

**THE OHIO STATE UNIVERSITY**COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCESextension.osu.eduagmr.osu.edu

A Landowner's Guide to Understanding Recommended Pipeline Standards and Construction Specifications

*Shale Oil and Gas Development Fact Sheet Series***ANR-29**

Agriculture and Natural Resources

Date: 05/23/2016**Chris Zoller, Extension Educator, Agriculture and Natural Resources, Tuscarawas County**

With the drilling of gas wells comes the need to establish pipelines to move the gas from the point of drilling to the end users. Landowners across Ohio are being asked to sign agreements allowing companies to purchase acreage for pipeline construction. This fact sheet will provide landowners with an overview of items to consider regarding standards and construction specifications related to pipelines.

This fact sheet is intended for educational purposes only. We strongly encourage landowners who may be considering negotiating a pipeline easement to consult with an attorney familiar with such negotiations.

What is a Pipeline Right-of-Way?

A pipeline right-of-way is a piece of land, granted to a pipeline company, on top of and on either side of a natural gas pipeline. Also referred to as an easement, it provides certain interests and restrictions to the land that allows the pipeline company to install and maintain the pipeline. The right-of-way is established through an easement, or purchase of property, and results in the landowner giving up ownership of the affected area. Along with the right-of-way sale come certain restrictions on the use of the land.

Who Approves Pipelines?

The Federal Energy Regulatory Commission (FERC) approves the location, construction and operation of pipelines, facilities and storage areas involved in moving gas across state lines.

The Public Utilities Commission of Ohio (PUCO) has regulatory authority over pipelines within Ohio and the Ohio Power Siting Board has authorization to issue certificates for the construction, operation and maintenance of utility facilities.

Pipeline Standards and Construction Specifications

The Ohio Department of Agriculture's Division of Soil and Water Conservation has developed a model pipeline standard and specification document that offers guidelines or "best practices" for addressing the potential adverse effects of pipeline construction on soil and water resources. Ohio developed these recommended standards when a 42-inch natural gas pipeline, known as the Rex Express Pipeline-East Project, was constructed throughout southern and eastern Ohio. The standards were updated in 2013.

Landowners who are considering the placement of a pipeline across their land should require the pipeline construction company to follow these standards and specifications. Including such a requirement in the pipeline easement should minimize a landowner's soil and water impacts. The pipeline standard

and construction specifications document is available from the local Soil and Water Conservation District office or online at agri.ohio.gov under Soil and Water Conservation.

Planning Phase

The planning phase consists of developing plans and maps of the construction area, sensitive agricultural soils and special features.

Construction Plans and Maps:

Landowners should require the company to provide them with general construction plan maps that include the following information:

- Pasture or grazing areas, unimproved grazing areas, permanent open pasture, improved pasture and fence lines.
- Cropland areas including hayland, rotational cropland, long-term cropland and agricultural land enrolled in the Conservation Reserve Program or other set-aside programs through the Farm Service Agency.
- Unique Agricultural Lands, including specialty crops, orchards, vineyards, maple sugar bushes, organic mucklands and permanent irrigation systems.

Sensitive Agricultural Soils:

These are lands defined as cropland, hayland or pasture that are more prone to disturbance during construction than other soils. Reasons for this include slope, wetness and/or shallowness to depth of bedrock. These soils should be identified on the map and managed accordingly.

Special Features:

Landowners should require that the company to note the following information on the construction maps and plans:

- Subsurface drainage areas that can be identified, open ditches, diversions, terraces, buried utility lines, water sources and unnamed water flows.
- Depth of cover if it differs from the Construction Specifications.
- Any off right-of-way roads, work or storage areas that must be accessed. Other areas identified during construction should be considered and filed as a change in the construction plans.
- Planned location of any compressor or valve stations, metering or regulating stations, and any other proposed facilities.
- General location of trench breaks with notation of distance between breaks based on percent of slope.
- Locations for subsurface drains to control soil saturation or aid trench breakers in minimizing water piping.

Point of Contact During Construction:

Prior to construction the landowner should request that the company provide the name, address and telephone number of the representative assigned to the project during construction and operation. Landowners should also request that the company respond promptly to any concerns the landowner has during construction and operation.

Construction Specifications

A. Ingress and Egress Routes

Prior to construction the landowner and the company should reach a mutual agreement regarding routes that will be used for entering and exiting the right-of-way. This is a critical component of the agreement because, without such agreement, the company may access the right-of-way from any direction and may cause damage to fields, crops, timber, etc.

B. Temporary Roads

The location of any temporary roads should be agreed upon and in writing prior to construction. Whenever possible, existing roads should be used. Any temporary roads should be constructed such that they do not impede drainage and minimize soil erosion. If temporary roads are to remain in place following construction, this should be agreed upon in writing and the plan should outline who is responsible for maintaining the road. It is in the best interest of the landowner to require the company be responsible for all maintenance. Should temporary roads be removed, it should be agreed that the property will return to the original landowner and in a condition equivalent to that which existed prior to construction.

C. Cleaning of Brush and Trees on the Right-of-Way

All parties should agree in writing on any conditions regarding the removal of trees, brush and stumps of no value to the landowner. This may include, where allowed by law, burning, burial, chipping or complete removal.

In areas where livestock are grazing and black cherry exists on the right-of-way, the company should be required to not allow any black cherry trees to wilt or be stockpiled. Black cherry, in its wilted state, is toxic to livestock.

D. Topsoil Removal and Protection

On agricultural lands, topsoil should be removed prior to any other activity. On all other acres the topsoil should be removed after clearing, grubbing and prior to other construction activities. Topsoil shall be removed from the full width of the right-of-way and stockpiled along either edge of the right-of-way. It is suggested that topsoil be separated from other extracted materials and construction activity. In order to best protect topsoil, the double ditching method of soil removal for pipeline construction is recommended. All topsoil should be removed, stockpiled and returned after construction to restore the original soil profile.

E. Depth of Cover

Except for above-ground piping facilities, it is suggested that pipelines be buried as follows:

On lands where there are existing subsurface drain systems or where drain tile is required to provide sufficient drainage, and bedrock is shallower than 96 inches, a minimum of 60 inches of cover is recommended. A minimum of 60 inches of cover should be maintained over the pipeline in those locations where it crosses surface drains, diversions, grassed waterways, open ditches and streams.

On lands without drain tile and where the County Soil Survey (available through the local Soil and Water Conservation District office) indicates good drainage, a minimum of 48 inches of cover over the pipeline is recommended.

On non-agricultural land, unimproved pasture and permanent pasture, there should be a minimum of 36 inches of cover over the pipeline.

F. Rock Removal

The agreement should include language not allowing for the backfill of materials containing rocks of any greater concentration or size than those that existed prior to construction.

G. Repair of Damaged and Adversely Affected Tile Lines

It is suggested that all repairs and/or replacement of tile lines be completed prior to the application of topsoil.

If underground tile is damaged as a result of installation of the pipeline, it should be repaired in a manner that ensures proper function of the tile at the point of repair. If necessary, the company shall take appropriate actions to replace or reconfigure the tile lines. Below are recommendations regarding drain tile repair:

It should be the responsibility of the company to locate all drain tiles within the right-of-way prior to installation. All identified tile lines should be marked with a 4-foot lathe to alert construction crews.

If tile lines are damaged, cut or removed during construction they should be marked with a 4-foot lathe in the trench soil bank directly opposite each drain tile line.

All repairs should be made with materials of the same or better quality of those damaged.

In cases where the tile lines are severed by the pipeline trench, it is recommended that steel channel iron, steel angle iron, full round slotted steel pipe, half-round slotted steel pipe or schedule 80 PVC pipe with 1/8 inch diameter holes be used to support the drain tile across the trench.

All pipeline repairs should be completed within 30 days following completion of the pipeline installation. Following construction, the company should address all drain tile repairs on the permanent and construction right-of-way that are required because of the pipeline construction activity. Drain tiles should not be placed below the pipeline.

Landowners should hold the company responsible for installation of additional drain tile that is necessary to properly drain wet areas on the permanent and temporary easement.

All soil conservation practices installed as a result of construction should be restored to their original condition.

H. Control of Trench Washouts, Water Piping and Blowouts

The landowner should require that trench breakers be installed for the purposes of preventing trench washouts during construction and abating water piping and blowouts subsequent to trench backfill.

I. Pumping of Water from Open Ditches

It is recommended that no backfilling occur in water-filled trenches and that all water be removed prior to backfilling. Should it become necessary to pump water from open ditches, it should be pumped in a manner that does not cause damage to adjacent lands, crops and/or pasture.

J. Subsoil Decompression, Soil Shattering and Stone Removal

The process of construction and installation of a pipeline requires the use of heavy equipment which has the potential to cause soil compaction. If not properly addressed, this compaction can lead to long-term negative effects on crop growth and yields. To remedy this potentially negative result, the subsoil should be ripped to a depth of not less than 16 inches using an appropriate tool.

The cost of fertilizer or other necessary soil amendments for the affected property should be included as damages the company should pay the landowner, who should be permitted to apply the materials as needed according to soil sampling and types of crops grown.

Landowners may consider providing a stated time in which subsoil decompression and soil replacement may not occur. For instance, November 1 to April 1 may be a time when unsuitable weather conditions may not allow for continuing restoration of the land.

K. Backfill Profile and Trench Crowning

On lands where materials excavated during trenching are insufficient in quantity to meet backfill requirements, it is suggested that the soil of adjacent agricultural land not be used as backfill or cover material.

Landowners should insist that absolutely no topsoil materials be used for pipe padding or trench backfill.

In all agricultural lands, ripped or blasted bedrock or extracted stone or rock may be used for trench backfill material, but no closer than 24 inches from the exposed construction surface of the right-of-way. Any rocks not used as backfill should be removed according to a mutually agreed upon plan. The stockpiled topsoil should be applied over the affected right-of-way after rock clean-up is completed. When backfilling the trench, the company should crown the subsoil materials over the trench to allow for settling. In those areas where the trench does settle after topsoil is applied, imported topsoil, not that from adjacent lands, should be spread to fill those areas that settle.

L. Land Leveling

After the completion of the pipeline, the company should restore the right-of-way to its original pre-construction elevation and contour. Leveling should be employed to counteract any uneven settling or surface drainage problems resulting from construction activity on the easement.

M. Weed Control

Areas of the right-of-way which may be traversed by company officials, or may contain pipeline structures, should be maintained to discourage the spread of weeds to adjacent lands being utilized for agricultural purposes. Pesticides should be applied by a certified applicator.

N. Damages to Private Property

In the event of any damages that result from actions performed by the pipeline company during construction, maintenance, or operation of the pipeline, the landowner should be compensated accordingly.

Summary

Construction of a pipeline can impact a farm's soil and water resources, but following the recommended standards and construction specifications will minimize such impacts. We encourage landowners to rely upon these "best practices" when negotiating with a pipeline company and to seek the advice of an attorney who can ensure that the pipeline easement agreement includes the standards and construction specifications.

References

- The Ohio Department of Natural Resources. "Pipeline Standard and Construction Specifications." Accessed February 22, 2013, ohiodnr.com/portals/12/CE/Pipeline/Ohio_Pipeline_Const_Standards.pdf
- Illinois Department of Agriculture. "Pipeline Construction Standards and Policies." Accessed February 22, 2013, agr.state.il.us/Environment/LandWater/pipelinestandards&policies.pdf

Funding for research provided in part by North Central Risk Management Education Center.

Ohioline

<https://ohioline.osu.edu>

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit cfaesdiversity.osu.edu. For an accessible format of this publication, visit cfaes.osu.edu/accessibility.

Copyright © 2016, The Ohio State University