



REDHORSE ENVIRONMENTAL

P.O. Box 148

Tionesta, PA 16353

www.redhorseenvironmental.com

4 August 2026

Buffalo District Regulatory Branch

1776 Niagara St

Buffalo, New York 14207

Buckeye Partners F-0005785 Pipeline Maintenance Project Mantua, Ohio

Included herein is an application to the Buffalo District for proposed pipeline maintenance work impacting a NWI mapped wetland located on the Buckeye Partners pipeline ROW in Mantua Township, Ohio (Portage County). The purpose of the project is to repair a pipeline defect to prevent a future hydrocarbon release. Buckeye Partners does not dispute the existence of a NWI mapped wetland (PEM1F) at the project work area and the need for a Nationwide Permit.

To complete the pipeline maintenance work Buckeye Partners will need to excavate an area 20' x 10' to expose the pipeline to allow for pipeline repairs (welded sleeve). The project work area will be accessed from Headwaters Trail. Excavated spoils will be segregated (organic topsoil and subsoil) and stored on timber mats. Once the pipeline has been repaired the excavation will be backfilled (reverse order of soil removal), returned to original elevations, and restored. All construction activity shall take place within the Buckeye ROW. No trees will be removed or impacted at the project site.

The construction will require 7 - 14 days to complete depending on site conditions and weather. Excavation dimensions and site disturbance will be minimized to the greatest extent possible.

If you require additional information to complete your review or have any questions, please let me know.

Sincerely,

A handwritten signature in blue ink, appearing to read "Bruce C. Dickson".

Bruce C. Dickson, PhD

Director of Operations/Senior Ecologist

RedHorse Environmental

PO Box 148

Tionesta, PA 16353

814-806-6073

bdickson@redhorseenvironmental.com

U.S. Army Corps of Engineers (USACE) APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT For use of this form, see 33 CFR 325. The proponent agency is CECW-COR.		Form Approved - OMB No. 0710-0003 Expires: 2027-10-31	
The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcl.d.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME First - Rich Middle - Last - Burns Company - Buckeye Partners LP E-mail Address - rburns@buckeye.com		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Bruce Middle - C Last - Dickson Company - RedHorse Environmental LLC E-mail Address - bdickson@redhorseenvironmental.com	
6. APPLICANT'S ADDRESS: Address- 993 Brodhead Road, Suite 100 City - Moon Township State - PA Zip - 15108 Country - US		9. AGENT'S ADDRESS: Address- PO Box 148 City - Tionesta State - PA Zip - 16353 Country - US	
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 412-529-0346		10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 814-806-6073	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, <u>RedHorse Environmental</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.  _____ SIGNATURE OF APPLICANT 2026-08-04 _____ DATE			
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions) Buckeye Partners F-0005785 Pipeline Maintenance Project Mantua, Ohio			
13. NAME OF WATERBODY, IF KNOWN (if applicable) Tributary to Cuyhoga River		14. PROJECT STREET ADDRESS (if applicable) Address Closest Residence: 5410 Mennonite Road City - Mantua State- Ohio Zip- 44255	
15. LOCATION OF PROJECT Latitude: °N 41.281815 Longitude: °W -81.196661			
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID 23-042-00-00-009-000 Municipality Mantua Township Section - S42 Township - T5N Range - R8W			

17. DIRECTIONS TO THE SITE
See Attached map w/directions.

18. Nature of Activity (Description of project, include all features)

Buckeye Partners liquid fuels Line 521 was found to have a pipeline defect at ~ 41.281820 -81.196665 south of Mennonite Road in Mantua Township, Portage County, Ohio. Contractors will expose, inspect, and repair the pipeline to avoid a future release. The excavation will be 20' x 10' x 7'. The site is in a mapped wetland connected to a tributary to the Cuyahoga River on ODNR Managed Lands. All construction activities will be conducted from timber mats with spoil materials (segregated organic matter/top soil and subsoil) stored on timber mats. The excavation will be back-filled in reverse order of soil removal and restored to original conditions/elevations. Organic topsoil containing the wetland seed bank and rhizomes will facilitate vegetation restoration.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

Buckeye Partners found a defect in their liquid fuels 521 pipeline and need to excavate, inspect, and repair the defects to prevent a future release.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Buckeye Partners liquid fuels Line 521 was found to have a defect at ~ 41.281820 -81.196665 south of Mennonite Road in Mantua Township, Portage County, Ohio. Contractors will expose, inspect, and repair the pipeline to avoid a future release. There will be a 20' x 10' x 7' excavation in the wetland .

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Wetland Soils: ~ 55 cu. yds		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres

or

Linear Feet 200 sq. ft (~ 0.005 a); Limit of Disturbance 0.25 a

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Site disturbance will be minimized to the greatest extent possible to protect environmental resources and contractors will implement an erosion and sediment control plan. Because the project is in a wetland all project activities will be conducted from timber mats. Excavated material will be segregated and stored on timber mats. Temporarily stored spoils will be returned to the excavation in reverse order of removal (subsoils followed by organic topsoils) following repairs to the pipeline. All areas will be returned to original elevations and condition.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- Nicolas Van Sluyters 5410 Mennonite Road

City - Mantua

State - OH

Zip - 44255

b. Address- Deborah Seith 5436 Mennonite Road

City - Mantua

State - OH

Zip - 44255

c. Address- Annette Berzinskas 5396 Mennonite Road

City - Mantua

State - OH

Zip - 44255

d. Address- State of Ohio/Department of Natural Resources

City -

State -

Zip -

e. Address-

City -

State -

Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Ohio Dept of Natural Resources	Environmental Review & T&E Screening		7/30/2026		

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Rich Burns

2026-08-04

SIGNATURE OF APPLICANT

DATE

Brian C. Johnson

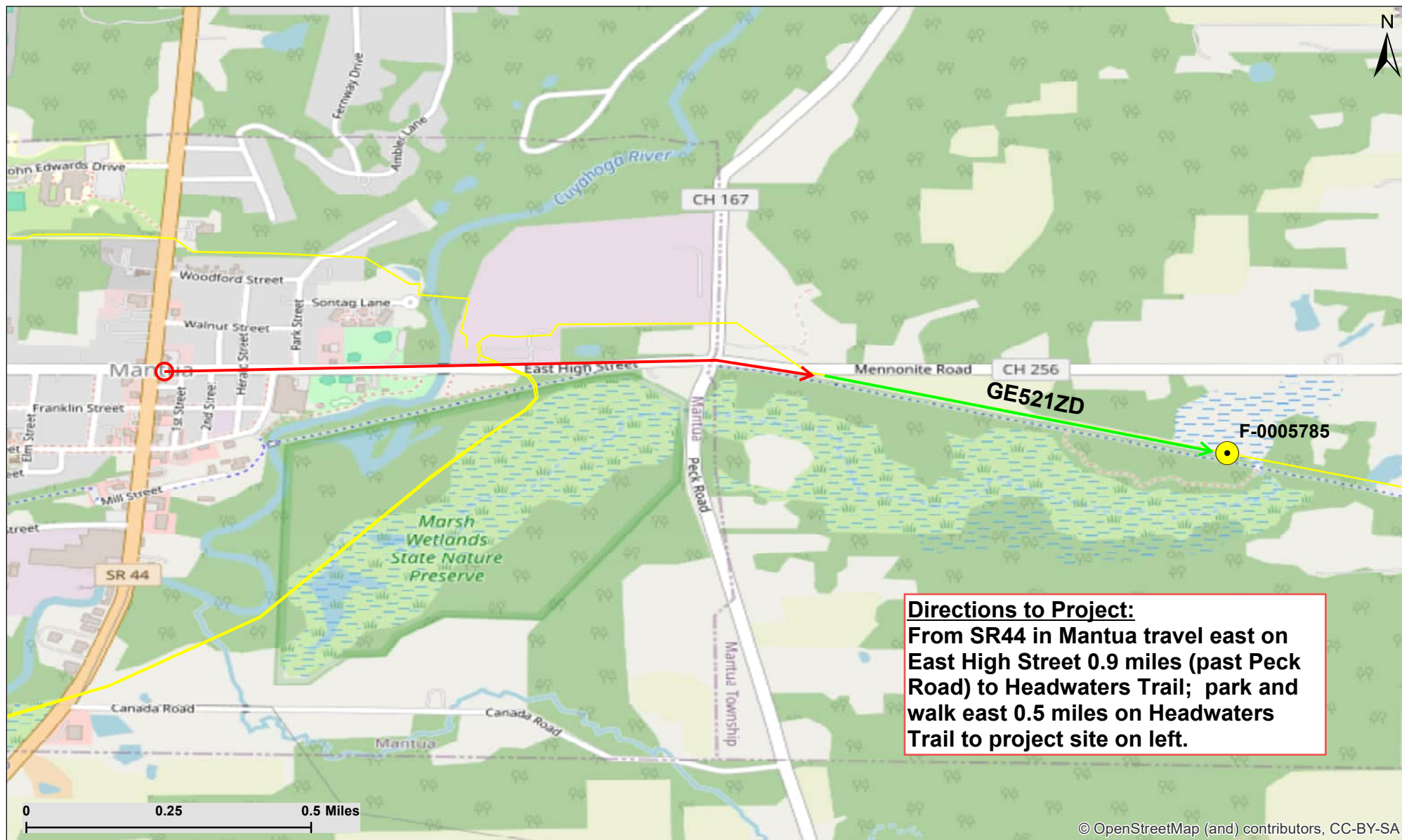
2026-08-04

SIGNATURE OF AGENT

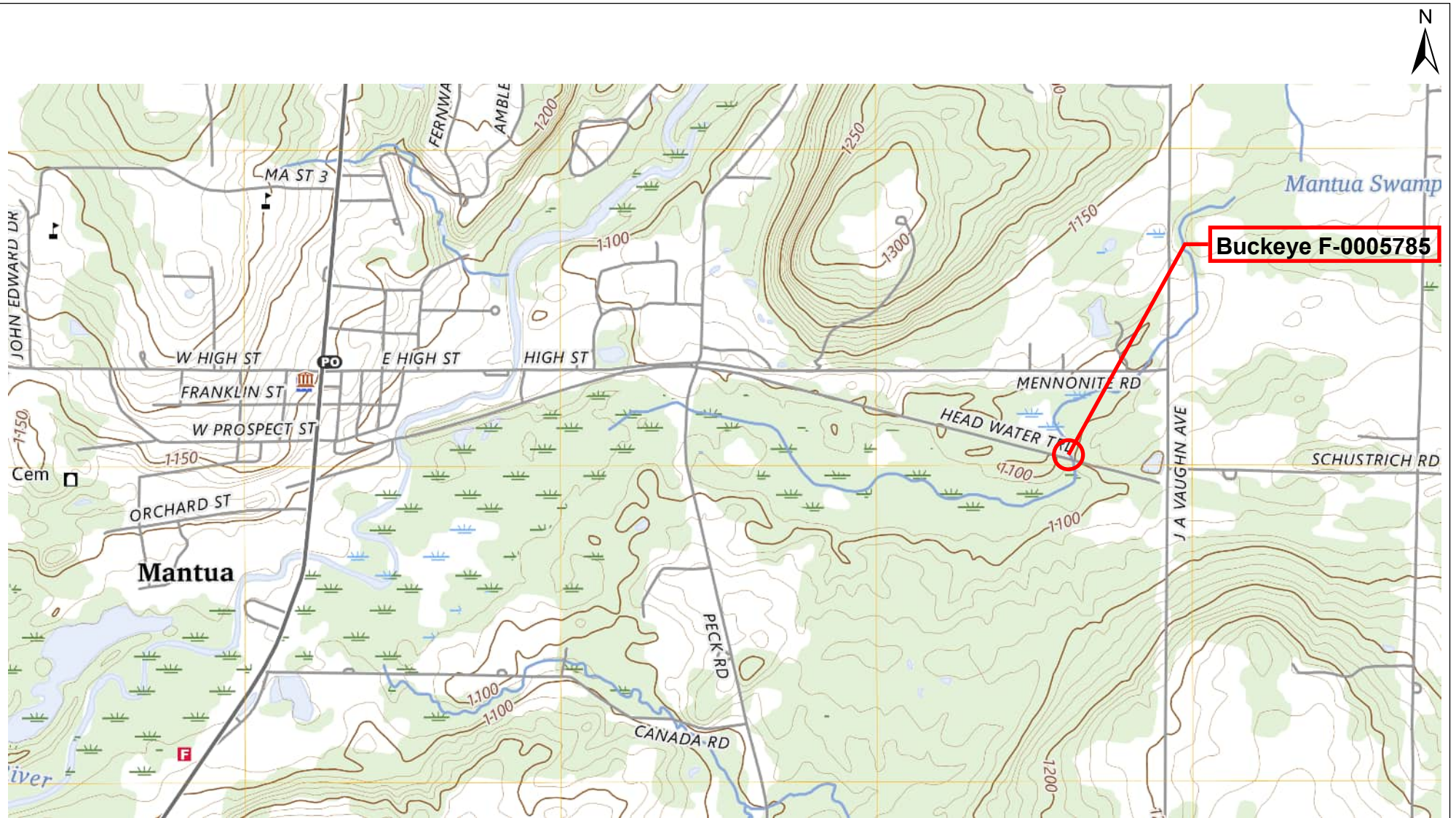
DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

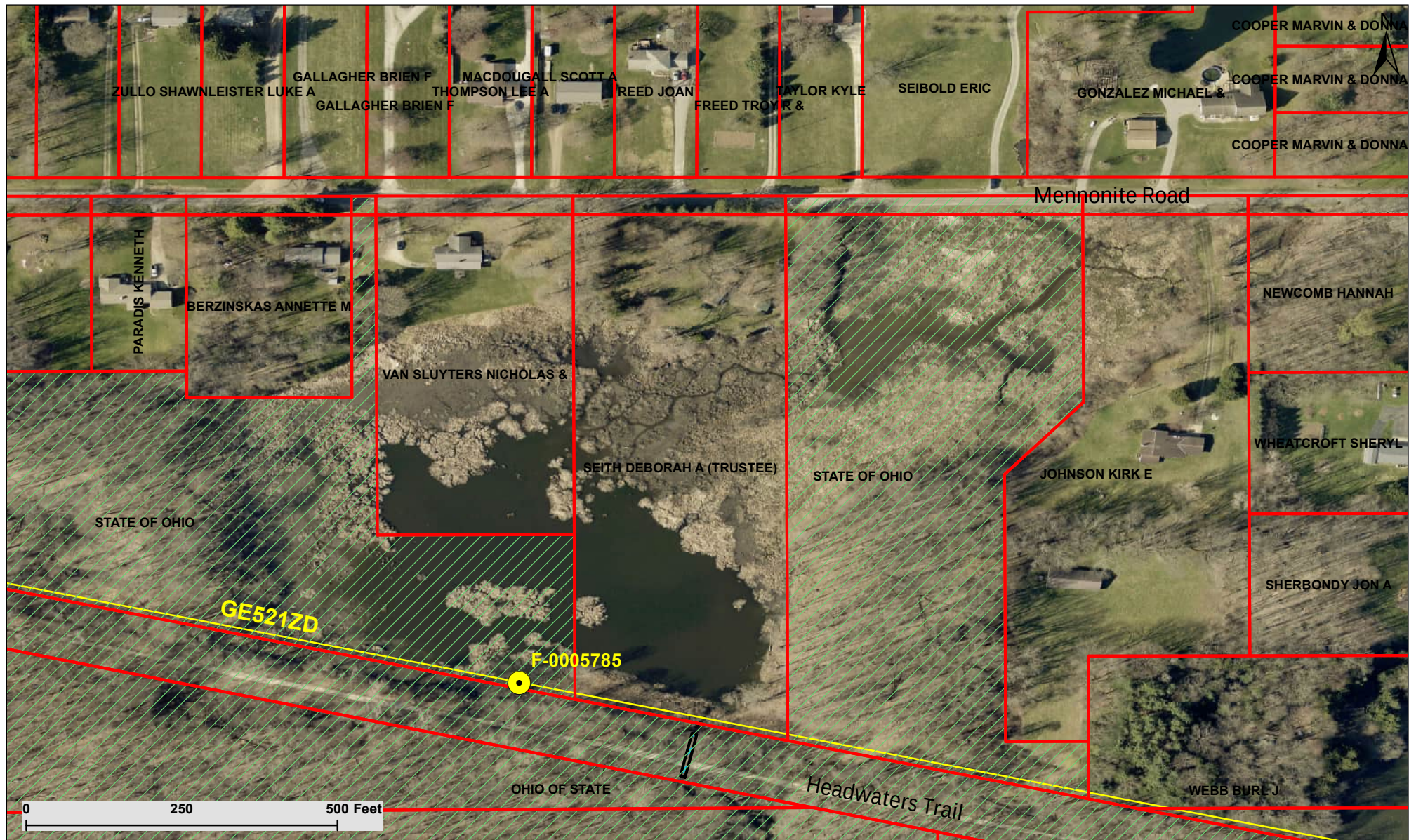
18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



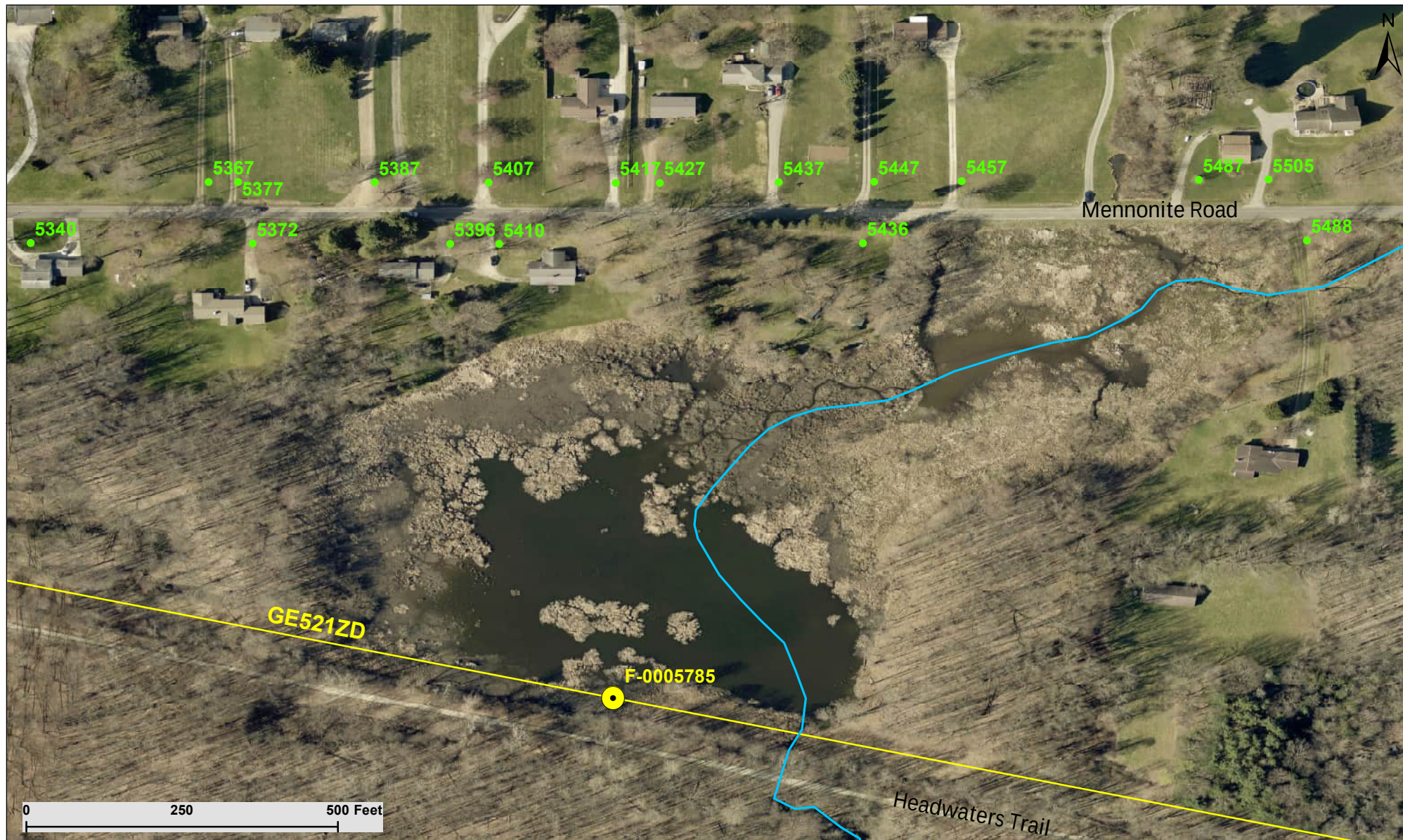
DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	
DATE 7/18/2026		Buckeye Partners Line 521 F-0005785 Mantua, OH
JOB NO.		Location and Directions to Project
Project Manager: Rich Burns		



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Buckeye Partners Line 521 F-0005785	
DATE 7/18/2026		Mantua, OH	
CHECKED BY		USGS 1:24,000 Topo Map	
JOB NO.		Project Manager: Rich Burns	
DRAWING SCALE			



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Buckeye Partners Line 521 F-0005785 Mantua, OH Property Parcels
DATE 7/18/2026		
JOB NO.		
Project Manager: Rich Burns		



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Buckeye Partners Line 521 F-0005785 Mantua, OH Mennonite Road Address Numbers
DATE 7/18/2026		
JOB NO.		
Project Manager: Rich Burns		

OHIO DEPARTMENT OF
NATURAL RESOURCES
MANAGED LANDS

Mennonite Road

GE521ZD

Headwaters Trail

F-0005785

0 250 500 Feet

DRAWN BY BCD

DATE 7/18/2026

JOB NO.

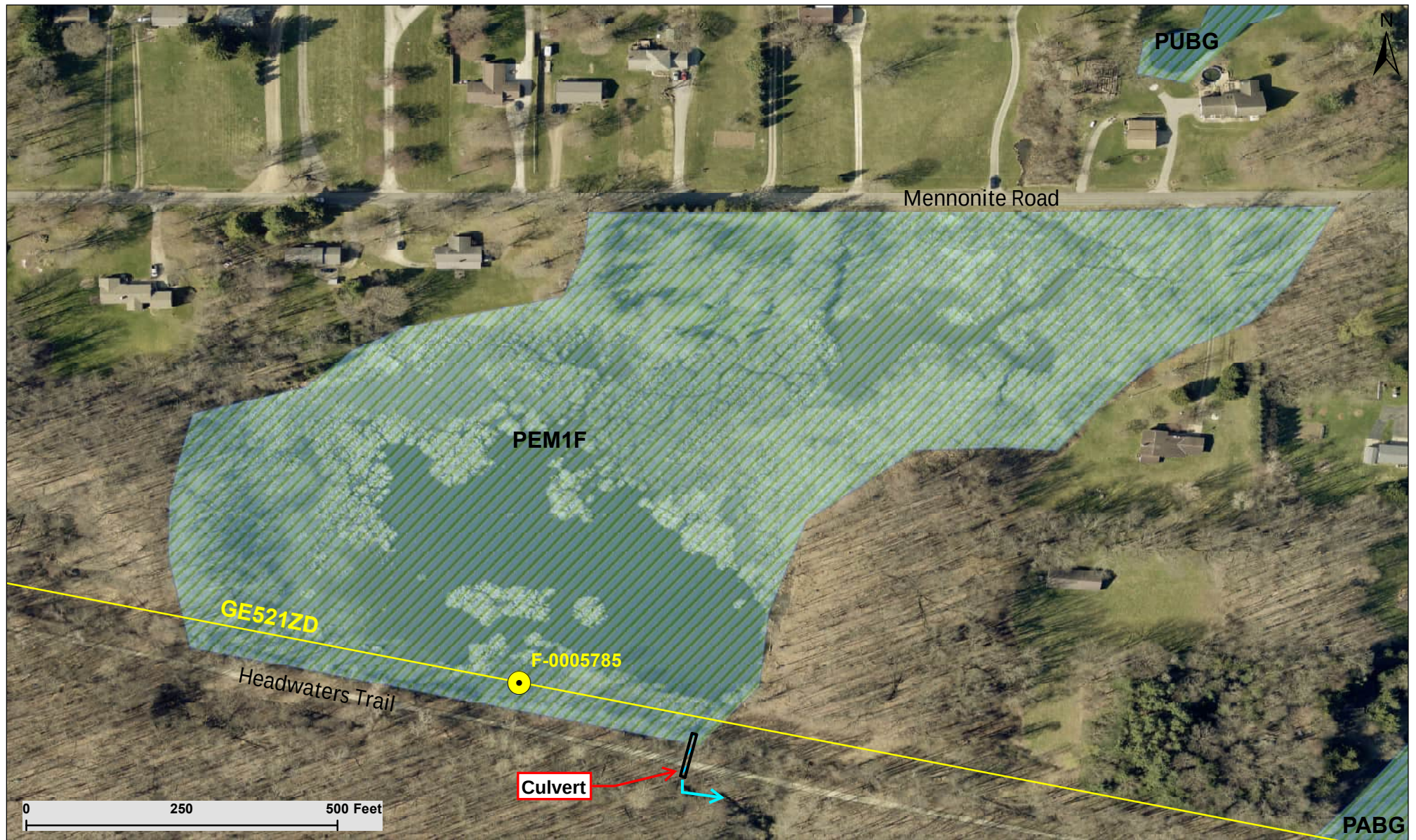
Project Manager: Rich Burns



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Buckeye Partners Line 521 F-0005785
Mantua, OH

ODNR Lands



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DATE 7/18/2026

JOB NO.

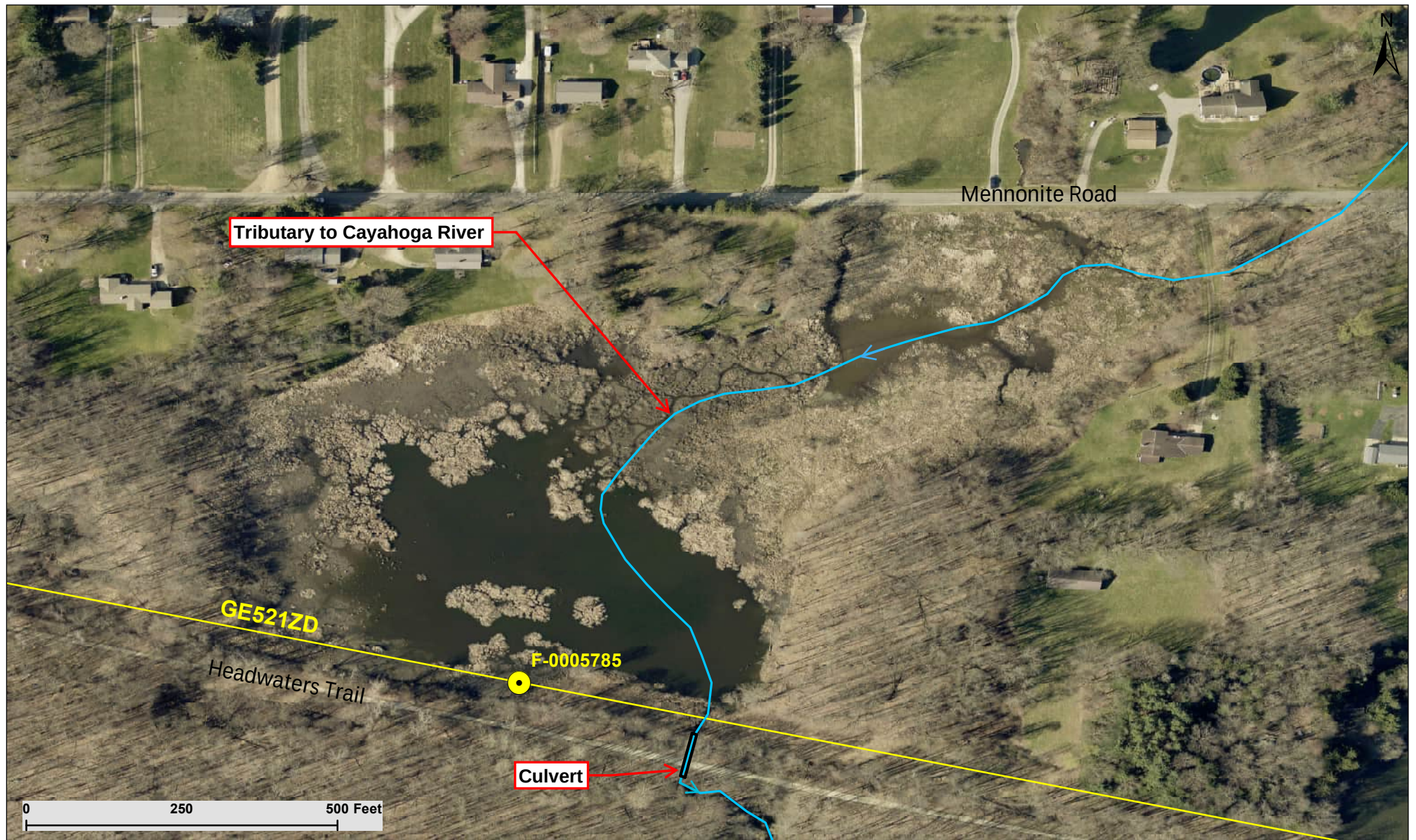
Project Manager: Rich Burns



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Buckeye Partners Line 521 F-0005785
Mantua, OH

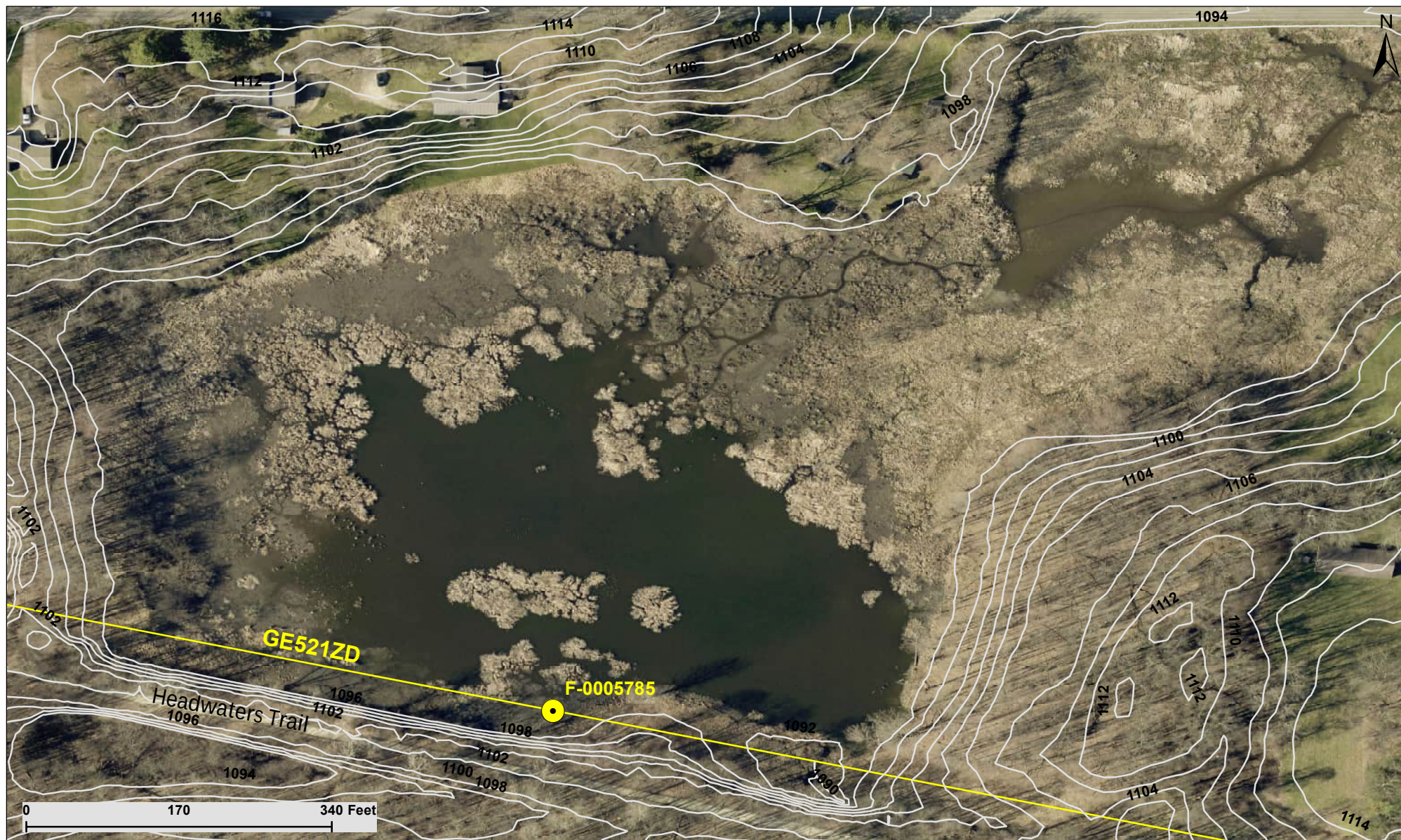
Ohio Mapped Wetlands



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Buckeye Partners Line 521 F-0005785 Mantua, OH NHD Flowline Streams
DATE 7/18/2026		
JOB NO.		
Project Manager: Rich Burns		



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DATE 7/18/2026		Buckeye Partners Line 521 F-0005785 Mantua, OH
JOB NO.		Watersheds
Project Manager: Rich Burns		



DRAWN BY BCD

DATE 7/18/2026

JOB NO.

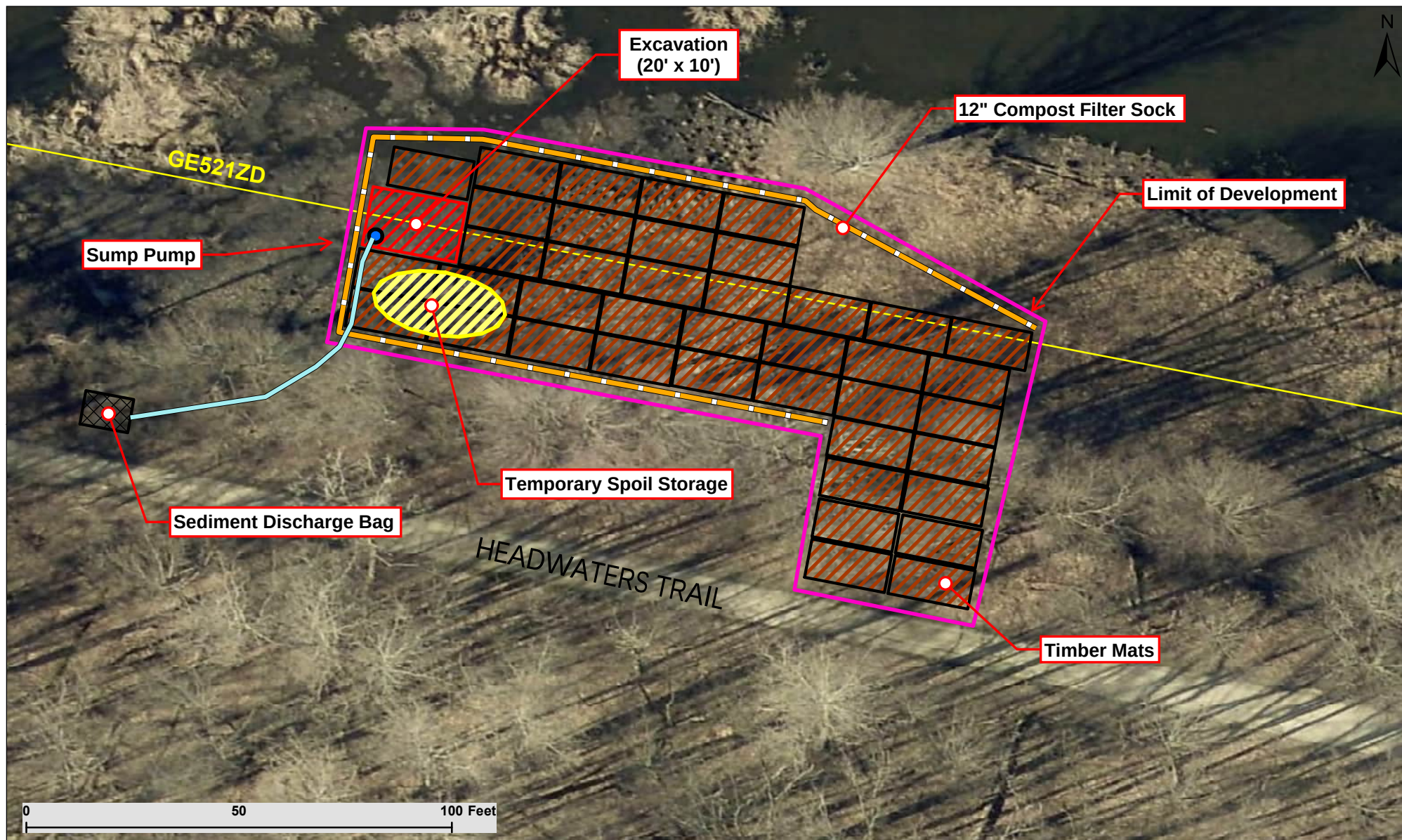
Project Manager: Rich Burns



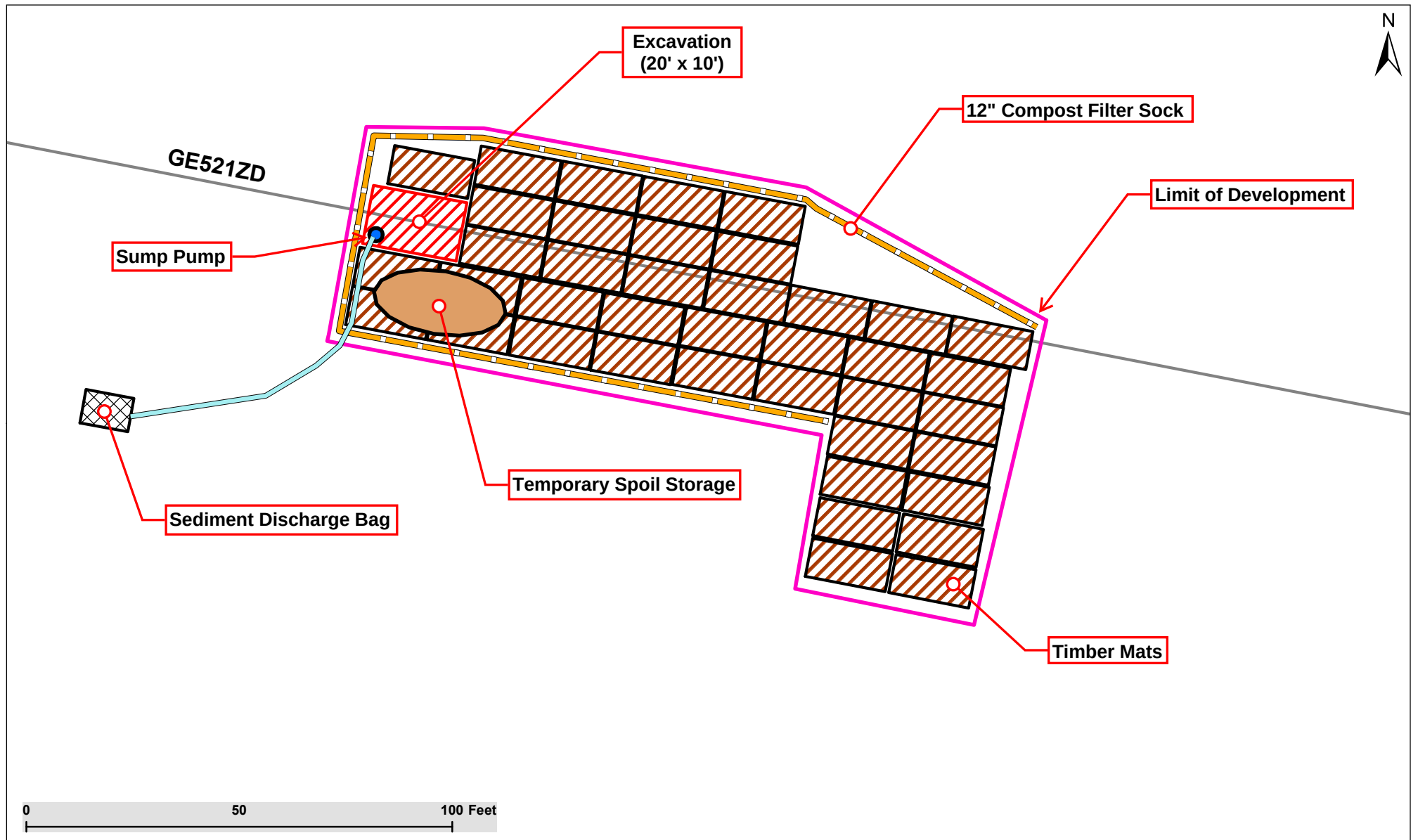
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Buckeye Partners Line 521 F-0005785
Mantua, OH

2' Contours



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Buckeye Partners Line 521 F-0005785 Mantua, OH
DATE 7/19/2026		Construction Layout and E&S Plan
JOB NO.		
Project Manager: Rich Burns		



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DATE 7/19/2026		Construction Layout and E&S Plan
JOB NO.		
Project Manager: Rich Burns		

Buckeye Line 521 F-0005785, Mantua, Ohio
Construction Plan and Best Management Practices

Construction Sequence Including Erosion Control:

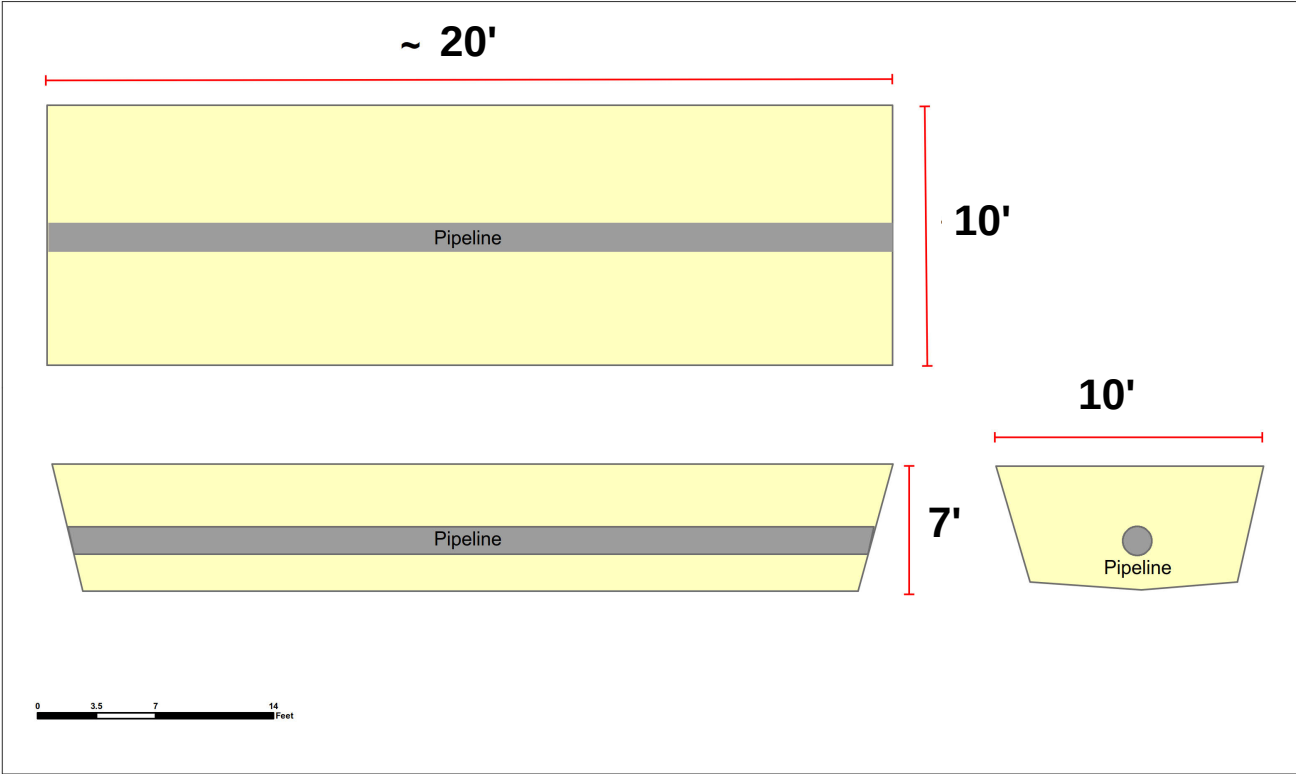
- Construction Time Estimate: 7 - 14 days.
- Access is from Headwaters Trail from Vaughn Road.
- The Contractor shall complete a One-Call 3 days prior to any project work activity.
- Timber mats will be placed on the Buckeye ROW along both sides of the pipeline and around the excavation to protect wetlands and soil during construction activities and provide a viable workspace. All machine work will be completed from timber mats.
- 12" compost filter sock or 18" sediment fence will be installed to prevent movement of disturbed soils offsite.
- An excavator will remove material in an area approximately 20' x 10' x 7' (~ 55 cu. yds.) from the ROW at the location of the pipeline defect.
- All excavated material will be segregated (organic wetland soils from subsoil) and temporarily stored on timber mats placed beside the excavation.
- Once the excavation is complete a trench box will be placed in the excavation to further isolate the work area. (If needed, a sump pit w/electric pump and water line will be installed in the trench box to remove water from the interior of the excavation. Excavation water will be discharged through a replaceable sediment filter bag placed at the abandoned railroad grade near the project work area outside the wetland. The sediment bag will be surrounded by 12" compost filter sock. The sediment filter bag will be monitored and replaced when needed).
- Once the pipeline is exposed it will be inspected and repaired (welded sleeve).
- When work is completed, the excavation will be backfilled (reverse order of spoil removal) with the previously stored subsoil material returned first, and the upper organic soils with associated vegetative material and seedbank returned last. All areas will be returned to their original elevations.
- The disturbed wetland area at the excavation will be allowed to re-vegetate from rhizomes and the existing seed bank.
- All disturbed areas outside the wetland will be returned to original elevations and seeded and mulched (straw or straw blanket).
- Timber mats and all equipment shall be removed from the site.
- The total area of direct impact for the excavation will be ~ 200 sq. ft.
- The total area associated with the limit of disturbance at the project site will be ~ 0.25 acres.

Best Management Practices:

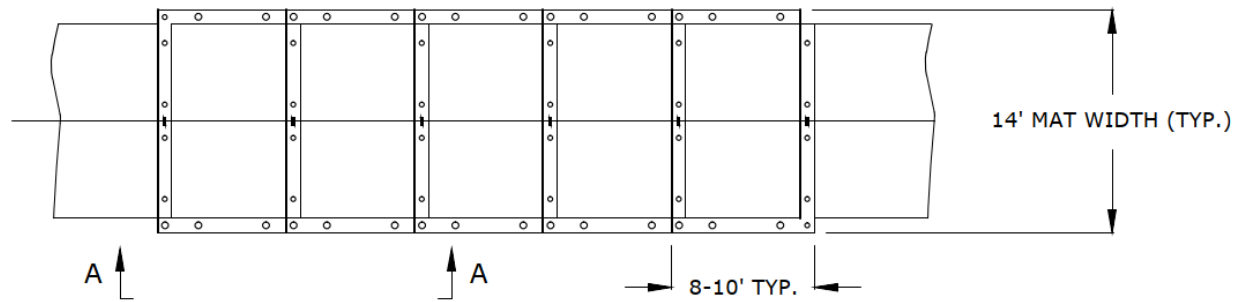
- Excavation dimensions and site disturbance will be minimized to the greatest extent possible.
- Equipment refueling will be conducted away from the work area at the Vaughn road.
- Construction activities will be monitored daily.



Typical pipeline excavation: open trench (photo left) and excavation with trench boxes (photo right).



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	Typical Pipeline Excavation Layout	
DATE : 7/12/2026			
CHECKED BY			
JOB NO.			
DRAWING SCALE			



PLAN



DRAWN BY BCD

DATE 5/20/2022

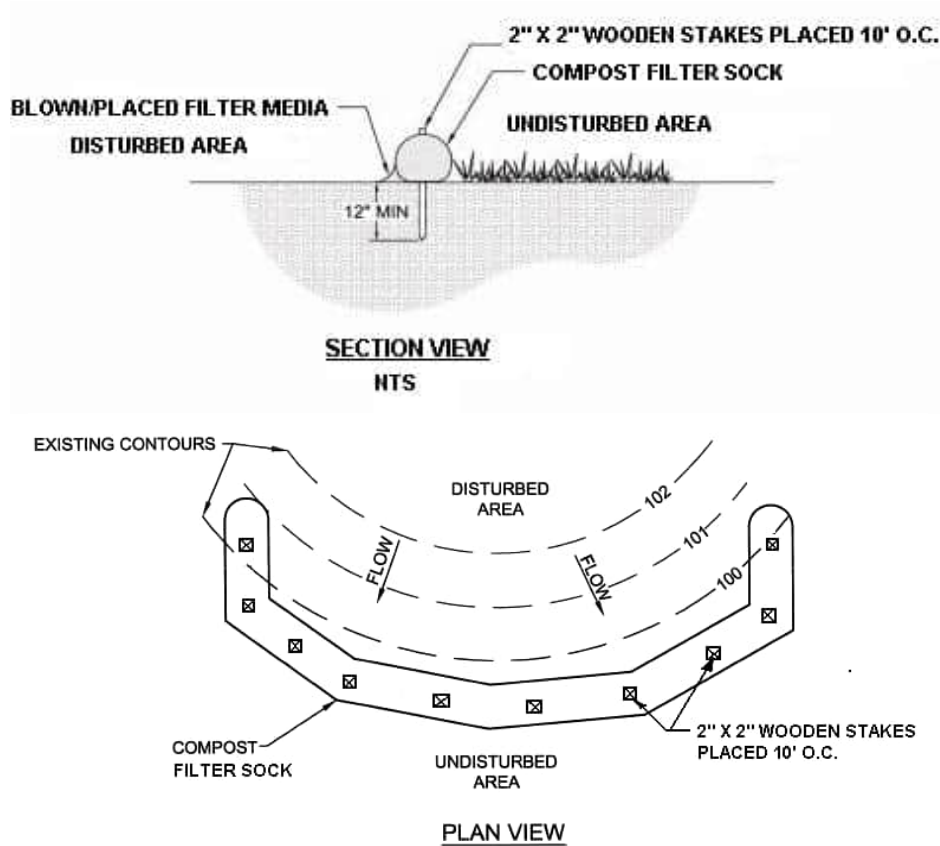
CHECKED BY



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P.O. Box 148
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**Typical Timber Mat Deployment
for Wetland Crossings**

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan.

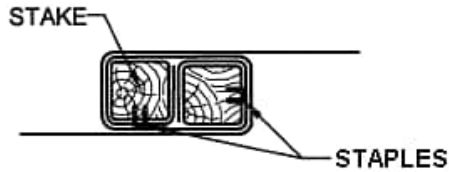
Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

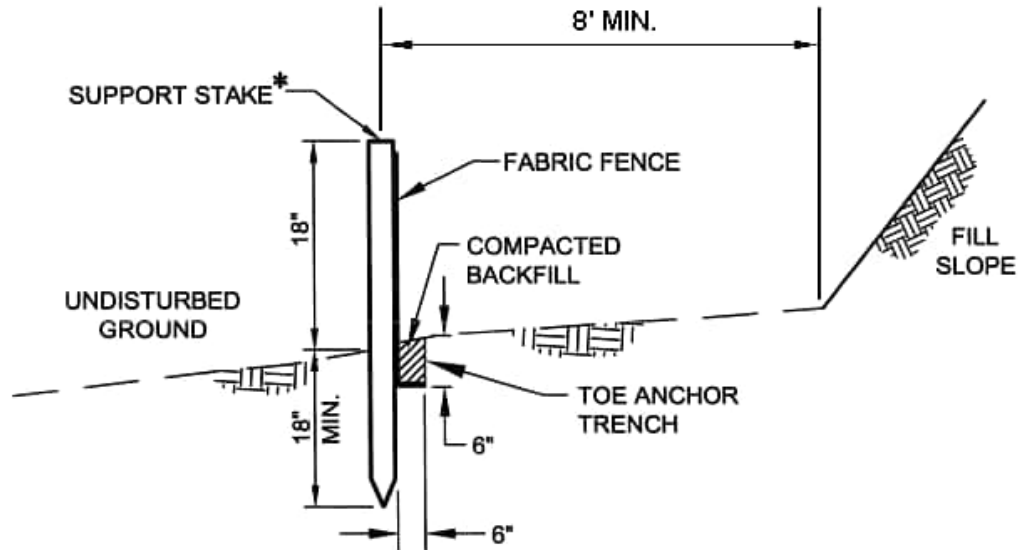
Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

STANDARD CONSTRUCTION DETAIL # 4-7 Standard Silt Fence (18" High)

*STAKES SPACED @ 8' MAX.
USE 2" x 2" ($\pm 3/8"$) WOOD
OR EQUIVALENT STEEL
(U OR T) STAKES



JOINING FENCE SECTIONS



ELEVATION VIEW

PA DEP

Fabric shall have the minimum properties as shown in Table 4.3.

Fabric width shall be 30" minimum. Stakes shall be hardwood or equivalent steel (U or T) stakes.

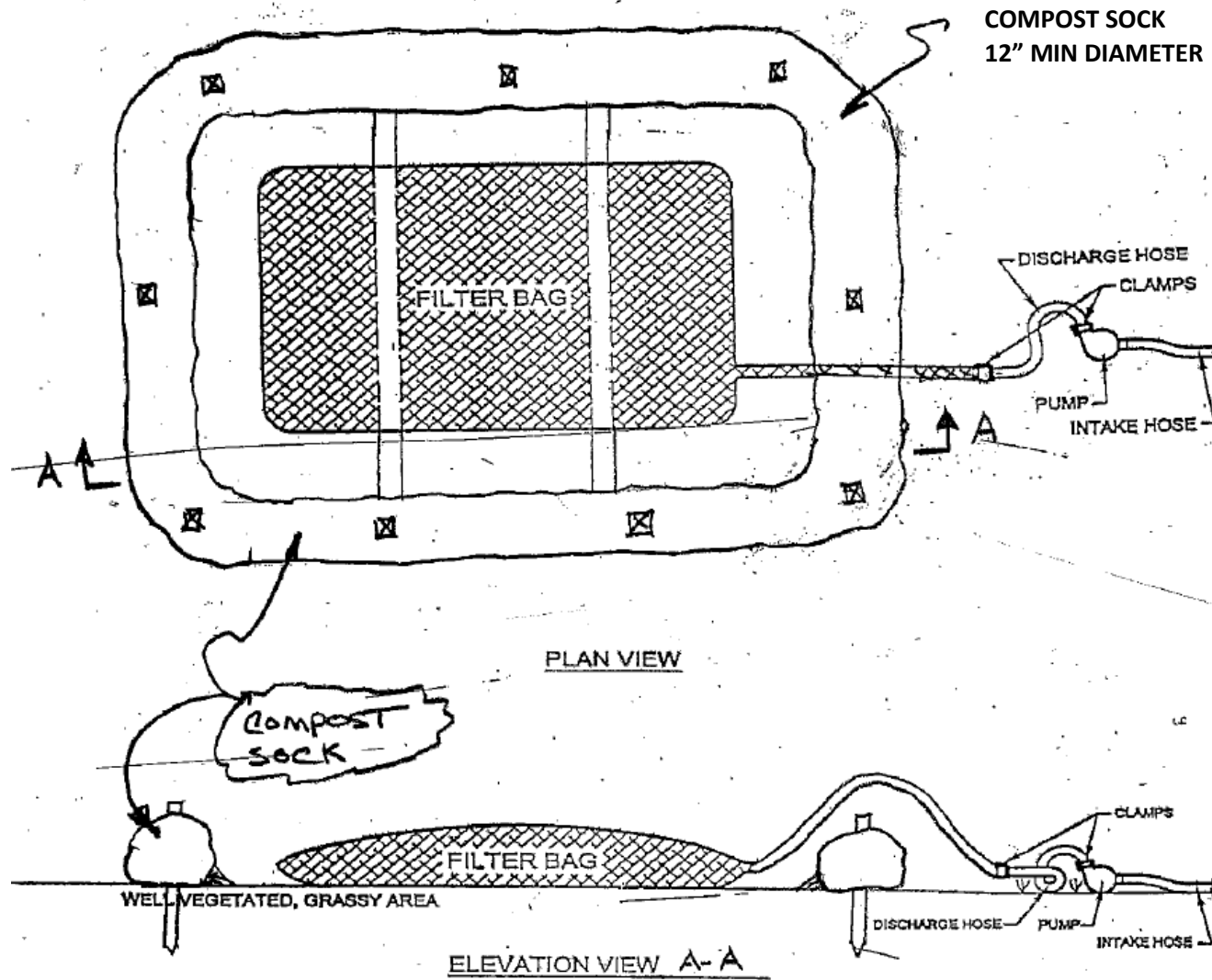
Silt fence shall be placed at level existing grade. Both ends of the fence shall be extended at least 8 feet up slope at 45 degrees to the main fence alignment (see Figure 4.1).

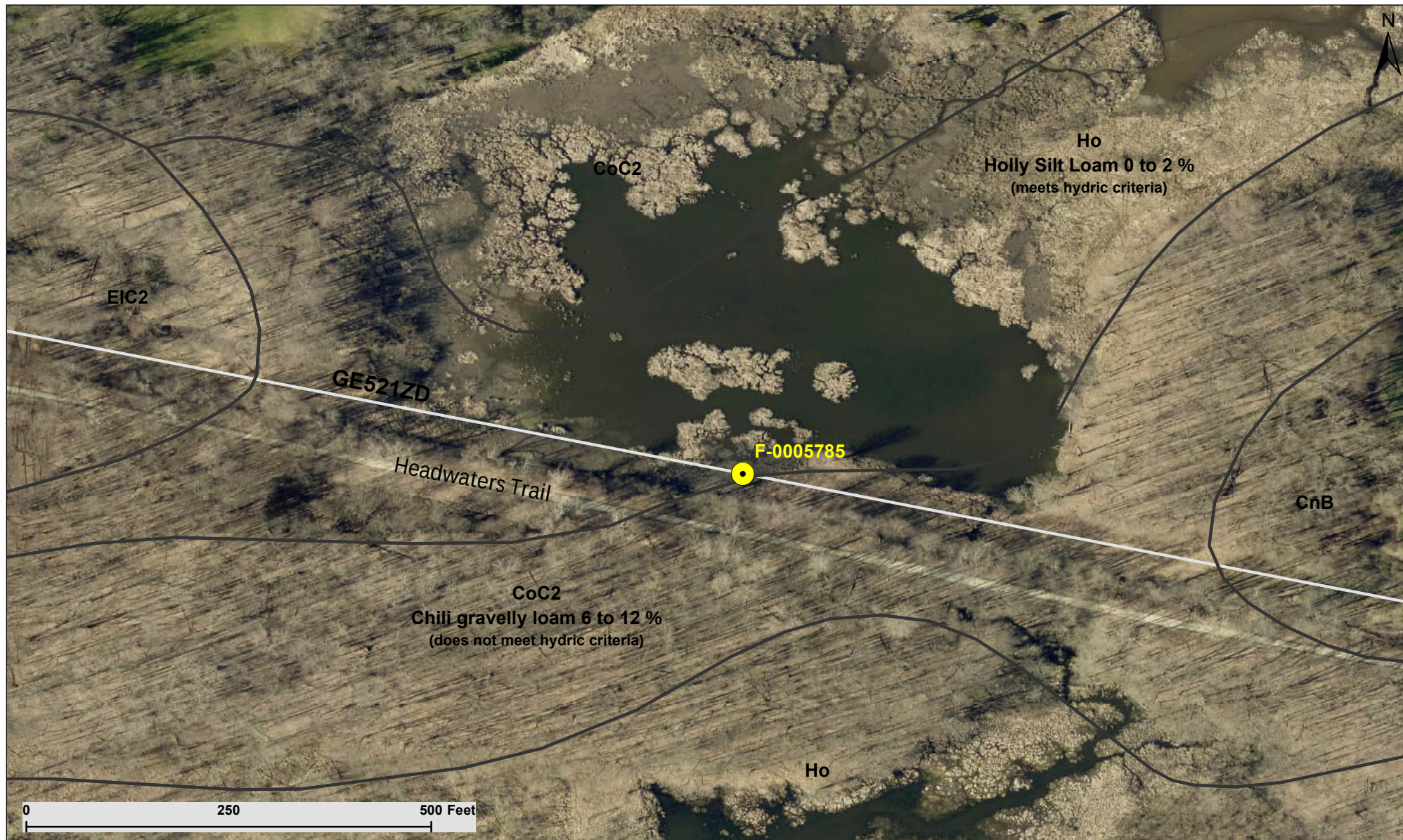
Sediment shall be removed when accumulations reach half the aboveground height of the fence.

Any section of silt fence which has been undermined or topped shall be immediately replaced with a rock filter outlet (Standard Construction Detail # 4-6).

Fence shall be removed and properly disposed of when tributary area is permanently stabilized.

Example Filter Bag with Compost Sock





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DATE 7/19/2026		Buckeye Partners Line 521 F-0005785 Mantua, OH
JOB NO.		USDA Soils
Project Manager: Rich Burns		

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Portage County, Ohio

Map Unit: Cg—Carlisle muck

Component: Carlisle (98%)

The Carlisle component makes up 98 percent of the map unit. Slopes are 0 to 2 percent. This component is on marshes. The parent material consists of herbaceous organic material and/or woody organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, September, October, November, December. Organic matter content in the surface horizon is about 85 percent. This component is in the F139XY013OH Mucky Depression ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Linwood (1%)

Generated brief soil descriptions are created for major soil components. The Linwood soil is a minor component.

Component: 6 to 10 inches of mineral overwash on the surface (1%)

Generated brief soil descriptions are created for major soil components. The 6 to 10 inches of mineral overwash on the surface soil is a minor component.

Map Unit: CnB—Chili loam, 2 to 6 percent slopes**Component:** Chili (100%)

The Chili component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on terraces. The parent material consists of outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY003OH Dry Calcareous Drift Plains ecological site. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: gravelly surface layer in steeper areas (%)

Generated brief soil descriptions are created for major soil components. The gravelly surface layer in steeper areas soil is a minor component.

Component: Moderately eroded (%)

Generated brief soil descriptions are created for major soil components. The Moderately eroded soil is a minor component.

Map Unit: CoC2—Chili gravelly loam, 6 to 12 percent slopes, moderately eroded**Component:** Chili (100%)

The Chili component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on terraces. The parent material consists of outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY003OH Dry Calcareous Drift Plains ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Oshtemo (%)

Generated brief soil descriptions are created for major soil components. The Oshtemo soil is a minor component.

Component: Bogart (%)

Generated brief soil descriptions are created for major soil components. The Bogart soil is a minor component.

Map Unit: CtD—Chili-Oshtemo complex, 12 to 18 percent slopes**Component: Chili (55%)**

The Chili component makes up 55 percent of the map unit. Slopes are 12 to 18 percent. This component is on terraces. The parent material consists of outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY003OH Dry Calcareous Drift Plains ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Oshtemo (45%)

The Oshtemo component makes up 45 percent of the map unit. Slopes are 12 to 18 percent. This component is on terraces. The parent material consists of outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY003OH Dry Calcareous Drift Plains ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: moderately eroded areas with 30-40% gravel in the subsoil (%)

Generated brief soil descriptions are created for major soil components. The moderately eroded areas with 30-40% gravel in the subsoil soil is a minor component.

Map Unit: CwC2—Chili-Wooster complex, 6 to 12 percent slopes, moderately eroded**Component: Chili (50%)**

The Chili component makes up 50 percent of the map unit. Slopes are 6 to 12 percent. This component is on terraces. The parent material consists of outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY003OH Dry Calcareous Drift Plains ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Wooster (30%)

The Wooster component makes up 30 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during February, March, April. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY005OH Dry Acidic Drift Plains ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Ellsworth (7%)

Generated brief soil descriptions are created for major soil components. The Ellsworth soil is a minor component.

Component: Wheeling (7%)

Generated brief soil descriptions are created for major soil components. The Wheeling soil is a minor component.

Component: Glenford (6%)

Generated brief soil descriptions are created for major soil components. The Glenford soil is a minor component.

Map Unit: EIC2—Ellsworth silt loam, 6 to 12 percent slopes, eroded

Component: Ellsworth, eroded (90%)

The Ellsworth, eroded component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains on uplands. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the F139XY002OH Moist Calcareous Drift Flats ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Component: Mahoning, eroded (10%)

Generated brief soil descriptions are created for major soil components. The Mahoning, eroded soil is a minor component.

Map Unit: Ho—Holly silt loam

Component: Holly (94%)

The Holly component makes up 94 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 4 percent. This component is in the F139XY009OH Wet Floodplain ecological site. Nonirrigated land capability classification is 3w. **This soil meets hydric criteria.** The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Component: Orrville (5%)

Generated brief soil descriptions are created for major soil components. The Orrville soil is a minor component.

Component: dark gray surface layer (1%)

Generated brief soil descriptions are created for major soil components. The dark gray surface layer soil is a minor component.

Map Unit: LoC—Loudonville silt loam, 6 to 12 percent slopes

Component: Loudonville (100%)

The Loudonville component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of till over residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY007OH Shallow Acidic Slopes ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: bedrock at more than 40 inches (%)

Generated brief soil descriptions are created for major soil components. The bedrock at more than 40 inches soil is a minor component.

Component: springs and seep areas (%)

Generated brief soil descriptions are created for major soil components. The springs and seep areas soil is a minor component.

Component: moderately eroded areas (%)

Generated brief soil descriptions are created for major soil components. The moderately eroded areas soil is a minor component.

Map Unit: LoD2—Loudonville silt loam, 12 to 18 percent slopes, moderately eroded

Component: Loudonville (100%)

The Loudonville component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of till over residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F139XY007OH Shallow Acidic Slopes ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Dekalb (%)

Generated brief soil descriptions are created for major soil components. The Dekalb soil is a minor component.

Map Unit: MgB—Mahoning silt loam, 2 to 6 percent slopes

Component: Mahoning (85%)

The Mahoning component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains on uplands. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the F139XY002OH Moist Calcareous Drift Flats ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 9 percent.

Component: Ellsworth (10%)

Generated brief soil descriptions are created for major soil components. The Ellsworth soil is a minor component.

Component: Trumbull (5%)

Generated brief soil descriptions are created for major soil components. The Trumbull soil is a minor component.

Map Unit: TrA—Trumbull silt loam, 0 to 2 percent slopes**Component: Trumbull (90%)**

The Trumbull component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on till plains. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the F139XY011OH Wet Calcareous Depression ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Mahoning (5%)

Generated brief soil descriptions are created for major soil components. The Mahoning soil is a minor component.

Component: Miner (5%)

Generated brief soil descriptions are created for major soil components. The Miner soil is a minor component.

Map Unit: W—Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Data Source Information

Soil Survey Area: Portage County, Ohio

Survey Area Data: Version 23, Sep 3, 2025

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region See ERDC/EL TR-12-1; the proponent agency is CECW-COR	OMB Control #: 0710-0024, Exp: 09/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Buckeye Partners F-0005785 City/County: Mantua/Portage Sampling Date: 7/22/2026
Applicant/Owner: Buckeye Partners LP State: OH Sampling Point: S1
Investigator(s): BC Dickson Section, Township, Range: S42 T5N R8W
Landform (hillside, terrace, etc.): Stream Floodplain Local relief (concave, convex, none): None Slope %: 0 - 1
Subregion (LRR or MLRA): 192 (Lake Erie Glaciated Plateau) Lat: 41.281817 Long: -81.196729 Datum: UTM83
Soil Map Unit Name: Holly silt loam, 0 to 2 % NWI classification: PEM1F
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks: (Explain alternative procedures here or in a separate report.)
The sample point is located in a mapped wetland (PEM1F) in ODNR Managed Lands south of Mennonite Road. The wetland is located between Mennonite Road and Headwaters Trail. Headwaters trail is on an abandoned rail line and serves as a bicycle/walking trail. A small tributary to the Cuyahoga River passes thru a culvert under the Headwaters Trail and has historically been obstructed by beavers thereby flooding the upstream wetland. Recently the culvert has been opened and the majority of the wetland has been dewatered except for the original stream channel. Wetland boundary on south side of ROW is abandoned railroad fill.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u> </u> Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u>X</u> Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soil saturated at surface and spongy throughout area. The only standing water was restricted to the original stream channel that is well away (north) from the sample point. Flooding is seasonal and dependent on beaver activity.

VEGETATION – Use scientific names of plants.

 Sampling Point: S1

Tree Stratum (Plot size: <u>10 m</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>NA</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
		=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>3 m</u>)																				
1. <u>NA</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
		=Total Cover		Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
		=Total Cover																		
Herb Stratum (Plot size: <u>1 m</u>)																				
1. <u>Leersia oryzoides</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>																	
2. <u>Polygonum punctatum</u>	<u>20</u>	<u>N</u>	<u>OBL</u>																	
3. <u>Schoenoplectus tabernaemontani</u>	<u>10</u>	<u>N</u>	<u>OBL</u>																	
4. <u>Epilobium coloratum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
		=Total Cover																		
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
		=Total Cover																		
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

Remarks: (Include photo numbers here or on a separate sheet.)
 See photos. Sample area on pipeline ROW dominated by *Leersia oryzoides* with other species intermixed. All species within plot are OBL. Other common species within the greater wetland (outside the sample plot) included: *Scirpus cyperinus*, *Sparganium americanum*, *Rorippa sylvestris*, *Spiraea alba*, *Salix nigra*, *Pilea pumila*, *Eupatorium perfoliatum*, *Thelypteris palustris*, *Galium asprellum*, *Eutrochium maculatum*, *Typha angustifolia*, *Asclepias incarnata*, *Onoclea sensibilis*, *Polygonum sagittatum*, *Epilobium coloratum*, *Ludwigia palustris*, *Impatiens capensis*, *Invasives: Rosa multiflora*
 NOTE: The greater vegetation community composition shifts at the floodplain boundary of the trib to the Cuyahoga River.

Sampling Point FP2[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| ☒ Histosol (A1) | ☐ Dark Surface (S7) |
| ☐ Histic Epipedon (A2) | ☐ Polyvalue Below Surface (S8) (LRR R, |
| ☐ Black Histic (A3) | MLRA 149B) |
| ☐ Hydrogen Sulfide (A4) | ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| ☐ Stratified Layers (A5) | ☐ High Chroma Sands (S11) (LRR K, L) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Loamy Mucky Mineral (F1) (LRR K, L) |
| ☐ Thick Dark Surface (A12) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Iron Monosulfide (A18) | ☐ Depleted Matrix (F3) |
| ☐ Mesic Spodic (A17) | ☐ Redox Dark Surface (F6) |
| (MLRA 144A, 145, 149B) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ Sandy Gleyed Matrix (S4) | ☐ Marl (F10) (LRR K, L) |
| ☐ Sandy Redox (S5) | ☐ Red Parent Material (F21) (MLRA 145) |
| ☐ Stripped Matrix (S6) | |

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**) Thin
☐ Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Red Parent Material (F21) (**outside MLRA 145**)
☐ Very Shallow Dark Surface (F22)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

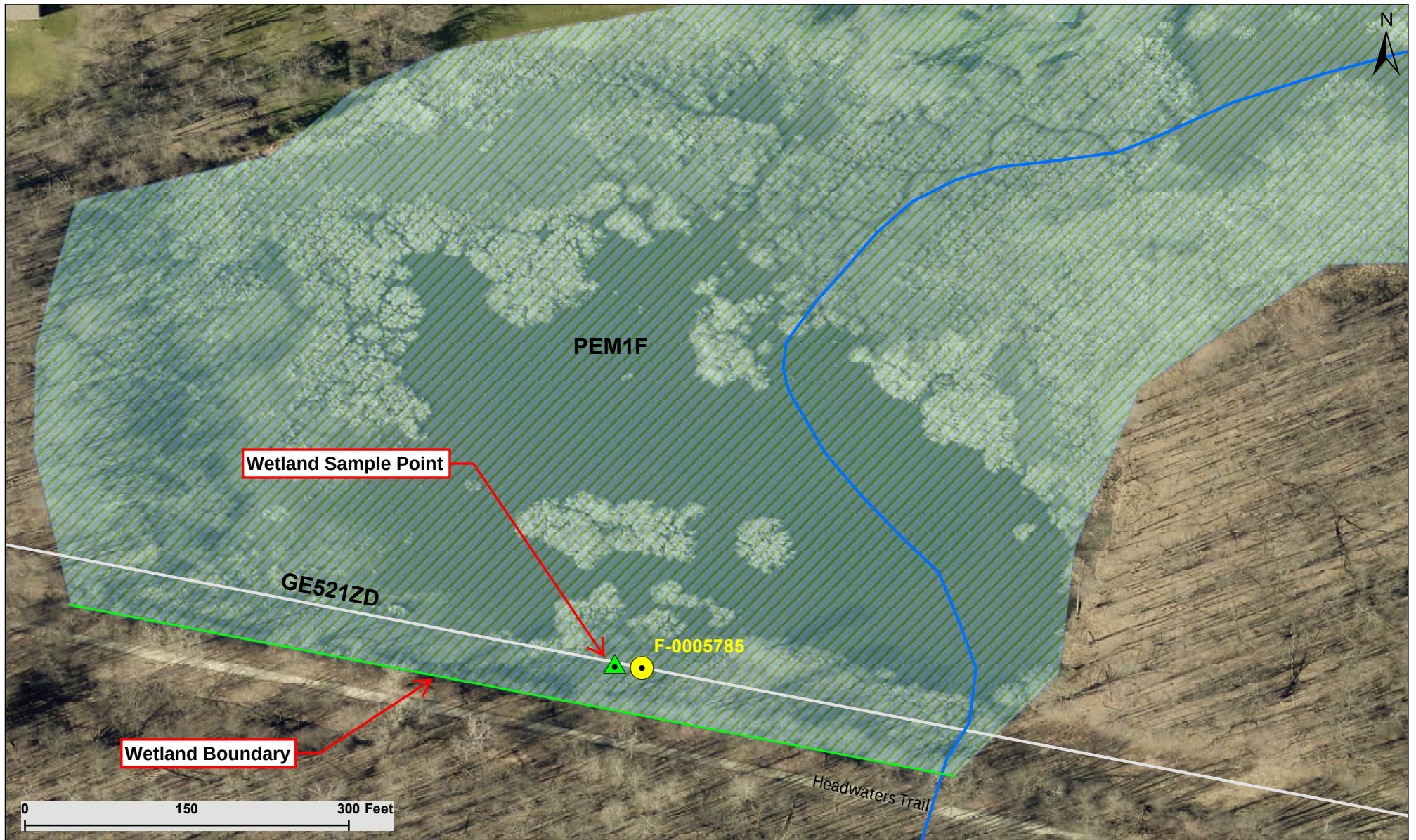
Hydric Soil Present? Yes X No

Remarks:

Sample site soil pit dug to 16". Water in pit after at 8".



WETLAND DETERMINATION DATA SHEETS AND SITE PHOTO DOCUMENTATION



DRAWN BY BCD	 REDHORSE ENVIRONMENTAL P.O. Box 148 Tionesta, PA 16353 www.redhorseenvironmental.com	
DATE 7/30/2026		Buckeye Partners Line 521 F-0005785 Mantua, OH
JOB NO.		Wetland Sample Point: 41.281817 -81.196729
Project Manager: Rich Burns		



Figure 1. View looking north on ROW at wetland sample point 1.
(41.281817 -81.196729)



Figure 2. View of project area on pipeline ROW looking east (photo left) and west (photo right) of wetland south of Mennonite Road and north of Headwaters Trail.



Figure 3. View looking north across ROW at project area toward Mennonite Road



Figure 4. View looking northeast across greater wetland toward Mennonite Road



Figure 5. View looking east along Headwaters Trail of bank descending into wetland.
Base of bank is an abrupt wetland boundary.

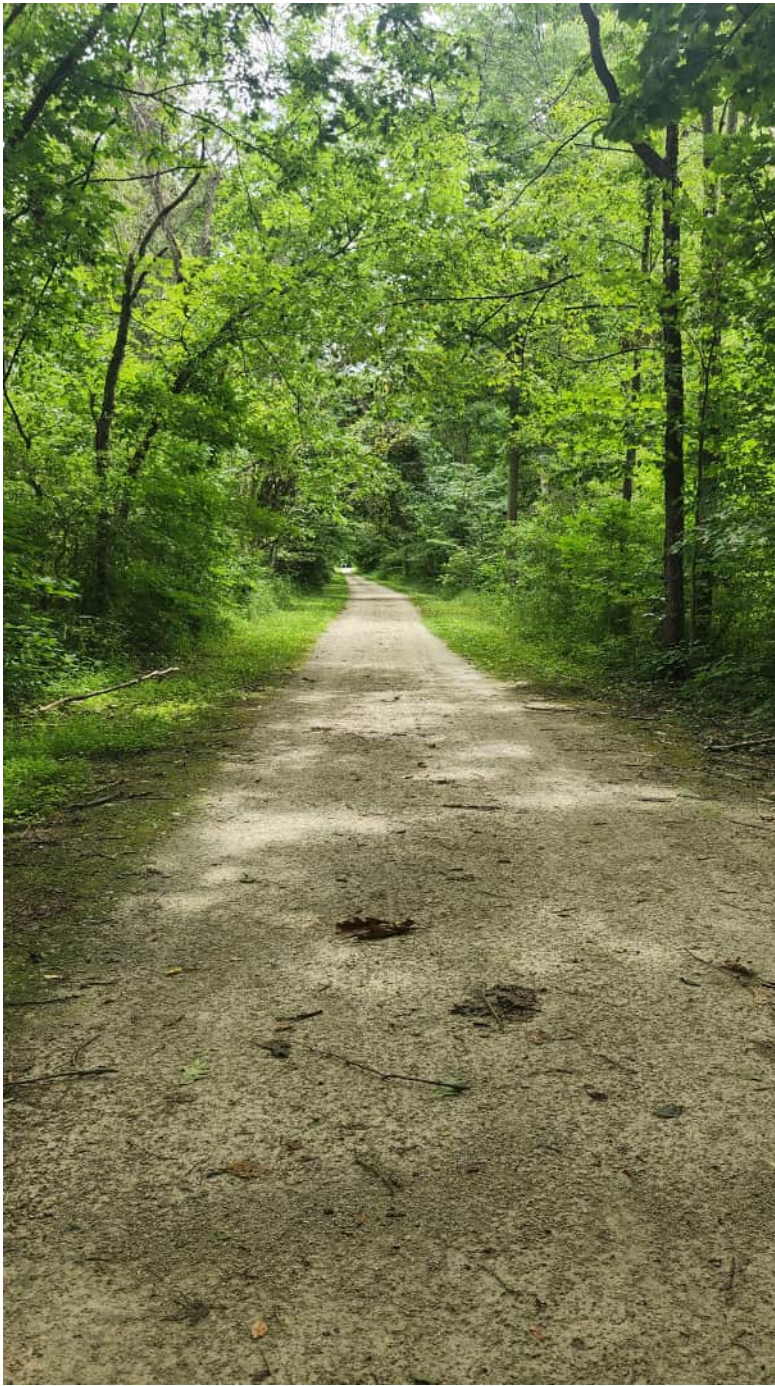


Figure 6. View looking east along Headwaters Trail (access route to project work area; photo left) and perennial tributary to the Cuyahoga River at the culvert outlet (photo right).



Figure 7. View looking east across greater wetland where the vegetation community changes along the active floodplain of the tributary to the Cuyahoga River. This area is north on the Buckeye ROW.