

SUMMIT CARBON SOLUTIONS, LLC
PETITION FOR HAZARDOUS LIQUID PIPELINE PERMIT

Docket No. HLP-2021-0001

EXHIBIT I

AGRICULTURAL IMPACT MITIGATION PLAN

AGRICULTURAL IMPACT MITIGATION

PLAN

Summit Carbon Solutions, LLC (“SCS”)

Adopted and Approved by the Iowa Utilities Board

State of Iowa

Revised May 2022 (Proposed Draft)

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	PLAN LIMITATIONS.....	2
3.	SEQUENCE OF CONSTRUCTION EVENTS AND SCHEDULE.....	2
4.	POINTS OF CONTACT	3
5.	DEFINITIONS.....	4
6.	AGRICULTURAL MITIGATION MEASURES	7
6.1.	EASEMENT STAKING	7
6.2.	CLEARING BRUSH AND TREES ALONG THE EASEMENT.....	8
6.3.	FENCING AND GATES	8
6.4.	TOPSOIL SEPARATION AND REPLACEMENT	8
6.5.	PREVENTION OF EROSION	9
6.6.	PUMPING WATER FROM OPEN TRENCHES.....	10
6.7.	TEMPORARY AND PERMANENT REPAIR OF DRAIN TILES	10
a.	Pipeline Clearance from Drain Tile.....	10
b.	Temporary Repair.	10
c.	Marking.	11
d.	Permanent Repairs.....	11
e.	Inspection.	11
f.	Backfilling.....	11
g.	Subsurface Drainage.	12
6.8.	REMOVAL OF ROCKS AND DEBRIS FROM THE RIGHT-OF-WAY	12
6.9.	RESTORATION AFTER SOIL COMPACTION AND RUTTING.....	12
6.10.	RESTORATION OF TERRACES, WATERWAYS AND OTHER EROSION CONTROL STRUCTURES	12
6.11.	REVEGETATION OF UNTILLED LAND.....	13
a.	Crop Production..	13
b.	Delayed Crop Production..	13
6.12.	FUTURE DRAIN TILE AND SOIL CONSERVATION PRACTICES AND STRUCTURES	13
6.13.	RESTORATION OF LAND SLOPE AND CONTOUR.....	13
6.14.	SITING AND RESTORATION OF AREAS USED FOR FIELD ENTRANCES AND TEMPORARY ROADS.....	14
6.15.	CONSTRUCTION IN WET CONDITIONS	14
6.16.	WEED CONTROL	14

Appendices

A – Typical Drawings

B – Iowa Utilities Board Rules: Chapter 9

Acronyms and Abbreviations

SCS – Summit Carbon Solutions, LLC (Project Sponsor)

EI/AI – Environmental Inspector/Agricultural Inspector

1. INTRODUCTION

Summit Carbon Solutions, LLC (“SCS”) is planning a new pipeline project which will capture carbon dioxide (CO₂) emissions that otherwise would be emitted into the atmosphere from ethanol plants, compress the captured emissions, and transport it through a pipeline to North Dakota where it will be permanently and safely stored underground in deep geologic storage locations.

The Iowa portion of the project will consist of approximately 681 miles of pipeline, with right-of-way located in 30 Iowa counties and the pipeline itself traversing 29 of those counties. The pipeline diameter will range from 4 inches to 24 inches, depending on the particular location.

SCS 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 SCS determines the request is prudent and otherwise lawful or (b) where there is a subsurface obstruction that would prevent SCS 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, SCS will provide copies of the plan to all landowners of property and persons in possession of the property under a lease that will be disturbed by the construction, and to the county board of supervisors, the county engineer, and the county inspector in 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 SCS, and such reasonable costs shall be reimbursed within thirty (30) days following invoicing.

SCS shall fully cooperate with county inspectors in the performance of their duties under Iowa Code sections 479.29 and 479B.20, including providing proper notice before construction staking, clearing, boring, topsoil removal and stockpiling, trenching, tile marking, silt screening, tile repair or backfilling, decompaction, cleanup, restoration or testing of any easement. If SCS 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. The county board of supervisors may also file a complaint with the board seeking imposition of civil penalties.

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, or 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.

Nothing in this AIMP shall prohibit a landowner or person in possession of the land pursuant to a lease from having access to the property. A landowner or person in possession of the land pursuant to a lease shall not disrupt ongoing construction and shall not compromise the safety considerations of the construction. A landowner or person in possession of the land pursuant to a lease shall abide by any and all safety instructions established by the pipeline company during construction.

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. The construction of the pipeline will take approximately 15 - 18 months to complete, with expected durations on individual parcels to be significantly shorter.

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

- Complete final surveys, stake right-of-way boundaries and workspace;
- Access road and mat installation;
- Grubbing and clearing of the construction right-of-way;
- Front-end grading;
- Right-of-way topsoil stripping, segregation and storage;
- Stringing of pipe and other supplies along the construction right-of-way;
- Pipeline welding and bending where necessary;
- Inspection of welds via x-ray, ultrasonic, or other industry accepted methods, weld repairs where required, coating field welds;
- Excavation of the pipeline trench;
- Temporary repairs to drain tile lines, if encountered;
- Lowering of the pipeline within the trench;
- Permanent repairs to drain tile lines damaged during construction activities;
- Backfill of the trench and rough grading;
- Hydrostatic testing of the pipeline, and final tie-ins;
- Replace topsoil, final grading and full restoration of the workspace;
- Revegetation and post restoration monitoring; and
- Removal of erosion control measures.

4. POINTS OF CONTACT

SCS's designated point of contact for inquiries or claims from affected persons is as follows:

Micah Morris
Sr. Right-of-Way Project Manager
2321 North Loop Drive, Suite 221
Ames, Iowa 50010
Telephone: 1-855-950-6352 (toll-free)
Email: micah@norfleetland.com

Any change in the point of contact will be promptly communicated in writing to affected persons. The above point of contact will remain available for at least one year following project completion and, for affected persons with unresolved damage claims, until such time as those claims are resolved.

In addition to any other notice required by law, SCS shall, at least two weeks prior to commencement of construction, provide each affected person with written notice (the "Two Week Notice") of the pending construction that includes: (1) the name, address, telephone number, and email address of the SCS 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 affected person provide SCS and the county inspector with any drain tile diagrams for the affected person's parcel(s) prior to construction.

Any change in this information shall promptly be communicated to all affected persons. Confirmation of sending the Two-Week Notice shall be delivered to the county inspector and shall be a condition to proceeding with construction. Affected persons may designate their own point of contact by providing SCS with the name, address, telephone number, and email address of their designee.

In addition to the County Inspector, 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(2).

Affected Person	Any person with a legal right or interest in the property, including, but not limited to, a landowner, a contract purchaser of record, a person possessing the property under a lease, a record lienholder, and a record encumbrancer of the property.
Agricultural Land	Any land devoted to agricultural use, including, but not limited to, land used for crop production, cleared land capable of being cultivated, hay land, pasture land, managed woodlands and woodlands of commercial value, truck gardens, farmsteads, commercial agricultural-related facilities, feedlots, rangeland, livestock confinement systems, land on which farm buildings are located, and land used to implement management practices and structures for the improvement or conservation of soil, water, air and related plant and animal resources.
Board	The utilities board within the utilities division of the department of commerce.
County Inspector	A professional engineer who is licensed under Iowa Code chapter 542B, who is familiar with agricultural and environmental inspection requirements, and who is designated by the county board of supervisors to be responsible for completing an on-site inspection for compliance with 199 Iowa Administrative Code chapter 9 and Iowa Code chapters 479 and 479B.

Drainage Structures or Underground Improvements	Any permanent structure used for draining agricultural lands, including tile systems and buried terrace outlets.
Emergency	A condition involving clear and immediate danger to life, health, or essential services, or a risk of a potentially significant loss of property.
Hazardous Liquid	Crude oil refined petroleum products, liquified petroleum gases, anhydrous ammonia, liquid fertilizers, liquefied carbon dioxide, alcohols, and coal slurries.
Pipeline	Any pipe, pipes, or pipelines used for the transportation or transmission of any solid, liquid, or gaseous substance, except water, within or through Iowa.
Pipeline Company	Any person engaged in or organized for the purpose of owning, operating, or controlling pipelines.
Pipeline Construction	Activity associated with installation, relocation, replacement, removal or operation or maintenance of a pipeline that disturbs agricultural land, but shall not include work performed during an emergency, tree clearing, or topsoil surveying completed on land under easement with written approval from the landowner.

Proper Notice to the County Inspector	The pipeline company or and its contractor shall keep the county inspector continually informed of the work schedule and any changes to the schedule, and shall provide at least 24 hours' written notice before commencing or continuing any construction activity which requires inspection by the county inspector, including, but not limited to, right-of-way staking, clearing boring topsoil removal and stockpiling, trenching, tile marking, tile screening, tile repairs, backfilling, decompaction, cleanup, restoration, or testing at any project location. SCS may request that the county inspector designate a person to receive such notices.
Right-of-Way (ROW)	Includes the permanent and temporary easements that SCS acquires for the purpose of constructing and operating the Pipeline.
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.
Surface Drains	Any surface drainage system such as shallow surface field drains, grassed waterways, open ditches, or any other conveyance of surface water.

Till	To loosen the soil in preparation for planting or seeding by plowing, chiseling, disking, or similar means. Agricultural land planted using no-till planting practices is also considered tilled.
Topsoil	The uppermost layer of the soil with the darkest color or highest content of organic matter, generally referred to as the “A” horizon. In areas where the “A” horizon is determined by a certified professional soil scientist to be less than 12 inches, the topsoil depth shall include both the “A” and “Bw” horizons as determined by the March 2017 United States Department of Agriculture Soil Survey Manual. Topsoil depth is to be determined under the supervision of a certified professional soil scientist.
Underground Storage	Storage of either natural gas or hazardous liquid in a subsurface stratum or formation of the earth.
Wet Conditions	Adverse soil conditions due to rain events, antecedent moisture, or ponded water, where the passage of construction equipment may cause rutting that mixes topsoil and subsoil, may prevent the effective removal or replacement of topsoil and subsoil, may prevent proper decompaction, or may damage underground tile lines.

6. AGRICULTURAL MITIGATION MEASURES

The following describes how SCS proposes to minimize and repair impacts to agricultural lands, and meet or exceed the requirements of Chapter 9. Where mitigation details are specified in Chapter 9, those measures have been copied from the regulation.

6.1. EASEMENT STAKING

SCS will allow the county inspector and the landowner to be present during the staking of the easement. Written notice of the staking will be provided to the landowner and the county inspector

in the same manner as provided for in proper notice to the county inspector. Pipeline construction will not occur until seven days after the easement is staked, unless the landowner waives the seven-day period after the easement staking has been completed. If proper notice is given, easement staking shall not be delayed due to a county inspector or landowner's failure to be present on site.

6.2. CLEARING BRUSH AND TREES ALONG THE EASEMENT

If trees are to be removed from the easement, SCS will consult with the landowner to determine if there are trees of commercial or other value to the landowner.

If there are trees of commercial or other value to the landowner, SCS will allow the landowner the right to retain ownership of the trees with the disposition of the trees to be negotiated prior to commencement of clearing. Options include the landowner harvesting the timber prior to construction, or the contractor cutting the timber and leaving the cut timber adjacent to the right-of-way for landowner retrieval. If the trees of commercial or other value to the landowner but the landowner does not wish to retain ownership of the trees, SCS will hire a forester with local expertise to appraise the commercial value of any timber to be cut for construction of the pipeline and will compensate the landowner for the full appraised commercial value of any timber removed. SCS will remove all cleared trees and debris left on or adjacent to the easement in the event the landowner does not wish to retain them.

If the trees to be cleared have been determined to have no commercial or other value to the landowner and there is no negotiated agreement between the pipeline company and the landowner for the disposition of the trees in advance of clearing the easement, removal and disposal of the material will be completed at the discretion of SCS.

6.3. FENCING AND GATES

SCS may remove all field fences and gates located within the easement during clearing of the easement and may construct temporary fences and gates where necessary. Upon completion of pipeline construction, SCS will replace any temporary field fences or gates with permanent field fences or gates.

SCS and the landowner may negotiate separate agreements regarding field fences and gates. If livestock is present, SCS will construct any temporary or permanent fences and gates in a manner which will contain livestock.

6.4. TOPSOIL SEPARATION AND REPLACEMENT

Prior to the removal of any topsoil, SCS will have a topsoil survey performed under the supervision of a certified professional soil scientist across the full extent of the easement. A minimum of three soil depths will be physically measured in the field at each cross section as follows: (1) one on the left edge of the easement; (2) one at 15 feet of the centerline of the pipeline on the working side of the right-of-way; and (3) one on the right edge of the working easement. Cross sections shall be taken a minimum of every 500 linear feet for the full extent of the easement. Each parcel shall have a minimum of two cross sections.

SCS will provide the results of the topsoil survey to the county board of supervisors, county inspector, and county engineer for each affected county, and to all affected persons for each parcel.

As specified in Chapter 9, 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.

Removal. The actual depth of topsoil, as determined by the topsoil survey, will be stripped from the full extent of the easement, unless an alternative agreement has been executed with the landowner. In areas where the “A” horizon is determined by a certified professional soil scientist to be less than 12 inches, the topsoil depth shall include both the “A” and the “Bw” horizons as determined by the March 2017 United States Department of Agriculture Soil Survey Manual. Topsoil shall be removed and replaced in accordance with Chapter 9 at any location where land slope or contour is significantly altered to facilitate construction. Topsoil removal shall not occur during wet conditions.

Soil Storage. Topsoil and subsoil will be segregated, stockpiled, and preserved separately during subsequent construction operations, and will have sufficient separation to prevent mixing during the storage period. Topsoil will not be used to construct field entrances or drives, or otherwise be removed from the property, without the written consent of the landowner. Topsoil will 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.

Stockpile Stabilization. Topsoil stockpiles shall be stabilized with seeding and mulch within 14 calendar days of stockpiling. If stockpiling is occurring between October 15 and March 15, soil tackifier shall be used in place of seeding and mulch.

Topsoil Removal Not Required. Topsoil removal will not be required where the pipeline is installed by plowing, jacking, boring, or other methods that do not require the opening of a trench. If provided for in a written agreement between the pipeline company and 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.

Backfill. The topsoil and subsoil shall be replaced in the reverse order in which they were excavated from the trench. The depth of the replaced topsoil shall conform as near as possible to the depth of topsoil that was removed. Where excavations are made for road, stream, drainage ditch, or other crossings, the original depth of topsoil shall be replaced as near as possible.

6.5. PREVENTION OF EROSION

SCS will follow best management practices and industry standards for erosion and sedimentation control during construction and post-construction. SCS 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 SCS’s full compliance.

6.6. 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. 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.

Water will not be pumped from trenches onto land outside of SCS's easement area without written permission from the landowner. If water-related damages result from pumping water from trenches, SCS will either compensate the landowner for the damages or restore the land, pasture, surface drains, or similar land to its preconstruction condition, at the landowner's discretion.

6.7. TEMPORARY AND PERMANENT REPAIR OF DRAIN TILES

The following methods for repair of drain tiles are either as specified in Chapter 9 or are additional SCS-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. **Pipeline Clearance from Drain Tile:** Where underground drain tile is encountered in the project profile, the pipeline will be installed in such a manner that the permanent tile repair can be installed with at least 12 inches of clearance from the pipeline or as agreed upon with landowner.
- b. **Temporary Repairs:** 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. In such case, permanent repair will be made as set forth in section 6.7.d, below.
 - (4) If temporary repair of the line is not made because underground tile which is damaged, cut, or removed is found not to be flowing, 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.

- c. **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 by the county inspector. If proper notice to the county inspector is provided, construction will 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 will be repaired to its original or better condition. Permanent repairs will be completed within 14 days 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 using a laser transit, or similar instrument or method, to ensure that its proper 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 shall be examined visually by televising on both sides of the trench over the full extent of the working easement to check for tile that might have been damaged or misaligned by construction equipment. If tile lines are found to be damaged, they must be repaired to operate as well after construction as before construction.
- e. **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, construction will 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 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, construction will 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 SCS will make further repairs or install additional tile as necessary to restore subsurface drainage.

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

In accordance with Chapter 9, excess rocks larger than three inches in average diameter will be removed from the right-of-way. The topsoil, when backfilled, and the easement area shall be free of all rocks 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 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, SCS 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. Soil from which excess rock has been removed may be used for backfill. 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.

6.9. RESTORATION AFTER SOIL COMPACTION AND RUTTING

In accordance with Chapter 9, 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. 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 that result in a maximum standard penetration test (SPT) reading of 300 psi pursuant to ASTM D1586-11 performed by a qualified person. Decomaction shall not occur in wet conditions. 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.

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

In accordance with Chapter 9, 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). The County Inspector will inspect restoration of terraces, waterways, and other erosion control structures. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

6.11. REVEGETATION OF UNTILLED LAND

- a. **Crop Production.** 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. If the land is to be placed in crop production the following year, paragraph (b), below, will 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.

6.12. FUTURE DRAIN TILE AND SOIL CONSERVATION PRACTICES AND STRUCTURES

In accordance with Chapter 9, SCS will consult with affected persons regarding plans for future drain tile installation. Where an affected person provides SCS with written plans prepared by a qualified tile technician for future drain tile improvements before an easement is secured, the pipeline will be installed at a depth which will allow for proper clearance between the pipeline and the proposed future tile installation.

SCS will consult with affected persons regarding plans for future use or installation of soil conservation practices or structures. Where an affected person provides SCS with a design for such practice or structure prepared by a qualified technician before an easement is secured, the pipeline will be installed at a depth that will retain the integrity of the pipeline.

6.13. RESTORATION OF LAND SLOPE AND CONTOUR

In accordance with Chapter 9, 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. SCS will remediate areas of excessive or insufficient settlement in the trench area which visibly affects land contour or undesirably 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. The County Inspector shall inspect restoration of land slope and contour for compliance with Chapter 9.

6.14. 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, as applicable, other affected persons. 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, 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.

6.15. CONSTRUCTION IN WET CONDITIONS

The county inspector, in consultation with SCS and the landowner or person in possession of the land pursuant to a lease, if present, shall determine when construction should not proceed in a given area due to wet conditions. The county inspector shall have the sole authority to determine whether construction should be halted due to wet conditions.

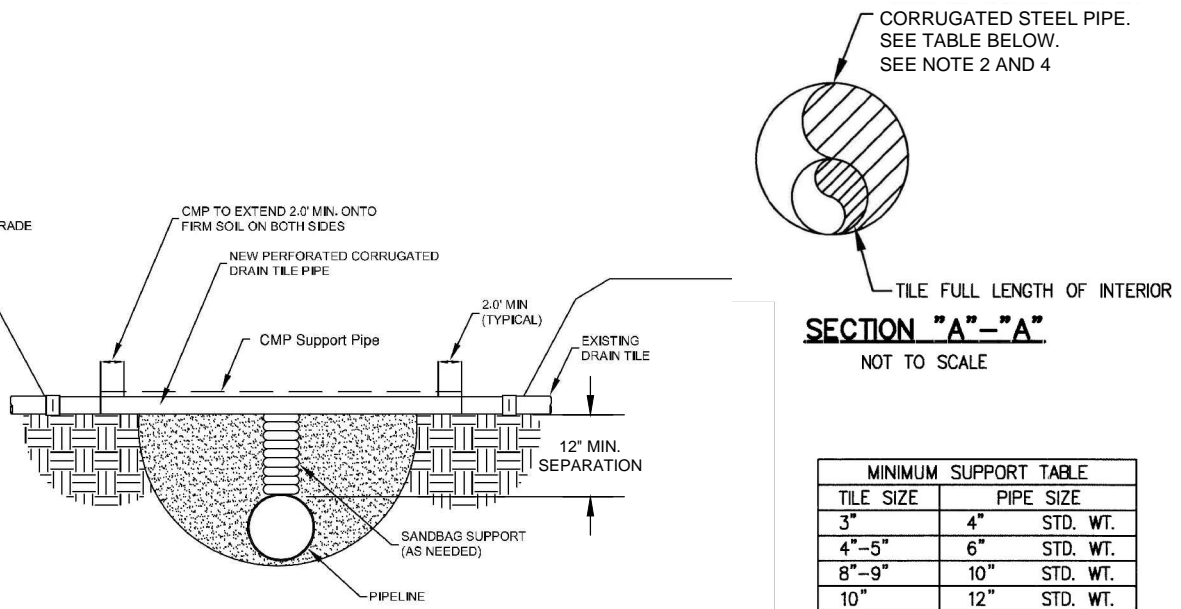
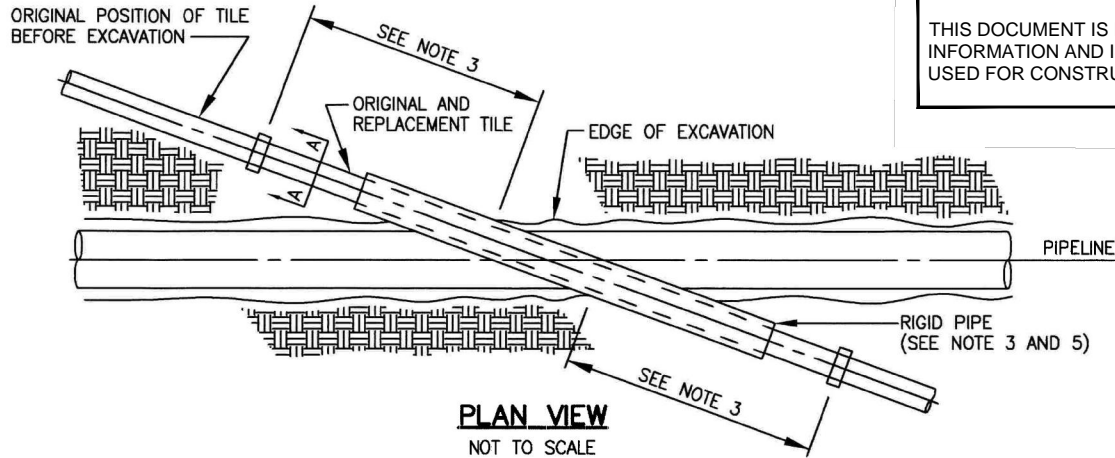
Construction in wet soil conditions will not commence or continue at times when or locations where the passage of heavy construction equipment may cause rutting to the extent that the topsoil and subsoil are mixed or underground drainage structures may be damaged.

To facilitate construction in wet soils, SCS 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.

6.16. WEED CONTROL

On any easement, including, but not limited to, construction easements relating to valve sites, metering stations, and compression stations, SCS will provide for weed control in a manner that prevents the spread of weeds onto adjacent lands used for agricultural purposes. Where necessary, spraying shall be done by a pesticide applicator that is appropriately licensed for spraying of pesticide in Iowa. If SCS fails to control weeds within 45 days after receiving written notice from a landowner, SCS will be responsible for reimbursing all reasonable costs of weed control incurred by owners of adjacent land.

APPENDIX A: TYPICAL DRAWINGS



DRAIN TILE REPAIR - CROSS SECTION

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SUMMIT CARBON SOLUTIONS

DWN. BY: GIE 12-28-21
 CHK. JW 01-18-22
 PROJ. ENGR. VK 01-18-22
 PROJ. MGR.
 CLIENT APP.

**MIDWEST CARBON EXPRESS
 PROPOSED 4"-24" PIPELINE
 TYPICAL CONSTRUCTION (IOWA)
 PERMANENT DRAIN TILE REPAIR**

NO.	REVISION DESCRIPTION	BY	DATE	CHK'D	APP'D
0	ISSUED FOR INFORMATION	GIE	01-18-22	JW	DA

SCALE: N.T.S.

DWG. NO. 1927-000-PL-DWG-0039 SHT. NO. 1 OF 2 REV. 0

THIS DOCUMENT IS ISSUED FOR
INFORMATION AND IS NOT TO BE
USED FOR CONSTRUCTION.

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 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 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 OF THE LINE. THE BACKFILL SHALL BE INSPECTED FOR COMPLIANCE BY THE COUNTY INSPECTOR.



**SUMMIT CARBON
SOLUTIONS**

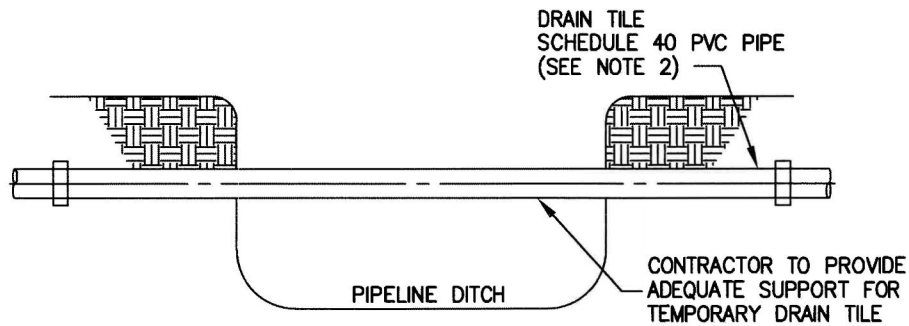
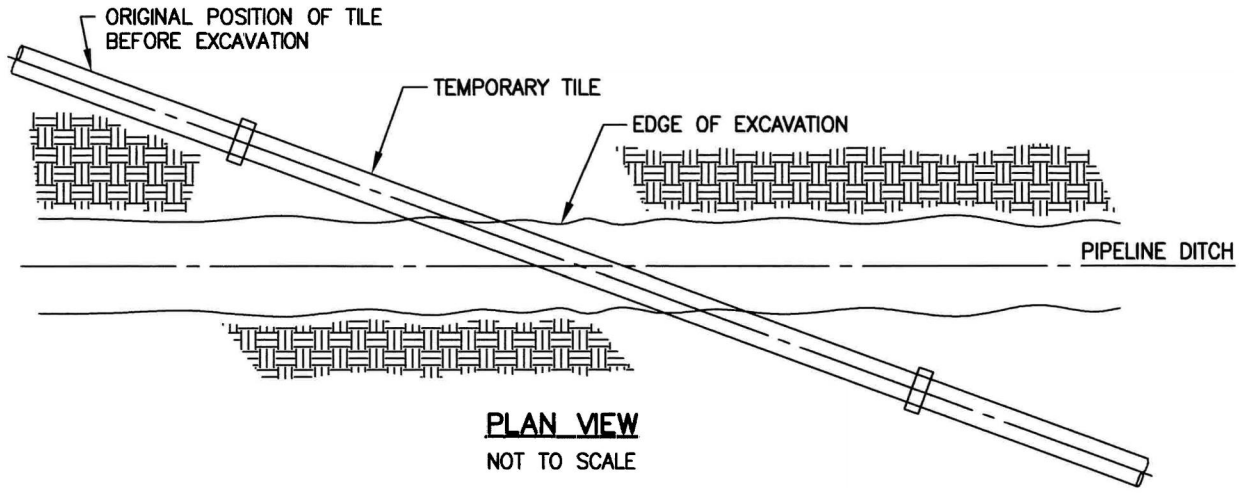
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DWG. NO. 1927-000-PL-DWG-0039 SHT. NO. 2 OF 2 REV. 0

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NO.	REVISION DESCRIPTION	BY	DATE	CHK'D	APP'D					

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. 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.
5. 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.
6. 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 INSPECTOR'S FAILURE TO BE PRESENT ON THE SITE.

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TEMPORARY DRAIN TILE REPAIR

DWG. NO. 1927-000-PL-DWG-0040
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APPENDIX B: IOWA UTILITIES BOARD RULES, CHAPTER 9

CHAPTER 9
RESTORATION OF AGRICULTURAL LANDS DURING AND AFTER PIPELINE
CONSTRUCTION

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

9.1(1) Authority and purpose. The rules in this chapter are adopted by the Iowa utilities board pursuant to the authority granted to the board in Iowa Code sections 479.29 and 479B.20 to establish standards for the restoration of agricultural lands during and after pipeline construction. These rules constitute the minimum standards for restoration of agricultural lands disturbed by pipeline construction. These rules do not apply to land located within city boundaries, unless the land is used for agricultural purposes, or to interstate natural gas pipelines.

When a project-specific land restoration plan is required pursuant to Iowa Code section 479.29(9) or 479B.20(9), 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. Where a project-specific land restoration plan is not required pursuant to Iowa Code section 479.29(9) or 479B.20(9), the rules in this chapter shall constitute the minimum land restoration standards for any pipeline construction.

9.1(2) Definitions. The following words and terms, when used in these rules, shall have the meanings indicated below:

“Affected person” means any person with a legal right or interest in the property, including, but not limited to, a landowner, a contract purchaser of record, a person possessing the property under a lease, a record lienholder, and a record encumbrancer of the property.

“Agricultural land” means any land devoted to agricultural use, including, but not limited to, land used for crop production, cleared land capable of being cultivated, hay land, pasture land, managed woodlands and woodlands of commercial value, truck gardens, farmsteads, commercial agricultural-related facilities, feedlots, rangeland, livestock confinement systems, land on which farm buildings are located, and land used to implement management practices and structures for the improvement or conservation of soil, water, air, and related plant and animal resources.

“Board” means the utilities board within the utilities division of the department of commerce.

“County inspector” means a professional engineer who is licensed under Iowa Code chapter 542B, who is familiar with agricultural and environmental inspection requirements, and who is designated by the county board of supervisors to be responsible for completing an on-site inspection for compliance with this chapter and Iowa Code chapters 479 and 479B.

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

“Hazardous liquid” means crude oil, refined petroleum products, liquefied petroleum gases, anhydrous ammonia, liquid fertilizers, liquefied carbon dioxide, alcohols, and coal slurries.

“Person” means individual, corporation, limited liability company, government or governmental subdivision or agency, business trust, estate, trust, partnership or association, or any other legal entity as defined in Iowa Code section 4.1(20).

“Pipeline” means any pipe, pipes, or pipelines used for the transportation or transmission of any solid, liquid, or gaseous substance, except water, or hazardous liquid, within or through Iowa.

“Pipeline company” means any person engaged in or organized for the purpose of owning, operating, or controlling pipelines.

“Pipeline construction” means activity associated with installation, relocation, replacement, removal, or operation or maintenance of a pipeline that disturbs agricultural land, but shall not include work performed during an emergency, tree clearing, or topsoil surveying completed on land under easement with written approval from the landowner. Emergency means a condition involving clear and immediate danger to life, health, or essential services, or a risk of a potentially significant loss of property. When the emergency condition ends, pipeline construction will be in accordance with these rules.

“Proper notice to the county inspector” means that the pipeline company and its contractors shall keep the county inspector continually informed of the work schedule and any changes to the schedule, and shall provide at least 24 hours’ written notice before commencing or continuing any construction activity which requires inspection by the county inspector, including, but not limited to, right-of-way staking, clearing, boring, topsoil removal and stockpiling, trenching, tile marking, tile screening, tile repairs, backfilling, decompaction, cleanup, restoration, or testing at any project location. The pipeline company may request that the county inspector designate a person to receive such notices. If proper notice is given, construction shall not be delayed due to a county inspector’s failure to be present on site.

“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.

“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.

“Surface drains” means any surface drainage system, such as shallow surface field drains, grassed waterways, open ditches, or any other conveyance of surface water.

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

“Topsoil” means the uppermost layer of the soil with the darkest color or the highest content of organic matter, generally referred to as the “A” horizon. In areas where the “A” horizon is determined by a certified professional soil scientist to be less than 12 inches, the topsoil depth shall include both the “A” and the “Bw” horizons as determined by the March 2017 United States Department of Agriculture Soil Survey Manual. Topsoil depth is to be determined under the supervision of a certified professional soil scientist.

“Underground storage” means storage of either natural gas or hazardous liquid in a subsurface stratum or formation of the earth.

“Wet conditions” means adverse soil conditions due to rain events, antecedent moisture, or ponded water, where the passage of construction equipment may cause rutting that mixes topsoil and subsoil, may prevent the effective removal or replacement of topsoil and subsoil, may prevent proper decompaction, or may damage underground tile lines.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.2(479,479B) Filing of land restoration plans. Pursuant to Iowa Code sections 479.29 and 479B.20, a land restoration plan is required for any pipeline construction that requires a permit from the board and for any proposed amendment to an existing permit that involves pipeline construction, relocation, or replacement. The land restoration plan shall be filed with the appropriate petition and be identified as Exhibit I. For pipelines that do not need a permit from the board and that are constructed across agricultural land, the pipeline company shall have on file with the board a general land restoration plan covering pipelines that do not need a permit from the board.

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 the pipeline company will comply with rules 199—9.4(479,479B) and 199—9.5(479,479B).
- d. The point of contact for landowner inquiries or claims as provided for in rule 199—9.5(479,479B).
- e. A unique identification number that follows a linearly sequential pattern on each parcel of land over which the pipeline will be constructed.

9.2(2) Plan variations. The board may by waiver allow variations from the requirements in this chapter if the pipeline company requesting a waiver is able to satisfy the standards set forth in rule

199—1.3(17A,474,476) and if the alternative methods proposed by the pipeline company would restore the land to a condition as good 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 where a pipeline company enters into an agricultural impact mitigation plan or similar agreement with the appropriate agencies of the state of Iowa that satisfies the requirements of this chapter. 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.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

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

9.3(1) *Timing.* The board will review the proposed land restoration plan, as established in rule 199—9.2(479,479B), at the same time it reviews the petition. Objections to the proposed plan shall be filed as part of the permit proceeding. The pipeline company shall modify the plan as required by the board.

9.3(2) *Distributing approved plan.* After the board has approved the plan as part of the board's review and approval of the petition, but prior to construction, the pipeline company shall provide copies of the final plan approved by the board to all landowners of property and persons in possession of the property under a lease that will be disturbed by the construction, the county board of supervisors in each county affected by the project, the county engineer of each affected county, and to the county inspector in each affected county.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.4(479,479B) Staking and clearing of agricultural land.

9.4(1) *Easement staking.* The pipeline company shall allow the county inspector and the landowner to be present during the staking of the easement. Written notice of the staking shall be provided to the landowner and the county inspector in the same manner as provided for in proper notice to the county inspector. Pipeline construction may not occur until seven days after the easement is staked unless the landowner waives the seven-day period after the easement staking has been completed. If proper notice is given, easement staking shall not be delayed due to a county inspector or landowner's failure to be present on site.

9.4(2) *Trees and brush.* If trees are to be removed from the easement, the pipeline company shall consult with the landowner to determine if there are trees of commercial or other value to the landowner.

a. If there are trees of commercial or other value to the landowner, the pipeline company shall allow the landowner the right to retain ownership of the trees with the disposition of the trees to be negotiated prior to commencement of land clearing, or if the landowner does not want to retain ownership of the trees, the pipeline company shall hire a forester with local expertise to appraise the commercial value of any timber to be cut for construction of the pipeline. The pipeline company shall compensate the landowner for the full appraised commercial value of any timber removed. The pipeline company shall remove all cleared trees and debris left on or adjacent to the easement.

b. If the trees to be cleared have been determined to have no commercial or other value to the landowner and there is no negotiated agreement between the pipeline company and the landowner for the disposition of the trees in advance of clearing of the easement, removal and disposal of the material shall be completed at the discretion of the pipeline company.

9.4(3) *Fencing.* The pipeline company may remove all field fences and gates, located within the pipeline company's easement, during clearing of the easement and may construct temporary fences and gates where necessary. Upon completion of the pipeline construction, the pipeline company shall replace any temporary field fences or gates with permanent field fences or gates. The pipeline company and landowner may negotiate separate agreements regarding field fences and gates. If livestock is present, the pipeline company shall construct any temporary or permanent fences and gates in a manner which will contain livestock.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.5(479,479B) Restoration of agricultural lands.**9.5(1) *Topsoil survey.***

a. Prior to the removal of any topsoil, the pipeline company shall direct that a topsoil survey be performed under the supervision of a certified professional soil scientist across the full extent of the easement for any pipeline that requires a board permit. A minimum of three soil depths shall be physically measured in the field at each cross section as follows: (1) one on the left edge of the easement; (2) one at 15 feet of the centerline of the pipeline on the working side of the right-of-way; and (3) one on the right edge of the working easement. Cross sections shall be taken a minimum of every 500 linear feet for the full extent of the easement. Each parcel of land shall have a minimum of two cross sections.

b. The pipeline company shall provide the results of the topsoil survey to the county board of supervisors, county inspector, county engineer, and affected persons at least six weeks prior to commencing construction.

9.5(2) *Topsoil separation and replacement.*

a. Removal. Topsoil removal and replacement in accordance with this rule is required for any open excavation associated with pipeline construction unless otherwise provided in these rules. The actual depth of the topsoil, as determined by a topsoil survey, shall be stripped from the full extent of the easement. 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. Topsoil removal shall not occur during wet conditions.

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. Stockpile stabilization. Topsoil stockpiles shall be stabilized with seeding and mulch within 14 calendar days of stockpiling. Between October 15 and March 15, soil tackifier shall be used in place of seeding and mulch.

d. Topsoil removal not required. Topsoil removal is not required where the pipeline is installed by plowing, jacking, boring, or other methods that do not require the opening of a trench. If provided for in a written agreement between the pipeline company and 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.

e. Backfill. The topsoil and subsoil shall be replaced in the reverse order in which they were excavated from the trench. The depth of the replaced topsoil shall conform as near as possible to the depth of topsoil that was removed. Where excavations are made for road, stream, drainage ditch, or other crossings, the original depth of topsoil shall be replaced as near as possible.

9.5(3) *Pumping of water from open trenches.*

a. In the event it becomes necessary to pump water from open trenches, the pipeline company shall pump the water in a manner that avoids damaging adjacent agricultural land. Damages from pumping water from trenches include, but are not limited to, inundation of crops and depositing of sediment in fields, pastures, and surface drains.

b. If water-related damages result from pumping water from trenches, the pipeline company shall either compensate the landowner for the damages or restore the land, pasture, surface drains, or similar land, to their preconstruction condition, at the landowner's discretion.

c. Written permission from the landowner is required before the pipeline company can pump water from trenches onto land outside of the pipeline company's easement.

d. All pumping of water shall comply with existing state drainage laws, local ordinances, and federal statutes.

9.5(4) *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) Any underground drain tile damaged, cut, or removed and found to not be flowing shall have the upstream exposed tile line screened or otherwise protected to prevent the entry of foreign material and small animals into the tile system. The downstream tile line entrance shall be capped or filtered to prevent entry of mud or foreign material into the line if 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 within 14 days after the pipeline is installed in the trench and prior to backfilling of the trench over the tile line. The county inspector shall inspect each permanent repair for compliance with this chapter. If proper notice is given, construction shall not be delayed due to a county inspector's failure to be present on site. 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 using a laser transit, or similar instrument or method, to ensure that the tile's proper 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.

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 site prior to backfilling.

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 county inspector shall inspect that backfill for compliance with this chapter. 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.

9.5(5) Removal of rocks and debris from the easement.

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 that may have rolled or blown from the right-of-way or fallen from vehicles.

b. Disposal. Rock that 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.

9.5(6) 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 that result in a maximum standard penetration test (SPT) reading of 300 psi pursuant to ASTM D1586-11 performed by a qualified person. Decomposition shall not occur in wet conditions. 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. Rutting shall be remedied before any topsoil that was removed is replaced.

9.5(7) 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 tiles 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. The county inspector shall inspect restoration of terraces, waterways, and other erosion control structures for compliance with this chapter. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

9.5(8) 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 9.5(9) "b" 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.

c. Weed control. On any easement, including, but not limited to, construction easements and easements relating to valve sites, metering stations, and compression stations, the pipeline company shall provide for weed control in a manner that prevents the spread of weeds onto adjacent lands used for agricultural purposes. Spraying shall be done by a pesticide applicator that is appropriately licensed for spraying of pesticide in Iowa. If the pipeline company fails to control weeds within 45 days after

receiving written notice from the landowner, the pipeline company shall be responsible for reimbursing all reasonable costs of weed control incurred by owners of adjacent land.

9.5(9) *Future installation of drain tile or soil conservation practices and structures.*

a. Future drain tile. The pipeline company shall consult with affected persons regarding plans for future drain tile installation. Where an affected person provides the pipeline company with written plans prepared by a qualified tile technician for future drain tile improvements before an easement is secured, the pipeline shall be installed at a depth which will allow proper clearance between the pipeline and the proposed future tile installation.

b. Future practices and structures. The pipeline company shall consult with any affected person's plans for future use or installation of soil conservation practices or structures. Where an affected person provides the pipeline company with a design for such practice or structure prepared by a qualified technician before an easement is secured, the pipeline shall be installed at a depth that will allow for future installation of the planned soil conservation practice or structure and that will retain the integrity of the pipeline.

9.5(10) *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 near 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 the pipeline company 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. The county inspector shall inspect restoration of land slope and contour for compliance with this chapter.

9.5(11) *Restoration of areas used for field entrances or 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 9.5(10) and deep tilled as required by subrule 9.5(6). 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. The county inspector shall inspect restoration of areas used for field entrances or temporary roads for compliance with this chapter.

9.5(12) *Construction in wet conditions.* The county inspector, in consultation with the pipeline company and the landowner or person in possession of the land pursuant to a lease, if present, shall determine when construction should not proceed in a given area due to wet conditions. The county inspector shall have the sole authority to determine whether construction should be halted due to 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 wet 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 9.5(2).

9.5(13) *Access to land.* Nothing in this rule shall prohibit a landowner or person in possession of the land pursuant to a lease from having access to the property. A landowner or person in possession of the land pursuant to a lease shall not disrupt ongoing construction and shall not compromise the safety considerations of the construction. A landowner or person in possession of the land pursuant to a lease shall abide by any and all safety instructions established by the pipeline company during construction.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.6(479,479B) Designation of a pipeline company point of contact for landowner inquiries or claims.

9.6(1) For each pipeline construction project subject to this chapter, the pipeline company shall designate a point of contact for inquiries or claims from affected persons. The designation shall include the name of an individual to contact and a toll-free telephone number, an email address, and an address through which that person can be reached. The pipeline company shall also provide the name of and contact information for the county inspector. This information shall be provided to all affected persons prior to commencement of construction. Any change in the point of contact shall be promptly communicated in writing to affected persons. A designated point of contact shall remain available for all affected persons for at least one year following project completion and for affected persons with unresolved damage claims until such time as those claims are settled.

9.6(2) If requested by an affected person, any notice required to be given to the county inspector shall also be given to the affected person.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.7(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 the pipeline company shall provide a copy to the county inspector and the board.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.8(479,479B) Notice of violation and halting construction.

9.8(1) Notice of violation. If the county inspector identifies a violation of the standards adopted in this chapter, Iowa Code section 479.29 or 479B.20, or a separate agreement between the pipeline company and the landowner, the county inspector shall give verbal notice, followed by written notice, to the pipeline company and the pipeline company's contractor and require the pipeline company to take corrective action.

9.8(2) Halting construction. A county inspector may temporarily halt construction at the location of the dispute if construction is not in compliance with the standards adopted in this chapter, the land restoration plan, or the terms of an independent agreement between the pipeline company and landowner regarding land restoration or line location until the county inspector consults with a supervisor of the pipeline company or contractor. If, after consultation with a supervisor of the pipeline company or contractor, agreement on corrective action to address the violation cannot be reached, the county inspector may submit a request to the county board of supervisors for resolution of the issue. Construction may not resume at the disputed location either (1) until the county inspector and supervisor of the pipeline company reach an agreement on a resolution or (2) where the board of supervisors has been contacted, until the board of supervisors has responded or after one business day after contact by the county inspector. If a resolution is not reached, construction may continue; however, the pipeline company will be responsible for any damages or for correcting any violation.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.9(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 before staking, clearing, boring, topsoil removal and stockpiling, trenching, tile marking, silt screening, tile repair or backfilling, decompaction, cleanup, restoration, or testing of any easement. The pipeline company shall pay the reasonable costs for any work provided during the pipeline construction by the county inspector. 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. The county board of supervisors may also file a complaint with the board seeking imposition of civil penalties.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

199—9.10(479,479B) Project completion. The county inspector for each county affected by the pipeline project shall recommend to the county board of supervisors that the pipeline project be considered complete upon completion of restoration of all affected agricultural lands and 70 percent growth is established in locations requiring seeding after receiving written notification by the pipeline company to the same effect. The county board of supervisors shall determine whether the project is completed.

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

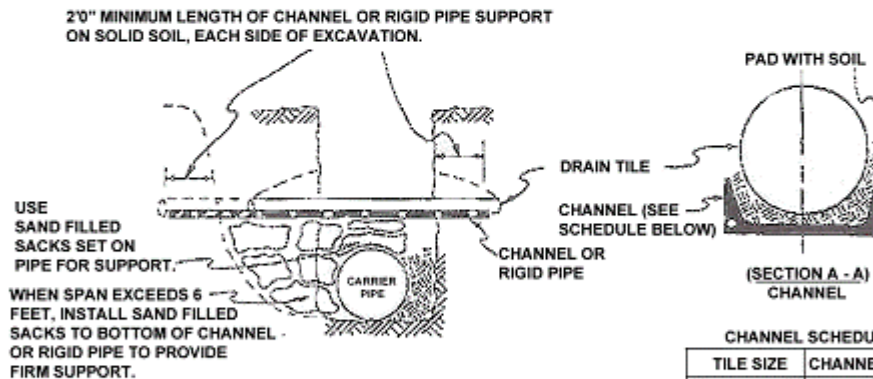
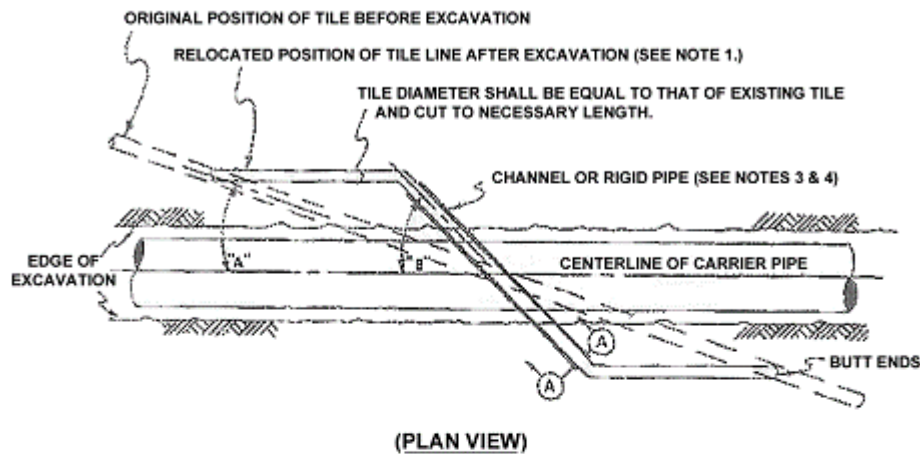
199—9.11(479,479B) Document submittal. Once a project is completed, project documents shall be submitted as follows:

9.11(1) Document turnover. The county inspector shall submit to the county board of supervisors and the pipeline company copies of inspection reports; tile reports and maps; punch lists; notice of violation documents; decompaction agreements; separate agreements, including those that excuse the pipeline company from certain construction responsibilities; and landowner agreements. The documents shall also be available for inspection by the board or an affected person upon request.

9.11(2) As-built drawings. The pipeline company shall provide the county inspector and affected landowners with copies of pipe alignment as-built drawings and underground drain tile as-built drawings, including the Global Positioning System location of drain tile.

Drawing No. IUB PL-1

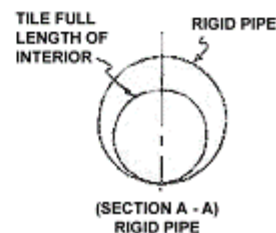
RESTORATION OF DRAIN TILE



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#

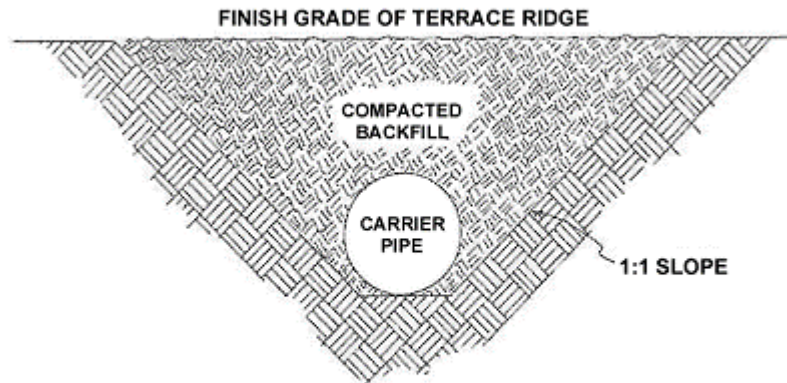
NOTES:

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

[ARC 5685C, IAB 6/16/21, effective 7/21/21]

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]

[Filed ARC 5685C (Notice ARC 5266C, IAB 11/4/20), IAB 6/16/21, effective 7/21/21]