Plains Midstream Canada
Damage Prevention Department

Technical Guidelines for Construction near Pipeline Facilities

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1.0 PURPOSE

Plains Midstream Canada ("PMC") owns and operates a wide variety of strategically located pipelines throughout Canada and the United States. The continued safety of the public, employees, contractors and environment are top priorities for PMC. Activities that occur near pipelines without appropriate notification or consent, such as facility construction or ground disturbance, can cause damage to pipelines and pose a risk to public safety.

Third parties – including landowners, contractors, utility companies, or municipalities – who are planning to conduct a ground disturbance activity near a PMC pipeline must contact PMC and obtain written consent. The impacts of the proposed activity need to be assessed by PMC to ensure that the activity will not pose a risk of damage to the pipeline. The consent must be provided in a written form, and must contain the conditions necessary to protect the pipe from damage when conducting the proposed activity.

This document provides guidance that will assist third parties when preparing an application for consent. PMC will work closely with third parties to ensure that all necessary consents are in place before any ground disturbance work begins.

2.0 REGULATORY GOVERNANCE

PMC pipelines are regulated by the following:

- Canada Energy Regulator (CER)
- Alberta Energy Regulator
- Technical Standards & Safety Authority (Ontario)
- Saskatchewan Ministry of Energy and Resources
- Manitoba Public Utilities Board

Refer to Section 9.0 for a list of specific Codes and Standards to be referenced when designing a facility to be installed in proximity to or crossing a PMC pipeline.

3.0 ACTIVITIES REQUIRING AN AGREEMENT

To ensure the safety of the public and the integrity of the pipelines, the following activities require a written agreement from PMC:

a) Facility construction or ground disturbance across, on, along or under the pipeline right-of-way;
b) Ground disturbance within 5 metres of the centreline of pipeline;
c) CER-Regulated ONLY: Any ground disturbance within 30 metres of the centreline of pipeline;
d) Operation of a vehicle or mobile equipment across the pipeline or within the right-of-way, outside the travelled portion of a highway or public road, excluding agricultural vehicles (see section 4.0 below).

A "facility" is any structure that is constructed or placed on or in the right-of-way or across the pipeline, such as a concrete slab, concrete conduit, retaining wall or chain link fence, highway, public or private road, railway, ditch, drain/drainage system, sewer, dike, buried and overhead cable, or pipeline.

A "ground disturbance" means any work, operation or activity on or under the existing surface resulting in a disturbance or displacement of the soil or ground cover. Ground disturbances can include, but are not limited to, digging, excavation, trenching, ditching, tunneling, boring/drilling/pushing, augering, topsoil stripping, land levelling/grading, plowing, tree planting, land clearing and stump removal, subsoiling, blasting/use of explosives, quarrying, grinding and milling of asphalt/concrete, seismic exploration, driving fence posts, bars, rods, pins, anchors, or pilings, and crossing of buried pipelines or other underground infrastructure by heavy loads off the travelled portion of a public roadway.

Ground disturbance does <u>not</u> include:

a) Activity to a depth less than 30 centimetres, or;
b) Agricultural cultivation to a depth less than 45 centimetres that does not reduce ground cover.

A person planning to operate a vehicle or mobile equipment across a pipeline, which includes the right-of-way, must contact PMC to obtain written consent. The movement of vehicles and mobile equipment over a pipeline increases the stresses on the pipe and, in some cases, may result in damage to the pipeline. The actual stress changes can only be assessed through engineering calculations. A thorough assessment of pipeline safety

requires detailed knowledge about ground conditions, design factors and operating characteristics. Depending on ground conditions, even vehicles such as all-terrain vehicles (ATV) or pick-up trucks have the potential to cause damage to the pipeline. Please contact crossingrequests@plainsmidstream.com or work with the p**ipeline operator if you are uncertain if your vehicle poses a risk to the pipeline.**

In order to protect the pipeline from mining operations, no person shall work or prospect for mines or minerals laying under a pipeline or within 40 metres of the pipeline right-of-way without obtaining consent from the Canada Energy Regulator. This can include activities such as seismic exploration, blasting/use of explosives or quarrying, etc.

Note: Some activities that do not require written approval may still require a site visit by a PMC representative to locate and mark the pipeline(s). Always Call or Click Before You Dig prior to start of work (See Section 8.0).

4.0 Agricultural Activity Not Requiring an Agreement

The operation of an agricultural vehicle or mobile equipment across the pipeline does not require a written Agreement if the following conditions are met:

a) The loaded axle weight and tire pressures of the vehicle or mobile equipment are within the manufacturer's approved limited and operating guidelines; and
b) The point of crossing has not been the subject of a notification from the pipeline company that crossing at that location could impair the pipeline's safety or security.

This applies to vehicles or mobile equipment used for agricultural activities in the production of crops and the raising of animals and includes pasturing and cultivation activities such as tillage, plowing, disking and harrowing.

Agricultural Activity is defined as operations which specifically support the cultivation and harvesting of crops on agricultural lands. This includes the preparation of soil beds to facilitate seeding to a depth of 450 mm (18") without the removal of cover. Agricultural activity excludes the use of industrial, heavy, equipment specifically designed for bulk movement of soil. Generally, equipment employing steel tracks and having implements engineered for excavation (buckets, blades, teeth) are not considered equipment which directly support agricultural activity.

If you are unsure whether the proposed agricultural activity meets the above conditions, or whether the proposed agricultural activity could jeopardize the safe and secure operation of the pipeline, please contact crossingrequests@plainsmidstream.com before proceeding with the activity.

5.0 Application Process

The following process will be followed:

a) The applicant prepares and submits the application documents to PMC via email.
b) The application information is reviewed, assessed, and conditions for safe work are identified*.
c) PMC's Damage Prevention representative processes the application and sends the applicable Agreement to the applicant for signature.
d) The applicant signs the Agreement and returns to PMC for execution.
e) A fully executed Agreement is sent to the applicant.
f) The applicant notifies PMC a minimum of three (3) working days prior to the start of work by calling the provincial one-call system or visiting clickbeforeyoudig.com.
g) The PMC inspector arranges a site meeting, locates the pipeline, and inspects the construction or ground disturbance activities.

**No activity having the potential to damage a pipeline shall proceed until such time as the continued safe operation of the pipeline can be assured by PMC.*

6.0 Application Requirements

All applications for written agreements must be submitted to crossingrequests@plainsmidstream.com.
The application must include:

- A request letter which includes the scope of work (e.g. temporary workspace for vehicle turnaround), proposed activity date, and legal land location;
- A completed PMC Crossing Application Form, if required for crossings and/or encroachment (available at www.plainsmidstream.com/page/damage-prevention-program); and
- Survey plan and/or design drawings (including plan view and profile or elevation view drawings) that shows the proposed activity in relation to the PMC asset.

For all applications please note:

- the crossing angle of proposed new facilities crossing the pipeline and/ or rights-of-way must be as close to 90° as possible
- no pre-load or surcharge will be allowed within the pipeline right-of-way. Pre-loading adjacent to a right-of-way is subject to review and approval by PMC

7.0 Drawing and Design Requirements - General

7.1 Plan View Drawings

All plan view drawings must include the following information:

- the unverified location of any of the pipeline and right-of-way boundary (to be verified by physical locate);
- a complete legal land description and civic address of the property;
- the location of the proposed crossing circled in red with dimensions to a reference point such as a legal property line, the pipeline, or right-of-way boundary;
- the location of all applicable property boundaries as well as road and utility right-of-way boundaries;
- the location of all PMC assets must be clearly identified and labeled; and
- a north arrow.

7.2 Profile or Elevation View Drawings

The elevation view drawing must include:

- the location of any pipeline and associated depth of cover; and
- all horizontal and vertical dimensions (clearances) from the pipeline(s)

PMC reserves the right to increase the minimum clearances listed in this document if deemed necessary.

The profile view drawings must comply with the following:

- for surface crossings, the profile shall be taken along the pipeline(s).
- for underground and aerial crossings, the profile shall be taken along the proposed new crossing facility.

Plan, profile and elevation view drawings will require additional information as outlined below, depending on the type of facility to be installed.

8.0 Drawing and Design Requirements – Facility Type

8.1 Roads and Parking Lots

The following additional information is required on the plan view drawing:

- all existing buildings within 30 metres (100 feet) of the pipeline;
- the parking stall layout; and
- the location of all access roads

The following additional information is required on the profile and elevation view drawings:

- a section view or description providing the proposed backfill structure around the pipeline

Design requirements:

- minimum depth of cover shall be 1.2 metres (4 feet) from the top of the pipeline to the final road grade
- maximum depth of cover shall not exceed 3 metres (9.8 feet)
- no parking or storage is permitted within 3 metres (10 feet) of a pipeline

8.2 RAILWAYS

Specific requirements for new railway crossings will be established based on location and other considerations. Please contact PMC directly.

8.3 TRAILS

Design requirements:

- minimum depth of cover shall be 1.2 metres (4 feet) from the top of the pipeline to the final grade

8.4 DITCHES

The following additional information is required on the profile and elevation view drawings:

- a section view shall include the dimensions of the width at the top of the ditch, the invert width of the ditch, and the depth of the ditch

Design requirements:

- minimum depth of cover shall be 1.2 metre (4 feet) from the top of the pipeline to the invert of the ditch

A description of any proposed ditch liners including the material type shall be included in the application

8.5 AERIAL CABLE UTILITIES

The following additional information is required on the plan view drawing:

- the location of all proposed poles, towers, guys, anchors, or any other supporting structure

None of these facilities will be permitted within the pipeline right-of- way.

The following additional information is required on the profile and elevation view drawings:

- section view providing a dimension of the proposed minimum height of the overhead cable(s) across the right-of-way

Design requirements:

- a description of the type, size, and voltage of the proposed cable(s)/powerline as applicable shall be included in the application.
- Note, Aerial Markers must be installed by the third party for any crossing over a Plains pipeline as warning for Plains air patrol.

8.6 UNDERGROUND UTILITIES

The following information is required in the application:

- for electrical, telephone, fibre optic, or other buried cables, the voltage (if applicable), conduit size, and method of installation must be included
- for pipelines including services, mains, and distribution systems, the pipeline specifications, type of cathodic protection, pipeline products and method of installation must be included

Design requirements:

- all underground utilities shall cross underneath the pipeline unless site conditions make it impractical
- for parallel works within a road allowance, the minimum horizontal clearance from the edge of the pipeline shall be 1.5 metres (5 feet)
- no parallel works are permitted within the right-of-way
- for underground utilities other than fibre optic cables, the minimum vertical clearance from the edge of the pipeline shall be 0.6 metres (2 feet)
- for fibre optic cables, the minimum vertical clearance from the edge of the pipeline shall be 0.6 metres (2 feet)

- for trenchless construction such as directional drills or boring, for all utilities the minimum vertical clearance from the edge of the pipeline shall be 1 metres (3.3 feet)
- all underground facilities shall maintain a constant elevation across the entire width of the right-of-way and extend a minimum of 0.6 metres (2 feet) beyond the right-of-way boundaries
- cables installed using trenching methods shall be installed within rigid PVC type conduit and encased in concrete with applicable warning marker tape across the entire width of the right-of-way
- for steel pipelines, the installation of a test tap may be required at the crossing location to monitor cathodic protection
- no junction boxes, manholes, kiosks, catch basins, valves, meters, or other similar facilities related to underground utilities are permitted within the right-of-way

8.7 LANDSCAPING

Design requirements:

- height of mature vegetation shall not exceed 1 metre (3.3 feet) within 3 metres (10 feet) of the pipeline and shall not exceed 1.8 metres (6 feet) on the remaining portions of the right-of-way
- tree canopies may be restricted over Plains' right-of-way to enable adequate aerial visual surveillance

8.8 FENCING/POSTS

The following information is required in the application:

- fence height and material of construction

Design requirements:

- minimum horizontal distance from the centreline of the pipe to the centreline of a post, sign or bollard shall be 2 metres (6.5 feet)

8.9 DRAIN TILE

The following guidelines must be followed when installing drain tile:

- Permitted field tile or drainage pipe shall cross Plains' pipeline right-of-way at or as near to 90° as possible with a minimum clearance of 12 inches above or below the pipeline. Crossings less than 45° are not permitted.
- Drain tile shall not drain onto a Plains right-of-way.
- Longitudinal runs of drain tile shall not be installed within Plains' pipeline right-of-way.

9.0 ONE-CALL SERVICE AND CLICK BEFORE YOU DIG

A minimum of three working days prior to commencing any construction or ground disturbance activities, contact the one-call service for your location:

Canada One-Call service website: www.ClickBeforeYouDig.com

Alberta:	1-800-242-3447
Saskatchewan:	1-866-828-4888
Manitoba:	1-800-940-3447
Ontario:	1-800-400-2255

10.0 REGULATIONS, CODES AND STANDARDS

The following provide requirements for facility installation over and in proximity to pipelines:

- Canadian Energy Regulator Act
- Canadian Energy Regulator Pipeline Damage Prevention Regulations – Authorizations
- Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies

- Canadian Standards Association CSA Z662 – Oil and Gas Pipeline Systems
- CSA C22.3 No. 1 – Overhead Systems
- Transport Canada TC E-10 – Standards Respecting Pipeline Crossings Under Railways
- Alberta Pipeline Act
- Alberta Regulation (Pipeline Rules)
- Saskatchewan Pipelines Act 1998
- Saskatchewan Pipeline Regulations 2000
- Manitoba Oil and Gas Act
- Ontario Environmental Protection Act