ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Living Shoreline Stabilization Project

Delaware Department of Natural Resources and Environmental Control (DNREC)
Wetlands and Subaqueous Lands Section
Attn: Matt Jones, Program Manager
89 Kings Highway,
Dover, Delaware 19901

REFERENCE: Permitting for Subaqueous Land Lease
Applicant: Michael Babcock
36066 Country Lane Frankford, Delaware 19945
Tax Map Parcel ID #: 533-12.00-375.00

Dear DNREC Representative,

Envirotech Environmental Consulting, Inc. (EECI), is submitting the enclosed Wetlands and Subaqueous Lands Section (WSLS) Permit Application Form, Appendix H (Fill), Appendix J (Vegetation) and Appendix M (Activities in State Wetlands). Additional information such as: Driving Directions, Deeds and Record Plats, State and Federal Review Letters, Site Photographs, Aerial Plan Sets and Cross Section View are included in the permit package.

The proposed project is located at 36066 Country Lane, Frankford, Delaware 19945, along the Dirickson Creek, a tributary to the Little Assawoman Bay. The purpose of this project is to provide aquatic enhancement and establishment activities by installing a living shoreline on the existing erosive shoreline within the Subject Property. Severe shoreline erosion is present due to capillary and fetch wave action on exposed soil. The living shoreline will consist of Delaware native vegetation (*Sporobolus alterniflora* and *Sporobolus pumilus*) and other natural components (i.e. oyster bags, coconut coir logs, wood stakes, straw matting). 16-inch high-density premium coir logs will traverse approximately six hundred fifty (650) linear feet of the shoreline, half in water and wedged against current erosion (to best extent practicable). The coir log will be secured with 42-inch wooden stakes, every ten (10) feet and one-foot-wide tidal vents will be established every 30 linear feet. Approximately one hundred and fifty (150) linear feet of 16-inch high-density premium coir logs will be installed along the perimeter of the shoreline's upland boundary located (+/- 75 linear feet) from the property's shoreline abutting Dirickson Creek. One-foot tidal vents will be established every 35 linear feet. Additionally, hand-held hedge trimmers, metal-bladed weed eaters and chainsaws will be used for clearing the current overgrown vegetation in order to access project area. Delaware native vegetation will be preserved, with only pruning activities taking place. Two downed trees and one tree stump will be removed from project area and mulched onsite.

All appropriate risk avoidance measures will be followed to allow practicable alternatives and consideration of impacts were necessary. The work authorized shall be completed in accordance with the terms and conditions of the applicable United States Army Corps of Engineers Permit (Nationwide Permit #27-Aquatic Habitat Restoration, Enhancement, and Establishment Activities). Erosion and sediment control

measures shall be implemented in accordance with the specifications and criteria in the current Delaware Erosion and Sediment Control Handbook so as to minimize entry and dispersal of sediment and other contaminants to surface waters.

Please contact me with any questions.
Best Regards,

Lyle de la Rosa

Lyle de la Rosa
Environmental Project Manager
Envirotech Environmental Consulting, Inc.
Office Phone: 302.684.5201
Fax: 302.684.5204
email: lyle@envirotechecinc.com

Babcock Living Shoreline Components and Implementation Table				
Type of Material	**Location**	**Project Plan Sheet**	**Length (ft)**	**Area (ft^2)**
Low Energy Tactic: Oyster Shell Bags	Low Toe Marsh	Figures 3,5,7	250 ft	375 ft^2
Medium Energy Tactic: Coconut bio coir logs	Low Toe Marsh	Figures 3,5,7	650 ft	845 ft^2
Medium Energy Tactic: Coconut bio coir logs	Upland Area	Figures 3,5,7	150 ft	195 ft^2
Low Energy Tactic: Sporobolus alterniflora	Low Toe Marsh	Figures 3,5,7	418 ft	2000 ft^2
Low Energy Tactic: Sporobolus pumilus	Upland Area	Figures 3,5,7	140 ft	450 ft^2

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: Michael Babcock
   Mailing Address: 309 South Bank Road, Landenburg, PA 19350
   Telephone #: 610-357-1633
   Fax #: _____
   Email: Elvislives232@hotmail.com

2. Consultant's Name: Todd Fritchman
   Mailing Address: 17605 Nassau Commons Blvd, Unit D, Lewes, Delaware 19958
   Company Name: Envirotech Environmental Consulting Inc
   Telephone #: 302-684-5201
   Fax #: 302-684-5204
   E-mail: todd@Envirotechecinc.com

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

Section 2: Project Description

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

5. Project Purpose (attach additional sheets as necessary):
Please See Attached Project Discription & Details

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

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

Section 3: Project Location

7. Project Site Address: 36066 Country Lane, Frankford, Delaware 19945
   County: ☐ N.C. ☐ Kent ☒ Sussex
   Site owner name (if different from applicant): _____
   Address of site owner: _____

8. Driving Directions: See Attached Document
(Attach a vicinity map identifying road names and the project location)

9. Tax Parcel ID Number: 533-12.00-375.00 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: Dirickson Creek waterbody is a tributary to: Little Assawoman Bay

11. Is the waterbody: ☒ Tidal ☐ Non-tidal Waterbody width at mean low or ordinary high water 515 ft

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

*If the project is on private subaqueous lands, provide the name of the subaqueous lands owner:

(Written permission from the private subaqueous lands owner must be included with this application)

13. Present Zoning: ☐ Agricultural ☒ Residential ☐ Commercial ☐ Industrial ☐ 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):

1. Gilbert Stanzione, 36070 Country Lane, Frankford, DE 19945
2. Dirickson Landing Property Owners, PO BOX 480, Ocean View, DE 19970
3. Gregory & Arlene Weber, 36042 Country Lane, Frankford, DE 19945
4. L D Long LP, 36079 Bayard Road, Frankford, DE 19945
5. The Hamlet HOA Inc, 30 East Pine Street, Georgetown, DE 19947
6. Daniel Nieser, 35809 Dirickson Pond Drive, Frankford, DE 19945

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):

See Attached Document

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

Danielle Minter (DNREC Enviornmental Review Coordinator)

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

16. Are there existing structures or fill at the project site in subaqueous lands? ☐ Yes ☒ 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 ☒ Pending ☐ Issued ☐ Denied Date: _____

Type of Permit: NWP #27 Federal Permit or ID #: _____

18. Have you applied for permits from other Sections within DNREC?
☒ 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, Michael A. Babcock, hereby designate and authorize Todd Fritchman
(Name of Applicant) (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: Todd Fritchman Telephone #: (302) 684-5201
Mailing Address: 17605 Nassau Commons Blvd. Unit D. Fax #: (302) 684-5204
Lewes, DE 19958 E-mail: Todd@envirotechecinc.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.

Todd Fritchman — January 27, 2025
Agent's Signature — 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 — January 27, 2025
Date

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

FILL

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

1. How many linear feet will the fill extend channelward of the:
   a. Tidal waters: mean high water line? 175 ft.
      mean low water line? 0 ft.
   b. Non-tidal waters: ordinary high water line? N/A ft.

2. What is the area of fill that will be located:
   a. on subaqueous land (channelward of mean high water) 1040 sq. ft.
   b. on vegetated wetlands? 845 sq. ft.

3. What is the source of the fill?
   X Hauled in from upland sources: What is the source company/location/parcel number?
   _____ Obtained from dredged material: Complete Dredging Appendix.

   Coconut Coir Logs obtained by RoLanka Internation

4. What is the total volume of fill? 50 cubic yards
   a. What is the total fill per running foot of shoreline? 0.06 cubic yards

5. What method will be used to place the fill?
   Hand tools (shovel, sledgehammer)

6. State the type and composition percentage of the fill material (e.g. sand 80%, silt 5%, clay 15%, etc.)

   Coconut coir fibers and wooden takens

7. How will the fill be retained? Complete appropriate appendix.

   Wooden stakes

8. What type of vegetation or ground cover will be provided for the filled area(s) to prevent soil erosion and help keep sediment from reaching State waters?

   Saltmeadow cord grass (450 sq ft) and saltmarsh cord grass (2,000 sq ft)

9. Describe the type(s) of structure(s) to be erected on the filled area (if any). Complete appropriate appendix.

   Living shoreline composed of coconut coir logs, vegetation and oyster bags

FILL

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

1. How many linear feet will the fill extend channelward of the:
   a. Tidal waters: mean high water line? 175 ft.
      mean low water line? 0 ft.
   b. Non-tidal waters: ordinary high water line? N/A ft.

2. What is the area of fill that will be located:
   a. on subaqueous land (channelward of mean high water) 375 sq. ft.
   b. on vegetated wetlands? 375 sq. ft.

3. What is the source of the fill?
   X Hauled in from upland sources: What is the source company/location/parcel number?
   _____ Obtained from dredged material: Complete Dredging Appendix.

   Oyster bags obtained from Center for Inland Bays

4. What is the total volume of fill? 20.8 cubic yards
   a. What is the total fill per running foot of shoreline? 0.08 cubic yards

5. What method will be used to place the fill?

   Hand tools (shovel)

6. State the type and composition percentage of the fill material (e.g. sand 80%, silt 5%, clay 15%, etc.)

   Oyster shells and mesh net

7. How will the fill be retained? Complete appropriate appendix.

   Wooden stakes

8. What type of vegetation or ground cover will be provided for the filled area(s) to prevent soil erosion and help keep sediment from reaching State waters?

   Oyster bags will be placed half in water, against existing vegetation for extra stabilization

9. Describe the type(s) of structure(s) to be erected on the filled area (if any). Complete appropriate appendix.

   Living shoreline composed of coconut coir logs, vegetation and oyster bags

Vegetative Stabilization

- Please make sure that all answers in this appendix correspond to information on the application drawing

1. Submit a brief description of the proposed activity

   Sporobolus alterniflora (smooth coordgrass) will be installed behind the Coconut Coir Logs along the shoreline abutting Dirickson Creek. Sporobolus pumilus will be installed behind the Coconut Coir Logs placed by the upland shoreline boundary.

2. Is grading of bank and/or placement of fill part of this project? Yes No X
   If yes complete Appendix H

3. Indicate the area of proposed planting that is channelward of the:
   a. Tidal Waters: mean high water line? 2000 ft^2
      mean low water line? N/A ft^2
   b. Non-tidal waters: ordinary high water line? N/A ft^2

4. What will the water depth of the plantings be relative to the: (provide the range if it varies)
   a. Tidal Waters: mean high water line? N/A ft
      mean low water line? N/A ft
   b. Non-tidal waters: ordinary high water line? _____ ft

5. Provide the list of plant species that will be utilized.

   Sporobolus alterniflora
   Sporobolus pumilus

6. Describe the sequence of construction and planting.

   See Attached Plan Sets and Project Description.

7. Describe the maintenance and monitoring plan for the vegetation.
   Vegetation will be monitored routinely by client for 3 years by Applicant. Any change to site conditions will be reported to EECI.

ACTIVITIES IN STATE WETLANDS

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

1. Project description and explanation of need.

   Project description attached - living shoreline stabilization for Aquatic Habitat Restoration, Enhancement, and Establishment Activities).

2. What is area of impact for each activity in state wetlands?

   Wetlands Walkways/Other Structures:
   Length 1050 ft. Width 3 ft.
   # Piles n/a Height n/a ft. over marsh

3. What is volume of fill or excavated material involved in this project?

   Fill 70.8 cubic yards
   Excavation n/a cubic yards

4. Map number of state wetland map where project is located: DNR # 051

ENVIRONMENTAL SUMMARY - PLEASE SUBMIT AN EVALUATION OF IMPACT OF THE PROPOSED ACTIVITY (ATTACH ADDITIONAL SHEETS AS NEEDED):

5. State reasons that structures cannot feasibly be located on lands other than wetlands.

   The project area is located in wetlands and tidal activity is directly leading to erosion and land loss.

6. Detail temporary and permanent changes which would be caused by the proposed project and the impact of these changes on the project area and adjacent areas.

   Permanent changes include removing cumbersome vegetation to access project area.

7. Describe alternatives to the proposed action which would reduce or avoid environmental damage.

   Wetland mats will be temporarily placed in the project area to establish access pathway. This will decrease the total surface area impacted by foot traffic.

8. Describe all measures to be taken during and after the completion of the proposed project to reduce detrimental effects.

   Machinery will only operate from upland area. Living shoreline materials will be handplaced to avoid damaging existing wetland vegetation

9. Describe all permanent environmental impacts which cannot be avoided.

   Removal of downed trees and tree stump cannot be avoided in order to have full access to the project area.

10. Submit detailed evaluation of impact of the proposed project on the following:

a. Value of tidal ebb and flow

i. Production Value: carrying organic matter to adjacent estuaries and coastal waters which serve as breeding areas for certain animal species (especially fish and shellfish).
ii. Value as a natural protective system of absorption of storm wave energy, flood waters, and heavy rainfall, thereby decreasing flood and erosion damage.
iii. The prevention of silting in certain harbors and inlets thereby reducing dredging.
iv. Removal and recycling of inorganic nutrients.
v. Effect on the estuarine waters.

The living shoreline will reduce stormwater sediment from infiltrating the low marsh area and Dirickson Creek. The vented living shoreline will also allow tidal flushing of the low marsh, while allowing aquatic sediment to accumulate and restabilish the natural wetlands.

b. Habitat Value

i. Habitat for resident species of wildlife including furbearers, invertebrates, finfish.
ii. Habitat for migratory wildlife species including waterfowl, wading birds, shorebirds, shorebirds, passerines, finfish, shrimp.
iii. Rearing area, nesting area, breeding grounds for various species.
iv. Habitat for rare or endangered plants.
v. Presence of plants or animals known to be rare generally, or unique to the particular location.
vi. Presence of plants or animals near the limits of their territorial range.
vii. Presence of unique geological or wetland features.

The habitat value will be increased signicantly with the installation of 500 oyster bags. Additionally, the low lying living shoreline will create a natural habitat and allow/encourage aquatic and land species to thrive.

c. Aesthetic Effect - Consideration of the aesthetic effect may include:

i. Presence of plants or animals of a high visual quality.
ii. The presence of an associated water body.
iii. Wetland type of topographic diversity.

This plan includes planting Delaware native wetland vegetation within 2500 square feet of wetlands and upland area. Plantings include over 3,000 total Sporobolus alterniflora and Sporobolus pumilus plantings.

d. Impact of Supporting Facilities

The supporting facilities to be considered include any public or private construction, whether or not the construction occurs in the wetlands, which would be required for construction or operation of the proposed wetlands activity, such as roads, sewage disposal facilities, electric lines, water supply systems, and schools. Effects shall be separately determined for the lands neighboring such facilities.

e. Effect on Neighboring Land Uses
   i. The effects of the proposed wetland activity on neighboring land use are to be considered whether or not the neighboring lands are wetlands.
   ii. The environmental, aesthetic and economic effects of the proposed wetlands activity on land uses neighboring the lands on which supporting facilities will be located may be considered.

N/A

f. Federal, State, Regional, County and Municipal Comprehensive Plans.
   Compliance of the proposed activities with the plans of the jurisdiction in which it is proposed to take place, and its impact on the plans of other affected jurisdictions.

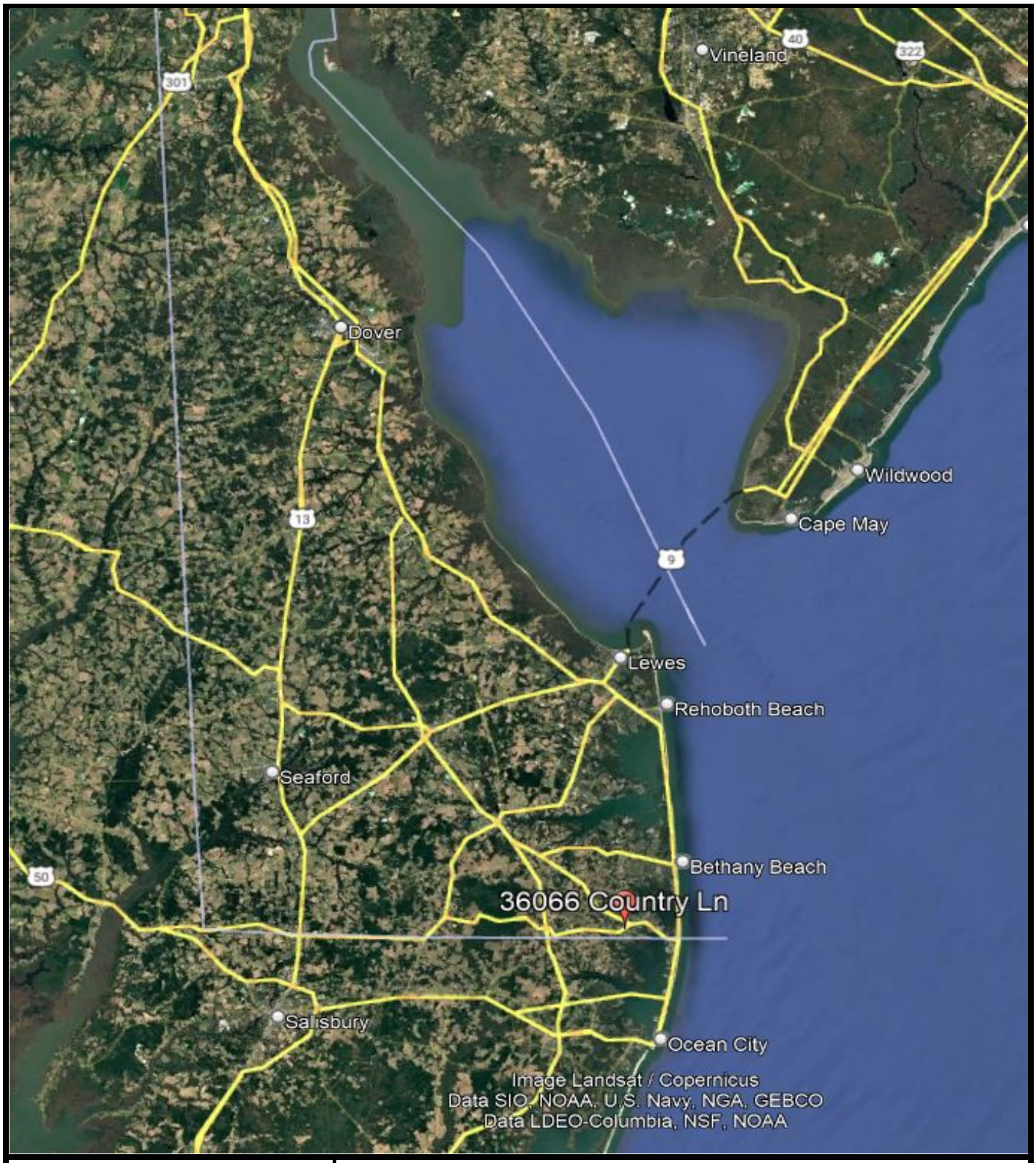
N/A

g. Economic Impact
   Economic Impact shall include a short and long-term evaluation of the following factors to the extent the effect is directly attributable to the proposed activity:
   i. Jobs created or lost and the net income effect of jobs.
   ii. Increases in revenues to or increases in expenditure by State, County and local governments (e.g., increased taxes from an increased tax base and increased expenditure for maintaining supporting facilities).
   iii. Increases or decreases in the value attributable to the wetland as a source of nutrients to finfish, crustacea and shellfish and as habitats of such species or other flora or fauna of significant actual or potential economic value.
   iv. Increases or decreases in the value of the land as a recreational area.
   v. Increases or decreases in the cost of flood control or expected flood damage which might be caused by the effect of the activity on the natural capacity of the wetland to reduce flood damage.
   vi. Increases or decreases the costs of maintaining navigable harbors and waterways which would result from altering the capacity of the wetlands to absorb silt.
   vii. The net economic effect, both public and private, or any contemplated supporting facilities.
   viii. The net economic effect, both public and private, of the proposed activity on neighboring land uses.

N/A

Attachment A:

Property Maps & Project Diagrams



Envirotech
ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Envirotech Environmental Consulting, Inc.
17605 Nassau Commons Boulevard, Unit D
Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

Living Shoreline Project Location Map
36066 Country Lane, Frankford, DE 19945;
Tax Map ID #: 533-12.00-375.00

DATE: 2/17/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 1
PROJECT: Living Shoreline Project	SHEET 1 OF 7

= Mean High Water Line (MHWL)

= Mean Low Water Line (MLWL)

Living Shoreline Project Subject Property;
36066 Country Lane, Frankford, DE 19945;
Tax Map ID #: 533-12.00-375.00

Envirotech Environmental Consulting, Inc.
17605 Nassau Commons Boulevard, Unit D
Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

DATE: 2/17/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 2
PROJECT: Living Shoreline Project	SHEET 2 OF 7

Envirotech™
ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Envirotech Environmental Consulting, Inc. 17605 Nassau Commons Boulevard, Unit D Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

Living Shoreline Project Design;
36066 Country Lane, Frankford, Delaware 19945;
Tax Map ID #: 533-12.00-375.00

DATE: 2/17/2025	REF NUMBER: 35445
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 3
PROJECT: Living Shoreline Project	SHEET 3 OF 7

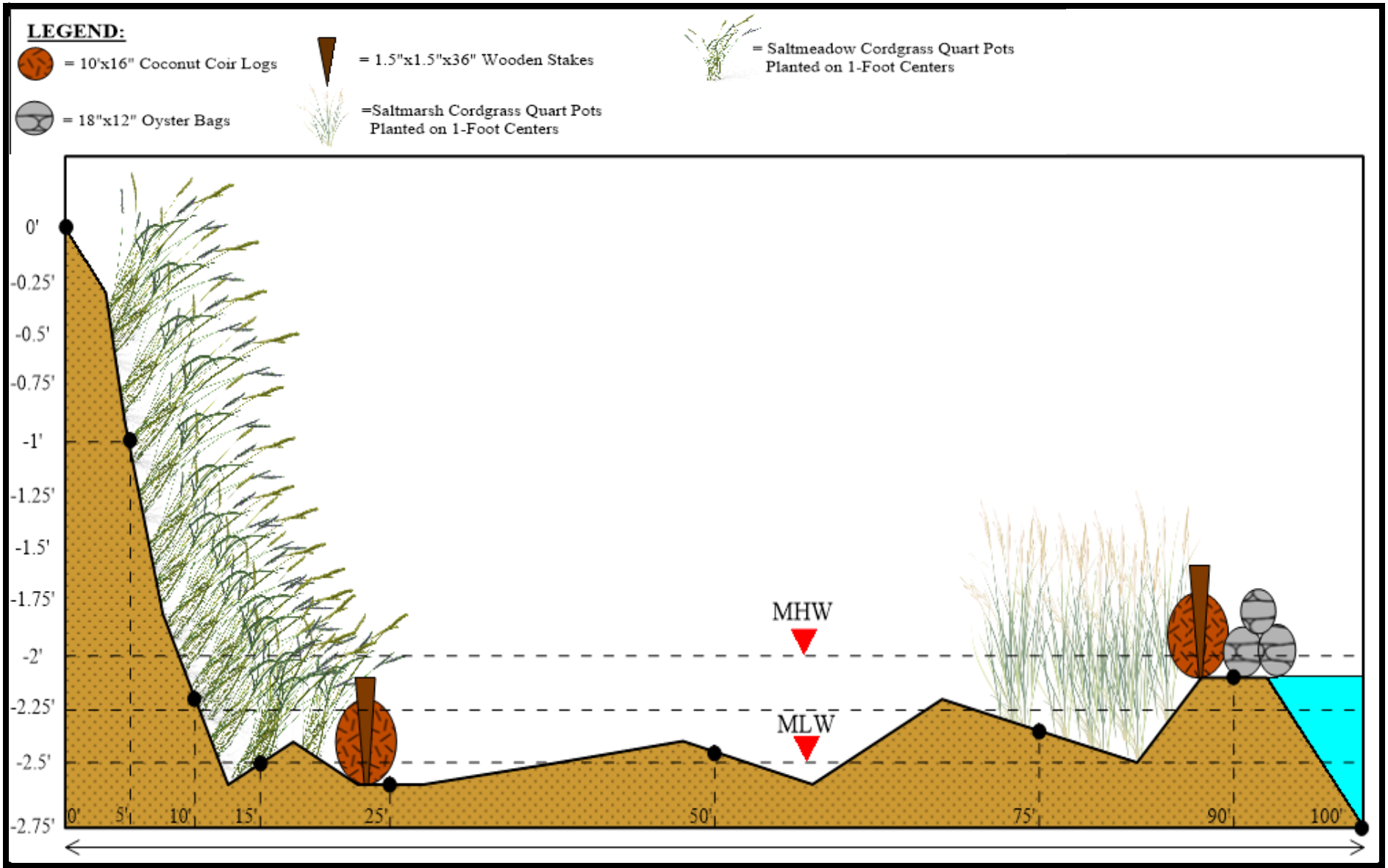
Living Shoreline Project Cross Section Location Map;
36066 Country Lane, Frankford, DE 19945l;
Tax Map ID #: 533-12.00-375.00

+ = Cross Section Start Point

Envirotech
ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Envirotech Environmental Consulting, Inc.
17605 Nassau Commons Boulevard, Unit D
Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

DATE: 3/3/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 4
PROJECT: Living Shoreline Project	SHEET 4 OF 7

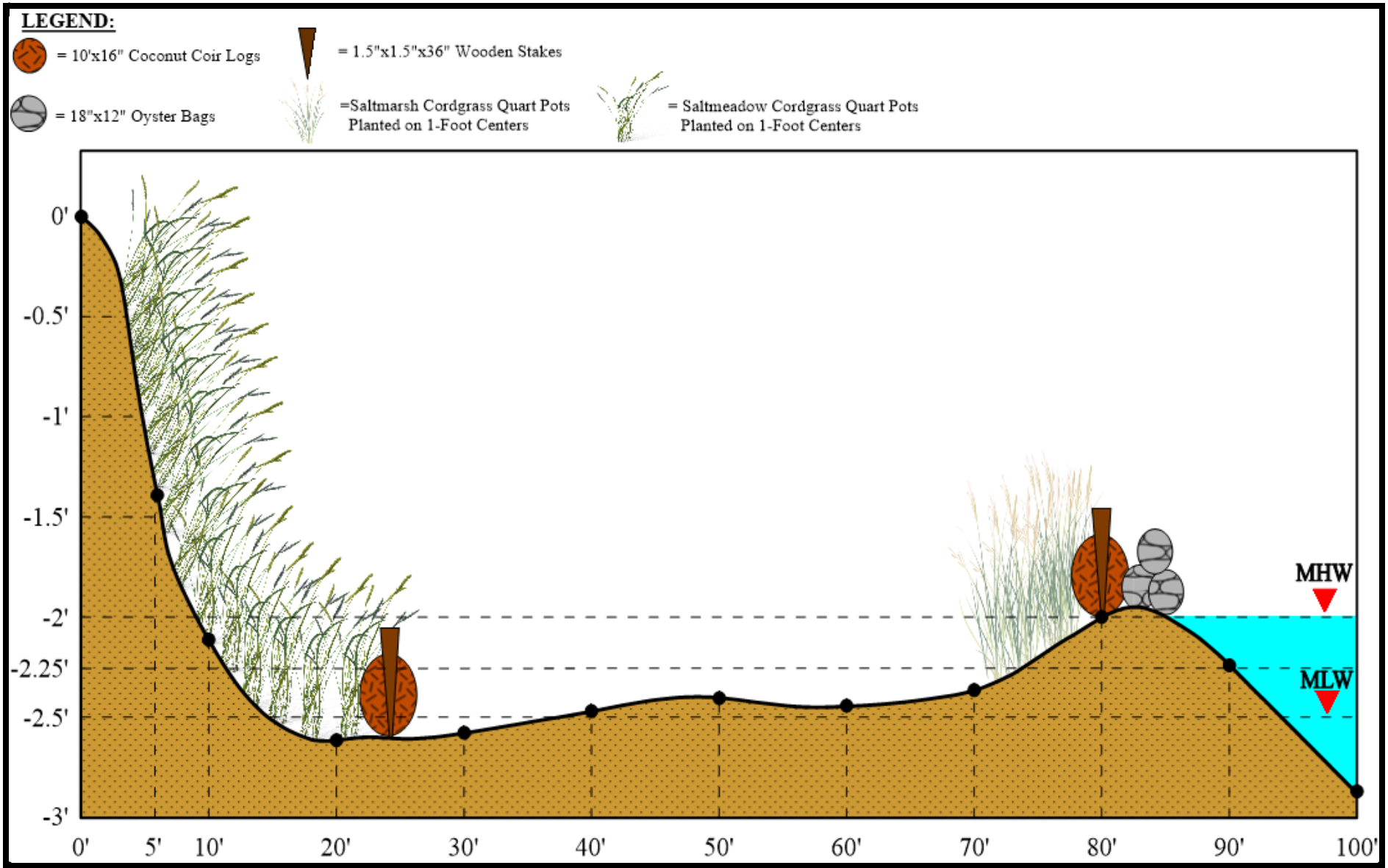


Envirotech™
ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Envirotech Environmental Consulting, Inc. 17605 Nassau Commons Boulevard, Unit D Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

Living Shoreline Cross Section #1; Center Of Subject Property;
36066 Country Lane, Frankford, Delaware 19945;
Tax Map ID #: 533-12.00-375.00

DATE: 2/25/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 5
PROJECT: Living Shoreline Project	SHEET 5 OF 7



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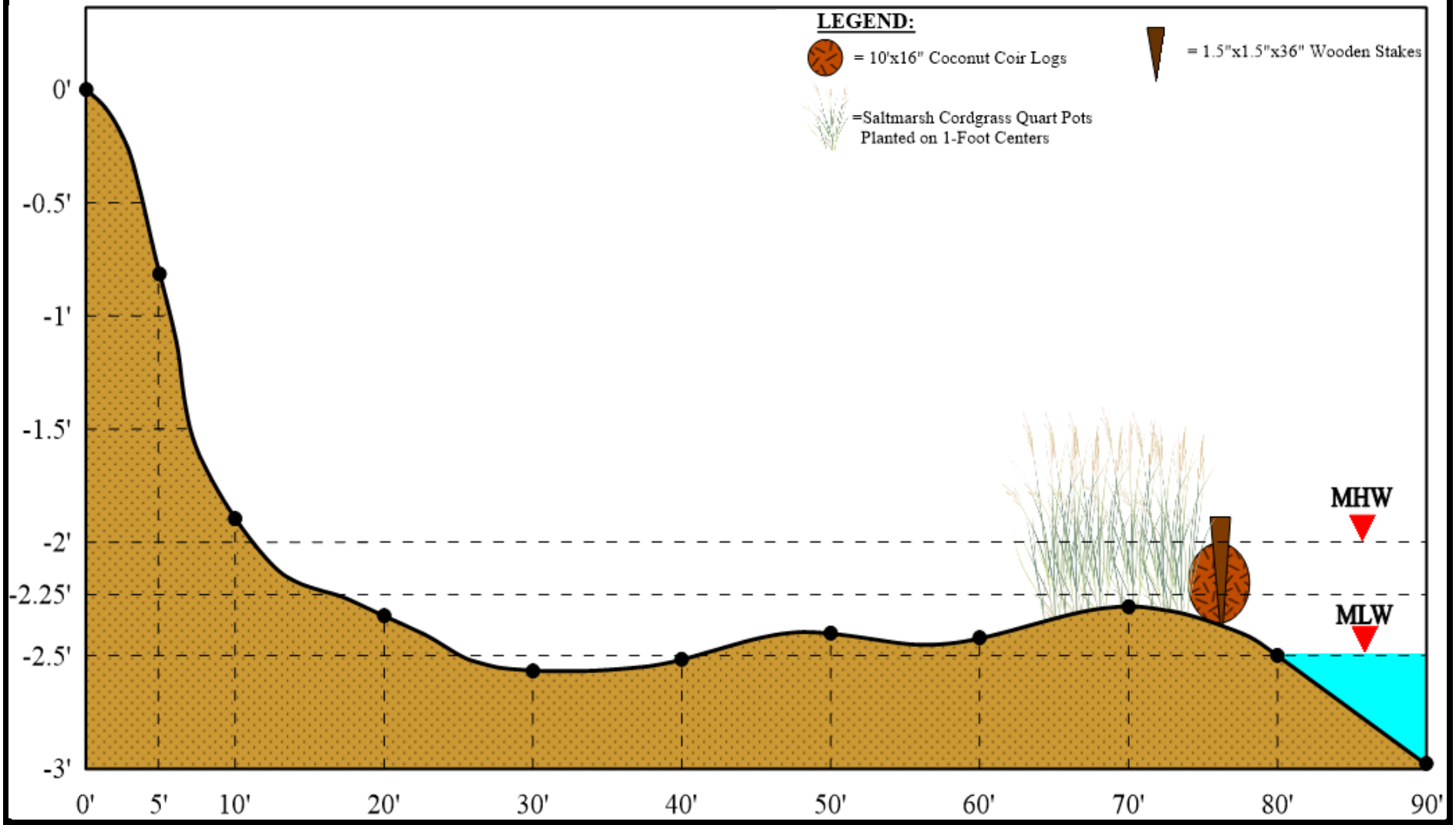
ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Envirotech Environmental Consulting, Inc. 17605 Nassau Commons Boulevard, Unit D Lewes, DE 19958
Phone: (302) 684-5201 Fax: (302) 684-5204

Living Shoreline Cross Section #2: Left Side of Subject Property;
36066 Country Lane, Frankford, Delaware 19945;
Tax Map ID #: 533-12.00-375.00

DATE: 3/18/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 1
PROJECT: Living Shoreline Project	SHEET 1 OF 1



Envirotech
ENVIRONMENTAL CONSULTING, INC.
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Phone: (302) 684-5201 Fax: (302) 684-5204

Living Shoreline Cross Section #3: Right Side of Subject Property;
36066 Country Lane, Frankford, Delaware 19945;
Tax Map ID #: 533-12.00-375.00

DATE: 3/18/2025	REF NUMBER: 34312
DRAWN BY: NRW	SCALE: As shown
CHECKED BY: LAd	FIGURE NO: 1
PROJECT: Living Shoreline Project	SHEET 1 OF 1

Attachment B:

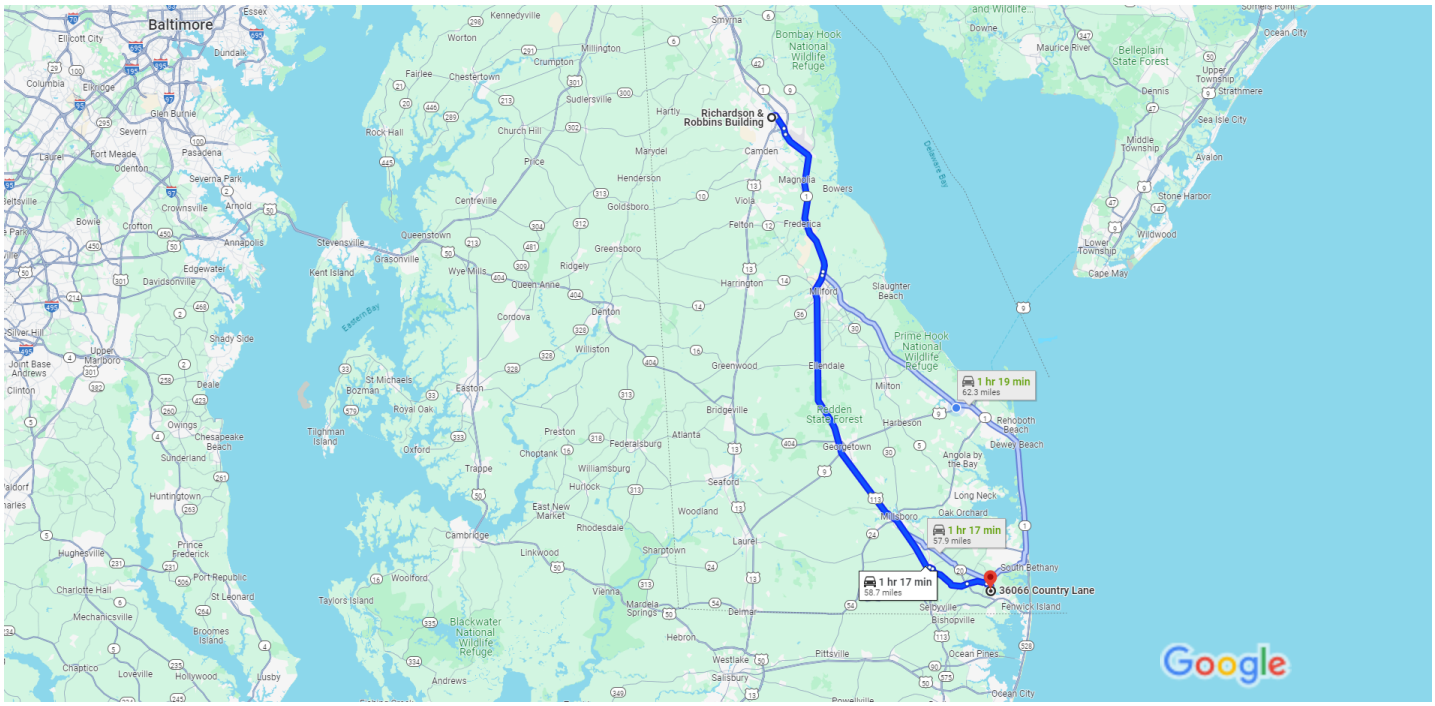
Driving Directions

Google Maps

Richardson & Robbins Building, 89 Kings Hwy SW, Dover, DE 19901 to 36066 Country Ln, Frankford, DE 19945

Drive 58.7 miles, 1 hr 17 min

Babcock Property



Map data ©2024 Google 5 mi

Richardson & Robbins Building
89 Kings Hwy SW, Dover, DE 19901

Take E Division St to US-13 S

2 min (0.6 mi)

1. Head north on Kings Hwy SW toward American Ave

0.2 mi

2. Turn right onto E Division St/Kings Hwy NE
   Continue to follow E Division St

0.4 mi

Follow DE-1 S and US-113 S/N Dupont Blvd to Daisey St in Sussex County

1 hr (50.2 mi)

3. Turn right onto US-13 S

0.2 mi

4. Use the left 2 lanes to turn slightly left onto S Bay Rd

1.3 mi

5. Slight right to stay on S Bay Rd

0.7 mi

6. Merge onto DE-1 S

15.2 mi

7. Use the right lane to take the US-113 S/DE-1BUS ramp to Milford/Georgetown

0.3 mi

8. Continue onto DE-1 BUS S/US-113 S/N Dupont Blvd

Continue to follow US-113 S/N Dupont Blvd

Pass by AutoZone Auto Parts (on the right in 27.6 mi)

32.5 mi

Take Gum Rd and Rd 381A/Wilgus Cemetery Rd to your destination

15 min (7.9 mi)

9. Turn left onto Daisey St

0.3 mi

10. Turn right onto Clayton Ave/Rte 401

171 ft

11. Continue onto Main St

0.3 mi

12. Continue onto Rd 376/Pepper Rd

0.4 mi

13. Turn left onto Gum Rd

3.8 mi

14. Turn left onto Rd 382/Pyle Center Rd

141 ft

15. Turn right onto Rd 381A/Wilgus Cemetery Rd

2.1 mi

16. Turn right onto Rd 384/Bayard Rd

249 ft

17. Turn left onto Rd 381/Old Mill Bridge Rd

0.5 mi

18. Turn right onto Country Ln

0.3 mi

19. Turn right

0.2 mi

36066 Country Ln
Frankford, DE 19945

Attachment C:

Surrounding Properties
within 1,000 ft radius

Properties Within 1,000 Foot Radius

Tax Map ID Number	Owner Name	Physical Address	Mailing address	Town	State	Zip Code
533-11.00-402.00	WARD GEORGE F JR	36816 JAHNIGEN DR	36816 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-403.00	MASTEN ERIC W	36818 JAHNIGEN DR	36818 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-404.00	BUCHENOT STEPHEN M	36820 JAHNIGEN DR	36820 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-405.00	SROKA STEPHEN M & NANCY L SROKA	36822 JAHNIGEN DR	36822 SAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-406.00	MCCORMACK BRIAN P TTEE	36824 JAHNIGEN DR	36824 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-407.00	BIG DADDY REALTY LLC	36823 JAHNIGEN DR	36823 JAHNIGEN DRIVE	FRANKFORD	DE	19945
533-11.00-408.00	RACZ-HAWES JUDITH A	36825 JAHNIGEN DR	36825 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-409.00	BENNER GEORGE B	35799 DIRICKSON POND DR	35799 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-410.00	KRAVETZ SAMANTHA HASLBECK	35801 DIRICKSON POND DR	35801 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-411.00	WALLACE ZELMA MARY	35803 DIRICKSON POND DR	35803 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-412.00	LILLY GILBERT J	35805 DIRICKSON POND DR	35805 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-413.00	KEEFER KEVIN	35807 DIRICKSON POND DR	35807 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-414.00	NIESER DANIEL SYLVIA S NIESER	35809 DIRICKSON POND DR	35809 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-415.00	O'BRIEN PATRICK FRANCIS	35810 DIRICKSON POND DR	2002 HUNTCLIFF DR	GAMBRILLS	MD	21054
533-11.00-416.00	MCCORMICK JOHN P & LISA A	35808 DIRICKSON POND DR	35808 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-417.00	BERARD MICHAEL D	35806 DIRICKSON POND DR	4185 LISI LN	BINGHAMTON	NY	13903
533-11.00-418.00	SHOEMAKER MICHAEL R	35804 DIRICKSON POND DR	35804 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-419.00	KERN FREDERICK RALPH TTEE LIV TR	35802 DIRICKSON POND DR	35802 DIRICKSON POND DR	FRANKFORD	DE	19945
533-11.00-420.00	VACCA BRYAN A	36833 JAHNIGEN DR	36833 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-421.00	GUSKY JOEL D	36826 JAHNIGEN DR	36826 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-422.00	VAN DOREN KEITH	36828 JAHNIGEN DR	36828 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-424.00	BELGRAVE GORDON G	36835 JAHNIGEN DR	36835 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-425.00	SPANGLER RONALD C	36837 JAHNIGEN DR	PO BOX 332	EAST BERLIN	PA	17316
533-11.00-462.00	HALLE ALAN	36831 JAHNIGEN DR	36831 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-463.00	STROHM GLENN LEE TTEE REV TR	36829 JAHNIGEN DR	36829 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-464.00	O'DONNELL JAMES A	36827 JAHNIGEN DR	36827 JAHNIGEN DR	FRANKFORD	DE	19945
533-11.00-86.00	L D LONG LP	35523 LONG LN	36079 BAYARD RD	FRANKFORD	DE	19945
533-11.00-87.00	CHRISTOPHER AT BROOKLAND FARM LLC	36313 BAYARD RD	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-87.02	CHRISTOPHER AT BROOKLAND FARM LLC		10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-88.06	HAMLET HOA INC THE		30 E PINE ST	GEORGETOWN	DE	19947
533-11.00-88.07	HAMLET HOA INC THE		30 E PINE ST	GEORGETOWN	DE	19947
533-11.00-88.08	HAMLET HOA INC THE		30 E PINE ST	GEORGETOWN	DE	19948
533-11.00-938.00	CHRISTOPHER AT BROOKLAND FARM LLC	36337 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-939.00	CHRISTOPHER AT BROOKLAND FARM LLC	36339 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-940.00	CHRISTOPHER AT BROOKLAND FARM LLC	36343 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-941.00	CHRISTOPHER AT BROOKLAND FARM LLC	36347 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-942.00	CHRISTOPHER AT BROOKLAND FARM LLC	36351 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-943.00	CHRISTOPHER AT BROOKLAND FARM LLC	36353 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-944.00	CHRISTOPHER AT BROOKLAND FARM LLC	36355 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-945.00	CHRISTOPHER AT BROOKLAND FARM LLC	36357 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-946.00	CHRISTOPHER AT BROOKLAND FARM LLC	36361 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-947.00	CHRISTOPHER AT BROOKLAND FARM LLC	36363 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-948.00	CHRISTOPHER AT BROOKLAND FARM LLC	36367 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-949.00	CHRISTOPHER AT BROOKLAND FARM LLC	36371 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-957.00	CHRISTOPHER AT BROOKLAND FARM LLC	36366 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-958.00	CHRISTOPHER AT BROOKLAND FARM LLC	36370 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-11.00-959.00	CHRISTOPHER AT BROOKLAND FARM LLC	36372 REEDY PT	10461 WHITE GRANITE DR UNIT 250	OAKTON	VA	22124
533-12.00-11.00	ARCHUT DIANNE H TRUSTEE		36219 OLD CHURCH CEMETERY	FRANKFORD	DE	19945
533-12.00-12.03	NELSON CARL	36504 OLD MILL BRIDGE RD	36504 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.04	OLTMAN MURRAY WILLIS TAMARA	36490 OLD MILL BRIDGE RD	36490 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.05	ARNDT MICHAEL A	36476 OLD MILL BRIDGE RD	36476 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.06	SCHRIDER WILLIAM T III	36452 OLD MILL BRIDGE RD	36452 OLD MILL BRIDGE ROAD	FRANKFORD	DE	19945
533-12.00-12.07	GREGORIO PATRICIA ANNE	36398 OLD MILL BRIDGE RD	36398 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.09	QUINTANA RAYNOL E GARCIA		48 GOOSE BRIAR LN	MILFORD	DE	19963
533-12.00-12.10	PERALTA DANIEL A	36354 OLD MILL BRIDGE RD	118 LAYTON DR	BETHANY BEACH	DE	19930
533-12.00-12.11	MITCHELL DENNIS & JUNE MITCHELL	36338 OLD MILL BRIDGE RD	36338 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.12	GUSTAVUS RICKY J	36302 OLD MILL BRIDGE RD	36302 OLD MILL BRIDGE RD	FRANKFORD	DE	19945
533-12.00-12.13	DIRICKSON LANDING PROPERTY OWNERS		PO BOX 480	OCEAN VIEW	DE	19970
533-12.00-14.00	SWANN ESTATES HOMEOWNERS ASSOCIATION		PO BOX 283	FRANKFORD	DE	19945
533-12.00-18.00	SWANN GLADYS A REVOCABLE TRUST	36916 CHANDLER DR	37124 SAW MILL LN	SELBYVILLE	DE	19975
533-12.00-19.00	SWANN TERESA K	36964 CHANDLER DR	4047 TYLER RD	EWELL	MD	21824
533-12.00-20.00	WATERS RUN PROPERTY OWNERS ASSOC INC	34476 WATERS RN	PO BOX 1761	MILLSBORO	DE	19966
533-12.00-20.08	WATERS RUN PROPERTY OWNERS ASSOC INC		PO BOX 1761	MILLSBORO	DE	19966
533-12.00-332.00	HICKS EUGENE EDWARD	35739 SEA GULL RD	35739 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-333.00	SHRINER RONALD C	35757 SEA GULL RD	35757 SEAGULL RD	SELBYVILLE	DE	19975
533-12.00-334.00	JAMAROWICZ RICHARD M & TRACY L	35761 SEA GULL RD	35761 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-335.00	TUCKER RICHARD & LYNDA	35777 SEA GULL RD	35777 SEAGULL RD	SELBYVILLE	DE	19975
533-12.00-335.01	STRAUGHAN CHARLES W & MARY LOU	35783 SEA GULL RD	35783 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-335.02	WAGNER WAYNE S SR MICHELLE D	35799 SEA GULL RD	35799 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-335.03	TARAS KENNETH TTEE	35807 SEA GULL RD	35807 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-335.04	RINAUDO SALVATORE COTTEE & ANGELA M	35825 SEA GULL RD	35825 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-335.05	SWANN ESTATES HOMEOWNERS ASSOCIATION		PO BOX 283	FRANKFORD	DE	19945
533-12.00-336.00	SMITH TRUDY A	35816 SEA GULL RD	35816 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-337.00	LUCKETT ROBERT M & CARYN S	35804 SEA GULL RD	35804 SEA GULL RD	SELBYVILLE	DE	19975
533-12.00-338.00	HOUGH DAVID C	36977 SANDPIPER LN	3335 TRINIDAD CT	PUNTA GORDA	FL	33950
533-12.00-339.00	WHITE JOHN	36999 SANDPIPER LN	36999 SANDPIPER LN	SELBYVILLE	DE	19975
533-12.00-366.00	HIOTT THOMAS W	36033 COUNTRY LN	36033 COUNTRY TREE LN	FRANKFORD	DE	19945
533-12.00-367.00	PORTER CHARLES E & VANESSA M	36037 COUNTRY LN	36037 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-368.00	LAWS KEVIN G	36041 COUNTRY LN	36041 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-369.00	LUBOSCO RALPH MICHAEL	36043 COUNTRY LN	36043 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-370.00	SICARI PAUL	36045 COUNTRY LN	36045 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-371.00	DERICKSON JAY R & ALLISON P	36047 COUNTRY LN	36047 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-372.00	TUCKER JOHN J	36067 COUNTRY LN	36067 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-373.00	BONUCCELLI CATHERINE M	36071 COUNTRY LN	1030 WELDIN CIR	WILMINGTON	DE	19803
533-12.00-374.00	STANZIONE GILBERT	36070 COUNTRY LN	36070 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-375.00	BABCOCK MICHAEL A	36066 COUNTRY LN	36066 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-376.00	WEBER GREGORY J & ARLENE	36042 COUNTRY LN	36042 COUNTRY LN	FRANKFORD	DE	19945

533-12.00-377.00	SNYDER JEFFREY ALAN	36040 COUNTRY LN	36040 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-378.00	KSEBE ADAM	36038 COUNTRY LN	36038 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-379.00	FORTE JONATHAN F	36036 COUNTRY LN	36036 COUNTRY LN	FRANKFORD	DE	19945
533-12.00-380.00	WOODEN MARGARET ANN	36034 COUNTRY LN	333 S SETON AVE	EMMITSBURG	MD	21727
533-12.00-381.00	DIRICKSON LANDING PROPERTY OWNERS		PO BOX 480	OCEAN VIEW	DE	19970
533-12.00-873.00	TOMKO ROBERT JAMES	37373 WOODS RUN CIR	37373 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-874.00	PUTTRE ROSALIE G	37381 WOODS RUN CIR	37381 WOODS RUN CIRCLE	SELBYVILLE	DE	19975
533-12.00-875.00	WILSON ALFRED C JR	37391 WOODS RUN CIR	37391 WOODS RUN CIRCLE	SELBYVILLE	DE	19975
533-12.00-876.00	COLLISON ROBERT MICHAEL TTEE	37403 WOODS RUN CIR	37403 WOOD RUN CIR	SELBYVILLE	DE	19975
533-12.00-877.00	DUNN MICHAEL	37413 WOODS RUN CIR	37413 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-878.00	MYERS CHARLES JR STEVEN STEINDLER TTEE	37423 WOODS RUN CIR	37423 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-879.00	COOPER ROBERT TERRELL JR REV TR	37429 WOODS RUN CIR	37429 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-883.00	PAIC VLADUT STEFAN	34497 WATERS RN	34497 WATERS RUN	SELBYVILLE	DE	19975
533-12.00-894.00	TROWBRIDGE STEPHEN	37448 WOODS RUN CIR	37448 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-895.00	JACOBS THOMAS L SR	37434 WOODS RUN CIR	37434 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-896.00	BYLE JOHN J	37428 WOODS RUN CIR	37428 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-897.00	ERBACHER JANET A	37424 WOODS RUN CIR	37424 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-898.00	WIMPERIS WILLIAM JAMES	37418 WOODS RUN CIR	37418 WOODS RUN CIRCLE	SELBYVILLE	DE	19975
533-12.00-899.00	POULK ROBERT M JR	37412 WOODS RUN CIR	37412 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-900.00	WEST ROBERT E	37406 WOODS RUN CIR	37406 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-901.00	FELDMAN MICHAEL H	37402 WOODS RUN CIR	37402 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-902.00	MARX LAWRENCE ERIC TTEE REV TR	37394 WOODS RUN CIR	6710 WEAVER AVE	MC LEAN	VA	22101
533-12.00-903.00	SULLIVAN CHRISTOPHER J TTEE TR	37390 WOODS RUN CIR	2986 VALLEY VIEW RD	ANNAPOLIS	MD	21401
533-12.00-904.00	AMICI JEFFREY	37382 WOODS RUN CIR	37382 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-905.00	THOMPSON STEPHEN M IRR TR	37378 WOODS RUN CIR	37378 WOODS RUN CIR	SELBYVILLE	DE	19975
533-12.00-906.00	ANIUNAS JOHN J	37372 WOODS RUN CIR	37372 WOODS RUN CIRCLE	SELBYVILLE	DE	19975
533-12.00-916.00	WATERS RUN PROPERTY OWNERS ASSOC INC		PO BOX 1761	MILLSBORO	DE	19966

Attachment D:

Property Deed & Survey

Document# 2020000052080 BK: 5339 PG: 272
Recorder of Deeds, Scott Dailey On 10/29/2020 at 10:20:21 AM Sussex County, DE
Consideration: $349,900.00 County/Town: $5,248.50 State: $8,747.50 Total: $13,996.00
Doc Surcharge Paid Town: SUSSEX COUNTY

TAX MAP AND PARCEL #: 5-33-12.00-375.00
PREPARED BY & RETURN TO:
Larry W. Fifer, Attorney at Law
1201-B Savannah Road
Lewes, DE 19958
File No. 2020-75/

THIS DEED, made this 29th day of October, 2020,

- BETWEEN -

GLENN EDWARD HESSLER and **KATHLEEN HESSLER**, husband and wife, of 16546 Loneoak Place, Hamilton, VA 20158, parties of the first part,

- AND -

MICHAEL A. BABCOCK and **EILEEN A. BABCOCK**, husband and wife, of 309 Southbank Road, Landenberg, PA 19350, parties of the second part.

WITNESSETH: That the said parties of the first part, for and in consideration of the sum of ONE DOLLAR ($1.00), and other good and valuable consideration, the receipt whereof is hereby acknowledged, hereby grant and convey unto the parties of the second part, and their heirs and assigns, in fee simple, the following described lands, situate, lying and being in Sussex County, State of Delaware:

ALL that certain lot, piece or parcel of land situate, lying and being in Baltimore Hundred, Sussex County, Delaware, being known and designated as LOT NUMBER TWENTY-TWO (22), DIRICKSON LANDING, PHASE 2, containing 8.71 acres, more or less, as shown on the plot of "Dirickson Landing, Phase 2" prepared by Land Tech, Inc., Registered Surveyors, dated December 16, 1999 and filed for record in the Office of the Recorder of Deeds in and for Sussex County, at Georgetown, Delaware, in Plot Book 69, Page 44, as reference thereunto being had will more fully and at large appear.

SUBJECT to the Declaration of Covenants, Conditions and Restrictions of Dirickson Landing filed for record in the Office of the Recorder of Deeds in and for Sussex County at Georgetown, Delaware in Deed Book 2121, Page 296, and the Revised Declaration of Covenants, Conditions and Restrictions dated April2, 2001 and filed for record in Deed Book 2578, Page 1.

THE GRANTEES, by accepting this conveyance, becomes a member of Dirickson Landing Property Owners Association which has responsibility for maintaining and controlling the private streets which are shown on the plot of record in Dirickson Landing, Phase 2, as filed for record in Dirickson Landing, Phase 2, as filed for record in Plot Book 69, Page 44. The Grantees

Document# 2020000052080 BK: 5339 PG: 273
Recorder of Deeds, Scott Dailey On 10/29/2020 at 10:20:21 AM Sussex County, DE
Doc Surcharge Paid

by accepting this Deed, recognize and understand that the road upon which the above described property fronts is a private road and the Grantees are responsible for their proportionate costs of maintenance by the Property Owners Association and that the said roads will not be maintained by the State of Delaware or Sussex County.

BEING the same lands and premises conveyed unto Glenn Edward Hessler and Kathleen Hessler, his wife by Deed of Bryan Wolf and Lynne McKee, his wife, dated June 28, 2003 and of record in the Office of the Recorder of Deeds in and for Sussex County at Georgetown, Delaware at Deed Book 2855, Page 160.

IN WITNESS WHEREOF, the parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, Sealed and Delivered
in the presence of:

(SEAL)
GLENN EDWARD HESSLER

(SEAL)
KATHLEEN HESSLER

STATE OF DELAWARE, COUNTY OF SUSSEX: to-wit

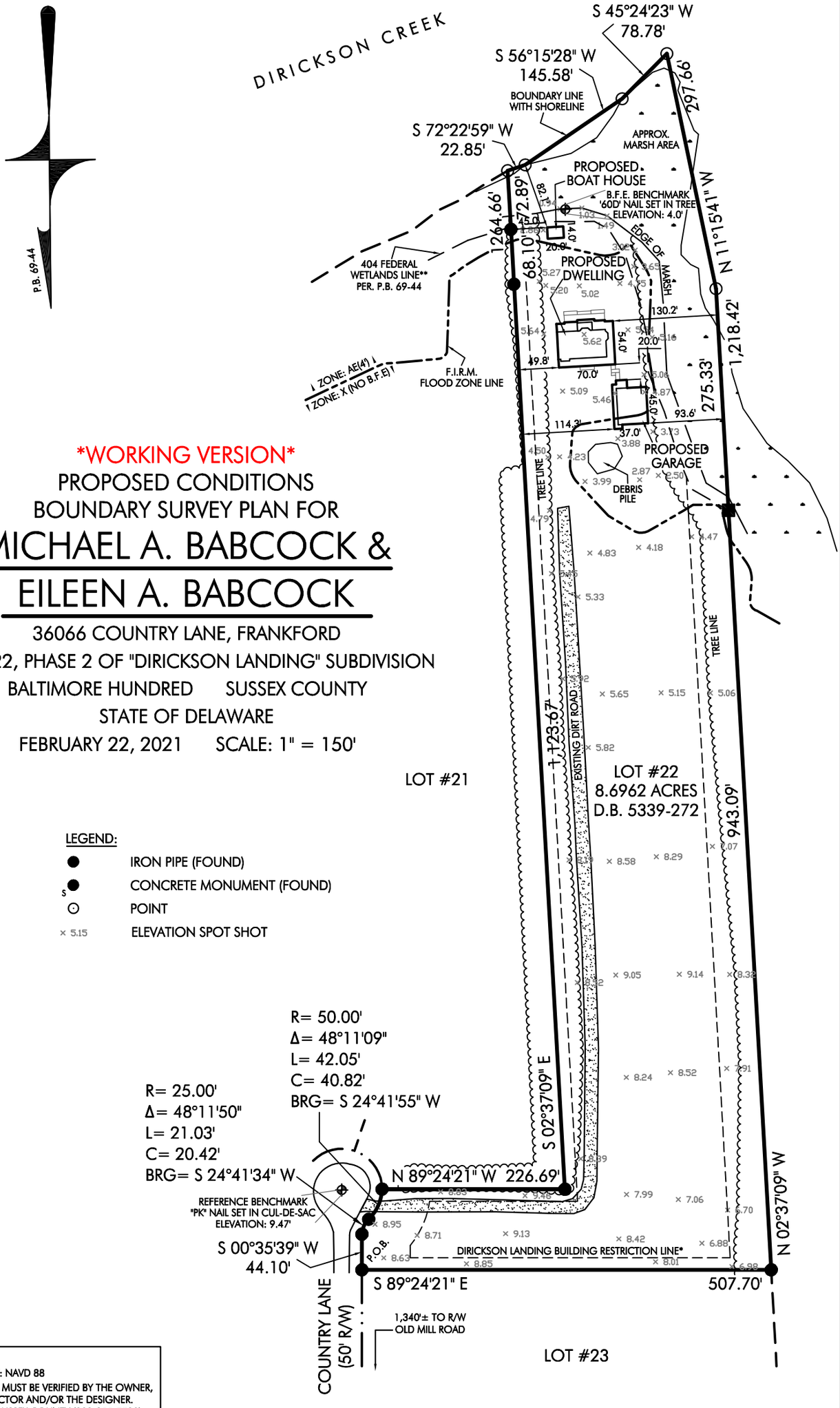
BE IT REMEMBERED, that on October 22, 2020, personally came before me, the subscriber, GLENN EDWARD HESSLER and KATHLEEN HESSLER, husband and wife, parties of the first part to this Indenture, known to me personally to be such, and acknowledged this Indenture to be their act and deed.

Given under my Hand and Seal of office the day and year aforesaid.

Notary Public
Printed Name:
My Commission Expires:

GAY F. LIGHT
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires November 17, 2020

T.M. #5-33-12.00-375.00



WORKING VERSION

PROPOSED CONDITIONS
BOUNDARY SURVEY PLAN FOR

MICHAEL A. BABCOCK &
EILEEN A. BABCOCK

36066 COUNTRY LANE, FRANKFORD
LOT #22, PHASE 2 OF "DIRICKSON LANDING" SUBDIVISION
BALTIMORE HUNDRED SUSSEX COUNTY
STATE OF DELAWARE
FEBRUARY 22, 2021 SCALE: 1" = 150'

LEGEND:

- IRON PIPE (FOUND)
- CONCRETE MONUMENT (FOUND)
- POINT
- × 5.15 ELEVATION SPOT SHOT

NOTES:

ELEVATION DATUM: NAVD 88

*ALL RESTRICTIONS MUST BE VERIFIED BY THE OWNER, GENERAL CONTRACTOR AND/OR THE DESIGNER. PLEASE CONTACT SUSSEX COUNTY (302-855-7720) AND THE H.O.A. (MORE RESTRICTIVE SUPERSEDES).

**THIS DRAWING DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF WETLANDS, UTILITIES, RIGHT-OF-WAYS OR EASEMENTS IN REFERENCE TO OR LOCATED ON THIS PROPERTY.

NO TITLE SEARCH PROVIDED OR STIPULATED.

SURVEY CLASS: SUBURBAN

Prepared by:
FORESIGHT Services
Surveying & Precision Measurement
302 226 2229 phone 302 226 2239 fax 2103A Coastal Highway Dewey Beach, DE 19971

ENVIRONMENTAL CONSULTING, INC.
Providing Environmental Solutions

Living Shoreline Stabilization Project

Michael Babcock Property
36066 Country Lane
Frankford, Delaware 19945

To Whom It May Concern,

The proposed project area is located at 36066 Country Lane, Frankford, Delaware 19945, along the Dirickson Creek, a tributary to the Little Assawoman Bay. The purpose of this project is to provide shoreline stabilization by installing a living shoreline on the existing erosive shoreline within the subject property. Severe shoreline erosion is present due to capillary and fetch wave action on exposed soil. The living shoreline will consist of Delaware native vegetation (*Sporobolus alterniflora* and *Sporobolus pumilus*) and other natural components (i.e., sand, oyster bags, coconut coir logs, wood stakes, straw matting). 16-inch high-density premium coir logs will traverse approximately six hundred fifty (650) linear feet of the shoreline, half in water and wedged against current erosion (to best extent practicable). The coir log will be secured with 42-inch wooden stakes, every ten (10) feet. Approximately one hundred and fifty (150) linear feet of 16-inch high-density premium coir logs will be installed along the perimeter of the shoreline's upland boundary located (+/- 75 linear feet) from the property's shoreline abutting Dirickson Creek.

Additionally, hand-held hedge trimmers, metal-bladed weed eaters and chainsaws will be used for clearing the current vegetation in order to access project area.

All appropriate risk avoidance measures will be followed to allow practicable alternatives and consideration of impacts were necessary. The work authorized shall be completed in accordance with the terms and conditions of the applicable United States Army Corps of Engineers Permit (Nationwide Permit #54-Living Shoreline). Erosion and sediment control measures shall be implemented in accordance with the specifications and criteria in the current Delaware Erosion and Sediment Control Handbook so as to minimize entry and dispersal of sediment and other contaminants to surface waters.
Please note: Site Maps and Property Survey are attached

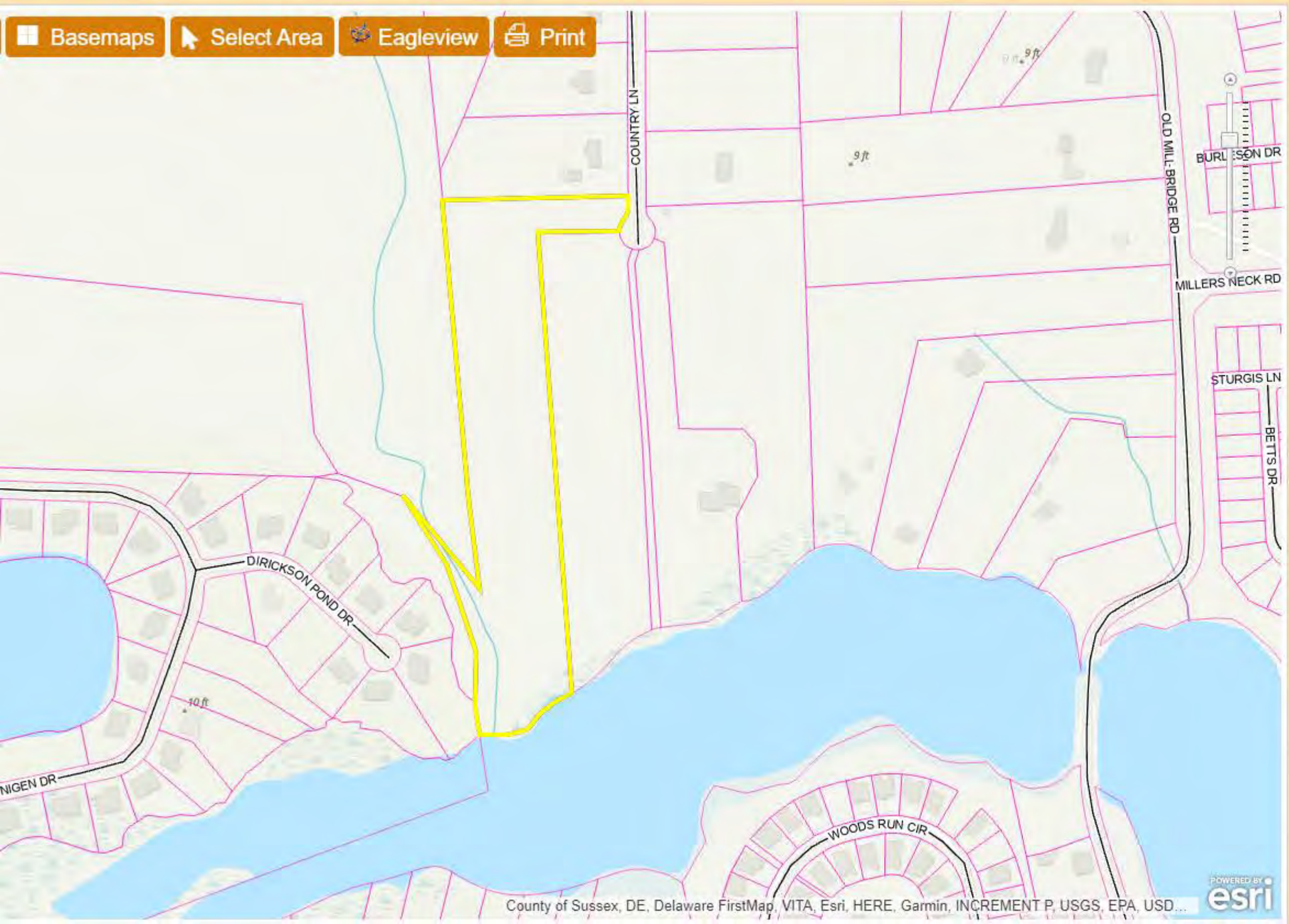
Please contact me with any questions.
Best Regards,

Ld

Lyle de la Rosa
Environmental Project Manager
Envirotech Environmental Consulting, Inc.
Office Phone: 302.684.5201
Fax: 302.684.5204
email: lyle@envirotechecinc.com

Attachment A:

Property Maps & Project Diagrams



Eagleview | Search Results

Selected Features: Parcels (1)

1) 533-12.00-375.00 Zoom

BOOK	5339
PAGE	272
FULLNAME	BABCOCK MICHAEL A
Second_Owner_Name	EILEEN A BABCOCK
MAILINGADDRESS	309 SOUTHBANK RD
CITY	LANDENBERG
STATE	PA
a_account	
DESCRIPTION	DIRICKSON LANDING
DESCRIPTION2	LOT 22
DESCRIPTION3	PH 2
LUC	999
SCHOOL	
MUNI	00
CAP	0
APRBLDG	132700
APRLAND	26100
PINWASSEMENTUNIT	533-12.00-375.00
PIN	533-12.00-375.00
ZIPCODE	19350

Selected Features (1)

Clear Selected

PHOTO # 04-005

FILENAME - DNR051

SCALE 1:3600

State of Delaware Wetlands
SUSSEX COUNTY, DELAWARE

(In Accordance with the Delaware Wetlands Act # 6607)
Approximate Scale (1:3600)

Prepared for: DEPARTMENT OF NATURAL RESOURCES and ENVIRONMENTAL CONTROL

Produced by: SALISBURY STATE UNIVERSITY
IMAGE PROCESSING & REMOTE SENSING CENTER
SALISBURY, MARYLAND

Map Change See File

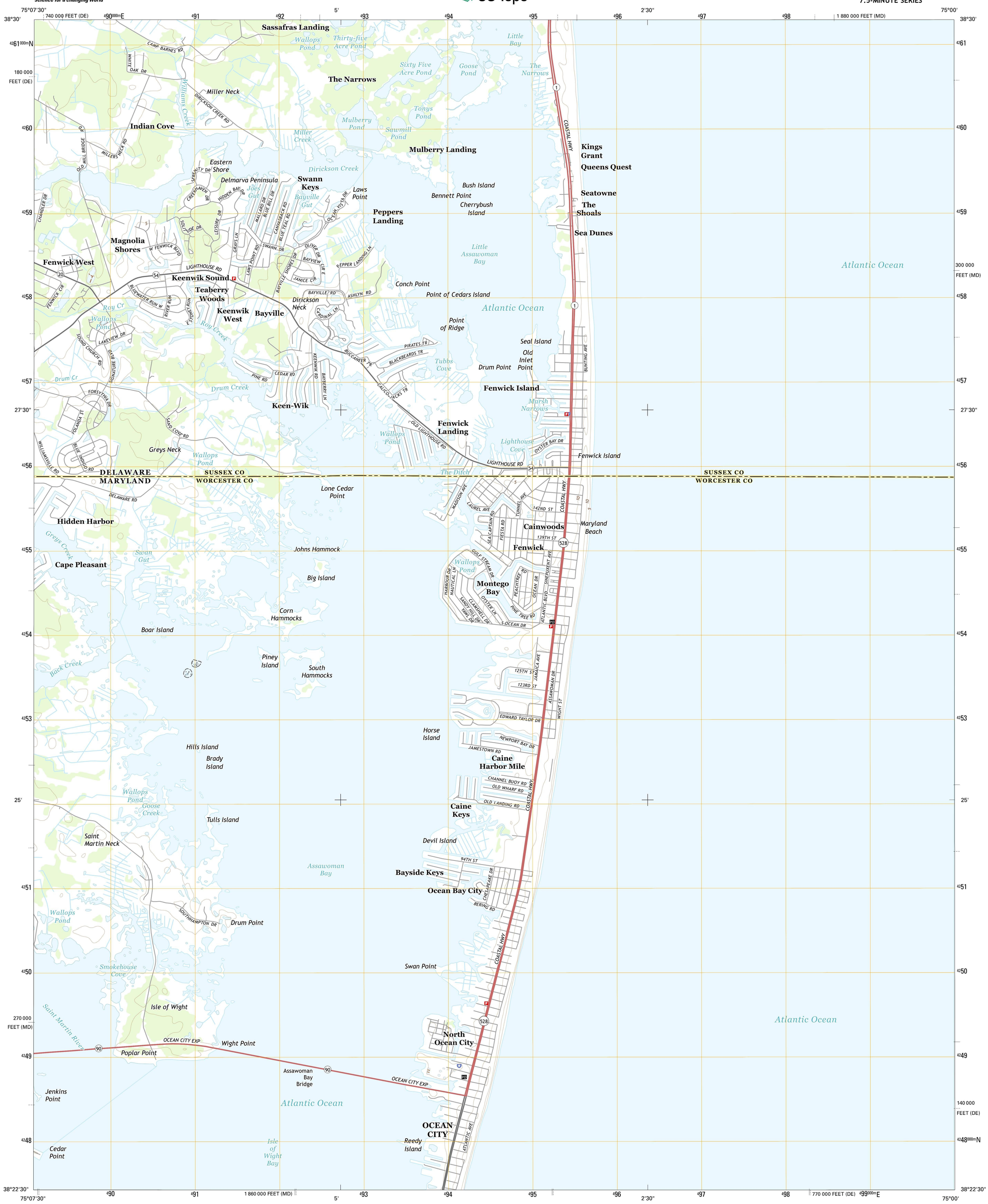
Legend for Delaware Tidal Wetland Delineations:

B - Beach
DF - Disturbed Forested Swamp
DM - Disturbed Marsh (vegetation removed for agricultural activities)
F - Tidal Forested Swamp
IF - Impounded Forested Wetland
ILM - Impounded Low Marsh
IM - Impounded Marsh
IS - Impounded Scrub-Shrub Wetland
IW - Impounded Water
LM - Low Marsh
M - Marsh
MS - Marsh in spoil areas
N - Non-tidal wetlands (400 acres+, including tidal forested swamps)
O - Other (Upland or Non-tidal wetlands less than 400 acres)
S - Tidal Scrub-Shrub Swamps
SS - Areas flooded by tidal storm surges
SS* - Areas flooded by storm surges at a higher flood plain elevation
T - Tidal Mudflats (in some cases vegetated)/ sand bars
W - Water
WS - Water in a spoil area
/ - complexes among different community types (ex. M/S)

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

ASSAWOMAN BAY QUADRANGLE
MARYLAND-DELAWARE
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 18S
10 000-foot ticks: Maryland Coordinate System of 1983,
Delaware Coordinate System of 1983

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, June 2011
Roads..... HERE, ©2013
Names.....GNIS, 2013
Hydrography.....National Hydrography Dataset, 2011
Contours.....National Elevation Dataset, 2012
Boundaries.....Multiple sources; see metadata file 1972 - 2013

UTM GRID AND 2014 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
11° 53' 211 MILS
0° 2' 1 MILS

U.S. National Grid
100,000-m Square ID
VH
Grid Zone Designation
18S

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.16

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

1 Frankford
2 Bethany Beach
3
4 Selbyville
5
6 Berlin
7 Ocean City
8
ADJOINING QUADRANGLES

ASSAWOMAN BAY, MD-DE
2014

NSN. 7643016369696
NGA REF NO. USGSX24K1717

ATTACHMENT B:

State and Federal Agency Letters

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
RICHARDSON & ROBBINS BUILDING
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

DIRECTOR'S OFFICE

PHONE
(302) 739-9910

May 14, 2024

Lyle de la Rosa
Envirotech Environmental Consulting, Inc.
17605 Nassau Commons Boulevard
Unit D
Lewes, DE 19958

Re: ETECH 2024 Babcock Living Shoreline, Tax Parcel # 533-12.00-375.00

Dear Lyle:

Thank you for contacting the Division of Fish and Wildlife (DFW) Species Conservation and Research Program about information on rare, threatened and endangered species, unique natural communities, and other significant natural resources as they relate to the above referenced project.

State Natural Heritage Site
A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. As a result, at present, this project does not lie within a State Natural Heritage Site, nor does it lie within a Delaware National Estuarine Research Reserve which are two criteria used to identify "Designated Critical Resource Waters" in the U.S. Army Corps of Engineers (USACE) Nationwide Permit General Condition No. 22. A copy of this letter shall be included in any permit application or pre-construction notification submitted to the USACE for activities on this property.

Marsh Nesting Birds
Currently, there are no records of state-rare or federally-listed marsh bird species at this site. However, aerial imagery and wetland habitat maps indicate that low marsh habitat (i.e., dominated by *Spartina alterniflora*) is present. Several state-rare species of conservation concern frequently nest in low marsh habitat, including the seaside sparrow (*Ammospiza maritimus*), clapper rail (*Rallus longirostris*), and willet (*Tringa semipalmata*). We recommend a time of year restriction of **April 1st to July 31st** to avoid impacts to marsh nesting birds.

Fisheries
Summer Flounder

Sampling conducted by our Division's fisheries staff revealed that Dirickson Creek supports a large number of juvenile migratory fish and is thus considered an important nursery area in the Inland Bays. Several species of particular commercial and recreational importance utilize the creek and could be impacted by this project. A primary species of concern for this project is summer flounder (*Paralichthys dentatus*) which utilize the creek as a nursery area. We request that in water work **not** occur from **March 1st to September 30th** to allow time for young of the year to grow large enough to be less vulnerable to habitat-altering activities and then migrate out of the system.

State-rare Fish

We have records in Dirickson Creek of banded sunfish (*Enneacanthus obesus)*, a state-rare fish. As there have not been substantial changes to this area and similar habitat exists at the project site, it is possible this species could also be present at the project site. We recommend all efforts should be taken to avoid or minimize the disturbance of any aquatic vegetation and stream bottom adjacent to the project area to maintain the integrity of the microhabitats required for spawning areas for these fish. In addition, best management practices should be employed to avoid and minimize any sedimentation downstream of the project site.

We are continually updating our records on Delaware's rare, threatened and endangered species, unique natural communities and other significant natural resources. If the start of the project is delayed more than a year past the date of this letter, please contact us again for the latest information.

Please feel free to contact me with any questions or if you require additional information.

Sincerely,

Danielle Minter

Danielle Minter
Environmental Review Coordinator
Phone: (302) 223-2446
Email: danielle.minter@delaware.gov
6180 Hay Point Landing Road
Smyrna, DE 19977

(See invoice on next page)

HCA
DELAWARE HISTORICAL & CULTURAL AFFAIRS

Delaware Division of Historical & Cultural Affairs
29 N. State St., Dover, Delaware 19901
Tel. (302) 736-7400 | Fax. (302) 739-5660
history.delaware.gov

October 14, 2024

Lyle de la Rosa
Envirotech, Inc.
17605 Nassau Commons Boulevard, Unit D
Lewes, DE 19958

Subject: **Babcock Living Shoreline**
SHPO Project No. 2024.07.09.01

Dear Mr. de la Rosa:

We understand from your letter that the applicant, Michael Babcock, is seeking a permit from the US Army Corps of Engineers (USACOE) for the proposed undertaking at 36066 Country Lane in Frankford. The applicant is proposing to stabilize the shoreline with staked coir logs and straw matting. Because of the need for authorization from the USACOE, the project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended).

There are no known archaeological sites or historic properties within the area of potential effect (APE). There are three recorded historic structures within a half-mile radius of the APE. Due to the limited nature of the proposed undertaking and the distance to known historic resources, there is no anticipated impact to these properties. There are seven known archaeological sites within a half-mile radius of the APE. Due to the limited nature of the proposed undertaking and the distance to known archaeological sites, there is no anticipated impact to these properties. The APE has high potential for pre-Contact archaeological sites, due to the proximity to other sites and its setting along Dirickson Creek. However, the proposed undertaking involves minimal ground disturbance and is unlikely to affect any unknown archaeological sites.

Our Office finds there to be No Historic Properties Affected by the proposed undertaking. Please feel free to contact me if you have any questions at (302) 736-7431 or sarah.carr@delaware.gov.

Sincerely,

Sarah Carr, Archaeologist
Environmental Specialist
cc: Gwen Davis, Deputy SHPO

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To: 04/24/2024 18:55:25 UTC
Project Code: 2024-0081549
Project Name: Living Shoreline Stabilization

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

PROJECT SUMMARY

Project Code: 2024-0081549
Project Name: Living Shoreline Stabilization
Project Type: Shoreline Stabilization
Project Description: The project purpose is to create a living shoreline to stabilize the existing erosive shoreline in the target area. Severe shoreline erosion is present due to capillary and fetch wave action on exposed soil. The living shoreline will consist of vegetation (Spartina Alterniflora) and other natural components (i.e., sand, coconut coir logs, wood stakes, straw matting). The 16-inch high-density premium coir logs will traverse approximately six hundred fifty (650) linear feet of the shoreline, half in water and wedged against current erosion (to best extent practicable). The coir log will be secured with 42-inch wooden stakes, every ten (10) feet. Additionally, hand-held hedge trimmers, metal-bladed weed eaters and chainsaws will be used for clearing the current vegetation in order to access project area.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.48497125,-75.1246738751301,14z

Counties: Sussex County, Delaware

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ This species only needs to be considered if the project includes wind turbine operations. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Potential habitat for Black Rail exists in this area. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency:	Envirotech Environmental Consulting, Inc.
Name:	Lyle de la Rosa
Address:	17605 Nassau Commons Blvd
Address Line 2:	Unit D
City:	Lewes
State:	DE
Zip:	19958
Email	lyle@envirotechecinc.com
Phone:	3026845201

ATTACHMENT C:

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Consultation Worksheet

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 38º 29' 4" N, Longitude = 76º 52' 37" W
Decimal Degrees: Latitude = 38.484, Longitude = -75.123

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** W A R N I N G ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Butterfish	Adult, Eggs, Larvae	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
		Atlantic Herring	Adult	New England	Amendment 3 to the Atlantic Herring FMP
		Black Sea Bass	Adult, Juvenile	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Bluefish	Adult, Juvenile	Mid-Atlantic	Bluefish
		Clearnose Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Little Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Longfin Inshore Squid	Eggs	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Monkfish	Eggs/Larvae	New England	Amendment 4 to the Monkfish FMP
		Scup	Adult, Juvenile	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Spiny Dogfish	Sub-Adult Female	Mid-Atlantic	Amendment 3 to the Spiny Dogfish FMP
		Summer Flounder	Adult, Juvenile, Larvae	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
		Windowpane Flounder	Adult, Eggs, Juvenile, Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Witch Flounder	Adult	New England	Amendment 14 to the Northeast Multispecies FMP

Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Summer Flounder SAV	Mid-Atlantic Fishery Management Council

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

All EFH species have been mapped for the Greater Atlantic region,
Atlantic Highly Migratory Species EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Consultation Worksheet

August 2021 rev.

Authorities

The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires federal agencies to consult with NOAA Fisheries on any action or proposed action authorized, funded, or undertaken by such agency that may adversely affect essential fish habitat (EFH) identified under the MSA. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process.

The Fish and Wildlife Coordination Act (FWCA) requires that all federal agencies consult with NOAA Fisheries when proposed actions might result in modifications to a natural stream or body of water. The FWCA also requires that federal agencies consider the effects that these projects would have on fish and wildlife and must also provide for improvement of these resources. Under the FWCA, we work to protect, conserve and enhance species and habitats for a wide range of aquatic resources such as shellfish, diadromous species, and other commercially and recreationally important species that are not federally managed and do not have designated EFH.

It is important to note that these consultations take place between NOAA Fisheries and federal action agencies. **As a result, EFH assessments, including this worksheet, must be provided to us by the federal agency, not by permit applicants or consultants.**

Use of the Worksheet

This worksheet can serve as an EFH assessment for **Abbreviated EFH Consultations**, and as a means to provide information on potential effects to other NOAA trust resources considered under the FWCA. An abbreviated consultation allows us to determine quickly whether, and to what degree, a federal action may adversely affect EFH. Abbreviated consultation procedures can be used when federal actions do not have the potential to cause substantial adverse effects on EFH and when adverse effects could be alleviated through minor modifications.

The intent of the EFH worksheet is to provide a guide for determining the information needed to fully assess the effects of a proposed action on EFH. In addition, the worksheet may be used as a tool to assist you in developing a more comprehensive EFH assessment for larger projects that may have more substantial adverse effects to EFH. However, for large, complex projects that have the potential for significant adverse effects, an **Expanded EFH Consultation** may be warranted and the use of this worksheet alone is not appropriate as your EFH assessment.

An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Consultation under the MSA is not required if there is no adverse effect on EFH or if no EFH has been designated in the project area. However, because the definition of "adverse effect" is very broad, most in-water work will result in some level of adverse effect requiring consultation with us, even if the impact is temporary or the overall result of the project is habitat restoration or enhancement. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. An adverse effect determination under the EFH provisions of the MSA simply means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects. Additional details on EFH consultations, tools, and resources, including frequently asked questions can be found on our website.

Instructions

This worksheet should be used as your EFH assessment for **Abbreviated EFH Consultations** or as a guide to develop your EFH assessment. It is not appropriate to use this worksheet as your EFH assessment for large, complex projects, or those requiring an Expanded EFH Consultation.

When completed fully and with sufficient information to clearly describe the activities proposed, habitats affected, and project impacts, as well as the measures taken to avoid, minimize or offset any unavoidable adverse effects, this worksheet provides us with required components of an EFH assessment including:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

When completing this worksheet and submitting information to us, it is important to ensure that sufficient information is provided to clearly describe the proposed project and the activities proposed. At a minimum, this should include the public notice (if applicable) or project application and project plans showing:

- location map of the project site with area of impact.
- existing and proposed conditions.
- all in-water work and the location of all proposed structures and/or fill.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- Habitat Areas of Particular Concern (HAPCs).
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

Your analysis of effects **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area. Simply stating that fish will move away or that the project

will only affect a small percentage of the overall population is not a sufficient analysis of the effects of an action on EFH. Also, since the intent of the EFH consultation is to evaluate the direct, indirect, individual and cumulative effects of a particular federal action on EFH and to identify options to avoid, minimize or offset the adverse effects of that action, is it not appropriate to conclude that an impact is minimal just because the area affected is a small percentage of the total area of EFH designated. The focus of the consultation is to reduce impacts resulting from the activities evaluated in the assessment. Similarly, a large area of distribution or range of the fish species is also not appropriate rationale for concluding the impacts of a particular project are minimal.

Use the information on the our EFH consultation website and NOAA's EFH Mapper to complete this worksheet. The mapper is a useful tool for viewing the spatial distribution of designated EFH and HAPCs. Because summer flounder HAPC (defined as: " all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH") does not have region-wide mapping, local sources and on-site surveys may be needed to identify submerged aquatic vegetation beds within the project area. The full designations for each species may be viewed as PDF links provided for each species within the Mapper, or via our website links to the New England Fishery Management Councils Omnibus Habitat Amendment 2 (Omnibus EFH Amendment), the Mid-Atlantic Fishery Management Councils FMPs (MAMFC - Fish Habitat), or the Highly Migratory Species website. Additional information on species specific life histories can be found in the EFH source documents accessible through the Habitat and Ecosystem Services Division website. This information can be useful in evaluating the effects of a proposed action. Habitat and Ecosystem Services Division (HESD) staff have also developed a technical memorandum *Impacts to Marine Fisheries Habitat from Non-fishing Activities in the Northeastern United States,* NOAA Technical Memorandum NMFS-NE-209 to assist in evaluating the effects of non-fishing activities on EFH. If you have questions, please contact the HESD staff member in your area to assist you.

Federal agencies or their non-federal designated lead agency should email the completed worksheet and necessary attachments to the HESD New England (ME, NH, MA, CT, RI) or Mid- Atlantic (NY, NJ, PA, DE, MD, VA) Branch Chief and the regional biologist listed on the Contact Regional Office Staff section on our EFH consultation website and listed below.

We will provide our EFH conservation recommendations under the MSA, and recommendations under the FWCA, as appropriate, within 30 days of receipt of a **complete** EFH assessment for an abbreviated consultation. Please ensure that the EFH worksheet is completed in full and includes detail to minimize delays in completing the consultation. If we are unable to assess potential impacts based on the information provided, we may request additional information necessary to assess the effects of the proposed action on our trust resources before we can begin a consultation. If the worksheet is not completely filled out, it may be returned to you for completion. **The EFH consultation and our response clock does not begin until we have sufficient information upon which to consult**.

If this worksheet is not used, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. You may need to prepare a more detailed EFH assessment for more substantial or complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. The format of the EFH worksheet may not be sufficient to incorporate the extent of detail required for large-scale projects, and a separate EFH assessment may be required.

Regardless of the format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information including:

- the results of on-site inspections to evaluate habitat and site-specific effects.
- the views of recognized experts on habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize adverse effects on EFH.

For these larger scale projects, interagency coordination meetings should be scheduled to discuss the contents of the EFH consultation and the site-specific information that may be needed in order to initiate the consultation.

Please contact our Greater Atlantic Regional Fisheries Office, Protected Resources Division regarding potential impacts to marine mammals or threatened and endangered species and the appropriate consultation procedures.

HESD Contacts*

New England - ME, NH, MA, RI, CT

Chris Boelke, Branch Chief	christopher.boelke@noaa.gov
Mike Johnson - ME, NH	mike.r.johnson@noaa.gov
Kaitlyn Shaw - ME, NH, MA	kaitlyn.shaw@noaa.gov
Sabrina Pereira -RI, CT	sabrina.pereira@noaa

Mid-Atlantic - NY, NJ, PA, MD, VA

Karen Greene, Branch Chief	karen.greene@noaa.gov
Jessie Murray - NY, Northern NJ (Monmouth Co. and north)	jessie.murray@noaa.gov
Keith Hanson - NJ (Ocean Co. and south), DE and PA, Mid-Altantic wind	keith.hanson@noaa.gov
Maggie Sager - NJ (Ocean Co. and south), DE and PA	lauren.m.sager@noaa.gov
Jonathan Watson - MD, DC	jonathan.watson@noaa.gov
David O'Brien - VA	david.l.obrien@noaa.gov

Ecosystem Management (Wind/Aquaculture)

Peter Burns, Branch Chief	peter.burns@noaa.gov
Alison Verkade (NE Wind)	alison.verkade@noaa.gov
Susan Tuxbury (wind coordinator)	susan.tuxbury@noaa.gov

***Please check for the most current staffing list on our contact us page prior to submitting your assessment.**

EFH Assessment Worksheet rev. August 2021

Please read and follow all of the directions provided when filling out this form.

1. General Project Information

Date Submitted:

Project/Application Number:

Project Name: Babcock Living Shoreline Project

Project Sponsor/Applicant: Envirotech Environmental Consulting Inc.

Federal Action Agency (or state agency if the federal agency has provided written notice delegating the authority[1]): Delaware DNREC

Fast-41: Yes ☐ No ☑

Action Agency Contact Name:

Contact Phone: Contact Email:

Address, City/Town, State:

36066 Country Lane, Frankford, Delaware 19945

2. Project Description

[2]Latitude: 38°28'59.78"N Longitude: 75° 7'27.17"W

Body of Water (e.g., HUC 6 name): Dirickson Creek

Project Purpose:

The project purpose is to create a living shoreline to stabilize the existing erosive shoreline in the target area. Severe shoreline erosion is present due to capillary and fetch wave action on exposed soil.

Project Description:

The living shoreline will consist of vegetation and other natural components (i.e., sand, coconut coir logs, wood stakes, straw matting). The 16-inch high-density premium coir logs will traverse approximately six hundred fifty (650) linear feet ofthe shoreline, half in water and wedged against current erosion (to best extent practicable). The coir log will besecured with 42-inch wooden stakes, every Five (5) feet. Additionally, hand-held hedge trimmers, metal-bladed weed eaters and chainsaws will be used for clearing the current vegetation in order to access project area. All appropriate risk avoidance measures will be followed to allow practicable alternatives and consideration of impacts were necessary. The work authorized shall be completed in accordance with the termsand conditions of the applicable United States Army Corps of Engineers Permit (Nationwide Permit #54-Living Shoreline). Erosion and sediment control measures shall be implemented in accordance with the specifications and criteria in the current Delaware Erosion and Sediment Control Handbook so as to minimize entry and dispersal of sediment and other contaminants to surface waters.

Anticipated Duration of In-Water Work including planned Start/End Dates and any seasonal restrictions proposed to be included in the schedule:

Work is planned to begin immediately after permits are acquired. However, all time of year restrictions set forth by the regulatory agencies will be followed.

[1] A federal agency may designate a non-Federal representative to conduct an EFH consultation by giving written notice of such designation to NMFS. If a non-federal representative is used, the Federal action agency remains ultimately responsible for compliance with sections 305(b)(2) and 305(b)(4)(B) of the Magnuson-Stevens Act. [2] Provide the decimal, or the degrees, minutes, seconds values for latitude and longitude using the World Geodetic System 1984 (WGS84) and negative degree values where applicable.

3. Site Description

EFH includes the biological, chemical, and physical components of the habitat. This includes the substrate and associated biological resources (e.g., benthic organisms, submerged aquatic vegetation, shellfish beds, salt marsh wetlands), the water column, and prey species.

Is the project in designated EFH[3]? ☐ Yes ☑ No

Is the project in designated HAPC? ☐ Yes ☑ No

Does the project contain any Special Aquatic Sites[4]? ☐ Yes ☑ No

Is this coordination under FWCA only? ☐ Yes ☑ No

Total area of impact to EFH (indicate sq ft or acres): N/A

Total area of impact to HAPC (indicate sq ft or acres): N/A

Current range of water depths at MLW	Salinity range (PPT):	Water temperature range (°F):
0.19 ft - 0.33 ft	1-25	36-78

[3]Use the tables in Sections 5 and 6 to list species within designated EFH or the type of designated HAPC present. See the worksheet instructions to find out where EFH and HAPC designations can be found. [4] Special aquatic sites (SAS) are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. They include sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes (40 CFR Subpart E). If the project area contains SAS (i.e. sanctuaries and refuges, wetlands, mudflats, vegetated shallows/SAV, coral reefs, and/or riffle and pool complexes, describe the SAS, species or habitat present, and area of impact.

4. Habitat Types

In the table below, select the location and type(s) for each habitat your project overlaps. For each habitat type selected, indicate the total area of expected impacts, then what portion of the total is expected to be temporary (less than 12 months) and what portion is expected to be permanent (habitat conversion), and if the portion of temporary impacts will be actively restored to pre- construction conditions by the project proponent or not. A project may overlap with multiple habitat types.

Habitat Location	Habitat Type	Total impacts (lf/ft²/ft³)	Temporary impacts (lf/ft²/ft³)	Permanent impacts (lf/ft²/ft³)	Restored to pre-existing conditions?*
Estuarine	Substrate (silt/mud)				Select one
Estuarine	Wetland (emergent)*				Select one
Estuarine	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one

*Restored to pre-existing conditions means that as part of the project, the temporary impacts will be actively restored,such as restoring the project elevations to pre-existing conditions and replanting. It does not include natural restoration or compensatory mitigation.

Submerged Aquatic Vegetation (SAV) Present?:

Yes: ☐ No: ☑

If the project area contains SAV, or has historically contained SAV, list SAV species and provide survey results including plans showing its location, years present and densities if available. Refer to Section 12 below to determine if local SAV mapping resources are available for your project area.

All project related activity will occur landward of the Ordinary Water Mark (OWM), therefore no activity will impact SAV

Sediment Characteristics:

The level of detail required is dependent on your project – e.g., a grain size analysis may be necessary for dredging. In addition, if the project area contains rocky/hard bottom habitat [6](pebble, cobble, boulder, bedrock outcrop/ledge) identified as Rocky (coral/rock), Substrate (cobble/gravel), or Substrate (rock) above, describe the composition of the habitat using the following table.

Substrate Type* (grain size)	Present at Site? (Y/N)	Approximate Percentage of Total Substrate on Site
Silt/Mud (<0.063mm)	Yes	
Sand (0.063-2mm)	Yes	
Rocky: Pebble/Gravel /Cobble(2-256mm)**	Yes	
Rocky: Boulder (256-4096mm)**	Select one	
Rocky: Coral	No	
Bedrock**	No	

[6]The type(s) of rocky habitat will help you determine if the area is cod HAPC.

* Grain sizes are based on Wentworth grain size classification scale for granules, pebbles, cobbles, and boulders.

** Sediment samples with a content of 10% or more of pebble-gravel-cobble and/or boulder in the top layer (6-12 inches) should be delineated and material with epifauna/macroalgae should be differentiated from bare pebble-gravel-cobble and boulder.

If no grain size analysis has been conducted, please provide a general description of the composition of the sediment. If available please attach images of the substrate.

The shoreline soil consists of a loam and silt sediment with minor presence of sand. Additionally, the shoreline consists of non native vegetation (Phagmites).

Diadromous Fish (migratory or spawning habitat- identify species under Section 10 below):

Yes: ☐ No: ☑

5. EFH and HAPC Designations

Within the Greater Atlantic Region, EFH has been designated by the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils and NOAA Fisheries. Use the EFH mapper to determine if EFH may be present in the project area and enter all species and life stages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present at your project site. If the habitat characteristics described in the text descriptions do not exist at your site, you may be able to exclude some species or life stages from additional consideration. For example, the water depths at your site are shallower that those described in the text description for a particular species or life stage. We recommend this for larger projects to help you determine what your impacts are.

Species Present	EFH is designated/mapped for:				What is the source of the EFH information included?
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/ spawning adults	
clearnose skate	☐	☐	☑	☑	EFH Mapper
little skate	☐	☐	☑	☑	EFH Mapper
scup	☐	☐	☑	☑	Text descriptio
summer flounder	☐	☑	☑	☑	Text descriptio
windowpane flounder	☑	☑	☑	☑	EFH Mapper
winter skate	☐	☐	☑	☑	EFH Mapper
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One

6. Habitat Areas of Particular Concern (HAPCs)

HAPCs are subsets of EFH that are important for long-term productivity of federally managed species. HAPCs merit special consideration based their ecological function (current or historic), sensitivity to human-induced degradation, stresses from development, and/or rarity of the habitat.While many HAPC designations have geographic boundaries, there are also habitat specific HAPC designations for certain species, see note below. Use the EFH mapper to identify HAPCs within your project area. Select all that apply.

☐	Summer flounder: SAV[7]	☐	Alvin & Atlantis Canyons
☐	Sandbar shark	☐	Baltimore Canyon
☐	Sand Tiger Shark (Delaware Bay)	☐	Bear Seamount
☐	Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)	☐	Heezen Canyon
☐	Inshore 20m Juvenile Cod[8]	☐	Hudson Canyon
☐	Great South Channel Juvenile Cod	☐	Hydrographer Canyon
☐	Northern Edge Juvenile Cod	☐	Jeffreys & Stellwagen
☐	Lydonia Canyon	☐	Lydonia, Gilbert & Oceanographer Canyons
☐	Norfolk Canyon (Mid-Atlantic)	☐	Norfolk Canyon (New England)
☐	Oceanographer Canyon	☐	Retriever Seamount
☐	Veatch Canyon (Mid-Atlantic)	☐	Toms, Middle Toms & Hendrickson Canyons
☐	Veatch Canyon (New England)	☐	Washington Canyon
☐	Cashes Ledge	☐	Wilmington Canyon
☐	Atlantic Salmon		

[7] Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

[8] The purpose of this HAPC is to recognize the importance of inshore areas to juvenile Atlantic cod. The coastal areas of the Gulf of Maine and Southern New England contain structurally complex rocky-bottom habitat that supports a wide variety of emergent epifauna and benthic invertebrates. Although this habitat type is not rare in the coastal Gulf of Maine, it provides two key ecological functions for juvenile cod: protection from predation, and readily available prey. See EFH mapper for links to text descriptions for HAPCs.

7. Activity Details

Select all that apply	Project Type/Category :Living Shoreline (Shoreline Stabilization)
☐	Agriculture
☐	Aquaculture - List species here:
☑	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
☐	Beach renourishment
☐	Dredging/excavation
☐	Energy development/use e.g., hydropower, oil and gas, pipeline, transmission line, tidal or wave power, wind
☐	Fill
☐	Forestry
☐	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port, railroad)
☐	Intake/outfall
☐	Military (e.g., acoustic testing, training exercises)
☐	Mining (e.g., sand, gravel)
☐	Overboard dredged material placement
☐	Piers, ramps, floats, and other structures
☐	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, mitigation bank/ILF creation)
☐	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
☐	Water quality (e.g., storm water drainage, NPDES, TMDL, wastewater, sediment remediation)
☐	Other:

8. Effects Evaluation

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary[9] or permanent		Habitat alterations caused by the activity
☐	Underwater noise	Temp	Perm	
☑	Water quality/turbidity/ contaminant release	☐	☐	Water depth change
☐	Vessel traffic/barge grounding	☐	☐	Tidal flow change
☐	Impingement/entrainment	☐	☑	Fill
☐	Prevent fish passage/spawning	☐	☐	Habitat type conversion
☐	Benthic community disturbance	☐	☐	Other:
☐	Impacts to prey species	☐	☐	Other:

[9] Temporary in this instance means during construction. [10] Entrainment is the voluntary or involuntary movement of aquatic organisms from a water body into a surface diversion or through, under, or around screens and results in the loss of the organisms from the population. Impingement is the involuntary contact and entrapment of aquatic organisms on the surface of intake screens caused when the approach velocity exceeds the swimming capability of the organism.

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Details - project impacts and mitigation

Briefly describe how the project would impact each of the habitat types selected above and the amount (i.e., acreage or sf) of each habitat impacted. Include temporary and permanent impact descriptions and direct and indirect impacts. For example, dredging has a direct impact on bottom sediments and associated benthic communities. The turbidity generated can result in a temporary impact to water quality which may have an indirect effect on some species and habitats such as winter flounder eggs, SAV or rocky habitats. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

The equipment utilized for this project has potential to create underwater noise but the equipment will not be positioned near the water. Erosion and sediment control measures shall be implemented in accordance with the specifications and criteria in the current Delaware Erosion and Sediment Control Handbook so as to minimize entry and dispersal of sediment and other contaminants to surrounding waters.

What specific measures will be used to avoid and minimize impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided or minimized, why not?

Time of Year restrictions will be followed and all activity will take place landward of the ordinary water mark.

Is compensatory mitigation proposed? Yes ☐ No ☑

If compensatory mitigation is not proposed, why not? If yes, describe plans for compensatory mitigation (e.g. permittee responsible, mitigation bank, in-lieu fee) and how this will offset impacts to EFH and other aquatic resources. Include a proposed compensatory mitigation and monitoring plan as applicable.

No compensatory mitigation is proposed because no impact to SAV or benthic communities is anticipated.

9. Effects of Climate Change

Effects of climate change should be included in the EFH assessment if the effects of climate change may amplify or exacerbate the adverse effects of the proposed action on EFH. Use the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP) 8.5/high greenhouse gas emission scenario (IPCC 2014), at a minimum, to evaluate the future effects of climate change on the proposed projections. For sea level rise effects, use the intermediate-high and extreme scenario projections as defined in Sweet et al. (2017). For more information on climate change effects to species and habitats relative to NMFS trust resources, see Guidance for Integrating Climate Change Information in Greater Atlantic Region Habitat Conservation Division Consultation Processes.

1. Could species or habitats be adversely affected by the proposed action due to projected changes in the climate?If yes, please describe how:

No

2. Is the expected lifespan of the action greater than 10 years? If yes, please describe project lifespan:

No

3. Is climate change currently affecting vulnerable species or habitats, and would the effects of a proposed action be amplified by climate change? If yes, please describe how:

No

4. Do the results of the assessment indicate the effects of the action on habitats and species will be amplified by climate change? If yes, please describe how:

No

5. Can adaptive management strategies (AMS) be integrated into the action to avoid or minimize adverse effects of the proposed action as a result of climate? If yes, please describe how:

No

10. Federal Agency Determination

Federal Action Agency's EFH determination (select one)	
☑	There is no adverse effect[7] on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA only request.
☐	The adverse effect[7] on EFH is not substantial. This means that the adverse effects are no more than minimal, temporary, or can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.
☐	The adverse effect[7] on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA documents, if applicable.

[7] An adverse effect is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

11. Fish and Wildlife Coordination Act

Under the FWCA, federal agencies are required to consult with us if actions that the authorize, fund, or undertake will result in modifications to a natural stream or body of water. Federal agencies are required to consider the effects these modifications may have on fish and wildlife resources, as well as provide for the improvement of those resources. Under this authority, we consider the effects of actions on NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats, that are not managed under a federal fisheries management plan. Some examples of other NOAA-trust resources are listed below. Some of these species, including diadromous fishes, serve as prey for a number of federally-managed species and are therefore considered a component of EFH pursuant to the MSA. We will be considering the effects of your project on these species and their habitats as part of the EFH/FWCA consultation process and may make recommendations to avoid, minimize or offset and adverse effects concurrently with our EFH conservation recommendations.

Please contact our Greater Atlantic Regional Fisheries Office, Protected Resources Division regarding potential impacts to marine mammals or species listed under the Endangered Species Act and the appropriate consultation procedures.

Fish and Wildlife Coordination Act Resources	
Species known to occur at site (list others that may apply)	**Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.**
alewife	
American eel	
American shad	
Atlantic menhaden	
blue crab	
blue mussel	
blueback herring	
Eastern oyster	
horseshoe crab	
quahog	
soft-shell clams	
striped bass	
other species:	
other species:	
other species:	

12. Useful Links

National Wetland Inventory Maps
EPA's National Estuary Program (NEP)
Northeast Regional Ocean Council (NROC) Data Portal
Mid-Atlantic Regional Council on the Ocean (MARCO) Data Portal

Resources by State

Maine
Maine Office of GIS Data Catalog
Town shellfish information including shellfish conservation area maps
State of Maine Shellfish Sanitation and Management
Eelgrass maps
Casco Bay Estuary Partnership
Maine GIS Stream Habitat Viewer

New Hampshire
NH Statewide GIS Clearinghouse, NH GRANIT
NH Coastal Viewer
State of NH Shellfish Program

Massachusetts
MA DMF Shellfish Sanitation and Management Program
MassGIS Data (Including Eelgrass Maps)
MA DMF Recommended TOY Restrictions Document Massachusetts
Bays National Estuary Program
Buzzards Bay National Estuary Program
Massachusetts Division of Marine Fisheries
Massachusetts Office of Coastal Zone Management

Rhode Island
RI Shellfish and Aquaculture
RI Shellfish Management Plan
RI Eelgrass Maps
Narragansett Bay Estuary Program
Rhode Island Division of Marine Fisheries
Rhode Island Coastal Resources Management Council

Connecticut

CT Bureau of Aquaculture

Natural Shellfish Beds in CT

Eelgrass Maps

Long Island Sound Study

CT GIS Resources

CT DEEP Office of Long Island Sound Programs and Fisheries

CT River Watershed Council

New York

Eelgrass Report

Peconic Estuary Program

NY/NJ Harbor Estuary Program

New York GIS Clearinghouse

New Jersey

Submerged Aquatic Vegetation Mapping

Barnegat Bay Partnership

NJ GeoWeb

NJ DEP Shellfish Maps

Pennsylvania

Delaware River Management Plan

PA DEP Coastal Resources Management Program

PA DEP GIS Mapping Tools

Delaware

Partnership for the Delaware Estuary

Center for Delaware Inland Bays

Delaware FirstMap

Maryland

Submerged Aquatic Vegetation Mapping

MERLIN (Maryland's Environmental Resources and Land Information Network)

Maryland Coastal Atlas

Maryland Coastal Bays Program

Virginia

VMRC Habitat Management Division

Submerged Aquatic Vegetation mapping