canadian Environmental Assessment Agency – Project Description Summary

Hardisty Rail Terminal Expansion (Interim, Phase 2 and 2A)

USD Terminals Canada II ULC

Hardisty, Alberta, Canada November 9, 2015



1 General Information

USD Terminals Canada II ULC (USD Terminals Canada) pursuant to the Alberta Energy Regulator (AER) under the requirements of *Directive 056: Energy Development Applications and Schedules* and other relevant directives and regulations, plans to expand its existing USD Hardisty Rail Terminal, which began operating in 2014 (the Project). The general location of the Project is shown on Figure 1.

The purpose of the proposed expansion projects is to expand product handling of the facility to include propane, butane, and heavy crude oil and improve the ability of USD Terminals Canada to be able to respond to both the short term and long term market demands of its customers. The Hardisty Rail Terminal expansion phases (Interim, Phase 2 and 2A) are needed to continue to provide a supplemental method to the use of pipelines for delivering products to market and to reduce transportation constraints of oil products in a cost effective and environmentally responsible manner. The expansion involves three phases:

- 1. An Interim expansion which will include the installation of a mobile truck to rail loading area and two tracks on the west side of the existing facility, that would be used to load propane, butane and heavy crude from trucks to rail cars. This has been identified as an interim project designed to address short-term commercial needs for material transport. Tracks constructed for this Phase will be modified to become part of the tracks required for the full build-out in Phase 2A and operation of the Interim expansion would cease.
- 2. The Phase 2 expansion to double the capability of the Phase 1 facility to handle and ship light crude oil from pipeline to rail within the existing facility footprint.
- 3. The Phase 2A expansion will expand the capability of the Phase 1 facility to handle and ship heavy crude oil, with an expanded footprint.

The Project Description has been submitted to the Canadian Environmental Assessment (CEA) Agency to describe the Project in relation to the requirements of the *Canadian Environmental Assessment Act (CEAA), 2012.* At this time, there are no regional environmental studies, as defined by the CEA Agency, which have been or are being conducted for this area.

Proponent and Contact Information

Proponent	Project Contact
USD Terminals Canada II ULC 423051 RR 92 P.O. Box 140	Ron Percival Director/Officer – Health, Safety, Security & Environmental Affairs
Hardisty, Alberta	Phone: 281-291-3921
T0B 1V0	Email: rpercival@usdg.com



Project Information

The proposed expansion of the Project would increase the loading capacity of the facility from two to four 120-car trains per day for transportation of a wider spectrum of products.

The Interim expansion will allow the facility to receive and load from truck to rail up to one train per week with heavy crude and one with propane or butane. The Phase 2 and Phase 2A expansions will increase the capacity of the facility to receive and load railcars, as well as load heavy crude. Currently, the train traffic along the Hardisty/Wetaskiwin CP Rail line is approximately one train every three hours, at full build-out this would increase to approximately one train every two to three hours.

USD Terminals Canada maintains a formal Safety Management System (SMS) for the Hardisty Rail Terminal dictating how environmental and safety matters are to be managed throughout the operation, defines responsibilities, and describes the processes and procedures that will protect the safety of all of USD Terminals Canada's employees, contractors, the community and environment around the terminal facilities. Through the planned expansion projects, USD Terminals Canada will update the SMS and Emergency Response Plan for the facility and will continue to communicate with the Municipal District of Provost #52 emergency and fire department contacts.

Employee access to the office and operations facility will be from the existing access road off of Range Road 92. Propane trucks will access the propane transload staging/loading area via a new entrance from Range Road 92, and will exit via the existing access road back to Range Road 92. Crude trucks will access the crude transload staging/loading area via a new entrance from Township Road 424, and will exit via the same point on Range Road 92 used for propane truck access. The majority of all traffic to the site is anticipated from the west or east along Hwy 13, north on Range Road 92, and into the site. At peak operation, the expanded facility will expect 40 trucks per day, and 70 single passenger vehicles per shift change (35 arriving, 35 departing), 2 shifts per day, 7 days per week. No modifications are required to Hwy 13. Alberta Transportation has issued approvals for Phase 2 and 2A.

Potable water will continue to be provided using a drilled well located to the east of the existing utility building. This is a deep well, with on-site treatment for disinfection and hardness. Phase 1 is currently served by a septic tank located to the west of the existing CP crew building; however a sewage lagoon system designed in accordance with the Alberta Private Sewage System Standards, will be constructed as part of the proposed expansion.

The facility will fully comply with all applicable laws and regulations in regards to prevention of unauthorized entry. The terminal is staffed 24 hours a day, 7 days a week, and will be fully fenced with locked gates.

The existing facility and proposed expansions (Interim, Phase 2 and 2A) are shown on Figures 2 and 3, and are described below.

Interim Phase

The Interim expansion (Figure 2) will occur within the previously disturbed Phase 1 facility footprint. Site preparation activities will be minimal, and the majority of the site preparation activities will include grading and excavation in previously disturbed areas. This phase will involve the addition of:

- Two additional tracks totalling 3,600 track feet (approximately 1.1 km) within the NW and NE ¼ section of 23-42-9W4M. These tracks will be modified to become part of the Phase 2A tracks as discussed below;
- Mobile loading positions for 9 crude railcars and 10 propane rail cars along the west side of the loop tracks;
- Space for loading of 9 crude railcars, and 10 propane rail cars at a time;
- Integrated vapour control within the mobile loading units;
- A small staff building to accommodate operators;
- New access/egress points for trucks on Range Road 92 and on Township Road 424, as well as truck staging areas, capable of handling up to 40 trucks per day.

The Interim expansion will cease operations upon development of the Phase 2A expansion.

Phase 2 Expansion of Existing Facility

The Phase 2 (Figure 3) expansion will occur within the previously disturbed Phase 1 facility footprint. Site preparation activities will be minimal, and the majority of the site preparation activities will include grading and excavation in previously disturbed areas. This phase will involve the addition of:

- Three additional tracks totalling 15,880 track feet (approximately 4.8 km) within NW and NE ¼ sections of 23-42-9W4M.
- Thirty additional loading positions on the fixed railcar loading rack within the existing structure that covers the rack for inclement weather protection. Additional modifications include adding three enclosed stair towers, adding a new pipe rack on the north side of the building, constructing a spill containment pad under the new loading positions similar to what exists on-site, and constructing new foundations for a prover and sampler.
- One additional vapour control unit to control emissions from the expanded loading rack;
- An expansion to the operations facility to accommodate 20 additional staff. Includes an additional staff building, additional parking and modifications to the existing private sewage system on the site.
- Other new structures include: pipe rack; sampler skid pad; strainer pad; lift station and valve vault; vapour combustion unit pad; and HVAC and duct support concrete pad.

Phase 2A Expansion

The Phase 2A (Figure 3) expansion will expand the footprint of the facility both within the existing Phase 1 facility footprint, and in the ½ section north of TWP 424 which will require vegetation removal and grading to accommodate the rail track and a new access



road. In general, the site will be graded to minimize the amount of earthworks. This expansion will require the construction of an integrity return system, the addition of industrial railway components to the existing facility site and the USD-owned property located north of Township Road 424, and at-grade crossings between the two sites. The expansion will include:

- Constructing six additional staging/holding tracks, each having the capacity to hold
 one unit train, and connecting tracks between the northern and southern components
 totalling 48,801 track feet (approximately 14.9 km). The work would involve modifying
 the Interim expansion tracks to accommodate the Phase 2A track configuration;
- Constructing of two at-grade signed level crossings across Township Road 424 designed and constructed in accordance with Transport Canada's Grade Crossing Standards (2014);
- Installing an integrity return system including tankage (less than 10,000 m³ one 10,000 barrel [1,590 m³] tank) to facilitate the shipment of both heavy and light crude oil, including a small steam boiler house to support the loading of heavy crude. A 2 m lined berm has been proposed for containment purposes. The integrity return system will be located within the existing facility just to the north of the loading rack inside the loop tracks.
- Closing two existing access points to Phase 2a Project area from Township Road 424, and constructing a new access point providing access to the interior of the north loop track;
- Modifying an existing small water body south of Township Road 424 and constructing stormwater retention ponds within the Project area north of Township Road 424 to contain surface water runoff and recharge local groundwater resources.
- Building a heavy crude area to the north of the existing loading rack, including a
 crude oil tank, pump pad and associated containment area, as well as the steam
 boiler house. The steam boiler house will be required to support loading of heavy
 crude, and has proposed dimensions of 15.24 m by 15.24 m. Similar to other
 structures on the site, this building would utilize prefinished metal wall and roof
 panels with windows, man doors, and overhead doors. Although the location and
 general dimensions of this structure have been determined, the detailed design of
 this structure and other components for Phase 2A have not yet been completed.
- Installing perimeter fencing around the Phase 2A expansion to restrict public access.

Incidental Project Activities

The Interim, Phase 2 and 2A expansions include installation and connection of utilities, including natural gas and electricity. This would include supplying project features such as lighted crossing signals at the at-grade crossings along Township Road 424 with power.

Gibsons Energy is responsible for delivering crude oil by pipeline to the facility from its Hardisty Terminal. The existing pipeline, and expansion of the pipeline required for Phases 2/2A, and associated permitting, are the responsibility of Gibsons Energy. The



planned pipeline expansion would result in the twinning of the existing pipeline within the existing pipeline ROW.

CP Rail will continue to be responsible for delivering the rail cars to the expanded Hardisty Rail Terminal. USD Terminal Canada staff will oversee the arrival and departure of the rail cars and will follow CP site operating procedures.

The Natural Gas Co-op 52 Ltd. owns and operates three natural gas line right-of-ways (ROW) within the Phase 2A expansion area north of Township Road 424. USD Terminals Canada is currently negotiating with the Natural Gas Co-op 52 Ltd. to relocate these gas lines to a new ROW along the boundary of the USD owned lands. The Co-op would be responsible for obtaining approval from the AER under Directive 056 for the relocation of the lines.

Penn West owns and operates two well bores and a pipeline within the area of the Phase 2A expansion. USD Terminals Canada is currently negotiating with Penn West to assign its entire interest in the two wellbores and associated pipeline to USD Terminals Canada. Upon the assignment, USD will make a determination regarding abandonment of the wellbores and pipeline.

Regulation Designating Physical Activities

The Canadian Environmental Assessment Agency may require a federal environmental assessment pursuant to the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) for certain rail projects. The following paragraph of the *Regulations Designating Physical Activities* is applicable to this project:

25. The construction, operation, decommissioning and abandonment of a new railway yard with seven or more yard tracks or a total track length of 20 km or more.

The Phase 2 and 2A expansions include a total of 9 tracks with an overall length of 19.7 km.

The existing facility and expansions are not located within wildlife areas or migratory bird sanctuaries.

Applicable Acts and Regulations

In addition to the possible requirement for an environmental assessment for a designated project under CEAA, 2012, the following Acts are applicable to the Project:

- Migratory Bird Convention Act. Impacts to migratory birds will be avoided by
 clearing vegetation outside of the breeding season (all phases). Assessments
 and biological field studies completed to-date indicate that there is minimal
 habitat or species that would be affected by the expansion in this area.
 Supporting documentation is available regarding the wetland assessment and
 field studies undertaken for the Phase 2A expansion area;
- Canadian Environmental Protection Act regulations do not apply (all phases).
- Fisheries Act. Water bodies within Project area are part of a closed system, and do not support fish or fish habitat (Phase 2A).



Species at Risk Act. No listed species have the potential to occur within the
Project area (all phases). Assessments and biological field studies completed todate indicate that there is minimal habitat or species that would be affected by
the expansion in this area.

Provincial and municipal environmental assessment and regulatory requirements applicable to the Project include:

- Alberta Wildlife Act. Alberta Environment and Parks (AEP) was contacted regarding species-specific surveys for the sharp-tailed grouse. No permit was required (Phase 2A).
- Heritage Resources Act. No historical resources are present within the Project area (Phase 2A)
- Alberta Water Act application was submitted to the AER for proposed impacts to 19 Class I-IV wetlands (Phase 2A). These water bodies have not been identified as fish habitat and have no hydraulic connection off the site. The following will be required for these water bodies:
 - An application to the AESRD for confirmation of a Crown claim of ownership which has been submitted;
 - An application for compensation of wetland impacts to be submitted to Ducks Unlimited Canada;
 - Pending the decision from the AESRD to confirm which water bodies are crown claimable, an application for a License of Occupation through the AER under the Public Lands Act;
- Alberta Environmental Protection and Enhancement Act (EPEA), (Environmental Assessment (Mandatory and Exempted Activities) Regulation and the Activities Designation Regulation). No approvals are required as the expansion does not meet any of the requirements for designation under this Act (all phases).
- AER Directive 56. Consultation with the AER has determined that the expansion
 of the Project would be exempt from requiring a routine application for a License.
 No objections or statements of concern have been received from adjacent
 landowners who might trigger a non-routine application (Phases 2 and 2A).
- AER Directives. The design of the expansion phases meet all applicable requirements for a loading/unloading terminal, including all applicable CSA Z662 design requirements and AER Directives including directives related to noise and air emissions (all phases).
- Alberta Transportation. USD Terminal Canada applied for and was granted a
 Roadside Development Permit on August 17, 2015. Approval to Construct the
 industrial railway expansion was issued on August 17, 2015 (Phase 2 and 2A).
 An application for the Interim expansion will be submitted. A submission for
 Approval to Operate will be submitted in 2016.
- Municipal District of Provost #52. USD Terminal Canada will apply for a
 development permit for additional structures and for an approach consent
 required for two new site entrances for the Interim expansion. Building and other



permits will be applied for as required (all phases). USD Terminals Canada applied to the Municipal District of Provost #52 for an Approach Consent for access to the Phase 2A site, a development permit for additional structures, as well as for an agreement to occupy the right of way for Township Road 424 with the two level railway crossings and the toe of the railway embankment, both of which were approved as of July 14, 2015. No concerns or issues were raised during the public comment period on this application or by the municipality.

• Pipeline Act. Consultation with the AER indicates that an application for a license under the Pipelines Act is not required with the addition of the integrity return system and tankage (Phase 2A).

Schedule

The development timeline for the Interim expansion of the Project is (as of September 2015):

Task/Milestone	Timeframe
Design / Engineering	October 1, 2015 to December 31, 2015
Approvals / Permitting	October 1, 2015 to November 13 , 2015
Construction Start	January 1, 2016
Construction Completed	May 31, 2016
Operations Commence (start up and commissioning)	May 1, 2016

The anticipated development timelines for Phase 2 and 2A of the Project is (as of September 2015):

Task/Milestone	Timeframe
Design / Engineering	September 1, 2014 to October 31, 2015
Approvals / Permitting	September 1, 2014 to October 31, 2015
Phase 2 Earthworks	January 1, 2016
Phase 2 Construction Start	January 1, 2016
Phase 2 Construction Completed	August 31, 2016
Phase 2 Operations Commence (start up and commissioning)	September 1, 2016
Phase 2A Clearing and Earthworks	February 1, to March 31, 2016
Phase 2A Construction Start	April 1, 2016
Phase 2A Construction Completed	December 26, 2016
Phase 2A Operations Commence (start up and commissioning)	December 11, 2016

The decision by USD Terminals Canada to proceed with the three proposed phases of the Project will be contingent upon the result of discussions and development of commercial agreements with product shippers. The anticipated dates for the



construction and commissioning of the Interim Expansion, Phase 2 and 2A are based upon consideration of when commercial agreements could be in place.

Hardisty Terminal Decommissioning

At the end of life of the facility, the Hardisty Terminal would be decommissioned in an environmentally sound manner to 'a condition similar to what existed prior to the activity on the land'. This would include removal of tracks and other infrastructure (such as access roads and buildings) and remediation, where necessary. At the time of decommissioning, the site would be assessed to determine the best reclamation approach that would cause the least negative effects to the environment. The project developer would not be bound by specific reclamation criteria; however, they may use the 2010 Reclamation Criteria for cultivated lands as guidance and use adjacent lands as a representative control to return the site to an appropriate level of pre-development condition.

3 **Project Location Information**

The Project is located approximately 10 km southeast of the Hardisty area, within the Rosyth Area Structure Plan, in the Municipal District of Provost #52.

The coordinates of the Project are as follows:

Interim and Phase 2 expansion:

NE/NW 1/4 Sections of 23-42-9W4M

Latitude: 52°38'1.8240" N

Longitude: 111°11'32.9928" W

Phase 2A expansion:

SE/SW 1/4 Sections of 26-42-9W4M

Latitude: 52°38'29.2020" N

Longitude: 111°11'33.9216" W

The project is located on lands designated "Agricultural Reserve" in the Rosyth Area Structure Plan. Land use in this area is dominated by agricultural lands used for crop production and pasture land. Discretionary uses of lands designated as "Agricultural Reserve" includes "Natural Resource Processing". The USD Hardisty Rail Terminal facility is classified as Natural Resource Processing.

The proposed expansion area is approximately 320 acres in size. The site is bordered by cultivated cropland to the north, cattle rangeland to the east, Township Road 424 to the south, and Range Road 92 to the west. The eastern portion of the Phase 2A Project site is rolling and is being used for cattle grazing, while the western portion is relatively flat and is cultivated, most recently producing canola. In addition to the open areas that are being grazed and used for crop production, there are copses of aspen and shrubs.

The surface rights are owned by USD Terminal Canada II ULC, while the mineral rights are owned by the Crown. Immediately adjacent lands to the Project area are privately

owned, and 16 private property owners area located within 1.5 km of the Project site. The nearest residence is located approximately 0.6 km southeast from the existing Hardisty Terminal buildings, on the south side of Hwy 13.

The Project is located within the area of Treaty 6. The closest First Nations reserve, considered federal lands as defined by CEAA 2012, is located 89 km northeast of the Project.

The closest large block of federal land to the Project is Canadian Forces Base (CFB) Wainwright, located approximately 30 km northeast of the Project. There is a small block of provincial Crown land and some small parcels of non-patent land located around one km to southeast of the Project.

The Project occurs within the Eastern AB Plains physiographic region, and falls within the Aspen Parkland Region and Central Parkland sub-region. No Environmentally Significant Areas of Alberta occur within the vicinity of the Project.

The AEP (formerly AESRD) listed three sensitive species as having potential to occur on the Project site: Least Flycatcher, Sora and Swainson's hawk, and identified Sharp-tailed Grouse habitat. Wildlife observations in October 2014 included song birds, stick nests, ungulate tracks and fur-bearing mammals. One species of conservation concern from the Alberta Sensitive Species list was observed, the Northern Harrier. No fish were observed. No sensitive or at-risk species were observed on the Project site during site visits.

Drainage in the Project site is characterized by numerous localized depression areas which form wetlands with temporary or permanent water features, depending on the contributing catchment, overland flow from upstream areas and the potential spill elevations. Overland runoff is being stored on-site within the localized depression areas, and that surface runoff is infiltrated to the underlying aquifers and depletes over the season through evaporation and evapotranspiration. There is no surface connection to any off-site water bodies. The closest off-site (unnamed) water bodies are located approximately 1.5 km to the south east of the Project. The closest major water body is the Battle River, over 6 km to the west of the Project.

No sites of historic resource value (HRV) are located within the Project. The closest HRV site, a site believed to contain a historic resource, is located approximately 0.8 km east of the Project.

The Project site is underlain by deposits of Quaternary age glacial ice contact, moraine, and advance outwash deposits. Groundwater was generally not observed except in one borehole location at approximately 9 m below ground indicating that the static groundwater table may be located relatively deep at the site. No groundwater resource management or conservation plan is required for the Project.

Public records available on-line for other energy developments in the Hardisty Area and near the Project location, were reviewed to identify if traditional or current land-use or occupancy has been identified in proximity to the Project location. Some Aboriginal communities have identified sites and areas of interest west of Hardisty including spiritual/historical sites or plant and wildlife sites. Heritage resource sites have been identified in the Battle River Valley just to the east of Hardisty. The Battle River lies approximately 7.5 km to the west of the USD Terminals Canada Project location. To-



date, no information has been identified that indicates that there is traditional or current land-use or occupancy within or in the immediate vicinity of the Project location which is approximately 10 km east of Hardisty Alberta.

4 Federal Involvement

The expansion project is a private project and does not involve the use of federal funds or federal lands. No other federal permits, licences or other authorizations are required to carry out the Project. There are no anticipated changes to the environment, as a result of carrying out the designated project, on federal lands, in a province outside of Alberta, or outside of Canada.

5 Environmental Effects

Potential environmental effects of the Project will be mitigated through the implementation of various measures to be employed during construction and operation of the expansion project. Dust and exhaust emissions from construction equipment are anticipated to occur during normal working hours throughout the construction of the Phase 2 and 2A expansions and will be temporary in nature. If required, mitigation of onsite dust emissions associated with earth moving and construction roads will be addressed through appropriate dust suppression measures.

During operations of the Interim expansion, there is potential for emissions of dust from transport trucks. Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424 will be paved under agreement with the MD of Provost, which will minimize road dust emissions. As necessary, mitigation of on-site dust emissions associated with truck movement on internal access roads will be addressed through appropriate dust suppression measures.

In general, soil stratigraphy consists of surface vegetation with associated topsoil, and underlain by deposits of Quaternary age glacial ice contact, moraine, and advance outwash deposits. Best management practices for the conservation and management of topsoil within the Project area will be implemented during grading and construction. Topsoil will be conserved and stored on-site and re-seeded with native vegetation, to be salvaged and used for restoration activities.

USD Terminals Canada has entered into an agreement with the Municipal District of Provost #52 for hardening the surface of Range Road 92 from the intersection with Hwy 13 to the intersection with Township Road 424. This work would be completed prior to the start of the Interim expansion construction to mitigate potential changes in road conditions during construction of the Interim and Phase 2/2A expansions, as well as emissions of dust from road transport during operation. As necessary, mitigation of onsite dust emissions associated with truck movement on internal access roads will be addressed through appropriate dust suppression measures.

The proposed Project occurs within the Eastern AB Plains physiographic region, and falls within the Aspen Parkland Region and Central Parkland sub-region (Natural Regions Committee, 2006). Vegetation, in general, is comprised of patches of aspen clones



interspersed with open grassland dominated by plains rough fescue. No *Environmentally Significant Areas of Alberta* occur within the vicinity of the Project (Fiera Biological Consulting, 2014).

The eastern portion of the Phase 2A Project site is currently being used for cattle grazing. The topography is rolling, with high points and low points dotting the entire site. The western portion of the Phase 2A Project site is cultivated and most recently producing canola. The topography is relatively flat. In addition to the open grassland areas that are being grazed and active crop production on the Project site, there are copses of aspen and shrubs. Typical shrub species in the region include: saskatoon, prickly rose, beaked hazelnut, hay sedge, creeping juniper, and a variety of forbs and grasses.

A wildlife and habitat assessment was completed to address the potential presence of species identified under the Federal Species at Risk Act (SARA), the federal Migratory Birds Convention Act, 1994 (MBCA) and the Alberta Wildlife Act. No species listed under SARA or the Wildlife Act will be impacted. Potential habitat for the sharp-tailed grouse occurs within the Project area. Spring lek surveys were conducted in 2015 during the breeding season, and no sharp-tailed grouse were detected.

Habitat for species protected under the MBCA occurs within the project site; however, species specific surveys were not conducted since impacts to migratory bird species will be avoided by clearing vegetation outside of the breeding bird nesting season. If vegetation removal is not completed outside of the nesting/breeding season, a prevegetation clearing survey will be conducted to flag and avoid the location of nests of species protected under the Act.

The Interim and Phase 2 expansions will be constructed within Phase 1 area, and no changes to surface water management ponds are required, but will require some modifications to drainage swales. The drainage plan is designed to direct overland flows into depression area or wetlands within the site for the Phase 2A expansion. Within Phase 2A, approximately 99.6% of the site runoff will be retained on-site for infiltration and evapotranspiration as per existing conditions, and there would be no changes to the volume or quality of surface water discharge to or from the site. Eighteen wetlands north of TWP RD 424 will be impacted and will be replaced by retention basins to capture flows. One wetland south of TWP RD 424 will be impacted and will be replaced by a retention basin to capture water in a depression area off of the roadway. Impacts will be mitigated in the form of replacement compensation to Ducks Unlimited Canada. Wetlands on the Project site are within a closed system and are not fish bearing; therefore will not have an effect on fish or fish habitat as defined in the Fisheries Act. Impacts to aquatic vegetation will occur where Class III or Class IV wetlands will be modified. No marine plants, as defined in the Fisheries Act, occur within the Project area.

During operation, there is the potential for emissions from rail cars when they are uncapped for loading, and from loading rack operations. The vapour recovery and thermal destruction system will be expanded to address potential emissions from the rail cars and from loading rack operations. Modeling has been completed to demonstrate compliance with the Alberta Ambient Air Quality Objectives.



There may be short-term temporary noise increases during construction and decommissioning. USD Terminals Canada is continuing to observe the facility for operational noise, and will examine additional mitigation options if an issue is detected.

Within the USD Terminals Canada facility, short train whistles are used at certain points in the train movement, which would include crossing the level crossings on TWP RD 424. Operational procedures focus the use of whistles to meet operational requirements, and to limit the unnecessary use and/or length of time that the whistles are blown.

The rail facility is currently in operation and will continue to generate recyclable and non-recyclable solid waste proportionately to the number of staff working at the facility. All wastes will be disposed of according to the Waste Control Regulation and the requirements for each waste classification outlined in the Alberta Waste Users Guide for Waste Managers. During construction, construction debris will be removed from the site by a licensed hauler and disposed at a licensed facility.

No hazardous waste is generated under normal operations. In the event that a spill occurs on the facility, it will be addressed through the spills and containment procedures for the facility and the resulting waste will be disposed through a licensed hauler at a licensed facility. The USD Hardisty facility has been registered as an Alberta hazardous waste consignor in the event that disposal of any hazardous residues is required.

No federal lands will be used for the purpose of carrying out the Project, including easements, right of ways, or transfers of ownership. No changes will occur as a result of carrying out the Project on federal lands.

The closest First Nation community is located approximately 89 km from the project area. The majority of First Nation and Métis communities are located over 130 km away. No sites of historic resource value occur on the Project site.

The Project will not require access to, use of or the exploration, development and production of resources or lands that have been publicly identified at this time as being used for traditional purposes by Aboriginal peoples. To-date, no information has been identified that indicates that there are traditional or current land-use or occupancy within or in the immediate vicinity of the Project location. The private land tenure and agricultural land use limit the possibility of traditional activities being practiced on the Project lands in recent history.

The effects of the Interim expansion, and Phases 2 and 2A will be similar to impacts from the construction and operation of the existing rail terminal, with minimal short term effects on plants and wildlife on the Project Site and no identified off-site effects.

Any changes to the environment are unlikely to effect the health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.



6 Proponent Engagement and Consultation with Aboriginal Groups

The Project does not require access to, use or occupation of, or the exploration, development and production of lands and resources that have been publicly identified at this time as being used for traditional purposes by Aboriginal peoples.

No consultation has been undertaken with Aboriginal peoples regarding this Project todate as it relates to municipal approvals, provincial approval of the industrial railway, or AER licensing given the distance to any First Nation's reserves or Métis communities, considering potential impacts to crown land and as this land has no recognized historic resource value potential.

A request for a pre-consultation assessment has been initiated through the Aboriginal Consultation Office (ACO) to determine if First Nations Consultation for the License of Occupation & Water Act approvals will be required.

In the event that an Aboriginal interest in the Project is identified, USD Terminals Canada will develop and implement a Consultation Plan to ensure that open and meaningful communication and engagement is established between all involved parties.

7 Consultation with the Public and Other Parties

Public consultation included face-to-face meetings with residents and landowners from the Project vicinity, an open house, project mailings, consultation with utilities and energy companies, and regulatory agencies (municipal and provincial regulators). Consultation with the AER indicated that consultation is not required under Directive 056 for the Interim Expansion, as the extent is contained within the footprint of Phase 2/2A and as the proposed activity is exempt from requiring a license from the AER. Consultation and Public Disclosure for Phase 2 and 2A of the Project was combined.

Comments and concerns raised in discussion with landowners regarding the Project related to: removal of topsoil and a fence during Phase 1 construction which has been resolved with the adjacent landowner; comments regarding positive employment opportunities and operations at the current facility; comments from one landowner regarding their ability to subdivide properties in proximity to facility (unrelated to action); potential noise and light impacts (addressed through design and operational provisions); potential delays if access is blocked along Township Road 424 (addressed through design and operational provisions).

In response to access and blockage concerns along Township Road 424, a second mailout was sent to address questions and describe operations of the at-grade crossings. USD Terminals Canada has voluntarily proposed the use of lighted signage at key intersections on Township Road 424 to provide advanced warning of that the at-grade crossings ahead may be occupied by a train, signage which is not warranted under the provincial requirements for industrial railways.



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Outreach with local residents will continue in order to maintain good relations within the community. The Hardisty Rail Terminal encourages an open-door policy with local property owners if they have any questions or concerns.

USD Terminals Canada held multiple meetings and/or teleconferences as well as mail and email contact with applicable regulatory authorities including: the Municipal District of Provost #52 regarding municipal approvals/agreements; Ducks Unlimited Canada regarding wetland mitigation; the AER to confirm licensing requirements, crown claim for the Class IV wetlands and disposition process and Alberta Water Act approvals; and the AEP regarding the sharp-tail grouse surveys. There are no unresolved matters related to these authorities.



