

CHAPTER 9  
PROTECTION OF UNDERGROUND IMPROVEMENTS AND SOIL CONSERVATION  
STRUCTURES AND RESTORATION OF AGRICULTURAL LANDS  
AFTER PIPELINE CONSTRUCTION

[Prior to 10/8/86, Commerce Commission[250]]

**199—9.1(479) 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, 479A.14, and 479B.20, relating to land restoration standards for pipelines.

**9.1(2) Purpose.** The purpose of this chapter is to establish standards for the protection of underground improvements during construction of pipelines located outside the boundaries of a city, to protect soil conservation and drainage structures from being permanently damaged by such pipeline construction, and to provide for the restoration of agricultural lands after such pipeline construction.

**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. “*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.

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

e. “*Pipeline construction*” shall refer to scheduled new construction and shall not include normal maintenance or emergency construction.

f. “*Soil conservation practices*” means any land conservation practice recognized by the soil conservation service including grassed waterways, hay land planting, pasture and timber.

g. “*Soil conservation structures*” means any permanent structure recognized by the soil conservation service including toe walls, drop inlets, grade control works, terraces, levees, and farm ponds.

h. “*Topsoil*” means the uppermost part of the soil frequently designated as the plow layer, the Ap layer, or the Ap horizon, which is ordinarily moved in tillage, or its equivalent in uncultivated soils, and ranging in depth from 3 to 12 inches.

**199—9.2(479) Protection of underground improvements.**

**9.2(1) Existing drain tile.**

a. *Pipeline clearance from drain tile.* Where underground drain tile is encountered, the pipeline shall be installed in such a manner as to clear such tile line at its permanently repaired location.

b. *Temporary repair.* Any underground drain tile damaged, cut or removed shall be temporarily repaired and maintained as necessary to allow for its proper function during construction of the pipeline. If temporary repair is not determined to be necessary, the exposed tile line will nonetheless be screened or otherwise protected to prevent the entry of foreign material, small animals, etc., into the tile line system.

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 opposite such tile. This marker shall not be removed until the tile has been permanently repaired and such repairs have been approved and accepted.

d. *Permanent repairs.* Permanent repair and replacement of damaged drain tile shall be performed in accordance with the following requirements:

- (1) All broken or cracked tile shall be removed.
- (2) Only unobstructed tile shall be used for replacement.
- (3) Tile furnished for replacement purposes shall be of a quality and size 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 by Drawing No. ISUB PL-1.

- (5) Channels of rigid pipe shall be placed so as to adequately support and align the replacement structure in accordance with Drawing No. ISUB PL-1.

e. *Inspection.* Prior to backfilling of the applicable trench, permanent tile repairs shall be inspected for compliance by the county inspector.

f. *Backfilling.* The backfill surrounding the permanently repaired drain tile shall be completed at the time of the repair and in a manner that assures 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.

**9.2(2) Future drain tile.** At locations where the proposed installation of underground drain tile is made known in writing to the company prior to 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 board shall read this paragraph at informational meetings conducted pursuant to Iowa Code section 479.5.

### **199—9.3(479) Protection of soil conservation practices and structures.**

**9.3(1) Existing practices and structures.** Existing practices and structures damaged by the construction of a pipeline shall be restored to the line and grade existing at the time of pipeline construction unless otherwise agreed to by landowner and company.

a. Disturbed vegetation shall be reestablished.

b. Restoration of terraces shall be in accordance with Drawing No. ISUB PL-2.

c. Such restoration shall be inspected for compliance by the county inspector.

**9.3(2) 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 board shall read this paragraph at information meetings conducted pursuant to Iowa Code section 479.5.

**199—9.4(479) Restoration of agricultural lands.****9.4(1) Separation of topsoil.**

*a. Removal.* An existing topsoil layer extending at least 1 foot in width on either side of the pipeline excavation at a maximum depth of 12 inches shall be removed separately and shall be stockpiled and preserved separately during subsequent construction operations, unless other means for separating the topsoil are provided in the easement.

*b. Backfill.* The topsoil shall be replaced so the upper portion of the pipeline excavation and the crowned surface shall contain only the topsoil originally removed when required by 9.4(1)“a.”

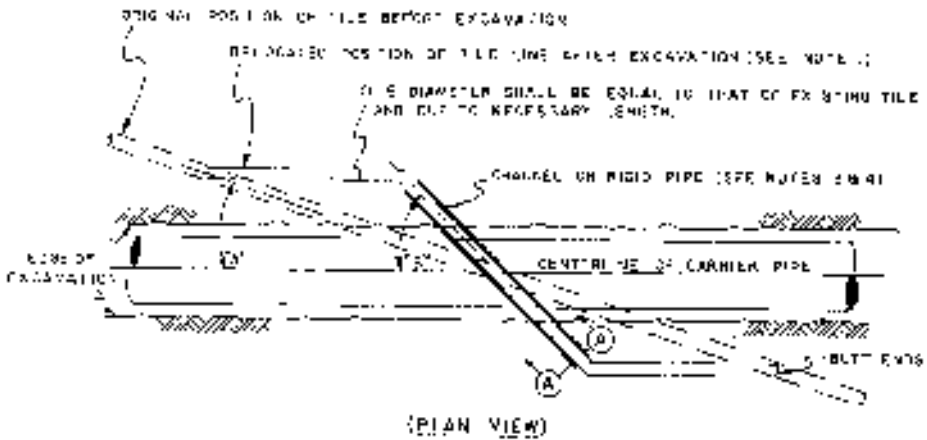
**9.4(2) Removal of rock.**

*a.* The topsoil, when backfilled, and the easement area shall be free of all rock and debris not native to the topsoil prior to excavation, unless otherwise provided for in the easement.

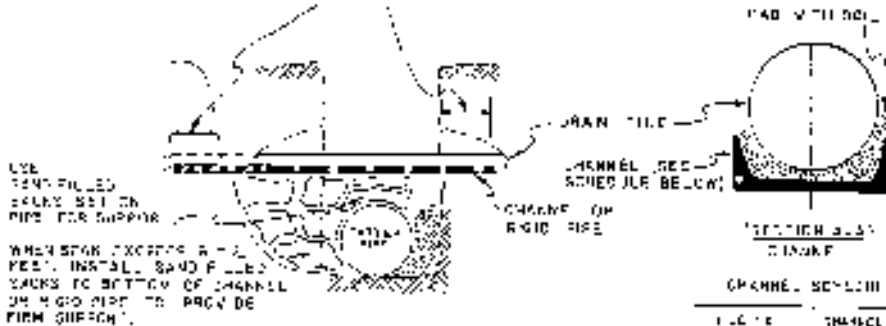
*b.* Rock which cannot remain in the backfill according to 9.4(2)“a” shall be disposed of at locations and in a manner mutually satisfactory to the company and the landowner or the landowner’s authorized agent.

**199—9.5(479,479A) Separate agreements.** This chapter does not preclude the application of provisions for protecting or restoring property different than those contained in this chapter which are contained in 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.

**RESTORATION OF DRAIN TILE**



1. MINIMUM LENGTH OF CHANNEL ON RIGID PIPE SUPPORTED ON SOLID SOIL, EACH SIDE OF EXCAVATION



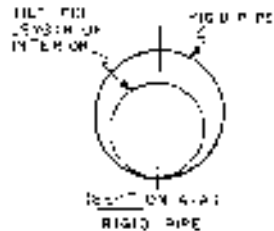
**(ELEVATION OF SUPPORT) - ELEVATION**

**CHANNEL SECTION**

LENGTH	CHANNEL SIZE
2'	4" x 4" x 1/2"
4'-3"	4" x 4" x 1/2"
6'-6"	4" x 4" x 1/2"
10'-0" MAXIMUM	10" x 10" x 1/2"

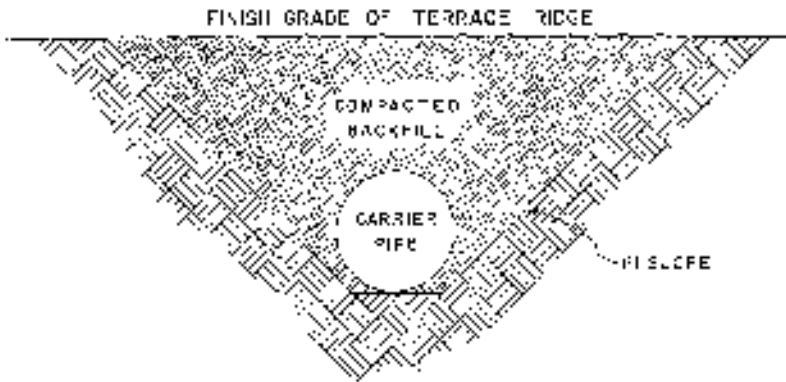
**NOTES**

1. TILE SHOULD BE RELOCATED AS SHOWN WHEN ANGLE 'A' BETWEEN ORIGINAL AND ORIGINAL TILE IS LESS THAN 90° UNLESS OTHERWISE AGREED TO BY LANDOWNER AND COMPANY
2. ANGLE 'B' SHALL BE 100° FOR EQUAL WIDTHS OF TRENCH. FOR EXTRA WIDTH 'B' 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 SUPPORT AS DRAIN TILE MAY BE USED IF THE ALTERNATE PROPOSER IS EQUIVALENT IN STRENGTH TO THE CHANNEL SECTIONS SHOWN AND IF APPROVED BY THE LANDOWNER.



**FIG 4-2-1**

RESTORATION OF TERRACE



NOTE

COMPACTION OF BACKFILL TO BE EQUIV TO 74% OF THE UNDISTURBED ADJACENT SOIL.

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These rules are intended to implement Iowa Code section 479.29, subsections 4 and 5, and section 546.7.

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