

Crossing and Encroachment Agreements and Correspondence

Purpose	This purpose of this document is to share learning's of operators relating to requirements in agreements for allowing utilities/roads/structures within the pipeline right-of-way (ROW).
Reference	DOT 49 CFR 195.442 "Damage prevention program" All Company property, permits, pipelines and rights-of-way PHMSA Pipeline and Informed Pipeline Alliance (PIPA) Recommended Practices National Energy Board (NEB) Pipeline Crossing Regulations Part 1 and 2
Appendices	<ul style="list-style-type: none"> • Appendix A: Forms and Reports • Appendix B: Other Documents
Related Toolbox Topics	<ul style="list-style-type: none"> • Unauthorized Activities, Encroachment, and Excavation: Management, Response, and Correspondence • ROW Patrol & Response (Air/Ground) • Excavation Monitoring and Observation • ROW Usage by Landowner

Responsibilities

Operators may assign people within their organization to be responsible for communication related to crossings and encroachments. Designated persons should coordinate with the Right-of-Way, Engineering, Legal and Regulatory Compliance Departments to ensure compliance with Company's encroachment guidelines and corrosion control procedures, including investigating encroachments, resolving encroachment issues, providing technical direction, implementing corrosion mitigation solutions, coordinating with appropriate personnel on all decisions to provide the Authorized Encroachment and maintaining the documentation.

Definitions

An encroachment agreement is a legally binding document signed by the Operator and the parties involved when a property encroachment exists. It states the agreed-upon resolution to the encroachment, which becomes binding between the parties.

A crossing agreement is a form of Joint Use Agreement used for the common usage of intersecting utilities.

Introduction

The following are examples of crossing and encroachment agreements, correspondence and other related documents provided by Operators. Operators must evaluate content and consider company requirements, policies and procedures prior to issuing for company use.

Training

Appropriate training may be required in order to handle crossing and encroachment agreements and correspondence. Operators should consult their legal counsel and right-of-way department before proceeding.

Documentation/Records

State law may require that you file these documents with the county clerk. Operators should consult their legal counsel before proceeding.

1 Appendix A: Forms and Reports

This appendix contains industry examples of forms and reports related to the topic.

1.1 Crossing / Encroachment Agreement

[COMPANY]

[Address]

[Address]

Encroachment No: _____

Date: _____

Encroaching Party: _____

Company Loc., Track No., Map, Line No. Station No. in County of.

[COMPANY] presents no objection to your proposed **XXX** encroaching upon [COMPANY]'s **XXX (commodity)** pipeline(s) as approved by Company's field representative, subject to the following conditions:

1. Notify State utilities protection center, in accordance with local, State and Federal laws. Company will not inspect or approve any work, until a locate notice (Dial 811) has been issued. Notify **XXX** by phone at [xxx-xxx-xxxx] at least two (2) working days prior to any construction, subsequent maintenance, or repair so that Company may provide a representative on the site. If he cannot be reached, then notify [Company Contact] at phone (xxx) xxx-xxxx.
2. No excavation or construction is permitted over Company pipeline(s) or within its right of way without a Company representative being present. The location of the pipeline(s) shall be identified prior to the beginning of any mechanical excavation work. If the location of the pipeline(s) is not known, only hand excavation will be allowed. Based on circumstances at the Encroachment site, Company's representative has the authority to determine the extent of hand excavation required. However, absent special permission from Company's Representative, no mechanized ditching or excavation shall be allowed with five (5) feet of the extremities of the pipelines. **IN ANY EVENT, ALL EXCAVATION WITHIN TWO (2) FEET OF THE PIPELINE(S) MUST BE ACCOMPLISHED BY HAND.** Where hand excavation is required, the Encroaching Party must provide adequate manpower to perform that work. Sub-grading, grading, and placement of fill over Company's pipeline(s) will require the approval of Company's field representative as to method and extent.
3. Full access must be maintained to the pipeline(s) at all times. Stockpiling including spoil, or topsoil over the pipeline(s), is not permitted, unless approved by the Company representative.
4. Underground utilities (i.e. storm drains, waterlines, telephone electric, etc.) may cross the easement, providing they maintain a minimum vertical clearance of twenty four (24) inches over or under Company's pipeline(s) , and cross at as near a perpendicular angle as practical. Septic drain fields and or sewage drains used for percolation are not permissible inside the pipeline

easement. All utility crossing of Company's pipeline(s) and respective easements must be constructed of galvanized steel, ductile iron double wrapped with poly wrap, reinforced concrete, or schedule 80 PVC for the entire width of the right of way being crossed.

5. Blasting within the immediate vicinity of Company's right of way shall be conditionally allowed. The contractor, planning blasting within 200 feet (61 m) of a pipeline or when scaled distance values at the pipeline are less than 50 feet, must give advance notification of proposed blasting and submit a completed blasting plan to be reviewed by Company, prior to the commencement of any blasting operations. A Company inspector is required to be on site to observe all drilling, loading, and blasting reports as required in Company Standard **XXX**. All blasting operations must meet the requirements of this standard as well as Occupational Health and Safety regulations contained in CFR Title 29, Part 1926, Subpart U-Blasting and Use of Explosives.
6. Any erosion control measures required for your development including temporary diversion dikes, sediment traps, silt fences, gravel outlets, and emergency spillways that may influence or contribute to the degradation of Company's right of way will require the approval of Company's field representative as to equipment and method. Under no circumstances shall water be impounded on the pipeline(s) right of way.
7. Upon request of the Encroaching Party, landowner or their agents, Company will determine the approximate location of its pipeline(s) and right of way limits; however, in doing so, Company makes no warrant as to the accuracy of the locations and measurements given. Company also cannot provide assurance that its permanent line markers are positioned directly over its pipeline(s).
8. Original vegetation on Company's right of way shall not be disturbed except in areas of approved construction and approved equipment and approved equipment crossings. Highly visible plastic fence or other approved temporary barricade will be required at contractor's expense along Company's easement boundaries if Company's field representative deems it necessary, to ensure that contractor traffic does not travel over the pipeline(s).
9. Permanent structures are not permitted on the right of way. Manholes, junction boxes, valve boxes, fire hydrants, service meters, storm drain inlets, and utility poles are considered permanent structures. No fences or temporary structures shall be allowed in the right of way without the express approval of Company's representative. Temporary structures include items such as signs, trailers, temporary power poles, etc.
10. Heavy equipment shall not be permitted to operate over the pipeline(s) unless earth adding has been provided to protect the pipeline from vibrating. Temporary equipment crossings over the pipeline(s) are permitted with six (6) vertical feet of cover over the pipeline(s) at selected locations as approved by Company's field representative. Depth of pipe as determined by test holes will determine amount of temporary fill required. Colored sheets of plastic shall be placed under the temporary fill at original grade so that original grade will not be disturbed when temporary fill is removed. No equipment or vehicles may be parked on the right of way. No material may be stored on the right of way.
11. The Encroaching Party acknowledges that Company's pipeline(s) have impressed electrical current for the protection of the steel. Only Company's personnel will correct any loss of this protection caused by the Encroaching Party. The costs to correct this damage will be paid by the Encroaching Party.

12. Only low growing ornamental type shrubbery with a maximum expected height of four (4) feet shall be allowed within the right of way. In addition, no pipeline marker shall be obscured from public view.
13. Relocation or removal of Company's pipeline markers shall not be permitted without the approval of a Company representative. Pipeline markers made unusable or damaged shall be repaired or replaced at the Encroaching Party's expense.
14. Parallel occupancy of the pipeline's easement with road right of way, or utilities is not permitted. Crossing shall be as near as perpendicular angle to the easement as practical.
15. All proposed roadways and parking areas should maintain a minimum of five (5) feet from top of pipe to top of finished road surface and three (3) feet minimum vertical cover in open drainage or road ditches. Company's Engineering may increase these minimum requirements as determined by a stress analysis of the pipe, and other variable conditions and factors. Company may consider concrete protection slabs, per Company's specifications as an option, to be installed to protect the pipeline(s).
16. All pipeline(s) within the proposed Encroachment, will be excavated and visually inspected, with the possible reapplication of pipeline coatings applied by a Company contractor, at the full expense of the Encroaching party. Company requires that the pipeline coating system be evaluated for suitability of service in relation to the proposed Encroachment. Should Company deem that the coating system is insufficient due to increased soil stresses or other factors, Company will, at the developer's expense, upgrade the pipeline coating to accommodate the proposed Encroachment. Company will backfill the inspected area to its standard, and will not be held responsible for compaction. (NOTE: A **Pipeline Accommodation Agreement** for reimbursement to Company shall be executed between Company and the Encroaching Party prior to such adjustment.)
17. Cover above the pipeline(s) shall be a minimum of four (4) feet, and in general a maximum for six (6) feet, unless approved by Right of Way Coordinator.
18. The burning trash, debris, etc. shall not be permitted within Company's right of way.
19. Should any damage occur to the herein permitted Encroachment, as a result to Company's exercising any of its rights at any time, Company will not be responsible for said damage; and any expense or monetary cost involved in the repair of said damages will be borne by owners of said damaged Encroachment.
20. Encroaching Party agrees to defend and hold Company harmless from all loss, cost, or other expense, including personal property and bodily injuries, whether occurring to it or to Company, or the respective employees, agents and servants of either, or to third parties, which are proximately caused by or arise from the installation, maintenance, or repair of the herein permitted works, with the exception of claims due to the sole negligence of Company.
21. This approval is granted only to the extent of and with no actual or implied diminishment of Company's rights and interests and without either express or implied warranty.
22. Fences shall be constructed with gates sufficiently large enough to allow Company's personnel and equipment the right of ingress and egress. Fence posts shall be installed at least five (5) feet to the side of any pipeline, with the approval of the field representative.
23. If the approximate location of the pipeline(s) is required, steel prod bars, shovels, and electrical sending devices may be used by Company's field personnel only. It should be noted that these

methods are only approximate and can be misleading. The exact location of the pipeline(s) can best be found with test pitting.

24. If test pitting is required to determine the exact location, and elevation, of the pipeline (s) the Encroaching Party agrees to notify the undersigned at least two (2) working days in advance, so that he may provide a Company field representative to be at the site. This representative must be present during the test pitting for the protection of the pipeline(s), and for the common verification of its location. All costs for this test pitting, and for the Company or other design criteria stemming from the amount or location of this test pit data is the responsibility of the Encroaching Party.
25. Company reserves the right to open, cut, excavate and dig across the proposed road, railway, sidewalks, avenues, utility lines, or any other Encroachment herein granted by this agreement, and in any such event, Company shall not be liable for the restoration for same, or the payment of any damages to the Encroaching Party.
26. Excavation or grading which might result in erosion or which could render the right of way inaccessible shall not be permitted unless the Encroaching Party agrees to restore the area and provide protection to Company's pipeline(s). Any erosion control measures within the right of way protection to Company's pipeline(s). Any erosion control measures within the right of way including diversion dikes, sediment traps, silt fences, gravel outlets, and emergency spillways will require approval of the Company representative, as to the equipment and method.
27. If construction on the aforementioned project is not initiated within one calendar year of the date of this letter of agreement, the Company shall have the right to reconsider the condition and privileges herein granted, and have full right to alter same, dependent upon, current protocol.
28. The Encroaching Party agrees that all work on Company's right of way shall be performed in a Workmanlike manner and in compliance with all applicable government and industry standards and costs.
29. Upon failure of the Encroaching Party, owner or his agents to comply with any of the terms of this agreement, Company reserves the right to revoke this Agreement in its entirety, prevent same from continuing any activity in violation of the terms if this Agreement or its rights under its easements and prior agreements and make any necessary repairs or adjustments to its pipeline(s) or right of way with its own or contract forces at the expense of the party requesting the Encroachment.
30. Company will have the option of installing video surveillance camera(s) to provide continuous monitoring of its facilities.
31. Notwithstanding anything to the contrary in this Agreement, Encroaching Party is not allowed to perform the encroaching activities contemplated hereunder without first paying Company for any Accommodation Work necessary to be performed by Company to protect its pipeline(s) and rights of way from those encroaching activities. Additionally, if such Accommodation Work is required, the encroaching activities will not be initiated until said Accommodation Work is completed. Said Accommodation Work and estimate therefore should have been outlined in detail in previous correspondence to Encroaching Party is required to request same.
32. Should your project be ongoing in close proximity to Company's pipeline(s) for an extended period of time, it will be necessary for a Company representative to be on-site for a significant duration. Accordingly, since such extended inspection time is outside the scope of Company's normal

operations, you will be billed for that representative's time. Company's policy is to bill for any inspection time in excess of a total of 10 hours (cumulative for that project) and for any evening, weekend, or holiday.

33. This agreement approves only the work specified above. All utility Encroachments will need to be approved by the local inspector for Company.
34. The following special conditions shall apply, and be required for this project.

Please signify acceptance of the above conditions by proper official in the space provided below, and return to the Right of Way Office. Company will notify you to proceed with your project upon receipt of the signed original.

Sincerely,

(Company Right-of-Way Rep)

ACCEPTED AND AGREED TO THIS _____ DAY OF _____ 20__.

(signature)

(Company)

BY: _____
(Name, typed or printed)

TITLE: _____
(typed or printed)

Original: Right of Way Department

1.2 Encroachment Agreement

This Encroachment Agreement ("**Agreement**") is made and entered into by and between Company, whose address is **[Address]**, (hereinafter called "**Company**"), and Corporation, a **[State]** corporation, whose mailing address is **[Address]**, its heirs, successors, assigns and grantees (hereinafter called "**Owner**").

WITNESSETH:

WHEREAS, **Owner** represents and warrants that **Owner** owns all the certain land (hereinafter "**Owner's Land**"), described on attached **Exhibit "A"** and made a part hereof, per the _____ Deed executed on the _____ day of _____, _____ and recorded in the records of _____ County, _____ on the _____ day of _____, _____ in Volume/Book____, Page____; and

WHEREAS, **Company** is the owner of certain pipelines, pipeline facilities and appurtenances (hereinafter referred to as the "**Company Facilities**") and easement rights therefore, (hereinafter referred to as the "**Easement**", whether or not rights were granted in one or more documents or acquired by operation of law). For purposes of this **Agreement** only, "**Company's Easement Tract**" shall be considered to be any area within Fifty (50) feet of any **Company Facilities**, unless a different right of way tract width is specifically described in the **Easement**, in which case such specified width shall define **Company's Easement Tract**. The land referenced in the Easement includes a portion of the **[Easement Address/Description/Location]**, pursuant to those certain instruments recorded in the records of said county and state and described as follows:

1. Right of Way Agreement as to a pipe line or pipe lines dated **[Date]**, from **[Names]**, in favor of Pipe Line Company (Company's predecessor in title), its successors and assigns, and filed for record in Book **XX** at Page **XXX** of the **[County]** County Deed Records; and

WHEREAS, for the purposes of this **Agreement** an "**Encroachment**" is defined as any use of the land within **Company's Easement Tract** by someone other than **Company**, which could interfere with **Company's Easement** rights or could create safety concerns related to **Company's Facilities** as more fully described in **Company's General Encroachment Requirements** as set forth in attached **Exhibit "B"** and incorporated herein by reference. **Company does not permit or authorize any Encroachments unless specifically approved in a written agreement identifying all "Approved Encroachments"**; and

WHEREAS, **Owner** desires to obtain **Company's** consent for one or more **Encroachments** on **Company's Easement Tract**;

NOW, THEREFORE, in consideration of the covenants and agreements herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, **Company**, subject to the following terms and provisions, hereby consents to the **Encroachments** listed below as "**Approved Encroachments**" described and limited pursuant to the following specified plan drawings, which were furnished by **Owner** to **Company** ("**Plan Drawings**") and attached hereto as **Exhibit "C"**:

1. Plan and Profile Drawing No. **X** on project number **XXXXX** by **[Incorporated]** dated **[Date]**, as plotted **[Date]**.
2. Plan and Profile Drawing No. **X** on project number **XXXXX** by **[Incorporated]** dated **[Date]**, as plotted **[Date]**; and

TERMS AND PROVISIONS

1. **No Other Encroachments.** Except for the **Approved Encroachments** as allowed by this **Agreement**, **Owner** shall not create, erect, place or construct any other **Encroachment** on, above or below the surface of the ground on **Company's Easement Tract**, or change the grade or elevation of the ground surface within **Company's Easement Tract** or at any time plant or allow any trees thereon or cause or permit any of these to be done by others, without the express prior written permission of **Company**.
2. **Company On-Site Representative.** Exclusive of Saturday, Sunday, and legal holidays, **Owner** shall notify **Company** a minimum of 48 hours in advance of any **Encroachment** activities on **Company's Easement Tract** so that **Company** may arrange to have a representative present. At **Company's** option and at **Owner's** sole cost and expense, **Company's** representative may be on site during all **Encroachment** activities over or within ten feet (10') of the **Company Facilities** to confirm that no damage occurs to the **Company Facilities**. The presence of **Company's** representative or any verbal instructions given by such representative shall not relieve **Owner** of any liability under the **Easement** or this **Agreement**, and will not change the terms of the **Easement** or this **Agreement**, which may only be changed by written agreement by authorized representatives of **Owner** and **Company**. If pipeline, coating, cathodic protection and/or any other repair of **Company Facilities** is required by **Company** or if the safety of the **Company Facilities** is jeopardized, in **Company's** sole judgment, **Owner** shall stop all construction activities on **Company's Easement Tract** until said repairs are completed or until any unsafe construction practices are resolved to the satisfaction of **Company's** on-site representative. Written notification of such construction activity shall be made to **COMPANY, Coordinator of Operations & Maintenance, ADDRESS, Office:(XXX) XXX-XXXX, Cell: (XXX) XXX-XXXX, Fax: (XXX) XXX-XXXX**, or such other representative of **Company**, which **Company** may from time to time designate.
3. **Protection of Company Facilities.** **Owner** shall protect the **Company Facilities** if excavating and backfilling become necessary within **Company's Easement Tract**. If excavating within 2 feet of any **Company** pipeline or when otherwise deemed necessary by **Company's** on-site representative, **Owner** shall perform any necessary digging or excavation operations by hand digging. **Owner** shall reimburse **Company** for all costs of having a representative of **Company** on-site during construction activities related to the **Approved Encroachments**.
4. **Breach.** If either **Owner** or **Company** breaches this **Agreement** and the non-breaching party commences litigation to enforce any provisions of this **Agreement**, the reasonable cost of attorneys' fees and expenses will be payable to the non-breaching party by the breaching party upon demand, for all claims upon which the non-breaching party prevails.
5. **Insurance.** **Owner** shall procure or cause its contractors and subcontractors to procure and maintain in force throughout the entire term of this **Agreement** insurance coverage described

below with insurance companies acceptable to **Company** for work performed related to the construction of the **Approved Encroachments**. All costs and deductible amounts will be the responsibility and obligation of the **Owner** or its contractors and subcontractors. Prior to commencing any activities related to the construction of the **Approved Encroachments**, the **Owner** must deliver to **Company** certificate(s) of insurance, naming **Company** and its Affiliates as an additional insured. The limits set forth below are minimum limits and will not be construed to limit the **Owner's** liability:

- a. Workers' Compensation insurance complying with the laws of the State or States having jurisdiction over each employee and Employer's Liability insurance with limits of \$1,000,000 per accident for bodily injury or disease.
- b. Commercial General Liability insurance on an occurrence form with a combined single limit of \$5,000,000 each occurrence; and for project specific, an annual aggregate of \$5,000,000. Coverage must include premises/operations, products/completed operations, and sudden and accidental pollution. **Company** and its Affiliates (hereinafter defined), and its and their respective directors, officers, partners, members, shareholders, employees, agents, and contractors shall be included as additional insured's. The term "Affiliate(s)" as used herein means, with respect to **Company**, any individual, corporation, partnership, limited partnership, limited liability company, limited liability partnership, firm, association, joint stock company, trust, unincorporated organization, governmental body, or other entity (collectively, a "Person") that directly, or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with **Company**. The term "control" (including the terms "controlled by" and "under common control with"), as used in the previous sentence means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of **Company** or such Person, as applicable, whether through ownership of voting stock, ownership interest or securities, by contract, agreement or otherwise.
- c. The Sudden and Accidental Pollution can be a separate, stand alone policy, but must still meet the \$5,000,000 minimum limit requirement. If the coverage is written on a claims-made policy form, the coverage must be maintained for two (2) years following completion of the work activities related to the **Approved Encroachments**.
- d. In each of the above policies, the **Owner** or its contractors and subcontractors agree to waive and will require its insurers to waive any rights of subrogation or recovery either may have against **Company** and its affiliated companies.
- e. Regardless of the insurance requirements above, the insolvency, bankruptcy, or failure of any such insurance company providing insurance for the **Owner** or its contractors and subcontractors, or the failure of any such insurance company to pay claims that occur, such requirements, insolvency, bankruptcy or failure will not be held to waive any of the provisions hereof.
- f. In the event of a loss or claim arising out of or in connection with the construction of the **Approved Encroachments**, the **Owner** agrees, upon request of **Company**, to submit a certified copy of its insurance policies for inspection by **Company**.
- g. The **Owner** shall require all of its contractors and subcontractors for work related to the construction of the **Approved Encroachments** to provide adequate insurance coverage, all to be endorsed with the Waiver of Subrogation wording referenced in Section (d) above; any

deficiency in the coverage, policy limits, or endorsements of said contractors and subcontractors, shall be the sole responsibility of the **Owner**.

6. **Indemnification.** **Owner** will indemnify, save, and hold harmless **Company**, its affiliated companies, directors, officers, partners, employees, agents and contractors from any and all environmental and non-environmental liabilities, losses, costs, damages, expenses, fees (including reasonable attorneys' fees), fines, penalties, claims, demands, causes of action, proceedings (including administrative proceedings), judgments, decrees and orders resulting from **Owner's** breach of this **Agreement** or caused by or as a result of the construction, use, maintenance, existence or removal of the **Approved Encroachments** or **Other Encroachments** located on the **Company Easement Tract**. The presence of **Company's** representative or any instructions given by such representative will not relieve **Owner** of any liability under this **Agreement**, except to the extent that such liability results from **Company's** or its representative's gross negligence or willful misconduct.
7. **Damage or Loss.** **Owner** covenants that:
 - a. If at any time, in the sole opinion of **Company**, it becomes necessary for **Company**, to cross, occupy, utilize, move or remove all or portions of the **Approved Encroachments** placed on **Company's Easement Tract** or constructed pursuant to this **Agreement**, for any purpose, including but not limited to surveying, constructing new facilities, maintaining, inspecting, operating, protecting, repairing, replacing, removing or changing the size of a pipeline(s) and appurtenances on **Company's Easement Tract** and such activities by **Company** result in damage to or destruction of the **Approved Encroachments**, then repair, replacement or restoration of such **Approved Encroachments** shall be at the sole cost and responsibility of **Owner**.
 - b. If at any time, any encroachments belonging to or permitted by **Owner** which are not authorized by this or another written agreement ("**Other Encroachments**") are found to be on **Company's Easement Tract**, **Company** may at any time request **Owner** to remove such **Other Encroachments**, and if **Owner** refuses or fails to do so within a reasonable time, **Company's** may remove them from **Company's Easement Tract** to **Owner's Land** at **Owner's** expense, unless they are allowed to remain by a written agreement between **Company** and **Owner**. Should such removal activities by **Company** result in damage to or destruction of the **Other Encroachments**, then repair, replacement or restoration of such **Other Encroachments** shall be at the sole cost and responsibility of **Owner**, and such **Other Encroachments** may not be repaired, replaced or rebuilt on **Company's Easement Tract** without a written agreement between **Company** and **Owner**.
 - c. If during the exercise of the rights granted by the **Easement** or by this **Agreement**, the **Approved Encroachments** and **Other Encroachments**, if any, are damaged, destroyed or suffer loss of value, **Owner** agrees to release **Company**, its affiliates, and its and their respective directors, officers, members, partners, shareholders, employees, agents and contractors from and against any and all liabilities, and damages or losses which may arise as a result of the damage to or loss of use of the **Approved Encroachments** and **Other Encroachments**, if any, caused by **Company**, its employees, agents and contractors.
8. **Company Rights.** **Company** and **Owner** agree that the existence of the **Approved Encroachments** or this **Agreement** does not constitute a waiver of **Company's** rights under the **Easement**.

Company hereby reserves and **Owner** hereby grants and confirms all of **Company's** rights, title and estate as set forth in the **Easement**.

- 9. The terms and conditions of this **Agreement** will constitute covenants running with the land and be binding upon and inure to the benefit of the parties hereto, their successors, assigns and grantees. This **Agreement** may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument. This **Agreement** shall become effective upon its complete execution by the parties hereto.

IN WITNESS WHEREOF, the parties have set their hands on the dates expressed below.

COMPANY PIPELINE COMPANY, L.P. (COMPANY)

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

Date: _____ Date: _____

STATE OF _____)

_____) SS

COUNTY OF _____)

Before me, the undersigned, a Notary Public in and for the County and State aforesaid, on this ____ day of _____, 20XX personally appeared _____, to me personally known to be the Authorized Signatory for COMPANY, a _____ limited partnership, who being duly sworn did acknowledge to me that he/she executed the foregoing instrument on behalf of said limited partnership as the free and voluntary act and deed of said partnership, for the uses, purposes and consideration therein set forth.

Witness my hand and official seal.

Notary Public

My commission expires: _____

STATE OF _____)

_____) SS

COUNTY OF _____)



Before me, the undersigned, a Notary Public in and for the County and State aforesaid, on this ____ day of _____, 20XX, personally _____, to me personally known personally to be the of CORPORATION, a [State] corporation, who being duly sworn did acknowledge to me that he/she executed the foregoing instrument on behalf of said CORPORATION as the free and voluntary act and deed of said corporation, for the uses, purposes and consideration therein set forth.

Witness my hand and official seal.

Notary Public

My Commission Expires: _____

EXHIBIT "A"**Owner's Land****EXHIBIT "B"****GENERAL ENCROACHMENT REQUIREMENTS****EXHIBIT "C"****PLAN DRAWINGS****General Encroachment Requirements**

A. GENERAL - These requirements define the minimum standards of practice for encroachments by a landowner (including any developer, business entity, utility company or individual working for, or on behalf of, or with permission of landowner) (herein referred to collectively as "Owner") to pipeline corridors and rights of way ("[COMPANY]'s Easement Tract") owned or operated by [COMPANY] ("COMPANY"). Upon written request by Owner to COMPANY, a copy of these minimum requirements shall be provided to any developer, business entity, utility company or individual working on behalf of Owner or with the permission of Owner within COMPANY's Easement Tract. Specific circumstances may require additional precautions or more stringent methods in order to protect the integrity of COMPANY's pipelines and facilities. COMPANY's Easement Tract for purposes of these General Encroachment Requirements shall be considered to be any area within fifty (50) feet of any COMPANY pipeline or other COMPANY-owned or operated facility unless a different right of way width is specified by one or more recorded right of way or easement documents (herein collectively called "Easement", whether one or more), in which case such specified width shall define COMPANY's Easement Tract.

1. **Encroachment Definition.** An "encroachment" is any use of the land within COMPANY's Easement Tract which could interfere with COMPANY's Easement rights or which could create safety concerns for COMPANY pipelines and/or facilities located on COMPANY's Easement Tract. Encroachments include, but are not limited to: structures, fixtures, personal property, landscaping, foreign utilities, foreign pipelines, roadways, railroads, waterway crossings, water impoundments, walls, heavy equipment and heavy loads on COMPANY's Easement Tract, and also any excavation, digging, drilling, tunneling and addition, removal or disturbance of soil or subsoil within COMPANY's Easement Tract.
2. **COMPANY Representative Required On-Site.** COMPANY pipeline systems operate at high pressures, and for safety reasons, COMPANY requires its company representatives to be on-site while Owner is excavating or performing other activities which could endanger the COMPANY pipelines or other facilities on COMPANY's Easement Tract. For other activities of the Owner on the COMPANY Easement Tract, the COMPANY field representative shall determine whether COMPANY's continuous presence or periodic monitoring of encroachment activities will be required and shall inform the Owner. A COMPANY representative will be made available upon 48 hours notice (exclusive of weekends and holidays) to determine the location and approximate depth of any COMPANY pipelines. No excavation shall be commenced without prior written approval from COMPANY and verification by COMPANY of the location and approximate depth of its pipelines.

3. **COMPANY's Facilities.** COMPANY's facilities include, but are not limited to, Easement, rights of way, pipelines, meter and valve sites, aboveground piping manifolds and cathodic protection systems.
4. **Land Use Change - Notification.** The landowner and tenant, if any, must notify COMPANY at any and every time when the land use will be changed for land on or adjacent to COMPANY's Easement Tract. Examples of such land use changes are:
 - o Change from pasture to cultivation
 - o Change in depth of tilling (e.g. plowing deeper or deep-breaking the land)
 - o Change in that terraces will be cut or re-cut
 - o Change from agricultural use to residential, commercial or industrial use.
 - o Change from residential to commercial or from commercial to industrial.
5. **Governmental Regulations and Industry Guidelines.** Owner must comply with all applicable laws and regulations, as well as COMPANY's policies as expressed herein. Owner is also hereby referred to the Common Ground Alliance Best Practices which can be found on the web site: www.commongroundalliance.com (See "Program Information" / "Best Practices") and which is available from Common Ground Alliance in booklet form for easy reference. Best Practices addresses the most common issues for damage prevention for an encroaching party, including, among others: Planning and Design; One-Call Center; Locating and Marking; Excavation; and Mapping.

In the event of a conflict between laws and regulations, COMPANY's policies and the Common Ground Alliance Best Practices, the following priority shall govern encroachments on COMPANY's Easement Tract: 1st -- laws and regulations; 2nd -- COMPANY policies; and 3rd -- Common Ground Alliance Best Practices.

B. COMPANY RIGHT OF WAY PRACTICES

1. **Personal Property and Fixtures To Be Kept Off of COMPANY's Easement Tract.** In order to keep COMPANY rights of way clear for operations, maintenance, inspection and emergency access, personal property and fixtures shall not be placed, stored or maintained on COMPANY's Easement Tract. Personal property and fixtures include, but are not limited to, storage sheds, automobiles, trailers, mobile homes, above-ground swimming pools, business equipment, product inventory, scrap metal, boulders, large rocks, debris, junk and piles of materials.
2. **Encroachments Subject To Being Cleared From COMPANY's Easement Tract.** Subject to the terms of its Easement (including right of way agreement[s] and other written agreements) , COMPANY may keep COMPANY's Easement Tract clear of items that may hinder the exercise of COMPANY's rights to construct, operate, inspect, maintain, repair and access its pipelines and other facilities. Clearing of the COMPANY's Easement Tract shall include, but not be limited to the following: removal of trees, brush, crops, other vegetation and non-permitted encroachments located on or overhanging all or part of any COMPANY's Easement Tract. Trees or other vegetation overhanging COMPANY's Easement Tract may be side-trimmed.

C. ENCROACHMENT PLANNING

1. **Plan Review Required by COMPANY.** For any encroachment, **COMPANY** must be provided project plans to review and approve, *prior to the encroachment occurring*, for purposes of damage prevention.
2. **Submission of Complete Plans.** Owner must submit complete plans to **COMPANY** for review. Incomplete plans could delay **COMPANY's** engineering impact study and insufficient information could result in increased costs. Plans must include:
 - A plan view of the project with the *pipeline(s) location included*.
 - An illustration in *profile* of the existing surface elevations, the proposed surface elevations and the elevation of the **COMPANY** pipeline(s).
 - A comprehensive utility/structure/grading plan depicting the relationship to the pipeline(s).
 - A proper legal description of the project location.
 - Complete landscaping plans.
 - Complete plans for backfilling and compaction of backfill material.
3. **Plans Must Show COMPANY's Easement Tract, Pipelines and Facilities.** All construction plans (prints) showing lands where all or any part of **COMPANY's** Easement Tract, any **COMPANY** pipeline or facility is located must contain the following:
 - Location and depth of all **COMPANY** pipelines and facilities
 - The width of **COMPANY's** Easement Tract
 - A standard warning statement *conspicuously displayed* containing the following language:

WARNING

HIGH-PRESSURE PIPELINE(S)

Excavation and/or Construction Prohibited

Without compliance with **State One-Call**, AND

Without Written Permission From

COMPANY PIPELINE COMPANY, L.P.

4. **Written Encroachment Agreement Required.** A written, fully executed Encroachment Agreement must be in place between **COMPANY** and **Owner** before **Owner** commences work on any encroachment.
5. **Costs.** Unless otherwise agreed in writing, all costs to **COMPANY** that result from any encroachment should be paid by **Owner**. Such costs shall include, but not be limited to: modification, replacement, lowering, and protection of pipelines, including engineering evaluation and design, field labor and real estate research and document preparation and handling.

6. **Pipeline Integrity Inspection.** Prior to the installation of any structure, parking lot, roadway or other facility which might interfere with or hinder **COMPANY's** inspection of any pipeline or facility, **COMPANY** will perform an integrity review of its pipeline and any other assets which may be affected by the proposed structure, parking lot, roadway or other encroaching facility in order to determine that **COMPANY's** assets comply with integrity requirements and to allow **COMPANY** to make any needed changes prior to construction of any encroachments.
7. **Soil On COMPANY's Easement Tract -- Removing and Adding.** No soil shall be removed from or added to **COMPANY's** Easement Tract without written authorization from **COMPANY**. Any soil added must be clean (without contaminants, trash or debris) fill dirt and must be *limited in amount* so that the resulting cover (vertical distance from the surface of the land to the top of **COMPANY's** pipeline) is not greater than eight feet (8').
8. **Erosion Control Materials.** Erosion-control materials may be allowed on **COMPANY's** Easement Tract for temporary periods of construction and restoration.
9. **Proof of Title to Property.** **COMPANY** may require **Owner** to provide proof of current ownership of the land where the proposed encroachment is to be located. Such proof may be in the form of a Title Commitment, Title Policy, or a copy of a recorded Warranty Deed.
10. **Subdivision Plat.** **COMPANY** requires a copy of the Subdivision Plat, if applicable. If the plat has been recorded, **COMPANY** requires a copy indicating the book and the page of the recording.
11. **Location and Approximate Depth of Pipelines.** A **COMPANY** representative is normally available with 48 hours notice (exclusive of weekends and holidays) to determine the location and approximate depth of the pipeline(s). Determining actual depths of pipelines may require pot-holing or hand-digging by, and at the expense of Owner in the presence of an authorized **COMPANY** representative. No excavation on **COMPANY's** Easement Tract shall take place without approval by **COMPANY**.
12. **Vertical Separation between COMPANY Pipeline or Facility and an Encroaching Object or Structure.** Vertical separation is defined in this document as the vertical distance between the outermost part of a **COMPANY** pipeline, facility or appurtenance (for example, the outside of the pipe [for uncased pipe] or the outside of the pipe casing [for cased pipe]) and the outermost part of the encroaching object (for example, the outside of the encroaching pipeline or the outside of its conduit).
13. **Construction Equipment Information.** Owner shall provide to **COMPANY** information as to the type, size, and weight of construction equipment that will be used over or in the vicinity of the pipeline(s).

D. ENCROACHMENT DESIGN REQUIREMENTS & STANDARDS

1. **Risk of Loss and Damage.** Owner shall bear the risk of loss, damage and/or destruction to any structure, fence, landscaping or improvement placed within the boundaries of **COMPANY's** Easement Tract and shall hold **COMPANY** harmless for damages, destruction of structures and for any consequential damages which may arise out of **COMPANY** or its designees exercising **COMPANY's** Easement rights or which may arise out of accessing **COMPANY's** Easement Tract, pipelines or facilities.
2. **Buildings, Structures and Fences.**

- a. **Buildings and Structures.** No buildings, houses, barns, garages, patios, playhouses, sheds, septic systems or drain fields, swimming pools (above-ground or below-ground), reinforced concrete slabs or other similar structures will be permitted on the **COMPANY's** Easement Tract.
 - b. **Septic System not permitted.** No septic-system, including any lateral lines will be permitted on **COMPANY's** Easement Tract.
 - c. **Retaining Walls.** Retaining walls are not permitted on **COMPANY's** Easement Tract.
 - d. **Fences.** No fence shall be constructed or maintained on **COMPANY's** Easement Tract without a written agreement.
 - e. **Requirements for Fences.** If fencing on **COMPANY's** Easement Tract is authorized by a written agreement with **COMPANY**, the fencing must comply with the following:
 - 1) **Not Parallel to Pipeline.** No fence shall be allowed to be constructed parallel closer than 10 feet to any **COMPANY** pipeline, within the boundaries of **COMPANY's** Easement Tract.
 - 2) **Fence Posts Location.** No fence posts will be allowed to be within five (5) feet of any **COMPANY** pipeline or facility.
 - 3) **Gates Required.** **COMPANY** may require any fence constructed within the boundaries of **COMPANY's** Easement Tract to have gates of such size and suitability as is necessary or convenient for **COMPANY** to access its pipelines and/or facilities for its operations, including inspections, at each point where the fence crosses a **COMPANY** pipeline or facility boundary. **COMPANY** shall be allowed to put a **COMPANY** lock on such gates, which will allow access to **COMPANY's** Easement Tract and/or facilities through such gates.
 - 4) **Angle of Fence Crossing.** It is preferred that fence crossings be as close to 90 degrees as possible.
3. **Landscaping, Elevation Changes and Water.**
- a. **Landscaping Definition.** Landscaping shall include, but not be limited to, trees, shrubs, underground irrigation or sprinkler systems, sidewalks or other paths, retaining walls, terraces or other land grade changes, within **COMPANY's** Easement Tract.
 - b. **General Landscaping Requirements.** The following are the general rules for landscaping on **COMPANY's** Easement Tract:
 - 1) **Written Approval.** Landscaping proposed to be done on **COMPANY's** Easement Tract must be approved by **COMPANY** in a **written encroachment agreement**. Among other terms, the encroachment agreement will release **COMPANY** from any liability for damages to the landscaping from the exercise of **COMPANY's** Easement rights.
 - 2) **Trees Not Permitted.** Trees are not permitted on **COMPANY's** Easement Tract.
 - 3) **Shrubs.** Shrubs exceeding 3 feet in height and/or obstructing the view of any **COMPANY** pipeline marker posts are not permitted on **COMPANY's** Easement Tract.
 - 4) **Irrigation Systems, Field Drain Lines, and Sidewalks.** Irrigation systems, field drain lines and sidewalks that are to cross a **COMPANY** pipeline must cross such pipeline at an

angle as close to 90 degrees as possible, but in no event at an angle less than 45 degrees and must comply with other applicable provisions of this document.

- c. **No Water Bodies On COMPANY's Easement Tract.** Retention of water, including but not limited to, Livestock ponds, lakes, retention ponds, or wetlands may not be constructed or formed on **COMPANY's** Easement Tract.
- d. **Surface Grade and Elevation Changes.** Surface grade or elevation changes must be reviewed and approved in writing by **COMPANY**.

E. EXCAVATION NEAR COMPANY PIPELINES.

1. **STATE "ONE-CALL" REQUIRED.** No excavation or activity listed in "A. GENERAL - 1. Encroachment Definition" above shall be performed by **Owner** in the vicinity of **COMPANY's** facilities or within **COMPANY's** Easement Tract until proper telephone notification has been made to the appropriate "One Call" system and a **COMPANY** representative is on-site to monitor excavation activities. All of the states in which **COMPANY** conducts pipeline operations have "One Call" laws, which require 48-72-hours notification prior to any excavation related activities. After making a One-Call, the state One-Call agency will notify **COMPANY** to mark accurately, in a reasonable and timely manner, the location of the **COMPANY's** pipeline facilities in the vicinity of the proposed encroachment.
2. **ONE-CALL NOTIFICATION.** *The following list is provided for convenience, but is not warranted by COMPANY to be complete or accurate (telephone numbers were copied from each state's web site on 1/5/2004). Owner is required to acquire and call the appropriate One-Call number(s) for its location of activity.*

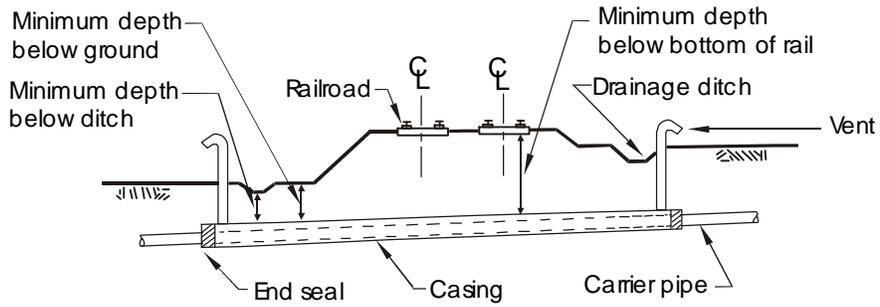
Current "ONE-CALL" numbers and information can be found on each state's "ONE-CALL" website:

Arkansas - http://www.arkonecall.com/	800 482-8998
Colorado - www.uncc2.org/	800 922-1987
Illinois - www.illinois1call.com/	800 892-0123
Iowa - www.iowaonecall.com/	800 292-8989
Kansas - www.kansasonecall.com/	800 344-7233
Minnesota - www.gopherstateonecall.org/	800 252-1166
Missouri - www.mo1call.com/	800 344-7483
Nebraska - www.ne-diggers.com/	800 331-5666
North Dakota - www.ndonecall.com/	800 795-0555
Oklahoma - www.callokie.com/	800 522-6543
South Dakota - www.sdonecall.com/index.asp	800 781-7474
Texas - www.texasonecall.com/	800 245-4545
Wisconsin - www.diggershotline.com/	800 242-8511

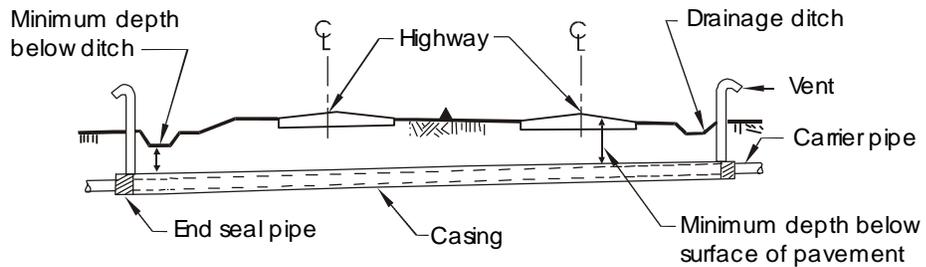
Alternatively, the National One-Call number – (811) may be used to register a proposed excavation and to subsequently notify underground utility operators with assets in the vicinity.

3. **Excavation Plan Approval.** Owner shall submit to **COMPANY** for its approval plans for any proposed excavation on the **COMPANY** Easement Tract. No excavation on **COMPANY**'s Easement Tract shall be commenced until Owner has secured **COMPANY**'s written approval of the plans. The excavation work shall be in compliance with all applicable laws and regulations. **Owner** is also referred to the Common Ground Alliance Best Practices (referenced in this document).
4. **COMPANY Representative On-Site for Excavation.** A **COMPANY** representative must be on-site when an excavation is occurring on **COMPANY**'s Easement Tract (*see provision "2" under "A. General" beginning on page 1*).
5. **Removal of Side-Cutting Teeth from Equipment.** Side-cutting teeth shall be removed from buckets of excavating equipment.
6. **Parallel Excavating Required.** When, in preparation for crossing any **COMPANY** pipeline with any other pipeline or with electric line, communication line, roadway or any other structure or facility, **Owner** needs to locate a **COMPANY** pipeline by use of mechanical means. **Owner** must perform such locating activity by excavating parallel to the **COMPANY** pipeline with such mechanical means, but shall cease using the mechanical means when it reaches a point within two feet of the **COMPANY** pipeline (*see next provision*).
7. **Exposing Pipeline by Hand.** Excavating within 2 feet of any **COMPANY** pipeline shall be done by *hand-digging* until the pipeline is exposed and its location is accurately known. Then, **Owner** must position the excavation equipment so that from the point of operations the equipment will not reach within 2 feet of any **COMPANY** pipeline.

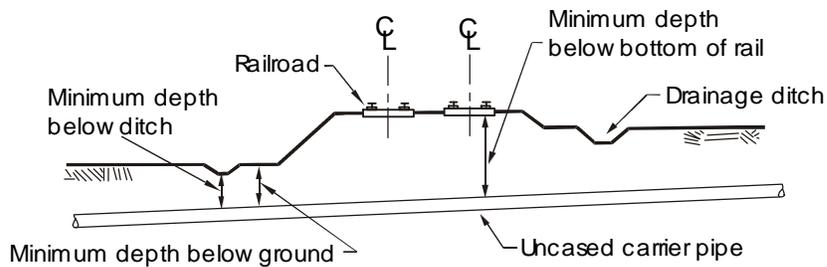
RAILROAD AND HIGHWAY CROSSINGS



**CASED RAILROAD CROSSING
FIGURE 1**



**CASED HIGHWAY CROSSING
FIGURE 2**



**UNCASED RAILROAD CROSSING
FIGURE 3**

1.3 Encroachment Agreement

Company: _____

Form Number: _____

Revision: _____ Revision Date: _____ Page Number(s): _____

This Encroachment Agreement ("Agreement") is SUBJECT TO the Terms of Agreement below and the Encroachment Requirements.

Pipeline Company: _____ Date: _____

Pipeline Identification/Section Number: _____ Time: _____

Legal Description: (Section, Township, Range, Lot, Block, Abstract, Address):

County: _____ State: _____

Alignment Sheet No.: _____ Mile Post (Engineering Station Number): _____

Tract Number: _____

Type of Encroachment:

- Unpaved Residential Driveway
- Temporary Equipment Crossing
- Gas Line
- Water Line
- Telephone Cable
- Sprinkler Systems
- Fence
- Fiber Optic Cable
- Drain Tile
- Television Cable
- Electric Line
- Other Pipeline _____
- Other _____
- Roadway
- Parking Lot
- Access Road
- Other _____

Previous Pipeline Locate Activities

Locate Ticket Number/Date: _____ Person Who Called: _____

Person Dispatched: _____

- Flagged/Staked Line
- Probed Line for Depth
- Marked C.P. Cables
- Witness Excavation
- Painted Line
- Gave Locator Depth
- Exposed Line
- Other _____

Remarks or Instructions Given: _____

Follow up Action: Yes No If yes, explain: _____

Encroaching Party/Contract Information

Person met at Location:

- Landowner Contractor
- Encroaching Party
- Other _____

Name: _____ Title: _____ Company: _____

Address: _____ City: _____

State: _____ Zip _____ Phone () _____

Encroaching Party (landowner):

Name: _____ Title: _____ Company: _____

Address: _____ City _____

State: _____ Phone () _____

Structure and/or Encroachment Crossing Data

Encroachment Data

ESN=Engineering Station Number Obtained from Alignment Sheet

Reference Point (Nearest C/L road, fence, etc.): _____

Reference Point ESN: _____ + _____

Distance and Direction from Reference Point to Foreign Crossing (As measured along P/L): _____ Ft.

 North South East West

Calculated ESN of Crossing (Add/subtract distance to/from Reference Point ESN): _____ + _____

Size of Foreign Facility: _____ in.

Encased: Yes, size _____ in. NoCasing Type: Steel Plastic Other _____

Coating Type: _____

Sketch of Encroachment/Pipeline

 Pipeline

Note: Label all pipelines shown

Pipeline Data Sketch:

Terms of Agreement:

Encroaching Party responsible unless otherwise specified.

1. TEMPORARY EQUIPMENT CROSSINGS, UNPAVED PRIVATE DRIVEWAYS

- a. Driveways and equipment crossings shall be installed with a minimum compacted cover over the carrier pipe, as measure from the top of the drive way or a **minimum** of 3.0 feet in any adjoining drainage ditches, except that (1) if the pipeline to be crosses is used to transport a highly volatile liquid, then the minimum cover in drainage ditches must also be 4.0 feet, and (2) no heavy equipment r any loads with a gross weight in excess of 80,000 pounds will be permitted to cross or operate over a pipeline without additional written authorization from Company, after a Company engineer has been allowed to analyze and calculate additional depth requirements needed to protect the pipeline. The Encroaching Party shall maintain the depth of cover across the full width of the Easement Tract Depth of cover shall be measure from top of pipe to top of road surface (or drainage ditch).
- b. Driveways and equipment crossings shall not run lengthwise (parallel to pipeline) within the Easement Tract and crossings of any pipeline must be at no smaller angle to the pipeline than 45 degrees.
- c. Warning tape (or mesh where required). McMaster-Carr No. 8288T12 or equal, shall be placed by the Encroaching Party along the route of and at least 12 inches above each Company pipeline for all portions of the pipeline that will be under any driveway or equipment crossing, and such tape shall extend outward from the edges of the driveway or crossing a minimum of 10 feet on each side.

2. FENCES

No fence shall be allowed to be constructed parallel closer than ten (10) feet to any Company pipeline within the boundaries of Company's Easement Tract. Not fence post shall be allowed to be within five (5) feet of any Company pipeline facility.

3. FOREIGN BURIED LINE CROSSINGS

- a. **GENERAL REQUIREMENTS - (APPLIES TO ALL TYPES OF CROSSINGS)**
 - 1) **An Authorized Company Representative** must be on-site during all excavation work performed on the Easement tract.
 - 2) **Angle of Crossing** - crossings of the Company Easement tract by any pipeline must be at no smaller angle to any company pipeline than 45 degrees.
 - 3) **Separation** - All buried lines (except as specified a minimum vertical separation of 24 inches, with the same elevation depth carried across the entire Easement Tract. *Any variance from the standards set out in the Agreement requires written permission.*
 - 4) **Warning Tape** - As a protective measured for buried lines crossing Company's Easement Tract, vinyl direct buried warning tape (or mesh where required), McMaster-Carr No. 8288T12 or equal, shall be placed at least 15 inches above the crossing line for the entire width of the Company pipeline Easement Tract.
 - 5) **Surface markers**, where reasonably feasible, shall be installed by the Encroaching party on each side of the company's pipeline for each buried utility crossing of company's

pipeline and shall exhibit the type of utility and the depth of the buried utility line crossing Company's pipeline.

b. **ELECTRICAL AND COMMUNICATION LINES (cable TV, telephone, etc.)**

- 1) **Code** - Such lines shall be installed in accordance with guidelines of the National Electric Safety Code (public utility power and light companies) or the National Electric Code (power and light companies).
- 2) **Crossing Requirements.** Electrical, fiber optic, local service communication, long distance carrier telephone, and utility cable should cross Company pipeline(s) with a **minimum of 24-inches of vertical separation**. All such lines must be covered with a *Concrete Slab* for the full width of the **Easement Tract**, if requested by Company. If such lines have and exposed concentric neutral, a test point from the ground with shall be installed by the power company.
- 3) **Crossing Requirements for Lines Going Over Company Pipeline.** In the event the electrical, fiber optic, local service communication, long distance carrier telephone, and utility cable crosses **over** a Company pipeline, such line shall be **encased in red concrete across the full width of Company's Easement Tract**, unless a variance is granted by Company.

c. **SEWER LINES, WATER LINES, DRAIN TILE and SPRINKLER SYSTEMS**

- 1) Water and Sewer line crossings are limited to fully enclosed, non-perforated lines (no perforated or open end septic lines allowed).
- 2) Lawn Sprinkler system (or similar) lines and associated equipment and low-voltage power wire installed over Company pipelines or on the Easement Tract shall be permitted only on the condition that Encroaching Party assumes all risk for any damage and repair to such system.
- 3) Septic systems are *not* permitted on the easement tract.
- 4) Warning tape is not required for Sprinkler Systems or drain tile.

d. **METALLIC PIPE CROSSINGS**

Metallic pipe crossings may be permitted only after approval by Company's engineer. Prior to approval, Company may require the Encroaching Party to participate with the Company in a joint cathodic protection interference survey. Company may then determine any modifications needed to protect Company's Facilities and the Encroaching Party shall cooperate with Company in the implementation of modifications.

4. **UTILITY POLES AND GUY ANCHORS**

Utility poles and guy anchors may be placed no closer than twenty (20) feet to any Company pipeline.

1.4 Acknowledgement of Line Crossing Procedure (Crossing Agreement)

CALL 811 TWO (2) WORKING DAYS BEFORE YOU DIG

Date: _____ Your local One-Call number is: _____

Applicant: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

Name of Applicant Representative: _____

Crossing Location:

Section: _____ County: _____ XY Coord. _____

Township: _____ State: _____ Mile Post: _____

Range: _____

Crossing Description: _____

Applicant hereby acknowledges that it has reviewed the requirements set forth on the reverse and agrees to the following said requirements accordingly, specifically item(s): _____

1. It is understood that Applicant will construct the Line Crossing at no expense to Company, or its affiliates.
2. Applicant is cautioned that the area around the pipeline may be impacted by petroleum hydrocarbons, which may affect excavation and disposal techniques, increase costs, require appropriate construction materials, and cause crossing delay.
3. This Agreement does not change or modify any provision of Company's right-of-way contracts or easements.
4. Applicant agrees to supply plans and drawings to Company, if requested.
5. So that Company may schedule its personnel-and not delay your work-please notify Company 48 hours (excluding weekends and holidays) before work commences on or near its right-of-way.
6. Your local Company representative is: _____

Special Provisions:

I acknowledge that I have received and reviewed with a Company representative the terms, conditions, and requirements of this Agreement.

Applicant _____ Company _____

By _____ By _____

1. BURIED LINE CROSSING

a. GENERAL REQUIREMENTS

- 1) An Authorized Company representative must be on-site at Company's discretion during excavation and clean-up work performed on the right-of-way.
- 2) Applicant is cautioned that the area around the pipeline may be impacted by petroleum hydrocarbons, which may affect excavation and disposal techniques, increase costs, require appropriate construction materials, and cause crossing delay.
- 3) All buried lines crossing the rights-of-way must cross such that the angle measured between the proposed buried line and the right-of-way is not less than 45 degrees.
- 4) All buried lines should cross under the pipeline(s). If infeasible because of underground structures, heavy rock, or extreme depth of Company's pipeline(s), approval must be granted by the Field Team Leader or designee.
- 5) All buried lines crossing the pipeline must maintain a recommended separation of 24 inches but not less than 12 inches between the two lines, with the same grade depth carried across the entire right-of-way.
- 6) Any exceptions will be considered by the Field Team Leader or designee

NOTE: As protective measure for buried lines crossing Company right-of-way, vinyl direct buried warning tapes to be placed above the crossing lines are required when specific or as directed at the discretion of the Field Team Leader or designee.

b. COMMUNICATION LINES (PHONE, TV, OTHER DATA LINES)

- 1) Must be installed in accordance with guidelines of the National Electrical Safety Codes.
- 2) Must meet provisions #1, #2, #4 of GENERAL REQUIREMENTS OF BURIED LINE CROSSINGS.
- 3) Must be encased in a rigid nonmetallic conduit cross the full width of the right-of-way.

c. POWER LINES

- 1) Must meet all above GENERAL REQUIREMENTS OF BURIED LINE CROSSINGS.
- 2) Must be installed in accordance with guidelines of the National Electrical Safety Code (public utility power and light companies) or the National Electrical Code (private power and light companies).
- 3) Must be encased in rigid nonmetallic conduit, and where voltage exceeds 600 volts must have 6 inches of red concrete over the top of the conduit for the full width of the right-of-way.

- 4) Must have minimum ground cover as follows: 24 inches for 0 to 600 volts; 30 inches for 601 to 22,000 volts; 36 inches for 22,001 to 44,000 volts and 42 inches for 40,000 volts and above.
 - 5) A vinyl direct buried warning tape must be placed 12 to 18 inches above the buried line and extend across the entire width of the right-of-way. The warning tape may be provided by Company should the encroaching party not have access to such tape.
 - 6) Must have signs placed at each edge of the right-of-way to mark the underground cable angle and path of crossing. These signs are to be furnished by the Power Company or encroaching party.
 - 7) If the power cable has a concentric neutral, a test point from the ground wire must be installed by the power company.
- d. SEWER AND WATER LINES
- 1) Must meet all above GENERAL REQUIREMENT OF BURIED LINE CROSSINGS. Non-metallic water lines are required.
 - 2) Sewer line crossings are limited to the tight lines only. Distribution lines perforated or unenclosed lines are not permitted.
- e. SUBSURFACE (PLASTIC) DRAIN TILE
- Must meet Provision #1, #3, and #5 of GENERAL REQUIREMENTS OF BURIED LINE CROSSINGS.
- f. METALLIC PIPE CROSSINGS
- 1) All metallic pipe crossings must have two (2) corrosion feet leads installed on Company's pipeline and two on the crossing pipe at the point of intersection.
 - 2) Company personnel must install the leads on Company's pipeline, and if requested, will also install the leads on the crossing pipe.
 - 3) Metallic pipe crossings must have an electrical insulation coating for the full width of the right-of-way.
2. ABOVE GROUND LINE CROSSINGS
- a. Must maintain a minimum of 30 feet of clearance across the right-of-way.
 - b. Must have no poles or appurtenances located on the right-of-way.
 - c. Above ground crossings must not be above or closer than 25 feet horizontally to any gas escape vent (e.g., relief valve vent, station blowdown vent).
3. UNDERWATER LINE CROSSINGS
- a. Applicant must locate and mark the existing Company pipeline using current industry practices prior to commencing pipeline construction in the vicinity of Company's pipeline. Applicant agrees to mark the location of the pipeline by buoys or by electronic location methods as approved by Company representative during all construction activity in the vicinity of Company's pipeline.

- b. Applicant must place at Company's disposal any diving inspectors Applicant may have retained for free and unobstructed use by Company at this crossing.
- c. Applicant must place sacks filled with sand and cement between Company's and Applicant's pipeline to provide and maintain 18 inches minimum clearance between two (2) pipelines. The elevation of Company's pipeline must not be adjusted.
- d. Applicant must be responsible for any coating repair, pipe replacement, or product loss caused by any action by Applicant, its agents or employees during the constructions, operation, or maintenance of the proposed pipeline.

4. EQUIPMENT

Normal leads acceptable to the State Highway Department may cross the pipeline where a minimum of 5.5 feet of cover is provided. Equipment such as construction logging, etc., must cross pipeline only at approved crossing locations where the cover has been checked and determined adequate to meet bearing load requirements.

5. EXCAVATION

- a. Please refer to **(company excavation guidelines)** for further information regarding excavation activities near Company pipeline (s) and/or facilities.
- b. Any plowing or ripping of soil on the right-of-way, including agriculture, at depths greater than 1 foot will be handled on an individual basis.

6. PIPELINE COVER

Any change in the amount of existing material (soil) on and over the right-of-way must be approved in advance.

1.5 Encroachment Correspondence

Encroachment Correspondence

(Date)

Dear Homeowner:

(Company Name) a public utility common carrier of **(commodity)**, currently maintains a **(Width)**-ft. pipeline easement on the property adjacent to your residence. Recent inspection of the easement revealed that access to inspect or repair the pipeline has been inhibited and that non-compliant structures have been placed over the easement. Inhibiting access and erecting certain improvements within the easement is in conflict with **(State)** Government Code, regulations **(regulation code)** as they pertain to pipeline safety.

Section **(section number)** of the code requires that no person, other than the pipeline operator, shall do any of the following, with respect to any pipeline easement:

1. Build, erect, or create a structure or improvement within the pipeline easement or permit the building, erection, or creation thereof.
2. Build, erect, or create a structure, fence, wall, or obstruction adjacent to any pipeline easement which would prevent complete and unimpaired surface access to the easement, or permit the building, erection, or creation thereof.

Please be advised that **(Company)** reserves the right to access the property at any time to inspect, repair, replace, or otherwise maintain the pipeline or pipelines in the easement. Such activities often involve excavation and the use of heavy construction equipment. **(Company)** will not be responsible for the condition of structures, fences, walls or other obstructions erected on the easement that may become damaged from the aforesaid activities.

(Company) looks forward to working with you to eliminate objectionable encroachments in order to comply with all state and federal safety regulations. Failure to reach a satisfactory resolution may result in fines levied by the **(State)** State Fire Marshal.

If you have built or plan to build a permanent structure on the adjoining easement or simply have questions, please contact **(Company ROW Agent)** at **(Phone Number)**, or **(Company ROW Agent)** at **(Phone Number)** of this office to have a representative meet with you and address specific issues relative to your property.

Thank you in advance for your cooperation in this matter.

Sincerely,

(ROW Agent)

cc: **(cc)**

1.6 Encroachment Correspondence via email

(Example 1)

Our engineering group has no conflict with your proposed project. I have attached a copy of our encroachment specifications for your review. We do expect a One-Call (Dial 811) to allow for the 48 hour notice before start of construction and we require a Company representative to be present when any work, especially excavation, is being done on our easement. Decisions concerning the type of work and the execution of work over our pipeline will be made by the Company representative on site. If you have any questions you wish to discuss about our expectations concerning safety around our pipeline please call the **(One Call (ROW Rep) or Area Manager)** to discuss in detail.

(Example 2)

Thank you for contacting us about your upcoming project. I have attached a copy of our encroachment specifications for your review and a system map showing the approximate location of the construction area affecting our easement. I have reviewed the drawings and have marked them up to indicate an approximate location of our pipeline. Upon receipt of your plan drawings our engineering department will evaluate your design for any conflict. If there are any special arrangements that need to be made you will receive those instructions and recommendations from the engineering group. We require a one-Call (Dial 811) to be made and that a Company representative is present for any work being done on our right-of-way.

2 Appendix B: Other Documents

This appendix contains other industry example documents related to the topic.

2.1 Pipeline Accommodation Agreement (Local Government Entity)

Loc/Tract: _____

AFE: _____

This Agreement, made this _____ day of _____, 20__, by and between [Company], a [State] Corporation, hereinafter called "Company," and _____ County, state of _____, herein called "County;"

WITNESSETH:

WHEREAS, Company's facilities are in conflict with proposed plans of County and/or the _____ County and/or the _____ plans for the proposed widening project of _____ in _____ County, State of _____, at which location Company has previously constructed (insert number of) pipelines (insert diameter) under authority the following instruments:

WHEREAS, to accommodate County's proposed plans, Company agrees to make certain adjustments to its facilities, as shown on drawings No. _____ and _____ by _____, dated _____ designated as Exhibit "B," attached to and made a part hereof; and

WHEREAS, Company has furnished Company with a detailed cost estimate describing the manner and cost of adjusting said facilities, said estimate dated _____ prepared by Company and being in the amount of _____ Dollars (\$ _____), of which County will bear **XX%** of the cost estimated to be \$ _____, said estimate being designated Exhibit "A," attached to and made a part hereof.

NOW THEREFORE, in consideration of the mutual covenants and premises, Company agrees to make adjustments to its facilities in accordance with Exhibits "A" and "B, subject to the following conditions and understandings:

1. After completion of work by company and presentation of an invoice or invoices from Company reflecting actual non-betterment costs to make such adjustments. County shall reimburse Company for **XX%** of the cost, to be paid within 60 days from receipt of invoice, in accordance with the following provisions.
2. County agrees that Company may at its option either solicit bids from two or more pipeline contractors, use one of Company's independent contractors under existing Work Order Contract, and/or use its own forces to effect the proposed adjustments.
3. The total estimated costs of the work to be performed by Company is \$ _____ as set out in the attached estimate dated _____; however, said cost figure is an estimate only and neither it nor any of the other estimated cost figures set out in the estimate shall in anyway

constitute a limit upon the amount for which the County shall be liable to reimburse Company hereunder.

- 4. Audit of adjustment costs may be made at Company’s office located at [Address], between the hours of [hours], Monday through Friday.
- 5. It is mutually agreed between the parties hereto that this document shall be deemed to have been executed in the State of _____, and that all questions of interpretation and construction shall be governed by the laws of the State of _____.
- 6. The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

IN WITNESS WHEREIF the parties hereto have caused this agreement to be executed by their authorized representatives in two counterparts, each to be considered as an original, on the day and year hereinabove written.

_____ County, State of _____

WITNESSES:

_____ By: _____

_____ Attest: _____

2.2 General Encroachment Requirements

General Encroachment Requirements

1. **Foreign Pipeline & Utility Crossings.** No foreign pipelines or utility lines of any type shall be allowed to be constructed parallel to any Company pipeline within the boundaries of the Company's Easement Tract.
 - a. **Minimum Angle for Pipeline/Utility Crossing.** Any foreign pipeline or utility that is proposed to cross a Company pipeline must cross the Company pipeline at an angle as close to 90 degrees as possible, but in no event at an angle less than 45 degrees.
 - b. **Vertical Separation Requirements for Crossing.** Foreign pipeline(s), utilities (except high-voltage lines-see below or flow lines should cross Company's pipelines at least 24 inches of vertical separations. Special written authorization must be given in the event vertical separation is less than that specified in these general Encroachment Requirements. The preferred method for a foreign pipeline or utility to cross a Company pipeline is to cross **below** the Company pipeline.
 - c. **Warning Tape Required.** When any foreign pipeline or utility line is proposed to cross a Company pipeline, Owner must place 6" wide McMaster-Carr No.8288T12 or equal within Company's Easement Tract in the following manner:
 - 1) The tape must be placed directly over (parallel to) and at least 15 inches above the foreign line for the entire distance that it occupies Company's Easement Tract. Additionally, the tape must be placed directly over (parallel to) and at least 15 inches above each ABC pipeline that is crossed for a minimum distance which is the greater of:
 - a) A minimum distance of 20 feet on each side of the Company pipeline, or
 - b) Across the entire width of the Company's Easement Tract
 - 2) The placement of warning tape on each side of Company's pipeline(s) will not be required for utility cables that are installed using the direction drill or jacking method.
 - d. **Crossing By Metal Pipelines or Conduits.** Metallic pipe crossing Company's pipeline(s) may require Company to perform a cathodic protection interference survey. If interference with Company's cathodic protection system is detected and remediation is necessary, Owner agrees to cooperate with Company and to make necessary adjustments in Owner's interfering metallic pipe or other remediation to correct such interference problem insure that the Company's cathodic protection system is operating properly.
 - e. **Crossing Requirements.** Electrical, fiber optic, local service communication, long distance carrier telephone, and utility cables should cross Company pipeline(s) with a **minimum of 24-inches of vertical separation**. All such lines must be covered with a *Concrete Slab* for the full width of the **Easement Tract**, if requested by Company. If such lines have an exposed concentric neutral, a test point from the frond wire shall be installed by the power company.
 - f. **Crossing Requirements for Lines Going Over a Company Pipeline.** In the event the electrical
 - g. **Written Authorization for Variance.** Owner must have written authorization from Company for any variance from the vertical separation requirements listed above and/or any for any

variance from the requirement for encasement of high-voltage electrical lines in red concrete.

- h. **Utility Poles and Guy Anchors.** Utility Piles and guy anchors shall not be placed on Company's Easement Tract without a written agreement. With a written agreement, piles and anchors may be placed no closer than 20 feet to any Company pipeline. Poles shall not be allowed to run parallel to Company pipeline within the Company Easement Tract.
- i. **Directional Drilling/Boring.**
 - 1) Prior to commencing any horizontal directional drilling, Owner shall submit plans showing procedure and material descriptions for Company's approval. The plans and description shall include, but not be limited to the following:
 - a) Profile and plan showing location of entry and exit points
 - b) Work space required to perform the work
 - c) Mud containment and disposal sites
 - 2) Owner shall positively locate and stake the location of Company's existing pipelines and other underground facilities, including exposing any facilities located within 10 feet of the designed drilled path. Prior to commencing drilling operations Owner shall modify drilling practices and down-hole assemblies to prevent damage to Company's existing pipelines and other facilities. Owner shall be responsible for losses and repairs occasioned by damage all Company pipelines and other facilities resulting frilling or boring operations.
 - 3) At all times, Owner shall provide and maintain instrumentation to document and accurately locate the pilot hole and the drill bit, to measure drill-string axial and torsional loads, and to measure drilling fluid discharge rate and pressure. At Company's request, Owner shall promptly provide Company with reasonable access to information and readings proceed by these instruments, including copes of any written documentation.
 - 4) Pilot Hole.
 - a) The pilot hole shall be drilled along the path shown in the plan and profile drawings. No pilot hole shall be made that will result in any of the encroaching utility being installed in violation of laws and regulations or of Company's requirements described herein. However, safety for any adjacent utilities and/or structures is of the utmost importance. Therefore, the listing of separation distances or tolerances herein does not relieve Owner from responsibility for safe operations or for damage to adjacent utilities and structures.
 - b) If tolerances are not specified in the plan and profile drawings, the pilot hole shall have the following tolerances:
 - (i) Elevation of +0 feet and -15 feet
 - (ii) Alignment of +/- 20 feet as long as it does not come to within 10 feet of Company's pipeline

- (iii) Initial penetration of ground surface at exact location shown in the plan and profile drawings
- (iv) Final penetration of the ground surface within +/-10 feet of the alignment and within +30 feet and -0 feet of the length shown in the plan and profile drawings
- (v) Curves shall be drilled at a radius equal to or greater than that specified in the plan and profile drawings. The drilled radius will be calculated over any 3 joints (range 2 type drill pipe) segment using the following formula:

$$R_{drilled} = L_{drilled} / A_{avg} \times 180 / \pi$$

Where:

$R_{drilled}$ = drilled radius over $L_{drilled}$

$L_{drilled}$ = length; no less than 75 feet and no greater than 100 feet

A_{avg} = total change in angle over $L_{drilled}$

- c) At the completion of the pilot-hole drilling, Owner shall provide Company a tabulation of horizontal and vertical coordinates, referenced to the drilled entry point, which accurately describe the location of the pilot hole.
- 5) Drilling Fluids.
- a) The composition of drilling fluids proposed for use shall comply with all applicable laws and regulations
 - b) Owner is responsible for obtaining, transporting, and storing any water required for drilling fluids.
 - c) Disposal of drilling fluids and drill cuttings shall be Owner's responsibility and shall be conducted in compliance with applicable laws and regulations. Drilling fluid shall *not* be disposed of by placing fluids on or under surface of Company's Easement Tract.
 - d) Owner shall employ best efforts to maintain full annular circulation of drilling fluids. Drilling fluid returns at locations other than entry and exit points shall be minimized. If annular circulation is lost, Owner shall take steps to restore circulation. If inadvertent surface returns of drilling fluids occur, they shall immediately contained with hand-placed barriers (e.g. hay bales, sand bags, silt fences, etc.) and collected using mumps as practical. If the amount of surface return is not great enough to allow practical collection, the affected area will be diluted with fresh water and the fluid will be allowed to dry and dissipate naturally. If the amount of surface return exceeds that which can be contained with hand-placed barriers, small collection sumps (less than 5 cubic yards) may be used unless permits or other regulations prohibit such use of collection sumps. If the amount of surface return exceeds that which can be contained and collected using barriers or small sumps, or if the return of drilling fluids occurs in the body of water proper, drilling operations will be suspended until surface return volumes can be controlled.

- 6) **As-Built Drawing.** Owner shall provide to Company an as-built plan and profile drawing of the drilled crossing showing the location of the new crossing as well as the location of Company's pipeline.
2. **Roadway, Driveway, Railroad, and Equipment Crossings.** No roadway, driveway, railroad, or equipment crossings of any type shall be allowed to be constructed parallel to any Company pipeline within the boundaries of the Company's Easement Tract.
- a. **Pipeline Integrity Inspection.** A pipeline integrity review shall be performed by Company as described in provisions.
 - b. **Load Bearing and Stress Limit Requirements.** Prior to any road, driveway, rail bed, or equipment crossing construction, Company's engineer must determine whether the proposed compacted cover meets load-bearing requirements and provides adequate protection to limit stress on Company's pipeline or other facilities and must advise owner of any additional requirements necessary to provide adequate protection.
 - c. **No Crossing over Pipeline Bend.** Paved surfaces or rail beds shall not be allowed to cross pipeline bend (point of inflection).
 - d. **Minimum Angle of Crossing.** Crossings should be as close to 90 degrees to Company's pipeline(s) as possible, but not less than 30 degrees.
 - e. **Pipeline Casing Issues.** Company prefers that cased roadway and railroad crossings no longer be installed if the carrier pipe under roadways and railroads requires adjustment or relocation then instead of using casing, the carrier pipe will consist of extra strength material or heavier wall thickness to accommodate the additional longitudinal stress due to external loads. If a road or railroad is being widened and or other adjustment or relocation of the carrier pipe is required, then Company may elect to extend the casing pipe on the existing crossing(s) to accommodate the additional road surface or track structure, but must extend across the entire length of the roadway or railroad right of way.
 - f. **Railroad Crossing Requirements.** Railroads shall be installed a minimum compacted cover over the carrier pipe, as measured from the base of the rail to the top of the pipe, as follows:

Location of Pipeline	Minimum Compacted Cover Over Top of Pipeline
Under track structure proper (Below bottom of rail)	6.0 Feet
Under all other surfaces within the right of way or from the bottom of ditches	3.0 Feet

- g. **Roadway and Driveway Crossings.** Roadways and driveways, shall be installed a minimum compacted cover over the carrier pipe, as measured from the top of the roadway surface to the top of the pipe, as follows:

Location of Pipeline	Minimum Compacted Cover Over Top of Pipeline
Under roadway surface proper (Below surface of pavement)	4.0 Feet
Under all other surfaces within the right of way or from the bottom of ditches	3.0 Feet

- h. **Crossing Pipelines Transporting Highly Volatile Liquids.** For Company Pipelines transporting highly volatile liquids, minimum cover for a crossing at a drainage ditch must be 4.0 feet.
- i. **When Additional Depth Required.** Depth greater than the minimum depths stated above may be required for a pipeline due to the combined stress of internal pipeline pressure and external loading pressure, Company will analyze each proposed crossing based on information provided by Owner to determine any additional depth that may be required for the pipeline for safe operation.
- j. **Temporary Roads and Equipment Crossings.** Any such road or crossing must meet the following requirements:
 - 1) Must be located at a site approved by a Company field representative.
 - 2) Must provide adequate protection for Company’s pipeline and other facilities, as determined by the appropriate Company engineer, so that the compacted cover meets load-bearing requirements and provides adequate protection to limit stress on the pipeline or other facilities.
 - 3) Owner shall pace Six-inch wide plastic warning tape, McMaster-Carr No. 8288T12 or equal, over each pipeline for the width of the temporary road or equipment crossing, plus an additional 20 feet past each outside edge of such temporary road or equipment crossing.
- k. **Owner Required to Protect Company Pipelines.** Company may require owner put in place additional cover and/or stabilization (timbers, steel plate, crushed rock, concrete slab, etc.) at any approved equipment crossing in order to protect company pipelines taking into account possible effects of weather, pipeline depth, and type of vehicles proposed to cross the pipelines. Company will analyze each proposed crossing based on information provided by Owner to determine any additional depth or protection that may be required for safe pipeline operation.
- l. **Heavy Equipment-Definition and Requirements.** Heavy equipment shall be defined as vehicles having a *gross weight* in excess of 80,000 pounds. Heavy equipment shall be prohibited from working directly on top of active pipeline. For vehicles having a *gross weight* of 80,000 pounds or less, the pipeline must have a minimum of 4 feet of cover. Company must analyze the additional longitudinal stress due to external loads if the vehicles have a *gross weight* in excess of 80,000 pounds in order to determine required pipeline depth for safe operation.

3. Parking Lots and Other Pavements.

- a. **Parking Lot and Pavement Requirements.** All parking lots and other pavement installed on Company's Easement Tract shall consist of a flexible surface such as asphalt. No reinforced concrete will be allowed.
- b. **Pipeline Depth under Parking Lot.** The depth of Company's pipeline under a parking lot must meet or exceed compacted cover requirements listed in the previous section.

4. Waterway Crossings.

- a. **Pipeline Depth Requirements.** If Owner proposes to cross a Company pipeline with a water way (river, stream, creek, irrigation canal, or drainage ditch), such crossing must result in Company's pipelines meeting or exceeding the minimum depth below the bottom of the waterway for compliance with the current pipeline construction standards and federal, state, and local regulations.
- b. **Requirements for Waterway Crossings:**
 - 1) **Minimum Angle or Crossing.** Crossing should be as close to 90 degrees to Company's pipeline(s) as possible, but not less than 45 degrees.
 - 2) **Vertical Separation Requirements for Waterway Crossing.** Pipelines to be crosses must have a minimum vertical separation of five (5) feet, as measured from the bottom of the waterway to the outermost part of a Company pipeline, facility, or appurtenance.
 - 3) **Adding Weight to Pipeline for Negative Buoyancy.** Owner shall bear the cost of Company adding sufficient weight or mechanical devices to any Company pipeline crossed by a water way in order to create negative buoyancy for such pipeline.

5. Blasting.

- a. **Company Written Approval Required-Plan to Be Submitted.** Company must approve any proposed blasting operations that could affect its pipelines or facilities should blasting be necessary a comprehensive plan must be submitted to Company for review and written approval.
- b. **Safety Considerations-Damage Prevention Plan.** For safety and preservation of Company assets, all blasting shall be in accordance with federal, state and local governing agencies and the Company's "damage Prevention Plan for Blasting near Company Facilities." A copy of said plan will be made available upon request.

2.3 Property Development Specifications

2.3.1 Tolerance Zone (Example 1)

A BUFFER OF PROTECTION: WORKING WITHIN THE TOLERANCE ZONE

The tolerance zone is a horizontal area, measured from the marks, where the excavator should excavate using hand tools (or other non-invasive tools) to protect the marked underground facility until it is exposed. The tolerance zone includes the area from the ground surface down and around the facility.

EXCAVATION BEST PRACTICES

1. One Call Facility Locate Request

The excavator requests the location of underground facilities at each site by notifying the facility owner/operator through the One Call Center. Unless otherwise specified in state/provincial law, the excavator calls the One Call Center at least two working days and no more than 10 working days prior to beginning excavation.

2. White Lining

When the excavation site cannot be clearly and adequately identified on the locate ticket, the excavator designates the route and/or area to be excavated using white pre-marking prior to the arrival of the locator.

3. Locate Reference Number

The excavator receives and maintains a reference number from the One Call Center that verifies the locate was requested.

4. Pre-excavation Meeting

When practical, the excavator requests a meeting with the facility locator at the job site prior to the actual marking of facility locations. Such pre-job meetings are important for major, or unusual, excavations.

5. Facility Relocations

The excavator coordinates work which requires temporary or permanent interruption of a facility owner/operator's service with the affected facility owner/operator in all cases.

6. Separate Locate Requests

Every excavator on the job has a separate One Call reference number before excavating.

7. One Call Access (24/7)

The excavator has access to a One Call Center 24 hours per day, seven days a week.

8. Positive Response

The excavator is notified by the underground facility owner/ operator of the tolerance zone of the underground facility by marking, flagging, or other acceptable methods at the work site, or is notified

that a no conflict situation exists. This takes place after notification from the One Call Center to the underground facility owner/operator and within the time specified by state/provincial law.

9. Facility Owner/Operator Failure to Respond

If the facility owner/operator fails to respond to the excavator's timely request for a locate (e.g., within the time specified by state/provincial requirements) or if the facility owner/operator notifies the excavator that the underground facility cannot be marked within the time frame and a mutually agreeable date for marking cannot be arrived at, the excavator recalls the One Call Center. However, this does not preclude the excavator from going on with the project. The excavator may proceed with excavation at the end of two working days, unless otherwise specified in state/provincial law, provided the excavator exercises due care in his endeavors.

10. Locate Verification

Prior to excavation, excavators verify they are at the correct location and verify locate markings and, to the best of their ability, check for unmarked facilities.

11. Documentation of Marks

An excavator uses dated pictures, videos, or sketches with distance from markings to fixed objects recorded, to document the actual placement of markings.

12. Work Site Review with Company Personnel

Prior to starting work, the excavator reviews the location of underground facilities with site personnel.

13. One Call Reference Number at Site

The excavator's designated competent person at each job site has the One Call ticket number.

14. Contact Names and Numbers

The excavator's designated competent person at each job site has access to the names and phone numbers of all facility owner/operator contacts and the One Call Center

15. Facility Avoidance

The excavator uses reasonable care to avoid damaging underground facilities. The excavator plans the excavation so as to avoid damage or minimize interference with the underground facilities in or near the work area.

16. Federal and State Regulations

The excavator adheres to all applicable federal and state/ provincial safety regulations, which includes training as it relates to the protection of underground facilities.

17. Marking Preservation

The excavator protects and preserves the staking, marking, or other designations for underground facilities until no longer required for proper and safe excavation. The excavator stops excavating and notifies the One Call Center for remarks if any facility mark is removed or no longer visible.

18. Excavation Observer

The excavator has an observer to assist the equipment operator when operating excavation equipment around known underground facilities.

19. **Excavation Tolerance Zone**

The excavator observes a tolerance zone which is comprised of the width of the facility plus 18 inches on either side of the outside edge of the underground facility on a horizontal plane. This practice is not intended to preempt any existing state/provincial requirements that currently specify more than 18 inches.

20. **Excavation within Tolerance Zone**

When excavation is to take place within the specified tolerance zone, the excavator exercises such reasonable care as may be necessary for the protection of any underground facility in or near the excavation area. Methods to consider, based on certain climate or geographical conditions, include: hand digging when practical (pot holing), soft digging, vacuum excavation methods, pneumatic hand tools, other mechanical methods with the approval of the facility owner/ operator, or other technical methods that may be developed. Hand digging and non-invasive methods are not required for pavement removal.

21. **Mis-marked Facilities**

The excavator notifies the facility owner/ operator directly or through the One Call Center if an underground facility is not found where one has been marked or if an unmarked underground facility is found. Following this notification, the excavator may continue work if the excavation can be performed without damaging the facility, unless specified otherwise in state/provincial law.

22. **Exposed Facility Protection**

Excavators support and protect exposed underground facilities from damage.

23. **Locate Request Updates**

The excavator calls the One Call Center to refresh the ticket when excavation continues past the life of the ticket (sometimes, but not always, defined by state/provincial law). This recognizes that it is a best practice to define ticket life. If not currently defined in state/provincial law, ticket life would best be 10 working days but not to exceed 20 working days.

24. **Facility Damage Notification**

An excavator discovering or causing damage to underground facilities notifies the facility owner/operator and the One Call Center. All breaks, leaks, nicks, dents, gouges, groves, or other damages to facility lines, conduits, coatings or cathodic protection will be reported.

25. **Notification of Emergency Personnel**

If the damage results in the escape of any flammable, toxic, corrosive gas or liquid, or endangers life, health, or property, the responsible excavator immediately notifies 911 and the facility owner/operator. The excavator takes reasonable measures to protect themselves and those in immediate danger, the

general public, property, and the environment until the facility owner/operator or emergency responders have arrived and completed their assessment.

26. Emergency Excavation

In the case of an emergency excavation, maintenance or repairs may be made immediately provided that the excavator notifies the One Call Center and facility owner/ operator as soon as reasonably possible. This includes situations that involve danger to life, health or property, or that require immediate correction in order to continue the operation of or to assure the continuity of public utility service or public transportation.

27. Backfilling

The excavator protects all facilities from damage when backfilling an excavation. Trash, debris, coiled wire, or other material that could damage existing facilities or interfere with the accuracy of future locates are not to be buried in the excavation.

28. As-built Documentation

Contractors installing underground facilities notify the facility owner/operator if the actual placement is different from expected placement.

29. Trenchless Excavation

All stakeholders adhere to all Best Practices and the following general guidelines prior to, during and after any trenchless excavation (as applicable).

30. Emergency Coordination with Adjacent Facilities

Emergency response planning includes coordination with emergency responders and other above and/or underground infrastructure facility owner/operators identified by the Incident Commander through the Incident Command System/Unified Command (ICS/UC) during an emergency.

31. No Charge for Providing Underground Facility Locations

Upon notification by One Call Centers, locations of underground facilities are provided by operators at no cost to excavators.

2.3.2 Property Development Specifications (Example 2)

General Specifications for Crossing a High Pressure Pipeline

1. General Conditions

An easement amendment may be required when crossing an existing easement.

General Conditions of an easement give the holder of the easement the right to operate a business in a safe and unencumbered manner. Easement Amendments & License Agreements attempt to change the legal document to reflect the physical changes in the property. These new arrangements may require the crossing party to:

- Recognize the rights and the needs of the utility being crossed by obtaining permission to encroach on the easement and follow the specifications for crossing the pipeline system.
- If the utility needs to be altered, then all costs will be the responsibility of the crossing party.
- Indemnify, and hold harmless, the utility from all claims and liabilities. Also the crossing party shall pay all costs and fees for responding to failures, or in the enforcement of all details in the performance of the encroachment or crossing.
- Notify the utility three days before working near the utility system, and follow specifications and the directions of the utility representative.
- Develop diagrams and surveys with plan and profile views of the site and method of construction including materials, equipment, personnel training, and construction loads.

2. General Specifications

Any variance from these specifications must be confirmed in writing by a Company representative. The crossing party shall:

- Not attempt to probe for or engage in any activities which might damage the pipeline or coating.
- Contact Company to remark a pipeline if crossing party believes existing marks to be inadequate for any reason, including disturbance during construction.
- Not burn trash, brush or other items or substances within 50 feet of any pipeline.
- Not construct any obstruction above or below ground (including, but not limited to, buildings, engineering structures, pavement, fences, refuse, pools and waste disposal systems) within 50 feet of any pipeline.
- Not operate heavy equipment over any pipeline.
- Not blast within 1,320 feet of any pipeline.
- Cross as near perpendicular as possible to any pipeline.

- Ensure all excavation work complies with OSHA’s excavation standards outlines in 29CFR1926 and correct any noncompliant excavation site before any Company representative or contractor enters the site to perform work.
- Perform no power digging within 50 feet of the side of the pipe unless a Company representative is present.
- Perform no power digging within 18-24 inches of the outer edge of the pipe. This “tolerance zone” extends on all sides of the pipe. Within this zone, use only hand excavation, air cutting, and vacuum excavation.
- Not cross the pipeline by auto tunneling, boring or directional drilling methods unless approved and documented by company. A Company representative must be present during this operation.
- Not develop or build retaining walls, drive piling or create an engineering works that develops or controls over burden loads that impact the pipeline without Company approval.
- Not chisel plow or rip the soil until inspected by a Company representative. Rip no greater than 16 inches deep only after the exact position of the pipe is known and not within three feet of the other edge of any pipeline.
- Backfill and compact to the satisfaction and in the presence of a Company Representative.
 - At least six inches of fine loose earth or sand with no sharp gravel, rock, hard clods, vegetation, or other debris shall be placed on all sides of any pipeline remaining backfill shall be placed so as not to disturb this padding material or injure the pipe
 - Compact backfill directly over any pipe by hand until 18 inches of cover is achieved.
 - Compact disturbed ground to the same degree of compaction of surrounding areas
- Restore the site to its original condition except of the items which are part of the approved change.

Specifications for Crossing Pipelines, Gas Transmission Lines, Mains and Service Connections On or Near Existing Pipelines, Facilities, and Rights of Way

1. General Specifications

- A foreign (non-Company) pipeline crossing should cross as nearly perpendicular and its designated right of way as possible.
- A foreign pipeline shall not run parallel or nearly parallel to a Company pipeline within the boundaries of the Company right of way or within 25 feet of the pipeline without Company’s written approval.
- Foreign pipelines shall cross underneath Company pipelines with a minimum clearance of 24 inches. This elevation should be maintained across the entire width of Company’s right of way. A clearance of at least 24 inches shall also be maintained between Company’s pipelines and

any other buried structure. An additional 24 inches is required if a conventional bore/utility push or directional drill is utilized.

- If during the course of the crossing Company's pipeline is exposed and unsupported for a distance in excess of 10 feet, the pipeline must be supported by cribbing on each side of the crossing or by some other manner approved by Company. Prior to backfilling the hole. The cribbing must be removed and replaced with sand bags or good compacted fill in order to minimize the settling of the pipe.
- If Company's pipeline is unusually deep at the crossing location, Company may consider allowing the utility to cross over Company's pipeline as long as the utility is placed in a steel casing across the right of way or protected in some other manner acceptable to Company.
- Warning tape shall be placed two feet above the location of a foreign pipeline for a distance of 25 feet on either side of Company's pipeline.
- Pipeline markers or identifying markers should be located to indicate the route of the foreign pipeline across the right of way of an existing Company pipeline.

2. Metallic Pipe

- Cathodic protection bonds and potential leads shall be required at all crossings and shall be terminated at aboveground locations. All test leads on Company pipelines will be installed by Company personnel.
- The foreign pipeline should be coated with a suitable pipe coating for a distance of at least 50 feet on either side of the crossing.

3. Non-Metallic Pipe

- A tracer wire and warning tape for a non-metallic pipeline should be installed by the third party to allow easy identification.

Specifications for Agriculture: Field Tile Ditching and Deep Plowing On or Near Existing Pipelines, Facilities, and Rights of Way

1. Agriculture Field Tile

- The project should be planned in advance and the project plan should be followed. Many states establish required time frames for advance planning. Ample time is required to review design and verify pipeline depths and operation requirements. Prior to the installation of any field tile within Company's right of way, the install should communicate and plan the project with Company's field personnel.
- During field tile installation, the pipeline should be located and a depth analysis made by a Company representative. Yellow flags will be placed to mark the pipeline. The Company technician will make a Depth Survey Report. Photos should be taken showing the flags.
- When working within 50 feet of the pipeline, a Company representative must be present. This will give adequate time and distance to keep everyone safe. It is recommended that long runs

of parallel tile and pipeline should be spaced 25 feet apart (a minimum of 10 feet) where conditions and skills permit.

- The pipeline should be crossed carefully. The crossing should be near to perpendicular as possible and clear the pipeline by 24 inches. Where the field tile crosses the pipeline, it is recommended that solid tile be used and that pea gravel be used to prevent settling. Plastic pipe is preferred when crossing the pipeline. Company shall conduct a field inspection of this work verify pipeline depths and installation clearances.

2. Deep Plowing

- Due to erosion and the removal of earthen cover in some areas, the existing depth of Company's pipeline may not support deep plowing Company shall not allow deep plowing in areas where the integrity of the pipeline may be comprised.
- Prior to any deep plowing, Company should be notified well in advance. Company shall locate and perform a depth analysis or pipeline depth profile. Yellow flags shall be placed to accurately mark the pipeline. These flags should be numbered and placed at frequent intervals, and should also indicate station and approximate depth.
- A Company representative will prepare a Depth Survey Report, which shall include photographs showing the yellow flags.
- When working within 50 feet of the pipeline, a Company representative shall monitor the activity verifying pipeline depths and installation clearances.

3. Land Contour Modifications

- Projects near a Company pipeline that involve altering the land contour, including the installation of ponds, lakes and drainage ditches; require expert engineering in planning an implementation to ensure pipeline integrity. A plan should be developed and provided to Company well in advance and take into consideration the integrity and safety of Company's pipeline. There may be a conflict between the current location of the pipeline and the needs of the land modification project. The project planning process may indicate the need to relocate the pipeline or alter the land modification project. Ample time is required to review design and verify pipeline depths and operational requirements.
- No substantial amount of cover shall be removed from above the pipeline. Typically, Company requires at least 36 inches of over the top of the pipeline. Limited amounts of cover can be added. The pipeline should not be covered by more than 60 inches of soil without the prior written approval of Company. The edge of a proposed surface improvement should maintain 25 feet of clearance with a buried pipeline when running parallel with the underground facility.

Specifications for Boring, Drilling, and Tunneling On or Near Existing Pipelines, Facilities, and Rights of Way

1. Conventional Bore/Utility Service Line Push

- Prior to commencing any conventional bore/utility service line push under or within 25 feet of any Company facility or pipeline right of way, permission must be received from Company. Lines installed by conventional boring/utility service line push shall cross a minimum of four feet below Company's pipeline all crossing should be perpendicular to existing pipeline and its designated right of way.
- Company shall be supplied with written notification documenting the scope of the work, the project schedule, and plans detailing the bore/utility service line push, as well as any special conditions or proposed adjustments which will be incorporated into the conventional bore/utility service line push plan to prevent possible damage to the pipeline system. This plan shall be reviewed and approved by Company.
- Company shall have a representative on site to monitor the crossing within the right of way.

2. Conventional Bore

- Some method must be employed to ensure this minimum clearance is met such as excavating in the path of the crossing on either side of Company's pipeline to a depth that if the foreign line does not appear, then the minimum clearance has been achieved. These inspection holes should be completed prior to the bore or push commencing to be sure Company's pipeline is not hit.

3. Directional Drilling

- Prior to commencing any directional drilling activity under or in proximity to any Company facility or pipeline right of way, permission must be received from Company.
- For any directional drilling operations across or within a Company right of way, the excavator shall provide Company with a directional drilling plan; complete, with a written report documenting any adjustments which shall be incorporated into the directional drilling plan to prevent possible damage to prevent the pipeline system. Lines installed by directional drilling shall cross a minimum of 4 feet below Company's pipeline. The plan shall be reviewed and approved by Company.
- Some method must be employed to ensure the minimum clearance is met such an excavating in the path of the crossing on either side of Company's pipeline to a depth that if the foreign line does not appear, then the minimum clearance has been achieved. These inspection holes should be completed prior to the directional drill commencing to be sure Company's pipeline is not hit.

Specifications for Overhead and Buried Power Communication Cables Including Fiber Optic On or Near Existing Pipelines, Facilities, and Rights of Way

1. General Specifications

- All cable crossings should cross perpendicular to existing Company pipelines and its designated right of way to the extent possible.
- No cable shall run parallel or nearly parallel to a Company pipeline within the boundaries of the Company right of way or within 25 feet of the pipeline without Company's consultation and expressed written approval. No splice box, service riser, or energized equipment shall be installed within 25 feet of the pipeline.
- After construction of cables with an operating voltage greater than 13.8 kV, Company will investigate the possibility of induced current on the pipeline. If AC interference is evident, the crossing party shall be responsible for the cost of mitigating the AC interference.

2. Underground Cables And Conduit

- Cables and electrical conduit shall cross underneath Company pipelines with a minimum clearance of 24 inches and shall be installed in steel casing or installed in PVC conduit covered with six inches of concrete for 10 feet on each side of Company's pipeline. Concrete used for protecting electric cables shall be dyed red. If Company's pipeline is unusually deep, consideration may be given to crossing over the pipeline as long as the cable is placed in a steel casing or protected from damage in some other manner acceptable to Company. An additional 24 inches of clearance is required if a conventional bore/utility push or directional drill is utilized.
- The minimum depth should be maintained and identification warning tape installed 12 inches above the cable for a distance of 25 feet on each side of the Company pipeline.
- Red aboveground "Warning Buried Cable" markers should be placed over the cable at a distance of 25 feet on each side of the Company pipeline to properly identify the buried cable.

3. Overhead Cables

- All overhead cables shall maintain a minimum height of 20 feet above grade for a distance of 25 feet on each side of the Company pipeline.
- No mechanical supports or service drops (including poles, towers, guy wires, ground rods, anchors, etc.) shall be installed within 25 feet of the Company pipeline.

Specifications for Roads, Railroads, Paved Lots and Heavy Equipment On or Near Existing Pipelines, Facilities, and Rights of Way

1. Temporary Crossing for Axle Loads Less Than 15,000 Pounds

- Any traffic over a Company pipeline represents a risk and should be minimized unless adequate precautions (discussed below) are undertaken. Equipment with tracks, as opposed to having tires, is preferred if travel over the pipeline is required. In general, a minimum cover

of 48 inches over a pipeline is required where a vehicle crossing is to be made for axle loads up to 15,000 pounds. Site conditions (such as damp soil), as determined by a Company representative, may require that the crossing location be matted or provided with additional cover to compensate for soil displacement due to the subsidence of tires.

2. Temporary Crossing for Axle Loads Greater Than 15,000 Pounds

- For axle loads greater than 15,000 pounds, which are common in mining and logging operations, Company's pipeline shall be protected from excessive stress by placing one foot thick timber mats over the line. The crossing design may require evaluation by Company to ensure that the installation/crossing will not cause an excessive amount of stress on the underlying pipeline. If Company determines that matting is required, and then the mats shall be placed on a minimum of two feet undisturbed earth above the line and oriented with the timbers perpendicular (across) the pipeline. Enough mats shall be placed to cover the complete width of the proposed crossing. An appropriate roadway material, such as crushed stone, can then be distributed over the mats to complete the crossing. Alternate means of protecting the line must be approved by Company.

3. Permanent Crossing

- Permanent vehicle crossings, such as roads, railroads, and paved lots that are planned over or near a Company pipeline must meet the clearance requirements as defined by Company. The crossing design will require evaluation by Company to ensure that the installation/crossing will not cause an excessive amount of stress on the underlying pipeline. The crossing party shall provide Company with a plan and profile drawing indicating the existing and proposed elevations of the proposed project; the pipeline and buried utilities within 25 feet of either side of the crossing shall be clearly indicated in all views. The proposed surface encroachments should cross a buried pipeline, where reasonably possible, in a perpendicular alignment (90 degrees) to minimize the length of the impact to the underground facility, but in no event less than 45 degrees. A geotechnical report may be required to identify soil profile components. This subsoil study will show the load array characteristics of the site.
- In the event Company determines that additional measures are necessary to provide adequate protection for the pipeline, the crossing party shall provide additional protection as approved by Company. Some alternatives for additional protection are the provision of additional earth cover over the pipeline, the installation of reinforced concrete pads or pre-stressed concrete beams over the pipeline, or a lowering of the pipeline.

4. Cover Over Pipeline

- Absent Company's express written approval to the contrary, a minimum cover of 48 inches for roads and 72 inches for railroads will be required over the pipeline for both permanent installations over the pipeline, and temporary crossings of heavy equipment. Company's representative may require more, or allow less, cover depending on site-specific conditions.

- The top of the pipe must be a minimum of 36 inches below grade at drainage ditches on either side of a road or railroad, or at the perimeter of a paved lot.
- The pipeline should not be covered by more than 60 inches of soil without the prior written approval of Company.

5. Culverts

- Culverts must not be located within 25 feet of the pipeline or in Company's right of way, whichever is greater. Any modification or creation of a drainage pattern that affects Company's right of way must be addressed such that erosion of pipeline cover is controlled. If there are no other options for relocating the culvert, or if the culvert is on public right of way (federal, state or local), then the design must be approved by Company. While reviewing the design, consideration should be given to additional stress placed on the pipeline, access to the pipeline for maintenance, and effect any new drainage patterns might have on the pipeline right of way.

6. Future Responsibility

- In the event that Company deems it necessary to inspect or repair any section of pipeline under a road, railroad or paved lot at any time in the future, the cost of excavating and replacing any fill materials added to the original grade, and repairs to the road, railroad or paved lot itself, shall be borne entirely by the crossing party.

Specifications for Property Improvements On or Near Existing Pipelines, Facilities, and Rights of Way

1. General Specifications

- The crossing party shall provide Company a plan and profile drawing indicating the existing and proposed property improvements for the proposed project within 50 feet of the pipeline; Company's pipeline shall be shown in both the plan and profile views. Each notification is evaluated on an individual basis; more stringent requirements may be required for a particular circumstance. Further, the crossing party assumes all risk and acknowledges that, while exercising easement rights, Company may damage encroachments located within Company's right of way.

2. Structures

- In general, no structure or obstruction is allowed within Company's right of way.

3. Landscaping

- Trees, shrubs, and other plantings greater than three feet high are prohibited within twenty-five feet of any pipeline or appurtenance and typically all plantings are prohibited within ten feet of any pipeline or appurtenance. Company may trim or remove any trees, shrubs, and other plantings of any size within its right of way that it deems interferes with the maintenance or integrity of the pipeline.

4. Fencing

- Fence installation is not in the best interest of safe pipeline operation and should be avoided. If it is necessary for the installation of a fence, the following specifications should be followed: Fence posts shall not be installed within five feet of any Company pipeline and, if crossing the pipeline, shall be equidistant from the pipeline. No fence shall cross Company's right of way at less than a 60-degree angle to the pipeline. Fences parallel to the Company pipeline must be at least 10feet from the pipeline. No masonry, brick or stone fences shall be installed on Company's right of way.

5. Driveways or Lanes

- Driveways or lanes should cross the Company pipeline at no less than a60-degree angle and shall not run parallel within 25 feet of the pipeline. A minimum cover of 36 inches for driveways and lanes, and 36 inches for side ditches is recommended, but Company may want to evaluate the impact of the encroachment to the pipeline on a case-by-case basis. Company shall approve in advance any lesser amount of cover.

6. Drainage and Septic Systems

- Drainage and septic systems work on gravity. It is important that grade elevations and slope are considered before these systems are created. Septic systems and their leach fields should not be located within 25 feet of the pipeline. This area is reserved for heavy construction equipment for the pipeline. Crossing the pipeline with these systems must be accomplished with non-perforated solid pipe buried deep enough to carry heavy loads.

7. Removal or Deposit of Dirt

- No substantial amount of cover shall be removed from the pipeline right of way. Typically, Company requires at least 36inches of cover over the top of the pipeline. Limited amounts of cover can be added. The pipeline should not be covered by more than 60 inches of soil without written permission from Company.

Specifications for Non-Explosive Seismic Testing and Blasting Operations On or Near Existing Pipelines, Facilities, and Rights of Way

1. General Specifications

- The third party responsible for the seismic testing or blasting operations shall comply with all applicable local, state, and federal regulations and requirements.
- A seismic testing plan must be submitted and approved by Company prior to commencement of any testing activity. All seismic testing or blasting operations shall be conducted by experienced personnel who are trained and certified in such operations and who are aware of the hazards involved.

2. Non-Explosive Seismic Testing

- Seismic testing with steady state vibrator sources is prohibited within 150 feet of Company's facilities or pipelines. All other non-explosive seismic testing sources, including the use of air guns, are prohibited within 600 feet of Company's facilities or pipelines. Upon request, these distances may be reduced at the discretion of Company and then only upon written permission of Company.
- The third party responsible for the seismic testing shall notify Company immediately if any changes are made to the seismic testing plan.

3. Blasting Operations

- Prior to commencement of any blasting activity within one-fourth mile of Company's facilities or pipelines, permission must be received in writing from Company. For any blasting operation within one-fourth mile of Company's facilities or pipelines, Company shall be supplied with a pre-work survey, complete with a written report documenting any special conditions or proposed adjustments which shall be incorporated into the seismic testing or blasting activity plan to prevent possible damage to facilities or pipeline. This survey shall be performed by an accredited third party surveyor and will be reviewed by Company.
- The third party responsible for the blasting shall notify Company immediately if any changes are made to the blasting plan.
- If blasting is to be performed within 600 feet of the pipeline, a seismic monitoring program shall be instituted by the contractor. A seismic monitoring unit in good working condition shall be utilized to measure the vibration at the pipeline. The geophone shall be inserted directly over the pipeline and covered with a sandbag if soil conditions prevent adequate insertion. The Peak Particle Velocity (PPV) shall not exceed two inches per second (IPS) for any blast. Company shall be notified of any PPV readings approaching or exceeding 2 IPS.
- No blasting shall be conducted closer than 50 feet to Company's pipeline unless specifically approved by Company.
- Anyone suspecting blasting damage shall notify Company. If Company has reasonable cause to believe that damage could have occurred during blasting operations, then Company may recommend the pipe be proof tested and/or excavated and inspected.
- If PPV from blasting operations exceeds 2 IPS, then a proof test (leak survey) will be conducted by Company. A Company representative shall be on site at the location of the blasting activity to observe the right of way during the proof test.

2.4 Guidelines for Property Development

Guidelines for Crossing Pipelines, Gas Transmission Lines, Mains and Service Connections On or Near Pipelines, Facilities and Rights-Of-Way

1. Common Guidelines

- “Foreign pipeline” means any hazardous liquid pipeline, gas transmission line, main, service connection, and utility pipe such as water line, sewer line or any other pipeline installed within the right-of-way (ROW) of an existing hazardous liquid pipeline.
- A foreign pipeline crossing should cross perpendicular, or as close as possible to 90degrees to the existing pipeline and its designated ROW.
- A foreign pipeline should not run parallel or nearly parallel to an existing pipeline within the boundaries of the ROW for the existing pipeline, or within 25 feet of the existing pipeline without specific written approval from the company operating the existing pipeline. **(Note this distance may vary among pipeline operators so it is important to check with the pipeline operator during the design phase of the project.)** The placement of the foreign pipeline should also be consistent with the existing easement agreement.
- A foreign pipeline should cross underneath an existing pipeline with a minimum clearance of 24 inches. This elevation should be maintained across the entire width of the right-of-way for the existing pipeline. Clearance of at least 24 inches should also be maintained between the existing pipeline and any other buried structure.
- If the existing pipeline is unusually deep at the crossing location, the operator of the existing pipeline may consider allowing the foreign pipeline to cross over the existing pipeline as long as the facility is protected in some other manner acceptable to the operator of the existing pipeline.
- Pipeline markers or identifying markers should be located to indicate the route of the foreign pipeline across the ROW of an existing pipeline. Such markers should adhere to regulatory standards and API Recommended Practice 1109, *Marking Liquid Petroleum Pipeline Facilities*.

2. Metallic Pipelines

- Foreign pipelines, other than utility lines, should install cathodic protection bonds and potential leads at all crossings and terminate them at aboveground locations. The operator of the existing pipeline will install all test leads on the existing pipeline.
- The foreign pipeline should be coated with a suitable pipe coating for a distance of at least 50 feet on either side of the crossing. **(Note this distance may vary among pipeline operators so it is important to check with the pipeline operator during the design phase of the project.)** A warning tape, or warning mesh, should be used to indicate the location of a foreign pipeline for a distance of 25 feet on either side of the existing pipeline.

3. Nonmetallic Pipelines

- A tracer wire for a nonmetallic foreign pipeline should be installed to assist in locating it in addition to the above-mentioned warning tape.

Guidelines for Agriculture: Field Tile Ditching and Deep Plowing On or Near Pipelines, Facilities and Rights-Of-Way

1. Field Tile Guidelines

This Guideline is intended to guide the field tile installer and the pipeline operator's representative on the safe installation of agricultural drainage tile around a pipeline system.

- The project should be planned in advance. A representative of the pipeline operator or utility will help prevent dangerous and costly accidents and help avoid surprises during the work. The project plan should be followed. Many states establish required time frames for advance planning. Ample time is required to review the design and verify pipeline depths and operational requirements. Prior to the installation of any field tile within the pipeline right-of-way (ROW), the installer should communicate and plan the project with the pipeline operator. The pipeline operator should coordinate the safe installation within their ROW.
- When working within 50 feet of the pipeline, the pipeline operator's representative should monitor the activity. This practice will provide adequate time and distance to maintain a safe operation.
- The pipeline should be located and a depth analysis or pipeline depth profile performed by a representative of the pipeline operator. The pipeline should be marked in accordance with the APWA Uniform Color Code. Yellow flags should be placed to mark the pipeline. These flags should be numbered and placed at frequent intervals and should also indicate station and depth. The pipeline operator's representative should prepare a Depth Survey Report, which should include photographs showing the yellow flags.
- It is recommended that long runs of parallel tile and pipeline should be spaced 25 feet from the existing pipeline. If a closer distance is necessary, the pipeline operator should be contacted for prior approval.
- The pipeline should be crossed carefully, and only when the pipeline operator's representative is on site and able to observe the work. The crossing should be as near to perpendicular (ninety [90] degrees) as possible and clear the pipeline by a minimum of 24 inches.
- Where the field tile crosses the pipeline, it is recommended that solid tile be used and that pea gravel be used to prevent settling. The pipeline operator should conduct a field inspection of this work verifying pipeline depths and installation clearances.
- Plastic pipe is preferred when crossing the pipeline.

2. Deep Plowing

- “Deep Plowing” is defined as the ripping or other cultivation method where the ground is disturbed at a depth of 16 inches or more.
- Prior to any Deep Plowing, the pipeline operator should be notified well in advance. The pipeline should be located and a depth analysis or pipeline depth profile performed by a representative of the pipeline operator. Yellow flags should be placed to mark the pipeline. These flags should be numbered and placed at frequent intervals, and should also indicate station and approximate depth.
- The pipeline operator’s representative should prepare a Depth Survey Report, which should include photographs showing the yellow flags. When working within 50 feet either side of the pipeline, the pipeline operator’s representative should monitor the activity verifying pipeline depths and installation clearances.
- Due to erosion and the removal of earthen cover in some areas, the existing depth of the pipeline may not support Deep Plowing. The pipeline operator should not allow Deep Plowing in areas where the integrity of the pipeline may be compromised.

3. Other Land Contour Modifications

- Projects near the pipeline that involve altering the land contour, including the installation of ponds, lakes and drainage ditches, require expert engineering in planning and implementation to ensure pipeline integrity. A plan should be developed and provided to the pipeline operator well in advance and take into consideration the integrity and safety of the pipeline system. There may be a conflict between the current location of the pipeline and the needs of the land modification project. The project planning process may indicate the need to relocate the pipeline or alter the land modification project. When planning the project, please call the pipeline operator. The operator should assign a pipeline expert to help with the planning process and advise on matters of pipeline safety. Ample time is required to review the design and verify pipeline depths and operational requirements.

Guidelines for Boring, Drilling, and Tunneling On or Near Pipelines, Facilities And Rights-Of-Way

1. Boring, Drilling, and Tunneling Procedures Near Pipelines

- Because both pipelines and the process of boring, drilling and tunneling are under ground and not visible, special care must be given to the planning and execution of these operations when other utilities and pipelines are nearby. A pipeline operator representative should be given an opportunity to review and approve the plan for the operation, the equipment to be used and the proposed procedure well in advance of beginning the project. Two critical elements of the plan are the involvement of competent equipment operators who respect the primary need for safety, and the presence of the pipeline operator’s representative when boring, drilling or tunneling occurs in close proximity to the pipeline.

2. Common Guidelines

- Before beginning any conventional bore/utility service line boring, drilling or tunneling a cross or within a pipeline right-of-way (ROW), or within 25 feet of the pipeline, consultation and design approval permission should be received from the pipeline operator.
- The pipeline operator should have a representative on site to monitor the crossing within the ROW.
- Common crossings include all foreign pipelines and pipes, cable or other utility facilities. All crossings should be perpendicular, or as near to 90 degrees as possible, to the existing pipeline and its designated ROW, and should be designed to clear the pipeline by four (4) feet.
- No crossing should run parallel or nearly parallel to an existing pipeline within the boundaries of the ROW for that existing pipeline, or within 25 feet of the pipeline, without the pipeline operator's express written approval. "Nearly parallel" means parallel to, or running at an angle 60 degrees or less to the pipeline.
- "Cable" means any power or communications cable, including fiber optic.
- No splice box, service riser, or energized equipment should be installed within 25 feet of the pipeline.

3. Advanced Preparation Requirements

- Depending on the many factors that may affect these jobs, the pipeline operator may also require:
 - Inspection trenches and holes that view the tool and pipe prior to and during the crossing operations to ensure proper clearance.
 - Special location equipment.
 - Group meetings with other utilities, and validation of One-Call responses.
 - Review time by engineers qualified to evaluate the job.

4. Site Specific Diagrams

- The plan should include diagrams that are site specific. The diagrams must show a plan and profile view. Generic plans should be redeveloped to include the title, date, and names, addresses and phone numbers of the responsible party and the tunneling contractor. Items that should be shown in the specific diagrams include:
 - Survey benchmark locations.
 - Property descriptions.
 - A clear depiction of all other pipelines and utilities, along with measurements.
 - Planned location of inspection trenches and holes.

- Allowance for proper clearance between pipe and new utility.
- Description of method and instruments used to follow the tool.
- The pipeline operator may also request an “as-built” drawing depicting the verified angle of crossing, depth of the pipeline, and the clearance of the foreign line. This “as-built” drawing provides important information for later excavations and operational design compliance data.

Guidelines for Overhead and Buried Power and Communication Cables Including Fiber Optics On or Near Pipelines, Facilities and Rights-Of-Way

“CABLE” is defined as all wires and fiber optic facilities that transmit electrical power or communications signals. It is important that a pipeline operator knows the location of all cables that are buried near its pipelines. Unintentional excavation of a cable may create a hazardous situation and costly repairs maybe required. Buried electrical cables can emit electrical currents that interfere with the pipeline cathodic protection system, and thus cause or accelerate corrosion of the pipe. These potential hazards can be easily mitigated with advance planning by first calling the statewide One Call number (811), then conferring at the site with a representative of the pipeline operator. It is also important to remember that communications cables, while not hazardous, are critical facilities that could affect the local emergency telephone system.

1. Placement of Cables

- All cable crossings should cross underneath and perpendicular to (or as near ninety [90] degrees as possible) an existing pipeline and its designated right-of-way (ROW).
- No cable should run parallel or nearly parallel to a pipeline within the boundaries of its designated ROW, or within 25 feet of the pipeline, without the pipeline operator’s consultation and design review with express written approval. No splice box, service riser, or energized equipment should be installed within 25 feet of the pipeline.
- A warning tape placed above the cable should be used to indicate the location of a cable for a distance of 25 feet on either side of the pipeline, if possible, or within the pipeline ROW.
- All buried cables should be marked with proper signage and designation so that future work at these sites can be done without damage or interruption to the pipeline or cables.

2. Buried Cables

- Buried cables should have at least a 24-inch clearance of the pipeline. The pipeline operator may require additional clearance or require implementation of corrosion control procedures.
- Cable crossings should be installed with warning tape above the cable and signage aboveground. An extra length of cable should be looped to help with future excavations.
- Critical buried cable should cross under an existing pipeline, should be contained within a PVC conduit of schedule 40 or greater strength, and either have a red colored concrete slab 6 inches thick above the conduit for a distance of 10 feet on each side of the existing pipeline, or be encased within concrete as long as there is 6 inches of red colored concrete above the

conduit, or be otherwise installed according to National Electrical Code or local electrical code standards. The top of the concrete slab should have at least a 24-inch clearance of the pipeline. If metallic encasement is used as a conduit instead of PVC, it is important that cathodic protection and other issues be addressed with the pipeline operator.

- All power cables should be marked with red signs indicating “buried power cable,” according to National Electrical Code standards.
- Non-critical buried cable may be buried directly below the pipeline and without a conduit. In certain cases, the pipeline operator may approve installation above the pipeline if cable is encased in protective conduit. No tethe requirements for this section may vary among pipeline operators so it is important to check with the pipeline operator during the design phase of the project.

3. Overhead Cables

- All overhead cable should maintain a minimum height of 20 feet above grade for a distance of 25 feet each side of the pipeline.
- No part or portion of mechanical supports and service drops, including poles, towers, guy wires, ground rods and anchors, should be within 25 feet of the existing pipeline.

Guidelines for Roads, Railroads, Paved Lots, and Heavy Equipment Vehicles On or Near Pipelines, Facilities and Rights-Of-Way

For all the following examples, the responsible party should submit advance notice to the pipeline operator, and receive the operator’s approval.

1. Temporary Crossing for Axle Loads Less Than 15,000 Pounds

- Any off-road traffic over a pipeline creates a stress on the underlying pipeline and should be minimized unless adequate precautions (discussed herein) are taken. Equipment with tracks, as opposed to having tires, is preferred if off-road travel over the pipeline is required. In general, a minimum cover of 48 inches over a pipeline is required where a vehicle crossing is to be made for axle loads up to 15,000 pounds. Site conditions (such as damp soil) may require that the crossing location be matted or provided with additional cover to compensate for soil displacement due to the subsidence caused by crossing. Each location is unique and should be evaluated by a representative of the pipeline operator to determine site-specific protective requirements. **Note the weight and cover may vary among pipeline operators so it is important to check with the pipeline operator during the design phase of the project.**

2. Permanent Crossing (And Temporary Crossing for Axle Loads 15,000 Pounds and Greater)

- Permanent vehicle crossings, such as roads, railroads and paved lots, as well as temporary crossings for heavy equipment (15,000 pounds and greater) that are planned over or near a pipeline, will require engineering evaluation to ensure that the installation/crossing will not cause an excessive amount of stress on the underlying pipeline. The crossing party should provide the pipeline operator with a plan and profile drawing indicating the existing and

proposed elevations of the proposed project; the pipeline and buried utilities within 25 feet of either side of the crossing should be clearly indicated in all views. The proposed surface encroachments should cross a buried pipeline, where reasonably possible, in a perpendicular alignment (90 degrees) to minimize the length of the impact to the underground facility, but in no event less than 45 degrees. A geotechnical report may be required to identify soil profile components. This subsoil study will show the load array characteristics of the site.

3. Cover Over Pipeline

- A minimum cover of the pipeline of 48 inches for roads and 72 inches for railroads should be planned for both permanent installations over the pipeline, and temporary crossings of heavy equipment, unless the pipeline operator has provided written approval to the contrary. Temporary roads used for construction activity, such as for lumber trucks, logging wagons, or concrete trucks, may require extra cover and road matting to protect the pipeline from the additional loading stresses.
- The crossing party should maintain a minimum of 36 inches from the top of pipe to grade at drainage ditches on either side of a road or railroad, or at the perimeter of a paved lot. The edge of a proposed surface improvement should maintain 25 feet of clearance, if possible, with a buried pipeline when running parallel with the underground facility.
- Ground cover should not exceed 6 feet over the top of the pipeline unless approved by the pipeline operator.

4. Paved Lots

- Any concrete paving, other than for road, street or driveway crossings of the pipeline (e.g., parking lots), to be installed over the pipeline should:
 - Be unreinforced,
 - Not exceed four (4) inches in thickness,
 - Be sectioned seven and one-half (7.5) feet from either side of the pipeline, with appropriate asphalt expansion joints every ten (10) feet, and
 - Conform to the minimum cover requirements.
- Any deviation from these recommendations should be confirmed with written approval from the pipeline operator.

Guidelines for Property Improvements On or Near Pipelines, Facilities and Rights-Of-Way

1. General

- TO MAINTAIN SAFE OPERATING PIPELINES, pipeline operators routinely perform maintenance and required federal/state inspections on their pipelines. In order to perform these critical activities, the operator's maintenance personnel must be able to access the pipeline right-of-way (ROW), as provided in the easement agreement. Required access is accomplished by keeping the area on either side of the pipeline contained within the ROW clear of trees,

shrubs, buildings, structures or any other encroachments that might interfere with access to the pipeline. Pipeline operators typically use aerial patrol to survey the ROW, providing critical information regarding potential issues involving the safe operation of the pipeline. The landowner, as well as potential land purchasers and/or developers, have the obligation to respect the pipeline ROW by not placing obstructions or encroachments within the ROW and in planning developments in a manner that maintains the visibility and accessibility of the ROW, such as in the platting of “greenbelts” or common ground across the ROW area.

- The encroaching or crossing party should provide the pipeline operator with a plan and profile drawing indicating the existing and proposed property improvements within 50 feet of the pipeline, and such drawings should depict the distance and relationship between the property improvements and pipeline. At the encroaching or crossing party's request, the pipeline operator will locate and mark its pipeline location and depths to enable the location of the pipeline to be accurately surveyed and depicted on the plan and profile drawings. The pipeline operator may choose to have a representative at the site during improvement activities.

2. Structures

- In general, no structure or obstruction is allowed within the pipeline's ROW. The terms of the license or easement agreement may contain specific language prohibiting structures within the ROW. The U. S. Department of Transportation/ Pipeline and Hazardous Materials Safety Administration, as well as fire departments, refer to distances from the pipeline where the pipeline operator should be consulted prior to any building or excavation in that area. The table embedded in the figure outlines suggested guidelines for acceptable buffer zone distances from the pipeline. These distances may exceed rights-of-way and are not intended to replace more stringent local regulatory requirements.

3. Landscaping

- Trees and bushes should not be planted within the cleared and maintained pipeline ROW. However, the pipeline operator may give written approval for landscape planting of ground cover and small ornamental trees not greater than three feet in height within 25 feet of the pipeline. Under no circumstances should landscape planting be allowed any closer than 10 feet to a pipeline. The pipeline operator may clear any vegetation within the ROW. Mechanical mowing and tree canopy trim removal vary based on geographical location, but are completed as needed or on scheduled intervals that may span several years. Tree canopy removal may extend to trees rooted outside of the ROW but have canopy that overhangs into the ROW. No vegetation should obstruct pipeline markers or signage.

4. Fencing

- Fences generally impede the operator's access to inspect and maintain the pipeline and thus should be discouraged from being installed across the ROW. Fences, where permitted within the ROW, should be installed so that posts are not within five (5) feet of any pipeline and, if crossing the pipeline, should be equidistant from the pipeline. No fence should cross a

pipeline ROW at less than a 60-degree angle to the pipeline. Fences parallel to a pipeline should be at least 10 feet from the pipeline.

- Fences that are perpendicular to a pipeline should include a gate (12 to 16 feet minimum width, depending on the pipeline operator) or removable panels across the entire width of the ROW to allow the operator access to inspect and maintain the pipeline. No masonry, brick or stone fences should be installed on a pipeline ROW. No fences should obstruct the view of a pipeline ROW.

5. Driveways or Lanes

- Driveways or lanes should cross pipelines at no less than a 60-degree angle and should not run parallel within 25 feet of the pipeline. Generally, a minimum cover over the pipeline of 36 inches for driveways or lanes and 36 inches for side ditches is recommended, but the pipeline operator may want to evaluate the impact of the encroachment to the pipeline on a case-by-case basis. The pipeline operator should approve in advance any lesser amount of cover.

6. Drainage and Septic Systems

- Drainage and septic systems work on the principle of gravity. It is important that grade elevations and slope are considered before these systems are created. Septic systems and their leach fields should not be located within 25 feet of the pipeline.

7. Removal or Deposit Of Dirt

- No amount of cover should be either removed from, or added to, a pipeline ROW without written approval by the pipeline operator. This recommendation applies to removal or burying of rocks and ditching for farm drainage, as an example.

Guidelines for Non-Explosive Seismic Testing and Blasting Operations On or Near Pipelines, Facilities and Rights-Of-Way

1. General

- THE PARTY RESPONSIBLE FOR THE SEISMIC TESTING or blasting operations should be in compliance with all applicable local, state and federal regulations and requirements.
- A seismic testing or blasting plan should be submitted to the pipeline operator for approval prior to the start of the project.
- Only experienced personnel who are trained and certified in such operations and who are aware of the hazards involved should conduct any seismic testing or blasting operations.
- The party responsible for the seismic testing or blasting should notify the pipeline operator immediately if any changes are made to the seismic testing or blasting plans.

2. Non-Explosive Seismic Testing

- No seismic testing with steady state vibrator or thumper sources should be conducted within 150 feet of a pipeline. All other non-explosive seismic sources, including the use of air guns, should not be used within 600 feet of a pipeline.

3. Blasting Operations

- For any blasting operation within one-fourth mile of a pipeline, the pipeline operator should be supplied with a pre-work survey, including a written report documenting any special conditions or proposed adjustments which are to be incorporated into the seismic testing or blasting activity plan to prevent possible damage to pipeline systems. This survey should be performed by an accredited third-party surveyor and reviewed by appropriately qualified personnel of the pipeline operator.
- A seismic monitoring unit should be inserted directly over the pipeline and covered with sandbags if soil conditions prevent adequate insertion. The Peak Particle Velocity (PPV) should not exceed two (2) inches per second (IPS) for any blast. The pipeline operator should be notified of any PPV readings approaching or exceeding 2 IPS.

2.5 Pipeline Excavation/Construction Restrictions

In a continuing effort to provide a safe environment for persons working on or near our pipelines, Company will require the following restrictions be applied to all work being performed near Company's pipelines, unless exceptions are specifically agreed to in writing by Company Field Supervisor.

The excavator is responsible for all damages resulting from the crossing and shall indemnify and hold Company safe and harmless including personal injury and/or deaths of third parties and indirect and consequential damage such as loss of profits.

Pre-Excavation/Construction

- Contact the appropriate ONE CALL system(s) and Company at least 48 hours before commencing work, or as required by regulations.
- If there are multiple Company entities with pipelines in the area, the excavator must be certain that each entity has contacted them and marked their line. Each Company entity is independent and does not mark lines for any other entity.
- No work may commence on Company ROW until a Company representative has authorized it to begin. Notices of desired work start date should be given 48 hours in advance. **A Company representative will normally be on-site during excavation within our pipeline, and must be on-site when work adding or removing cover is within 10 feet of a Company pipeline.**
- Construction of any roads, highways, streets, or blasting within 500 feet of the pipelines will require an approved excavation/blasting plan in advance.
- Boring contractor's plans and specifications require Company approval prior to commencing work.
- Excavator should mark area of proposed excavation in white (paint, stakes, etc.)

General Excavation/Construction

- All heavy equipment will have a spotter with it at all times while working on Company Owned property, or within 10 feet of a Company pipeline on Third Party Owned Property.
- Mechanical excavation **will cease** once the earth has been removed **within eighteen inches** of Company pipeline. The tolerance zone will increase to **twenty-four inches at known appurtenances an at all valve/stopple sites** until the appurtenance is exposed.
- Shovels will be used to manually clean the area above and below the line.** After the line has been initially located, the line shall be kept visible to the equipment operator during the excavation process. Mechanical digging **will not be allowed closer than 6 inches from the side and bottom of the pipeline** after the line has been exposed per the above procedure.
- No perpendicular digging will occur to initially expose the pipeline unless there are no other options.

- No excavations shall be made on land adjacent to the pipeline unless there are no other options.
- New pipelines or utilities should cross Company's pipelines with at least 24 inches of clearance. Crossings shall allow Company's pipeline to be lowered in the future to obtain recommended depth for new construction. Any change in the surface grade or elevation over or along the pipeline(s) and right-of-way must be approved in advance.
- Pipeline/Utility Crossings should be as close to 90 degrees to Company's pipeline as possible, but not less than 45 degrees.
- All non-steel crossings shall be encased across the width of Company's easement.
- Fiber optic cable and long distance carrier crossing should be cased across the width of Company's easement.
- All backfill on Company's easement shall be mechanically compacted on the top of the pipeline(s) after removal of water and trash.
- If Company deems it necessary, the excavator shall install a bar across the teeth of the bucket during excavation.
- If Company's line is exposed during the excavation, the hole will be made safe for entry and left open until Company installs test leads.
- Excavator shall operate equipment that is in good working condition, conducive to a safe working environment, while working on or near Company's facilities.

Pipeline Crossings

- Permanent aboveground markers identifying the crossing pipeline or utility shall be installed and maintained at the limits of Company's easement and/or at the crossing.
- If it is impractical to install and maintain aboveground markers due to crossing location, plastic marker tape shall be installed below cultivation level and over Company's pipeline, extending the width of the easement.

Bore Crossings

- Bore crossings with a clearance of 10' or less will require the installation of peepholes on the incoming side of Company's pipelines at the point of intersection as to view the drill stem clearance prior to crossing.

Equipment/Vehicle Crossings

- No trucks or heavy equipment are to cross the pipeline right-of-way without Company approval.
- Temporary construction roads or mats may be required to protect Company's pipelines. **A Company inspector must be present when temporary materials are removed.**

Hydro-VAC Excavation

- Hydro-Evacuation (Hydro-VAC) may be required in some situations to reduce the risk of damage to a pipeline.

- Grounding of the vacuum truck and wand is required and should be tested; downwind venting of the vacuum truck is required.
- The water wand tip is to be an oscillating type (circular pattern) to prevent a concentrated water stream; single stream nozzles are not allowed.
- The vacuum wand tip must have a neoprene or equivalent tip to prevent damage to the pipeline coating and surrounding structures.
- If the evacuation site is suspected to contain hydrocarbon-impacted soil, a plan must be developed upfront for testing and disposal of soil/water slurry (e.g. lined roll-off bin).
- Affected utility and pipeline companies should be informed in advance of intent to use Hydro-VAC to identify any limitations.

Fence Post/Utility Poles

- Fence posts, where permitted by Company, shall not be placed within 4 feet of the pipeline(s). Utility poles and guys shall not be placed within 8 feet of the pipeline(s).

Letter to Developers of Roads or Driveways Across the Pipeline (Process and Costs)

Date

Name

Address

RE:

In order to comply with the local, state and federal guidelines for the transportation of refined petroleum products by pipeline under roads and/or driveways, and or to insure the continued integrity of Company's pipeline(s) and the protection of the general public, the following procedure must be completed prior to the issuance of an Encroachment Agreement allowing proposed roads, driveways, and/or other modifications encroaching on Company's pipeline(s) or rights-of-way.

1. **Accommodation Survey** - The first step in the procedure is to perform an Accommodation Survey to determine whether any work is necessary to accommodate the proposed encroachment activity, relative to Company's ability to safely operate its pipeline system. The survey may include:
 - Profile of the area of the proposed road, driveway, and/or other modification. This is an on-site activity to determine the depth of our pipeline(s).
 - Analysis of internal inspection data
 - Load and stress analysis to determine suitability of existing pipeline(s).
 - Close interval survey to determine suitability of existing pipeline(s).
 - Soil compaction survey.

This accommodation survey shall be performed by Company personnel and contractors at the expense of the encroaching party. The fee charged by Company for this service is **\$(Insert Amount)** per encroachment, payable, in advance to the Company. In some cases it may be necessary to utilize mechanical means to complete the profile. If so, that the expense, including any company overhead, will be in addition to the **\$(previously stated amount)** fee and will be the responsibility of the encroaching party.

2. **Accommodation Work** - Company requires that the pipeline coating system and the pipeline(s)'s strength be evaluated for suitability of service in relation to the proposed encroachment (in addition to requiring that certain clearances be maintained between its pipeline(s) and the encroaching activity. Should Company determine that the coating system and/or strength is insufficient due to increased soil stresses or other factors, Company will, utilizing its own employees and/o other contractors and at the encroaching party's expense, upgrade the pipeline to accommodate the proposed encroachment. **A detailed estimate of the cost, plus applicable overhead, will be provided by Company and must be paid in full and a Pipeline Accommodation Agreement must be executed before Company will schedule work.**
3. **Accounting** - Upon completion of the Pipeline Accommodation Work, a settlement statement will be furnished detailing all costs. Should the final summarized cost amount differ from the amount

paid by the encroaching party, Company will invoice or refund the encroaching party for the difference.

- 4. **Encroachment Agreement** - Upon completion of the Pipeline Accommodation Work, Company will provide a proposed Encroachment Agreement. That Encroachment Agreement will detail the terms and conditions of the relative promises and responsibilities of the encroaching part and company.

If after reading this, you still have interest in performing the proposed encroachment activity, please provide the **\$(insert previously stated amount)** payment to Company, at this address. Upon receipt of those funds, we will begin the Accommodation Survey. This generally takes place within a 4-6 week timeframe.

Sincerely,

Company Representative

Please sign for acceptance and return original to:

Company

Address

Accepted and agreed to this _____ day of _____ 20____

Signature: _____

Company: _____

By (Name, typed or printed): _____

Title: _____