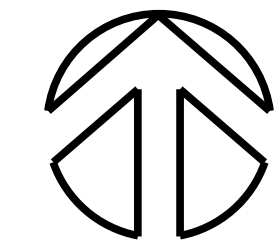


KOENIG DITCH COVER SHEET



Plans prepared by:

T. J. Place

TJ Place
Drainage Technician

Plans approved by:

Andrew Baumer
Professional Engineer
Professional Surveyor
Auglaize County Engineer

Auglaize County Engineer
P.O. Box 59 1014 S. Blackhoof Street
Wapakoneta, Ohio 45895
(419) 739-6520

Plans authorized by:

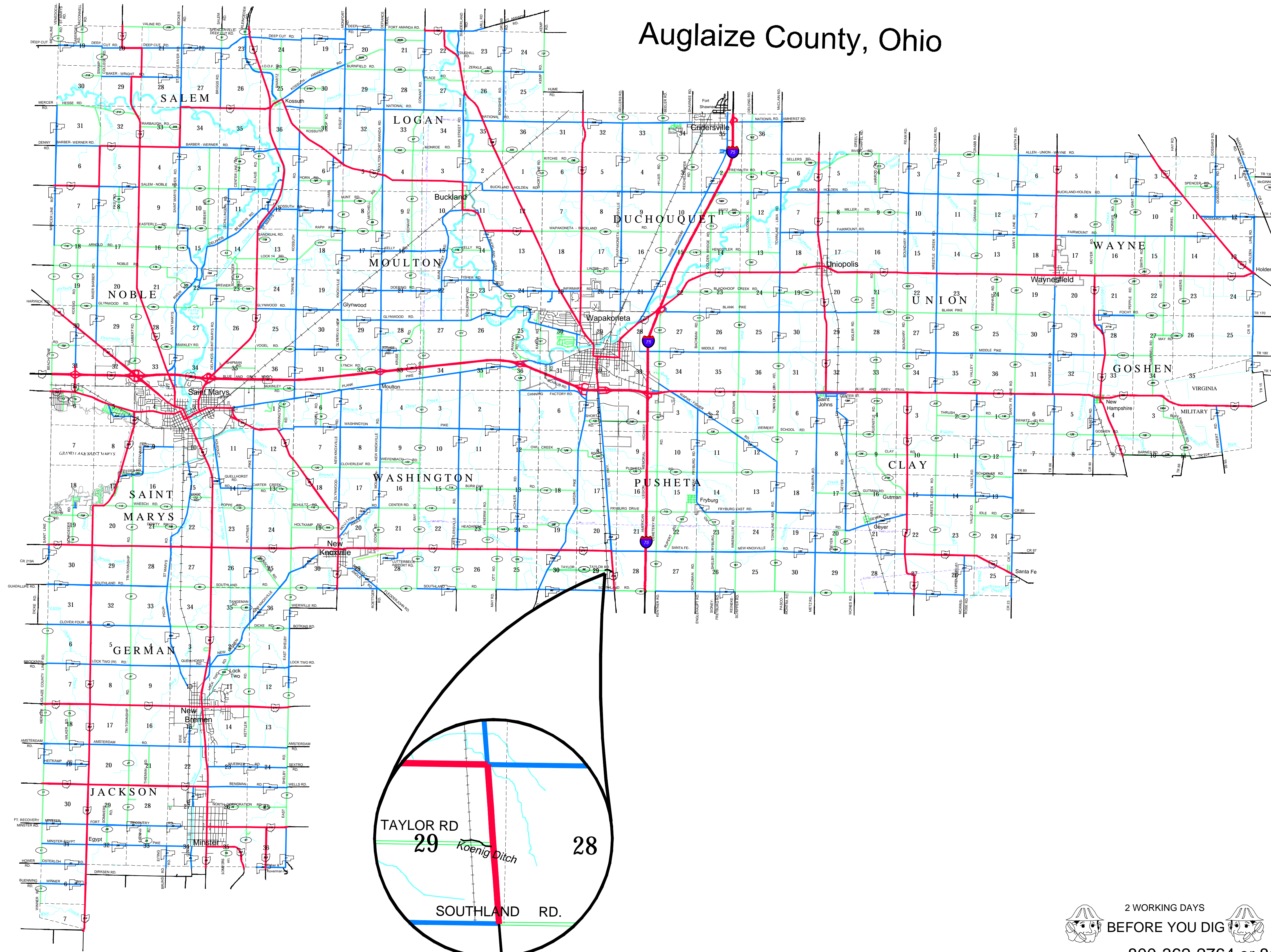
Commissioner

Commissioner

Commissioner

Index of Sheets

- (1) COVER SHEET
- (2) WATERSHED MAP
- (3) PLAN AND PROFILE
- (4) CSXT PLAN VIEW DETAIL
- (5) CSXT PROFILE VIEW & DETAIL
- (6) DESIGN INFORMATION
- (7) DETAILS
- (8) TILE SPECIFICATIONS



Auglaize County, Ohio

SITE

Date	Designed	Drawn	Checked	Revised
4-2023	<i>T. J. Place</i>			
3-2023	<i>T. J. Place</i>			

COVER SHEET KOENIG DITCH pUSHETA Township Section 29

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520

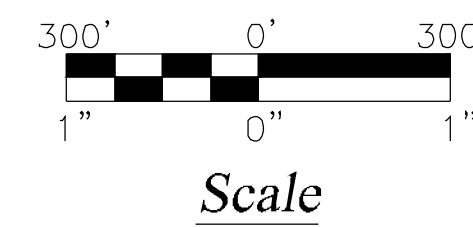
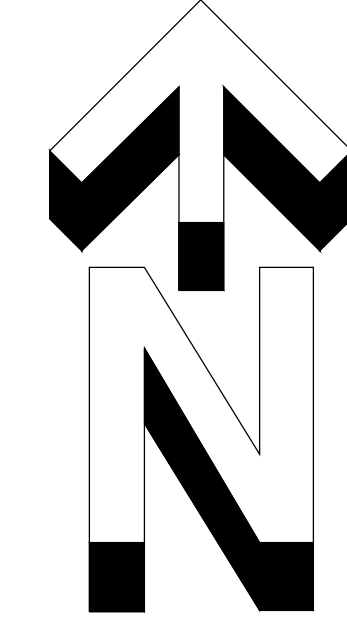
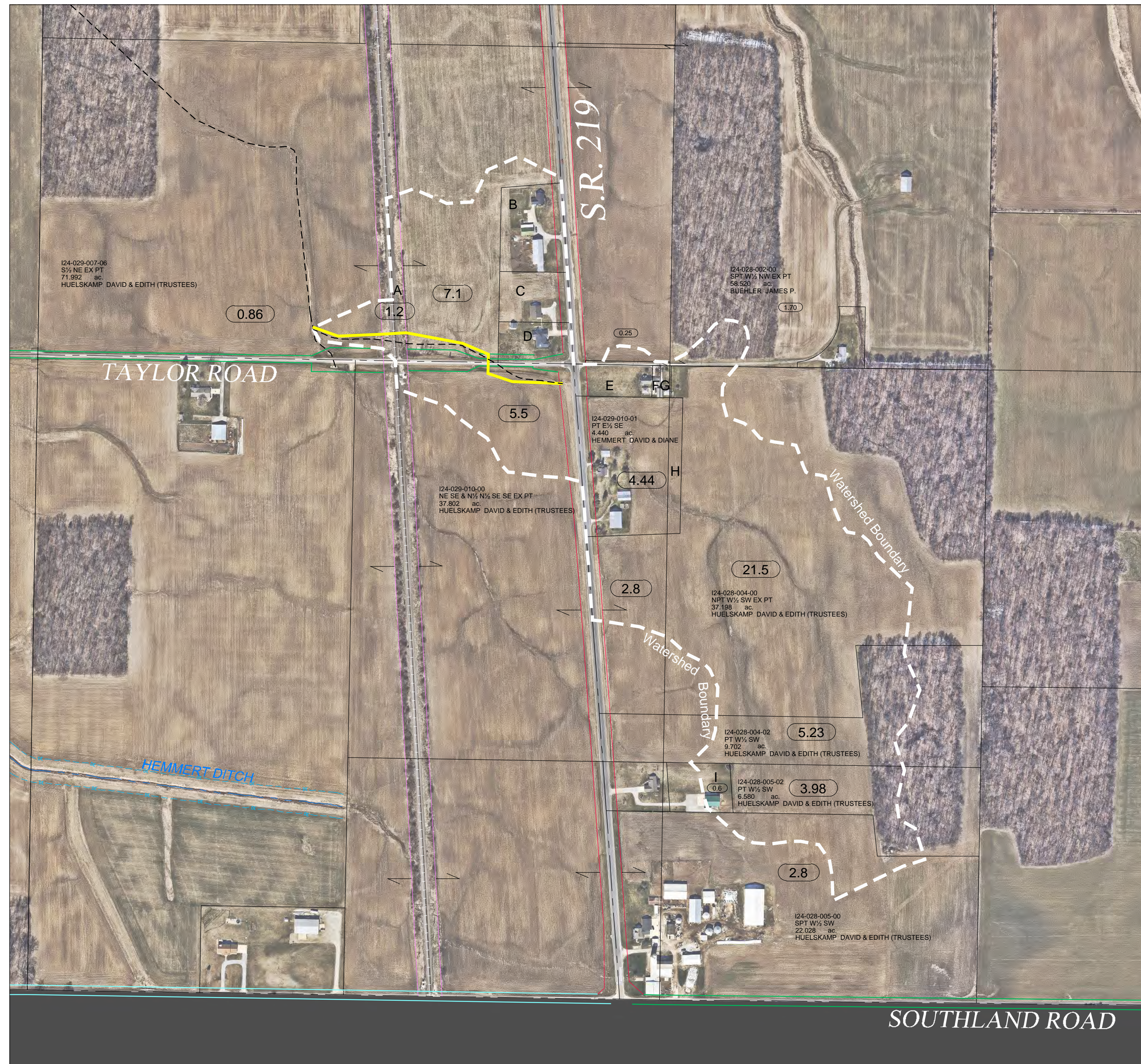
**AUGLAIZE COUNTY
ENGINEER**

2 WORKING DAYS
BEFORE YOU DIG

CALL TOLL FREE 800-362-2764 or 811
OHIO UTILITIES PROTECTION SERVICE

Sheet Number **1**
8

WATERSHED and LOCATION MAP



SMALL LOT INDEX

A 024-029-001-01 Right of Way CSX TRANSPORTATION	F 024-029-008-00 PT NE SE 0.100 ac YOUNG BECCA A.
B 024-029-007-00 PT S½ NE 2.210 ac HUELSKAMP MATTHEW J.	G 024-029-003-00 PT NE SE (SEC 29) 0.139 ac YOUNG BECCA A.
C 024-029-007-04 PT S½ NE 1.405 ac MACK ROGER & PATRICIA	H 024-029-004-01 PT NP W½ SW 0.639 ac HEMMERT DAVID & DIANE
D 024-029-007-02 PT S½ NE 1.216 ac MACK ROGER & PATRICIA	I 024-029-005-01 PT SPT W½ SW 1.248 ac HUELSKAMP JOSEPH & NICOLE
E 024-029-009-00 PT NE SE 1.050 ac YOUNG BECCA A.	

Legend

- TOWNSHIP R/W
- COUNTY R/W
- STATE R/W
- CENTERLINE ROAD
- PROPERTY LINE
- SECTION LINE
- RIGHT OF WAY LINE
- RAILROAD
- PROPOSED DRAIN
- EXISTING DRAIN
- SUB MAINS
- OPEN DITCH
- WATERSHED BOUNDARY
- SUB-WATERSHED
- DRAINAGE EASEMENT
- PIPELINE
- WATERSHED ACRES
- BENCH MARK
- SECTION NUMBER

Note

Auglaize County will not be held liable for any damage that may occur to field tile.

Note

All OSHA regulations will be observed during construction and will be the responsibility of the contractor to supervise his crew and conform to these regulations.

A pre-construction meeting must be held between the contractor and Auglaize County Engineers office. The Engineers office must be informed at least 24 Hrs. prior to any construction to schedule layout and inspection of work.

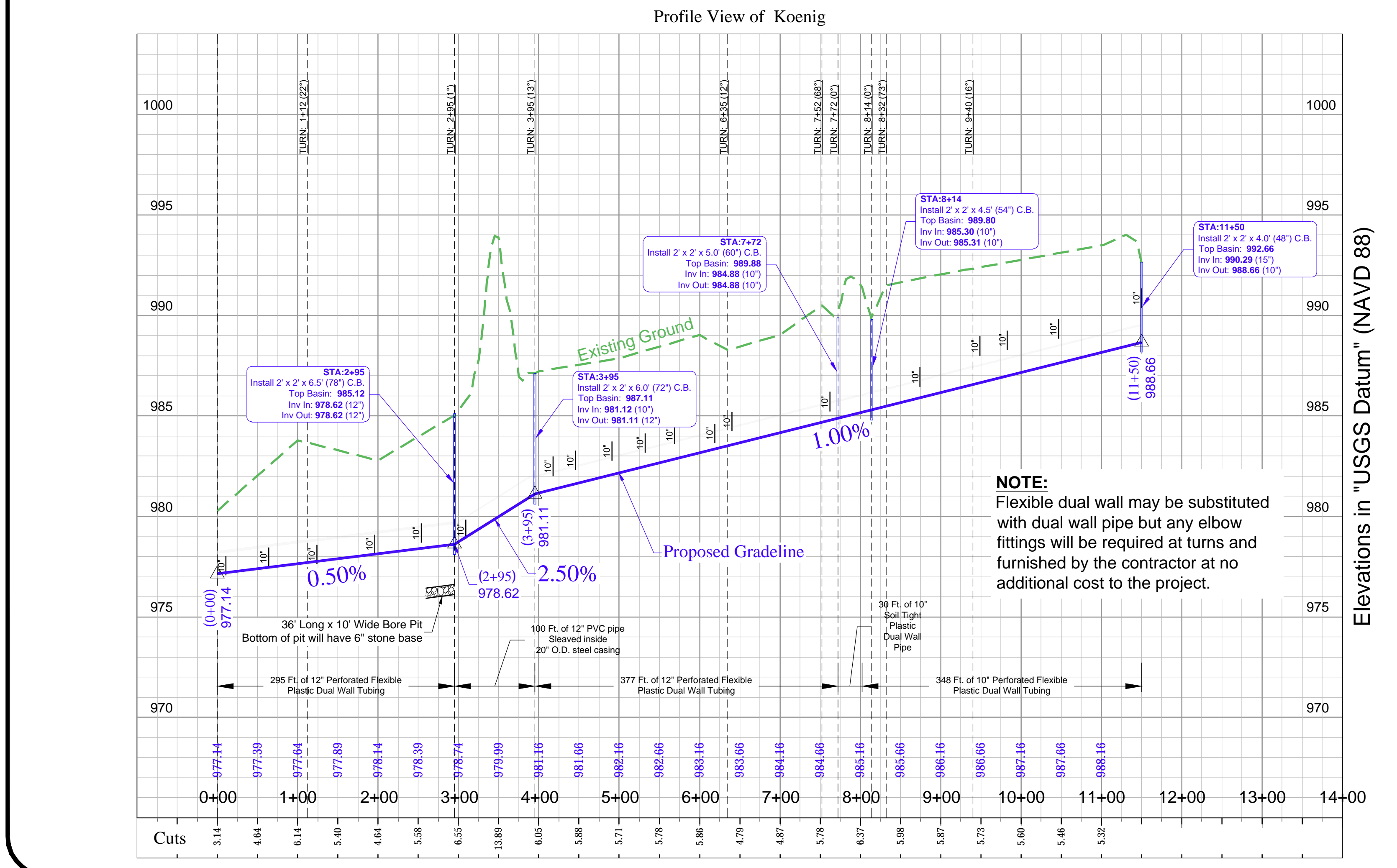
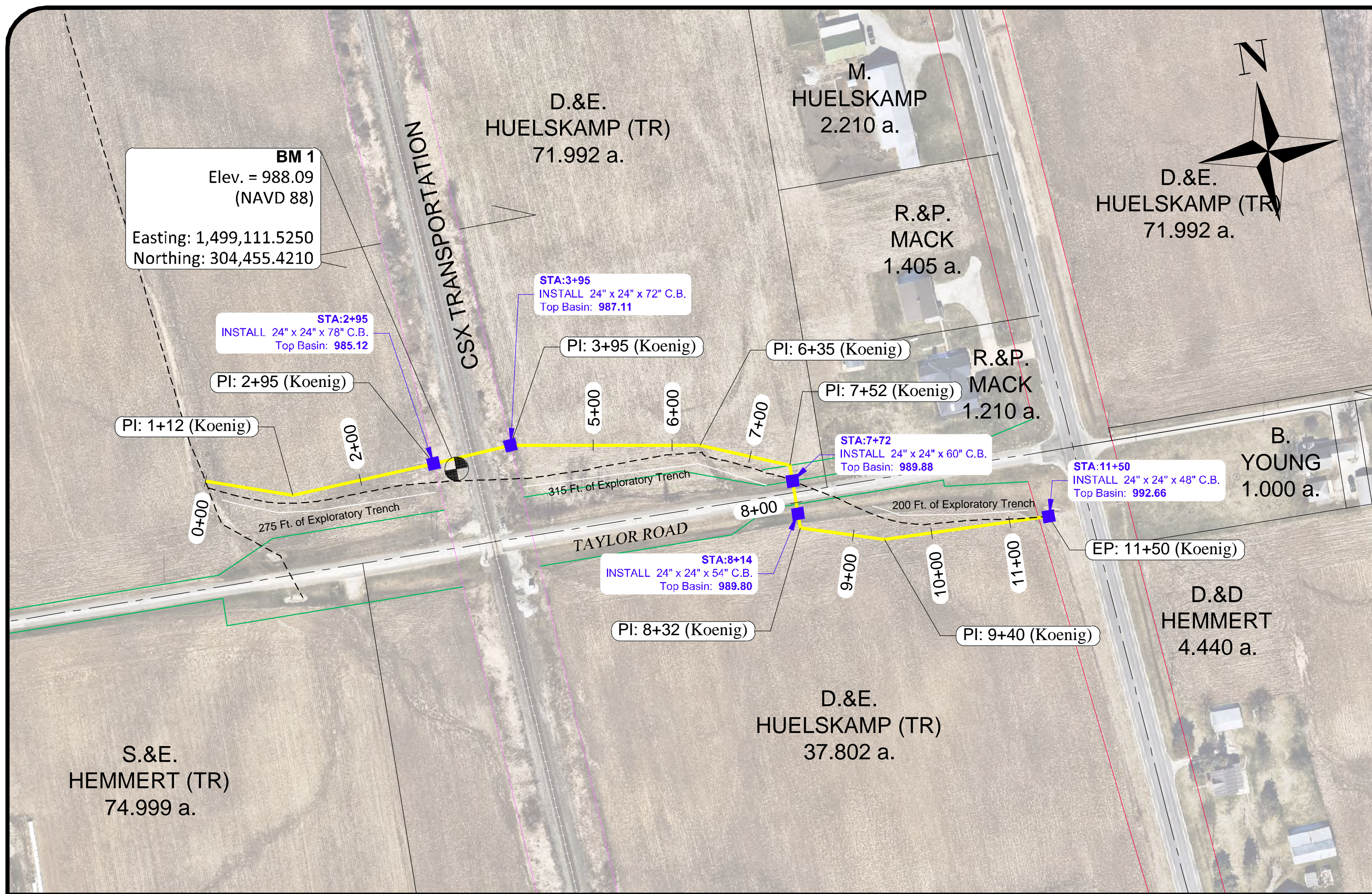
Date	4-2023
Designed	T.S. Place
Drawn	T.S. Place
Checked	
Revised	

WATERSHED KOENIG DITCH

Pusheta Township Section 29

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520

AUGLAIZE COUNTY
ENGINEER



Legend

- PROPOSED MAIN ——
- PROPOSED Br1 ——
- EXISTING DRAIN - - - -
- SUB MAINS - - - -
- PROPOSED CATCH BASIN ■
- PROPOSED RISER ●

Note:

The contractor will be responsible for coordinating with CSXT to obtain a permit to perform the bore within the CSXT property. The Auglaize County Engineers office can provide any drawings required by CSXT.

CSXT permit can be completed using the CSXT property portal at:

https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces

BENCH MARK DESCRIPTION

BM #1
Painted orange spot on the top of 48" steel culvert pipe under CSX railroad. Located approximately 100 feet North of Taylor Road and approximately 765 feet west of county road 25A.

USGS Elevation = 988.09 (NAVD 88 Datum)

See Sheet 4 for CSXT Pipe Bore Plan View

See Sheet 5 for CSXT Pipe Bore Profile View

BORING SPECIFICATIONS

This method consists of pushing the pipe into the earth with a boring auger rotating within the pipe to remove the spoil.

The boring operation shall be progressed on a 24-hour basis without stoppage (except for adding lengths of pipe) until the leading edge of the pipe has reached the receiving pit.

The front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that no unsupported excavation is ahead of the pipe.

The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered.

The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than 1/2 inch. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe (plus coating) by more than approximately 1 inch grouting (see the Construction Requirements-Grouting Section) or other methods approved by CSXT, shall be employed to fill such voids.

The face of the cutting head shall be arranged to provide a reasonable obstruction to the free flow of soft or poor material

ABANDONED TILE SPECIFICATIONS

The abandoned tile will be grouted using a uniform mixture of 1:6 (cement: sand) cement grout shall be placed under pressure through the grout holes to fill any voids, which exist between the pipe or liner plate and the undisturbed earth.

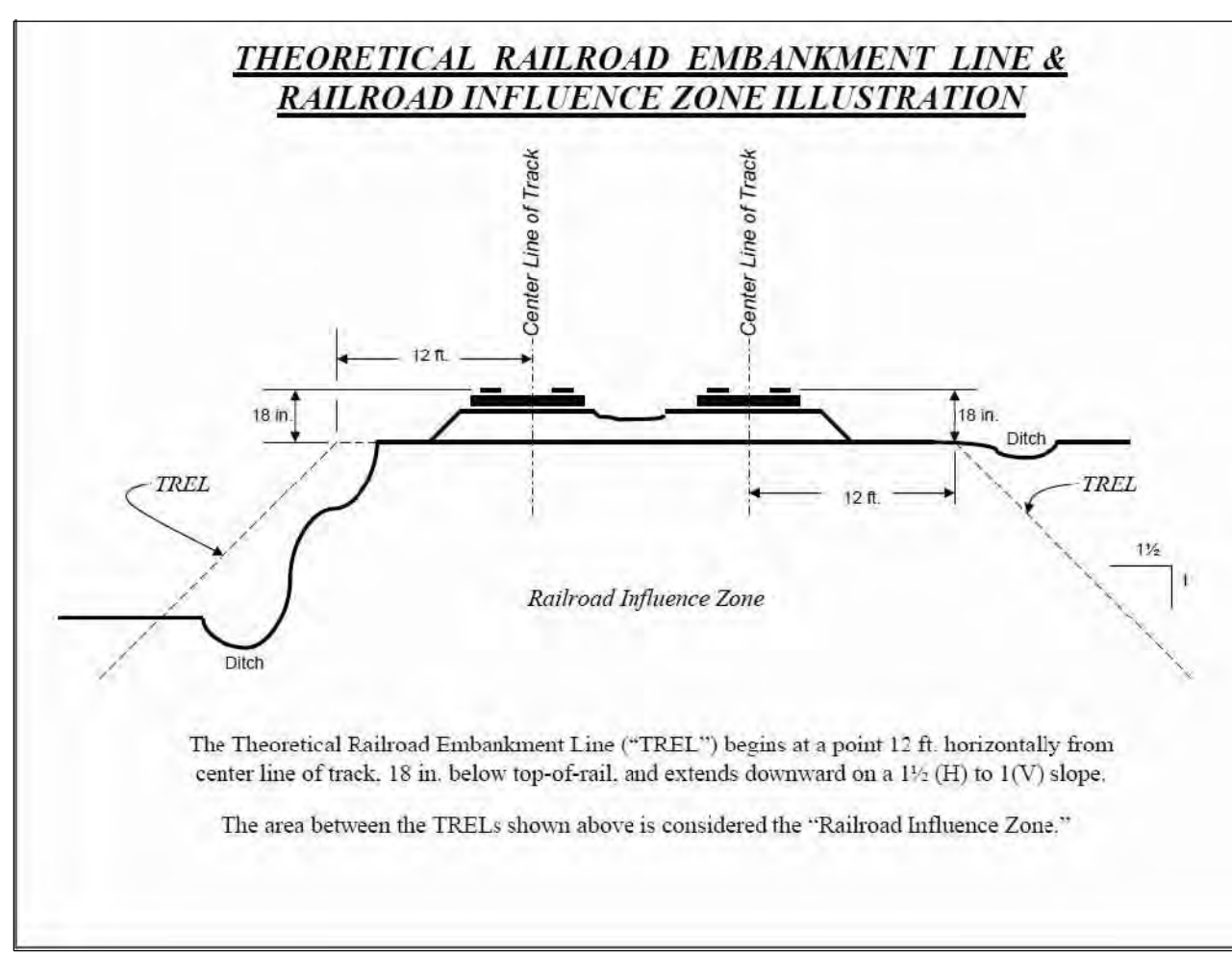
Grouting shall start at the lowest hole in each grout panel and proceed upwards simultaneously on both sides of the pipe.

A threaded plug shall be installed in each grout hole as the grouting is completed at that hole.

SAFETY REQUIREMENTS

All operations shall be conducted so as not to interfere with, interrupt, or endanger the operation of trains nor damage, destroy, or endanger the integrity of railroad facilities. All work on or near CSXT property shall be conducted in accordance with CSXT safety rules and regulations. Specifically all licensee's employees and agents, while on CSXT property, shall be required to wear an orange hard hat, safety glasses with side shields, 6" lace up boots with a distinct heel, shirts with sleeves, and long pants; additional personal protective equipment may be required for certain operations including abrasive cutting, use of torches, use of chainsaws, etc. The contractor and its employees shall comply with the CSXT safety rules at all times while occupying CSXT's property.

Crossing of tracks a grade by equipment and personnel is prohibited except by prior arrangement with and as directed by , CSXT.



Date	4-2023
Designed	I.S. Place
Drawn	I.S. Place
Checked	
Revised	

PLAN & PROFILE
KOENIG DITCH
Pusheta Township Section 29

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520

AUGLAIZE COUNTY
ENGINEER

CSXT Bore PLAN VIEW Detail



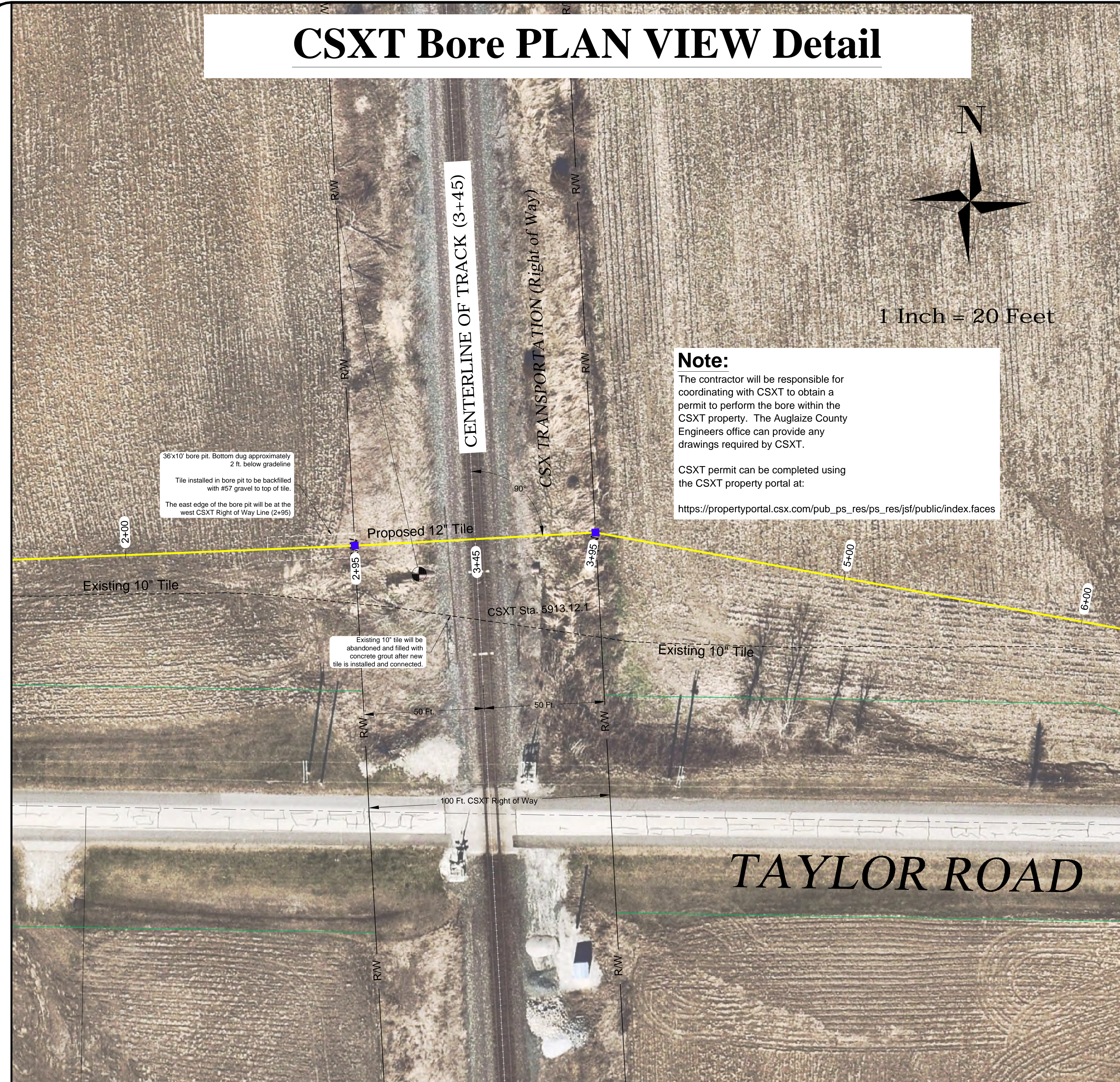
1 Inch = 20 Feet

Note:
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36"x10" bore pit. Bottom dug approximately 2 ft. below gradeline
 Tile installed in bore pit to be backfilled with #57 gravel to top of tile.
 The east edge of the bore pit will be at the west CSXT Right of Way Line (2+95)

Existing 10" tile will be abandoned and filled with concrete grout after new tile is installed and connected.



BORING SPECIFICATIONS

This method consists of pushing the pipe into the earth with a boring auger rotating within the pipe to remove the spoil.

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Crossing of tracks a grade by equipment and personnel is prohibited except by prior arrangement with and as directed by , CSXT.

Located in Section 29, Pusheta Twp.
 Auglaize County, Ohio

CSXT station 5913+12.1

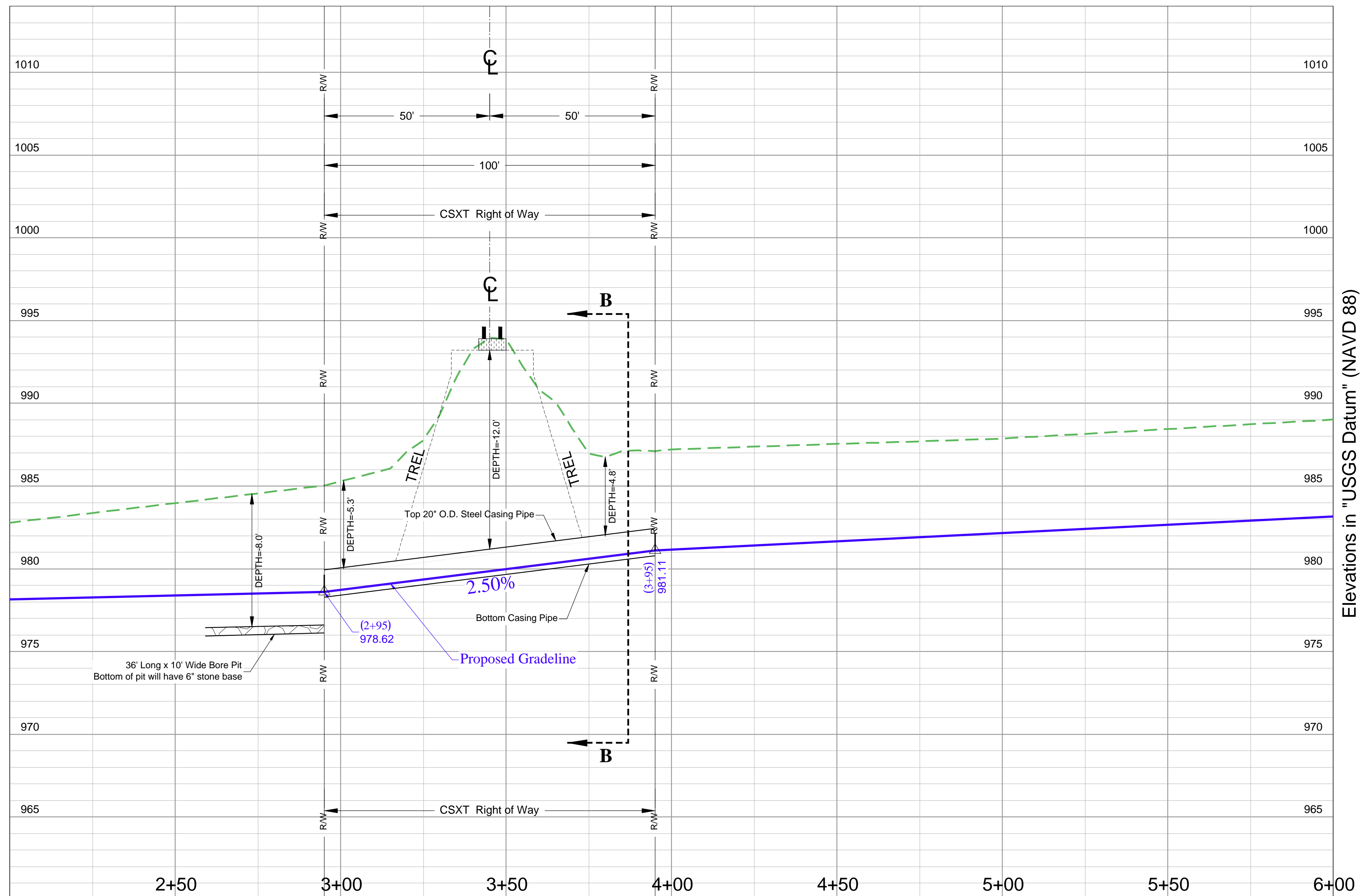
Approximately 2,540' South of St. Rt. 219

Approximately 115' North of Taylor Rd.

AUGLAIZE COUNTY ENGINEER ANDREW BAUMER, P.E. P.S. PO BOX 59 WAPAKONETA, OHIO 45895 (419)-739-6520	PROJECT: KOENIG DITCH PETITION PROJECT
	DRAWN BY: TJP DATE: 02/14/2023 CHECKED BY: DATE:

Location: Wapakoneta, Ohio Latitude: N40° 29' 23.68" Longitude: W84° 11' 15.26" Drawing No: Plan View Drawing Date: 02/14/2023 Drawing Scale: 1 Inch = 20 Feet	Sheet Number <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">8</td> </tr> </table>	4	8
4			
8			

Profile View of Rail Road Bore

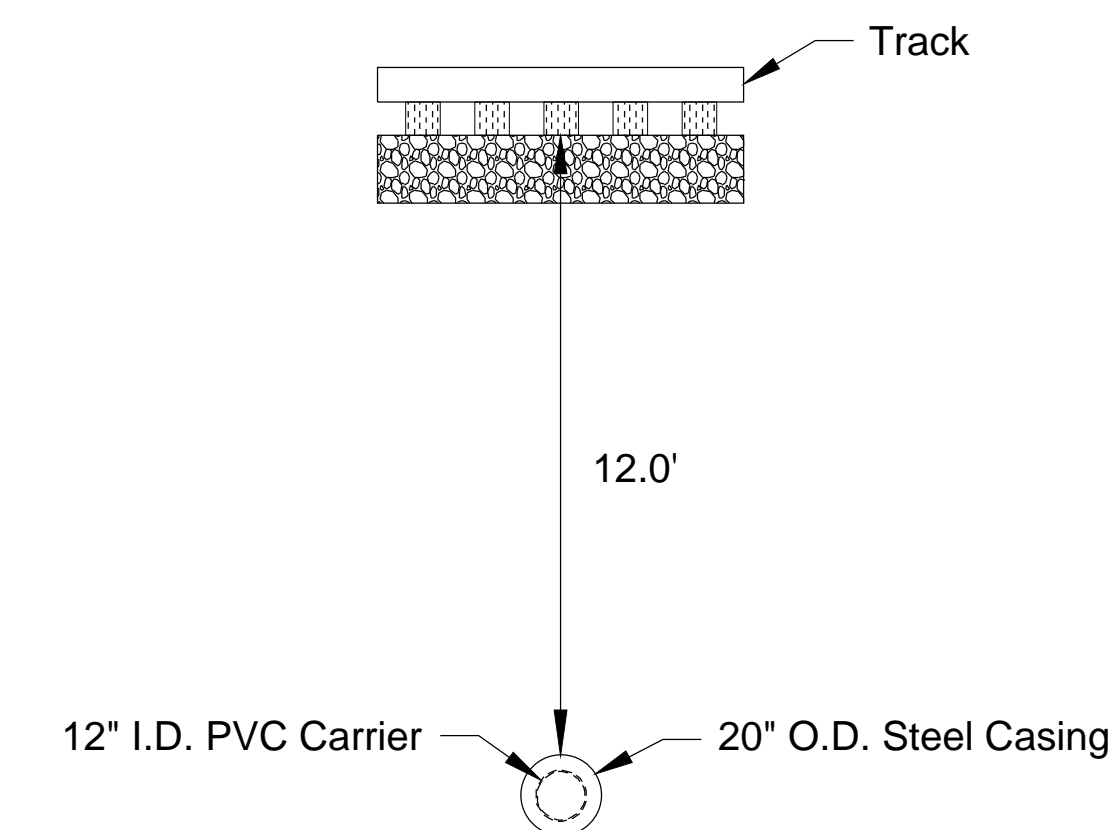


Note:

The contractor will be responsible for coordinating with CSXT to obtain a permit to perform the bore within the CSXT property. The Auglaize County Engineers office can provide any drawings required by CSXT.

CSXT permit can be completed using the CSXT property portal at:

https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces



**Cross Section View
B-B**

CSXT Pipeline Spec. Reference		Commodity Description:	Storm Water
		Maximum Operating Pressure:	0 psi
		Is Commodity Flammable:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
CARRIER/CASING PIPE DETAILS			
		CARRIER PIPE	CASING PIPE
3.5.2, 3.4.2	Pipe Material:	ASTM D3034 SDR 35	Steel
3.5.2, 3.4.2	Material Specification & Grade:	ASTM D1784, Grade B	CAASTM A139B, Grade B
3.5.2, 3.4.2	Specified Minimum Yield Strength:	33,000 psi	35,000 psi
3.5.2, 3.4.2	Nominal Size Outside Diameter (Inches):	Bell is 14.1"	20"
3.5.2, 3.4.2	Wall Thickness (Inches):	0.380"	.375"
3.5.2, 3.4.2	Type of Seam:	None	Welded
3.5.2, 3.4.2	Type of Joints:	Glued Bell & Spigot	Welded
3.4.2	Tunnel Liner Plates Required:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3.4.2	Cathodic Protection:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Type: N/A	
3.4.2	Protective Coating:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Type: N/A	
	Temp. Track Support of Rip-rap Req.:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

NOTES:

The front of the casing pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that no unsupported excavation is ahead of the pipe.

AUGLAIZE COUNTY ENGINEER	PROJECT: KOENIG DITCH
ANDREW BAUMER, P.E., P.S. PO BOX 59 WAPAKONETA, OHIO 45895 (419)-739-6520	PETITION PROJECT
DRAWN BY: TJP	DATE: 02/14/2023
CHECKED BY:	DATE:
Location: Wapakoneta, Ohio	
Latitude: N40° 29' 23.68"	
Longitude: W84° 11' 15.26"	
Drawing No: Profile View	
Drawing Date: 02/14/2023	
Drawing Scale: 1 Inch = 20 Feet	

KOENIG DITCH DESIGN INFORMATION

Date
4-2023
3-2023

Designed
I. S. Place
I. S. Place

Drawn
I. S. Place

Checked
I. S. Place

Revised
I. S. Place

DESIGN INFORMATION
KOENIG DITCH
Pusheta Township Section 29

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45395
419-739-6520

**AUGLAIZE COUNTY
ENGINEER**

Sheet
Number

6
8

SUBSURFACE DRAIN DESIGN CHART

Project Name: **Koenig Ditch**

Designer: **T.J. Place** Date: **2/3/2023**

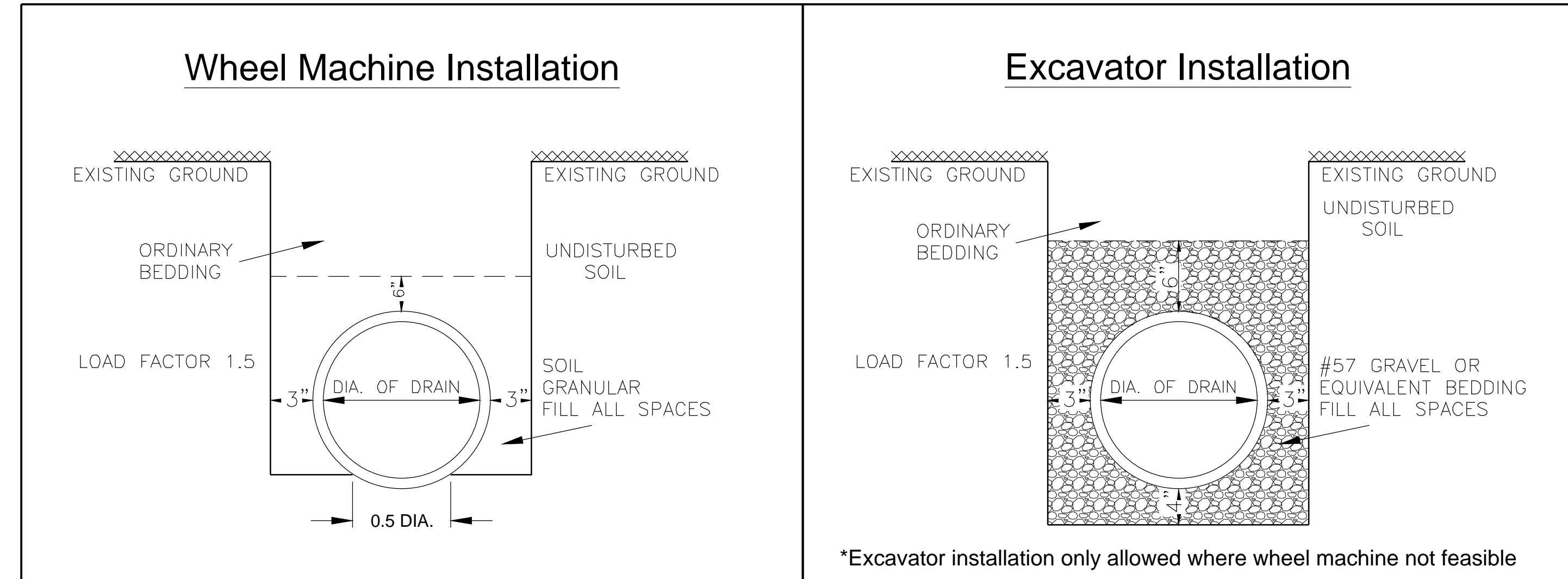
**AUGLAIZE COUNTY
ENGINEER**

"N" Values	
Plastic Smooth Interior Pipe=	0.010 Clay = 0.013
Corrugated Plastic Tubing (3'-8")=	0.015 Concrete Tile = 0.013
Corrugated Plastic Tubing (10'-15")=	0.017 CMP = 0.025
Corrugated Plastic Tubing (18")=	0.020 Plastic Flexible Dual Wall = 0.012

Line ID	Starting Station	Ending Station	Drainage Coeff	Grade (%)	Acres (need)	Q (cfs) (need)	Q (cfs) (avail)	Acres (avail)	Tile Size (in.)	N value	Velocity (fps)	Material
0+00	2+55	3/4	0.50	70	2.21	2.73	87	12	0.012	3.47	Plastic Flexible Dual Wall Tubing	
2+55	3+55	3/4	2.50	70	2.21	7.32	232	12	0.010	9.32	PVC sleeve inside steel casing	
3+55	7+72	3/4	1.00	70	2.21	2.37	75	10	0.012	4.35	Plastic Flexible Dual Wall Tubing	
7+72	8+02	3/4	1.00	55	1.73	2.85	90	10	0.010	5.22	Plastic Smooth Interior Pipe	
8+02	11+50	3/4	1.00	55	1.73	2.37	75	10	0.012	4.35	Plastic Flexible Dual Wall Tubing	

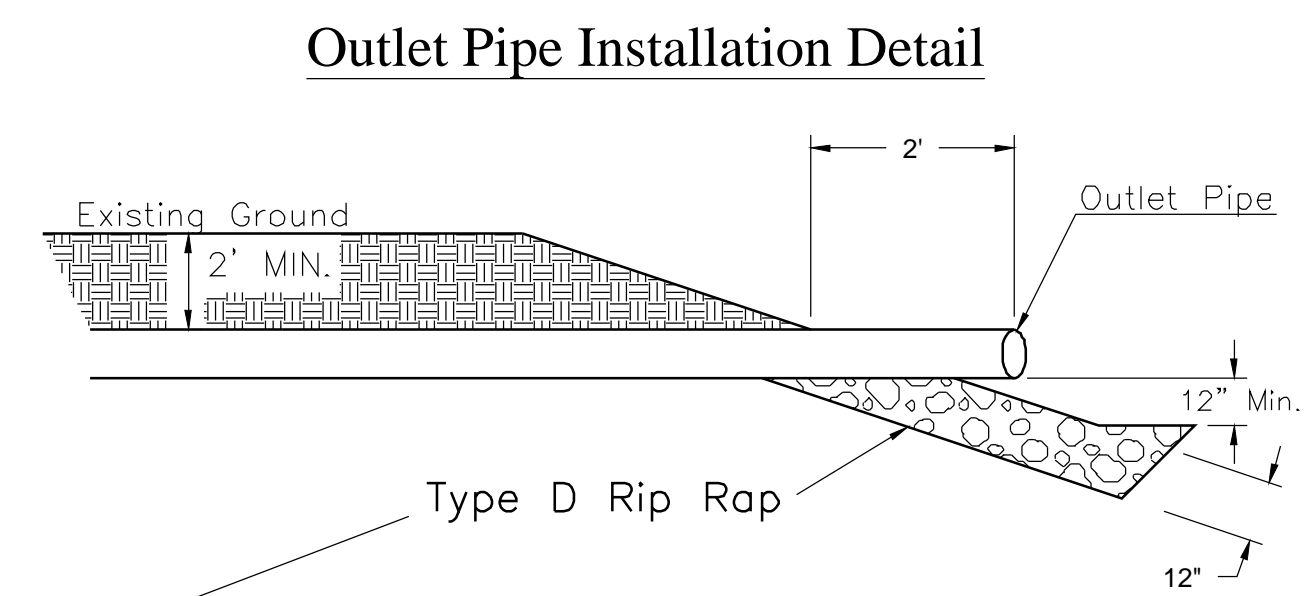
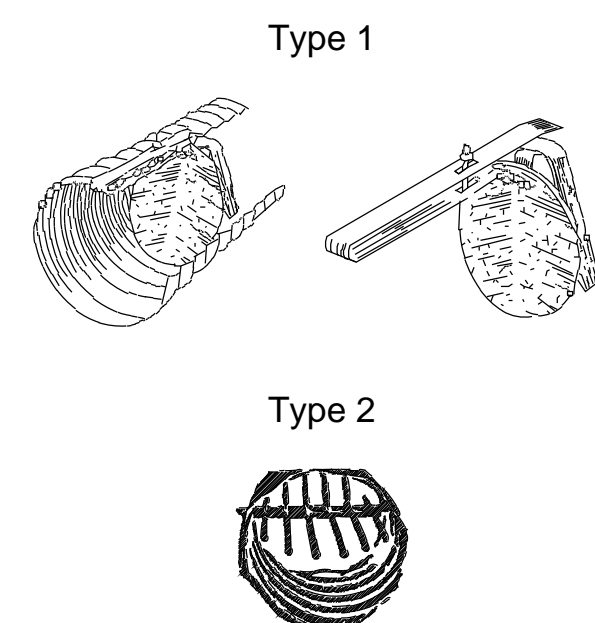
PI Locations					
Point #	Northing	Easting	Latitude	Longitude	Description
7056	304.497.48643	1.498.796.52163	N40.48996757	W84.18879075	Koenig - 0+00 - BOA
7057	304.459.68659	1.498.901.95015	N40.48986943	W84.18840915	Koenig - 1+12 - PI
7058	304.467.32247	1.499.084.79077	N40.48990010	W84.18775245	Koenig - 2+95 - PI
7059	304.472.75101	1.499.184.64156	N40.48992030	W84.18739391	Koenig - 3+95 - PI
7060	304.429.49189	1.499.420.71072	N40.48981412	W84.18654234	Koenig - 6+35 - PI
7061	304.384.21577	1.499.528.59525	N40.48969539	W84.18615140	Koenig - 7+52 - PI
7062	304.364.21885	1.499.528.24443	N40.48964069	W84.18615127	Koenig - 7+72 - PI
7063	304.322.22355	1.499.527.50767	N40.48952540	W84.18615100	Koenig - 8+14 - PI
7064	304.304.22808	1.499.527.19196	N40.48947600	W84.18615089	Koenig - 8+32 - PI
7065	304.270.15362	1.499.629.67577	N40.48938792	W84.18578014	Koenig - 9+40 - PI
7066	304.261.73600	1.499.839.50700	N40.48937595	W84.18502531	Koenig - 11+50 - EOA

TYPICAL VIEW FOR TRENCH PREPARATION AND PIPE PLACEMENT



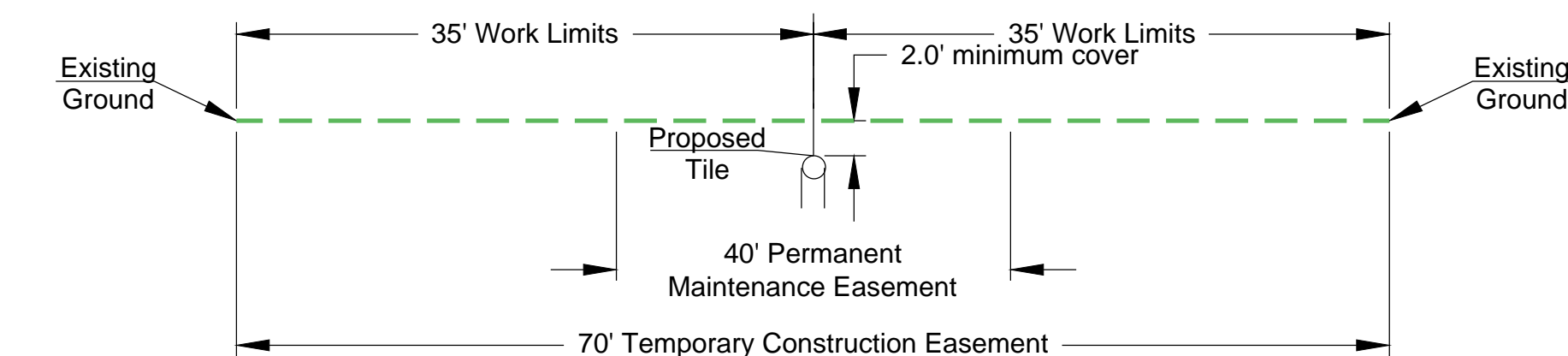
Refer to ASTM F-449
Standard for subsurface
installation of corrugated
polyethylene pipe for ag
drainage.

TYPES OF ANIMAL GUARDS TO BE USED



Type D shall consist of sizes such that at least 85 percent of the total material by weight shall be larger than a 3 inch (75 mm) but less than a 12 inch (0.3 m) square opening. At least 50 percent of the total material by weight shall be larger than a 6 inch (150 mm) square opening. The material smaller than a 3 inch (75 mm) square opening shall consist predominantly of rock spalls and rock fines and shall be free of soil.

TYPICAL CONSTRUCTION AND MAINTENANCE EASEMENTS FOR TILE DITCH



Easement Definition

CONSTRUCTION EASEMENT

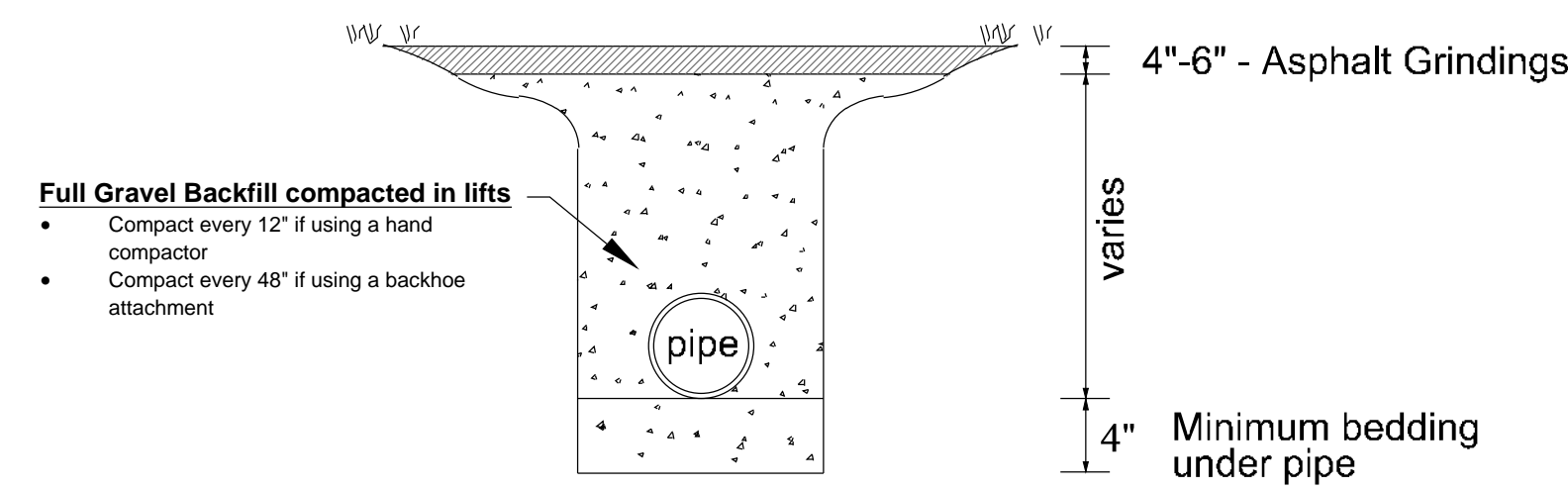
There shall be an 70 foot wide easement for construction and installation of the proposed tile Main and 4" & 6" submain tile lines.

PERMANENT MAINTENANCE EASEMENT

There shall be a 40 foot wide easement for the sole purpose of the permanent maintenance of the installed subsurface drainage tiles. Specifically, being 20 feet parallel and adjacent to each side of the proposed centerline alignment of the new tile main.

KOENIG DITCH TYPICAL SECTIONS

TYPICAL TRENCH FOR ROAD CROSSING



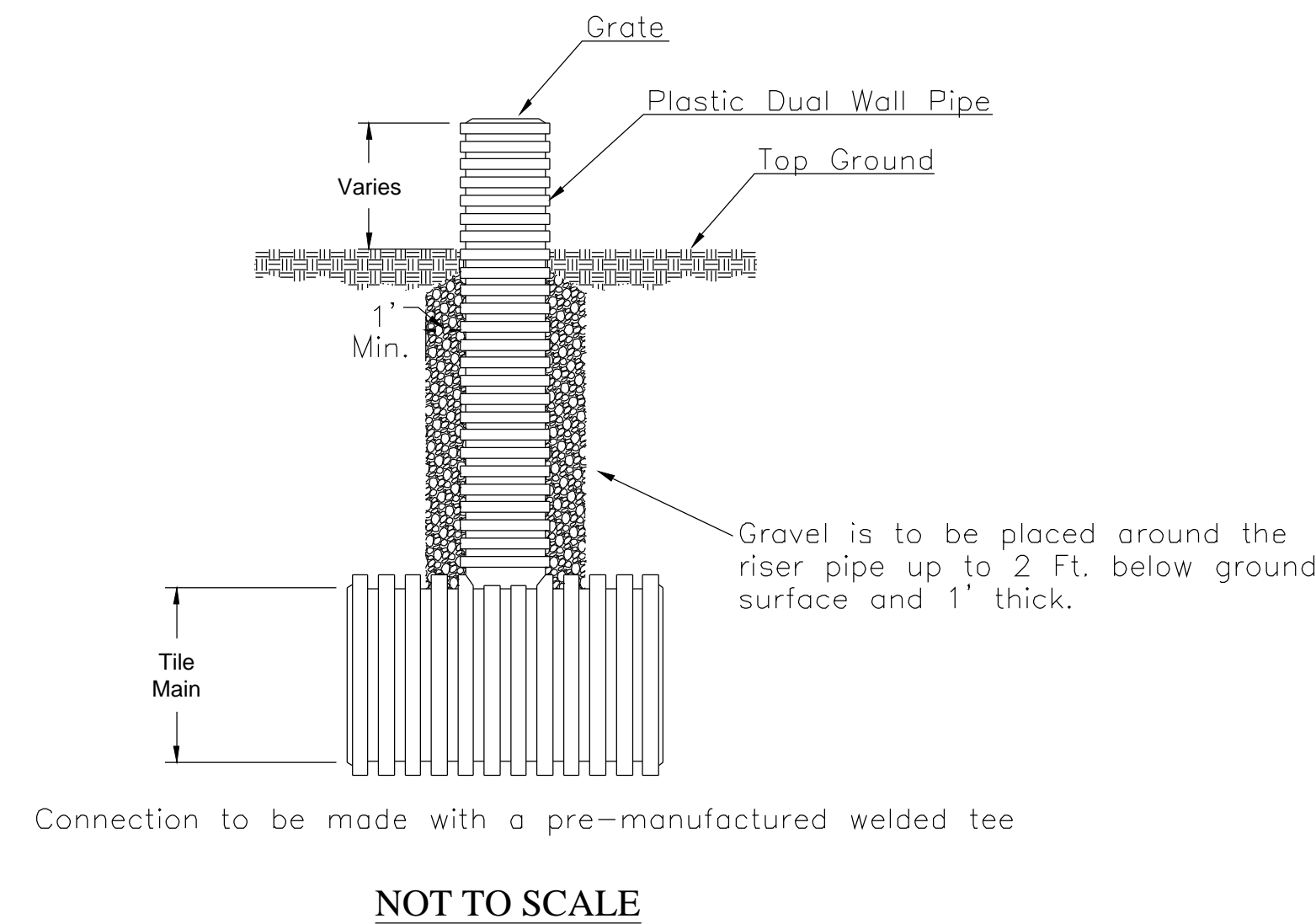
Notes:

For pipe smaller than 12"; the backfill gravel shall be #8 or #9 gravel to the top of the pipe. The remainder of the trench can be backfilled with #57.

For pipe larger than 12"; the backfill gravel can be #57 from bottom to top.

Auglaize County Highway has asphalt grindings. During the weigh process, tell the service person that you are using them on the "Ditch Name".

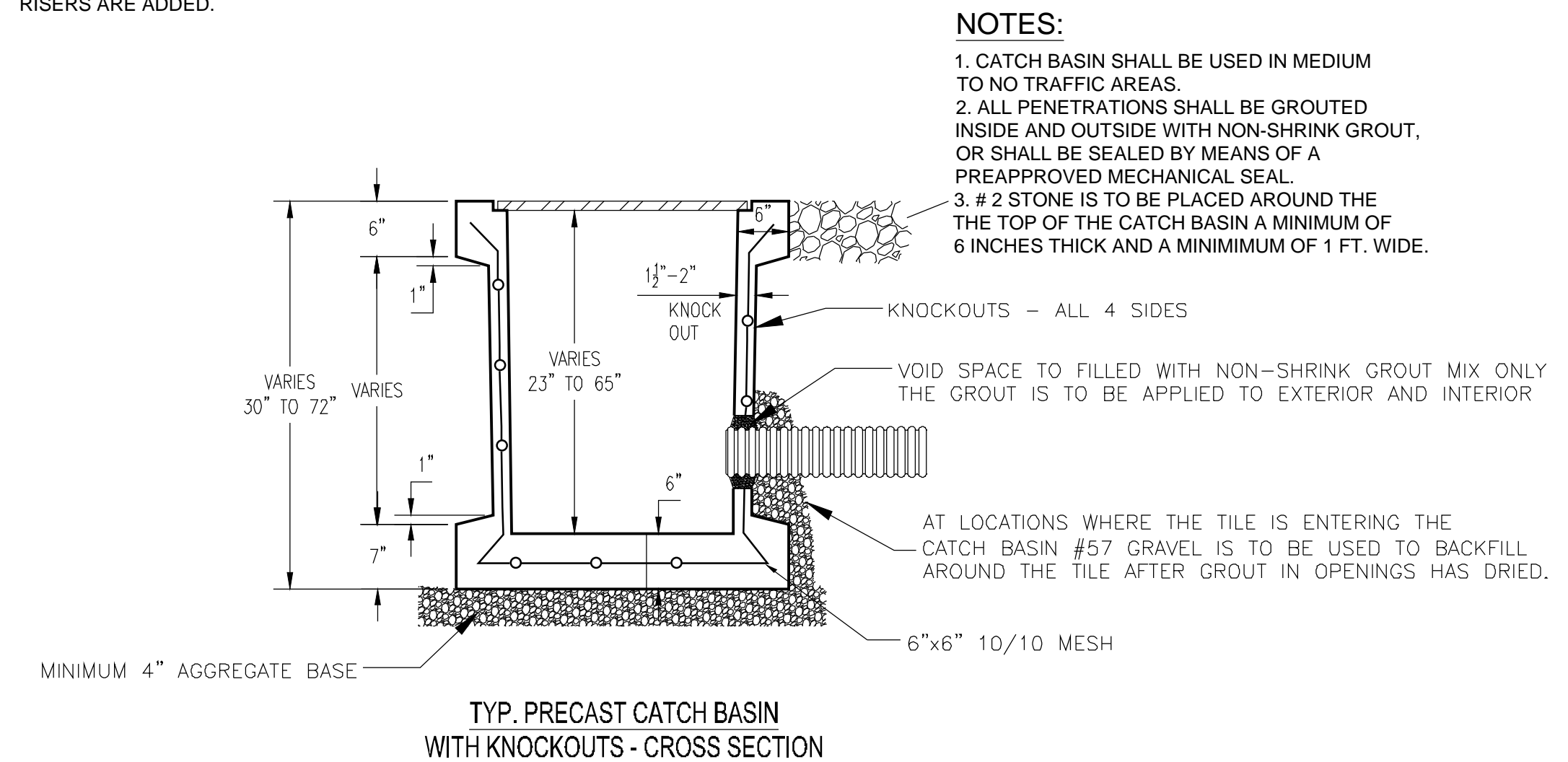
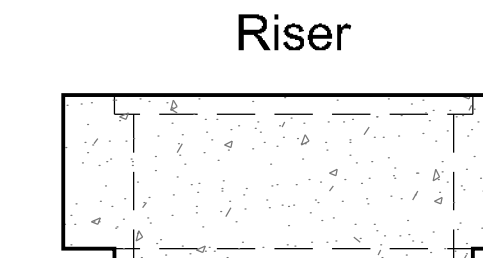
TILE RISER/BREATHER DETAIL



CATCH BASIN AND RISER DETAIL

RISERS:

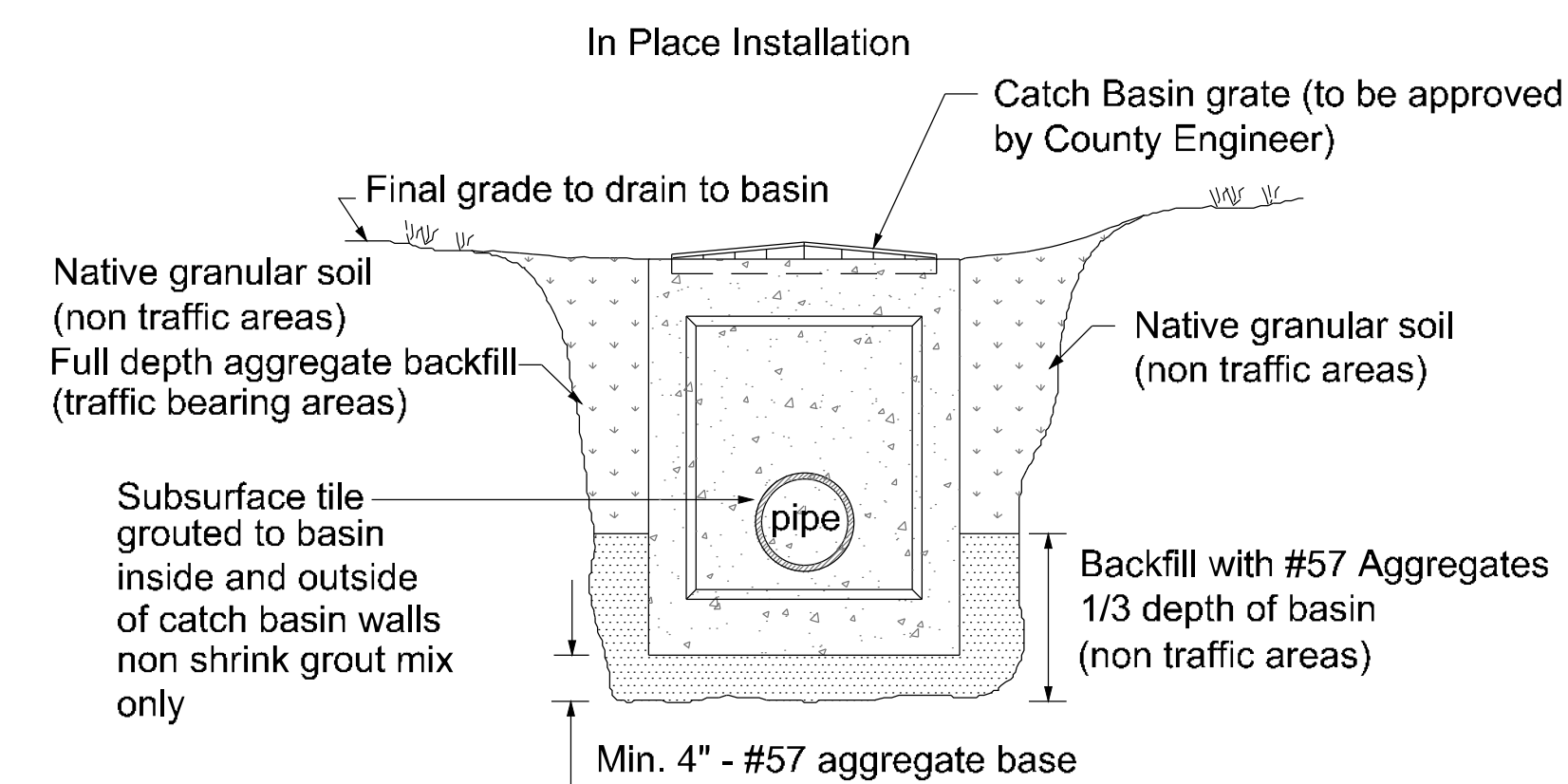
4", 6", 12" OR 18" RISERS MAY BE ADDED TO THE TOP OF THE CATCH BASIN. THE JOINT BETWEEN THE CATCH BASIN AND RISER MUST BE FILLED WITH WATERPROOF PITCH. THE JOINT BETWEEN EACH RISER MUST ALSO BE FILLED WITH WATERPROOF PITCH IF ADDITIONAL RISERS ARE ADDED.



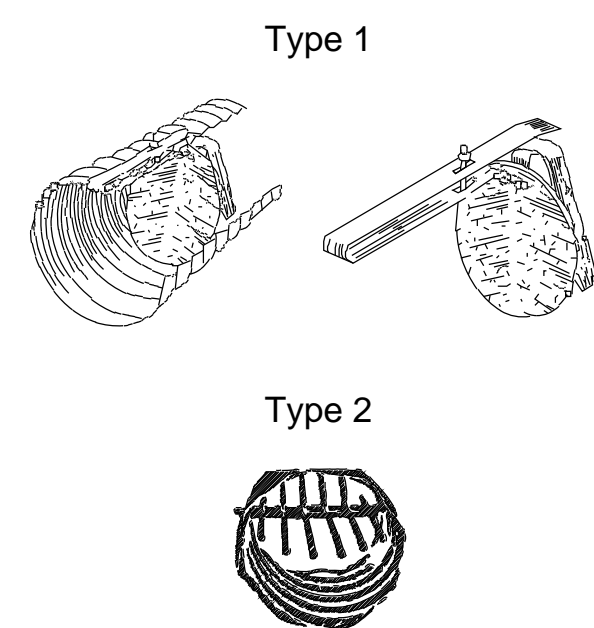
NOTES:

1. CATCH BASIN SHALL BE USED IN MEDIUM TO NO TRAFFIC AREAS.
2. ALL PENETRATIONS SHALL BE GROUTED INSIDE AND OUTSIDE WITH NON-SHRINK GROUT, OR SHALL BE SEALED BY MEANS OF A PREAPPROVED MECHANICAL SEAL.
3. # 2 STONE IS TO BE PLACED AROUND THE TOP OF THE CATCH BASIN A MINIMUM OF 6 INCHES THICK AND A MINIMUM OF 1 FT. WIDE.

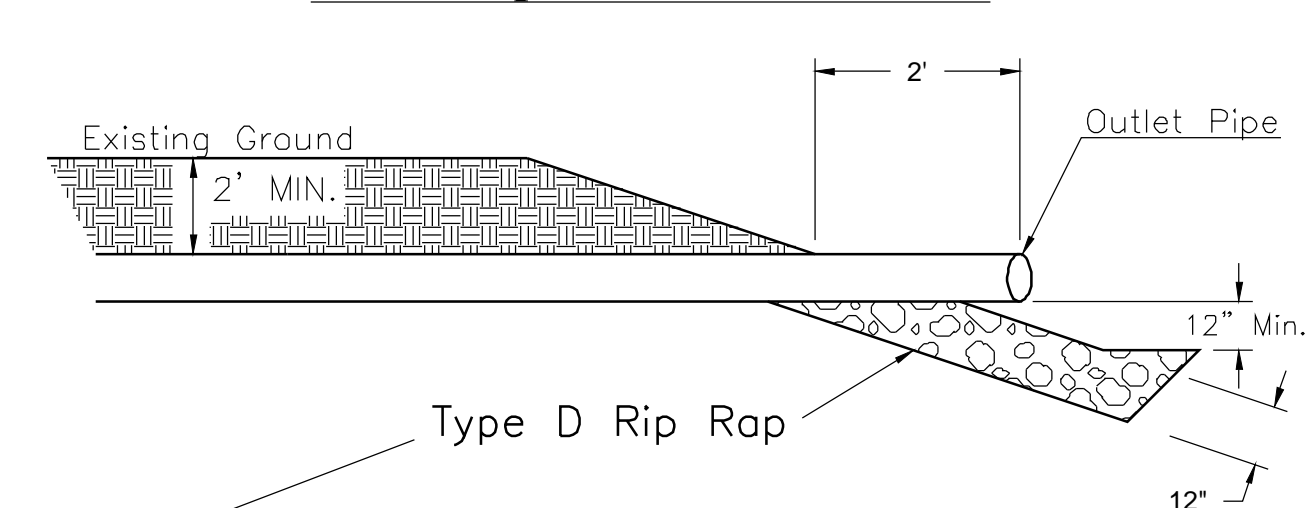
INSTALLED CATCH BASIN



TYPES OF ANIMAL GUARDS TO BE USED

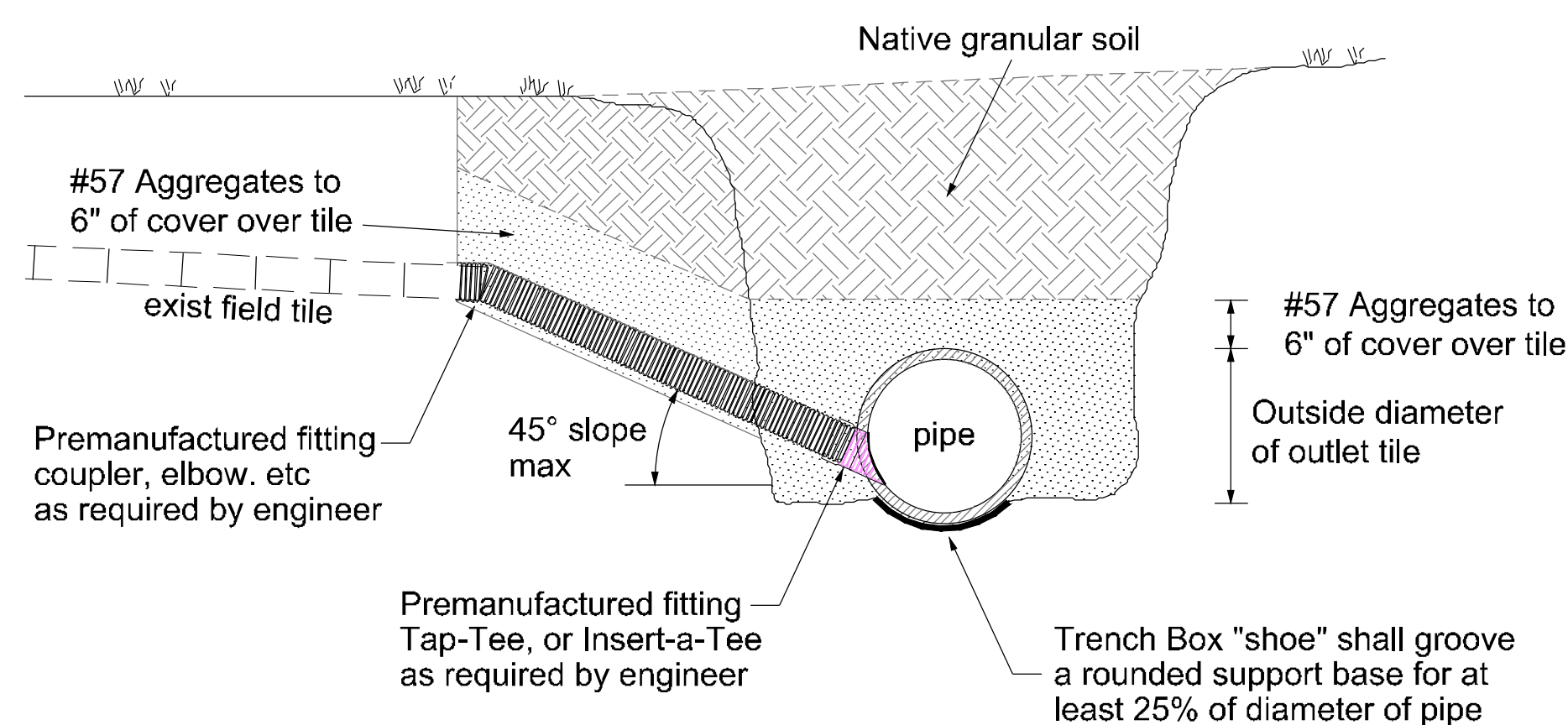


Outlet Pipe Installation Detail

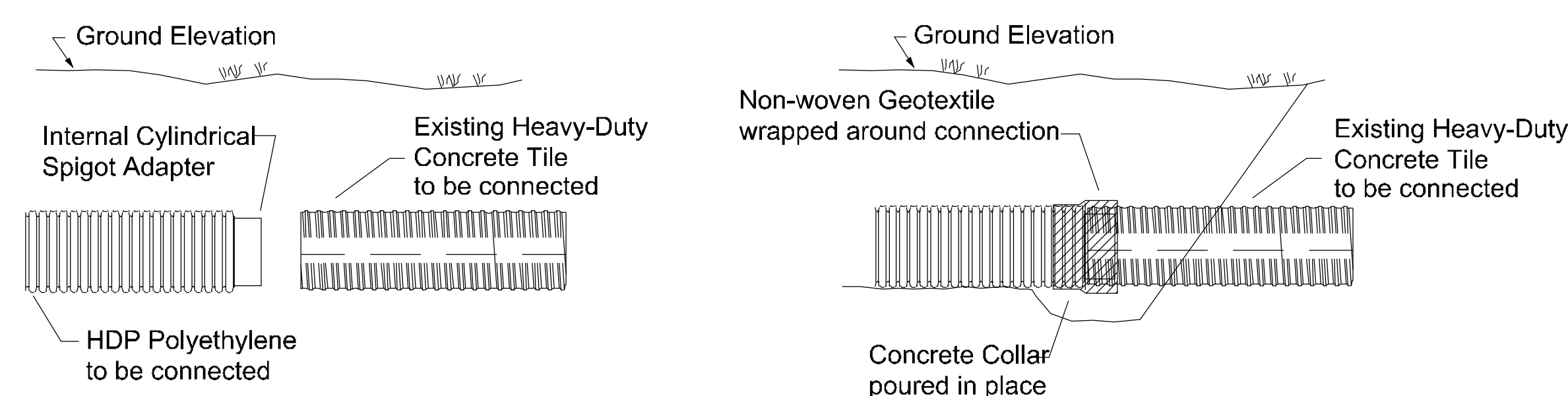


Type D shall consist of sizes such that at least 85 percent of the total material by weight shall be larger than a 3 inch (75 mm) but less than a 12 inch (0.3 m) square opening. At least 50 percent of the total material by weight shall be larger than a 6 inch (150 mm) square opening. The material smaller than a 3 inch (75 mm) square opening shall consist predominantly of rock spalls and rock fines and shall be free of soil.

LATERAL TILE CONNECTIONS



HDP Polyethylene to Concrete or Clay Tile Connection



Pipe Specifications

1. SUBMAINS: Submains shall be heavy-duty single wall perforated polyethylene plastic tubing which meet ASTM F667 specifications.

2. MAINS: All tile mains smaller than 12" in diameter shall be dual wall polyethylene plastic pipe which meet AASHTO M252 or ASTM F2648 specifications, no longer than 20' lengths. All tile mains 12" in diameter and larger shall be dual wall polyethylene plastic pipe which meet AASHTO M294, ASTM F2306 or ASTM F2648 specifications. Watertight joints shall meet ASTM F477 specifications. All supplied dual wall polyethylene plastic pipe materials shall meet ASTM D3350.

*Follow ASTM D2321 for all installation

Date	4-2023	3-2023
Designed	T.S. Place	T.S. Place
Drawn	T.S. Place	
Checked		
Revised		

DETAILS
KOENIG DITCH
 Pusheta Township Section 29



Sheet
Number

7
8

KOENIG DITCH SUBSURFACE TILE SPECIFICATIONS

Materials

(1) The Auglaize County Engineer will approve smooth wall polyethylene pipe manufactured by Advanced Drainage Systems (ADS N-12), Fratco (Smooth Corr), Haviland (Smooth Flow), or Baughman (Dual Wall Pipe). All drainage pipe that is delivered to the site shall be inspected by the Auglaize County Engineer. Any pipe containing imperfections, cracks, holes, poor molding extrusions, or any other types of poor workmanship or quality control issues with the manufacturing process of the supplied pipe, shall be immediately rejected, either as individual sections, or rejected as an entire delivered load (or loads) of pipe. All pipe may be subject to a random, 3rd party, independent testing of the pipe materials for AASHTO specifications.

(2) There will not be permitted any type of outside band or coupling devices required to connect pipe end sections together for any pipe sections that are 8" diameter and greater. All specified pre-manufactured fittings, (Elbows, Wyes, Tees, Reducers and Risers) shall be smooth interior wall polyethylene plastic conforming to the same pipe materials, standards, and specifications for the pipe sections used on the project. Said fittings can have outside bands, but all such fittings must be bedded with 4" of #57 aggregate, and have 12" of #57 aggregate backfill cover.

(3) All polyethylene pipe, fittings, and connections delivered to the job site shall be subject to the inspection and approval of the Engineer before installation. Failure to allow the Engineer to inspect the quality and workmanship of said supplied pipe materials before installation shall result in non-payment for that amount of installed pipe. The Engineer reserves the right to accept or reject any or all polyethylene pipe products delivered to the site at his professional discretion.

(4) It shall be required from any Bidding Contractor who has never been awarded a Contract with the Auglaize County Commissioners, that as a part of their bid, the Contractor shall furnish a list of at least 6 personal references to a project that have been inspected & approved by either an Ohio Registered Engineer, an engineering staff employee of a County Engineer in Ohio, or by staff of an ODOT District Engineering Department. Said projects should be job specific for agricultural drainage tile mains, sub-mains, laterals, connections, and catch basins. The bidding contractor must also furnish as a part of this bid, any or all sub-contractors who may be performing work or supplying equipment for the benefit of the bidding contractor.

POLYETHYLENE DUAL WALL PIPE SPECIFICATIONS (Black)							CORRUGATED SINGLE WALL				
PIPE Size (In.)	PIPE REQUIREMENTS	BELL & SPIGOT REQUIREMENTS	WATERTIGHT JOINT	MATERIAL PROPERTIES	FITTINGS	INSTALLATION	PIPE Size (In.)	PIPE REQUIREMENTS	MATERIAL PROPERTIES	FITTINGS	INSTALLATION
4	AASHTO M252	AASHTO M252	ASTM F477	ASTM D3350	AASHTO M252	ASTM D2321	4	ASTM F667	HEAVY DUTY	ASTM F667	ASTM D2321
6	or	AASHTO M294			AASHTO M294		6				
8	ASTM F2648	or			or		8		ASTM D3350		
10		ASTM F2648			ASTM F2306		10				
12	AASHTO M294						12				
15	ASTM F2306						15				
18	or						18				
24	ASTM F2648						24				
30							30				
36							36				

POLYPROPYLENE DUAL WALL PIPE SPECIFICATIONS (Gray)						
PIPE Size (In.)	PIPE REQUIREMENTS	BELL & SPIGOT REQUIREMENTS	WATERTIGHT JOINT	MATERIAL PROPERTIES	FITTINGS	INSTALLATION
12	AASHTO M330	AASHTO M330	ASTM D3212	ASTM M330	AASHTO M330	ASTM D2321
15	ASTM F2881	ASTM F2881		ASTM F2881	ASTM F2881	
18		or			OR	
24		ASTM F477			ASTM D3212	
30						
36						

Installation

AGRICULTURAL INSTALLATION (Wheel Machine Only)

Agricultural installation shall be installed with a wheel trenching machine equipped with a laser gradient guidance system. It shall be required that the trench bottom or "shoe" of the trenching machine, or of the trench box cage, if so equipped, be conformed and shaped to the specific diameter size of the pipe being installed. It will be required that 100% of the trench be backfilled with granular soil material no larger than 2"-3" in diameter. Chunks, clods or masses of dirt, soil or debris any larger than this will not be permitted to be back filled into the excavated trench. The trench will be back filled at an angle of 45 degrees to the alignment of the trench in order to promote enveloping of the back fill material over and around the installed pipe.

Trenching machine installation is required to have a protected cage attached to the machine. The cage must be long enough for one stick of pipe to be installed with employees working in the cage connecting the pipe. A hydraulic ram is required to push larger diameter pipe together.

A backhoe or excavator can only be used on this project for the following purposes:

- To install pipe at the upper and lower terminus of the project to make end connections;
- To place the first length of pipe leading into or out of a catch basin or receiver;
- To place the first length of pipe leading into or out of a pre manufactured elbow fitting;
- In any areas which a trench has unstable sub grade or base and requires additional excavation and placement of bedding materials;
- To install pipe through a road or driveway, where the trench will be totally backfilled with stone aggregates;

All pipe which has been installed by a back hoe of excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles and specifications. All encountered existing tile laterals shall be connected to the new main or submain with insert-a-tee connectors. The connected tile shall be hole-sawed into the new main at an angle of 45 degrees above horizontal in the upper 1/3rd of the pipe being connected to, if possible.

(6) Making lateral connections:

The Tap-Tee and/or insert-a-tee connection shall not protrude more than 1/2-inch into the main tile being connected to. The excavated trench leading to the encountered tile lateral shall be dug at a 45 degree angle from horizontal until the elevation of the tile lateral is met. The entire connection shall be bedded and backfilled to a point 12 inches over the top of all exposed pipe material.

All pipe which has been installed by a backhoe or excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles, and specifications.

All encountered existing tile laterals shall be connected to the new main or submain with single wall tap tee connectors. The connected tile shall be hole-sawed into the new main at an angle of 45 degrees above horizontal in the upper 1/3rd of the pipe being connected to, if possible. Laterals encountered equal to or greater than 8" in diameter must be connected with a prefabricated tee or wye fitting.

The single wall tap tee connection shall not protrude more than 1/2" into the main tile being connected to. The excavated trench leading to the encountered tile lateral shall be dug at a 45 degree angle from horizontal until the elevation of the existing tile lateral is met. The entire connection shall be bedded and backfilled to a point 12" over the top of all exposed pipe material

NON-AGRICULTURAL (Backhoe or Excavator) INSTALLATION

In places where it is not possible to install the tile with a wheel machine, a backhoe or excavator can be used. All pipe which has been installed by a backhoe or excavator in the accepted conditions as listed above, shall be bedded and backfilled over and under the installed pipe as shown on the typical trench detail of the engineering plans, profiles, and specifications.

TURN & ELBOWS

All turns using dual wall pipe greater than 15 degrees require pre-manufactured elbows. Turn angles greater than 45 degree require multiple elbows. Any elbows with an angle greater than 45 degrees is not acceptable.

Liability

As required by the Board of County Commissioners of Auglaize County, all contracts let for bid by them for the purpose of ditch construction shall be supplied with the following insurance information by the awarded contractor:

- The limits of liability insurance shall not be less than \$ 500,000 for bodily injury, property damage, and personal injury
- The Policy shall be on comprehensive for including products, completed operations, and contractual liability.
- Before work is to begin by the contractor a Certificate of Insurance shall be on file with the Board of County Commissioners.

In the event that the contractor or anyone under his employment unlawfully damages any real property, he shall restore said property as to a condition equal to or better than the original. The contractor shall be responsible for all injuries to persons resulting from negligence of himself or any of his employees during the continuances of this contract and shall hold Auglaize County, the Board of Commissioners and the County Engineer harmless from any or all actions which would result from said damages or injuries, or both.

Right-of-Way & Construction Easement

The width of working right-of-way shall be limited to 35 feet from each side of the centerline of the proposed tile. The contractor has the privilege of using the right-of-way area during construction for purposes of ingress-egress, excavation and back filling, placement of pipe, fittings, and catch basins. The contractor shall try to work with each individual property owner to eliminate or minimize disturbance to yard and landscaped areas within the recommendations and approval of the Auglaize County Engineer. The contractor may use additional area outside of the working right-of-way in order to properly repair tile laterals and connections if and only if direct permission is granted by that particular landowner. The contractor also retains a temporary easement of the same width along the existing tile main for the purpose of abandonment, crushing, and destroying under the direction of the engineer.

The width of working right-of-way shall be limited to the areas as shown on the Plan & Profile sheets. The contractor has the privilege of using the right-of-way area during construction for purposes of ingress-egress, excavation and back filling, placement of pipe, fittings, and catch basins. The contractor shall try to work with each individual property owner to eliminate or minimize disturbance to crops either by installing the proposed tile before the planting of crops, or after the harvesting of said crops during the current season. The contractor may use additional area outside of the working right-of-way in order to properly repair tile laterals and connections if and only if direct permission is granted by that particular landowner. The contractor also retains a temporary easement of the same width along the existing tile main for the purpose of abandonment, crushing, and destroying under the direction of the engineer.

Brush Removal & Disposal

All trees, stumps, and grubbing within 75 feet of the confines of the tile ditch alignment shall be removed in their entirety. There shall be no flush cutting allowed except where approved by the engineer. All brush to be removed as a part of this project shall be burned, buried, or disposed of in a satisfactory manner in convenient locations approved by the engineer on the project site. All materials buried on the site shall have a minimum 36" of clean, native soil backfill over the disposal site. All landowners adjacent to the brush removal reserve the right to cut any or all brush for firewood as they feel is fit for such use. The contractor will not be allowed to remove any trees from the site without the written permission of the landowner. If applicable, a burning permit shall be obtained from the local fire department or jurisdiction prior to the igniting of any brush pile. NO TIRES shall be used to ignite any brush pile.

Seeding & Fertilizing

The contractor shall be responsible for a final seeding and fertilizing of the disturbed yard areas. Prior to seed and fertilizer application, a seed bed must be prepared by the contractor for the area to be seeded. The seed bed must be free of pockets rocks, roots, limbs, tile bats and other debris in general before final seeding and fertilizing takes place. A successful seeding will be considered if the seeded area has an average of 50 seedlings for 1 square foot of area. A successful seeding must be established before final seeding payment is made.

January 1st through March 31st is considered TEMPORARY seeding (minimum 2 bushels of rye or wheat per acre at expense of contractor)

April 1st through September 30th is ACCEPTABLE seeding time. Mulch cover required for all yard seeding.

October 1st through December 31st is considered TEMPORARY seeding (minimum 2 bushels of rye or wheat per acre at expense of contractor)

Seed & Fertilizer Rates Yards

SEED REQUIREMENT

(260#/ac for yards)

45% BENCHMARK PERENNIAL RYEGRASS
20% SPF-30 KENTUCKY BLUEGRASS
20% GAELIC KENTUCKY BLUEGRASS
15% ORACLE CREEPING RED FESCUE

FERTILIZER REQUIREMENT

(200#/ac)

18-46-0 (Nitrogen-Phosphorous-Potassium)

Seed & Fertilizer Rates for Waterway, Pasture & Woods

SEED REQUIREMENT

(400#/ac for Pasture, Waterway and Woods)

80% TURF TYPE FESCUE
10% PERENNIAL RYEGRASS
10% KENTUCKY BLUEGRASS

FERTILIZER REQUIREMENT

(200#/ac)

18-46-0 (Nitrogen-Phosphorous-Potassium)

Clean Up

Any rock larger than 5" in any direction, any stick longer than 6" and ALL tile pieces shall be picked up before and after final leveling. The debris shall be buried at least 36" deep or hauled offsite. All other large items such as catch basins removed shall be buried at least 36" deep or hauled offsite. If tiles or utilities are damaged while digging a bury hole, it will be the responsibility of the contractor to repair the tile or utility at their expense.

Partial Payment

The contractor may request payment for any or all materials which have been successfully delivered to the job site for any working sections which have been completed, or for any other types of labor, materials, or costs involved with the construction of the project before it is completed in its entirety. A written request with all necessary bills of materials purchased by the contractor must be supplied to the Engineer. A minimum of 10% retainage shall be applied to all partial payment to guarantee completion. Contractor shall provide proof that all material costs owed to a vendor or supplier of said materials are paid in full within 5 days after receiving said partial payment.

Contractor References

It shall be required from any bidding contractor who has never been awarded a contract with the Auglaize County Engineer, that, as a part of their bid, the contractor shall furnish a list of at least six (6) personal references to a project that have been inspected and approved by either an Ohio Registered Engineer, an engineering staff employee of a County Engineer in Ohio, or by the staff of an ODOT District Engineering Department. Said projects should be job specific for agricultural drainage tile mains, sub-mains, laterals, connections, catch basins and open ditches. The bidding contractor must also furnish as a part of his bid, any or all sub-contractors who may be performing work or supplying equipment for the benefit of the bidding contractor.

Permanent Easement

At the completion of the project, there shall be a permanent easement established of 40 feet in width, centered on the subsurface tile line installed. A Plat of Ditch Easements is filed annually by the Auglaize County Engineer to designate all prescribed easements which become into effect as a result of the acting of the Ditch Petition per Section 6131, Ohio Revised Code. Said easement is for the specific use of the Auglaize County Commissioners to inspect and maintain the installed items as a part of the construction of the petitioned ditch.

Inspection and Staking

The County Engineer shall be responsible for all of the required construction staking of the alignment and grade for the proposed tile, submains, or known laterals, catch basins, elbows, fittings, and the locations for the abandonment of the old tile. The County Engineer shall inspect all installed tile, pipe, lateral connections, and abandonment excavations prior to back filling all trenches. The County Engineer shall not inspect nor approve any work that is performed on weekends, without prior approval. No Sunday work will be permitted. Any or all work performed without the inspection and/or approval of the engineer shall be considered a NON-PERFORMED item.

Disclaimer

The specifications as listed on this sheet may only represent a portion of the total specifications for the project. Please refer to the Bidding documents for additional specifications required for this project. The Auglaize County Engineer reserves the right to require all work to be performed in accordance to the STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, Construction and Material Specifications, as per the latest revision dated January 1, 2013.

Date	4-2023
Designed	T. S. Place
Drawn	T. S. Place
Checked	
Revised	

TILE SPECIFICATIONS
KOENIG DITCH
 Pusheta Township Section 29

P.O. Box 59
1014 South Blackhoof Street
Wapakoneta, Ohio 45895
419-739-6520



AUGLAIZE COUNTY
ENGINEER