GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing GBA Member Firm

September 4, 2025

Delaware Department of Natural Resources and Environmental Control
Wetlands and Subaqueous Lands Section
Richardson & Robbins Building
89 Kings Highway SW
Dover, Delaware 19901

Re: Wetlands and Subaqueous Lands Permit Application
Piney Neck Force Main
Sussex County, Delaware

Dear Regulatory Services Coordinator:

On behalf of the Sussex County Engineering Department (Applicant), Geo-Technology Associates, Inc. (GTA) is submitting the following information for review and processing:

1. Completed Wetlands and Subaqueous Lands Section Basic Application Form;
2. Associated Application Tables – *Sections 3 and 4 Tables*;
3. Appendix E – Utility Crossings (5 separate appendices);
4. Wetland/Waterway Impact Plates– *Figures 1-9;*
5. *Figure 1 – Site Location Map;*
6. *Figure 2 – USGS Topographic Map;*
7. *Figure 3 – 2024 Aerial Imagery;*
8. *Piney Neck Force Main Wetland Delineation Report*, produced by GTA and dated May 8, 2025;
9. *Progressive Design-Build Project for Piney Neck Wastewater Facility Diversion Transmission System,* prepared by GHD, Inc. and dated August 2025;
10. Property Owner Agreements between Sussex County and Impact Area landowners and;
11. Copy of Impact Area landowner Deeds.

The Piney Neck Wastewater Facility Diversion Transmission System project includes the installation of approximately 5.6 miles of below ground waterline in the Dagsboro and Frankford areas of Sussex County, Delaware. More specifically, the applicant is proposing to install water force main from the Piney Neck Wastewater Treatment Facility on Piney Neck Road southeast to terminate northwest of Waters Edge Way in Frankford, Sussex County, Delaware.

GTA performed a wetland delineation in May 2025 that identified two tidal waterbodies, five nontidal perennial ditches, four intermittent ditches, two tidal wetlands, and four nontidal wetlands within the project review area.

The proposed project has been designed to avoid impacting those resources to the maximum extent practicable. For example, the project proposes to cross several non-tidal wetlands and waterbodies via Horizontal Directional Drilling (HDD) methods to avoid direct impacts. Nontidal waterbodies avoided via HDD methods include unnamed tributaries to Stump Creek, Beaverdam Creek, Blackwater Creek, as well as underneath Blackwater Creek itself.

The project proposes to cross two tidal waterbodies (Pepper Creek and Vines Creek). Direct impacts to these tidal waterbodies will be avoided by installing the force main via HDD methods. These two areas are included in this application as Impact Areas 1 and 3.

The project proposes to cross three jurisdictional perennial ditches (Impact Areas 2, 5, and 7) with installation via open cut methods. The impacts to the perennial ditches (0.023 acres; 96 linear feet) via open cut methods will be temporary impacts. All other waters and wetland features will not be impacted as HDD methods were able to be deployed in those areas. (The project also proposes to cross two nontidal wetlands and those temporary impacts will be authorized by the U.S Army Corps of Engineers [Impact Areas 4 and 6]).

The purpose of the project is to divert all flow from the Piney Neck Regional Wastewater Facility to the South Coastal Regional Wastewater Facility. The project was approved by the Sussex County Council in 2019. Since then, the Sussex County Engineering Department has completed the acquisition of all easements and have completed alignment design. The project is necessary to ensure continued service to public wastewater customers into the future. The proposed force main that will service the community has been aligned to follow an existing DP&L transmission line right-of-way as much as possible to reduce the amount of tree clearing required.

GTA, on behalf of the Applicant, is requesting authorization for the proposed waterline utility crossings across 2 tidal waterbodies and 3 perennial ditches associated with the Piney Neck Wastewater Facility Diversion Transmission System project. GTA and the Applicant look forward to receiving authorization from your office. Should you have any questions, or require additional information, please contact this office at (410) 515-9446.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Amy Nazdrowicz, PWS
Senior Wetland Scientist

Matthew Jennette
Vice President

AJN/MAJ
31250601
L:\Shared\Project Files\2025\31250601 - Piney Neck WWTP\WET\Reports – Permitting\DNREC Subaqueous Permit

Basic Application Form

WETLANDS AND SUBAQUEOUS LANDS SECTION PERMIT APPLICATION FORM

For Subaqueous Lands, Wetlands, Marina and 401 Water Quality Certification Projects

State of Delaware
Department of Natural Resources and Environmental Control
Division of Water

Wetlands and Subaqueous Lands Section

APPLICATION FOR APPROVAL OF
SUBAQUEOUS LANDS, WETLANDS, MARINA
AND WATER QUALITY CERTIFICATION PROJECTS

Last Revised on: March 28, 2017

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

Application Instructions:

1. Complete each section of this basic application and appropriate appendices as thoroughly and accurately as possible. Incomplete or inaccurate applications will be returned.

2. All applications must be accompanied by a scaled plan view and cross-section view plans that show the location and design details for the proposed project. Full construction plans must be submitted for major projects.

3. All applications must have an original signature page and proof of ownership or permitted land use agreement.

4. Submit an original and two (2) additional copies of the application (total of 3) with the appropriate application fee and public notice fee* (prepared in separate checks) to:

Department of Natural Resources and Environmental Control
Wetlands and Subaqueous Lands Section
89 Kings Highway
Dover, Delaware 19901

*Application and public notice fees are non-refundable regardless of the Permit decision or application status.

5. No construction may begin at the project site before written approval has been received from this office.

Helpful Information:

1.	Tax Parcel Information:	New Castle County	(302) 395-5400
		Kent County	(302) 736-2010
		Sussex County	(302) 855-7878
2.	Recorder of Deeds:	New Castle County	(302) 571-7550
		Kent County	(302) 744-2314
		Sussex County	(302) 855-7785

3. A separate application and/or approval may be required through the Army Corps of Engineers. Applicants are strongly encouraged to contact the Corps for a determination of their permitting requirements. For more information, contact the Philadelphia District Regulator of the Day at (215) 656-6728 or visit their website at: http://www.nap.usace.army.mil/Missions/Regulatory.aspx.

4. For questions about this application or the Wetlands and Subaqueous Lands Section, contact us at (302) 739-9943 or visit our website at: http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx. Office hours are Monday through Friday 8:00 AM to 4:30 PM, except on State Holidays.

APPLICANT'S REVIEW BEFORE MAILING

DID YOU COMPLETE THE FOLLOWING?

X	Yes	BASIC APPLICATION
X	Yes	SIGNATURE PAGE (Page 3)
X	Yes	APPLICABLE APPENDICES
X	Yes	SCALED PLAN VIEW
X	Yes	SCALED CROSS-SECTION OR ELEVATION VIEW PLANS
X	Yes	VICINITY MAP
X	Yes	COPY OF THE PROPERTY DEED & SURVEY
X	Yes	THREE (3) COMPLETE COPIES OF THE APPLICATION PACKET
X	Yes	APPROPRIATE APPLICATION FEE & PUBLIC NOTICE FEE (Separate checks made payable to the State of Delaware)

Submit 3 complete copies of the application packet to:

Department of Natural Resources and Environmental Control
Wetlands and Subaqueous Lands Section
89 Kings Highway
Dover, Delaware 19901

Before signing and mailing your application packet, please read the following:

The Department requests that the contractor or party who will perform the construction of your proposed project, if other than the applicant, sign the application signature page along with the applicant in the spaces provided. When the application is signed by the contractor as well as the applicant, the Department will issue the Permit to both parties. For Leases, the contractor will receive a separate construction authorization that will make them subject to all of the terms and conditions of the Lease relating to the construction

Section 1: Applicant Identification

1. Applicant's Name: Sussex County Engineering Department
   Mailing Address: Sussex County Administration Office Building
   3rd Floor, 2 The Circle, P.O. Box 589, Georgetown, DE 19947
   Attention: Mike Harmer, County Engineer
   Telephone #: 302-855-7370
   Fax #:
   E-mail: mharmer@sussexcountyde.gov

2. Consultant's Name: Mr. Phillip Dieckmann, PE
   Mailing Address: 16701 Melford Blvd, Suite 221
   Bowie, MD 20715
   Company Name: GHD Inc.
   Telephone #: 803-528-8642
   Fax #:
   E-mail: phillip.dieckmann@ghd.com

3. Contractor's Name:
   Mailing Address:
   Company Name:
   Telephone #:
   Fax #:
   E-mail:

Section 2: Project Description

4. Check those that apply:
X New Project/addition to existing project? ☐ Repair/Replace existing structure? (If checked, must answer #16)

5. Project Purpose (attach additional sheets as necessary):

To install a new 5.6-mile wastewater diversion force main in order to divert all flow from the Piney Neck Regional Wastewater Facility to the South Coastal Regional Wastewater Facility. The project was approved by the Sussex County Council in 2019. Since then, the Sussex County Engineering Department has completed the acquisition of all easements and has finalized alignment design.

6. Check each Appendix that is enclosed with this application:

	A. Boat Docking Facilities		G. Bulkheads		N. Preliminary Marina Checklist
	B. Boat Ramps		H. Fill		O. Marinas
	C. Road Crossings		I. Rip-Rap Sills and Revetments		P. Stormwater Management
	D. Channel Modifications/Dams		J. Vegetative Stabilization		Q. Ponds and Impoundments
X	E. Utility Crossings		K. Jetties, Groins, Breakwaters		R. Maintenance Dredging
	F. Intake or Outfall Structures		M. Activities in State Wetlands		S. New Dredging

Section 3: Project Location

7. Project Site Address: From Piney Neck Rd in Frankford southwest to terminate northwest of Waters Edge Way in Frankford, Sussex County, DE (5.6 miles)
   County: ☐ N.C. ☐ Kent X Sussex
   Site owner name (if different from applicant):
   Address of site owner: See Attached Table.

8. Driving Directions: See Attached Sheet for driving directions to each of the five (5) Impact Areas

(Attach a vicinity map identifying road names and the project location)

9. Tax Parcel ID Number: See Attached Table.
   Subdivision Name:

WSLS Use Only: **Permit #s:** _____ _____ _____ _____

Type **SP** ☐ **SL** ☐ **SU** ☐ **WE** ☐ **WQ** ☐ **LA** ☐ **SA** ☐ **MP** ☐ **WA** ☐

Corps Permit: SPGP 18 ☐ **20** ☐ **Nationwide Permit #:** _____ **Individual Permit #** _____
Received Date: _____ **Project Scientist:** _____
Fee Received? Yes ☐ **No** ☐ **Amt: $** _____ **Receipt #:** _____
Public Notice #: _____ **Public Notice Dates: ON** _____ **OFF** _____

Section 3: Project Location (Continued)

10. Name of waterbody at Project Location: Pepper Creek, Herring Branch, Vines Creek, and 2 unnamed tribuaties (ditches) to Blackwater Creek waterbody is a tributary to: _____

11. Is the waterbody: X Tidal X Non-tidal Waterbody width at mean low or ordinary high water_____

12. Is the project: X On public subaqueous lands? X On private subaqueous lands?*
☐ In State-regulated wetlands? ☐ In Federally-regulated wetlands?

5 Impact Areas:
Area 1 (Pepper Creek): 49'
Area 2 (Herring Branch): 15'
Area 3 (Vines Creek): 70'
Area 5 (Blackwater Ditch): 4'
Area 7 (Blackwater Ditch): 15'

*If the project is on private subaqueous lands, provide the name of the subaqueous lands owner:
See Enclosed Easements.
(Written permission from the private subaqueous lands owner must be included with this application)

13. Present Zoning: ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industrial X Other

Section 4: Miscellaneous

14. A. List the names and complete mailing addresses of the immediately adjoining property owners on all sides of the project (attach additional sheets as necessary):
See Attached Table.

B. For wetlands and marina projects, list the names and complete mailing addresses of property owners within a 1,000 foot radius of the project (attach additional sheets as necessary): N/A

15. Provide the names of DNREC and/or Army Corps of Engineers representatives whom you have discussed the project with:
Mike Yost, USACE

A. Have you had a State Jurisdictional Determination performed on the property? ☐ Yes X No
B. Has the project been reviewed in a monthly Joint Permit Processing Meeting? X Yes ☐ No
*If yes, what was the date of the meeting? June 26, 2025

16. Are there existing structures or fill at the project site in subaqueous lands? ☐ Yes X No
*If yes, provide the permit and/or lease number(s):

*If no, were structures and/or fill in place prior to 1969? ☐ Yes ☐ No

17. Have you applied for or obtained a Federal permit from the Army Corps of Engineers?
☐ No X Pending ☐ Issued ☐ Denied Date: _____

Type of Permit: NWP 58 Federal Permit or ID #: _____

18. Have you applied for permits from other Sections within DNREC?
X No ☐ Pending ☐ Issued ☐ Denied Date: _____ Permit or ID #: _____

Type of permit (circle all that apply): Septic Well NPDES Storm Water

Other: _____

Section 5: Signature Page

19. Agent Authorization:

If you choose to complete this section, all future correspondence to the Department may be signed by the duly authorized agent. In addition, the agent will become the primary point of contact for all correspondence from the Department.

I do not wish to authorize an agent to act on my behalf ☐

I wish to authorize an agent as indicated below ☒

I, Mike Harmer, County Engineer (Name of Applicant), hereby designate and authorize Phillip Dieckmann, PE (Name of Agent) to act on my behalf in the processing of this application and to furnish any additional information requested by the Department.

Authorized Agent's Name: Phillip Dieckmann, PE
Mailing Address: GHD, Inc., 16701 Melford Blvd, Suite 221
Bowie, MD 20715

Telephone #: (803) 582-8642
Fax #:
E-mail: phillip.dieckmann@ghd.com

20. Agent's Signature:

I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

Agent's Signature

9/9/2025
Date

21. Applicant's Signature:

I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge and that I am required to inform the Department of any changes or updates to the information provided in this application. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application. I grant permission to authorized Department representatives to enter upon the premises for inspection purposes during working hours.

Applicant's Signature Michael Harmer 9-8-2025 Date

Michael Harmer
Print Name

22. Contractor's Signature:

I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge, and that I am required to inform the Department of any changes or updates to the information provided in this application. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

Contractor's Name

Date

Print Name

Basic Application Form: Sections 3 and 4 Tables

Section 3.7 Project Location: Site Owner Names

Impact Area	Latitude	Longitude	State Tax Parcel ID #	Municipality	Site Owner	Site Owner Address	Present Parcel Zoning
1 (Pepper Creek)	38° 33.1576	75° 13.8925	233-11.00-83.00	Dagsboro	Sussex County	P.O Box 589, Georgetown, DE 19947	Residential
			233-11.00-109.00	Dagsboro	Eileen McCaffery	P.O Box 67, Dagsboro DE 19939	Commercial
2 (Herring Branch)	38° 32.7295	75° 12.736	233-12.00-28.00	Dagsboro	Charles P. Townsend	31175 Horseshoe Lane, Dagsboro DE 19939	Agriculture
			433-2.00-2.00	Dagsboro	Ronald L. Culver	32 Townsends Road, Dagsboro, DE 19939	Residential
3 (Vines Creek)	38° 32.5126	75° 11.7965	433-2.00-1.00	Dagsboro	Charles P. Townsend	31175 Horseshoe Lane, Dagsboro DE 19939	Agriculture
			134-10.00-51.00	Frankford	Bayshore, Inc.	30145 Bayshore Rd, Ocean View, DE 19970	Agriculture
5 (Ditch)	38° 32.194	75° 10.484	134-14.00-21.01	Frankford	Delaware Electric Cooperative Inc.	14198 Sussex Highway, Greenwood DE 19950	Commercial
7 (Ditch)	38° 32.128	75° 10.1645	134-15.00-1.00	Frankford	Charles P. Townsend	31175 Horseshoe Lane, Dagsboro DE 19939	Agriculture

Section 3.8 Project Location: Driving Directions

IMPACT AREA	DRIVING DIRECTIONS
1	Impact Area 1 (in Pepper Creek) is situated within the transmission line right-of-way northeast of Ocean View Plumbing and Heating located at 31892 Elizabeth Dr in Dagsboro.
2	Impact Area 2 (in Herring Branch) is situated along the edge of the transmission line right-of-way north of the private residence located at 32164 Townsend Road in Dagsboro.
3	Impact Area 3 (in Vines Creek) is situated along the edge of the transmission line right-of-way to the west of the western-most portion of Otter Street in Frankford.
5	Impact Area 5 is within a ditch that is associated with Prong 2 of Blackwater Creek and is situated along the edge of the transmission line right-of-way approximately 970 linear feet southeast of Jones Road in Frankford.
7	Impact Area 7 is within a ditch that is associated with Blackwater Creek, Sub 1, Prong 2 and is situated north of the intersection of the transmission line right-of-way and Burbage Road in Frankford.

Section 4.14: Adjoining Property Owners Addresses

Impact Area	Adjoining Property Owner	Mailing Address
1	Richard Shaubach	31915 Elizabeth Drive, Dagsboro DE 19939
2	N/A	N/A
3	N/A	N/A
5	David Wingate	35178 Murfield Circle, Dagsboro DE 19939
5	Terry Umstead	32745 Jones Road, Frankford DE 19945
5	Charles P. Townsend	31175 Horseshoe Lane, Dagsboro DE 19939
7	N/A	N/A

Appendix E – Utility Crossings (x5)

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Five (5) Complete a separate Appendix E for each crossing.
   (Impact Areas 4 and 6 are within wetlands)
2. The information below is for Crossing # Impact Area 1: Pepper Creek

General Information

3. What type of utility is being installed and what is its diameter?

X	wastewater pipeline	_____ inches	____	electric line	_____ inches
____	water line	12 inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

4. What is the total length of the crossing relative to:

   MHW 437 ft. MLW 255 ft. OHW _____ ft.

5. What is the total area of impact for the crossing relative to:

   MHW 0 sq. ft. MLW 0 sqft. OHW _____ sq. ft.

6. What is the method of installation for the crossing:

   X directional bore _____ trench _____blasting _____plow

   If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:
   The force main within Impact Area 1 will be installed via Horizontal Directional Drilling methods.

8. Will dredging, excavating, or filling be required? _____ Yes X No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 40 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    X Public X Private
    If private, who is/are the property holder(s)? Sussex County and Eileen McCaffery
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreements.

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Five (5) Complete a separate Appendix E for each crossing.

(Impact Areas 4 and 6 are within wetlands)

2. The information below is for Crossing # Impact Area 2: Herring Branch

General Information

3. What type of utility is being installed and what is its diameter?

X	wastewater pipeline	_____ inches	____	electric line	_____ inches
____	water line	12 inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

4. What is the total length of the crossing relative to:

MHW _____ ft. MLW_____ ft. OHW 32 ft.

5. What is the total area of impact for the crossing relative to:

MHW _____ sq. ft. MLW _____sqft. OHW 481 sq. ft.

6. What is the method of installation for the crossing:

_____ directional bore X____ trench _____blasting _____plow

If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:

The installation of the force main within Impact Area 2 will be conducted via open trench methods and will follow typical methodology for open trench installation (including excavation of the trench, force main installtion, backfilling of the trench, and restoration of the surface).

8. Will dredging, excavating, or filling be required? X* Yes _____ No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

*Excavation

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 5 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public X Private
    If private, who is/are the property holder(s)? Charles P. Townsend and Ronald L. Culver
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreements.

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Five (5) Complete a separate Appendix E for each crossing.
   (Impact Areas 4 and 6 are within wetlands)
2. The information below is for Crossing # Impact Area 3: Vines Creek

General Information

3. What type of utility is being installed and what is its diameter?

X wastewater pipeline	_____ inches	____ electric line	_____ inches
____ water line	12 inches	____ TV/cable	_____ inches
____ gas line	_____ inches	____ fiber optic cable	_____ inches
____ other (describe) _____			_____ inches

4. What is the total length of the crossing relative to:

   MHW 350 ft. MLW 335 ft. OHW _____ ft.

5. What is the total area of impact for the crossing relative to:

   MHW 0 sq. ft. MLW 0 sqft. OHW _____ sq. ft.

6. What is the method of installation for the crossing:

   X directional bore _____ trench _____blasting _____plow

   If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:

   The force main wille installed within Impact Area 3 via Horizontal Directional Drilling methods.

8. Will dredging, excavating, or filling be required? _____ Yes X No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 40 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    X Public X Private
    If private, who is/are the property holder(s)? Charles P. Townsend and Bayshore, Inc.
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreements.

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Five (5) Complete a separate Appendix E for each crossing.

(Impact Areas 4 and 6 are within wetlands)

2. The information below is for Crossing # Impact Area 5: Perennial Ditch

General Information

3. What type of utility is being installed and what is its diameter?

X	wastewater pipeline	_____ inches	____	electric line	_____ inches
____	water line	12 inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

4. What is the total length of the crossing relative to:

MHW _____ ft. MLW_____ ft. OHW 31 ft.

5. What is the total area of impact for the crossing relative to:

MHW _____ sq. ft. MLW _____sqft. OHW 122 sq. ft.

6. What is the method of installation for the crossing:

_____ directional bore X____ trench _____blasting _____plow

If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:

The installation of the force main within Impact Area 5 will be conducted via open trench methods and will follow typical methodology for open trench installation (including excavation of the trench, force main installtion, backfilling of the trench, and restoration of the surface).

8. Will dredging, excavating, or filling be required? X* Yes _____ No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

*Excavation

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 5 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public X Private
    If private, who is/are the property holder(s)? Delaware Electric Cooperative Inc.
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreement.

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Five (5) Complete a separate Appendix E for each crossing.
   (Impact Areas 4 and 6 are within wetlands)
2. The information below is for Crossing # Impact Area 7: Perennial Ditch

General Information

3. What type of utility is being installed and what is its diameter?

X	wastewater pipeline	_____ inches	____	electric line	_____ inches
____	water line	12 inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

4. What is the total length of the crossing relative to:

   MHW _____ ft. MLW_____ ft. OHW 33 ft.

5. What is the total area of impact for the crossing relative to:

   MHW _____ sq. ft. MLW _____sqft. OHW 465 sq. ft.

6. What is the method of installation for the crossing:

   _____ directional bore X trench _____blasting _____plow

   If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:

   The instalaltion of the force main within Impact Area 7 will be conducted via open trench methods and will follow typical methodology for open trench installation (including excavation of the trench, force main installation, backfilling of the trench, and restoration of the surface).

8. Will dredging, excavating, or filling be required? X* Yes _____ No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

*Excavation

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 5 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public X Private
    If private, who is/are the property holder(s)? Charles P. Townsend
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreement.

Utility Crossings

Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.

1. Please indicate the total number of subaqueous lands crossings associated with the project here: Six (6) Complete a separate Appendix E for each crossing.
   (Impact Areas 4 and 6 are within wetlands)
2. The information below is for Crossing # Impact Area 8: Beaverdam Creek

General Information

3. What type of utility is being installed and what is its diameter?

X wastewater pipeline	_____ inches	____ electric line	_____ inches
____ water line	12 inches	____ TV/cable	_____ inches
____ gas line	_____ inches	____ fiber optic cable	_____ inches
____ other (describe) _____			_____ inches

4. What is the total length of the crossing relative to:

   MHW _____ ft. MLW_____ ft. OHW 30 ft.

5. What is the total area of impact for the crossing relative to:

   MHW _____ sq. ft. MLW _____sqft. OHW 628 sq. ft.

6. What is the method of installation for the crossing:

   _____ directional bore X trench _____blasting _____plow

   If another method of installation will be utilized, please describe here:

7. Briefly outline the construction sequence for placement of the structure:

   The instalaltion of the force main within Impact Area 8 will be conducted via open trench methods and will follow typical methodology for open trench installation (including excavation of the trench, force main installation, backfilling of the trench, and restoration of the surface).

8. Will dredging, excavating, or filling be required? X* Yes _____ No

If "yes", complete the appropriate dredging appendix and/or fill appendix and include them with your application.

*Excavation

9. Will there be any permanent towers, poles, platforms or other structures (excluding submarine cables) on subaqueous land or in wetlands? _____ Yes X No

If "yes", give the number of structures, and provide a description, including square footage and material (the location of all structures must be shown on the plans or the application cannot be processed).

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? 5 ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public X Private
    If private, who is/are the property holder(s)? DHIC Tupelo Sands and ASF MBTS LLC
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant. Enclosed.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes X No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? _____ Yes X No

13. Please include evidence of written permission from the private land owner above (if other than the applicant). See enclosed Easement Agreements.

MAINTENANCE DREDGING OR EXCAVATING

- If dredged material is to be placed in a disposal site, a separate map showing the location of the disposal site should be attached. This drawing must indicate the proposed retention levees, weirs, spillways, and/or devices for retaining the materials.

- Bottom samples to determine heavy metals or other toxic materials must be taken and analyzed if deemed necessary by the DNREC staff. The responsibility, as well as the expense incurred for obtaining and analyzing these samples, must be borne by the applicant.

- If maintenance dredging is to be done, evidence of previous dredging must be provided. Any previously issued permit with drawings which indicates the date the dredging occurred, the area involved and dredging depth constitutes acceptable proof.

- Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.

1. How many cubic yards of material will be MAINTENANCE DREDGED or excavated channelward of the:

   a. Tidal waters: mean high water line? _____ cu. yds
      mean low water line? _____ cu. yds.
   b. Non-tidal waters: ordinary high water line? 25 cu. yds.

This excavation will be temporary, as the material will be put back in place and the pre-construction grade will be restored, following utility line installation

Does this account for the total volume of proposed dredging for the project? _____Yes N/A No
If there is new dredging associated with this project (dredging beyond previously authorized dimensions) please fill out appendix S for new dredging.

2. What will be the dimensions of the dredged or excavated area relative to mean low water (for tidal areas only) or ordinary water level (for non-tidal areas only)?
   _____ length _____ depth _____ base width _____ top width
   N/A, No dredging is proposed.
3. What are average existing depths in area of proposed dredging? N/A ft. (mlw/ohw)
   Include a survey of proposed and existing depths on application drawings.

4. What is the proposed dredging depth in relation to surrounding bathymetry? N/A ft.(mlw/ohw)
   Indicate both proposed depths and surrounding depths on attached drawings.

5. By what method(s) (hydraulic, clamshell or other) will the dredging be done? If other, explain:
   The proposed excavation would be conducted with an excavator, no dredging is proposed.

6. What is proximity of the dredging project to the nearest creek bank or banks? _____ ft.
   What are existing land uses along this bank(s)?
   N/A, No dredging is proposed

   Describe the existing shoreline along this bank (vegetation, rip-rap, bulkhead, etc.).
   N/A, No dredging is proposed

7. Describe characteristics of the material to be disposed including:
   a. Physical nature of material (i.e. sand, silt, clay, etc.). Give percentages of various fractions if available.
      No material will be disposed of, the material will be put back in place following construction.

   b. Chemical composition of material - Many areas have sediments with high concentration of pollutants (chemicals, organics etc.) which may be re-suspended or reintroduced into the water. For heavily industrialized sites, a chemical analysis of this material should be provided (if applicable). N/A

   c. What are the dewatering properties of material to be disposal of?
      N/A

8. How will the dredged or excavated material be transported to its disposal area?
   N/A

9. Land Disposal Areas.

   a. Describe dimensions, characteristics and exact locations of the proposed dredged material disposal site (provide photographs, directions to, and complete plans of disposal site).
      N/A
   b. Describe method of dredged material containment (embarkment, behind bulkhead, etc.)
      N/A
   c. What type of leachates will be produced by the spoil material and what is planned for the protection of groundwater?
      N/A
   d. Disposal site coordinates _____ latitude _____ longitude
      N/A
   e. What methods will be used to ensure that spoil water does not adversely affect water quality both during construction and after completion of the project?
      N/A
   f. Describe present land use of the disposal site.
      N/A

10. Water Disposal Areas/ Beneficial Use Projects
    Describe methods to be used for water disposal including volumes and site selection, and containment (if applicable). Include Fill or Wetland Appendix if applicable.

    No water disposal should be necessary, dam and pump around will be used during the temporary excavating impacts.

11. Describe the existing water characteristics at the site, including chemical analysis for water quality.

    The existing characteristics are perennial stream flow, no dredging is being proposed, and the impacts are temporary in nature.

12. Identify the dredging and disposal schedule to ensure that operations do not degrade water quality during times of anadromous fish migration.

    No dredging is proposed.

13. Has an Erosion and Sediment Control Plan been approved by the designated plan approval agency for the project? An Erosion and Sediment Control Plan is required for any project disturbing more than 5,000 square feet of uplands. Final approved plans must be received by this office prior to permit issuance.

X Yes ____ No ____ Not required

Important time of year restriction information:

Please be advised that all dredging in the Inland Bays must be undertaken between September 1 and December 31 in order to protect summer and winter flounder and other aquatic species. Dredging in other Delaware waters may also be subject to certain time of year restrictions in order to protect fish and wildlife. Contact DNREC for more specific information regarding the restrictions that may apply within your project area.

MAINTENANCE DREDGING OR EXCAVATING

- If dredged material is to be placed in a disposal site, a separate map showing the location of the disposal site should be attached. This drawing must indicate the proposed retention levees, weirs, spillways, and/or devices for retaining the materials.

- Bottom samples to determine heavy metals or other toxic materials must be taken and analyzed if deemed necessary by the DNREC staff. The responsibility, as well as the expense incurred for obtaining and analyzing these samples, must be borne by the applicant.

- If maintenance dredging is to be done, evidence of previous dredging must be provided. Any previously issued permit with drawings which indicates the date the dredging occurred, the area involved and dredging depth constitutes acceptable proof.

- Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.

1. How many cubic yards of material will be MAINTENANCE DREDGED or excavated channelward of the:

   a. Tidal waters: mean high water line? _____ cu. yds.
      mean low water line? _____ cu. yds.
   b. Non-tidal waters: ordinary high water line? 24.3 cu. yds.

This excavation will be temporary, as the material will be put back in place and the pre-construction grade will be restored, following utility line installation

Does this account for the total volume of proposed dredging for the project? _____Yes N/A No
If there is new dredging associated with this project (dredging beyond previously authorized dimensions) please fill out appendix S for new dredging.

2. What will be the dimensions of the dredged or excavated area relative to mean low water (for tidal areas only) or ordinary water level (for non-tidal areas only)?
   _____ length _____ depth _____ base width _____ top width
   N/A, No dredging is proposed.
3. What are average existing depths in area of proposed dredging? N/A ft. (mlw/ohw)
   Include a survey of proposed and existing depths on application drawings.

4. What is the proposed dredging depth in relation to surrounding bathymetry? N/A ft.(mlw/ohw)
   Indicate both proposed depths and surrounding depths on attached drawings.

5. By what method(s) (hydraulic, clamshell or other) will the dredging be done? If other, explain:
   The proposed excavation would be conducted with an excavator, no dredging is proposed.

6. What is proximity of the dredging project to the nearest creek bank or banks? _____ ft.
   What are existing land uses along this bank(s)?
   N/A, No dredging is proposed

   Describe the existing shoreline along this bank (vegetation, rip-rap, bulkhead, etc.).
   N/A, No dredging is proposed

7. Describe characteristics of the material to be disposed including:
   a. Physical nature of material (i.e. sand, silt, clay, etc.). Give percentages of various fractions if available.
      No material will be disposed of, the material will be put back in place following construction

   b. Chemical composition of material - Many areas have sediments with high concentration of pollutants (chemicals, organics etc.) which may be re-suspended or reintroduced into the water. For heavily industrialized sites, a chemical analysis of this material should be provided (if applicable).
      N/A

   c. What are the dewatering properties of material to be disposal of?
      N/A

8. How will the dredged or excavated material be transported to its disposal area?
   N/A

9. Land Disposal Areas.

   a. Describe dimensions, characteristics and exact locations of the proposed dredged material disposal site (provide photographs, directions to, and complete plans of disposal site).
      N/A
   b. Describe method of dredged material containment (embarkment, behind bulkhead, etc.)
      N/A
   c. What type of leachates will be produced by the spoil material and what is planned for the protection of groundwater?
      N/A
   d. Disposal site coordinates _____ latitude _____ longitude
      N/A
   e. What methods will be used to ensure that spoil water does not adversely affect water quality both during construction and after completion of the project?
      N/A
   f. Describe present land use of the disposal site.
      N/A

10. Water Disposal Areas/ Beneficial Use Projects
    Describe methods to be used for water disposal including volumes and site selection, and containment (if applicable). Include Fill or Wetland Appendix if applicable.

    No water disposal should be necessary, dam and pump around will be used during the temporary excavating impacts.

11. Describe the existing water characteristics at the site, including chemical analysis for water quality.

    The existing characteristics are perennial stream flow, no dredging is being proposed, and the impacts are temporary in nature.

12. Identify the dredging and disposal schedule to ensure that operations do not degrade water quality during times of anadromous fish migration.

    No dredging is proposed.

13. Has an Erosion and Sediment Control Plan been approved by the designated plan approval agency for the project? An Erosion and Sediment Control Plan is required for any project disturbing more than 5,000 square feet of uplands. Final approved plans must be received by this office prior to permit issuance.

x___ Yes ____ No ____ Not required

Important time of year restriction information:

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MAINTENANCE DREDGING OR EXCAVATING

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- If maintenance dredging is to be done, evidence of previous dredging must be provided. Any previously issued permit with drawings which indicates the date the dredging occurred, the area involved and dredging depth constitutes acceptable proof.

- Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.

1. How many cubic yards of material will be MAINTENANCE DREDGED or excavated channelward of the:

   a. Tidal waters: mean high water line? _____ cu. yds.
   mean low water line? _____ cu. yds.
   b. Non-tidal waters: ordinary high water line? 25.8 cu. yds.

This excavation will be temporary, as the material will be put back in place and the pre-construction grade will be restored, following utility line installation

Does this account for the total volume of proposed dredging for the project? _____Yes N/A No
If there is new dredging associated with this project (dredging beyond previously authorized dimensions) please fill out appendix S for new dredging.

2. What will be the dimensions of the dredged or excavated area relative to mean low water (for tidal areas only) or ordinary water level (for non-tidal areas only)?
   _____ length _____ depth _____ base width _____ top width
   N/A, No dredging is proposed.
3. What are average existing depths in area of proposed dredging? N/A ft. (mlw/ohw)
   Include a survey of proposed and existing depths on application drawings.

4. What is the proposed dredging depth in relation to surrounding bathymetry? N/A ft.(mlw/ohw)
   Indicate both proposed depths and surrounding depths on attached drawings.

5. By what method(s) (hydraulic, clamshell or other) will the dredging be done? If other, explain:
   The proposed excavation would be conducted with an excavator, no dredging is proposed.

6. What is proximity of the dredging project to the nearest creek bank or banks? _____ ft.
   What are existing land uses along this bank(s)?
   N/A, No dredging is proposed

   Describe the existing shoreline along this bank (vegetation, rip-rap, bulkhead, etc.).
   N/A, No dredging is proposed

7. Describe characteristics of the material to be disposed including:
   a. Physical nature of material (i.e. sand, silt, clay, etc.). Give percentages of various fractions if available.
      No material will be disposed of, the material will be put back in place following construction.

   b. Chemical composition of material - Many areas have sediments with high concentration of pollutants (chemicals, organics etc.) which may be re-suspended or reintroduced into the water. For heavily industrialized sites, a chemical analysis of this material should be provided (if applicable).
      N/A
   c. What are the dewatering properties of material to be disposal of?
      N/A

8. How will the dredged or excavated material be transported to its disposal area?
   N/A

9. Land Disposal Areas.

   a. Describe dimensions, characteristics and exact locations of the proposed dredged material disposal site (provide photographs, directions to, and complete plans of disposal site).
      N/A
   b. Describe method of dredged material containment (embarkment, behind bulkhead, etc.)
      N/A
   c. What type of leachates will be produced by the spoil material and what is planned for the protection of groundwater?
      N/A
   d. Disposal site coordinates _____ latitude _____ longitude
      N/A
   e. What methods will be used to ensure that spoil water does not adversely affect water quality both during construction and after completion of the project?
      N/A
   f. Describe present land use of the disposal site.
      N/A

10. Water Disposal Areas/ Beneficial Use Projects
    Describe methods to be used for water disposal including volumes and site selection, and containment (if applicable). Include Fill or Wetland Appendix if applicable.

    No water disposal should be necessary, dam and pump around will be used during the temporary excavating impacts.

11. Describe the existing water characteristics at the site, including chemical analysis for water quality.

    The existing characteristics are perennial stream flow, no dredging is being proposed, and the impacts are temporary in nature.

12. Identify the dredging and disposal schedule to ensure that operations do not degrade water quality during times of anadromous fish migration.

    No dredging is proposed.

13. Has an Erosion and Sediment Control Plan been approved by the designated plan approval agency for the project? An Erosion and Sediment Control Plan is required for any project disturbing more than 5,000 square feet of uplands. Final approved plans must be received by this office prior to permit issuance.

x___ Yes ____ No ____ Not required

Important time of year restriction information:

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MAINTENANCE DREDGING OR EXCAVATING

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- Bottom samples to determine heavy metals or other toxic materials must be taken and analyzed if deemed necessary by the DNREC staff. The responsibility, as well as the expense incurred for obtaining and analyzing these samples, must be borne by the applicant.

- If maintenance dredging is to be done, evidence of previous dredging must be provided. Any previously issued permit with drawings which indicates the date the dredging occurred, the area involved and dredging depth constitutes acceptable proof.

- Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.

1. How many cubic yards of material will be MAINTENANCE DREDGED or excavated channelward of the:

   a. Tidal waters: mean high water line? _____ cu. yds.
      mean low water line? _____ cu. yds.
   b. Non-tidal waters: ordinary high water line? 23.5 cu. yds.

This excavation will be temporary, as the material will be put back in place and the pre-construction grade will be restored, following utility line installation

Does this account for the total volume of proposed dredging for the project? _____Yes N/A No
If there is new dredging associated with this project (dredging beyond previously authorized dimensions) please fill out appendix S for new dredging.

2. What will be the dimensions of the dredged or excavated area relative to mean low water (for tidal areas only) or ordinary water level (for non-tidal areas only)?
   _____ length _____ depth _____ base width _____ top width
   N/A, No dredging is proposed.
3. What are average existing depths in area of proposed dredging? N/A ft. (mlw/ohw)
   Include a survey of proposed and existing depths on application drawings.

4. What is the proposed dredging depth in relation to surrounding bathymetry? N/A ft.(mlw/ohw)
   Indicate both proposed depths and surrounding depths on attached drawings.

5. By what method(s) (hydraulic, clamshell or other) will the dredging be done? If other, explain:
   The proposed excavation would be conducted with an excavator, no dredging is proposed.

6. What is proximity of the dredging project to the nearest creek bank or banks? _____ ft.
   What are existing land uses along this bank(s)?
   N/A, No dredging is proposed

   Describe the existing shoreline along this bank (vegetation, rip-rap, bulkhead, etc.).
   N/A, No dredging is proposed

7. Describe characteristics of the material to be disposed including:
   a. Physical nature of material (i.e. sand, silt, clay, etc.). Give percentages of various fractions if available.
      No material will be disposed of, the material will be put back in place following construction.

   b. Chemical composition of material - Many areas have sediments with high concentration of pollutants (chemicals, organics etc.) which may be re-suspended or reintroduced into the water. For heavily industrialized sites, a chemical analysis of this material should be provided (if applicable).
      N/A
   c. What are the dewatering properties of material to be disposal of?
      N/A

8. How will the dredged or excavated material be transported to its disposal area?
   N/A

9. Land Disposal Areas.

   a. Describe dimensions, characteristics and exact locations of the proposed dredged material disposal site (provide photographs, directions to, and complete plans of disposal site).
      N/A
   b. Describe method of dredged material containment (embarkment, behind bulkhead, etc.)
      N/A
   c. What type of leachates will be produced by the spoil material and what is planned for the protection of groundwater?
      N/A
   d. Disposal site coordinates _____ latitude _____ longitude
      N/A
   e. What methods will be used to ensure that spoil water does not adversely affect water quality both during construction and after completion of the project?
      N/A
   f. Describe present land use of the disposal site.
      N/A

10. Water Disposal Areas/ Beneficial Use Projects
    Describe methods to be used for water disposal including volumes and site selection, and containment (if applicable). Include Fill or Wetland Appendix if applicable.

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11. Describe the existing water characteristics at the site, including chemical analysis for water quality.

    The existing characteristics are perennial stream flow, no dredging is being proposed, and the impacts are temporary in nature.

12. Identify the dredging and disposal schedule to ensure that operations do not degrade water quality during times of anadromous fish migration.

    No dredging is proposed.

13. Has an Erosion and Sediment Control Plan been approved by the designated plan approval agency for the project? An Erosion and Sediment Control Plan is required for any project disturbing more than 5,000 square feet of uplands. Final approved plans must be received by this office prior to permit issuance.

X Yes ____ No ____ Not required

Important time of year restriction information:

Please be advised that all dredging in the Inland Bays must be undertaken between September 1 and December 31 in order to protect summer and winter flounder and other aquatic species. Dredging in other Delaware waters may also be subject to certain time of year restrictions in order to protect fish and wildlife. Contact DNREC for more specific information regarding the restrictions that may apply within your project area.

Impact Plates – Figures 1-9

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

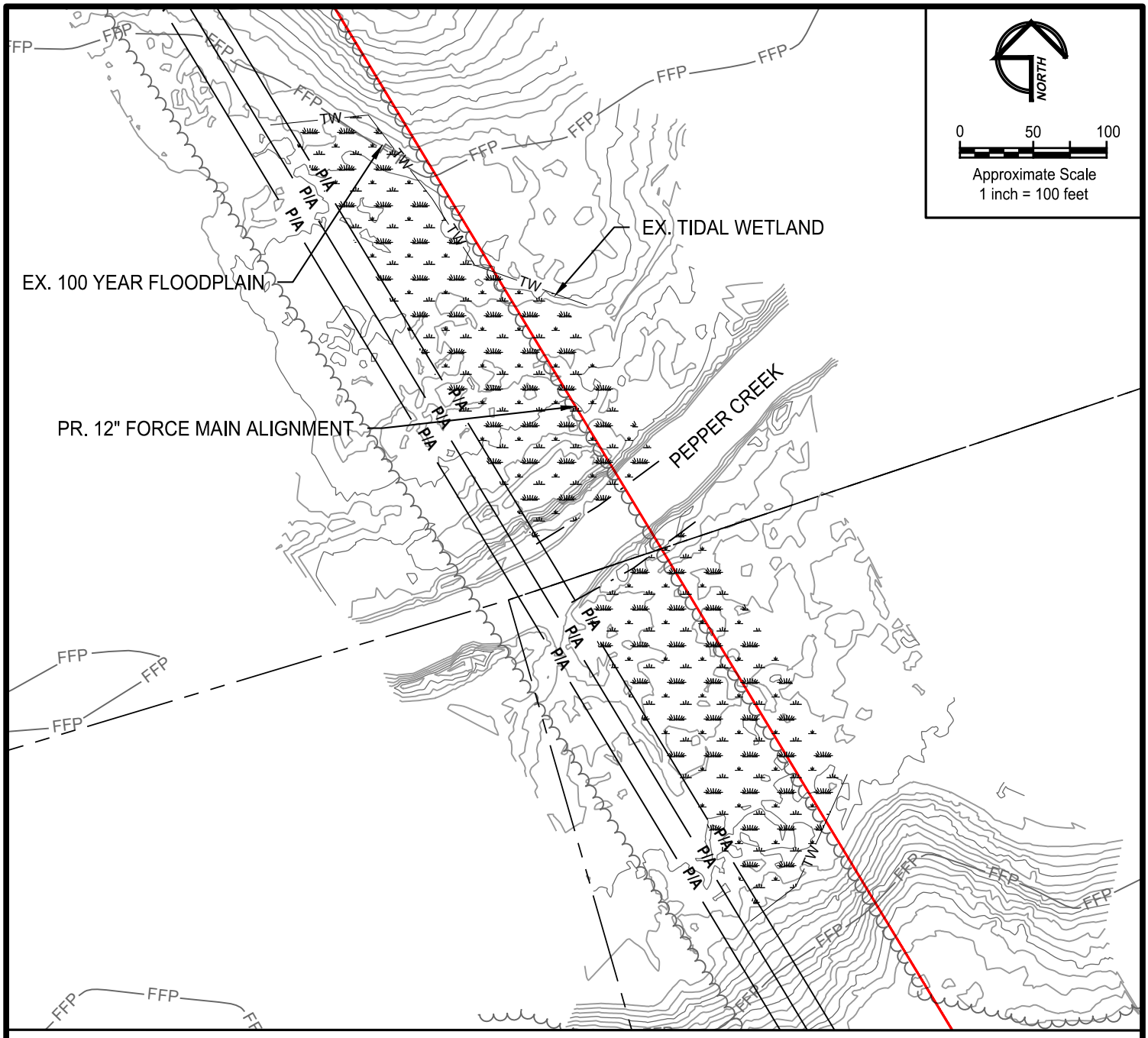
IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=4,000'	OCTOBER 17, 2025	AJN	MAJ	1 OF 9

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 USACE IMPACT PLATES.DWG



LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 1 IMPACTS

DIRECT IMPACTS AVOIDED VIA HDD INSTALLATION

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=100'	OCTOBER 17, 2025	AJN	MAJ	2 OF 10

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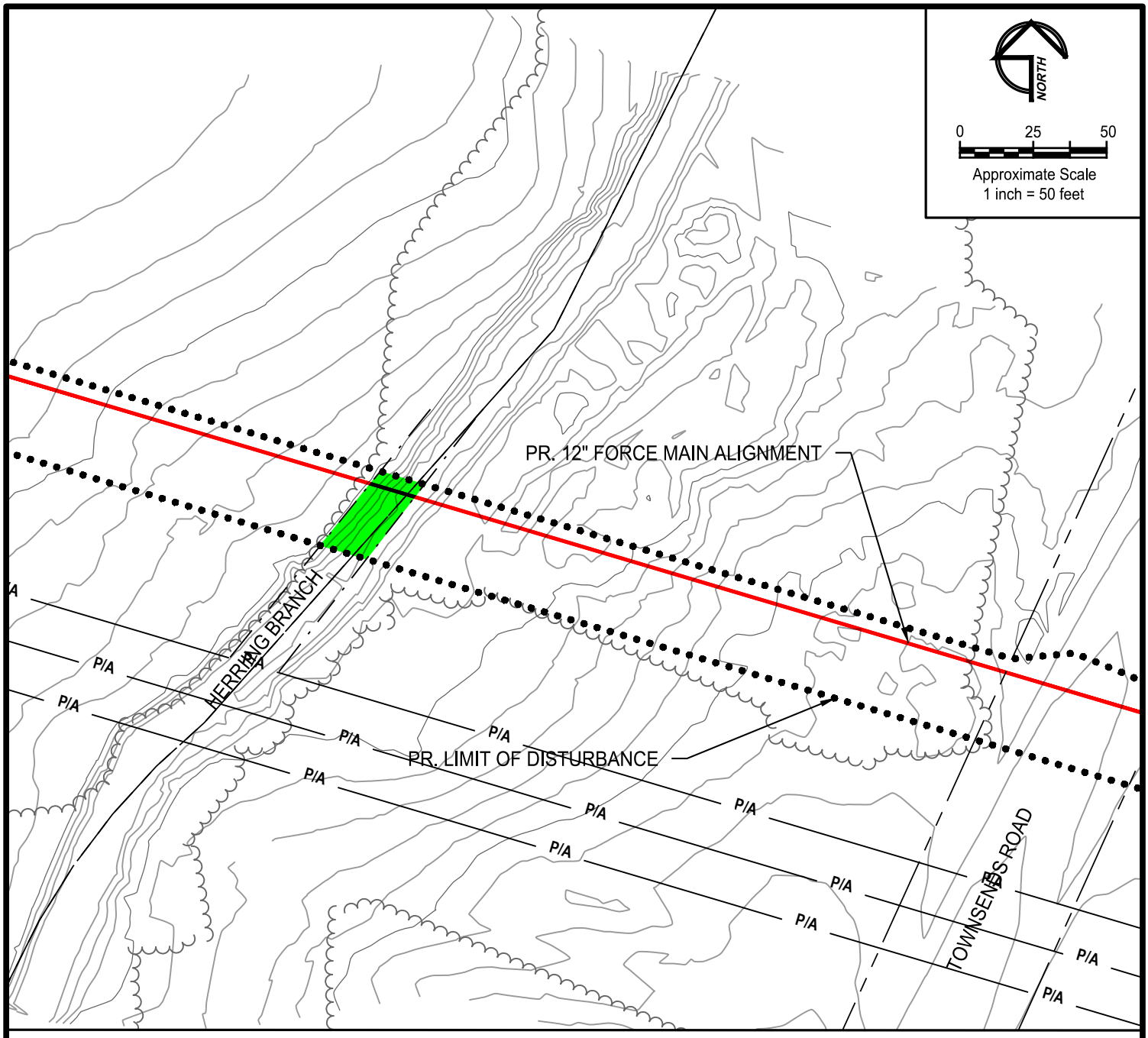


LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 2 IMPACTS

TEMPORARY PERENNIAL DITCH IMPACT
481 SF (0.01 AC), 32 LINEAR FEET

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

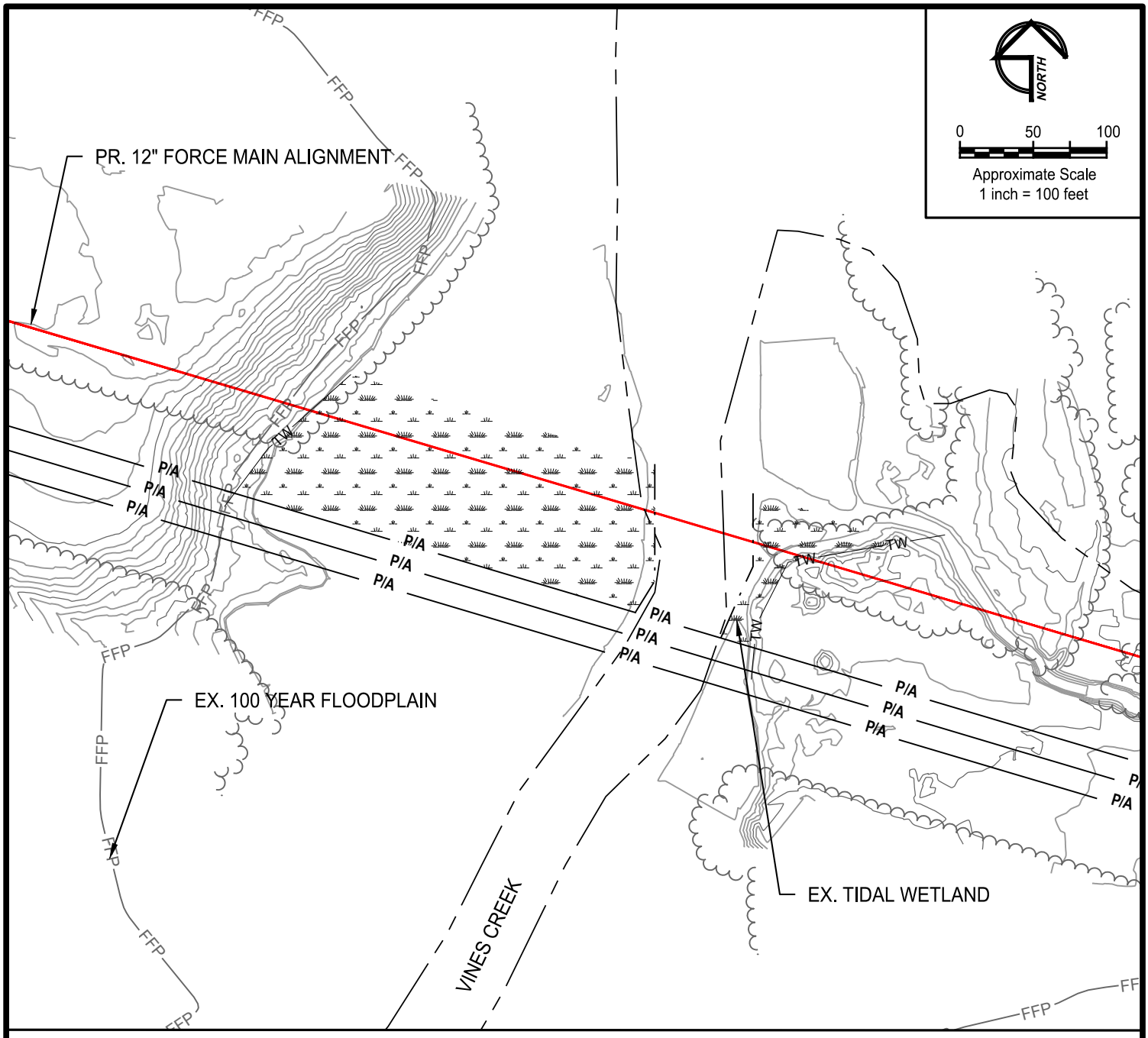
IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=50'	OCTOBER 17, 2025	AJN	MAJ	3 OF 10

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 DNREC IMPACT PLATES WITH ADDENDUM.DWG



LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 3 IMPACTS

DIRECT IMPACTS AVOIDED VIA HDD INSTALLATION

GEO-TECHNOLOGY ASSOCIATES, INC.

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FAX: 410-515-4895
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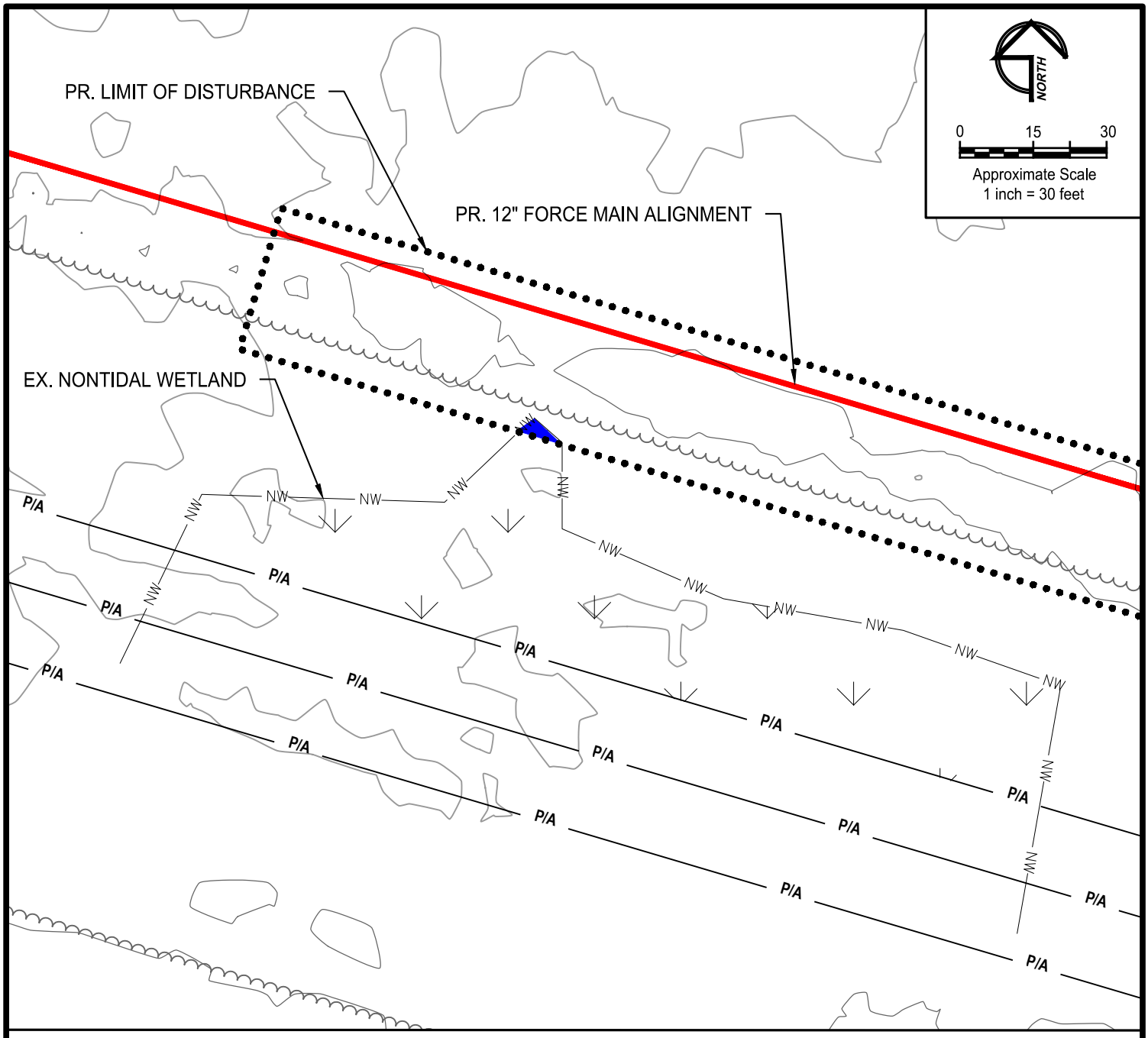
IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=100'	OCTOBER 17, 2025	AJN	MAJ	4 OF 10



LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 4 IMPACTS

TEMPORARY NONTIDAL WETLAND IMPACT
16 SF (0.0003 AC)

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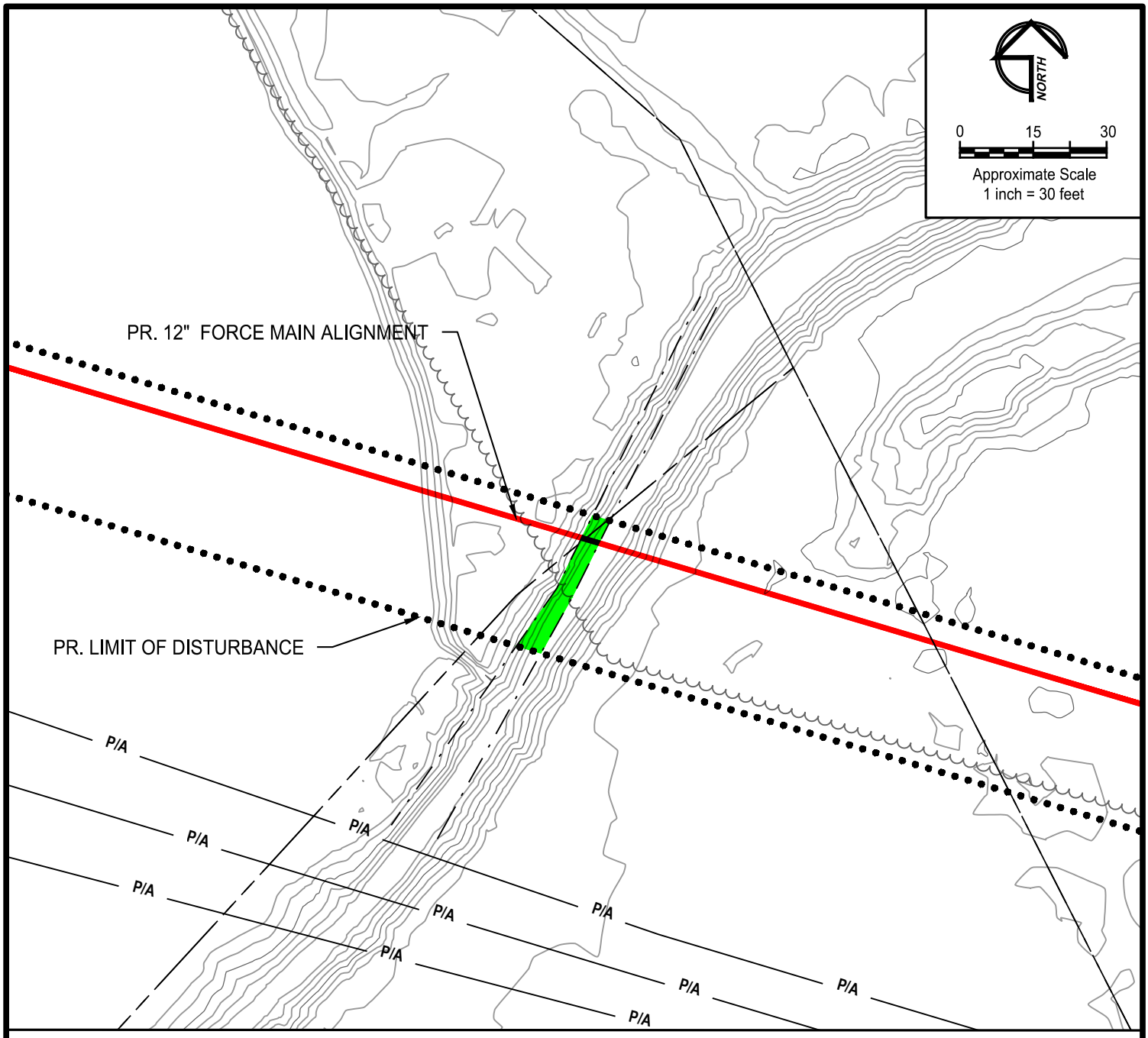
IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=30'	OCTOBER 17, 2025	AJN	MAJ	5 OF 10

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 DNREC IMPACT PLATES WITH ADDENDUM.DWG



LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND (NW)
- EX. TIDAL WETLAND (TW)
- EX. FEMA FLOODPLAIN (FFP)
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 5 IMPACTS

TEMPORARY PERENNIAL DITCH IMPACT
122 SF (0.003 AC), 31 LINEAR FEET

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IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=30'	OCTOBER 17, 2025	AJN	MAJ	6 OF 10

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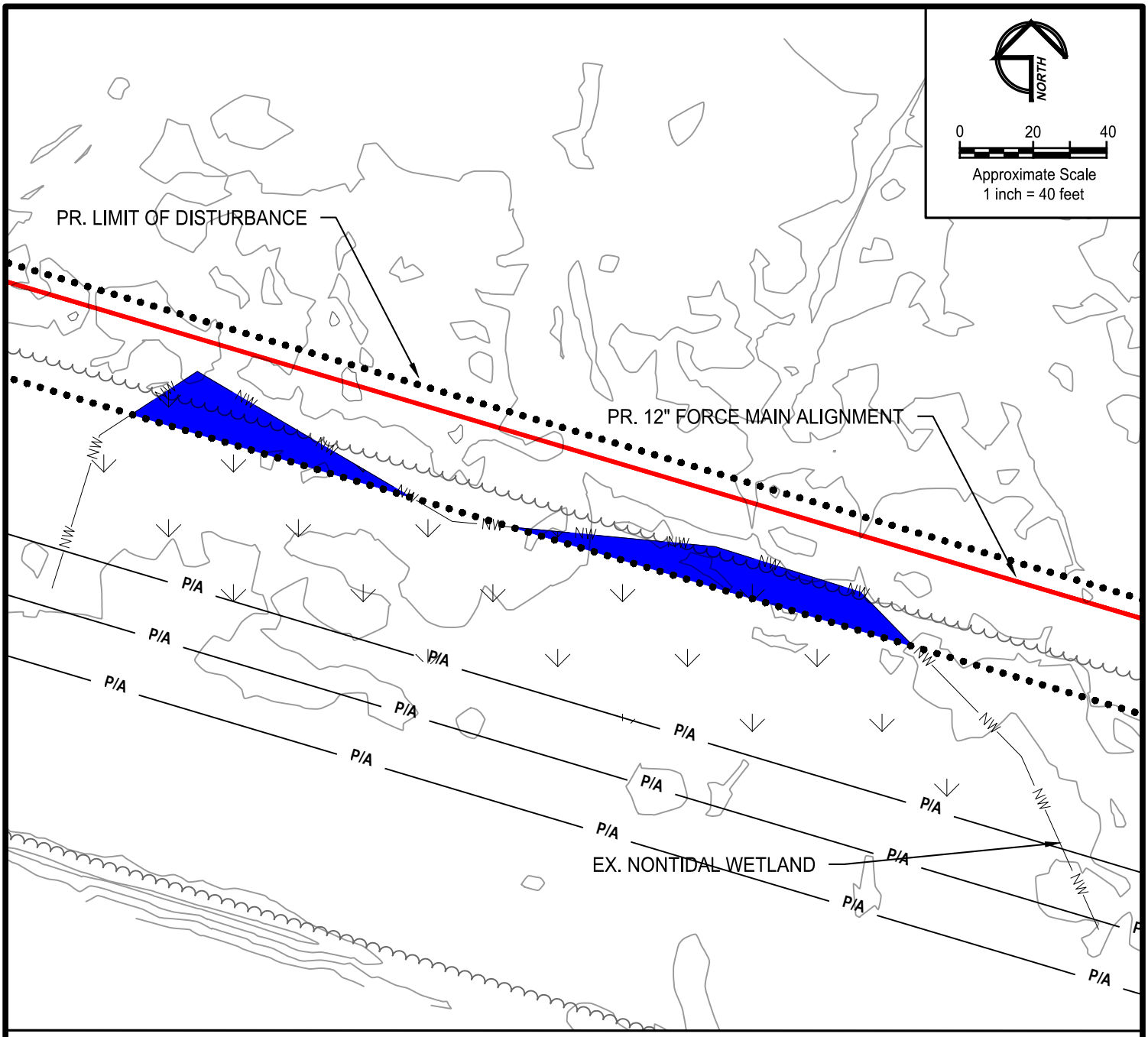

LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 6 IMPACTS

TEMPORARY NONTIDAL WETLAND IMPACT
1,467 SF (0.03 AC)

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IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=40'	OCTOBER 17, 2025	AJN	MAJ	7 OF 10

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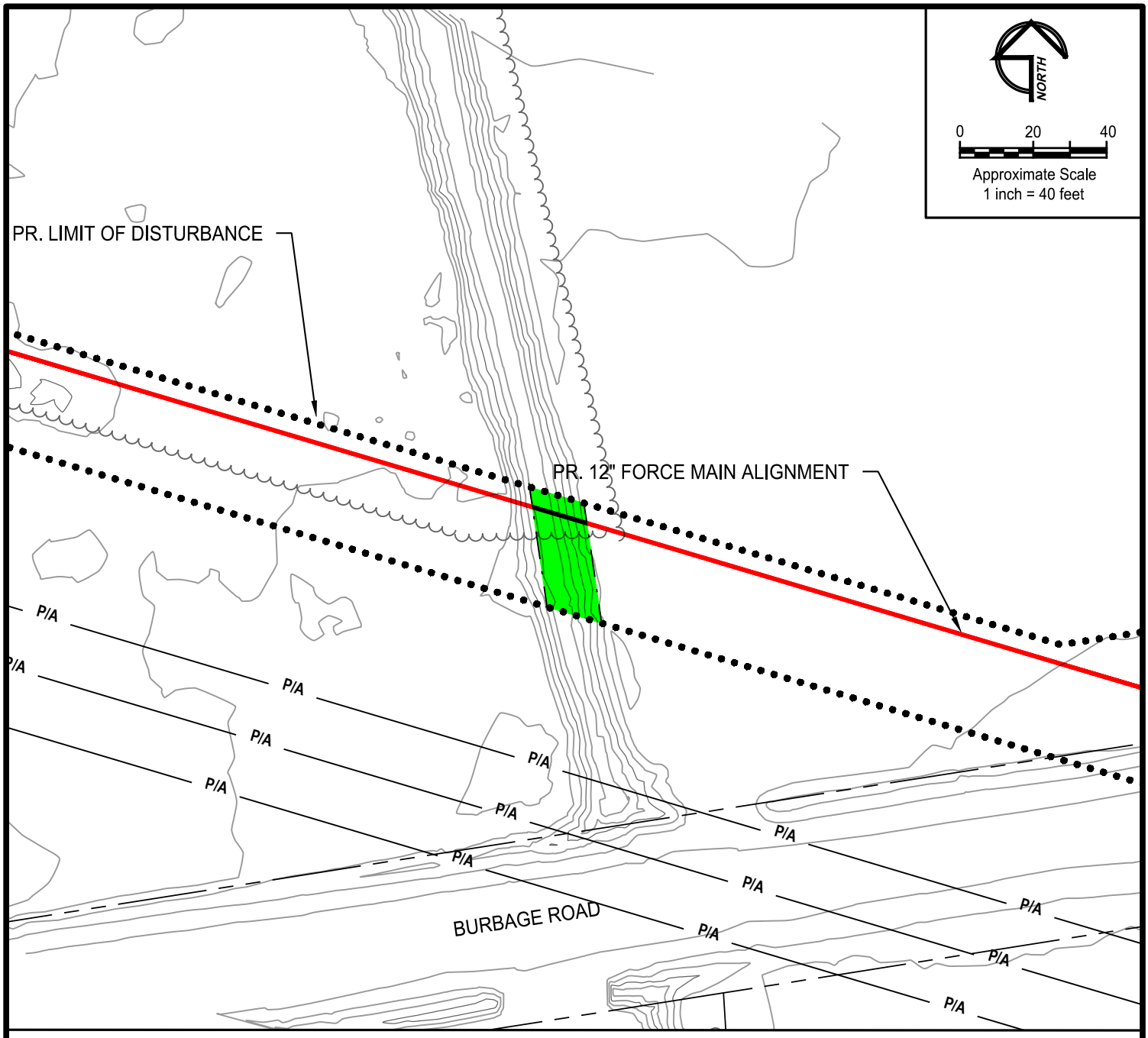

LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 7 IMPACTS

TEMPORARY PERENNIAL DITCH IMPACT
465 SF (0.01 AC), 33 LINEAR FEET

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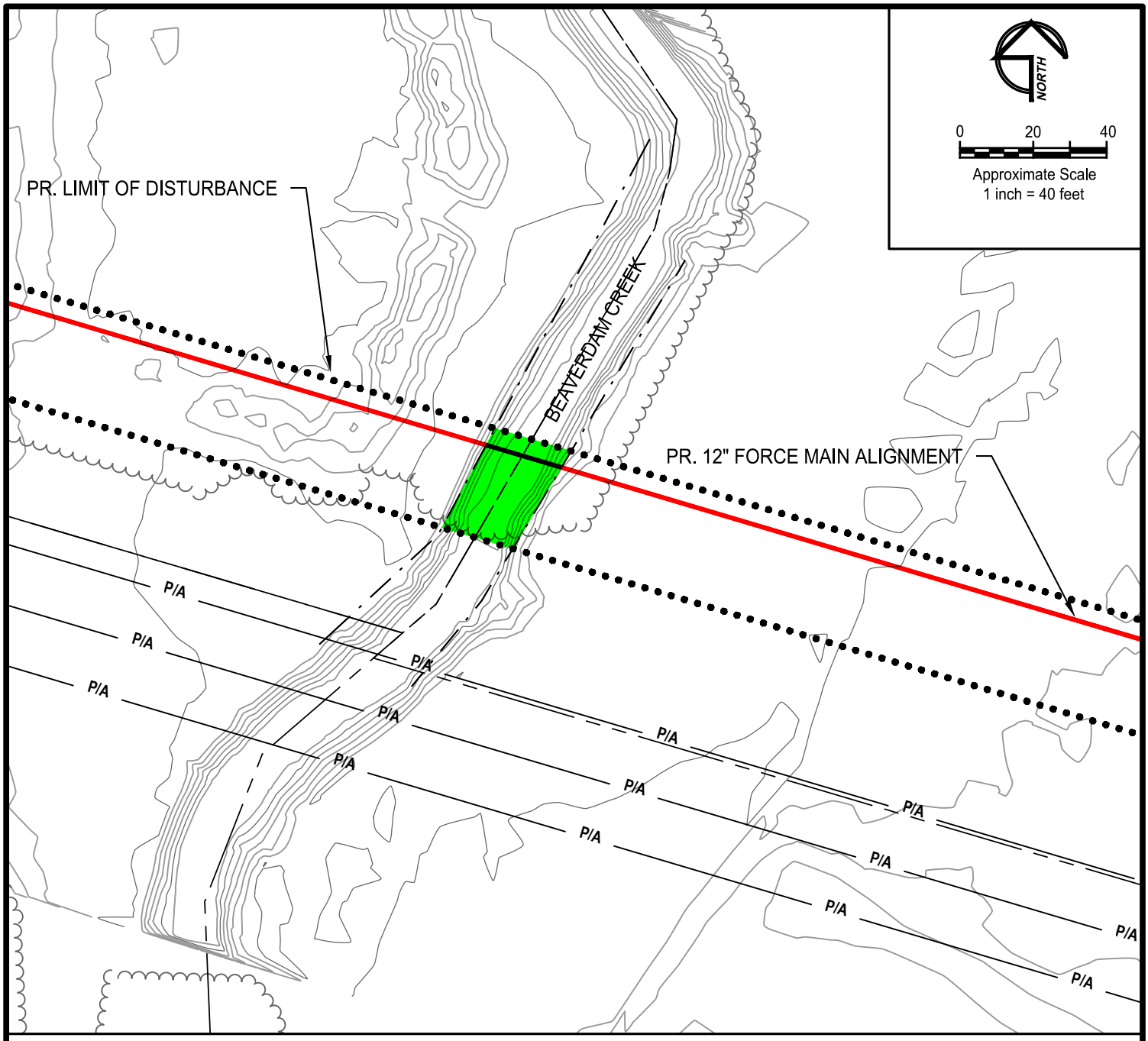
IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=40'	OCTOBER 17, 2025	AJN	MAJ	8 OF 10

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 DNREC IMPACT PLATES WITH ADDENDUM.DWG



LEGEND

- PR. 12" FORCE MAIN
- EX. INTERMITTENT STREAM
- EX. PERENNIAL STREAM
- EX. NONTIDAL WETLAND
- EX. TIDAL WETLAND
- EX. FEMA FLOODPLAIN
- PR. LIMIT OF DISTURBANCE
- EX. PARCEL BOUNDARY

IMPACT AREA 8 IMPACTS

TEMPORARY PERENNIAL DITCH IMPACT
628 SF (0.01 AC), 30 LINEAR FEET

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IMPACT PLATES

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1"=40'	OCTOBER 17, 2025	AJN	MAJ	9 OF 10

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 DNREC IMPACT PLATES WITH ADDENDUM.DWG

SUMMARY OF IMPACTS

TEMPORARY PERENNIAL DITCH

IMPACTS = 1,696 SF (0.033 ACRES)

126 LINEAR FEET

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IMPACT PLATES

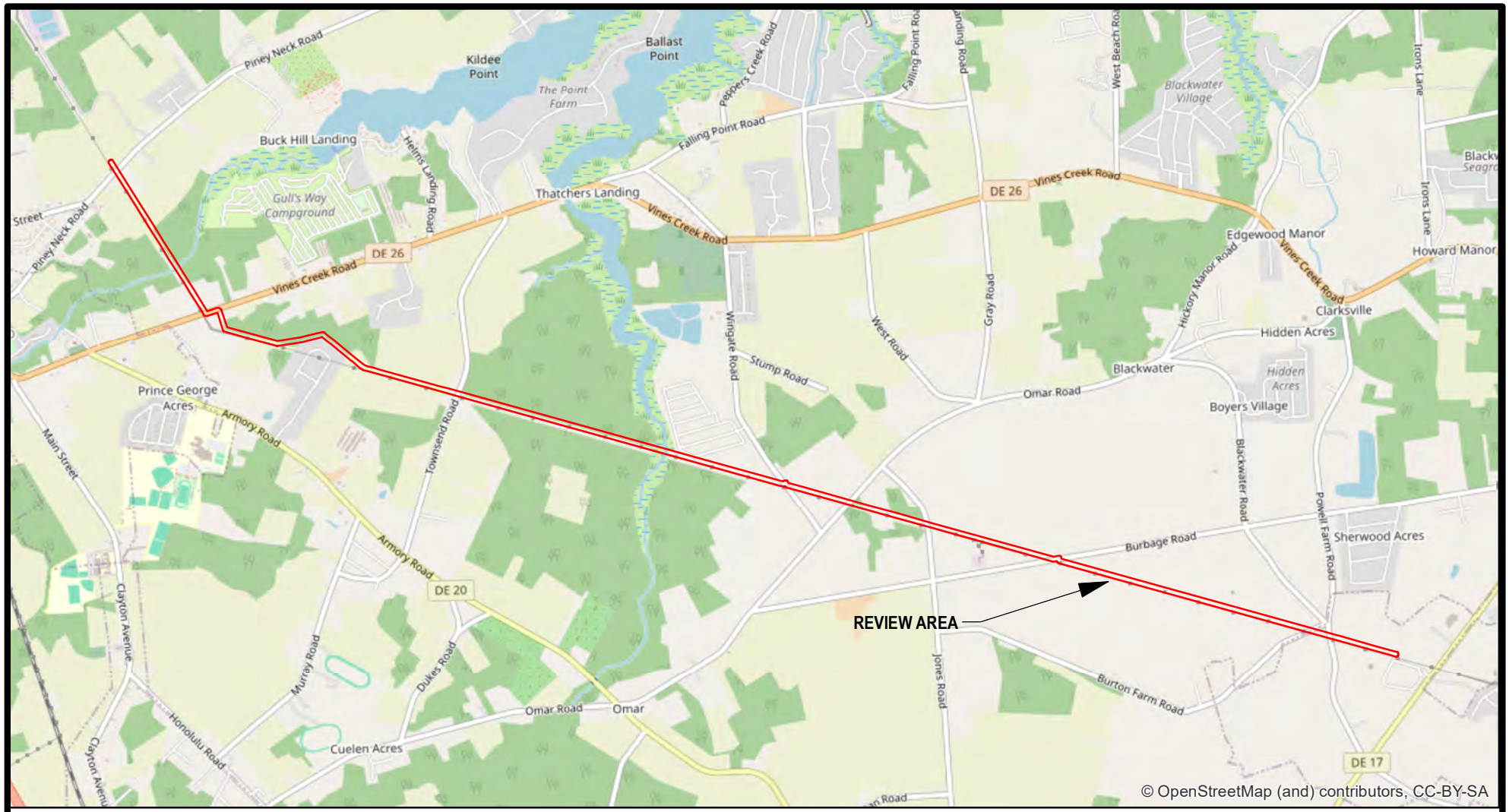
PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	N/A	OCTOBER 17, 2025	AJN	MAJ	10 OF 10

L:\SHARED\PROJECT FILES\2025\31250601 - PINEY NECK WWTP\WET\CAD\PLOT\31250601 DNREC IMPACT PLATES WITH ADDENDUM.DWG

Figure 1 – Site Location Map



Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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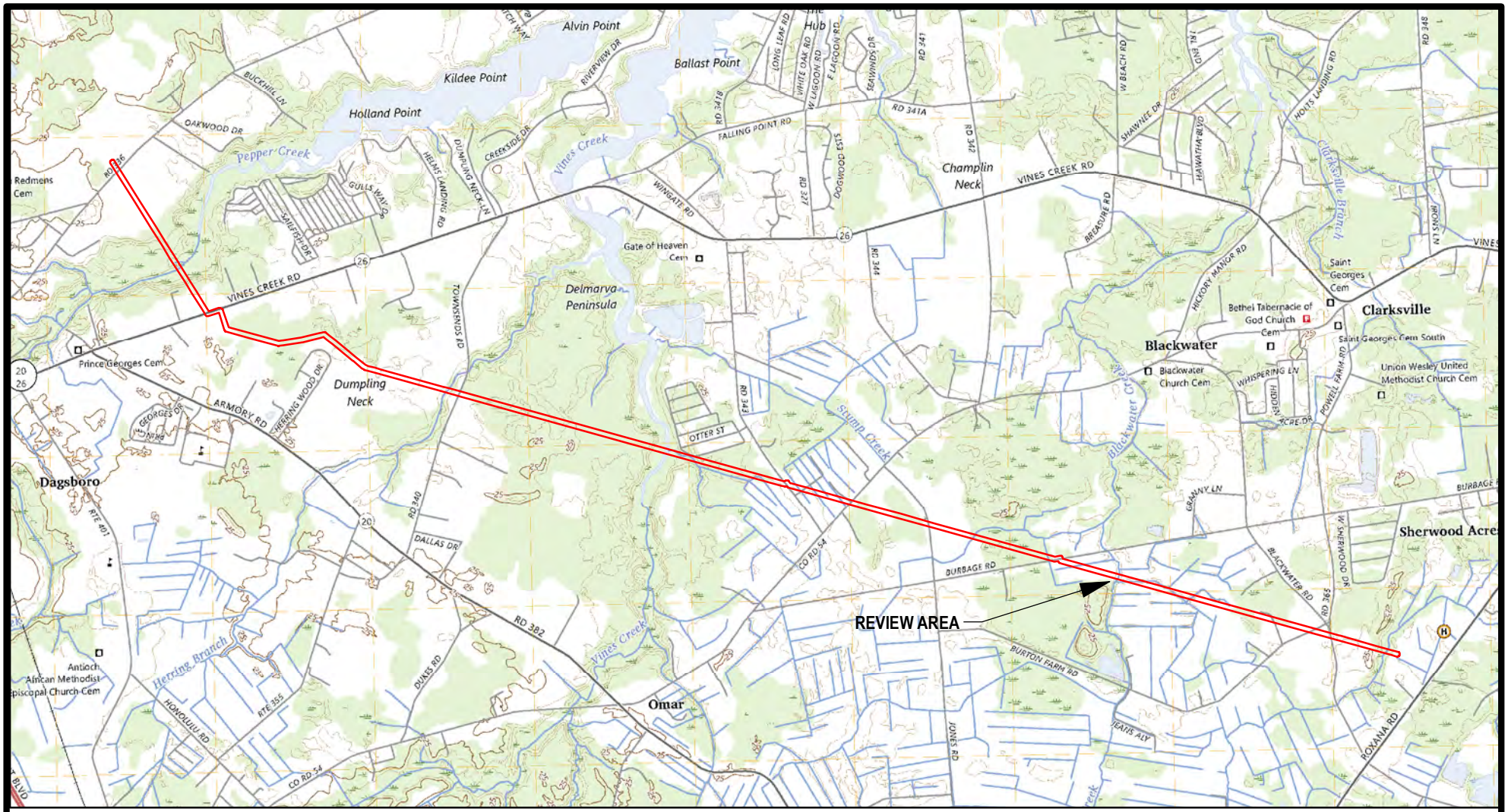
SITE LOCATION MAP
PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	1

Figure 2 – USGS Topographic Map



SOURCE: UNITED STATES GEOLOGICAL SURVEY (USGS), FRANKFORD, DELAWARE QUADRANGLE, 7.5 MINUTE TOPOGRAPHIC MAP SERIES, DATED 2023.

Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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USGS TOPOGRAPHIC MAP

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	2

Figure 3 – 2024 Aerial Imagery

SOURCE:
2024 BASE AERIAL IMAGERY PROVIDED BY
MICROSOFT CORPORATION.

Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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2024 AERIAL IMAGERY

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	3

Wetland Delineation Report

WETLAND DELINEATION REPORT

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

May 8, 2025

Prepared For:

GHD
16701 Melford Boulevard, Suite 221
Bowie , Maryland 20715
Attn: Mr. Steven Clark

Prepared By:

GEO-TECHNOLOGY ASSOCIATES, INC.
Geotechnical and Environmental Consultants
3445-A Box Hill Corporate Center Drive
Abingdon, Maryland 21009
Phone: (410) 515-9446
Fax: (410) 515-4895
www.gtaeng.com

GTA Project No: 31250601

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL • ENVIRONMENTAL •
CONSTRUCTION OBSERVATION AND TESTING

A Practicing Geoprofessional Business Association Member Firm

May 8, 2025

GHD
16701 Melford Boulevard, Suite 221
Bowie, Maryland 20715

Attn: Mr. Steven Clark

Re: Wetland Delineation Report
Piney Neck Force Main
Sussex County, Delaware

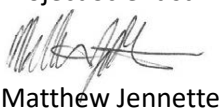
Dear Mr. Clark:

Pursuant to your request, Geo-Technology Associates, Inc. (GTA) has performed a wetland delineation at the above referenced subject site. It is GTA's understanding that the proposed project includes the installation of approximately 5.6 miles of force main from the Piney Neck Wastewater Treatment Facility on Piney Neck Road in Frankford to Calm Water Drive in the Millville area of Sussex County, Delaware. The purpose of the review was to evaluate the presence and extent of wetlands and/or waterbodies with respect to federal and state regulatory authority. This Report and the accompanying *Wetland Delineation Plan* summarize GTA's findings.

We appreciate the opportunity to have been of service to you. If you have questions or require additional information, please contact this office at (410) 515-9446.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Josh Riding
Project Scientist



Matthew Jennette
Vice President

JSR/MAJ
31250601
L:\Shared\Project Files\2025\31250601 - Piney Neck WWTP\WET\Reports – Permitting\31250601 Wetland Report.docx

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TABLES

APPENDICES

WETLAND DELINEATION REPORT
PINEY NECK FORCE MAIN
SUSSEX COUNTY, DELAWARE
MAY 8 , 2025

1.0 INTRODUCTION

It is GTA's understanding that the proposed project includes the installation of approximately 5.6 miles of force main from the Piney Neck Wastewater Treatment Facility on Piney Neck Road in Frankford to Calm Water Drive in the Millville area of Sussex County, Delaware (*Figure 1*). Geo-Technology Associates, Inc. (GTA) has been retained to provide a review and delineation of the subject site's wetlands and/or waterbodies.

At the time of GTA's environmental review, the subject site was comprised of existing utility rights-of-way, agricultural fields, roadside ditches, wooded areas, and residential areas. The topography of the subject site is generally flat to moderately sloped. The approximate latitude and longitude coordinates of the center of the subject site are 38.53574° and -75.17131°, respectively.

2.0 DOCUMENT REVIEW

2.1 Site Plans

GTA personnel utilized a base map that included the subject site boundary provided by Delaware First Map in order to conduct the field evaluation.

2.2 United States Geological Survey Topographic Maps

The United States Geological Survey (USGS), Frankford, DE Quadrangle, 7.5-minute Topographic Map Series (*Figure 2*), dated 2023, was used as a reference to identify possible wetlands and waterbodies within and immediately surrounding the subject site. USGS Topographic Maps identify elevations, streams, wetlands, ponds, and roads. The USGS Topographic Map depicts the subject site crossing several roads including Vines Creek Road (DE Route 26). The USGS Topographic Map depicts Pepper Creek, Herring Branch, Vines Creek, Blackwater Creek, and

eleven unnamed ditches. Topography depicted on the USGS Topographic Map indicates that the subject site is generally flat and drains towards the above-mentioned waterbodies.

2.3 Soil Survey Information

GTA consulted the U.S. Department of Agriculture, Natural Resources Conservation Service's (NRCS) soil survey data[1] to identify the presence of possible hydric soils, wetlands, and waterbodies. The *Soil Survey Map* (*Figure 3*) depicts 23 soil units (*Table 1*) within the subject site. According to the NRCS National Hydric Soils List[2], 16 soil units within the subject site contain hydric components (*Table 1*).

Table 1: Mapped Soil Units

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
AsA	Askecks loamy sand, 0 to 2 percent slopes	Yes	Askecksy, undrained	45	Flats
			Askecksy, drained	30	Flats
			Hurlock, drained	10	Flats
			Mullica, undrained	5	Flats
EvD	Evesboro loamy sand, 5 to 15 percent slopes	No	-	-	-
FgdA	Fallsington loams, 0 to 2 percent slopes, Northern Tidewater Area	Yes	Fallsington, undrained	38	Flats
			Fallsington, drained	37	flats
FgdA	Fallsington loams, 0 to 2 percent slopes, Northern Tidewater Area	Yes	Othello	8	Flats
FhA	Fort Mott-Henlopen complex, 0 to 2 percent slopes	No	-	-	-

[1] United States Department of Agriculture, Natural Resource Conservation Service, Charles County, Maryland, Soil Survey Data Version 18, dated September 6, 2024.
[2] United States Department of Agriculture, Natural Resource Conservation Service, Hydric Soils List by State. Available at *https://efotg.sc.egov.usda.gov/references/Public/IL/State_List_NRCS_Hydric_Soils_Report_Dynamic_Data.html*, accessed on January 29, 2025.

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
HmAd	Hammonton loamy sand, 0 to 2 percent slopes, Northern Tidewater Area	Yes	Hurlock, drained	5	depressions
HpB	Henlopen loamy sand, 2 to 5 percent slopes	No	-	-	-
HuA	Hurlock loamy sand 0 to 2 percent slopes	Yes	Hurlock, drained	41	Flats
			Hurlock, undrained	39	Flats
HvA	Hurlock sandy loam, 0 to 2 percent slopes	Yes	Hurlock, drained	42	Flats
			Hurlock, undrained	38	Flats
			Mullica, drained	5	Flats
IeA	Ingleside loamy sand, 0 to 2 percent slopes	No	-	-	-
KsA	Klej loamy sand, 0 to 2 percent slopes	Yes	Berryland, drained	5	Flats
			Hurlock, drained	5	Flats
LO	Longmarsh and Indiantown soils, 0 to 1 percent slopes, frequently flooded	Yes	Longmarsh, frequently flooded	43	Flood plains
			Indiantown, frequently flooded	37	Flood plains
			Zekiah, frequently flooded	10	Flood plains
			Manahawkin	5	Swamps
MmA	Mullica mucky sandy loam, 0 to 2 percent slopes	Yes	Mullica, drained	50	Flats
			Mullica, undrained	30	Flats
			Hurlock	10	Flats
			Berryland	10	flats
MuA	Mullica-Berryland complex, 0 to 2 percent slopes	Yes	Mullica, drained	26	Flats
			Berryland, drained	24	Flats
MuA	Mullica-Berryland complex, 0 to 2 percent slopes	Yes	Mullica, undrained	16	Flats
			Berryland, undrained	14	Flats
			Mullica undrained	5	Flats
Pk	Puckum muck, 0 to 2 percent slopes, frequently	Yes	Puckum, frequently	85	Swamps

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
	flooded, occasionally ponded		flooded, occasionally ponded		
			Manahawkin, frequently flooded	10	Swamps
			Indiantown, frequently flooded	5	Flood plains
PpA	Pepperbox loamy sand, 0 to 2 percent slopes	No	-	-	-
PpB	Pepperbox loamy sand, 2 to 5 percent slopes	No	-	-	-
RoA	Rosedale loamy sand, 2 to 5 percent slopes	No	-	-	-
RoB	Rosedale loamy sand, 2 to 5 percent slopes	No	-	-	-
RuA	Runclint loamy sand, 2 to 5 percent slopes	Yes	Hurlock, drained	5	Flats
RuB	Runclint loamy sand, 2 to 5 percent slopes	Yes	Hurlock, drained	5	flats
WHe1	Herring Creek mucky silt loam, 0 to 1 meter water depth	Yes	Herring Creek, 0 to 1 meter water depth	85	Estuarine tidal streams
			Metedeconk, 0 to 1 meter water depth	10	Estuarine tidal streams
			Truitt, 0 to 1 meter water depth	5	Mainland coves

2.4 Wetland Indicator Maps

GTA also consulted digital wetland data available from the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory[3] (NWI; *Figure 4*), The NWI Wetlands Map depicts 12 wetlands (PFO1Ad, PFO1B, PEM1B, E2EM1N, E1UBL, E2EMSP, PEM1C, and PSS1C) and 16 riverine features (R4SBC, R4SBAx, R2UBH, and R1UBV) within the review area.

[3] United States Fish and Wildlife Service, National Wetlands Inventory, dated October 29, 2024.

Table 2: USFWS NWI Cowardin Designations

SYMBOL[3]	SYSTEM[3]	SUBSYSTEM[3]	CLASS[3]	SUBCLASS[3]	WATER REGIME[3]	SPECIAL MODIFIER[3]
PFO1Ad	Palustrine (P)		Forested (FO)	Broad-Leaved Deciduous (1)	Temporarily Flooded (A)	Partly Drained/Ditched (d)
PFO1B	Palustrine (P)		Forested (FO)	Broad-Leaved Deciduous (1)	Seasonally Saturated (B)	
PEM1B	Palustrine (P)		Emergent (EM)	Broad-Leaved Deciduous (1)	Seasonally Saturated (B)	
E2EM1N	Estuarine (E)	Intertidal (2)	Emergent (EM)	Persistent (1)	Regularly flooded (N)	
E1UBL	Estuarine (E)	Subtidal (1)	Unconsolidated bottom (UB)		Subtidal (L)	
E2EM5P	Estuarine (E)	Intertida (2)l	Emergent (EM)	Phragmites austalis (5)	Irregularly flooded (P)	
PEM1C	Palustrine (P)		Emergent (EM)`	Persistent (1)	Seasonally Flooded (C)	
PSS1C	Palustrine (P)		Scrub-Shrub (SS)	Persistent (1)	Seasonally Flooded (C)	
R4SBC	Riverine (R)	Intermittent (4)	Streambed (SB)		Seasonally flooded (C)	
R4SBAx	Riverine (R)	Intermittent (4)	Streambed (SB)		Temporarily flooded (A)	Excavated (x)
R2UBH	Riverine (R)	Lower perennial (2)	Unconsolidated Bottom (UB)		Permanently flooded (H)	
R1UBV	Riverine (R)	Tidal (1)	Unconsolidated bottom (UB)		Permanently flooded-fresh tidal (V)	

According to the Delaware Department of Natural Resources and Environmental Control (DNREC) Tidal Wetlands Maps 102 and 117, Vines Creek and adjacent Marsh (M) are classified as tidal, and Tidal Forested Swamp (F) is present along Pepper Creek.

2.5 Aerial Imagery

GTA reviewed aerial imagery dated 1937, 1953, 1954, 1960, 1963, 1973, 1981, 1992, 2002, 2007, 2009, 2011, 2012, 2013, 2015, 2017, 2018, and 2021 (*Figure 6*), available from Environmental Title Research[4], the National Agricultural Imagery Program[5], and the Microsoft Corporation[6].

[4] Environmental Title Research, LLC, NETR Online. Available at *https://www.historicaerials.com*.
[5] United States Department of Agricultural (USDA) Farm Service Agency, National Agricultural Imagery Program.
[6] Copyright 2024 Microsoft Corporation, Bing.com 2023 Aerial Imagery; 2024 Maxar Technologies, High-resolution Satellite Imagery and 2024 CNES Distribution Airbus DS, Satellite Image Gallery.

Based on the aerial imagery reviewed by GTA, the subject site appears to predominantly consist of agricultural fields, residential areas, forested areas, roadside ditches, and streams between 1937 and 1954. Between 1960 and 1973 apparent clearing took place within the review area. The review area remains in the same relative condition through most recent aerial imagery.

3.0 METHODOLOGY

3.1 General Methodology

The purpose of GTA's review was to evaluate the presence and extent of wetlands and waterbodies with respect to federal and state jurisdictional authority. GTA based its evaluation on the United States Army Corps of Engineers' (USACE) definition of "waters of the U.S." and "navigable waters of the U.S.," which are defined in Title 33 of the Code of Federal Regulations (CFR), Parts 328 and 329. GTA employed the three-parameter approach set forth in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-01*, dated 1987 (*1987 Manual*) and the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain, Version 2.0*, dated November 2010 (*Supplement*), as a reference for delineating wetlands. The methodology of wetland delineation included identifying hydric soil, wetland hydrology, and dominant hydrophytic vegetation. GTA also considered other regulated waters of the United States, such as ponds, lakes, streams, and rivers. If these waters were observed on the property, GTA incorporated them into the nontidal wetland delineation and labeled them accordingly.

3.2 Hydrology

The *1987 Manual* defines wetland hydrology as the sum of the total wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation. *The 1987 Manual* further defines areas with evident characteristics of wetland hydrology as those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions. Wetland hydrology exists when a minimum of one primary indicator or two secondary indicators are present. Indicators of wetland hydrology are generally derived from observations of surface water or saturated soils, evidence

of recent inundation, evidence of current or recent soil saturation, and evidence from other site conditions or data. Additional evidence of wetland hydrology can also be used with appropriate documentation.

3.3 Vegetation

Hydrophytic vegetation can be defined as plant life growing in water or on a substrate that is at least periodically inundated by water. The USACE, as part of an interagency effort with the U.S. Environmental Protection Agency (EPA), the USFWS, and the NRCS published the National Wetland Plant List[7] (NWPL). The NWPL lists indicator statuses to plants that occur in and around wetlands, describing the likelihood that species occurs in a wetland:

> Obligate Wetland (OBL): Occur in wetlands with an estimated 99% probability.
>
> Facultative Wetland (FACW): Usually occur in wetlands, with an estimated 67%-99% probability.
>
> Facultative (FAC): Equally likely to occur in wetlands and uplands, with an estimated 34%-66% probability of occurring in wetlands.
>
> Facultative Upland (FACU): Usually occur in uplands, with an estimated 67%-99% probability of occurring in uplands.
>
> Obligate Upland (UPL): Occur in uplands with an estimated 99% probability.

For vegetation within a community to be determined hydrophytic in accordance with the *Supplement,* it must pass the Dominance Test, where more than 50% of the dominant plant species observed must have the indicator statuses OBL, FACW, and FAC. If the vegetation observed in the community fails the Dominance Test and indicators of wetland hydrology and hydric soils are present, the Prevalence Index should be applied. Hydrophytic vegetation is present if a prevalence index of 3.0 or less is determined.

[7] U.S. Army Corps of Engineers, National Wetland Plant List, Version 3.5, dated 2020. Available at *http://wetland_plants.usace.army.mil*.

3.4 Soils

A hydric soil is defined as a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (*Supplement*). According to the *Supplement,* indicators of hydric soils form mostly from the loss or accumulation of iron, manganese, sulfur, or carbon compounds during saturated and anaerobic conditions.

3.5 On-Site Data Collection

Data Collection Points (DCPs) were established on-site at locations to evaluate the presence of wetlands and waterbodies, and to demonstrate the typical characteristics of uplands and wetlands. GTA excavated or augured test pits in the ground to a depth of 20 inches or more to observe features of the soil solum. GTA reviewed soil samples from test pits at numbered DCPs in order to describe and classify the soil as either hydric or non-hydric. At these DCPs, GTA also evaluated the surrounding vegetative species and hydrologic indicators. Data Forms were prepared to record observations of the conditions within the wetland and upland areas. Data Forms were also prepared to record data from adjacent upland areas to further support the delineation in the field. The DCPs have been labeled on the *Wetland Delineation Plan* as DCP-1 through DCP-8. Data Forms with reference photographs are included in Appendix B and Appendix C to support the determination depicted on the accompanying *Wetland Delineation Plan* (Appendix D).

3.6 Delineation

In April 2025, GTA performed an on-site review to evaluate whether wetlands and/or waterbodies are present within the subject site. GTA's field delineation of wetlands and/or waterbodies consisted of identifying the limits of the wetlands and waterbodies with pink and black striped flags, numbered sequentially. Wetland flags were hung at the time of GTA's field visit. GTA used the base plan described in *Section 2.1* to navigate the site. Wetland and waterway flag locations were located in the field using a handheld global positioning system (GPS) rated with sub-meter accuracy and are shown on the accompanying *Wetland Delineation Plan* (Appendix D).

4.0 WETLANDS AND WATERBODIES NARRATIVES

GTA identified two tidal waterbodies, five nontidal perennial ditches, four intermittent ditches, two tidal wetlands, and four nontidal wetlands within the review area.

4.1 Waterbodies

Waterbody A is a perennial ditch located south of Powell Farm Lane that originates from beyond the review area, flows northeast, and continues offsite. Waterbody B is an perennial ditch located south of Jones Road that originates from beyond the review area, flows north, and continues offsite. Waterbody C is an intermittent ditch located north of Omar Road that originates from beyond the review area, flows northwest and continues offsite. Waterbody D is an intermittent ditch that originates from Wetland 2 north of Wingate Road, flows south, and continues beyond the review area. Waterbody E is an perennial ditch that originates beyond the review area, flows northwest through a culvert, continues west, and extends offsite. Waterbody F is an intermittent ditch that originates north of the review area and flows south to contribute to Waterbody E. Waterbody G (Blackbird Creek) is a perennial ditch located south of Burbage Road that originates south of the review area, flows north, and continues beyond the review area. Waterbody H (Herring Branch) is a perennial ditch that originates south of the review area, flows northeast and continues offsite. Waterbody I is an intermittent stream north of Wingate Road that originates north of the review area, flows south, and continues offsite. Vines Creek is a tidal waterbody that originates south of the review area, flows north through Wetland 3, and continues beyond the review area.

4.2 Wetland 1

Wetland 1 is a palustrine emergent wetland located within the southeastern portion of the review area and continues offsite. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicators A1 (Surface Water), A2 (High Water Table), A3 (Saturation), and B13 (Aquatic Fauna). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicator D5 (FAC-Neutral Test). GTA observed predominantly hydrophytic vegetation species within the wetland, including lamp rush (*Juncus effusus, OBL)*, Japanese stilt grass (*Microstegium vimineum, FAC*), arrow-leaved tearthumb

(*Persicaria sagittate*, OBL), and broomsedge (*Andropogon virginicus*). GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator A12 (Thick Dark Surface).

4.3 Wetland 2

Wetland 2 is a palustrine forested wetland adjacent to Waterbody D within the central portion of the review area. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicator A1 (Surface Water), A2 (High Water Table), A3 (Saturation), and B9 (Water-Stained Leaves). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicators B8 (Sparsely Vegetated Concave Surface) and D2 (Geomorphic Position). GTA observed predominantly hydrophytic vegetation species within the wetland, including red maple (*Acer rubrum,* FAC) and American holly (*Ilex opaca,* FAC). GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator F3 (Depleted Matrix).

4.4 Wetland 3

Wetland 3 is an estuarine emergent wetland adjacent to Vines Creek within the central portion of the review area. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicators A2 (High Water Table), A3 (Saturation), and C1 (hydrogen Sulfide Odor). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicators B10 (Drainage Patterns), C9 (Saturation Visible on Aerial Imagery) and D5 (FAC-Neutral Test). GTA observed predominantly hydrophytic vegetation species within the wetland, including common reed (*Phragmites australis,* FACW), smooth cordgrass (*Spartina alterniflora,* FACW), and swamp dewberry (*Rubus hispidus,* FACW). GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator A4 (Hydrogen Sulfide) and A12 (Thick Dark Surface).

4.5 Wetland 4

Wetland 4 is a palustrine forested wetland adjacent to Waterbody I within the central portion of the review area, and extends offsite. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicator A1 (Surface Water), A2 (High Water Table), and A3 (Saturation). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). GTA observed predominantly hydrophytic vegetation species within the wetland, including American holly. GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator F3 (Depleted Matrix).

4.6 Wetland 5

Wetland 5 is a palustrine emergent wetland located within the central portion of the review area and drains offsite. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicators A1 (Surface Water), A2 (High Water Table), and A3 (Saturation). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). GTA observed predominantly hydrophytic vegetation species within the wetland, including stout wood reed grass (*Cinna arundinacea,* FACW), Japanese stilt grass, and broomsedge. GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator F3 (Depleted Matrix).

4.7 Wetland 6

Wetland 6 is an estuarine emergent wetland along Pepper Creek within the northeastern portion of the subject site, and continues offsite. GTA observed evidence of primary indicators of wetland hydrology within the wetland, including indicators A2 (High Water Table), A3 (Saturation), and C1 (Hydrogen Sulfide Odor). GTA observed evidence of secondary indicators of wetland hydrology within the wetland, including indicators B10 (Drainage Patterns), C9 (Saturation Visible on Aerial Imagery) and D5 (FAC-Neutral Test). GTA observed predominantly hydrophytic vegetation species within the wetland, including common reed, smooth cordgrass, and swamp

dewberry. GTA excavated test pits to depths of 20 inches or greater within the wetland boundaries and observed the NRCS and USACE hydric soils field indicator A4 (Hydrogen Sulfide) and A12 (Thick Dark Surface).

5.0 OTHER FEATURES

5.1 Agricultural Drainage Ditches

GTA observed multiple agricultural ditches in the southern portion of the proposed force main between Vines Creek and Granville Lane. These ditches appear to have been excavated from uplands and wholly drain uplands and lack relatively permanent waters. In GTA's professional opinion, these ditches should not be considered jurisdictional waterbodies, but if impacts are proposed GTA recommends obtaining a jurisdictional determination from the US Army Corps of Engineers.

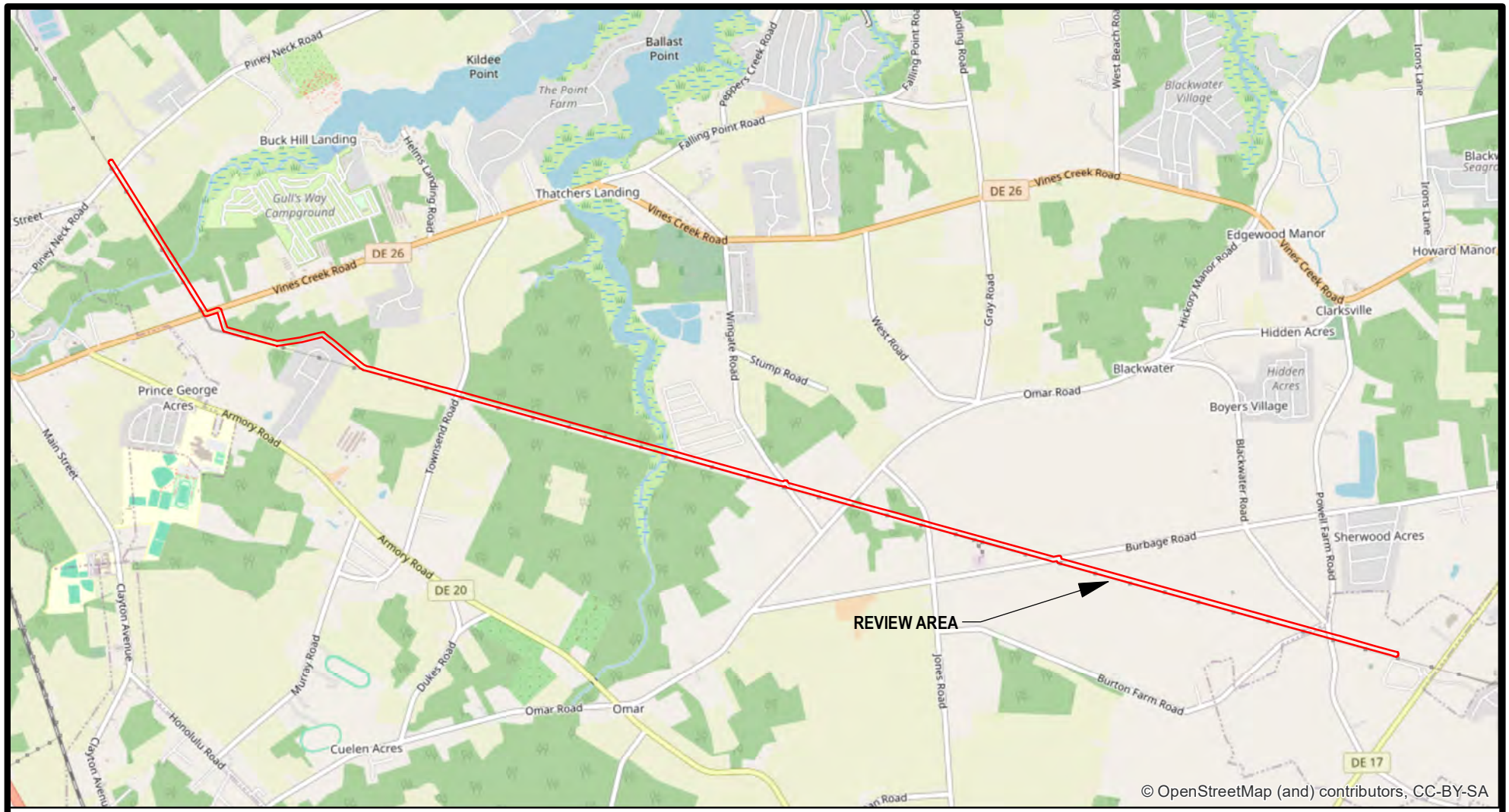
6.0 CONCLUSION

As a result of GTA's environmental review of the subject site, it is GTA's professional opinion that there are Waters of the U.S., including wetlands, present within the subject site. These areas were flagged or approximated in the field and are identified on the *Wetland Delineation Plan*.

Our conclusions regarding the subject site have been based on observations of existing conditions, professional experience in the area with similar projects, and generally accepted professional environmental practice under similar circumstances. Seasonal fluctuations in precipitation or weather conditions can result in differences in the perception of hydrologic conditions, which can alter GTA's evaluation of wetlands/waterbodies. It is important to note that this delineation is GTA's professional opinion, only. Decisions regarding the official jurisdictional status of wetlands/waterbodies are made by federal, state, and/or local regulatory agencies.

******* END OF REPORT *******

Appendix A
Figures



Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

GEO-TECHNOLOGY ASSOCIATES, INC.

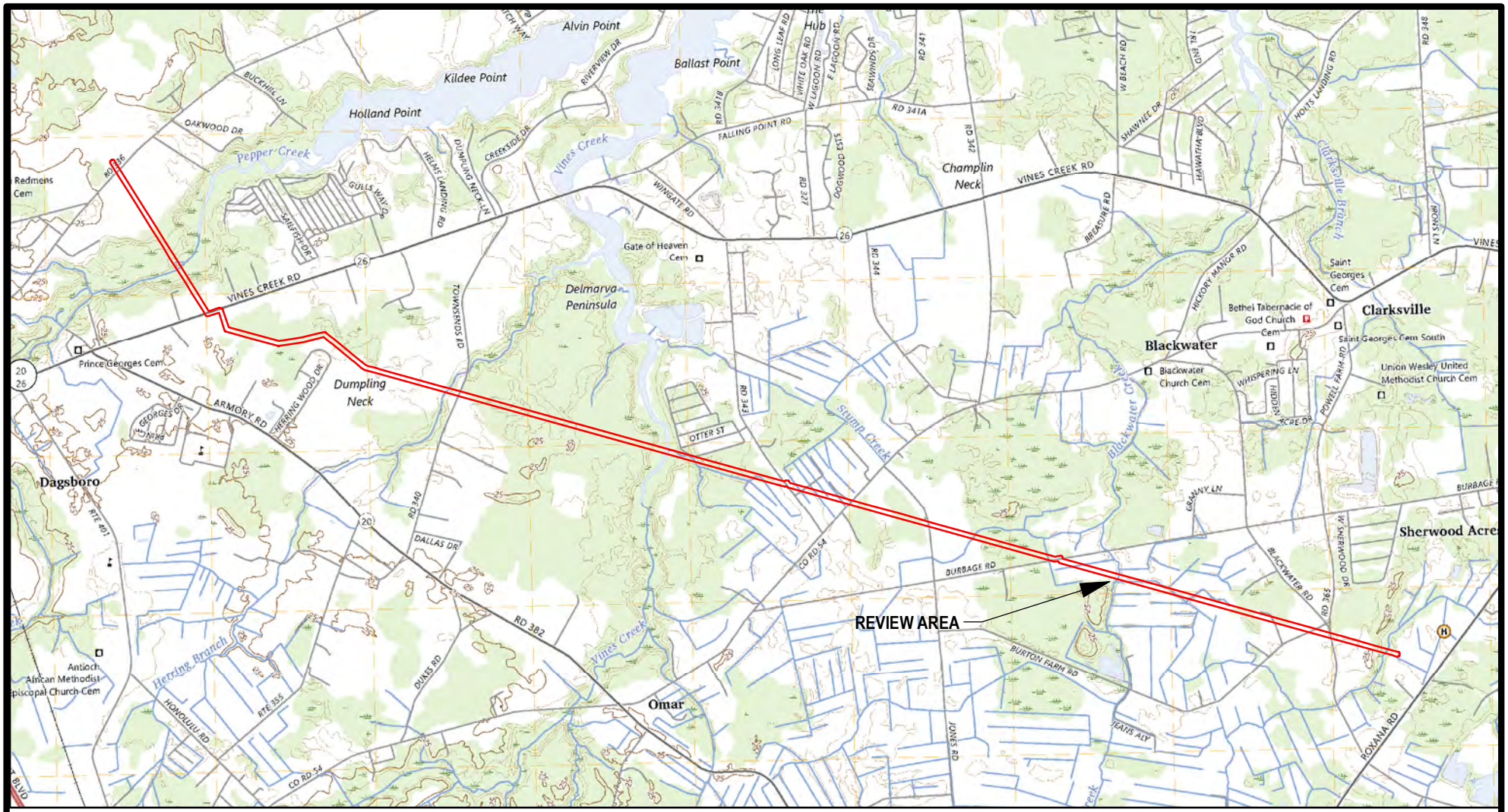
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

SITE LOCATION MAP
PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	1



SOURCE: UNITED STATES GEOLOGICAL SURVEY (USGS), FRANKFORD, DELAWARE QUADRANGLE, 7.5 MINUTE TOPOGRAPHIC MAP SERIES, DATED 2023.

Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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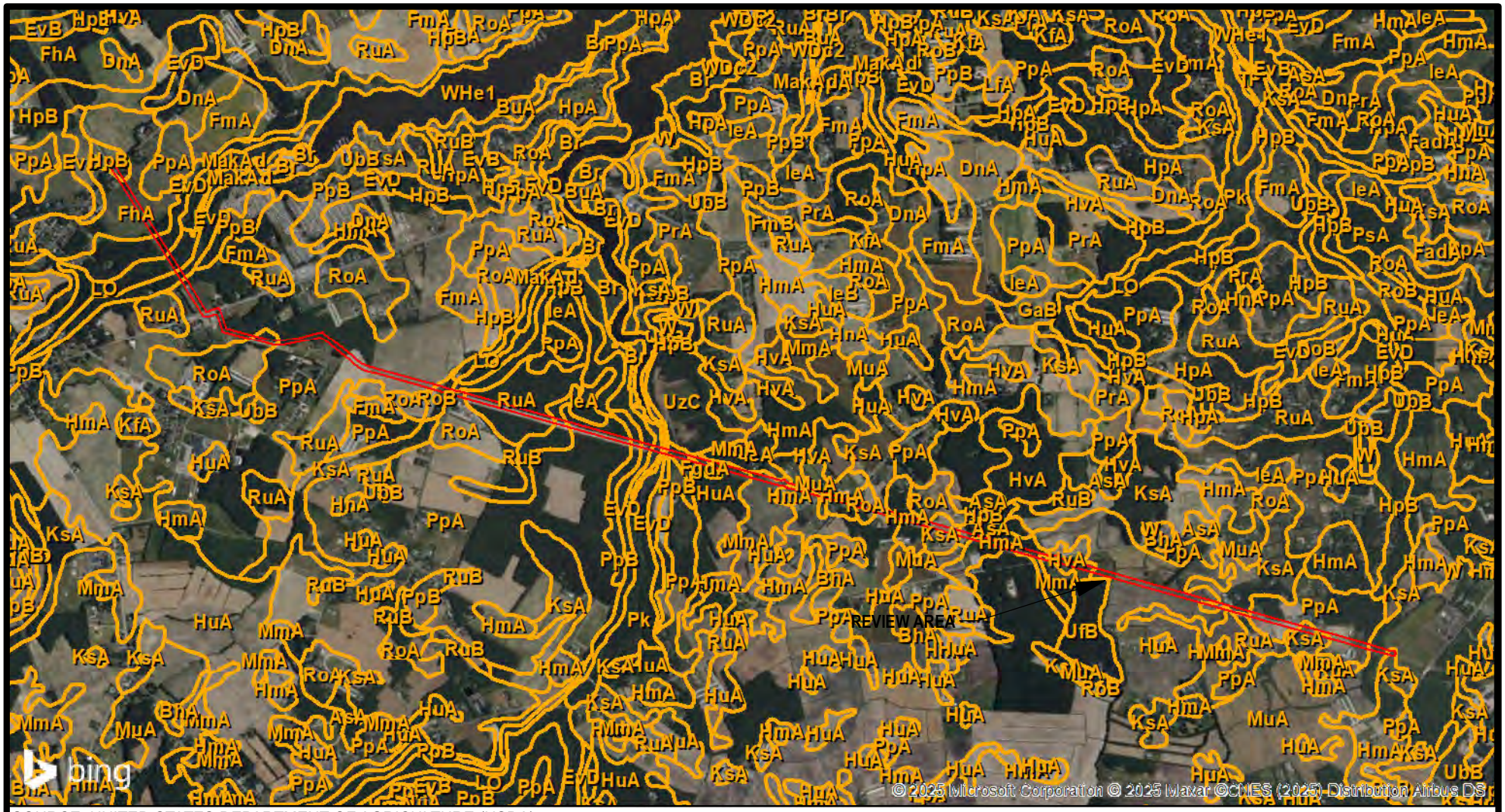
USGS TOPOGRAPHIC MAP

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	2



SOURCE: UNITED STATES DEPARTMENT OF AGRICULTURE (USDA), NATURAL RESOURCES CONSERVATION SERVICE (NRCS), GRIDDED SOIL SURVEY GEOGRAPHIC (GSSURGO) DATABASE FOR DELAWARE, DATED NOVEMBER 26, 2023.
2024 BASE AERIAL IMAGERY PROVIDED BY MICROSOFT CORPORATION.

Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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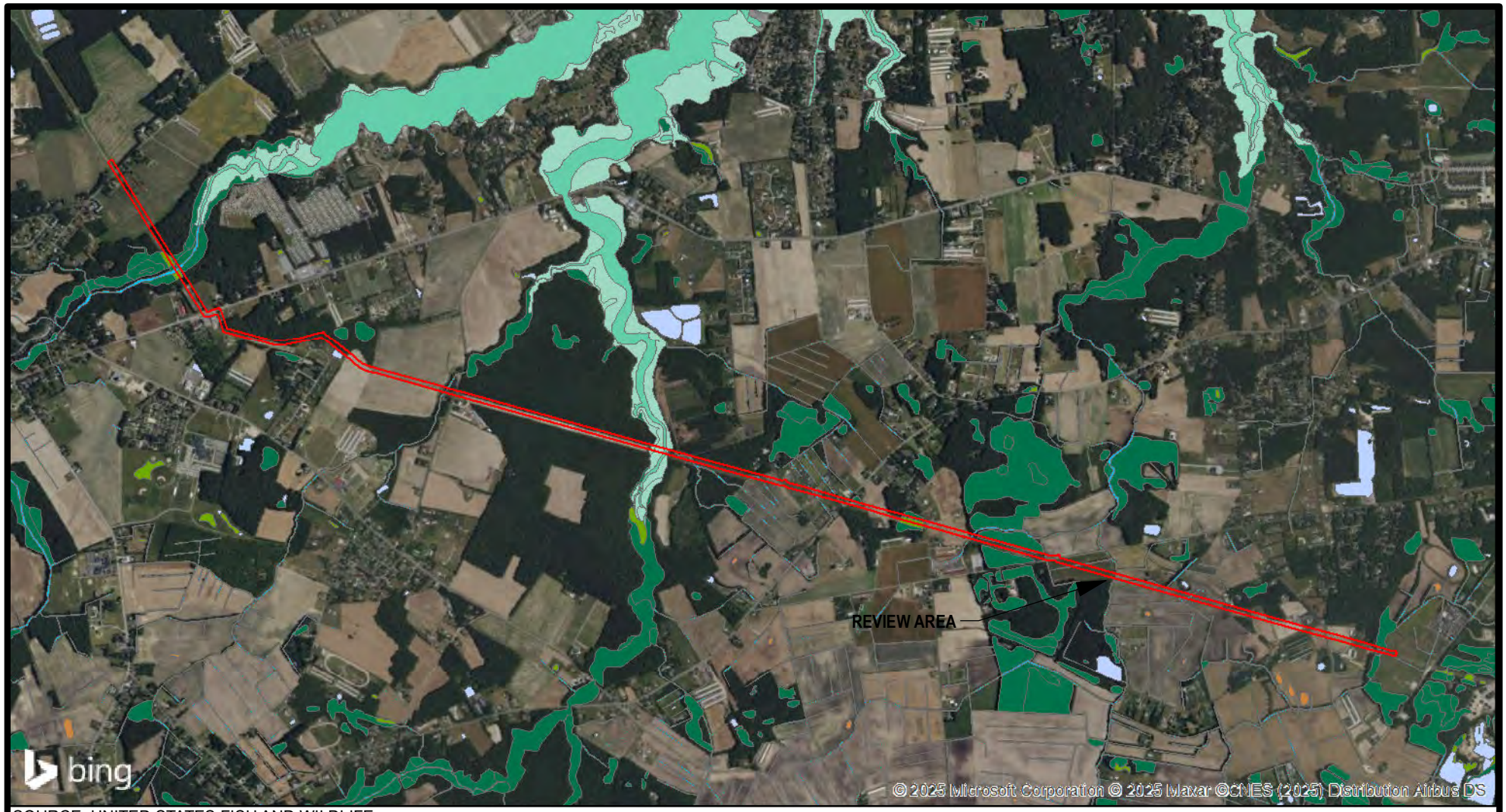
SOILS MAP

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	3



SOURCE: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS), NATIONAL WETLANDS INVENTORY (NWI), DATED MAY 17, 2024.
2024 BASE AERIAL IMAGERY PROVIDED BY MICROSOFT CORPORATION.

Legend

- REVIEW AREA
- ESTUARINE AND MARINE DEEPWATER
- ESTUARINE AND MARINE WETLAND
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- OTHER
- RIVERINE

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

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NWI WETLANDS MAP

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	4

SOURCE:
2024 BASE AERIAL IMAGERY PROVIDED BY
MICROSOFT CORPORATION.

Legend

REVIEW AREA

NORTH

0 3,000

Approximate Scale
1 inch = 3,000 feet

GEO-TECHNOLOGY ASSOCIATES, INC.
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2024 AERIAL IMAGERY

PINEY NECK WATERLINE

SUSSEX COUNTY, DELAWARE

JOB NO.	SCALE:	DATE:	DRAWN BY:	REVIEW BY:	FIGURE:
31250601	1" = 3,000'	MARCH 26, 2025	JSR	MAJ	5

Appendix B
Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-01
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-1
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): T 153D Lat: 38.53574118 Long: -75.1713123 Datum: NAD 83
Soil Map Unit Name: HmA - Hammonton loamy sand, 0 to 2 percent slopes NWI classification: PEM/ PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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 ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
This DCP was established within Wetland 1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ✔ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No ____	Depth (inches): 6
Water Table Present?	Yes ✔	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 1

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-1

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	15	✔	FAC
2. Ilex opaca	5	✔	FAC
3. Pinus taeda	5	✔	FAC
4.			
5.			
6.			
7.			
8.			
	25	=Total Cover	
50% of total cover: 12.50		20% of total cover: 5.00	
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1. Liquidambar styraciflua	15	✔	FAC
2. Acer rubrum	5	✔	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	20	=Total Cover	
50% of total cover: 10.00		20% of total cover: 4.00	
Herb Stratum (Plot size: 30 ft r)			
1. Microstegium vimineum	25	✔	FAC
2. Juncus effusus	15	✔	OBL
3. Andropogon virginicus	10		FAC
4. Persicaria sagittata	10		OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
50% of total cover: 30.00		20% of total cover: 12.00	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		265 (B)

Prevalence Index = B/A = 2.52

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 2/1	100					Sandy Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ✔ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-01
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-2
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): T 153D Lat: 38.53621323 Long: -75.17317936 Datum: NAD 83
Soil Map Unit Name: HmA - Hammonton loamy sand, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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 ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
This DCP was established to document upland conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No ____	Depth (inches): 4
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-2

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1. Rosa multiflora	20	✔	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 =Total Cover		
50% of total cover: 10.00	20% of total cover: 4.00		
Herb Stratum (Plot size: 30 ft r)			
1. Microstegium vimineum	15	✔	FAC
2. Phragmites australis	15	✔	FACW
3. Allium canadense	10	✔	FACU
4. Persicaria sagittata	5		OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 =Total Cover		
50% of total cover: 22.50	20% of total cover: 9.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	65 (A)		200 (B)

Prevalence Index = B/A = 3.07

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 8	10YR 3/3	100					Sandy Clay Loam	
8 - 20	10YR 6/8						Sandy Clay Loam	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-3
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): T 153D Lat: 38.54124615 Long: -75.19369997 Datum: NAD 83
Soil Map Unit Name: FgdA - Fallsington loams, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ 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 ✔	No ___	**Is the Sampled Area within a Wetland?** Yes ✔ No ___
Hydric Soil Present?	Yes ✔	No ___	
Wetland Hydrology Present?	Yes ✔	No ___	

Remarks:
This DCP was established within wetland 2 and is representative of Wetland 2 and 4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✔ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✔ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No ___	Depth (inches): 8
Water Table Present?	Yes ✔	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 1

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-3

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	25	✔	FAC
2. Ilex opaca	15	✔	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	40	=Total Cover	
50% of total cover: 20.00		20% of total cover: 8.00	

Sapling/Shrub Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 30 ft r)			
1. Smilax rotundifolia	10	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	=Total Cover	
50% of total cover: 5.00		20% of total cover: 2.00	

Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		150 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 2/1	100					Silt Loam	
10 - 20	10YR 7/2	70	10YR 7/8	30	C	M	Silt Loam	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-4
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): T 153D Lat: 38.54051829 Long: -75.19183519 Datum: NAD 83
Soil Map Unit Name: HuA - Hurlock loamy sand, 0 to 2 percent slopes NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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 ✔	No ____	**Is the Sampled Area within a Wetland?** **Yes** ✔ **No** ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
This DCP was established within Wetland 5.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ✔	No ____	Depth (inches): 4
Water Table Present?	Yes ✔	No ____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 1

Wetland Hydrology Present? **Yes** ✔ **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-4

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1. Pinus taeda	15	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 =Total Cover		
50% of total cover: 7.50	20% of total cover: 3.00		
Herb Stratum (Plot size: 30 ft r)			
1. Cinna arundinacea	25	✔	FACW
2. Microstegium vimineum	15	✔	FAC
3. Andropogon virginicus	10	✔	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 =Total Cover		
50% of total cover: 25.00	20% of total cover: 10.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		170 (B)

Prevalence Index = B/A = 2.61

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 5/2	80	10YR 6/6	20	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-5
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): T 153D Lat: 38.54188339 Long: -75.19765233 Datum: NAD 83
Soil Map Unit Name: EvD - Evesboro loamy sand, 5 to 15 percent slopes NWI classification: E2EM5P
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ 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 ✔	No ___	**Is the Sampled Area within a Wetland?** Yes ✔ No ___
Hydric Soil Present?	Yes ✔	No ___	
Wetland Hydrology Present?	Yes ✔	No ___	

Remarks:
This DCP was established within Wetland 3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ✔	No ___	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 1

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-5

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30 ft r)			
1. Phragmites australis	70	✔	FACW
2. Spartina alterniflora	15		OBL
3. Rubus hispidus	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
50% of total cover: 45.00	20% of total cover: 18.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover 20%		
50% of total cover:	of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		165 (B)

Prevalence Index = B/A = 1.83

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 2/2	100					Mucky Loam/Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ✔ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-6
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Slope (%): 10
Subregion (LRR or MLRA): T 153D Lat: 38.54199712 Long: -75.1979438 Datum: NAD 83
Soil Map Unit Name: EvD - Evesboro loamy sand, 5 to 15 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ 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 ___	No ✔	**Is the Sampled Area within a Wetland?** Yes ___ No ✔
Hydric Soil Present?	Yes ___	No ✔	
Wetland Hydrology Present?	Yes ___	No ✔	

Remarks:
This DCP was established upland of Wetland 3 to document upland conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-6

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30 ft r)			
1. Medicago sativa	60	✔	UPL
2. Lamium purpureum	20	✔	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 =Total Cover		
50% of total cover: 40.00	20% of total cover: 16.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover 20%		
50% of total cover:	of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	60	x 5 =	300
Column Totals:	80 (A)		380 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (If observed, list morphological adaptations below.)

SOIL Sampling Point: DCP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 4/4						Sandy Clay Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-7
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): T 153D Lat: 38.55217035 Long: -75.23121045 Datum: NAD 83
Soil Map Unit Name: EvD - Evesboro loamy sand, 5 to 15 percent slopes NWI classification: EEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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 ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
This DCP was established within Wetland 6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ✔ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 9
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 6

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-7

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1. Liquidambar styraciflua	10	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10 =Total Cover		
50% of total cover: 5.00	20% of total cover: 2.00		
Herb Stratum (Plot size: 30 ft r)			
1. Phragmites australis	40	✔	FACW
2. Microstegium vimineum	20	✔	FAC
3. Rubus hispidus	15		FACW
4. Spartina alterniflora	10		OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 =Total Cover		
50% of total cover: 42.50	20% of total cover: 17.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	55	x 2 =	110
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		210 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ✔ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: DCP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 20	10YR 2/1	100					Mucky Loam/Clay	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ✔ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; 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)

Project/Site: Piney Neck City/County: Sussex County Sampling Date: 2025-04-09
Applicant/Owner: GHD State: Delaware Sampling Point: DCP-8
Investigator(s): JSR / KJS Section, Township, Range:
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Slope (%): 10
Subregion (LRR or MLRA): T 153D Lat: 38.55411975 Long: -75.2328188 Datum: NAD 83
Soil Map Unit Name: EvD - Evesboro loamy sand, 5 to 15 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ 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 ___	No ✔	**Is the Sampled Area within a Wetland?** Yes ___ No ✔
Hydric Soil Present?	Yes ___	No ✔	
Wetland Hydrology Present?	Yes ___	No ✔	

Remarks:
This DCP was established upland of Wetland 6 to document upland conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DCP-8

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30 ft r)			
1. Medicago sativa	60	✔	UPL
2. Lamium purpureum	20	✔	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 =Total Cover		
50% of total cover: 40.00	20% of total cover: 16.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover 20%		
50% of total cover:	of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	60	x 5 =	300
Column Totals:	80 (A)		380 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (If observed, list morphological adaptations below.)

SOIL Sampling Point: DCP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 4/4						Sandy Clay Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

Appendix C
Site Photographs

Re: **Piney Neck Force Main**
Date Photographed: April 2025
GTA Project Number: 31250601

Photograph 1: View of Waterbody A facing southwest.

Photograph 2: View of Waterbody B, facing northeast.

Photograph 3: View of Waterbody C, facing north.

Photograph 4: View of Waterbody D, facing south.

Photograph 5: View of Waterbody E, facing east.

Photograph 6: View of Waterbody G, facing southeast.

Photograph 7: View of Waterbody H ditch facing northeast.

Photograph 8: View of Waterbody I, facing northwest.

Photograph 9: View of Vines Creek, facing southwest.

Photograph 10: View of Pepper Creek facing northeast.

Photograph 11: View of typical agricultrual ditch, facing northeast.

Photograph 12: View of Wetland 1, facing southeast.

Photograph 13: View of Wetland 2, facing south.

Photograph 14: View of Wetland 3, facing east.

Photograph 15: View of Wetland 4, facing west.

Photograph 16: View of Wetland 5, facing northwest.

Photograph 17: View of Wetland 6, facing south.

Photograph 19: DCP-1, sample location.

Photograph 20: DCP-1 soil sample.

Photograph 21: DCP-2, sample location.

Photograph 22: DCP-2, soil sample.

Photograph 23: DCP-3, sample location.

Photograph 24: DCP-3, soil sample.

Photograph 25: DCP-4, sample location.

Photograph 25: DCP-4, soil sample.

Photograph 26: DCP-5, sample location.

Photograph 27: DCP-5, soil sample.

Photograph 28: DCP-6, sample location.

Photograph 29: DCP-6, soil sample.

Photograph 30: DCP-7, sample location.

Photograph 31: DCP-7, soil sample.

Photograph 32: DCP-8, sample location.

Photograph 4: DCP-8, soil sample.

Appendix D
Wetland Delineation Plan

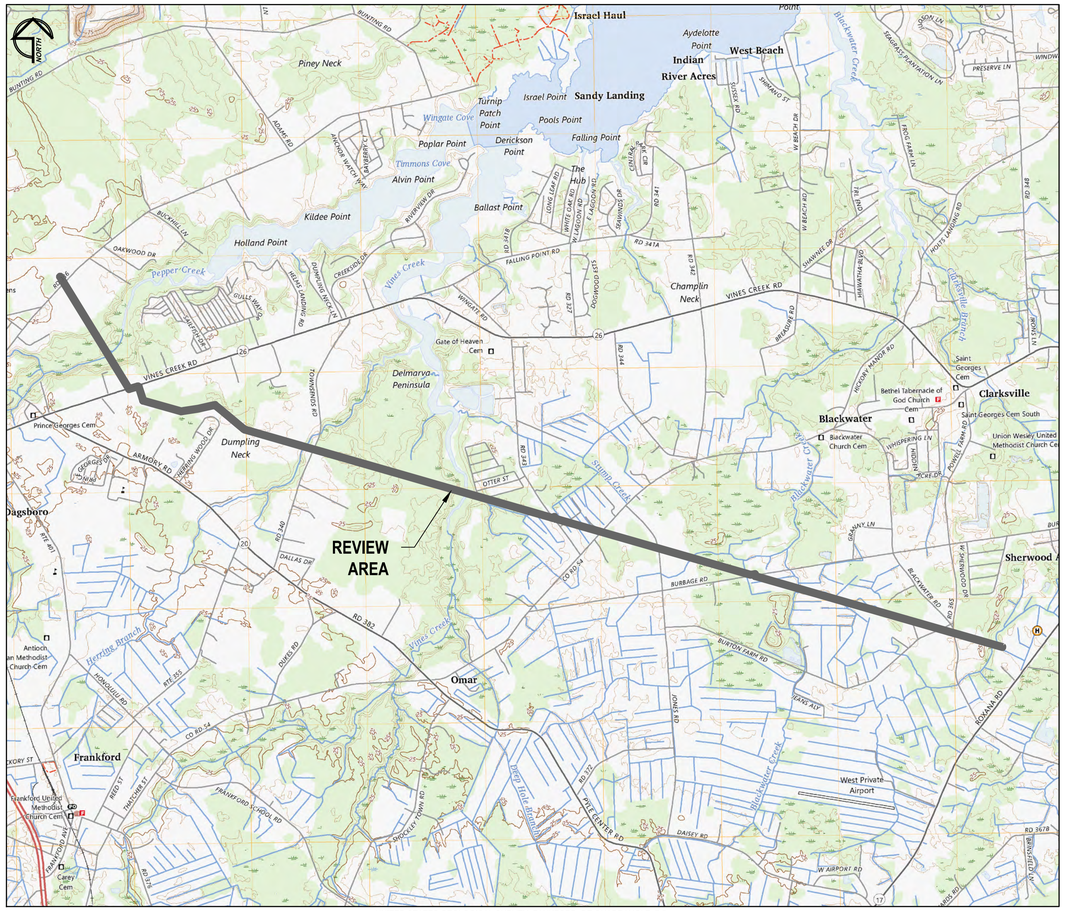
PINEY NECK FORCE MAIN

WETLAND DELINEATION PLAN

SOILS TABLE

SYMBOL[1]	NAME/DESCRIPTION[1]	HYDRIC SOIL[2]	HYDRIC COMPONENT[2]	PERCENTAGE OF MAPPING UNIT[2]	POSITION IN LANDSCAPE[2]
AsA	ASKECKS LOAMY SAND, 0 TO 2% SLOPES	YES	ASKECKSY, UNDRAINED	45	FLATS
			ASKECKSY, DRAINED	30	FLATS
			HURLOCK, DRAINED	10	FLATS
			MULLICA, UNDRAINED	5	FLATS
EvD	EVESBOROLOAMY SAND, 0 TO 5% SLOPES	NO	-	-	-
FgdA	FALLSINGTON LOAMS, 0 TO 2% SLOPES	YES	FALLSINGTON, UNDRAINED	38	FLATS
			FALLSINGTON, DRAINED	37	FLATS
			OTHELLO	8	FLATS
FhA	FORT MOTT-HENLOPEN COMPLEX, 0 TO 2% SLOPES	NO	-	-	-
HmAd	HAMMONTON LOAMY SAND, 0 TO 2% SLOPES	YES	HURLOCK, DRAINED	5	DEPRESSIONS
HpB	HENLOPEN LAOMY SAND, 2 TO 5 PERCENT SLOPES	NO	-	-	-
HuA	HURLOCK LOAMY SAND 0 TO 2% SLOPES	YES	HURLOCK, DRAINED	41	FLATS
			HURLOCK, UNDRAINED	39	FLATS
HvA	HURLOCK SANDY LOAM, 0 TO 2% SLOPES	YES	HURLOCK, DRAINED	42	FLATS
			HURLOCK, UNDRAINED	38	FLATS
			MULLICA, DRAINED	5	FLATS
IeA	INGLESIDE LOAMY SAND, 0 TO 2% SLOPES	NO	-	-	-
KsA	KLEJ LOAMY SAND, 0 TO 2% SLOPES	YES	BERRYLAND, DRAINED	5	FLATS
			HURLOCK, DRAINED	5	FLATS
LO	LONGMARSH AND INDIANTOWN SOILS, 0 TO 1% SLOPES	YES	LONGMARSH, FREQUENTLY FLOODED	43	FLOOD PLAINS
			INDIANTOWN, FREQUENTLY FLOODED	37	FLOOD PLAINS
			ZEKIAH, FREQUENTLY FLOODED	10	FLOOD PLAINS
			MANAHAWKIN	5	SWAMPS
MmA	MULLICA MUCKY SANDY LOAM, 0 TO 2% SLOPES	YES	MULLICA, DRAINED	50	FLATS
			MULLICA, UNDRAINED	30	FLATS
			HURLOCK	10	FLATS
			BERRYLAND	10	FLATS
MuA	MULLICA-BERRYLAND COMPLEX, 0 TO 2% SLOPS	YES	MILLICA, DRAINED	26	FLATS
			BERRYLAND, DRAINED	24	FLATS
			MULLCIA, UNDRAINED	16	FLATS
			BERRYLAND, UNDRAINED	14	FLATS
			MULLICA, UNDRAINED	5	FLATS
Pk	PUCKUM MUCK, 0 TO 2% SLOPES	YES	PUCKUM, FREQUENTLY FLOODED, OCCASIONALLY PONDED	85	SWAMPS
			MANAHAWKIN, FREQUENTLY FLOODED	10	SWAMPS
			INDIANTOWN, FREQUENTLY FLOODED	5	FLOOD PLAINS
PpA	PEPPERBOX LOAMY SAND, 0 TO 2% SLOPES	NO	-	-	-
PpB	PEPPERBOX LOAMY SAND, 2 TO 5% SLOPES	NO	-	-	-
RoA	ROSEDALE LOAMY SAND, 2 TO 5% SLOPES	NO	-	-	-
RoB	ROSEDALE LOAMY SAND, 2 TO 5% SLOPES	NO	-	-	-
RuA	RUNCLINT LOAMY SAND, 2 TO 5% SLOPES	YES	HURLOCK, DRAINED	5	FLATS
RuB	RUNCLINT LOAMY SAND, 2 TO 5% SLOPES	YES	HURLOCK, DRAINED	5	FLATS
WHe1	HERRING CREEK MUCKY SILT LOAM, 0 TO 1 METER WATER DEPTH	YES	HERRING CREEK, 0 TO 1 METER WATER DEPTH	85	ESTUARINE TIDAL STREAMS
			METEDECONK, 0 TO 1 METER WATER DEPTH	10	ESTUARINE TIDAL STREAMS
			TRUITT, 0 TO 1 METER WATER DEPTH	5	MAINLAND COVES

1. UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, CHARLES COUNTY, MARYLAND, SOIL SURVEY DATA VERSION 18, DATED SEPTEMBER 6, 2024.
2. UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, HYDRIC SOILS LIST BY STATE, AVAILABLE AT *HTTPS://EFOTG.SC.EGOV.USDA.GOV/REFERENCES/PUBLIC/IL/STATE_LIST_NRCS_ HYDRIC_SOILS_REPORT_DYNAMIC_DATA.HTML* AND ACCESSED ON JANUARY 29, 2025.



UNITED STATES GEOLOGICAL SURVEY, FANKFORD, DE QUADRANGLE, 7.5 MINUTE TOPOGRAPHIC MAP SERIES, DATED 2023.

LOCATION MAP

SCALE: 1" = 2000'

APPROXIMATE AREA OF WATERBODIES

WATERBODY	APPROXIMATE AREA (SQ. FT. / AC)	APPROXIMATE LINEAR FEET
WATERBODY A	879 / 0.02	166
WATERBODY B	545 / 0.001	122
WATERBODY C	964 / 0.02	232
WATERBODY D	503 / 0.01	71
WATERBODY E	3,639 / 0.08	452
WATERBODY F	350 / 0.008	56
WATERBODY G	1,341 / 0.03	149
WATERBODY H	1,625 / 0.03	108
WATERBODY I	854 / 0.02	100
TOTAL WATERBODIES	10,430 / 0.181	1,456

APPROXIMATE AREA OF WETLANDS

WETLAND	APPROXIMATE SQUARE FEET	APPROXIMATE ACRES
WETLAND 1	12,381	0.28
WETLAND 2	4,576	0.10
WETLAND 3	1197	0.03
WETLAND 4	796	0.02
WETLAND 5	29,739	0.68
WETLAND 6	48,272	1.11
TOTAL WETLANDS	96,961	2.22

GENERAL INFORMATION

1. PLAN PREPARED FOR: GHD
   16701 MELFORD BOULEVARD, SUITE 221
   BOWIE, MARYLAND 20715
   ATTN: MR. STEVEN CLARK
2. PLAN PREPARED BY: GEO-TECHNOLOGY ASSOCIATES, INC. (GTA)
   3445-A BOX HILL CORPORATE CENTER DRIVE
   ABINGDON, MARYLAND 21009
   ATTN: MR. JOSH RIDING
3. TOPOGRAPHIC INFORMATION, TREELINES AND ROADWAYS SHOWN HEREON WERE PROVIDED BY DELAWARE FIRSTMAP AND NOAA.
4. THE LIMITS OF THE 100-YEAR FLOODPLAIN SHOWN HEREON ARE PER FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE MAP (FIRM) NUMBER 10005C0495K, 10005C0487K, AND 10005C0486K EFFECTIVE MARCH 16, 2015.
5. THE WETLAND DELINEATION WAS PERFORMED BY GTA IN APRIL 2025. WETLAND FLAGS WERE LOCATED USING A GLOBAL POSITIONING SYSTEM (GPS) RATED WITH SUB-METER ACCURACY.
6. AS A RESULT OF THE REVIEW OF THE SITE, IT IS GTA'S PROFESSIONAL OPINION THAT THERE ARE JURISDICTIONAL WATERS OF THE U.S., INCLUDING WETLANDS, PRESENT WITHIN THE REVIEW AREA.
7. GTA'S CONCLUSIONS REGARDING THIS SITE HAVE BEEN BASED ON OBSERVATIONS OF EXISTING CONDITIONS, PROFESSIONAL EXPERIENCE, AND GENERALLY ACCEPTED PROFESSIONAL ENVIRONMENTAL PRACTICE UNDER SIMILAR CIRCUMSTANCES. SEASONAL VEGETATION CYCLES AND FLUCTUATIONS IN PRECIPITATION OR WEATHER CONDITIONS CAN RESULT IN DIFFERENCES IN THE PERCEPTION OF HYDROLOGIC CONDITIONS AND THE PRESENCE OF PREDOMINANTLY HYDROPHYTIC VEGETATION, WHICH CAN ALTER GTA'S EVALUATION OF WETLANDS/WATERWAYS.
8. IT IS IMPORTANT TO NOTE THAT THIS EVALUATION IS GTA'S PROFESSIONAL OPINION, ONLY. DECISIONS REGARDING THE OFFICIAL JURISDICTIONAL STATUS OF WETLANDS/WATERWAYS ARE MADE BY FEDERAL, STATE, AND/OR LOCAL REGULATORY AGENCIES.
9. THIS PLAN WAS PREPARED BY GTA FOR THE SOLE AND EXCLUSIVE USE OF GHD. ANY REPRODUCTION OF THIS PLAN BY ANY OTHER PERSON WITHOUT THE EXPRESSED WRITTEN PERMISSION OF GTA AND GHD IS UNAUTHORIZED, AND SUCH USE IS AT SOLE RISK OF THE USER.

LEGEND

- REVIEW AREA
- PR. FORCE MAIN
- ADJACENT PARCELS
- EX. 1' CONTOURS
- EX. NONTIDAL WETLANDS
- EX. TIDAL WETLANDS
- EX. PERENNIAL DITCH
- EX. INTERMITTENT DITCH
- EX. TREELINE
- EX. 100-YEAR FEMA FLOODPLAIN
- EX. SOIL BOUNDARY
- DCP-1 — DATA COLLECTION POINTS
- 1 — PHOTO LOCATIONS

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

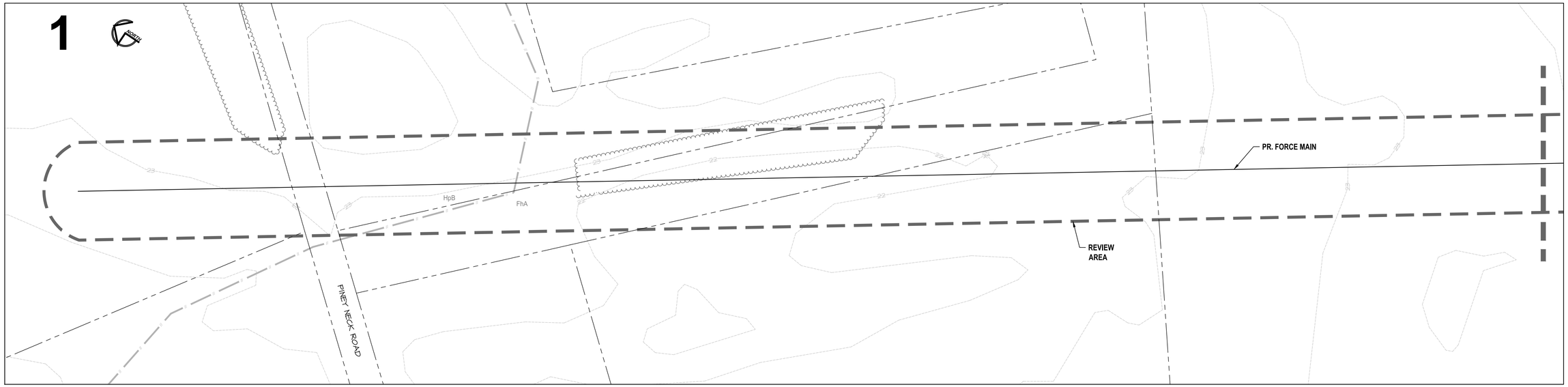
PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

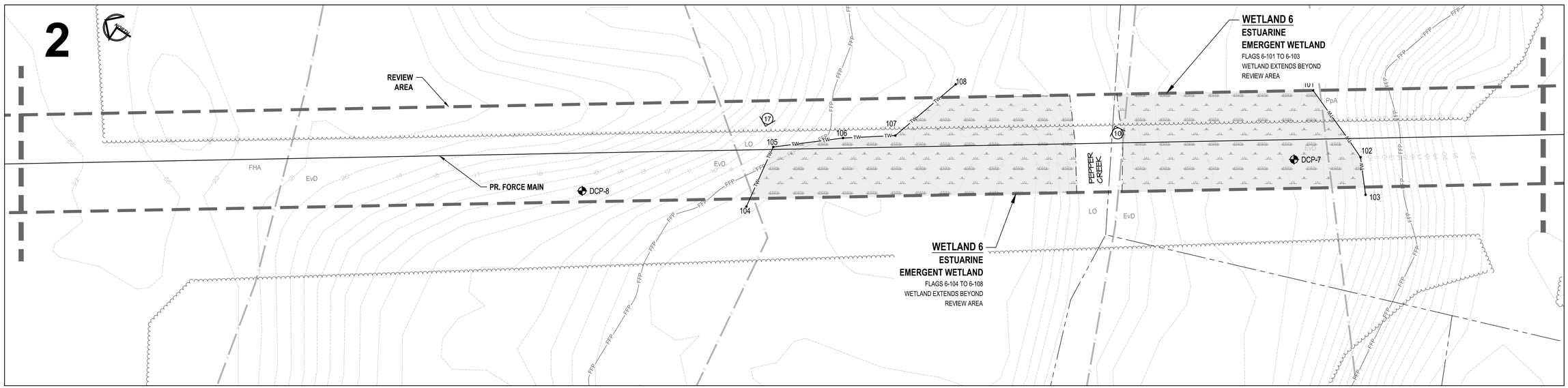
JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	1 OF 12

L:\ENVIRO\PROJECT FILES\2025\31250601 -PINEY NECK WWTP\NET\CAD\PLOT\31250601 WDP.DWG



PLAN VIEW 1

SCALE: 1" = 50'



PLAN VIEW 2

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
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410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	2 OF 12

3

NORTH

VINES CREEK ROAD

MATCH LINE C - SEE PAGE 4 VIEW 4

PR. FORCE MAIN

REVIEW AREA

MATCH LINE B - SEE PAGE 2 VIEW 2

PLAN VIEW 3

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

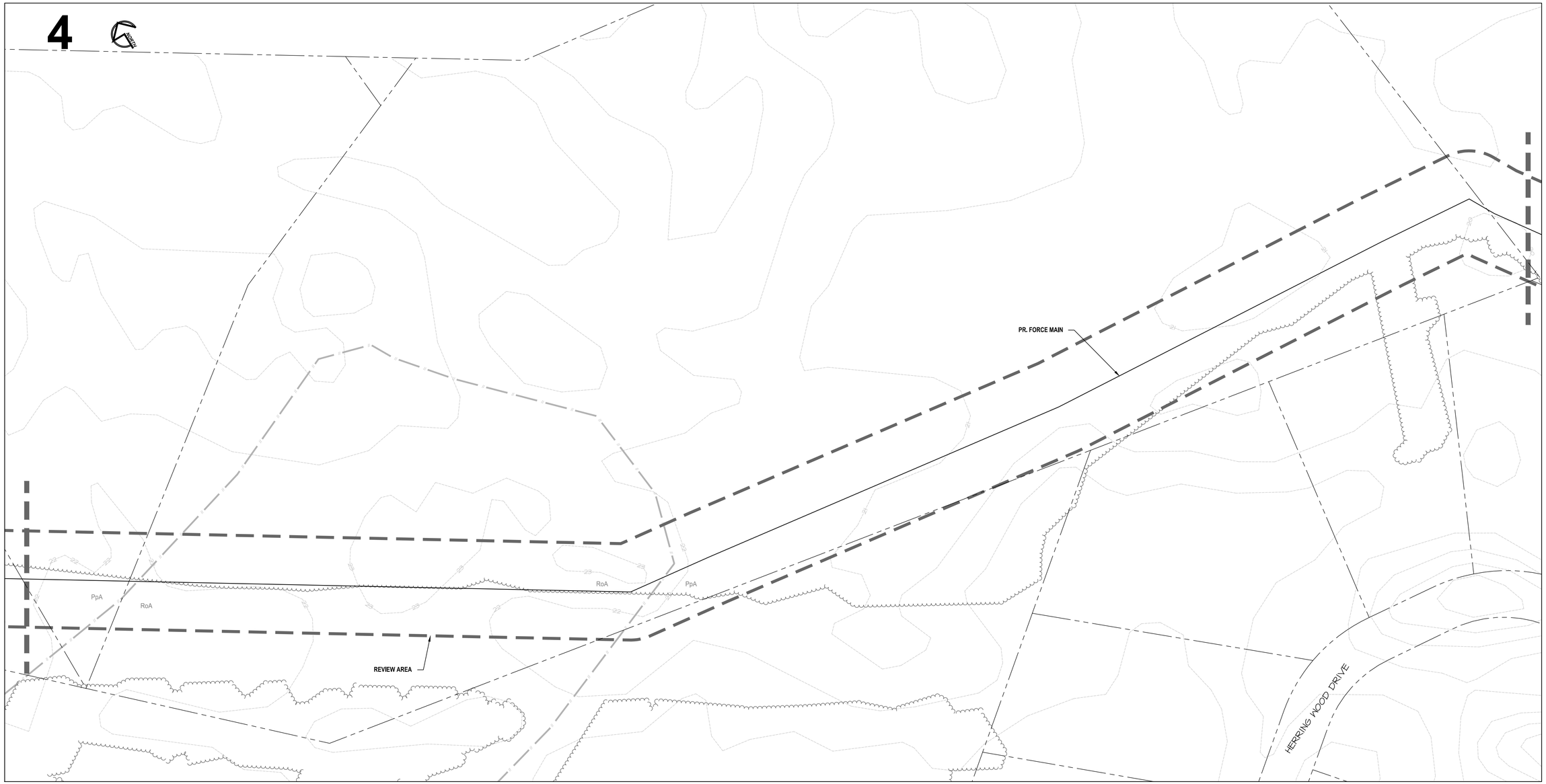
WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:		
	JOB NO:	31250601
	SCALE:	N/A
	DATE:	APRIL 30, 2025
	DRAWN BY:	JSR/KJS
	DESIGN BY:	N/A
	REVIEW BY:	MAJ
	SHEET:	3 OF 12

4



PLAN VIEW 4

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
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WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	4 OF 12

MATCH LINE D - SEE PAGE 4 VIEW 4

5

NORTH

HERRING WOOD DRIVE

REVIEW AREA

PR. FORCE MAIN

MATCH LINE E - SEE PAGE 6 VIEW 6

PLAN VIEW 5

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	5 OF 12

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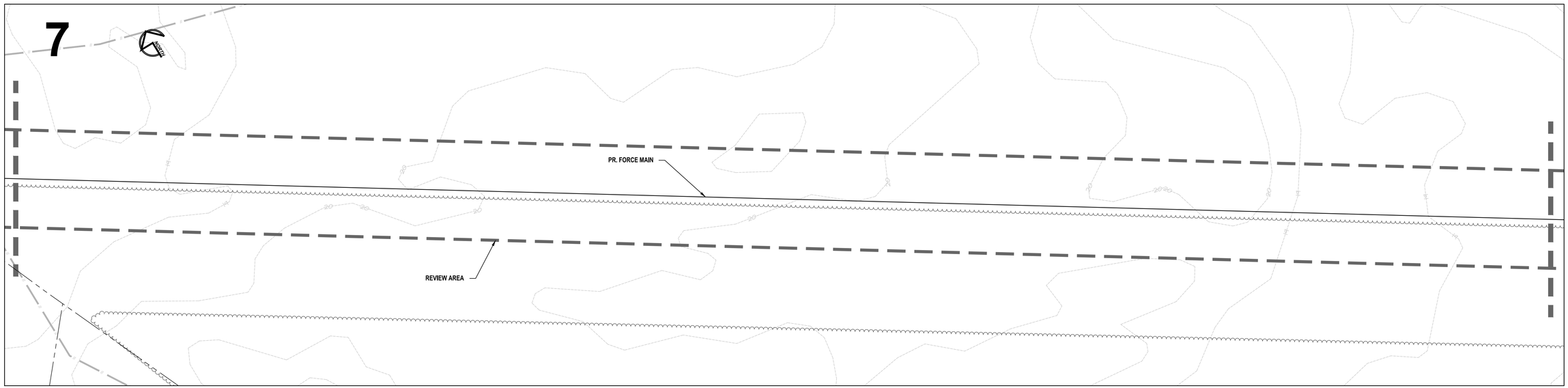
PLAN VIEW 6

SCALE: 1" = 50'



PLAN VIEW 7

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
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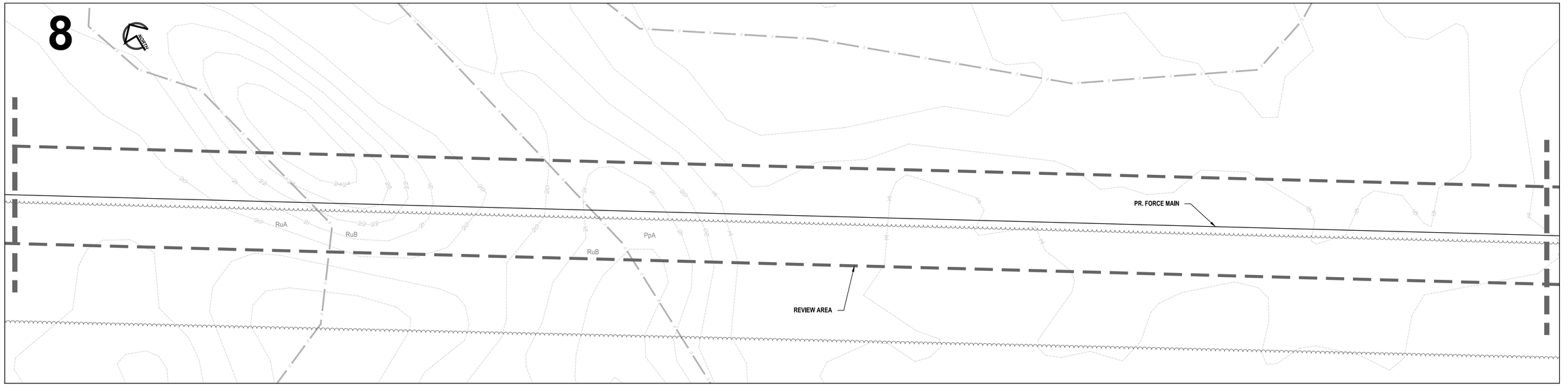
WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

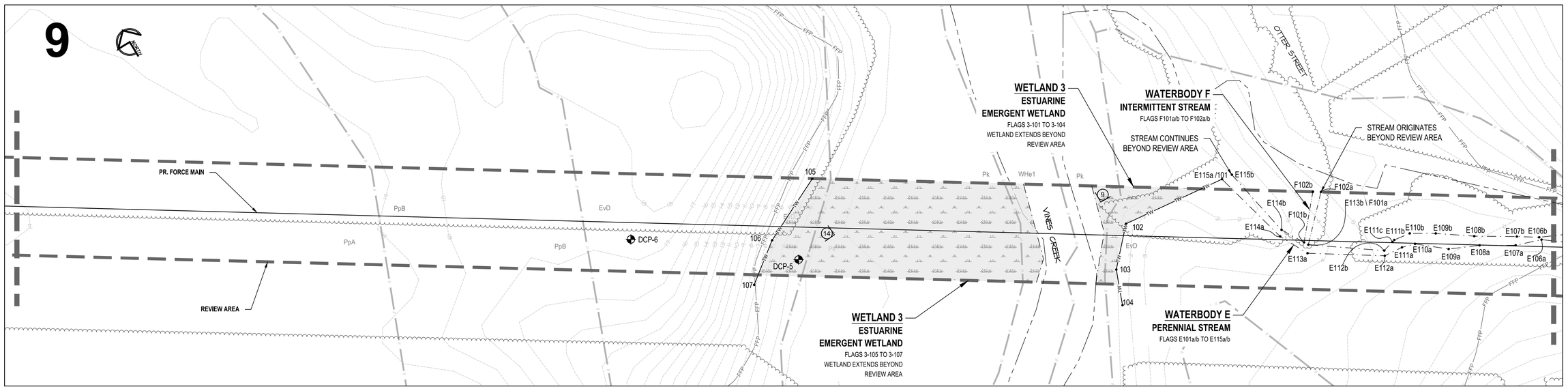
SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	6 OF 12



PLAN VIEW 8
SCALE: 1" = 50'



PLAN VIEW 9
SCALE: 1" = 50'

50 0 50 100 150
Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

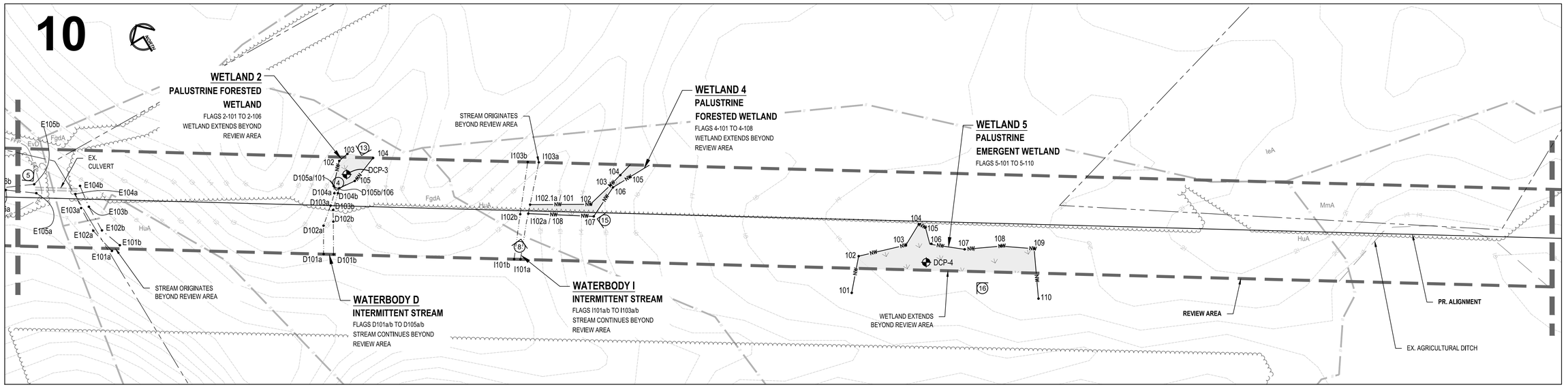
WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

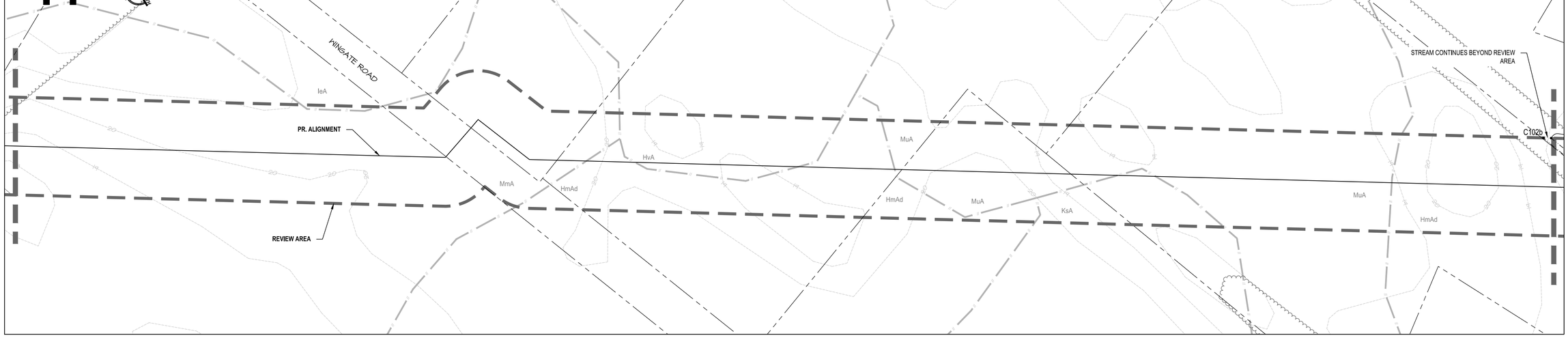
REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	7 OF 12



PLAN VIEW 10

SCALE: 1" = 50'



PLAN VIEW 11

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

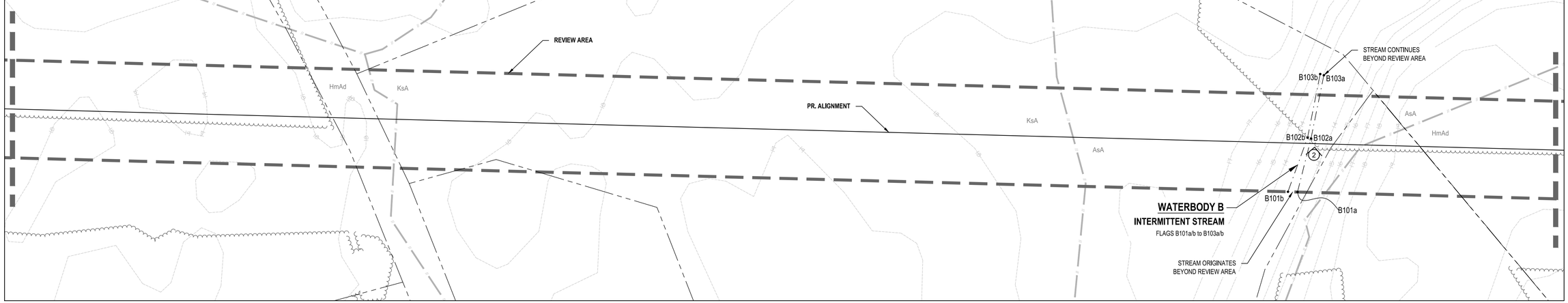
SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	8 OF 12

PLAN VIEW 12

SCALE: 1" = 50'



PLAN VIEW 13

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
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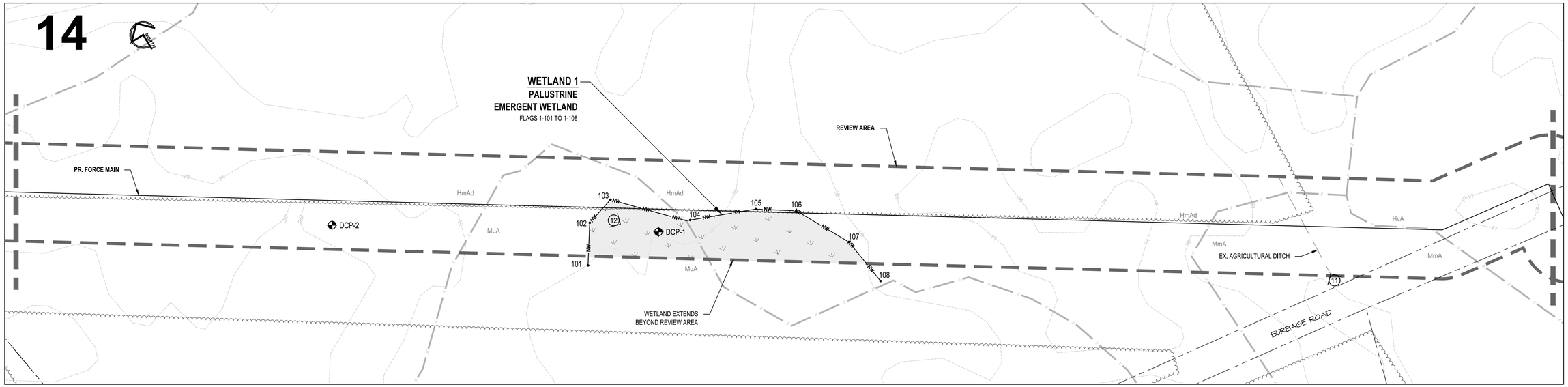
WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	9 OF 12



PLAN VIEW 14

SCALE: 1" = 50'

PLAN VIEW 15

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
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WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	10 OF 12

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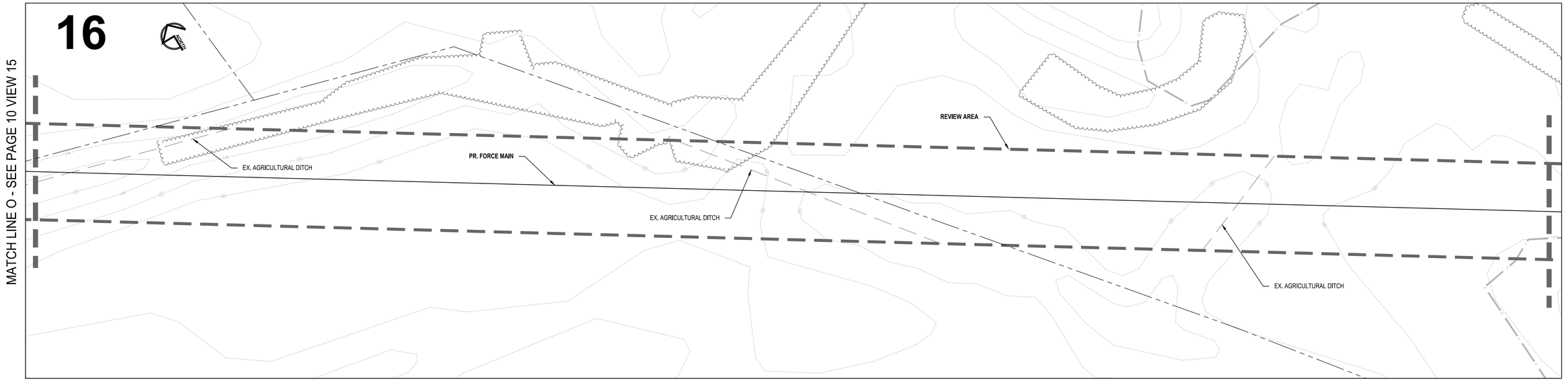
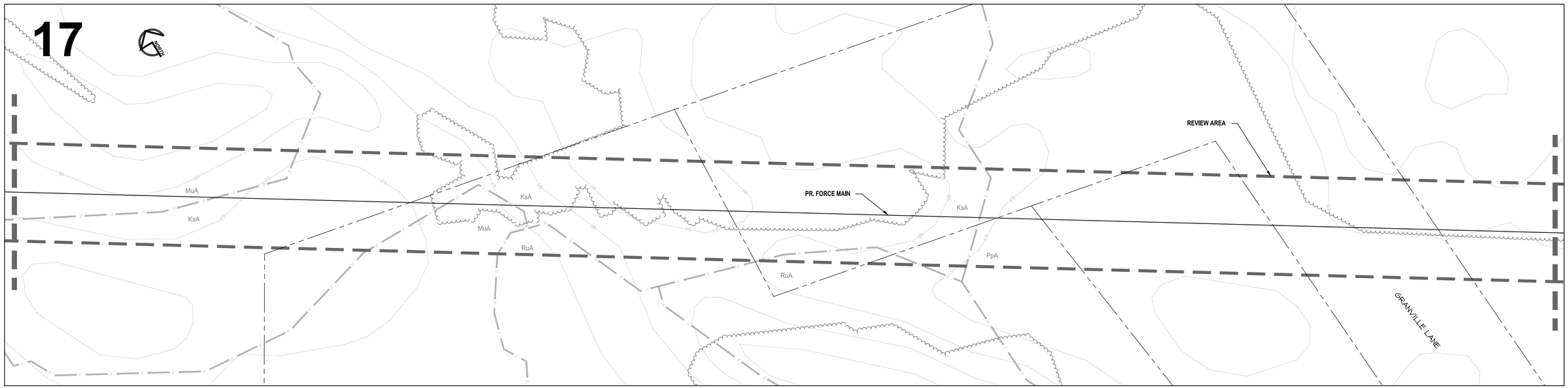


PLAN VIEW 16

SCALE: 1" = 50'



PLAN VIEW 17

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

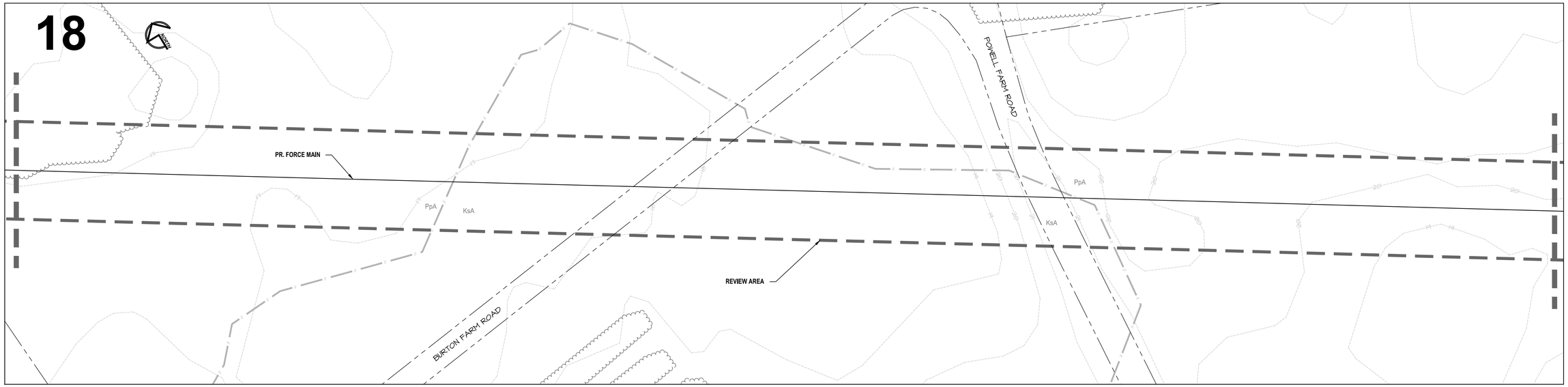
WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

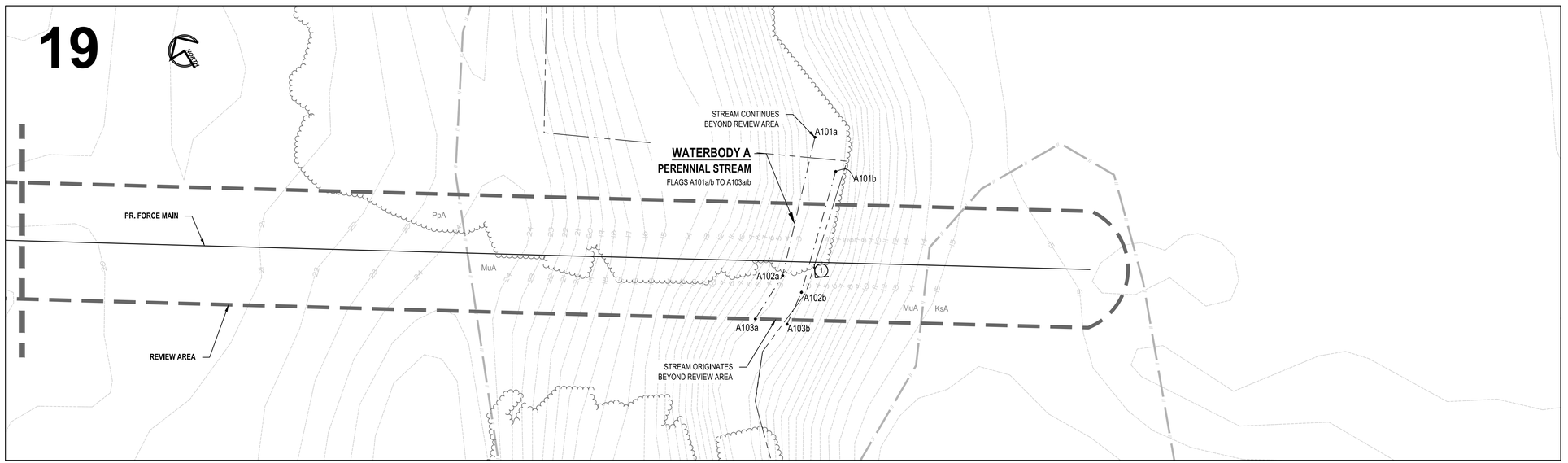
REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	11 OF 12



PLAN VIEW 18

SCALE: 1" = 50'



PLAN VIEW 19

SCALE: 1" = 50'

50 0 50 100 150

Scale 1" = 50'

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
410-515-9446
FAX: 410-515-4895
WWW.GTAENG.COM

WETLAND DELINEATION PLAN

PINEY NECK FORCE MAIN

SUSSEX COUNTY, DELAWARE

REVISIONS:

JOB NO:	31250601
SCALE:	N/A
DATE:	APRIL 30, 2025
DRAWN BY:	JSR/KJS
DESIGN BY:	N/A
REVIEW BY:	MAJ
SHEET:	12 OF 12

Copy of Easement Agreements

Tax Parcel No. 134-15.00-1.00
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2023000007791 BK: 5866 PG: 343
On 3/8/2023 at 11:20:25 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County, DE
Consideration: $0.00 County/Town: $0.00
State: $0.00Total: $0.00 Doc Surcharge Paid

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 2nd day of March ,A.D., 2023, by and between **CHARLES P. TOWNSEND, III, Executor of the Estate of CHARLES P. TOWNSEND, Jr., and CHARLES P. TOWNSEND, III Successor trustee of Charles P. Townsend, Jr. Revocable Trust u/t/a dated November 9, 1995, as amended** of 30772 Vines Creek Rd, Dagsboro, DE 19939 party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described in Deed Book 1747 Page 336.

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **SIX THOUSAND DOLLARS ($6,000.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the party to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated April 6, 2022 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated April 6, 2022.

3. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

4. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

5. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

6. Grantee agrees that timing of construction shall be scheduled with the least impact on the agricultural activities of the Grantor. However, Grantor acknowledges that temporary, limited restrictions based on construction schedule may be necessary. In the case of crop damage, Grantee shall reimburse Grantor at three (3) times the yield of the undisturbed land times the area of the disturbed area at the crop prices achieved by Grantor for that crop season.

7. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

EXECUTOR OF THE ESTATE OF CHARLES P. TOWNSEND, JR. AND SUCCESOR TRUSTEE OF CHARLES P. TOWNSEND, JR. REVOCABLE TRUST

Michele Warren
Attest

By: _____ (SEAL)
CHARLES P. TOWNSEND, III

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 2nd day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Charles P. Townsend, III, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

Notary Public

SHARON E. SMITH
MY COMMISSION EXPIRES ON JUNE 14, 2024
NOTARY PUBLIC
STATE OF DELAWARE

SUSSEX COUNTY, DELAWARE

Attest

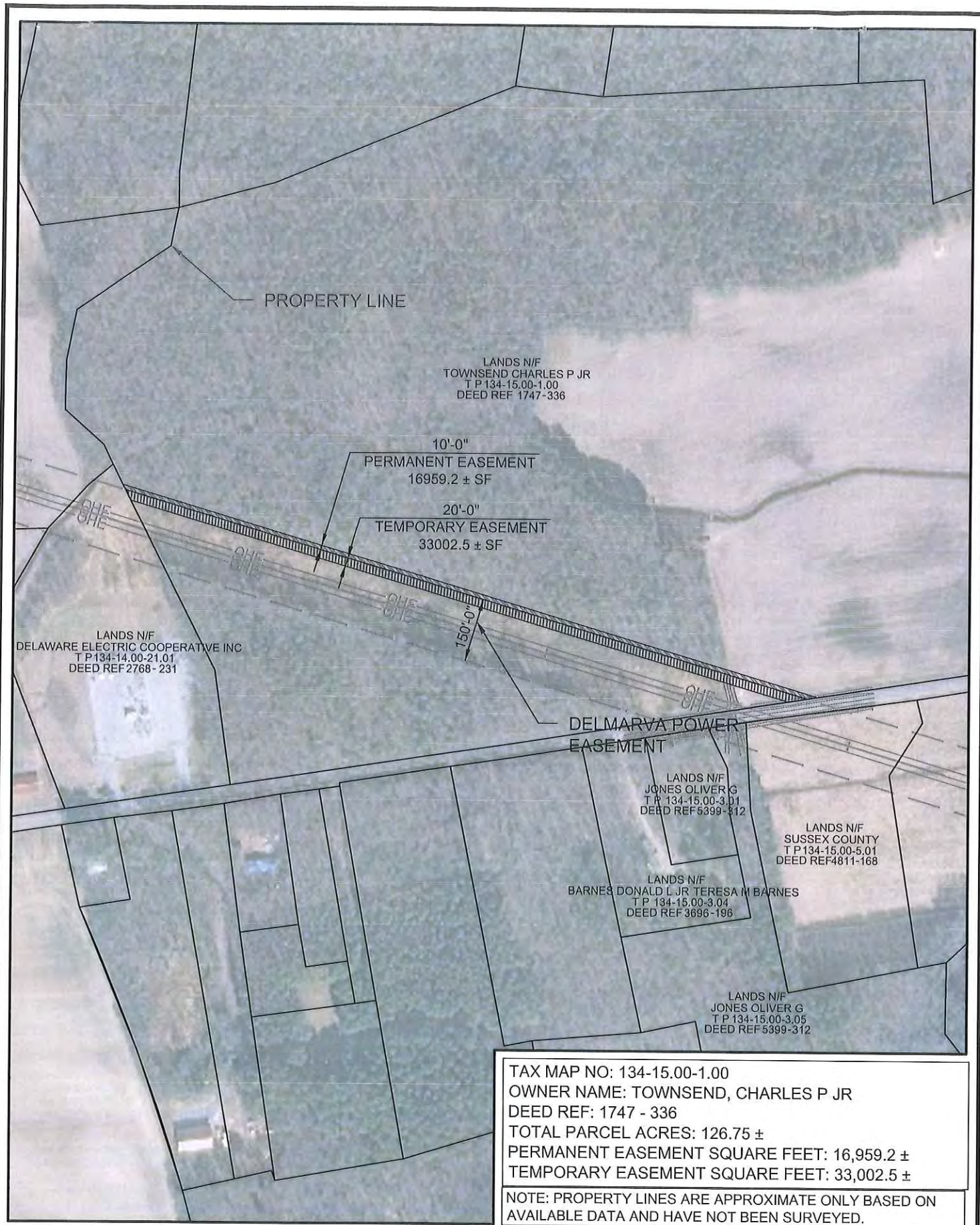
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 7th day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

TRACY NICOLE TORBERT
MY COMMISSION EXPIRES JULY 8, 2023
NOTARY PUBLIC
STATE OF DELAWARE

_____
Notary Public



TAX MAP NO: 134-15.00-1.00
OWNER NAME: TOWNSEND, CHARLES P JR
DEED REF: 1747 - 336
TOTAL PARCEL ACRES: 126.75 ±
PERMANENT EASEMENT SQUARE FEET: 16,959.2 ±
TEMPORARY EASEMENT SQUARE FEET: 33,002.5 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY / DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	04/06/22	1" = 300'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
614 NORTH DUPONT HIGHWAY - SUITE 100 - DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISION | DATE

Document # 2024000034815 BK: 6179 PG: 336
On 10/3/2024 at 9:59:13 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County, DE
Consideration: $0.00 County/Town: $0.00
State: $0.00Total: $0.00 Doc Surcharge Paid

Tax Parcel No. 134-14.00-21.01
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 13 day of SEPTEMBER ,A.D., 2024, by and between **DELAWARE ELECTRIC COOPERATIVE, INC.,** a non-stock, non-profit corporation of the State of Delaware of P.O. Box 600, Greenwood, DE 19950, party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described as Tax Parcel No. 134-14.00-21.01 in Deed Book 2768 Page 231.

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **ONE THOUSAND AND FIVE HUNDRED DOLLARS ($1,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the parties to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated July 29, 2021 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated July 29, 2021.

3. Notwithstanding the grant of the aforesaid permanent easement, the Grantor reserves unto itself and its successors, heirs and assigns, the full use and enjoyment of the property. However, the Grantor shall not construct or permit the construction of any building or structure with a permanent foundation within the boundaries of the aforesaid permanent easement.

4. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

5. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

6. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

7. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

Attest

DELAWARE ELECTRIC COOPERATIVE INC.

By:_____(SEAL)
RYAN SHOCKLEY
Manager of Engineering

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 13 day of September 2024, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Ryan Shockley, Manager of Engineering, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

JULIA ANN GOFF
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires February 24, 2026

Notary Public

SUSSEX COUNTY, DELAWARE

Attest

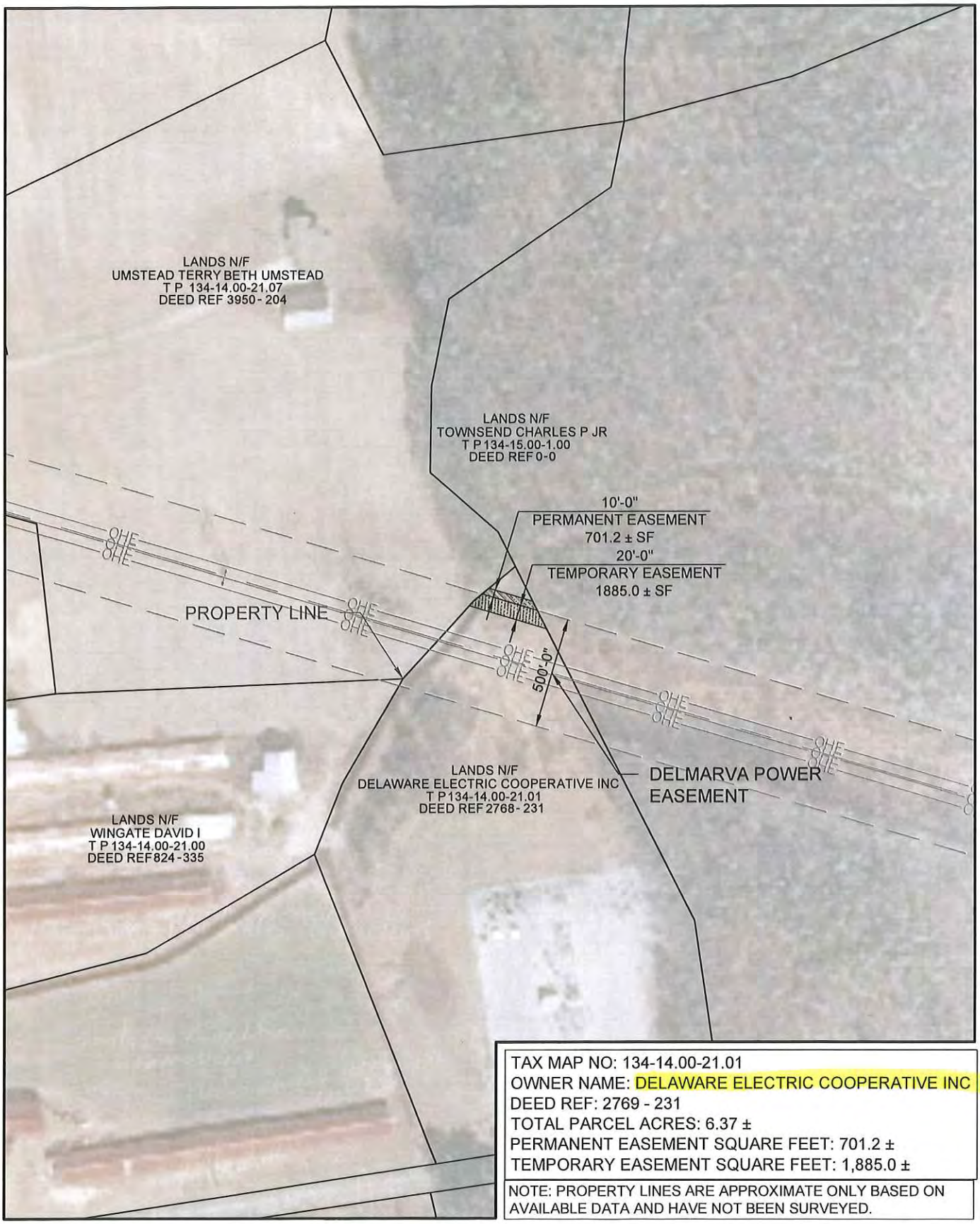
By:_____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 1st day of October 2024, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

TRACY TORBERT
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires on July 8, 2027

Notary Public



TAX MAP NO: 134-14.00-21.01
OWNER NAME: DELAWARE ELECTRIC COOPERATIVE INC
DEED REF: 2769 - 231
TOTAL PARCEL ACRES: 6.37 ±
PERMANENT EASEMENT SQUARE FEET: 701.2 ±
TEMPORARY EASEMENT SQUARE FEET: 1,885.0 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY / DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	07/29/21	1" = 175'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS – PLANNERS – SURVEYORS
614 NORTH DUPONT HIGHWAY – SUITE 100 – DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISIONS | DATE

BY: Aaron Whitenight PRINTED: 2/11/2022 1:27 PM
LOCATION: C:\dms\pwise\aaron.whitenight\d0169465\13157731S20-31_Easements.dwg

Document # 202400003 4815 BK: 6179 PG: 336
On 10/3/2024 at 9:59:13 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County, DE
Consideration: $0.00 Connty/Town: $0.00
State: $0.00Total: $0.00 Doc Surcharge Paid

Tax Parcel No. 134-14.00-21.01
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 13 day of SEPTEMBER, A.D., 2024, by and between **DELAWARE ELECTRIC COOPERATIVE, INC.,** a non-stock, non-profit corporation of the State of Delaware of P.O. Box 600, Greenwood, DE 19950, party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described as Tax Parcel No. 134-14.00-21.01 in Deed Book 2768 Page 231.

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **ONE THOUSAND AND FIVE HUNDRED DOLLARS ($1,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the parties to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated July 29, 2021 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated July 29, 2021.

3. Notwithstanding the grant of the aforesaid permanent easement, the Grantor reserves unto itself and its successors, heirs and assigns, the full use and enjoyment of the property. However, the Grantor shall not construct or permit the construction of any building or structure with a permanent foundation within the boundaries of the aforesaid permanent easement.

4. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

5. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

6. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

7. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

Attest

DELAWARE ELECTRIC COOPERATIVE INC.

By: _____ (SEAL)
RYAN SHOCKLEY
Manager of Engineering

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 13 day of September 2024, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Ryan Shockley, Manager of Engineering, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

JULIA ANN GOFF
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires February 24, 2026

Notary Public

SUSSEX COUNTY, DELAWARE

Attest

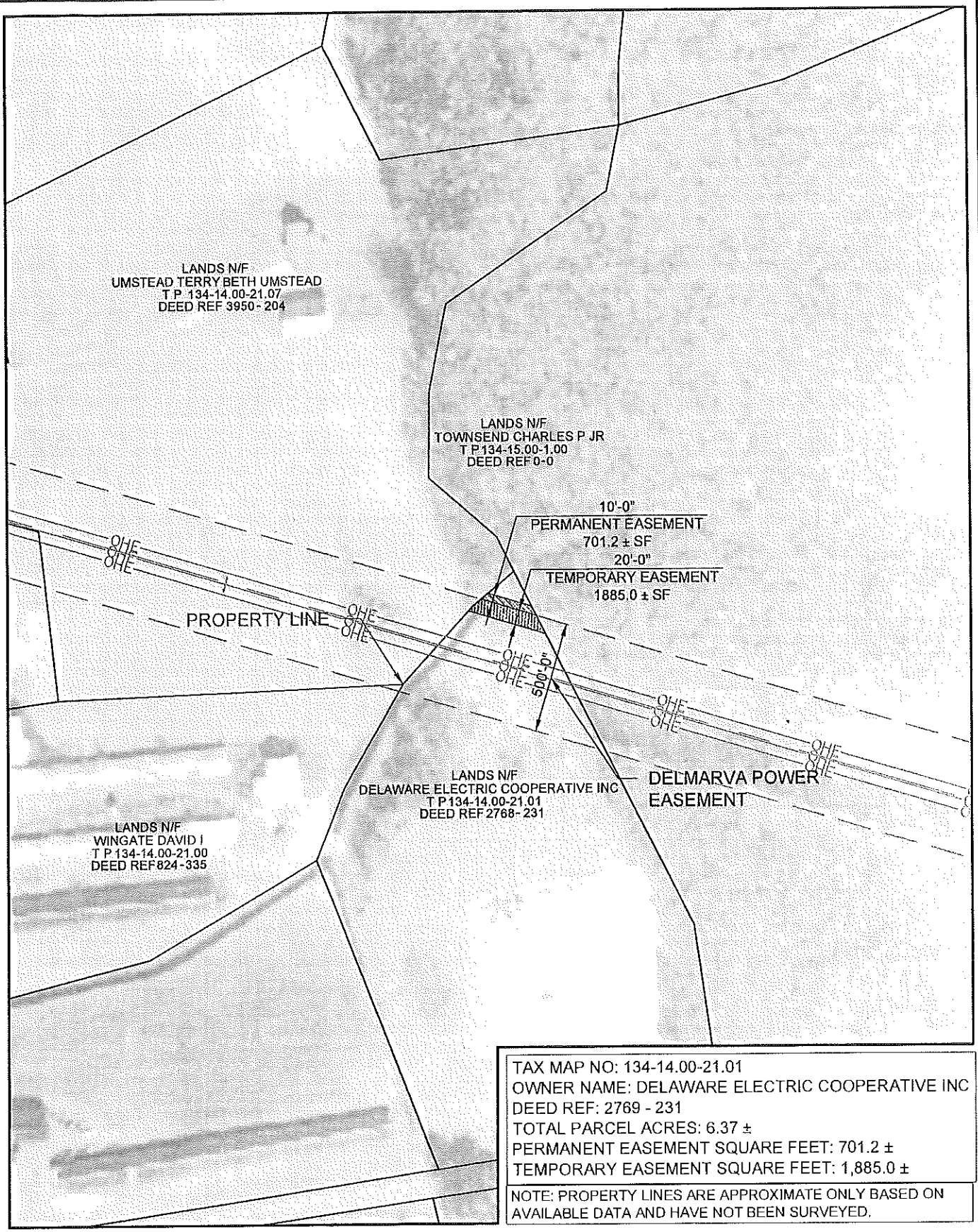
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 1st day of October 2024, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

TRACY TORBERT
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires on July 8, 2027

Notary Public



TAX MAP NO: 134-14.00-21.01
OWNER NAME: DELAWARE ELECTRIC COOPERATIVE INC
DEED REF: 2769 - 231
TOTAL PARCEL ACRES: 6.37 ±
PERMANENT EASEMENT SQUARE FEET: 701.2 ±
TEMPORARY EASEMENT SQUARE FEET: 1,885.0 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY, DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	07/29/21	1" = 175'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
614 NORTH DUPONT HIGHWAY - SUITE 100 - DOVER, DELAWARE 19901
PHONE: (302) 731-9170 FAX: (302) 747-5909 Website: www.kci.com

REVISION | DATE

Tax Parcel No. 134-10.00-51.00
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2023000041526 BK: 6014 PG: 158
On 11/30/2023 at 9:05:44 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County
Consideration: $0.00 County/Town: $0.00
State: $0.00 Total: $0.00 Doc Surcharge Paid

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 15th day of November ,A.D., 2023, by and between **BAYSHORE INC.,** a Delaware Limited Liability Company, of 30145 Bayshore Rd., Ocean View, DE 19970 party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described as Tax Parcel No. 134-10.00-51.00.

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **TWO THOUSAND AND SEVEN HUNDRED AND FIFTY DOLLARS ($2,750.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the parties to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated April 6, 2022 for the purpose of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

BMC

11/15/23

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated April 6, 2022.

3. The Grantor does herby grant a **TEMPORARY ACCESS AGREEMENT** limited to the duration of construction and after completion of the Improvements for operation, repair and locating activities from the entrance off Wingate Road to the permanent easement via a private road known as Otter Street. In exchange the Grantee will improve Otter Street with two and a half (2.5) inches of graded and compacted aggregate prior to construction and maintain it during construction. Grantee further acknowledges that access after construction requires a minimum of 24-hours advance notice.

4. Notwithstanding the grant of the aforesaid permanent easement, the Grantor reserves unto itself and its successors, heirs and assigns, the full use and enjoyment of the property. However, the Grantor shall not construct or permit the construction of any building or structure with a permanent foundation within the boundaries of the aforesaid permanent easement.

5. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

6. The Grantee acknowledges the existing perpendicular crossing of the permanent easement by two (2) private sewer mains, assumes full responsibility to protect the integrity of these mains during construction and will perform any repairs in case of damage during construction.

7. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

8. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

11/15/23

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

Attest

BAYSHORE INC.

By: _____(SEAL)
Brett M. Cox, President

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 15th day of November 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Brett M. Cox, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

SHARON E. SMITH MY COMMISSION EXPIRES ON JUNE 14, 2024 NOTARY PUBLIC STATE OF DELAWARE

Notary Public

SUSSEX COUNTY, DELAWARE

Attest

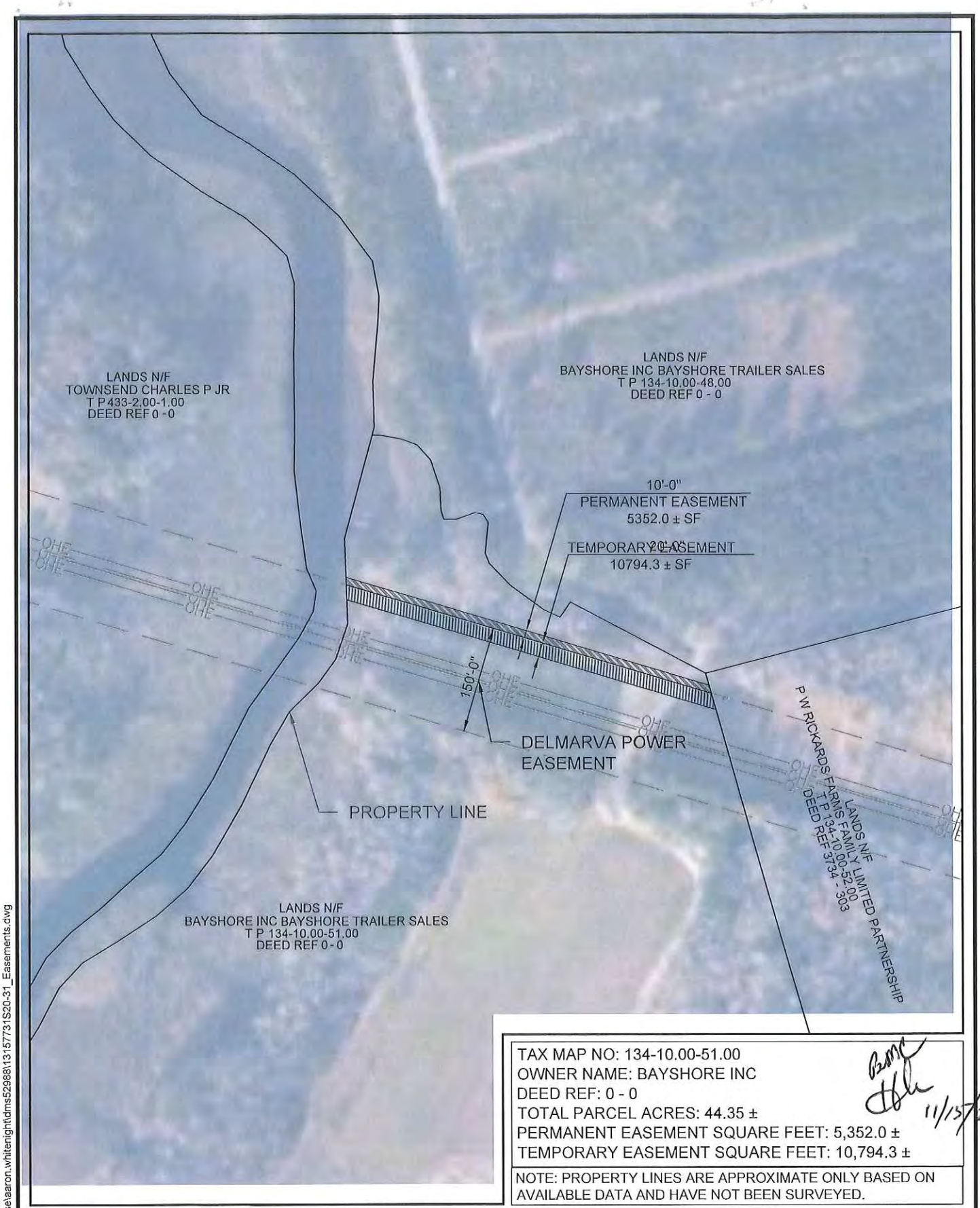
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 15th day of November 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

SHARON E. SMITH MY COMMISSION EXPIRES ON JUNE 14, 2024 NOTARY PUBLIC STATE OF DELAWARE

Notary Public



TAX MAP NO: 134-10.00-51.00
OWNER NAME: BAYSHORE INC
DEED REF: 0 - 0
TOTAL PARCEL ACRES: 44.35 ±
PERMANENT EASEMENT SQUARE FEET: 5,352.0 ±
TEMPORARY EASEMENT SQUARE FEET: 10,794.3 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

11/15/23

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY / DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	04/06/22	1" = 175'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
614 NORTH DUPONT HIGHWAY - SUITE 100 - DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISION | DATE

BY: Aaron Whitenight PRINTED: 4/6/2022 7:44 PM
LOCATION: C:\dms\pwise\aaron.whitenight\dms529881\13157731S20-31_Easements.dwg

Tax Parcel No. 433-2.00-1.00
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2023000007789 BK: 5866 PG: 333
On 3/8/2023 at 11:16:32 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County
Consideration: $0.00 County/Town: $0.00
State: $0.00 Total: $0.00 Doc Surcharge Paid

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 3rd day of March ,A.D., 2023, by and between **CHARLES P. TOWNSEND, III, Executor of the Estate of CHARLES P. TOWNSEND, Jr., and CHARLES P. TOWNSEND, III Successor trustee of Charles P. Townsend, Jr. Revocable Trust u/t/a dated November 9, 1995, as amended** of 30772 Vines Creek Rd, Dagsboro, DE 19939 party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property").

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **EIGHT THOUSAND FIVE DOLLARS ($8,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the party to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated April 6, 2022 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated April 6, 2022.

3. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

4. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

5. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

6. Grantee agrees that timing of construction shall be scheduled with the least impact on the agricultural activities of the Grantor. However, Grantor acknowledges that temporary, limited restrictions based on construction schedule may be necessary. In the case of crop damage, Grantee shall reimburse Grantor at three (3) times the yield of the undisturbed land times the area of the disturbed area at the crop prices achieved by Grantor for that crop season.

7. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

EXECUTOR OF THE ESTATE OF CHARLES P. TOWNSEND, JR. AND SUCCESOR TRUSTEE OF CHARLES P. TOWNSEND, JR. REVOCABLE TRUST

Michele Warren
Attest

By: _____ (SEAL)
CHARLES P. TOWNSEND, III

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 2nd day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Charles P. Townsend, III, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

_____
Notary Public

SHARON E. SMITH
MY COMMISSION EXPIRES ON JUNE 14, 2024
NOTARY PUBLIC
STATE OF DELAWARE

SUSSEX COUNTY, DELAWARE

Attest

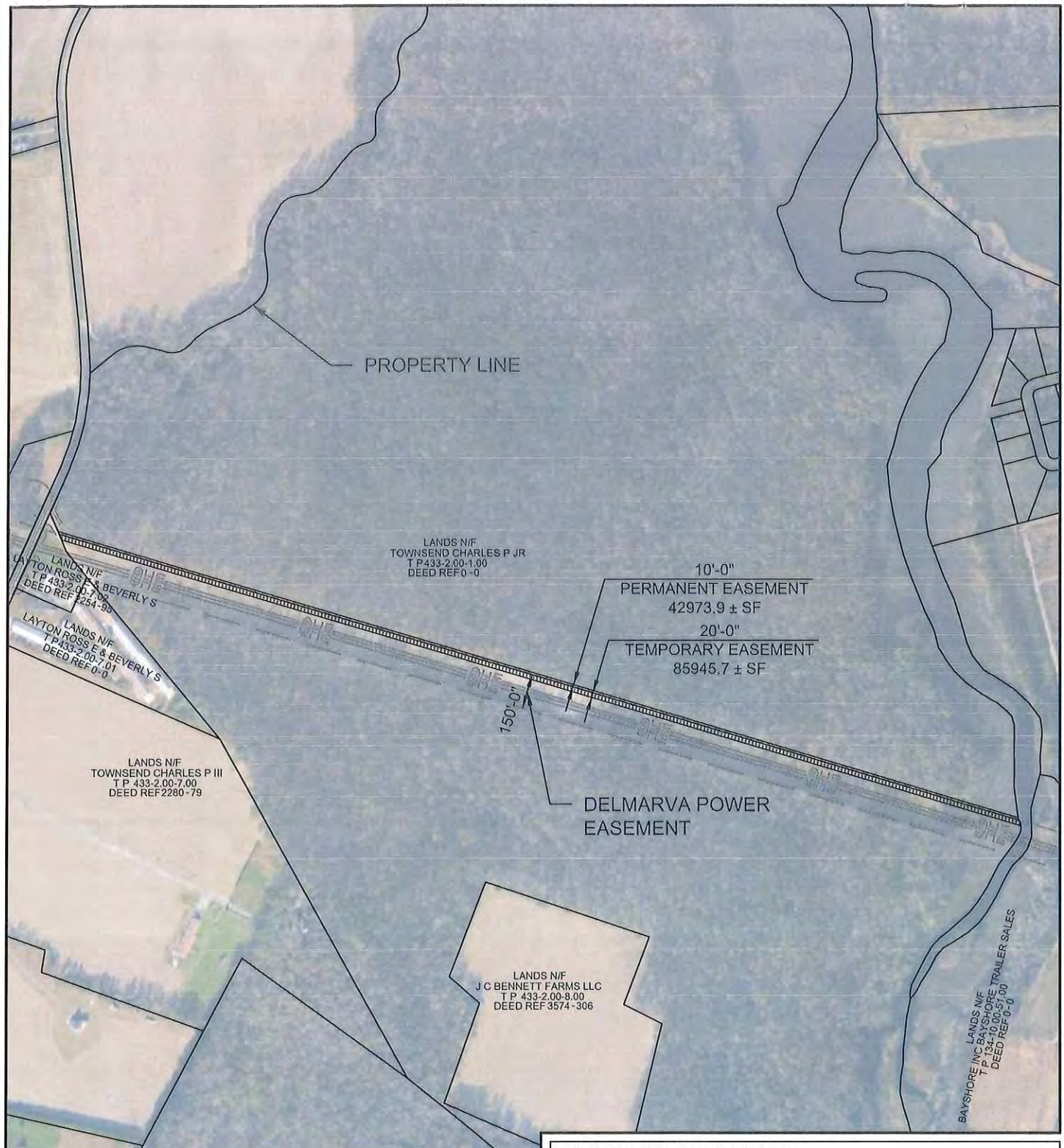
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 7th day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

_____
Notary Public

TRACY NICOLE TORBERT
MY COMMISSION EXPIRES JULY 8, 2023
NOTARY PUBLIC
STATE OF DELAWARE



TAX MAP NO: 433-2.00-1.00
OWNER NAME: TOWNSEND, CHARLES P JR
DEED REF: 0 - 0
TOTAL PARCEL ACRES: 347.13 ±
PERMANENT EASEMENT SQUARE FEET: 42,973.9 ±
TEMPORARY EASEMENT SQUARE FEET: 85,945.7 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY / DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	04/06/22	1" = 600'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS – PLANNERS – SURVEYORS
614 NORTH DUPONT HIGHWAY – SUITE 100 – DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISION | DATE

BY: Aaron Whitenight PRINTED: 4/6/2022 7:44 PM
LOCATION: C:\dms\pwise\aaron.whitenight\dms529881\13157731S20-31_Easements.dwg

Tax Parcel No. 433-2.00-2.00
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2022000047509 BK: 5791 PG: 184
On 10/18/2022 at 10:48:30 AM
RECORDER OF DEEDS Scott Dailey
Sussex County, DE
Consideration: $0.00 County/Town: $0.00
State: $0.00Total: $0.00 Doc Surcharge Paid

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 13th day of July, A.D., 2022, by and between **RONALD L. CULVER** and **MELISSA A. CULVER** of 32164 Townsend Rd, Dagsboro, DE 19939, parties of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Dagsboro Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described as Tax Parcel No. 433-2.00-2.00 in Deed Book 1762 Page 345.

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **ONE THOUSAND AND FIVE HUNDRED DOLLARS ($1,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the parties to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated May 25, 2022 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed after substantial completion of the Improvements for future operation, repair and locating activities.

3. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

4. The Grantor agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

5. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

Attest

By: Ronald L Culver (SEAL)
RONALD L. CULVER

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 13th day of July 2022, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Ronald L. Culver, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

MEGGIN LOUISE HOLTZCLAW
Notary Public
State of Delaware
My Commission Expires on Oct 30, 2022

Meggin Louise Holtzclaw
Notary Public

Signed in the Presence of:

Attest

By: Melissa A. Culver (SEAL)
MELISSA A. CULVER

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 13th day of July 2022, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Melissa A. Culver, known to be personally to be such, and she acknowledged said Indenture to be her act and deed.

Given under my hand and seal of office the day and year aforesaid.

MEGGIN LOUISE HOLTZCLAW
Notary Public
State of Delaware
My Commission Expires on Oct 30, 2022

Meggin Louise Holtzclaw
Notary Public

SUSSEX COUNTY, DELAWARE

Attest

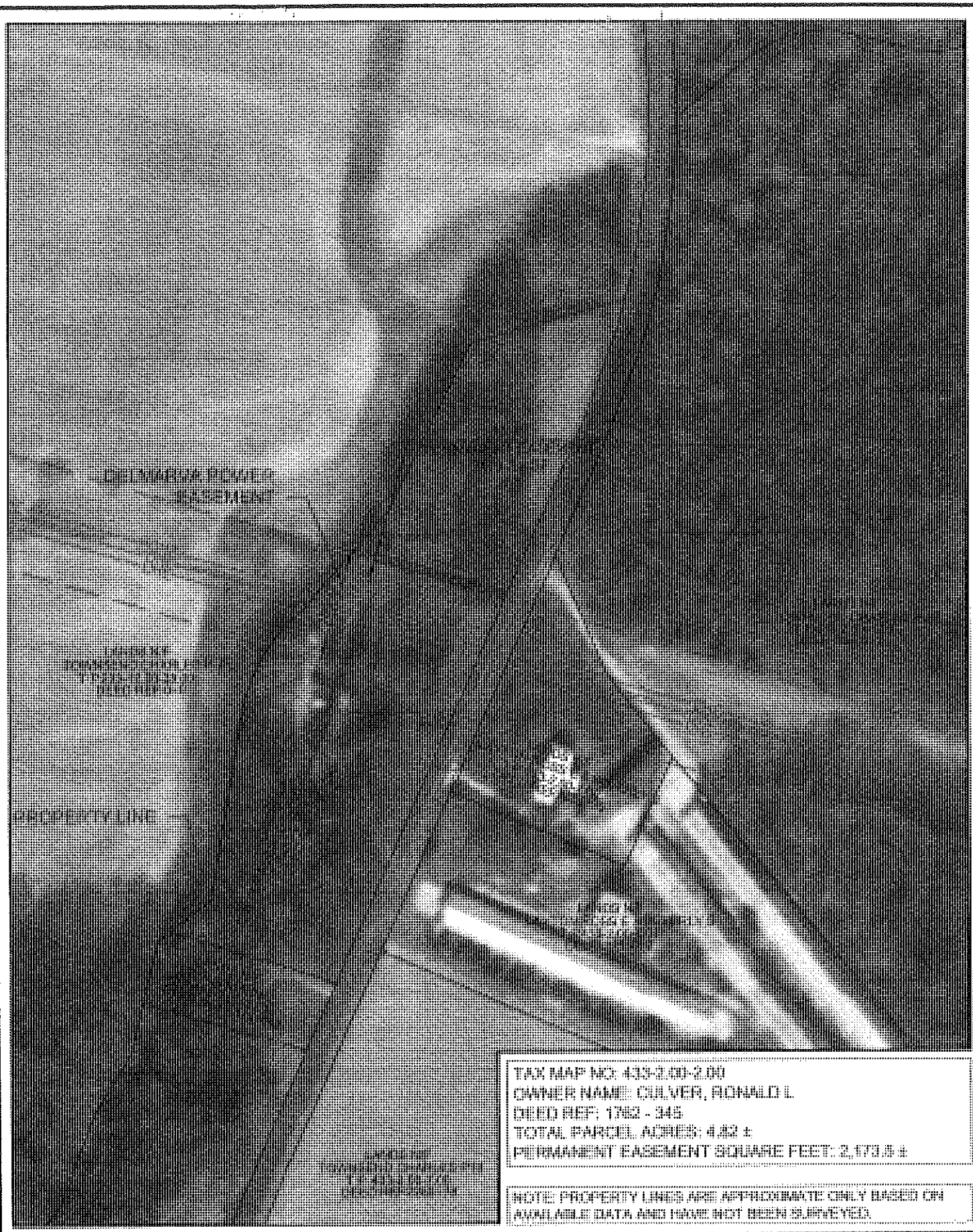
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 12th day of August 2022, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

TRACY NICOLE TORBERT
MY COMMISSION EXPIRES JULY 8, 2023
NOTARY PUBLIC
STATE OF DELAWARE

_____
Notary Public



TAX MAP NO: 433-2.00-2.00
OWNER NAME: CULVER, RONALD L.
DEED REF: 1762 - 345
TOTAL PARCEL ACRES: 4.32 ±
PERMANENT EASEMENT SQUARE FEET: 2,173.5 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY, DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	05/25/2022	1" = 175'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS – PLANNERS – SURVEYORS
614 NORTH DUPONT HIGHWAY – SUITE 100 – DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISIONS | DATE

Tax Parcel No. 233-12.00-28.00
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2023000007790 BK: 5866 PG: 338
On 3/8/2023 at 11:18:21 AM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County
Consideration: $0.00 County/Town: $0.00
State: $0.00 Total: $0.00 Doc Surcharge Paid

EASEMENT AND AGREEMENT

THIS EASEMENT AND AGREEMENT is made and entered into this 2nd day of March, A.D., 2023, by and between **CHARLES P. TOWNSEND, III, Executor of the Estate of CHARLES P. TOWNSEND, Jr., and CHARLES P. TOWNSEND, III Successor trustee of Charles P. Townsend, Jr. Revocable Trust u/t/a dated November 9, 1995, as amended** of 30772 Vines Creek Rd, Dagsboro, DE 19939 party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property").

WHEREAS, SUSSEX COUNTY is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **FIVE THOUSAND FIVE DOLLARS ($5,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the party to this Easement and Conveyance Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a **TEN (10) FOOT WIDE PERMANENT EASEMENT** as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated April 6, 2022 for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant a **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement as shown as Exhibit A on attached plot prepared by KCI Technologies, Inc., dated April 6, 2022.

3. The Grantor does hereby grant permanent vehicular access rights over and across the Property as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

4. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the easement. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices.

5. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Systems.

6. Grantee agrees that timing of construction shall be scheduled with the least impact on the agricultural activities of the Grantor. However, Grantor acknowledges that temporary, limited restrictions based on construction schedule may be necessary. In the case of crop damage, Grantee shall reimburse Grantor at three (3) times the yield of the undisturbed land times the area of the disturbed area at the crop prices achieved by Grantor for that crop season.

7. The Grantor acknowledges that easements and rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, rights of way, and promises and covenants running with the land, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

REMAINDER OF PAGE IS BLANK

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

EXECUTOR OF THE ESTATE OF CHARLES P. TOWNSEND, JR. AND SUCCESOR TRUSTEE OF CHARLES P. TOWNSEND, JR. REVOCABLE TRUST

Michele Warren
Attest

By: _____ (SEAL)
CHARLES P. TOWNSEND, III

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 2nd day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Charles P. Townsend, III, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

Given under my hand and seal of office the day and year aforesaid.

_____
Notary Public

SHARON E. SMITH
MY COMMISSION EXPIRES ON JUNE 14, 2024
NOTARY PUBLIC
STATE OF DELAWARE

SUSSEX COUNTY, DELAWARE

Attest

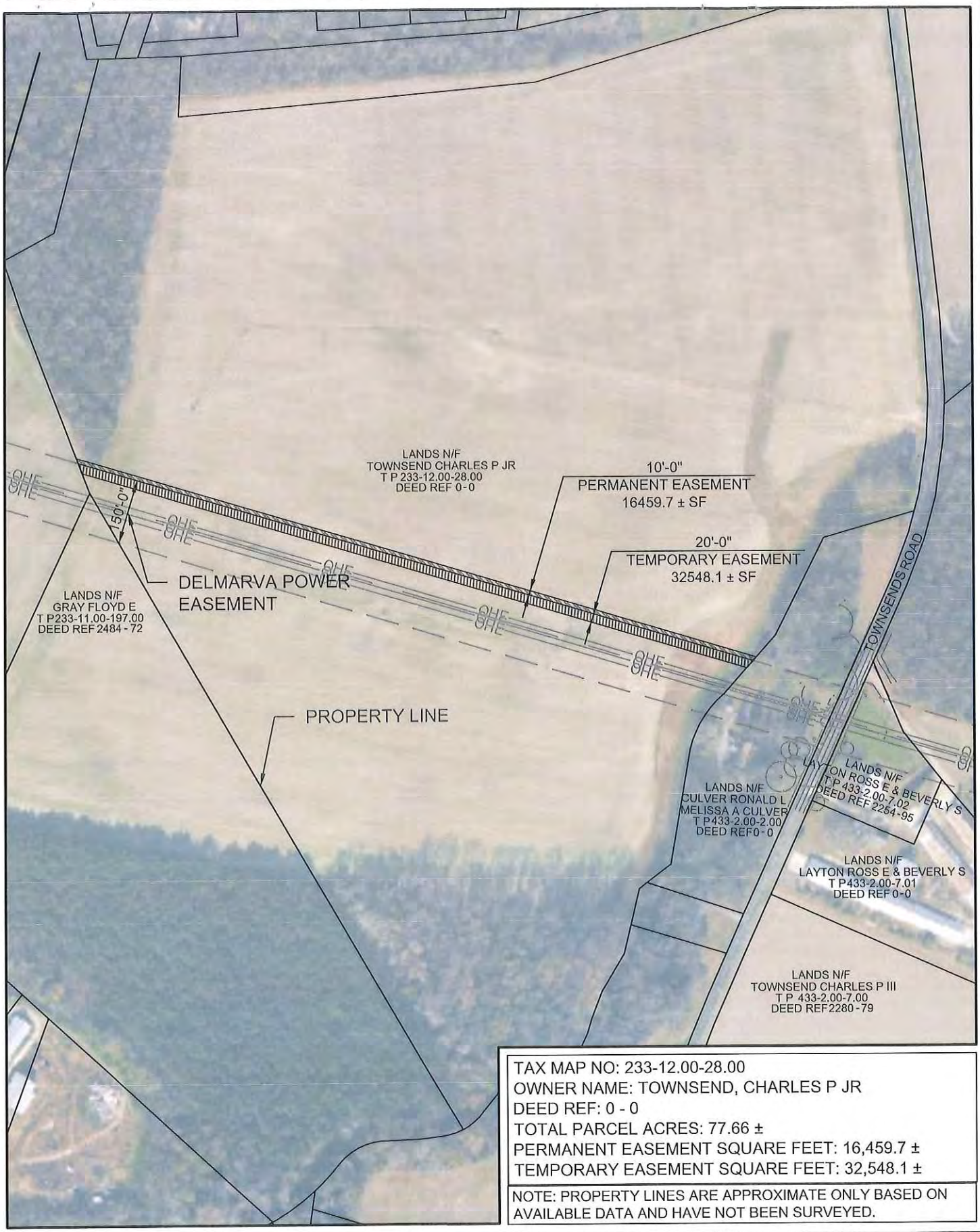
By: _____
Michael H. Vincent,
President of Sussex County Council

STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 7th day of March 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

_____
Notary Public

TRACY NICOLE TORBERT
MY COMMISSION EXPIRES JULY 8, 2023
NOTARY PUBLIC
STATE OF DELAWARE



TAX MAP NO: 233-12.00-28.00
OWNER NAME: TOWNSEND, CHARLES P JR
DEED REF: 0 - 0
TOTAL PARCEL ACRES: 77.66 ±
PERMANENT EASEMENT SQUARE FEET: 16,459.7 ±
TEMPORARY EASEMENT SQUARE FEET: 32,548.1 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY / DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	04/06/22	1" = 300'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS – PLANNERS – SURVEYORS
614 NORTH DUPONT HIGHWAY – SUITE 100 – DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISION | DATE

Parcel No. 233-11.00-109.00
PREPARED BY AND RETURN TO:
Scott G. Wilcox, Esq.
Giordano, DelCollo, Werb & Gagne, LLC
1007 N. Orange Street, Suite 446
Wilmington, DE 19801

IN THE SUPERIOR COURT OF THE STATE OF DELAWARE

SUSSEX COUNTY, Plaintiff, v. EILEEN MCCAFFERTY and JAMES T. BUCK, III, 0.2359 ACRES OF LAND, more or less, as a Permanent Easement Taking, situated in Indian River Hundred, Sussex County, Delaware; and 0.4718 ACRES OF LAND, more or less, Temporary Construction Easement, situated in Indian River Hundred, Sussex County, Delaware, Defendants.	)	C.A. No. S23C-01-030 CAK

CERTIFIED ABSTRACT OF RECORD
Of CONDEMNATION PROCEEDINGS

The following Abstract of Record in above-captioned condemnation is made, certified, and filed pursuant to 10 *Del. C.* § 6115.

1. The lands and premises condemned and taken in these proceedings as a fee simple 0.2359 acres of land (approximately 10,278 Sq. Ft. of land more or less) which is a part of Sussex County Tax Parcel No. 233-11.00-109.00, are described in the Order of Judgment and Award of Just Compensation entered by the Court on August 18, 2023 and attached as Exhibit "A".

2. The title or interest acquired by Sussex County by this condemnation is fee simple to the lands and premises described in Order entered by the Court on August 18, 2023 and attached as Exhibit "A".

3. The lands and premises condemned and taken in these proceedings as a temporary easement over, under and across 0.4718 of land (approximately 20,554 Sq. Ft. of land more or less) which is part of Sussex County Tax Parcel No. 233-11.00-109.00 ; as described in the Order entered by the Court on August 18, 2023, and attached hereto as Exhibit "A".

4. The title or interest acquired by Sussex County by this condemnation is a temporary easement to the lands and premises described in the Order entered by the Court on August 18, 2023, attached as Exhibit "A".

5. The former owner of the land Eileen McCafferty and James T. Buck, III.

6. By Order dated August 18, 2023 the Court determined the sum of Nine Thousand Two Hundred Dollars ($9,200.00) to be just compensation and full, all-inclusive and final payment, including interest and costs, for the fee parcel, permanent easement, and any damages incident thereto as part of the project. A copy of the Order is attached hereto as Exhibit "A" and made a part hereof by reference.

7. Sussex County deposited the amount to the just compensation award with the Court for disbursement to Defendants James Samuel Sturgill and Iona Mattews-Sturgill as so ordered by the Court. The condemnation deposit by Sussex County in the amount of Nine Thousand Two Hundred Dollars ($9,200.00) was deposited with the Court on January 25, 2023 and acknowledged by the Prothonotary as having been received by the Court on February 3, 2023.

8. By Order of the Court entered August 18,2023, the Prothonotary was directed to issue a check made payable to Defendant Nationstar in the amount of Nine Thousand Two Hundred Dollars ($9,200.00), plus accrued interest on the condemnation deposit.

9. Pursuant to 10 *Del. C.* §6110(c), Sussex County has acquired title and interest in the fee simple parcel and permanent easement described in Order dated on August 18, 2023 and attached hereto as Exhibit "A".

Document# 2023000032651 BK: 1669 PG: 171
Recorder of Deeds, Alexandra Reed Baker On 9/19/2023 at 10:10:14 AM Sussex County, DE

STATE OF DELAWARE)
)ss:
SUSSEX COUNTY)

I, Myrtle A. Thomas, Prothonotary of the Superior Court of the State of Delaware, in and for Sussex County, do hereby certify that the foregoing is a true and correct Abstract of Record of Condemnation Proceedings in C.A. No. S23C-05-003 MHC, *Sussex County v. John Matthews and Trina Matthews* as the same remains on record.

IN TESTIMONY WHEREOF, hereunto set my hand affix the seal of this Court this 31st day of August, 2023

Myrtle A. Thomas
Prothonotary

REVISION	DATE

OWNER/DEVELOPER:

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
1352 MARSHALL RD. - SUITE 100 - WILMINGTON, DELAWARE 19711
PHONE: (302) 791-9170 FAX: (302) 791-9577 Website: www.kci.com

EASEMENT EXHIBIT ON THE LANDS OF EILEEN McCAFFERY

TOWN OF DAGSBORO — SUSSEX — DELAWARE

SCALE: 1"=100'

Drafting: PKB	Check:
Design:	Check: CHC
SCALE: 1"=100'	
DATE: 12/06/2022	
KCI JOB #: 13157731.S20-31	
SHEET: 1 OF 1	

Tax Parcel No. 134-15.00-91.02
Prepared by and Return to:
SUSSEX COUNTY ENGINEERING
2 The Circle
P.O. Box 589
Georgetown, DE 19947

Document # 2024000000682 BK: 6034 PG: 302
On 1/8/2024 at 12:10:16 PM
RECORDER OF DEEDS Alexandra Reed Baker
Sussex County, DE
Consideration: $0.00 County/Town: $0.00
State: $0.00Total: $0.00 Doc Surcharge Paid

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made and entered into this 27th day of December ,A.D., 2023, by and between **ASF MBTS LLC,** a Delaware Limited Liability Company, of 3565 Piedmont Rd, NE Bldg 1, Suite 200, Atlanta, GA 30305 party of the first part (hereinafter referred to as "the Grantor") and **SUSSEX COUNTY**, a political subdivision of the State of Delaware, with an address of 2 The Circle, P.O. Box 589, Georgetown, DE 19947 (hereinafter referred to as "the Grantee").

WHEREAS, the Grantor is the owner of that certain tract of lands and premises located in Baltimore Hundred, Sussex County and State of Delaware, and said parcel of land (hereinafter referred to as "the Property"), being described as Tax Parcel No. 134-15.00-91.02 in Deed Book 5320 Page 273.

WHEREAS, the Grantee is preparing plans for certain improvements (hereinafter referred to as "Improvements") to its Sanitary Sewer Utilities (hereinafter referred to as "the Systems").

WHEREAS, it is necessary that the Improvements to the Systems pass, through and under a portion of the Property.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, as well as the sum of **ONE THOUSAND AND FIVE HUNDRED DOLLARS ($1,500.00)** in hand paid to the Grantor, the receipt and sufficiency of which are hereby acknowledged, the parties to this Easement Agreement do hereby agree as follows:

1. The Grantor does hereby grant and convey unto the Grantee a non-exclusive and perpetual **TEN (10) FOOT WIDE PERMANENT EASEMENT** (the "Permanent Easement") as defined and described as Exhibit A on the Plot prepared by KCI Technologies, Inc., dated April 6, 2022 (the "Easement Plan") for the purposed of locating, constructing, operating, maintaining, relaying, repairing and removing the Improvements to the Systems, but not limited to, any and all pipes, manholes, structures, and appurtenances relating thereto, at any time, for the benefit of the Grantee, its successors, heirs and assigns.

2. The Grantor does hereby grant and convey unto the Grantee a non-exclusive and temporary **TWENTY (20) FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT** running adjacent of the permanent easement (the "Temporary Easement") as defined and described on the Easement Plan for so long as is necessary for Grantee to install, complete, maintain, repair and/or replace the Improvements.

3. Notwithstanding the grant of the aforesaid Permanent Easement and Temporary Easement (collectively the "Easements"), the Grantor reserves unto itself and its successors, heirs and assigns, the full use and enjoyment of the Property, including but not limited to the Easements to the extent that it does not interfere with or impede the use and enjoyment of the Easements and other rights by Grantee as provided under this Agreement. However, the Grantor shall not construct or permit the construction of any building or structure with a permanent foundation within the boundaries of the aforesaid Easements.

4. The Grantor does hereby grants non-exclusive permanent vehicular access rights over and across the Easements as needed for construction and operation after substantial completion of the Improvements for operation, repair and locating activities.

5. The Grantee agrees that all earth removed in the process of construction shall be replaced in such a manner not to change any grades or disturb any existing drainage features in the Easements. After the construction of the Improvements to the Systems, or after any repairs to same, the Property shall be restored to its former condition, consistent with good engineering and construction practices and all applicable laws, rules and regulations.

6. The Grantee agrees to abide by all applicable laws, rules and regulations pertaining to the use and operation of the Improvements, the Systems as well as the activities associated with the Easements under this Agreement and which shall also be subject to the existing right of way easement in favor of Delaware Power & Light Company with respect to the Temporary Easement.

7. The Grantor acknowledges that easements and access rights of way granted hereunder, and all the mutual promises and covenants contained herein shall be deemed to be easements, access rights and promises and covenants running with the Property, and, accordingly, the same shall be binding upon the successors, heirs and assigns of the respective parties hereto.

WITNESS, WHEREOF, intending to be legally bound hereby, the party to this Easement Conveyance and Agreement have hereunto set her respective hand and seal on the day and year first above written.

Signed in the Presence of:

Attest

ASF MBTS, LLC

By:_____(SEAL)
Name: Dror Bezalel
Title: Vice President

STATE OF GEORGIA :
:SS.
COUNTY OF FULTON :

BE IT REMEMBERED, that on the 28 day of November 2023, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, the Vice President of ASF MBTS, LLC, a Delaware limited liability company, known to be personally to be such, and he acknowledged said Indenture to be his act and deed on behalf of said company.

Given under my hand and seal of office the day and year aforesaid.

Notary Public

MONET GANDY NOTARY PUBLIC PAULDING COUNTY EXPIRES GEORGIA JANUARY 10, 2025

Town of Millville
Realty Transfer Tax

SERIAL #: 24-247
AMOUNT OF TOWN TAX: 0
DATE RECORDED: 1-8-24
CANCELLED BY: W. Mullins

SUSSEX COUNTY, DELAWARE

Attest

By: _____
Michael H. Vincent,
President of Sussex County Council

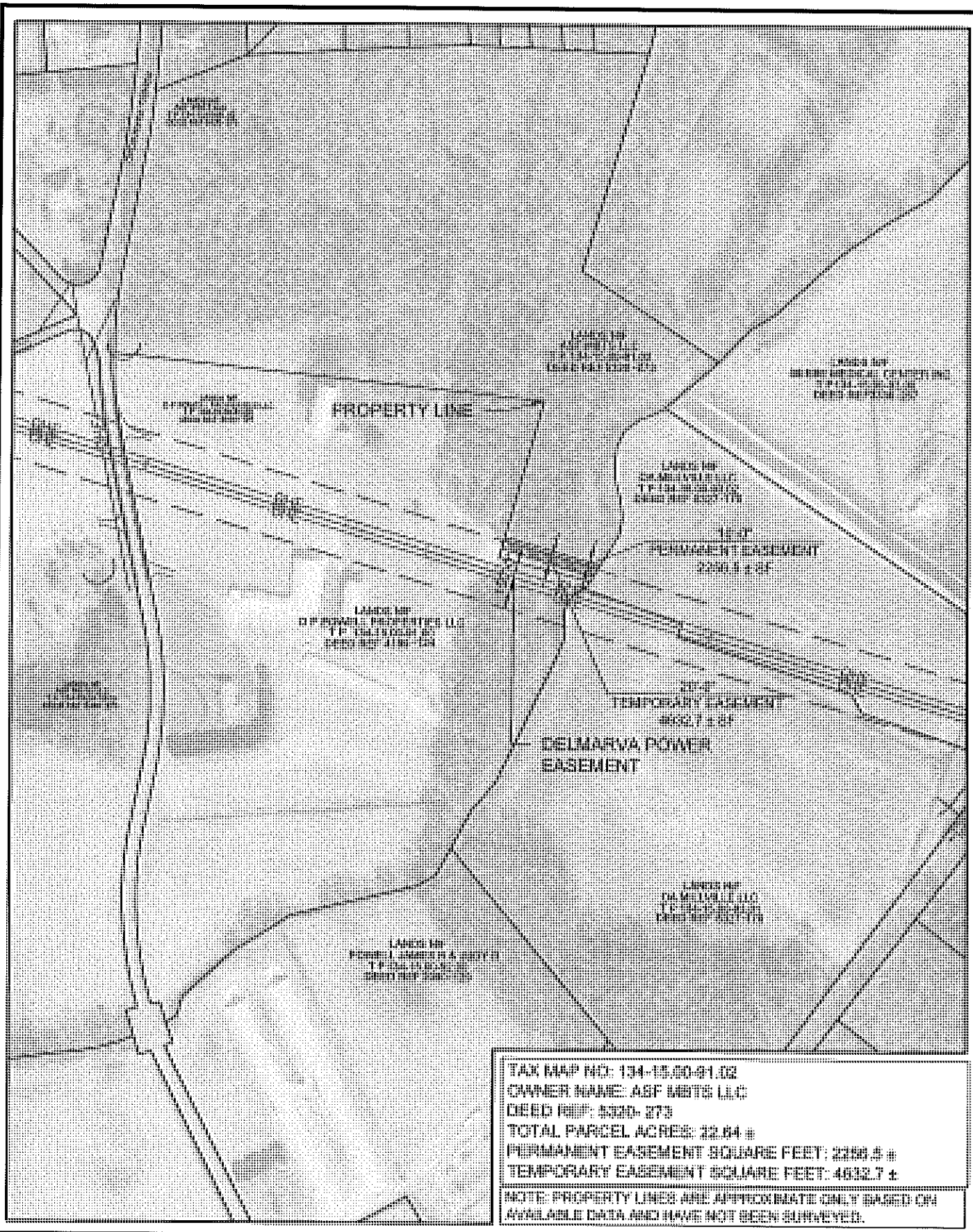
STATE OF DELAWARE :
:SS.
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on the 2nd day of January 2024 ~~2023~~, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Michael H. Vincent, known to be personally to be such, and he acknowledged said Indenture to be his act and deed.

_____
Notary Public

TRACY TORBERT
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires on July 8, 2027

EXHIBIT A
[attach copy of Easement Plan]



TAX MAP NO: 134-15.00-91.02
OWNER NAME: ASF MBTS LLC
DEED REF: 5320- 273
TOTAL PARCEL ACRES: 22.64 ±
PERMANENT EASEMENT SQUARE FEET: 2298.5 ±
TEMPORARY EASEMENT SQUARE FEET: 4632.7 ±

NOTE: PROPERTY LINES ARE APPROXIMATE ONLY BASED ON AVAILABLE DATA AND HAVE NOT BEEN SURVEYED.

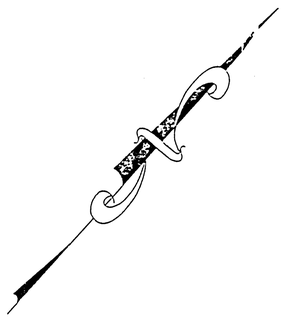
KCI JOB #:	PERMANENT AND TEMPORARY UTILITY EASEMENT TO BENEFIT SUSSEX COUNTY			
13157731S20-31	DAGSBORO HUNDRED / SUSSEX COUNTY/ DE			
SHEET:	DATE:	SCALE:	Drafting: TJG	Check: AW
EXHIBIT A	05/25/2022	1" = 300'	Design: AW	Check: DRS

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
614 NORTH DUPONT HIGHWAY - SUITE 100 - DOVER, DELAWARE 19901
PHONE: (302) 731-9176 FAX: (302) 747-5999 Website: www.kci.com

REVISION | DATE

BY: Aaron Whitenight PRINTED: 10/9/2023 8:14 AM
LOCATION: C:\dms\pwise\aaron.whitenight\dms529881\13157731S20-31_Easements.dwg

Copy of Deeds



LANDS N/F CHARLES J. WEST, et ux.

N 48°32'23" E 558.25'

pipe

S 78°13'02" E 630.77'

OTHER LANDS OF SHERMAN L. TOWNSEND
& ELAINE I. TOWNSEND

28675

BOOK 55 PAGE 226

N 53°15'22" W 764.46'

41.12 acres TOTAL

APPROXIMATE C/L D P & L ROW

26.54 acres

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

S 45°47'33" E 129.07'

142.29'

S 63°17'29" E

163.42'

S 20°10'06" E

LANDS N/F DENNIS E. HUBER, Sr.

OTHER LANDS OF SHERMAN L. TOWNSEND
& ELAINE I. TOWNSEND

N 18°07'52" E 370.82'

143.48'

N 06°39'11" W

N 27°59'20" W
47.68'

N 38°00'13" E 859.77'

EXISTING 60'x60'
GRAVE YARD

174.1'

N 67°29'22" E
726.96'

LANDS N/F PAUL F. BRASURE

sb-1

sb-5

sb-2

sb-3

sb-4

103.5'

S 85°20'08" W
930.35'

N 64°07'20" E
273.47'

S 23°33'22" E
186.47'

COUNTY ROUTE 374

pipe

1101.89'

S 15°29'54" W

14.58 acres

LANDS N/F WILMER W. POWELL & RALPH W. POWELL

S 61°07'49" W
536.83'

S 15°20'12" E
302.00'

as a 41.12 acre parcel and not as separate parcels

LANDS N/F DEAN H. BUNTION, et ux.

N 53°10'20" W
342.24'

S 81°17'53" W
283.37'

S 47°09'2" W
242.44'

S 08°33'47" E
153.97'

LANDS N/F E. LEWIS LESKO, et al.

SURVEY OF A PORTION OF THE LANDS OF
SHERMAN L. TOWNSEND & ELAINE I. TOWNSEND
BALTIMORE HUNDRED, SUSSEX COUNTY, DELAWARE

NOTE: 14.58 ACRES FROM PARCEL 17 AND
26.54 ACRES FROM PARCEL 6 ARE
TO BE COMBINED INTO 1 PARCEL CONTAINING 41.12 ACRES

⊡ denotes found concrete monument
⊙ denotes found iron pipe
sb-4 denotes soil boring site
tax map 1-34-15 parcels 6 & 17
deed ref: book 1796 page 166
book 1796 page 181

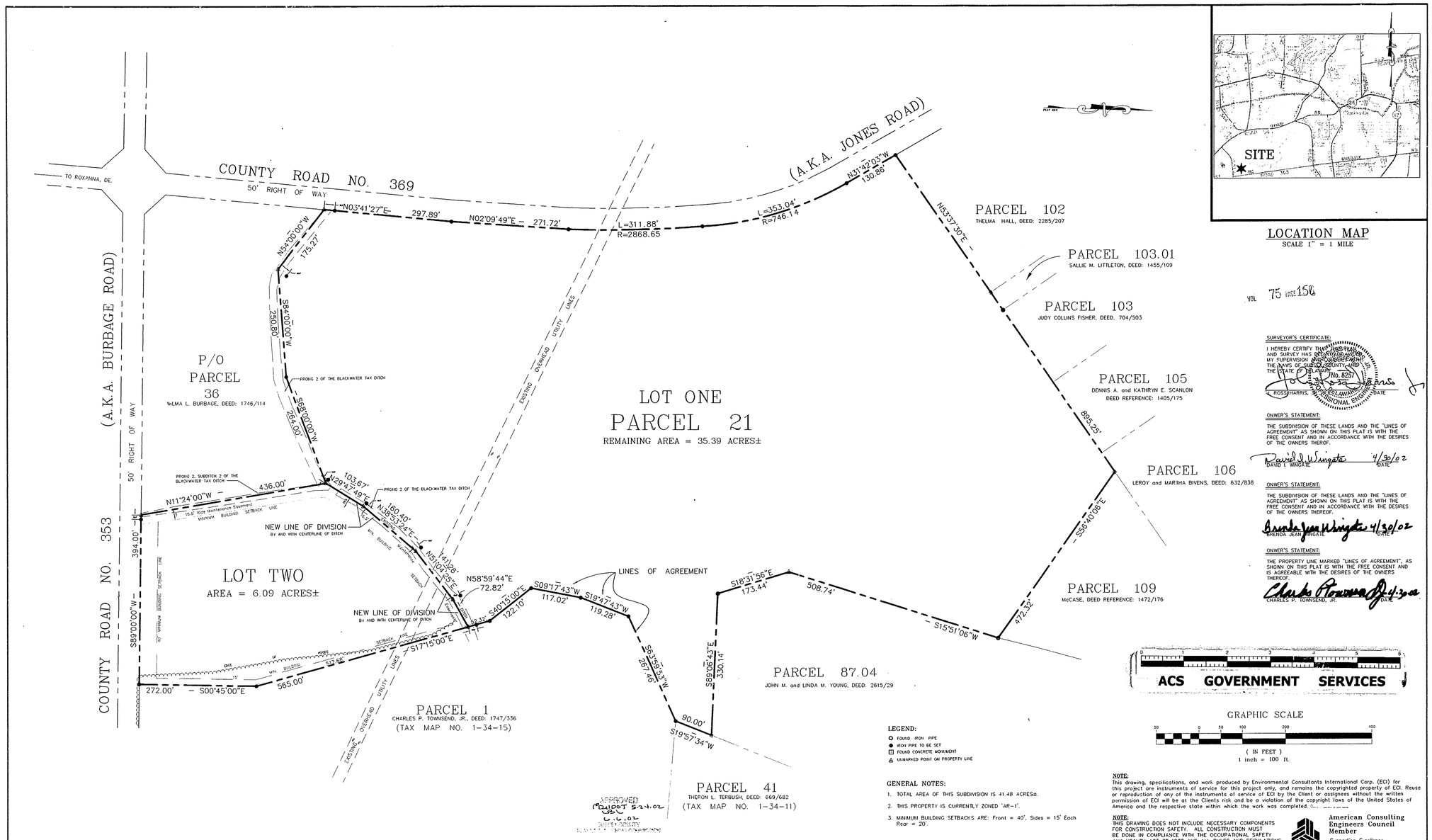
ATLANTIC CONSULTING

16 HICKORY STREET, P.O. BOX 580 FRANKFORD, DELAWARE 19945
PHONE (302) 732-9595 FAX (302) 732-3768

SURVEYED BY PEL	DRAWN BY PEL
CHECKED BY	DATE NOV. 30, 1995

451496 15.00

27445



LOCATION MAP
SCALE 1" = 1 MILE

VOL 75 PAGE 156

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS PLAN AND SURVEY HAS BEEN PREPARED UNDER MY SUPERVISION AND COMPLIES WITH THE LAWS OF SUSSEX COUNTY AND THE STATE OF DELAWARE.

J. ROSS HARRIS, JR. No. 8257 PROFESSIONAL ENGINEER — DATE

OWNER'S STATEMENT:

THE SUBDIVISION OF THESE LANDS AND THE "LINES OF AGREEMENT" AS SHOWN ON THIS PLAT IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE OWNERS THEREOF.

David I. Wingate 4/30/02
DAVID I. WINGATE — DATE

OWNER'S STATEMENT:

THE SUBDIVISION OF THESE LANDS AND THE "LINES OF AGREEMENT" AS SHOWN ON THIS PLAT IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE OWNERS THEREOF.

Brenda Jean Wingate 4/30/02
BRENDA JEAN WINGATE — DATE

OWNER'S STATEMENT:

THE PROPERTY LINE MARKED "LINES OF AGREEMENT", AS SHOWN ON THIS PLAT IS WITH THE FREE CONSENT AND IS AGREEABLE WITH THE DESIRES OF THE OWNERS THEREOF.

Charles P. Townsend Jr. 4-30-02
CHARLES P. TOWNSEND, JR. — DATE

RECORDER OF DEEDS
JOHN L. WALSH
02 JUN 13 AM 8:53
SUSSEX COUNTY
DOC SURCHARGE PAID

ACS GOVERNMENT SERVICES

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

LEGEND:
- FOUND IRON PIPE
- IRON PIPE TO BE SET
- FOUND CONCRETE MONUMENT
- UNMARKED POINT ON PROPERTY LINE

GENERAL NOTES:
1. TOTAL AREA OF THIS SUBDIVISION IS 41.48 ACRES±.
2. THIS PROPERTY IS CURRENTLY ZONED "AR-1".
3. MINIMUM BUILDING SETBACKS ARE: Front = 40', Sides = 15' Each Rear = 20'.

NOTE:
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.

American Consulting Engineers Council Member
Supporting Excellence in Engineering

#	REVISION	DATE	CHKD.
1.			
2.			
3.			
4.			
5.			
6.			

PROJECT
DELAWARE ELECTRIC COMPANY
OMAR SUBSTATION SITE
BALTIMORE HUNDRED
SUSSEX COUNTY, DELAWARE
TAX MAP 1-34-14 P/O PARCEL 21

TITLE
SUBDIVISION OF THE LANDS OF
DAVID I. and BRENDA JEAN WINGATE

PROFESSIONAL SEAL
JOHN ROSS HARRIS, JR. REGISTERED No. 8257 PROFESSIONAL ENGINEER

ENVIRONMENTAL CONSULTANTS INTERNATIONAL CORPORATION
ENGINEERING, PLANNING AND MANAGEMENT CONSULTANTS
220 REHOBOTH AVENUE * P.O. BOX 820
REHOBOTH BEACH, DELAWARE 19971
(302) 226-2844 * FAX (302) 226-2939

DESIGNED BY JRH	PREPARED BY ECI	JOB # 02-041
DRAWN BY WOM	DATE: 28 FEBRUARY 2002	SHEET 1 of 1
CHECKED BY FDW	SCALE AS SHOWN	SCHEF 02-041SUB-041.DWG Plot Date: 04/11/02

19421

BOOK 1311 PAGE 156

(No. 44-B)

DEED-TYPEWRITER

Printed and Sold by Hugh George Co., Stationers

This Deed, Made this 21st

day of December in the year of

our LORD one thousand nine hundred and

BETWEEN, BONARD B. TIMMONS, JR., of Box 3C, Ocean View, Delaware, 19970, party of the first part,

- AND -

BAYSHORE, INC., a corporation of the State of Delaware, of Rt. #1, Box 114C, Ocean View, Delaware, 19970, party of the second part,

Witnesseth, That the said part y of the first part, for and in consideration of the sum of ONE DOLLAR ($1.00) ---------- lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grant s and convey s unto the said part y of the second part,

ALL that certain tract, piece of said parcel of land situated, lying and being in Baltimore Hundred, Sussex County, Delaware, as surveyed by Thoams F. Fields, Jr., dated October 10, 1984.

BEGINNING at a pipe, an interior point, a corner of lands of E. F. Lynch and Bayshore, Inc., said point being South 80° 27' West 1297.66 feet from the side of County Road 343, thence from the said point of beginning up the center line of a drainage ditch and along lands of E. F. Lynch, the twelve following courses and distances; (1) South 08° 45' 51" East 57.47 feet; (2) South 27° 06' 25" East 130.42 feet; (3) South 40° 33' 02" East 108.74 feet; (4) South 33° 29' 25" West 82.56 feet; (5) South 19° 56' 37" East 126.58 feet; (6) South 10° 20' 57" West 96.89 feet; (7) South 66° 14' 10" West 92.6 feet; (8) South 14° 11' 38" West 103.62 feet; (9) South 20° 50' 13" East 122.50 feet; (10) South 05° 26' 45" West 122.78 feet; (11) South 28° 12' 28" East 95.86 feet; (12) South 70° 25' 03" East 3.2 feet; thence up the center line of another ditch and along lands of Eunice P. Holloway the three following courses and distances; (1) South 08° 09' West 81.97 feet; (2) South 10° 33' East 229.56 feet; (3) South 14° 45' West 519.62 feet; thence leaving said ditch and crossing over an existing axle set 4.5 feet from the center of said ditch and still along lands of Eunice P. Holloway, South 81° 46' West 757.64 feet to a pipe in the center of two ditches; thence still along Holloway lands and along the center line of the ditch North 85° 01' West 188.95 feet to a pipe; thence along the center line of the ditch and lands of George W. Quillen South 75° 34' West 352 feet more or less to the side of Vines Creek; thence down said side of Vines Creek in a Northwest to Northeast to Northerly direction 2650.00 feet more or less to the center line of Vines Branch ditch; thence along said center line and along lands of Bayshore, Inc., in a Southeasterly direction 770 feet to the point of beginning, containing 52 acres, more or less. Plot recorded in Plot Book 31, page 242.

BEING the same lands conveyed to Bonard . Timmons by deed of Dogwood, Inc., dated December 21, 1984 and filed for record in the Office of the Recorder of Deeds, Georgetown, Delaware, in Deed Book 1311, page 154.

PB 1043 12771

State of Delaware STATE TAX DEPT. SUSSEX DEC 21 '84 REALTY TRANSFER TAX 750.00

PB 1044 12720

State of Delaware STATE TAX DEPT. SUSSEX DEC 21 '84 REALTY TRANSFER TAX 750.00

BOOK 1311 PAGE 157

In Witness Whereof, the said party of the first part has hereunto set his hand and seal, the day and year aforesaid.

Sealed and Delivered in the Presence of

Bonard B. Timmons, Jr. SEAL

SEAL

State of Delaware,

SUSSEX County, } ss.

Be It Remembered, That on this 21st day of December in the year of our LORD, one thousand nine hundred and eighty-four personally came before me, the Subscriber, a Notary Public for the State and County aforesaid,

BONARD B. TIMMONS, JR.

party to this Indenture, known to me personally to be such, and he acknowledged this Indenture to be his Deed.

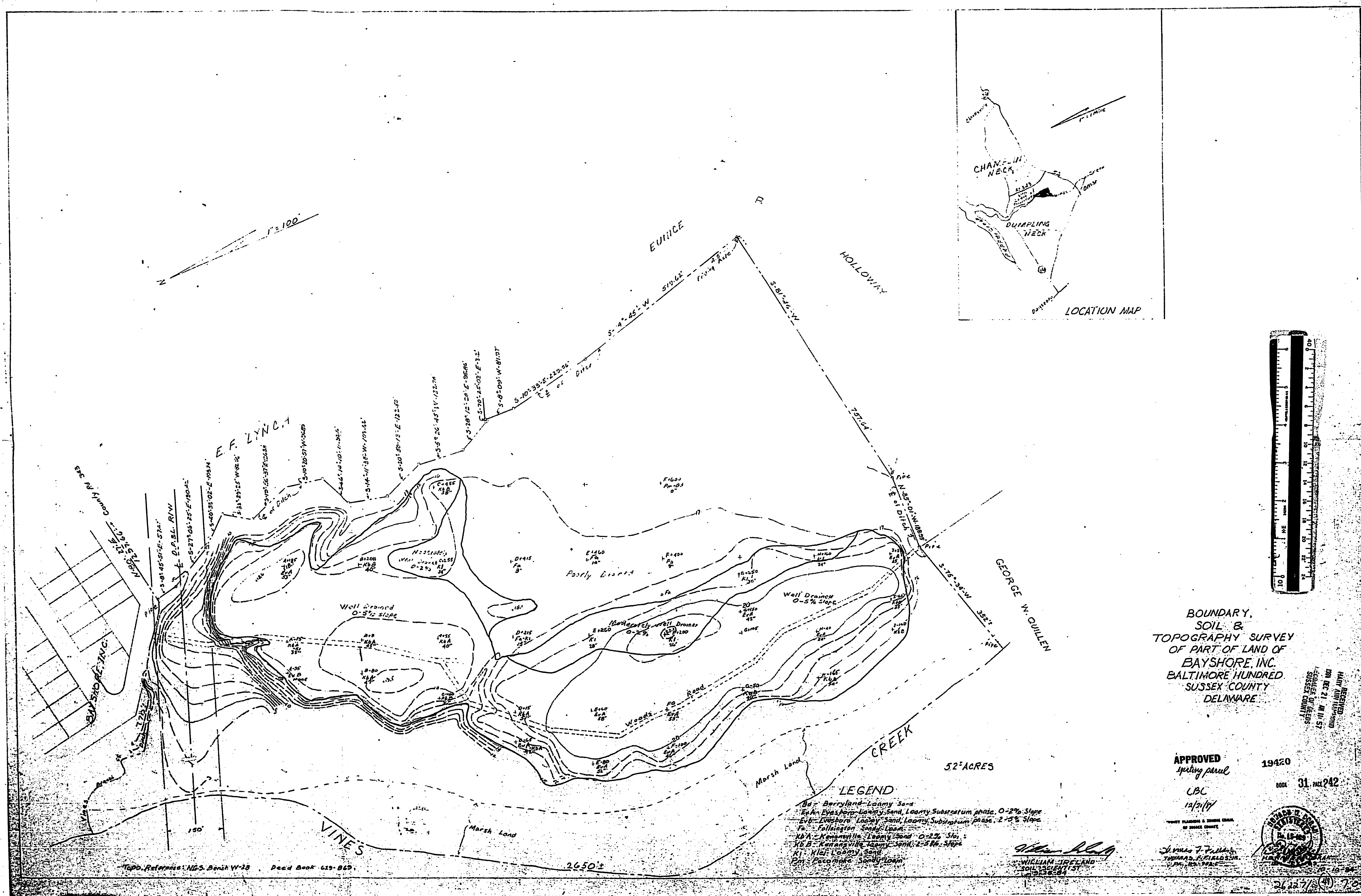
GIVEN under my Hand and Seal of office, the day and year aforesaid.

Donna H. Mitchell
Notary Public

RECEIVED
MARY ANN BRADFORD
1984 DEC 21 AM 11:59
RECORDER OF DEEDS
SUSSEX COUNTY

RTS 26 PURCHASERS REPORT MADE DAY OF Dec 1984
COUNTY

T. Stumpf, Atty 1-8-85


BOUNDARY, SOIL & TOPOGRAPHY SURVEY OF PART OF LAND OF BAYSHORE, INC. BALTIMORE HUNDRED SUSSEX COUNTY DELAWARE
1" = 100'
N
E. F. LYNCH
EUNICE D. HOLLOWAY
GEORGE W. QUILLEN
BAYSHORE, INC.
County Rd 343
S-81°-46'-W
757.64'
S-4°-45'-W 519.62'
S-75°-34'-W 352'±
N-85°-01'-W-188.95'
Well Drained 0-5% slope
Poorly Drained
Moderately Well Drained 0-2%
Well Drained 0-5% Slope
Woods Road
Marsh Land
VINES CREEK
2650'±
150'
52± ACRES
LEGEND
Bd - Berryland Loamy Sand
EvA - Evesboro Loamy Sand, Loamy Substratum phase, 0-2% Slope
EvB - Evesboro Loamy Sand, Loamy Substratum phase, 2-5% Slope
Fa - Fallsington Sandy Loam
KbA - Kenansville Loamy Sand 0-2% Slope
KbB - Kenansville Loamy Sand, 2-5% Slope
Kl - Klej Loamy Sand
Pm - Pocomoke Sandy Loam
Topo. Reference: N.G.S. Bench W-28
Deed Book 629-869
LOCATION MAP
CHANDLIN NECK
DUMPLING NECK
1" = 1 Mile
WILLIAM IRELAND SOIL SCIENTIST 9-26-84
THOMAS F. FIELDS, JR.
APPROVED existing parcel CBC 12/21/84
COUNTY PLANNING & ZONING COMM. OF SUSSEX COUNTY
19420
BOOK 31 PAGE 242
RECEIVED HAITY ANN HAMMOND 1984 DEC 21 AM 11:57 RECORDER OF DEEDS SUSSEX COUNTY
10-10-84
26227 (49) 7.00

record but intended so to be. Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining; and the reversion or reversions, remainder or remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim or demand what soever, of the said party of the first part, either in law or equity, of, in and to the above bargained premises, with the said hereditaments and appurtenances; to Have and to Hold the premises as before described, with the appurtenances, unto the said party of the second part, his heirs and assigns, forever. And the said party of the first part, for himself, his heirs, executors and administrators, does Covenant, grant, bargain and agree to and with the said party of the second part, his heirs and assigns that he the said party of the first part, has Not heretofore done, Committed or Willingly or Willingly suffered to be done or Committed, any act Matter, or thing Whatsoever, Whereby the premises hereby granted, or any part thereof, is, are or shall be charged or encumbered in title, estate or otherwise howsoever. In Witness Whereof, the said party of the first part has hereunto set his hand and seal the day and year first above written.

Signed, Sealed and delivered
in the presence of.
A. J. Pettig.
Sue M. Butler.

Mark S. McKee. (L.S.)

State of Michigan, } ss.
County of Wayne, }

On this 1st day of July in the year of our Lord one thousand nine hundred and thirty-three before me, a Notary Public, in and for said County, personally came the before named Mark S. McKee, known to me to be the person who executed the foregoing instrument, and acknowledged the same to be his free act and deed.

A. J. Pettig
Notary Public.
Wayne County, Michigan,
My Commission expires Jan. 12-1934.

Recorded for Record,
Oct. 16th A.D. 1942.
Charles P. Hurley, Recorder.

Purchasers Report Made This 16th Day of Oct. 1942, Board of Assessment of Sussex County, Per. Harvey F. Wolfe, Clerk;

Deed; Nora B. Townsend, "widow", et al, to Charles P. Townsend;

This Deed, Made the Sixteen day of February, in the year of our Lord, one thousand Nine Hundred and forty-two. Between Nora B. Townsend, Widow, of Hagsboro Hundred, Sussex County and State of Delaware, Ebew, E. Townsend, Jr; and Rebekah, his Wife, Margaret E. Bramhall and Howard C., her husband, of Georgetown, Sussex County, State of Delaware, and Elizabeth E. Burton, and Leland S., her husband, of Lewes, Sussex County

and State of Delaware, parties of the first part, and, Charles P. Townsend, of Dagsboro Hundred, Sussex County, Delaware, party of the second part, Witnesseth, That the said parties of the first part, for and in consideration of the sum of One ($1.00) Dollar, lawful money of the United States of America the receipt whereof, is hereby acknowledged, hereby grant and convey unto the said party of the second part, all their right, title and interest in and to; All that certain tract, piece or parcel of land situate in Baltimore Hundred, Sussex County, Delaware, and more particularly described as follows; Beginning at a point on the South side of the New dirt road leading from Omar to Millville and running in a Southerly direction along the line of lands of Walter Weldon to an iron stob, thence in a Southeasterly direction along the line of lands of said Walter Weldon and the lands of Able Ableman heirs across a ditch and continuing in a Northeasterly direction along the line of lands of Clarence Townsend to a corner, thence in a Northwesterly direction along the line of lands of Raymond Pickards, crossing said New road from Omar to Millville to a Marked pine tree, thence in a Northeasterly direction along the line of lands of Raymond Pickards, to an Oak Stump, thence in a Northwesterly direction along the line of lands of Russell Hudson to a pine tree, thence in a Northerly direction along the line of lands of said Russell Hudson to an iron stob; thence in an Easterly direction along the line of lands of said Russell Hudson so a Wild Cherry tree; thence in a Northerly direction along the line of lands of Everett West to a stob, a corner for lands of Charles West, thence in a Westerly direction along the lines of lands of the said Charles West to a stob, a corner for lands of Nancy Turner, thence in a Southwesterly direction, along the line of lands of Nancy Turner to a stob, John Harpers heirs and lands of thence in a Southerly direction along the line of lands of John Harper heirs to an old road, thence along said old road along the line of said John Harper heirs in an Easterly direction to a hickory tree, thence in a Northerly direction along the line of said lands of John Harper heirs to a post, thence in a Northwesterly direction along the line of lands of said John Harper heirs and Joseph Lynch to an iron stob, thence in a Westerly direction along the line of lands of Asa Clogg and lands of Truitt and Brasure to a stob; thence in a Southwesterly direction along the line of an old road known as "Stingy Lane Road"; thence in a Southeasterly direction and bending in a Southerly direction along the line of lands of Andrew West to said

New road from Omar to Millville, thence in an Easterly direction along said road home to the place of beginning. Containing approximately One Hundred and Fifty (150) Acres of land, be the same more or less, said tract of land being the remainder of lands known as "Eben Townsend's Swamp Farm", Being a part of the same lands and premises of which Eben A. Townsend died seized and possessed on the Twenty-third day of October, A.D. 1939, intestate, leaving to survive him as his only heirs at law his Widow, Nora B. Townsend, and his Children, Eben A. Townsend, Jr. Margaret T. Brumbell, Charles T. Townsend and Elizabeth T. Burton. In Witness Whereof, the said parties of the first part have hereunto set their hands and seals, the day and year aforesaid.

Sealed and Delivered
in the presence of.
Minnie M. Freer.

Nora B. Townsend. (Seal)
Eben A. Townsend, Jr. (Seal)
Rebekah T. Townsend. (Seal)
Margaret T. Braumhall. (Seal)
Howard A. Braumhall. (Seal)
Elizabeth T. Burton. (Seal)
Leland S. Burton. (Seal)

M.B.S. $2.20
2/16/42.

State of Delaware, } ss.
Sussex County. }

Be it Remembered, That on this Sixteenth day of February, in the year of our Lord One Thousand Nine Hundred and forty-two, personally came before me, the Subscriber, a Notary Public in and for the County and State aforesaid, Nora B. Townsend, Widow, Eben A. Townsend, Jr. and Rebekah, his Wife, Margaret T. Braumhall and Howard A., her Husband, Elizabeth T. Burton and Leland S., her Husband, Parties to this Indenture, known to me personally to be such, and severally acknowledged this Indenture to be their Deed. And the said Rebekah Townsend, Margaret T. Braumhall and Elizabeth T. Burton, being at the same time privately examined by me, apart from their Husbands, Acknowledged that they executed the said Indenture willingly without Compulsion or threats, or fear of their Husbands, displeasure.

Given Under My Hand and Seal of Office, the day and year aforesaid.

Minnie M. Freer.
Notary Public.

Minnie M. Freer, Notary Public, appointed Nov. 13-1941. for two years. Sussex County Georgetown, Del.

Recorded for Record.
Sept. 17th A.D. 1942.

Charles A. Hurley, Recorder.

Purchasers Report Made This 17th Day of Sept. 1942, Board of Assessment of Sussex County. Per, Harvey L. Wolfe, Clerk;

Marie B. Townsend, Wife of Eben A. Townsend, Jr. Georgetown, Del. 3/25/42.

Deed; Bertha D. Nebb, "Widow" to David Ernest Fitzgerald, et al.

This Deed, Made this 13th day of February in the year of our Lord One thousand Nine Hundred and forty-two, Between, Bertha D. Nebb "Widow" of Milford, Sussex County and State of Delaware, party of the first part, and David Ernest Fitzgerald and Flossie Mae Fitzgerald,

176

BOOK 1762 PAGE 345

TAX MAP # 4-33-2.00-2.00

Prepared By: Fuqua, Yori & Rogers
P. O. Box 250
Georgetown, DE 19947

This Deed, Made this

3rd *day of* January *19* 91

BETWEEN,

NORMAN W. BUNTING, JR. and SANDRA L. BUNTING, his wife of R.D. 2, Box 198E, Dagsboro, Delaware 19939, parties of the first part

AND

RONALD L. CULVER and MELISSA A. CULVER, his wife of R.D. 2, Box 54-A, Lewes, Delaware 19958, parties of the second part

2340.00 CO TR-7X 1/ 4/91 5409 333

Witnesseth, *That the said party of the first part, for and in consideration of the sum of* One and 00/100 ($1.00) *lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the said party of the second part,*

ALL THAT certain tract, piece, or parcel of land, situate, lying and being in Dagsboro Hundred, Sussex County, and State of Delaware, more fully described according to a survey prepared by Peter E. Loewenstein & Associates, Inc., dated December 1990, as follows to-wit: BEGINNING at existing concrete monument on the westerly side of Sussex County Route 340, marking a common corner for this parcel and Lands now or formerly of Blanche and John B. Cullen; thence, by and with Lands now or formerly of Blanche and John B. Culklen, North 62 degrees 30 minutes 00 seconds West 204.34 feet to an existing concrete monument; thence, continuing with the same course, 12.00 feet to a point in the center of Herring Branch; thence, by and with Herring Branch, the following courses and distances: (1) North 40 degrees 23 minutes 16 seconds East, 79.07 feet to a point; (2) North 09 degrees 35 minutes 51 seconds East, 195.02 feet to a point; (3) North 22 degrees 57 minutes 29 seconds East, 143.55 to a point; (4) North 45 degrees 15 minutes 27 seconds East, 257.37 feet to a point; (5) North 29 degrees 17 minutes 52 seconds East, 230.28 feet to a point; (6) North 74 degrees 35 minutes 20 seconds East, 37.32 feet to a point; thence, turning and running South 79 degrees 28 minutes 29 seconds West, 1.64 feet to a point; thence, running South 00 degrees 23 minutes 17 seconds East, 313.29 feet to an existing concrete monument on the westerly right-of-way line of Sussex County Route 340; thence, by and with the westerly right-of-way line of Sussex County Route 340, South 27 degrees 38 minutes 50 seconds West, 629.45 feet, home to the point and place of Beginning, containing a total of 170,190 square feet (3.90 acres) of land, more or less, with all improvements located thereon.

BEING the same land conveyed to NORMAN W. BUNTING, JR. and SANDRA L. BUNTING, his wife by deed of Granville Toomey and Mabel Toomey, his wife dated February 17, 1970, and filed for record in the Office of the Recorder of Deeds, Georgetown, Delaware, in Deed Book 651, page 601.

FUQUA, YORI, AND ROGERS
ATTORNEYS AT LAW
THE CIRCLE - P.O. BOX 250
GEORGETOWN, DELAWARE 19947

In Witness Whereof, *the said party of the first part has hereunto set hand and seal , the day and year aforesaid.*

Signed, Sealed, Delivered, and Witnessed in the Presence of

Norman W. Bunting, Jr. SEAL

Sandra L. Bunting SEAL

SEAL

SEAL

PURCHASERS REPORT
MADE THIS DATE

JAN 07 1991

ASSESSMENT DIVISION
OF SUSSEX CTY.

State of Delaware,
County of Sussex ss.

Be It Remembered, *That on this* 3rd *day of* January *19* 91 *personally came before me*

NORMAN W. BUNTING, JR. and SANDRA L. BUNTING, his wife

part- ies *to this Indenture, known to me personally to be such, and* they *acknowledged this Indenture to be* their *Deed.*

GIVEN under my Hand and Seal of office, the day and year aforesaid.

DALLAS D. GREEN
DOC. SURCHARGE PAID

91 JAN -4 PM 1:48

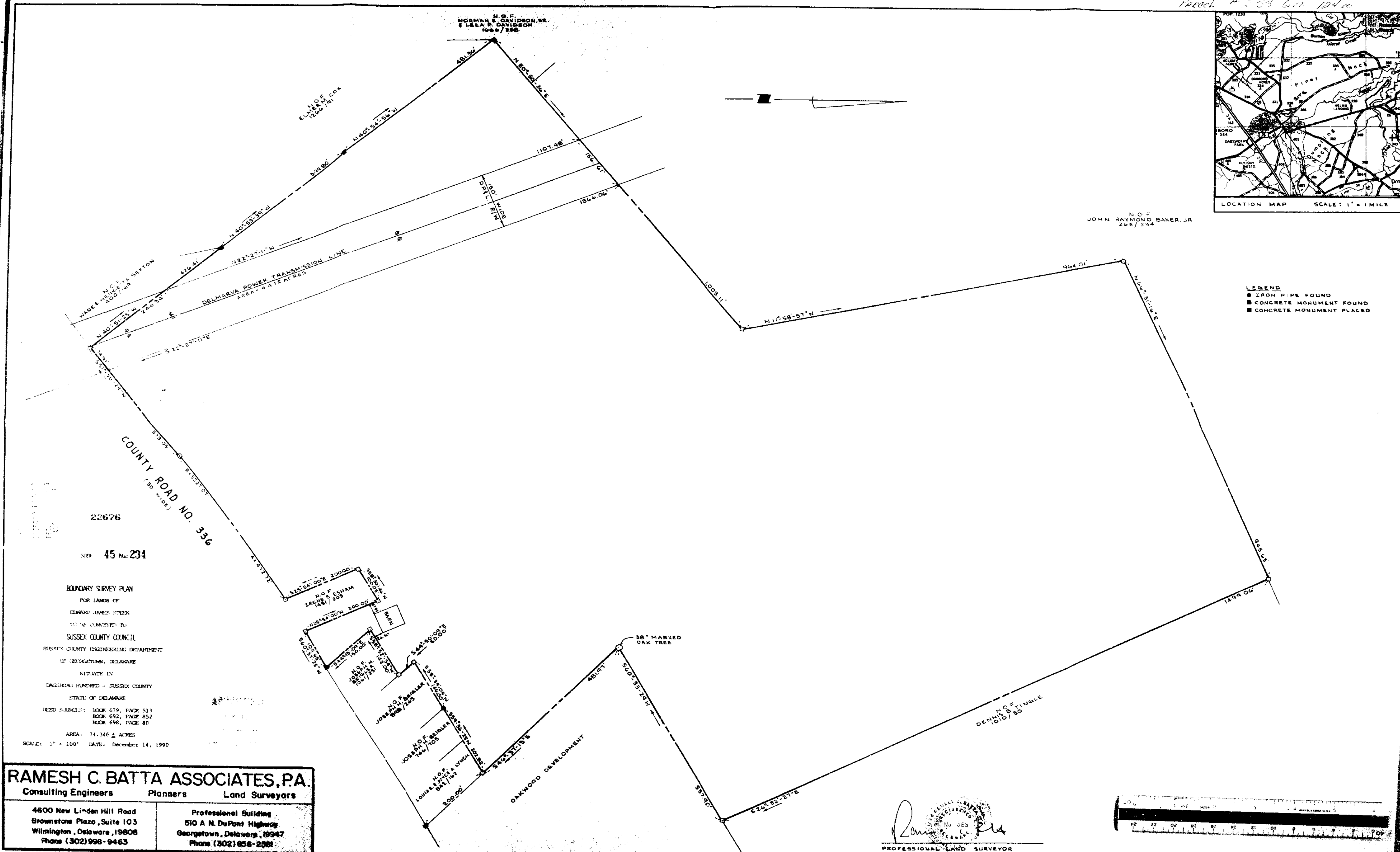
RECORDER OF DEEDS
SUSSEX COUNTY

KAREN W. ROWE
Notary Public
MY COMMISSION EXPIRES: 5/22/91

KAREN W. ROWE NOTARY PUBLIC APPOINTED MAY 22, 1989 TERM 2 YEARS

m/m Ronald L. Culver
RD. 2 Box 54-A
Lewes, Del 1-16-91

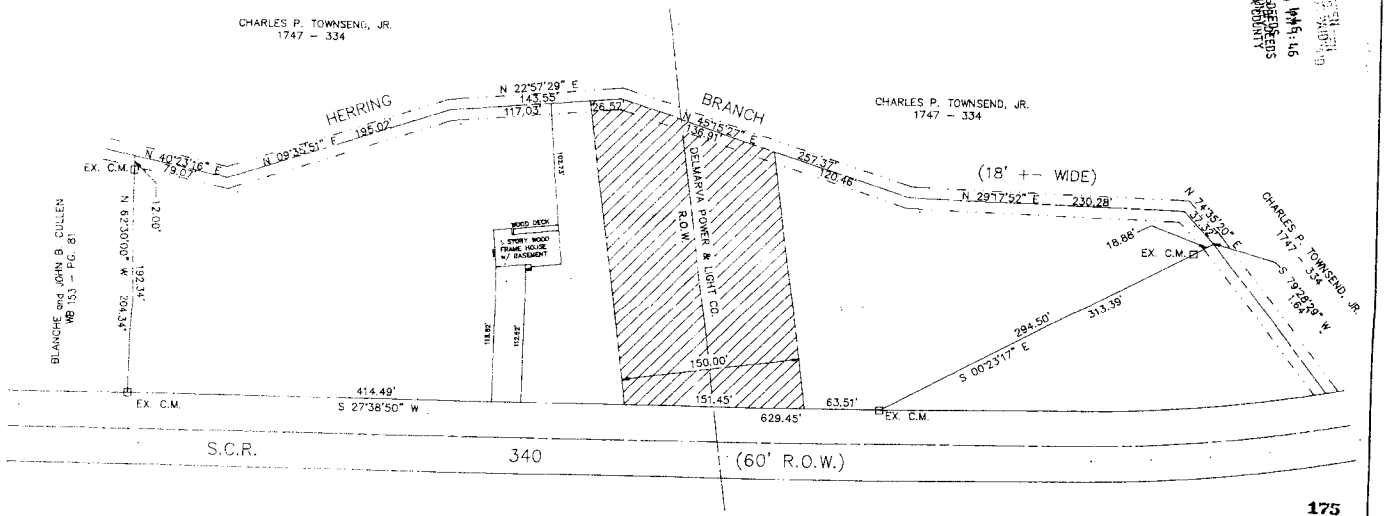
Parcel #233 6.00 124.10



361035 (93) 15.00

DALLAS D. GREEN
DOC. SURCHARGE PAID
91 JAN -4 PM 11:46
RECORDER OF DEEDS
SUSSEX COUNTY

LOT AND LOCATION SURVEY: LANDS TO BE CONVEYED TO RONALD L. & MELISSA A. CULVER
DAGSBORO HUNDRED, SUSSEX COUNTY, DELAWARE



175

BOOK 45 PAGE 262

AREA:

DP&L R.O.W.	=	36,623 SQ. FT. – 0.84 ACRES
PARCEL	=	133,567 SQ. FT. – 3.06 ACRES
TOTAL AREA	=	170,190 SQ. FT. – 3.90 ACRES

APPROVED
12-26-90
M.M.M.

COUNTY PLANNING & ZONING CO. OF SUSSEX COUNTY

PETER E. LOEWENSTEIN REGISTERED NO. 389 DELAWARE PROFESSIONAL LAND SURVEYOR

GRAPHIC SCALE
(IN FEET)
1 inch = 60 ft.

SURVEYED FOR: RONALD L. and MELISSA A. CULVER
TAX MAP # 4-33-2-2
F.B. 117 – PG. 22

P&LA PETER E. LOEWENSTEIN & ASSOCIATES, INC.
ENGINEERING – SURVEYING – PLANNING
P.O. BOX 580 – FRANKFORD, DEL 19945
(302) 732-9565 DE 1-800-427-3030 FAX # (302) 732-3768 MD 1-800-752-4058

PREPARED BY JOHN L. CONNER SURVEY COORDINATOR	SURVEYED BY H.LAMBROS	JOB NO. 1901-308
DRAWN BY M.H.DAVIDSON	DATE DECEMBER, 1990	SHEET OF
CHECKED BY J.L.CONNER	SCALE 1" = 60'	

3615 sq 1500

"NO LIEN OR TITLE SEARCH REQUESTED OR MADE" PREPARED BY SCHMITTINGER & RODRIGUEZ, P.A. 1-34 15.00 . 1.00

414 S. STATE STREET
P.O. BOX 497
DOVER, DE 19901

20412

(No. 44-B) DEED-TYPEWRITER

BOOK 1747 PAGE 336 Printed and Sold by Hugh George Co., Stationers

This Deed, Made this

25 day of October in the year of our LORD one thousand nine hundred and ninety (1990),

BETWEEN, NADINE B. TOWNSEND, wife of Charles P. Townsend, Jr., of Sussex County, Delaware, party of the first part,

- A N D -

CHARLES P. TOWNSEND, JR., husband of Nadine B. Townsend, of Sussex County, Delaware, party of the second part;

Witnesseth, That the said party of the first part, for and in consideration of the sum of Five Dollars ($5.00)---------- lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the said party of the second part, his heirs and assigns, all of the party of the first part's right, title, and interest in and to:

ALL that certain tract, piece or parcel of land situate in Baltimore Hundred, Sussex County, Delaware, and more particularly described as follows, to-wit:

BEGINNING at a point on the south side of the new dirt road leading from Omar to Millville and running in a southerly direction along line of lands now or late of Walter Weldon to an iron stob; thence in a southeasterly direction along the line of lands of the said Walter Weldon and lands now or late of Able Abraham heirs across a ditch and continuing in a northeasterly direction along the line of lands now or late of Clarence Townsend to a corner; thence in a northwesterly direction along the line of lands now or late of Raymond Rickards, crossing said new road from Omar to Millville to a marked pine tree; thence in a northeasterly direction along the line of lands of said Raymond Rickards to an oak stump; thence in a northwesterly direction along the line of lands now or late of Russell Hudson to a pine tree; thence in a northerly direction along the line of lands of said Russell Hudson to an iron stob; thence in an easterly direction along the line of lands of said Russell Hudson to a wild cherry tree; thence in a northerly direction along the line of lands now or late of Everett West to a stob, a corner for lands now or late of Charles West; thence in a westerly direction along the line of lands of said Charles West to a stob, a corner for lands now or late of Nancy Turner; thence in a southwesterly direction along the line of lands now or late of John Harper heirs and lands of said Nancy Turner to a stob; thence in a southerly direction along the line of lands of said John Harper heirs to an old road; thence along said old road along the line of said John Harper heirs in an easterly direction to a hickory tree; thence in a northerly direction along the line of lands of said John Harper heirs to a post; thence in a northwesterly direction along line of lands of said John Harper heirs and lands now or late of Joseph Lynch, to an iron stob; thence in a westerly direction along the line of lands now or late of Asa Clogg and lands now or late of Truitt and Brasure to a stob; thence in a southwesterly direction along the line of an old road known as "Stingy Lane Road"; thence in a southeasterly direction and bending in a southerly direction along the line of lands now or late of Andrew West to aforesaid new road from Omar to Millville; thence in an easterly direction along said road, home to the place of beginning, containing approximately one hundred fifty (150) acres, be the same more or less; said tract of land being the remainder of lands known as "Eben Townsend Swamp Farm."

4167 333 11/ 2/90 TX-EX CD .00

AND BEING the same lands and premises conveyed unto Charles P. Townsend, by deed of Nora B. Townsend, widow, et al. (heirs of Eben A. Townsend), said deed being dated the 16th day of February, 1942, and of record in the Sussex County Recorder of Deeds office at Georgetown, Delaware, at Deed Record Book 332, Page 479. Subsequently, the said Charles P. Townsend, Sr. died, testate, on or about November 6, 1978, whereupon by Item II of his Last Will & Testament, which has been duly probated and is of record in the Sussex County Register of Wills office at Georgetown, Delaware in Will Book 90, Page 397, the decedent did devise the hereinabove described lands and premises, among others, unto Charles P. Townsend, Jr. and Nadine B. Townsend, husband and wife, in fee.

This conveyance is made by the party of the first part to the party of the second part pursuant to the provisions of Section 309, Title 25, Delaware Code, in order that all of the right, title and interest in the party of the first part in and to the herein described real estate shall be vested in the party of the second part, absolutely and in fee.

And the party of the first part does also hereby relinquish and release unto the party of the second part, his heirs and assigns, any right of dower that the party of the first part may now or hereafter have in the herein described real estate, that the same be conveyed, encumbered, devised or otherwise disposed of, and shall descend free and clear of such right of dower, pursuant to Section 310, Title 25, Delaware Code.

In Witness Whereof, the said party of the first part has hereunto set her hand and seal, the day and year aforesaid.

Sealed and Delivered in the Presence of

Laura A. Schlaupitz

Nadine B. Townsend (SEAL)

NADINE B. TOWNSEND

(SEAL)

PURCHASERS REPORT
MADE THIS DATE
NOV 05 1990
ASSESSMENT DIVISION
OF SUSSEX CTY.

State of Delaware,

County, } ss.

Be It Remembered, That on this 25 day of October in the year of our LORD, one thousand nine hundred and ninety (1990), personally came before me, the Suscriber, a Notary Public in and for the County and State aforesaid,

NADINE B. TOWNSEND,

party to this Indenture, known to me personally to be such, and she acknowledged this Indenture to be her Act & Deed.

GIVEN under my Hand and Seal of office, the day and year aforesaid.

Laura A. Schlaupitz
Notary Public

LAURA A. SCHLAUPITZ
NOTARY PUBLIC
KENT COUNTY, DELAWARE
COMMISSION EXPIRES APRIL 22, 2000

C. RUSSELL MCCABE
DOC. SURCHARGE PAID
90 NOV -2 AM 11:00
RECORDER OF DEEDS
SUSSEX COUNTY

Schmittinger & Rodriguez
Attys.
11-16-90

48013 BK 03030 PG 254

Tax Parcel: p/o 2-33-12.00-28.00, 2-33-11-200,
2-33-11-198.02 and 2-33-11-99
Prepared by: Parsons and Weidman, P.A.
Rt 26 and West Avenue
Ocean View, DE 19970
File No: A3634

DRAINAGE EASEMENT AGREEMENT

THIS AGREEMENT made this 2nd day of July, 2004, Between Charles P. Townsend, Jr., owner of the lot with a tax parcel number of 2-33-12.00-28.00, party of the first part

AND

Gulfstream Development Corporation, a Delaware Corporation , of 27 Atlantic Avenue, Ocean View, DE 19970, owner of 25 Atlantic Avenue and 27 Atlantic Avenue, Ocean View, DE 19970, Tax Parcel: 2-33-11-200, 2-33-11-198.02 and 2-33-11-99, party of the second part.

WITNESSETH; That the party of the first part, for and in consideration of the sum of One Dollar ($1.00), current lawful money of the United States of America, and other good and valuable consideration, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the party of the second part, their heirs, assigns, successors or legal representatives, a perpetual easement and rights of way in the following described areas of lands of the party of the first part:

A Drainage Easement within the existing easement to Conective across the lands of Charles P. Townsend, Jr. and adjacent to the Lands of Gulfstream Development Corporation intended for the stormwater drainage release by Gulfstream Development Corporation. Said Drainage Easement is described as follows:

BEGINNING at a point near the northwesterly property corner of lands of Floyd E. Gray, said point being situate northerly 75.00 feet from the centerline of the overhead transmission lines, thence through the lands of Charles Townsend South 63°-03' East to Herring Branch; thence with Herring Branch in a southwesterly direction to a point; thence through the said Townsend lands and parallel with the centerline of the overhead transmission lines and 75.00 feet therefrom, thence with the lands of Floyd E. Gray in a northerly direction home to the point and place of Beginning as prepared by D.K. Miller, PLS #407.

THIS easement is for the purpose of placing a 24" diameter drainage pipe and is located within the existing Conectiv Easement.

Consideration:	**90.00**	**Exempt Code: A**
County	**State**	**Total**
0.00	**0.00**	**0.00**
counter	**Date: 09/07/2004**	

The above-referenced perpetual easement for stormwater drainage release is an easement which shall run with the title to the lands of the parties of the second part, their heirs, assigns, successors or other legal representative and any other person or persons who shall hereinafter acquire title to the above property of the parties of the second part in perpetuity.

The parties hereto agree that no interest nor estate in the land of the party of the first part has been acquired by the use and occupancy of said land by party of the second part prior to the date of this Easement Agreement and that they do not and shall not claim at anytime subsequent to the date of this Easement Agreement any interest or estate in the lands of party of the first part because of the occupancy or use of the land pursuant thereto.

The party of the second part, and the party of the first part hereby agree that this Easement is for the purposes of stormwater drainage only and any construction activities resulting in the disturbance to the existing utilities shall be restored to their previous conditions by Gulfstream Development Corporation at their expense.

This Agreement shall be binding upon the undersigned, their heirs, successors and or assigns.

IN WITNESS WHEREOF, the parties hereunto have set their Hands and Seals the day and year first above written.

Ann M. Couch
WITNESS

Charles P. Townsend (SEAL)
Charles P. Townsend, Jr.

STATE OF DELAWARE :
:SS:
COUNTY OF SUSSEX :

BE IT REMEMBERED that on this 28th day of June, 2004, personally came before me, the Subscriber, a Notary Public for the State and County aforesaid, Charles P. Townsend, Jr., party to this Indenture, known to be personally to be such, and she acknowledged this Indenture to be his deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.

Ann M. Couch
Notary Public Ann M. Couch
Commission Expires: 9-12-04

IN WITNESS WHEREOF, the parties hereunto have set their Hands and Seals the day and year first above written.

GULFSTREAM DEVELOPMENT CORPORATION, a Delaware Corporation

WITNESS

BY: _____ (SEAL)

ATTEST: _____ (SEAL)

STATE OF DELAWARE, COUNTY OF SUSSEX: to-wit

BE IT REMEMBERED, that on this 2nd day of July, A.D. 2004, personally appeared before me, the Subscriber, a Notary Public for the State and County aforesaid, Robert Harris, President of GULFSTREAM DEVELOPMENT CORPORATION, party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his/her act and deed and the act and deed of said corporation; that the signature of the President is in his/her own proper handwriting and the seal affixed is the common and corporate seal of said corporation; and that his/her act of signing, sealing, acknowledging and delivering said Indenture was first duly authorized by a resolution of the Board of Directors of said corporation.

Given under my Hand and Seal of office the day and year aforesaid.

Leah M. Garrett

Notary Public

Printed Name: LEAH M. GARRETT

NOTARY PUBLIC STATE OF DELAWARE

MY COMMISSION EXPIRES 01/25/2006

My Commission Expires:

RECORDER OF DEEDS
JOHN F. BRADY

04 SEP -7 AM 9:20

SUSSEX COUNTY
DOC. SURCHARGE PAID

Received

SEP 08 2004

ASSESSMENT DIVISION OF SUSSEX CTY

17767

BK: 4549 PG: 49

TAX MAP # 2-33-11.00-109.00

PREPARED BY & RETURN TO:
D. Stephen Parsons, P.A.
118 Atlantic Ave. #401
PO Box 480
Ocean View, DE 19970
File No. 33960/KE

RECEIVED
May 31,2016
ASSESSMENT DIVISION
OF SUSSEX COUNTY

THIS DEED, made this 27TH day of May, 2016,

- BETWEEN -

KEVIN W. SAGERS, TRUSTEE, of 800 Wild Turkey Place, Wilmington, NC 28405, party of the first part,

- AND -

EILEEN MCCAFFERY and **JAMES T. BUCK, III**, of 30611 Cedar Neck Road, Unit 23, Ocean View, DE 19970, parties of the second part, as Joint Tenants With Right of Survivorship and not as Tenants in Common.

WITNESSETH: That the said party of the first part, for and in consideration of the sum of ONE DOLLAR and 00/100 ($1.00), lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the parties of the second part:

ALL that certain piece, parcel or lot of land, situate, lying and being in Dagsboro Hundred, Sussex County, Delaware, being more particularly described as follows according to a survey prepared by Miller Lewis, Inc., dated April 22, 2002, filed for record in the Office of the Recorder of Deeds, at Georgetown, Delaware in Plot Book 75, Page 13, as follows, to wit:

BEGINNING at an iron pipe situate on the northerly edge of Delaware Road #26 and being 3,850' more or less to Main Street; thence leaving the northerly edge of Delaware Road #26 and along land N/F of Kollock Farms, Inc., N09°15'00"W, a distance of 995.00' to a point situate in Pepper Creek (passing over an iron pipe situate at 954.53'); thence along lands N/F of William R. Kollock and Kollock Family Limited Partnership and in part with Pepper Creek, N79°59'33"E, a distance of 608.97' to an iron pipe; thence continuing along lands N/F of William R. Kollock and Kollock Family Limited Partnership, N80°18'54"E, 160.06' to a concrete monument; thence continuing along lands N/F of Alice Hitchens heirs, N83°11'21"E, 131.46' to an iron pipe; thence along lands N/F of Charles & Donna G. Flood, S01°51'37"E,

NS

NS

436.04' to an iron pipe; thence along lands N/F of Gary F. Farmer, S80°33'34"W, 239.22' to an iron pipe; thence continuing along lands N/F of Gary F. Farmer, S09°26'26"E, 562.00' to an iron pipe situate on the northerly edge of Delaware Road #26; thence along the northerly edge of Delaware Road #26, S80°25'24"W, 606.89' to the point and place of beginning, and containing 16.55 acres of land more or less.

SUBJECT TO a right-of-way agreement to Delaware Power and Light Company, dated June 20, 1958, of record in the Office of the Recorder of Deeds, aforesaid, in Deed Book 485, Page 352.

Subject to the rights of others in and to the use of any drains and Peppers Creek Tax Ditch pursuant to Superior Court Order C.A. No. 06M-11-082 dated January 4, 2007, in the Office of the Recorder of Deeds, in and for Sussex County, Delaware in Tax Ditch Book 4 at Page 63, and dated March 12, 2009, in Tax Ditch Book 5, Page 106, and dated October 6, 2011, in Tax Ditch Book 10, at Page 214, and any other ditches located over, across, in or under the insured premises; and rights to enter upon said premises to maintain the same.

BEING the same lands conveyed to Kevin W. Sagers, Trustee U/A 8/8/2001 by Deed of Bonard B. Timmons, Jr. and Evelyn M. Timmons, dated January 21, 2004 and recorded in the Office of the Recorder of Deeds, Georgetown, Sussex County, Delaware, in Deed Book 2939, Page 33.

IN WITNESS WHEREOF, the party of the first part has hereunto set his hand and seal the day and year first above written.

Consideration: 315,000.00

County 4,725.00
State 4,725.00
Town Total 9,450.00
Received: Sue D May 31,2016

Signed, Sealed and Delivered
in the presence of:

Kay Emory

Kevin W. Sagers, Trustee (SEAL)
Kevin W. Sagers, Trustee U/A 8/8/2001

STATE OF DELAWARE, COUNTY OF SUSSEX: to-wit

BE IT REMEMBERED, that on this 27th day of May 2016, personally came before me, the subscriber, Kevin W. Sagers, Trustee, party of the first part to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his act and deed.

Given under my Hand and Seal of office the day and year aforesaid.

Meredith Kay Emory
Notary Public

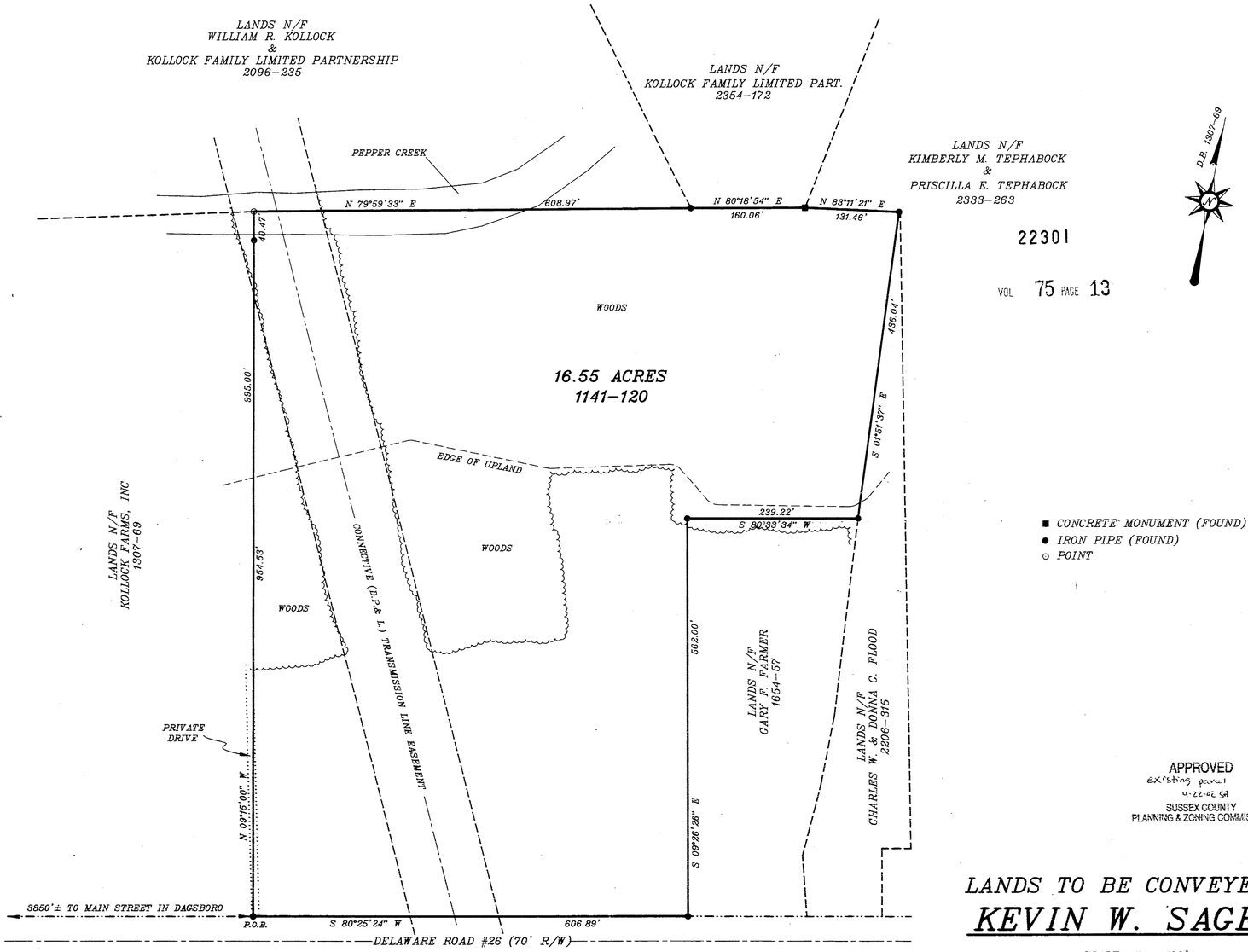
Consideration: 315,000.00

County 4,725.00
State 4,725.00
Town Total 9,450.00
Received: Sue D May 31,2016

STATE OF DELAWARE NOTARY PUBLIC
MEREDITH KAY EMORY
My Commission Expires
March 10, 2019

Recorder of Deeds
Scott Dailey
May 31,2016 11:04A
Sussex County
Doc. Surcharge Paid

T.M. #2-33-11-109



22301

VOL 75 PAGE 13

RECORDER OF DEEDS
RICHARD H. KELL, II
02 MAY 14 PM 12:36
SUSSEX COUNTY
DOC. SURCHARGE PAID

■ CONCRETE MONUMENT (FOUND)
● IRON PIPE (FOUND)
○ POINT

APPROVED
existing parcel
4-22-02 SR
SUSSEX COUNTY
PLANNING & ZONING COMMISSION

LANDS TO BE CONVEYED TO
KEVIN W. SAGERS

SCALE: 1" = 100'

CLASS "B" SURVEY

MILLER LEWIS, INC.
LAND SURVEYING
24459 SUSSEX HIGHWAY
SEAFORD, DELAWARE 19973

APR. 22, 2002

HUNDRED: DAGSBORO	COUNTY: SUSSEX
STATE: DELAWARE	DRAWN BY: D.K. MILLER
REF.: 1141-120	DWG. NO.: 2-33-11-109

0 1 2 3 4 5 6

ACS GOVERNMENT SERVICES

Document# 2021000041372 BK: 5495 PG: 242
Recorder of Deeds, Scott Dailey On 6/28/2021 at 10:59:45 AM Sussex County, DE
Consideration: $0.00 County/Town: $0.00 State: $0.00 Total: $0.00
Doc Surcharge Paid Town: SUSSEX COUNTY

TAX MAP AND PARCEL #:
2-33-11.00-75.04
2-33-11.00-77.00
2-33-11.00-83.00

PREPARED BY:
Moore & Rutt, PA
122 West Market Street
P.O. Box 554
Georgetown, DE 19947
File No. 13166-30401/JEM

RETURN TO:
Sussex County
P.O. Box 589
2 The Circle
Georgetown, DE 19947

THIS DEED, made this 22nd day of JUNE, 2021,

- BETWEEN -

LFW DELAWARE HOLDINGS 2015, LLC, of 5445 Triangle Pkwy, Suite 170, Peachtree Corner, GA 30092, party of the first part,

- AND -

SUSSEX COUNTY, a political subdivision of the State of Delaware, of P.O. Box 589, 2 The Circle, Georgetown, DE 19947, party of the second part.

WITNESSETH: That the said party of the first part, for and in consideration of the sum of ONE AND 00/100 DOLLARS ($1.00), lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the party of the second part, and its heirs and assigns, in fee simple, the following described lands, situate, lying and being in Sussex County, State of Delaware:

Document# 2021000041372 BK: 5495 PG: 243
Recorder of Deeds, Scott Dailey On 6/28/2021 at 10:59:45 AM Sussex County, DE
Doc Surcharge Paid

TM# 2-33-11.00-75.04:
Tract One: All that certain lot, piece or parcel of land situate, lying and being in Dagsboro Hundred, Sussex County, State of Delaware, being known and designated as Lot 4 on a plot entitled "Minor Subdivision for Lands of Kevin W. Sagers & Laurie A. Sagers", prepared by Simpler Surveying & Associate, dated April 10, 2000, and recorded in the Office of the Recorder of Deeds, in and for Sussex County, Delaware, in Plot Book 68 Page 107.

Tract Two: All that certain lot, piece or parcel of land situate, lying and being in Dagsboro Hundred, Sussex County, State of Delaware, being known and designated as Lot 4A on a plot entitled "Lot Line Adjustment of the Lands of Kevin W. & Laurie A. Sagers", prepared by Davis, Bowen & Friedel, Inc., dated February 2004, and recorded in the Office of the Recorder of Deeds, in and for Sussex County, Delaware in Plot Book 84 Page 132.

Tract One SUBJECT to Sagers Subdivision Declaration of Additional Covenants, Restrictions, and Conditions, recorded in the Office of the Recorder of Deeds, in and for Sussex County, Delaware in Deed Book 2505 Page 128.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Sussex County, Delaware.

BEING the same property conveyed to LFW Delaware Holdings 2015, LLC from HKS 3, LLC, by Deed in Lieu of Foreclosure dated September 25, 2014, and recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Deed Book 4318 Page 199.

TM# 2-33-11.00-77.00:
All that certain lot, piece or parcel of land or allotment of land, situate, lying and being in Dagsboro Hundred, Sussex County, State of Delaware, adjoining lands now or formerly of John Helm and others, and known on the plot of the subdivision of lands now or formerly of the Raymond-Bunting, W.S. Truitt and Mitchell Hall, known as Will Allotment, being #29 on the said plot, containing 39 ¾ acres of land, be the same, more or less.

Pursuant to 25 Del. C. Section 135, the grantor and grantee hereunder do hereby acknowledge that the parcel or parcels conveyed hereunder, or a portion of same, may be subject to a tax ditch right-of-way and/or assessment, or a tax lagoon right-of-way and/or assessment pursuant to an Order of the Superior Court of the State of Delaware in and for Sussex County recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Book 5 Page 106.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Sussex County, Delaware.

BEING the same property conveyed to LFW Delaware Holdings 2015, LLC from Robert T. Lee, Sheriff of Sussex County, by Sheriff's Deed dated December 21, 2015, and recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Deed Book 4492 Page 231.

Document# 2021000041372 BK: 5495 PG: 244
Recorder of Deeds, Scott Dailey On 6/28/2021 at 10:59:45 AM Sussex County, DE
Doc Surcharge Paid

ALSO BEING the same property conveyed to LFW Delaware Holdings 2015, LLC from Robert T. Lee, Sheriff of Sussex County, by Corrective Sheriff's Deed dated JUNE 22, 2021, and recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Deed Book 5495 Page 35.

TM# 2-33-11.00-83.00:

Tract One: All that certain tract, piece or parcel of land situate, lying and being in Dagsboro Hundred, Sussex County, State of Delaware, and being more particularly described as follows: Beginning at a point in the Southern right-of-way line of a thirty (30) foot road, a corner for these lands and lands now or formerly of Joseph Kollack; thence from said beginning point, South 33 degrees 10 minutes East a distance of 1,657.6 feet to a point; thence North 75 degrees 26 minutes East a distance of 168 feet to a point; thence North 20 degrees 15 minutes East a distance of 1,236 feet to a point; thence North 47 degrees 45 minutes West a distance of 847.12 feet to a point, said point marking a corner for these lands and lands now or formerly of Lewis A. Lynch; thence by and with the division line between these lands and lands now or formerly of Lewis A. Lynch, South 65 degrees 36 minutes 01 seconds West a distance of 886.63 to a point; said point marking a corner for these lands and lands now or formerly of Lewis A. Lynch; thence by and with a division line between these lands and lands now or formerly of Lewis A. Lynch, North 31 degrees 36 minutes 03 seconds West a distance of 50.40 feet to a point, said point marking a corner for these lands, other lands of the party of the first part, and lands now or formerly of Lewis A. Lynch; thence by and with a division line between these lands and other lands of the party of first part, South 65 degrees 36 minutes 01 seconds West a distance of 50 feet, home to the place of beginning, be the contents thereof what they may be.

Tract Two: All that certain tract, piece or parcel of land situate, lying and being in Dagsboro Hundred, Sussex County, State of Delaware, and being more particularly described as follows: Beginning at a concrete marker set in the Southerly right-of-way line of Sussex County Route 336, said concrete monument marking a corner for these lands and lands now or formerly of Billie Hitchens; thence along with the Southerly right-of-way line of Sussex County Route 336, North 53 degrees 11 minutes 20 seconds East a distance of 50.21 feet to an iron pipe, said iron pipe marking a corner for these lands and lands now or formerly of Lewis A. Lynch; thence along and with the division line between these lands and lands now or formerly of Lewis A. Lynch, South 31 degrees 36 minutes 03 seconds East a distance of 799.58 feet to an iron pipe, said iron pipe marking a corner for these lands and lands now or formerly of Lewis A. Lynch; thence North 65 degrees 36 minutes 01 seconds East a distance of 144.50 feet to an iron pipe, said iron pipe marking a corner for these lands and lands now or formerly of Lewis A. Lynch; thence South 31 degrees 36 minutes 03 seconds East a distance of 50.40 feet to a point, and said point marking a corner of these lands and lands now or formerly of Lewis A. Lynch; thence South 65 degrees 36 minutes 01 seconds West along and with the northern right-of-way line of a 30-foot right-of-way a distance of 194.90 feet to a concrete monument, said concrete monument marking a corner for these lands and lands now or formerly of Billie Hitchens; thence along and with the division line between these lands and lands now or formerly of Billie Hitchens, North 31 degrees 36 minutes 03 seconds West a distance of 839.04 feet, home to the place of beginning, containing 49,488 square feet, be the same more or less.

Document# 2021000041372 BK: 5495 PG: 245
Recorder of Deeds, Scott Dailey On 6/28/2021 at 10:59:45 AM Sussex County, DE
Doc Surcharge Paid

Together with the right, title and interest of the party of the first part, in and to a private road being more particularly described as follows: Beginning at a southeasterly corner of the above described lands, being a corner common to these lands and Tract Two described above; thence from said point of the beginning, South 31 degrees 36 minutes 03 seconds East a distance of 30.24 feet to a point in the southerly side of the said private road, said point being near the northwesterly corner of Tract One described above; thence by and with the southerly side of said private road, South 65 degrees 36 minutes 01 seconds West a distance of 194.90 feet to a point; thence North 31 degrees 36 minutes 03 seconds West a distance of 30.24 feet to a point; thence North 65 degrees 36 minutes 01 seconds East 194.90 feet, home to the place of beginning, be the contents thereof what they may.

Pursuant to 25 Del. C. Section 135, the grantor and grantee hereunder do hereby acknowledge that the parcel or parcels conveyed hereunder, or a portion of same, may be subject to a tax ditch right-of-way and/or assessment, or a tax lagoon right-of-way and/or assessment pursuant to an Order of the Superior Court of the State of Delaware in and for Sussex County recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Book 5 Page 106.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Sussex County, Delaware.

BEING the same property conveyed to LFW Delaware Holdings 2015, LLC from Robert T. Lee, Sheriff of Sussex County, by Sheriff's Deed dated December 21, 2015, and recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Deed Book 4492 Page 231.

ALSO BEING the same property conveyed to LFW Delaware Holdings 2015, LLC from Robert T. Lee, Sheriff of Sussex County, by Corrective Sheriff's Deed dated June 22, 2021, and recorded in the Office of the Recorder of Deeds in and for Sussex County, Delaware, in Deed Book 5495 Page 35.

REMAINDER OF PAGE LEFT BLANK INTENTIONALLY
SIGNATURE PAGE FOLLOWS

Document# 2021000041372 BK: 5495 PG: 246
Recorder of Deeds, Scott Dailey On 6/28/2021 at 10:59:45 AM Sussex County, DE
Doc Surcharge Paid

IN WITNESS WHEREOF, the said LFW Delaware Holdings 2015, LLC, a Delaware limited liability company, has caused its name to be hereunto set under seal by Robert F. Kennedy an authorized member of LFW Delaware Holdings 2015, LLC, the day and year first above written.

LFW DELAWARE HOLDINGS 2015, LLC

Anthony W. Moss
Witness

By: _____(SEAL)

Robert Kennedy
Authorized Member

STATE OF Georgia, COUNTY OF Gwinnett: to-wit

BE IT REMEMBERED, that on this 22nd day of June, 2021 A.D., personally appeared before me, the Subscriber, a Notary Public in and for the State and County aforesaid, Robert F. Kennedy, Authorized Member of LFW Delaware Holdings 2015, LLC, a Delaware limited liability company, party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his/her act and deed and the act and deed of said limited liability company; that the signature of the Authorized Member is in his/her own proper handwriting and by his/her authority to act; and that the act of signing, sealing, acknowledging and delivering the said Indenture was first duly authorized by a resolution of the limited liability company.

GIVEN under my Hand and Seal of Office the day and year aforesaid.

Martha Jean Cory
Notary Public

My Commission Expires: 06-24-24

MARTHA JEAN CORY NOTARY PUBLIC GWINNETT COUNTY, GEORGIA MY COMMISSION EXPIRES JUNE 24, 2024

Document# 2022000040641 BK: 5765 PG: 226
Recorder of Deeds, Scott Dailey On 8/31/2022 at 7:44:23 AM Sussex County, DE
Consideration: $5,940,000.00 County/Town: $0.00 State: $148,500.00 Total: $148,500.00
Doc Surcharge Paid Town: MILLVILLE

Tax Parcel Number: 134-15.00-93.01

Prepared By and Return To:
Geoffrey L. Grosso, Esquire
Tarabicos, Grosso & Hoffman, LLP
One Corporate Commons
100 W. Commons Blvd., Suite 415
New Castle, DE 19720

DEED

THIS DEED, made this 29th day of August, in the year of our Lord Two Thousand Twenty-Two (2022),

BETWEEN, OA MILLVILLE, LLC, a Delaware limited liability company, party of the first part,

AND

DHIC – TUPELO SANDS, LLC, a Delaware limited liability company, party of the second part,

WITNESSETH, that the said party of the first part, for and in consideration of the sum of Ten and 00/100 Dollars ($10.00) lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the party of the second part, its successors and assigns, in fee:

ALL THAT CERTAIN lot, piece or parcel of land, hereinafter described, situate, lying and being on the northwesterly side of Roxana Road and being located in the Town of Millville, Baltimore Hundred, Sussex County, Delaware; said parcel being shown as Tract 1 on a plot entitled "Tupelo Sands, Record Plans", prepared by Davis, Bowen & Friedel, Inc., dated July 2020, revised through October 5, 2021, and recorded November 22, 2021, in the Office of the Recorder of Deeds in and for Sussex County and State of Delaware, in Plot Book 356, Page 50, as superseded in part, by the "Tupelo Sands Record Plans", recorded in the Office aforesaid, in Plot Book 370, Page 27, said piece or parcel of land being more particularly described as follows, to-wit:

BEGINNING at a point formed by the intersection of the northwesterly right-of-way line of Roxana Road with the southwesterly line of the lands of, now or formerly, Rico's Rentals, LLC and Salil Etzel, as recorded in the Office of the Recorder of Deeds in and for Sussex County and the State of Delaware in Deed Book 4953, Page 259, thence,

1) leaving said Roxana Road and running by and with said Rico's Rentals land and also running by and with the lands of, now or formerly, James R. Powell and Judy R. Powell, as

recorded in said Office of the Recorder of Deeds in Deed Book 2090, Page 129, North 39 degrees 48 minutes 19 seconds West 922.93 feet, passing over an iron pipe with cap found at 882.89 feet, to a point at the center of Beaver Dam Canal Tax Ditch Main, thence,

2) leaving said Powell lands and running by and with said Beaver Dam Canal, the following seven courses and distances, North 38 degrees 14 minutes 48 seconds East 92.74 feet to a point, thence running,

3) North 33 degrees 01 minutes 40 seconds East 142.97 feet to a point, thence running,

4) North 23 degrees 48 minutes 41 seconds East 54.93 feet to a point, thence running,

5) North 25 degrees 29 minutes 22 seconds East 232.97 feet to a point, thence running,

6) North 02 degrees 20 minutes 56 seconds West 89.03 feet to a point, thence running,

7) North 21 degrees 20 minutes 48 seconds East 43.23 feet to a point, thence running,

8) North 49 degrees 14 minutes 46 seconds East 44.44 feet to a point on the southerly line of Tract 2 of Tupelo Sands, thence,

9) leaving said Beaver Dam Canal and running by and with said Tract 2, the following five courses and distances, South 73 degrees 28 minutes 33 seconds East 271.24 feet to a point, thence running,

10) South 16 degrees 31 minutes 27 seconds West 45.00 feet to a point, thence running,

11) South 73 degrees 28 minutes 33 seconds East 538.37 feet to a point, thence running,

12) South 11 degrees 46 minutes 32 seconds East 51.94 feet to a point, thence running,

13) South 73 degrees 22 minutes 41 seconds East 235.38 feet to a point on the aforesaid northwesterly right-of-way line of Roxana Road, thence,

14) leaving said Tract 2 and running by and with said Roxana Road, the following three courses and distances, South 37 degrees 37 minutes 27 seconds West 215.30 feet to a point, thence running,

15) South 52 degrees 22 minutes 33 seconds East 3.00 feet to a point, thence running,

16) South 37 degrees 37 minutes 27 seconds West 955.21 feet to the point and place of Beginning. **CONTAINING** 20.224 acres of land, more or less.

TOGETHER WITH the rights of the Grantor to that certain Temporary Construction Easement Agreement by and between Rico's Rentals, LLC, and The State of Delaware by and

Document# 2022000040641 BK: 5765 PG: 228
Recorder of Deeds, Scott Dailey On 8/31/2022 at 7:44:23 AM Sussex County, DE
Doc Surcharge Paid

through OA Millville, LLC, dated August 27, 2021, and recorded September 1, 2021 in the Office of the Recorder of Deeds in and for Sussex County and State of Delaware, in Deed Book 5542, Page 51.

TOGETHER WITH AND SUBJECT TO all other covenants, conditions, restrictions, plans, and easements of record with respect to the property described above, this reference to which shall not be construed to reimpose any such covenants, conditions, restrictions, plans and easements which have otherwise lapsed, expired or have been terminated in accordance with their terms or otherwise, as applicable.

BEING a part of same lands and premises which Millville Town Center, LLC, a Delaware limited liability company, by Deed dated October 2, 2020, and recorded October 9, 2020, in the Office of the Recorder of Deeds in and for Sussex County and State of Delaware, in Deed Book 5327, Page 170, did grant and convey unto OA Millville, LLC, party of the first part hereto, in fee.

Grantee's address:
DHIC – Tupelo Sands, LLC
c/o DHI Communities
1341 Horton Circle
Arlington, Texas 76011

[***Signature Pages Follows***]

Document# 2022000040641 BK: 5765 PG: 229
Recorder of Deeds, Scott Dailey On 8/31/2022 at 7:44:23 AM Sussex County, DE
Doc Surcharge Paid

IN WITNESS WHEREOF, the said party of the first part, has caused this Deed to be executed, sealed, and delivered on the day and year aforesaid.

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

WITNESS:

OA MILLVILLE, LLC

Jill Lynn Burton

By: _____ (SEAL)
Name: Preston Schell
Title: Managing Member

STATE OF Delaware)
)S.S.
COUNTY OF Sussex)

BE IT REMEMBERED, that on this 25th day of August, 2022, came before me, the Subscriber, a Notary Public or Notarial Officer in and for the State and County aforesaid, Preston Schell, Managing Member of OA Millville, LLC, a Delaware limited liability company, party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his/her act and deed and the act and deed of the said company.

JILL LYNN BURTON
MY COMM. EXPIRES
NOTARY
PUBLIC
4-5-2023
STATE OF DELAWARE

Jill Lynn Burton (SEAL)
Notary Public or Notarial Officer
Print Name: Jill Lynn Burton
My Commission Expires: 4-5-2023

Town of Millville
Realty Transfer Tax
SERIAL #: 23-134
AMOUNT OF TOWN TAX: 89,100.00
DATE RECORDED: 8-30-22
CANCELLED BY: W Mullins

Document# 2024000004618 BK: 419 PG: 62
Recorder of Deeds, Alexandra Reed Baker On 2/9/2024 at 3:42:22 PM Sussex County, DE
Doc Surcharge Paid

ASCEND BY THE SEA

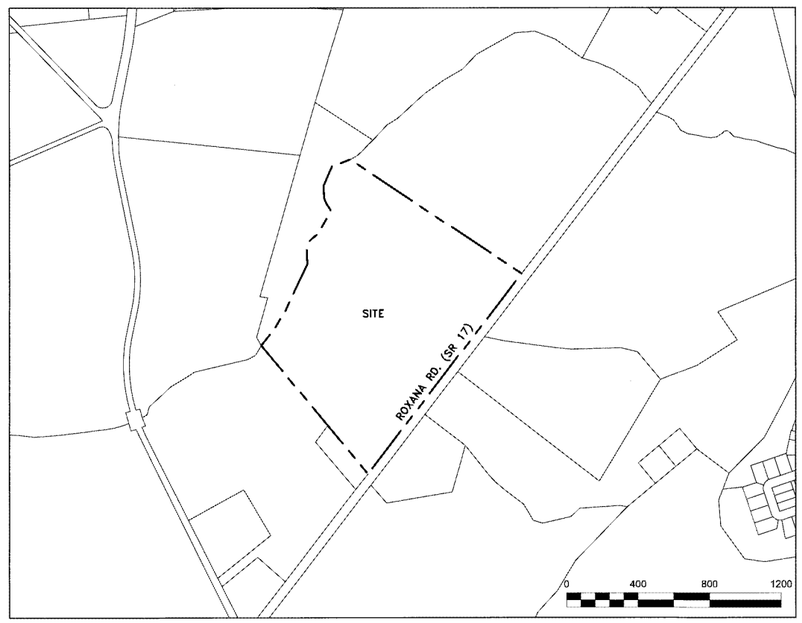
RECORD PLANS

INLAND BAYS WATERSHED
BALTIMORE HUNDRED
TOWN OF MILLVILLE
SUSSEX COUNTY, DELAWARE
ROXANA ROAD SR. 17 (SCR 052)

DBF PROJECT NO. 0818C031 JANUARY 2022
REVISED: - JANUARY 30, 2024

GENERAL NOTES:

1. NO LANDSCAPING SHALL BE ALLOWED WITHIN R/W UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL (DCM).
2. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
3. SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
4. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S 'SHARED-USE PATH AND/OR SIDEWALK TERMINATION POLICY'.
5. SUBDIVISION STREETS CONSTRUCTED WITHIN THE LIMITS OF THE RIGHT-OF-WAY ARE PRIVATE AS SHOWN ON THIS PLAN AND ARE TO BE MAINTAINED BY THE DEVELOPER, PROPERTY OWNERS OR BOTH. THE STATE OF DELAWARE AND THE TOWN OF MILLVILLE ASSUMES NO MAINTENANCE RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
6. THE SHARED-USE PATH SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS OR BOTH WITHIN THIS SUBDIVISION. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THE SHARED-USE PATH.
7. TO MINIMIZE RUTTING AND EROSION OF THE ROADSIDE DUE TO ON-STREET PARKING, DRIVEWAY AND BUILDING LAYOUTS MUST BE CONFIGURED TO ALLOW FOR VEHICLES TO BE STORED IN THE DRIVEWAY BEYOND THE RIGHT-OF-WAY, WITHOUT INTERFERING WITH SIDEWALK ACCESS AND CLEARANCE.
8. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.2.4.2 OF THE DEVELOPMENT COORDINATION MANUAL.
9. A PERPETUAL CROSS ACCESS INGRESS/EGRESS EASEMENT IS HEREBY ESTABLISHED AS SHOWN ON THIS PLAT.
10. THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, MODIFY OR DELETE ANY EROSION AND SEDIMENT CONTROL MEASURES AS THEY DEEM NECESSARY.
11. THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE AND OTHER ODORS, THE USE OF AGRICULTURAL CHEMICALS, AND NIGHTTIME FARMING OPERATIONS. THE USE AND ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON ACCEPTANCE OF ANY ANNOYANCE OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.
12. THE DEVELOPER SHALL ENTER INTO A SIGNAL AGREEMENT FOR THE INTERSECTION OF DELAWARE ROUTE 17 AND BURBAGE ROAD (SCR 353). THE DEVELOPER SHOULD ENTER THE SIGNAL AGREEMENT PRIOR TO ISSUANCE OF ENTRANCE PERMITS.
35. THE DEVELOPER SHALL CONTRIBUTE A MAXIMUM OF $250,000 TOWARD A SINGLE-LANE ROUNDABOUT ON DELAWARE ROUTE 17 AT ITS INTERSECTION WITH POWELL FARM ROAD AND PEPPERS CORNER ROAD (BOTH SUSSEX ROAD 365) IN THE FOLLOWING MANNER.
    a. 40% OF THE EQUITABLE SHARE CONTRIBUTION ($100,000.00) SHALL BE PAID TO THE DEPARTMENT PRIOR TO ISSUANCE OF THE 5TH RENTAL APARTMENT COMPLEX BUILDING (97TH UNIT).
    b. 40% OF THE EQUITABLE SHARE CONTRIBUTION ($100,000.00) SHALL BE PAID TO THE DEPARTMENT PRIOR TO ISSUANCE OF THE 7TH RENTAL APARTMENT COMPLEX BUILDING (145TH UNIT).
    c. THE REMAINING 20% OF THE EQUITABLE SHARE CONTRIBUTION ($50,000.00) SHALL BE PAID TO THE DEPARTMENT PRIOR TO THE 1ST CONVALESCENT CARE FACILITY BUILDING PERMIT.
36. IN THE ABSENCE OF AN ENGINEERED ESTIMATE, DELDOT ESTIMATES THAT THE ROUNDABOUT WILL COST $1,000,000 TO DESIGN AND CONSTRUCT. IF SUFFICIENT DEVELOPMENTS ARE PROPOSED TO FULLY FUND THE ROUNDABOUT PRIOR TO ITS BEING CONSTRUCTED, DELDOT WILL DIVIDE THE COST AMONG THE PARTICIPATING DEVELOPERS AND MAY REDUCE OR RETURN SOME OF THE $250,000 INITIAL CONTRIBUTION.



ROAD DATA
DELAWARE ROUTE 17 (ROXANA ROAD, SUSSEX ROAD D52)
FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

AADT (2019 DELAWARE VEHICLE VOLUME SUMMARY)	= 4,780
10 YR PROJECTED AADT = 1.16 X 4,780	= 5,545
10 YR PROJECTED AADT + SITE ADT NE OF SITE (606)	= 6,151
10 YR PROJECTED AADT + SITE ADT SW OF SITE (989)	= 6,534
PEAK HOUR = 11.77% X 5,545	= 653
DIRECTIONAL SPLIT = 56.51%/43.49%	= 369/284
10.55% TRUCKS X 653	= 69
SPEED - POSTED	50 MPH
TRAFFIC PATTERN GROUP -	8

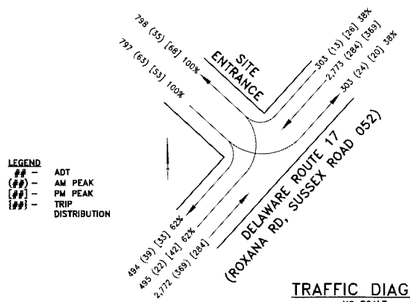
SITE ACCESS DESIGN VOLUMES
DELAWARE ROUTE 17: 2029 AADT (HIGHEST LEG PER HIGHWAY SAFETY MANUAL PAGE 10-6) = 6,534

RIGHT-TURN ADT:	= 303
LEFT-TURN PEAK HOUR VOLUME	= 42
OPPOSING PEAK HOUR VOLUMES	= 395

SITE TRIPS GENERATED

TYPE OF DEV.	ITE CODE	# OF UNITS	AM	PM	ADT
MULTI FAM MID-RISE	221	216	73	93	1,175
CON CARE CENTER	255	175	25	28	420
TOTAL SITE		391	98	121	1,595

NOTES:
-TRIP GENERATION BASED ON ITE TRIP GENERATION MANUAL, 10TH EDITION.
-DESIGN VEHICLE: SU-30.
-ONE (1) FULL SITE ACCESS PROPOSED.



TRAFFIC DIAGRAM
NO SCALE

DATA COLUMN

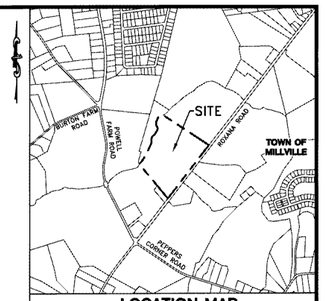
TAX MAP NUMBER:	1-34-15.00-93.01 1-34-15.00-93.02
DATUM:	VERTICAL NAVD 88 HORIZONTAL NAD 83 (DE STATE PLANE)
EXISTING ZONING:	MPC (MIXED-USE OVERLAY)
PROPOSED ZONING:	MPC (MIXED-USE OVERLAY)
LAND USE EXISTING: PROPOSED:	AGRICULTURAL RESIDENTIAL MULTI-FAMILY DWELLINGS 216 APARTMENT UNITS WITH CLUBHOUSE
EXISTING LOTS:	2
SITE AREA:	29.671 AC.±
OPEN SPACE:	10.063± ACRES (34%)
STORMWATER MANAGEMENT:	2.145± ACRES (7%)
EXISTING WETLANDS:	1.760± ACRES (6%)
PRIVATE ROADS & PARKING LOTS:	3.862± ACRES (13%)
BUILDING AREA:	2.394± ACRES (8%)
RESIDUAL LANDS:	9.093± ACRES (31%)
DEDICATED ROW:	0.354± ACRES (1%)
WETLANDS:	THIS PROPERTY IS IMPACTED BY WETLANDS
FLOOD HAZARD:	THIS PROPERTY IS NOT IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA MAP 10005C0495K, DATED MARCH 16, 2015
INVESTMENT LEVEL:	3
TID DISTANCE:	10.14 MILES ±
UNIT BREAKDOWN:	36 UNIT BUILDING (4 BUILDINGS) 15-ONE BEDROOM UNITS 21-TWO BEDROOM UNITS 24 UNIT BUILDING (3 BUILDINGS) 9-ONE BEDROOM UNITS 3-TWO BEDROOM UNITS 12-THREE BEDROOM UNITS
TOTAL UNITS:	87-ONE BEDROOM UNITS 93-TWO BEDROOM UNITS 36-THREE BEDROOM UNITS 216 TOTAL UNITS
PARKING: REQUIRED:	216 UNITS x 2/UNIT = 432 SPACES TOTAL REQUIRED SPACES = 432 BEFORE REDUCTION
PARKING REDUCTION:	432 SPACES - 43 SPACES (10%) = 389 SPACES
PROVIDED:	395 SPACES INCLUDING 18 HANDICAPPED ACCESSIBLE
LOT COVERAGE (IMPERVIOUS) MAX. PERMITTED: PROPOSED:	40 % 9.171 AC.± (31%)
UTILITIES PUBLIC SEWER (SUSSEX COUNTY, MILLVILLE SSD) PUBLIC WATER (TIDEWATER UTILITIES, INC.)	

OWNER/DEVELOPER:
DHIC-TUPELO SANDS, LLC.
By: DHI COMMUNITIES II, LLC, its sole member
1341 HORTON CIRCLE
ARLINGTON, TX 76011
(540) 273-2182

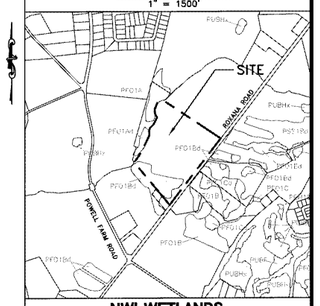
PREPARED BY:
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DE 19963
(302) 424-1441

INDEX OF SHEETS

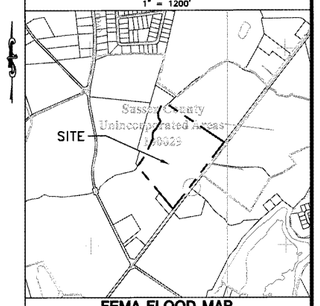
LEGEND
- PROPERTY BOUNDARY LINE
- EXISTING PROPERTY LINE
- PE PROPOSED PERMANENT EASEMENT
- ++ EXISTING EASEMENT
- PROPOSED BUILDING SETBACK LINE
- WOODSLINE
- EXISTING WETLANDS AREA



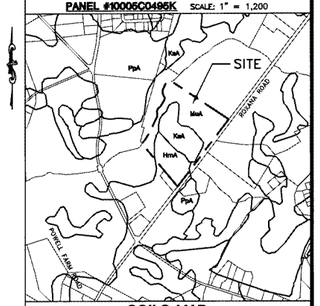
LOCATION MAP
1" = 1500'



NWI WETLANDS
1" = 1200'



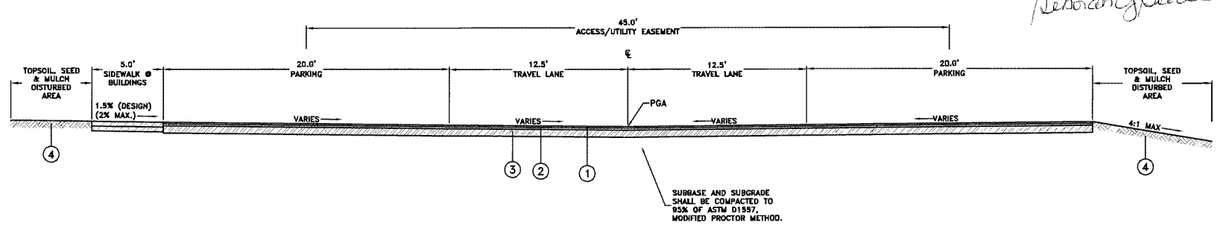
FEMA FLOOD MAP
PANEL #10005C0495K SCALE: 1" = 1,200



SOILS MAP
1" = 1,200'

SOILS DATA

LABEL	SOIL NAME	TYPE
MeA	MULLICA-BERRYLAND COMPLEX, 0-2% SLOPES	A/D
KeA	KLEJ LOAMY SAND, 0-2% SLOPES	A/D
HmA	HAMMONTON LOAMY SAND, 0-2% SLOPES	A/D
PpA	PEPPERBOX LOAMY SAND, 0-2% SLOPES	A



TYPICAL 25' WIDE RESIDENTIAL SECTION
SCALE: 1"=5'

1. TYPE 'C' BITUMINOUS CONCRETE SURFACE COURSE
2. TYPE 'B' BITUMINOUS CONCRETE BASE COURSE
3. GRADED AGGREGATE BASE COURSE
4. TOPSOIL (6" DEPTH), PERMANENT GRASS SEEDING, DRY GROUND

SEAL OF THE TOWN OF MILLVILLE
ESTABLISHED 1907
DELAWARE

Deborah G. Botchie

"THIS PLATTED AREA IS NOT WITHIN THE JURISDICTION OF THE COUNTY PLANNING AND ZONING COMMISSION" 2-9-2024 4 PAGES

THIS PLAN SUPERSEDES IN PART THE PREVIOUSLY RECORDED PLAN OF "TUPELO SANDS" PLOT BOOK 356, PAGE 50 WHICH WAS RECORDED ON NOVEMBER 22, 2021 AND PLOT BOOK 370, PAGE 27 WHICH WAS RECORDED ON MAY 27, 2022 IN THE OFFICE OF THE RECORDER OF DEEDS FOR SUSSEX COUNTY.

THE PURPOSE OF PLAN - REVISE NAME OF SUBDIVISION AND REVISION TO ACCESS/UTILITY EASEMENTS.

WETLANDS STATEMENT

I, EDWARD M. LAUNAY, PWS, STATE THAT THE BOUNDARIES OF WATERS OF THE UNITED STATES INCLUDING WETLANDS SUBJECT TO THE CORPS OF ENGINEERS REGULATORY PROGRAM DELINEATED UPON THIS PLAN HAVE BEEN DETERMINED USING MY PROFESSIONAL JUDGMENT IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, REGULATIONS AND SUPPLEMENTAL GUIDANCE (33 CFR 328.3(A)(8),WATERS OF THE U.S. DEFINITION/CECW-OR, 10-7-1991, QUESTIONS AND ANSWERS ON THE 1987 COE MANUAL/CECW-OR, 9-26-1990, RGL 90-7/CECW-OR, 3-6-1992, CLARIFICATION AND INTERPRETATION OF THE 1987 MANUAL). THIS DELINEATION HAS NOT BEEN CONDUCTED FOR USDA PROGRAM OR AGRICULTURAL PURPOSES.

IN ACCORDANCE WITH DNREC TIDAL WETLAND MAPS, THERE ARE NO STATE REGULATED WETLANDS ON THE SITE.

EDWARD M. LAUNAY, PWS NO. 875 — 01-30-2024 DATE
SOCIETY OF WETLANDS SCIENTISTS
CORPS OF ENGINEERS, CERTIFIED WETLAND DELINEATOR WDCP93MD05100368

OWNER/DEVELOPER STATEMENT

I, THE UNDERSIGNED, HEREBY STATE THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THE PLAN WAS MADE AT MY DIRECTION, I ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN BE RECORDED ACCORDING TO LAW.

DHIC-TUPELO SANDS, LLC. — 01-30-2024 DATE
By: DHI COMMUNITIES II, LLC, its sole member
1341 HORTON CIRCLE
ARLINGTON, TX 76011

ENGINEER'S STATEMENT

I, JAMIE L. SECHLER, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

JAMIE L. SECHLER
No. 17325
REGISTERED ENGINEER

by JAMIE L. SECHLER, P.E. — JAN 30 2024 DATE
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE 19963

R-101

dbf
DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS
MILFORD, DELAWARE (302) 424-1441

Document# 2024000004618 BK: 419 PG: 63
Recorder of Deeds, Alexandra Reed Baker On 2/9/2024 at 3:42:22 PM Sussex County, DE
Doc Surcharge Paid

TAX PARCEL #1-34-15.00-93.01 ACCESS/UTILITY EASEMENT LINE TABLE (162,062 S.F., 3.720 AC.)

LINE	BEARING	DISTANCE
L1	N 52°37'14" W	57.52'
L2	S 37°36'30" W	358.42'
L3	S 17°45'10" E	55.19'
L4	S 37°37'27" W	600.40'
L5	N 39°48'19" W	20.49'
L6	N 37°37'27" E	585.44'
L7	N 17°45'10" W	34.58'
L8	N 79°50'22" W	55.92'
L9	S 10°09'38" W	29.50'
L10	N 79°50'23" W	20.00'
L11	N 10°09'38" E	29.50'
L12	N 79°50'22" W	78.15'
L13	S 10°09'38" W	25.00'
L14	N 79°50'23" W	20.00'
L15	N 10°09'38" E	25.00'
L16	N 79°50'22" W	184.52'
L17	S 10°09'38" W	29.50'
L18	N 79°50'37" W	20.00'
L19	N 10°09'38" E	29.50'
L20	N 79°50'22" W	73.15'
L21	S 10°09'38" W	25.00'
L22	N 79°50'26" W	20.00'
L23	N 10°09'38" E	25.00'
L24	N 79°50'22" W	94.23'
L25	N 28°08'42" W	25.51'
L26	S 68°30'40" W	33.20'
L27	N 88°59'20" W	27.52'
L28	N 66°29'20" W	28.76'
L29	N 23°30'40" E	20.00'
L30	S 66°29'20" E	24.79'
L31	S 88°59'20" E	19.57'
L32	N 68°30'40" E	12.49'
L33	N 59°10'51" E	14.32'
L34	N 28°08'42" W	38.94'
L35	N 23°30'39" E	41.24'
L36	N 66°29'21" W	25.00'
L37	N 23°30'36" E	20.00'
L38	S 66°29'21" E	25.00'
L39	N 23°30'59" E	117.40'
L40	N 28°30'39" E	53.99'
L41	N 61°29'21" W	29.50'
L42	N 28°30'39" E	20.00'
L43	S 61°29'21" E	29.50'
L44	N 28°30'39" E	88.00'
L45	N 61°29'21" W	25.00'
L46	N 28°30'36" E	20.00'
L47	S 61°29'21" E	25.00'
L48	N 28°30'39" E	139.37'
L49	N 16°31'27" E	61.99'
L50	S 73°28'33" E	45.00'
L51	S 16°31'27" W	58.89'
L52	S 61°29'21" E	29.40'
L53	S 73°28'33" E	508.09'
L54	S 11°46'32" E	37.86'
L55	S 34°39'44" E	45.16'
L56	N 78°13'28" E	36.23'
L57	N 10°24'34" W	42.83'
L58	S 73°22'41" E	185.08'
L59	S 37°37'27" W	176.74'
L60	S 11°46'32" E	7.84'
L61	S 37°36'30" W	59.84'
L62	N 52°23'30" W	39.22'
L63	S 37°36'30" W	24.18'
L64	S 52°23'31" E	12.93'
L65	S 37°36'30" W	10.23'
L66	S 52°23'30" E	5.79'
L67	S 37°36'28" W	2.27'
L68	S 52°23'30" E	20.50'
L69	S 37°36'30" W	47.23'
L70	N 52°23'30" W	21.75'
L71	S 37°36'30" W	20.00'
L72	S 52°23'30" E	21.75'
L73	S 37°36'30" W	77.44'
L74	S 78°33'48" W	51.12'
L75	N 79°50'22" W	502.18'
L76	N 28°08'42" W	103.76'
L77	N 23°30'39" E	145.17'
L78	N 28°30'39" E	269.64'
L79	S 73°28'33" E	116.01'
L80	S 16°38'34" W	16.75'
L81	S 73°28'34" E	20.00'
L82	N 16°38'34" E	16.75'
L83	S 73°28'33" E	47.31'
L84	S 16°31'27" W	15.50'
L85	S 73°28'33" E	2.27'
L86	S 16°31'27" W	5.79'
L87	S 73°28'33" E	17.73'
L88	N 16°51'27" E	21.29'
L89	S 73°28'33" E	173.43'

TAX PARCEL #1-34-15.00-93.01 ACCESS/UTILITY EASEMENT LINE TABLE (162,062 S.F., 3.720 AC.)

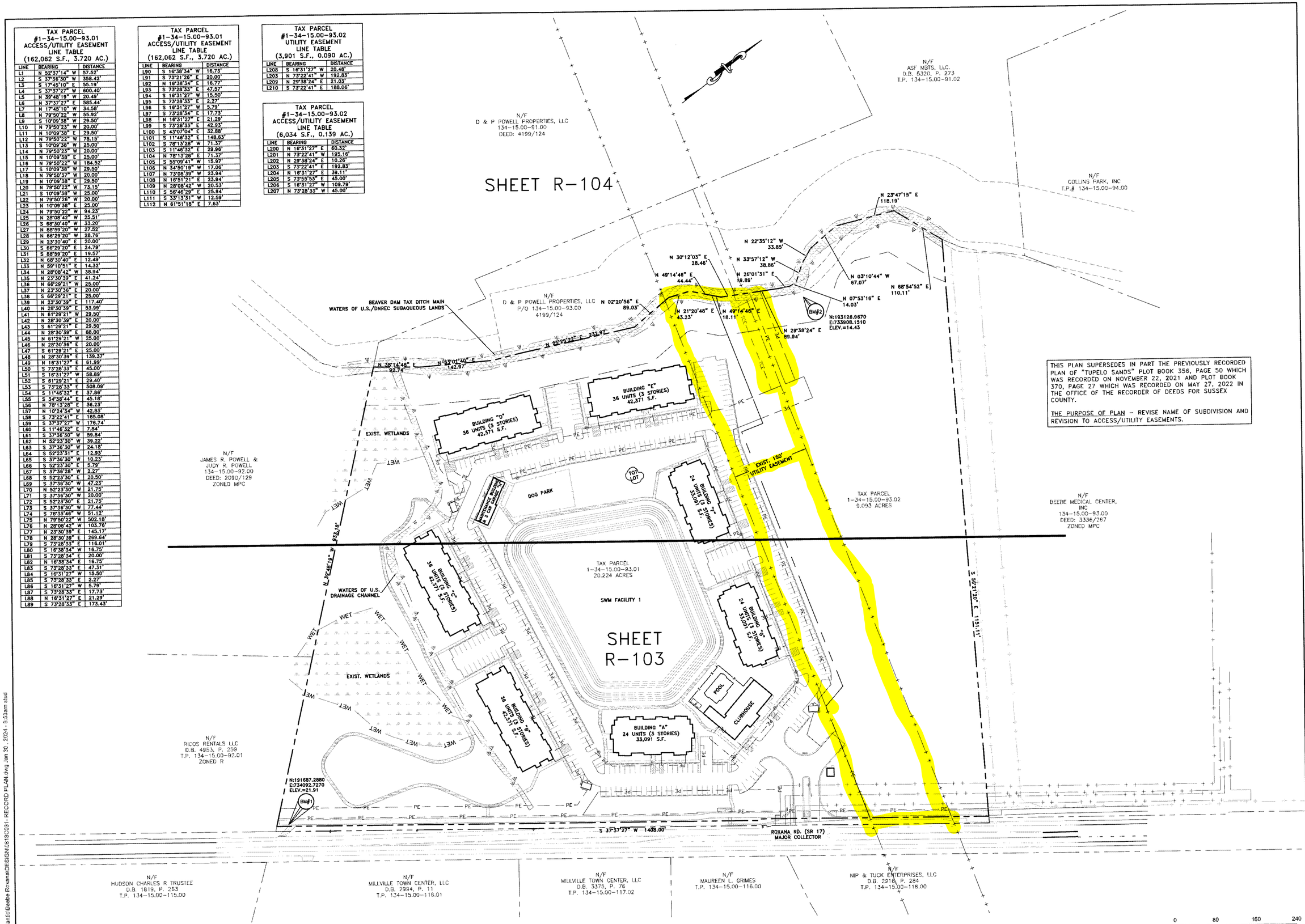
LINE	BEARING	DISTANCE
L90	S 16°38'34" W	16.75'
L91	S 73°21'26" E	20.00'
L92	N 16°38'34" E	16.77'
L93	S 73°28'33" E	47.57'
L94	S 16°31'27" W	15.50'
L95	S 73°28'33" E	2.27'
L96	S 16°31'27" W	5.79'
L97	S 73°28'34" E	17.73'
L98	N 16°51'27" E	21.29'
L99	S 73°28'33" E	42.93'
L100	S 43°07'04" E	32.88'
L101	S 11°46'32" E	148.63'
L102	S 78°13'28" W	71.37'
L103	S 11°46'32" E	29.96'
L104	N 78°13'28" E	71.37'
L105	S 55°09'41" W	15.97'
L106	N 34°50'19" W	17.06'
L107	N 73°08'39" W	23.94'
L108	N 16°51'21" E	23.94'
L109	N 28°08'42" W	20.53'
L110	S 56°46'29" E	25.94'
L111	S 33°13'51" W	12.59'
L112	N 61°51'18" E	7.63'

TAX PARCEL #1-34-15.00-93.02 UTILITY EASEMENT LINE TABLE (3,901 S.F., 0.090 AC.)

LINE	BEARING	DISTANCE
L208	S 16°31'27" W	20.48'
L203	N 73°22'41" W	192.83'
L209	N 29°38'24" E	21.03'
L210	S 73°22'41" E	188.06'

TAX PARCEL #1-34-15.00-93.02 ACCESS/UTILITY EASEMENT LINE TABLE (6,034 S.F., 0.139 AC.)

LINE	BEARING	DISTANCE
L200	N 16°31'27" E	60.32'
L201	N 73°22'41" W	195.16'
L202	N 29°38'24" E	10.26'
L203	S 73°22'41" E	192.83'
L204	N 16°31'27" E	39.11'
L205	S 73°55'55" E	45.00'
L206	S 16°31'27" W	109.79'
L207	N 73°28'33" W	45.00'



THIS PLAN SUPERSEDES IN PART THE PREVIOUSLY RECORDED PLAN OF "TUPELO SANDS" PLOT BOOK 356, PAGE 50 WHICH WAS RECORDED ON NOVEMBER 22, 2021 AND PLOT BOOK 370, PAGE 27 WHICH WAS RECORDED ON MAY 27, 2022 IN THE OFFICE OF THE RECORDER OF DEEDS FOR SUSSEX COUNTY.

THE PURPOSE OF PLAN – REVISE NAME OF SUBDIVISION AND REVISION TO ACCESS/UTILITY EASEMENTS.

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
DOVER, DELAWARE (302) 734-7950

RECORD PLAN OVERVIEW

ASCEND BY THE SEA
TOWN OF MILLVILLE
SUSSEX COUNTY, DELAWARE

Revisions:
1-28-22 SITE REDESIGN
2-18-22 SITE REDESIGN
2-25-22 SITE REDESIGN
3-09-22 TIDEWATER & SCE COMMENTS
5-13-22 TIDEWATER
8-29-22 TIDEWATER
1-30-24 REVISED SUBDIVISION NAME AND ACCESS/UTILITY EASEMENT

Date:	JANUARY 2022
Scale:	1"=80'
Dwn.By:	DJR
Proj.No.:	0818C031
Dwg.No.:	R-102

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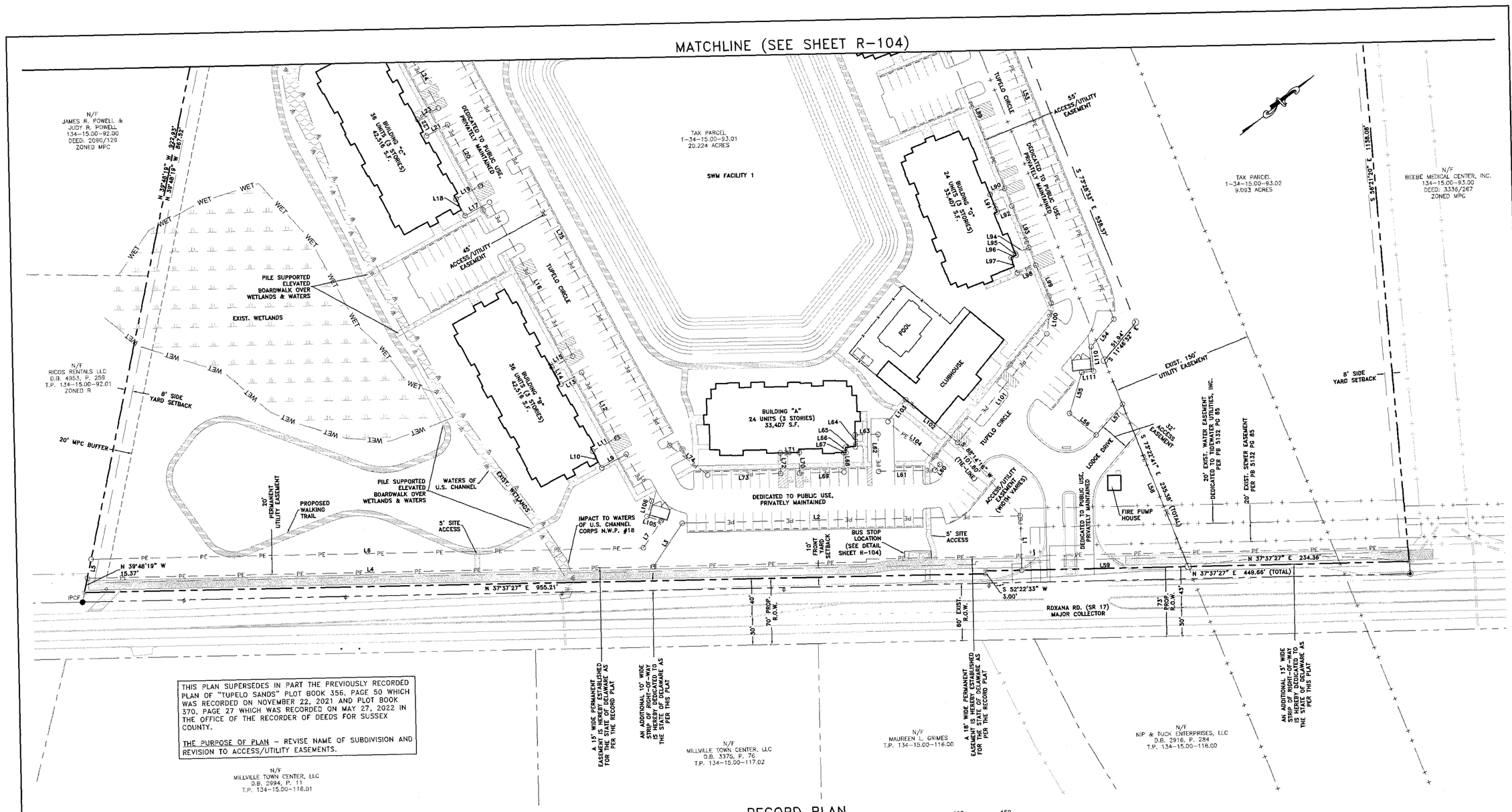
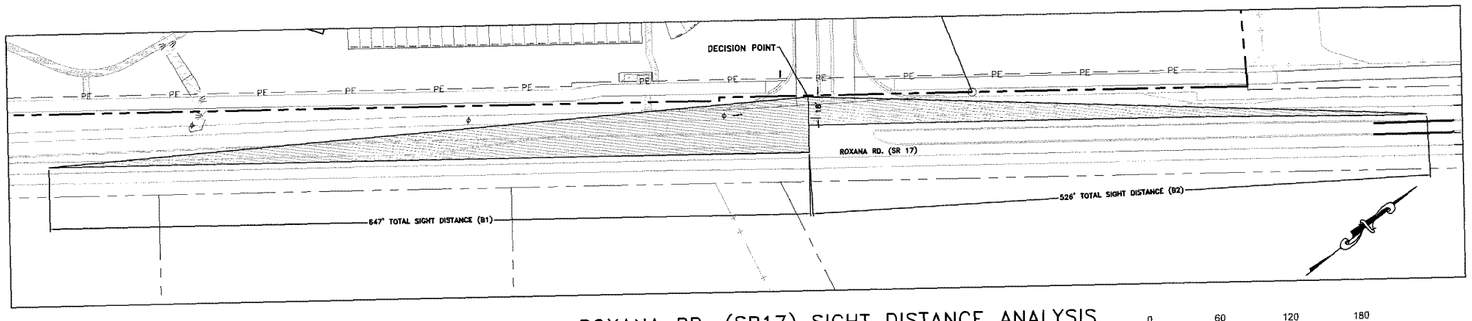
Document# 2024000004618 BK: 419 PG: 64
Recorder of Deeds, Alexandra Reed Baker On 2/9/2024 at 3:42:22 PM Sussex County, DE
Doc Surcharge Paid



RECORD PLAN
SCALE: 1"=50'
0 50 100 150



ROXANA RD. (SR17) SIGHT DISTANCE ANALYSIS
SCALE: 1"=60'
0 60 120 180

Roxana Rd. (SR 17) Entrance Intersection Sight Distance	
Total Number of Travel Lanes	2
Number of Near Travel Lanes Crossed (Left Turn)*	1
Number of Travel Lanes Crossed (Right Turn)**	0
Median +/or Turning Lane Width	8'-12'
Posted Speed Limit	50
Design Speed	55
Highway Grade (Moving Left to Right)	1.0%
Minor Road Approach Grade	0.5%

Left Turn from Minor Road (Case B1)	
From Chart	610
ISD = 1.47 x Vmajor x Tg	646.8
Multi Lane Adjustment for Tg	0.50
Minor Road Approach Adjustment	0
Adjustment Factor	1.00
Time Gap	8.0
ISD With Adjustments	647
Right Turn from Minor Road (Case B2)	
From Chart	530
ISD = 1.47 x Vmajor x Tg	525.53
Multi Lane Adjustment for Tg	0.00
Minor Road Approach Adjustment	0
Adjustment Factor	1.00
Time Gap	6.5
ISD With Adjustments	526

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

RECORD PLAN

ASCEND BY THE SEA
TOWN OF MILLVILLE
SUSSEX COUNTY, DELAWARE

Revisions:
1-28-22 SITE REDESIGN
2-15-22 SITE REDESIGN
2-25-22 SITE REDESIGN
3-09-22 TIDEWATER & SCE COMMENTS
5-13-22 TIDEWATER
6-28-22 TIDEWATER
1-30-24 REVISED SUBDIVISION NAME AND ACCESS/UTILITY EASEMENT

Date: JANUARY 2022
Scale: AS NOTED
Dwn.By: DJR
Proj.No.: 0818C031
Dwg.No.: R-103

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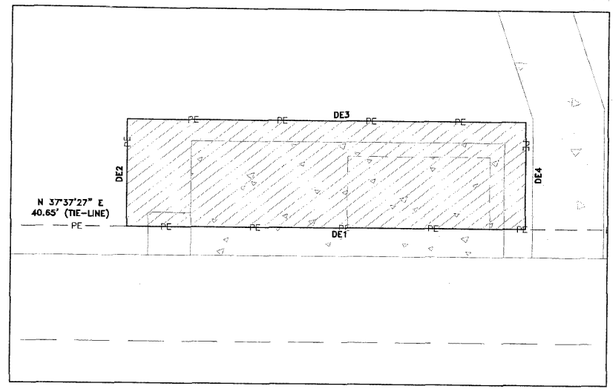

BUS STOP EASEMENT PLAN

SCALE: 1"=5'

0 5 10 15

PROPOSED BUS STOP EASEMENT LINE TABLE (210 S.F., 0.005 AC.)

LINE	BEARING	DISTANCE
DE1	S 37°37'27" W	28.00'
DE2	N 52°22'33" W	7.50'
DE3	N 37°37'27" E	28.00'
DE4	S 52°22'33" E	7.50'

THIS PLAN SUPERSEDES IN PART THE PREVIOUSLY RECORDED PLAN OF "TUPELO SANDS" PLOT BOOK 356, PAGE 50 WHICH WAS RECORDED ON NOVEMBER 22, 2021 AND PLOT BOOK 370, PAGE 27 WHICH WAS RECORDED ON MAY 27, 2022 IN THE OFFICE OF THE RECORDER OF DEEDS FOR SUSSEX COUNTY.

THE PURPOSE OF PLAN – REVISE NAME OF SUBDIVISION AND REVISION TO ACCESS/UTILITY EASEMENTS.

N/F
DONALD POWELL PROPERTIES, LLC.
D.B. 4199, P. 124
T.P. 134-15.00-91.00
ZONED AR

N/F
ASF MBTS LLC.
D.B. 5320, P. 273
T.P. 134-15.00-91.02

N/F
DONALD A. POWELL, TRUSTEE
PAULA C. POWELL, TRUSTEE
P/O 134-15.00-93.00
CORRECTIVE DEED: 3495/195

N/F
JAMES R. POWELL &
JUDY R. POWELL
134-15.00-92.00
DEED: 2090/129
ZONED MPC

N/F
BEEBE MEDICAL CENTER, INC.
134-15.00-93.00
DEED: 3335/267
ZONED MPC

TAX PARCEL
1-34-15.00-93.01
20.224 ACRES

TAX PARCEL
1-34-15.00-93.02
9.093 ACRES

WATERS OF U.S./DNREC SUBAQUEOUS LANDS
WATERS OF U.S. CHANNEL
EXIST. WETLANDS
BEAVER DAM CANAL TAX DITCH MAIN
TAX DITCH TOP OF BANK
120' TAX DITCH R.O.W.
75' TAX DITCH BUFFER
20' MPC BUFFER
45' REAR SETBACK
8' SIDE YARD SETBACK
PILE SUPPORTED ELEVATED BOARDWALK OVER WATERS
TUPELO CIRCLE
DOG PARK
TOT LOT
BUILDING "D"
36 UNITS (3 STORIES)
42,516 S.F.
BUILDING "E"
36 UNITS (3 STORIES)
42,516 S.F.
BUILDING "F"
24 UNITS (3 STORIES)
35,407 S.F.
MAINTENANCE BUILDING & 3 CAR GARAGE
DEDICATED TO PUBLIC USE, PRIVATELY MAINTAINED
45' ACCESS/UTILITY EASEMENT
55' ACCESS/UTILITY EASEMENT
EXIST. 150' UTILITY EASEMENT
20' TEMPORARY CONSTRUCTION EASEMENT FOR SUSSEX COUNTY
10' PERMANENT UTILITY EASEMENT
20' PERMANENT UTILITY EASEMENT DEDICATED TO TIDEWATER UTILITIES, INC.
45' PERMANENT DRAINAGE AND UTILITY EASEMENT
PROPOSED PROPERTY LINE
IPF
IPCF

N 39°48'19" W 922.85'
N 39°48'19" W 867.52'
N 38°14'48" E 92.74'
N 33°01'40" E 142.97'
N 25°29'22" E 232.97'
N 02°30'38" W 59.03'
N 21°20'48" E 43.23'
N 30°12'03" E 28.46'
N 49°14'46" E 44.44'
N 49°14'46" E 18.11'
S 73°28'33" E 271.24' (TOTAL)
S 73°28'33" E 215.81'
S 73°28'33" E 538.37'
S 56°21'20" E 1138.08'
N 03°10'44" W 67.07'
N 23°47'15" E 118.19'
N 68°54'52" E 110.11'
N 22°35'12" W 33.85'
N 33°57'12" W 38.86'
N 28°38'24" E 89.94' (TOTAL)
N 26°01'31" E 19.89'
N 07°53'16" E 14.03'
10.42'
45.00' N 16°31'27" W

TAX PARCEL
#1-34-15.00-93.02
UTILITY EASEMENT
LINE TABLE
(3,901 S.F., 0.090 AC.)

LINE	BEARING	DISTANCE
L208	S 16°31'27" W	20.48'
L203	N 73°22'41" W	192.83'
L209	N 29°38'24" E	21.03'
L210	S 73°22'41" E	188.06'

TAX PARCEL
#1-34-15.00-93.02
ACCESS/UTILITY EASEMENT
LINE TABLE
(6,034 S.F., 0.139 AC.)

LINE	BEARING	DISTANCE
L200	N 16°31'27" E	60.32'
L201	N 73°22'41" W	195.16'
L202	N 29°38'24" E	10.26'
L203	S 73°22'41" E	192.83'
L204	N 16°31'27" E	39.11'
L205	S 73°55'53" E	45.00'
L206	S 16°31'27" W	109.79'
L207	N 73°28'53" W	45.00'

MATCHLINE (SEE SHEET R-103)

0 50 100 150

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JAMIE C. BECHLER REGISTERED PROFESSIONAL ENGINEER NO. 17351 DELAWARE JAN 30 2024

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

RECORD PLAN

ASCEND BY THE SEA
TOWN OF MILLVILLE
SUSSEX COUNTY, DELAWARE

Revisions:
1-28-22 SITE REDESIGN
2-18-22 SITE REDESIGN
2-25-22 SITE REDESIGN
3-09-22 TIDEWATER & SCE COMMENTS
5-13-22 TIDEWATER
6-28-22 TIDEWATER
1-30-24 REVISED SUBDIVISION NAME AND ACCESS/UTILITY EASEMENT

Date: JANUARY 2022
Scale: AS NOTED
Dwn.By: DJR
Proj.No.: 0818C031
Dwg.No.: R-104

23818 Shortly Road
Georgetown, DE 19947
302-856-2105
www.sussexconservation.org

APPLICATION FOR STANDARD PLAN APPROVAL

MINOR LINEAR UTILITY DISTURBANCES

Applicability Criteria

1. Disturbance will be for linear utility construction, having a maximum width of disturbance of 40 feet.
2. One of the following is met:
   a. Total disturbance is 1.0 acre or less; or
   b. Total disturbance is 5.0 acres or less, and
      i. No greater than 1.0 acre will be disturbed at any time throughout the course of construction, and
      ii. Land cover will be restored to the pre-construction hydrologic condition. In the case of forest clearing, land cover will be restored to an equivalent meadow condition.

Site Information

Site Location (911 Address or road name with distance to nearest intersection): 29535 Piney Neck Rd. Dagsboro, DE 19939
Approximate coordinate location of project start: 38.559160, -75.234693

Width of disturbed area (feet): 30 feet
Length of disturbed area (feet): 4884 feet
Length of disturbed area (miles): 0.92 miles
Total Disturbed Acres (nearest 0.1ac): 4.41
Proposed Impervious Area (square feet): 58.8 sqft
Wooded area to be cleared: 55,694 sqft

Applicant Information

Owner: MICHAEL HARMER, COUNTY ENGINEER SUSSEX COUNTY
Mailing Address: SUSSEX COUNTY ADMINISTRATIVE OFFICE BUILDING, 3RD FLOOR 2 THE CIRCLE, P.O. BOX 589 GEORGETOWN, DE 19947
Owner Phone: 302-855-7718
Owner Email: mike.harmer@sussexcountyde.gov

Applicant: PHILLIP DIECKMANN, PE GHD Inc
Mailing Address: 16701 MELFORD BOULEVARD, SUITE 221 BOWIE MD 20715
Applicant Phone: 803-582-8642
Applicant Email: phillip.dieckmann@ghd.com

Approval Information (for office use only)

Approval #: 2025-969
Fee Paid: $ 630.00
Approved by: [signature]
Approval Date: 11/19/2025
Title: Program Manager
Expiration Date: 11/19/2030

Standard Conditions:

1. Stabilization with seed and mulch or seed and stabilization matting will occur daily so that no greater than one acre will be disturbed at any one time.
2. Construction through sensitive areas, including stream and wetland crossings, will be accomplished through directional drilling, with land disturbance happening outside of the sensitive area.
3. Construction site stormwater management best management practices will be used.
4. Construction projects exceeding 1.0 acre of total disturbance require submittal of a Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity. A plan fulfilling Stormwater Pollution Prevention Plan (SWPPP) requirements must be developed to obtain general permit coverage for Stormwater Discharges Associated with Construction Activity (see attachment).
5. Approval of this Standard Plan does not relieve the applicant from complying with any and all federal, state, county or municipal laws and regulations.

Stabilization Conditions

1. Following initial soil disturbance or redisturbance, temporary or permanent stabilization with seed and mulch shall be completed within 14 calendar days to the surface of all disturbed areas not actively under construction.
2. Specific stabilization recommendations may be found in the Delaware Erosion and Sediment Control Handbook, 3.4.3 Standard and Specifications for Vegetative Stabilization.

Applicant Certification

I, the undersigned, certify that the information supplied on this Application for Standard Plan Approval is accurate, the proposed land disturbing activity meets the criteria established, and all conditions of this Standard Plan Approval will be met by the applicant, contractor, and owner during construction and post construction.

Applicant Signature: _____ Date: 09/03/2025

Applicant Printed Name: Phillip Dieckmann Title: Technical Director, GHD Inc

*****THIS STANDARD PLAN APPLICATION FORM MUST BE MAINTAINED ON THE SITE AT ALL TIMES DURING CONSTRUCTION*****

23818 Shortly Road
Georgetown, DE 19947
302-856-2105
www.sussexconservation.org

APPLICATION FOR STANDARD PLAN APPROVAL

MINOR LINEAR UTILITY DISTURBANCES

Applicability Criteria

1. Disturbance will be for linear utility construction, having a maximum width of disturbance of 40 feet.
2. One of the following is met:
   a. Total disturbance is 1.0 acre or less; or
   b. Total disturbance is 5.0 acres or less, and
      i. No greater than 1.0 acre will be disturbed at any time throughout the course of construction, and
      ii. Land cover will be restored to the pre-construction hydrologic condition. In the case of forest clearing, land cover will be restored to an equivalent meadow condition.

Site Information

Site Location (911 Address or road name with distance to nearest intersection): Approx. 235 ft Northeast of Herring Wood Dr.
Approximate coordinate location of project start: 38.548194, -75.220441

Width of disturbed area (feet): 30 feet
Length of disturbed area (feet): 6717 feet
Length of disturbed area (miles): 1.27

Total Disturbed Acres (nearest 0.1ac): 4.64
Proposed Impervious Area (square feet): 58.8 sqft
Wooded area to be cleared: 86,605 sqft

Applicant Information

Owner: MICHAEL HARMER, COUNTY ENGINEER SUSSEX COUNTY
Mailing Address: SUSSEX COUNTY ADMINISTRATIVE OFFICE BUILDING, 3RD FLOOR 2 THE CIRCLE, P.O. BOX 589 GEORGETOWN, DE 19947
Owner Phone: 302-855-7718
Owner Email: mike.harmer@sussexcountyde.gov

Applicant: PHILLIP DIECKMANN, PE GHD Inc
Mailing Address: 16701 MELFORD BOULEVARD, SUITE 221 BOWIE MD 20715
Applicant Phone: 803-582-8642
Applicant Email: phillip.dieckmann@ghd.com

Approval Information (for office use only)

Approval # 2025-970
Approved by: [signature]
Title: Program Manager

Fee Paid: $ 630.00
Approval Date: 11/19/2025
Expiration Date: 11/19/2030

Standard Conditions:

1. Stabilization with seed and mulch or seed and stabilization matting will occur daily so that no greater than one acre will be disturbed at any one time.
2. Construction through sensitive areas, including stream and wetland crossings, will be accomplished through directional drilling, with land disturbance happening outside of the sensitive area.
3. Construction site stormwater management best management practices will be used.
4. Construction projects exceeding 1.0 acre of total disturbance require submittal of a Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity. A plan fulfilling Stormwater Pollution Prevention Plan (SWPPP) requirements must be developed to obtain general permit coverage for Stormwater Discharges Associated with Construction Activity (see attachment).
5. Approval of this Standard Plan does not relieve the applicant from complying with any and all federal, state, county or municipal laws and regulations.

Stabilization Conditions

1. Following initial soil disturbance or redisturbance, temporary or permanent stabilization with seed and mulch shall be completed within 14 calendar days to the surface of all disturbed areas not actively under construction.
2. Specific stabilization recommendations may be found in the Delaware Erosion and Sediment Control Handbook, 3.4.3 Standard and Specifications for Vegetative Stabilization.

Applicant Certification

I, the undersigned, certify that the information supplied on this Application for Standard Plan Approval is accurate, the proposed land disturbing activity meets the criteria established, and all conditions of this Standard Plan Approval will be met by the applicant, contractor, and owner during construction and post construction.

Applicant Signature: _____ Date: 09/03/2025

Applicant Printed Name: Phillip Dieckmann Title: Technical Director, GHD Inc

*****THIS STANDARD PLAN APPLICATION FORM MUST BE MAINTAINED ON THE SITE AT ALL TIMES DURING CONSTRUCTION*****

23818 Shortly Road
Georgetown, DE 19947
302-856-2105
www.sussexconservation.org

APPLICATION FOR STANDARD PLAN APPROVAL

MINOR LINEAR UTILITY DISTURBANCES

Applicability Criteria

1. Disturbance will be for linear utility construction, having a maximum width of disturbance of 40 feet.
2. One of the following is met:
   a. Total disturbance is 1.0 acre or less; or
   b. Total disturbance is 5.0 acres or less, and
      i. No greater than 1.0 acre will be disturbed at any time throughout the course of construction, and
      ii. Land cover will be restored to the pre-construction hydrologic condition. In the case of forest clearing, land cover will be restored to an equivalent meadow condition.

Site Information

Site Location (911 Address or road name with distance to nearest intersection): Approximate coordinate location of project start: 38.540735, -75.192121 Approx.1,000 ft northwest of Wingate Road, at a point 1,300 feet northwest of the Wingate and Omar Rd intersection

Width of disturbed area (feet): 30 feet

Length of disturbed area (feet): 6764 feet

Length of disturbed area (miles): 1.28

Total Disturbed Acres (nearest 0.1ac): 4.99

Proposed Impervious Area (square feet): 98 sqft

Wooded area to be cleared: 58,038 sqft

Applicant Information

Owner: MICHAEL HARMER, COUNTY ENGINEER SUSSEX COUNTY

Mailing Address: SUSSEX COUNTY ADMINISTRATIVE OFFICE BUILDING, 3RD FLOOR 2 THE CIRCLE, P.O. BOX 589 GEORGETOWN, DE 19947

Owner Phone: 302-855-7718

Owner Email: mike.harmer@sussexcountyde.gov

Applicant: PHILLIP DIECKMANN, PE GHD Inc

Mailing Address: 16701 MELFORD BOULEVARD, SUITE 221 BOWIE MD 20715

Applicant Phone: 803-582-8642

Applicant Email: phillip.dieckmann@ghd.com

Approval Information (for office use only)

Approval # 2025-971

Fee Paid: $ 630.00

Approved by: [signature]

Approval Date: 11/19/2025

Title: Program Manager

Expiration Date: 11/19/2030

Standard Conditions:

1. Stabilization with seed and mulch or seed and stabilization matting will occur daily so that no greater than one acre will be disturbed at any one time.
2. Construction through sensitive areas, including stream and wetland crossings, will be accomplished through directional drilling, with land disturbance happening outside of the sensitive area.
3. Construction site stormwater management best management practices will be used.
4. Construction projects exceeding 1.0 acre of total disturbance require submittal of a Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity. A plan fulfilling Stormwater Pollution Prevention Plan (SWPPP) requirements must be developed to obtain general permit coverage for Stormwater Discharges Associated with Construction Activity (see attachment).
5. Approval of this Standard Plan does not relieve the applicant from complying with any and all federal, state, county or municipal laws and regulations.

Stabilization Conditions

1. Following initial soil disturbance or redisturbance, temporary or permanent stabilization with seed and mulch shall be completed within 14 calendar days to the surface of all disturbed areas not actively under construction.
2. Specific stabilization recommendations may be found in the Delaware Erosion and Sediment Control Handbook, 3.4.3 Standard and Specifications for Vegetative Stabilization.

Applicant Certification

I, the undersigned, certify that the information supplied on this Application for Standard Plan Approval is accurate, the proposed land disturbing activity meets the criteria established, and all conditions of this Standard Plan Approval will be met by the applicant, contractor, and owner during construction and post construction.

Applicant Signature: _____ Date: 09/03/2025

Applicant Printed Name: Phillip Dieckmann Title: Technical Director, GHD Inc

*****THIS STANDARD PLAN APPLICATION FORM MUST BE MAINTAINED ON THE SITE AT ALL TIMES DURING CONSTRUCTION*****

23818 Shortly Road
Georgetown, DE 19947
302-856-2105
www.sussexconservation.org

APPLICATION FOR STANDARD PLAN APPROVAL

MINOR LINEAR UTILITY DISTURBANCES

Applicability Criteria

1. Disturbance will be for linear utility construction, having a maximum width of disturbance of 40 feet.
2. One of the following is met:
   a. Total disturbance is 1.0 acre or less; or
   b. Total disturbance is 5.0 acres or less, and
      i. No greater than 1.0 acre will be disturbed at any time throughout the course of construction, and
      ii. Land cover will be restored to the pre-construction hydrologic condition. In the case of forest clearing, land cover will be restored to an equivalent meadow condition.

Site Information

Site Location (911 Address or road name with distance to nearest intersection): Approximate coordinate location of project start: 38.533098, -75.158679 Approx.2,400 ft northwest of Burton Farm Road, at a point 435 feet southwest of the Burton Farm and Powell Farm Rd Intersection

Width of disturbed area (feet): 30 feet

Length of disturbed area (feet): 5908 feet

Length of disturbed area (miles): 1.11 miles

Total Disturbed Acres (nearest 0.1ac): 2.15

Proposed Impervious Area (square feet): 58.8 sqft

Wooded area to be cleared: 14,399 sqft

Applicant Information

Owner: MICHAEL HARMER, COUNTY ENGINEER SUSSEX COUNTY

Mailing Address: SUSSEX COUNTY ADMINISTRATIVE OFFICE BUILDING, 3RD FLOOR 2 THE CIRCLE, P.O. BOX 589 GEORGETOWN, DE 19947

Owner Phone: 302-855-7718

Owner Email: mike.harmer@sussexcountyde.gov

Applicant: PHILLIP DIECKMANN, PE GHD Inc

Mailing Address: 16701 MELFORD BOULEVARD, SUITE 221 BOWIE MD 20715

Applicant Phone: 803-582-8642

Applicant Email: phillip.dieckmann@ghd.com

Approval Information (for office use only)

Approval # 2025-972 **Fee Paid: $** 630.00

Approved by: [signature] **Approval Date:** 11/19/2025

Title: Program Manager **Expiration Date:** 11/19/2030

Standard Conditions:

1. Stabilization with seed and mulch or seed and stabilization matting will occur daily so that no greater than one acre will be disturbed at any one time.
2. Construction through sensitive areas, including stream and wetland crossings, will be accomplished through directional drilling, with land disturbance happening outside of the sensitive area.
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Stabilization Conditions

1. Following initial soil disturbance or redisturbance, temporary or permanent stabilization with seed and mulch shall be completed within 14 calendar days to the surface of all disturbed areas not actively under construction.
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Applicant Certification

I, the undersigned, certify that the information supplied on this Application for Standard Plan Approval is accurate, the proposed land disturbing activity meets the criteria established, and all conditions of this Standard Plan Approval will be met by the applicant, contractor, and owner during construction and post construction.

Applicant Signature: _____ Date: 09/03/2025

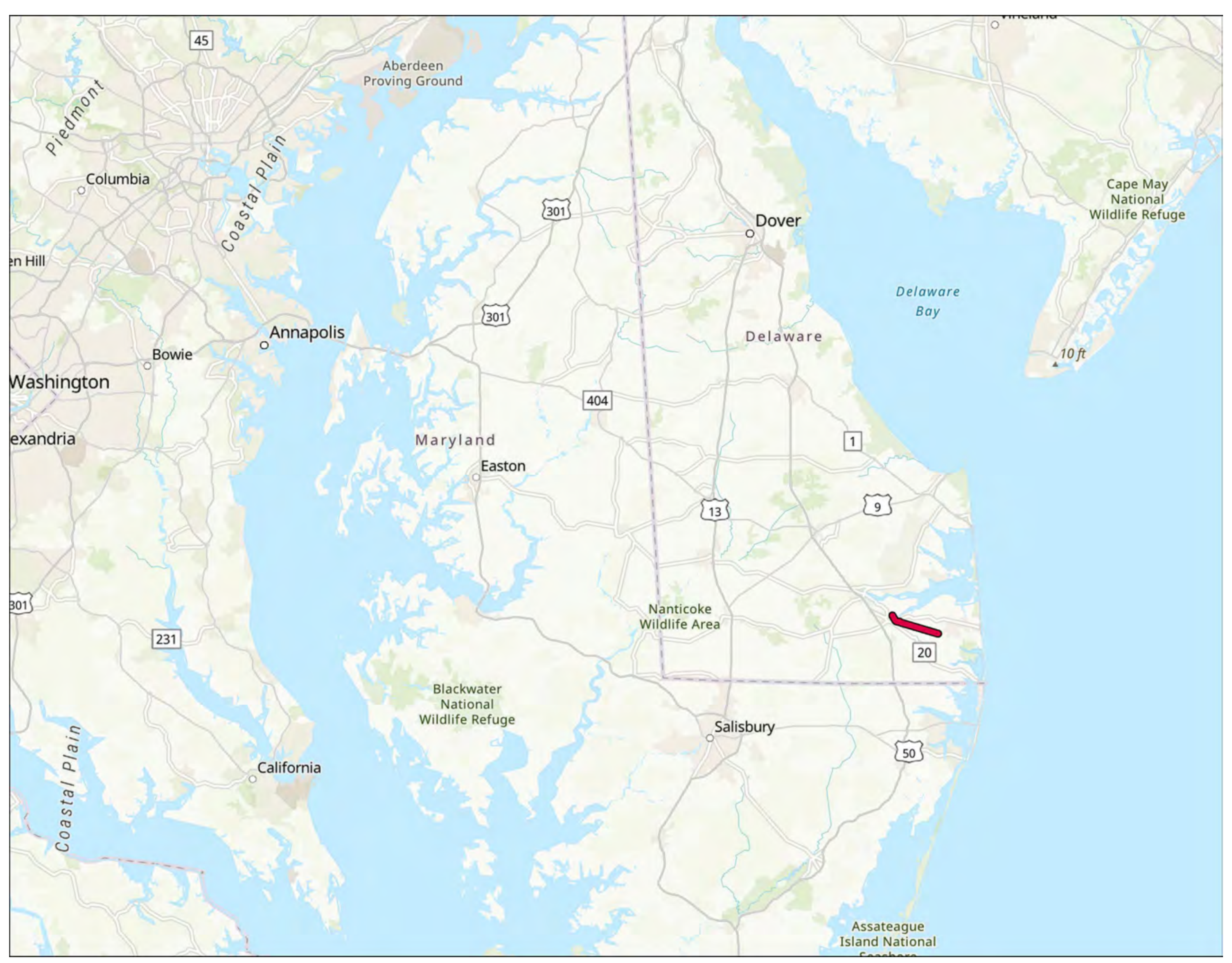
Applicant Printed Name: Phillip Dieckmann Title: Technical Director, GHD Inc

*****THIS STANDARD PLAN APPLICATION FORM MUST BE MAINTAINED ON THE SITE AT ALL TIMES DURING CONSTRUCTION*****

PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

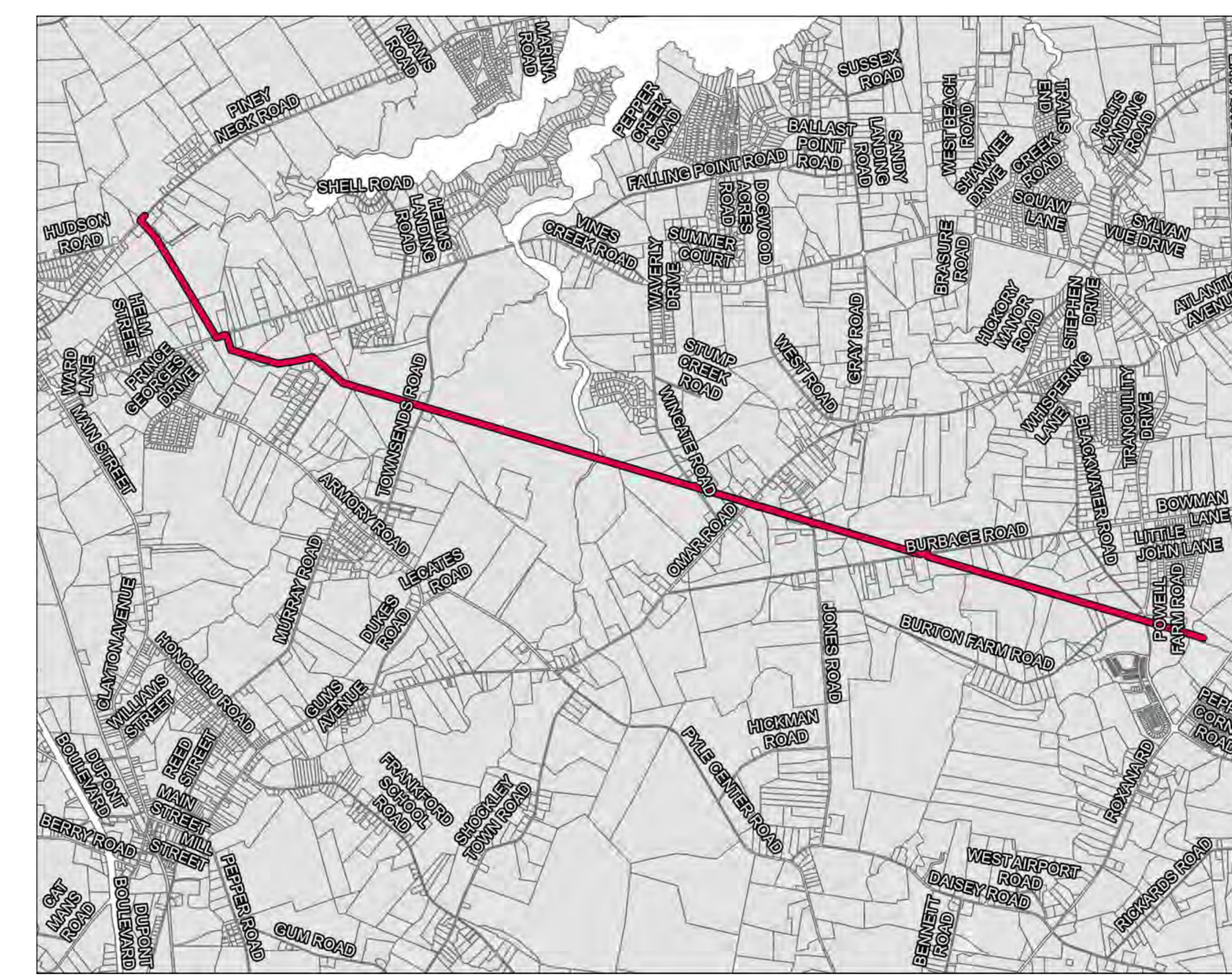
AUGUST 2025

GHD PROJECT NO: 12644261



LOCATION MAP

N



VICINITY MAP

N

811 Know what's below. Call before you dig.

FOR AGENCY REVIEW

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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PHILLIP PAUL DIECKMANN LICENSE No. 30151 DELAWARE PROFESSIONAL ENGINEER

GARNEY

GHD Inc.
16701 Melford Boulevard Suite 221
Bowie Maryland 20715 USA
T 240 206 6810

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **COVER SHEET**

Size **ANSI D**

Sheet No. **GN-001**

Plot Date: 26 August 2025 - 3:45 PM Plotted By: Trevor Germsheid Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Gen\12644261-GHD-00-00-DGN-GN-D001.dwg

SHEET NUMBER	SHEET TITLE
	GENERAL
GN-001	COVER SHEET
GN-002	LIST OF DRAWINGS
GN-003	ABBREVIATIONS, NOTES, LEGEND, AND SYMBOLS
	CIVIL: GENERAL
CI-001	KEY MAP
CI-002	PROPOSED CONSTRUCTION STAKING PLAN
	CIVIL: PLAN AND PROFILE
CI-201	PLAN AND PROFILE - STATION 0+00 TO 12+50
CI-202	PLAN AND PROFILE - STATION 12+50 TO 26+50
CI-203	PLAN AND PROFILE - STATION 26+50 TO 40+50
CI-204	PLAN AND PROFILE - STATION 40+50 TO 53+50
CI-205	PLAN AND PROFILE - STATION 53+50 TO 66+00
CI-206	PLAN AND PROFILE - STATION 66+00 TO 79+50
CI-207	PLAN AND PROFILE - STATION 79+50 TO 93+00
CI-208	PLAN AND PROFILE - STATION 93+00 TO 107+00
CI-209	PLAN AND PROFILE - STATION 107+00 TO 121+00
CI-210	PLAN AND PROFILE - STATION 121+00 TO 135+00
CI-211	PLAN AND PROFILE - STATION 135+00 TO 149+00
CI-212	PLAN AND PROFILE - STATION 149+00 TO 163+00
CI-213	PLAN AND PROFILE - STATION 163+00 TO 177+00
CI-214	PLAN AND PROFILE - STATION 177+00 TO 191+00
CI-215	PLAN AND PROFILE - STATION 191+00 TO 205+50
CI-216	PLAN AND PROFILE - STATION 205+50 TO 219+50
CI-217	PLAN AND PROFILE - STATION 219+50 TO 234+50
CI-218	PLAN AND PROFILE - STATION 234+50 TO 248+50
CI-219	PLAN AND PROFILE - STATION 248+50 TO 262+50
CI-220	PLAN AND PROFILE - STATION 262+50 TO 276+50
CI-221	PLAN AND PROFILE - STATION 276+50 TO 290+00
CI-222	PLAN AND PROFILE - STATION 290+00 TO 295+08.03
	CIVIL: ESC AND STORMWATER MANAGEMENT
CI-400	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT KEY PLAN
CI-401	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-402	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-403	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-404	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-405	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-406	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-407	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-408	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-409	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-410	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
CI-411	EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
	CIVIL: DETAILS
CI-501	CIVIL DETAILS - PIPE TRENCHING
CI-502	CIVIL DETAILS - FORCE MAIN (1 OF 2)
CI-503	CIVIL DETAILS - FORCE MAIN (2 OF 2)
CI-506	EROSION CONTROL NOTES
CI-507	EROSION CONTROL - DETAILS (1 OF 3)
CI-508	EROSION CONTROL - DETAILS (2 OF 3)
CI-509	EROSION CONTROL - DETAILS (3 OF 3)
CI-510	TRAFFIC CONTROL - DETAILS (1 OF 2)
CI-511	TRAFFIC CONTROL - DETAILS (2 OF 2)

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A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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SEAL OF SUSSEX COUNTY, DELAWARE 1869

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **LIST OF DRAWINGS**

Size **ANSI D**

Sheet No. **GN-002**

Plot Date: 26 August 2025 - 3:45 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Gen\12644261-GHD-00-00-DGN-GN-D002.dwg

ABBREVIATIONS

Ø, DIA	=	DIAMETER
AOBE	=	AS ORDERED BY ENGINEER
ASPH	=	ASPHALT
AHD	=	AHEAD
A/V	=	AIR/VACUUM
BOB	=	BOTTOM OF BANK
BC	=	BOTTOM OF CURB
BDY	=	BOUNDARY
BV	=	BUTTERFLY VALVE
BLDG	=	BUILDING
BLVD	=	BOULEVARD
BM	=	BENCHMARK
BTD	=	BLACK TOP DRIVE
BK	=	BACK
C/C	=	CENTER TO CENTER
CATV	=	CABLE TV
CB	=	CATCH BASIN
CFS	=	COMPOST FILTER SOCK
CIP	=	CAST IRON PIPE
CL	=	CENTERLINE
CMP	=	CORRUGATED METAL PIPE
CO	=	CLEANOUT
CONC	=	CONCRETE
CONST	=	CONSTRUCTION
CP	=	CONTROL POINT
CR	=	COUNTY ROAD
CSD	=	CRUSHED STONE DRIVE
CSP	=	CARBON STEEL PIPE
CSPA	=	CORRUGATED STEEL PIPE ARCH
CT	=	COPPER TUBING PIPE
CULV	=	CULVERT
DI	=	DRAINAGE INLET
DIP	=	DUCTILE IRON PIPE
DIA, Ø	=	DIAMETER
DN	=	DOWN
E	=	EAST
EC	=	ELECTRIC
EL	=	ELEVATION
EP	=	EDGE OF PAVEMENT
EPS	=	EDGE OF PAVED SHOULDER
ES	=	EDGE OF SHOULDER
FND	=	FOUNDATION
FS	=	FAR SIDE
FT	=	FOOT, FEET
GAR	=	GARAGE
GM	=	GAS METER
GP	=	GUY POLE
GRAV	=	GRAVEL
GSB	=	GAS SERVICE BOX
GV	=	GAS VALVE (MAIN LINE)
GS	=	GATE SERVICE
GW	=	GAS WELL
HC	=	HANDICAP
HDPE	=	HIGH DENSITY POLYETHYLENE PIPE
HP	=	HIGH POINT
HPG	=	HIGH PRESSURE GAS
HSE #	=	HOUSE NUMBER
HW	=	HEADWALL
HWY	=	HIGHWAY
HYD	=	HYDRANT
INV	=	INVERT
IB	=	IRON BAR
IP	=	IRON PIPE OR IRON PIN
LF	=	LINEAR FOOT
LP	=	LIGHT POLE
LPG	=	LOW PRESSURE GAS

LT	=	LEFT
MH	=	MANHOLE
MON	=	MONUMENT
N	=	NORTH
NE	=	NORTH EAST
NW	=	NORTH WEST
NITC	=	NOT IN THIS CONTRCT
PAVT	=	PAVEMENT
PCCP	=	PRESTRESSED CONCRETE CYLINDER PIPE
PCSP	=	PERFORATED CORRUGATED STEEL PIPE
PS	=	PUMP STATION
PVC	=	POLYVINYL CHLORIDE PIPE
PP	=	POWER POLE
RCP	=	REINFORCED CONCRETE PIPE
RIB	=	RECORDED IRON BAR
RD	=	ROAD
RP	=	REFLECTOR POST
RR	=	RAILROAD
ROW	=	RIGHT OF WAY
RT	=	RIGHT
RTE	=	ROUTE
R	=	RADIUS
STA	=	STATION
SA	=	SANITARY MANHOLE (SYMBOL)
SAN	=	SANITARY SEWER
SSMH	=	SANITARY MANHOLE
SHDR	=	SHOULDER
SIB	=	SET IRON BAR
SH	=	STATE HIGHWAY
S	=	SOUTH
SE	=	SOUTH EAST
SF	=	SILT FECE
SBD	=	STRAW BALE DIKE
SPK	=	SPIKE
STP	=	STEEL PIPE
STM	=	STORM SEWER
STM MH	=	STORM MANHOLE
STK	=	STAKE
ST	=	STREET
STY	=	STORY
SWK	=	SIDEWALK
SW	=	SOUTH WEST
TB	=	TEST BORE
TOB	=	TOP OF BANK
TBM	=	TEMPORARY BENCH MARK
TC	=	TOP OF CURB
TEL P	=	TELEPHONE POLE
TGL	=	THEORETICAL GRADE LINE
UP	=	UTILITY POLE
UGE	=	UNDERGROUND ELECTRIC
UGT	=	UNDERGROUND TELEPHONE
VCP	=	VITRIFIED CLAY PIPE
VTP	=	VITRIFIED TILE PIPE
WAT	=	WATER
W	=	WEST
WP	=	WATER PIPE
WM	=	WATER METER
WV	=	WATER VALVE
WS	=	WATER SERVICE (HSE. LINE)

SURVEY

FEATURE	EXISTING	PROPOSED
LIMIT OF SURVEY		
PROPERTY LINE		
CENTER LINE		
EASEMENT		
500 YEAR BASE FLOOD ELEVATION		
CONSTRUCTION STAKEOUT POINT		01
MONUMENT	MONUMENT	
SIB	SIB	
IB	IB	
RIB	RIB	
IRON PIPE	IP	
CUT-CROSS	CC	
NAIL	NAIL	
DRILL HOLE	DH	
BENCHMARK	BM-1	
TEMPORARY BENCHMARK	TBM-1	
CONTROL POINT	CP	CP
PERMANENT SURVEY MARKER		

TOPOGRAPHY

FEATURE	EXISTING	PROPOSED
PAVEMENT		
CONC SIDEWALK		
GRAVEL PAVEMENT		
MILL AND OVERLAY PAVEMENT		
>25% SLOPES		
15%-25% SLOPES		
SPLASH BLOCK		
MAIL BOX		
FENCE	X X X X	
STRUCTURE		
TREE LINE		
HEDGE		
TREE		
MAIL BOX		
BOLLARD		
SPOT ELEVATION		
WATER ELEVATION	WATER EL	WATER EL
GATE		
POST	103.00	
STREAM OR RIVER		
TOP OF SLOPE		103.00
TOE OF SLOPE		
TEST BORE HOLE	BH-1	BH-1

EROSION CONTROL

FEATURE	EXISTING	PROPOSED
SILT FENCE		SF
COMPOST FILTER SOCK		CFS
LIMITS OF DISTURBANCE		LOD
INLET PROTECTION		CIP
STABILIZED CONSTRUCTION ENTRANCE		SCE

SANITARY (GRAVITY)

FEATURE	EXISTING	PROPOSED
SANITARY SEWER	SAN	
SANITARY SEWER MH	SAN MH	
CLEAN OUT	CO	
VENT	V	
LATERAL		
END CAP		
MANHOLE DEMOLITION		

SANITARY (FORCEMAIN)

FEATURE	EXISTING	PROPOSED
SANITARY SEWER FORCEMAIN	FM	FM
BORING / RECEIVING PIT		
11.25° BEND		
22.5° BEND		
45° BEND		
90° BEND		
CROSS		
TEE		
GATE VALVE		

SANITARY FORCEMAIN PIPE TYPE AND INSTALATION METHOD

FEATURE	EXISTING	PROPOSED
10" / 12" PVC / OPEN CUT		FM
12" HDPE DR9 / OPEN CUT		FM
12" HDPE DR9 / JACK & BORE		FM
12" HDPE DR9 / HDD		FM

STORM & DRAINAGE

FEATURE	EXISTING	PROPOSED
STORM SEWER	STM	
STORM MANHOLE	STM MH	
STORM CATCH BASIN	CB	
CULVERT/ENDSECTIONS		
SWALE/DITCH		
YARD DRAIN	YD	YD
FLOW ARROW		
STORM PIPE		

WATER

FEATURE	EXISTING	PROPOSED
WATER MAIN	W	W
WATER GATE VALVE		
WATER BUTTERFLY VALVE		
HYDRANT VALVE		
HYDRANT		
CURB STOP	CS	
WATER METER	WM	
AIR RELIEF VALVE		
WELL	W	
SERVICE		
SERVICE RECONNECT		
BLOWOFF / SAMPLE POINT		
TAPPING SLEEVE		
WATER SERVICE BOX		
SPRINKLER HEAD		
VALVE CHAMBER		
END CAP		

NATURAL GAS

FEATURE	EXISTING	PROPOSED
GAS	G	
GAS VALVE		
GAS METER	GAS	
GAS MAIN MARKER		
GAS SERVICE BOX		
GAS WELL	G	
END CAP		

POWER / COMMUNICATIONS

FEATURE	EXISTING	PROPOSED
ELECTRIC UNDERGROUND	E	E
ELECTRIC OVERHEAD	P/A	
TELEPHONE UNDERGROUND	UT	
TELEPHONE OVERHEAD	OT	
COMMUNICATION UNDERGROUND	UC	
COMMUNICATION OVERHEAD	OC	
UTILITY POLE		
GUY WIRE ANCHOR		
STREET LIGHT		
BURIED CABLE MARKER		
TRANSMISSION TOWERS		
PULL BOX STREET LIGHTS		
TERMINAL BOX		
UTILITY MANHOLE	UTIL MH	
HANDHOLE	H	H
INSPECTION POST		
UTILITY MARKER		
PEDESTAL		
POLICE OR FIRE CALL BOX		

TRAFFIC

FEATURE	EXISTING	PROPOSED
TRAFFIC SIGNAL	SIGNAL	
PULL BOX TRAFFIC SIGNAL		
SIGNAL POLE W/CONTROL		
ROAD SIGNS		
MILE MARKER		
RAISED PAVEMENT MARKER		

RAILROAD

FEATURE	EXISTING	PROPOSED
RR TRACKS SMALL SCALE		
RR SIGNAL		
RR SIGNAL CONTROL BOX		
RR SWITCHSTAND		
RR FROG POINT		
RR BUMPER		

MISC

FEATURE	EXISTING	PROPOSED
ABANDONED PIPE		
DEMOLITION		
TREE REMOVAL		R
CASING PIPE		
TANK FILLER	F	
CONTRACTOR TEST PIT		T
POST INDICATOR VALVE		
PUMP		
VALVE OPERATOR **		
CHECK VALVE		
COMBINATION A/V VALVE ASSEMBLY		
ACCESS PORT ASSEMBLY		
DEWATERING ASSEMBLY		

MATERIAL SYMBOLS

FEATURE	EXISTING	PROPOSED
CLAY		
APPROVED BACKFILL		
SAND		
SEDIMENT		
COMPACT STONE SUBBASE		
SELECT FILL		
FILL		
RIP-RAP / CRUSHED STONE		
BEDROCK		
WETLAND OR MARSH		
TOPSOIL		
ASPHALT		
CONCRETE		
CONCRETE MASONRY UNIT		
ROCK SURFACE		
EARTH SURFACE		
PIPE BEDDING		
TOP COURSE		
BINDER COURSE		
GRANITE		
PEA GRAVEL		
EASEMENT		
ROCK OUTCROPPING		
TO BE ABANDONED IN PLACE (AP)		
TO BE DEMOLISHED (D)		
TO BE RELOCATED (R)		

FOR AGENCY REVIEW

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

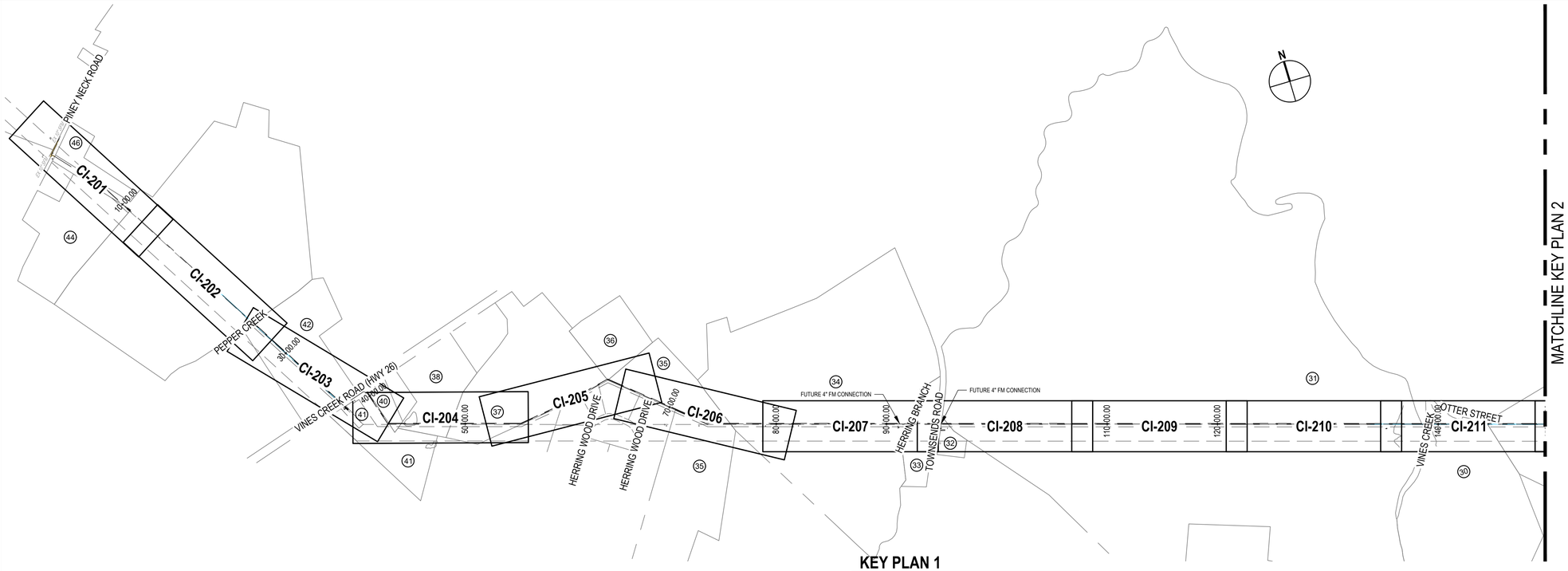
Title **ABBREVIATIONS, NOTES, LEGEND, AND SYMBOLS**

Size **ANSI D**

Project No. **12644261** Date **MM/DD/YYYY** Scale **N.T.S.**

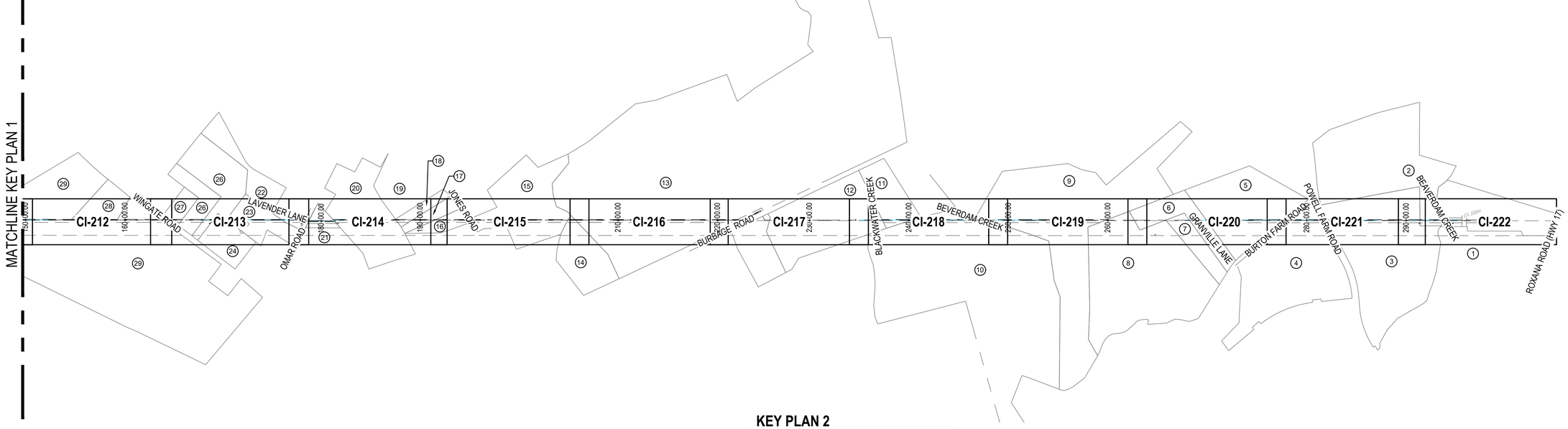
Sheet No. **GN-003**

Plot Date: 26 August 2025 - 3:45 PM Plotted By: Trevor Germsheid Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Gen\12644261-GHD-00-00-DGN-GN-D003.dwg



KEY PLAN 1

SCALE Custom



KEY PLAN 2

SCALE Custom

Number	Property ID	Record Owner
1	134-15.00-93.01	DHIC - Tupelo Sands LLC
2	134-15.00-91.02	ASF MBTS LLC
3	134-15.00-91.00	D P Powell Properties LLC
4	134-15.00-19.00	ASF MBTS LLC
5	134-15.00-19.02	Powell, James R & Judy R
6	134-15.00-7.12	Sharon Davis, Cameron Powell and Richard Powell
7	134-15.00-7.11	Sharon Davis, Cameron Powell and Richard Powell
8	134-15.00-7.00	Sharon Davis, Cameron Powell and Richard Powell
9	134-15.00-6.06	Timothy Sudowsky
10	134-15.00-17.14	Bennett, Jeffrey M Trustee
	134-15.00-5.04	Beth L Webb
11	134-15.00-5.03	Beth L Webb
12	134-15.00-5.02	Sussex County
12R or 13	134-15.00-5.01	Sussex County
	134-15.00-5.00	Beth L Webb
13	134-15.00-1.00	Townsend, Charles P Jr
	134-14.00-21.00	David I Wingate
14	134-14.00-21.01	Delaware Electric Cooperative Inc
	134-14.00-21.02	Amy Beth Zingarelli
	134-14.00-21.03	Eduardo Rojas Ramirez
15	134-14.00-21.07	Umstead, Terry
16	134-10.00-94.02	Dean Fenwick and Teressa Lynn Disharoon
17	134-10.00-94.01	Dean Fenwick and Teressa Lynn Disharoon
18	134-10.00-93.00	William E Miller
19	134-10.00-92.00	Ernestine Hall
20	134-10.00-88.00	Werner, William M and Anita West-Werner
	134-10.00-88.01	Werner, William M and Anita West-Werner
	134-10.00-63.00	Gary and Angela H Matthews
21	134-10.00-62.10	PFAB HANS
22	134-10.00-62.08	Erickson, Laf P & Gundula V
23	134-10.00-62.05	Matthews, Gary W & Angela H
24	134-10.00-62.03	Matthews, John
	134-10.00-62.00	Keith T and Wendy L Murray
25	134-1.00-62.09	Sturgill, James Samuel
26	134-10.00-62.14	Mattson, Jacklyn C
27	134-10.00-62.06	Matthews, Gary & Angela H
29	134-10.00-52.00	P W Rickards Farms Family Limited
28	134-10.00-52.02	P W Rickards Farms Family Limited
30	134-10.00-51.00	Bayshore Inc
	134-10.00-48.00	Bayshore Inc
31	433-2.00-1.00	Townsend, Charles P Jr.
32	433-2.00-7.02	Layton, Ross E & Beverly S
33	433-2.00-2.00	Ronald L Culver & Melissa A Culver
34	233-12.00-28.00	Townsend, Charles P Jr.
	233-11.00-198.02	Herring Wood Homeowners Association Inc
35	233-11.00-198.00	Toomey Farm LLC
36	233-11.00-196.00	Conti Daniel A III
37	233-11.00-181.00	Lynch, Robert C Trustee
38	233-11.00-176.00	LEXCORP DEVELOPMENT LLC
39	233-11.00-171.00	Robert C Lynch Trustee
40	233-11.00-175.01	LEXCORP DEVELOPMENT LLC
41	233-11.00-172.00	ES MOTORS LLC
42	233-11.00-109.00	EILEEN MCCAFFERY
	233-11.00-83.00	SUSSEX COUNTY
44	233-11.00-78.01	ARTHUR EDWARD DAVIDSON
46	233-11.00-80.00	AMELIA LYNCH TRUSTEE

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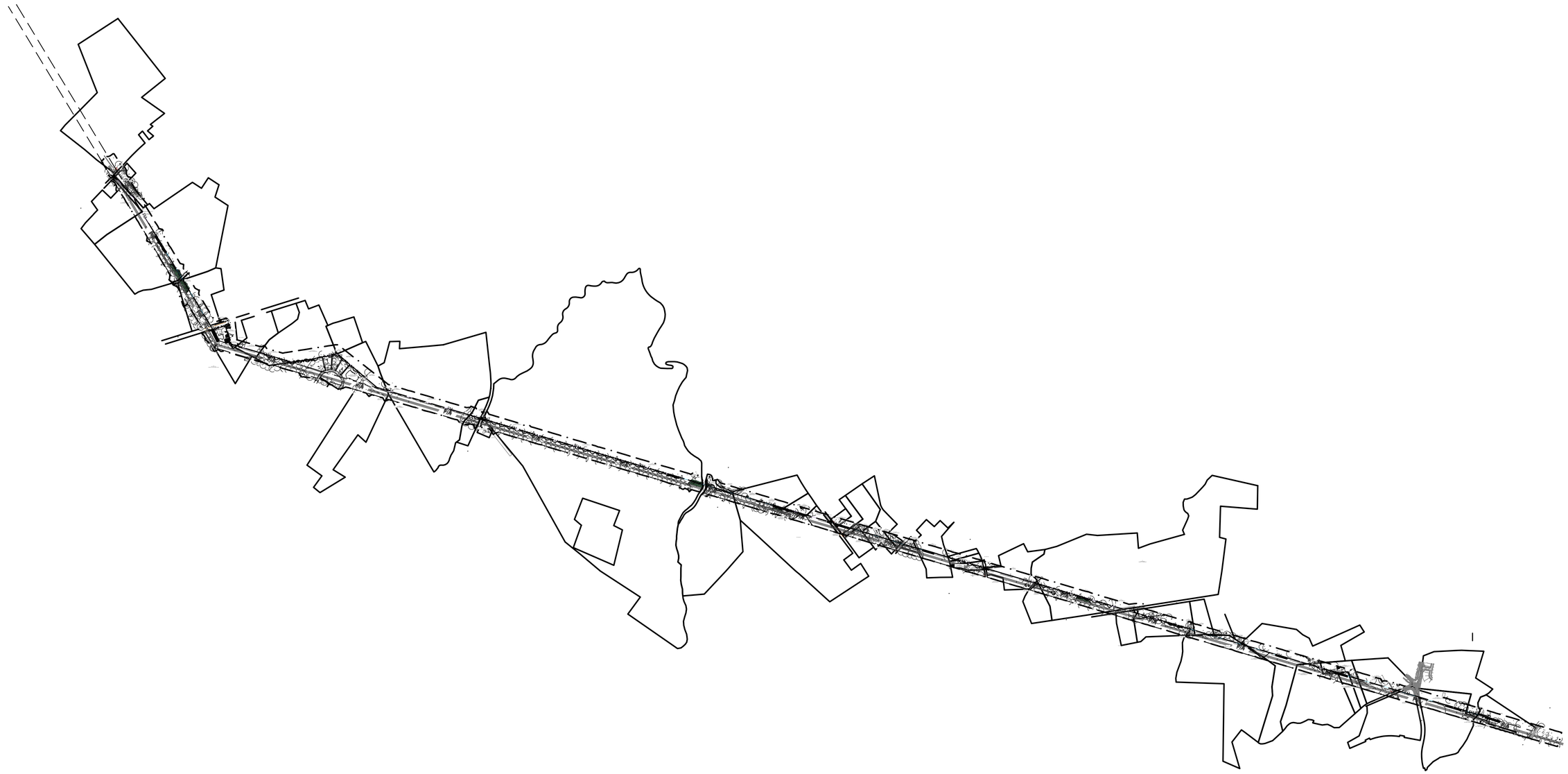
Project No. **12644261** Date **MM/DD/YYYY** Scale **N.T.S.**

Title **KEY MAP**

Size **ANSI D**

Sheet No. **CI-001**

Plot Date: 26 August 2025 - 3:49 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D001.dwg



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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

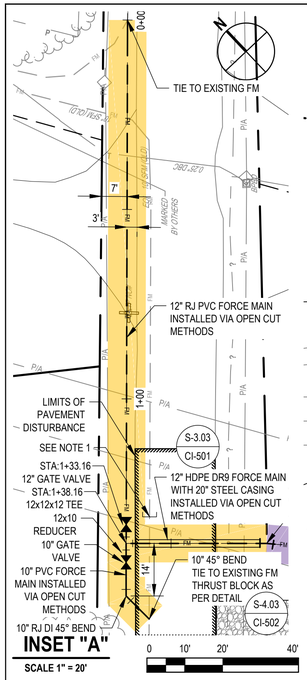
Project No. **12644261** | Date **MM/DD/YYYY** | Scale **AS SHOWN**

Title **PROPOSED CONSRUCTION STAKING PLAN**

Size **ANSI D**

Sheet No. **CI-002**

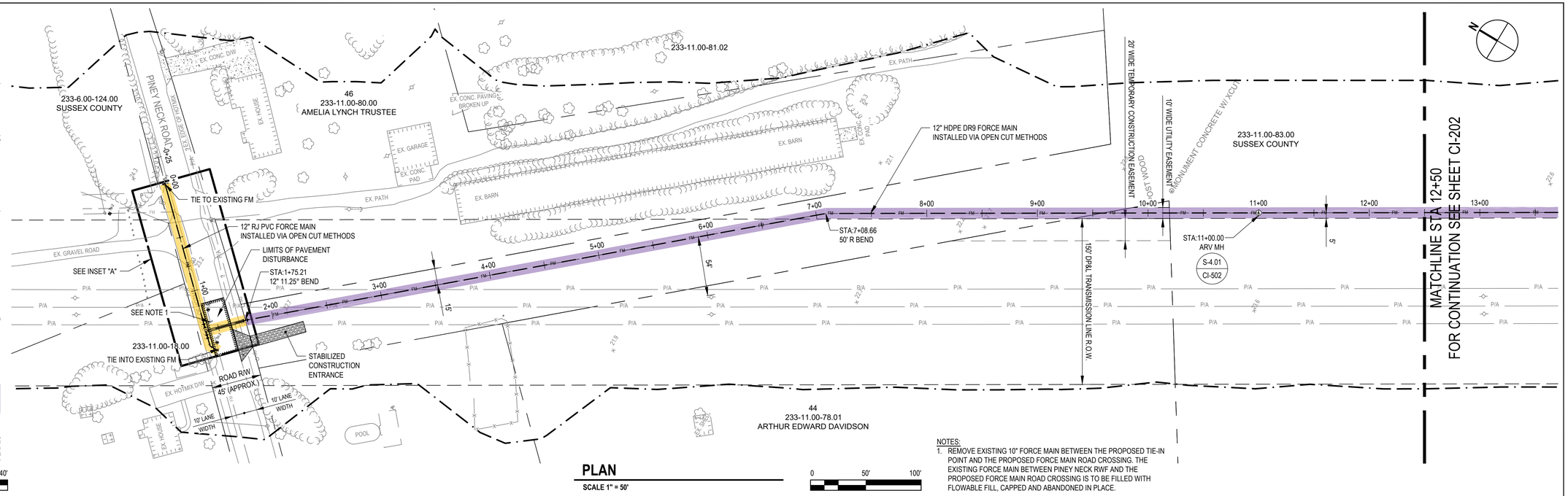
Plot Date: 26 August 2025 - 3:49 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D002.dwg



INSET "A"

SCALE 1" = 20'

0 10' 20' 40'



PLAN

SCALE 1" = 50'

0 50' 100'

NOTES:
1. REMOVE EXISTING 10" FORCE MAIN BETWEEN THE PROPOSED TIE-IN POINT AND THE PROPOSED FORCE MAIN ROAD CROSSING. THE EXISTING FORCE MAIN BETWEEN PINEY NECK RWF AND THE PROPOSED FORCE MAIN ROAD CROSSING IS TO BE FILLED WITH FLOWABLE FILL, CAPPED AND ABANDONED IN PLACE.

PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

Bar is one inch on original size sheet

0 1"

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 0+00 TO 12+50**

Size **ANSI D**

Sheet No. **CI-201**

Plot Date: 26 August 2025 - 3:49 PM Plotted By: Trevor Germsheid

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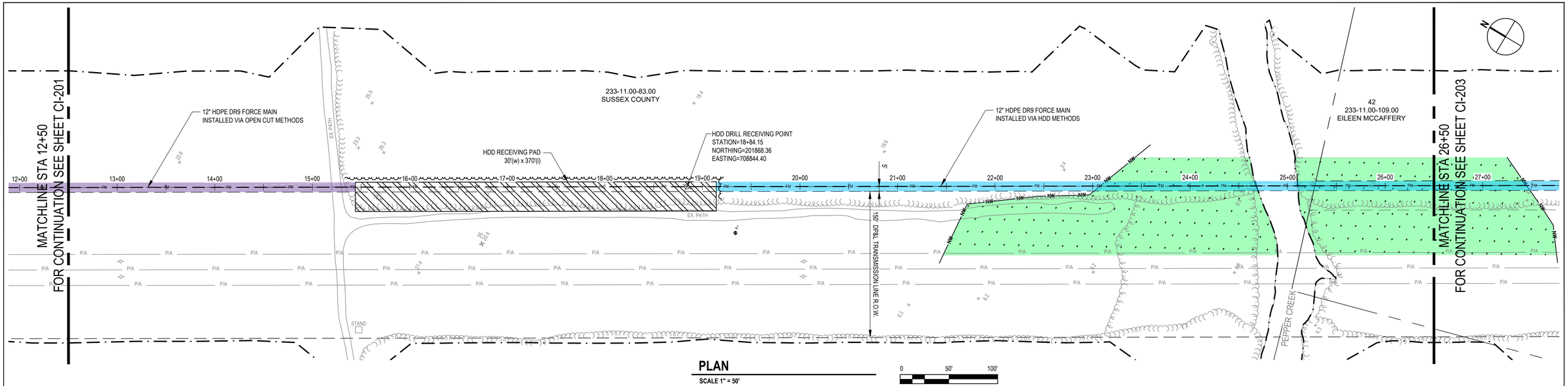
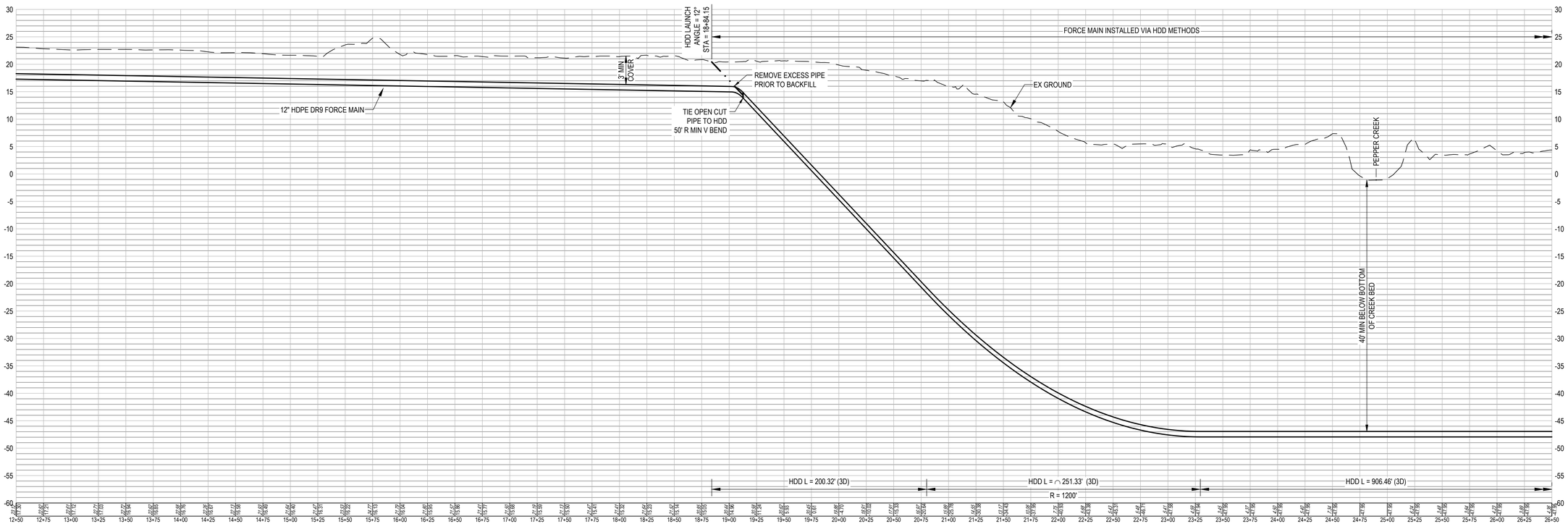


PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

No.	Issue	Author	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD		2025-08-06

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Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Title **PLAN AND PROFILE STATION 12+50 TO 26+50**

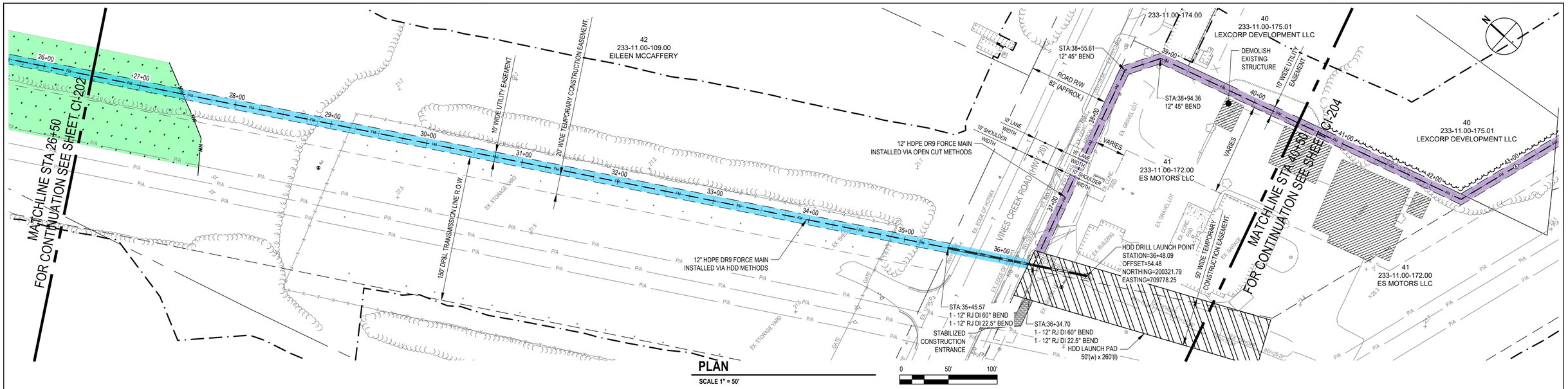
Size ANSI D

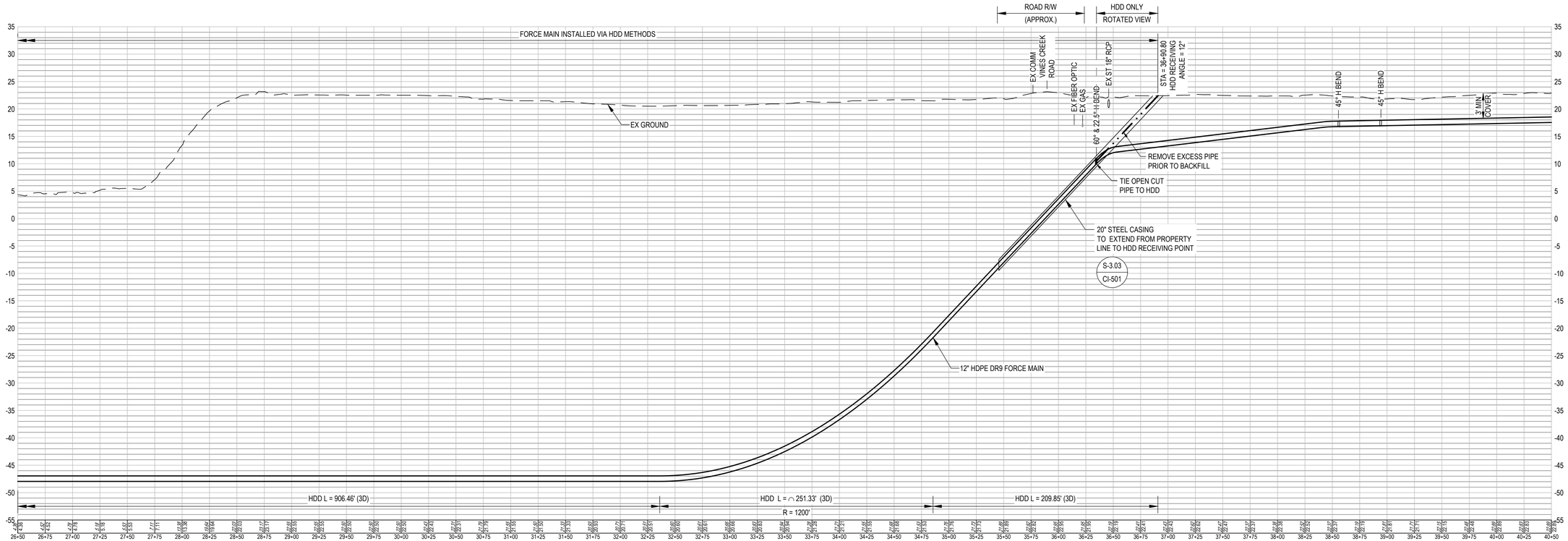
Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Sheet No. **CI-202**

Plot Date: 26 August 2025 - 3:50 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D202.dwg





PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date
Author	TG	Drafting Check	PD	Project Manager PD
Designer	CM	Design Check	PD	Project Director BG

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0 1"

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Project: PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

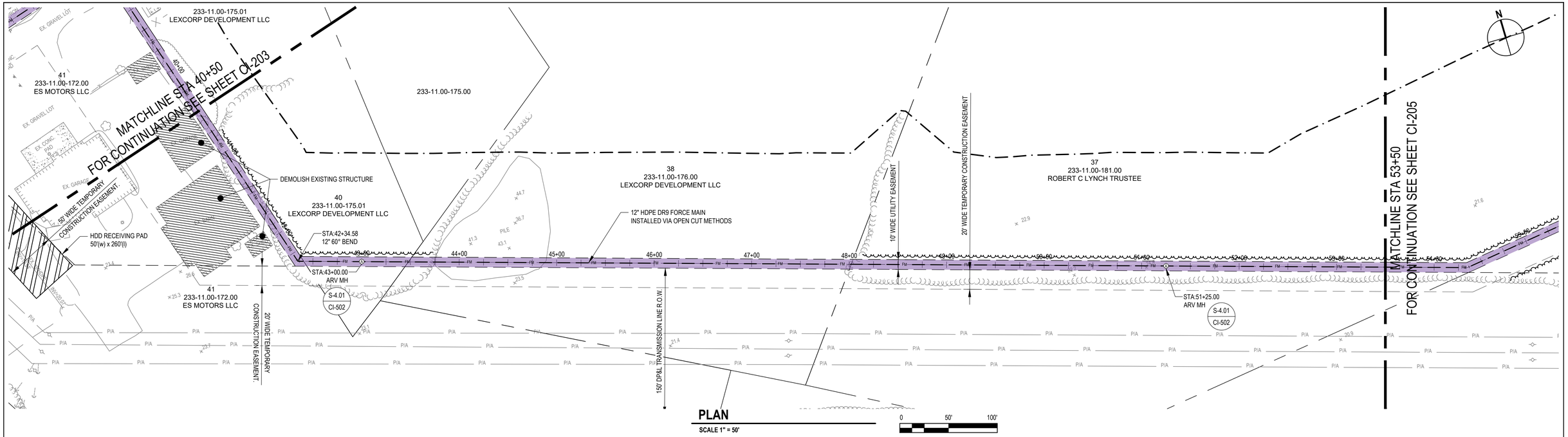
Project No. 12644261 | Date MM/DD/YYYY | Scale AS SHOWN

Title: PLAN AND PROFILE STATION 26+50 TO 40+50

Size: ANSI D

Sheet No. CI-203

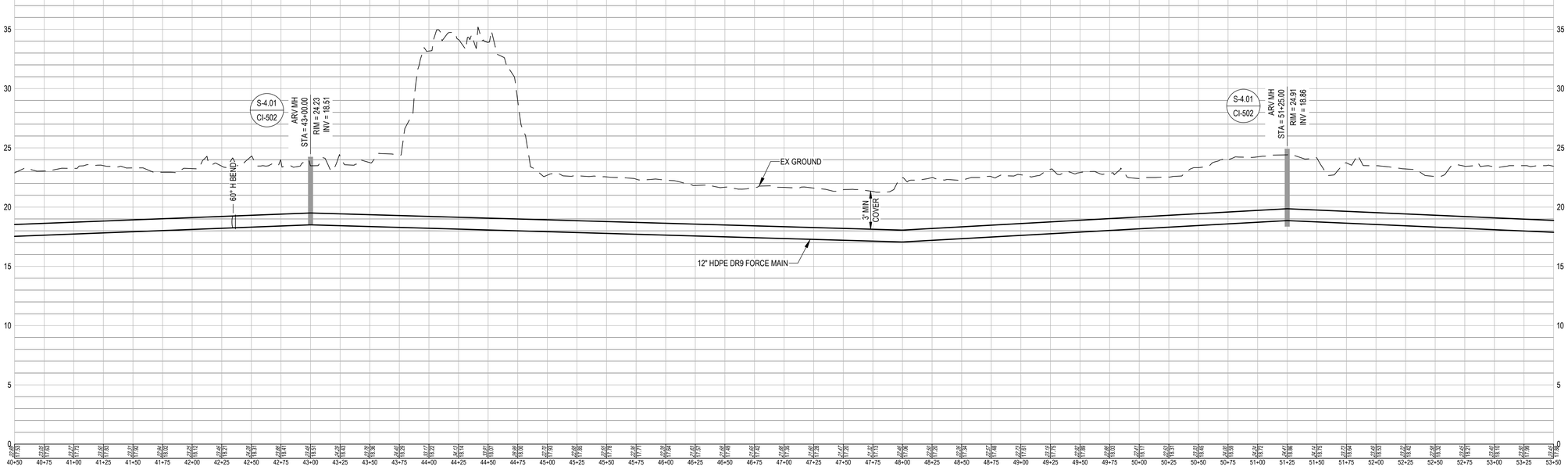
Plot Date: 26 August 2025 - 3:50 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D203.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Drafting Check	Checked	Approved	Date
A	FOR AGENCY REVIEW		TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

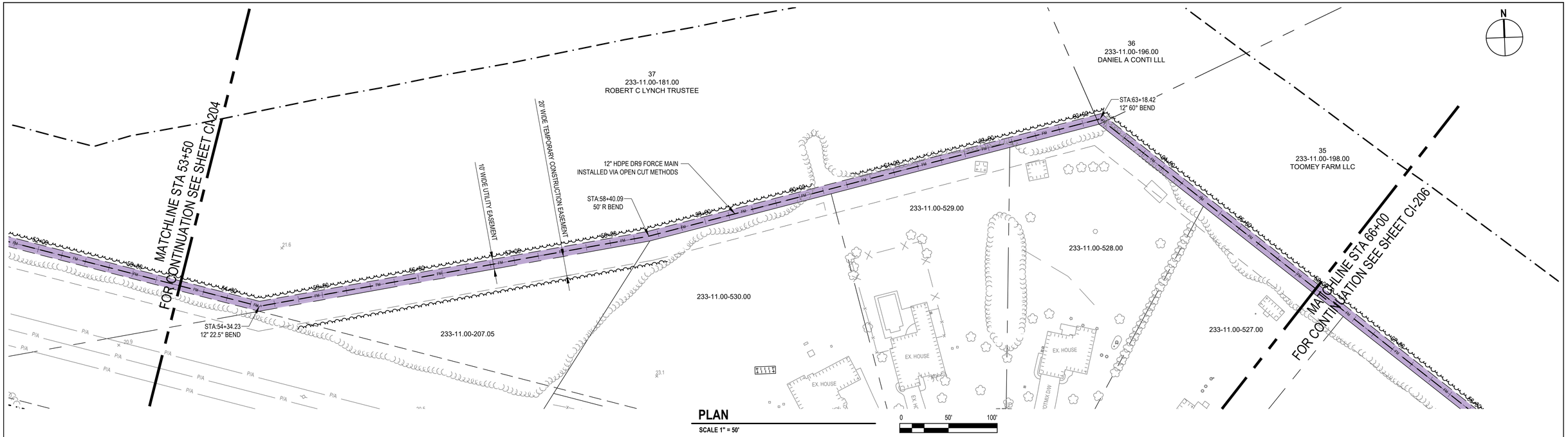
Title **PLAN AND PROFILE STATION 40+50 TO 53+50**

Size **ANSI D**

Sheet No. **CI-204**

Plot Date: 26 August 2025 - 3:51 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D204.dwg



PLAN

SCALE 1" = 50'

0 50' 100'

PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

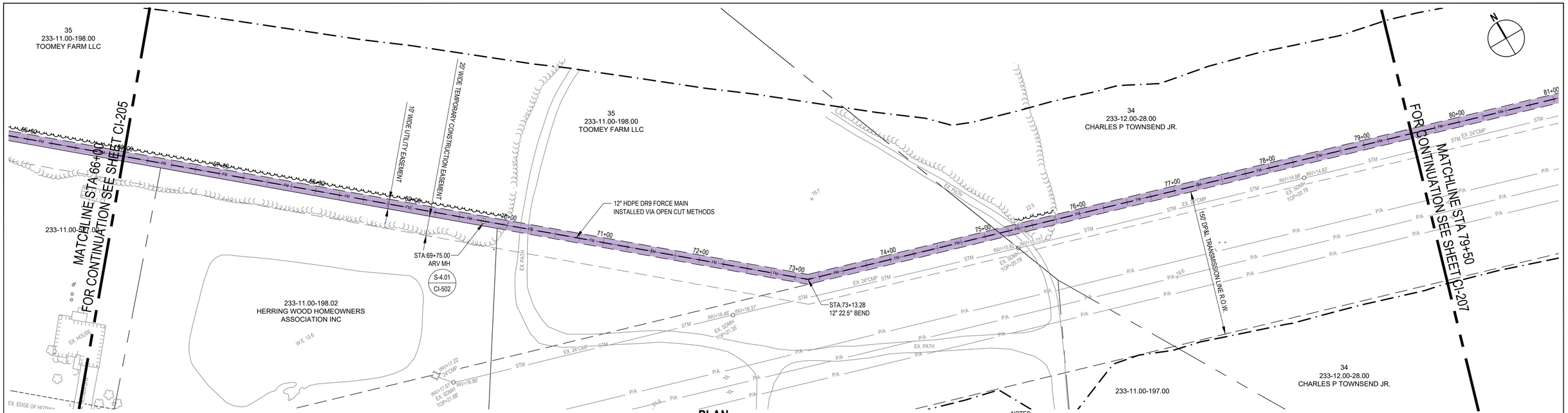
Title **PLAN AND PROFILE STATION 53+50 TO 66+00**

Size **ANSI D**

Sheet No. **CI-205**

Plot Date: 26 August 2025 - 3:51 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-0205.dwg

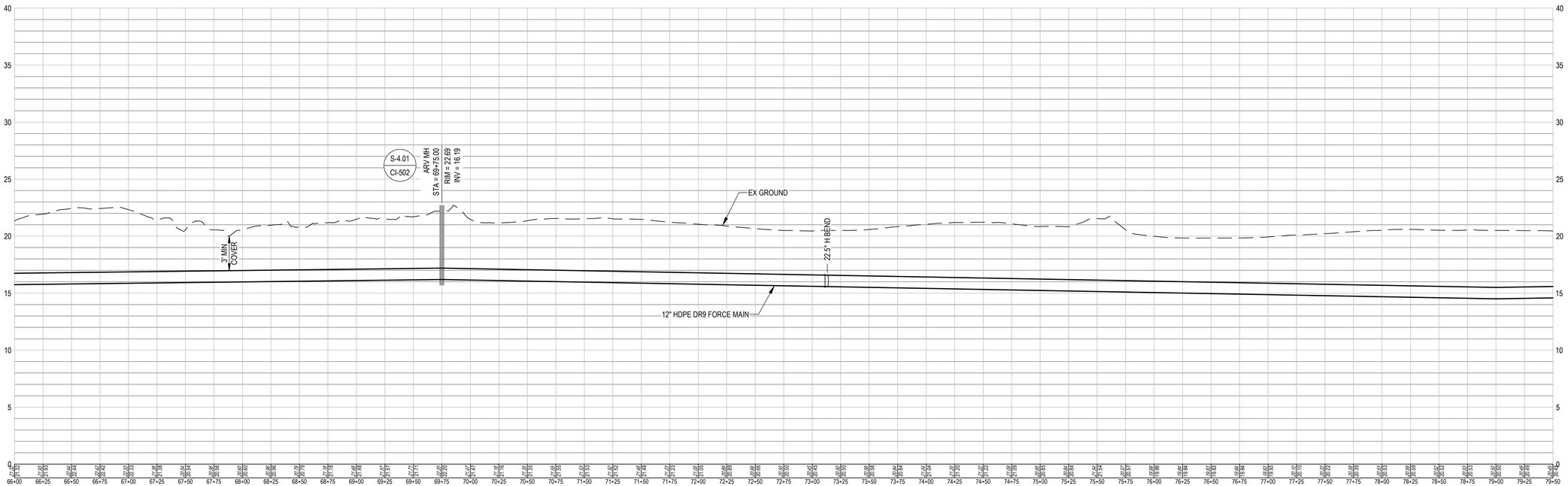


PLAN

SCALE 1" = 50'

0 50' 100'

NOTES:
1. PROPERTY 35 TO HAVE A 6" VALVE CONNECTION INSTALLED ON THE MAIN LINE. COORDINATE IN THE FIELD WITH PROPERTY OWNER FOR EXACT LOCATION.



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Drawn	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD		2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

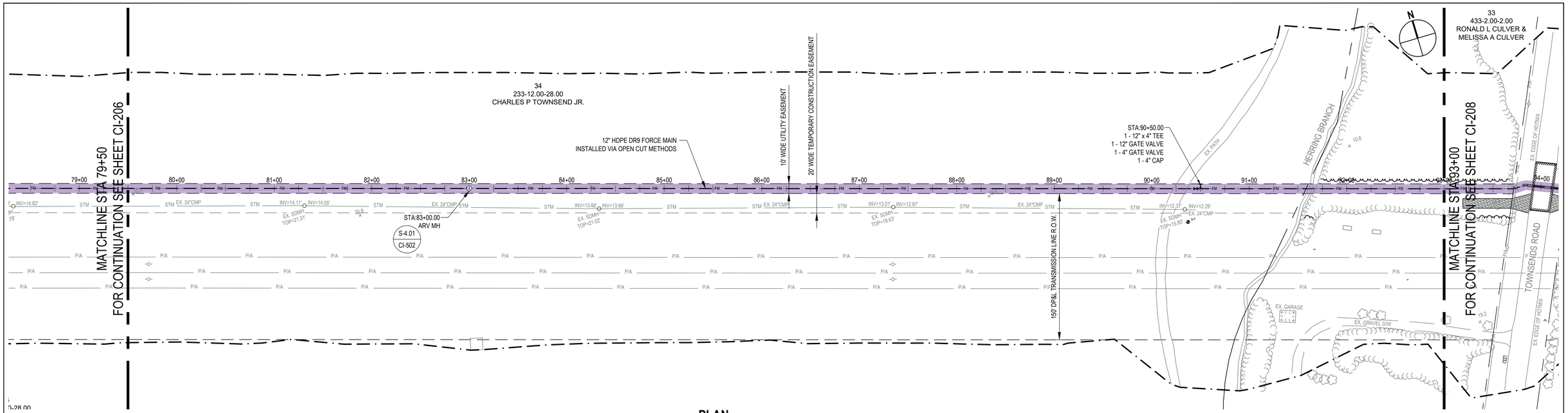
Title **PLAN AND PROFILE STATION 66+00 TO 79+50**

Size **ANSI D**

Sheet No. **CI-206**

Plot Date: 26 August 2025 - 3:52 PM Plotted By: Trevor Germsheid

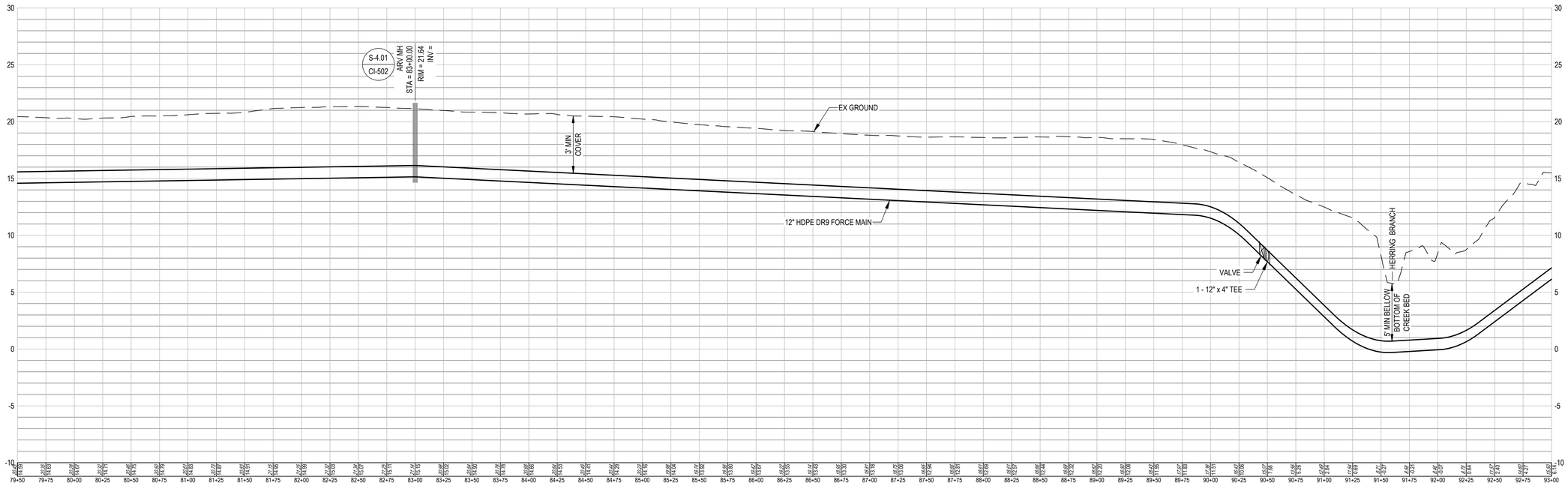
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-0206.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 79+50 TO 93+00**

Size **ANSI D**

Sheet No. **CI-207**

Plot Date: 26 August 2025 - 3:52 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D207.dwg

33
433-2.00-2.00
RONALD L CULVER &
MELISSA A CULVER

31
433-2.00-1.00
CHARLES P TOWNSEND JR.

32
433-2.00-7.02
ROSS E & BEVERLY S LAYTON

MATCHLINE STA:93+00
FOR CONTINUATION SEE SHEET CI-207

MATCHLINE STA:107+00
FOR CONTINUATION SEE SHEET CI-209

10' LANE WIDTH

10' LANE WIDTH

ROAD R/W
54' (APPROX.)

LIMITS OF PAVEMENT DISTURBANCE

12" HDPE DR9 FORCE MAIN
WITH 20" STEEL CASING
INSTALLED VIA OPEN CUT METHODS

S-3.03
CI-501

STA:94+24.86
1 - 12" 11.25° BEND
1 - 12" GATE VALVE
1 - 12" x 6" TEE
1 - 6" GATE VALVE
1 - 6" CAP

STA:93+84.01
12" 22.5° BEND

STA:93+71.23
12" 22.5° BEND

10' WIDE UTILITY EASEMENT

20' WIDE TEMPORARY CONSTRUCTION EASEMENT

12" HDPE DR9 FORCE MAIN
INSTALLED VIA OPEN CUT METHODS

150' DP&L TRANSMISSION LINE R.O.W.

STABILIZED CONSTRUCTION ENTRANCE

TOWNSENDS ROAD

EX. EDGE OF HOTMIX

EX. PATH

EX. CONC. PAD

EX. BARN

EX. HOUSE

93+00 93+25 93+50 93+75 94+00 94+25 94+50 94+75 95+00 95+25 95+50 95+75 96+00 96+25 96+50 96+75 97+00 97+25 97+50 97+75 98+00 98+25 98+50 98+75 99+00 99+25 99+50 99+75 100+00 100+25 100+50 100+75 101+00 101+25 101+50 101+75 102+00 102+25 102+50 102+75 103+00 103+25 103+50 103+75 104+00 104+25 104+50 104+75 105+00 105+25 105+50 105+75 106+00 106+25 106+50 106+75 107+00

PLAN

SCALE 1" = 50'

0 50' 100'

ROAD R/W
(APPROX.)

TOWNSENDS ROAD

22.5° H BEND

22.5° H BEND

11.25° H BEND

EX GROUND

COVER
3' MIN

1 - 12" x 6" TEE

VALVE

20" STEEL CASING
TO EXTEND 5' BEYOND
EDGE OF PAVEMENT

S-3.03
CI-501

12" HDPE DR9 FORCE MAIN

30 25 20 15 10 5 0 -5 -10

PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

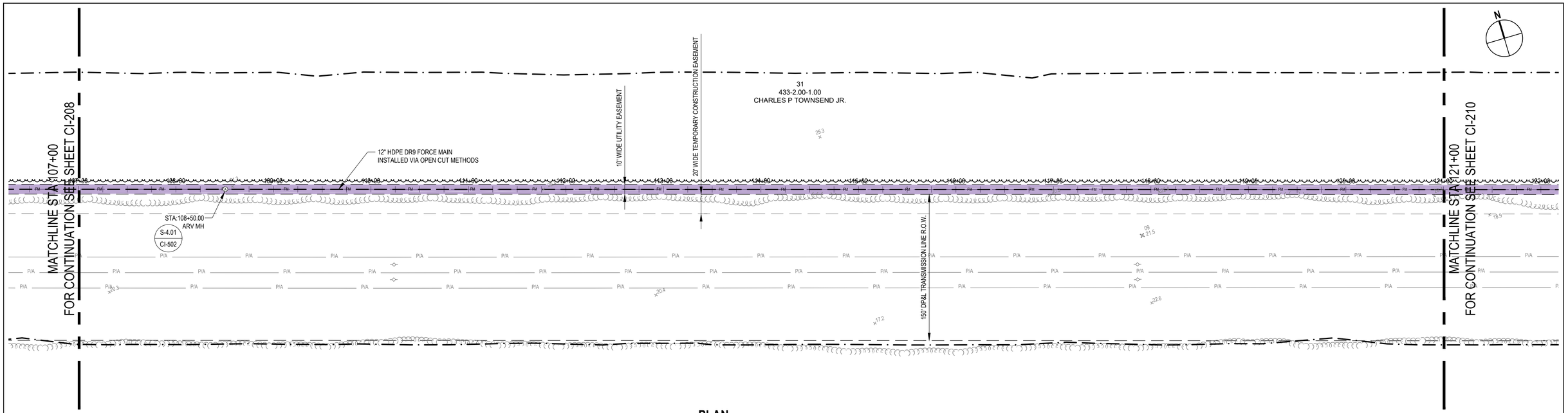
Title **PLAN AND PROFILE STATION 93+00 TO 107+00**

Size **ANSI D**

Sheet No. **CI-208**

Plot Date: 26 August 2025 - 3:53 PM Plotted By: Trevor Germsheid

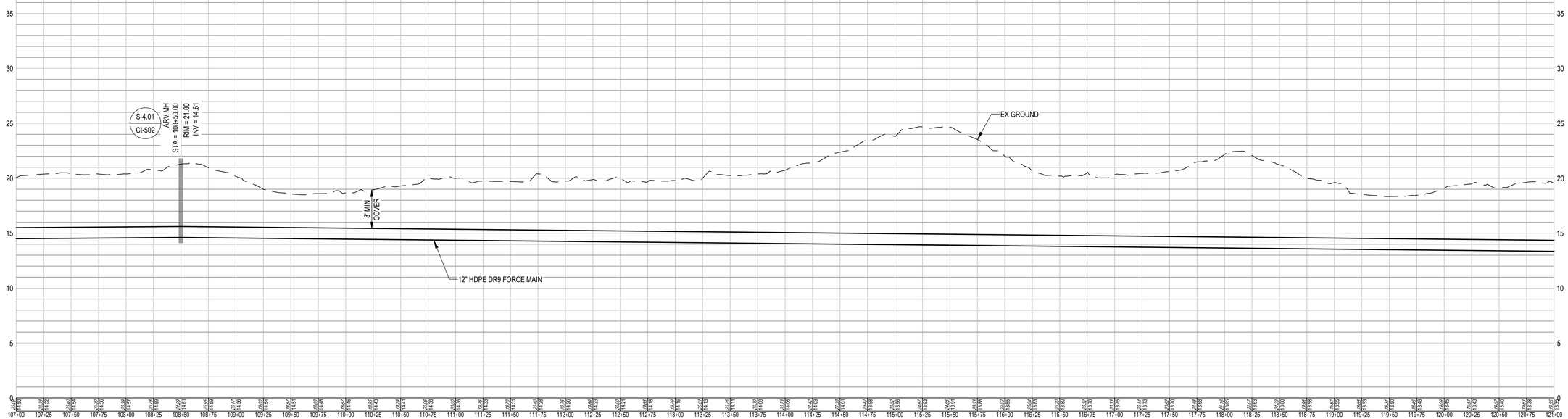
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D208.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

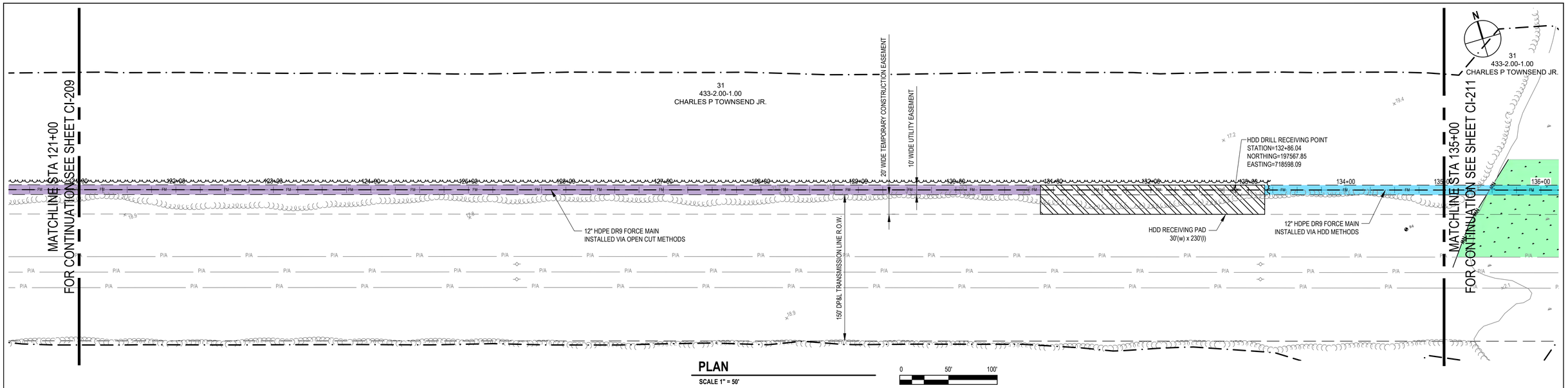
Title **PLAN AND PROFILE STATION 107+00 TO 121+00**

Size **ANSI D**

Sheet No. **CI-209**

Plot Date: 26 August 2025 - 3:53 PM Plotted By: Trevor Germsheid

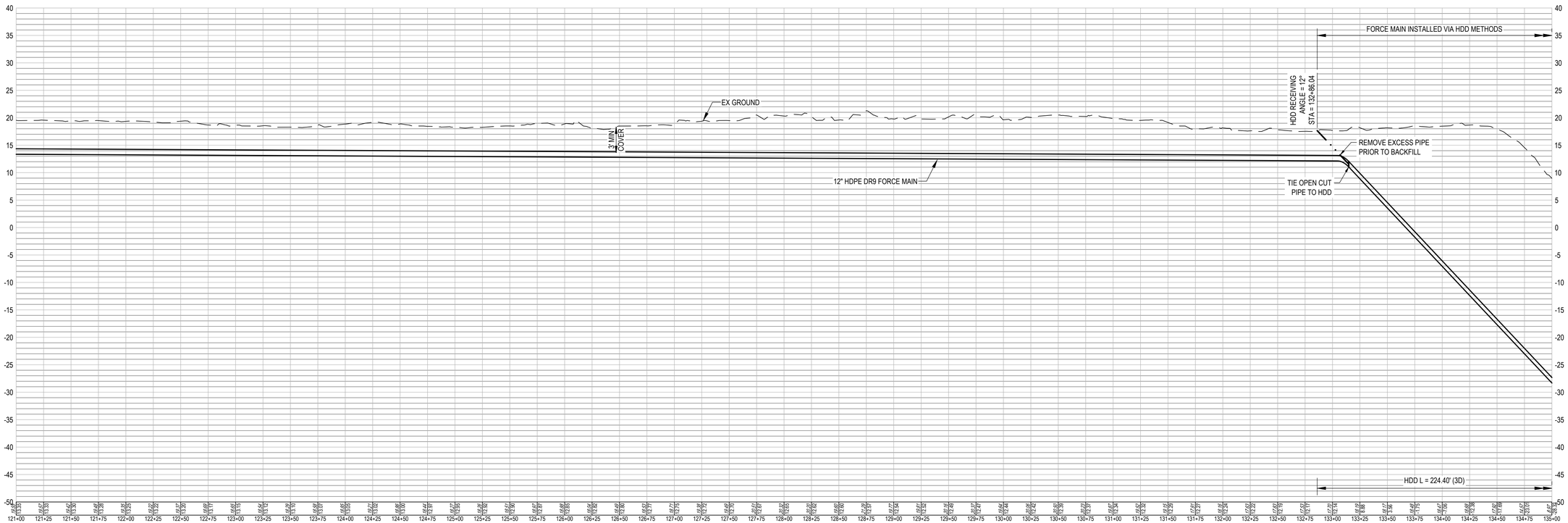
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-0209.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

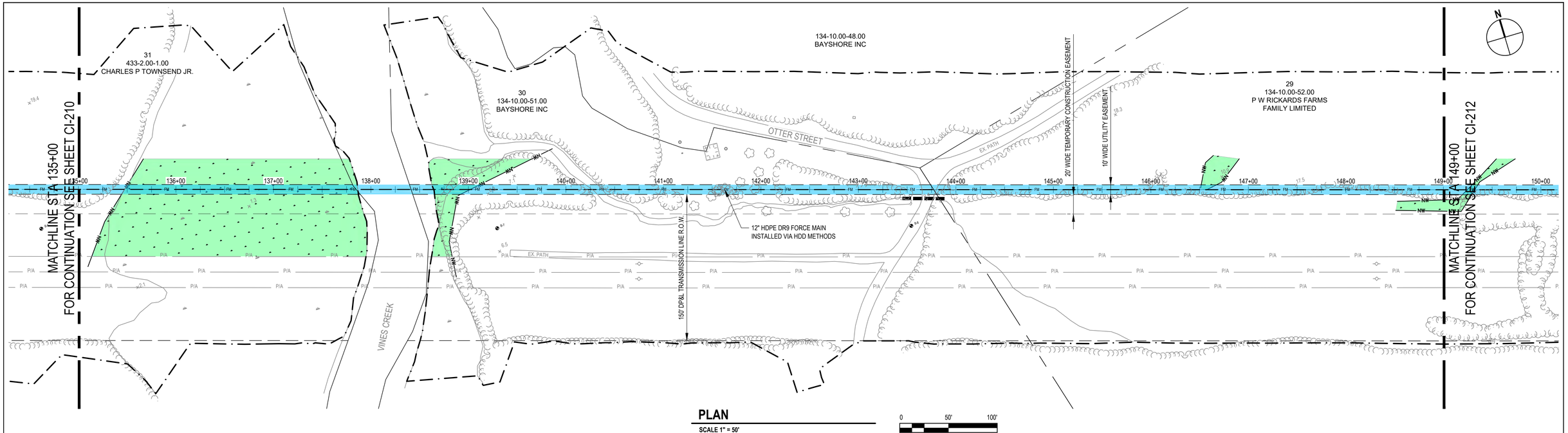
Title **PLAN AND PROFILE STATION 121+00 TO 135+00**

Size **ANSI D**

Sheet No. **CI-210**

Plot Date: 26 August 2025 - 3:53 PM Plotted By: Trevor Germsheid

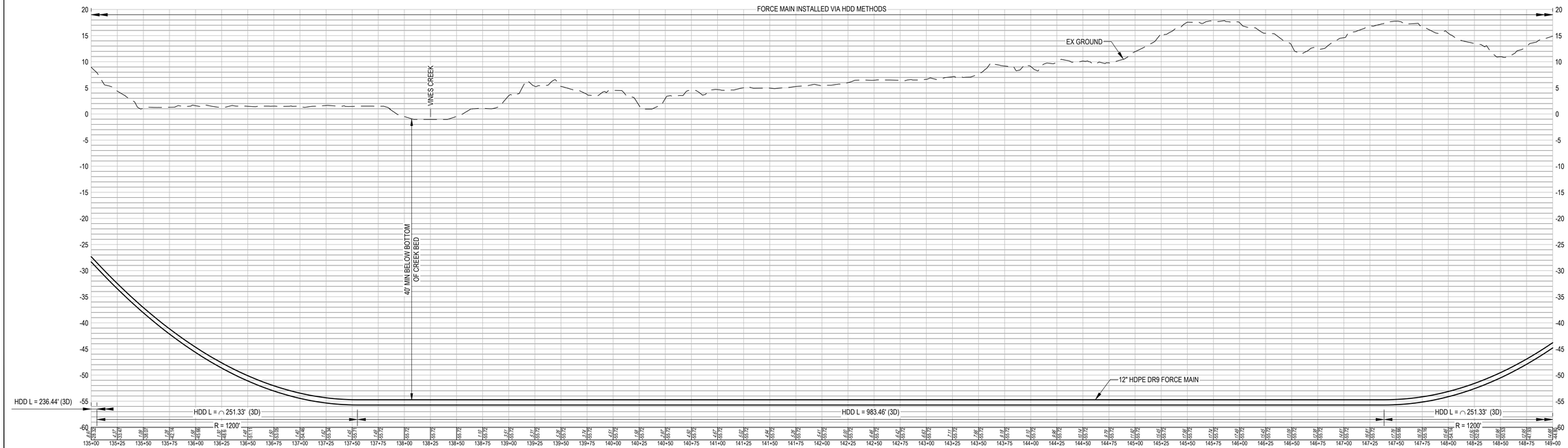
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D210.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

Bar is one inch on original size sheet

0 1"

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SEAL OF SUSSEX COUNTY DELAWARE

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

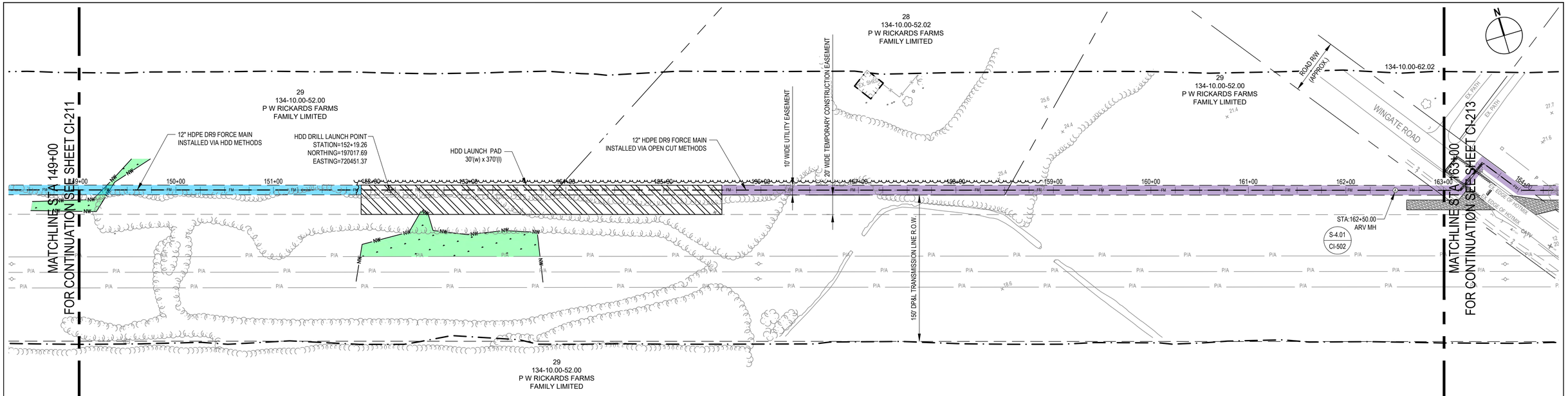
Title **PLAN AND PROFILE STATION 135+00 TO 149+00**

Size **ANSI D**

Sheet No. **CI-211**

Plot Date: 26 August 2025 - 3:54 PM Plotted By: Trevor Germsheid

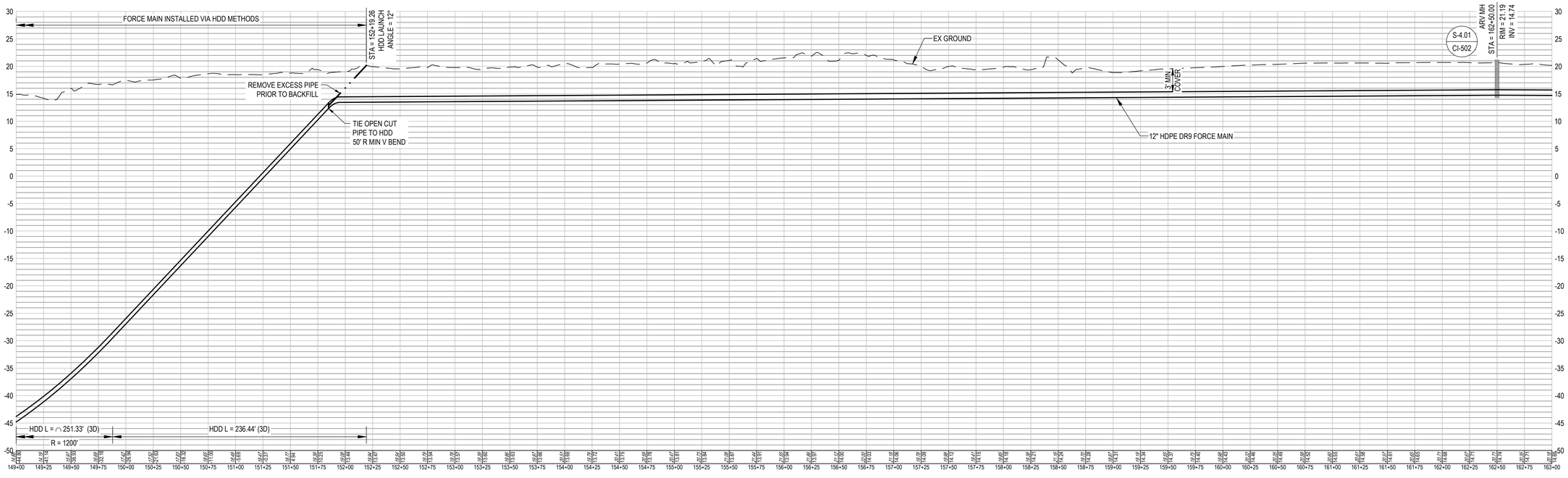
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D211.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

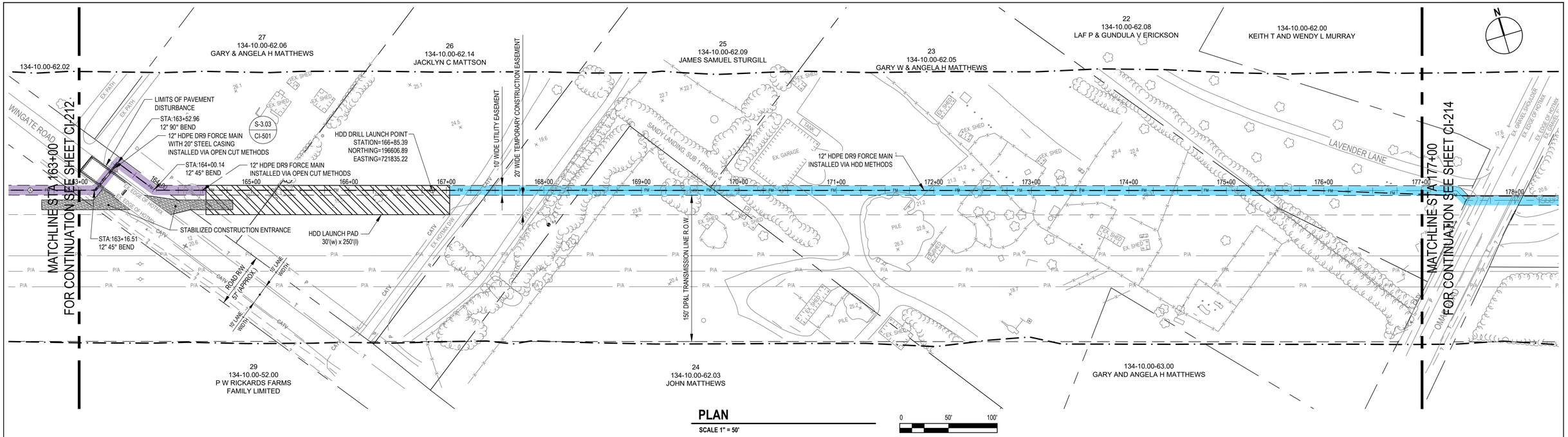
Title **PLAN AND PROFILE STATION 149+00 TO 163+00**

Size **ANSI D**

Sheet No. **CI-212**

Plot Date: 26 August 2025 - 3:54 PM Plotted By: Trevor Germsheid

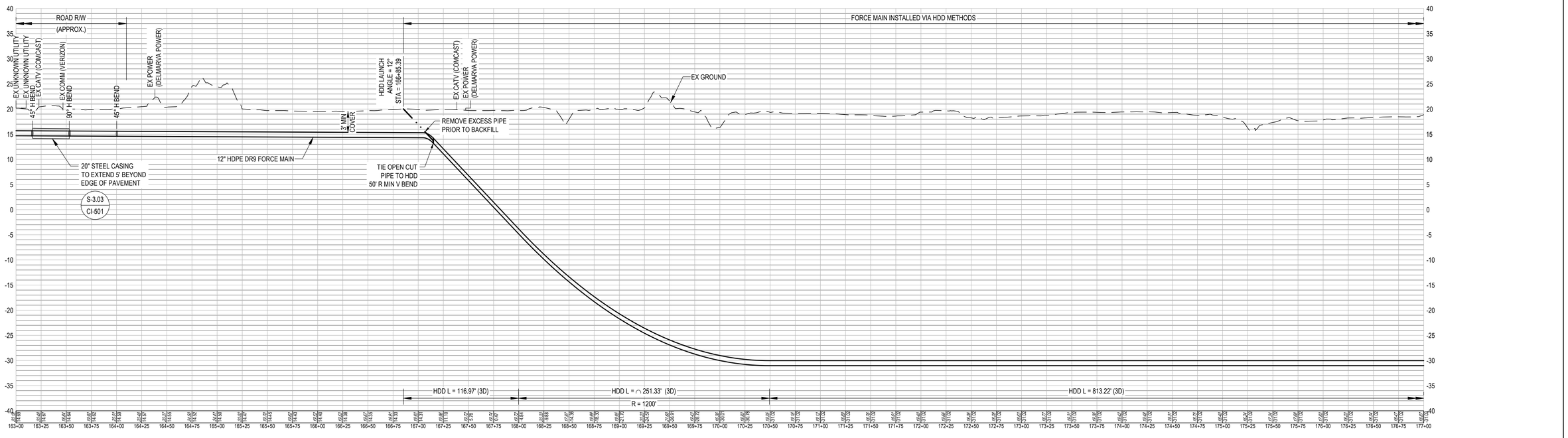
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D212.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Title **PLAN AND PROFILE STATION 163+00 177+00**

Size **ANSI D**

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Sheet No. **CI-213**

Plot Date: 26 August 2025 - 3:55 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D213.dwg

MURRAY

134-10.00-88.01
WERNER, WILLIAM M AND
ANITA WEST-WERNER

20
134-10.00-88.00
WERNER, WILLIAM M AND
ANITA WEST-WERNER

19
134-10.00-92.00
ERNESTINE HALL

21
134-10.00-62.10
PFAB HANS

18
134-10.00-93.00
WILLIAM E MILLER

17
134-10.00-94.01
DEAN FENWICK AND
TERESSA LYNN DISHAROON

16
134-10.00-94.02
DEAN FENWICK AND
TERESSA LYNN DISHAROON

MATCHLINE STA 177+00
FOR CONTINUATION SEE SHEET CI-213

MATCHLINE STA 191+00
FOR CONTINUATION SEE SHEET CI-215

LAVENDER LANE

OMAR ROAD

ROAD R/W
51' (APPROX.)

10' SHOULDER WIDTH
10' LANE WIDTH
12' SHOULDER WIDTH
10' LANE WIDTH

EX. GRAVEL SHOULDER
EX. EDGE OF PAVEMENT
EX. GRAVEL SHOULDER
EX. DITCH

EX. GARAGE
EX. DIRT LOT

12" HDPE DR9 FORCE MAIN
INSTALLED VIA HDD METHODS

HDD DRILL RECEIVING POINT
STATION=182+14.39
NORTHING=196174.12
EASTING=723293.06

HDD RECEIVING PAD
30'(w) x 230'(l)

12" HDPE DR9 FORCE MAIN
INSTALLED VIA OPEN CUT METHODS

10' WIDE UTILITY EASEMENT

20' WIDE TEMPORARY CONSTRUCTION EASEMENT

150' DP&L TRANSMISSION LINE R.O.W.

P/A

FM

PLAN

SCALE 1" = 50'

0 50' 100'

NOTES:
1. PROPERTY 20 TO HAVE A 6" VALVE CONNECTION INSTALLED ON THE MAIN LINE. COORDINATE IN THE FIELD WITH PROPERTY OWNER FOR EXACT LOCATION.

ROAD R/W
(APPROX.)

FORCE MAIN INSTALLED VIA HDD METHODS

EX CATV (COMCAST)
EX POWER (DEC)
OMAR ROAD
EX COMM (VERIZON)
EX UNKNOWN UTILITY

STA = 182+14.39
HDD RECEIVING
ANGLE = 12°

EX GROUND

REMOVE EXCESS PIPE
PRIOR TO BACKFILL

TIE OPEN CUT
PIPE TO HDD
50' R MIN V BEND

12" HDPE DR9 FORCE MAIN

3' MIN
COVER

HDD L = 813.22' (3D)

HDD L = ∩ 251.33' (3D)
R = 1200'

HDD L = 104.67' (3D)

PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
Author	TG	Drafting Check	PD	Project Manager	PD
Designer	CM	Design Check	PD	Project Director	BG

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0 1"

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Client SUSSEX COUNTY, DELAWARE

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

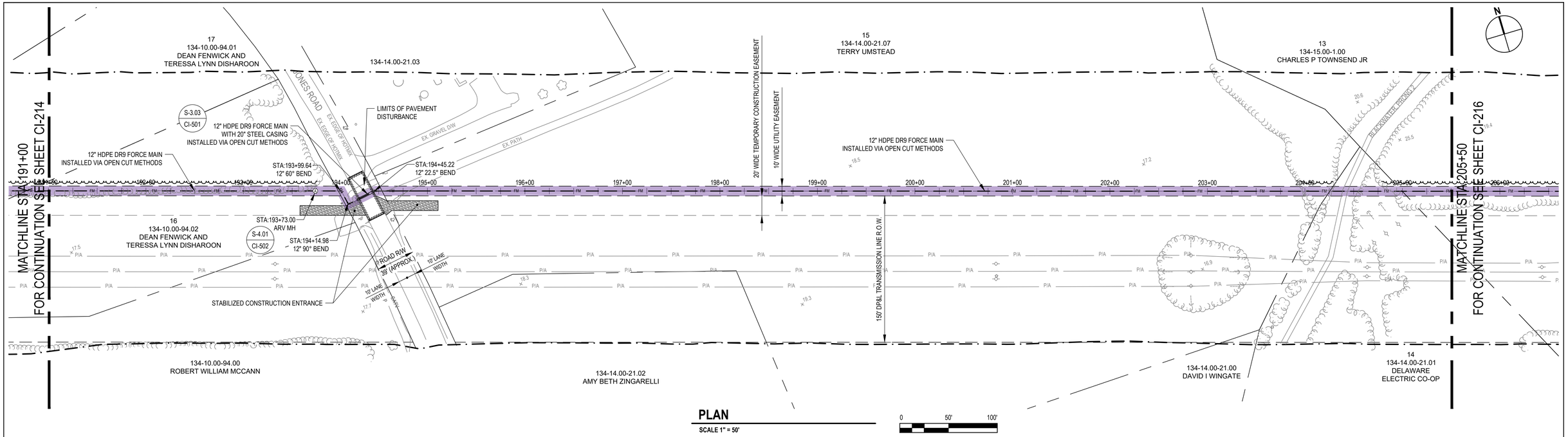
Project No. 12644261
Date MM/DD/YYYY
Scale AS SHOWN

Title PLAN AND PROFILE STATION 177+00 TO 191+00

Size ANSI D

Sheet No. CI-214

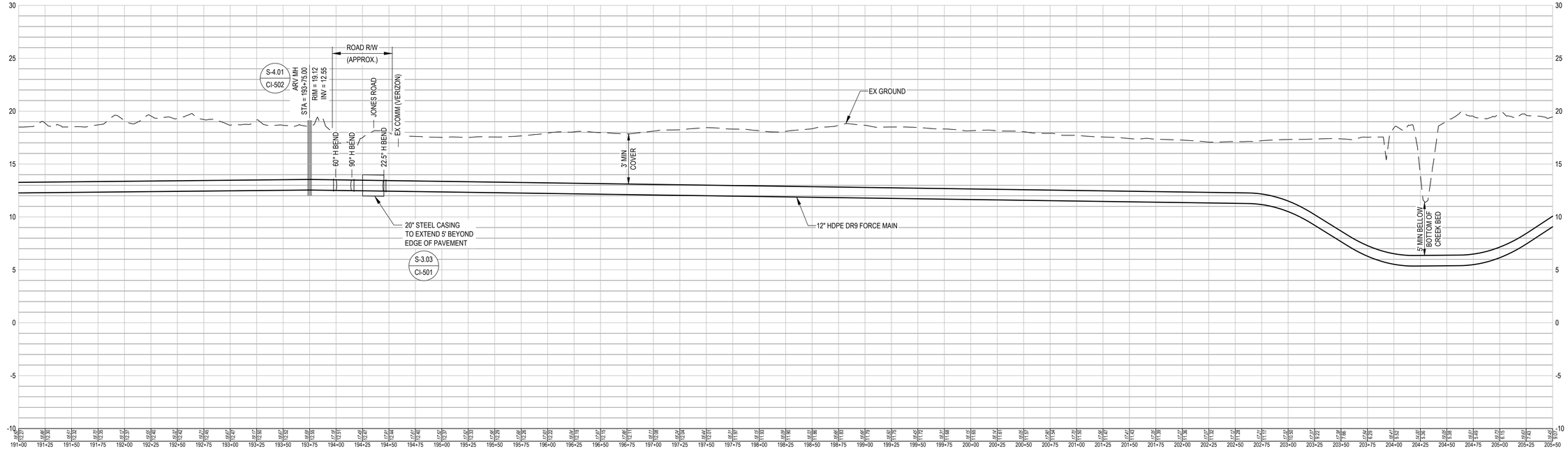
Plot Date: 26 August 2025 - 3:55 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D214.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

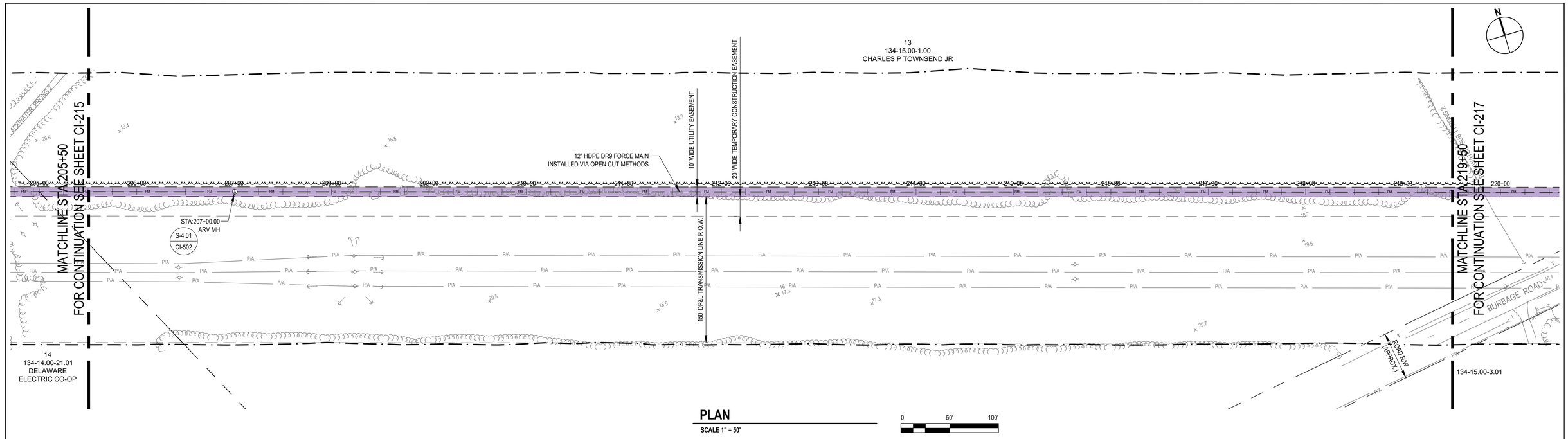
Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 191+00 TO 205+50**

Size **ANSI D**

Sheet No. **CI-215**

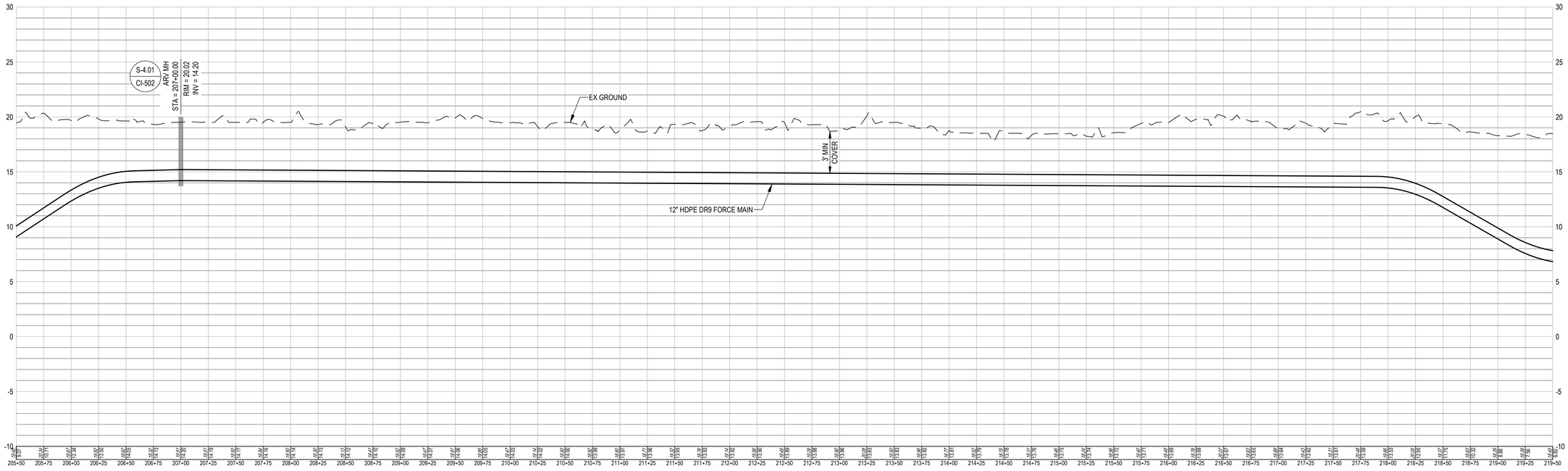
Plot Date: 26 August 2025 - 3:55 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D215.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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SEAL OF SUSSEX COUNTY, DELAWARE 1869

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

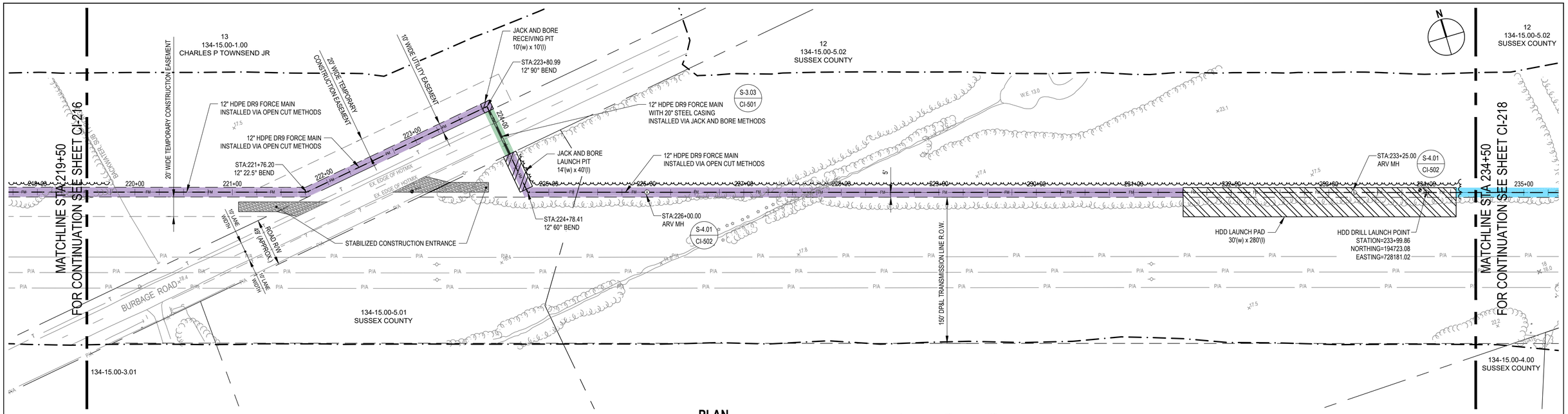
Title **PLAN AND PROFILE STATION 205+50 TO 219+50**

Size **ANSI D**

Sheet No. **CI-216**

Plot Date: 26 August 2025 - 3:56 PM Plotted By: Trevor Germsheid

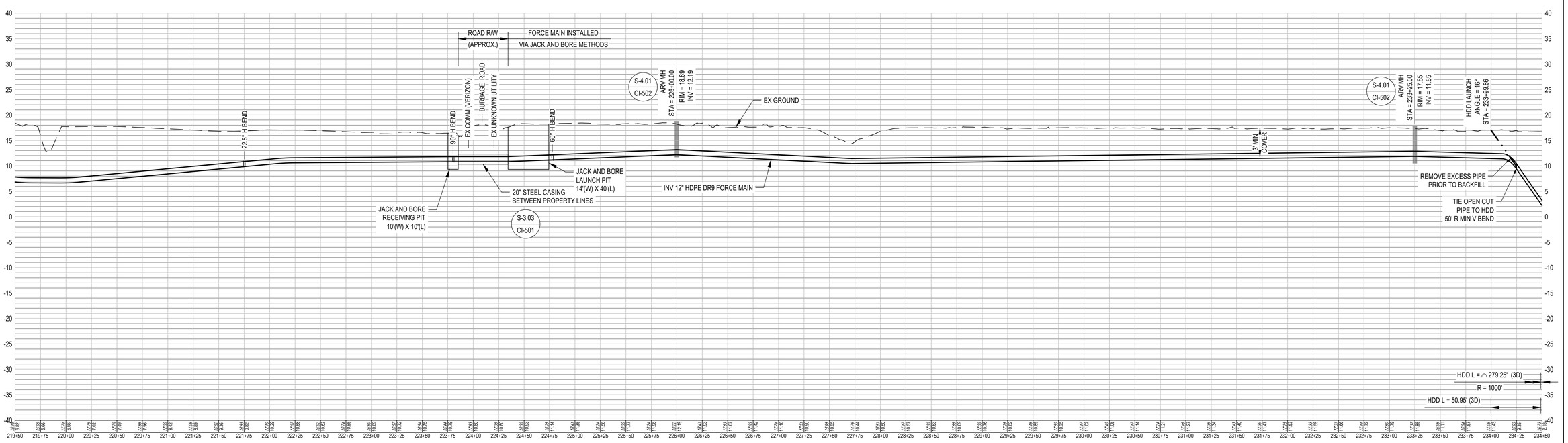
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D216.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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SEAL OF SUSSEX COUNTY DELAWARE 1683

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

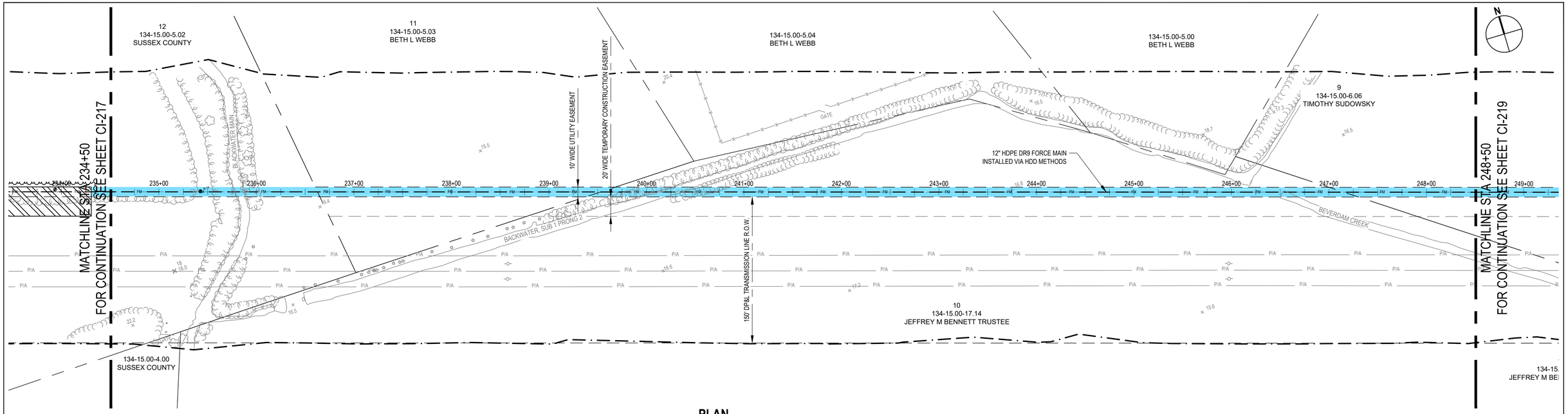
Title **PLAN AND PROFILE STATION 219+50 TO 234+50**

Size **ANSI D**

Sheet No. **CI-217**

Plot Date: 26 August 2025 - 3:57 PM Plotted By: Trevor Germsheid

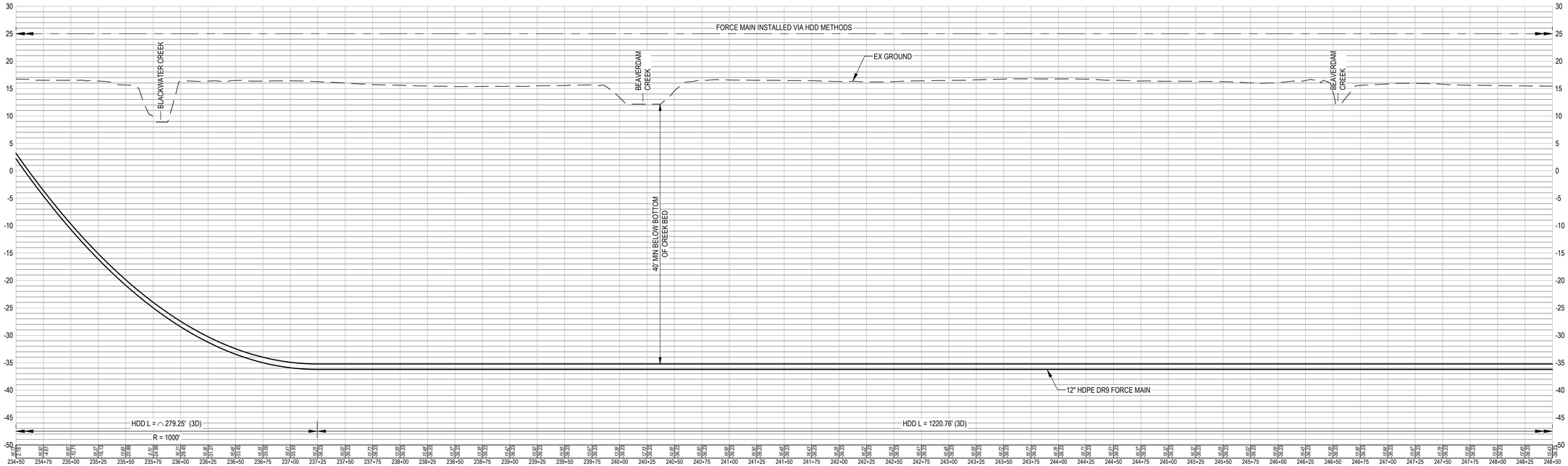
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D217.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author TG Drafting Check PD Project Manager PD

Designer CM Design Check PD Project Director BG

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0 1"

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. 12644261 Date MM/DD/YYYY Scale AS SHOWN

Title PLAN AND PROFILE STATION 234+50 TO 248+50

Size ANSI D

Sheet No. CI-218

Plot Date: 26 August 2025 - 3:57 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D218.dwg

MATCHLINE STA 248+50
FOR CONTINUATION SEE SHEET CI-218

MATCHLINE STA 262+50
FOR CONTINUATION SEE SHEET CI-220

9
134-15.00-6.06
TIMOTHY SUDOWSKY

10
134-15.00-17.14
JEFFREY M BENNETT TRUSTEE

8
134-15.00-7.00
SHARON DAVIS, CAMERON POWELL AND
RIGHARD POWELL JR.

HDD DRILL RECEIVING POINT
STATION=253+14.74
NORTHING=194178.14
EASTING=730016.73

12" HDPE DR9 FORCE MAIN
INSTALLED VIA OPEN CUT METHODS

12" HDPE DR9 FORCE MAIN
INSTALLED VIA HDD METHODS

HDD RECEIVING PAD
30'(w) x 230'(l)

10' WIDE UTILITY EASEMENT

20' WIDE TEMPORARY CONSTRUCTION EASEMENT

150' DP&L TRANSMISSION LINE R.O.W.

EX. GARAGE
EX. SHED
EX. SHED
EX. SHED
CHIRPING BIRDS LN
EX. GRAVEL
EX. CONC. PAD
EX. GARAGE

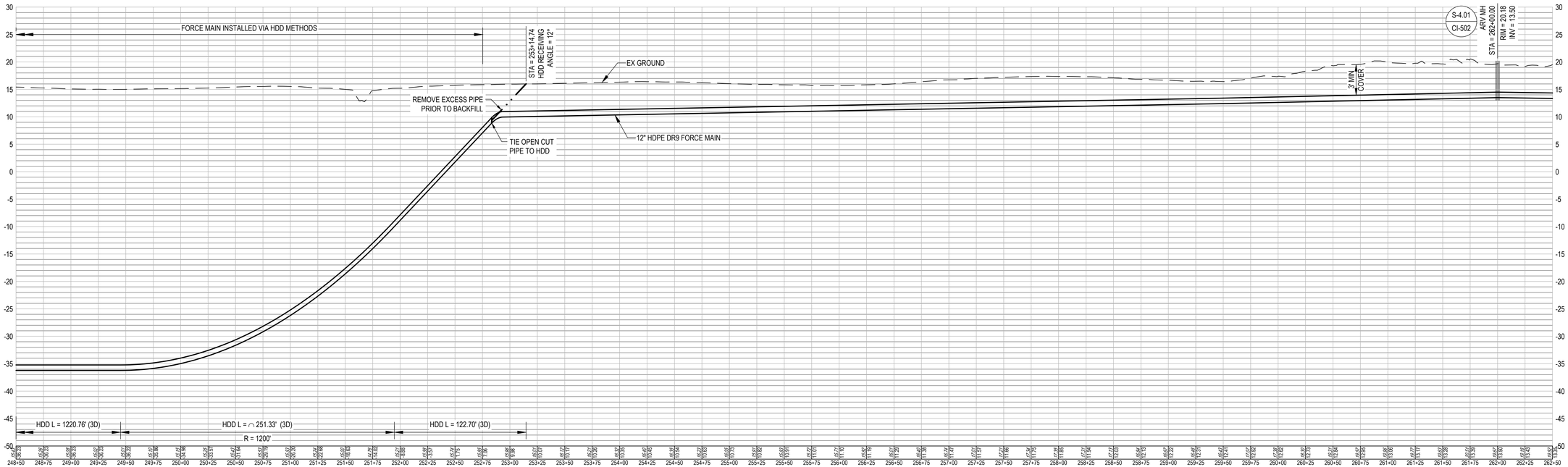
STA:262+00.00
ARV MH
S-4.01
CI-502

PLAN

SCALE 1" = 50'

0 50' 100'

NOTES:
1. PROPERTY 9 TO HAVE A 6" VALVE CONNECTION INSTALLED ON THE MAIN LINE. COORDINATE IN THE FIELD WITH PROPERTY OWNER FOR EXACT LOCATION.



PROFILE

SCALE H:1" = 50' V: 1" = 10'

H: 0 50' 100' V: 0 10' 20'

No.	Issue	Drafting Check	Checked	Approved	Date
A	FOR AGENCY REVIEW		TG	PD	2025-08-06
Author	TG	PD	Project Manager	PD	
Designer	CM	PD	Project Director	BG	

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0 1"

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Client SUSSEX COUNTY, DELAWARE

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. 12644261 | Date MM/DD/YYYY | Scale AS SHOWN

Title PLAN AND PROFILE STATION 248+50 TO 262+50

Size ANSI D

Sheet No. CI-219

Plot Date: 26 August 2025 - 3:58 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D219.dwg

6
134-15.00-7.12
SHARON DAVIS, CAMERON POWELL AND
RIGHARD POWELL JR.

5
134-15.00-19.02
JAMES R & JUDY R POWELL

7
134-15.00-7.11
SHARON DAVIS, CAMERON POWELL AND
RIGHARD POWELL JR.

MATCHLINE STA 262+50
FOR CONTINUATION SEE SHEET CI-219

MATCHLINE STA 276+50
FOR CONTINUATION SEE SHEET CI-221

HDD DRILL RECEIVING POINT
STATION=266+85.83
NORTHING=193787.95
EASTING=731331.12

12" HDPE DR9 FORCE MAIN
INSTALLED VIA OPEN CUT METHODS

HDD RECEIVING PAD
30'(w) x 230'(l)

12" HDPE DR9 FORCE MAIN
INSTALLED VIA HDD METHODS

10' WIDE UTILITY EASEMENT

20' WIDE TEMPORARY CONSTRUCTION EASEMENT

150' DP&L TRANSMISSION LINE R.O.W.

GRANVILLE LANE

ROAD R/W (APPROX.)

EX. GARAGE
EX. SHED
EX. PATH
EX. EDGE OF HOTMIX
EX. GRAVEL
TANK
GATE
PILE
RUINS
P/A
FM

N

PLAN

SCALE 1" = 50'

0 50' 100'

FORCE MAIN INSTALLED VIA HDD METHODS

HDD LAUNCH
ANGLE = 12°
STA = 266+85.83

3' MIN COVER

EX GROUND

REMOVE EXCESS PIPE
PRIOR TO BACKFILL

TIE OPEN CUT
PIPE TO HDD
50' R MIN V BEND

12" HDPE DR9 FORCE MAIN

HDD L = 104.86' (3D)

HDD L = ◠ 251.33' (3D)
R = 1200'

HDD L = 1403.72' (3D)

PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

Bar is one inch on original size sheet
0 1"

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

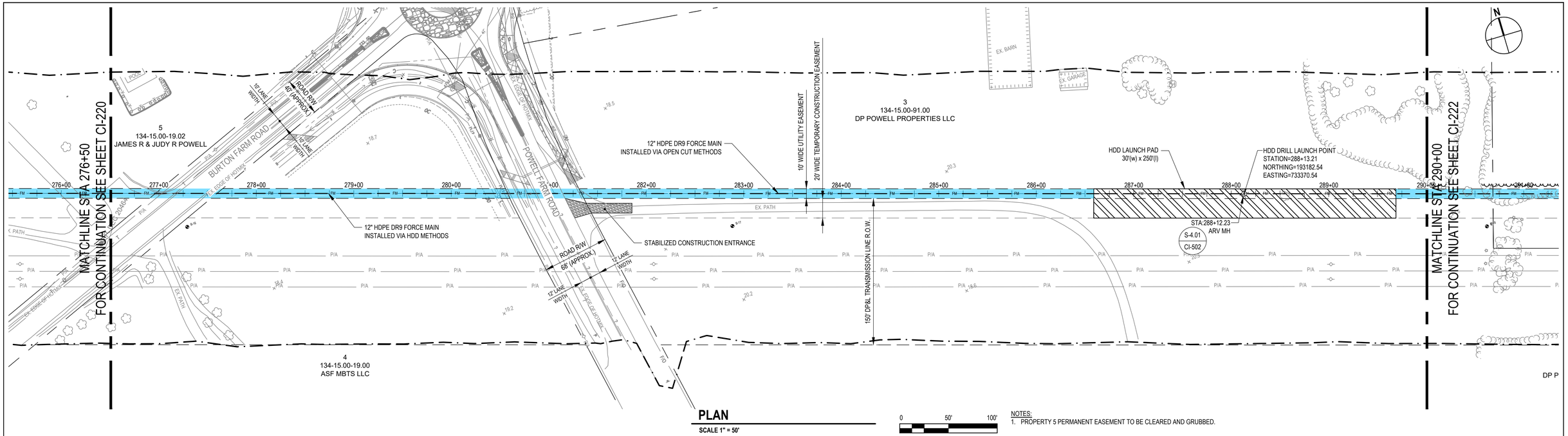
Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 262+50 TO 276+50**

Size **ANSI D**

Sheet No. **CI-220**

Plot Date: 26 August 2025 - 3:58 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D220.dwg

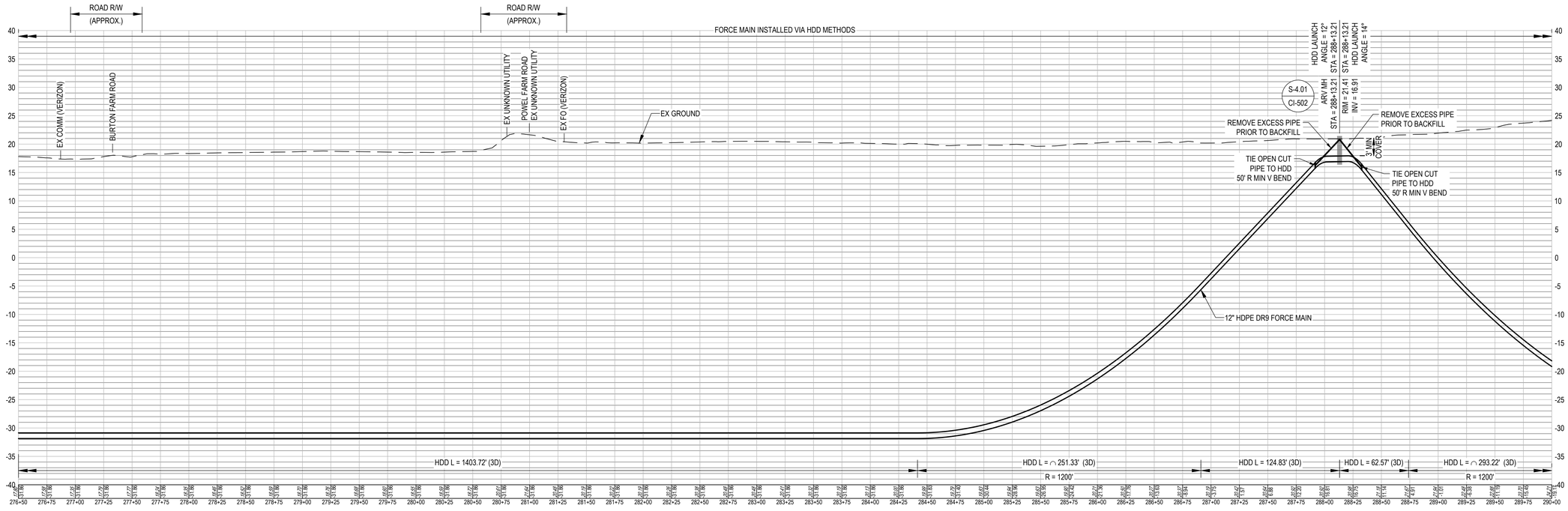


PLAN

SCALE 1" = 50'

0 50' 100'

NOTES:
1. PROPERTY 5 PERMANENT EASEMENT TO BE CLEARED AND GRUBBED.



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

Bar is one inch on original size sheet

0 1"

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PHILLIP PAUL DIECKMANN LICENSE No. 30151 DELAWARE PROFESSIONAL ENGINEER

GARNEY

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GHD Inc.
16701 Melford Boulevard Suite 221
Bowie Maryland 20715 USA
T 240 206 6810

SEAL OF SUSSEX COUNTY, DELAWARE

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

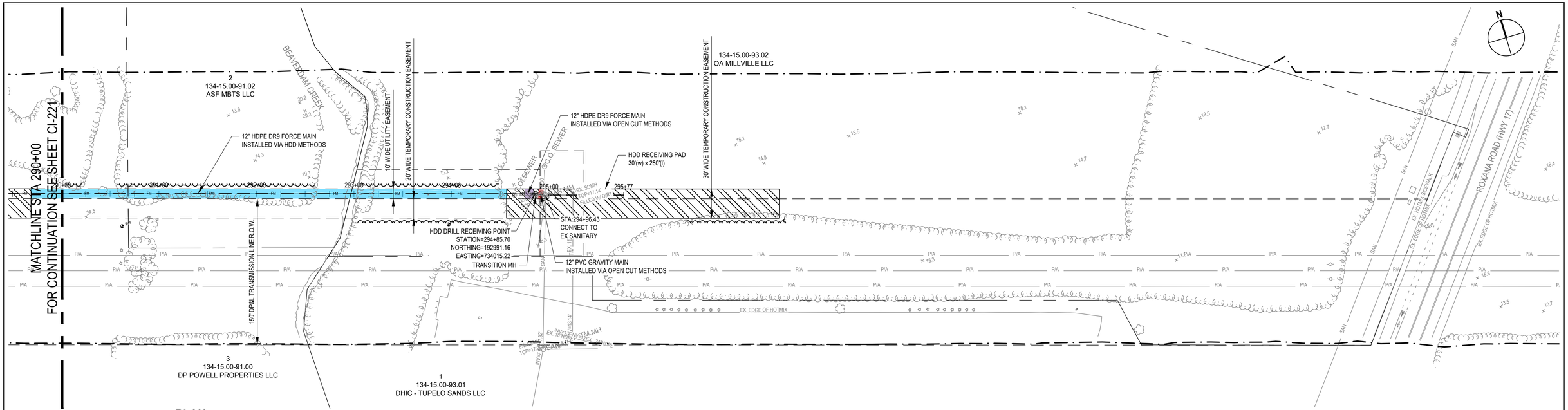
Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 276+50 TO 290+00**

Size **ANSI D**

Sheet No. **CI-221**

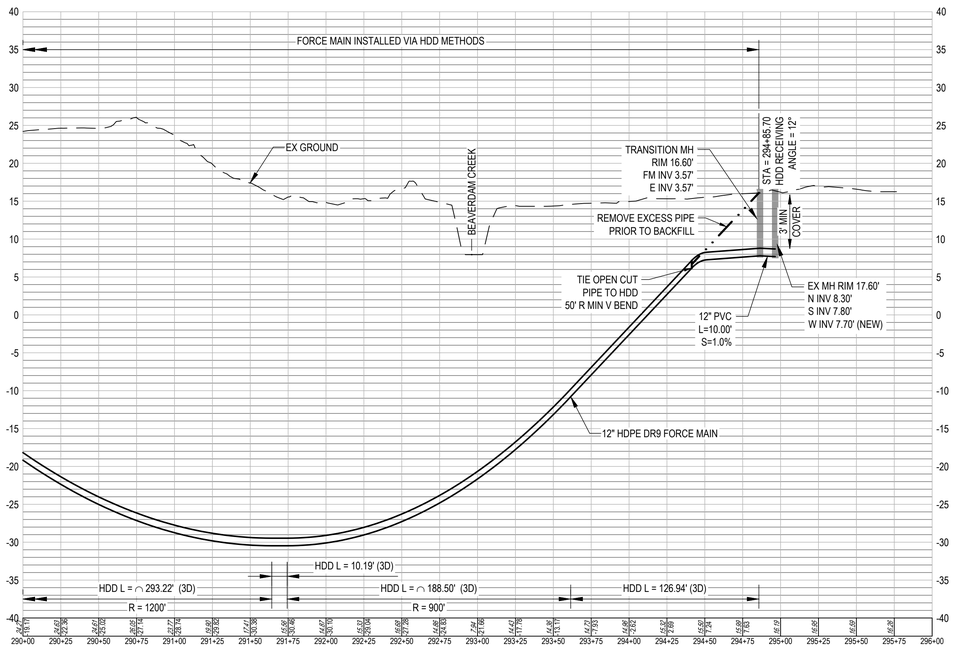
Plot Date: 26 August 2025 - 3:59 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D221.dwg



PLAN

SCALE 1" = 50'

0 50' 100'



PROFILE

SCALE H:1" = 50' V: 1" = 5'

H: 0 50' 100' V: 0 5' 10'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06	
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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **AS SHOWN**

Title **PLAN AND PROFILE STATION 290+00 TO 295+08.03**

Size **ANSI D**

Sheet No. **CI-222**

Plot Date: 26 August 2025 - 3:59 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D222.dwg

GENERAL NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, LOCAL BUILDING CODES, AND THE STANDARD SPECIFICATION AND DETAILS, OF SUSSEX COUNTY.
2. THESE DRAWINGS SHOW INFORMATION FROM THE BEST AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS, WHICH EXIST ALONG THE LINE OF WORK, BOTH AT AND BELOW THE SURFACE OF THE GROUND. THE CONTRACTOR SHALL SUPPORT AND PROTECT ALL PIPES, CONDUITS, TELEPHONE LINES AND OTHER STRUCTURES, AS REQUIRED. ALL DAMAGE TO EXISTING SERVICES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
3. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROMOTE POSITIVE DRAINAGE AND ALSO STABILIZED WITH TOPSOIL, SEED AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING AND MULCH SHALL BE REPEATED UNTIL SETTLEMENTS SUBSIDES. (SEE SOIL EROSION AND SEDIMENT CONTROL NOTES, DETAILS AND SPECIFICATIONS).
4. ALL DRAINAGE STRUCTURES AND TRENCHES SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION.
5. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS.
6. THE FINAL AUTHORITY FOR ALL WETLANDS RELATED ISSUES REST WITH THE UNITED STATES ARMY CORPS OF ENGINEERS AND/OR THE ENVIRONMENTAL PROTECTION AGENCY.
7. IT SHALL BE UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
8. ALL WORK SHALL COMPLY WITH ALL PROVISIONS OF THE CURRENT DELAWARE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
9. THE MEASURES REQUIRED IN THE APPROVED SEDIMENT CONTROL PLAN SHALL APPLY BE COMPLETED, AND IN SERVICE PRIOR TO CONSTRUCTION OF FACILITIES SHOWN ON THESE PLANS.
10. PRIOR TO SEEDING, THE CONTRACTOR SHALL HAVE SOILS TEST TO DETERMINE LIME AND FERTILIZER REQUIREMENTS.
11. FOR ALL AREAS, CULVERT AND/OR UTILITY TRENCH BACK FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY AASHTO METHOD.
12. TRENCHES SHALL NOT REMAIN OPEN OVERNIGHT. IF IT IS NECESSARY FOR TRENCHES TO REMAIN OPEN IN A TRAFFIC AREA, STEEL PLATES CAPABLE OF BEARING TRAFFIC SHALL BE USED TO COMPLETELY COVER THE TRENCH OPENING.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC ON ANY EXISTING ROADS.
14. ALL UTILITY DETAILS SHALL COMPLY WITH THE STANDARD DETAILS AS SHOWN ON THESE PLANS UNLESS OTHERWISE NOTED.
15. ANY CLEARING, GRADING CONSTRUCTION OR DEVELOPMENT, OR ALL OF THESE, WILL BE DONE PURSUANT TO THIS PLAN. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THIS PLAN. ANY CHANGE MADE IN THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGE ON THE CONTRACTOR OR THE SUBCONTRACTOR.
16. EROSION AND SEDIMENT PRACTICES, AND SITE IN GENERAL, MUST BE INSPECTED WEEKLY AND AFTER EACH RAIN FALL EVENT, BY THE CONTRACTOR OR RESPONSIBLE PERSON, AND ANY NEEDED MAINTENANCE PERFORMED IMMEDIATELY.
17. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION OF THIS PROJECT WILL HAVE AT LEAST ONE PERSON ONSITE AT ALL TIME WHO HAS TAKEN THE CONTRACTOR'S CERTIFICATION COURSE (BLUE CARD) AT A DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT CONTROL APPROVED TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT CONTROL BEFORE BEGINNING THE PROJECT.

SHEET NUMBER	SHEET TITLE	
	GENERAL	**INCLUDED IN PERMIT PACKAGE**
GN-011	**COVER SHEET**	**1, 2, 3, & 4**
	CIVIL: ESC AND STORMWATER MANAGEMENT	
CI-400	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT KEY PLAN**	**1, 2, 3, & 4**
CI-401	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**1**
CI-402	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**1**
CI-403	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**1, 2**
CI-404	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**2**
CI-405	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**2**
CI-406	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**3**
CI-407	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**3**
CI-408	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**3**
CI-409	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**3**
CI-410	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**4**
CI-411	**EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**	**4**
	CIVIL: DETAILS	
CI-506	**EROSION CONTROL NOTES**	**1, 2, 3, & 4**
CI-507	**EROSION CONTROL - DETAILS (1 OF 3)**	**1, 2, 3, & 4**
CI-508	**EROSION CONTROL - DETAILS (2 OF 3)**	**1, 2, 3, & 4**
CI-509	**EROSION CONTROL - DETAILS (3 OF 3)**	**1, 2, 3, & 4**

SOIL TABLE

SOIL LABEL	SOIL SERIES	HSG	SLOPES	HIGHLY ERODIBLE SOILS	PRIME AG SOILS
AsA	Askecksy loamy sand	A/D	0%-2%	YES	NOT PRIME FARMLAND
EvD	Evesboro loamy sand	A	5%-15%	NO	NOT PRIME FARMLAND
FgdA	Fallsington loams	C/D	0%-2%	YES	FARMLAND OF STATEWIDE IMPORTANCE
FhA	Fort Mott-Henlopen complex	A	0%-2%	NO	PRIME FARMLAND IF IRRIGATED
HmAd	Hammonton loamy sand	B	0%-2%	YES	PRIME FARMLAND PRIME FARMLAND IF
HpB	Henlopen loamy sand	A	2%-5%	NO	IRRIGATED FARMLAND OF STATEWIDE
HuA	Hurlock loamy sand	A/D	0%-2%	YES	IMPORTANCE FARMLAND OF STATEWIDE
HvA	Hurlock sandy loam	A/D	0%-2%	YES	IMPORTANCE
IeA	Ingleside loamy sand	A	0%-2%	NO	PRIME FARMLAND FARMLAND OF STATEWIDE
KsA	Klej loamy sand	A/D	0%-2%	YES	IMPORTANCE NOT PRIME
LO	Longmarsh and Indiantown soils	B/D	0%-1%	YES	FARMLAND PRIME FARMLAND IF
MmA	Mullica mucky sandy loam	A/D	0%-2%	YES	DRAINED PRIME FARMLAND IF
MuA	Mullica-Berryland complex	A/D	0%-2%	YES	DRAINED NOT PRIME
Pk	Puckum muck	A/D	0%-2%	YES	FARMLAND PRIME FARMLAND IF
PpA	Pepperbox loamy sand	A	0%-2%	NO	IRRIGATED PRIME FARMLAND IF
PpB	Pepperbox loamy sand	A	2%-5%	NO	IRRIGATED PRIME FARMLAND IF
RoA	Rosedale loamy sand	A	0%-2%	NO	IRRIGATED PRIME FARMLAND IF
RoB	Rosedale loamy sand	A	2%-5%	NO	IRRIGATED NOT PRIME
RuA	Runclint loamy sand,	A	0%-2%	YES	FARMLAND NOT PRIME
RuB	Runclint loamy sand	A	2%-5%	YES	FARMLAND NOT PRIME
WHe1	Herring Creek mucky silt loam	C	N/A	YES	FARMLAND

LEGEND

FEATURE	EXISTING	PROPOSED
LIMIT OF SURVEY		
PROPERTY LINE		
CENTER LINE		
EASEMENT		
500 YEAR BASE FLOOD ELEVATION		
CONSTRUCTION STAKEOUT POINT		01
BENCHMARK		
TEMPORARY BENCHMARK		
CONTROL POINT	CP	CP
PERMANENT SURVEY MARKER		
SANITARY SEWER FORCEMAIN	FM	FM
PAVEMENT		
CONC SIDEWALK		
GRAVEL PAVEMENT		
MILL AND OVERLAY PAVEMENT		
>25% SLOPES		
15%-25% SLOPES		
FENCE	x x	x x
STRUCTURE		
TREE LINE		
HEDGE		
TREE		
STORM SEWER	STM	STM
SWALE/DITCH		
WATER MAIN	W	W
SANITARY SEWER	SAN	SAN
SANITARY SEWER FORCEMAIN	FM	FM
BORING / RECEIVING PIT		
SILT FENCE		SF
LIMITS OF DISTURBANCE		LOD
CULVERT INLET PROTECTION		CIP
STABILIZED CONSTRUCTION ENTRANCE		SCE

TAX ID TABLE

	Property ID
1	134-15.00-91.02
2	134-15.00-19.00
3	134-15.00-19.02
4	134-15.00-7.12
5	134-15.00-7.11
6	134-15.00-7.00
7	134-15.00-6.06
8	134-15.00-17.14
9	134-15.00-5.03
10	134-15.00-5.02
11	134-15.00-5.01
12	134-15.00-1.00
13	134-14.00-21.01
14	134-14.00-21.07
15	134-10.00-94.02
16	134-10.00-94.01
17	134-10.00-93.00
18	134-10.00-88.00
19	134-10.00-62.10
20	134-10.00-62.08
21	134-10.00-62.05
22	134-10.00-62.03
23	134-1.00-62.09
24	134-10.00-62.14
25	134-10.00-62.06
26	134-10.00-52.00
27	134-10.00-52.02
28	134-10.00-51.00
29	433-2.00-1.00
30	433-2.00-7.02
31	433-2.00-2.00
32	233-12.00-28.00
33	233-11.00-198.00
34	233-11.00-196.00
35	233-11.00-181.00
36	233-11.00-176.00
37	233-11.00-175.01
38	233-11.00-172.00
39	233-11.00-109.00
40	233-11.00-78.01
41	233-11.00-83.00
42	233-11.00-80.00

OWNER'S CERTIFICATION

"I, the undersigned, certify that all land clearing,construction and development should be done pursuant to the approved plan and that responsible personnel (i.e., Blue Card Holder) involved in the land disturbance will have a Certification of Training prior to initiation of the project, at a DNREC sponsored or approved training course for the control of erosion and sediment during construction. In addition, I grant the DNREC Sediment and Stormwater Program and/or the relevant Delegated Agency the right to conduct onsite reviews, and I understand my responsibilities under the NPDES Construction General Permit, as referenced on this Cover Sheet."

DATE: _____ OWNER'S SIGNATURE: _____

MICHAEL HARMER, COUNTY ENGINEER

OWNER'S NAME AND TITLE

DESIGN CERTIFICATION

I, the undersigned, certify that the information supplied on this Application for Standard Plan Approval is accurate, the proposed land disturbing activity meets the criteria established, and all conditions of this Standard Plan Approval will be met by the applicant, contractor, and owner during construction and post construction.

DATE: _____ DESIGNER'S SIGNATURE: _____

PHILLIP DIECKMANN, PE TECHNICAL DIRECTOR (GHD, INC.)

DESIGNER'S NAME AND TITLE

WETLAND CERTIFICATION

This property, tax map (see TAX ID Table), has been examined by Geo-technology Associates, Inc for the presence of Waters of the United States, including wetlands (Section 404 and Section 10), State subaqueous lands and State regulated wetlands as established by the reviewing agencies in the form of manuals, policies and procedures in place at the time that the investigation was conducted. The wetland information contained in this plan set is in accordance with this criteria.

SITE INFORMATION:

1.	OWNER	MICHAEL HARMER, COUNTY ENGINEER SUSSEX COUNTY ADMINISTRATIVE OFFICE BUILDING, 3RD FLOOR 2 THE CIRCLE, P.O. BOX 589 GEORGETOWN, DE 19947 (302)855-7718
2.	APPLICANT:	PHILLIP DIECKMANN, PE TECHNICAL DIRECTOR, GHD INC. 16701 MELFORD BOULEVARD, SUITE 330 BOWIE MD 20715 (240)206-6810
3.	EXISTING AREA:	239,946 SQ. FT
4.	PROPOSED AREA:	706,199 SQ FT
5.	PROPOSED CONDITION:	275 SQ FT
6.	FLOODPLAIN AREA	0 SQ FT
7.	WETLAND AREA:	1,503 SQ FT
8.	VERTICAL DATUM:	NAVD 88
9.	HORIZONTAL DATUM:	NAD 83

VICINITY MAP N

USACE WETLAND AND TAX DITCH IMPACT TABLE
USACE PERMIT NO. XXXX-XX-X-XXXX-XXX-XX (NWP 58)

ID (SHOWN ON DRAWINGS)	WATERBODY NAME	PIPE/STRUCTURE	PUMPING PIT DISTURBANCE (TEMP.)		SAND BAG DIKES DISTURBANCE (TEMP.)		STRUCTURE BACKFILL DISTURBANCE (TEMP.)	
			AREA (sq.ft.)	VOLUME (CY)	AREA (sq.ft.)	VOLUME (CY)	AREA (sq.ft.)	VOLUME (CY)
TDI-1	HERRING BRANCH, MAIN SECTION	12" HDPE FM	50	6	32	5.9	12	2.6
TDI-2	BLACKWATER, PRONG 2	12" HDPE FM	50	6	40	7.4	15	3.0
TDI-3	BLACKWATER, SUB 1 PRONG 2	12" HDPE FM	50	6	16	3.0	12	2.8

PERMIT PACKAGE NO.	PERMIT NO.	DISTURBED AREA
1	XXX-XX	192,201 SQ FT
2	XXX-XX	202,340 SQ FT
3	XXX-XX	217,775 SQ FT
4	XXX-XX	93,881 SQ FT
TOTAL PROJECT DISTURBED AREA		706,199 SQ FT = 16.21 AC

No.	Issue	Checked	Approved	Date
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Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. **12644261** Date **MM/DD/YYYY** Scale **N.T.S.**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT COVER SHEET**
Size **ANSI D**
Sheet No. **GN-011**

Plot Date: 26 August 2025 - 3:45 PM Plotted By: Trevor Germsheid
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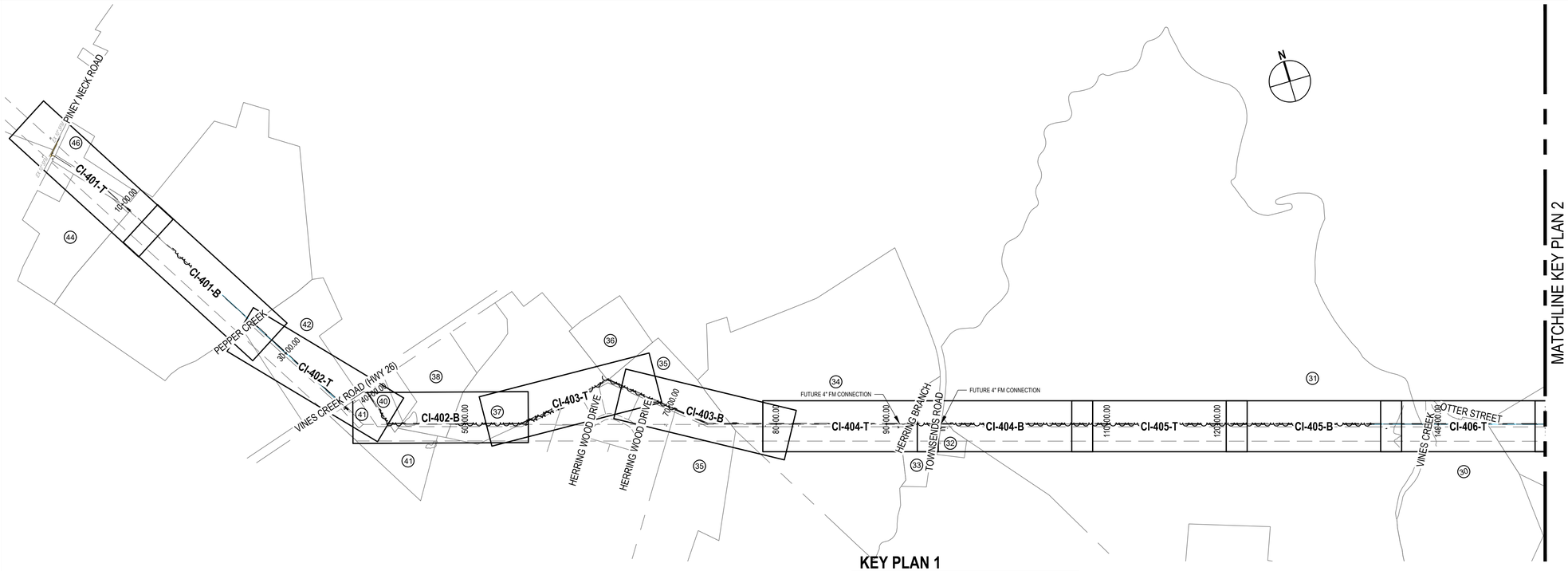
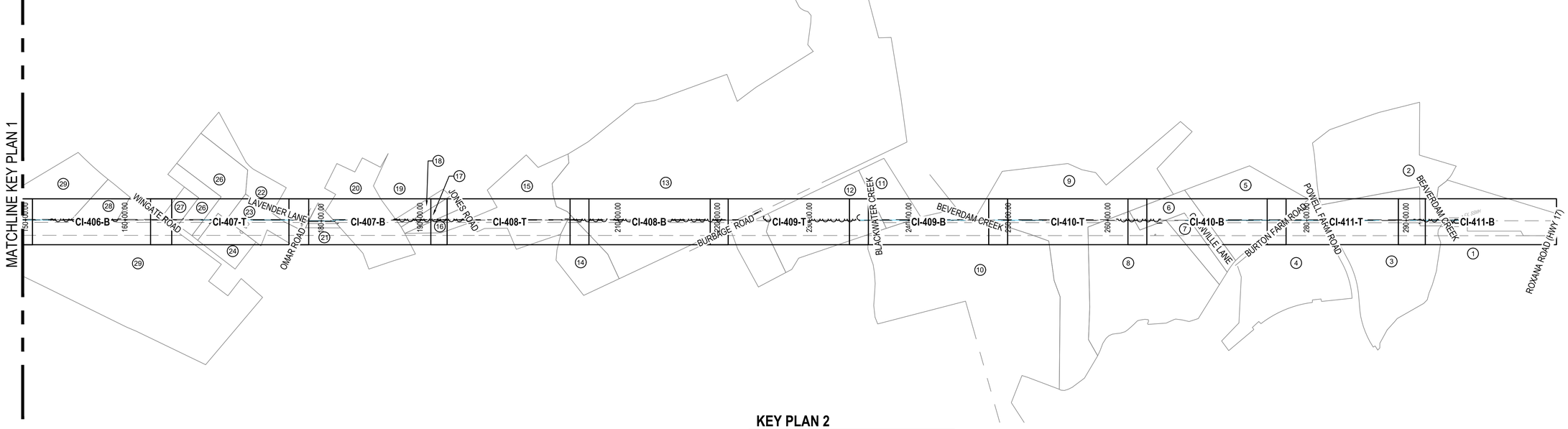


KEY PLAN 1

SCALE Custom



KEY PLAN 2

SCALE Custom

Number	Property ID	Record Owner
1	134-15.00-93.01	DHIC - Tupelo Sands LLC
2	134-15.00-91.02	ASF MBTS LLC
3	134-15.00-91.00	D P Powell Properties LLC
4	134-15.00-19.00	ASF MBTS LLC
5	134-15.00-19.02	Powell, James R & Judy R
6	134-15.00-7.12	Sharon Davis, Cameron Powell and Richard Powell
7	134-15.00-7.11	Sharon Davis, Cameron Powell and Richard Powell
8	134-15.00-7.00	Sharon Davis, Cameron Powell and Richard Powell
9	134-15.00-6.06	Timothy Sudowsky
10	134-15.00-17.14	Bennett, Jeffrey M Trustee
	134-15.00-5.04	Beth L Webb
11	134-15.00-5.03	Beth L Webb
12	134-15.00-5.02	Sussex County
12R or 13	134-15.00-5.01	Sussex County
	134-15.00-5.00	Beth L Webb
13	134-15.00-1.00	Townsend, Charles P Jr
	134-14.00-21.00	David I Wingate
14	134-14.00-21.01	Delaware Electric Cooperative Inc
	134-14.00-21.02	Amy Beth Zingarelli
	134-14.00-21.03	Eduardo Rojas Ramirez
15	134-14.00-21.07	Umstead, Terry
16	134-10.00-94.02	Dean Fenwick and Teressa Lynn Disharoon
17	134-10.00-94.01	Dean Fenwick and Teressa Lynn Disharoon
18	134-10.00-93.00	William E Miller
19	134-10.00-92.00	Ernestine Hall
20	134-10.00-88.00	Werner, William M and Anita West-Werner
	134-10.00-88.01	Werner, William M and Anita West-Werner
	134-10.00-63.00	Gary and Angela H Matthews
21	134-10.00-62.10	PFAB HANS
22	134-10.00-62.08	Erickson, Laf P & Gundula V
23	134-10.00-62.05	Matthews, Gary W & Angela H
24	134-10.00-62.03	Matthews, John
	134-10.00-62.00	Keith T and Wendy L Murray
25	134-1.00-62.09	Sturgill, James Samuel
26	134-10.00-62.14	Mattson, Jacklyn C
27	134-10.00-62.06	Matthews, Gary & Angela H
29	134-10.00-52.00	P W Rickards Farms Family Limited
28	134-10.00-52.02	P W Rickards Farms Family Limited
30	134-10.00-51.00	Bayshore Inc
	134-10.00-48.00	Bayshore Inc
31	433-2.00-1.00	Townsend, Charles P Jr.
32	433-2.00-7.02	Layton, Ross E & Beverly S
33	433-2.00-2.00	Ronald L Culver & Melissa A Culver
34	233-12.00-28.00	Townsend, Charles P Jr.
	233-11.00-198.02	Herring Wood Homeowners Association Inc
35	233-11.00-198.00	Toomey Farm LLC
36	233-11.00-196.00	Conti Daniel A III
37	233-11.00-181.00	Lynch, Robert C Trustee
38	233-11.00-176.00	LEXCORP DEVELOPMENT LLC
39	233-11.00-171.00	Robert C Lynch Trustee
40	233-11.00-175.01	LEXCORP DEVELOPMENT LLC
41	233-11.00-172.00	ES MOTORS LLC
42	233-11.00-109.00	EILEEN MCCAFFERY
	233-11.00-83.00	SUSSEX COUNTY
44	233-11.00-78.01	ARTHUR EDWARD DAVIDSON
46	233-11.00-80.00	AMELIA LYNCH TRUSTEE

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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0 1"

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16701 Melford Boulevard Suite 221
Bowie Maryland 20715 USA
T 240 206 6810

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 1000'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT KEY PLAN**

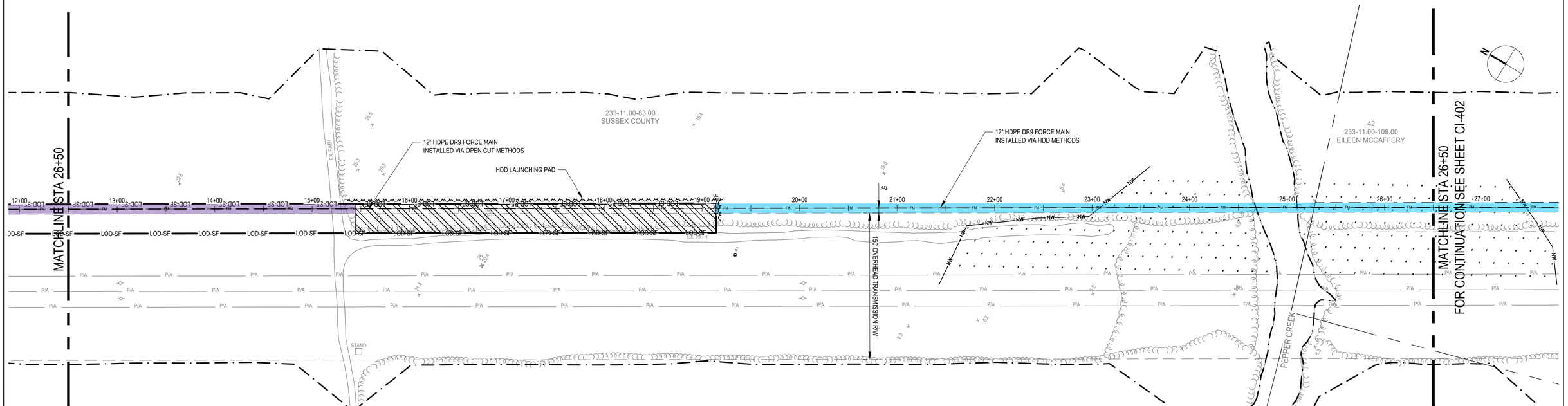
Size **ANSI D**

Sheet No. **CI-400**

Plot Date: 26 August 2025 - 4:00 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D400.dwg

NOTES:
1. REMOVE EXISTING 10" FORCE MAIN BETWEEN THE PROPOSED TIE-IN POINT AND THE PROPOSED FORCE MAIN ROAD CROSSING. THE EXISTING FORCE MAIN BETWEEN PINED NECK WRF AND THE PROPOSED FORCE MAIN ROAD CROSSING IS TO BE FILLED WITH FLOWABLE FILL, CAPPED AND ABANDONED IN PLACE.



No.	Issue	Author	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD		2025-08-06

Author TG | Drafting Check PD | Project Manager PD
Designer CM | Design Check PD | Project Director BG

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0 1"

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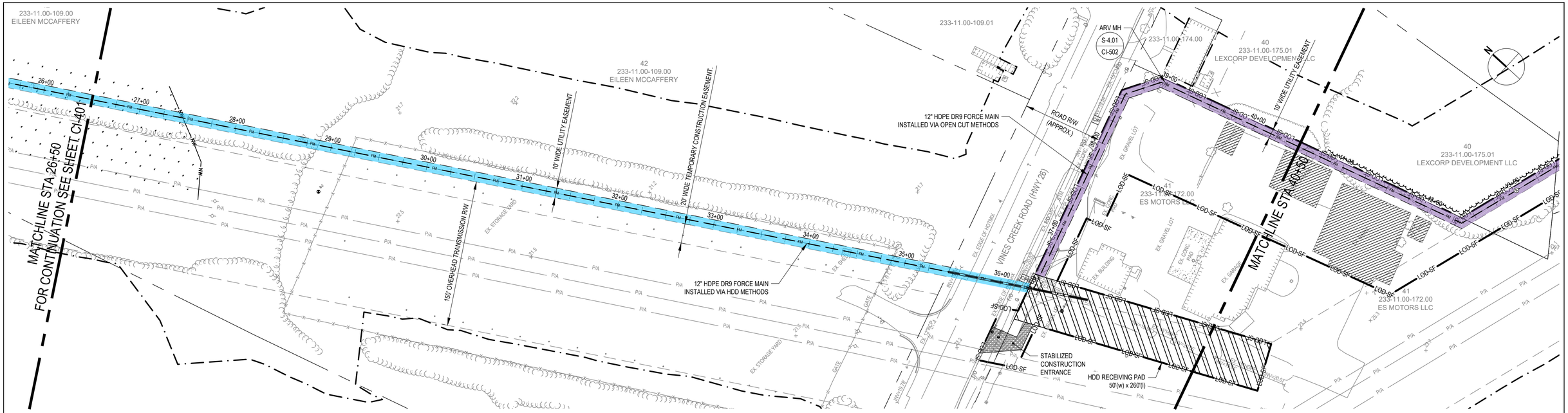
Client SUSSEX COUNTY, DELAWARE
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. 12644261 | Date MM/DD/YYYY | Scale 1" = 50'

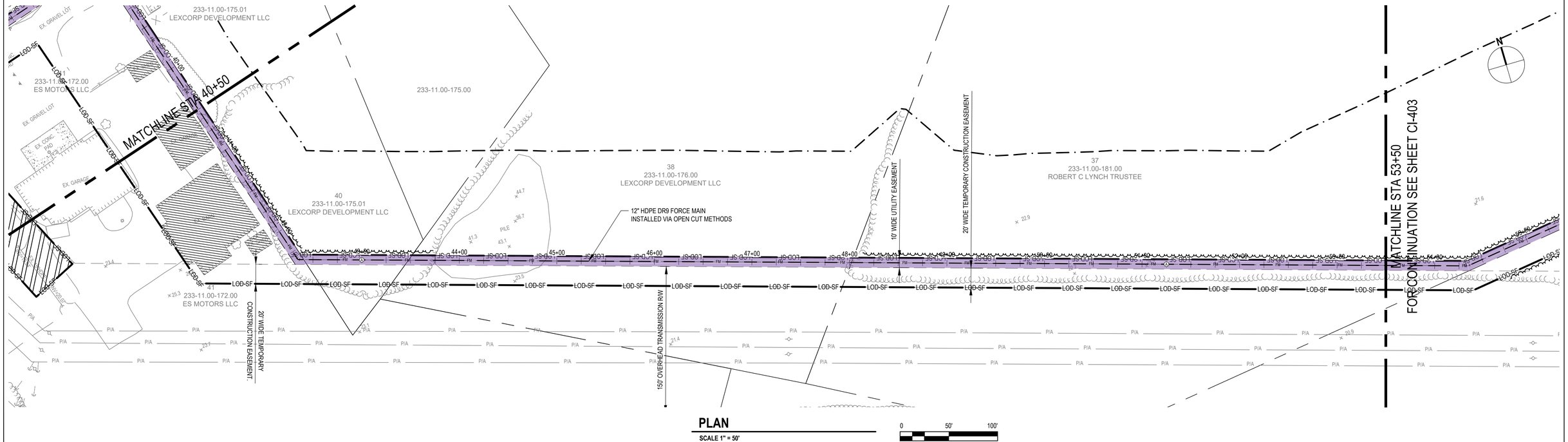
Title EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
Sheet No. CI-401
Size ANSI D

Plot Date: 26 August 2025 - 4:00 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D401.dwg



PLAN
SCALE 1" = 50'

0 50' 100'



PLAN
SCALE 1" = 50'

0 50' 100'

A	FOR AGENCY REVIEW	TG	PD	2025-08-06
No.	Issue	Checked	Approved	Date

Author TG	Drafting Check PD	Project Manager PD	
Designer CM	Design Check PD	Project Director BG	

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

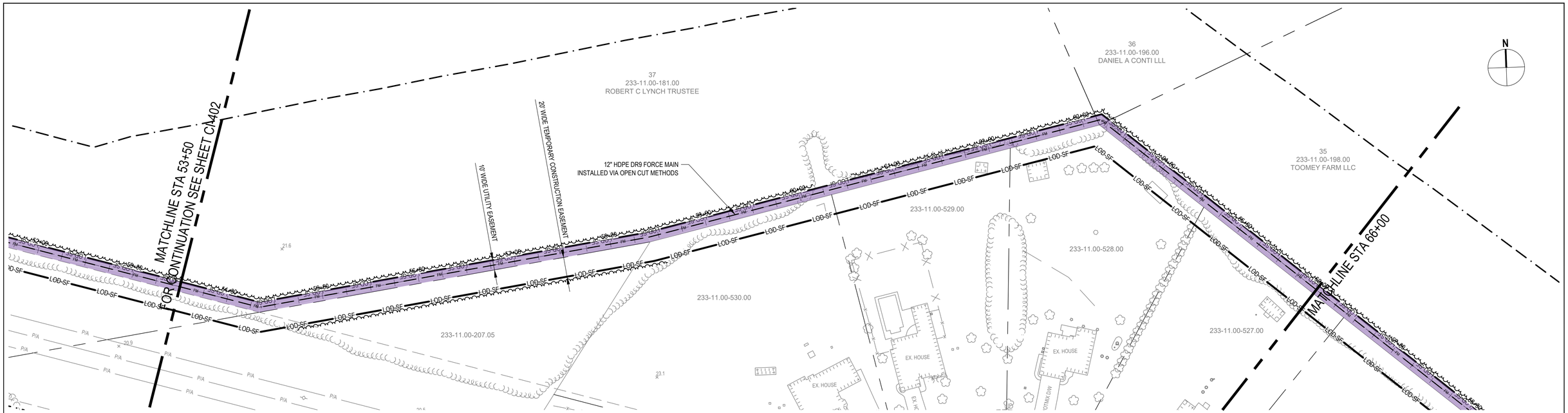
Project No.	Date	Scale
12644261	MM/DD/YYYY	1" = 50'

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size ANSI D

Sheet No. CI-402

Plot Date: 26 August 2025 - 4:01 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D402.dwg



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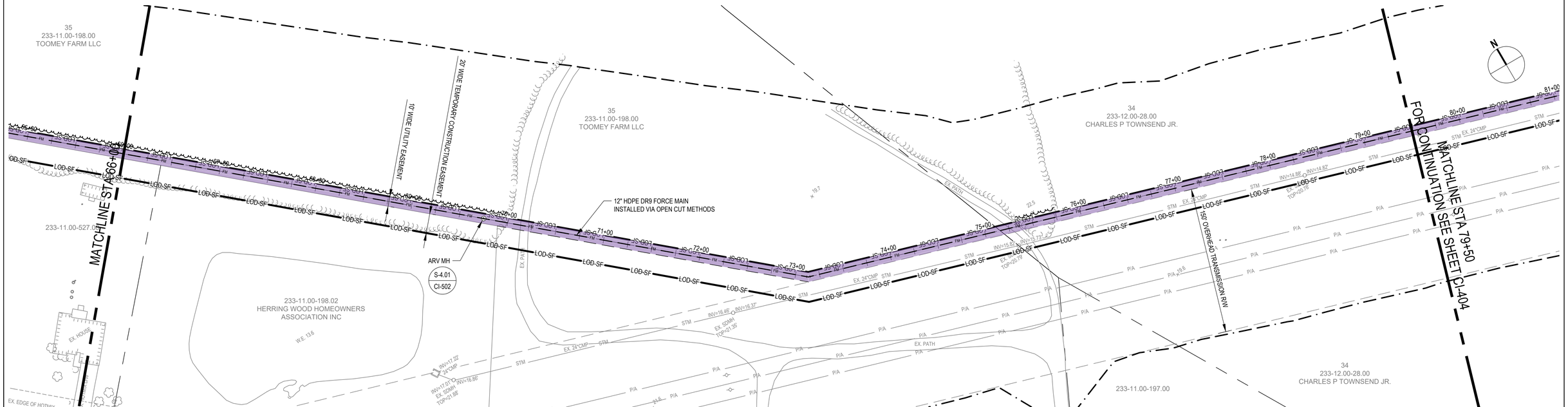
SCALE 1" = 50'



PLAN
SCALE 1" = 50'

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A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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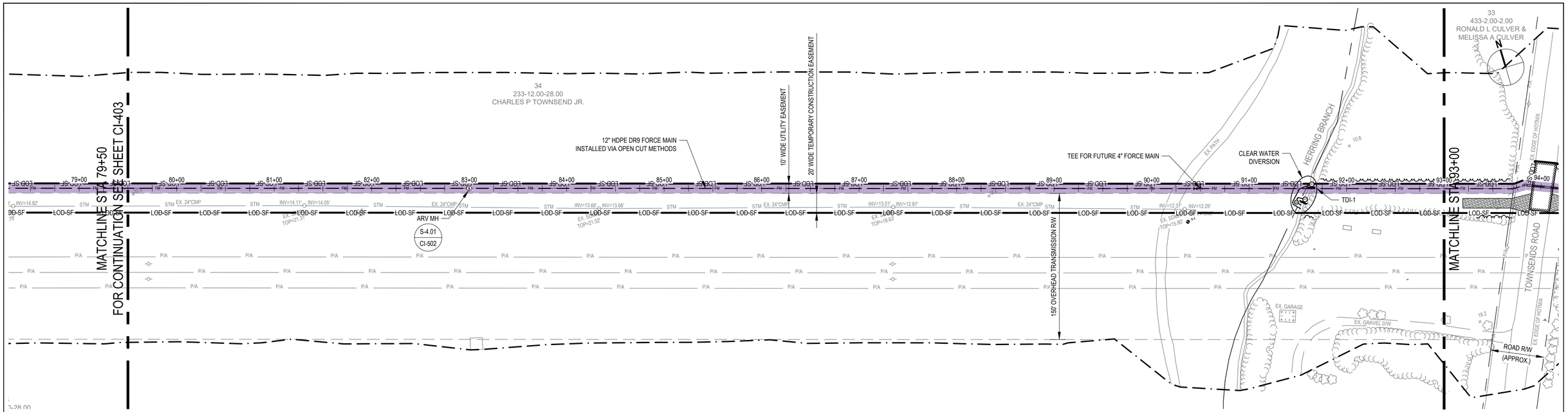
Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Sheet No. **CI-403**

Plot Date: 26 August 2025 - 4:01 PM Plotted By: Trevor Germsheid Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D403.dwg



PLAN

SCALE 1" = 50'

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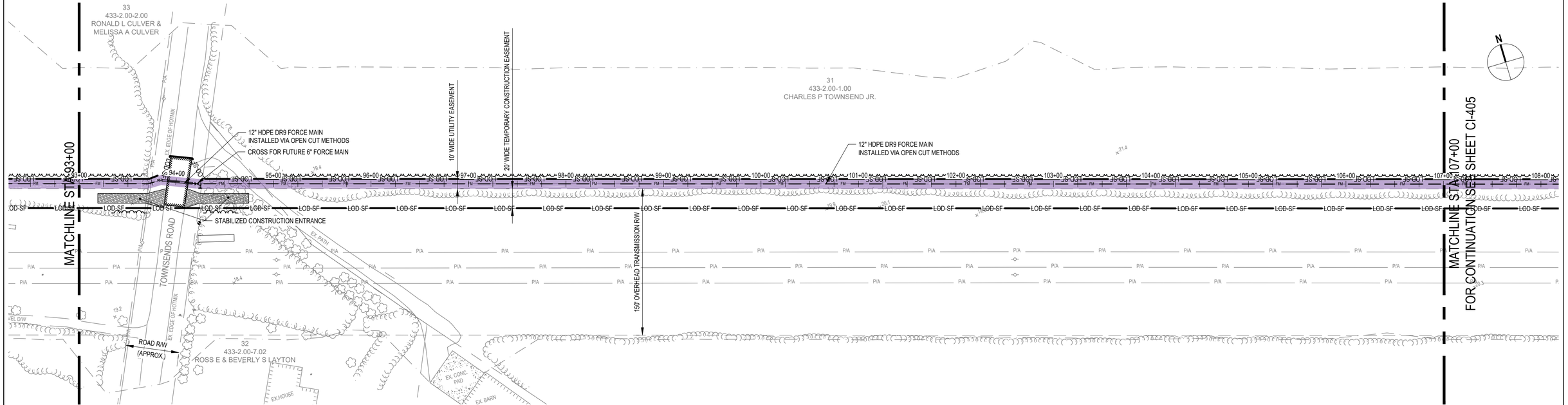

PLAN

SCALE 1" = 50'

0 50' 100'

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A	FOR AGENCY REVIEW	TG	PD		2025-08-06

Author TG | Drafting Check PD | Project Manager PD
Designer CM | Design Check PD | Project Director BG

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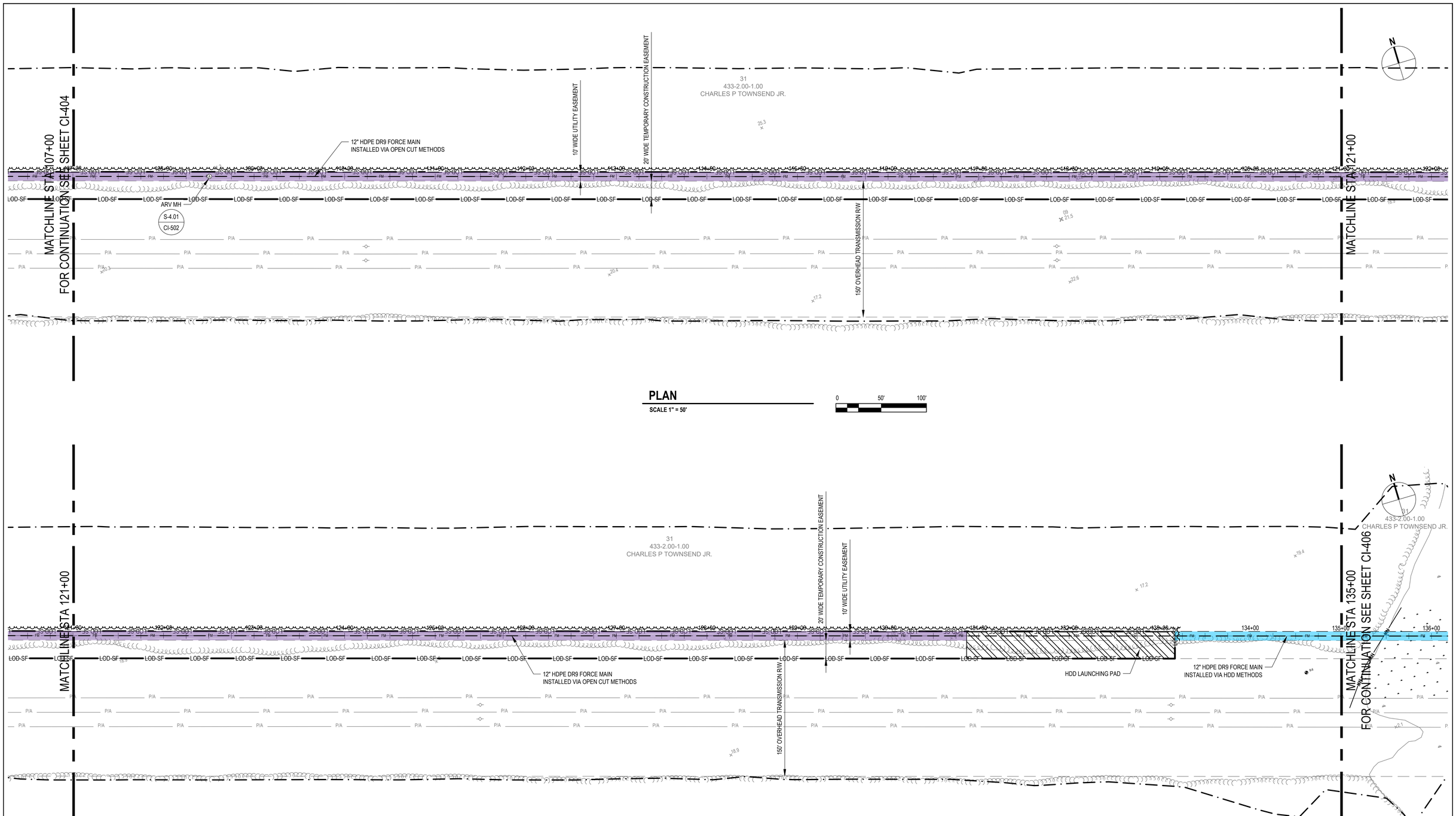
Project No. **12644261** | Date **MM/DD/YYYY** | Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Sheet No. **CI-404**

Plot Date: 26 August 2025 - 4:01 PM | Plotted By: Trevor Germsheid | Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D404.dwg



PLAN
SCALE 1" = 50'

0 50' 100'

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Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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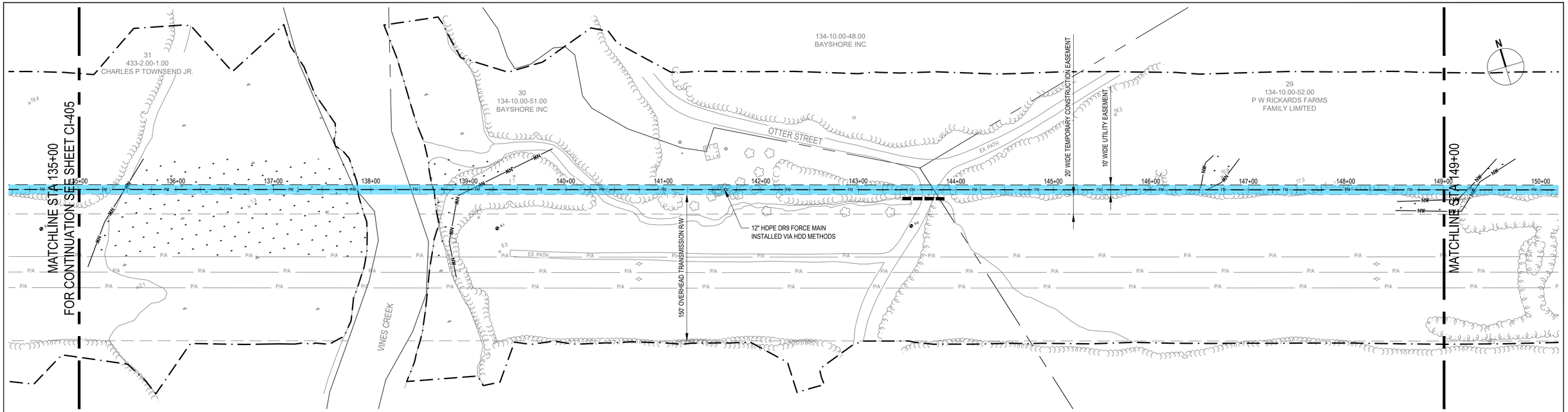
Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Sheet No. **CI-405**

Plot Date: 26 August 2025 - 4:02 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D405.dwg



PLAN
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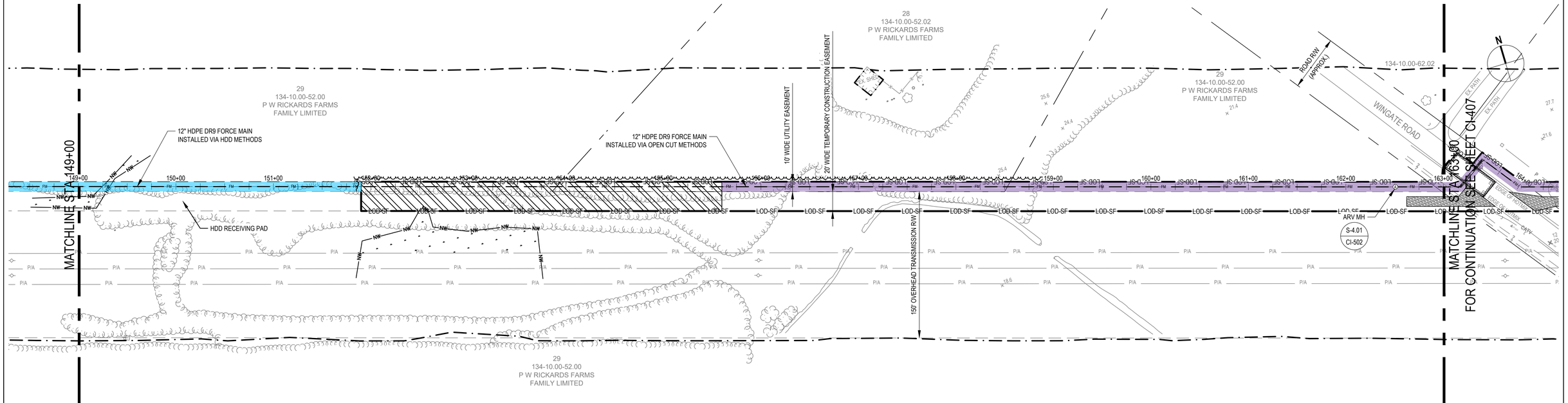

PLAN
SCALE 1" = 50'

0 50' 100'

No.	Issue	Author	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD		2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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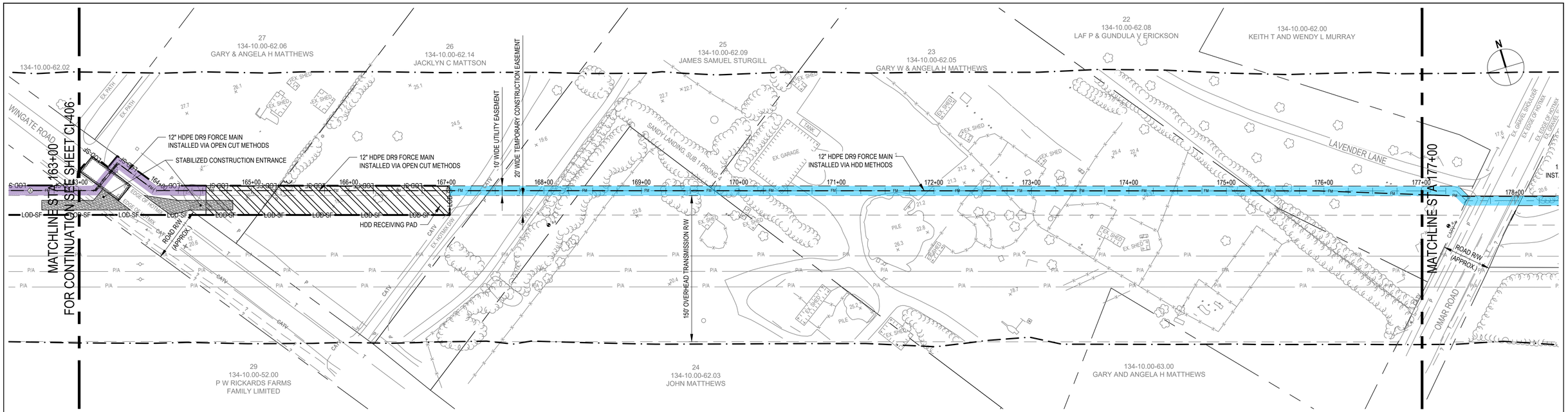
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**
Size **ANSI D**
Sheet No. **CI-406**

Plot Date: 26 August 2025 - 4:02 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D406.dwg



PLAN
SCALE 1" = 50'

0 50' 100'

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A	FOR AGENCY REVIEW	TG	PD	2025-08-06

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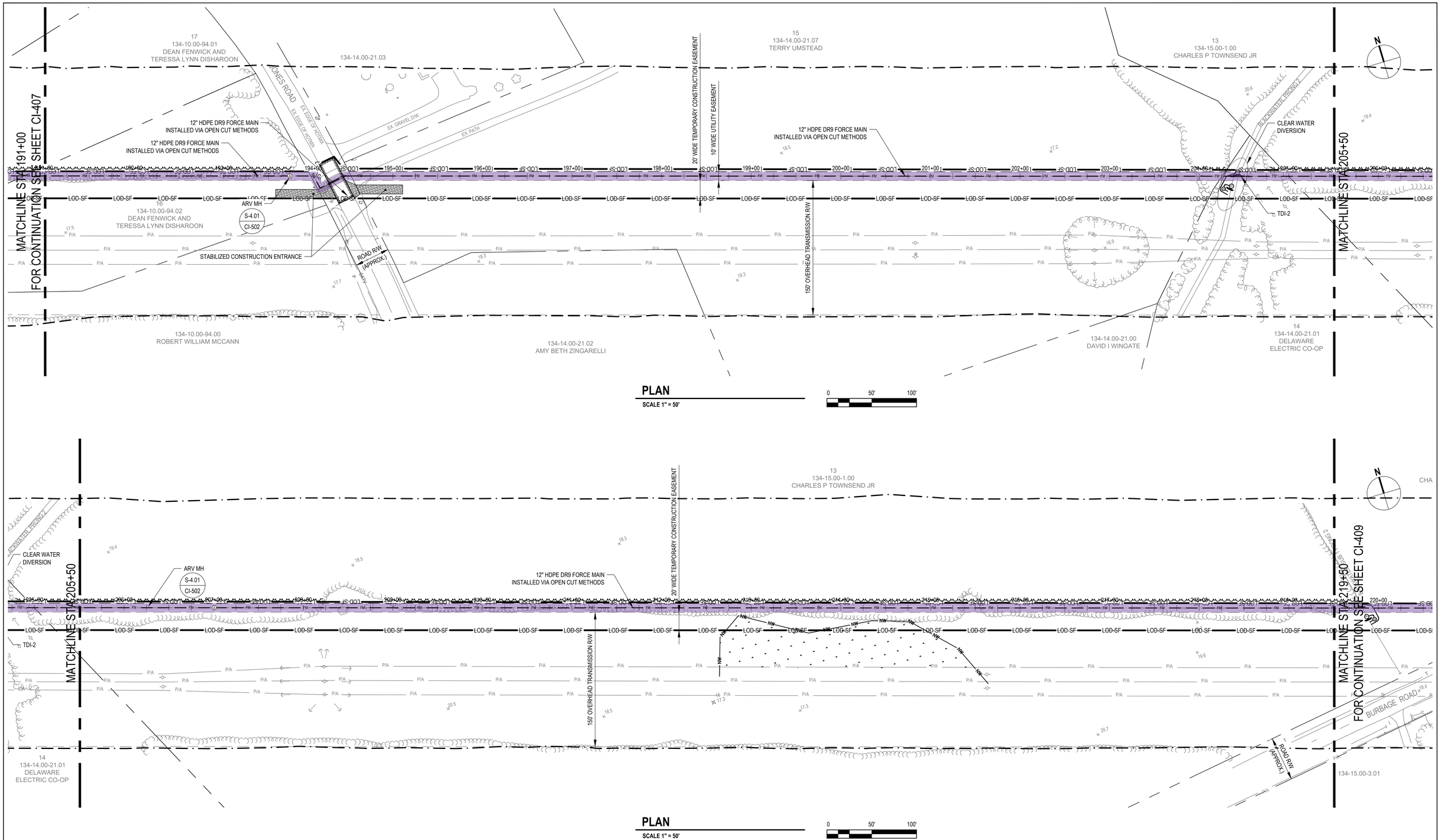
Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**
Sheet No. **CI-407**

Plot Date: 26 August 2025 - 4:03 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D407.dwg



PLAN
SCALE 1" = 50'

0 50' 100'

PLAN
SCALE 1" = 50'

0 50' 100'

No.	Issue	Author	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD		2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

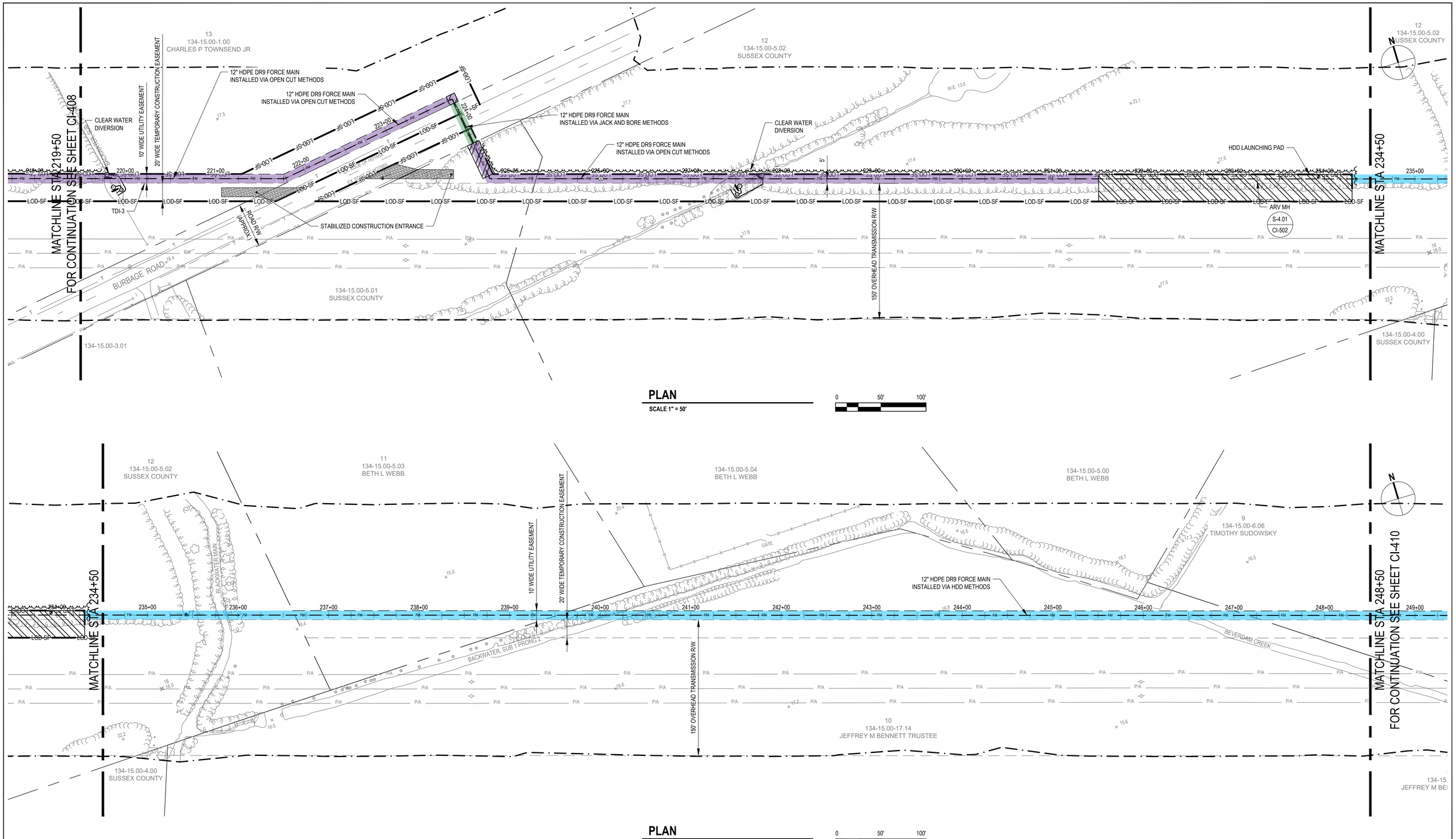
Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Sheet No. **CI-408**

Plot Date: 26 August 2025 - 4:03 PM Plotted By: Trevor Germsheid

Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D408.dwg



PLAN
SCALE 1" = 50'

0 50' 100'

PLAN
SCALE 1" = 50'

0 50' 100'

No.	Issue	Author	Checked	Approved	Date
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Designer **CM** Design Check **PD** Project Director **BG**

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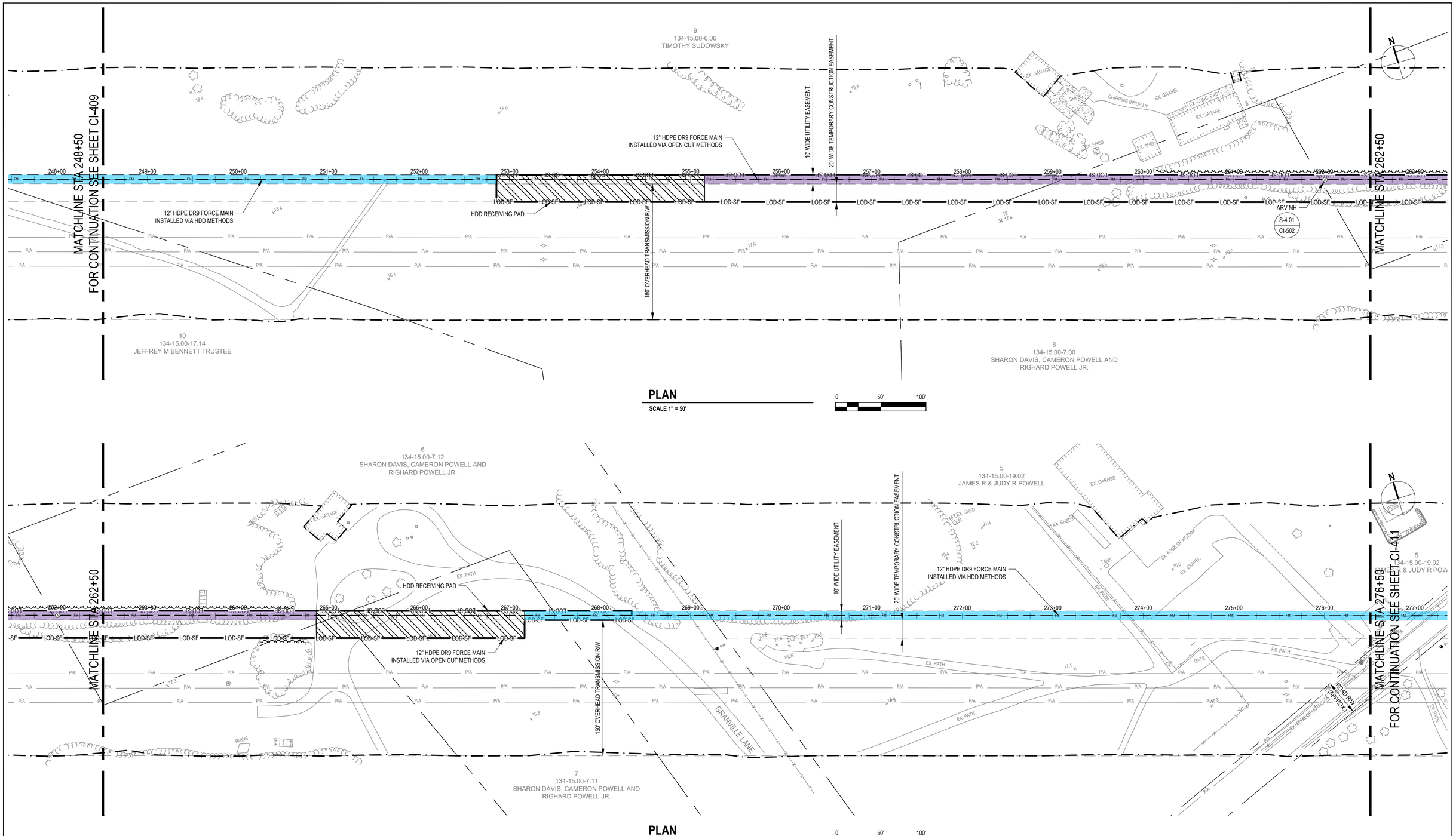
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. **12644261** Date **MM/DD/YYYY** Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**
Size **ANSI D**
Sheet No. **CI-409**

Plot Date: 26 August 2025 - 4:04 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D409.dwg



PLAN
SCALE 1" = 50'

0 50' 100'

No.	Issue	Drafting Check	Checked	Approved	Date
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Author	TG	PD	Project Manager	PD	
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Project No. **12644261** | Date **MM/DD/YYYY** | Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

Sheet No. **CI-410**

Plot Date: 26 August 2025 - 4:04 PM
Plotted By: Trevor Germsheid
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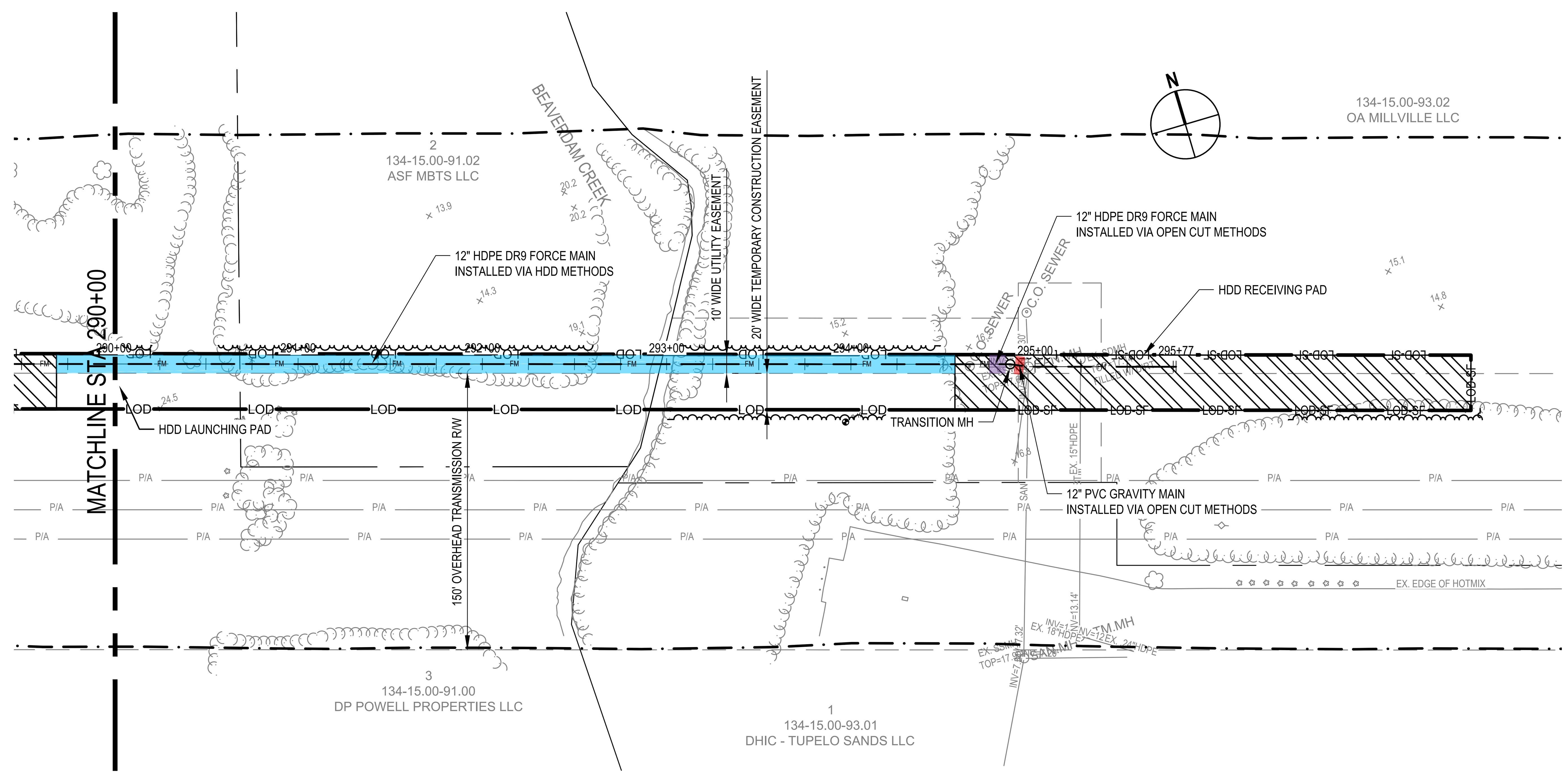
PLAN

SCALE 1" = 50'

0 50' 100'



PLAN

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0 50' 100'

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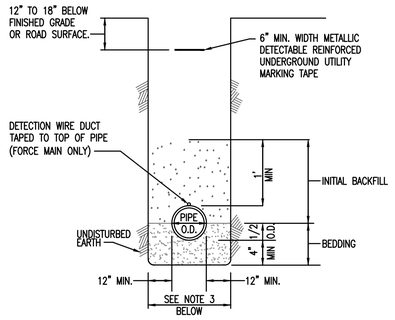
Project No. **12644261** | Date **MM/DD/YYYY** | Scale **1" = 50'**

Title **EROSION & SEDIMENT CONTROL CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN**

Size **ANSI D**

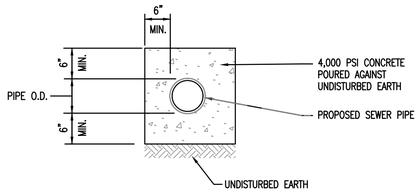
Sheet No. **CI-411**

Plot Date: 26 August 2025 - 4:04 PM Plotted By: Trevor Germsheid Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D411.dwg



NOTES:
1. THIS DETAIL APPLIES TO BOTH GRAVITY AND FORCE MAIN SEWER INSTALLATIONS.
2. #57 STONE IS REQUIRED FOR BEDDING MATERIAL AND INITIAL BACKFILL TO 12" ABOVE THE PIPE CROWN FOR ALL SEWER INSTALLATIONS 12' DEEP AND GREATER. FOR INSTALLATIONS LESS THAN 12' DEEP, INITIAL BACKFILL MATERIAL REQUIREMENTS MAY BE MODIFIED BASED ON FIELD CONDITIONS, AS APPROVED BY THE COUNTY. ABOVE INITIAL BACKFILL, MATERIAL MEETING THE REQUIREMENTS OF TYPE F BORROW PER DELDOT'S SPECIFICATIONS SHALL BE USED.
3. FOR INSTALLATION WITHIN LIMITS OF DELDOT ROADWAY AND/OR RIGHT-OF-WAY, TRENCH CONFIGURATIONS AND BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH CURRENT DELDOT REQUIREMENTS.

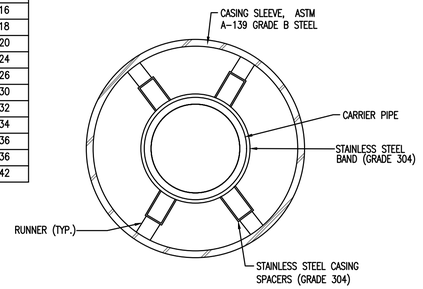
SUSSEX COUNTY ENGINEERING DEPARTMENT	SEWER TRENCH	DETAIL S-3.01
APPROVED: _____ SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021



NOTES:
1. SEWER ENCASEMENT AT UTILITY CROSSING SHALL BE AT LOCATIONS SHOWN ON DESIGN PLANS OR REQUIRED BY THE COUNTY. ENCASEMENT SHALL EXTEND A MINIMUM OF FIVE (5) FEET ON EITHER SIDE OF UTILITY CROSSING, EXCEPT AT WATER MAINS.
2. SEWER ENCASEMENT AT WATER MAIN CROSSINGS SHALL BE A MINIMUM OF TEN (10) FEET IN LENGTH OR AS DIRECTED BY THE COUNTY ENGINEER.
3. THE CROSSING SHALL BE ARRANGED SUCH THAT THE SEWER PIPE JOINTS WILL BE EQUAL DISTANCES AND AS FAR AS POSSIBLE FROM JOINTS OF CROSSING UTILITY PIPE.

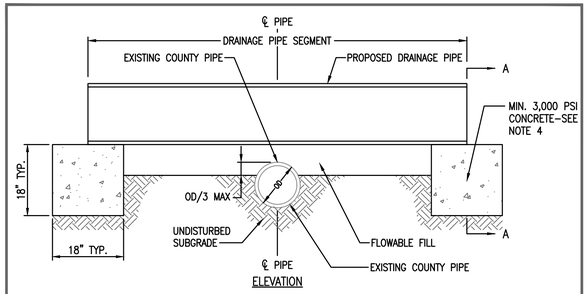
SUSSEX COUNTY ENGINEERING DEPARTMENT	SEWER ENCASEMENT	DETAIL S-3.02
APPROVED: _____ SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021

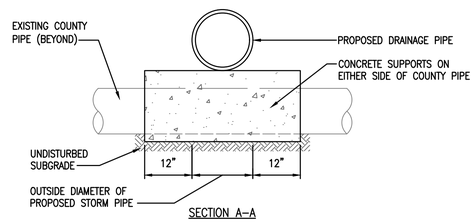
CARRIER PIPE (IN.)	MINIMUM O.D. CASING PIPE (IN.)
4	10
6	12
8	16
10	18
12	20
14	24
15	26
16	30
18	32
20	34
21	36
24	36
30	42



NOTES:
1. DETAIL APPLIES TO BOTH JACK AND BORE AND OPEN CUT INSTALLATIONS.
2. END SEAL SHALL BE INSTALLED ON EACH END OF CASING PIPE.
3. CASING SPACERS SHALL BE INSTALLED 1' (MAX.) FROM EACH SIDE OF ANY CARRIER PIPE JOINT, AND A MINIMUM OF 6' ON CENTER ALONG THE CARRIER PIPE IN BETWEEN JOINTS.
4. PREFERRED CONFIGURATION IS WITH CARRIER PIPE CENTERED WITHIN CASING PIPE. OFF-CENTERED CONFIGURATION MAY BE UTILIZED DEPENDING ON SITE CONDITIONS AS APPROVED BY THE COUNTY.
5. SEE TABLE ABOVE FOR MINIMUM CASING PIPE SIZE. IF RESTRAINED JOINTS ARE USED, CASING PIPE DIAMETER SHALL BE MODIFIED AS REQUIRED TO ACCOMMODATE THE PIPE RESTRAINTS.

SUSSEX COUNTY ENGINEERING DEPARTMENT	CASING SLEEVE INSTALLATION	DETAIL S-3.03
APPROVED: _____ SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021





NOTES:
1. DETAIL APPLIES TO CROSSINGS WITH LESS THAN 12" CLEARANCE BETWEEN PROPOSED DRAINAGE PIPE AND EXISTING COUNTY PIPE. FOR CROSSINGS WITH DRAINAGE PIPE BELOW COUNTY PIPE, A SPECIAL PIPE SUPPORT DETAIL MUST BE SUBMITTED TO THE COUNTY FOR APPROVAL. COUNTY PIPE REFER TO SEWER OR WATER PIPE, AS APPLICABLE.
2. DRAINAGE PIPE SHALL BE PLACED SUCH THAT CENTERLINE OF PIPE SEGMENT IS WITHIN 12" OF CENTERLINE OF COUNTY PIPE.
3. ALL EXCAVATION IN VICINITY OF COUNTY PIPE SHALL BE ACCOMPLISHED BY HAND EXCAVATION. SUBGRADE BELOW MAX. EXCAVATION LIMITS SHOWN SHALL REMAIN UNDISTURBED.
4. CONCRETE SUPPORTS AT DRAINAGE PIPE JOINTS SHALL BE FORMED AGAINST UNDISTURBED SUBGRADE. FOR NON-CONCRETE DRAINAGE PIPES, SUPPORTS SHALL BE LOCATED 18 INCHES CLEAR ON EITHER SIDE OF COUNTY PIPE.
5. FOLLOWING PLACEMENT OF DRAINAGE PIPE SEGMENT, FLOWABLE FILL SHALL BE APPLIED TO COMPLETELY FILL VOIDS BENEATH PIPE. REFER TO DELDOT OR OTHER THIRD PARTY SPECIFICATIONS FOR FILL REQUIREMENTS ABOVE THIS LEVEL.

SUSSEX COUNTY ENGINEERING DEPARTMENT	PIPE CROSSING PROTECTION	DETAIL S-3.04
APPROVED: _____ SUSSEX COUNTY ENGINEER		DATE ISSUED: 06/13/2022

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author **TG** Drafting Check **PD** Project Manager **PD**
Designer **CM** Design Check **PD** Project Director **BG**

Bar is one inch on original size sheet
0 1"

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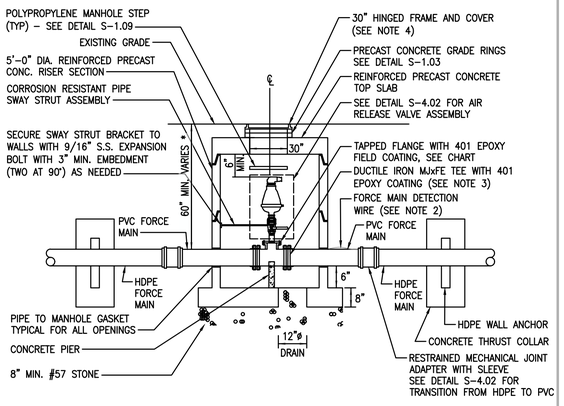
Client **SUSSEX COUNTY, DELAWARE**
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. **12644261** Date **MM/DD/YYYY** Scale **N.T.S.**

Title **CIVIL DETAILS PIPE TRENCHING**
Size **ANSI D**
Sheet No. **CI-501**

Plot Date: 26 August 2025 - 4:05 PM Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D501.dwg

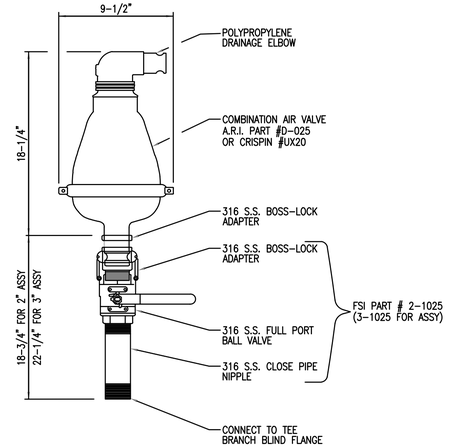


NOTES:
1. CONCRETE COLLAR NOT SHOWN FOR CLARITY. FOR CONCRETE COLLAR REQUIREMENTS, REFER TO DETAIL S-1.01.
2. ROUTE DETECTION WIRE OUTSIDE OF ARV AND PROVIDE TONING WIRE VALVE BOX ADJACENT TO ARV STRUCTURE. SEE DETAIL S-4.07.
3. DUCTILE IRON FLANGE TEE WILL BE FORCE MAIN SIZE x 4" TEE.
4. HINGED FRAME AND COVER SHALL BE PER EAST JORDAN IRON WORKS PRODUCT NO. 00148064L01, OR APPROVED EQUAL.

*DEPTH PER PLANS

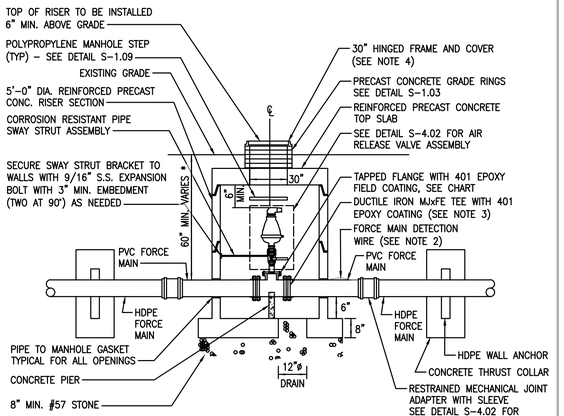
FORCE MAIN DIA.	ARV	TAP FLANGE
≤ 12"	2"	4"x2"
> 12"	3"	4"x3"

SUSSEX COUNTY ENGINEERING DEPARTMENT	SEWER FORCE MAIN AIR RELEASE VALVE IN PAVEMENT	DETAIL S-4.01a
APPROVED: SUSSEX COUNTY ENGINEER		DATE ISSUED: 05/31/2022



NOTE:
IF AIR RELEASE MANHOLE IS A TIGHT FIT, THE CRISPIN ARV CAN BE USED PER COUNTY APPROVAL.

SUSSEX COUNTY ENGINEERING DEPARTMENT	AIR RELEASE VALVE ASSEMBLY	DETAIL S-4.02
APPROVED: SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021

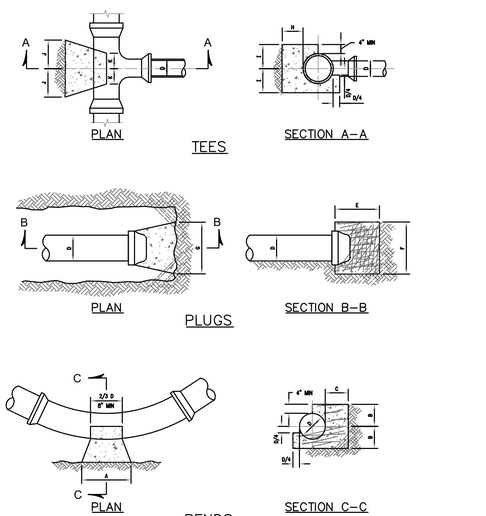


NOTES:
1. CONCRETE COLLAR NOT SHOWN FOR CLARITY. FOR CONCRETE COLLAR REQUIREMENTS, REFER TO DETAIL S-1.01.
2. ROUTE DETECTION WIRE OUTSIDE OF ARV AND PROVIDE TONING WIRE VALVE BOX ADJACENT TO ARV STRUCTURE. SEE DETAIL S-4.07.
3. DUCTILE IRON FLANGE TEE WILL BE FORCE MAIN SIZE x 4" TEE.
4. HINGED FRAME AND COVER SHALL BE PER EAST JORDAN IRON WORKS PRODUCT NO. 00148064L01, OR APPROVED EQUAL.

*DEPTH PER PLANS

FORCE MAIN DIA.	ARV	TAP FLANGE
≤ 12"	2"	4"x2"
> 12"	3"	4"x3"

SUSSEX COUNTY ENGINEERING DEPARTMENT	SEWER FORCE MAIN AIR RELEASE VALVE IN GRASS	DETAIL S-4.01a
APPROVED: SUSSEX COUNTY ENGINEER		DATE ISSUED: 05/31/2022



SUSSEX COUNTY ENGINEERING DEPARTMENT	CONCRETE BUTTRESS CONFIGURATIONS	DETAIL S-4.03
APPROVED: SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021

CONFIGURATION		BUTTRESS DIMENSIONS PIPE DIAMETER (D) IN INCHES (I.D.) 1.5	2	3	4	6	8	10	14
90°	A	12	12	15	24	24	30	49	69
	B	3	3	4	6	6	9	13	18
	C	12	18	18	22	22	21	24	24
45°	A	6	8	11	15	15	20	37	51
	B	2	4	6	7	7	8	19	26
	C	9	12	12	8	8	9	22	22
22.5°	A	4	6	8	9	9	12	26	37
	B	1	3	4	7	7	8	13	19
	C	6	9	9	8	8	9	12	12
11.25°	A	3	4	6	6	6	8	19	26
	B	1	2	3	7	7	8	10	13
	C	6	9	9	7	7	7	10.5	10.5
PLUG	E	6	9	9	6	6	8	10.5	10.5
	F	7	9	13	12	12	16	42	58
	G	4	5	7	15	17	23	21	29
TEE	H	12	18	18	8	8	9	21	21
	I	4	5	7	8	8	10	21	29
	J	2	3	4	7	7	9	11	15
	K	2	2	4	6	6	8	12	14

SEE DETAIL S-4.03 FOR CONFIGURATIONS.

NOTES:
1. ALL CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
2. BUTTRESS DIMENSIONS GIVEN ARE MINIMUM DIMENSIONS BASED UPON 3000 PSF MINIMUM SOIL BEARING CAPACITY AND 150 PSI MAXIMUM INTERNAL PIPE PRESSURE. PARAMETERS OUTSIDE OF THESE TOLERANCES WILL REQUIRE A SPECIAL BUTTRESS DESIGN APPROVED BY THE COUNTY.
3. ALL CONCRETE SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. TEE DIMENSIONS IN TABLE SHALL BE USED FOR WYES.

SUSSEX COUNTY ENGINEERING DEPARTMENT	CONCRETE BUTTRESS DIMENSIONS	DETAIL S-4.04
APPROVED: SUSSEX COUNTY ENGINEER		DATE ISSUED: 12/30/2021

No.	Issue	Author	Drafting Check	Designer	Design Check	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	CM	PD	TG	PD	2025-08-06

Project Manager PD
Project Director BG

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Client **SUSSEX COUNTY, DELAWARE**

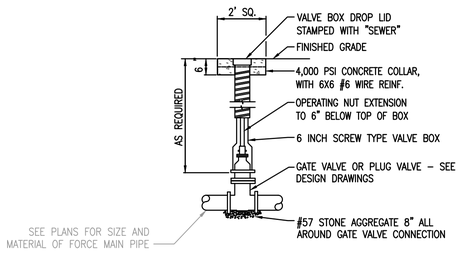
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261**
Date **MM/DD/YYYY**
Scale **N.T.S.**

Title **CIVIL DETAILS FORCE MAIN (1 OF 2)**

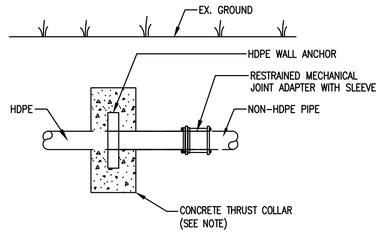
Size **ANSI D**
Sheet No. **CI-502**

Plot Date: 26 August 2025 - 4:05 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D502.dwg



NOTES:
1. IF VALVE IS LOCATED WITHIN PAVEMENT, CONCRETE COLLAR IS NOT REQUIRED. SEE ALSO NOTE 2 ON DETAIL S-1.01.
2. EXTEND TONING WIRE INTO VALVE BOX. SEE DETAIL S-4.07.
3. LID MUST BE ADA COMPLIANT IF LOCATED WITHIN A PEDESTRIAN WALKWAY.

	SUSSEX COUNTY ENGINEERING DEPARTMENT APPROVED:_____ SUSSEX COUNTY ENGINEER	SEWER FORCE MAIN ISOLATION VALVE	DETAIL S-4.06 DATE ISSUED: 12/30/2021



ELEVATION

NOTE:
FOR TRANSITIONS BETWEEN HDPE PIPE AND NON-HDPE PIPE, AN APPROPRIATELY DESIGNED CONCRETE THRUST COLLAR AROUND A POLY WALL ANCHOR SHALL BE INCORPORATED TO ACCOUNT FOR THE POISSON EFFECT OF THE HDPE PIPE. AS AN ALTERNATIVE, ADDITIONAL JOINT RESTRAINTS SHALL BE INCORPORATED OUTSIDE THE LIMITS OF HDPE PIPING, AS APPROVED BY THE COUNTY.

	SUSSEX COUNTY ENGINEERING DEPARTMENT APPROVED:_____ SUSSEX COUNTY ENGINEER	TRANSITION FROM HDPE TO NON-HDPE PIPE	DETAIL S-4.08 DATE ISSUED: 12/30/2021

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author	TG	Project Manager	PD
Designer	CM	Drafting Check	PD
		Design Check	PD
		Project Director	BG

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Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No.	Date	Scale
12644261	**MM/DD/YYYY**	**N.T.S.**

Title **CIVIL DETAILS FORCE MAIN (2 OF 2)**

Size **ANSI D**

Sheet No. **CI-503**

Plot Date: 26 August 2025 - 4:05 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D503.dwg

EROSION AND SEDIMENT CONTROL:

1. THE DNREC, SEDIMENT AND STORMWATER PROGRAM (OR DELEGATED AGENCY) MUST BE NOTIFIED IN WRITING FIVE (5)DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. REVIEW AND OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
3. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAYBE REQUIRED AS DEEMED NECESSARY BY DNREC OR THE DELEGATED AGENCY.
4. FOLLOWING SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.
5. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
6. AT ANY TIME A DE-WATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON-EROSIVE POINT OF DISCHARGE, AND A DE-WATERING PERMIT SHALL BE APPROVED BY THE DNREC WELL PERMITTING BRANCH.
7. APPROVAL OF A SEDIMENT AND STORMWATER MANAGEMENT PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS,EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.
8. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
9. BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7. DEL C. CH 60, REGULATIONS GOVERNING THE CONTROL OF WATER POLLUTION, SECTION 9.1.02,KNOWN AS SPECIAL CONDITIONS FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND DEPARTMENT POLICIES, PROCEDURES, AND GUIDANCE.
10. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL EROSION AND SEDIMENT CONTROL PRACTICES FOR THE DURATION OF THE PROJECT.
11. THE SUSSEX SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR THE PURPOSES OF PERIODIC SITE INSPECTION.
12. APPROVED PLANS REMAIN VALID FOR FIVE YEARS FROM DATE OF APPROVAL.
13. IF DUST BECOMES A PROBLEM DURING CONSTRUCTION, DUST CONTROL SHALL BE STABILIZED ACCORDING TO"STANDARD AND SPECIFICATIONS" FOR DUST CONTROL IN THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK LATEST EDITION.
14. ALL SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND LEFT IN FUNCTIONAL CONDITION AT THE END OF EACH WORKING DAY.
15. ANY DEVIATION FROM THE "SEQUENCE OF OPERATIONS" AS SHOWN ON THESE DRAWINGS SHALL BE APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
16. IF MINOR FIELD ADJUSTMENTS ARE NEEDED, THE CONTRACTOR MUST GET APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.
17. INSTALLED SEDIMENT CONTROL DEVICES SHALL FULLY PROTECT TRENCH EXCAVATION, STOCKPILES AND OTHER AREAS DISTURBED DURING CONSTRUCTION.
18. WHEN SLOPES ARE 3:1 OR GREATER, EROSION CONTROL MATTING IS REQUIRED.
19. NO SPOILS, STOCKPILED OR EXCAVATED MATERIAL MAY BE DISCHARGED INTO WETLANDS REGULATED BY THE ARMY CORP OF ENGINEERS OR THE STATE OF DELAWARE.
20. NO SPOILS SHALL ENTER STREAMS, CHANNELS OR WATERWAYS. MEASURES SUCH AS SILT FENCE, OR BUFFER STRIPS SHALL BE USED TO PROTECT STREAMS, CHANNELS PONDS OR WATERWAYS. THE DISTRICT INSPECTOR MAY AT THEIR DISCRETION SELECT THE INSTALLATION LOCATION.
21. SEDIMENT CONTROL DEVICES CONSTRUCTED WITHIN DITCH AREAS SHALL BE REMOVED ONLY WHEN PERFORMING TRENCH EXCAVATION, BACKFILL/OR/GRADING OF THE DITCH. REMOVED DEVICES SHALL BE RE-INSTALLED IMMEDIATELY FOLLOWING DISTURBANCE.
22. SALVAGE EXISTING TOPSOIL FROM THE CONSTRUCTION AREA.
23. STOCKPILES OF MATERIAL SHALL BE ON A RELATIVELY FLAT SURFACE. STOCKPILES MUST BE SURROUNDED WITH SILT FENCE OR STABILIZED EARTH BERM.
24. NO MATERIAL OUTSIDE OF CONTRACT AREA IS ALLOWED TO BE STOCKPILED IN THIS SITE. A SEPARATE APPROVED SEDIMENT CONTROL PLAN IS REQUIRED.
25. MATERIAL REMOVED AS A RESULT OF EXCAVATION FROM ROAD SURFACE, GRAVEL, SAND ROADS AND STOCKPILED FOR RE-USE SHALL BE PROTECTED WITH APPROVED SEDIMENT CONTROL PRACTICE. THE METHOD SHALL BE REVIEWED WITH THE SUSSEX CONSERVATION DISTRICT INSPECTOR PRIOR TO CONSTRUCTION.
26. CONTRACTOR SHALL KEEP ALL ROADS OR STREETS ADJACENT TO THE CONSTRUCTION SITE CLEAN OF DEBRIS OR SEDIMENT. STREET CLEANING AND REMOVAL OF ANY SEDIMENT SHALL BE ACCOMPLISHED AT THE END OF EACHWORKING DAY OR PRIOR TO RAIN OR WHEN FIELD CONDITIONS DICTATE.
27. POST CONSTRUCTION VERIFICATION DOCUMENTS ARE TO BE SUBMITTED TO THE DNREC SEDIMENT AND STORMWATER PROGRAM (OR, THE RELEVANT DELEGATED AGENCY) WITHIN 60-DAYS OF STORMWATER MANAGEMENT FACILITY COMPLETION.

SEQUENCE OF OPERATIONS FOR PINEY NECK FORCE MAIN:

1. THE SUSSEX CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. PRIOR TO ANY CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER. THE LANDOWNER/DEVELOPER, CONTRACTOR, AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING; THE DESIGNER IS RECOMMENDED TO ATTEND.
3. CONDUCT A PRE-CONSTRUCTION MEETING.
4. CLEAR AND GRUB FOR ALL AREAS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS.
5. INSTALL PERIMETER CONTROLS AND ALL OTHER SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN OR CALLED FOR ON THE DRAWINGS INCLUDING STABILIZED CONSTRUCTION ENTRANCES AND SILT FENCE.
6. ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUCTION.
7. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHOULD BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENTATION ON THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUSTOR REPAIR MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
8. INSTALL TEMPORARY SANDBAG DIKES, DE MUCK THE AREA BETWEEN THE SANDBAG DIKES AND INSTALL BYPASS PUMPING AS REQUIRED TO INSTALL THE PROPOSED STORMWATER DRAINAGE NETWORK ALONG THE EXISTING DITCH ON THE EASTERN END OF THE PROJECT LIMITS OF DISTURBANCE. ONCE THE PROPOSED DRAINAGE NETWORK IS INSTALLED AND STABILIZED, REMOVE TEMPORARY SANDBAG DIKES AND BYPASS PUMPING. INLET PROTECTION AND CULVERT INLET PROTECTION SHALL BE PLACED ON EACH STRUCTURE IMMEDIATELY AFTER INSTALLATION. DE-MUCK AND REMOVE ALL ORGANIC MATTER WITHIN THE EXISTING DITCH, THEN BACKFILL AND GRADE EXISTING DITCH TO PROVIDE POSITIVE DRAINAGE TO THE INSTALLED STORMWATER DRAINAGE NETWORK. THE CONSTRUCTION OF THIS DRAINAGE NETWORK SHALL BE SEQUENCED TO MINIMIZE UNFILTERED SEDIMENT LADEN STORMWATER RUNOFF TO THE MAXIMUM EXTENT POSSIBLE
9. EXCAVATE TRENCH, INSTALL PIPELINES AND BACKFILL. ALL TRENCHES SHALL BE BACKFILLED DURING THE SAME DAYLIGHT PERIOD THAT THEY HAVE BEEN EXCAVATED. ANY GROUNDWATER PUMPED DURING CONSTRUCTION SHALL BE DISCHARGED TO EXISTING DRAINAGE DITCHES. DRAINAGE DITCHES SHALL BE PROTECTED FROM EROSION DURING THIS OPERATION. ANY SEDIMENT LADEN WATER REMOVED FROM EXCAVATIONS SHALL BE FILTERED THROUGH ADE WATERING BASIN ACCEPTABLE TO THE SUSSEX CONSERVATION DISTRICT.
10. INSTALL TEMPORARY SANDBAG DIKES, DE MUCK THE AREA BETWEEN THE SANDBAG DIKES AND INSTALL BYPASS PUMPING AS REQUIRED TO INSTALL THE PROPOSED PIPELINES AND ELECTRICAL DUCT BANKS WITHIN THE EXISTING TAX DITCHES. ONCE THE PROPOSED PIPE OR ELECTRICAL DUCT BANK IS INSTALLED AND STABILIZED, REMOVE TEMPORARY SANDBAG DIKES AND BYPASS PUMPING. STABILIZE AND SEED TAX DITCH BANKS AS NEEDED.
11. CONSTRUCT TREATMENT FACILITIES. REFER TO PROJECT CONSTRUCTION SPECIFICATIONS FOR DETAILED CONSTRUCTION SEQUENCE IF FACILITY CONSTRUCTION.
12. AS WORK PROGRESSES, RE-TOPSOIL COMPLETE PORTIONS USING SALVAGED TOPSOIL, FINE GRADE AND APPLY PERMANENT SEEDING AS NOTED. IF OUT OF SEASON APPLY TEMPORARY SEEDING UNTIL PERMANENT SEEDING CAN BE PERFORMED.
13. RESTORE ALL DISTURBED AREAS TO THE FINAL GRADE PER PROJECT GRADING PLAN AND VEGETATE AS REQUIRED.14.
14. EROSION AND SEDIMENT CONTROL DEVICES SHOULD BE REMOVED ONLY AFTER WORK IN AN AREA HAS BEEN COMPLETED AND STABILIZED WITH WRITTEN APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.15.
15. THE TERMINATION OF THE CONSTRUCTION GENERAL PERMIT WILL REQUIRE SUBMISSION AND ACCEPTANCE OF THE POST CONSTRUCTION VERIFICATION DOCUMENTS, INCLUDING FINAL STABILIZATION THROUGHOUT THE SITE, ALL ELEMENTS OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN IMPLEMENTED, AND ACCEPTANCE OF THE FINAL OPERATION AND MAINTENANCE PLAN.

PERMANENT SEEDING NOTES:

1. APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE PERMANENT LONG LIVED VEGETATIVE COVER IS NEEDED.
2. SEEDED PREPARATION: LOOSEN UPPER THREE INCHES BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
3. SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS. USE THE FOLLOWING.APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER(14 LBS/1000 SQ.FT.) BEFORE SEEDING, HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
4. SEEDING: FOR THE PERIODS FEBRUARY 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 150 LBS. PER ACRE (1.4 LBS.1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 150 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 6 LBS. PER ACRE (0.05 LBS./1000 SQ.FT.) OF WEEPING LOVE GRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28 PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USES OD. OPTION (3) SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.
5. MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF-UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING.ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
6. MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE REPAIRS IF NEEDED. RESEED IF NECESSARY.

TEMPORARY SEEDING NOTES:

1. TEMPORARY SEEDING NOTES APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
2. SEEDED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.)
3. SEEDING: FOR PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15 SEED WITH 2 1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR PERIOD FROM MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF CASSIVS(0.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOD.
4. MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

No.	Issue	Author	Drafting Check	Designer	Design Check	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	CM	PD	TG	PD	2025-08-06

Project Manager PD
Project Director BG

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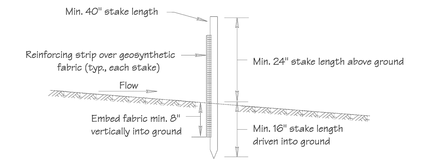
Client SUSSEX COUNTY, DELAWARE
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. 12644261
Date MM/DD/YYYY
Scale N.T.S.

Title EROSION CONTROL NOTES
Size ANSI D
Sheet No. CI-506

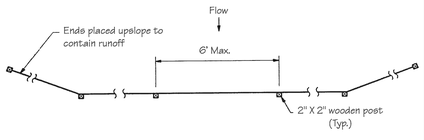
Plot Date: 26 August 2025 - 4:05 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D506.dwg

Standard Detail & Specifications

Silt Fence



Section



Plan

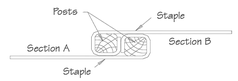
DATA
Max. controlled slope

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SF	DE-ESC-3.1.2.1 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Silt Fence

Construction Detail



Method for joining continuous sections

Top

Construction Notes:

1. Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
2. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

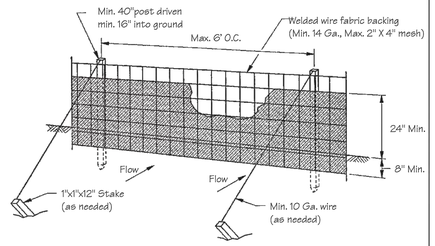
Materials:

1. Stakes: Steel (either T or U) or 2" x 2" hardwood
2. Geosynthetic Fabric: Type GD-I
3. Reinforcing strip: Wooden lath or plastic strip

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SF	DE-ESC-3.1.2.1 Sheet 2 of 2 Effective July 2023

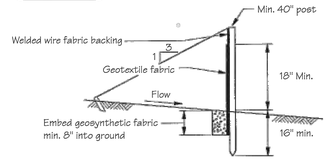
Standard Detail & Specifications

Reinforced Silt Fence



Perespective

DATA
Max. controlled slope



Cross-section

Source:	Symbol:	Detail No.
Adapted from Transco, Inc.	RSF	DE-ESC-3.1.2.2 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Reinforced Silt Fence

Construction Notes:

1. Welded wire fabric to be fastened securely to the fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24 inches at top and mid-section.
3. When two sections of fabric adjoin each other, they shall be overlapped by six inches and folded.
4. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

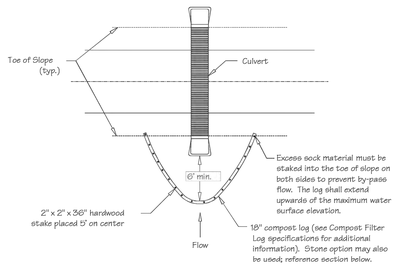
Materials:

1. Posts: Steel either T or U or 2" x 2" hardwood
2. Geotextile Fabric: Type GD-I
3. Backing: Woven welded wire, 14 Ga., 2" X 4" mesh opening

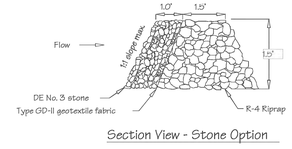
Source:	Symbol:	Detail No.
Adapted from Transco, Inc.	RSF	DE-ESC-3.1.2.2 Sheet 2 of 2 Effective July 2023

Standard Detail & Specifications

Culvert Inlet Protection



Plan View - Compost Log Option



Section View - Stone Option

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook & Filtrexx™ International	CIP	DE-ESC-3.1.6 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Culvert Inlet Protection

Construction Notes

1. Compost logs shall be designed and installed in accordance with the Standard Detail and Specifications for Compost Logs (DE-ES-3.1.7).
2. If compost logs can not be installed properly or flow conditions exceed the design capabilities of the compost logs, the stone option shall be employed. Additional filtration may be provided by using a Type GD-II geotextile incorporated into the design as an option.
3. Placement of the compost log or stone barrier should be in a "horseshoe" shape and provide a minimum of 6 feet of clearance from the culvert inlet.

Materials

1. Stakes: 2" x 2" x 36" hardwood.
2. Compost media : See requirements in Standard Detail and Specifications for Compost Logs (DE-ES-3.1.7).
3. Filter sock: See requirements in Standard Detail and Specifications for Compost Logs (DE-ES-3.1.7).
4. Geotextile: Type GD-II for stone/riprap option.
5. Stone: DE No. 3 for stone/riprap option.
6. Riprap: R-6 for stone/riprap option.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook & Filtrexx™ International	CIP	DE-ESC-3.1.6 Sheet 2 of 2 Effective July 2023

No.	Issue	Checked	Approved	Date
A	FOR AGENCY REVIEW	TG	PD	2025-08-06

Author TG | Drafting Check PD | Project Manager PD
Designer CM | Design Check PD | Project Director BG

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Client SUSSEX COUNTY, DELAWARE

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. 12644261 | Date MM/DD/YYYY | Scale N.T.S.

Title EROSION CONTROL DETAILS (1 OF 3)

Size ANSI D

Sheet No. CI-507

Plot Date: 26 August 2025 - 4:06 PM | Plotted By: Trevor Germsheid

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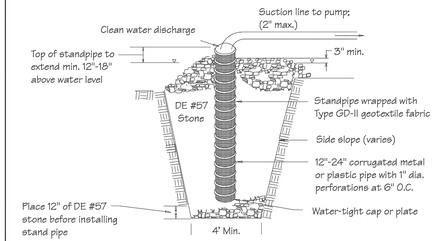
Standard Detail & Specifications

Pumping Pit - Type 1



Section

Construction Notes:

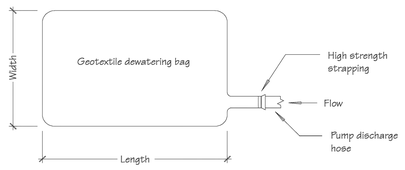
1. Pit dimensions are variable.
2. The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center.
3. A base of DE #57 aggregate should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with DE #57 aggregate.
4. The standpipe should extend 12" to 18" above the lip of the pit or riser crest elevation (basin dewatering).

NOTE: **If discharge will be pumped directly to a storm drainage system, the standpipe must be wrapped with Type GD-II geotextile fabric before installation. If desired, 1/ 2" hardware cloth may be placed around the standpipe, prior to attaching the geotextile fabric. This will increase the rate of water seepage into the pipe.**

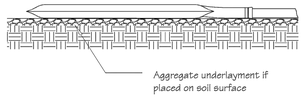
Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	PP-1	DE-ESC-3.2.1.3 Sheet 1 of 1 Effective July 2023

Standard Detail & Specifications

Geotextile Dewatering Bag



Plan



Profile

NOTE: Pre-manufactured products installed in accordance with manufacturer's recommendations may be used as an equivalent substitute with Departmental approval.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	DE-ESC-3.2.1.2 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Geotextile Dewatering Bag

Construction Notes:

1. The dewatering bag should be placed so the incoming water flows into and through the bag, and then flow off the site without creating more erosion. The neck should be tied off tightly to stop the water from flowing out of the bag without going through the walls. The dewatering bag should be placed on a gravel bed to allow water to flow in all directions.
2. The dewatering bag is considered full and should be disposed when it is impractical for the bag to filter the sediment out at a reasonable flow rate. At this point, it should be replaced with a new bag.
3. Disposal may be accomplished as directed by the construction reviewer. If the site allows, the bag may be buried on site and seeded, visible fabric removed and seeded or removed from site to a proper disposal area.

Materials:

1. The geotextile fabric shall be a Type GD-IV.
2. The dewatering bag shall be sewn with a double needle machine using high strength thread. All structural seams will be sewn with high strength, double stitched "J" type. Seam strength test will have the following minimum average roll values:

Type	TEST METHOD	TEST RESULT
Heavy duty	ASTM D-4884	100 lb / in

3. The dewatering bag shall have an opening large enough to accommodate a four (4) inch discharge hose with attached strap to tie off the hose to prevent the pumped water from escaping from the bag without being filtered.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	DE-ESC-3.2.1.2 Sheet 2 of 2 Effective July 2023

Standard Detail & Specifications

Topsoiling

Construction Notes:

1. **Site Preparation** (Where Topsoil is to be added)

   Note: When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, waterways and sediment basins.

   a. Grading - Grades on the areas to be topsoiled which have been previously established shall be maintained.

   b. Liming - Where the topsoil is either highly acid or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet). Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

   c. Tilling - After the areas to be topsoiled have been brought to grade, and immediately prior to dumping and spreading the topsoil, the subgrade shall be loosened by discing or by scarifying to a depth of a least 3 inches to permit bonding of the topsoil to the subsoil. Pack by passing a bulldozer up and down over the entire surface area of the slope to create horizontal erosion check slots to prevent topsoil from sliding down the slope.

2. **Topsoil Material and Application**

   Note:Topsoil salvaged from the existing site may often be used but it should meet the same standards as set forth in these specifications. The depth of topsoil to be salvaged shall be no more than the depth described as a representative profile for that particular soil type as described in the soil survey published by USDA-SCS in cooperation with Delaware Agricultural Experimental Station.

Source:	Symbol:	Detail No.
USDA - NRCS		DE-ESC-3.4.1 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Topsoiling

Construction Notes (cont.)

a. Materials - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand or other soil as approved by an agronomist or soil scientist. It shall not have a mixture of contrasting textured subsoil and contain no more than 5 percent by volume of cinders, stones, slag, coarse fragment, gravel, sticks, roots, trash or other extraneous materials larger than 1-1/2 inches in diameter. Topsoil must be free of plants or plant parts of bermudagrass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistles, or others as specified. All topsoil shall be tested by a reputable laboratory for organic matter content, pH and soluble salts. A pH of 6.0 to 7.5 and an organic content of not less than 1.5 percent by weight is required. If pH value is less than 6.0 lime shall be applied and incorporated with the topsoil to adjust the pH to 6.5 or higher. Topsoil containing soluble salts greater than 500 parts per million shall not be used.

Note: No sod or seed shall be placed on soil which has been treated with soil sterilant or chemicals used for weed control until sufficient time has elapsed to permit dissipation of toxic materials.

b. Grading - The topsoil shall be uniformly distributed and compacted to a minimum of four (4) inches. Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

Note:Topsoil substitutes or amendments as approved by a qualified agronomist or soil scientist, may be used in lieu of natural topsoil. Compost material used to improve the percentage of organic matter shall be provided by a certified supplier.

Compost amendments that are intended to meet specific post-construction stormwater management goals shall further meet the requirements of **Appendix 3.06.2 Post Construction Stormwater Management BMP Standards and Specifications, Section 14.0 Soil Amendments.**

Source:	Symbol:	Detail No.
USDA - NRCS		DE-ESC-3.4.1 Sheet 2 of 2 Effective July 2023

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Author **TG** Drafting Check **PD** Project Manager **PD**

Designer **CM** Design Check **PD** Project Director **BG**

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SEAL OF SUSSEX COUNTY, DELAWARE 1791

Client **SUSSEX COUNTY, DELAWARE**

Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Project No. **12644261** Date **MM/DD/YYYY** Scale **N.T.S.**

Title **EROSION CONTROL DETAILS (2 OF 3)**

Size **ANSI D**

Sheet No. **CI-508**

Plot Date: 26 August 2025 - 4:06 PM Plotted By: Trevor Germsheid

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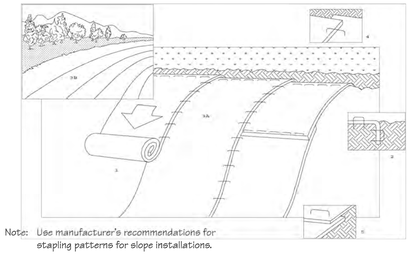
Standard Detail & Specifications

Stabilization Matting - Slope



Note: Use manufacturer's recommendations for stapling patterns for slope installations.

Perspective

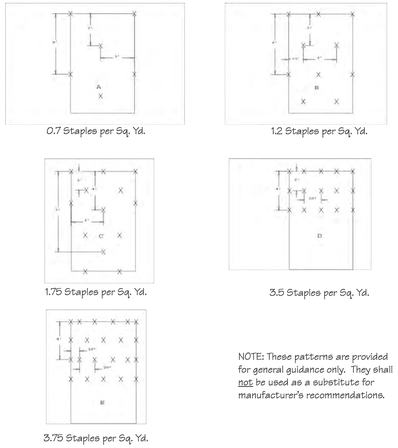
Construction Notes:

1. Prepare soil before installing matting, including application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the mat in a 6" deep X 6" wide trench. Backfill and compact trench after stapling.
3. Roll the mats (A) down or (B) horizontally across the slope.
4. The edges of parrallel mats must be stapled with approx. 2" overlap.
5. When mats must be spliced down the slope, place mats end over end (shingle style) with approx. 4" overlap. Staple through overlapped area, approx. 12" apart.

Source:	Symbol:	Detail No.
Adapted from North American Green, Inc.	SM-S	DE-ESC-3.4.6.1 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Stabilization Matting - Slope



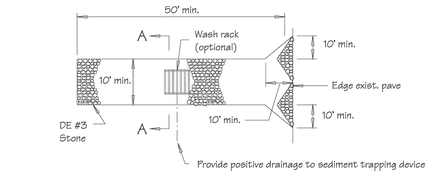
NOTE: These patterns are provided for general guidance only. They shall not be used as a substitute for manufacturer's recommendations.

Stapling Patterns

Source:	Symbol:	Detail No.
Adapted from North American Green, Inc.	SM-S	DE-ESC-3.4.6.1 Sheet 2 of 2 Effective July 2023

Standard Detail & Specifications

Stabilized Construction Entrance



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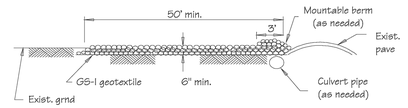

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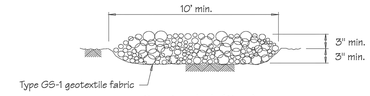
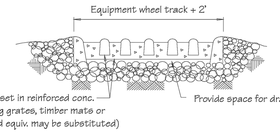


Section A-A (Std.)

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Stabilized Construction Entrance



Section A-A (Opt.)

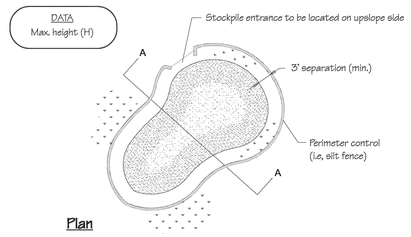
Construction Notes:

1. Stone size - Use DE #3 stone.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than size (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Geotextile - Type GS-I; placed over the entire area prior to placing of stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 2 of 2 Effective July 2023

Standard Detail & Specifications

Soil Stockpile



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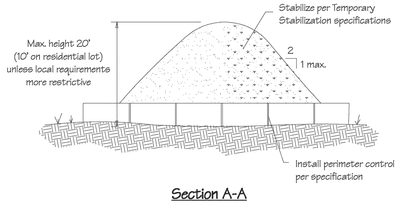

Section A-A

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	SP	DE-ESC-3.7.3 Sheet 1 of 2 Effective July 2023

Standard Detail & Specifications

Soil Stockpile

Construction Notes:

1. Locate stockpiles so that they are 50 feet from any storm drain inlet, open channel, wetland or waterbody. Redirect any concentrated flow around the stockpile using an approved erosion and sediment control measure.
2. Secure the perimeter of the stockpile with an approved erosion and sediment control perimeter device.
3. If stockpile is to remain inactive for more than 14 calendar days, the stockpile must be vegetated. Follow the temporary vegetation specifications. The vegetation chosen shall last the duration of the stockpile; the stockpile shall be restabilized if the temporary vegetation dies or erosion results.

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	SP	DE-ESC-3.7.3 Sheet 2 of 2 Effective July 2023

No.	Issue	Checked	Approved	Date
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Author TG | Drafting Check PD | Project Manager PD
Designer CM | Design Check PD | Project Director BG

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Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM

Title EROSION CONTROL DETAILS (3 OF 3)

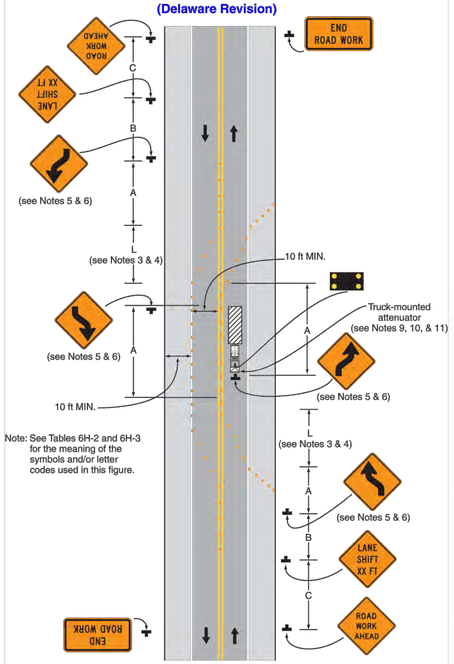
Size ANSI D

Project No. 12644261 | Date MM/DD/YYYY | Scale N.T.S.

Sheet No. CI-509

Plot Date: 26 August 2025 - 4:07 PM
Plotted By: Trevor Germsheid
Path and Filename: C:\ADSK\ACCDocs\GHD Services Pty Ltd\12644261-Garney Co Piney Neck FM\Project Files\01 WIP\Civil\Sheets\12644261-GHD-00-00-DGN-CI-D509.dwg

Figure 6H-11B. Lane Diversion on a Two-Lane Road with Low Traffic Volumes (TA-11B)
(Delaware Revision)



Typical Application 11B

Notes for Figure 6H-11B—Typical Application 11B
Lane Diversion on a Two-Lane Road with Low Traffic Volumes
(Delaware Revision)

Option:

1. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices.

Guidance:

2. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices. Except as provided in Note 8, a lane closure (see Figure 6H-10) should be used when the operations cannot accommodate the minimum 10-foot travel lane.

3. A shifting taper length of L is preferred on state-maintained roads (see Tables 6C-3 and 6C-4).

4. Shift areas should be illuminated at night, except in emergencies.

5. If the tangent distance along the temporary diversion is less than 600 feet, Double Reverse Curve signs should be used instead of the upstream Reverse Curve signs and the downstream Reverse Curve signs should be omitted.

6. If the design speed of the shifting taper is 30 mph or less, Reverse Turn signs should be used.

7. Where drivers emerging from an intersecting roadway will not encounter an advance warning sign prior to the work zone, additional signs should be placed on the intersecting road.

Option:

8. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.

Standard:

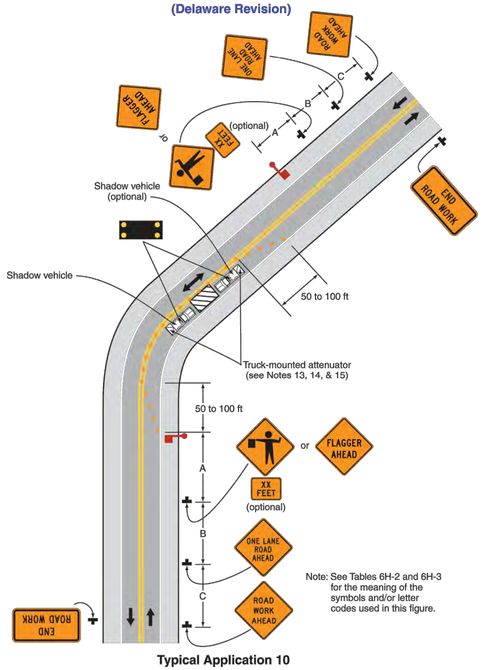
9. For long-term, intermediate-term, and short-term operations, a truck-mounted attenuator shall be used on roadways with a posted speed limit or 85th-percentile speed greater than 40 mph.

Option:

10. For short duration operations along roadways with a posted speed limit or 85th-percentile speed greater than 40 mph, a truck-mounted attenuator may be omitted if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.

11. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)
(Delaware Revision)



Typical Application 10

Notes for Figure 6H-10—Typical Application 10
Lane Closure on a Two-Lane Road Using Flaggers
(Delaware Revision)

Option:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.

3. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Standard:

5. At night, flagger stations shall be illuminated, except in emergencies.

Guidance:

6. When used, the BE PREPARED TO STOP sign should be located between the Flagger symbol (or FLAGGER AHEAD) sign and the ONE LANE ROAD sign.

7. Where drivers emerging from an intersecting roadway will not encounter an advance warning sign prior to the work zone, additional signs should be placed on the intersecting road.

8. When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing (see Figure 6H-46).

9. When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping flaggers informed as to the activation status of these warning devices (see Figure 6H-46).

10. When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line (see Figure 6H-46).

11. Early coordination with the railroad company or light rail transit agency should occur before work starts (see Figure 6H-46).

Option:

12. A flagger or a uniformed law enforcement officer may be used at the upstream side of the grade crossing to minimize the probability that vehicles are stopped within 50 feet of the grade crossing, measured from both sides of the outside rails (see Figure 6H-46).

Standard:

13. For long-term, intermediate-term, and short-term operations, a truck-mounted attenuator shall be used on roadways with a posted speed limit or 85th-percentile speed greater than 40 mph.

Option:

14. For short duration operations along roadways with a posted speed limit or 85th-percentile speed greater than 40 mph, a truck-mounted attenuator may be omitted if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.

15. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

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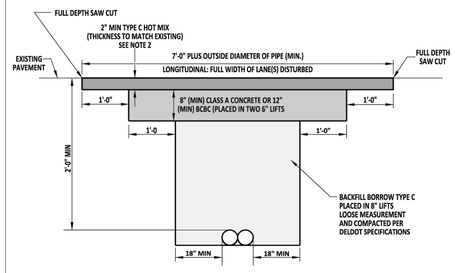
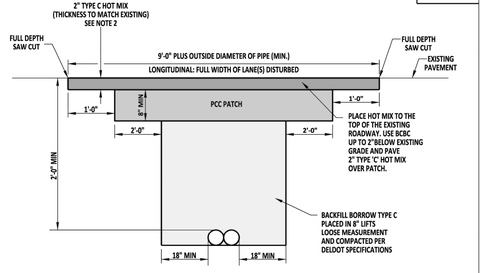


PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL



PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL
* EXISTING CONCRETE PAVEMENT OVERLAYED WITH HOTMIX LOCATIONS

NOTES:
1). PATCH WIDTHS ARE MEASURED ALONG THE ROADWAY CENTERLINE AND SHALL BE THE FULL WIDTH OF THE LANE OR LANES DISTURBED.
2). THIS IS A MINIMUM PATCH. IF THE EXISTING ROADWAY HAS A HEAVIER CROSS SECTION THAN SHOWN HERE, IT WILL BE REPLACED WITH THAT CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.
3). SEE DETAIL D-8, SHEET 1 FOR PIPE BEDDING DETAILS.

DELAWARE
DEPARTMENT OF TRANSPORTATION

PERMANENT CROSS-ROAD PATCH OVER PIPE TRENCH DETAIL

STANDARD NO. P-4 (2013) SHT. 1 OF 1

APPROVED SIGNATURE ON FILE 02/14/2014
RECOMMENDED SIGNATURE ON FILE 01/14/2014

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Author TG Drafting Check PD Project Manager PD
Designer CM Design Check PD Project Director BG

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Client SUSSEX COUNTY, DELAWARE
Project PROGRESSIVE DESIGN-BUILD PROJECT FOR PINEY NECK WASTEWATER FACILITY DIVERSION TRANSMISSION SYSTEM
Project No. 12644261 Date MM/DD/YYYY Scale N.T.S.

Title TRAFFIC CONTROL DETAILS (1 OF 2)
Size ANSI D
Sheet No. CI-510

Plot Date: 26 August 2025 - 4:07 PM Plotted By: Trevor Germsheid
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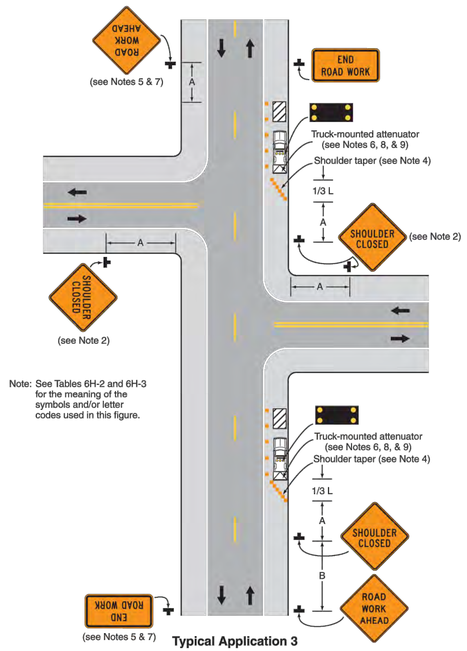
Figure 6H-3. Work on the Shoulder of a Two-Lane Road (TA-3)
(Delaware Revision)



Typical Application 3

Notes for Figure 6H-3—Typical Application 3
Work on the Shoulder of a Two-Lane Road
(Delaware Revision)

Guidance:

1. A SHOULDER CLOSED sign should be placed on the left side of the roadway for a divided or one-way street only if the left shoulder is affected.

Option:

2. The SHOULDER CLOSED sign may be omitted from an intersecting roadway where drivers emerging from that roadway will encounter another advance warning sign prior to the activity area.

3. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.

Standard:

4. When paved shoulders having a width of 8 feet or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

5. If the shoulder closure is located within a passing zone, ROAD WORK AHEAD and END ROAD WORK signs shall be placed for traffic approaching in the opposite direction.

6. For long-term, intermediate-term, and short-term operations, a truck-mounted attenuator shall be used on roadways with a posted speed limit or 85th-percentile speed greater than 40 mph.

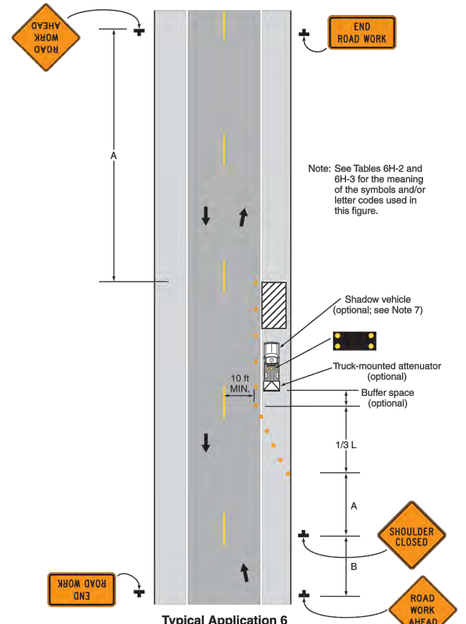
Option:

7. If the shoulder closure is located within a no-passing zone, ROAD WORK AHEAD and END ROAD WORK signs may be placed for traffic approaching in the opposite direction based on engineering judgment.

8. For short duration operations along roadways with a posted speed limit or 85th-percentile speed greater than 40 mph, a truck-mounted attenuator may be omitted if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used or if the shoulder width is less than the width of a truck-mounted attenuator.

9. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

Figure 6H-6. Shoulder Work with Minor Encroachment on a Two-Lane, Low-Speed Road (≤ 40 MPH) (TA-6)
(Delaware Revision)



Typical Application 6

Notes for Figure 6H-6—Typical Application 6
Shoulder Work with Minor Encroachment on a Two-Lane, Low-Speed Road (≤ 40 MPH)
(Delaware Revision)

Standard:

1. This TTC zone application shall be limited to minor roads with a posted speed limit or 85th-percentile speed less than or equal to 40 mph. For higher-speed traffic conditions, a lane closure shall be used (see Figure 6H-10).

Guidance:

2. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices. Except as provided in Note 3, a lane closure (see Figure 6H-10) should be used when the operations cannot accommodate the minimum 10-foot travel lane.

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.

4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained (see Figure 6H-11B).

5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.

6. Temporary traffic barriers may be used along the work space.

7. The shadow vehicle may be omitted if a taper and channelizing devices are used.

8. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

Standard:

9. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.

Guidance:

10. Where drivers emerging from an intersecting roadway will not encounter an advance warning sign prior to the work zone, additional signs should be placed on the intersecting road.

No.	Issue	Author	Checked	Approved	Date
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