



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

July 22, 2022

MEMORANDUM TO: Mr. Chad Kimes, P.E., Division Engineer
Division 3

DocuSigned by:
Mack C. Rivenbark III
AAAD1248B309416...

FROM: for Philip S. Harris, III, P.E., C.P.M, Unit Head
Environmental Analysis Unit

SUBJECT: Environmental Permits for the construction of NC 24 Resiliency and
Living Shoreline adjacent to the White Oak River, Onslow County.
WBS No. 48496.1.1 **TIP M-0540A.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act	Regional General Permit 291	December 31, 2026
NC Division of Water Resources Section 401 Clean Water Act	Individual Water Quality Certification	December 31, 2026
NC Division of Coastal Management Coastal Area Management Act	CAMA Major Development Permit	No Expiration

Please feel free to contact our Unit for any questions.

cc:

NCDOT Permit Website (<https://xfer.services.ncdot.gov/pdea/PermIssued/>)

PROJECT COMMITMENTS

T.I.P. Project No M-0540A
Construction of Living Shoreline on NC24 Causeway
Between Cedar Point and Swansboro
Onslow County

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Concerns during project development from stakeholders including but not limited to: permitting agencies, resource agencies, and the Town of Swansboro have been addressed or incorporated in the final design.

COMMITMENTS FROM PERMITTING

CAMA Major Permit Condition(s):

The permittee shall limit in-water work between February 1 to June 30 of any year to the maximum extent practicable to protect juvenile fishes that may be in the vicinity and shall also limit in-water work to the maximum extent practicable from April 1 through October 31 to avoid additional impacts to submerged aquatic vegetation (SAV).

- 18) All temporary fill within wetlands and waters of the State where no stone currently exists shall be placed on geotextile fabric to facilitate total removal of the temporary fill upon completion of the project.
- 20) Turbidity curtains shall be used where practicable to isolate all in-water work areas from the adjacent waters of the White Oak River, including but not limited to installation and removal of the temporary construction trestle and temporary access ramps, and placement of fill material within or adjacent to wetlands or waters of the State. The turbidity curtains shall be of sufficient length and effectiveness to prevent a visible increase in the amount of suspended sediments in adjacent waters. The turbidity curtains shall be properly maintained and retained in the water until construction is complete. The turbidity curtains shall be removed when turbidity within the curtains reaches ambient levels.
- 25) Prior to planting, the permittee shall submit a final planting plan for the authorized Coastal Wetland planting areas in writing to DCM for review and approval. The planting plan shall include a list of proposed species as well as identify different planting zones.
- 26) The permittee has proposed utilizing the anticipated gain in ecosystem functions from the project as compensatory mitigation for the project's authorized impacts to Coastal Wetlands and SAVs. Therefore, prior to initiating construction, the

permittee shall initiate communication with DCM, USACE, DWR, and appropriate resource agencies to ensure that success criteria are approved that will measure the realized gain in ecosystem function.

27) The permittee shall monitor the project for a minimum of five years after construction (including planting of the Coastal Wetlands) is complete. Features to be monitored shall include but not necessarily be limited to, the rock sills, oyster structures, coastal wetland planting areas and impacts to submerged aquatic vegetation (SAVs). The permittee shall provide DCM, the U.S. Army Corps of Engineers (USACE), the N.C. Division of Water Resources (DWR) and appropriate resource agencies with an annual monitoring report. If any potential problems are identified, then the annual monitoring report shall include a recommendation for proposed corrective measures. Progress reports shall also be provided upon request.

33) The permittee's proposed timing and frequency of SAV surveys requires additional coordination prior to approval. Therefore, prior to the initiation of construction, the permittee shall coordinate with DCM, USACE, DWR, DMF, and other appropriate resource agencies to finalize details for the timing and frequency of annual SAV surveys. Specifically, the permittee may be required to conduct an annual SAV survey during the July/August timeframe which is the peak period of biological productivity and greatest SAV presence.

36) If it is determined that the project has caused permanent SAV impacts, then NCDOT, DCM, USACE, DWR, DMF, and other appropriate resource agencies shall finalize the details of a compensatory mitigation plan for permanent SAV impacts. The SAV compensatory mitigation plan shall include a mitigation ratio that accounts for the consideration of numerous factors, including but not limited to the total amount of permanent SAV impacts, a determination of any SAV recruitment due to the project, the type of compensatory mitigation proposed (in-kind or out-of-kind), and any lapse in habitat function between the time of impact and the time that the compensatory mitigation is anticipated to reach its full function.

38) While monitoring of the Coastal Wetland planting areas is ongoing, the permittee shall reserve the equivalent of 0.22 acres of successful Coastal Wetland restoration credits at the Stella Bridge Mitigation Site in Carteret and Onslow County as compensatory mitigation for the authorized 0.22 acres of Coastal Wetland impacts. A revised debit ledger that reflects the reserved amount and the balance of mitigation credits shall be provided to DCM prior to the initiation of construction. The reserved credits may be refunded back to the Stella Bridge Mitigation Site when the on-site Coastal Wetland planting areas have achieved the approved success criteria.

USACE Regional General Permit #291 Condition(s):

D. The Permittee shall notify the National Ocean Service (NOS) and the Corps, in writing, at least two (2) weeks before beginning work and upon completion of the authorized work. The notification of completion shall include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). This information must be provided within 30 days of completion of the authorized work. Notifications to NOS shall be sent to the following address: 1315 East West Highway, Silver Spring, Maryland 20910.

STATE OF NORTH CAROLINA
Department of Environmental Quality
and
Coastal Resources Commission

Permit

for

Major Development in an Area of Environmental Concern
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598

Authorizing development in Onslow County at White Oak River, NC 24 causeway between Swansboro and Cedar Point, as requested in the permittee's application dated 1/28/22 and 2/15/22,
including the attached workplan drawings (18) dated 4/11/22.

This permit, issued on July 22, 2022, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

**M-0540A, Repair the NC 24 roadway embankment/causeway and adjacent sidewalk,
and stabilize the adjacent shoreline by installing a Living Shoreline composed of Coastal Wetland
planting areas, Rock Sills, and Oyster Structures**

- 1) An as-built report for Coastal Wetland planting areas and for structures in wetlands and waters of the State shall be submitted to DCM within 90 days after their construction is complete.
- 2) Any development, including utility work, that is not depicted on the attached workplan drawings is not authorized without prior approval by the N.C. Division of Coastal Management (DCM).
- 3) No temporary or permanent impacts shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the fill areas as indicated on the attached workplan drawings, without permit modification.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

Signed by the authority of the Secretary of DEQ and the Chair of the Coastal Resources Commission.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.



Braxton C. Davis, Director
Division of Coastal Management

Any maintenance work or project modification not covered hereunder requires further Division approval.

This permit and its conditions are hereby accepted.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signature of Permittee

ADDITIONAL CONDITIONS

NOTE: The permittee shall limit in-water work between February 1 to June 30 of any year to the maximum extent practicable to protect juvenile fishes that may be in the vicinity and shall also limit in-water work to the maximum extent practicable from April 1 through October 31 to avoid additional impacts to submerged aquatic vegetation (SAV).

- 4) In accordance with commitments made by the permittee, in order to protect the endangered West Indian Manatee, *Trichechus manatus*, the permittee shall implement the U.S. Fish & Wildlife Service's Guidelines, and strictly adhere to all requirements therein. The guidelines can be found at <https://www.fws.gov/raleigh/pdfs/ManateeGuidelines2017.pdf>.
- 5) The permittee shall notify the N.C. Division of Marine Fisheries (DMF) Shellfish Sanitation and Recreational Water Quality Section at 252-726-7021 before any fill activity occurs due to the potential for runoff or turbidity that could necessitate the need for a temporary closure within the vicinity.
- 6) In accordance with commitments made by the permittee, the permittee shall conduct a survey for shellfish within authorized fill areas prior to construction. In addition, the permittee shall contact the DMF Habitat Section at 252-726-7021 to request assistance with the relocation of any shellfish located within authorized fill areas into adjacent suitable habitat prior to construction.
- 7) The authorized temporary construction trestle shall be elevated a minimum of 2 feet above the normal high water level of the White Oak River as measured from the low chord of the structure.
- 8) Material excavated at the project site may be used in fill areas associated with the project or shall be removed from the site and taken to a high ground location.
- 9) With the exception of any material that is used in fill areas associated with this project, all excavated materials shall be confined landward of normal high water and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids or seepage of effluent into any wetlands or surrounding waters.
- 10) Placement of riprap, rock sills, and oyster structures shall be limited to the areas as indicated on the attached workplan drawings. The structures shall be made of materials that are of a size, strength and/or durability sufficient to prevent movement from the approved alignment by wave or current action. If any portion of the structures becomes dislodged from the approved alignment at any point in the future, the permittee shall immediately contact DCM to determine the appropriate course of action.
- 11) The riprap embankment adjacent to the road shoulders shall be in place prior to any backfilling activities, and it shall be structurally tight so as to prevent seepage of fill materials through the structure.
- 12) All fill material shall be obtained from a high ground source or onsite approved excavation areas and shall be clean and free of any pollutants except in trace quantities. No unconfined backfill shall be discharged into wetlands or waters of the State.
- 13) All construction equipment access shall be through the use of existing high ground areas, temporary construction trestles and two temporary access ramps.

ADDITIONAL CONDITIONS

- 14) Construction staging and stockpile areas shall be located only in upland areas, on the authorized temporary construction trestle, or within the temporary staging area, and not in any wetlands or waters of the State outside of the authorized impact areas.
- 15) The installation of piles for the temporary construction trestle shall be accomplished by pile driving and/or the use of a vibratory hammer. Should the permittee and/or its contractor propose to utilize another type of pile installation, additional authorization from DCM shall be required.
- 16) The permittee shall remove the temporary construction trestle, including piles, and the temporary access ramps, in their entirety within 90 days after they are no longer needed.
- 17) Any voids in wetlands or shallow bottom habitat caused by removal of the temporary construction trestle shall be restored to the elevations of immediately adjacent areas with suitable material, such as any wetland material that is within any hollow pilings after the pilings are removed. The permittee shall notify DCM's Transportation Project Field Representative in Morehead City to provide DCM with an opportunity to inspect the material for suitability prior to its placement.
- 18) All temporary fill within wetlands and waters of the State where no stone currently exists shall be placed on geotextile fabric to facilitate total removal of the temporary fill upon completion of the project.
- 19) Any waste materials or debris associated with construction, demolition, or other activities shall be disposed of at an approved upland site or shall be recycled in an environmentally appropriate manner provided appropriate authorizations from any relevant state, federal, or local authorities are obtained.

Sedimentation and Erosion Control

- 20) Turbidity curtains shall be used where practicable to isolate all in-water work areas from the adjacent waters of the White Oak River, including but not limited to installation and removal of the temporary construction trestle and temporary access ramps, and placement of fill material within or adjacent to wetlands or waters of the State. The turbidity curtains shall be of sufficient length and effectiveness to prevent a visible increase in the amount of suspended sediments in adjacent waters. The turbidity curtains shall be properly maintained and retained in the water until construction is complete. The turbidity curtains shall be removed when turbidity within the curtains reaches ambient levels.
- 21) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and the N.C. Department of Transportation's (NCDOT's) Memorandum of Agreement with the N.C. Division of Energy, Mineral and Land Resources.

Coastal Wetland Planting Areas and Oyster Structures

- 22) In accordance with commitments made by the permittee, approximately 0.24 acres of Estuarine Waters located between the authorized rock sill structures and the authorized roadway embankment shall be planted with Coastal Wetland species as habitat enhancement and on-site mitigation for Coastal Wetland impacts, as depicted on the attached workplan drawings.

ADDITIONAL CONDITIONS

- 23) In accordance with commitments made by the permittee, nine oyster structures that are each approximately 8 feet wide and 82 feet long shall be hand placed immediately waterward of each of the outer sill structures, and they shall be placed without the use of heavy machinery to minimize environmental impacts.
- 24) The marine sand fill material used for the Coastal Wetland planting areas shall be compatible with the immediately surrounding undisturbed, similar wetlands. Prior to its placement, the permittee shall submit information to DCM for review and approval with the source and description of the marine sand fill material and the approximate amount to be used in cubic yards.
- 25) Prior to planting, the permittee shall submit a final planting plan for the authorized Coastal Wetland planting areas in writing to DCM for review and approval. The planting plan shall include a list of proposed species as well as identify different planting zones.

Success Criteria

NOTE: This project will fill approximately 0.95 acres of surface waters, within which there is approximately 0.56 acres that is occupied by sparse patches of SAV, and this project will fill approximately 0.22 acres of Coastal Wetlands.

- 26) The permittee has proposed utilizing the anticipated gain in ecosystem functions from the project as compensatory mitigation for the project's authorized impacts to Coastal Wetlands and SAVs. Therefore, prior to initiating construction, the permittee shall initiate communication with DCM, USACE, DWR, and appropriate resource agencies to ensure that success criteria are approved that will measure the realized gain in ecosystem function.

Monitoring

- 27) The permittee shall monitor the project for a minimum of five years after construction (including planting of the Coastal Wetlands) is complete. Features to be monitored shall include but not necessarily be limited to, the rock sills, oyster structures, coastal wetland planting areas and impacts to submerged aquatic vegetation (SAVs). The permittee shall provide DCM, the U.S. Army Corps of Engineers (USACE), the N.C. Division of Water Resources (DWR) and appropriate resource agencies with an annual monitoring report. If any potential problems are identified, then the annual monitoring report shall include a recommendation for proposed corrective measures. Progress reports shall also be provided upon request.

ADDITIONAL CONDITIONS

- 28) Annual monitoring reports shall include, but not be limited to: a clear description of the study area in relation to the authorized project; detailed workplan drawings depicting the Coastal Wetland planting areas, SAV survey areas and SAV impact areas, photographs, an evaluation of monitoring data, an assessment of whether success criteria are being met, and an assessment of whether the project has caused permanent SAV impacts.
- 29) Annual monitoring reports shall also include a section about the rock sills, including the surrounding area, to verify that the structures are intact, and to document any positive and/or negative impacts. Potential negative impacts could include but not be limited to, post construction scour outside of the rock sills and/or an insufficient amount of hydrologic connectivity and aquatic passage through the openings of the rock sills during normal tide fluctuations.
- 30) Annual monitoring reports shall include reference areas in the waters surrounding the authorized project to assist in determining whether the presence of SAV within the footprint of the constructed living shoreline is due to an episodic “mast year”. The reference areas shall be approved by DCM, USACE, and DWR, in consultation with DMF and other appropriate resource agencies as part of the approved SAV monitoring plan.
- 31) Unless specifically altered herein, the Coastal Wetland planting areas and oyster structures shall be monitored in accordance with the attached NC Coastal Federation Monitoring plan dated as received 7/11/22.
- 32) Unless specifically altered herein, monitoring of impacts to submerged aquatic vegetation (SAV), shall be conducted in accordance with the plan dated May 2022, “North Carolina Department of Transportation NC 24 Causeway Living Shoreline Submerged Aquatic Vegetation (SAV) Mitigation and Monitoring Plan”.
- 33) The permittee’s proposed timing and frequency of SAV surveys requires additional coordination prior to approval. Therefore, prior to the initiation of construction, the permittee shall coordinate with DCM, USACE, DWR, DMF, and other appropriate resource agencies to finalize details for the timing and frequency of annual SAV surveys. Specifically, the permittee may be required to conduct an annual SAV survey during the July/August timeframe which is the peak period of biological productivity and greatest SAV presence.
- 34) The permittee shall conduct an annual meeting with DCM and other appropriate regulatory and resource agencies to discuss and review the annual monitoring reports.
- 35) Monitoring may be discontinued when written concurrence is received from DCM, USACE and DWR that approved success criteria have been met, or when written concurrence is received from DCM, USACE and DWR that suitable off-site compensatory mitigation has been provided. Monitoring for SAVs may cease after two years if it is determined by DCM, USACE, and DWR, in consultation with DMF and other appropriate resource agencies that the presence of SAV within the footprint of the constructed rock sills is due to an episodic “mast year”.

ADDITIONAL CONDITIONS

Compensatory Mitigation for Impacts to Submerged Aquatic Vegetation (SAV) and Coastal Wetlands

- 36) If it is determined that the project has caused permanent SAV impacts, then NCDOT, DCM, USACE, DWR, DMF, and other appropriate resource agencies shall finalize the details of a compensatory mitigation plan for permanent SAV impacts. The SAV compensatory mitigation plan shall include a mitigation ratio that accounts for the consideration of numerous factors, including but not limited to the total amount of permanent SAV impacts, a determination of any SAV recruitment due to the project, the type of compensatory mitigation proposed (in-kind or out-of-kind), and any lapse in habitat function between the time of impact and the time that the compensatory mitigation is anticipated to reach its full function.
- 37) Prior to initiating construction, the permittee shall conduct a wetland delineation to determine the amount of existing Coastal Wetlands currently at the project site and once again after the site has achieved its success criteria. The results of these wetland delineations shall be submitted to DCM for approval to assist in determining the amount of new Coastal Wetlands that are added within the project area.
- 38) While monitoring of the Coastal Wetland planting areas is ongoing, the permittee shall reserve the equivalent of 0.22 acres of successful Coastal Wetland restoration credits at the Stella Bridge Mitigation Site in Carteret and Onslow County as compensatory mitigation for the authorized 0.22 acres of Coastal Wetland impacts. A revised debit ledger that reflects the reserved amount and the balance of mitigation credits shall be provided to DCM prior to the initiation of construction. The reserved credits may be refunded back to the Stella Bridge Mitigation Site when the on-site Coastal Wetland planting areas have achieved the approved success criteria.

General

- 39) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM and/or USACE shall be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM and/or USACE. The permittee shall contact representatives of DCM and USACE prior to commencement of any such activity for this determination and any permit modification.
- 40) The outer limit of the authorized oyster structures shall be marked at 50-foot intervals with yellow reflectors extending at least three feet above normal high water. The reflectors shall be maintained for the life of the structure.
- 41) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative at (252) 515-5408 to request a pre-construction conference prior to project initiation.
- 42) The permittee shall exercise all available precautions in the day-to-day operation of the facility to prevent waste from entering the adjacent wetlands and waters of the State.

ADDITIONAL CONDITIONS

- 43) This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.
- 44) The N.C. Division of Water Resources (DWR) authorized the proposed project on 6/22/22 (DWR Project No. 20210539) under an Individual Water Quality Certification No. 004907. Any violation of the Certification approved by DWR shall be considered a violation of this CAMA permit.
- 45) This permit incorporates all of the conditions contained within the U.S. Army Corps of Engineers (USACE) authorization issued under Regional General Permit Number 198000291 (COE Action ID No. SAW-2020-00406), which was issued on 7/18/22. Any violation of the USACE permit shall be considered a violation of this permit.

NOTE: The permittee is strongly encouraged to conduct a preconstruction meeting at a time and location, and with at least two weeks advanced notice, that will allow all appropriate agencies to attend. Agencies that should be invited include, but are not necessarily limited to, the N.C. Wildlife Resources Commission (WRC), DMF, DCM, DWR, and USACE.

NOTE: Any approved ecosystem function gains generated by the project shall be applied to impacts from the project, and no excess mitigation credit shall be generated.

NOTE: Storage of equipment and materials within the authorized on-site staging and stockpile areas shall be limited to the minimum amount necessary to increase the likelihood that they are able to be removed if a coastal flooding event is forecast to impact the project area.

NOTE: An application processing fee of \$475 was received by DCM for this project. This fee also satisfied the Section 401 application processing fee requirements of the Division of Water Resources.



IN REPLY REFER TO

**DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS**

Washington Regulatory Field Office
2407 West 5th Street
Washington, North Carolina 27889

July 18, 2022

Action ID No. SAW-2020-00406

Ms. Cathy Brittingham
Division of Coastal Management
North Carolina Department of Environmental Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Dear Ms. Brittingham:

Reference the application of the North Carolina Department of Transportation, (NCDOT) for a Department of the Army permit to protect the roadway shoulder/shoreline to construct a living shoreline project, associated with stabilization of the NC-24 causeway between Cape Carteret, Carteret County and the Town of Swansboro, in Onslow County, North Carolina.

The Federal agencies have completed review of the proposal as presented by the application and your field investigation report.

We recommend that the following conditions be included in the State authorization:

A. All work authorized by this permit must be performed in strict compliance with the attached plans dated April 11, 2022, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

B. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal, relocation, or alteration.

C. The Permittee shall install and maintain, at his expense, any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized facilities. It is recommended, at a minimum, the completed structure be equipped with reflective structures on both ends to ensure safe navigation within the vicinity of the structure.

D. The Permittee shall notify the National Ocean Service (NOS) and the Corps, in writing, at least two (2) weeks before beginning work and upon completion of the authorized work. The notification of completion shall include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). This information must be provided within 30 days of completion of the authorized work. Notifications to NOS shall be sent to the following address: 1315 East West Highway, Silver Spring, Maryland 20910.

E. The authorized structure and associated activity must not interfere with the public's right to free navigation on all navigable waters of the United States. No attempt will be made by the Permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work for reasons other than safety.

F. It is possible that the authorized structure may be damaged by wave wash from passing vessels or storm driven erosion and/or over wash. The issuance of this permit does not relieve the Permittee from taking all proper steps to ensure the continued integrity of the permitted structure and the safety of the navigating public. The Permittee will not hold the United States liable for any such damage.

G. Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters or wetlands.

H. The permittee will adhere to the Submerged Aquatic Vegetation (SAV) Monitoring Plan, Version 3, dated May 4, 2022 (attached) with the following modification to the "Section 4 Proposed Mitigation and Monitoring Plan" found on page 9:

-The post construction monitoring period for will be for 5 years (instead of the proposed 2 years) to establish whether the success criteria have been met. The SAV success criteria is outlined in Appendix 1 and 2 attached to the above referenced document.

-Ecosystem functional uplift of oyster recruitment and marsh coverage will be monitored as detailed in the following documents:

-Oysters growing on structure (NC Coastal Federation monitoring methodology) <https://xfer.services.ncdot.gov/pdea/Temp/M-540%20SAV/>

-Marsh habitat gained (NC Coastal Federation monitoring methodology) <https://xfer.services.ncdot.gov/pdea/Temp/M-540%20SAV/>

I. Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

J. All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083, Ext. 526 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

K. If the permittee discovers any previously unknown historic or archeological remains while accomplishing the authorized work, he will immediately notify the Wilmington District Engineer who will initiate the required coordination procedures.

L. The permittee shall advise the Corps in writing at least two weeks prior to beginning

the work authorized by this permit and again upon completion of the work authorized by this permit.

M. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

N. The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of turbidity curtains, silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

O. The activity will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge. Increases such that the turbidity in the waterbody is 50 NTU's or less in all rivers not designated as trout waters by the North Carolina Division of Environmental Management (NCDEM), 25 NTU's or less in all saltwater classes and in all lakes and reservoirs, and 10 NTU's or less in trout waters, are not considered significant.

P. The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

Q. Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

Questions or comments may be addressed to Mr. Thomas Steffens Washington Field Office, Regulatory Division, telephone (910) 251-4615.

Sincerely,

Monte Matthews
Lead Project Manager
US Army Corps of Engineers

E-Copies Furnished:

Ms. Amy Chapman
North Carolina Division of Water Quality, Transportation Unit
North Carolina Department of Environmental Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Mr. Pete Benjamin
U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. Fritz Rhode
National Marine Fisheries Service
Habitat Conservation Service
Pivers Island
Beaufort, North Carolina 28516

Pace Wilber, Ph.D.
South Atlantic and Caribbean Branch Chief
Habitat Conservation Division
NOAA Fisheries Service
331 Ft Johnson Road
Charleston, SC 29412

Mr. Chris Parker
Wetlands Regulatory Section
Water Management Division
U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, Georgia 30303

Mr. Garcy Ward
N.C. Division of Water Resources
North Carolina Department of Environmental Quality
948 Washington Square Mall
Washington, North Carolina 27889

Mr. Greg Daisey
Division of Coastal Management
North Carolina Department of Environmental Quality
401 South Griffin Street, Suite 300
Elizabeth City, North Carolina 27909

DEPARTMENT OF THE ARMY
Wilmington District, Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343
<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

General Permit No. 198000291
Name of Permittee: General Public
Effective Date: January 01, 2022
Expiration Date: December 31, 2026

**DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT (RGP)**

A RGP to do work in or affecting navigable waters of the U.S. and waters of the U.S., upon recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344), is hereby issued by authority of the Secretary of the Army by

District Engineer
U.S. Army Engineer District, Wilmington
Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

TO AUTHORIZE THOSE CONSTRUCTION ACTIVITIES IN THE 20 COASTAL COUNTIES RECEIVING PRIOR APPROVAL FROM THE STATE OF NORTH CAROLINA IN THE FORM OF A COASTAL AREA MANAGEMENT ACT (CAMA) PERMIT, AND/OR A STATE DREDGE AND FILL PERMIT, AND IF REQUIRED, A WATER QUALITY CERTIFICATION, THAT ARE OTHERWISE NOT ELIGIBLE FOR FEDERAL AUTHORIZATION IN THE FORM OF A NATIONWIDE PERMIT OR ANOTHER RGP.

Operating Procedures

a. Applications for joint state and federal authorization under this programmatic RGP will be accepted through the North Carolina Division of Coastal Management (NCDCM). Receipt of a complete application by the NCDCM will initiate the State's field review that will include a site visit and preparation of a Field Investigation Report and a state Bio-Report. The NCDCM will forward a copy of the complete application, its Field Investigation Report, and its Bio-Report, to the appropriate Corps of Engineers field office, thereby initiating federal review of the project. The Corps, upon receipt of an application, will immediately assign an action identification number, acknowledge receipt thereof, and examine the application to assure that it can be processed pursuant to this programmatic RGP. The applicant and the NCDCM will be furnished written notification of the Corps' determination. Notification to the applicant will include a brief description of the administrative process.

- b. For those proposals that may result in a discharge into waters of the U.S., including wetlands, the North Carolina Division of Water Resources (NCDWR) and the applicant will be informed regarding the applicant's need to obtain a Water Quality Certification in accordance with section 401 of the Clean Water Act.
- c. If, at any time, the Corps determines that a proposed activity is eligible for authorization under another regional RGP or a nationwide permit (NWP), this procedure may be terminated and the activity authorized pursuant to the terms and conditions of the appropriate RGP or NWP.
- d. The permit review process conducted by the NCDCM is a public process involving publication of public notices in local newspapers, public hearings, and various public appeal procedures. The Corps may issue a separate public notice for a specific proposal if it is deemed necessary for compliance with appropriate laws, regulation, and guidance.
- e. This RGP does not, in any way, alter established procedures or responsibilities, as required by federal laws, memoranda of agreements (MOA's) or administrative regulations, with respect to the Corps' coordination with appropriate review agencies. The applicant will continue to have the opportunity to rebut any objections to a proposal.
- f. The Corps will provide copies of the application and plans, the NCDCM's Field Investigation Report, and the state Bio-Report, to the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) the U.S. Environmental Protection Agency (EPA), and any other federal agency that the Corps determines to be a necessary review agency (collectively, the "Federal Agencies"). Receipt of this material will initiate the Federal Agencies' review. The Federal Agencies will be allowed sufficient time, normally thirty (30) days, to provide the Corps with their comments and recommendations, including any proposed permit special conditions and recommendations of denial. The Corps may grant extensions of time for Federal Agency review if justified by unusual circumstances. If an extension is granted that would substantially delay an NCDCM decision, the application may be removed from this RGP process.
- g. The Corps will receive and review all Federal Agency comments as well as any applicant rebuttal. Provided all Federal Agencies and the Corps are in agreement, the Corps will prepare a coordinated federal position incorporating all Federal Agency comments, including proposed permit special conditions and any recommendations for denial. The Corps will typically furnish this coordinated federal position to the NCDCM within 45 days of its receipt of the complete application, and copies of the Field Investigation Report and Bio-Report.
- h. If the Corps does not concur with a Federal Agency's comments or recommendations, the Corps will contact the Federal Agency and advise it of the Corps' position. Attempts to resolve the issue may include initiating the referral procedures outlined by current memoranda of agreement (MOA's) between the Department of the Army and the agency. No coordinated federal position will be furnished to the NCDCM until and unless the Corps receives written agreement from the Federal Agency that all issues have been resolved to the satisfaction of that agency.

i. If any of the recommendations and/or conditions included in the coordinated federal position are unacceptable to the NCDCM, the NCDCM will contact the Corps within ten (10) days of receipt of the coordinated federal position and attempt to resolve the conflict. If resolution of the conflict involves changes to the conditions or recommendations provided by the Federal Agencies, the provisions of paragraphs g. and h. (above) will apply. If the conflict is resolved to the satisfaction of the Corps and any affected Federal Agency, the NCDCM permit will be issued and the authority of this RGP will apply.

j. If a Federal Agency conflict is not resolved within the time necessary for a decision by the NCDCM, the NCDCM may proceed, independently, to conclude the state action without inclusion of the federal position. In such case, the applicant and the NCDCM will be notified immediately, in writing, that the state permit does not satisfy the federal permit requirements and that the proposal in question may not proceed without federal authorization.

k. If the coordinated federal position is not in conflict with state agencies' positions, law, regulation, or policy, and is acceptable to the NCDCM, a state permit will be developed by the NCDCM fully incorporating the state and federal positions. The NCDCM will furnish copies of the final permit to the applicant and the Corps. The NCDWR will furnish a copy of the Section 401 Water Quality Certification, if required, to the applicant and the Corps. The Corps will not confirm the authorization of a proposed project under this RGP until the issuance of the NCDCM permit and, if required, the Section 401 Water Quality Certification.

l. If the NCDCM permit or Section 401 Water Quality Certification is denied, the applicant will be informed that federal authorization is denied without prejudice.

m. No work may proceed under this RGP until the Wilmington District Engineer or his representative provides written verification that the procedures and conditions of the RGP have been satisfied.

n. The NCDCM and the Corps will monitor all permitted work and periodically inspect projects for compliance with permit conditions and applicable state and federal regulations. If any violation of the NCDCM permit is discovered which would also constitute a violation of the federal position, both the NCDCM and the Corps, in accordance with their respective regulations and policies, may take enforcement action.

o. This RGP will not be used to authorize an activity when the Wilmington District Engineer determines that the proposed activity would significantly affect the quality of the human environment and therefore require preparation of an Environmental Impact Statement (EIS).

General Conditions

a. Authorized structures located on or adjacent to Federally authorized waterways will be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at

<http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx>. This RGP does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The Permittee must obtain approval from the Corps prior to the construction of any structures within the Federally Authorized Channel Setback.

- b. Except as authorized by this RGP or any Corps approved modification to this RGP, no excavation, fill or mechanized land-clearing activities shall take place, at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.
- c. Authorization under this RGP does not obviate the need to obtain other federal, state, or local authorizations.
- d. All work authorized by this RGP must comply with the terms and conditions of the applicable Clean Water Act Section 401 Water Quality Certification for this RGP issued by the North Carolina Division of Water Resources.
- e. The Permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
- f. The activities authorized by this RGP must not interfere with the public's right to free navigation on all navigable waters of the U.S. No attempt will be made by the Permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work for a reason other than safety.
- g. The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his/her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- h. The Permittee, upon receipt of a notice of revocation of the permit for the verified individual activity, may apply for an individual permit, or will, without expense to the United States and in such time and manner as the Secretary of the Army or his/her authorized representative may direct, restore the affected water of the US to its former conditions.

i. This RGP does not authorize any activity that would conflict with a federal project's congressionally authorized purposes, established limitations or restrictions, or limit an agency's ability to conduct necessary operation and maintenance functions. Per Section 14 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. 408), no project that has the potential to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, or obstruct a federally constructed work or project, including, but not limited to, levees, dams, jetties, navigation channels, borrow areas, dredged material disposal sites, flood control projects, etc., shall be permitted unless the project has been reviewed and approved by the appropriate Corps approval authority.

j. The Permittee shall obtain a Consent to Cross Government Easement from the Wilmington District's Land Use Coordinator prior to any crossing of the Corps easement and/or prior to commencing construction of any structures, authorized dredging, or other work within the right-of-way of, or in proximity to, a federally designated disposal area. The Land Use Coordinator may be contacted at: CESAW-OP-N, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343, email: SAWWeb-NAV@usace.army.mil.

k. The Permittee will allow the Wilmington District Engineer or his/her representative to inspect the authorized activity at any time deemed necessary to assure that the activity is being performed or maintained in strict accordance with the Special and General Conditions of this permit.

l. This RGP does not grant any property rights or exclusive privileges.

m. This RGP does not authorize any injury to the property or rights of others.

n. This RGP does not authorize the interference with any existing or proposed federal project.

o. In issuing this RGP, the Federal Government does not assume any liability for the following:

(1) Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

(2) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

(3) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this RGP.

(4) Design or construction deficiencies associated with the permitted work.

(5) Damage claims associated with any future modification, suspension, or revocation of this RGP.

p. Authorization provided by this RGP may be modified, suspended, or revoked in whole or in part if the Wilmington District Engineer, acting for the Secretary of the Army, determines that such action would be in the best public interest. The term of this RGP shall be five (5) years unless subject to modification, suspension, or revocation. Any modification, suspension or revocation of this authorization will not be the basis for any claim for damages against the United States Government.

q. No activity may occur in a component of the National Wild and Scenic Rivers System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or “study river” (e.g., National Park Service, U.S. Forest Service, etc.)

r. This RGP does not authorize any activity within, or directly affecting, a marine sanctuary established by the Secretary of Commerce under authority of Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, unless the applicant provides the Corps with a certification from the Secretary of Commerce that the proposed activity is consistent with the purposes of Title III of the Marine Protection, Research and Sanctuaries Act. Information on marine sanctuaries may be obtained at <http://sanctuaries.noaa.gov/#MN>. Permittees may not begin work until they provide the Corps with a written certification from the Department of Commerce.

s. In cases where the Wilmington District Engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places and its codified regulations, the National Historic Preservation Amendment Acts of 1980 and 1992, the Abandoned Shipwreck Act of 1987 and the Native American Graves Protection and Repatriation Act, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. Permittees may not begin work until notified by the Corps that the requirements of the NHPA have been satisfied and that the activity is authorized.

t. If you discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the activity authorized by this RGP, you must immediately notify the Wilmington District Engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The Wilmington District Engineer will initiate the Federal, tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

u. Endangered Species.

(1) No activity is authorized under this RGP which is likely to jeopardize the continued existence of a threatened or endangered species directly or indirectly or a species proposed for such

designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under this RGP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(2) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal prospective Permittees (and when FHWA is the lead federal agency) must provide the District Engineer with the appropriate documentation to demonstrate compliance with those requirements. The District Engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the RGP activity, or whether additional ESA consultation is necessary.

(3) As a result of formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) or NMFS, the District Engineer may add species-specific endangered species conditions to the RGP verification letter for a project.

(4) Authorization of an activity by a RGP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, the ESA prohibits any person subject to the jurisdiction of the U.S. to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

(5) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the USFWS in Raleigh, North Carolina at the address provided below, or from the USFWS and NMFS via their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

The Raleigh USFWS Office covers all NC counties east of, and including, Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

US Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

(6) The Wilmington District, USFWS, NCDOT, and the FHWA have conducted programmatic Section 7(a)(2) consultation for a number of federally listed species and habitat, and programmatic consultation concerning other federally listed species and/or habitat may occur in the future. The result of completed programmatic consultation is a Programmatic Biological Opinion (PBO) issued by the USFWS. These PBOs contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" of

whichever species or critical habitat is covered by a specific PBO. Authorization under this RGP is conditional upon the Permittee's compliance with all the mandatory terms and conditions associated with incidental take of the applicable PBO (or PBOs), which are incorporated by reference in this RGP. Failure to comply with the terms and conditions associated with incidental take of an applicable PBO, where a take of the federally listed species occurs, would constitute an unauthorized take by the Permittee, and would also constitute Permittee non-compliance with the authorization under this RGP. If the terms and conditions of a specific PBO (or PBOs) apply to a project, the Corps will include this/these requirements in any RGP verification that may be issued for a project. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO, and with the ESA.

(7) Northern long-eared bat (NLEB) (*Myotis septentrionalis*). Standard Local Operating Procedures for Endangered Species (SLOPES) for the NLEB have been approved by the Corps and the U.S. Fish and Wildlife Service. See

<http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>. This SLOPES details how the Corps will make determinations of effect to the NLEB when the Corps is the lead federal agency for an NCDOT project that is located in the western 41 counties of North Carolina. This SLOPES do not address NCDOT projects (either federal or state funded) in the eastern 59 counties in North Carolina. Note that if another federal agency is the lead federal agency for a project in the western 41 counties, procedures for satisfying the requirements of Section 7(a)(2) of the ESA will be dictated by that agency and will not be applicable for consideration under the SLOPES; however, information that demonstrates the lead federal agency's (if other than the Corps) compliance with Section 7(a)(2) / 4(d) Rule for the NLEB, will be required in the PCN. Note that at the time of issuance of this RGP, the federal listing status of the NLEB as "Threatened" is being litigated at the National level. If, as a result of litigation, the NLEB is federally listed as "Endangered", this general condition ("s") will no longer be applicable because the 4(d) Rule, and this NLEB SLOPES, will no longer apply/be valid.

(8) In order to further protect the endangered West Indian Manatee, *Trichechus manatus*, the applicant must implement the U.S. Fish and Wildlife Service's Manatee Guidelines, and strictly adhere to all requirements therein. The guidelines can be found at
<https://www.fws.gov/raleigh/pdfs/ManateeGuidelines2017.pdf>

(9) If the Permittee discovers or observes any live, damaged, injured, or dead individual of an endangered or threatened species during construction, the Permittee shall immediately notify the Wilmington District Engineer so that required coordination can be initiated with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

v. Permittees are advised that development activities in or near a floodway may be subject to the National Flood Insurance Program that prohibits any development, including fill, within a floodway that results in any increase in base flood elevations. This RGP does not authorize any activity prohibited by the National Flood Insurance Program.

w. The Permittee must install and maintain, at his/her expense, any signal lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized

facilities. For further information, the Permittee should contact Coast Guard Sector North Carolina at (910) 772-2191 or email Coast Guard Fifth District at cgd5waterways@uscg.mil.

x. If the display of lights and signals on the authorized structure is not otherwise provided for by law, such lights and signals as may be prescribed by the U.S. Coast Guard will be installed and maintained by and at the expense of the Permittee.

y. It is possible that an authorized structure may be damaged by wave wash from passing vessels. The issuance of this RGP does not relieve the Permittee from taking all proper steps to ensure the integrity of the permitted structure and the safety of moored boats. The Permittee will not hold the United States liable for any such damage.

z. Structures and their attendant utilities, authorized by this RGP, located on lands subject to an easement in favor of the United States for the operation, maintenance, improvement, and enlargement of the Atlantic Intracoastal Waterway (AIWW), will be removed at the expense of the Permittee, in the event that, in the judgment of the Corps acting on behalf of the United States, the lands are needed at any time for any purpose within the scope of the easement. Permanent buildings will not be constructed within the easement.

aa. The Permittee must maintain any structure or work authorized by this RGP in good condition and in conformance with the terms and conditions of this RGP. The Permittee is not relieved of this requirement if the Permittee abandons the structure or work. Transfer in fee simple of the work authorized by this RGP will automatically transfer this RGP to the property's new owner, with all of the rights and responsibilities enumerated herein. The Permittee must inform any subsequent owner of all activities undertaken under the authority of this RGP and provide the subsequent owner with a copy of the terms and conditions of this RGP.

bb. At his/her sole discretion, any time during the processing cycle, the Wilmington District Engineer may determine that this RGP will not be applicable to a specific proposal. In such case, the procedures for processing an individual permit in accordance with 33 CFR 325 will be available.

cc. Except as authorized by this RGP or any Corps approved modification to this RGP, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities.

dd. Except as authorized by this RGP or any Corps approved modification to this RGP, all excavated material will be disposed of in approved upland disposal areas.

ee. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon this RGP will remain authorized provided the activity is completed within twelve months of the date of the RGP's expiration, modification, or revocation. Activities completed under the authorization of this RGP that were in effect at the time the activity was completed continue to be authorized by the RGP.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:



Benjamin A. Bennett
Colonel, U.S. Army
District Commander



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE

Precautionary Measures for Construction Activities in North Carolina Waters

The West Indian manatee (*Trichechus manatus*), also known as the Florida manatee, is a Federally-listed endangered aquatic mammal protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (16 U.S.C 1461 *et seq.*). The manatee is also listed as endangered under the North Carolina Endangered Species Act of 1987 (Article 25 of Chapter 113 of the General Statutes). The U.S. Fish and Wildlife Service (Service) is the lead Federal agency responsible for the protection and recovery of the West Indian manatee under the provisions of the Endangered Species Act.

Adult manatees average 10 feet long and weigh about 2,200 pounds, although some individuals have been recorded at lengths greater than 13 feet and weighing as much as 3,500 pounds. Manatees are commonly found in fresh, brackish, or marine water habitats, including shallow coastal bays, lagoons, estuaries, and inland rivers of varying salinity extremes. Manatees spend much of their time underwater or partly submerged, making them difficult to detect even in shallow water. While the manatee's principal stronghold in the United States is Florida, the species is considered a seasonal inhabitant of North Carolina with most occurrences reported from June through October.

To protect manatees in North Carolina, the Service's Raleigh Field Office has prepared precautionary measures for general construction activities in waters used by the species. Implementation of these measures will allow in-water projects which do not require blasting to proceed without adverse impacts to manatees. In addition, inclusion of these guidelines as conservation measures in a Biological Assessment or Biological Evaluation, or as part of the determination of impacts on the manatee in an environmental document prepared pursuant to the National Environmental Policy Act, will expedite the Service's review of the document for the fulfillment of requirements under Section 7 of the Endangered Species Act. These measures include:

- 1 The project manager and/or contractor will inform all personnel associated with the project that manatees may be present in the project area, and the need to avoid any harm to these endangered mammals. The project manager will ensure that all construction personnel know the general appearance of the species and their habit of moving about completely or partially submerged in shallow water. All construction personnel will be informed that they are responsible for observing water-related activities for the presence of manatees.
2. The project manager and/or the contractor will advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act and the Endangered Species Act.

3. If a manatee is seen within 100 yards of the active construction and/or dredging operation or vessel movement, all appropriate precautions will be implemented to ensure protection of the manatee. These precautions will include the immediate shutdown of moving equipment if a manatee comes within 50 feet of the operational area of the equipment. Activities will not resume until the manatee has departed the project area on its own volition (i.e., it may not be herded or harassed from the area).

4. Any collision with and/or injury to a manatee will be reported immediately. The report must be made to the U.S. Fish and Wildlife Service (ph. 919-856-4520), the National Marine Fisheries Service (ph. 252-728-8762), and the North Carolina Wildlife Resources Commission (ph. 252-448-1546).

5. A sign will be posted in all vessels associated with the project where it is clearly visible to the vessel operator. The sign should state:

CAUTION: The endangered manatee may occur in these waters during the warmer months, primarily from June through October. Idle speed is required if operating this vessel in shallow water during these months. All equipment must be shut down if a manatee comes within 50 feet of the vessel or operating equipment. A collision with and/or injury to the manatee must be reported immediately to the U.S. Fish and Wildlife Service (919-856-4520), the National Marine Fisheries Service (252-728-8762), and the North Carolina Wildlife Resources Commission (252-448-1546).

6. The contractor will maintain a log detailing sightings, collisions, and/or injuries to manatees during project activities. Upon completion of the action, the project manager will prepare a report which summarizes all information on manatees encountered and submit the report to the Service's Raleigh Field Office.

7. All vessels associated with the construction project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8. If siltation barriers must be placed in shallow water, these barriers will be: (a) made of material in which manatees cannot become entangled; (b) secured in a manner that they cannot break free and entangle manatees; and, (c) regularly monitored to ensure that manatees have not become entangled. Barriers will be placed in a manner to allow manatees entry to or exit from essential habitat.

Prepared by (rev. 02/2017):
U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
919/856-4520

Figure 1. The whole body of the West Indian manatee may be visible in clear water; but in the dark and muddy waters of coastal North Carolina, one normally sees only a small part of the head when the manatee raises its nose to breathe.

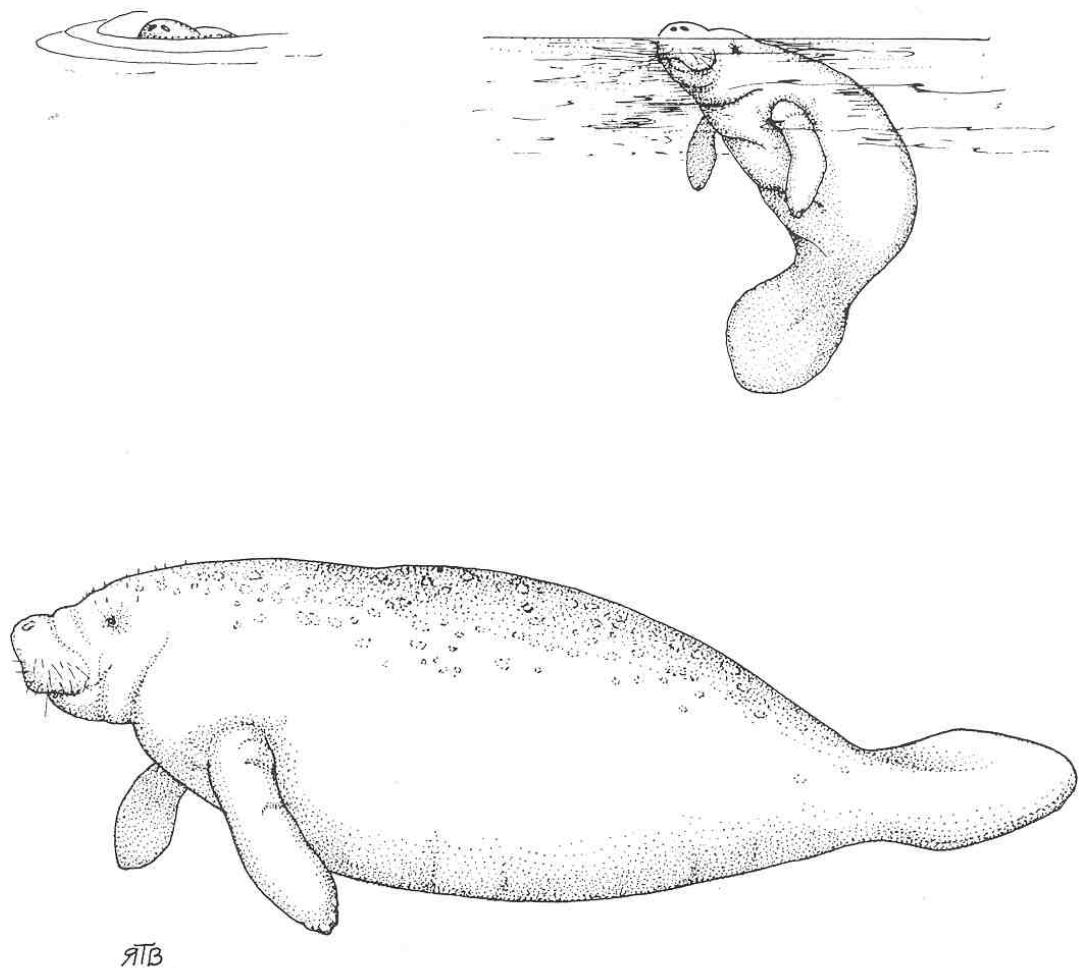


Illustration used with the permission of the North Carolina State Museum of Natural Sciences.

Source: Clark, M. K. 1987. Endangered, Threatened, and Rare Fauna of North Carolina: Part I. A re-evaluation of the mammals. Occasional Papers of the North Carolina Biological Survey 1987-3. North Carolina State Museum of Natural Sciences. Raleigh, NC. pp. 52.



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director

June 22, 2022

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act ADDITIONAL CONDITIONS for proposed NC 24 Resiliency and Living Shoreline Project in Onslow County, TIP M-0540A.
NCDWR Project No. 20210539

Dear Mr. Harris:

Attached hereto is a copy of Certification No. 004907 issued to The North Carolina Department of Transportation (NCDOT) dated June 22, 2022.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Amy Chapman

9C9886312DCD474...

Richard E. Rogers, Jr., Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Tom Steffens, US Army Corps of Engineers, Wilmington Field Office
Chris Rivenbark, NC Department of Transportation
Jason Dilday, NC Department of Transportation
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
James A Harrison, NC Division of Marine Fisheries
Steven Lane, NC Division of Coastal Management
Cathy Brittingham, NC Division of Coastal Management
Hannah Sprinkle, NC Division of Water Resources Wilmington Regional Office
File Copy



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 0.22 acres of jurisdictional wetlands and 0.95 acres of open waters in Onslow County. The project shall be constructed pursuant to the application dated received January 28, 2022. The authorized impacts are as described below:

Wetland Impacts in the White Oak River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
3	0.22*	---	---	---	---	0.22*

Total Wetland Impact for Project: 0.22 acres. *Impacts to Coastal Marsh

Open Water Impacts in the White Oak River Basin

Site	Type	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
3	Rock Sill	0.37	---	0.37
3	Oyster Structure	0.10	---	0.10
3	Fill	0.48	---	0.48
Total		0.95	---	0.95

Total Open Water Impact for Project: 95 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the White Oak River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received January 28, 2022. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed 0.10 acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

Project Specific Conditions

1. The impacts covered in this Individual Certification are associated with the Regional General Permit 291 issued by the Corps of Engineers.
2. If project is deemed unsuccessful, compensatory mitigation for impacts to 0.22 acres of coastal marsh has been reserved from the Stella Bridge Mitigation Site.
3. For living shorelines, the sills shall have at least one eight-foot opening every 100 feet and may be staggered or overlapped or left open as long as the separation between sections is maintained. Overlapping sections shall not overlap more than 10 feet. [15A NCAC 02H .0506(b)(4) and (c)(4)]
4. For living shorelines, the permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation and turbidity within waters and wetlands outside the permitted area. This shall include, but is not limited to, the immediate installation of silt fencing, turbidity curtains or similar appropriate devices around all areas subject to soil disturbance. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act and the Mining Act of 1971. [15A NCAC 02H .0506(b)(4) and (c)(4)]
5. All backfill will consist of suitable, clean material free of any pollutants except in trace quantities. Metal products, organic materials, rock, concrete, bricks, or other non-earthen debris shall not be used. [15A NCAC 02H .0506-(b)(1)-(3)]
6. Approximately six (6) months after the installation of rock sill structure in waters, streams, and/or wetlands the structure shall be inspected for erosional areas, headcutting, shifts or movement of rocks within sill structure, etc. Eighteen (18) months after installation another visual inspection shall be conducted. Written notification is required after these inspections; any problems found during inspections shall be documented and the appropriate DWR Wilmington Regional Office staff member contacted to arrange a field visit. The permittees (property owners) shall consult with the Regional DWR staff member to determine if a permit modification is needed to correct the problem. The property owner and/or owners shall assume responsibility of repairs and maintenance of rock sill structure. [15A NCAC 02H .0501 and .0502 and 15A NCAC 02H .0506 (b)(1)-(3)]
7. The permittee shall undertake compliance monitoring for five (5) full years from the date of implementation or until the success criteria have been met, whichever is later. The permittee shall provide monitoring reports to the DWR by December 31 of each monitoring year. [15A NCAC 02H .0507(c)]
8. If monitoring indicates that all or portions of the project are failing to meet one or more of the required success criteria, the monitoring report must provide a remedial action plan to address the deficiency. The remedial action plan, at a minimum, must describe the failure, the source or reason for the failure, a concise description of the corrective measures that are proposed, and a timeframe for the implementation of the corrective measures. [15A NCAC 02H .0507(c)]
9. If initial planting efforts fail and the project area must be replanted, the vegetative monitoring timeframe is reset to year one. [15A NCAC 02H .0507(c)]
10. At the end of the 5th year of monitoring, the permittee shall notify the DWR in writing. If it is determined that the project is failing, the permittee shall be given the opportunity to express their intentions in writing regarding the future of the project. Should the permittee no longer wish to maintain the project pursuant to

the marsh restoration/creation plan, at the permittee's expense, all construction materials and backfill shall be removed for placement on approved upland disposal site. Pre-project elevations and contours shall be restored to the affected area(s). [15A NCAC 02H .0507(c)]

11. SAVs have been determined to be present within the project area. The applicant shall avoid impacts to SAVs wherever possible. [15A NCAC 07H .0208(b)-(a)(6)]
12. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506(b)(2) and 15A NCAC 04B .0125]
13. For projects impacting waters classified by the NC Environmental Management Commission as Trout (Tr), High Quality Waters (HQW), or Water Supply I or II (WSI, WSII) stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. Mowing of existing vegetated buffers is strongly discouraged. [15A NCAC 02B.0224 and 0225]
14. NCDOT shall be in compliance with the NCS000250 issued to the NCDOT, including the applicable requirements of the NCG010000. Please note the extra protections for the sensitive watersheds.

General Conditions

15. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
17. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
18. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
19. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]
20. Fueling, lubrication and general equipment maintenance should not take place within 50 feet of a waterbody or wetlands to prevent contamination by fuel and oils. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0200 (3)(f)].
21. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]

22. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance and compaction. *[15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .023]*
23. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. *[15A NCAC 02H.0506(b)(3) and (c)(3)]*
24. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards *[15A NCAC 02H.0506(b)(3) and (c)(3)]*:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
25. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watershed*. *[15A NCAC 02H.0506(b)(3) and (c)(3); GC 4135]*
26. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. *[15A NCAC 02B.0200]*
27. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. *[15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]*
28. The NCDOT will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the permit conditions and any potential issues at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. *[15A NCAC 02H.0506(b)(2) and (b)(3)]*
29. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. *[15A NCAC 02H.0502(f)]*

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made

conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.

The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 22nd day of June 2022

DIVISION OF WATER RESOURCES

DocuSigned by:

Amy Chapman

9C9886312DCD474...

Richard E. Rogers, Jr., Director

WQC No. 004907

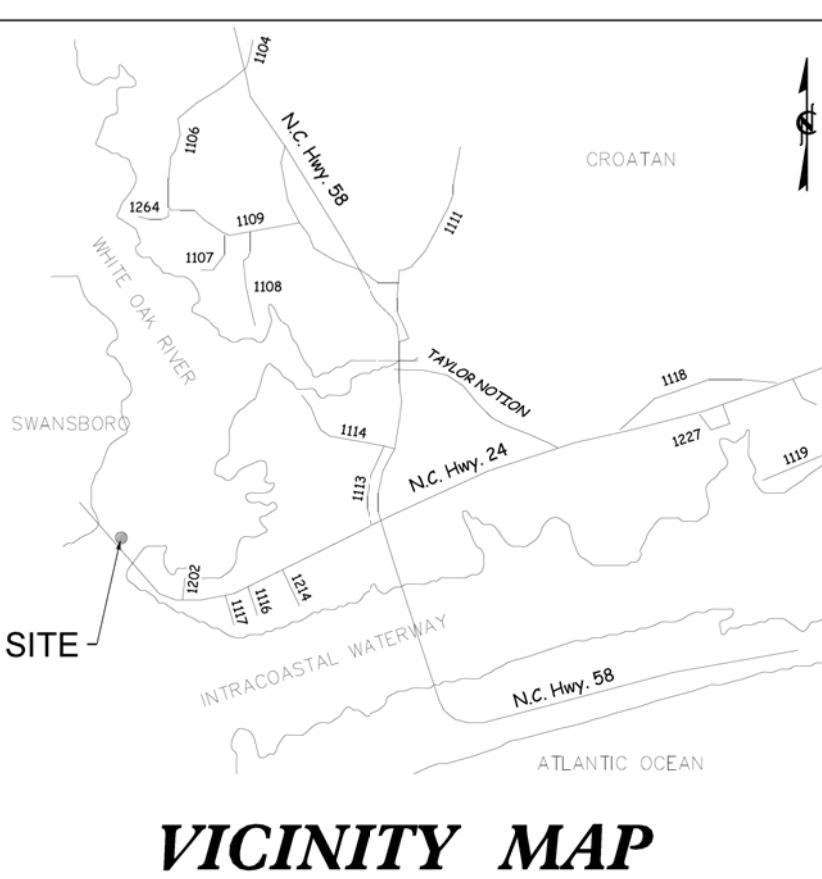
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLANS FOR NC-24 RESILIENCY AND LIVING SHORELINES ONslow COUNTY

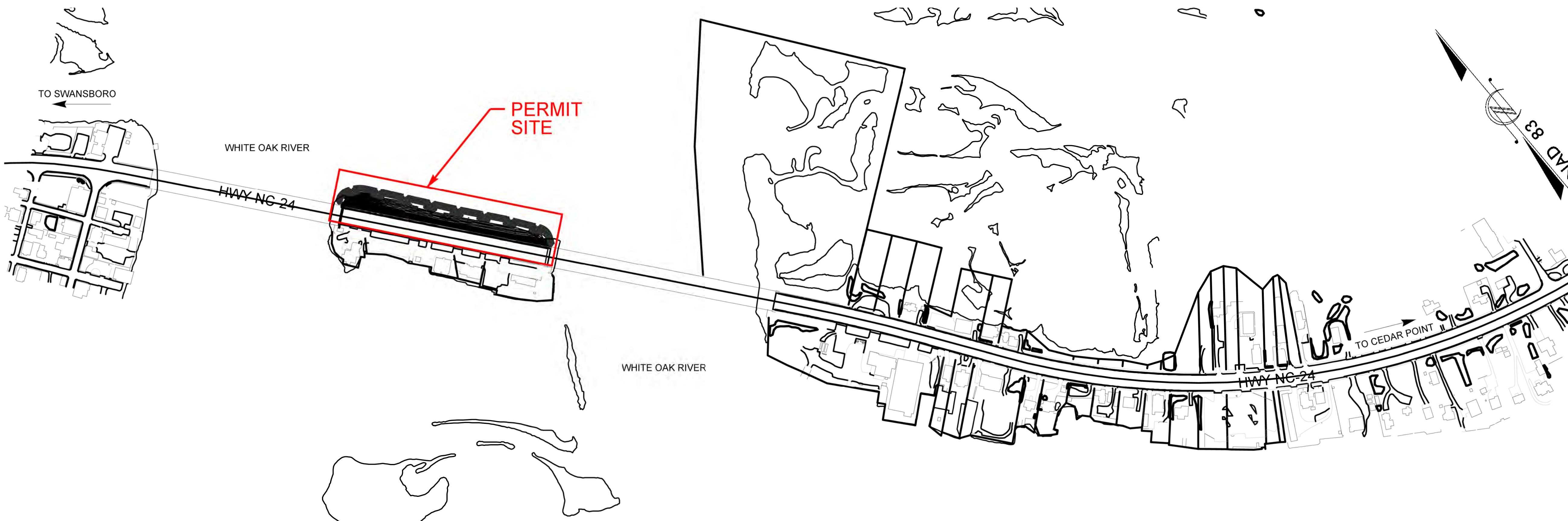
***LOCATION: NC-24 CAUSEWAY BETWEEN THE SWANSBORO BRIDGES
AND CEDAR POINT***

TYPE OF WORK: SHORELINE STABILIZATION, ENVIRONMENTAL RESILIENCY

PERMIT DRAWING SHEET 1 OF 18

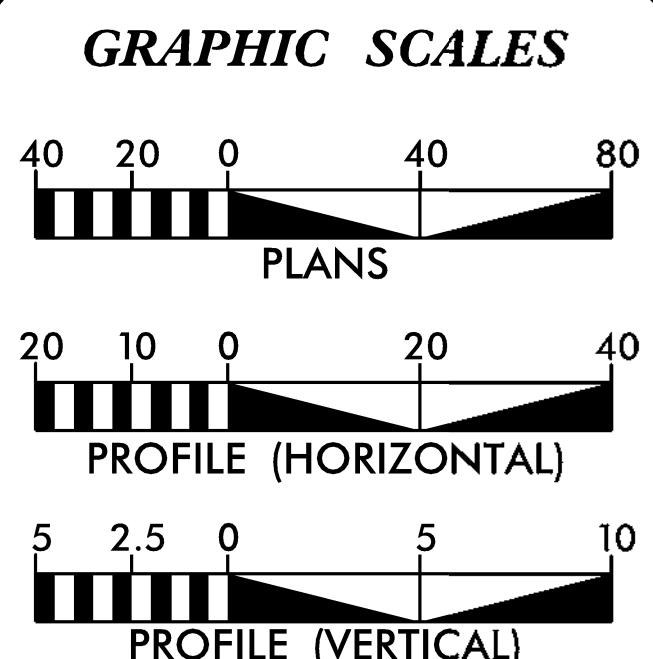


VICINITY MAP



**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION**

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE**



DESIGN DATA

PROJECT LENGTH

CAUSEWAY SITE ±830 LF

± 830 LF



Prepared in the Office of:
SWCA®
SWCA Environmental Cons
201 Chatham Street, Suite 3
Sanford, NC 27330
(p) 919 292 2200

ENVIRONMENTAL CONSULTANT

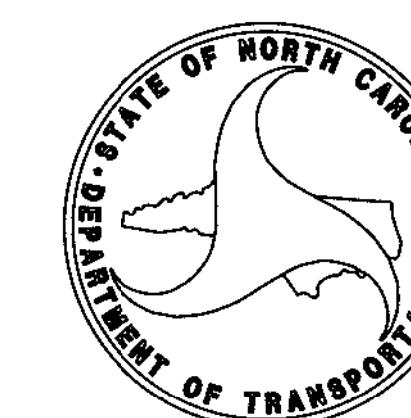
RIGHT OF WAY DATE

LETTING DATE:
XX/XX/XXXX

PROJECT ENGINEER

P.J.

Prepared for:



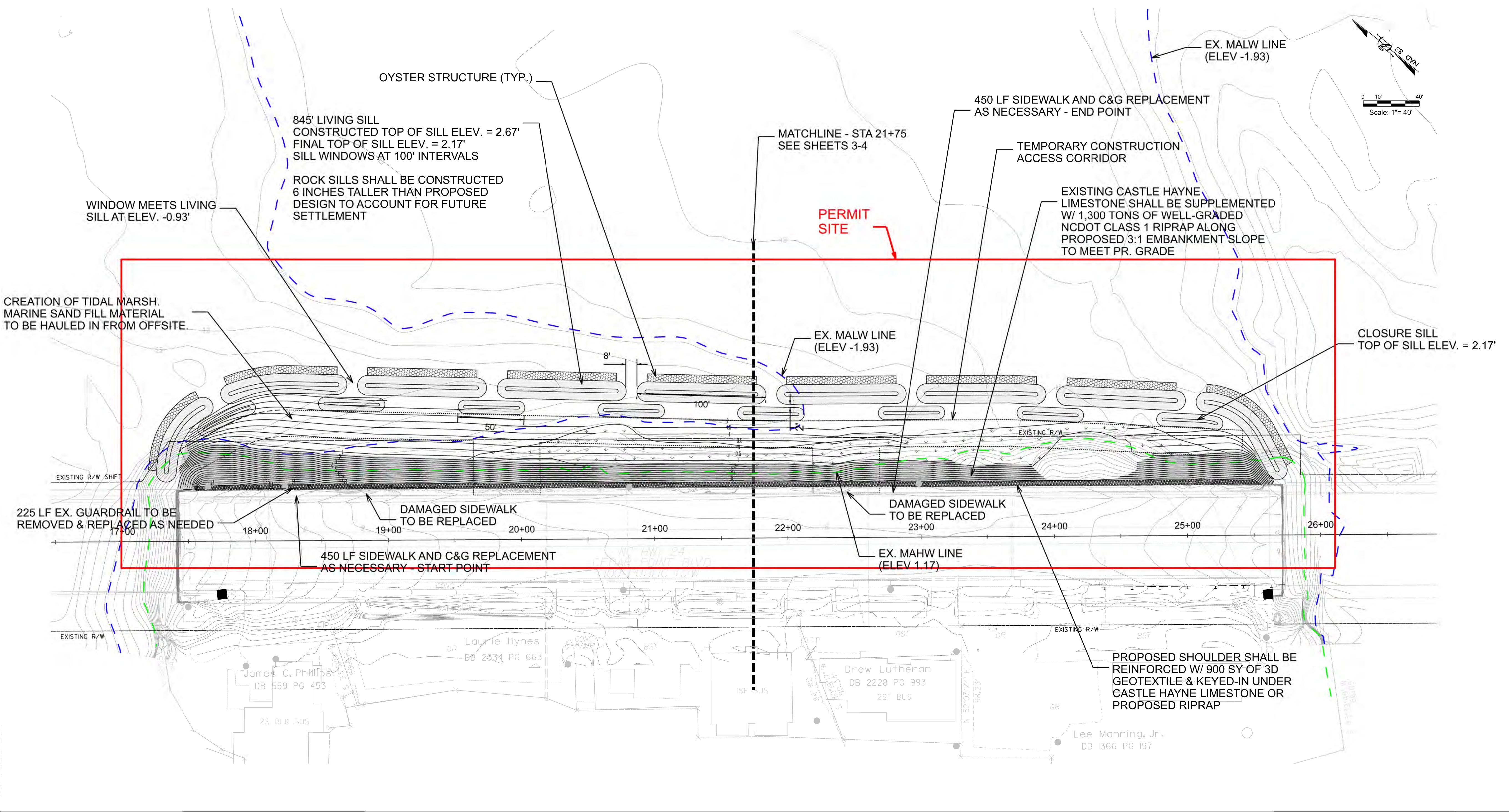
<div[](https://www.w3schools.com/html/legend_ex1.asp)

-  PROPOSED SILL
-  PROPOSED OYSTER STRUCTURE
-  PROPOSED RIPRAP
-  PROPOSED GEOTEXTILE
-  EXISTING MARSH

OVERALL SITE PLAN

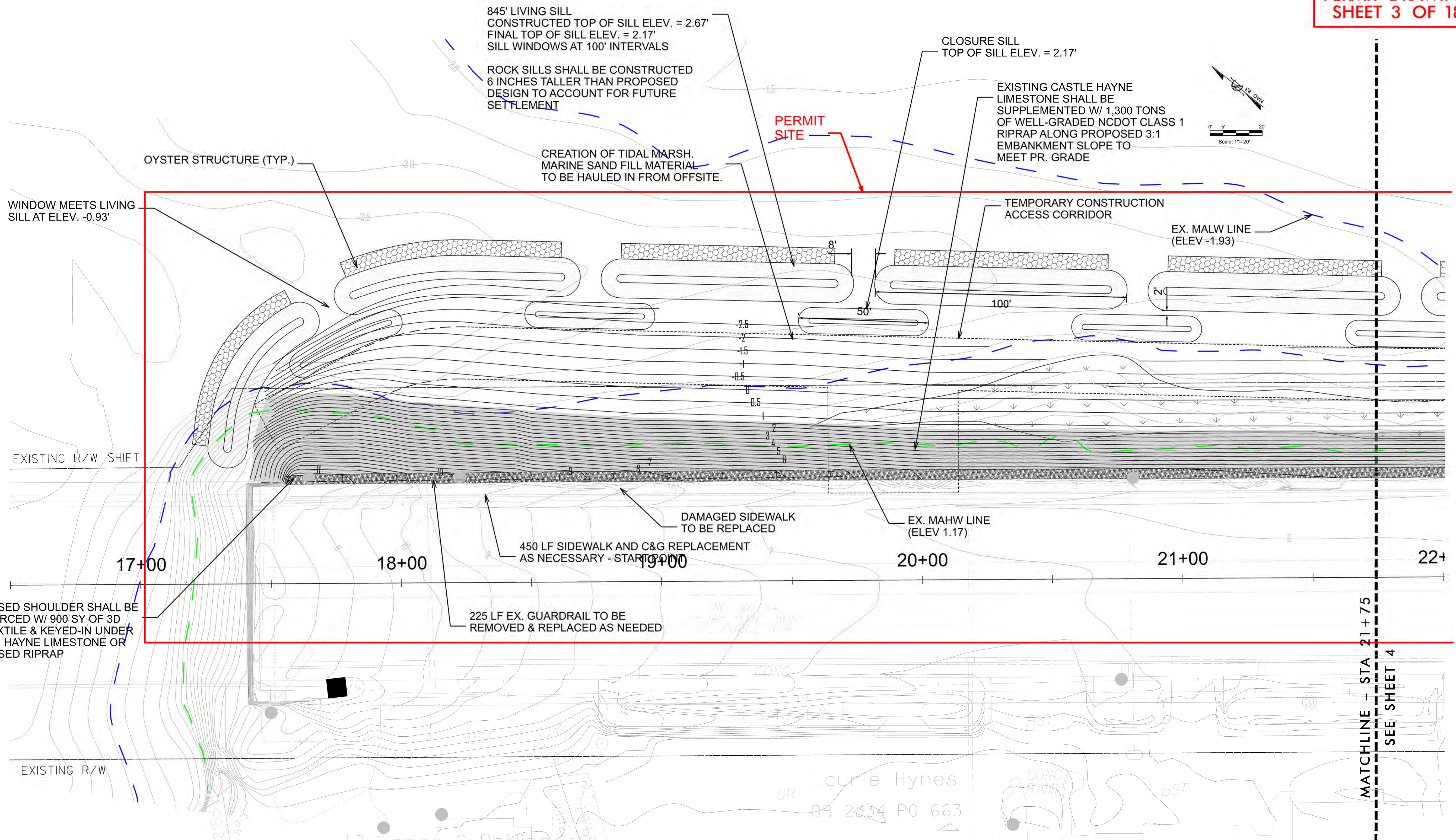
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UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING
SHEET 2 OF 18**



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

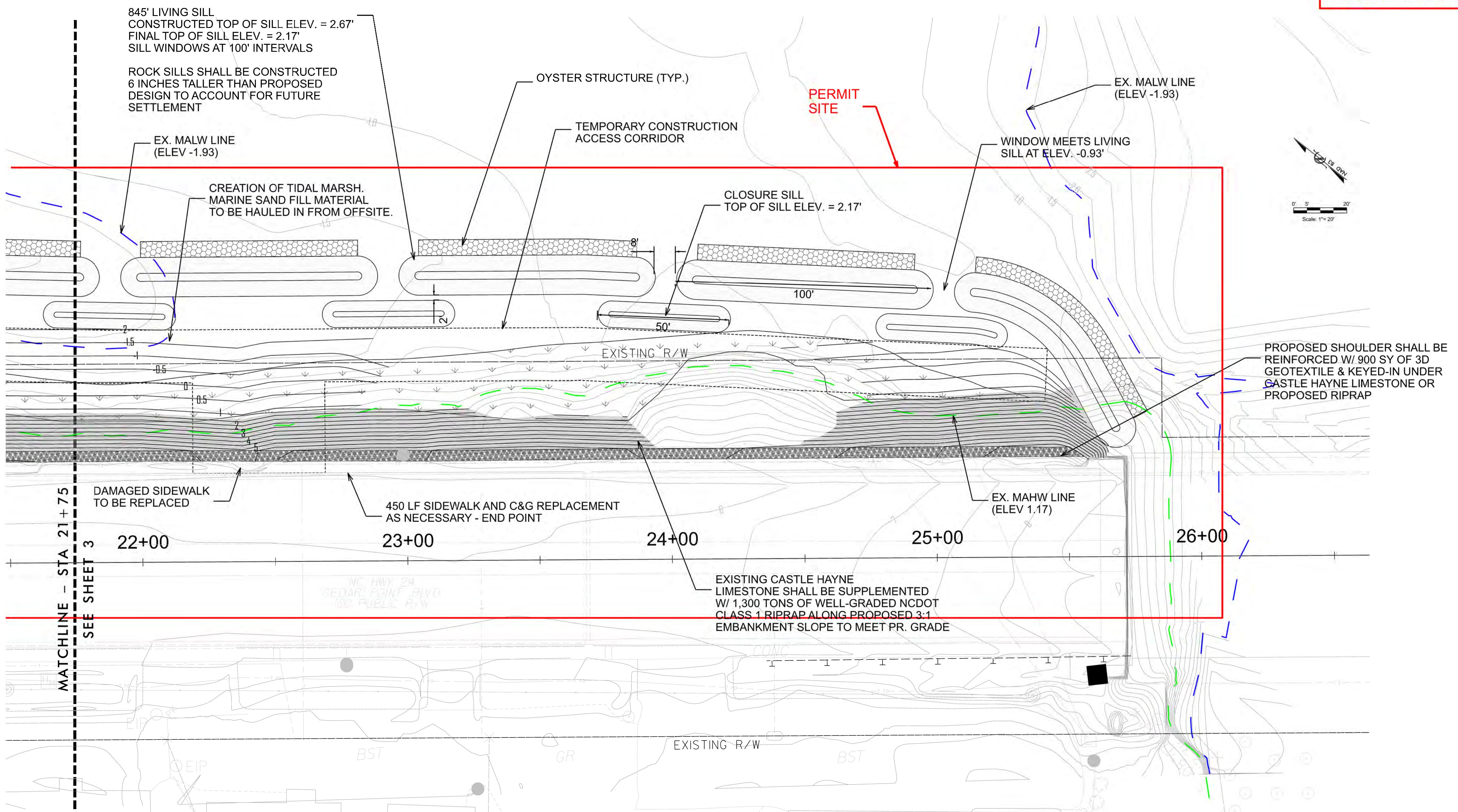
**PERMIT DRAWING
SHEET 3 OF 18**



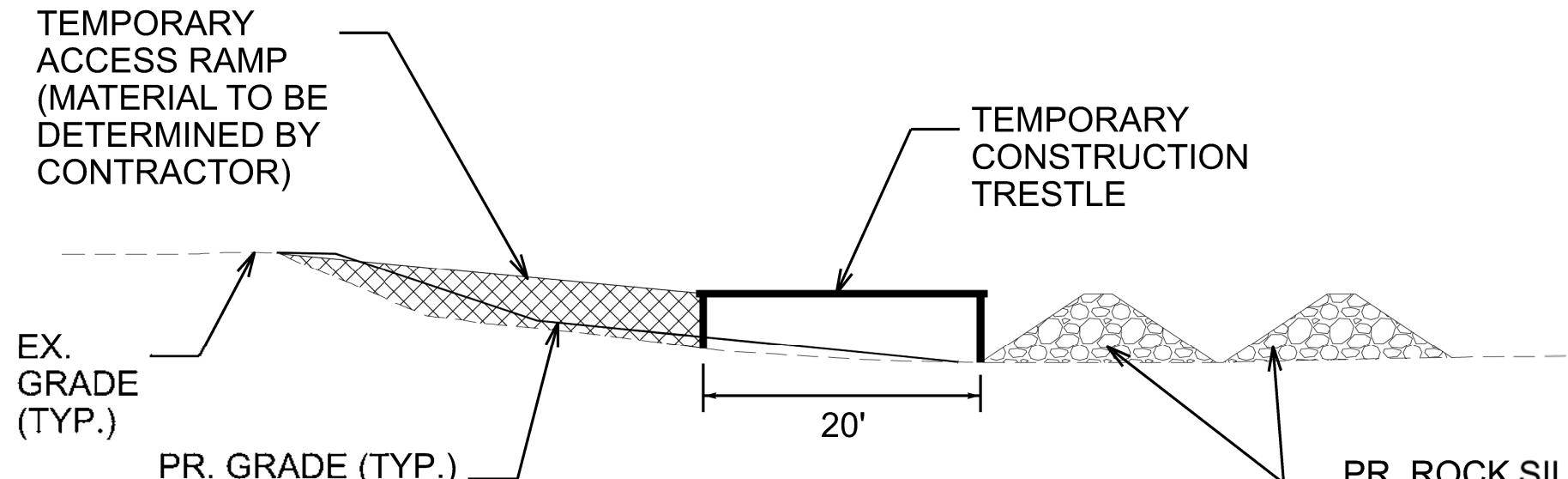
PROJECT REFERENCE NO.	SHEET NO.
M-0540A	6
PROJECT ENGINEER	APPROVED

SITE PLAN
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UNLESS ALL SIGNATURES COMPLETEDPERMIT DRAWING
SHEET 4 OF 18

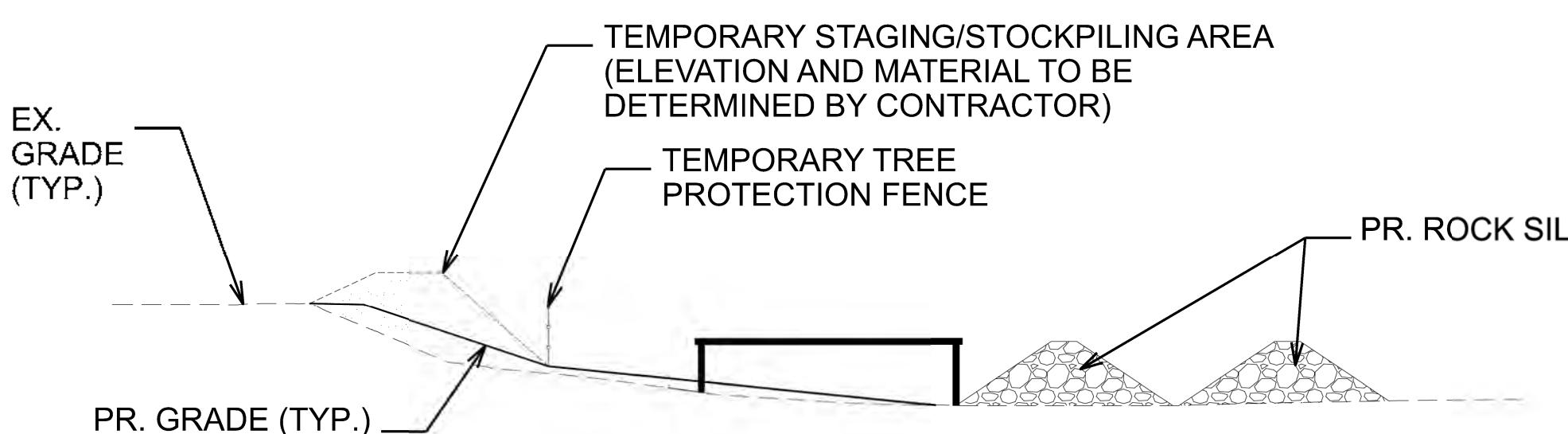
PROPOSED SILL
PROPOSED OYSTER STRUCTURE
PROPOSED RIPRAP
PROPOSED GEOTEXTILE
EXISTING MARSH



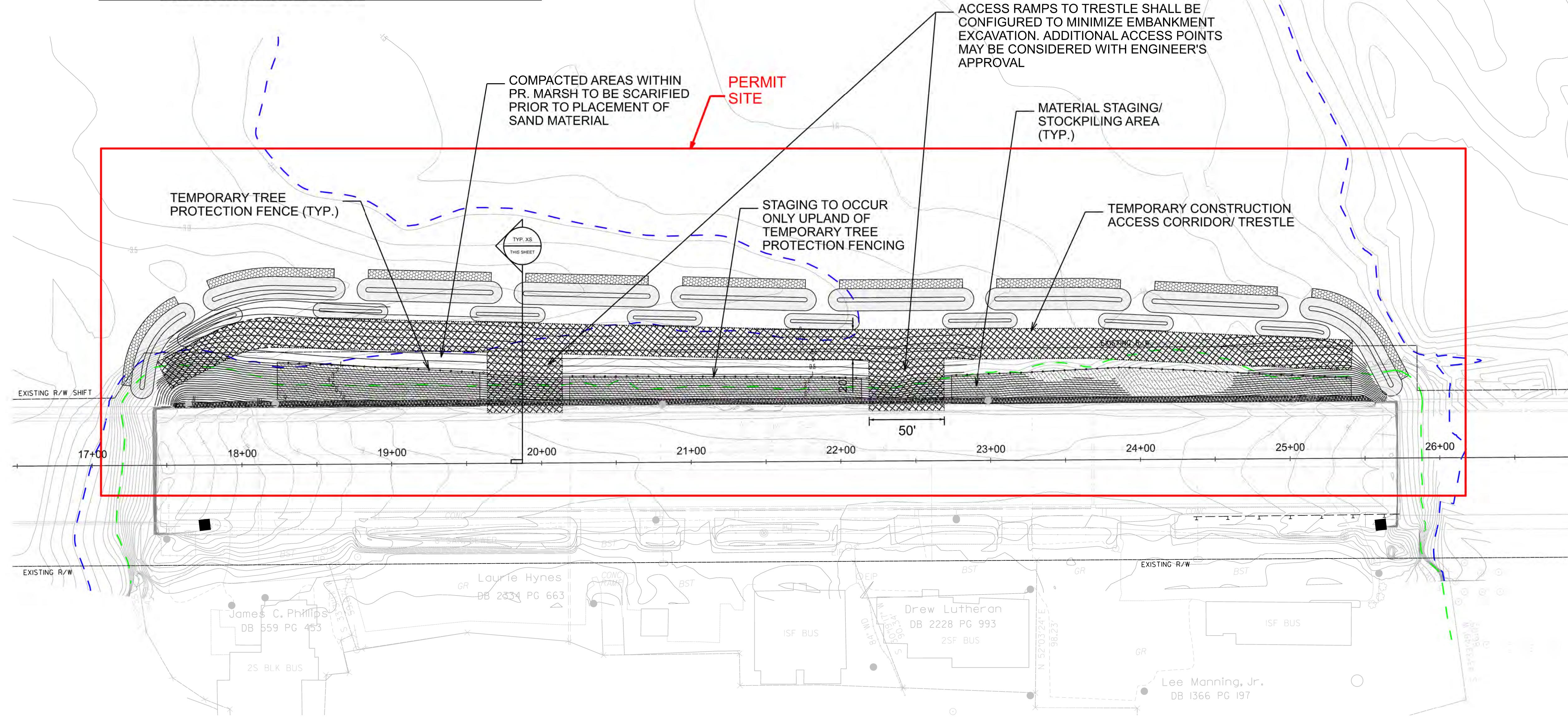
5/14/99



TYPICAL CONSTRUCTION ACCESS CROSS SECTION



TYPICAL STAGING/STOCKPILING AREA CROSS SECTION



RED - Documents\NC0001_NC24\Current Drawings\dgn\Permit\Site 3\M540A_HYD_PSH.dgn
User:Kelli.Gott

SWCA[®]
ENVIRONMENTAL CONSULTANTS
WCA Environmental Consulting & Engineering, Inc.
319 Robert D. Snyder Rd, Suite 436
Charlotte, NC 28223
(704) 919.292.2200
www.swca.com

**CONSTRUCTION
ACCESS PLAN**

PROJECT REFERENCE NO.	SHEET NO.
<i>M-0540A</i>	<i>7</i>
PROJECT ENGINEER	<hr/> <hr/>
	APPROVED
	<hr/> <hr/>
	DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING
SHEET 5 OF 18**

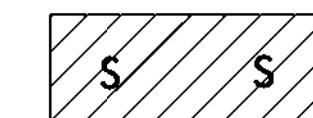
CONSTRUCTION ACCESS PLAN

5/14/99

LEGEND



**DENOTES FILL IN
WETLAND**



DENOTES IMPACTS IN SURFACE WATER

VCA
ENTAL CONSULTANT

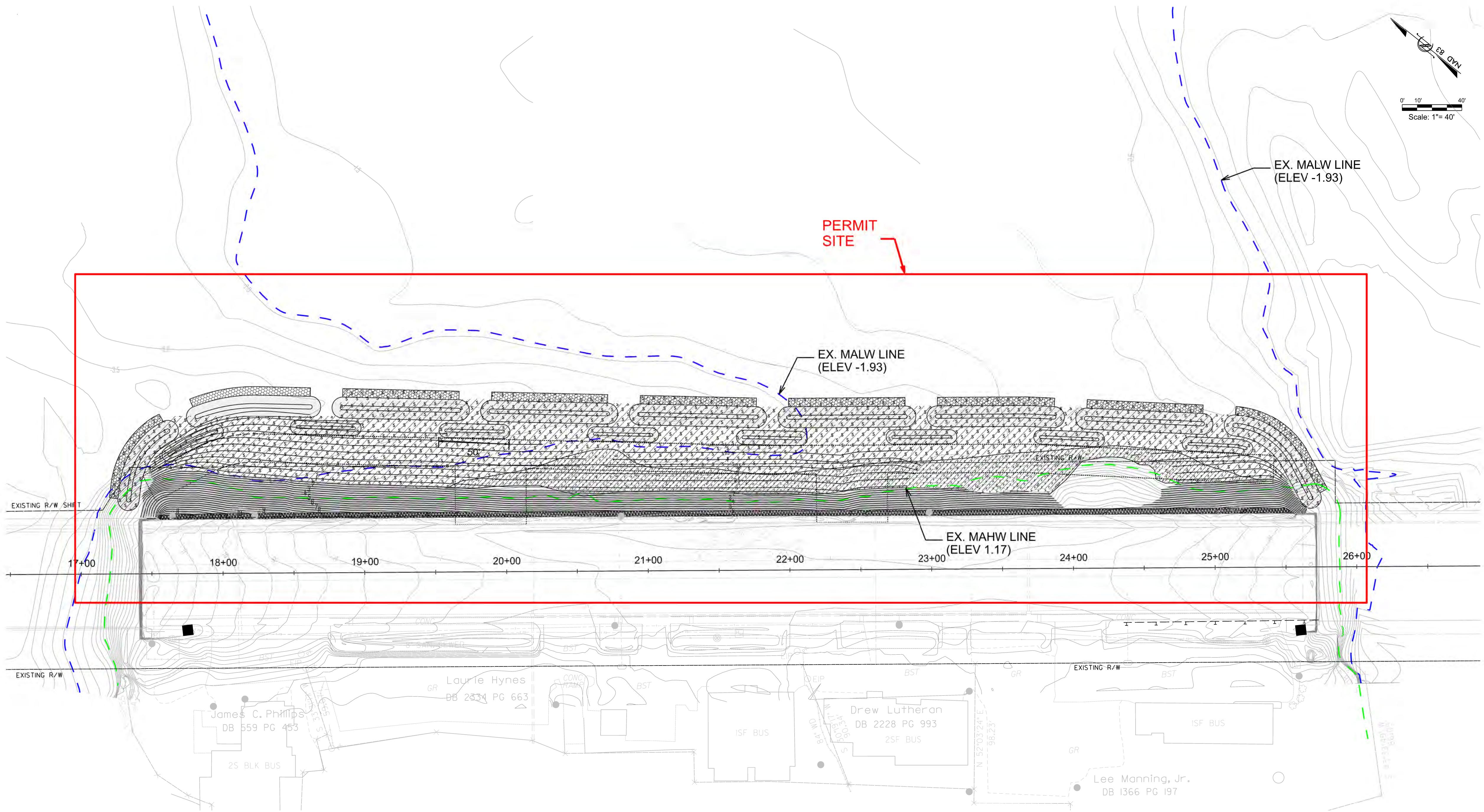
ENVIRONMENTAL CONSULTANTS
SWCA Environmental Consulting & Engineering, Inc.
9319 Robert D. Snyder Rd, Suite 436
Charlotte, NC 28223
(p) 919.292.2200
www.swca.com

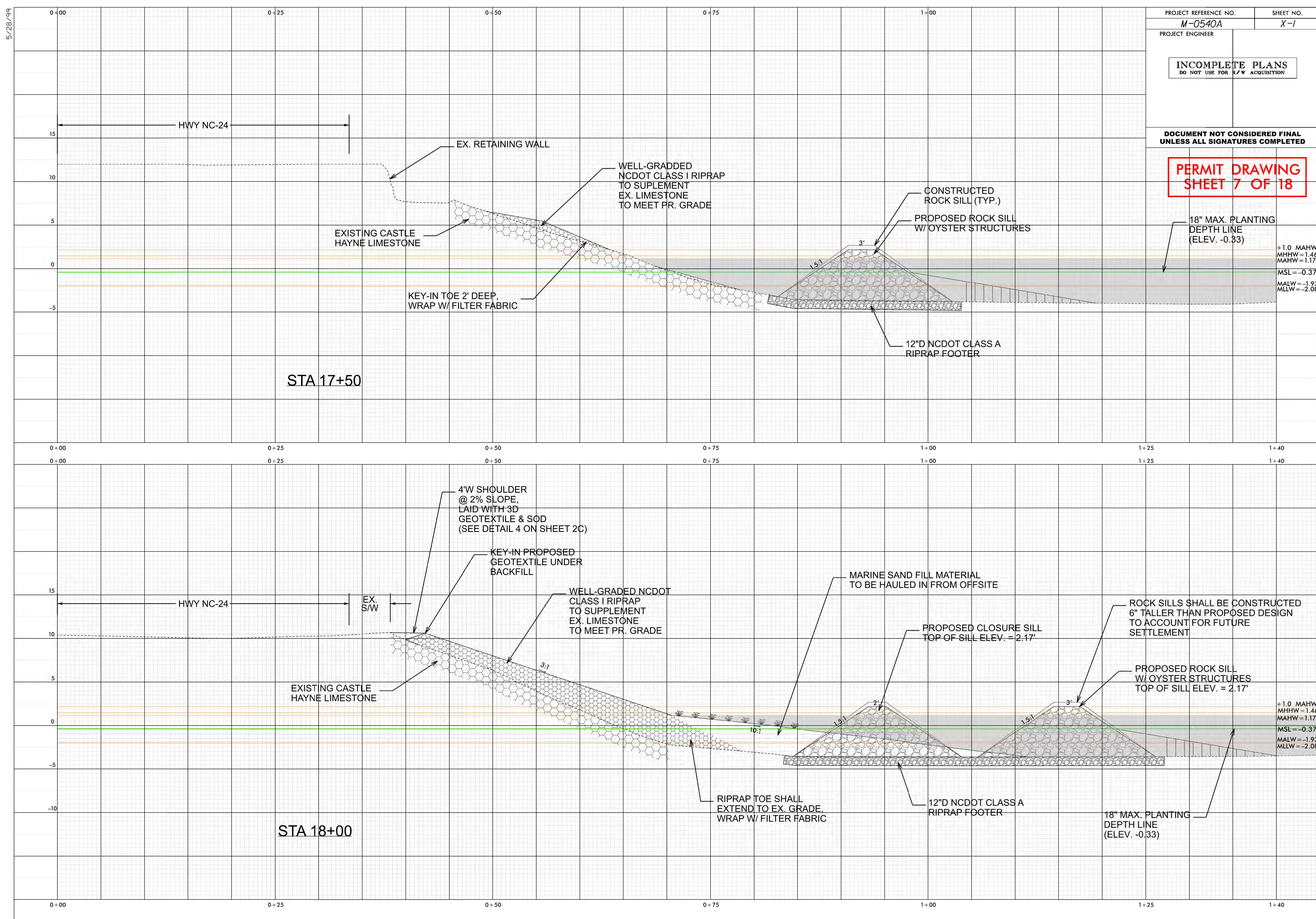
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M-0540A	
PROJECT ENGINEER	<hr/> APPROVED <hr/> DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

IMPACTS PLAN

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING
SHEET 6 OF 18**





0+00 0+25 0+50 0+75 1+00

5/28/95 5/28/95 5/28/95 5/28/95 5/28/95

4'W SHOULDER @ 2% SLOPE, LAID WITH 3D GEOTEXTILE & SOD (SEE DETAIL 4 ON SHEET 2C)

15 10 5 0 -5 -10

HWY NC-24 EX. S/W

EXISTING CASTLE HAYNE LIMESTONE

KEY-IN PROPOSED GEOTEXTILE UNDER BACKFILL

WELL-GRADED NCDOT CLASS I RIPRAP TO SUPPLEMENT EX. LIMESTONE TO MEET PR. GRADE

MARINE SAND FILL MATERIAL TO BE HAULED IN FROM OFFSITE

ROCK SILLS SHALL BE CONSTRUCTED 6" TALLER THAN PROPOSED DESIGN TO ACCOUNT FOR FUTURE SETTLEMENT

PROPOSED CLOSURE SILL TOP OF SILL ELEV. = 2.17'

RIPRAP TOE SHALL EXTEND TO EX. GRADE, WRAP W/ FILTER FABRIC

18" MAX. PLANTING DEPTH LINE (ELEV. -0.33)

12"D NCDOT CLASS A RIPRAP FOOTER

PROPOSED ROCK SILL W/ OYSTER STRUCTURES TOP OF SILL ELEV. = 2.17'

STA 18+50

PROJECT REFERENCE NO. M-0540A SHEET NO. X-2

PROJECT ENGINEER

INCOMPLETE PLANS DO NOT USE FOR ROW ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 8 OF 18

+1.0 MHW
MHW = 4.4
MHW = 1.7
MASL = -0.7
MHW = -0.3
MLW = -0.8

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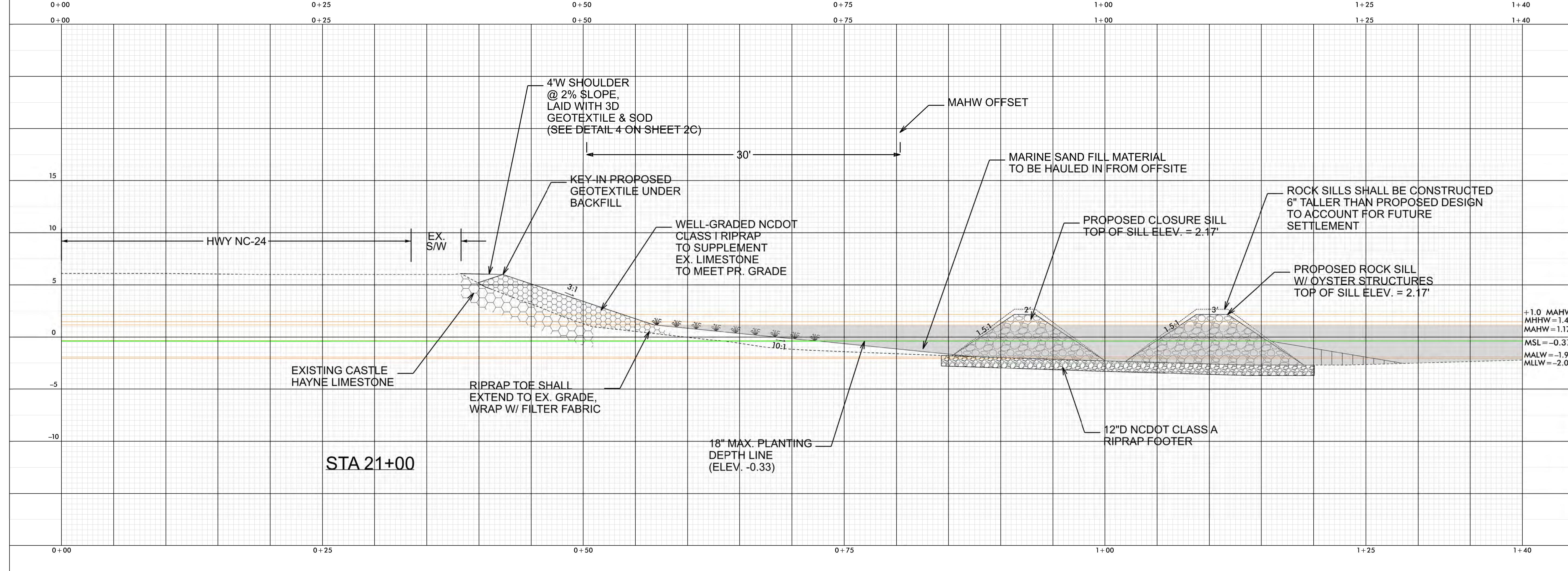
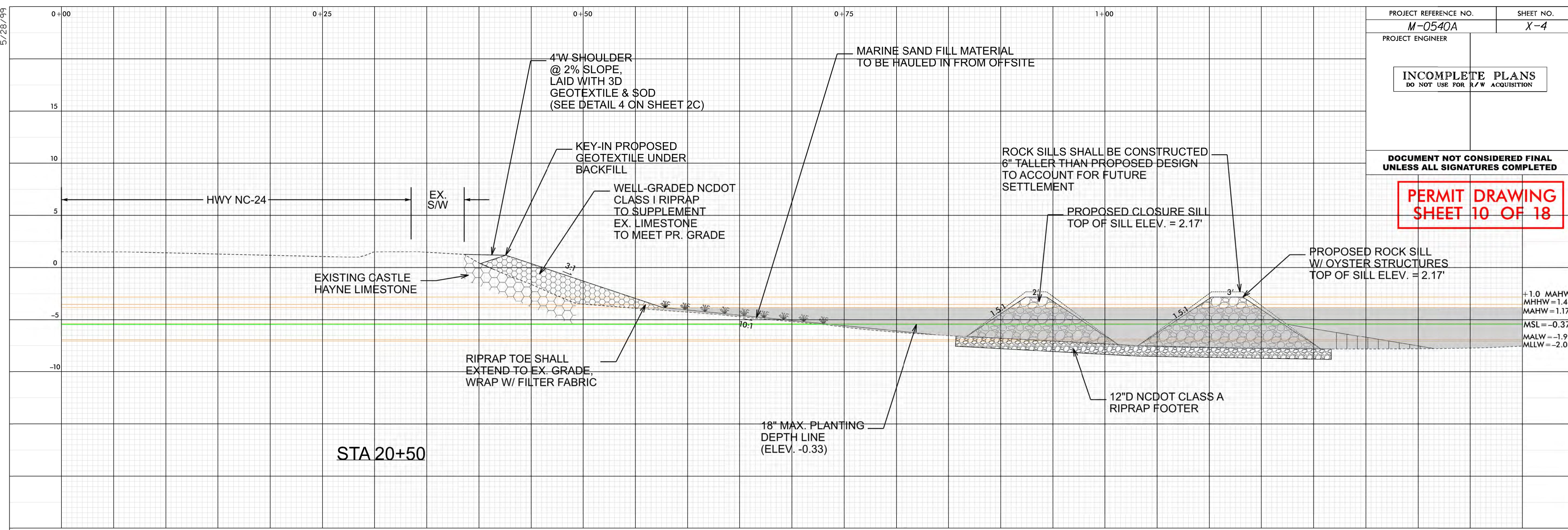
0 + 00 0 + 25 0 + 50 0 + 75 1 + 00 1 + 25 1 + 40

15
10
5
0
-5
-10

HWY NC-24 EX. S/W EX. CASTLE HAYNE LIMESTONE WELL-GRADED NC DOT CLASS I RIPRAP PROPOSED CLOSURE SILL PROPOSED ROCK SILL
WELL-GRADED NC DOT CLASS I RIPRAP
TO SUPPLEMENT EX. LIMESTONE
TO MEET PR. GRADE
TOP OF SILL ELEV. = 2.17'
W/ OYSTER STRUCTURES
TOP OF SILL ELEV. = 2.17'
10:1 10:1 15:1
12''D NC DOT CLASS A RIPRAP FOOTER
18'' MAX. PLANTING DEPTH LINE (ELEV. -0.33)
4'W SHOULDER @ 2% SLOPE, LAID WITH 3D GEOTEXTILE & SOD (SEE DETAIL 4 ON SHEET 2C)
KEY-IN PROPOSED GEOTEXTILE UNDER BACKFILL
MARINE SAND FILL MATERIAL TO BE HAULED IN FROM OFFSITE
ROCKSILLS SHALL BE CONSTRUCTED 6'' TALLER THAN PROPOSED DESIGN TO ACCOUNT FOR FUTURE SETTLEMENT

STA 19+00

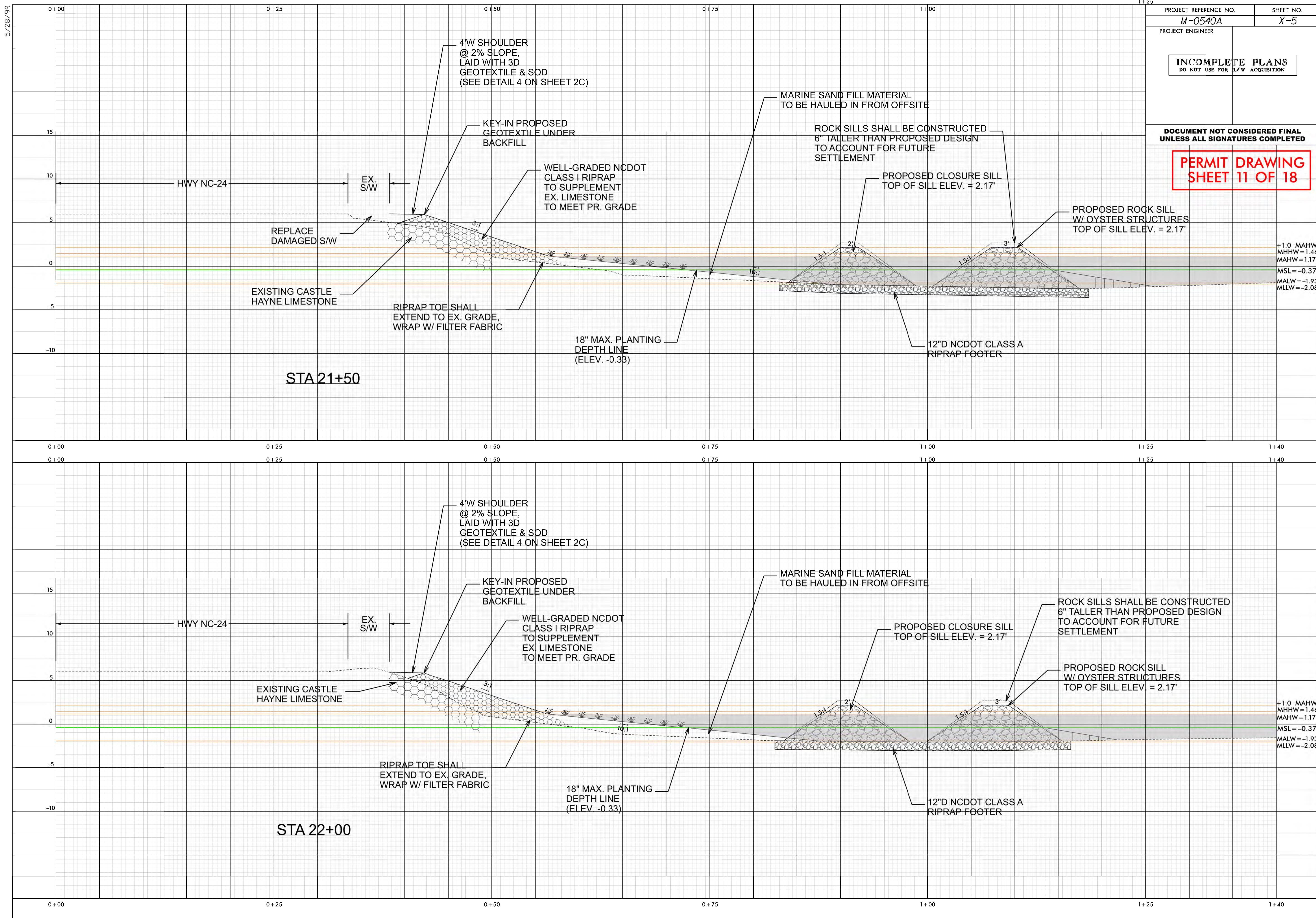
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PROJECT REFERENCE NO.	SHEET NO.
M-0540A	X-4
PROJECT ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 10 OF 18



5/28/99

0' 00 0' 25 0' 50 0' 75 1' 00 1' 25 1' 40

0' 00 0' 25 0' 50 0' 75 1' 00 1' 25 1' 40

HWY NC-24 EX. S/W

EXISTING CASTLE HAYNE LIMESTONE

4'W SHOULDER @ 2% SLOPE, LAID WITH 3D GEOTEXTILE & SCD (SEE DETAIL 4 ON SHEET 2C)

KEY-IN PROPOSED GEOTEXTILE UNDER BACKFILL

WELL-GRADED NCDOT CLASS I RIPRAP TO SUPPLEMENT EX. LIMESTONE TO MEET PR. GRADE

PROPOSED CLOSURE SILL TOP OF SILL ELEV. = 2.17'

ROCK SILLS SHALL BE CONSTRUCTED 6" TALLER THAN PROPOSED DESIGN TO ACCOUNT FOR FUTURE SETTLEMENT

PROPOSED ROCK SILL W/ OYSTER STRUCTURES TOP OF SILL ELEV. = 2.17'

RIPRAP TOE SHALL EXTEND TO EX. GRADE, WRAP W/ FILTER FABRIC

18" MAX. PLANTING DEPTH LINE (ELEV. -0.33)

12"D NCDOT CLASS A RIPRAP FOOTER

MSL = -0.37
MALW = -1.93
MLLW = -2.08

STA 23+50

HWY NC-24 EX. S/W

EXISTING CASTLE HAYNE LIMESTONE

4'W SHOULDER @ 2% SLOPE, LAID WITH 3D GEOTEXTILE & SCD (SEE DETAIL 4 ON SHEET 2C)

KEY-IN PROPOSED GEOTEXTILE UNDER BACKFILL

PROPOSED CLOSURE SILL TOP OF SILL ELEV. = 2.17'

ROCK SILLS SHALL BE CONSTRUCTED 6" TALLER THAN PROPOSED DESIGN TO ACCOUNT FOR FUTURE SETTLEMENT

PROPOSED ROCK SILL W/ OYSTER STRUCTURES TOP OF SILL ELEV. = 2.17'

RIPRAP TOE SHALL EXTEND TO EX. GRADE, WRAP W/ FILTER FABRIC

18" MAX. PLANTING DEPTH LINE (ELEV. -0.33)

12"D NCDOT CLASS A RIPRAP FOOTER

MSL = -0.37
MALW = -1.93
MLLW = -2.08

STA 24+00

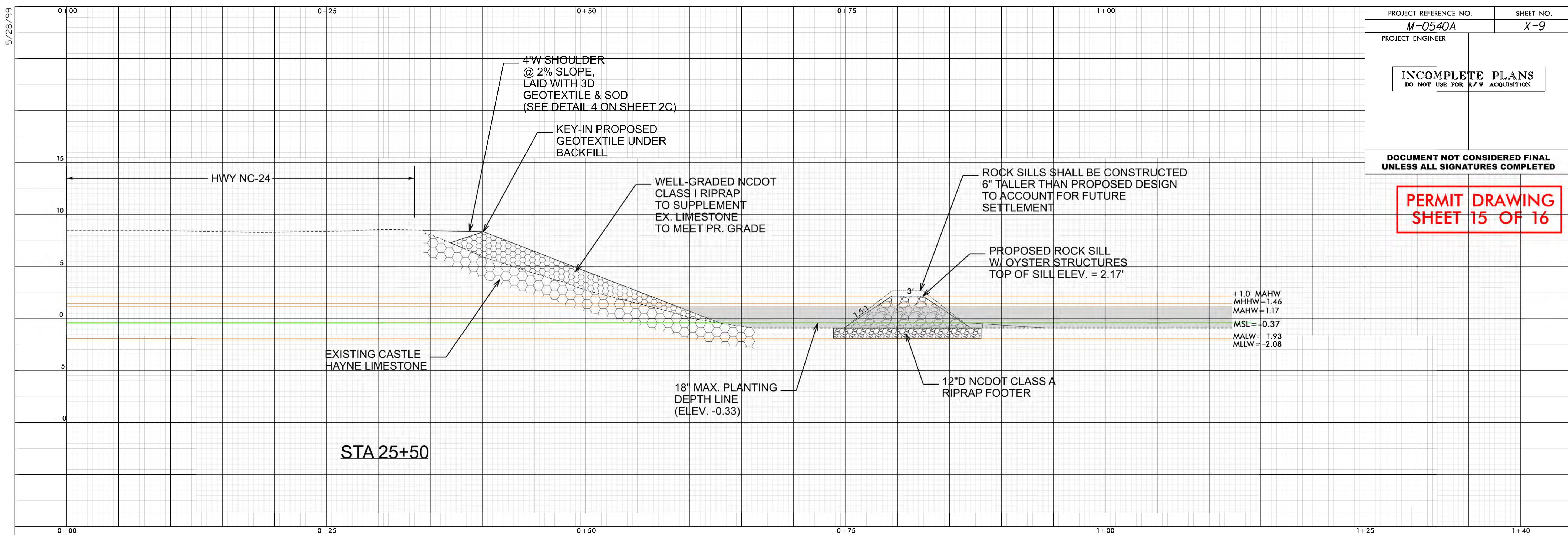
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PROJECT ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

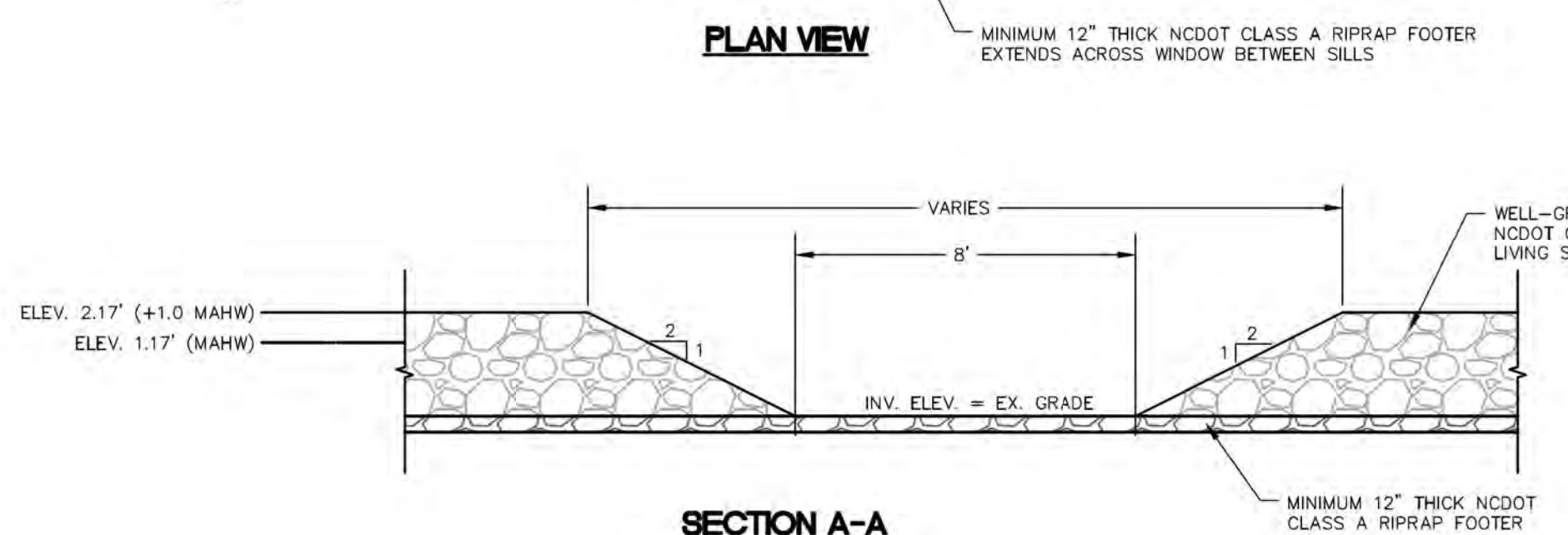
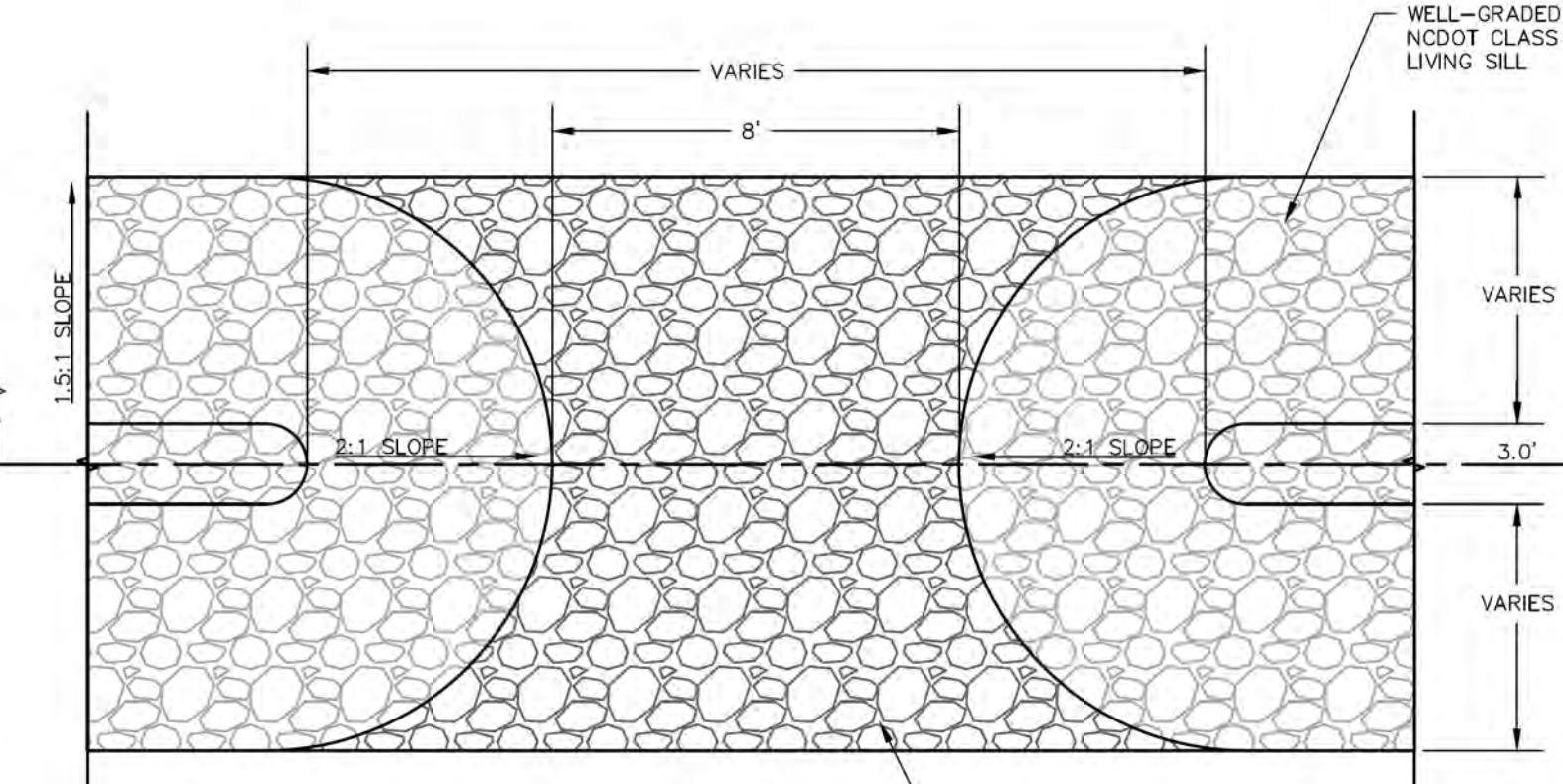
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PERMIT DRAWING SHEET 13 OF 18



PERMIT DRAWING SHEET 16 OF 18

12/2/2016

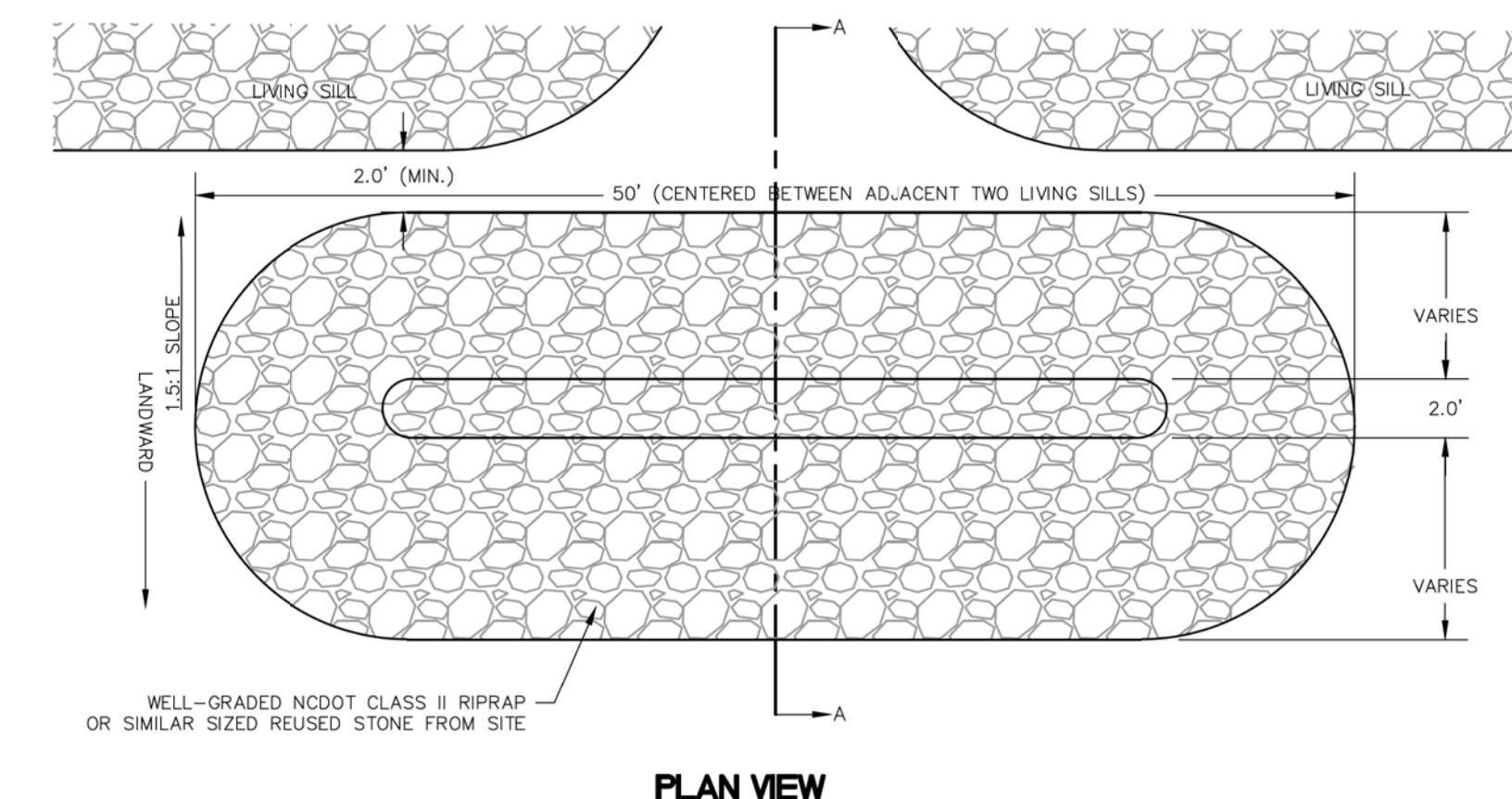


NOTES:

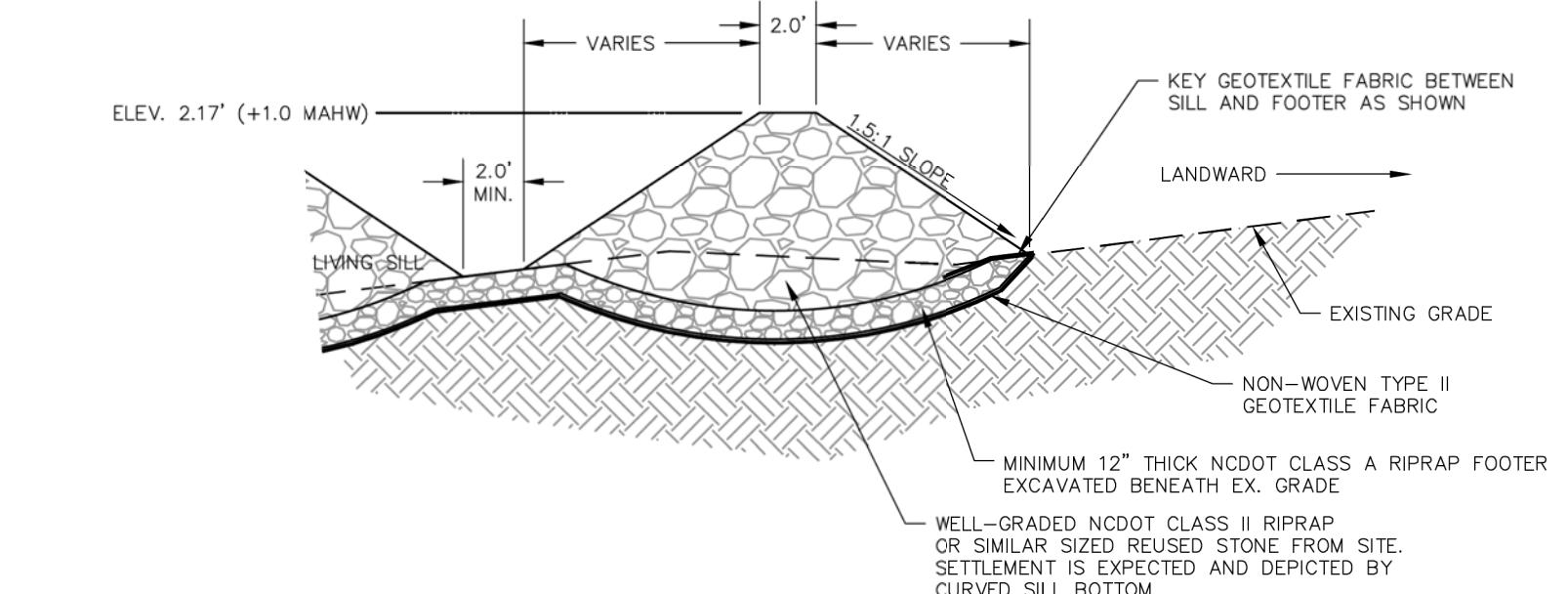
1. LIVING SILL WINDOWS SHALL BE PLACED AT A MINIMUM EVERY 100 LINEAR FEET ALONG THE LIVING SILL.
2. THE INTENT OF THIS DETAIL IS TO SHOW THE GENERAL REQUIREMENTS FOR CONSTRUCTING THE LIVING SILL. THE OVERALL DIMENSIONS OF THE SILL WILL VARY DEPENDING ON THE UNDERLYING SOIL CONDITIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR BORING INFORMATION.

1 LIVING SILL WINDOW

Not to Scale



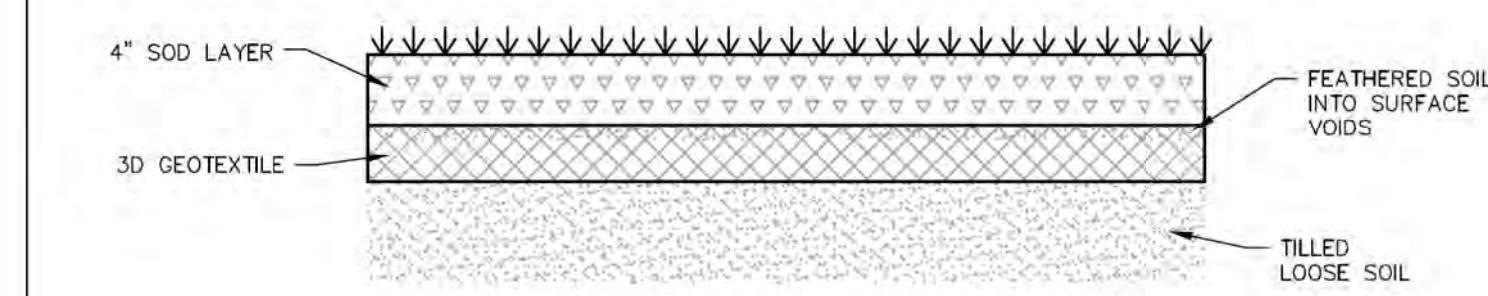
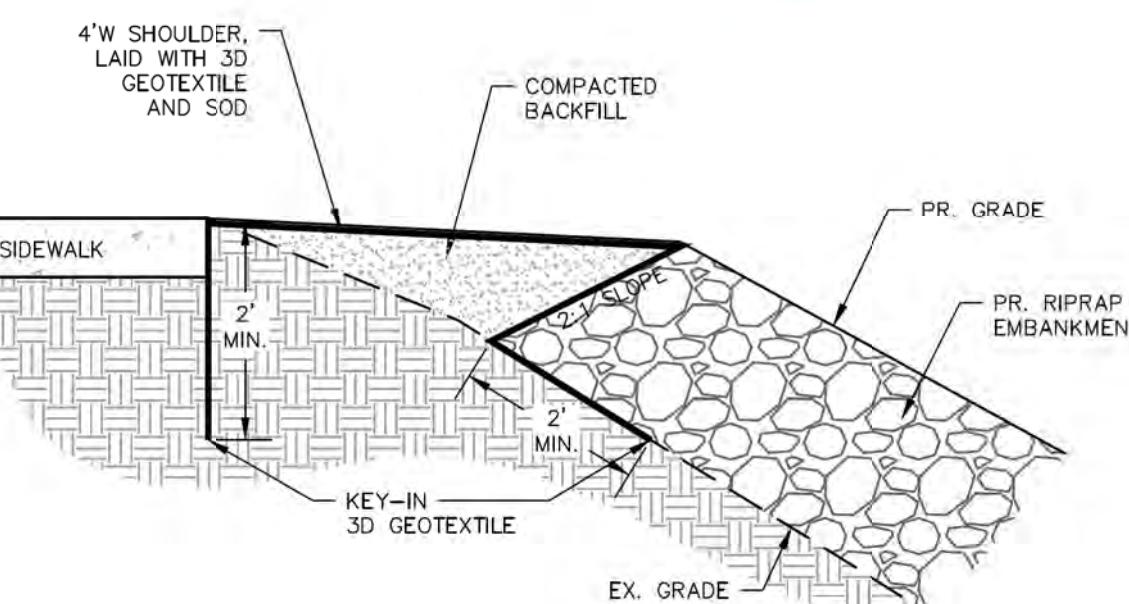
PLAN VIEW



SECTION A-A

NOTES:

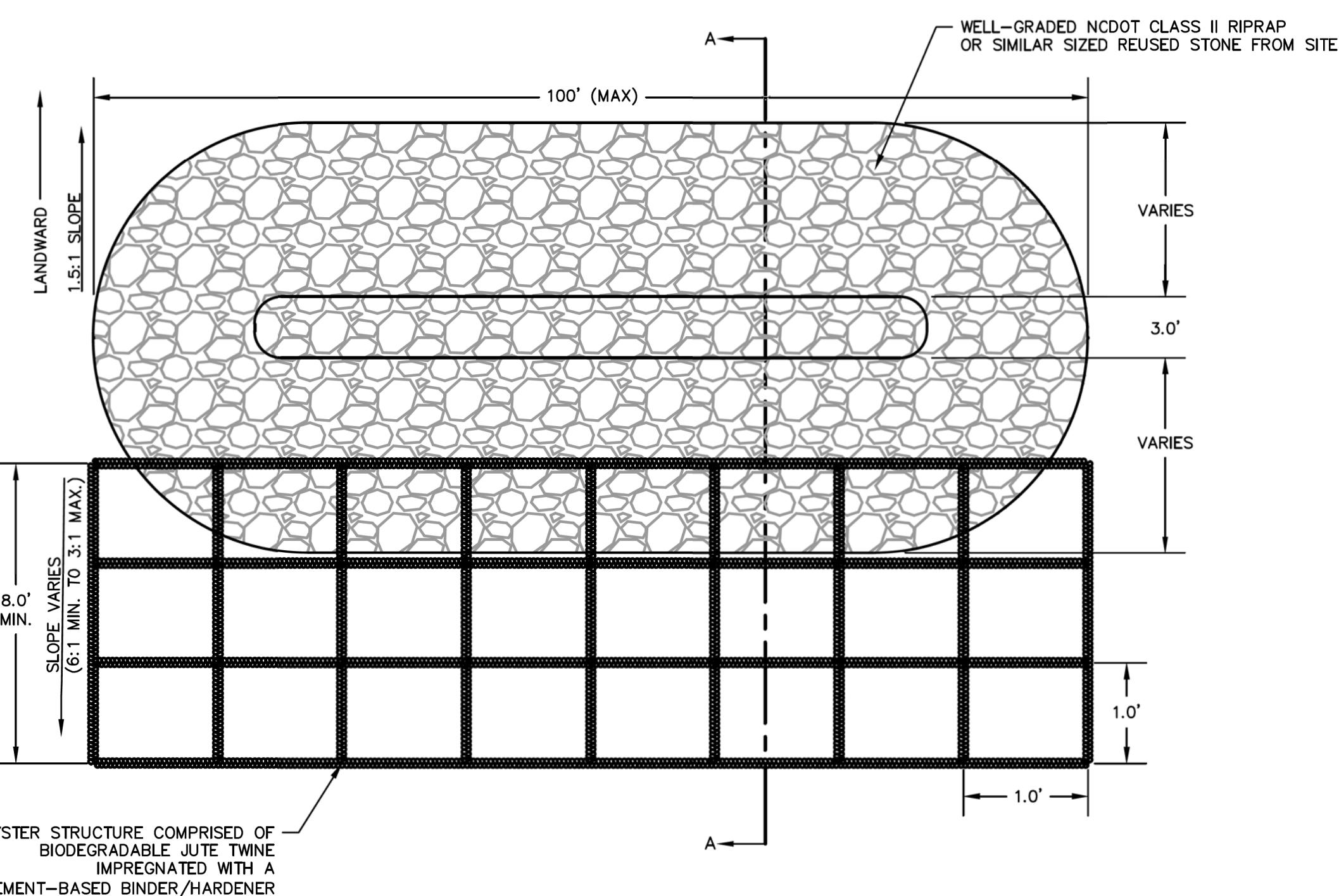
1. TOP LAYER OF STONE ON SILL (MINIMUM 24") SHALL BE NCDOT CLASS II RIPRAP AND NOT CASTLE HAYNE LIMESTONE FROM SITE.
2. THE INTENT OF THIS DETAIL IS TO SHOW THE GENERAL REQUIREMENTS FOR CONSTRUCTING THE LIVING SILL. THE OVERALL DIMENSIONS OF THE SILL WILL VARY DEPENDING ON THE UNDERLYING SOIL CONDITIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR BORING INFORMATION.
3. SILL TO BE CONSTRUCTED 6" TALLER THAN THE PROPOSED DESIGN (AT ELEV = 2.67") TO ALLOW SETTLEMENT TO FINAL ELEVATION.



3D GEOTEXTILE + SOD INSTALLATION

4 SHOULDER DETAIL

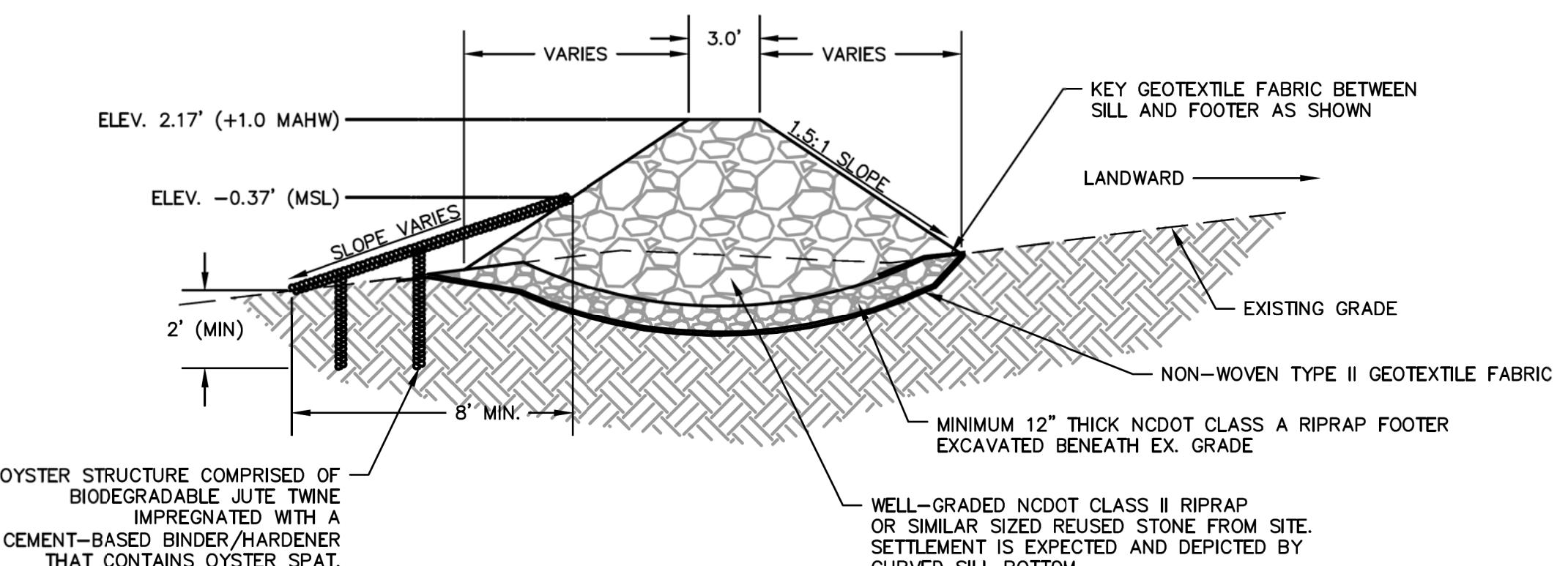
Not to Scale



PLAN VIEW

NOTES:

1. TOP LAYER OF STONE ON SILL (MINIMUM 24") SHALL BE NCDOT CLASS II RIPRAP AND NOT CASTLE HAYNE LIMESTONE FROM SITE.
2. THE INTENT OF THIS DETAIL IS TO SHOW THE GENERAL REQUIREMENTS FOR CONSTRUCTING THE LIVING SILL. THE OVERALL DIMENSIONS OF THE SILL WILL VARY DEPENDING ON THE UNDERLYING SOIL CONDITIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR BORING INFORMATION.
3. OYSTER STRUCTURE SHALL CANTILEVER (WITH NO STAKING) OVER ROCK SILL AND FOOTERS. NO MORE THAN HALF THE TOTAL LENGTH (8' MIN.) OF THE OYSTER STRUCTURE SHOULD BE CANTILEVERED.
4. SILL TO BE CONSTRUCTED 6" TALLER THAN THE PROPOSED DESIGN (AT ELEV = 2.67") TO ALLOW SETTLEMENT TO FINAL ELEVATION.



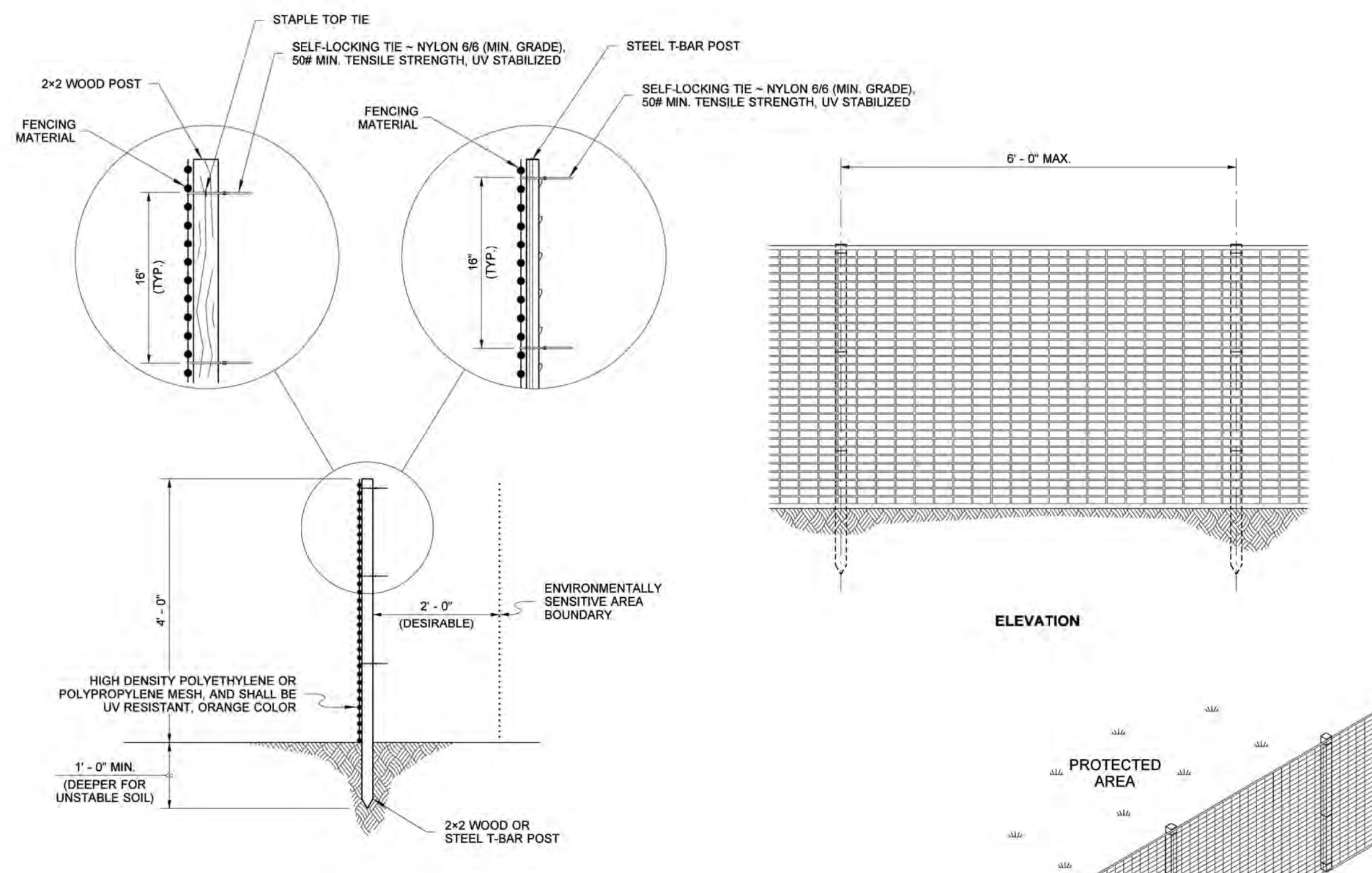
SECTION A-A

OYSTER STRUCTURE COMPRISED OF BIODEGRADABLE JUTE TWINE IMPREGNATED WITH A CEMENT-BASED BINDER/HARDENER THAT CONTAINS OYSTER SPAT.

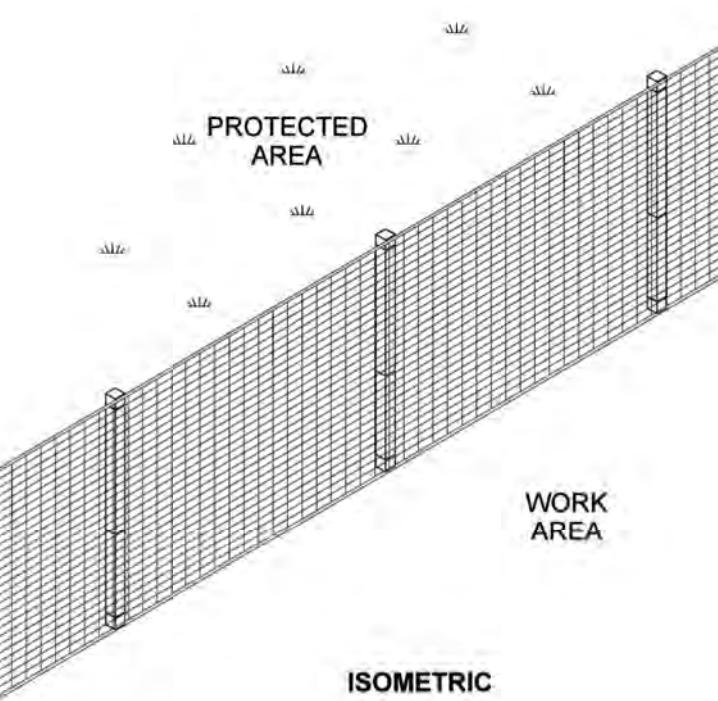
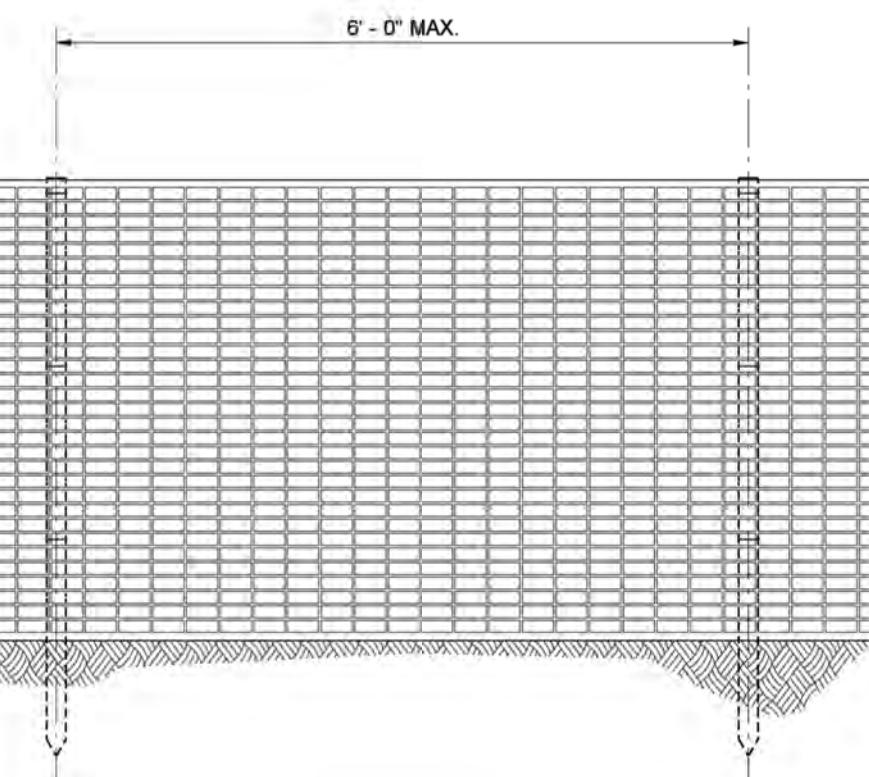
2 LIVING SILL

Not to Scale

12/2/2016



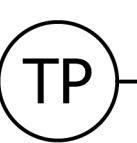
TYPICAL SECTION



ISOMETRIC

NOTES:

1. TREE PROTECTION FENCE IS INTENDED TO BE PLACED TO MARK APPROVED STAGING/STOCKPILING LIMITS DURING CONSTRUCTION.
2. FENCE POSTS SHALL HAVE SUFFICIENT STRENGTH AND DURABILITY TO SUPPORT THE FENCE THROUGH THE LIFE OF THE PROJECT.

TREE PROTECTION FENCE

Not to Scale

*Bounded totals are sum of actual impacts

NOTES:

NOTE:

1. OYSTER STRUCTURES TO BE HAND PLACED WITHOUT THE USE OF HEAVY MACHINERY TO MINIMIZE IMPACTS TO THE EXISTING ENVIRONMENT.
2. ALL PROPOSED STABILIZATION WORK ON EMBANKMENT TO BE COMPLETED FROM THE NC-24 RIGHT-OF-WAY TO MINIMIZE IMPACTS TO THE EXISTING ENVIRONMENT.
3. ACCESS FOR CONSTRUCTION OF THE PROPOSED LIVING SILL AND TIDAL LOW MARSH TO UTILIZE A TEMPORARY TRESTLE BRIDGE IN AN EFFORT TO MINIMIZE IMPACTS TO THE EXISTING ENVIRONMENT.

Revised 2018 Feb

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
4/27/2021
CARTERET/ONSLOW
M-0540A
WBS #N/A