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: Red Knot Farms LLC
   Mailing Address: c/o Linda Samost PO Box 368
   West Berlin NJ 08091
   Telephone: #:
   Fax #:
   E-mail:

2. Consultant's Name: James C. McCulley
   Mailing Address: 100 Biddle Street, Suite 120
   Newark, DE 19702
   Company Name: Watershed Eco, LLC.
   Telephone #: 302-750-6595
   Fax #:
   E-mail: jim@watershedeco.com

3. Contractor's Name:
   Mailing Address:
   Company Name:
   Telephone#
   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): The applicant proposes to construct road crossings across agricultural drainage ditches and a sewer line to service a proposed residential development. Due to the ditch configuration multiple ditch crossings will be required and impacts could not be avoided.

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
X	C. Road Crossings	X	I. Rip-Rap Sills and Revetments		P. Stormwater Management
X	D. Channel Modifications/Dams		J. Vegetative Stabilization		Q. Ponds and Impoundments
X	E. Utility Crossings		K. Jetties, Groins, Breakwaters		R. Maintenance Dredging
	F. Intake or Outfall Structures		M. Activities in State Wetlands		S. New Dredging

Section 3: Project Location

7. Project Site Address: 1604 Peachtree Run, Magnolia, DE 19962
   County: ☐ N.C. ☒ Kent ☐ Sussex
   Site owner name (if different from applicant):
   Address of site owner:

8. Driving Directions: Walnut Shade Road (SR10) and South Dupont Highway (US13) travel 1.05 miles east on Walnut Shade Road to Peachtree Run travel 0.17 miles to site on your left.

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

9. Tax Parcel ID Number: 7-00-11200-01-0100-000 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: __Unnamed Tributary _ waterbody is a tributary to: Double Run _____

11. Is the waterbody: ☐ Tidal ☒ Non-tidal Waterbody width at mean low or ordinary high water __5'_____

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:
__T/A Sacaba, LLC.__ _____
(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): _See attached
_____
_____
_____
_____

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):
_____
_____
_____
_____

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

A. Have you had a State Jurisdictional Determination performed on the property? x☐ 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_____ 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, Linda Samost, hereby designate and authorize James C. McCulley
(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: James C. McCulley Telephone #: 302-750-6595
Mailing Address: 100 Biddle Street, Suite 120 Fax #:
Newark, DE 19702 E-mail: jim@watershedeco.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.

James McCulley 8/20/24
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.

Linda Samost 8/22/24
Applicant's Signature Date

Linda Samost
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

Road Crossings

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

General Information

1. Will the project be:

__X__ New Construction
_____ Repair or Replacement of an Existing Structure

2. Describe the purpose for the proposed road crossing activity:
To provide conveyance for the existing on site ditch under the proposed Midsummer Road.

3. Is the crossing a:

___ Bridge (preferred) ___ Bottomless or Arched Culvert ___ Pipe Culvert

__X__ Box Culvert ___ Multiple Barrel Culvert

___ Other (describe)_____

If other than a bridge is proposed, could bridging be constructed to avoid impacts to the waterbody? ___ Yes __X__ No If no, please provide specific justification:
The box culvert has been adequately designed to convey the flows.

4. If culvert pipes are proposed, provide the pipe lengths and diameters:

If a bridge, bottomless culvert or box culvert is proposed, provide the dimensions:
H = 36" x W = 72" x L = 72.65'

What will be the slope of the culvert?
.0008 ft/ft

5. What materials will the structure(s) be made of?
Concrete

Waterbody Information

6. Name of the waterbody at the project location: n/a
   Waterbody is a tributary to: double run creek

7. What is the width of the waterbody at the project site? 5' ±

8. How many linear feet of stream will be affected by the crossing?
   Pipe 73' ln ft. Inlet Structure _____ ln ft. Outlet Structure 12' ln ft.

9. What is the total area of impact in the waterbody? (including inlet and outlet protection structures, sideslope embankments, etc.):

   Tidal Waters
   Below the mean high water line ____ sq. ft.
   Below the mean low water line ____ sq. ft.

   Non-tidal Waters
   Below the Ordinary high water line 387 sq. ft.

   In tidal wetlands _____ sq. ft. (attach appropriate appendix)

10. For non-tidal waters, what is the approximate median stream flow rate at the site:

    Before construction: _____ cfs
    After construction: _____ cfs

    What is the bankfull discharge (~1 yr storm) of the stream at the site? 37.81 cfs

11. What is the watershed area above the project site? 0.098 SQ.MI (acres or square miles)

12. If the road crossing is not over undeeded public subaqueous lands or a DelDOT right of way, who is the owner of the underwater lands? _____-
    _____

13. Please include evidence of written permission from the underwater landowner indicated above (if other than the applicant) with this Appendix.

Design Features

14. Describe design features that will be incorporated to allow for fish passage:

The box culvert has been place 6" below existing grade of the channel to allow for natural siltation of the pipe and passage of fish and aquatic invertebrates.

15. Describe design features that will maximize the preservation of natural channel features and minimize adverse impacts to stream morphology and stability:

The design has been proposed with headwalls to minimize the impact to the existing ditch.

16. If culvert pipes are proposed:

Will the pipe bottom be buried below the natural streambed? X Yes ___ No
If yes, how far will the pipe invert be placed below the streambed elevation? 6" inches
If no, explain why:

For multiple barrel culvert designs, will a low flow barrel be incorporated?
___Yes ___ No
If no, explain why:
single barrel

17. What storm event is the structure designed to pass? (i.e. 10 yr storm, 25 yr storm)

25 YR

18. Will the structure include an apron or other inlet/outlet protection? X Yes ___ No
If yes, describe the dimensions and materials that will be utilized:

Rip rap rock outlet protection is proposed. D50 = 6" DMAX = 12" L = 12' W = 7.3' T = 14"

19. Is any fill associated with the proposed activity? X Yes ___ No If yes, attach the appropriate appendix.

20. Will any sideslope embankments be constructed in the waterbody? X Yes ___ No
If yes, what is the average slope of the embankments? 3:1

21. Will any utilities be associated with the road crossing? ___Yes X No
If yes, attach the appropriate appendix.

CHANNEL MODIFICATIONS OR IMPOUNDMENT STRUCTURES (DAMS)

Please check applicable box(es) and complete all appropriate sections(s). Make sure answers to all of the questions in this appendix correspond to information on the application drawings

Section I. ☒ CHANNEL MODIFICATIONS Section II. ☐ IMPOUNDMENT STRUCTURES (DAMS)

I. CHANNEL MODIFICATIONS

1. What are the dimensions of the existing channel to be modified relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   84.6' length 1' depth 3' base width 5' top width

2. What will be the dimensions of the new or modified channel relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   84.6' length 1' depth 3' base width 5' top width

3. State type and approximate composition percentage of the existing stream bed (e.g. clay 10%, sand 10%, silt 45%, gravel 10%, etc.)

4. State the type and approximate composition percentage of the new or modified stream bed?

5. What are the approximate normal discharge rate and drainage area of the existing water body.

   2 yr. 39.35 cfs 83.7 acres
   10yr. 77.43 cfs 100 yr. 135.91 cfs

6. What will be the approximate normal flow-rate and drainage area of the new or modified water body (for non-tidal areas only)?
   2 yr. 22.48 cfs 76.22 acres
   10 yr. 47.24 cfs 100 yr. 90.06 cfs

7. What will be the change (if any) in slope and cross-sectional area? Decrease for installation of pipe, remainder of ditch to remain as is

8. What type of material(s) will be used to stabilize the banks of the new or modified channel (e.g. rip-rap, vegetation, bulkhead, etc.)? Complete additional Appendices as necessary. Rip-Rap

9. What will be the change in floodplain area upstream of the channel modification for a two year or ten year storm? Please indicate change in area on plans.
   _____ 2 yr. _____ 10 yr.

II. IMPOUNDMENT STRUCTURES (DAMS)

1. What type(s) of material(s) will be used to construct the impoundment structure (e.g. earth, rock, concrete, etc.)?

2. How many cubic yards of material for the impoundment structure will be obtained from:

   a. Upland sources? _____ cubic yards
   b. Dredged material? _____ cubic yards
   c. Other? (explain below) _____ cubic yards

3. What will be the dimensions of the impoundment structure relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

4. What will be the impoundment's?

   Storage capacity: _____ acre-feet
   Surface area: _____ acres; _____ square feet

5. What is the approximate drainage area of the water body upstream of the proposed impoundment? _____ acres
6. Have you obtained the appropriate County Conservation District office approval for an erosion and sediment control plan for your project? _____ Yes ____ No _____N/A

   If your answer is "No", contact the County Conservation District.

7. What is the approximate discharge rate from the 2, 10, 100 year frequency storm prior to construction?
   2 yr. _____ cfs
   10 yr. _____ cfs
   100 yr. _____ cfs

Utility Crossings

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

1. Please indicate the total number of subaqueous lands crossings associated with the project here: ___3___ Complete a separate Appendix E for each crossing.

2. The information below is for Crossing # ___1___.

General Information

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

____	wastewater pipeline	_____ inches	____	electric line	_____ inches
__X__	water line	__8__ inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

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

   MHW _____ ft. MLW_____ ft. OHW ____5____ ft.

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

   MHW _____ sq. ft. MLW _____sqft. OHW ____30__ sq. ft.

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

   _____ directional bore __X__ trench _____blasting _____plow

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

7. Briefly outline the construction sequence for placement of the structure:
   1) GC to complete excavation for road crossing culvert.
   2) GC to excavate additional area for water line.
   3) GC to install proposed waterline per provider specifications.
   4) GC to install road culvert following waterline installation.
   5) GC to backfill and install road.

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

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

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

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

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? ___2.75___ ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public ___X____Private
    If private, who is/are the property holder(s)? _____Red Knot Farms, LLC._____
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes __X__No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? __X___ Yes _____No

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

FILL

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

1. How many linear feet will the fill extend channelward of the:
   a. Tidal waters: mean high water line? _____ ft.
      mean low water line? _____ ft.
   b. Non-tidal waters: ordinary high water line? 85.4' ft.

2. What is the area of fill that will be located:
   a. on subaqueous land (channelward of mean high water) 387 sq. ft.
   b. on vegetated wetlands? _____ sq. ft.

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

4. What is the total volume of fill? 7.2 cubic yards
   a. What is the total fill per running foot of shoreline? 0.09 cubic yards

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

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

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

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? temporary and permanent, vegetation, erosion control matting

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

Rip-Rap Sills and Revetments

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

1. Will the project be:
   - X New Construction (un-stabilized shoreline)
   - _____ Repair or Replacement of an Existing Rip-Rap Structure or Rubble
   - _____ Repair or Replacement of an Existing Bulkhead

   (If repair or replacement, submit photographs of the entire existing structure).

2. How many linear feet of shoreline are proposed to be stabilized? 12'

3. Is the project a: X Standard rip-rap revetment ___ Free-standing sill

4. Describe the existing shoreline:
   _____
   _____
   _____
   _____

5. What is the total number of cubic yards of rip-rap that will be used? 102 cy

6. What is the number of cubic yards of rip-rap per running foot of shoreline? 8.5 cy
   (See page 4 for a guide to calculating total cubic yards and cubic yards per running foot).

7. What will be the average weight of the stone used for the:
   Armor stone: _____ Core stone: _____
   [If material other than stone, such as prefab geo-grid or other similar product is proposed, please describe here and include photographs or a brochure. The Department strongly discourages the use of broken concrete, cinderblocks or other materials that are less dense than stone, more apt to move off site due to currents or wave action, and/or are not aesthetically pleasing or in keeping with the natural environment.]
   Describe:
   _____
   _____
   _____

8. For Standard Revetments answer A–F, below: (for Sill projects, skip to Question #9)

   A. How many linear feet will the structure extend channelward of:

   Mean High Water: _____Mean Low Water: _____

   Ordinary High Water: ____12'____ (for non-tidal waters)

   B. How many square feet of the structure will be located:

   Channelward of Mean High Water: _____Channelward of Mean Low Water: _____

   Channelward of Ordinary High Water: ___81 sf___ (for non-tidal waters)

   On vegetated wetlands: _____

   C. Will the revetment be backfilled? __X__ Yes ___ No

   If yes, complete Appendix H and include it in your application.

   D. Will filter cloth be used behind the rip-rap structure? __X__ Yes ___ No

   E. What is the average slope of the existing bank? ___3:1___

   F. What is the proposed slope of the rip-rap revetment? ___3:1___

   (See page 3 for a guide to calculating slopes).

9. Sill Projects:

   A. What is the base width of the proposed structure: _____

   B. What is the top width of the proposed structure: _____

   C. How many square feet of the structure will be located:

   Channelward of Mean High Water: _____Channelward of Mean Low Water: _____

   Channelward of Ordinary High Water: _____ (for non-tidal waters)

   On vegetated wetlands: _____

   D. What will be the average height of the structure: _____

   E. How much of the structure (in inches) will extend vertically above:

   Mean High Water: _____ Ordinary High Water: _____ (for non-tidal waters)

   F. Are breaks or notches proposed in the sill to allow for greater flushing? ___ Yes___ No

   G. Will fill material be placed behind the sill? ___ Yes ___ No If yes, complete appropriate appendix.

   H. Will wetland vegetation be planted behind the sill? ___ Yes ___ No

   If yes, complete Appendix H and include it in your application.

10. Construction Techniques (Complete for both Revetment and Sill Projects):

A. Will any dredging be required? ___ Yes _X_ No

If yes, please include appropriate dredging Appendix with your application).

B. Please describe the sequence of construction and any techniques that will be utilized to minimize adverse impacts on the aquatic environment, and to preserve existing vegetation (particularly woody vegetation) along the shoreline:

_____
_____
_____
_____

CALCULATIONS

RUN = Base width of the structure (in feet) RISE = Vertical height of the structure (in feet)

I. How to calculate total cubic yards:

0.5 * RUN * RISE * Linear feet of shoreline stabilized/27 = Total Cubic Yards

II. How to calculate cubic yards per running foot of shoreline:

Total # Cubic Yards/ Linear feet of shoreline = Cubic yards per running foot

III. How to calculate slope: Slope = RUN/RISE

EXAMPLE:

If we propose to stabilize 100 linear feet of shoreline with a rip-rap revetment that has a basewidth of 6 feet and a height of 3 feet:

0.5 * 6 * 3 * 100/27 = 33.33 Total Cubic Yards

II. 33.33/ 100= 0.333 Cubic Yards per running foot

III. 6/3= Slope of 2

Road Crossings

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

General Information

1. Will the project be:

____ New Construction
_X_ Repair or Replacement of an Existing Structure

2. Describe the purpose for the proposed road crossing activity:
To provide conveyance for the existing on site ditch under the proposed Enchanted Meadow Boulevard.

3. Is the crossing a:

___ Bridge (preferred) ___ Bottomless or Arched Culvert ___ Pipe Culvert

_X_ Box Culvert ___ Multiple Barrel Culvert

___ Other (describe)_____

If other than a bridge is proposed, could bridging be constructed to avoid impacts to the waterbody? ___ Yes _X_ No If no, please provide specific justification:
The box culvert has been adequately designed to convey the flows.

4. If culvert pipes are proposed, provide the pipe lengths and diameters:

If a bridge, bottomless culvert or box culvert is proposed, provide the dimensions:
H = 36" x W = 72" x L = 61.96'

What will be the slope of the culvert?
.0139 ft/ft

5. What materials will the structure(s) be made of?
Concrete

Waterbody Information

6. Name of the waterbody at the project location: n/a
   Waterbody is a tributary to: double run creek

7. What is the width of the waterbody at the project site? 6' ±

8. How many linear feet of stream will be affected by the crossing?
   Pipe 62' ln ft. Inlet Structure _____ ln ft. Outlet Structure 12' ln ft.

9. What is the total area of impact in the waterbody? (including inlet and outlet protection structures, sideslope embankments, etc.):

   Tidal Waters
   Below the mean high water line ____ sq. ft.
   Below the mean low water line ____ sq. ft.

   Non-tidal Waters
   Below the Ordinary high water line 368 sq. ft.

   In tidal wetlands ____ sq. ft. (attach appropriate appendix)

10. For non-tidal waters, what is the approximate median stream flow rate at the site:

    Before construction: _____ cfs
    After construction: _____ cfs

    What is the bankfull discharge (~1 yr storm) of the stream at the site? 12.57 cfs

11. What is the watershed area above the project site? 0.065 SQ.MI (acres or square miles)

12. If the road crossing is not over undeeded public subaqueous lands or a DelDOT right of way, who is the owner of the underwater lands? _____-
    _____

13. Please include evidence of written permission from the underwater landowner indicated above (if other than the applicant) with this Appendix.

Design Features

14. Describe design features that will be incorporated to allow for fish passage:

The box culvert has been place 6" below existing grade of the channel to allow for natural siltation of the pipe and passage of fish and aquatic invertebrates.

15. Describe design features that will maximize the preservation of natural channel features and minimize adverse impacts to stream morphology and stability:

The design has been proposed with headwalls to minimize the impact to the existing ditch.

16. If culvert pipes are proposed:

Will the pipe bottom be buried below the natural streambed? _X_ Yes ___ No
If yes, how far will the pipe invert be placed below the streambed elevation? __6"__ inches
If no, explain why:

For multiple barrel culvert designs, will a low flow barrel be incorporated?
___Yes ___ No
If no, explain why:

single barrel

17. What storm event is the structure designed to pass? (i.e. 10 yr storm, 25 yr storm)

25 YR

18. Will the structure include an apron or other inlet/outlet protection? X Yes ___ No
If yes, describe the dimensions and materials that will be utilized:

Rip rap rock outlet protection is proposed. D50 = 6" DMAX = 12" L = 12' W = 7.3' T = 14"

19. Is any fill associated with the proposed activity? X Yes ___ No If yes, attach the appropriate appendix.

20. Will any sideslope embankments be constructed in the waterbody? X Yes ___ No
If yes, what is the average slope of the embankments? 3:1

21. Will any utilities be associated with the road crossing? ___Yes X No
If yes, attach the appropriate appendix.

CHANNEL MODIFICATIONS OR IMPOUNDMENT STRUCTURES (DAMS)

Please check applicable box(es) and complete all appropriate sections(s). Make sure answers to all of the questions in this appendix correspond to information on the application drawings

Section I. ☒ CHANNEL MODIFICATIONS Section II. ☐ IMPOUNDMENT STRUCTURES (DAMS)

I. CHANNEL MODIFICATIONS

1. What are the dimensions of the existing channel to be modified relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   73.9' length 1' depth 4' base width 6' top width

2. What will be the dimensions of the new or modified channel relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   73.9' length 1' depth 4' base width 6' top width

3. State type and approximate composition percentage of the existing stream bed (e.g. clay 10%, sand 10%, silt 45%, gravel 10%, etc.)

4. State the type and approximate composition percentage of the new or modified stream bed?

5. What are the approximate normal discharge rate and drainage area of the existing water body.

   2 yr. 12.86 cfs 16.78 acres
   10yr. 24.29 cfs 100 yr. 36.90 cfs

6. What will be the approximate normal flow-rate and drainage area of the new or modified water body (for non-tidal areas only)?
   2 yr. 12.22 cfs 20.76 acres
   10 yr. 25.39 cfs 100 yr. 52.71 cfs

Decrease for installation of pipe, remainder of ditch to remain as is

7. What will be the change (if any) in slope and cross-sectional area?

8. What type of material(s) will be used to stabilize the banks of the new or modified channel (e.g. rip-rap, vegetation, bulkhead, etc.)? Complete additional Appendices as necessary. Rip-Rap and vegetation

9. What will be the change in floodplain area upstream of the channel modification for a two year or ten year storm? Please indicate change in area on plans.
   _____ 2 yr. _____ 10 yr.

II. IMPOUNDMENT STRUCTURES (DAMS)

1. What type(s) of material(s) will be used to construct the impoundment structure (e.g. earth, rock, concrete, etc.)?

2. How many cubic yards of material for the impoundment structure will be obtained from:

   a. Upland sources? _____ cubic yards
   b. Dredged material? _____ cubic yards
   c. Other? (explain below) _____ cubic yards

3. What will be the dimensions of the impoundment structure relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

4. What will be the impoundment's?

   Storage capacity: _____ acre-feet
   Surface area: _____ acres; _____ square feet

5. What is the approximate drainage area of the water body upstream of the proposed impoundment? _____ acres
6. Have you obtained the appropriate County Conservation District office approval for an erosion and sediment control plan for your project? _____ Yes ____ No _____N/A

   If your answer is "No", contact the County Conservation District.

7. What is the approximate discharge rate from the 2, 10, 100 year frequency storm prior to construction?
   2 yr. _____ cfs
   10 yr. _____ cfs
   100 yr. _____ cfs

Utility Crossings

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

1. Please indicate the total number of subaqueous lands crossings associated with the project here: ___3___ Complete a separate Appendix E for each crossing.

2. The information below is for Crossing # ___2___.

General Information

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

____	wastewater pipeline	_____ inches	____	electric line	_____ inches
__X__	water line	__8__ inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

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

   MHW _____ ft. MLW_____ ft. OHW ___6.5___ ft.

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

   MHW _____ sq. ft. MLW _____sqft. OHW ___65__ sq. ft.

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

   _____ directional bore __X__ trench _____blasting _____plow

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

7. Briefly outline the construction sequence for placement of the structure:
   1) GC to complete excavation for road crossing culvert.
   2) GC to excavate additional area for water line.
   3) GC to install proposed waterline per provider specifications.
   4) GC to install road culvert following waterline installation.
   5) GC to backfill and install road.

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

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

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

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

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? ___2.75___ ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public ___X___Private
    If private, who is/are the property holder(s)? _____Red Knot Farms, LLC._____
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes __X__No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? __X__ Yes _____No

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

FILL

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

1. How many linear feet will the fill extend channelward of the:
   a. Tidal waters: mean high water line? _____ ft.
      mean low water line? _____ ft.
   b. Non-tidal waters: ordinary high water line? 73.9' ft.

2. What is the area of fill that will be located:
   a. on subaqueous land (channelward of mean high water) 368 sq. ft.
   b. on vegetated wetlands? _____ sq. ft.

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

4. What is the total volume of fill? 6.8 cubic yards
   a. What is the total fill per running foot of shoreline? 0.11 cubic yards

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

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

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

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? temporary and permanent, vegetation, erosion control matting

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

Road Crossings

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

General Information

1. Will the project be:

__X__ New Construction
____ Repair or Replacement of an Existing Structure

2. Describe the purpose for the proposed road crossing activity:
To provide conveyance for the existing on site ditch under the proposed Red Mulberry Avenue.

3. Is the crossing a:

___ Bridge (preferred) ___ Bottomless or Arched Culvert ___ Pipe Culvert

___ Box Culvert __X__ Multiple Barrel Culvert

___ Other (describe)_____

If other than a bridge is proposed, could bridging be constructed to avoid impacts to the waterbody? ___ Yes __X__ No If no, please provide specific justification:
The multiple pipe culverts have been adequately designed to convey the flows.

4. If culvert pipes are proposed, provide the pipe lengths and diameters:
D = 21" x L = 75.5'

If a bridge, bottomless culvert or box culvert is proposed, provide the dimensions:

What will be the slope of the culvert?
.00 ft/ft

5. What materials will the structure(s) be made of?
Concrete

Waterbody Information

6. Name of the waterbody at the project location: n/a
   Waterbody is a tributary to: double run creek

7. What is the width of the waterbody at the project site? 2' ±

8. How many linear feet of stream will be affected by the crossing?
   Pipe 75.5' ln ft. Inlet Structure _____ ln ft. Outlet Structure 12' ln ft.

9. What is the total area of impact in the waterbody? (including inlet and outlet protection structures, sideslope embankments, etc.):

   Tidal Waters
   Below the mean high water line ____ sq. ft.
   Below the mean low water line ____ sq. ft.
   In tidal wetlands ____ sq. ft. (attach appropriate appendix)

   Non-tidal Waters
   Below the Ordinary high water line 239 sq. ft.

10. For non-tidal waters, what is the approximate median stream flow rate at the site:

    Before construction: _____ cfs
    After construction: _____ cfs

    What is the bankfull discharge (~1 yr storm) of the stream at the site? 25.68 cfs

11. What is the watershed area above the project site? 0.17 SQ.MI (acres or square miles)

12. If the road crossing is not over undeeded public subaqueous lands or a DelDOT right of way, who is the owner of the underwater lands? _____-
    _____

13. Please include evidence of written permission from the underwater landowner indicated above (if other than the applicant) with this Appendix.

Design Features

14. Describe design features that will be incorporated to allow for fish passage:

The box culverts have been place 6" below existing grade of the channel to allow for natural siltation of the pipe and passage of fish and aquatic invertebrates.

15. Describe design features that will maximize the preservation of natural channel features and minimize adverse impacts to stream morphology and stability:

The design has been proposed with headwalls to minimize the impact to the existing ditch.

16. If culvert pipes are proposed:

Will the pipe bottom be buried below the natural streambed? _X_ Yes ___ No
If yes, how far will the pipe invert be placed below the streambed elevation? __6"__ inches
If no, explain why:

For multiple barrel culvert designs, will a low flow barrel be incorporated?
___Yes __X__ No
If no, explain why:

All barrels are at same elevation

17. What storm event is the structure designed to pass? (i.e. 10 yr storm, 25 yr storm)

25 YR

18. Will the structure include an apron or other inlet/outlet protection? X Yes ___ No
If yes, describe the dimensions and materials that will be utilized:

Rip rap rock outlet protection is proposed. D50 = 6" DMAX = 12" L = 12' W = 7.3' T = 14"

19. Is any fill associated with the proposed activity? X Yes ___ No If yes, attach the appropriate appendix.

20. Will any sideslope embankments be constructed in the waterbody? X Yes ___ No
If yes, what is the average slope of the embankments? 3:1

21. Will any utilities be associated with the road crossing? ___Yes X No
If yes, attach the appropriate appendix.

CHANNEL MODIFICATIONS OR IMPOUNDMENT STRUCTURES (DAMS)

Please check applicable box(es) and complete all appropriate sections(s). Make sure answers to all of the questions in this appendix correspond to information on the application drawings

Section I. ☒ CHANNEL MODIFICATIONS Section II. ☐ IMPOUNDMENT STRUCTURES (DAMS)

I. CHANNEL MODIFICATIONS

1. What are the dimensions of the existing channel to be modified relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   87.5' length 1' depth 1' base width 2' top width

2. What will be the dimensions of the new or modified channel relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

   87.5' length 1' depth 1' base width 2' top width

3. State type and approximate composition percentage of the existing stream bed (e.g. clay 10%, sand 10%, silt 45%, gravel 10%, etc.)

4. State the type and approximate composition percentage of the new or modified stream bed?

5. What are the approximate normal discharge rate and drainage area of the existing water body.

   2 yr. 23.76 cfs 139.48 acres
   10yr. 49.97 cfs 100 yr. 104.20 cfs

6. What will be the approximate normal flow-rate and drainage area of the new or modified water body (for non-tidal areas only)?
   2 yr. 7.74 cfs 126.09 acres
   10 yr. 17.45 cfs 100 yr. 34.38 cfs

7. What will be the change (if any) in slope and cross-sectional area? Decrease for installation of pipe, remainder of ditch to remain as is

8. What type of material(s) will be used to stabilize the banks of the new or modified channel (e.g. rip-rap, vegetation, bulkhead, etc.)? Complete additional Appendices as necessary. Rip-Rap

9. What will be the change in floodplain area upstream of the channel modification for a two year or ten year storm? Please indicate change in area on plans.
   _____ 2 yr. _____ 10 yr.

II. IMPOUNDMENT STRUCTURES (DAMS)

1. What type(s) of material(s) will be used to construct the impoundment structure (e.g. earth, rock, concrete, etc.)?

2. How many cubic yards of material for the impoundment structure will be obtained from:

   a. Upland sources? _____ cubic yards
   b. Dredged material? _____ cubic yards
   c. Other? (explain below) _____ cubic yards

3. What will be the dimensions of the impoundment structure relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

4. What will be the impoundment's?

   Storage capacity: _____ acre-feet
   Surface area: _____ acres; _____ square feet

5. What is the approximate drainage area of the water body upstream of the proposed impoundment? _____ acres
6. Have you obtained the appropriate County Conservation District office approval for an erosion and sediment control plan for your project? _____ Yes ____ No _____N/A

   If your answer is "No", contact the County Conservation District.

7. What is the approximate discharge rate from the 2, 10, 100 year frequency storm prior to construction?
   2 yr. _____ cfs
   10 yr. _____ cfs
   100 yr. _____ cfs

Utility Crossings

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

1. Please indicate the total number of subaqueous lands crossings associated with the project here: ___3___ Complete a separate Appendix E for each crossing.

2. The information below is for Crossing # ___2___.

General Information

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

____	wastewater pipeline	_____ inches	____	electric line	_____ inches
__X__	water line	__8__ inches	____	TV/cable	_____ inches
____	gas line	_____ inches	____	fiber optic cable	_____ inches
____	other (describe) _____				_____ inches

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

   MHW _____ ft. MLW_____ ft. OHW ___2___ ft.

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

   MHW _____ sq. ft. MLW _____sqft. OHW ___13___ sq. ft.

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

   _____ directional bore __X__ trench _____blasting _____plow

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

7. Briefly outline the construction sequence for placement of the structure:
   1) GC to complete excavation for road crossing culvert.
   2) GC to excavate additional area for water line.
   3) GC to install proposed waterline per provider specifications.
   4) GC to install road culvert following waterline installation.
   5) GC to backfill and install road.

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

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

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

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

10. At what depth will the subaqueous crossing be placed below the bottom of the waterbody? ___2.75___ ft.
    At what height will an aerial crossing be above MHW? _____feet

11. Is the crossing in, on, over or under public (undeeded) or private subaqueous lands?
    _____Public ___X___Private
    If private, who is/are the property holder(s)? _____Red Knot Farms, LLC._____
    Provide a copy of any deed, ROW or easement granting access if the private property owner is other than the applicant.

12. Is the crossing adjacent to subaqueous lands on State-owned property? _____ Yes __X__No
    If so, which State agency is the owner? _____

    Is the crossing within a DelDOT right of way? __X__ Yes _____No

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

FILL

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

1. How many linear feet will the fill extend channelward of the:
   a. Tidal waters: mean high water line? _____ ft.
      mean low water line? _____ ft.
   b. Non-tidal waters: ordinary high water line? 75.5' ft.

2. What is the area of fill that will be located:
   a. on subaqueous land (channelward of mean high water) 239 sq. ft.
   b. on vegetated wetlands? _____ 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. Subject parcel

4. What is the total volume of fill? 4.4 cubic yards
   a. What is the total fill per running foot of shoreline? 0.05 cubic yards

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

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

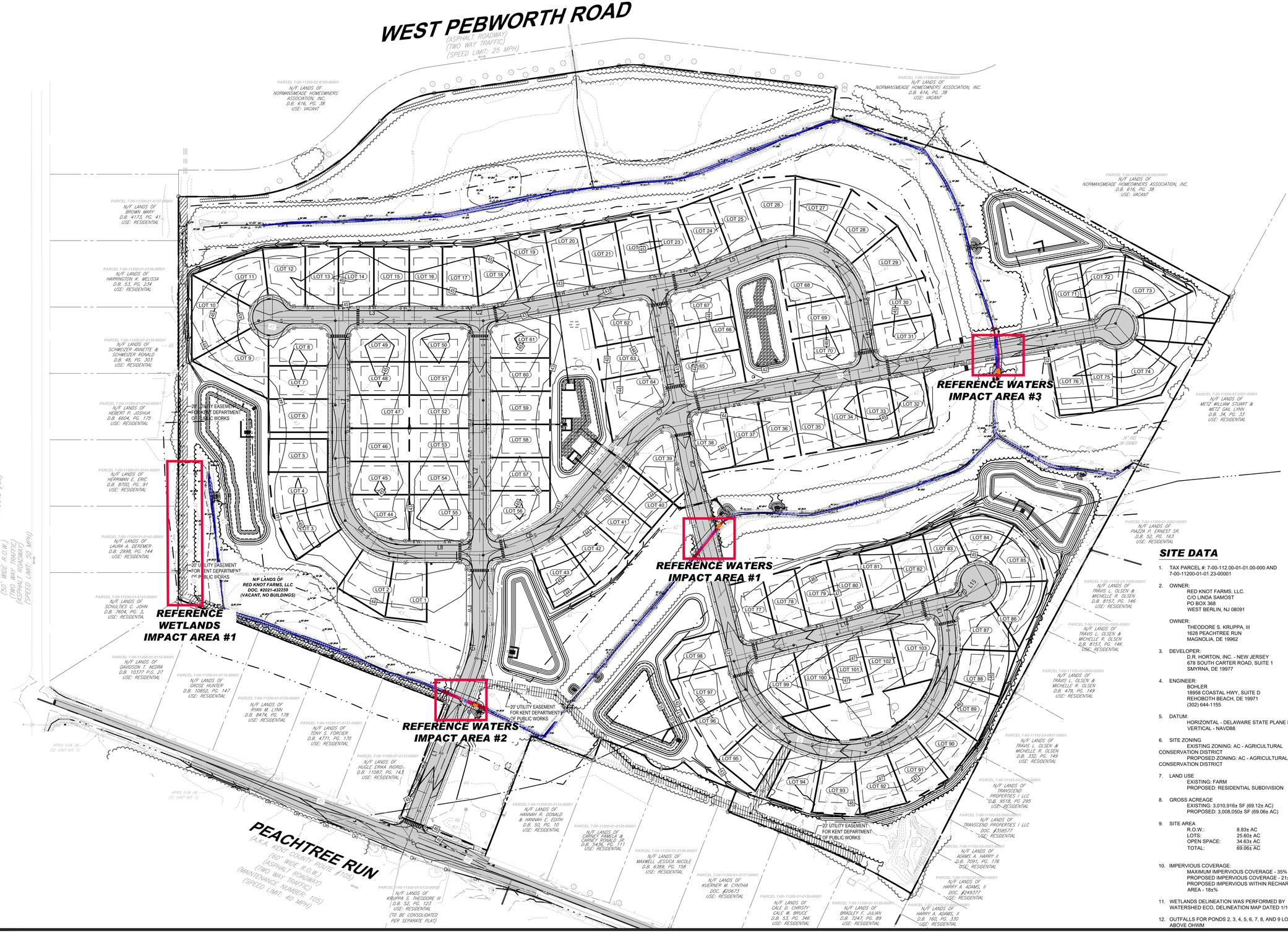
7. How will the fill be retained? Complete appropriate appendix. vegetation

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? temporary and permanent, vegetation, erosion control matting

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

Mulberry Meadows

Vicinity Map



SITE DATA

1. TAX PARCEL #: 7-00-112.00-01-01.00-000 AND 7-00-11200-01-01.23-00001
2. OWNER:
   RED KNOT FARMS, LLC.
   C/O LINDA SAMOST
   PO BOX 368
   WEST BERLIN, NJ 08091

   OWNER:
   THEODORE S. KRUPPA, III
   1628 PEACHTREE RUN
   MAGNOLIA, DE 19962
3. DEVELOPER:
   D.R. HORTON, INC. - NEW JERSEY
   678 SOUTH CARTER ROAD, SUITE 1
   SMYRNA, DE 19977
4. ENGINEER:
   BOHLER
   18958 COASTAL HWY, SUITE D
   REHOBOTH BEACH, DE 19971
   (302) 644-1155
5. DATUM:
   HORIZONTAL - DELAWARE STATE PLANE NAD83
   VERTICAL - NAVD88
6. SITE ZONING
   EXISTING ZONING: AC - AGRICULTURAL CONSERVATION DISTRICT
   PROPOSED ZONING: AC - AGRICULTURAL CONSERVATION DISTRICT
7. LAND USE
   EXISTING: FARM
   PROPOSED: RESIDENTIAL SUBDIVISION
8. GROSS ACREAGE
   EXISTING: 3,010,916± SF (69.12± AC)
   PROPOSED: 3,008,050± SF (69.06± AC)
9. SITE AREA

R.O.W.:	8.83± AC
LOTS:	25.60± AC
OPEN SPACE:	34.63± AC
TOTAL:	69.06± AC

10. IMPERVIOUS COVERAGE:
    MAXIMUM IMPERVIOUS COVERAGE - 35%
    PROPOSED IMPERVIOUS COVERAGE - 21±%
    PROPOSED IMPERVIOUS WITHIN RECHARGE AREA - 18±%
11. WETLANDS DELINEATION WAS PERFORMED BY WATERSHED ECO, DELINEATION MAP DATED 1/10/2022.
12. OUTFALLS FOR PONDS 2, 3, 4, 5, 6, 7, 8, AND 9 LOCATED ABOVE OHWM

STANDARD DRAWING LEGEND

FOR ENTIRE PLAN SET
(NOT TO SCALE)

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	ONSITE PROPERTY LINE / R.O.W. LINE	
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CONCRETE CURB & GUTTER	CURB AND GUTTER; SPILL CURB / TRANSITION CURB; DEPRESSED CURB AND GUTTER
	UTILITY POLE WITH LIGHT	
	POLE LIGHT	
	TRAFFIC LIGHT	
	UTILITY POLE	
	TYPICAL LIGHT	
	ACORN LIGHT	
	TYPICAL SIGN	
	PARKING COUNTS	X
120 / 125	CONTOUR LINE	120 / 125
TC:516 OR 516+	SPOT ELEVATIONS	TC:516.00 / TC 516.00 BC 515.55
SAN #	SANITARY LABEL	SAN #
STM #	STORM LABEL	STM #
S	SANITARY SEWER LATERAL	S
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	WM
	WATER VALVE	WV
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	
	BENCHMARK	

2/5/25 | JSW | DE210070 | Rev 2

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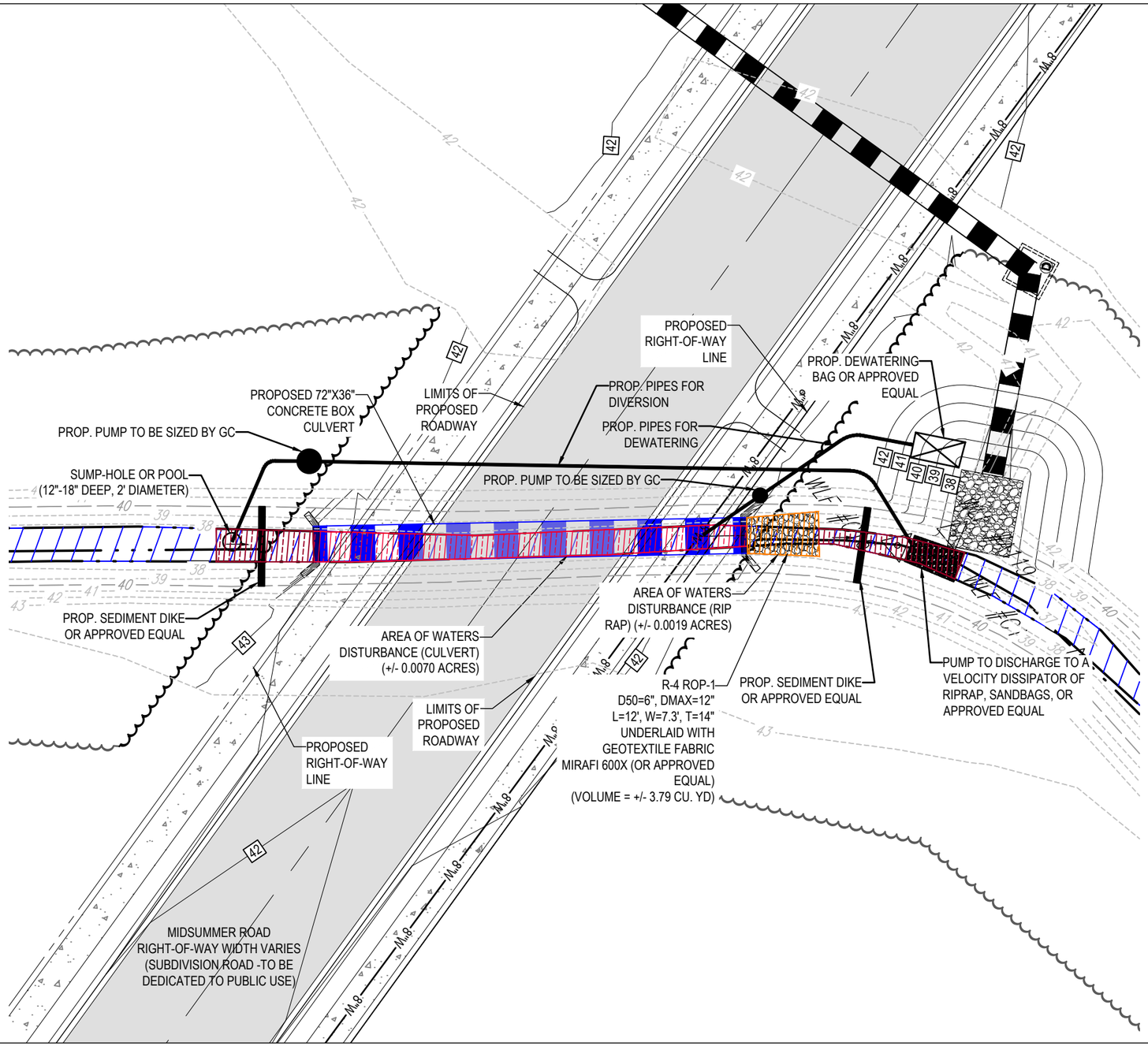
REHOBOTH BEACH, DE 19971
Phone: (302) 644-1155
Fax: (302) 703-3173
BohlerEngineering.com

MULBERRY MEADOWS

OVERALL SITE PLAN

PEACHTREE RUN, KENT COUNTY, DE

100 50 25 0 100
1"= 100'



LEGEND

- WATERS AREA TO BE DISTURBED (CULVERT)
- WATERS AREA TO BE DISTURBED (RIP RAP)
- WATERS AREA TO BE DISTURBED (TEMP DIVERSION WORK)
- ORDINARY HIGH-WATER MARK

PROPOSED IMPACT TO WATER OF U.S. & DNREC SUBAQUEOUS LANDS	
	DISTURBED AREA
WATERS CONSTRUCTION FOR CULVERT	0.0070 AC. (306 SQ. FT.) 73 L.F.
WATERS CONSTRUCTION FOR RIP RAP	0.0019 AC. (81 SQ. FT.) 12 L.F.
WATERS CONSTRUCTION FOR DIVERSION (TEMP)	0.0039 AC. (170 SQ. FT.) 40 L.F.

NOTE:

1. WATERLINE TO BE INSTALLED VIA TRENCH.
2. PIPE TO BE INSTALLED 6" BELOW EXISTING STREAM BED.

H:\21\DE210070\CAD\DRAWINGS\EXHIBITS\240613 - WETLAND EXHIBIT\DE210070 - EXHA - 1---->LAYOUT: CONCEPT (4)

BOHLER //
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Fax: (302) 703-3173
BohlerEngineering.com

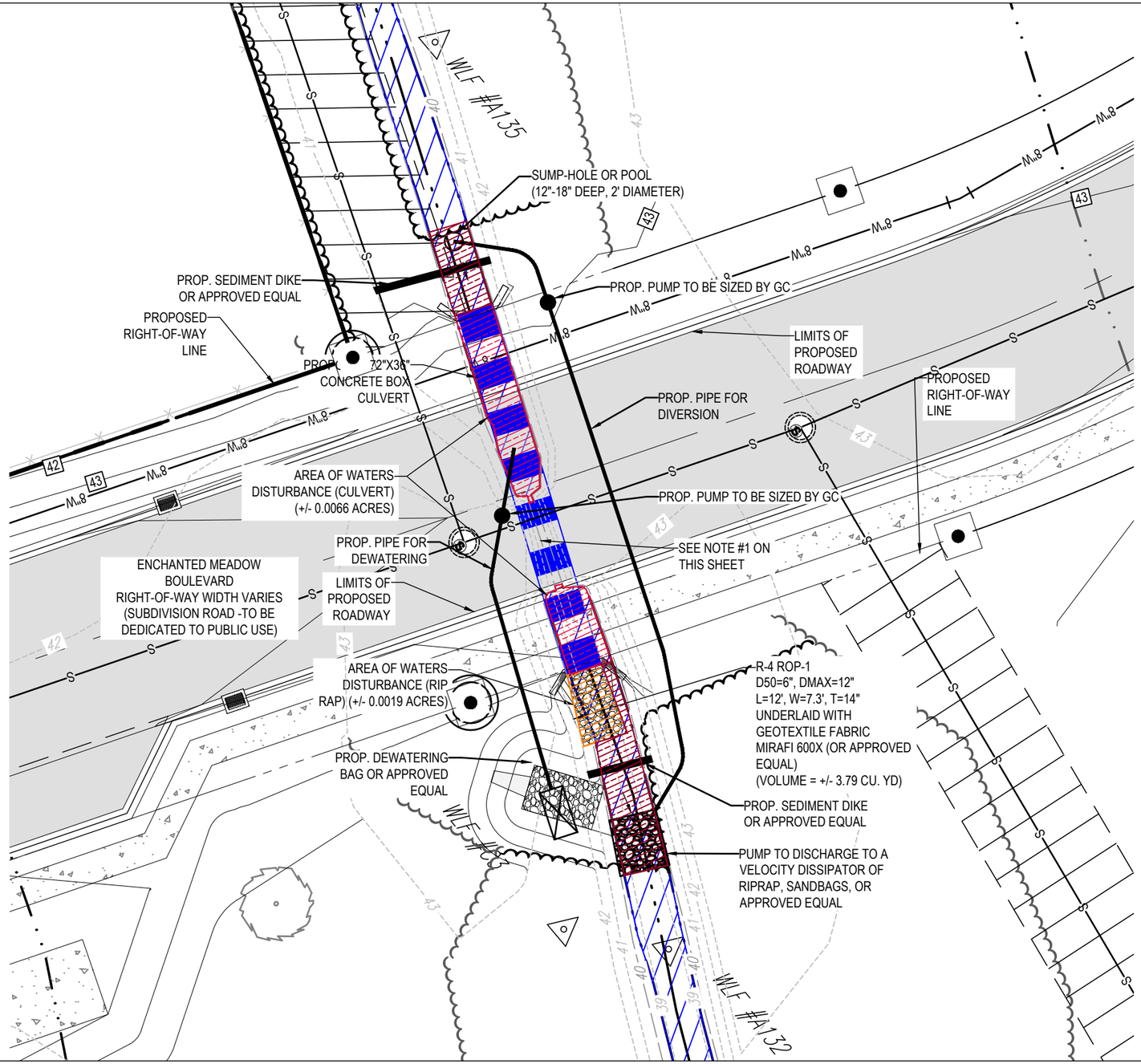
MULBERRY MEADOWS

WATERS IMPACT AREA #1

PEACHTREE RUN, KENT COUNTY, DE

2/5/25 | JSW | DE210070 | Rev. 2

20 10 5 0 20
1"= 20'



LEGEND

- WATERS AREA TO BE DISTURBED (CULVERT)
- WATERS AREA TO BE DISTURBED (RIP RAP)
- WATERS AREA TO BE DISTURBED (TEMP DIVERSION WORK)
- ORDINARY HIGH-WATER MARK

PROPOSED IMPACT TO WATER OF U.S. & DNREC SUBAQUEOUS LANDS	
	DISTURBED AREA
WATERS CONSTRUCTION FOR CULVERT	0.0066 AC. (287 SQ. FT.) 47 L.F.
WATERS CONSTRUCTION FOR RIP RAP	0.0019 AC. (81 SQ. FT.) 12 L.F.
WATERS CONSTRUCTION FOR DIVERSION (TEMP)	0.0061 AC. (267 SQ. FT.) 37 L.F.

NOTE:

1. EXISTING 24" RCP CULVERT TO BE REPLACED AT THIS LOCATION. SEE EXISTING CONDITIONS AND DEMOLITION PLAN FOR MORE INFORMATION.
2. WATERLINE AND SEWER MAIN TO BE INSTALLED VIA TRENCH.
3. PIPE TO BE ISNTALLED 6" BELOW EXISTING STREAM BED.

H:\211\DE210070\CAD\DRAWINGS\EXHIBITS\240813 - WETLAND EXHIBIT\DE210070 - EXHA - 1----->LAYOUT: CONCEPT (2)

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MULBERRY MEADOWS

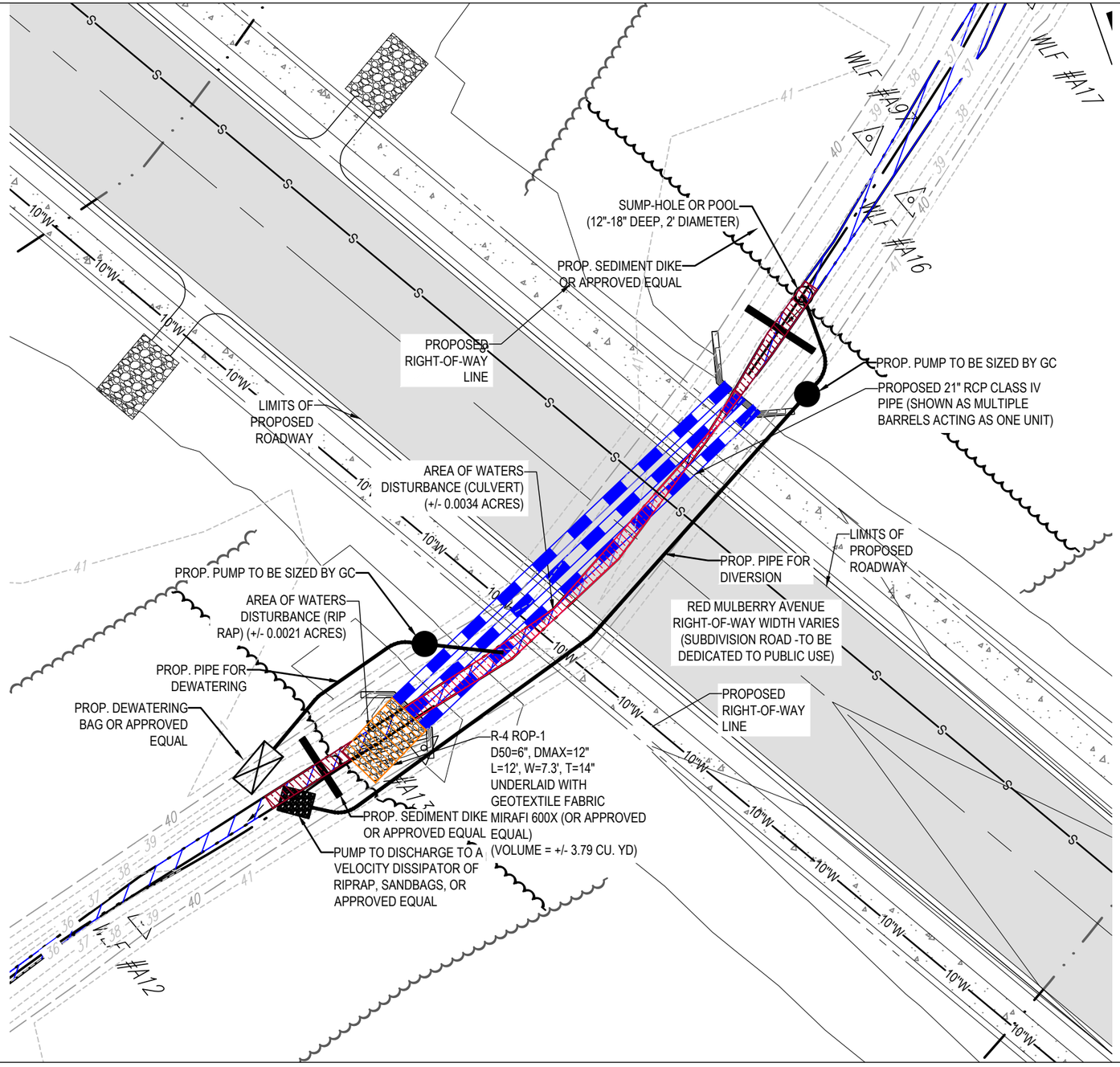
WATERS IMPACT AREA #2

PEACHTREE RUN, KENT COUNTY, DE

2/5/25 | JSW | DE210070 | Rev. 2

20 10 5 0 20

1"= 20'



LEGEND

- WATERS AREA TO BE DISTURBED (CULVERT)
- WATERS AREA TO BE DISTURBED (RIP RAP)
- WATERS AREA TO BE DISTURBED (TEMP DIVERSION WORK)
- ORDINARY HIGH-WATER MARK

PROPOSED IMPACT TO WATER OF U.S. & DNREC SUBAQUEOUS LANDS	
	DISTURBED AREA
WATERS CONSTRUCTION FOR CULVERT	0.0034 AC. (147 SQ. FT.) 75 L.F.
WATERS CONSTRUCTION FOR RIP RAP	0.0021 AC. (91.4 SQ. FT.) 12 L.F.
WATERS CONSTRUCTION FOR DIVERSION (TEMP)	0.0019 AC. (85 SQ. FT.) 36 L.F.

NOTE:

1. WATERLINE TO BE INSTALLED VIA TRENCH.
2. PIPE TO BE INSTALLED 6" BELOW EXISTING STREAM BED.

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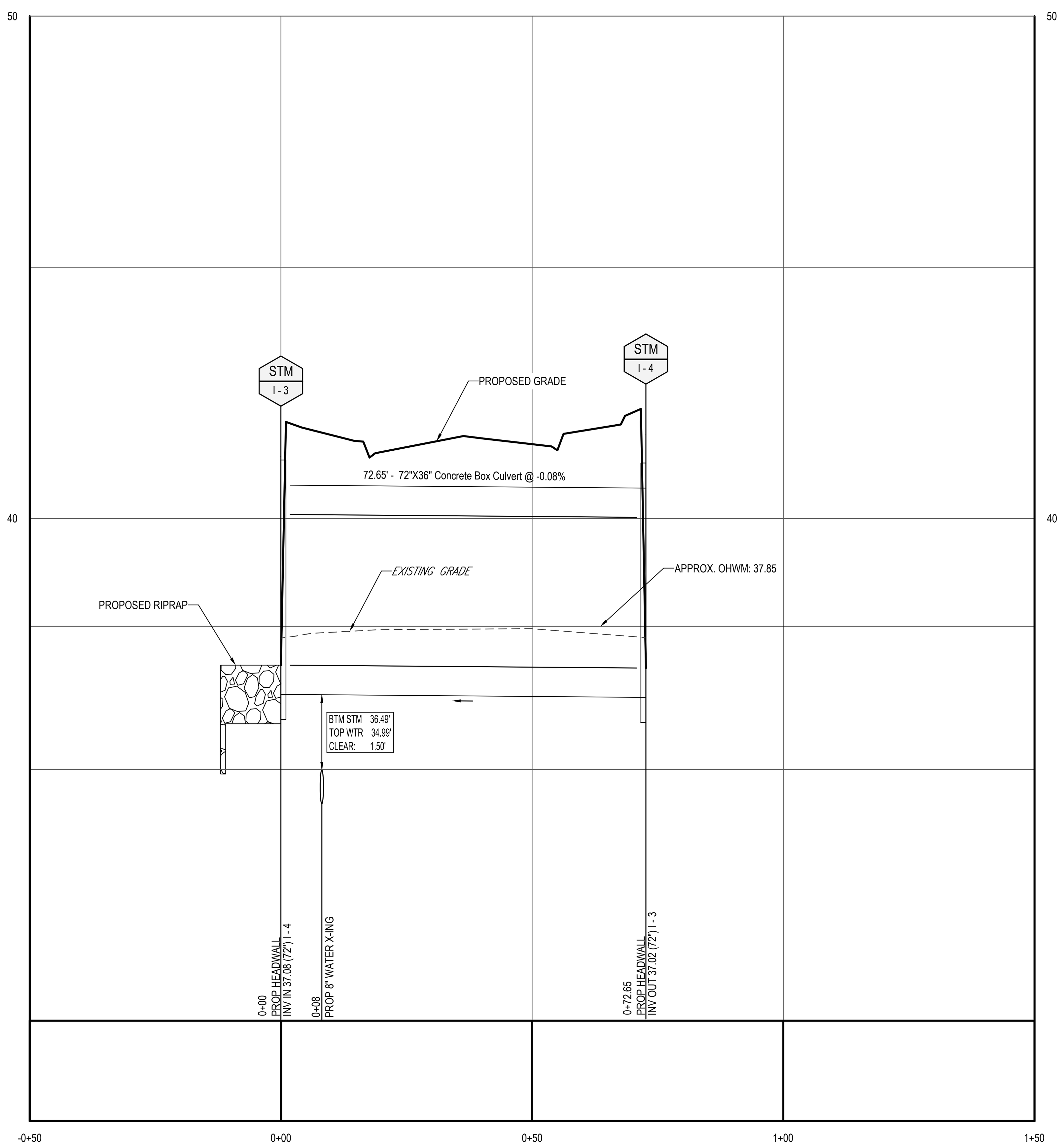
MULBERRY MEADOWS

WATERS IMPACT AREA #3

PEACHTREE RUN, KENT COUNTY, DE

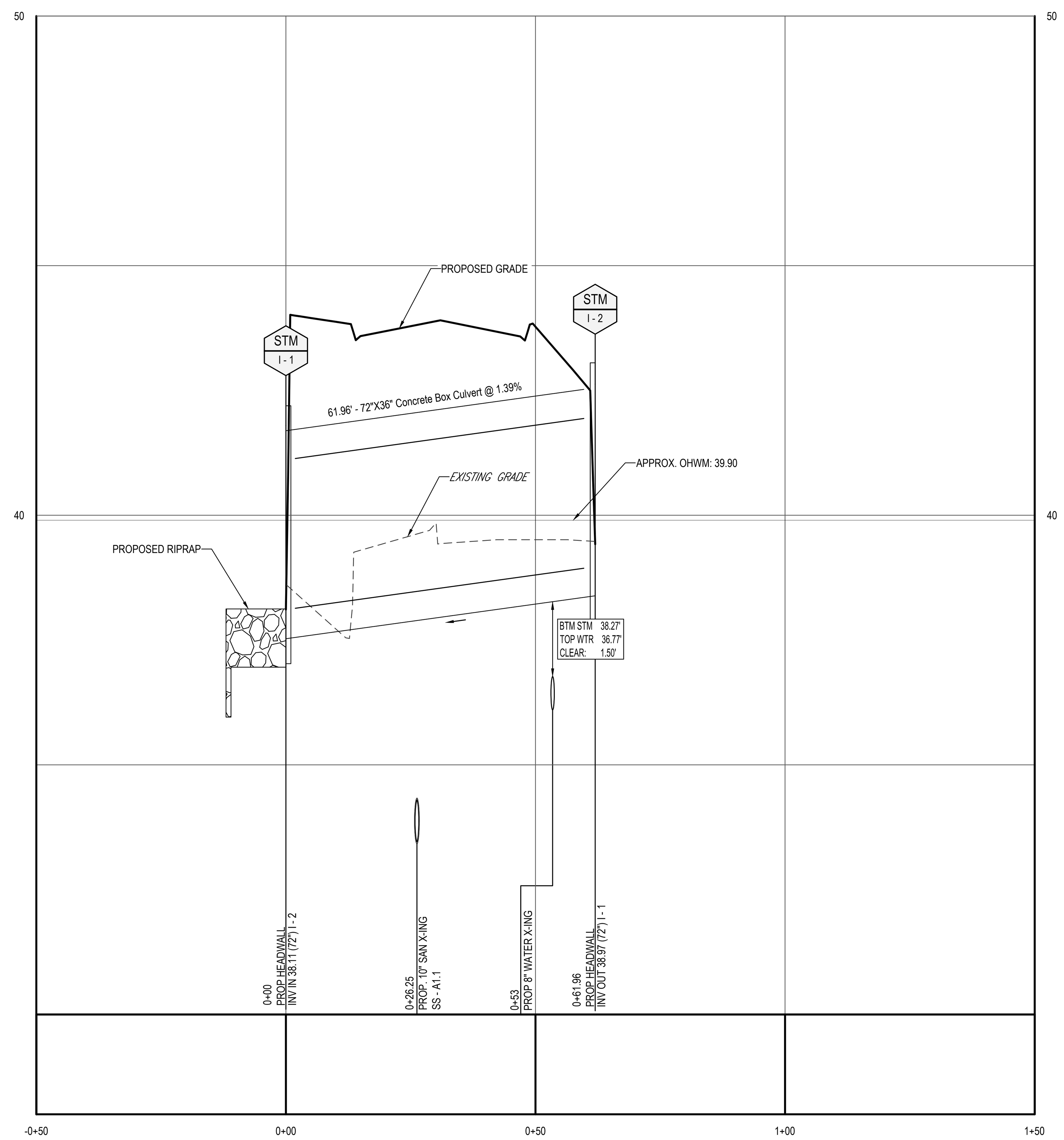
2/5/25 | JSW | DE210070 | Rev. 2

20 10 5 0 20
1"= 20'



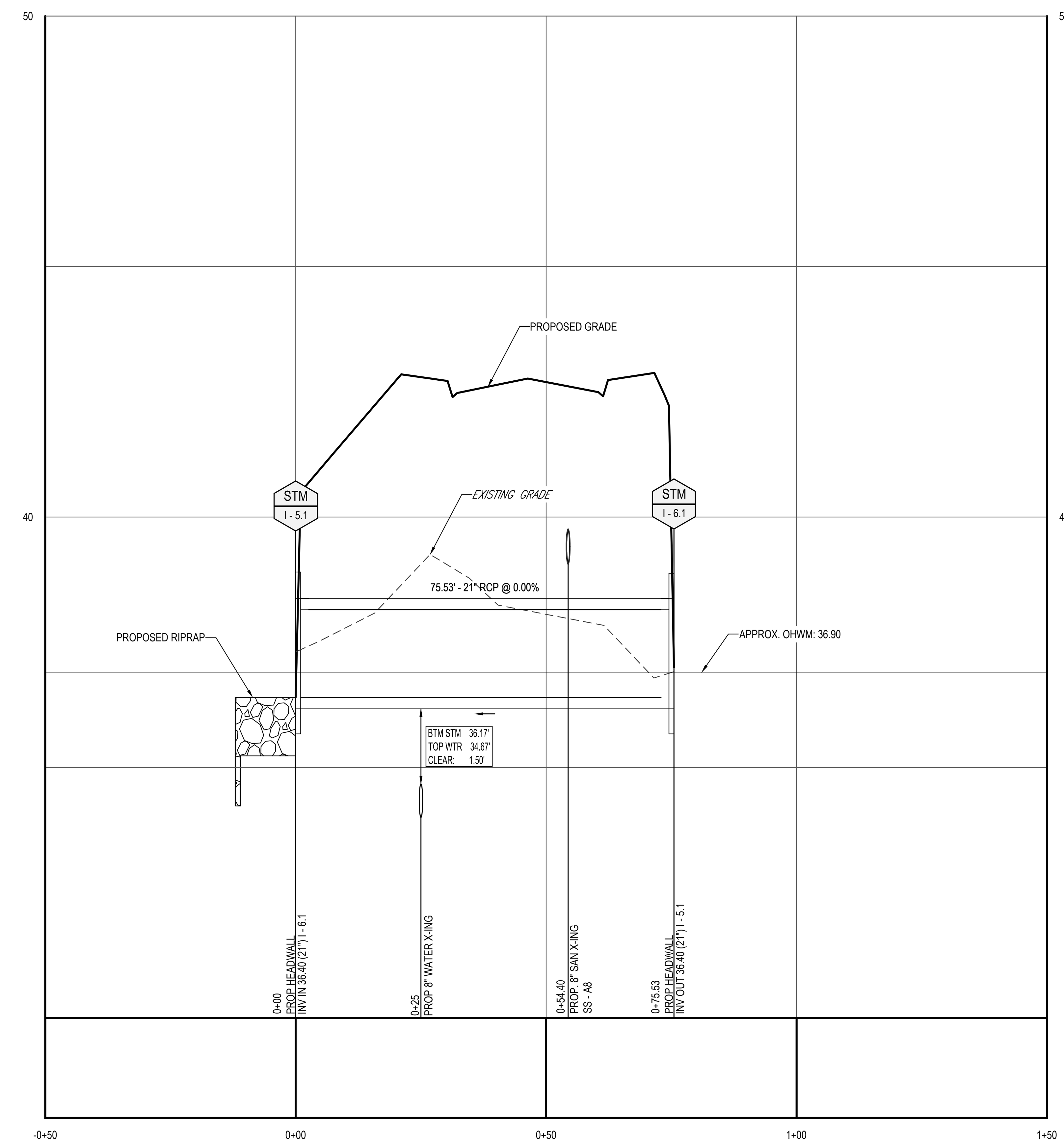
PROPOSED STORM DRAIN PROFILE: WATERS IMPACT AREA #1

SCALE: 1"= 20' HORIZONTAL
1"= 2' VERTICAL



PROPOSED STORM DRAIN PROFILE: WATERS IMPACT AREA #2

SCALE: 1"= 20' HORIZONTAL
1"= 2' VERTICAL



PROPOSED STORM DRAIN PROFILE: WATERS IMPACT AREA #3

SCALE: 1"= 20' HORIZONTAL
1"= 2' VERTICAL

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CROSSING PROFILES

PEACHTREE RUN, KENT COUNTY, DE