FILED WITH
Executive Secretary
April 14, 2016
IOWA UTILITIES BOARD
HLP-2014-0001

AGRICULTURAL IMPACT MITIGATION PLAN

Dakota Access, LLC (DAPL)

Adopted and Approved by the Iowa Utilities Board

State of Iowa

March 2016

C**ONTENTS**

Appendices

Acronyms and Abbreviations

DAPL Dakota Access, LLC (Project Sponsor)

EI/AI Environmental Inspector/Agricultural Inspector

1. INTRODUCTION

Dakota Access, LLC ("DAPL") is planning a new 30-inch pipeline to transport crude oil from the Bakken Shale region of North Dakota to Illinois. The eastern terminus of the pipeline will connect with an existing pipeline that will transport the crude oil to the Gulf Coast for processing.

The Iowa section of the pipeline comprises a 344-mile corridor that will run from northwest Iowa to southeast Iowa. The proposed pipeline will enter Iowa near Inwood in Lyon County and diagonally traverse the state, exiting at the crossing of the Mississippi River near Fort Madison in Lee County, Iowa.

Dakota Access will place the pipeline underground in Iowa with no less than 48 inches of cover to the top of the pipe in all agricultural lands except (a) where less cover is requested by the landowner and Dakota Access determines the request is prudent and otherwise lawful or (b) where there is a subsurface obstruction that would prevent Dakota Access from utilizing the 48-inch depth, in which case the depth will be in accordance with applicable federal and state rules.

The purpose of this document is to present the proposed measures for minimizing impacts to and restoring agricultural lands during and after pipeline construction, in accordance with Chapter 9 "Restoration of Agricultural Lands During and After Pipeline Construction" of the Iowa Administrative Code, Section 199: Utilities Division.

This plan has been adopted and approved by the Iowa Utilities Board following hearing, which included notice and a period for comment. Prior to construction, DAPL will provide copies of the plan to all landowners of property that will be disturbed by the construction, and to the county board of supervisors and the county engineer of each affected county.

The county board of supervisors shall cause an on-site inspection for compliance with these standards and in accordance with Chapter 9 of the Iowa Administrative Code, Section 199. A licensed professional engineer familiar with these standards, Chapter 9, and registered under Iowa Chapter 542B shall be responsible for inspection. Each county board of supervisors may contract for the services of a licensed professional engineer for the purposes of inspection. The reasonable costs of the inspection shall be paid by DAPL, and such reasonable costs shall be reimbursed within thirty (30) days following invoicing. Within four (4) weeks following receipt of this plan, each County shall provide the name, address, email address, and cell phone number of the engineer that is to perform the on-site inspection (who shall hereafter be referred to as the "county inspector").

DAPL shall fully cooperate with county inspectors in the performance of their duties, including providing the notice required by law and under this plan. If DAPL or its contractor does not comply with this plan, Chapter 9, Iowa Code § 479B.20, or an independent agreement with a landowner, the county board of supervisors may petition the Iowa Utilities Board for an order requiring correction action to be taken, imposing civil penalties, or both. The county will be responsible for investigation and prosecution of the case before the Iowa Utilities Board.

2. PLAN LIMITATIONS

Mitigation measures identified in this plan apply only to agricultural land and do not apply to urban land, road and railroad right-of-way, interstate natural gas pipelines, mined and disturbed land not used for agriculture. The identified mitigation measures will be implemented as long as they do not conflict with federal, state, and local permits, approvals and regulations.

Notwithstanding the above provisions, the AIMP also contains provisions that apply to all affected landowners, not just to those owning affected agricultural land. Those provisions that have been explicitly ordered by the Iowa Utilities Board to apply to all affected landowners and those provisions that can sensibly be applied to all affected landowners, including but not limited to the landowner notice provisions contained herein, shall apply to all properties affected by the construction, operation, or maintenance of the pipeline.

3. SEQUENCE OF CONSTRUCTION EVENTS AND SCHEDULE

Pipeline construction is anticipated to commence as soon as practicable following the receipt of required permits and approvals. Pipeline construction will take approximately 9 months to complete.

The sequence of events for pipeline construction will begin with advance notification of landowners and governmental agencies. Following notification, activities will be undertaken in the following sequence:

- Complete final surveys, stake centerline and workspace;
- Access road installation;
- Grubbing and clearing of the construction corridor;
- Installation of stormwater and erosion control measures;
- Placement of pipe and other supplies along the construction corridor;
- Pipeline welding and bending where necessary;
- Excavation of the pipeline trench;
- Temporary repairs to tile lines, if encountered;
- Placement of the pipeline within the trench;
- Permanent repairs to tile lines damaged during construction activities;
- Backfill of the trench and rough grading;
- Hydrostatic testing of the pipeline;
- Final grading and restoration;
- Revegetation and post restoration monitoring; and
- Removal of erosion control measures.

4. POINTS OF CONTACT

DAPL's designated statewide contact for any landowner inquiries or claims is:

Urbandale Project Office

11103 Aurora Avenue
Building 5
Urbandale, IA 50322
Toll free: (844) 708-2635

The above point of contact will remain available at least one year after completion of construction. Any changes after construction will be promptly communicated to Landowners, but the toll free Project number will remain the same.

In addition to any other notice required by law, DAPL shall, at least two weeks prior to commencement of construction on the landowner's property, provide each landowner with written notice (the "Two Week Notice") of the pending construction that includes: (1) the name, address, telephone number, and email address of the DAPL geographic area representative; (2) the name, address, telephone number, and email address for the county inspector designated by the county; and (3) a request that the landowner provide DAPL and the county inspector with any drain tile diagrams for the landowner's parcel(s) prior to construction.

Dakota Access shall also provide a notice to each landowner 48 hours prior to the start of construction on that landowner's property.

Any change in this information shall promptly be communicated to all landowners. Proof of sending the Two Week Notice shall be delivered to the county inspector and shall be a condition to proceeding with construction. Landowners may designate their own point of contact by providing DAPL with the name, address, telephone number, and email address (if applicable) of their designee.

In addition to the landowner representative, a team of experienced Environmental and/or Agricultural Inspectors (EIs/AIs), will be involved in project construction, the initial restoration, and the postconstruction monitoring and follow-up restoration.

5. DEFINITIONS

The following terms used in this Plan have the following definitions. Where applicable, the definition of each defined term is the same as that provided in 199 Iowa Admin. Code § 9.1(3).

Agricultural Land	Land that is presently under cultivation; land that has been previously cultivated and not subsequently developed for non-agricultural purposes; or cleared land capable of being cultivated.

Drainage Structures or Underground Improvements	Any permanent structure used for draining agricultural lands, including tile systems and buried terrace outlets.
Pipeline	Any pipe, pipes, or pipelines used for the transportation or transmission of any solid, liquid, or gaseous substance, except water, in intrastate or interstate commerce.
Landowner	Person listed on the tax assessment rolls as responsible for the payment of real estate taxes imposed on the property.
Pipeline Construction	A substantial disturbance to agricultural land associated with installation, replacement, removal, operation or maintenance of a pipeline.
Proper Notice to the County Inspector	DAPL or its contractor will keep the person responsible for the inspection continually informed of the work schedule and any schedule changes, and will provide at least 24 hours' written notice before trenching, permanent tile repair, or backfilling is undertaken at any specific location. DAPL may request that the county inspector designate a person to receive such notices.

Soil Conservation Practices	Any land conservation practice recognized by federal or state soil conservation agencies including, but not limited to, grasslands and grassed waterways, hay land planting, pasture, and tree plantings.
Soil Conservation Structures	Any permanent structure recognized by federal or state soil conservation agencies, including but not limited to toe walls, drop inlets, grade control works, terraces, levees, and farm ponds.
Right-of-Way (ROW)	Includes the permanent and temporary easements that DAPL acquires for the purpose of constructing and operating the Pipeline.
Tenant	Any person lawfully residing on or in possession of the land, which makes up the "Right-of-Way" (ROW) as defined in this Plan.
Tile	Any artificial subsurface drainage system including clay and concrete, tile, vitrified sewer tile, corrugated plastic tubing and stone drains.

Till	Till is to loosen the soil in preparation for planting or seeding by plowing, chiseling, discing, or similar means. Agricultural land planted using no-till planting practices is also considered tilled.
Topsoil	The upper part of the soil which is the most favorable material for plant growth and which can ordinarily be distinguished from subsoil by its higher organic content and darker color.
Surface Drains	Any surface drainage system such as shallow surface field drains, grassed waterways, open ditches, or any other constructed facilities for the conveyance of surface water.

6. AGRICULTURAL MITIGATION MEASURES

The following describes how DAPL proposes to minimize and repair impacts to agricultural lands, and meet or exceed the requirements of Chapter 9 (subrules 9.4[1] to 9.4[10]). Where mitigation details are specified in Chapter 9, those measures have been copied from the regulation.

6.1. CLEARING BRUSH AND TREES ALONG THE EASEMENT

DAPL's Right of Way Agent will be responsible for negotiating compensation related to cutting of any brush and timber for construction of the pipeline with the landowner. Options for removal and disposal of brush or timber include: the landowner harvesting any marketable timber/vegetation, the contractor cutting the brush or timber, and/or the brush or timber being chipped, burned, or hauled off for proper disposal. Unless otherwise restricted by federal, state or local regulations and to the extent that the requests are deemed reasonable, DAPL will follow the terms of the Landowner's easement agreement, if any, regarding the removal of tree stumps and disposal of trees, brush, and stumps of no value to the landowner. In the absence of such terms, methods of disposal will be approved by the DAPL representative and coordinated with the landowner prior to implementation.

6.2. TOPSOIL SEPARATION AND REPLACEMENT

As specified in Chapter 9, paragraph 9.4(1), topsoil and subsoil excavated for pipeline installation will be separated and segregated in separate stockpiles, and returned to the excavation in reverse order to restore the site to pre-construction condition. The actual depth of the topsoil, not to exceed 36 inches, will first be stripped and stockpiled from the pipeline trench. If the actual depth of topsoil exceeds 36 inches and there is adequate room in the permitted workspace, Dakota Access will, upon landowner request, remove the actual depth of topsoil.

Topsoil will also be stripped from the adjacent subsoil storage areas to a maximum depth of 12 inches or the actual depth of topsoil or, if the topsoil depth is greater than 12 inches, the actual topsoil depth if requested by the landowner, provided there is adequate room in the permitted workspace. Topsoil will also be removed and replaced in accordance with Chapter 9 at any location where land slope or contour is significantly altered to facilitate construction. Upon request from the landowner, DAPL will measure topsoil depth at selected locations before and after construction.

The stored topsoil and subsoil will have sufficient separation to prevent mixing during the storage period. Topsoil will not be used to construct field entrances or drives, will not be stored or stockpiled at locations that will be used as a traveled way by construction equipment, or be removed from the property, without the written consent of the landowner. Drainage gaps in the topsoil and subsoil piles will be left to avoid blocking drainage across the right of way.

Topsoil will not be removed where the pipeline is installed by plowing, jacking, boring, or other methods that do not require the opening of a trench.

The topsoil will be replaced so the upper portion of the pipeline excavation and the crowned surface, and the cover layer of the area used for subsoil storage, contain only the topsoil originally removed. In most areas ditch-line crowns will be installed to allow for and counter-act ditch settling. In the event the landowner will not allow a ditch-line crown, DAPL may have to regrade the right of way in subsequent growing season. In this situation, DAPL may regrade the construction right of way and till down to 12 inches to manipulate the soil such that the original contours and elevation are restored. The depth of the replaced topsoil will conform as nearly as possible to the depth removed. Where excavations are made for road, stream, drainage ditch, or other crossings, the original depth of topsoil will be replaced as nearly as possible.

6.3. PREVENTION OF EROSION

DAPL will follow best management practices and industry standards for erosion and sedimentation control during construction and post-construction. DAPL will develop a Storm Water Pollution Prevention Plan (SWPPP) that will detail the project specific stormwater and soil erosion prevention measures. All applicable federal and state regulations and conditions associated with surface water quality criteria will require the DAPL full compliance.

6.4. ABOVEGROUND FACILITIES

The location for any minor aboveground structures, such as markers, will be selected in coordination with respective landowners. If use of agricultural land use is appropriate and/or

necessary, aboveground structures will be located in a manner to minimize interference with agricultural operations. Compensation for aboveground structures will be negotiated as part of landowner compensation. This plan does not affect major aboveground structures, such as valves.

6.5. PUMPING WATER FROM OPEN TRENCHES

If trench and/or pit dewatering is necessary due to accumulation of precipitation and/or groundwater in open trenches, the Contractor will pump the water in a manner that will avoid damaging adjacent agricultural land, crops, and/or pasture. Erosion and sedimentation control measures will be implemented and may include the use of dewatering structures, splash plates, sediment bags, haybales, and/or silt fence. The removal and disposal of trench water will comply with applicable drainage laws and local ordinances relating to such activities as well as provisions of the federal Clean Water Act.

Landowner approval is required in advance of placement of dewatering structures outside of the approved construction ROW. Prior to initiating dewatering activities, the AI or EI will check the water discharge situation to ensure that the best management practices are applied in such a way to avoid erosion and sedimentation offsite.

At each location where dewatering is to be conducted, the contractor must consider the following conditions in planning the dewatering event.

a. **Water Discharge Setting** – The contractor shall assess each water discharge situation to include:

(1) Soil Type - The soil type the discharged water would flow over. The management of discharged water traveling over sandy soil is more likely to soak into the ground as compared to clay soils.

(2) Ground Surface - The topography in the area that would influence the surface flow of the discharged water.

(3) Adjustable Discharge rate - The flow rate of the discharged water (which may need to vary) can be managed based on the site conditions to minimize instances of water from reaching a sensitive resource area such as a wetland or waterbody. (Example - Water discharged at 500 gallons per minute may soak into the ground while if discharged at a higher flow rate would cause water to flow via overland runoff into a sensitive resource area)

(4) Discharge Outfall - The amount of hose and number/size of pumps needed to attempt to discharge water at a location, which drains away from waterbodies or wetlands.

b. **Pump Intake** - Use floating suction hose or other similar measures to prevent sediment from being sucked from bottom of trench.

c. **Overwhelming Existing Drainage** - If the discharge does enter a stream, the flow added to the stream cannot exceed 50 percent of the peak storm event flow (to prevent adding high water volumes to a small stream channel that causes erosion due to imposing high flow conditions on the stream).

d. **Filtering Mechanism**

(1) All dewatering discharges will be directed through a filtering device as indicated below.

i) Well-Vegetated Upland Area – Water can be directed to a well-vegetated upland area through a geotextile filter bag. Geotextile bags need to be sized appropriately for the discharge flow and suspended sediment particle size.

Straw Bale Dewatering Structure – Where the dewatering discharge point cannot be located in an upland area due to site conditions and/or distance, the discharge should be directed into a straw bale dewatering structure. The size of the straw bale dewatering structure is dependent on the maximum water discharge rate. A straw bale dewatering structure should be used in conjunction with a geotextile filter bag to provide additional filtration near sensitive resource areas.

ii) Alternative dewatering methods (e.g., use of water cannons) may be approved by DAPL on a site-specific basis.

6.6. TEMPORARY AND PERMANENT REPAIR OF DRAIN TILES

The following methods for repair of drain tiles are either as specified in Chapter 9, paragraph 9.4(2) or are additional DAPL specified methods of drain tile impact mitigations that are beyond or in addition to those in Chapter 9 and which are available to landowners:

a. **Movement of Drain Tiles before Construction**: If landowner chooses, DAPL will reimburse Landowner to install and reconnect as they require, parallel tile drains along the proposed right-of-way in advance of pipeline construction to maintain the drainage of their field tile drain system. After construction, Landowner may connect the parallel tile drains as required.

b. **Pipeline Clearance from Drain Tile**: Where underground drain tile is encountered within in the project profile, the pipeline will be installed in such a manner that the permanent tile repair can be installed with at least 24 inches of clearance from the pipeline or as agreed upon with landowner.

c. **Temporary Repair**: The following standards will be used to determine if temporary repair of agricultural drainage tile lines encountered during pipeline construction is required.

(1) Any underground drain tile damaged, cut, or removed and found to be flowing or which subsequently begins to flow will be temporarily repaired as soon as practicable, and the repair will be maintained as necessary to allow for its proper function during construction of the pipeline. The temporary repairs will be maintained in good condition until permanent repairs are made.

(2) If tile lines are dry and water is not flowing, temporary repairs are not required if the permanent repair is made within ten days of the time the damage occurred.

(3) Temporary repair is not required if the angle between the trench and the tile lines places the tile end points too far apart for temporary repair to be practical.

(4) If temporary repair of the line is not made, the upstream exposed tile line will not be obstructed but will nonetheless be screened or otherwise protected to prevent the entry of foreign materials and small animals into the tile line system, and the downstream tile line entrance will be capped or filtered to prevent entry of mud or foreign material into the line if the water level rises in the trench.

d. **Marking**: Any underground drain tile damaged, cut, or removed will be marked by placing a highly visible flag in the trench spoil bank directly over or opposite such tile. This marker will not be removed until the tile has been permanently repaired and the repairs have been approved and accepted by the county inspector. If proper notice is given (24 hours), construction will not be delayed due to an inspector's failure to be present on the site.

e. **Permanent Repairs**: Tile disturbed or damaged by pipeline construction will be repaired to its original or better condition. Permanent repairs will be completed as soon as is practical after the pipeline is installed in the trench and prior to backfilling of the trench over the tile line. Permanent repair and replacement of damaged drain tile will be performed in accordance with the following requirements:

(1) All damaged, broken, or cracked tile will be removed.

(2) Only unobstructed tile will be used for replacement.

(3) The tile furnished for replacement purposes will be of a quality, size and flow capacity at least equal to that of the tile being replaced.

(4) Tile will be replaced so that its original gradient and alignment are restored, except where relocation or rerouting is required for angled crossings. Tile lines at a sharp angle to the trench will be repaired in the manner shown on Drawing No. IUB PL-1 in Appendix B.

(5) The replaced tile will be firmly supported to prevent loss of gradient or alignment due to soil settlement. The method used will be comparable to that shown on Drawing No. IUB PL-1 in Appendix B.

(6) Before completing permanent tile repairs, all tile lines will be examined visually, by probing, or by other appropriate means on both sides of the trench within any work area to check for tile that might have been damaged by construction equipment. If tile lines are found to be damaged, they must be repaired to operate as well after construction as before construction began.

f. **Inspection:** Prior to backfilling of the applicable trench area, each permanent tile repair will be inspected for compliance by the county inspector. If proper notice is given (24 hours), construction will not be delayed due to an inspector's failure to be present on the site.

g. **Backfilling:** The backfill surrounding the permanently repaired drain tile will be completed at the time of the repair and in a manner that ensures that any further backfilling will not damage or misalign the repaired section of the tile line. The backfill will be inspected for compliance by the county inspector. If proper notice is given (24 hours), construction will not be delayed due to an inspector's failure to be present on the site.

h. **Subsurface Drainage**: Subsequent to pipeline construction and permanent repair, if it becomes apparent the tile line in the area disturbed by construction is not functioning correctly or that the land adjacent to the pipeline is not draining properly, which can reasonably be attributed to the pipeline construction DAPL will make further repairs or install additional tile as necessary to restore subsurface drainage.

6.7. REMOVAL OF ROCKS AND DEBRIS FROM THE RIGHT-OF-WAY

In accordance with Chapter 9 paragraph 9.4(3), excess rocks will be removed from the right-of-way. On completion, the topsoil in the easement area will be free of all rocks larger than three inches in average diameter that are not native to the topsoil prior to excavation, and similar to adjacent soil not disturbed by construction. The top 24 inches of the trench backfill will not contain rocks in any greater concentration or size than exist in the adjacent natural soils. Consolidated rock removed by blasting or mechanical means shall not be placed in the backfill above the natural bedrock profile or above the frost line. In addition, DAPL will examine areas adjacent to the easement and along access roads and will remove any large rocks or debris that may have rolled or blown from the right-of-way or fallen from vehicles.

Rock that cannot remain in or be used as backfill will be disposed of at locations and in a manner mutually satisfactory to the company's environmental inspector and the landowner. All debris attributable to the pipeline construction and related activities will be removed and disposed of properly; such debris includes spilled oil, grease, fuel, or other petroleum or chemical products. Such products and any contaminated soil will be removed for proper disposal or treated by appropriate in situ remediation.

6.8. RESTORATION AFTER SOIL COMPACTION AND RUTTING

In accordance with Chapter 9 paragraph 9.4(4), agricultural land compacted by heavy project equipment, including off right-of-way access roads, will be deep tilled to alleviate soil compaction upon completion of construction on the property. In areas where topsoil was

removed, tillage will precede replacement of topsoil. At least three passes with the deep tillage equipment shall be made (per chapter 9.4(4)a). Tillage shall be at least 18 inches deep in land used for crop production and 12 inches deep on other lands, (except where shallow tile systems are encountered), and shall be performed under soil moisture conditions which permits effective working of the soil. If agreed in advance, this tillage may be performed by the landowners or tenants using their own equipment.

Rutted land will be graded and tilled until restored as near as practical to its preconstruction condition. On lands where topsoil was removed, rutting will be remedied before topsoil is replaced.

6.9. RESTORATION OF TERRACES, WATERWAYS AND OTHER EROSION CONTROL STRUCTURES

In accordance with Chapter 9 paragraph 9.4(5), existing soil conservation practices and structures damaged by pipeline construction, such as surface drains, embankments and terraces, grass waterways will be restored to pre-construction elevation, grade and condition. Any drain lines or flow diversion devices impacted by pipeline construction will be repaired or modified as needed. Soil used to repair embankments intended to retain water shall be well compacted. Disturbed vegetation will be reestablished, including a cover crop when appropriate. Restoration of terraces will be in accordance with Drawing No. IUB PL-2 in Chapter 9 (Appendix B). Such restoration will be inspected for compliance by the county inspector.

6.10. REVEGETATION OF UNTILLED LAND

In accordance with Chapter 9 paragraph 9.4(6), agricultural land not in row crop or small grain production at the time of construction, including hay fields and land in conservation or set-aside programs, will be reseeded, including use of a cover crop when appropriate, following completion of deep tillage and replacement of the topsoil. The seed mix used will restore the original or a comparable ground cover unless otherwise requested by the landowner.

Land that is normally used for crops that will not be planted due to pipeline construction will be seeded with an appropriate cover crop following replacement of the topsoil and completion of deep tillage, unless otherwise agreed to with the landowner. Cover crop seeding may be delayed if construction is completed too late in the year for a cover crop to establish and in such instances is not required if the landowner or tenant proposes to till the land the following year. The landowner may request ground cover where the construction is completed too late in the year for a cover crop to become established to prevent soil erosion.

6.11. FUTURE DRAIN TILE AND SOIL CONSERVATION STRUCTURE INSTALLATION

In accordance with Chapter 9 paragraph 9.4(7), at locations where the proposed installation of future drain tile or soil conservation practices and structures are made known to DAPL in writing prior to securing the easement on the property and have been defined by a qualified technician, the pipeline will be installed at a depth that will permit proper clearance between the pipeline and the proposed tile installation, or allow for proper installation of the proposed conservation

practice(s). DAPL will consult with the landowner concerning the landowner's plans for future installation of drain tile or soil conservation practices.

6.12. RESTORATION OF LAND SLOPE AND CONTOUR

In accordance with Chapter 9 paragraph 9.4(8), the slope, contour, grade, and drainage pattern of the disturbed area will be restored as nearly as possible to its preconstruction condition. However, the trench may be crowned to allow for anticipated settlement of the backfill. DAPL will remediate areas of excessive or insufficient settlement in the trench area where it visibly affects land contour or alters surface drainage. Disturbed areas where erosion causes excessive rills or channels or areas of heavy sediment deposition, will be regraded as needed. On steep slopes, methods such as sediment barriers, slope breakers, or mulching will be used as necessary to control erosion until vegetation can be reestablished.

6.13. SITING AND RESTORATION OF AREAS USED FOR FIELD ENTRANCES AND TEMPORARY ROADS

The location of temporary roads to be used for construction purposes will be negotiated with the landowner and, where applicable, the Tenant. The temporary roads will be designed to not impede proper drainage and will be built to minimize soil erosion on or near the temporary roads.

In accordance with Chapter 9 paragraph 9.4(9), post construction and restoration temporary field entrances or access roads will be removed and the land made suitable for its previous use. Areas affected will be regraded and deep tilled as required by Chapter 9. If by agreement or at landowner request, and approved by local public road authorities, a field entrance or road is left in place, it will be left in a graded and serviceable condition.

6.14. CONSTRUCTION IN WET CONDITIONS

In accordance with Chapter 9 paragraph 9.4(10), construction in wet soil conditions will not commence or continue at times when or locations where the passage of heavy construction equipment may cause rutting to the extent that the topsoil and subsoil are mixed, or underground drainage structures may be damaged. To facilitate construction in soft soils, DAPL may elect to remove and stockpile the topsoil from the traveled way, install mats or padding, or use other methods acceptable to minimize rutting or offsite erosion/sedimentation.

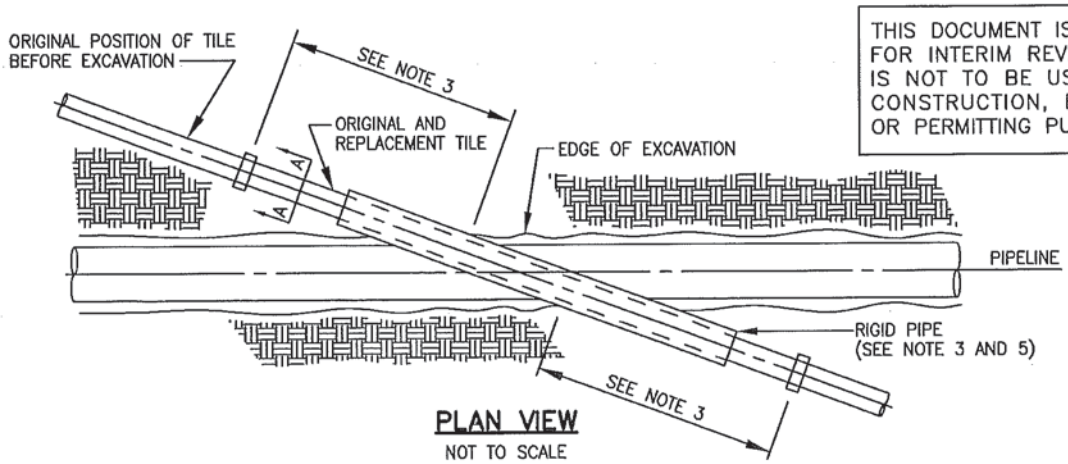
6.15 WEED CONTROL

A Weed Management Plan is not necessary for this project. However, if any county inspector identifies an area where additional weed control measures may be appropriate, DAPL shall take reasonable steps to implement those measures.

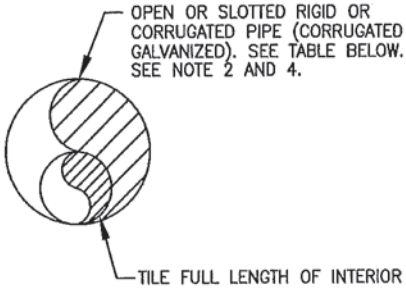
Appendix A

Standard Drawings

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.



PLAN VIEW
NOT TO SCALE



SECTION "A"–"A"
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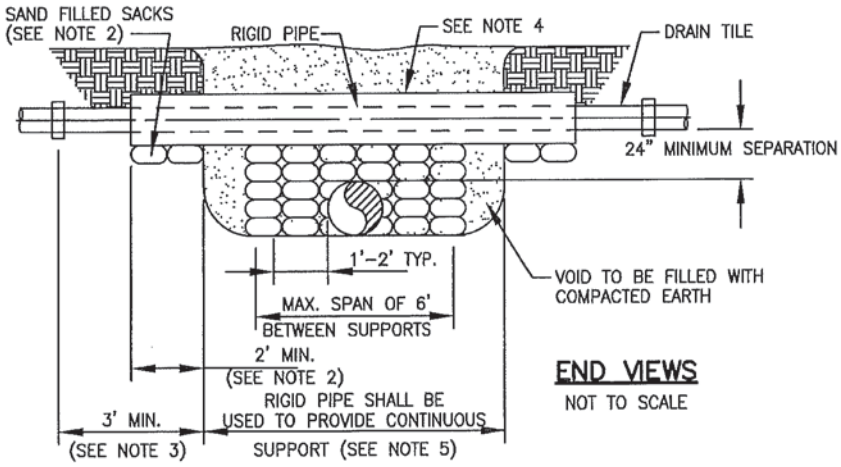


END VIEWS
NOT TO SCALE

MINIMUM SUPPORT TABLE	
TILE SIZE	PIPE SIZE
3"	4" STD. WT.
4"–5"	6" STD. WT.
8"–9"	10" STD. WT.
10"	12" STD. WT.

CHANNEL SCHEDULE	
TILE SIZE	CHANNEL SIZE
3"	4" AT 5.4#
4"–5"	5" AT 6.7#
8"–9"	7" AT 9.8#
10" & LARGER	10" AT 15.3#

REV.	DATE	BY	DESCRIPTION	CHK.
A	9/3/14	DAH	ISSUED FOR REVIEW	

PROJECT NO. 10395700

DAPL/ETCOP

TYPICAL CONSTRUCTION (IOWA) PERMANENT DRAIN TILE REPAIR

DRAWN BY: DAH	DATE: 09/03/14	DWG. NO. P12–52	REV. A
CHECKED BY: DAH	DATE: 09/03/14		
SCALE: N.T.S.	APP.:		

NOTES:

1. TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
2. 2'-0" MINIMUM LENGTH OF RIGID PIPE SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. (SHIM WITH SAND BAGS ONLY TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES)) IF NEEDED ONLY.
3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.
4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
5. ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.
6. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL SWAB LATERALLY INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.
7. ALL DAMAGED, BROKEN, OR CRACKED TILE SHALL BE REMOVED.
8. ONLY OBSTRUCTED TILE SHALL BE USED FOR REPLACEMENT.
9. THE REPLACE TILE SHALL BE FIRMLY SUPPORTED TO PREBENT LOSS OF GRADIENT OR ALIGNMENT DUE TO SOIL SETTLEMENT. THE METHOD USED SHALL BE COMPARABLE TO THAT SHOWN ON DRAWING NO. IUB PL-1 AT END OF THIS CHAPTER.
10. INSPECTION. PRIOR TO BACKFILLING OF THE APPLICABLE TRENCH AREA, EACH PERMANENT TILE REPAIR SHALL BE INSPECTED FOR COMPLIANCE BY THE COUNTY INSPECTOR. IF PROPER NOTICE IS GIVEN, CONSTRUCTION SHALL NOT BE DELAYED DUE TO AN INSPECTOR'S FAILURE TO BE PRESENT.
11. BACKFILLING. THE BACKFILL SURROUNDING THE PERMANENTLY REPAIRED DRAIN TILE SHALL BE COMPLETED AT THE TIME OF REPAIR AND IN A MANNER THAT ENSURES THAT ANY FURTHER BACKFILLING WILL NOT DAMAGE OR MISALIGN THE REPAIRED SECTION THE REPAIRED SECTION OF THE LINE. THE BACKFILL SHALL BE INSPECTED FOR COMPLIANCE BY THE COUNTY INSPECTOR.

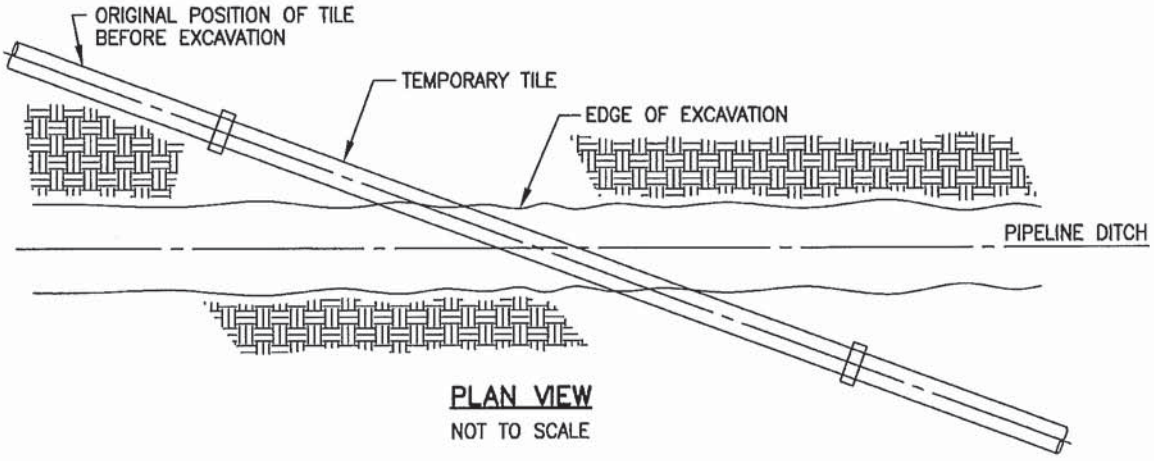
REV.	DATE	BY	DESCRIPTION	CHK.
A	9/3/14	DAH	ISSUED FOR REVIEW	

PROJECT NO. 10395700

DAPL/ETCOP

TYPICAL CONSTRUCTION (IOWA) PERMANENT DRAIN TILE REPAIR

DRAWN BY: DAH	DATE: 09/03/14	DWG. NO. P12-52	REV. A
CHECKED BY: DAH	DATE: 09/03/14		
SCALE: N.T.S.	APP.:		



PLAN VIEW
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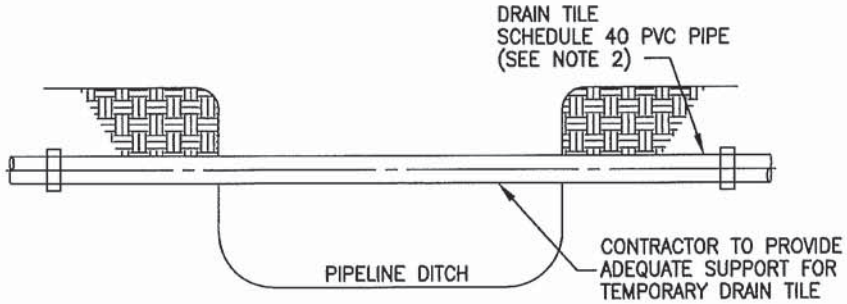

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REV.	DATE	BY	DESCRIPTION	CHK.
A	9/3/14	DAH	ISSUED FOR REVIEW	

PROJECT NO. 10395700

DAPL/ETCOP

TYPICAL CONSTRUCTION (IOWA)
TEMPORARY DRAIN TILE REPAIR

DRAWN BY: DAH	DATE: 09/03/14	DWG. NO. P12-53	REV. A
CHECKED BY: DAH	DATE: 09/03/14		
SCALE: N.T.S.	APP.:		

NOTES:

1. TEMPORARY TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE.
2. TEMPORARY DRAIN TILE TO BE SIZED TO MAINTAIN ADEQUATE FLOW AND CONNECTED TO EXISTING DRAIN TILES.
3. ANY UNDERGROUND DRAIN TILE DAMAGED, CUT, OR REMOVED AND FOUND TO BE FLOWING OR WHICH SUBSEQUENTLY BEGINS TO FLOW SHALL BE TEMPORARILY REPAIRED AS SOON AS PRACTICABLE, AND THE REPAIR SHALL BE MAINTAINED AS NECESSARY TO ALLOW FOR PROPER FUNCTION DURING CONSTRUCTION OF THE PIPELINE. THE TEMPORARY REPAIRS SHALL BE MAINTAINED IN GOOD CONDITION UNTIL PERMANENT REPAIRS ARE MADE.
4. IF TILE LINES ARE DRY AND WATER IS NOT FLOWING, TEMPORARY REPAIRS ARE NOT REQUIRED IF THE PERMANENT REPAIR IS MADE WITHIN TEN DAYS OF THE TIME THE DAMAGE OCCURRED.
5. TEMPORARY REPAIR IS NOT REQUIRED IF THE ANGLE BETWEEN THE TRENCH AND THE TILE LINES PLACES THE TILE END POINTS TOO FAR APART FOR TEMPORARY REPAIR TO BE PRACTICAL.
6. IF TEMPORARY REPAIR OF THE LINE IS NOT MADE, THE UPSTREAM EXPOSED TILE LINE SHALL NOT BE OBSTRUCTED BUT SHALL NONETHELESS BE SCREENED OR OTHERWISE PROTECTED TO PREVENT THE ENTRY OF THE FOREIGN MATERIALS AND SMALL ANIMALS INTO THE TILE LINE SYSTEM, AND THE DOWNSTREAM TILE LINE ENTRANCE SHALL BE CAPPED OR FILTERED TO PREVENT ENTRY OF MUD OR FOREIGN MATERIAL INTO THE LINE IF THE WATER LEVEL RISES IN THE TRENCH.
7. MARKING. ANY UNDERGROUND DRAIN TILE DAMAGED, CUT, OR REMOVAL SHALL BE MARKED BY PLACING A HIGHLY VISIBLE FLAG IN THE TRENCH SPOIL BANK DIRECTLY OVER OR OPPOSITE SUCH TILE. THIS MARKER SHALL NOT BE REMOVED UNTIL THE TILE HAS BEEN PERMANENTLY REPAIRED AND THE REPAIRS HAVE BEEN APPROVED AND ACCEPTED BY THE COUNTY INSPECTOR. IF PROPER NOTICE IS GIVEN, CONSTRUCTION SHALL NOT BE DELAYED DUE TO AN INSPECTORS'S FAILURE TO BE PRESENT ON THE SITE.

REV.	DATE	BY	DESCRIPTION	CHK.
A	9/3/14	DAH	ISSUED FOR REVIEW	

PROJECT NO. 10395700

DAPL/ETCOP

TYPICAL CONSTRUCTION (IOWA) TEMPORARY DRAIN TILE REPAIR

DRAWN BY: DAH	DATE: 09/03/14	DWG. NO. P12-53	REV. A
CHECKED BY: DAH	DATE: 09/03/14		
SCALE: N.T.S.	APP.:		

Appendix B

Iowa Administrative Code, Section 199 Utilities Division, Chapter 9

CHAPTER 9
RESTORATION OF AGRICULTURAL LANDS DURING AND AFTER PIPELINE CONSTRUCTION

199—9.1(479,479B) General information.

9.1(1) *Authority.* The standards contained herein are prescribed by the Iowa utilities board pursuant to the authority granted to the board in Iowa Code sections 479.29 and 479B.20, relating to land restoration standards for pipelines. The requirements of this chapter do not apply to land located within city boundaries, unless the land is used for agricultural purposes, or to interstate natural gas pipelines.

9.1(2) *Purpose.* The purpose of this chapter is to establish standards for the restoration of agricultural lands during and after pipeline construction. Agricultural lands disturbed by pipeline construction shall be restored in compliance with these rules. The rules in this chapter shall constitute the minimum land restoration standards for any pipeline construction for which a project-specific plan is not required. When a project-specific land restoration plan is required, following notice and comment, the board may impose additional or more stringent standards as necessary to address issues specific to the nature and location of the particular pipeline project.

9.1(3) *Definitions.* The following words and terms, when used in these rules, shall have the meanings indicated below:

a. *"Agricultural land"* shall mean:

(1) Land which is presently under cultivation, or

(2) Land which has previously been cultivated and not subsequently developed for nonagricultural purposes, or

(3) Cleared land capable of being cultivated.

b. *"Drainage structures"* or *"underground improvements"* means any permanent structure used for draining agricultural lands, including tile systems and buried terrace outlets.

c. *"Landowner"* means a person listed on the tax assessment rolls as responsible for the payment of real estate taxes imposed on the property.

d. *"Pipeline"* means any pipe, pipes, or pipelines used for the transportation or transmission of any solid, liquid, or gaseous substance, except water, in intrastate or interstate commerce.

e. *"Pipeline company"* means any person, firm, copartnership, association, corporation, or syndicate engaged in or organized for the purpose of owning, operating, or controlling pipelines.

f. *"Pipeline construction"* means a substantial disturbance to agricultural land associated with installation, replacement, removal, operation or maintenance of a pipeline, but shall not include work performed during an emergency. Emergency means a condition where there is clear and immediate danger to life or health, or essential services, or a potentially significant loss of property. When the emergency condition ends, pipeline construction will be in accordance with these rules.

g. *"Proper notice"* to the county inspector means that the pipeline company or its contractor shall keep the person responsible for the inspection continually informed of the work schedule and any schedule changes, and shall provide at least 24 hours' written notice before trenching, permanent tile repair, or backfilling is undertaken at any specific location. The pipeline company may request that the county inspector designate a person to receive such notices.

h. *"Soil conservation practices"* means any land conservation practice recognized by federal or state soil conservation agencies including, but not limited to, grasslands and grassed waterways, hay land planting, pasture, and tree plantings.

i. *"Soil conservation structures"* means any permanent structure recognized by federal or state soil conservation agencies including but not limited to toe walls, drop inlets, grade control works, terraces, levees, and farm ponds.

j. *"Till"* means to loosen the soil in preparation for planting or seeding by plowing, chiseling, discing, or similar means. For the purposes of this chapter, agricultural land planted using no-till planting practices is also considered tilled.

k. *"Topsoil"* means the upper part of the soil which is the most favorable material for plant growth and which can ordinarily be distinguished from subsoil by its higher organic content and darker color.

199—9.2(479,479B) Filing of land restoration plans. For intrastate natural gas and all hazardous liquid pipeline projects, land restoration plans shall be prepared and filed with the appropriate petition pursuant to Iowa Code section 479.29(9) or 479B.20(9) and this chapter for pipeline construction projects which require a pipeline permit from the Iowa utilities board, or for amendments to permits that propose pipeline construction or relocation.

9.2(1) *Content of plan.* A land restoration plan shall include but not be limited to the following:

a. A brief description of the purpose and nature of the pipeline construction project.

b. A description of the sequence of events that will occur during pipeline construction.

c. A description of how compliance with subrules 9.4(1) to 9.4(10) will be accomplished.

d. The point of contact for landowner inquiries or claims as provided for in rule 9.5(479,479B).

9.2(2) *Plan variations.* The board may by waiver accept variations from this chapter in such plans if the pipeline company is able to satisfy the standards set forth in 199 IAC 1.3(17A,474,476) and if the alternative methods would restore the land to a condition as good as or better than provided for in this chapter.

9.2(3) *Mitigation plans and agreements.* Preparation of a separate land restoration plan may be waived by the board if an agricultural impact mitigation or similar agreement is reached by the pipeline company and the appropriate agencies of the state of Iowa and the requirements of this chapter are substantively satisfied therein. If a mitigation plan or agreement is used to fully or partially meet the requirements of a land restoration plan, the statement or agreement shall be filed with the board and shall be considered to be, or to be part of, the land restoration plan for purposes of this chapter.

199—9.3(479,479B) Procedure for review of plan.

9.3(1) An intrastate natural gas pipeline company, or a hazardous liquid pipeline company, that is subject to Iowa Code section 479.5 or 479B.4 shall file its proposed plan with the board at the time it files its petition for permit pursuant to 199 IAC 10.2(479) or 13.2(479B), or a petition for amendment to permit which proposes pipeline construction or relocation pursuant to 199 IAC 10.9(2) or 13.9(479B). Review of the land restoration plan will be coincident with the board's review of the application for permit, and objections to the proposed plan may be filed as part of the permit proceeding.

9.3(2) After the board has accepted the plan, but prior to construction, the pipeline company shall provide copies of the plan to all landowners of property that will be disturbed by the construction, and to the county board of supervisors and the county engineer of each affected county.

199—9.4(479,479B) Restoration of agricultural lands.

9.4(1) *Topsoil separation and replacement.*

a. Removal. Topsoil removal and replacement in accordance with this rule is required for any open excavation associated with the construction of a pipeline unless otherwise provided in these rules. The actual depth of the topsoil, not to exceed 36 inches, will first be stripped from the area to be excavated above the pipeline and, to a maximum of 12 inches, from the adjacent subsoil storage area. Topsoil shall also be removed and replaced in accordance with these rules at any location where land slope or contour is significantly altered to facilitate construction. A pipeline company shall, upon a landowner's request, measure topsoil depth at selected locations before and after construction.

b. Soil storage. The topsoil and subsoil shall be segregated, stockpiled, and preserved separately during subsequent construction operations. The stored topsoil and subsoil shall have sufficient separation to prevent mixing during the storage period. Topsoil shall not be used to construct field entrances or drives, or be otherwise removed from the property, without the written consent of the landowner. Topsoil shall not be stored or stockpiled at locations that will be used as a traveled way by construction equipment without the written consent of the landowner.

c. Topsoil removal not required. Topsoil removal is not required where the pipeline is installed by plowing, jacking, boring, or other methods which do not require the opening of a trench. If provided for in a written agreement with the landowner, topsoil removal is not required if the pipeline can be installed in a trench with a top width of 18 inches or less.

d. Backfill. The topsoil shall be replaced so the upper portion of the pipeline excavation and the crowned surface, and the cover layer of the area used for subsoil storage, contain only the topsoil originally removed. The depth of the replaced topsoil shall conform as nearly as possible to the depth removed. Where excavations are made for road, stream, drainage ditch, or other crossings, the original depth of topsoil shall be replaced as nearly as possible.

9.4(2) *Temporary and permanent repair of drain tile.*

a. Pipeline clearance from drain tile. Where underground drain tile is encountered, the pipeline shall be installed in such a manner that the permanent tile repair can be installed with at least 12 inches of clearance from the pipeline.

b. Temporary repair. The following standards shall be used to determine if temporary repair of agricultural drainage tile lines encountered during pipeline construction is required.

(1) Any underground drain tile damaged, cut, or removed and found to be flowing or which subsequently begins to flow shall be temporarily repaired as soon as practicable, and the repair shall be maintained as necessary to allow for its proper function during construction of the pipeline. The temporary repairs shall be maintained in good condition until permanent repairs are made.

(2) If tile lines are dry and water is not flowing, temporary repairs are not required if the permanent repair is made within ten days of the time the damage occurred.

(3) Temporary repair is not required if the angle between the trench and the tile lines places the tile end points too far apart for temporary repair to be practical.

(4) If temporary repair of the line is not made, the upstream exposed tile line shall not be obstructed but shall nonetheless be screened or otherwise protected to prevent the entry of foreign materials and small animals into the tile line system, and the downstream tile line entrance shall be capped or filtered to prevent entry of mud or foreign material into the line if the water level rises in the trench.

c. Marking. Any underground drain tile damaged, cut, or removed shall be marked by placing a highly visible flag in the trench spoil bank directly over or opposite such tile. This marker shall not be removed until the tile has been permanently repaired and the repairs have been approved and accepted by the county inspector. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

d. Permanent repairs. Tile disturbed or damaged by pipeline construction shall be repaired to its original or better condition. Permanent repairs shall be completed as soon as is practical after the pipeline is installed in the trench and prior to backfilling of the trench over the tile line. Permanent repair and replacement of damaged drain tile shall be performed in accordance with the following requirements:

(1) All damaged, broken, or cracked tile shall be removed.

(2) Only unobstructed tile shall be used for replacement.

(3) The tile furnished for replacement purposes shall be of a quality, size and flow capacity at least equal to that of the tile being replaced.

(4) Tile shall be replaced so that its original gradient and alignment are restored, except where relocation or rerouting is required for angled crossings. Tile lines at a sharp angle to the trench shall be repaired in the manner shown on Drawing No. IUB PL-1 at the end of this chapter.

(5) The replaced tile shall be firmly supported to prevent loss of gradient or alignment due to soil settlement. The method used shall be comparable to that shown on Drawing No. IUB PL-1 at the end of this chapter.

(6) Before completing permanent tile repairs, all tile lines shall be examined visually, by probing, or by other appropriate means on both sides of the trench within any work area to check for tile that might have been damaged by construction equipment. If tile lines are found to be damaged, they must be repaired to operate as well after construction as before construction began.

e. Inspection. Prior to backfilling of the applicable trench area, each permanent tile repair shall be inspected for compliance by the county inspector. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

f. Backfilling. The backfill surrounding the permanently repaired drain tile shall be completed at the time of the repair and in a manner that ensures that any further backfilling will not damage or misalign the repaired section of the tile line. The backfill shall be inspected for compliance by the county inspector.

If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

g. Subsurface drainage. Subsequent to pipeline construction and permanent repair, if it becomes apparent the tile line in the area disturbed by construction is not functioning correctly or that the land adjacent to the pipeline is not draining properly, which can reasonably be attributed to the pipeline construction, the pipeline company shall make further repairs or install additional tile as necessary to restore subsurface drainage.

9.4(3) *Removal of rocks and debris from the right-of-way.*

a. Removal. The topsoil, when backfilled, and the easement area shall be free of all rock larger than three inches in average diameter not native to the topsoil prior to excavation. Where rocks over three inches in size are present, their size and frequency shall be similar to adjacent soil not disturbed by construction. The top 24 inches of the trench backfill shall not contain rocks in any greater concentration or size than exist in the adjacent natural soils. Consolidated rock removed by blasting or mechanical means shall not be placed in the backfill above the natural bedrock profile or above the frost line. In addition, the pipeline company shall examine areas adjacent to the easement and along access roads and shall remove any large rocks or debris which may have rolled or blown from the right-of-way or fallen from vehicles.

b. Disposal. Rock which cannot remain in or be used as backfill shall be disposed of at locations and in a manner mutually satisfactory to the company and the landowner. Soil from which excess rock has been removed may be used for backfill. All debris attributable to the pipeline construction and related activities shall be removed and disposed of properly. For the purposes of this rule, debris shall include spilled oil, grease, fuel, or other petroleum or chemical products. Such products and any contaminated soil shall be removed for proper disposal or treated by appropriate in situ remediation.

9.4(4) *Restoration after soil compaction and rutting.*

a. Agricultural restoration. Agricultural land, including off right-of-way access roads traversed by heavy construction equipment that will be removed, shall be deep tilled to alleviate soil compaction upon completion of construction on the property. If the topsoil was removed from the area to be tilled, the tillage shall precede replacement of the topsoil. At least three passes with the deep tillage equipment shall be made. Tillage shall be at least 18 inches deep in land used for crop production and 12 inches deep on other lands and shall be performed under soil moisture conditions which permit effective working of the soil. Upon agreement, this tillage may be performed by the landowners or tenants using their own equipment.

b. Rutted land restoration. Rutted land shall be graded and tilled until restored as near as practical to its preconstruction condition. On land from which topsoil was removed, the rutting shall be remedied before the topsoil is replaced.

9.4(5) *Restoration of terraces, waterways, and other erosion control structures.* Existing soil conservation practices and structures damaged by the construction of a pipeline shall be restored to the elevation and grade existing prior to the time of pipeline construction. Any drain lines or flow diversion devices impacted by pipeline construction shall be repaired or modified as needed. Soil used to repair embankments intended to retain water shall be well compacted. Disturbed vegetation shall be reestablished, including a cover crop when appropriate. Restoration of terraces shall be in accordance with Drawing No. IUB PL-2 at the end of this chapter. Such restoration shall be inspected for compliance by the county inspector. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

9.4(6) *Revegetation of untilled land.*

a. Crop production. Agricultural land not in row crop or small grain production at the time of construction, including hay ground and land in conservation or set-aside programs, shall be reseeded, including use of a cover crop when appropriate, following completion of deep tillage and replacement of the topsoil. The seed mix used shall restore the original or a comparable ground cover unless otherwise requested by the landowner. If the land is to be placed in crop production the following year, paragraph *"b"* below shall apply.

b. Delayed crop production. Agricultural land used for row crop or small grain production which will not be planted in that calendar year due to the pipeline construction shall be seeded with an appropriate cover crop following replacement of the topsoil and completion of deep tillage. However, cover crop seeding may be delayed if construction is completed too late in the year for a cover crop to become established and in such instances is not required if the landowner or tenant proposes to till the land the following year. The landowner may request ground cover where the construction is completed too late in the year for a cover crop to become established to prevent soil erosion.

9.4(7) *Future installation of drain tile or soil conservation structures.*

a. Future drain tile. At locations where the proposed installation of underground drain tile is made known in writing to the company prior to the securing of an easement on the property and has been defined by a qualified technician, the pipeline shall be installed at a depth which will permit proper clearance between the pipeline and the proposed tile installation. The pipeline company shall consult with the landowner concerning the landowner's plans for future drain tile installation.

b. Future practices and structures. At locations where the proposed installation of soil conservation practices and structures is made known in writing to the company prior to the securing of an easement on the property and has been defined by a qualified technician, the pipeline shall be installed at a depth which will allow for future installation of such soil conservation practices and structures and retain the integrity of the pipeline. The pipeline company shall consult with the landowner concerning the landowner's plans for future installation of soil conservation practices and structures.

9.4(8) *Restoration of land slope and contour.* Upon completion of construction, the slope, contour, grade, and drainage pattern of the disturbed area shall be restored as nearly as possible to its preconstruction condition. However, the trench may be crowned to allow for anticipated settlement of the backfill. Excessive or insufficient settlement of the trench area, which visibly affects land contour or undesirably alters surface drainage, shall be remediated by means such as regrading and, if necessary, import of appropriate fill material. Disturbed areas in which erosion causes formation of rills or channels, or areas of heavy sediment deposition, shall be regraded as needed. On steep slopes, methods such as sediment barriers, slope breakers, or mulching shall be used as necessary to control erosion until vegetation can be reestablished.

9.4(9) *Restoration of areas used for field entrances and temporary roads.* Upon completion of construction and land restoration, field entrances or temporary roads built as part of the construction project shall be removed and the land made suitable for return to its previous use. Areas affected shall be regraded as required by subrule 9.4(8) and deep tilled as required by subrule 9.4(4). If by agreement or at landowner request, and subject to any necessary approval by local public road authorities, a field entrance or road is to be left in place, it shall be left in a graded and serviceable condition.

9.4(10) *Construction in wet conditions.* Construction in wet soil conditions shall not commence or continue at times when or locations where the passage of heavy construction equipment may cause rutting to the extent that the topsoil and subsoil are mixed, or underground drainage structures may be damaged. To facilitate construction in soft soils, the pipeline company may elect to remove and stockpile the topsoil from the traveled way, install mats or padding, or use other methods acceptable to the county inspector. Topsoil removal, storage, and replacement shall comply with subrule 9.4(1).

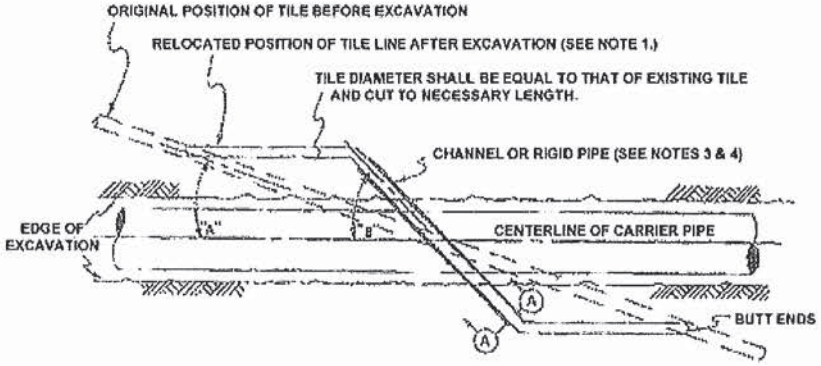
199—9.5(479,479B) Designation of a pipeline company point of contact for landowner inquiries or claims. For each pipeline construction project subject to this chapter, the pipeline company shall designate a point of contact for landowner inquiries or claims. The designation shall include the name of an individual to contact and a toll-free telephone number and address through which that person can be reached. This information shall be provided to all landowners of property that will be disturbed by the pipeline project prior to commencement of construction. Any change in the point of contact shall be promptly communicated in writing to landowners. A designated point of contact shall remain available for all landowners for at least one year following completion of construction and for landowners with unresolved damage claims until such time as those claims are settled.

199—9.6(479,479B) Separate agreements. This chapter does not preclude the application of provisions for protecting or restoring property that are different from those contained in this chapter, or in a land restoration plan, which are contained in easements or other agreements independently executed by the pipeline company and the landowner. The alternative provision shall not be inconsistent with state law or these rules. The agreement shall be in writing and a copy provided to the county inspector. The pipeline company may request that the county designate a specific person to receive the agreements.

199—9.7(479,479B) Enforcement. A pipeline company shall fully cooperate with county inspectors in the performance of their duties under Iowa Code sections 479.29 and 479B.20, including giving proper notice of trenching, permanent tile repair, or backfilling. If the pipeline company or its contractor does not comply with the requirements of Iowa Code section 479.29 or 479B.20, with the land restoration plan, or with an independent agreement on land restoration or line location, the county board of supervisors may petition the utilities board for an order requiring corrective action to be taken or seeking imposition of civil penalties, or both. Upon receipt of a petition from the county board of supervisors, the board will schedule a hearing and such other procedures as appropriate. The county will be responsible for investigation and for prosecution of the case before the board.

Drawing No. IUB PL-1

RESTORATION OF DRAIN TILE



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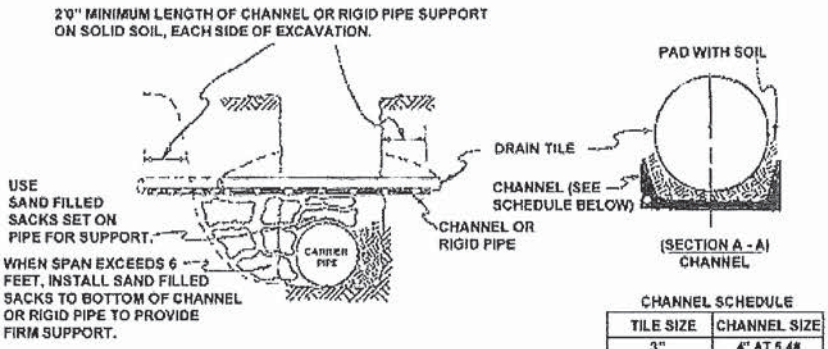
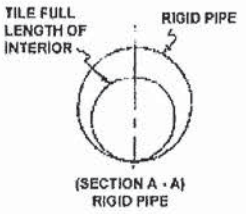


(METHOD OF SUPPORT - - ELEVATION)

CHANNEL SCHEDULE

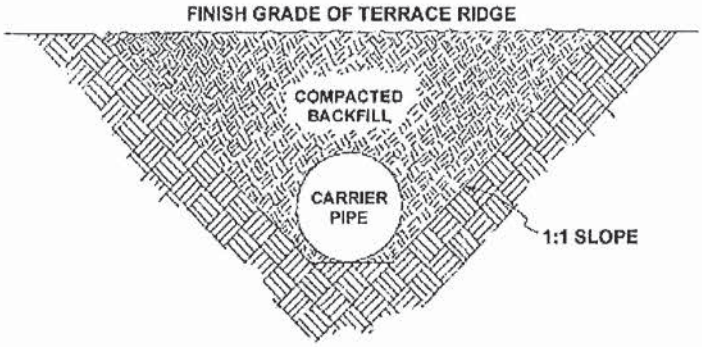
TILE SIZE	CHANNEL SIZE
3"	4" AT 5.4#
4" - 5"	5" AT 6.7#
6" - 9"	7" AT 9.8#
10" & LARGER	10" AT 15.3#

NOTES:
1. TILE SHALL BE RELOCATED AS SHOWN WHEN ANGLE "A" BETWEEN PIPELINE AND ORIGINAL TILE IS LESS THAN 20° UNLESS OTHERWISE AGREED TO BY LANDOWNER AND COMPANY.
2. ANGLE "B" SHALL BE 45° FOR USUAL WIDTHS OF TRENCH. FOR EXTRA WIDTHS, IT MAY BE GREATER.
3. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
4. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF THE ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL SECTIONS SHOWN AND IF APPROVED BY THE LANDOWNER.



Drawing No. IUB PL-2

RESTORATION OF TERRACE



NOTE:

COMPACTION OF BACKFILL TO BE EQUAL TO THAT OF THE UNDISTURBED ADJACENT SOIL.

IUB PL-2

These rules are intended to implement Iowa Code sections 479.29 and 479B.20.

[Filed 1/4/80, Notice 10/17/79—published 1/23/80, effective 2/27/80]
[Filed 4/23/82, Notice 11/25/81—published 5/12/82, effective 6/16/82]
[Filed emergency 9/18/86—published 10/8/86, effective 9/18/86]
[Filed 2/1/91, Notice 6/27/90—published 3/6/91, effective 4/10/91]
[Filed 10/31/97, Notice 5/7/97—published 11/19/97, effective 12/24/97]
[Filed 1/18/01, Notice 6/14/00—published 2/7/01, effective 3/14/01]
[Filed 7/18/01, Notice 6/13/01—published 8/8/01, effective 9/12/01]
[Filed 8/31/01, Notice 7/25/01—published 9/19/01, effective 10/24/01]
[Filed 6/28/06, Notice 5/24/06—published 7/19/06, effective 8/23/06]