

# **WETLANDS AND SUBAQUEOUS LANDS SECTION PERMIT APPLICATION FORM**

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

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

**Wetlands and Subaqueous Lands Section**



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

**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY****Application Instructions:**

1. Complete each section of this basic application and appropriate appendices as thoroughly and accurately as possible. Incomplete or inaccurate applications will be returned.
2. All applications must be accompanied by a scaled plan view and cross-section view plans that show the location and design details for the proposed project. Full construction plans must be submitted for major projects.
3. All applications must have an original signature page and proof of ownership or permitted land use agreement.
4. Submit an original and two (2) additional copies of the application (total of 3) with the appropriate application fee and public notice fee\* (prepared in separate checks) to:

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

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

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

**Helpful Information:**

1. Tax Parcel Information:

New Castle County	(302) 395-5400
Kent County	(302) 736-2010
Sussex County	(302) 855-7878
2. Recorder of Deeds:

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

## APPLICANT'S REVIEW BEFORE MAILING

### DID YOU COMPLETE THE FOLLOWING?

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

### Submit 3 complete copies of the application packet to:

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

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

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

**Section 1: Applicant Identification**

1. Applicant's Name: DeIDOT Telephone #: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
800 South Bay Road, Dover DE Fax #: \_\_\_\_\_  
 \_\_\_\_\_ E-mail: \_\_\_\_\_
2. Consultant's Name: Harry Frederick Company Name: DeIDOT  
 Mailing Address: \_\_\_\_\_ Telephone #: 302-760-2278  
800 South Bay Road, Dover DE Fax #: \_\_\_\_\_  
 \_\_\_\_\_ E-mail: harry.waddington@delaware.gov
3. Contractor's Name: \_\_\_\_\_ Company Name: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
 \_\_\_\_\_ Fax #: \_\_\_\_\_  
 \_\_\_\_\_ E-mail: \_\_\_\_\_

**Section 2: Project Description**

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

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

The proposed project will replace the existing concrete rigid frame with precast concrete beams and raise the road accommodating considerations for future sea-level rise. Replacing the bridge will help the Department meet its performance measures for bridge condition.

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

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

**Section 3: Project Location**

7. Project Site Address: \_\_\_\_\_ County:  N.C.  Kent  Sussex  
38.914380, -75.407827 Site owner name (if different from applicant): \_\_\_\_\_  
 \_\_\_\_\_ Address of site owner: \_\_\_\_\_
8. Driving Directions: Head toward Transportation Cir, Turn right onto Transportation Cir, Turn right onto S Bay Rd, Merge onto DE-1 S, Take the DE-36 exit toward Milford/Slaughter Beach, Turn right onto Cedar Beach Road, BR 3-927 is right after Beaver Dam Road.  
 \_\_\_\_\_  
 (Attach a vicinity map identifying road names and the project location)
9. Tax Parcel ID Number: Right of Way Subdivision Name: \_\_\_\_\_

<b>WSLS Use Only:</b>		Permit #s: _____		_____		_____		_____	
Type	SP <input type="checkbox"/>	SL <input type="checkbox"/>	SU <input type="checkbox"/>	WE <input type="checkbox"/>	WQ <input type="checkbox"/>	LA <input type="checkbox"/>	SA <input type="checkbox"/>	MP <input type="checkbox"/>	WA <input type="checkbox"/>
Corps Permit:	SPGP 18 <input type="checkbox"/> 20 <input type="checkbox"/>		Nationwide Permit #:		_____		Individual Permit # _____		
Received Date:	_____		Project Scientist:			_____			
Fee Received?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Amt: \$	_____		Receipt #: _____			
Public Notice #:	_____		Public Notice Dates: ON _____		OFF _____				

**Section 3: Project Location (Continued)**

10. Name of waterbody at Project Location: Mispyllion Tributary waterbody is a tributary to: Mispyllion River

11. Is the waterbody:  Tidal  Non-tidal Waterbody width at mean low or ordinary high water 20.25 ft

12. Is the project:  On public subaqueous lands?  On private subaqueous lands?\*

In State-regulated wetlands?  In Federally-regulated wetlands?

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

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

13. Present Zoning:  Agricultural  Residential  Commercial  Industrial  Other

**Section 4: Miscellaneous**

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

Attached in Excel Document

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

Attached in Excel Document

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

Mike Yost Katie Esposito

James Colligan

A. Have you had a State Jurisdictional Determination performed on the property?  Yes  No

B. Has the project been reviewed in a monthly Joint Permit Processing Meeting?  Yes  No

\*If yes, what was the date of the meeting? Recurring monthly.

16. Are there existing structures or fill at the project site in subaqueous lands?  Yes  No

\*If yes, provide the permit and/or lease number(s):

Yes, the bridge in question was built in 1927. Lease number unknown due to age of bridge.

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

17. Have you applied for or obtained a Federal permit from the Army Corps of Engineers?

No  Pending  Issued  Denied Date: \_\_\_\_\_

Type of Permit: NWP 23 Federal Permit or ID #: \_\_\_\_\_

18. Have you applied for permits from other Sections within DNREC?

No  Pending  Issued  Denied Date: \_\_\_\_\_ Permit or ID #: \_\_\_\_\_

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

Other: \_\_\_\_\_

**Section 5: Signature Page**

## 19. Agent Authorization:

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

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

I wish to authorize an agent as indicated below

I, \_\_\_\_\_, hereby designate and authorize \_\_\_\_\_  
 (Name of Applicant) (Name of Agent)  
 to act on my behalf in the processing of this application and to furnish any additional information requested by the Department.

Authorized Agent's Name: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 \_\_\_\_\_ E-mail: \_\_\_\_\_  
 \_\_\_\_\_

## 20. Agent's Signature:

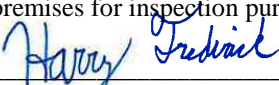
I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

\_\_\_\_\_  
 Agent's Signature

\_\_\_\_\_  
 Date

## 21. Applicant's Signature:

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

  
 \_\_\_\_\_  
 Applicant's Signature

**1/23/2026**

\_\_\_\_\_  
 Date

**Harry E Frederick**

\_\_\_\_\_  
 Print Name

## 22. Contractor's Signature:

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

**TBD**

\_\_\_\_\_  
 Contractor's Name

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Print Name



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
 800 BAY ROAD  
 P.O. BOX 778  
 DOVER, DELAWARE 19903

SHANTÉ A. HASTINGS  
 SECRETARY

Mr. Casula,  
 Richardson and Robbins Building  
 89 Kings Highway SW  
 Dover DE, 19901

1/23/2025

Enclosed you will find a copy of the Subaqueous Lands Permit Application for the **Replacement of BR 3-927**. This project involves bridge replacement, scour protection, and approach roadway work including raising the road. The justification for this project is due to the bridge's advanced age, in pursuit of adhering to the mission of DelDOT in safety for transportation the replacement of the bridge is in the best interest of travelers throughout the state of Delaware. There are multiple abrasions in the bridge's surfaces, some of which expose the reinforcement beneath the bridge. Additionally, there is evidence of asphalt wear further indicating the bridge's need for maintenance.

This project takes place in Milford, DE near the intersection of Beaver Dam Road and Cedar Beach Road, the exact coordinates being: 38.914402, -75.407788 carrying over a tributary of the Mispillion River, this bridge can be found on 208 of the State Mapped Wetland maps.

The proposed project will replace the existing concrete rigid frame with precast concrete beams and raise the road accommodating considerations for future sea-level rise. Replacing the bridge will help the Department meet its performance measures for bridge conditions. The previous bridge was an 18'-0" reinforced concrete slab bridge. The proposed bridge is a 60'-0" span precast prestressed reinforced beam bridge.

For this project there are permanent and temporary tidal wetland impacts as well as temporary and permanent wetland/open water impacts. The impacts via the Environmental Compliance sheets can be found in the chart below. As the permanent impact amount is less than .1 acres mitigation will not be required for this project for the Army Corps of Engineers, however it will still be required for impacts to SMW. It should be noted that these impacts are primarily as a result of riprap/CBF and the underlying hydrology of the waterbody will not be changed as a result of these impacts.

PERMANENT TIDAL OPEN WATER IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT/LOSS
O-1	DOWNSTREAM RIPRAP	1441.88	0.0331	80.10	USACE/DNREC	IMPACT
O-2	RIPRAP THROUGH STRUCTURE	1170.51	0.0269	65.02	USACE/DNREC	IMPACT
O-3	UPSTREAM RIPRAP	670.57	0.0154	37.25	USACE/DNREC	IMPACT
TOTAL PERMANENT OPEN WATER IMPACTS		3282.96	0.0754	182.39	USACE/DNREC	N/A

PERMANENT TIDAL WETLAND IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT/LOSS
W-1	DOWNSTREAM RIPRAP	18.22	0.0004	1.01	USACE/DNREC	LOSS
W-2	DOWNSTREAM RIPRAP	7.21	0.0002	0.40	USACE/DNREC	LOSS
TOTAL PERMANENT WETLAND IMPACT AREAS		25.43	0.0014	1.41	USACE/DNREC	N/A

TEMPORARY TIDAL OPEN WATER IMPACT AREA SCHEDULE				
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	JURISDICTION
OT-1	NORTH SIDE E&S AND CHANNEL GRADING	12070.60	0.2771	USACE/DNREC
OT-2	SOUTH SIDE E&S AND CHANNEL GRADING	2523.05	0.0579	USACE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		14593.65	0.3350	USACE/DNREC

According to the Species Conservation and Research Program (SCRCP) letter dated August 15 2023, the project does not reside in a State Natural Heritage site, nor does it rely within a National Estuarine Research Reserve which are two criteria used to identify ‘Designated Critical Resource Waters’. A copy of the SCRCP letter will be attached in the following pages of this application. Mispillion River provides spawning habitat for anadromous species including Blueback Herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), and White Perch (*Morone americana*).

Alewife and blueback herring, often collectively referred to as ‘river herring’, are listed by the National Marine Fisheries Service as a Species of Concern. These species are also important to both commercial and recreational fisheries and form an important forage base for other animal species. A time-of-year restriction is to be put in place on in-water work activities. In-water work should not take place from March 15th through June 30th.

Additionally, Mispillion River is used by large numbers of American Eel (*Anguilla rostrata*). It has also been requested that in-stream work not take place from March 1st to May 15th to allow upstream passage of elvers (young eels).

It should be noted that bridge 3-927 has not been surveyed for the presence of nesting migratory birds, which are protected by Title 7, Delaware Code, Chapter 7, Sections 734 and 735. Given that it is possible that one or more pairs of barn swallow (*Hirundo rustica*) and/or eastern phoebe (*Sayornis phoebe*) nest under the bridge, if work is proposed during the breeding season (April 15th – August 1st), a survey should be completed prior to the start of work to determine if nests are present. If a survey detects nesting activity, the following steps should be taken to avoid nest destruction and take, which is a violation of state law:

1. Perform construction activities from August 1st to April 15th.
2. If construction cannot be performed in this time period, a deterrent such as mesh netting should be used to block access to nesting sites on the underside of the bridge(s). The material would need to be in place no later than April 15th, the underside of the bridge(s) would need to be fully encapsulated, and the material should be left in place until construction begins.

The US Fish and Wildlife Service (henceforth USFWS) Official Species List, which will be attached in the Appendices, determined that there are no Critical Habitats within the confines of this project’s limits, additionally there are no fish hatcheries or refuges within the project area. A letter from the USFWS declared that the project area had no critical habitat within its boundaries.

The property in question, in accordance with Stipulation III.B.1 of the 2018 Programmatic Agreement for the Federal Aid Highway Program in Delaware, DelDOT Qualified Staff have reviewed the above-referenced project and determined that no historic properties will be affected. In a letter dated March 6, 2023 SHPO sent a letter concurring with these findings and added that BR 3-927 is not eligible for the National Register for Historic Places.

For the scope of this project DelDOT will be submitting this project under Nationwide Permit #23, Categorical Exclusion, with the USACE. Due to the impacts to the State Mapped Wetlands, this project will require a Subaqueous Lands Permit and a Wetland Permit from DNREC.

Very Respectfully,

Harry Frederick  
Environmental Specialist II  
Environmental Stewardship

# **WETLANDS AND SUBAQUEOUS LANDS SECTION PERMIT APPLICATION FORM**

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401 Water Quality Certification Projects**

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 (Attach a vicinity map identifying road names and the project location)
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<b>WSLS Use Only:</b>		<b>Permit #s:</b> _____		_____		_____		_____	
<b>Type</b>	SP <input type="checkbox"/>	SL <input type="checkbox"/>	SU <input type="checkbox"/>	WE <input type="checkbox"/>	WQ <input type="checkbox"/>	LA <input type="checkbox"/>	SA <input type="checkbox"/>	MP <input type="checkbox"/>	WA <input type="checkbox"/>
<b>Corps Permit:</b> SPGP 18 <input type="checkbox"/> 20 <input type="checkbox"/>		<b>Nationwide Permit #:</b> _____		<b>Individual Permit #</b> _____					
<b>Received Date:</b> _____		<b>Project Scientist:</b> _____							
<b>Fee Received?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>		<b>Amt: \$</b> _____		<b>Receipt #:</b> _____					
<b>Public Notice #:</b> _____		<b>Public Notice Dates:</b> ON _____		OFF _____					

**Section 3: Project Location (Continued)**

10. Name of waterbody at Project Location: Mispillion Tributary waterbody is a tributary to: Mispillion River

11. Is the waterbody:  Tidal  Non-tidal Waterbody width at mean low or ordinary high water 20.25 ft

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

Mike Yost Katie Esposito

James Colligan

A. Have you had a State Jurisdictional Determination performed on the property?  Yes  No

B. Has the project been reviewed in a monthly Joint Permit Processing Meeting?  Yes  No

\*If yes, what was the date of the meeting? Recurring monthly.

16. Are there existing structures or fill at the project site in subaqueous lands?  Yes  No

\*If yes, provide the permit and/or lease number(s):

Yes, the bridge in question was built in 1927. Lease number unknown due to age of bridge.

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

17. Have you applied for or obtained a Federal permit from the Army Corps of Engineers?

No  Pending  Issued  Denied Date: \_\_\_\_\_

Type of Permit: NWP 23 Federal Permit or ID #: \_\_\_\_\_

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

Other: \_\_\_\_\_

**Section 5: Signature Page**

## 19. Agent Authorization:

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

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

I wish to authorize an agent as indicated below

I, \_\_\_\_\_, hereby designate and authorize \_\_\_\_\_  
 (Name of Applicant) (Name of Agent)  
 to act on my behalf in the processing of this application and to furnish any additional information requested by the Department.

Authorized Agent's Name: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 \_\_\_\_\_ E-mail: \_\_\_\_\_  
 \_\_\_\_\_

## 20. Agent's Signature:

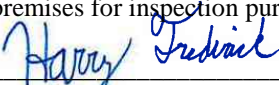
I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

\_\_\_\_\_  
 Agent's Signature

\_\_\_\_\_  
 Date

## 21. Applicant's Signature:

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

  
 \_\_\_\_\_  
 Applicant's Signature

**1/23/2026**

\_\_\_\_\_  
 Date

**Harry E Frederick**

\_\_\_\_\_  
 Print Name

## 22. Contractor's Signature:

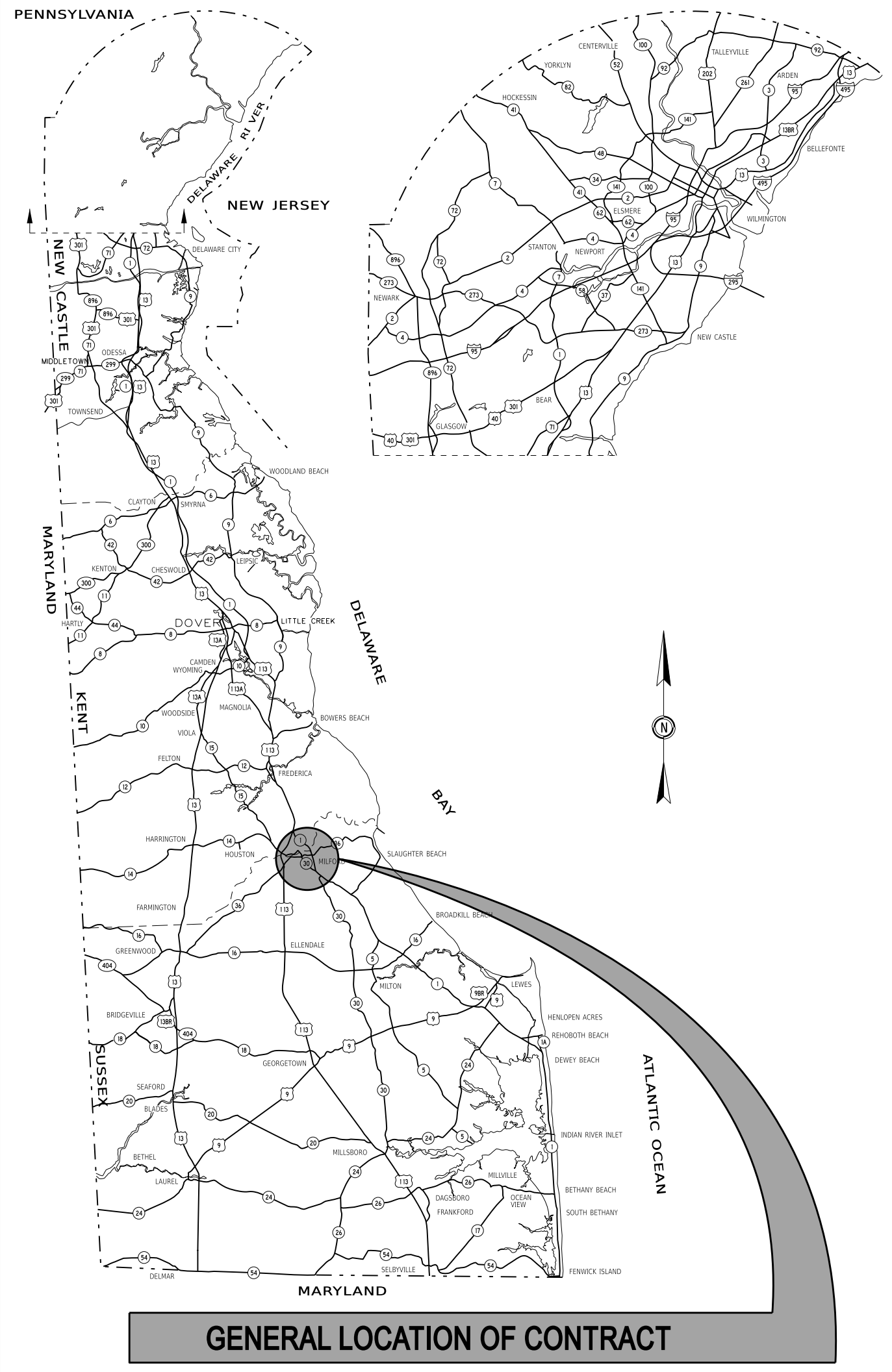
I hereby certify that the information on this form and on the attached plans are true and accurate to the best of my knowledge, and that I am required to inform the Department of any changes or updates to the information provided in this application. I further understand that the Department may request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

**TBD**

\_\_\_\_\_  
 Contractor's Name

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Print Name



# THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY  
UNITS  
FINAL PLANS



## CONSTRUCTION AND RIGHT-OF-WAY PLANS FOR: REPLACEMENT OF BR 3-927 ON SR036 CEDAR BEACH ROAD

CONTRACT NUMBER: **T202107302**  
FEDERAL AID PROJECT NUMBER: **EBROS-S036(04)**

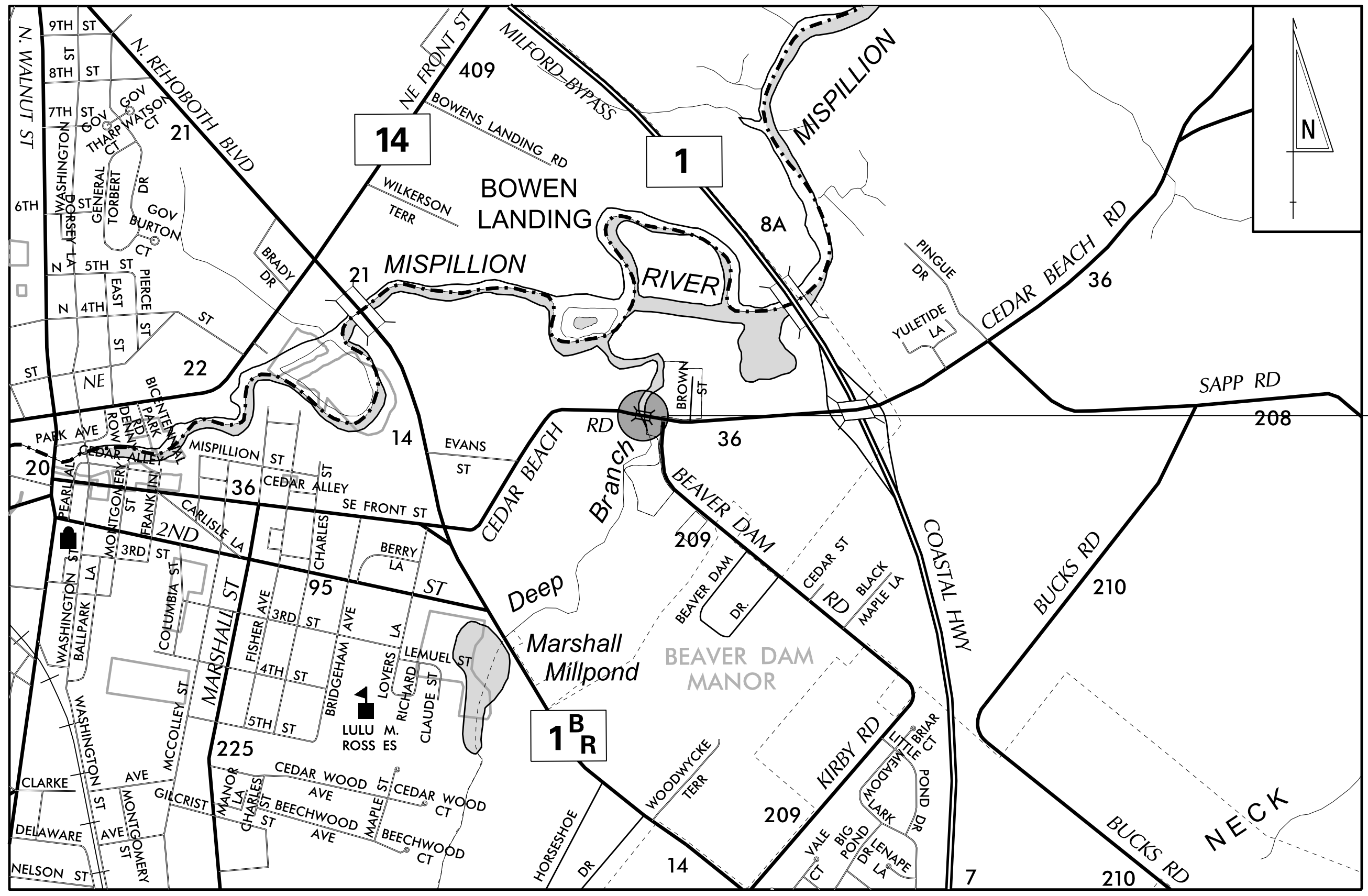
COUNTY: **SUSSEX** M.R. #: **S036, S209**

DESIGN DESIGNATION			
MRD #: 5036	ROAD NAME: CEDAR BEACH ROAD		
FUNCTIONAL CLASS: MINOR ARTERIAL	D.H.V. PROJECTED: 400	YEAR: 2050	
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT	DESIGN SPEED: 40 M.P.H.		
A.A.D.T. CURRENT: 2100	YEAR: 2021	TRUCKS: 9 %	
A.A.D.T. PROJECTED: 3700	YEAR: 2050	DIRECTION OF DISTRIBUTION: 57 %	
APPROVED DESIGN EXCEPTIONS			
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
SUPERELEVATION RATE	2.6%	-2.0%	05/08/2023
ADDENDA/ REVISIONS			
ASSOCIATED CONTRACTS			
CONTRACT NO.	CONTRACT NAME		
1575	RD 209 (RD 36 TO RD 206)		
115	CONT. 68 - MILFORD		

**APPROVED FOR ADVERTISEMENT**

\_\_\_\_\_  
DIRECTOR OF TRANSPORTATION SOLUTIONS

\_\_\_\_\_  
DATE



LOCATION MAP  
NOT TO SCALE

PREPARED BY  
DELDOT - TRANSPORTATION SOLUTIONS  
BRIDGE DESIGN

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "BR" SECTION DESIGNATION.

DATE \_\_\_\_\_ SEAL \_\_\_\_\_

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21 SEP 2025  
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ADDENDA / REVISIONS

NOT TO SCALE

**REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

<b>INDEX OF SHEETS &amp; ADDENDA AND REVISIONS</b>	SECTION
	BR
	SHEET NO.
	2

MANMADE ROADSIDE FEATURES			
FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BARRIER - DOUBLE-FACED, PERMANENT			
BARRIER - SINGLE-FACED, PERMANENT, TEST LEVEL 4 / TEST LEVEL 5	BARRIER, TYPE "X"		B XXX
BARRIER - HIGH TENSION CABLE (HTCB)			
BARRIER - HTCB END TERMINAL			
BOLLARD - STEEL POLE			
BOLLARD - WOOD POST			
CURB, TYPE 1 AND TYPE 3			
CURB, TYPE 2	CURB, TYPE "X"		
CURB & GUTTER, TYPE 1			C XXX
CURB & GUTTER, TYPE 2			
CURB & GUTTER, TYPE 3	C&G, TYPE "X"		
CURB OPENING - SUMP / ON GRADE			C O
CURB/SW OPENING - ADJACENT CURB			CO SW
CURB/SW OPENING - NON-ADJACENT CURB			
FENCE - CHAINLINK OR STRANDED			F XXX
FENCE - STOCKADE OR SPLIT RAIL			
FLAG POLE	F.P.		
GUARDRAIL - STEEL BEAM, TYPE 1			
GUARDRAIL - STEEL BEAM, TYPE 2			
GUARDRAIL - STEEL BEAM, TYPE 3			
GUARDRAIL - WIRE ROPE			
GUARDRAIL - END ANCHORAGE			OR XXX
GUARDRAIL - END TREATMENT, TYPE 1			
GUARDRAIL - END TREATMENT, TYPE 2			
GUARDRAIL - END TREATMENT, TYPE 3			
IMPACT ATTENUATOR			
LAMP AND POST - RESIDENTIAL	LAMP 		
MAILBOX	MB 		
PARKING METER AND POST	P.M. 		
PAVEMENT - FLEXIBLE			
PAVEMENT - RIGID			
PILE - BRIDGE			
PILLAR OR MISCELLANEOUS POST			
TRAFFIC SIGN AND POST			
WALL - BRICK OR BLOCK			
WALL - STONE			

DRAINAGE FEATURES			
FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BIOFILTRATION SWALE			
DITCH OR STREAM (V-SHAPE / TRAPEZOIDAL)			
DIRECTIONAL STREAM FLOW ARROW			
DRAINAGE INLET	C.B. 	D.I. 	DI XXX
DRAINAGE JUNCTION BOX	J.B. 		JB XXX
DRAINAGE MANHOLE			RM XXX
DRAINAGE PIPE AND FLOW ARROW	SIZE/TYPE LABEL 		P XXX
FLARED END SECTION			FES XXX
RIPRAP - AREA FEATURE			RR XXX
RIPRAP - LINEAR FEATURE			
SAFETY END STRUCTURE			SES XXX
UNDERDRAIN			UD XXX
UNDERDRAIN OUTLET			UDO XXX

UTILITY FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
COMMUNICATIONS DISTRIBUTION BOX		
COMMUNICATIONS MANHOLE		
COMMUNICATIONS TEST POINT		
COMMUNICATIONS - UNDERGROUND	COMM(A)	COMM
ELECTRIC - UNDERGROUND	E(A)	E
ELECTRIC MANHOLE		
ELECTRIC METER		
ELECTRIC TRANSFORMER		
GAS - UNDERGROUND	G(A)	G
GAS MANHOLE		
GAS METER	G.M.	
GAS VALVE	G.V.	
GAS PUMP - SERVICE STATION	G.P.	
IRRIGATION - UNDERGROUND	IR(A)	IR
ITMS - UNDERGROUND	ITMS(A)	ITMS
LIGHTING - UNDERGROUND	LI(A)	LI
LUMINAIRE - POLE MOUNTED		
MANHOLE - UNDETERMINED OWNER		
RAILROAD TRACKS		
SANITARY - UNDERGROUND	S(A)	S
SANITARY SEWER MANHOLE		
SANITARY SEWER VALVE	S.V.	
SANITARY SEWER CLEANOUT OR VENT	S.C.O.	
SEPTIC DRAIN FIELD	S.D.F.	
SIGNALIZATION - UNDERGROUND	SIG(A)	SIG
SOIL BORING LOCATION		
TELEPHONE BOOTH		
TRAFFIC - CONDUIT JUNCTION WELL	J.W.	
TRAFFIC - LIGHT POLE AND BASE		
TRAFFIC - PEDESTRIAN POLE & BASE		
TRAFFIC - SIGNAL CABINET & BASE		
TRAFFIC - SIGNAL POLE AND BASE		
UTILITY BOX		
UTILITY MARKER		
UTILITY POLE GUY WIRE ANCHOR		
UTILITY POLE		
UTILITY TEST HOLE LOCATION		
WATER - UNDERGROUND	W(A)	W
WATER - FIRE HYDRANT	F.H.	F.H.
WATER METER	W.M.	
WATER VALVE	W.V.	W.V.
WELL HEAD	WELL	

PAVEMENT SECTION(S)	
MAINTENANCE STRIP - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
RECONSTRUCTED/FULL DEPTH PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS	

NATURAL ROADSIDE FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
HEDGEROW OR THICKET		
MARSH BOUNDARY LINE		
TREE - CONIFEROUS		
TREE - DECIDUOUS		
TREE STUMP		
SHRUBBERY		
WETLAND BOUNDARY - DELINEATED	WL	
WOODS LINE BOUNDARY		

RIGHT-OF-WAY FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
DENIAL OF ACCESS	DA	DA
EASEMENT - OTHERS	EASEMENT TYPE	
PERMANENT EASEMENT	PE	PE
PROPERTY LINE		
PROPERTY MARKER - CONCRETE	C.M.	
PROPERTY MARKER - IRON PIPE	I.P.	
RIGHT-OF-WAY BASELINE	100+00	100+00
RIGHT-OF-WAY LINE	R/W	R/W
RIGHT-OF-WAY BY PE	R/W-PE	
RIGHT-OF-WAY & DENIAL OF ACCESS	R/W-DA	R/W-DA
RIGHT-TO-ENTER		RTE
TEMPORARY CONSTRUCTION EASEMENT		TCE

SURVEY CONTROL & MONUMENTATION	
FEATURE DESCRIPTION	EXISTING
POINT OF CURVATURE OR TANGENCY	
POINT OF INTERSECTING TANGENTS	
SURVEY BENCHMARK LOCATION	B.M.
SURVEY NGS POINT LOCATION	
SURVEY TIE POINT LOCATION	T.P.
SURVEY TRAVERSE POINT	

MISCELLANEOUS FEATURES	
FEATURE DESCRIPTION	PROPOSED
BRICK PATTERNED SURFACE	
BUTT JOINT	
CLEAR ZONE	CZ
CONSTRUCTION BASELINE	100+00
LATERAL OFFSET	LO
LIMIT OF CONSTRUCTION	LOC
PAVEMENT PATCH	
PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH	
P.C.C. SIDEWALK - 4"	
P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)	

IDENTIFIERS	
FEATURE DESCRIPTION	ID
ABANDON BY CONTRACTOR	AB C
ABANDON BY OTHERS	AB O
ADJUST BY CONTRACTOR	A C
ADJUST BY OTHERS	A O
BEST MANAGEMENT PRACTICE	BMP XXX
BUS STOP PAD / TYPE	BSP X
BUS STOP WITH SHELTER PAD / TYPE	BSP X
CONCRETE SAFETY BARRIER	B XXX
CONVERT TO JUNCTION BOX	CJB XXX
CONVERT TO DRAINAGE MANHOLE	CDM XXX
DO NOT DISTURB	DND
ENERGY DISSIPATOR	ED XXX
FILL WITH FLOWABLE FILL	FF C
LANDSCAPE PLANTINGS	LS XXX
PEDESTRIAN CONNECTION / TYPE	PC X
PEDESTRIAN CONNECTION / TYPE WITHOUT DETECTABLE WARNING SYSTEM	PC-N XXX
RELOCATE BY CONTRACTOR	RL C
RELOCATE BY OTHERS	RL O
RELOCATE BY PROPERTY OWNER	RL PO
REMOVE BY CONTRACTOR	RM C
REMOVE BY OTHERS	RM O
REMOVE BY TRAFFIC CONTRACTOR	RM TC
RIGHT-OF-WAY MONUMENT	M XXX

ADDENDA / REVISIONS

NOT TO SCALE

### REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD

CONTRACT	BRIDGE NO.	3-927
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

### LEGEND

SECTION
SHEET NO.
3

## GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED JANUARY 2024 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2024, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

2. ELECTRONIC DESIGN DATA FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
( x )	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
( x )	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( x )	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
( x )	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D FEATURE LINES FOR THE PROPOSED DESIGN. 3D FEATURE LINES ARE FOR THE PROPOSED TOP SURFACE ELEVATION ONLY.

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

NOTE: THERE MAY BE SOME AREAS OF THE PROJECT NOT INCLUDED IN THE ELECTRONIC DESIGN DATA FILE(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DESIGN DATA FILE AND DETERMINE THE LIMITS OF THE PROJECT INCLUDED.

3. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

( x )	CROSS SECTIONS (WILL BE MADE AVAILABLE DURING BIDDING)
( x )	RIGHT-OF-WAY PLANS (INCLUDED IN PLAN SET)

## PROJECT NOTES

### SECTION 100

1. ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

2. THE CONTRACTOR WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AERIAL VEHICLE (UAV) FLIGHTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION: THE REGISTRATION NUMBER OF THE UAV, THE FLIGHT TIME, LOCATION OF THE FLIGHT, THE PILOT'S NAME AND THE PILOT'S CONTACT NUMBER DURING THE FLIGHT.

3. NIGHT WORK IS NOT PERMITTED ON THIS PROJECT UNLESS THE CONTRACTOR OBTAINS: APPROVAL FROM THE ENGINEER, ACCEPTABLE RESPONSES ON NIGHT WORK SURVEYS, AND ACCEPTANCE FROM THE MUNICIPALITY. METHOD AND FORMAT OF NIGHT WORK SURVEYS WILL BE PROVIDED BY THE ENGINEER UPON REQUEST. NIGHT WORK, SURVEYS, AND COORDINATION WITH MUNICIPALITIES IS NOT COMPENSABLE AND THE TIME TO COMPLETE THE SURVEYS IS NOT EXCUSABLE."

### SECTION 200

4. THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE POSITIONED IN ACCORDANCE WITH THE LATEST VERSION OF THE UNITED STATES POSTAL SERVICE GUIDELINES. MAILBOXES LOCATED AT DRIVEWAY ENTRANCES SHALL BE PLACED ON THE FAR SIDE OF THE DRIVEWAY IN THE DIRECTION OF TRAVEL. POSTS BEING RESET IN CONCRETE SIDEWALK SHALL BE IN AN APPROPRIATE SIZE PVC SLEEVE. ACCEPTABLE POST SHALL BE 4 INCH X 4 INCH WOOD POST OR 4 INCH DIAMETER WOOD POST. FOR RELOCATING MULTIPLE MAILBOXES TOGETHER, ALL POST SHALL BE SEPARATED BY A DISTANCE OF NO LESS THAN 3/4 OF THEIR FULL HEIGHT ABOVE THE GROUND. MULTIPLE MAILBOXES ATTACHED TO A SINGLE HORIZONTAL BOARD SHALL NOT BE LOCATED INSIDE THE CLEARZONE. EACH MAILBOX SHALL BE PLACED ON AN INDIVIDUAL POST MEETING THE CRITERIA ABOVE. ALL MAILBOXES SHALL BE SET NOT TO IMPEDE THE MINIMUM PAR (PEDESTRIAN ACCESS ROUTE) WIDTH AS DETERMINED BY THE CURRENT EDITION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY. IF MAILBOXES ARE NOT SET IN ACCORDANCE WITH THE ABOVE DIRECTIONS, RESETTING OF THE MAILBOXES WILL BE AT THE COST OF THE CONTRACTOR. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM #201000 - CLEARING AND GRUBBING.

5. ITEMS TO BE REMOVED UNDER ITEM #211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- EXISTING STRUCTURE IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO:
  - EXISTING SUPERSTRUCTURE AND PARAPET
  - EXISTING SUBSTRUCTURE
  - EXISTING TIMBER PILES TO BE CUT TO A MINIMUM DEPTH OF 1'-0" BELOW THE BOTTOM ELEVATION OF THE DE #3 STONE IN THE PROPOSED RIPRAP APRON
- EXISTING GUARDRAIL
- EXISTING RIPRAP UPSTREAM, DOWNSTREAM, AND UNDER THE BRIDGE (STONE MAY BE REUSED IF IT MEETS THE REQUIREMENTS SET FORTH FOR R-5 RIPRAP)
- EXISTING VERIZON CABLE AND UNKNOWN UTILITY ATTACHED TO EXISTING STRUCTURE
- EXISTING LIGHT POLE ON PARCEL 205

6. SIGNING:  
TO AVOID DAMAGE, SIGNS WITHIN PROJECT LIMITS MAY BE REMOVED DURING CONSTRUCTION IF NEEDED, BUT MUST BE REPLACED TO MATCH EXISTING CONDITIONS BEFORE REOPENING THE ROADWAY. INCLUDE PAYMENT FOR ALL WORK RELATED TO MOVING AND REINSTALLING THE SIGN IN ITEM #211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. IF THE SIGN IS DAMAGED DURING CONSTRUCTION, REPLACE THE SIGN AT THE CONTRACTOR'S EXPENSE.

7. ONLY EXISTING FEATURES WITHIN THE LOC IDENTIFIED WITH REMOVE BY CONTRACTOR OR BY OTHER METHODS ARE TO BE REMOVED OR DISTURBED.

### SECTION 400

8. THE PAVEMENT SECTION FOR FLEXIBLE PAVEMENT RESIDENTIAL DRIVEWAYS SHALL BE 2" BITUMINOUS CONCRETE, TYPE 'C' OVER 8" GRADED AGGREGATE BASE COURSE, TYPE 'B', UNLESS OTHERWISE NOTED ON THE PLANS

## SECTION 600

9. PORTLAND CEMENT CONCRETE:  
USE PORTLAND CEMENT CONCRETE FOR PRECAST ELEMENTS AS FOLLOWS:  
(f'c = 28-DAY COMPRESSIVE STRENGTH)  
(f'ci = COMPRESSIVE STRENGTH AT INITIAL PRESTRESS)  
PRESTRESSED CONCRETE NEXT BEAMS, PARAPETS (f'c = 8 ksi)  
PRESTRESSED CONCRETE PILES (f'c = 6 ksi)  
PRECAST CONCRETE ABUTMENTS, CHEEKWALLS (f'c = 5 ksi)

DESIGN ASSUMPTIONS:  
THE PRESTRESSED CONCRETE BEAMS WERE DESIGNED FOR ALLOWABLE TENSION STRESSES IN THE BOTTOM OF THE BEAM = 0.0 ksi. THIS DESIGN APPROACH EXCEEDS THE MINIMUM REQUIREMENTS FOR SEVERE CORROSIVE CONDITIONS OUTLINED IN A5.9.2.3.2b. OF THE AASHTO LRFD. BY ASSUMING 0 ksi OR ALLOWABLE TENSILE STRESS, A MARGIN OF TENSILE CAPACITY IS BUILT INTO THE BEAM DESIGN TO COMPENSATE FOR ADDITIONAL STRESSES CREATED BY CAMBER LEVELING TECHNIQUES AND NEGATES THE NEED FOR CALCULATING THE EFFECTS OF THOSE STRESSES. IF CAMBER LEVELING TECHNIQUES ARE USED TO ATTEMPT TO ALLEVIATE DIFFERENTIAL CAMBER BETWEEN BEAMS, THE ENGINEER WILL DOCUMENT THE METHOD USED IN THE AS-BUILT DOCUMENTS.

THE PRECAST CONCRETE ABUTMENT CAPS ARE DESIGNATED AS MASS CONCRETE POURS. A TEMPERATURE CONTROL PLAN IS REQUIRED TO CONSTRUCT THE ABUTMENT CAPS. REFER TO SECTIONS 610.3.1.A.2 AND 610.3.4.D.3 OF THE STANDARD SPECIFICATIONS FOR MORE INFORMATION.

USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:  
(f'c = 28-DAY COMPRESSIVE STRENGTH)  
CLASS A - 2% HIGH EARLY STRENGTH ADMIXTURE - ABUTMENT CLOSURE POURS AROUND PILES AND WINGWALL CLOSURE POUR, AND WINGWALL CAPS. (f'c = 4.5 ksi)

SUPPLY THE CONCRETE FOR THE ABUTMENT CLOSURE POUR THAT INCLUDES A SHRINKAGE-REDUCING/COMPENSATING ADMIXTURE. THE ADMIXTURE MAY BE SUPPLIED BY ONE PRODUCT THAT PROVIDES BOTH EXPANSION AND PORE WATER SURFACE TENSION OR TWO SEPARATE PRODUCTS EACH ADDED AT DOSAGE RECOMMENDED BY MANUFACTURER'S TECHNICAL DATA SHEETS AND HAVING THE FOLLOWING CHARACTERISTICS:

- DESIGNED TO PROVIDE BOTH OF THE FOLLOWING CHARACTERISTICS:
    - EXPANDS AT A RATE THAT CLOSELY COMPENSATES FOR THE SHRINKAGE OF THE CONCRETE MIX.
    - REDUCES THE CAPILLARY SURFACE TENSION OF THE CONCRETE PORE WATER.
  - PROVIDES AT LEAST 80% SHRINKAGE REDUCTION AS MEASURED AND DOCUMENTED BY FIELD PERFORMANCE.
  - FORMULATED FOR USE IN FREEZING AND THAWING WEATHER.
- USE ADMIXTURES THAT ARE COMPATIBLE WITH ALL OTHER CONCRETE-MX DESIGN CONSTITUENTS. CALCIUM CHLORIDE IS NOT PERMITTED; NO CHEMICAL ADMIXTURES WHICH CONTAIN MORE THAN 0.1% CHLORIDE BY WEIGHT, WILL BE PERMITTED FOR USE. DOSAGE RATE AND MIXING SEQUENCE WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

10. BAR REINFORCEMENT:  
a. PROVIDE A 3" CLEAR COVER FOR ALL REINFORCING STEEL PLACED IN CONCRETE CAST AGAINST EARTH OR A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
b. WHERE DENOTED WITH A SUFFIX 'E' IN BAR MARKS, PROTECT ALL REINFORCING STEEL WITH FUSION BONDED EPOXY.  
c. UNLESS SPECIFIED IN THE PLANS, ANY FIELD CUTTING OR FIELD BENDING MUST BE APPROVED BY THE ENGINEER. PAYMENT INCIDENTAL TO THE RESPECTIVE BAR REINFORCEMENT ITEM.  
d. WITH APPROVAL OF THE BRIDGE DESIGN ENGINEER, GALVANIZED REINFORCING STEEL MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL AT NO ADDITIONAL COST TO THE DEPARTMENT.  
e. WELDING OF REINFORCEMENT DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.

11. CONCRETE SEALER:  
REFER TO DIAGRAMS CONTAINING CONCRETE SEALER LIMITS ON SHEET DWG. NO. BR-01. PAYMENT WILL BE INCIDENTAL TO THE SPECIFIC PRECAST ELEMENT TO WHICH THE SEALER IS APPLIED.

12. ABUTMENT PROTECTION:  
SEE DWG. NO. AB-02 FOR INFORMATION PERTAINING TO TYPE AND LIMITS OF ABUTMENT PROTECTION.

13. STABILITY OF NEXT BEAMS:  
IT IS THE RESPONSIBILITY OF THE FABRICATOR AND THE CONTRACTOR TO ENSURE THE STABILITY OF THE GIRDERS THROUGHOUT FABRICATION, STORAGE, TRANSPORT, AND PLACEMENT. AFTER PLACEMENT, THE CONTRACTOR WILL ENSURE STABILITY OF THE GIRDERS THROUGH EXTERNAL MEANS UNTIL THE LONGITUDINAL UHPC CLOSURE POURS REACH A MINIMUM STRENGTH OF 10 KSI.

### SECTION 700

14. THE CONTRACTOR SHALL DELIVER ALL EXCESS MILLED MATERIAL TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S ELLENDALE MAINTENANCE YARD:

23697 DUPONT BOULEVARD  
GEORGETOWN, DE 19947

CONTACT SOUTH DISTRICT 48 HOURS PRIOR TO DELIVERY. THE MATERIAL SHALL BE NEATLY STOCKPILED AT THE YARD. COSTS FOR THIS WORK SHALL BE INCIDENTAL TO THE MILLING ITEM UTILIZED FOR PAYMENT ON THE CONTRACT.

15. ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.

### SECTION 800

16. MAINTENANCE OF TRAFFIC:  
MAINTAIN TRAFFIC AS PER DETOUR PLAN. ALL MOT ITEMS, WITH THE EXCEPTION OF PORTABLE CHANGEABLE MESSAGE SIGNS (ITEM #803001) AND FLAGGERS (ITEM #811003 & ITEM #811015), WILL BE INCLUDED IN ITEM #801500 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.

### SECTION 900

17. THIS PROJECT IS COVERED UNDER AN NPDES GENERAL PERMIT FOR CONSTRUCTION. UNDER THE GENERAL PERMIT, COMPLIANCE WITH DELDOT'S APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS WILL CONSTITUTE COMPLIANCE WITH THE NPDES INDUSTRIAL PERMITTING REQUIREMENTS FOR THIS CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NOI IS KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S STORMWATER SECTION. A COPY OF THE GENERAL PERMIT OR THE NOI CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

## MISCELLANEOUS

18. CONTRACTOR WILL MAINTAIN ACCESS TO ALL DRIVEWAYS THROUGHOUT THE DURATION OF THE PROJECT. DURING THE FULL DEPTH REPLACEMENT OPERATIONS OF THE APPROACH ROADWAYS, THE CONTRACTOR WILL NOTIFY THE PROPERTY OWNERS OF THE WORK AND ASSOCIATED TEMPORARY LIMITED ACCESS AT LEAST A WEEK PRIOR TO BEGINNING WORK. PEDESTRIAN ACCESS TO PROPERTIES WILL BE MAINTAINED UNIMPEDED THROUGHOUT THE DURATION OF THE PROJECT.

19. THE CONTRACTOR SHALL NOTIFY DART FIRST STATE AT DOT\_DETOURS@DELAWARE.GOV AT LEAST 14 DAYS PRIOR TO THE START OF ANY DETOURS OR CONSTRUCTION, AND DOT\_DTC\_PROJECTDEVELOPMENT@DELAWARE.GOV AT SUCH TIME THE FACILITY IS COMPLETED AND OPERABLE FOR TRANSIT OPERATIONS. FOR EMERGENCY DETOUR INFORMATION ONLY, PLEASE CONTACT DTC'S CHIEF SCHEDULER AT 302-576-6019.

20. ANY STAGING AND/OR STOCKPILE AREA(S) OUTSIDE THE PROJECT'S LIMIT OF CONSTRUCTION (LOC) THAT INDIVIDUALLY OR CUMULATIVELY ARE LARGER THAN 10,000 SQUARE FEET, MUST BE APPROVED BY DELDOT'S ARCHAEOLOGIST. CONTACT THE CONSTRUCTION AREA ENGINEER WHO WILL COORDINATE WITH DELDOT'S ARCHAEOLOGIST.

WITHIN 30 DAYS, DELDOT WILL:

- APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S);
- REJECT THE REQUEST; OR
- PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

21. DESIGN SPECIFICATIONS:  
(A) DELDOT BRIDGE DESIGN MANUAL, 2024 EDITION  
(B) AASHTO LRFD BRIDGE SPECIFICATIONS, 2020, 9TH EDITION, CUSTOMARY U.S. UNITS.

22. LOADING:  
- DEAD LOADS INCLUDE 25 PSF FOR FUTURE WEARING SURFACE ON DECK SLAB.  
- DESIGN LIVE LOADS INCLUDE HL-93 LOADING.  
- LIVE LOAD DISTRIBUTION TO THE GIRDERS IS BASED ON THE AASHTO SIMPLIFIED METHOD.  
- THERMAL LOADS AND MOVEMENTS ARE BASED ON THE MODERATE TEMPERATURE RANGE AS STIPULATED IN THE AASHTO LRFD DESIGN SPECIFICATIONS AS 10° F TO 80° F. THE NORMAL TEMPERATURE WILL BE CONSIDERED TO BE 68° F.  
- LIVE LOAD DEFLECTION LIMIT IS L/1000.  
- BARRIERS HAVE BEEN DESIGNED FOR MASH TEST LEVEL 2 (TL-2).

23. HYDRAULIC DATA:			
DRAINAGE AREA:	7.73 sq. mi	DESIGN FREQ.:	50 YEARS
DESIGN DISCHARGE:	1155 cfs	100-YEAR DISCHARGE:	1396 cfs
EXISTING (DESIGN STORM) WSE:	7.31 ft	PROPOSED (DESIGN STORM) WSE:	7.33 ft
EXISTING (DESIGN STORM) VELOCITY:	7.44 fps	PROPOSED (DESIGN STORM) VELOCITY:	2.56 fps
EXISTING 100-YEAR WSE:	8.22 ft	PROPOSED 100-YEAR WSE:	8.22 ft
EXISTING 100-YEAR VELOCITY:	7.76 fps	PROPOSED 100-YEAR VELOCITY:	3.09 fps
EXISTING WATERWAY OPENING:	181 sq. ft	PROPOSED WATERWAY OPENING:	451 sq. ft

MEAN HIGH WATER ELEVATION: 1.6 ft  
MEAN LOW WATER ELEVATION: -2.47 ft  
VERTICAL UNDER CLEARANCE: 2.6 ft

24. SCOUR ANALYSIS:  
SCOUR DESIGN FREQUENCY: 200 YEARS  
SCOUR DESIGN FLOOD DISCHARGE: 1599 cfs  
SCOUR DESIGN FLOOD VELOCITY: 3.53 fps (AT BRIDGE OUTLET)  
WATER SURFACE ELEVATION: 9.03 ft (IMMEDIATELY UPSTREAM OF BRIDGE)  
CALCULATED SCOUR DEPTH AT EACH SUBSTRUCTURE UNIT: 9.12 ft

SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE SCOUR DESIGN FLOOD IN ACCORDANCE WITH HEC 23 - BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES.

## LOAD RATING SUMMARY

DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK + HL-93 LANE (INVENTORY)	1.08	N/A	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
HL-93 TANDEM + HL-93 LANE (INVENTORY)	1.20	N/A	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
HS20 (INVENTORY)	1.35	48.60	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
HL-93 TRUCK + HL-93 LANE (OPERATING)	1.39	N/A	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
HL-93 TANDEM + HL-93 LANE (OPERATING)	1.53	N/A	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
HS20 (OPERATING)	1.73	62.28	EXTERNAL GIRDER G1	105	L. REINFORCEMENT
DE S220	2.17	43.40	EXTERNAL GIRDER G1	105	STRESS
DE S335	1.20	42.00	EXTERNAL GIRDER G1	105	STRESS
DE S437	1.14	41.77	EXTERNAL GIRDER G1	105	STRESS
DE T330	1.81	54.30	EXTERNAL GIRDER G1	105	STRESS
DE T435	1.60	56.00	EXTERNAL GIRDER G1	105	STRESS
DE T540	1.43	57.20	EXTERNAL GIRDER G1	105	STRESS
EV2	1.81	52.04	EXTERNAL GIRDER G1	105	STRESS
EV3	1.18	50.74	EXTERNAL GIRDER G1	105	STRESS
SU4	1.55	41.85	EXTERNAL GIRDER G1	105	STRESS
SU5	1.41	43.71	EXTERNAL GIRDER G1	105	STRESS
SU6	1.27	44.13	EXTERNAL GIRDER G1	105	STRESS
SU7	1.16	44.95	EXTERNAL GIRDER G1	105	STRESS

NOTE: LOAD RATING INCLUDES FUTURE WEARING SURFACE AS NOTED IN THE PLANS.

ADDENDA / REVISIONS

NOT TO SCALE

REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD

CONTRACT	BRIDGE NO.	3-927
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

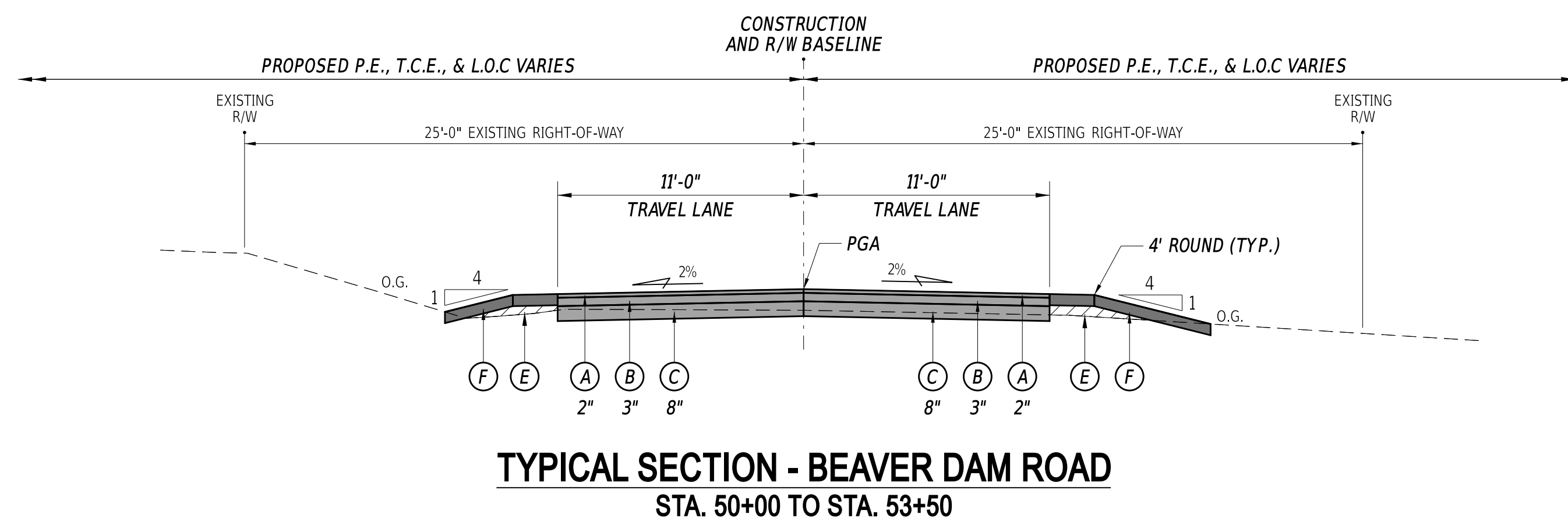
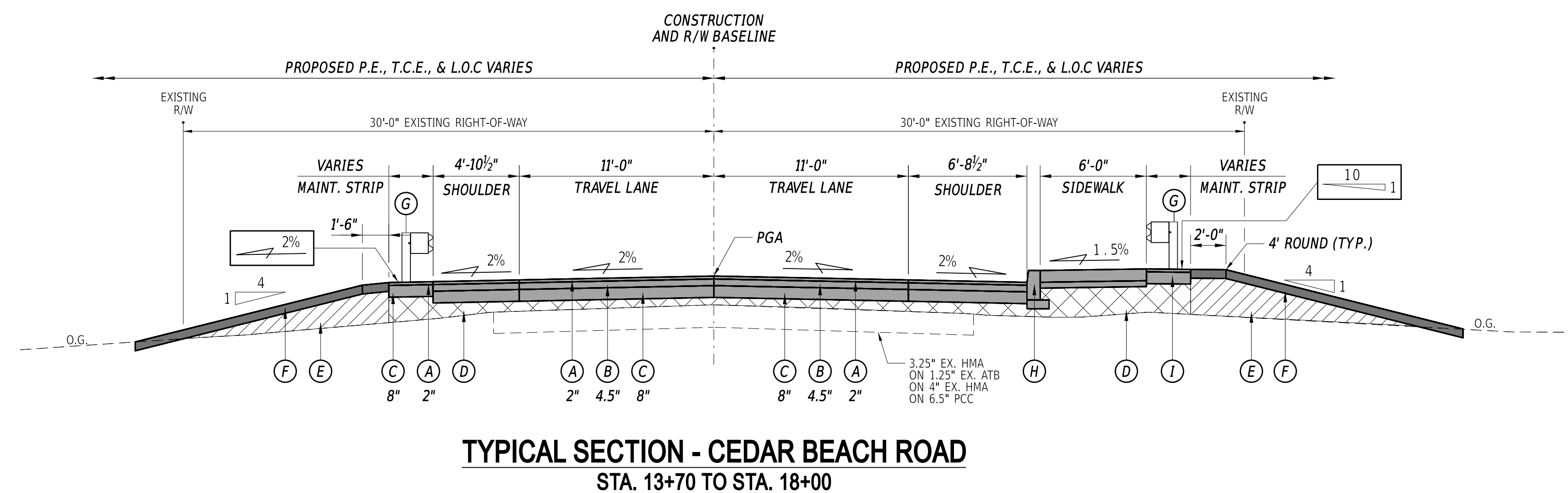
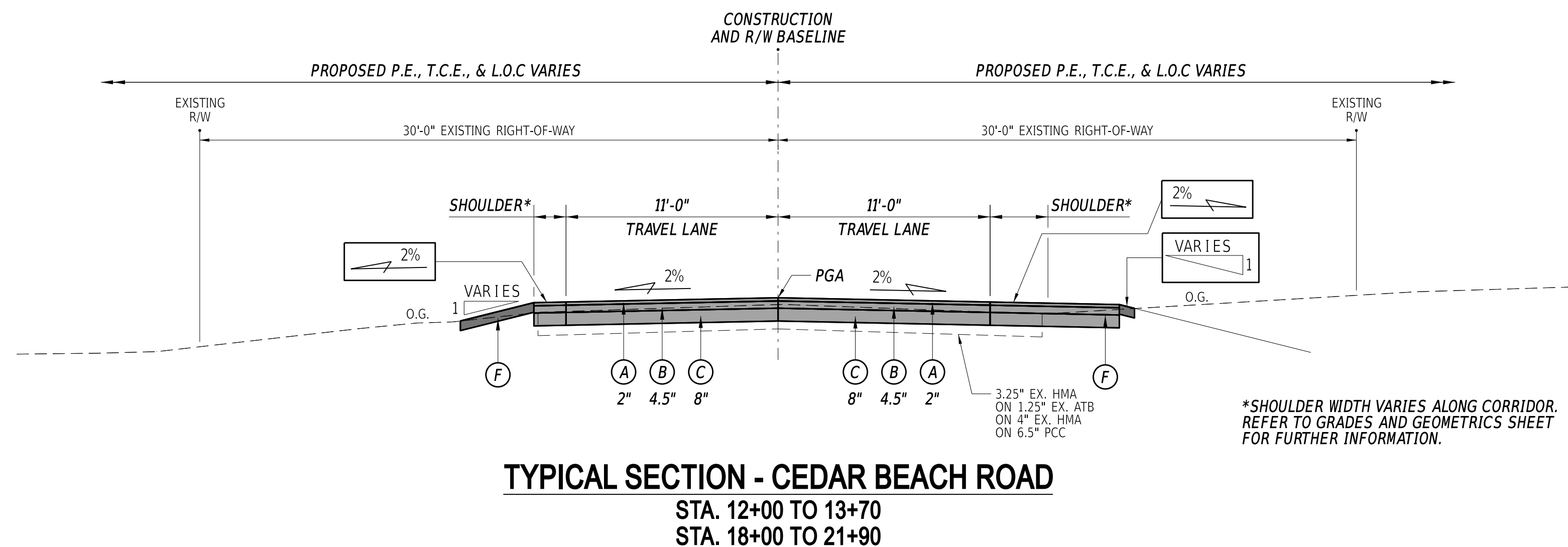
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SECTION  
BR  
SHEET NO.  
4

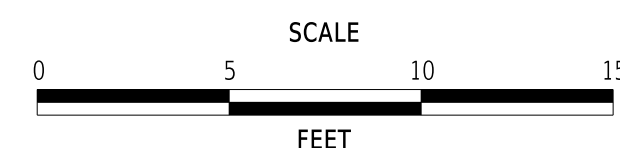
**LEGEND**

- (A) ITEM #401005 - SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)
- (B) ITEM #401014 - SUPERPAVE TYPE B, 64-22
- (C) ITEM #301001 - GABC
- (D) ITEM #209001 - BORROW, TYPE A
- (E) ITEM #209006 - BORROW, TYPE F
- (F) ITEM #908004 - TOPSOIL, 6" DEPTH  
ITEM #908020 - PERMANENT GRASS SEEDING, STREAMBANK  
ITEM #908020 - EROSION CONTROL BLANKET MULCH
- (G) ITEM #720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31  
ITEM #721001 - GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3  
ITEM #721012 - GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 3-31
- (H) ITEM #701013 - PCC CURB, TYPE 1-8, OVER 6" OF GABC
- (I) ITEM #705001 - PCC SIDEWALK, 4", OVER 4" OF GABC

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0



ADDENDA / REVISIONS



**REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

**TYPICAL SECTIONS**

SECTION	BR
SHEET NO.	5

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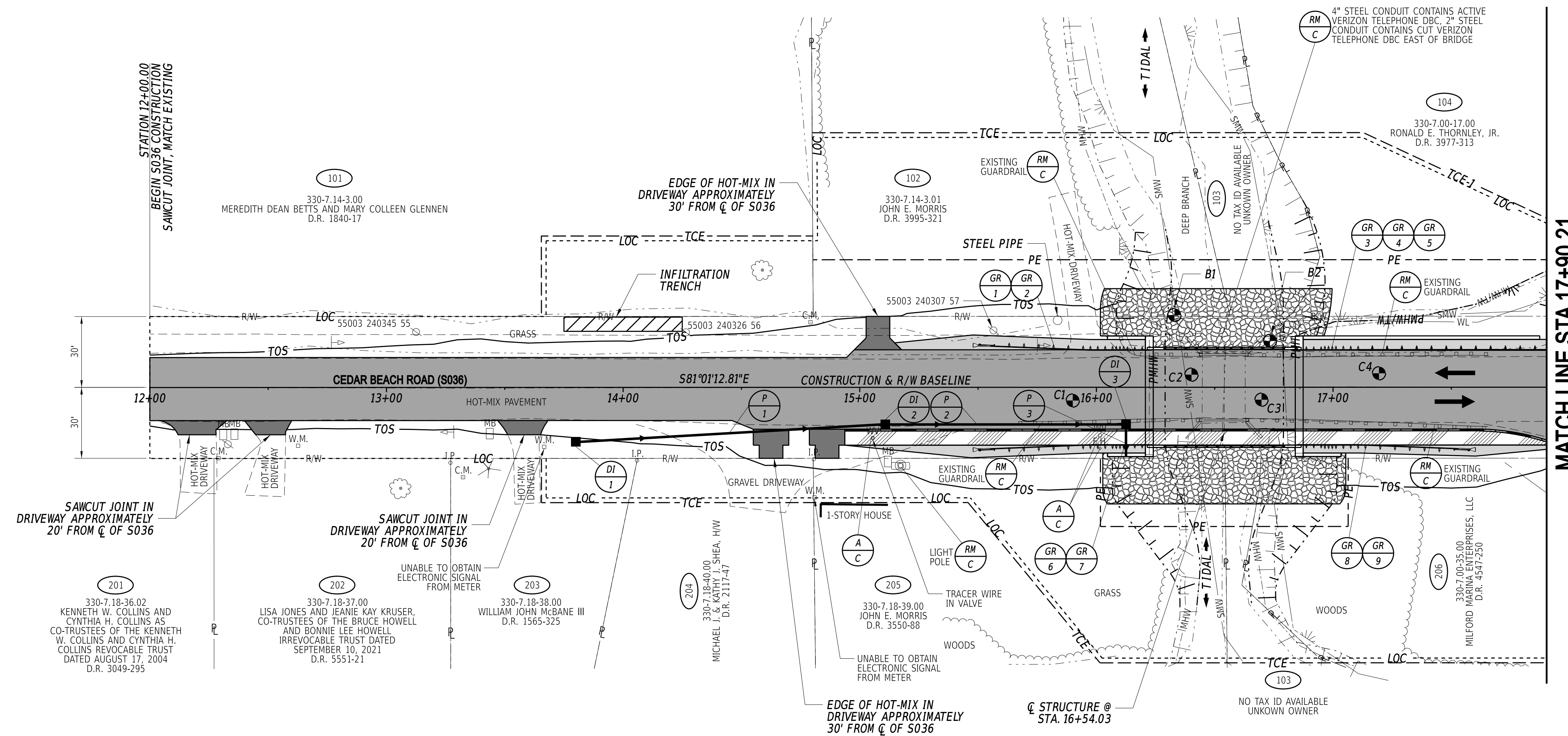
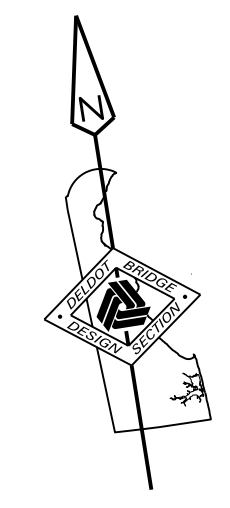
ROADWAY CORE SCHEDULE				
NO.	STATION	OFFSET	DESCRIPTION	
C1	15+90.00	5.60	2.75" HMA ON 0.75" ATB ON 4" HMA ON 6.5" PCC	
C2	16+40.18	-5.33	2.25" HMA ON 1.25" ATB ON 3.25" HMA ON 6.25" PCC	
C3	16+69.78	5.27	3.25" HMA ON 0.75" ATB ON 3.75" HMA ON 6" PCC	
C4	17+19.41	-5.88	2.5" HMA ON 0.5" ATB ON 3.75" HMA ON 6.25" PCC	

SOIL BORING SCHEDULE					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
B1	16+32.00	-31.63	333037.5250	658675.4250	-0.5
B2	16+73.31	-19.57	333019.3180	658713.3660	2.5

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
1	13+80.00	XXXX.XX	XX" x XX"	X	XXXX.XX	XXXX.XX
2	XXXX+XX.XX	XXXX.XX	XX" x XX"	X	XXXX.XX	XXXX.XX
3	XXXX+XX.XX	XXXX.XX	XX" x XX"	X	XXXX.XX	XXXX.XX

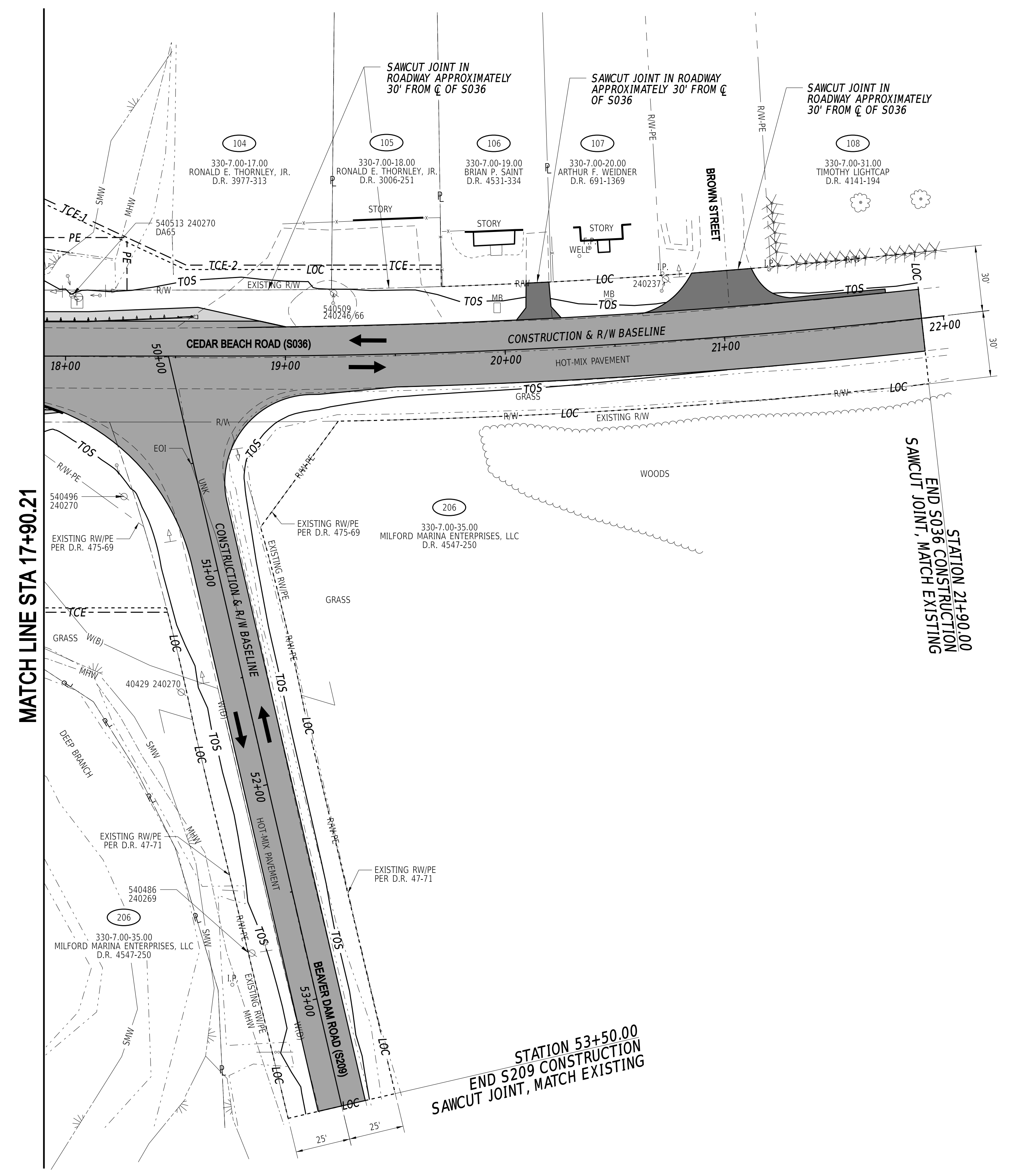
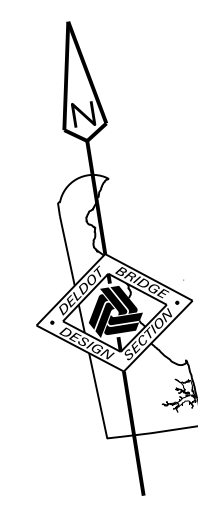
GUARDRAIL SCHEDULE					
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH	
1	GR END TREATMENT, TYPE 1-31 (721001)	15+47.90	-17.78	50.00	
2	GR TO BARRIER CONN., APPRO. TYPE 3-31 (721012)	15+97.47	-15.88	37.50	
3	GR TO BARRIER CONN., APPRO. TYPE 3-31 (721012)	16+83.80	-15.88	37.50	
4	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31 (720021)	17+10.60	-15.88	100.00	
5	GR END TREATMENT, TYPE 1-31 (721001)	18+10.60	-17.78	50.00	
6	GR END TREATMENT, TYPE 1-31 (721001)	15+47.90	26.36	50.00	
7	GR TO BARRIER CONN., APPRO. TYPE 3-31 (721012)	15+97.47	24.46	37.50	
8	GR TO BARRIER CONN., APPRO. TYPE 3-31 (721012)	16+83.80	24.46	37.50	
9	GR END TREATMENT, TYPE 1-31 (721001)	17+01.43	26.36	50.00	

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
1	15" RCP	XX	127'	X.XXXX	XXXX.XX	XXXX.XX
2	15" RCP	XX	98'	X.XXXX	XXXX.XX	XXXX.XX
3	15" RCP	XX	7'	X.XXXX	XXXX.XX	XXXX.XX



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ADDENDA / REVISIONS   	SCALE  FEET	<b>REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> <td><b>3-927</b></td> </tr> <tr> <td>T202107302</td> <td>DESIGNED BY:</td> <td>M. TOUSSAINT</td> </tr> <tr> <td>COUNTY</td> <td>CHECKED BY:</td> <td>S. WEAVER</td> </tr> <tr> <td>SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	<b>3-927</b>	T202107302	DESIGNED BY:	M. TOUSSAINT	COUNTY	CHECKED BY:	S. WEAVER	SUSSEX			<b>CONSTRUCTION PLANS</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><b>CP-01</b></td> </tr> <tr> <td>SECTION</td> </tr> <tr> <td>BR</td> </tr> <tr> <td>SHEET NO.</td> </tr> <tr> <td>7</td> </tr> </table>	<b>CP-01</b>	SECTION	BR	SHEET NO.	7
CONTRACT	BRIDGE NO.	<b>3-927</b>																				
T202107302	DESIGNED BY:	M. TOUSSAINT																				
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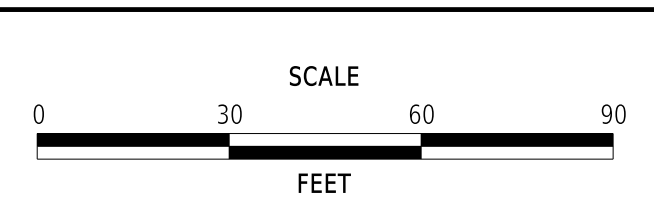


MATCH LINE STA 17+90.21

STATION 21+90.00  
END S036 CONSTRUCTION  
SAWCUT JOINT, MATCH EXISTING

STATION 53+50.00  
END S209 CONSTRUCTION  
SAWCUT JOINT, MATCH EXISTING

ADDENDA / REVISIONS	



## REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD

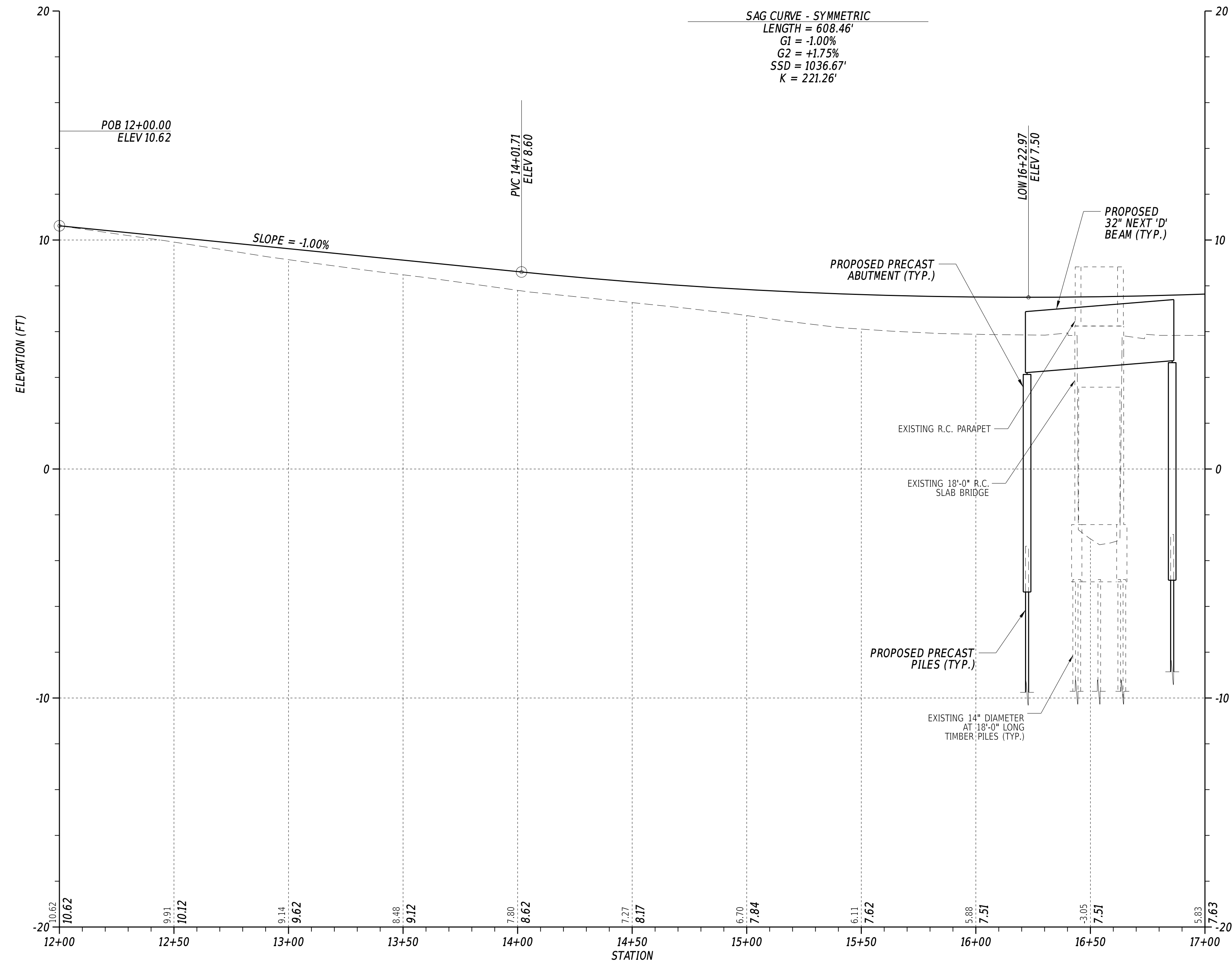
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T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

CONSTRUCTION PLANS	
SECTION	BR
SHEET NO.	8

CP-02
SECTION
BR
SHEET NO.
8

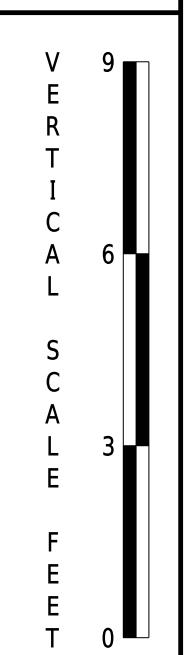
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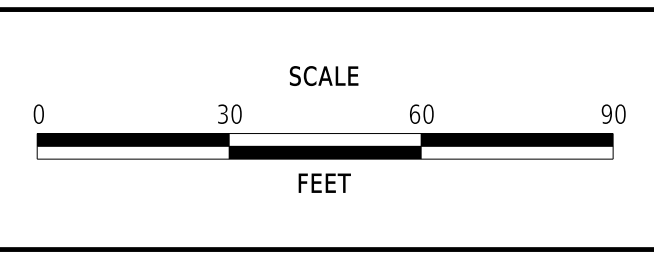


S036 - CEDAR BEACH ROAD

PF-01



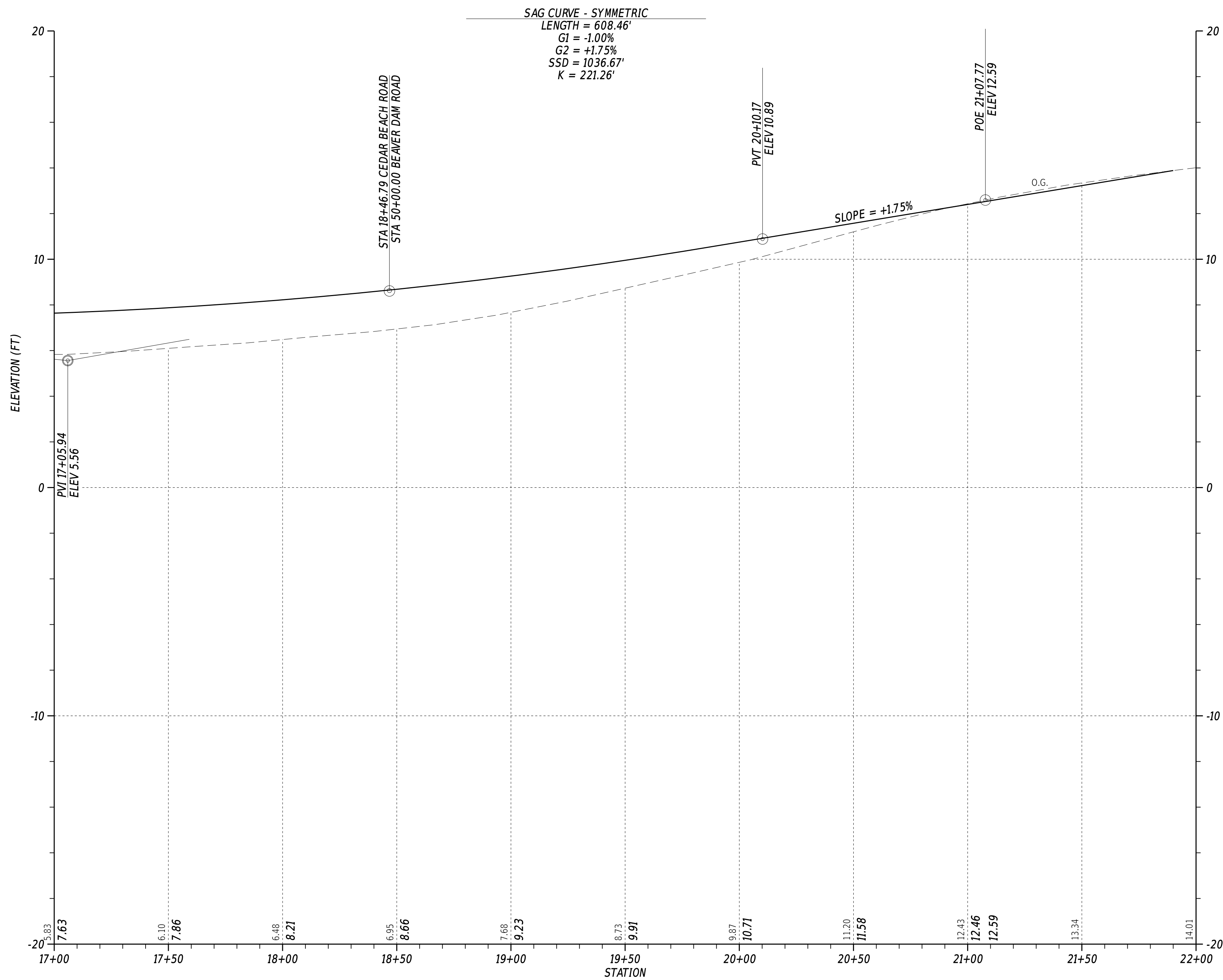
ADDENDA / REVISIONS	



**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

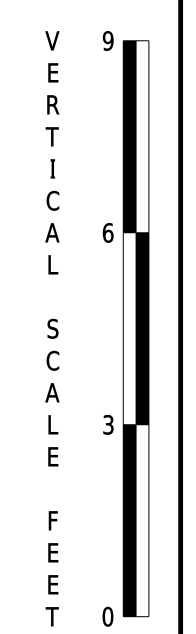
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T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

<b>PROFILES</b>	SECTION
	BR
	SHEET NO.
	9



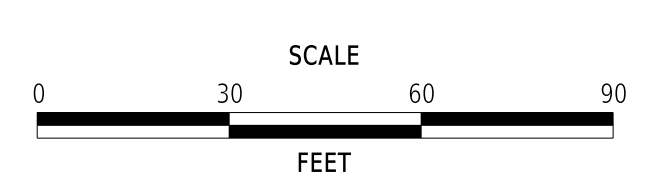
S036 - CEDAR BEACH ROAD

PF-02



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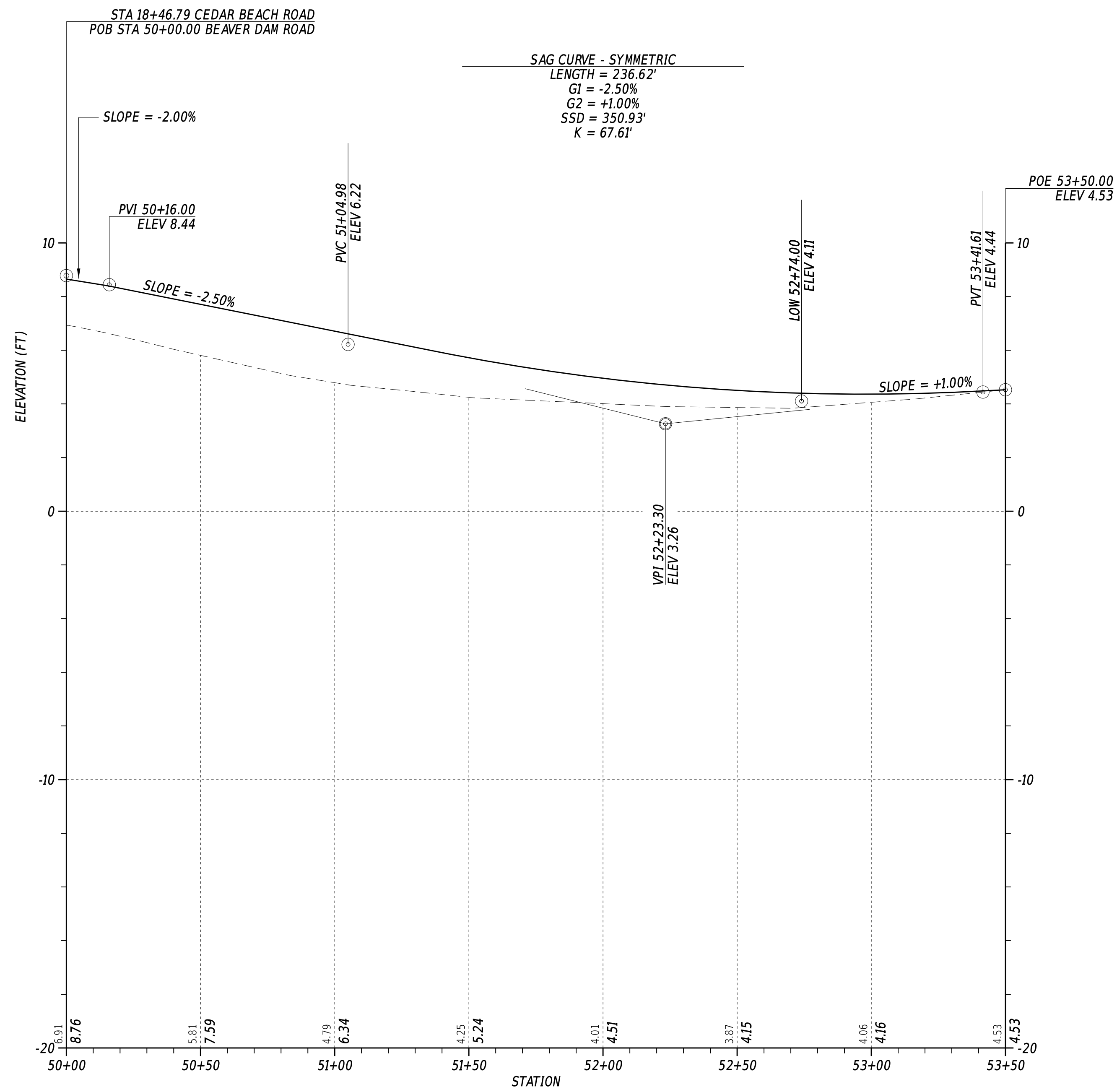
ADDENDA / REVISIONS



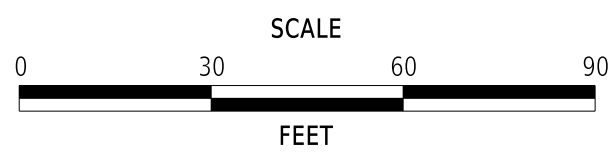
**REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD**

CONTRACT T202107302	BRIDGE NO. <b>3-927</b>	
COUNTY SUSSEX	DESIGNED BY: M. TOUSSAINT	
	CHECKED BY: S. WEAVER	

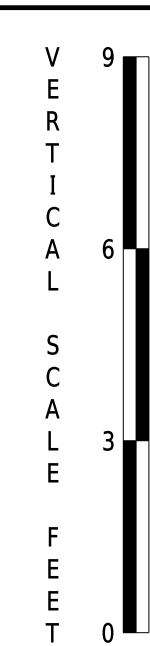
<b>PROFILES</b>
SECTION BR
SHEET NO. 10



S209 - BEAVER DAM ROAD



PF-03



ADDENDA / REVISIONS

**REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

PROFILES

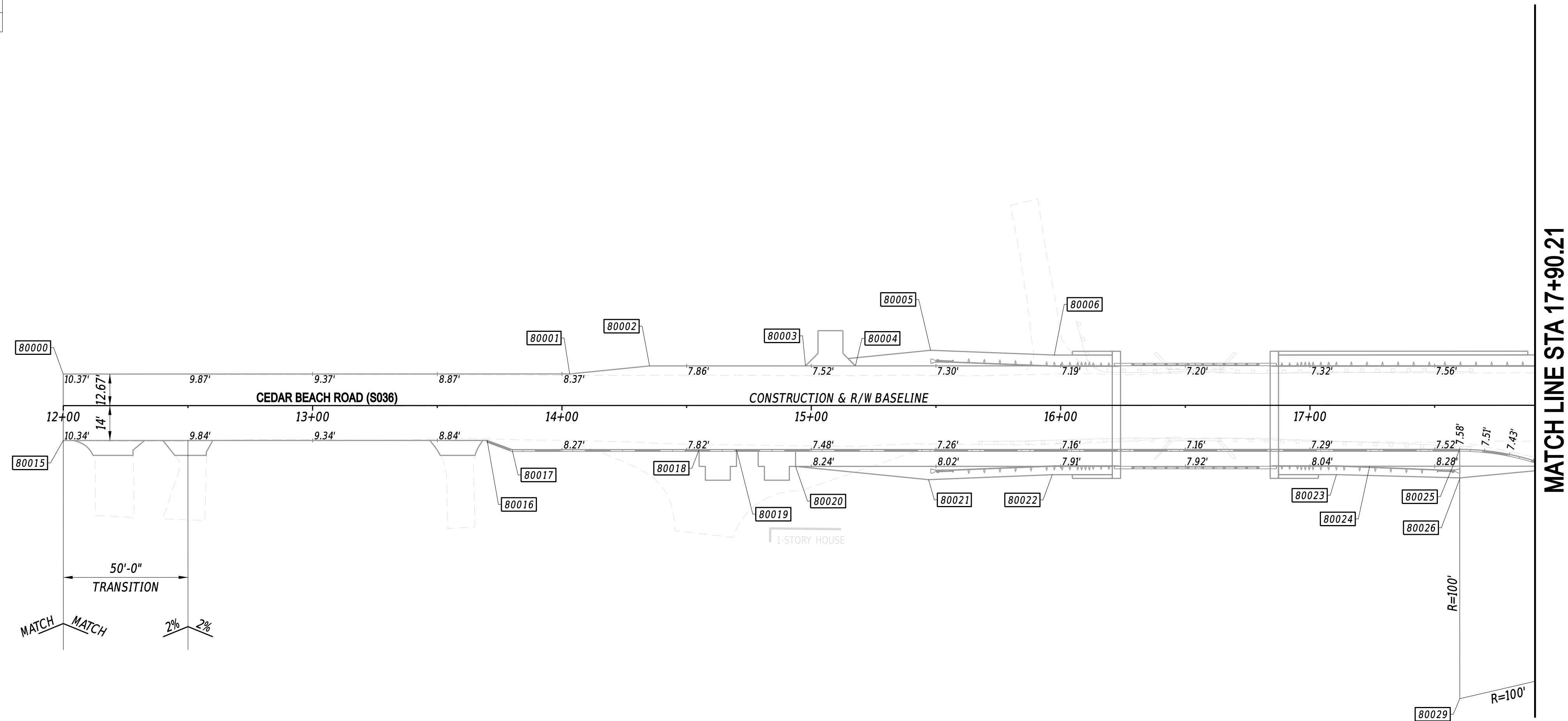
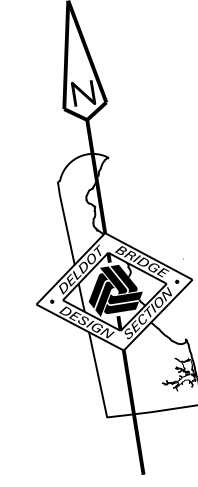
SECTION
BR
SHEET NO.
11

**CEDAR BEACH ROAD COORDINATE LIST**

NO.	STATION	OFFSET	NORTHING	EASTING
80000	12+00.00	-12.67'	333086.3751	658244.7755
80001	14+03.11	-12.67'	333054.6723	658445.3973
80002	14+35.14	-15.87'	333052.8366	658477.5360
80003	14+97.69	-22.12'	333049.2517	658540.2959
80004	15+17.69	-22.12'	333046.1300	658560.0508
80005	15+47.03	-22.12'	333041.5507	658589.0300
80006	15+96.64	-20.14'	333031.8480	658637.7179
80015	12+00.00	14.00'	333060.0353	658240.6133
80016	13+70.00	14.00'	333033.5007	658408.5297
80017	13+80.00	17.70'	333028.2821	658417.8291
80018	14+55.00	17.70'	333016.5757	658491.9098
80019	14+70.00	17.70'	333014.2344	658506.7260
80020	14+98.13	24.45'	333003.1769	658533.4550
80021	15+47.03	29.34'	332990.7131	658580.9965
80022	15+96.64	27.36'	332984.9303	658630.3039
80023	17+11.43	27.36'	332967.0125	658743.6915
80024	17+23.93	24.45'	332967.9324	658756.4892
80025	17+60.05	17.70'	332968.9623	658793.2171
80026	17+61.04	29.34'	332957.3099	658792.3790
80029	17+60.05	117.70'	332870.1880	658777.6085

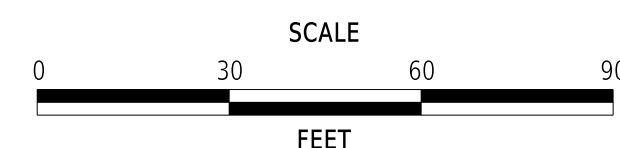
**NOTES:**

- OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.
- UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN AT THE EDGE OF PAVEMENT.
- UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS ALONG INTERSECTION CURVES ARE GIVEN AT 10 FOOT INTERVALS.
- PROPOSED PAVEMENT OR CURBS THAT TIE INTO EXISTING PAVEMENT OR EXISTING CURBS WILL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.
- ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM #763501 - CONSTRUCTION ENGINEERING.



MATCH LINE STA 17+90.21

ADDENDA / REVISIONS



**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

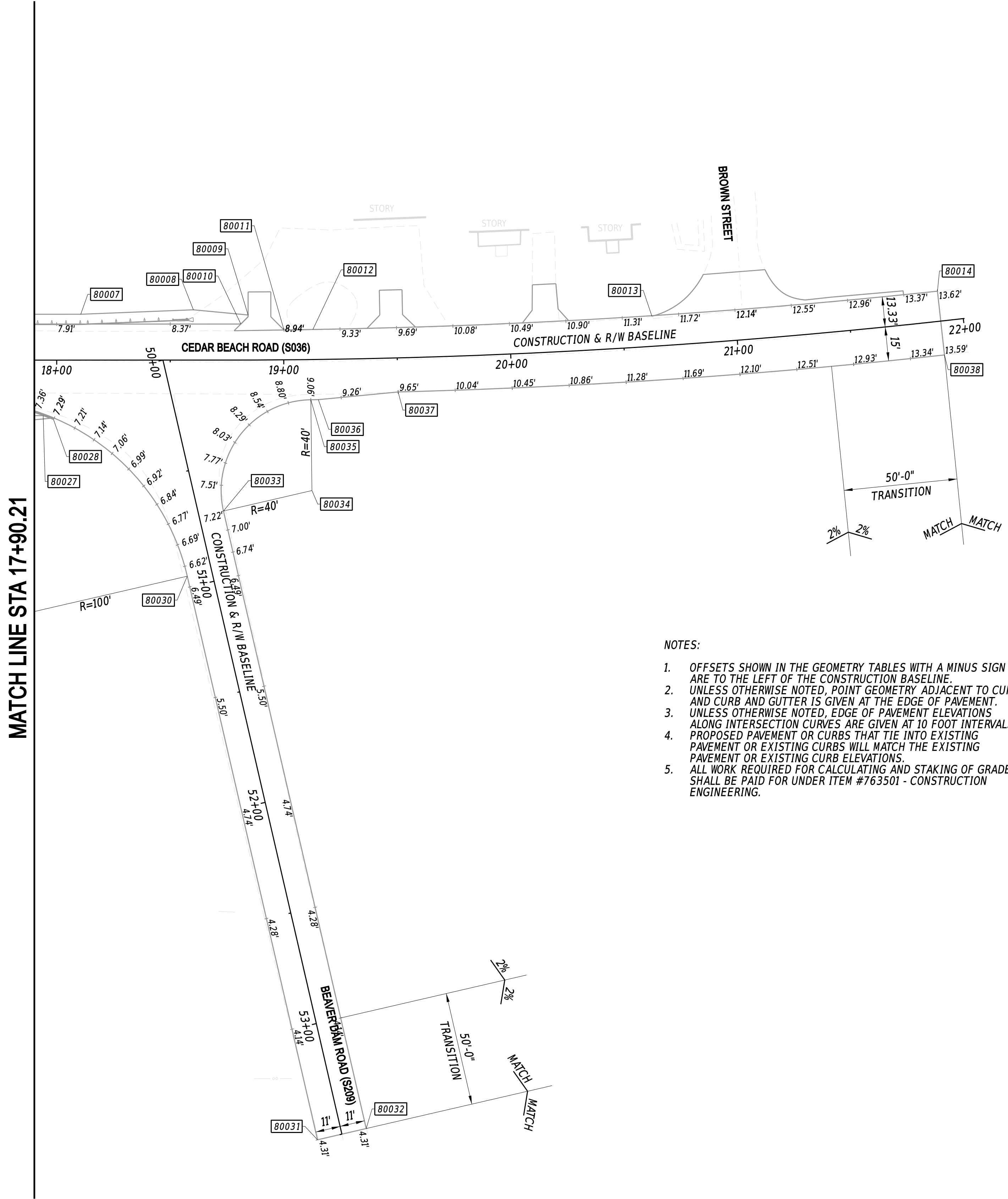
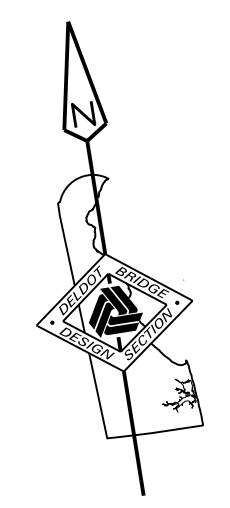
CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

**GRADES AND GEOMETRICS**

SECTION	BR
SHEET NO.	12

**CEDAR BEACH ROAD COORDINATE LIST**

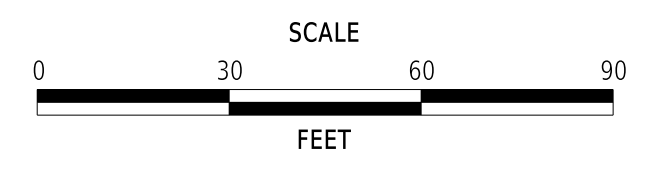
NO.	STATION	OFFSET	NORTHING	EASTING
80007	18+07.37	-20.14'	332998.9558	658845.8671
80008	18+53.79	-22.00'	332993.5441	658892.0097
80009	18+84.23	-18.95'	332985.7978	658921.5572
80010	18+81.12	-15.87'	332983.2323	658918.0269
80011	19+00.20	-13.18'	332977.6985	658936.3865
80012	19+13.00	-13.25'	332975.9122	658948.9988
80013	20+63.15	-13.25'	332958.3334	659097.4007
80014	21+90.00	-13.25'	332949.5586	659223.3457
80027	17+94.03	24.45'	332956.9905	658825.7323
80028	17+98.60	26.25'	332954.5032	658829.9681
80030	18+57.48	95.21'	332877.1980	658877.3625
80031	19+10.74	343.73'	332622.9985	658895.2260
80032	19+29.96	339.11'	332624.5407	658917.1718
80033	18+73.43	66.48'	332903.0810	658897.5979
80034	19+11.71	57.71'	332905.8775	658937.4996
80035	19+11.70	17.70'	332945.4677	658943.2619
80036	19+15.00	17.70'	332944.9919	658946.5434
80037	19+50.00	15.00'	332942.8517	658981.7817
80038	21+90.00	15.00'	332921.3404	659222.0065



- NOTES:**
1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.
  2. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND CURB AND GUTTER IS GIVEN AT THE EDGE OF PAVEMENT.
  3. UNLESS OTHERWISE NOTED, EDGE OF PAVEMENT ELEVATIONS ALONG INTERSECTION CURVES ARE GIVEN AT 10 FOOT INTERVALS.
  4. PROPOSED PAVEMENT OR CURBS THAT TIE INTO EXISTING PAVEMENT OR EXISTING CURBS WILL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.
  5. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM #763501 - CONSTRUCTION ENGINEERING.

MATCH LINE STA 17+90.21

ADDENDA / REVISIONS



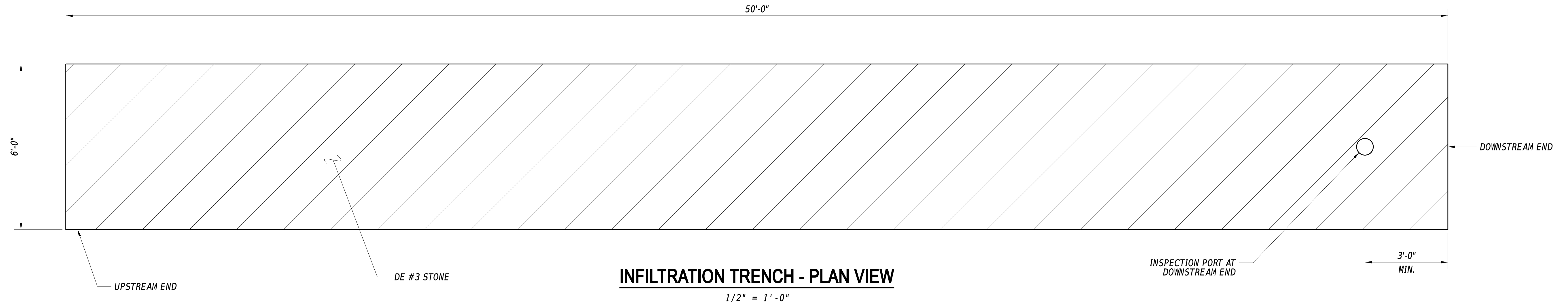
**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

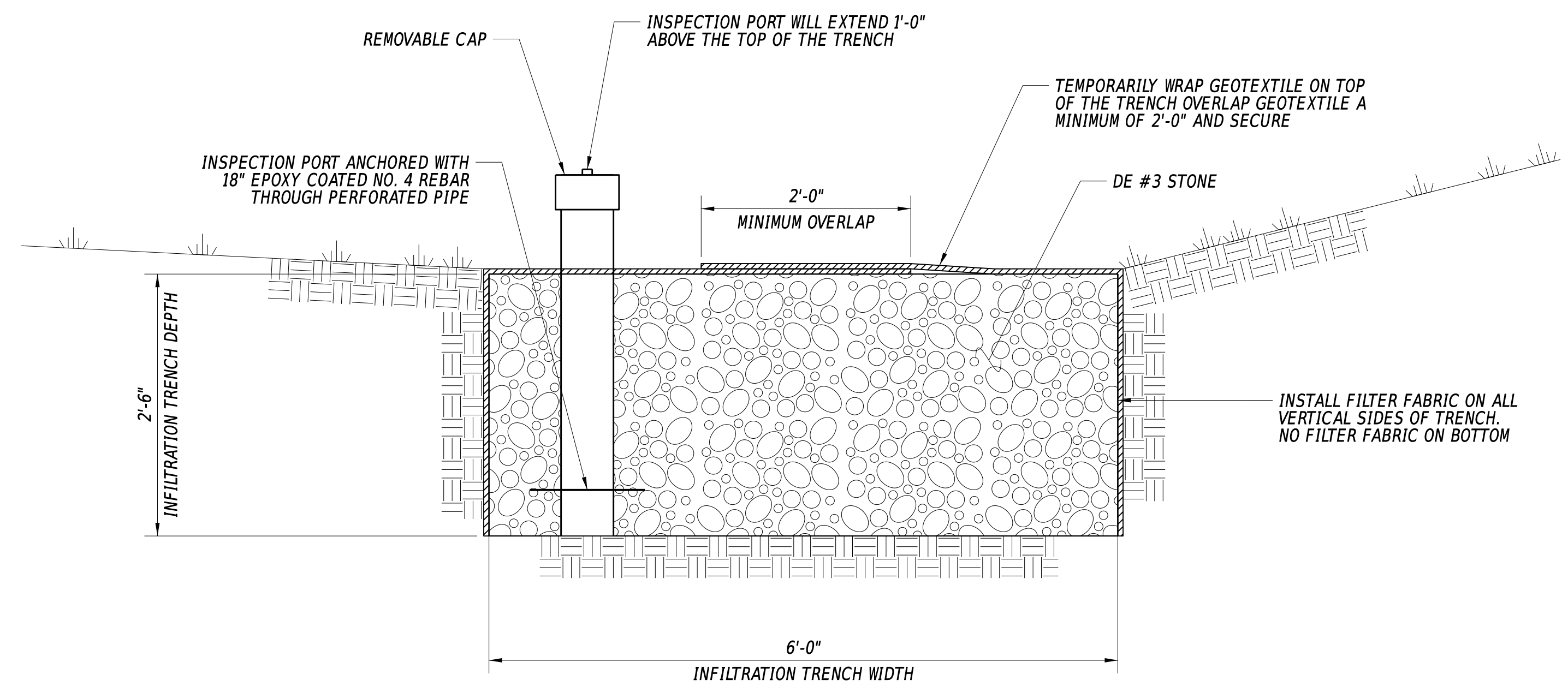
**GRADES AND GEOMETRICS**

SECTION	BR
SHEET NO.	13

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**INFILTRATION TRENCH - PLAN VIEW**  
1/2" = 1' - 0"



**INFILTRATION TRENCH - SECTION VIEW**  
1" = 1' - 0"

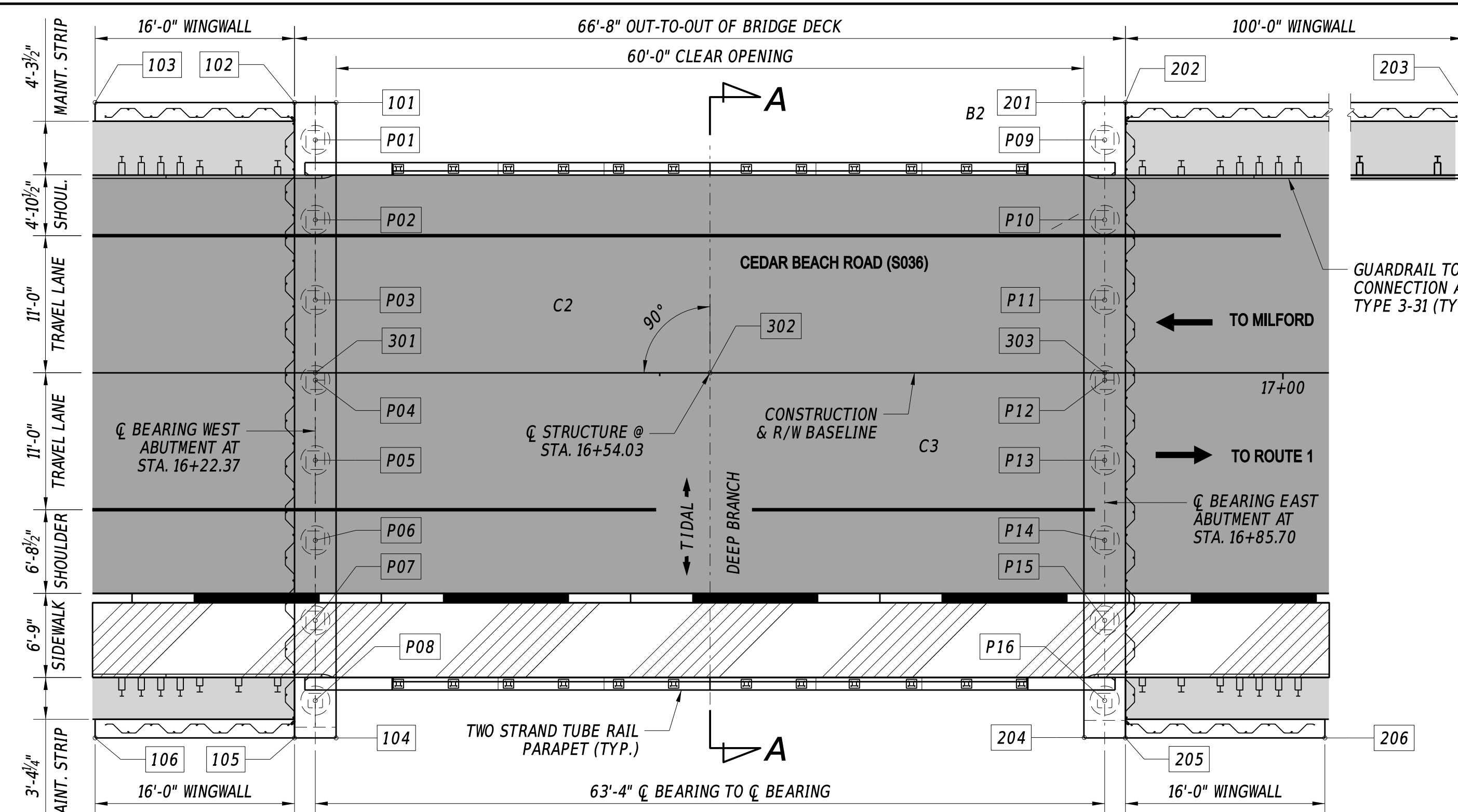
**CONSTRUCTION SEQUENCE:**

1. NOTIFY THE CCR A MINIMUM OF 2 WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION SO THAT THE REQUIRED FACILITY CONSTRUCTION CHECKLIST CAN BE COMPLETED. NO WHEELED OR TRACKED EQUIPMENT WILL BE ALLOWED WITHIN 2 FEET OF THE PERMANENT BOTTOM ELEVATION. ALL DELAWARE #3 STONE USED IN THE TRENCH SHALL CONFORM TO THE INFILTRATION STONE REQUIREMENTS OF SECTION 910 OF THE STANDARD SPECIFICATIONS.
2. SHOULD TRENCH CONSTRUCTION BE NECESSARY PRIOR TO VEGETATIVE STABILIZATION OF THE CONTRIBUTING DRAINAGE AREAS AS APPROVED BY THE ENGINEER, THE MINIMUM WILL BE REQUIRED:
  - a. INFLOW SWALES WILL HAVE AN 18" COMPOST FILTER LOG PLACED 25 FEET BEFORE THE EDGE OF THE PROPOSED TRENCH OR CLOSER IF DIRECTED BY THE ENGINEER.
  - b. OTHER INFLOW AREAS, INCLUDING SIDE SLOPES, WILL HAVE SILT FENCE OR 18" COMPOST FILTER LOG INSTALLED SO THAT RUNOFF IS INTERCEPTED BEFORE ENTERING THE TRENCH AREA.
  - c. THESE ITEMS WILL REMAIN IN PLACE UNTIL SURROUNDING VEGETATION IS ESTABLISHED.
3. EXCAVATE THE TRENCH TO THE DIMENSIONS SHOWN ON THE PLANS AND SCARIFY THE BOTTOM A MINIMUM OF 6 INCHES. DURING EXCAVATION, THE CCR WILL OBSERVE THE SOIL TYPE. IF STANDING WATER OR EXCESSIVE CLAY/SILT MATERIAL IS DISCOVERED AT THE PROPOSED BOTTOM ELEVATION, THE CCR SHALL NOTIFY THE ENGINEER AND STORMWATER ENGINEER IMMEDIATELY.
4. INSTALL GEOTEXTILE ON ALL TRENCH SIDES MAKING SURE TO HAVE ENOUGH EXTRA TO COVER THE TOP OF THE TRENCH COMPLETELY AFTER STONE IS PLACED AND HAVING AT LEAST 1 FOOT OF OVERLAP OF THE GEOTEXTILE. THE ONLY AREA THAT IS NOT COVERED WITH GEOTEXTILE IS THE BOTTOM.
5. PLACE THE INSPECTION PORT AS SHOWN IN THE PLANS.
6. PLACE DELAWARE #3 INFILTRATION STONE.
7. AFTER STONE PLACEMENT, IMMEDIATELY COVER THE ENTIRE TOP OF THE TRENCH WITH THE EXCESS GEOTEXTILE AND SECURE WITH DELAWARE #3 STONE, SO GEOTEXTILE DOES NOT MOVE.
8. THE SAME DAY THAT THE TRENCH IS COMPLETED, PERMANENTLY STABILIZE THE DISTURBED AREA AROUND THE TRENCH AS SHOWN ON THE PLANS.
9. INSPECT THE TRENCH AND REMOVE LOOSE SEDIMENT ON TOP OF GEOTEXTILE AFTER EVERY RAIN EVENT. ENSURE E&S CONTROLS ARE PROPERLY FUNCTIONING.
10. AFTER ALL SURROUNDING AREAS DRAINING TO THE TRENCH ARE PERMANENTLY STABILIZED, AS APPROVED BY THE ENGINEER, E&S DEVICES WILL BE REMOVED AND THE EXCESS GEOTEXTILE REMOVED FROM THE TOP.

INFILTRATION TRENCH SCHEDULE				
NO.	STATION	CENTER OFFSET	TOP OF STONE ELEV.	BOTTOM OF STONE ELEV.
1	13+75.00	26.71	6.28	3.78
2	14+00.00	26.71	6.00	3.50
3	14+25.00	26.71	5.61	3.11

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ADDENDA / REVISIONS		SCALE AS NOTED	REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD	CONTRACT	BRIDGE NO.	3-927	SECTION
				T202107302	DESIGNED BY:	M. TOUSSAINT	
				COUNTY	CHECKED BY:	S. WEAVER	SHEET NO.
				SUSSEX			14
							STORMWATER MANAGEMENT PLAN



**WEST ABUTMENT WORKING POINTS**

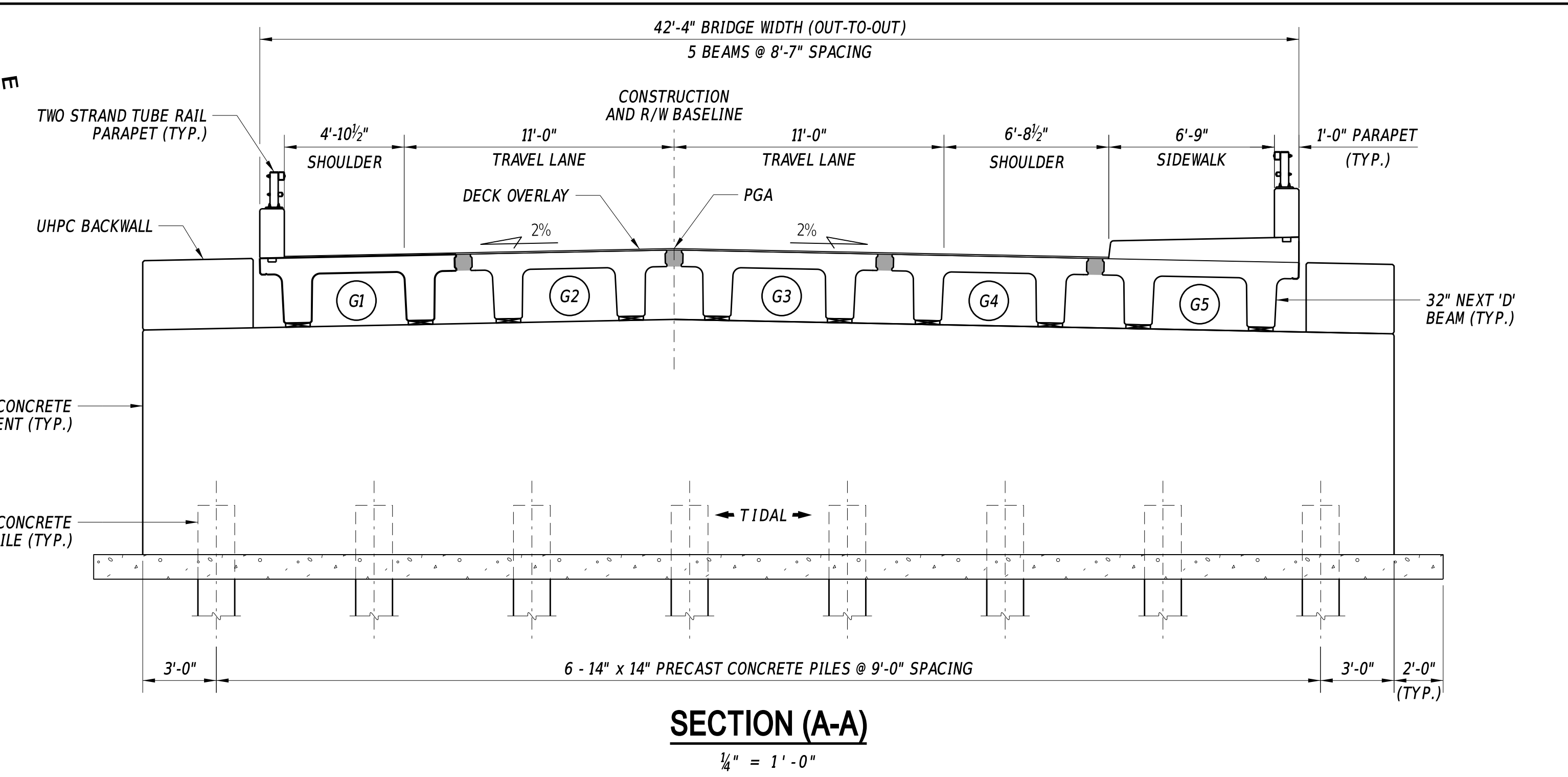
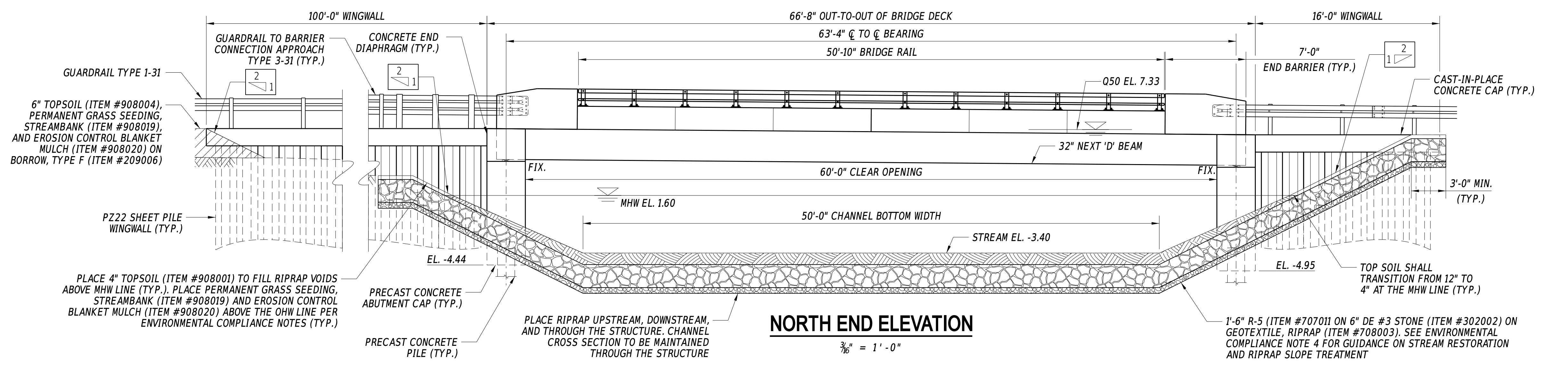
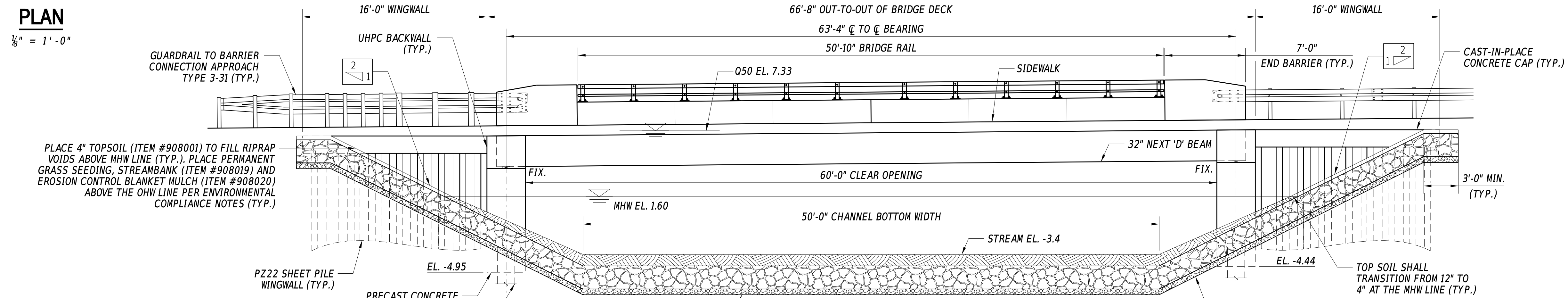
POINT NO.	STATION	OFFSET	NORTHING	EASTING
101	16+24.03	-21.70'	333029.1082	658665.0223
102	16+20.70	-21.70'	333029.6285	658661.7298
103	16+04.70	-21.70'	333032.1258	658645.9259
104	16+24.03	29.30'	332978.7333	658657.0619
105	16+20.70	29.30'	332979.2535	658653.7695
106	16+04.70	29.30'	332981.7509	658637.9656

**EAST ABUTMENT WORKING POINTS**

POINT NO.	STATION	OFFSET	NORTHING	EASTING
201	16+84.03	-21.70'	333019.7432	658724.2859
202	16+87.37	-21.70'	333019.2229	658727.5784
203	17+87.37	-21.70'	333003.6143	658826.3528
204	16+84.03	29.30'	332969.3683	658716.3256
205	16+87.37	29.30'	332968.8480	658719.6180
206	17+03.37	29.30'	332966.3506	658735.4219

**WORKING LINE/ALIGNMENT WORKING POINTS**

POINT NO.	STATION	OFFSET	NORTHING	EASTING
301	16+22.37	0.00'	333007.9381	658659.9896
302	16+54.03	-0.00'	333002.9954	658691.2677
303	16+85.70	0.00'	333007.9381	658659.9896



ADDENDA / REVISIONS

SCALE AS NOTED

**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>	SECTION
T202107302	DESIGNED BY:	M. TOUSSAINT	BR
COUNTY	CHECKED BY:	S. WEAVER	SHEET NO.
SUSSEX			15

**BRIDGE PLAN, SECTION, AND ELEVATION SHEET**

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**NOTES:**

- ONLY EAST ABUTMENT SHOWN FOR CLARITY. WEST ABUTMENT SIMILAR. DIFFERENCES IN EAST ABUTMENT DIMENSIONS AND NOTES ARE REFLECTED IN DETAILS.
- APPLY 2'-0" WIDE WATERPROOFING MEMBRANE HORIZONTALLY CENTERED ALONG JOINT BETWEEN PRECAST ABUTMENT AND THE HIGH EARLY STRENGTH BACKWALL. PAYMENT FOR WATERPROOFING MEMBRANE PAID UNDER ITEM #613005 - WATERPROOFING MEMBRANE, NON-TRAFFIC BEARING.
- OPTIONAL CONNECTION JOINT:
  - FABRICATOR HAS THE OPTION TO CAST THE ABUTMENT IN SECTIONS WITH THE USE OF A CONNECTION JOINT. ALL WORK ASSOCIATED WITH THE USE OF A JOINT IS INCIDENTAL TO ITEM #612511 - PRECAST CONCRETE ABUTMENT CAP. IF THE FABRICATOR CHOOSES THIS METHOD, THEY SHOULD USE THE INCLUDED CROSS SECTIONS AS A SUGGESTED METHOD AND WILL ADJUST THE REBAR ACCORDINGLY TO BE APPROVED BY THE ENGINEER. OTHER CONNECTION TYPES MAY BE ACCEPTABLE BUT ARE AT THE DISCRETION OF THE ENGINEER.
  - IF A CONNECTION JOINT IS USED, 4" DIA. DOWEL HOLES FOR #10 DOWEL BAR IS RECOMMENDED. DOWEL HOLE WILL BE GROUTED AFTER ABUTMENT SECTIONS ARE IN PLACE AND REINFORCED DOWEL IS SET. GROUT WILL MATCH THE PROPOSED GRADE OF THE ABUTMENTS.
  - IF A CONNECTION JOINT IS USED, ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF THE EXPANSION MATERIAL WILL BE SEALED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW THE SURFACE OF THE CONCRETE). PAYMENT INCIDENTAL TO ITEM #612511 - PRECAST CONCRETE ABUTMENT CAP.

**LEGEND**

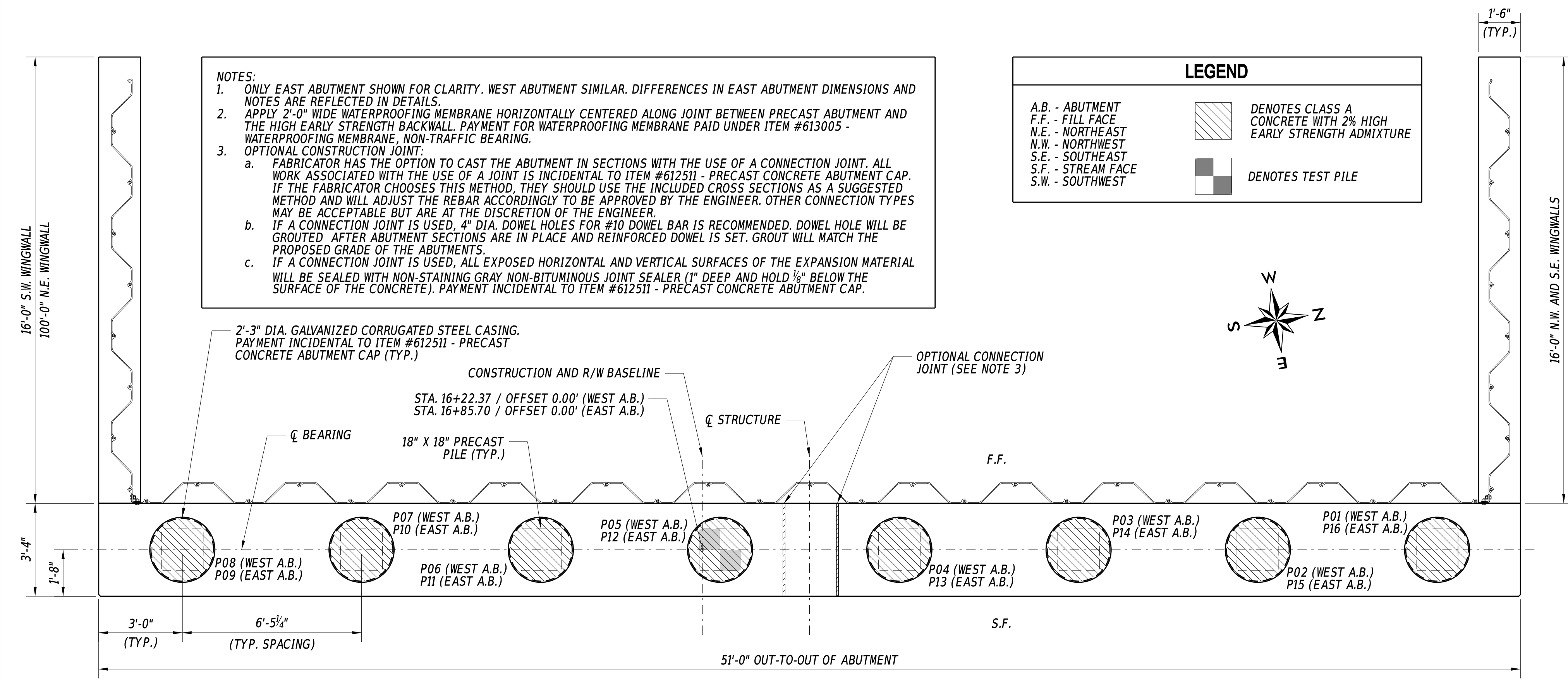
A.B. - ABUTMENT		DENOTES CLASS A CONCRETE WITH 2% HIGH EARLY STRENGTH ADMIXTURE
F.F. - FILL FACE		
N.E. - NORTHEAST		
N.W. - NORTHWEST		
S.E. - SOUTHEAST		
S.F. - STREAM FACE		
S.W. - SOUTHWEST		
		DENOTES TEST PILE

**PILE WORKING POINTS (WEST A.B.)**

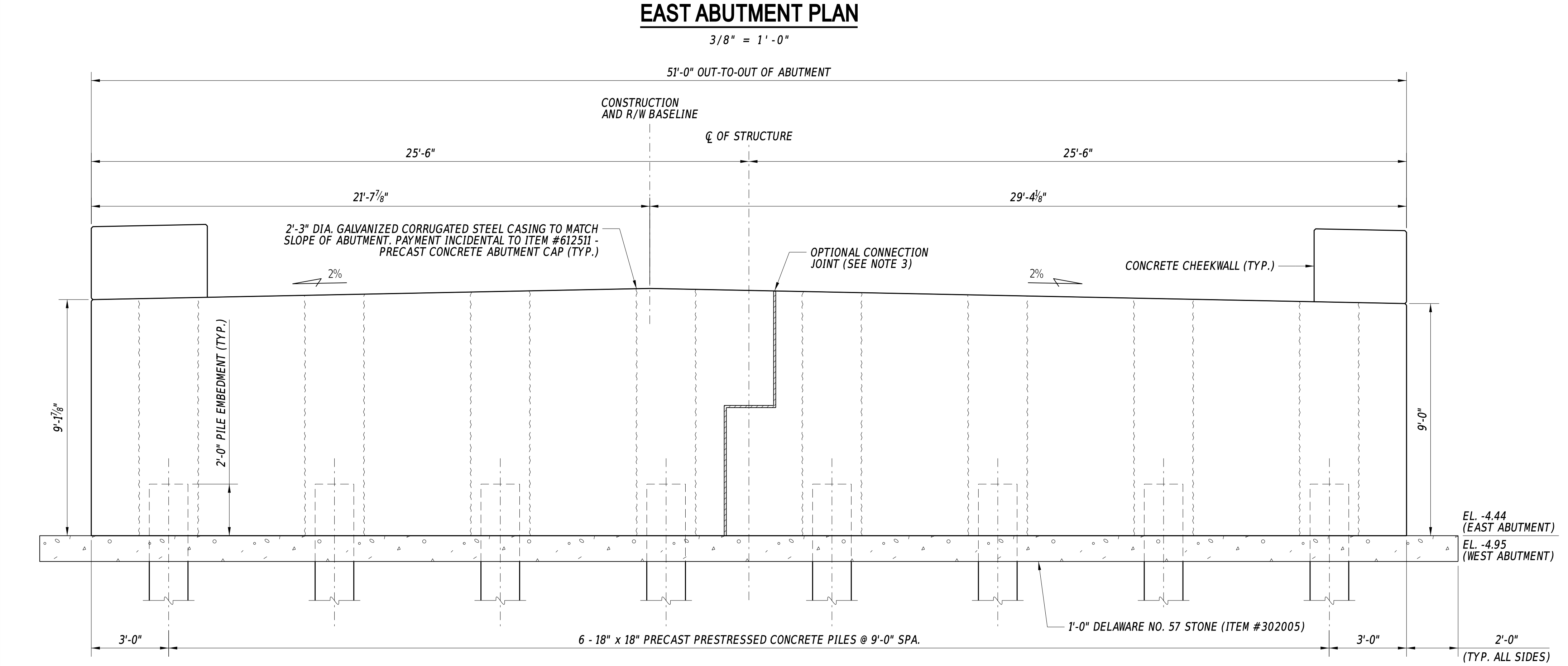
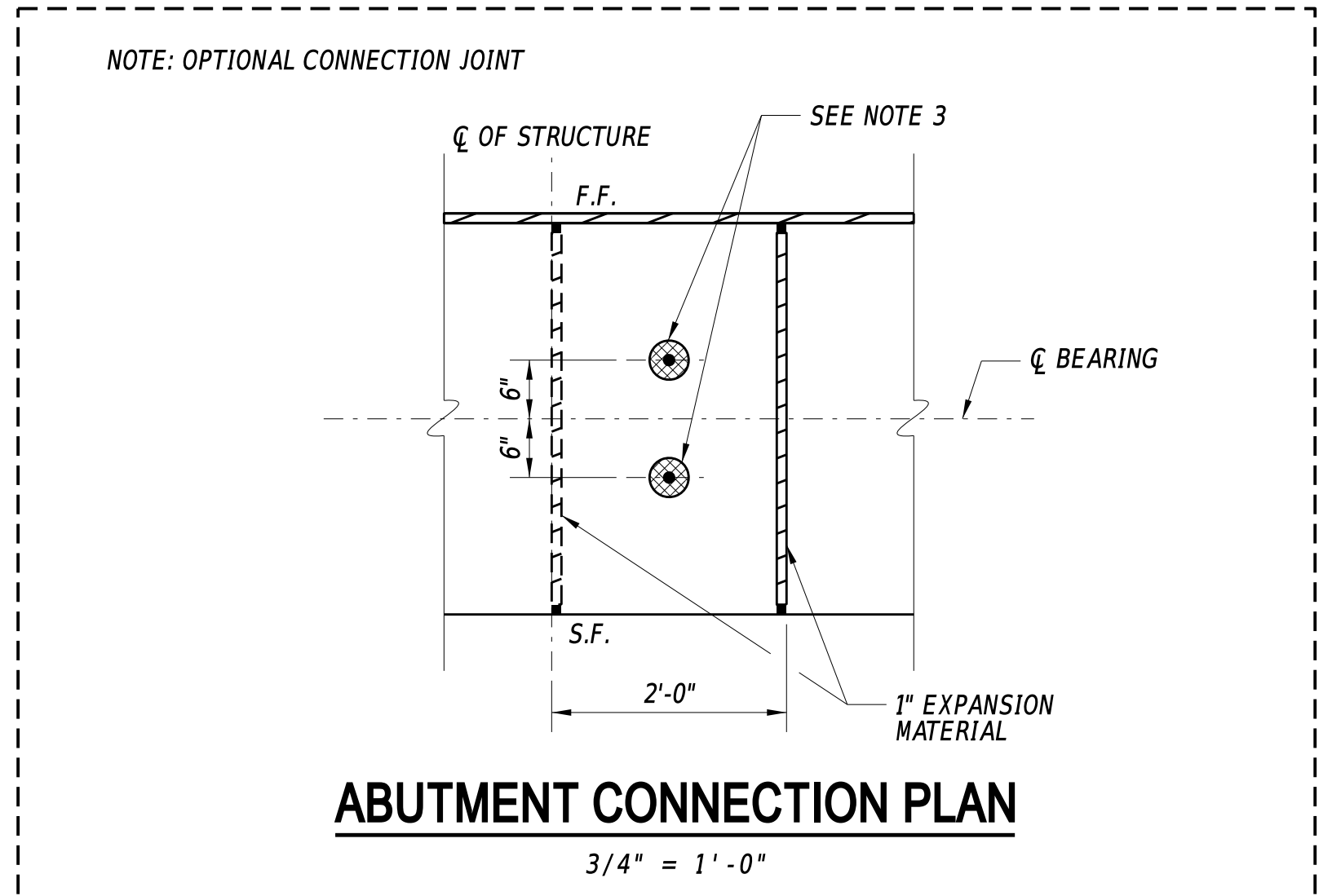
POINT NO.	STATION	OFFSET	NORTHING	EASTING
P01	16+22.37	-18.70'	333026.4052	658662.9078
P02	16+22.37	-9.70'	333017.5155	658661.5031
P03	16+22.37	-0.70'	333008.6258	658660.0983
P04	16+22.37	8.30'	332999.7361	658658.6935
P05	16+22.37	17.30'	332990.8464	658657.2888
P06	16+22.37	26.30'	332981.9567	658655.8840

**PILE WORKING POINTS (EAST A.B.)**

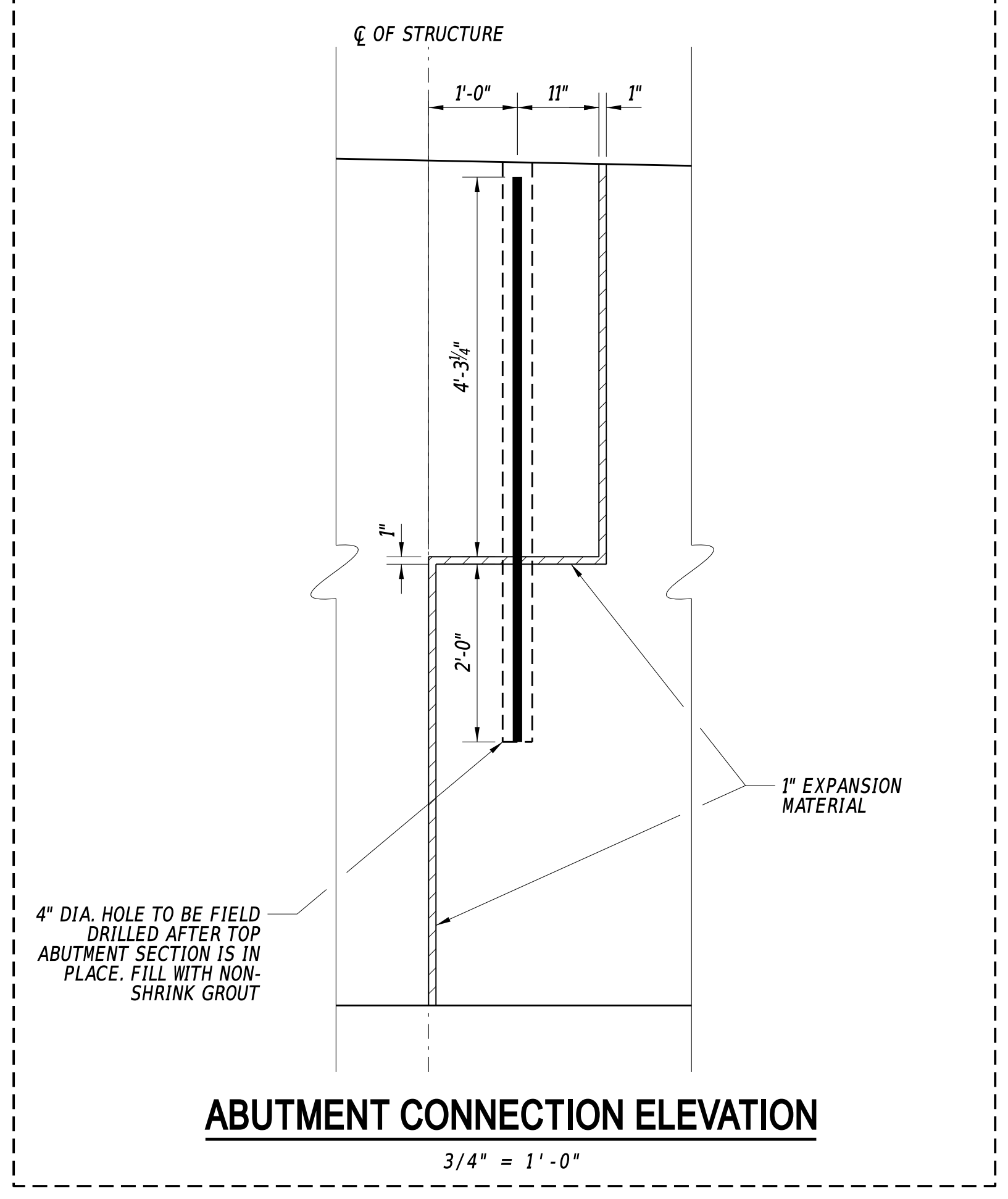
POINT NO.	STATION	OFFSET	NORTHING	EASTING
P07	16+85.70	-18.70'	333016.5199	658725.4639
P08	16+85.70	-9.70'	333007.6302	658724.0592
P09	16+85.70	-0.70'	332998.7405	658722.6544
P10	16+85.70	8.30'	332989.8508	658721.2496
P11	16+85.70	17.30'	332980.9611	658719.8448
P12	16+85.70	26.30'	332972.0714	658718.4401



**EAST ABUTMENT PLAN**  
3/8" = 1'-0"

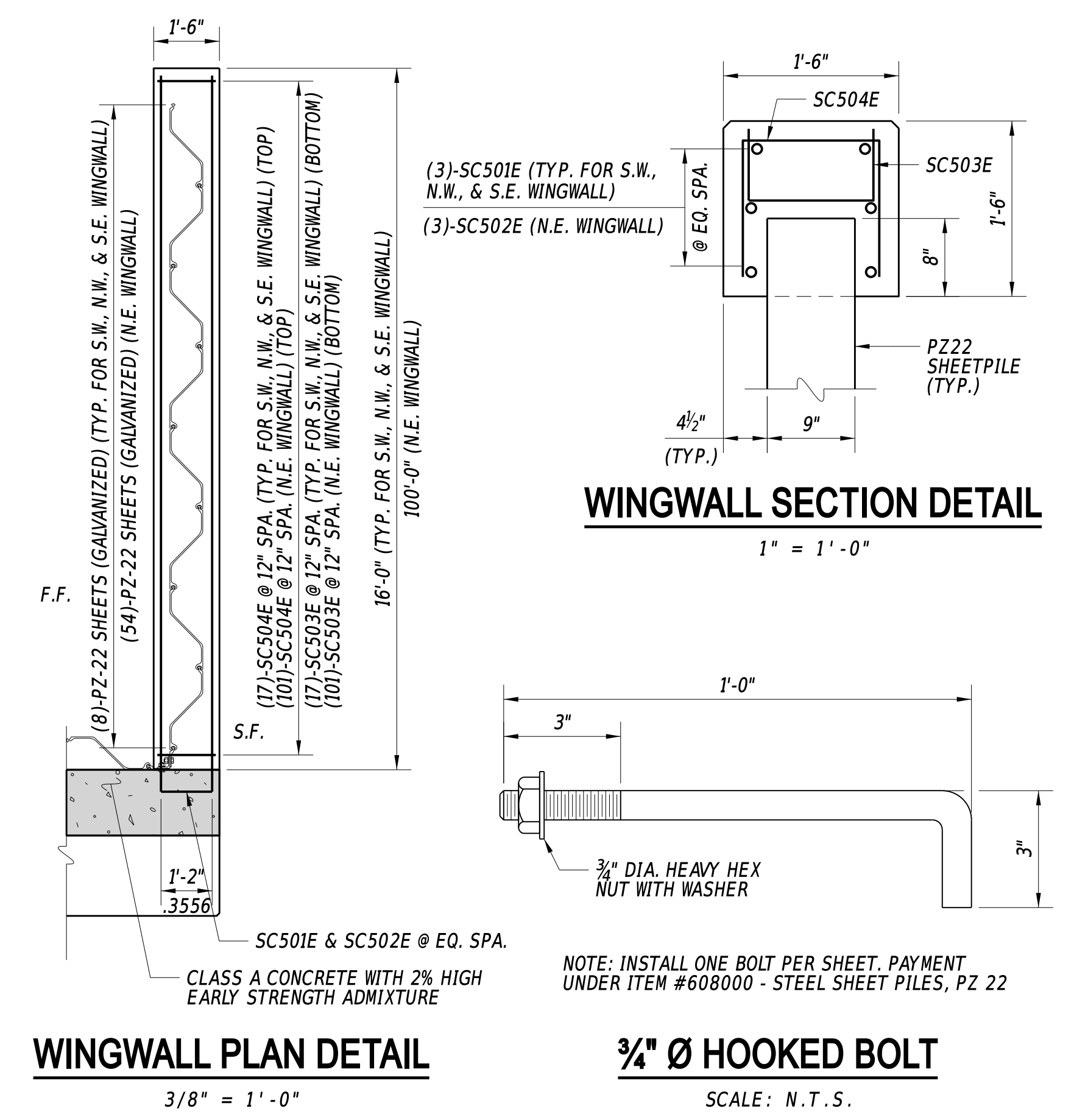
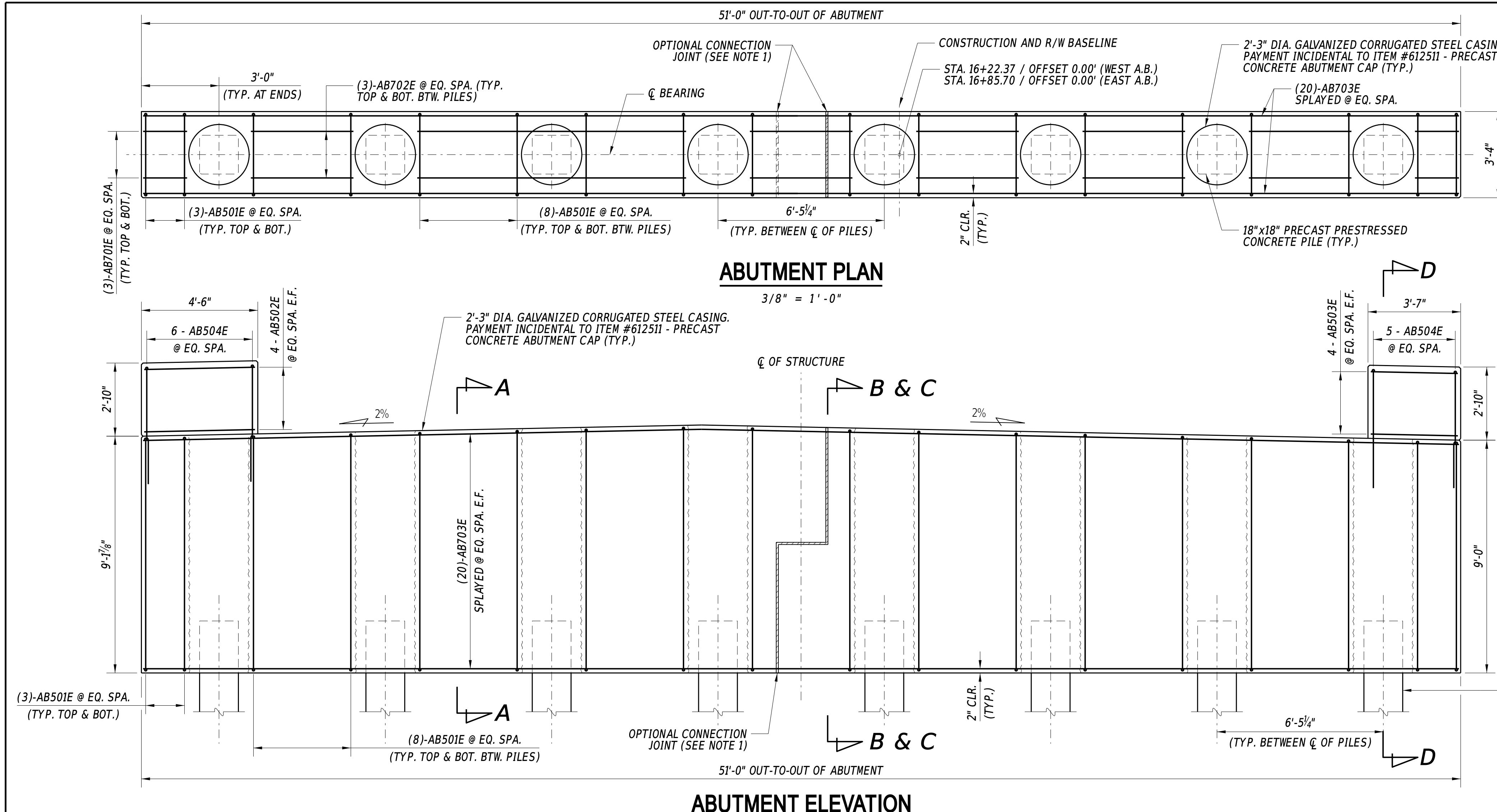


**EAST ABUTMENT ELEVATION**  
3/8" = 1'-0"



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ADDENDA / REVISIONS		SCALE AS NOTED	REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD	CONTRACT	BRIDGE NO.	3-927	SECTION
				T202107302	DESIGNED BY:	M. TOUSSAINT	
			COUNTY	SUSSEX	CHECKED BY:	S. WEAVER	SHEET NO.
							17



**PRECAST ABUTMENT NOTES**

**GENERAL**

- FABRICATOR HAS THE OPTION TO CAST THE ABUTMENT IN SECTIONS AND INSERT A CONNECTION JOINT. IF THE FABRICATOR CHOOSES THIS METHOD, THEY SHOULD USE THE INCLUDED CROSS SECTIONS AS A SUGGESTED METHOD AND WILL ADJUST REINFORCEMENT ACCORDINGLY. TO BE APPROVED BY THE ENGINEER. FOR FURTHER INFORMATION PLEASE REFER TO THE PRECAST ABUTMENT DETAILS SHEET.
- CLOSURE POUR TO BE CLASS A CONCRETE WITH 2% HIGH EARLY STRENGTH ADMIXTURE. PAYMENT UNDER ITEM #610019.

**DESIGN PLANS - WORKING DRAWINGS**

- INFORMATION PERTAINING TO THE PRECAST SEGMENTS IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR IS REQUIRED TO PREPARE AND SUBMIT, FOR APPROVAL, A COMPLETE SET OF DETAILED SHOP DRAWINGS FOR THE PRESTRESSED PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

**HANDLING**

- PRECAST ABUTMENT WILL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
- THE APPROXIMATE DEAD WEIGHT OF EACH ABUTMENT IS 116 TONS.

**CONCRETE STRESSES**

- MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 5000 PSI.

**BAR REINFORCEMENT**

- ALL BAR REINFORCEMENT AND CHAIR SUPPORTS WILL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
- ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
- PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM #612511 - PRECAST CONCRETE ABUTMENT CAP.

**CONCRETE FINISH**

- ALL SIDES OF THE ABUTMENT SEGMENT WILL BE PROTECTED WITH A WATER MISCBLE, PENETRATING SILANE SEALER. PAYMENT INCIDENTAL TO ITEM #612511 - PRECAST CONCRETE ABUTMENT.

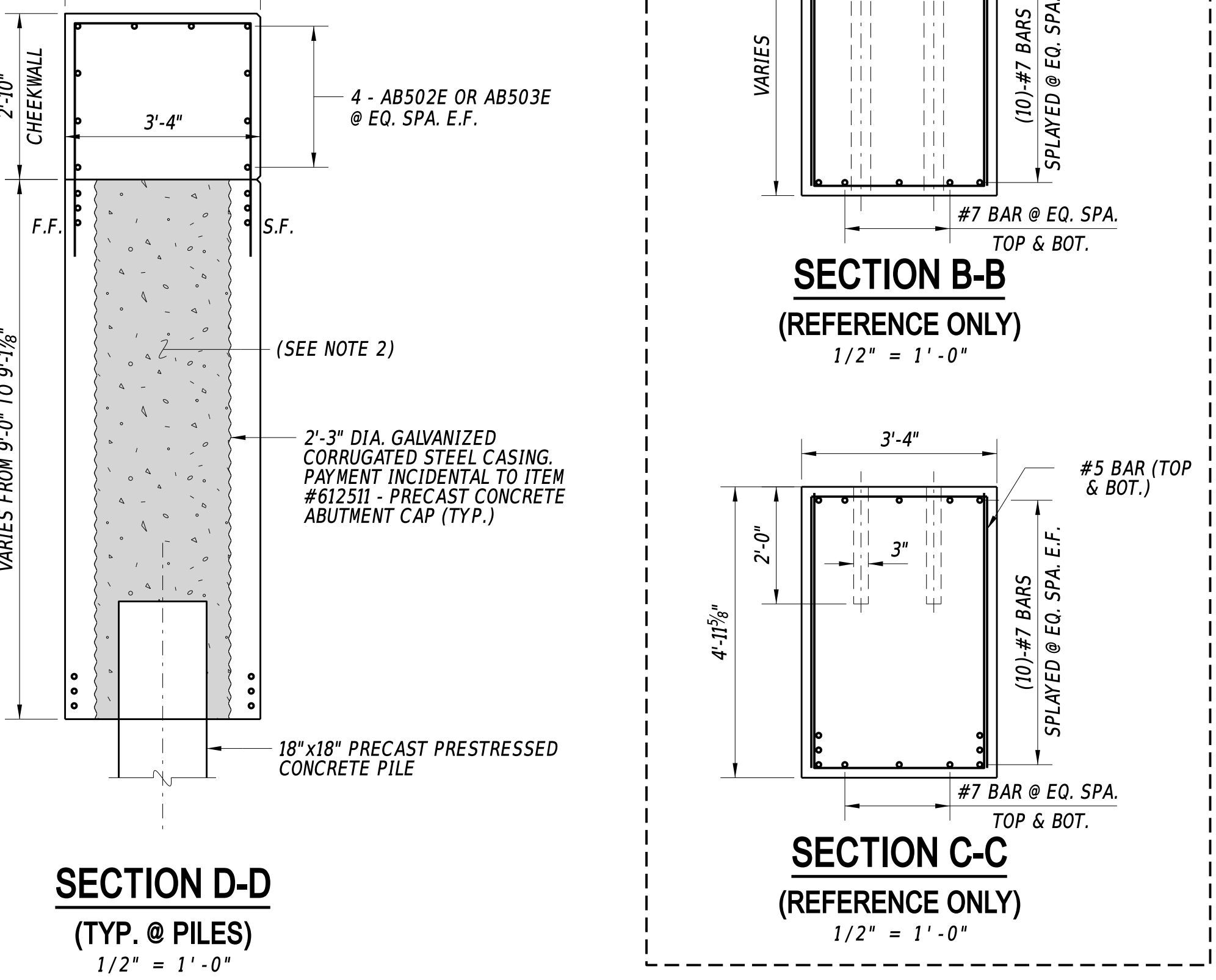
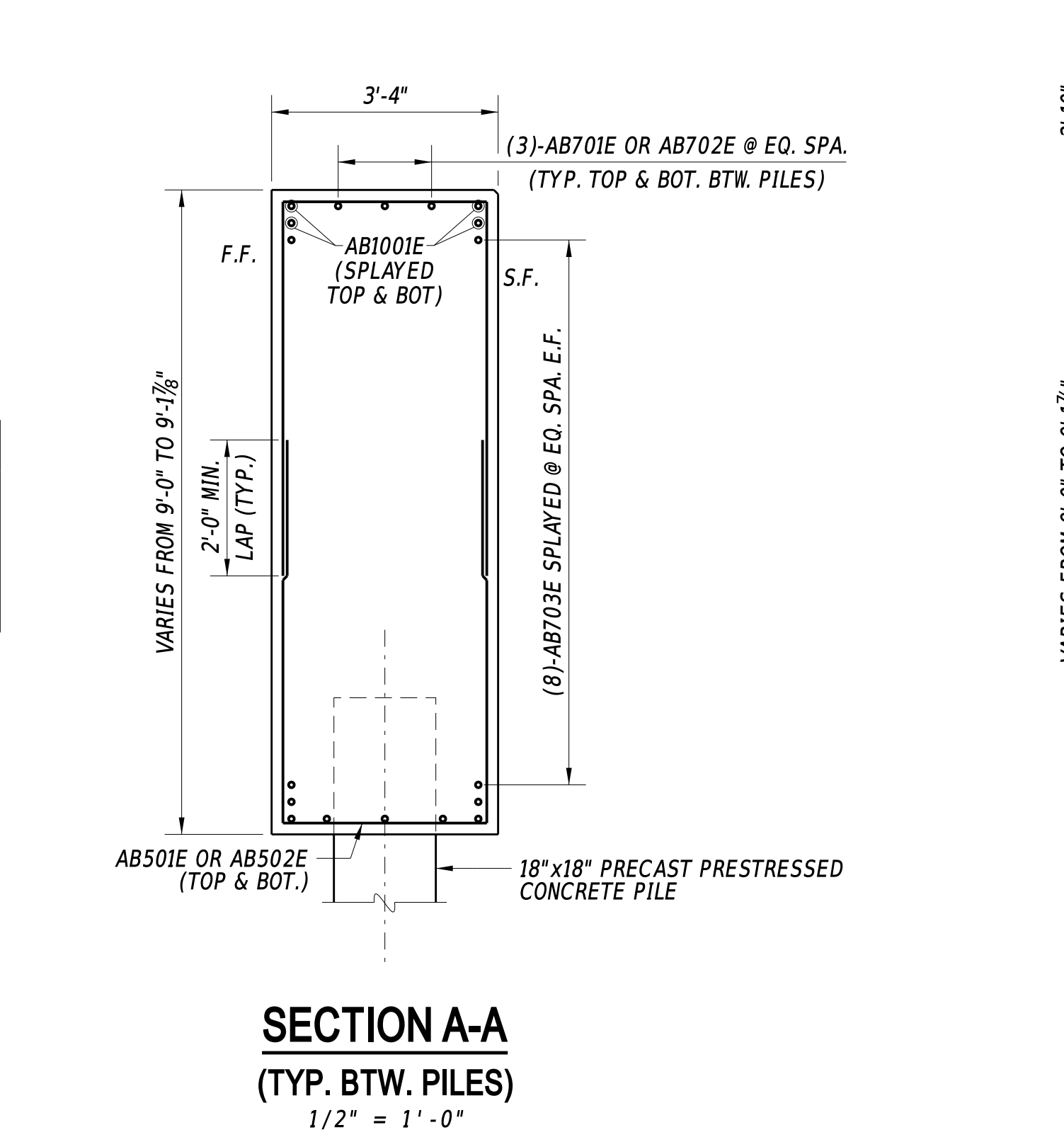
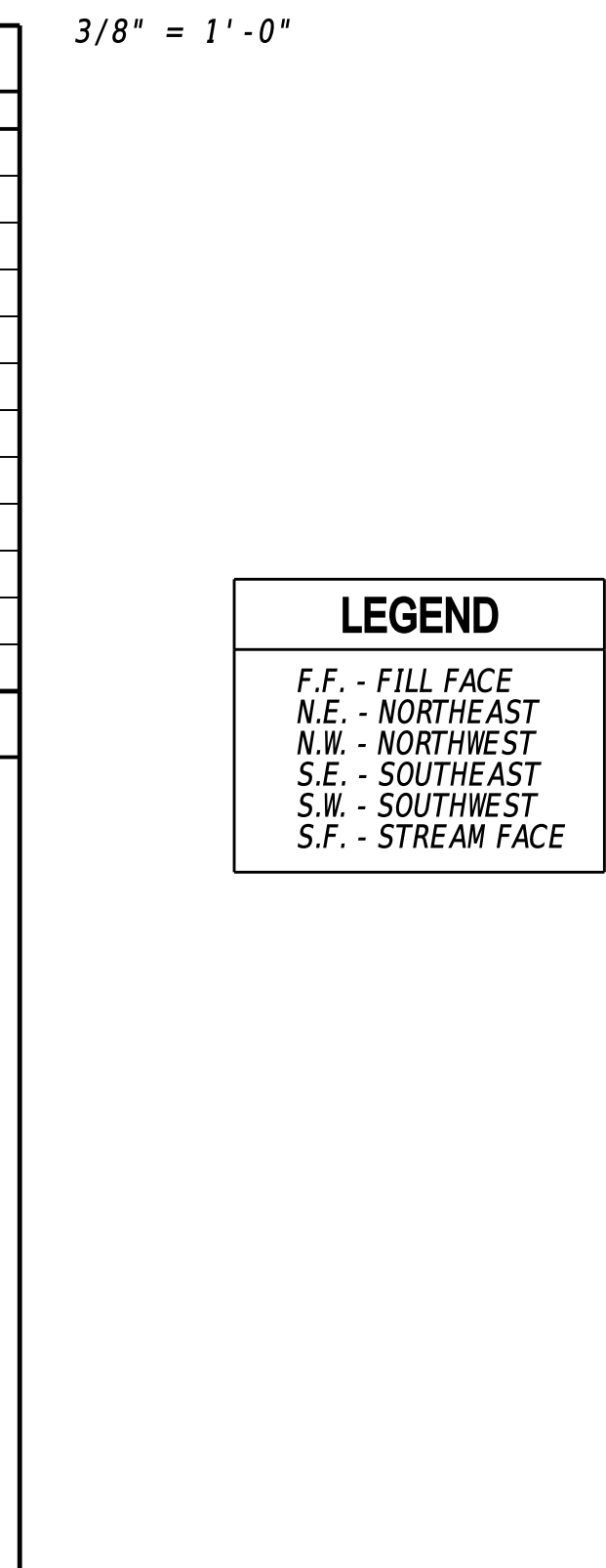
**REINFORCING BAR LIST**

MARK	SIZE	NUMBER	TYPE	LENGTH
AB501E	5	184	STR	15'-8"
AB502E	5	20	STR	4'-2"
AB503E	5	20	STR	3'-3"
AB504E	5	22	-	11'-4"
AB701E	7	24	STR	1'-6"
AB702E	7	60	STR	6'-4"
AB703E	7	32	STR	50'-8"
AB1001E	10	16	STR	50'-8"
SC501E	5	9	-	33'-10"
SC502E	5	3	-	201'-10"
SC503E	5	118	-	2'-4"
SC504E	5	118	-	3'-6"

**BENDING DIAGRAMS**

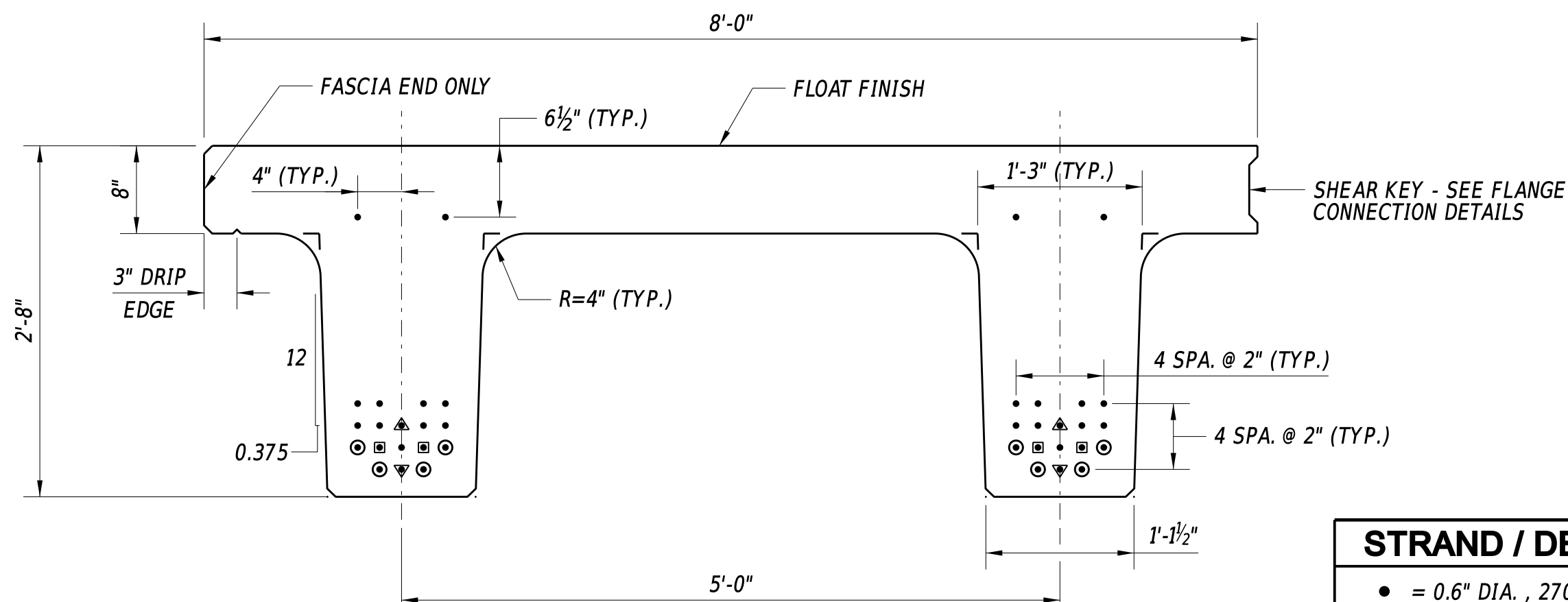
ALL DIMENSIONS ARE FROM OUT TO OUT.

DIAGRAMS ARE NOT TO SCALE.



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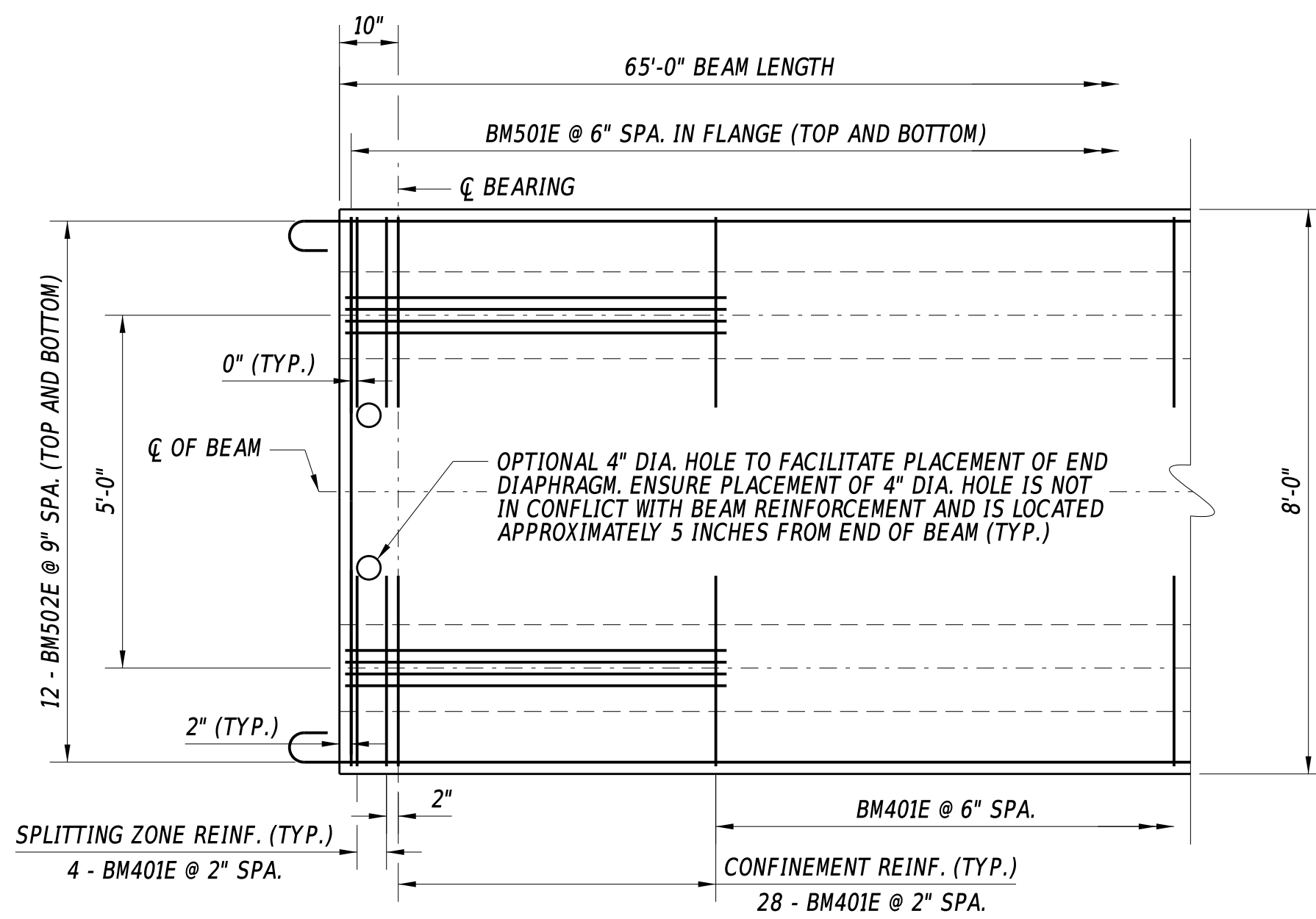
ADDENDA / REVISIONS	SCALE AS NOTED	<b>REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD</b>	CONTRACT	BRIDGE NO.	<b>3-927</b>	SECTION
			T202107302	DESIGNED BY:	M. TOUSSAINT	BR
			COUNTY	CHECKED BY:	S. WEAVER	SHEET NO.
			SUSSEX			18



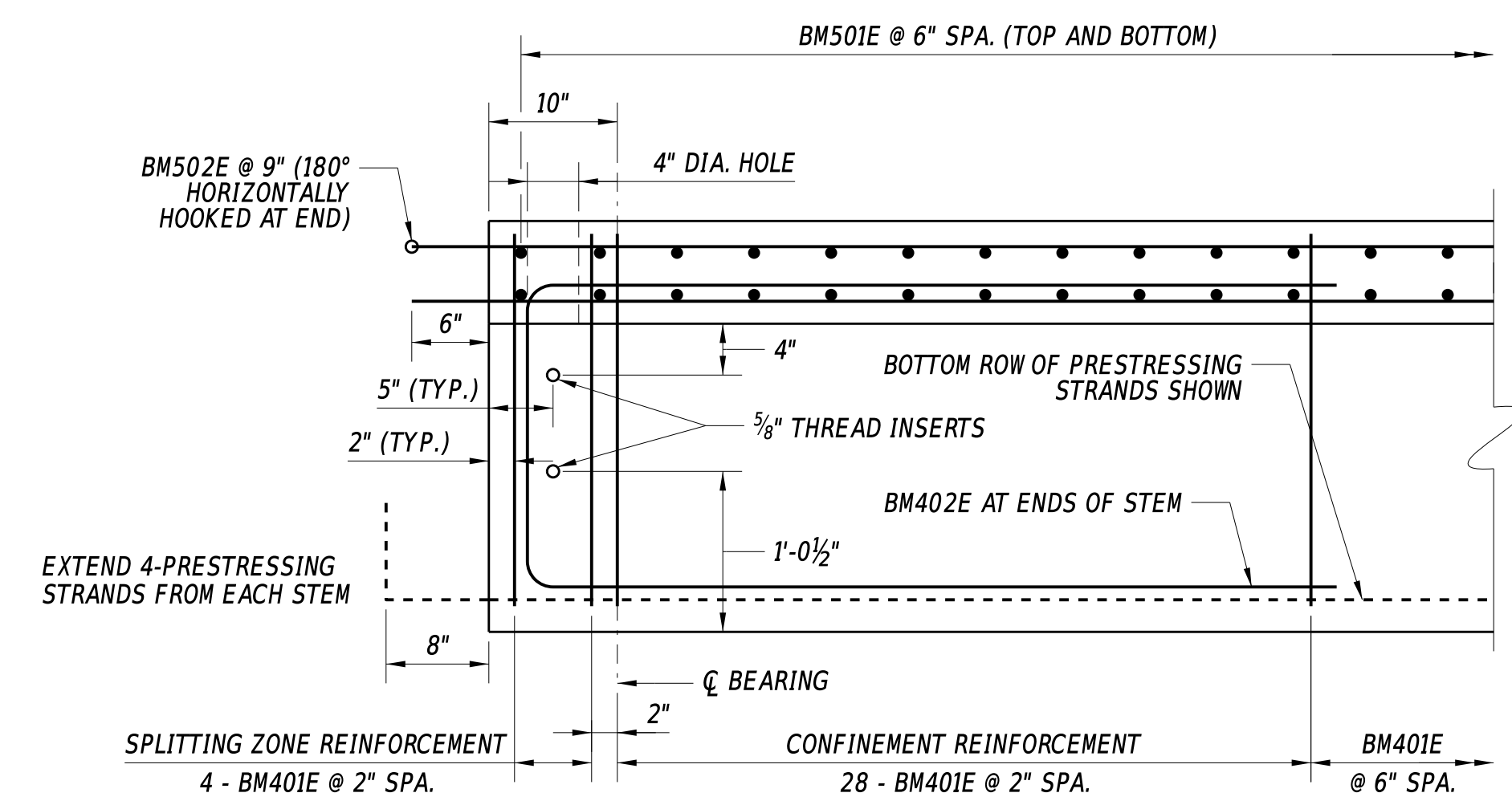
**NEXT D BEAM STRAND CONFIGURATION**  
1" = 1'-0"

**STRAND / DEBONDING LEGEND**

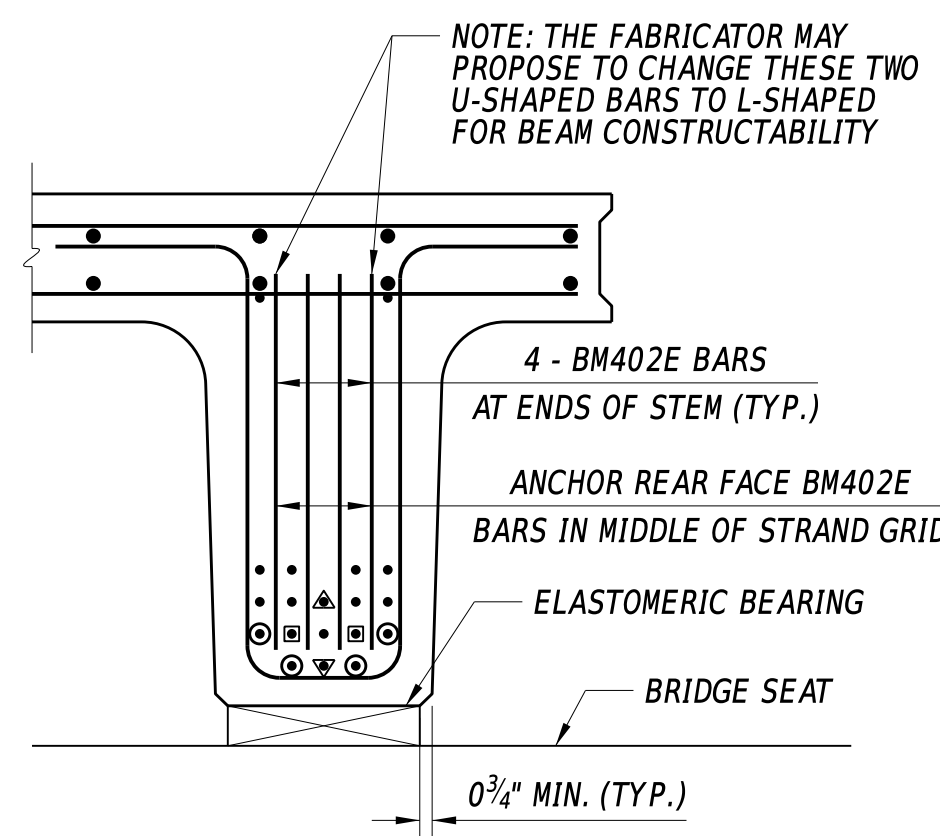
- = 0.6" DIA. , 270 KSI PRESTRESSING STRANDS
- ⊙ = 0.6" DIA. , 270 KSI PRESTRESSING STRANDS TO BE EXTENDED INTO THE END DIAPHRAGM
- ▲ = 0.6" DIA. , 270 KSI PRESTRESSING STRANDS TO BE DEBONDED AT 6'-0" @ EACH END
- = 0.6" DIA. , 270 KSI PRESTRESSING STRANDS TO BE DEBONDED AT 9'-0" @ EACH END
- ▼ = 0.6" DIA. , 270 KSI PRESTRESSING STRANDS TO BE DEBONDED AT 12'-0" @ EACH END



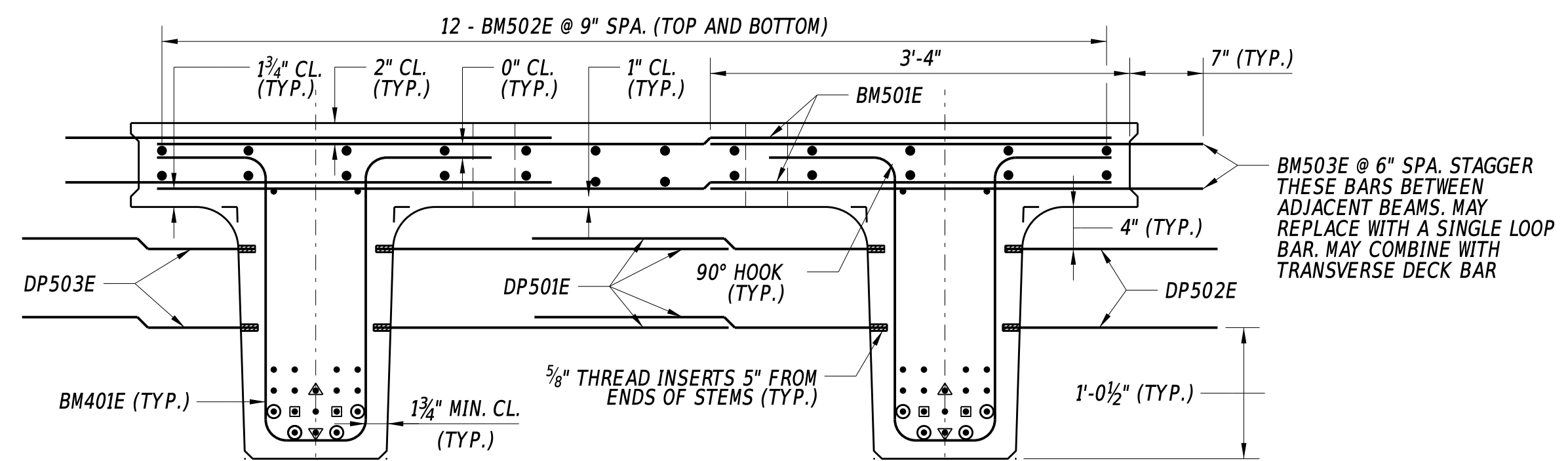
**NEXT D BEAM PLAN**  
1/2" = 1'-0"



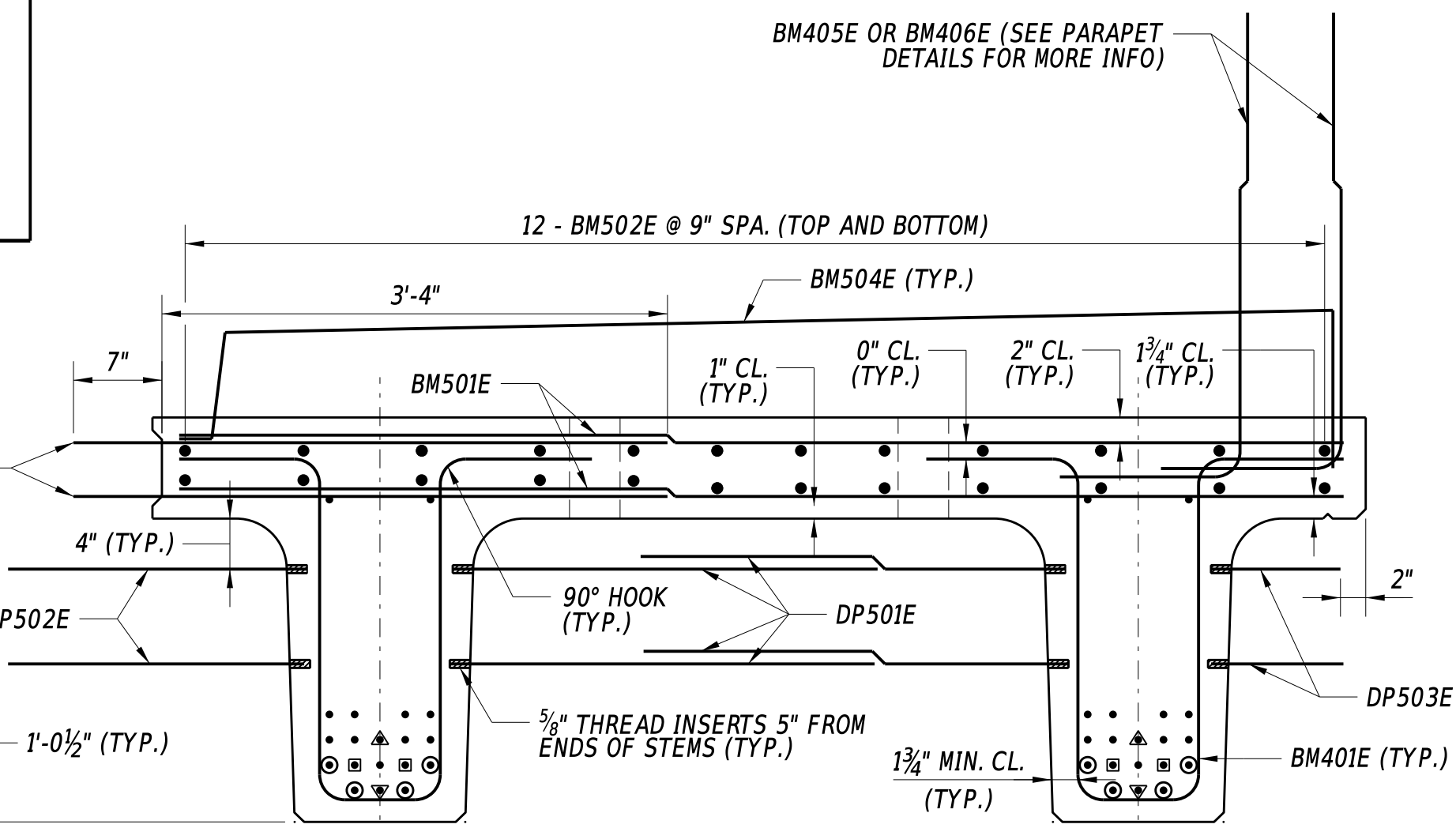
**NEXT D BEAM HALF-ELEVATION**  
1" = 1'-0"



**NEXT D BEAM STEM END SECTION**  
1" = 1'-0"



**EXTERIOR NEXT D BEAM W/O SIDEWALK REINFORCING SECTION**  
1" = 1'-0"

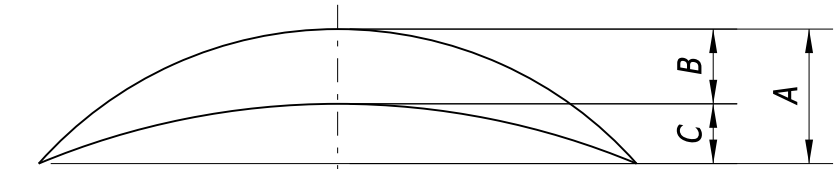


**EXTERIOR NEXT D BEAM WITH SIDEWALK REINFORCING SECTION**  
1" = 1'-0"

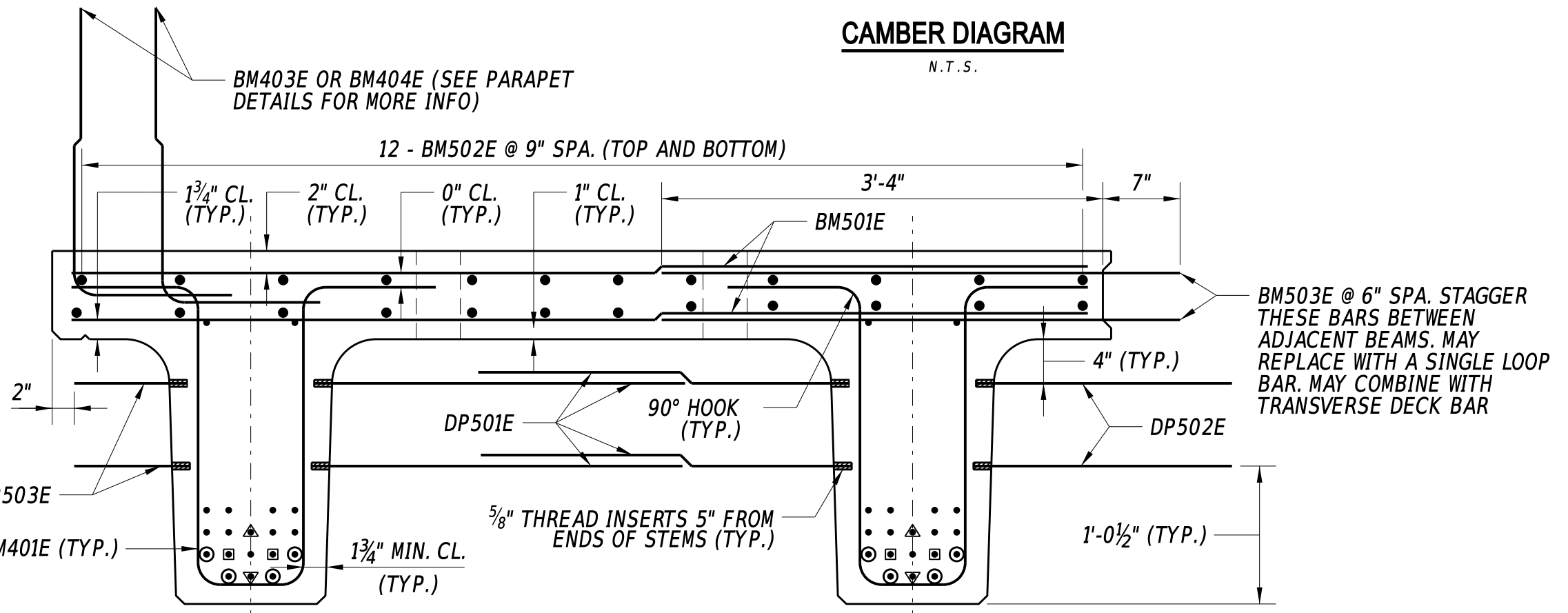
**CAMBER (INCHES)**

GIRDER	A	B	C
G1	3.141	0.522	2.619
G2	3.141	0.522	2.619
G3	3.141	0.522	2.619
G4	3.141	0.522	2.619
G5	3.141	0.522	2.619

DEFLECTIONS ARE GIVEN AT MIDSPAN



A = ESTIMATED PRESTRESS CAMBER LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP.  
 B = DEFLECTION DUE TO DEAD LOAD OF PARAPET, SIDEWALK AND OVERLAY.  
 C = A - B = NET CAMBER.  
 ASSUMED CREEP FACTOR IS X.  
 ASSUMED PRESTRESS LOSS OF 20%.



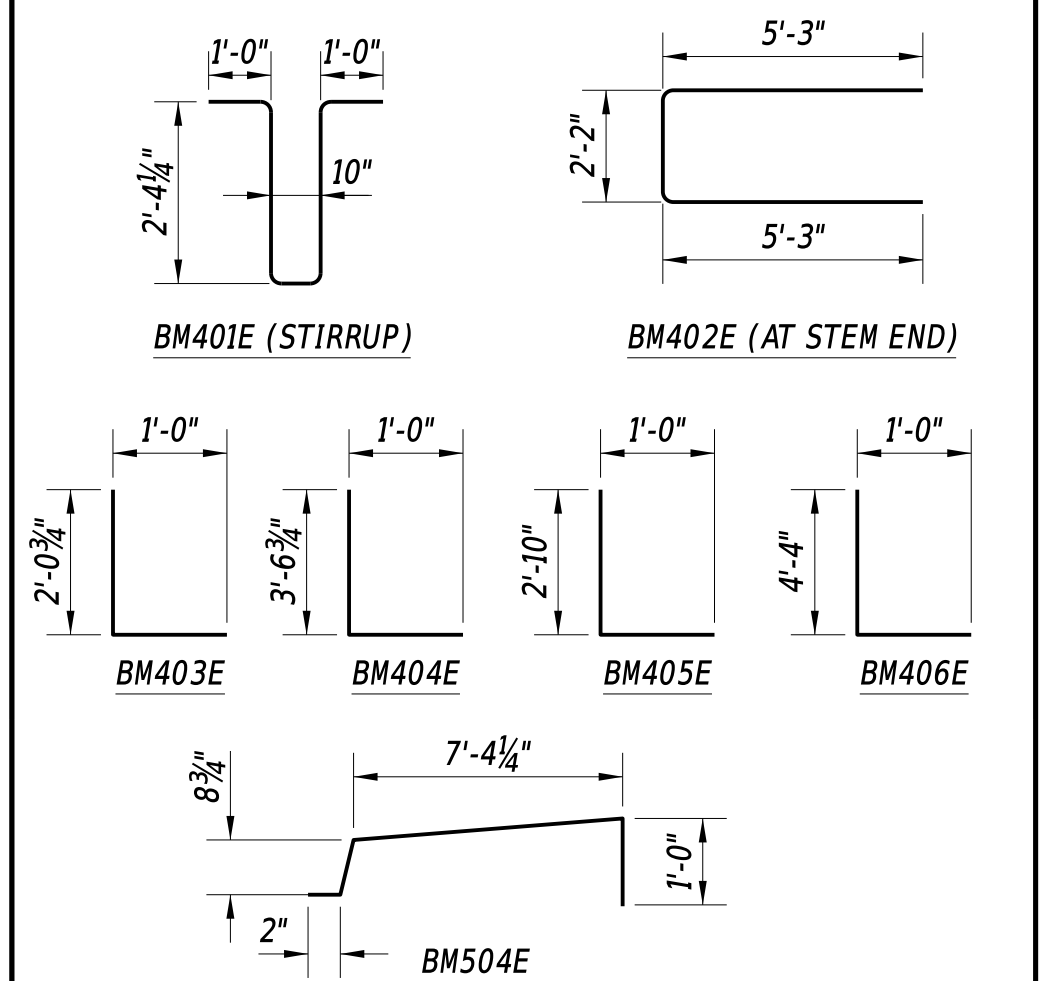
**EXTERIOR NEXT D BEAM W/O SIDEWALK REINFORCING SECTION**  
1" = 1'-0"

**REINFORCING BAR LIST**

MARK	SIZE	NUMBER	TYPE	LENGTH
BM401E	4	272	-	8' - 7 1/2"
BM402E	4	16	-	12' - 8"
BM403E	4	168	-	3' - 0 1/2"
BM404E	4	44	-	4' - 6 3/4"
BM405E	4	168	-	3' - 10"
BM406E	4	44	-	5' - 4"
BM501E	5	262	STR	7' - 8"
BM502E	5	24	STR	67' - 2"
BM503E	5	1040	STR	3' - 11"
BM504E	5	66	STR	9' - 3"

**BENDING DIAGRAMS**

ALL DIMENSIONS ARE FROM OUT TO OUT.



DIAGRAMS ARE NOT TO SCALE.

**PRESTRESSED BEAM NOTES (32" NEXT D BEAM)**

**SHOP DRAWINGS**

INFORMATION PERTAINING TO THE PRESTRESSED PRECAST REINFORCED CONCRETE IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT, FOR APPROVAL, A COMPLETE SET OF DETAILED SHOP DRAWINGS FOR THE PRESTRESSED PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

**HANDLING**

PRESTRESSED BEAMS WILL BE HANDLED ONLY BY LIFTING STRANDS PROVIDED ESPECIALLY FOR THIS PURPOSE. THE APPROXIMATE DEAD WEIGHT OF EACH INTERIOR UNIT WITHOUT BRIDGE RAILING IS 49.28 TONS. THE APPROXIMATE DEAD WEIGHT OF EACH FASCIA UNIT WITH BRIDGE RAILING IS 83.11 TONS.

**CONCRETE STRENGTH**

THE MINIMUM COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS EQUALS 6400 PSI. THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS EQUALS 8000 PSI.

**REINFORCING BAR**

MATERIALS REQUIREMENT: AASHTO M31 - GRADE 60 AND ASTM A775. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS WILL BE PROTECTED WITH FUSION BONDED EPOXY CONFORMING TO AASHTO M284. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM #612024 - PRESTRESSED REINFORCED CONCRETE MEMBERS, NEXT BEAMS.

**PRESTRESSING STRANDS**

INITIAL PRESTRESS ON EACH 0.6" DIA. 270 KSI LOW RELAXATION STRAND EQUALS 43943 LBS. MINIMUM ULTIMATE STRENGTH EQUALS 58590 LBS PER STRAND.

**CONCRETE BEAM FINISH**

TOP OF NEXT BEAMS ARE TO HAVE A FLOAT FINISH. BOTTOM AND SIDES OF BEAMS SHALL BE PROTECTED WITH A WATER MISCIBLE, PENETRATING SILANE SEALER. PAYMENT INCIDENTAL TO ITEM #612024 - PRESTRESSED REINFORCED CONCRETE MEMBERS, NEXT BEAMS.

**NUMBER OF BEAMS**

5 TOTAL BEAMS REQUIRED  
 3 INTERIOR BEAMS AND 2 FASCIA BEAMS

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**ADDENDA / REVISIONS**

SCALE AS NOTED

**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

**PRECAST PRESTRESSED CONCRETE BEAM DETAILS**

SECTION	BR
SHEET NO.	20

**CONSTRUCTION SEQUENCE:**

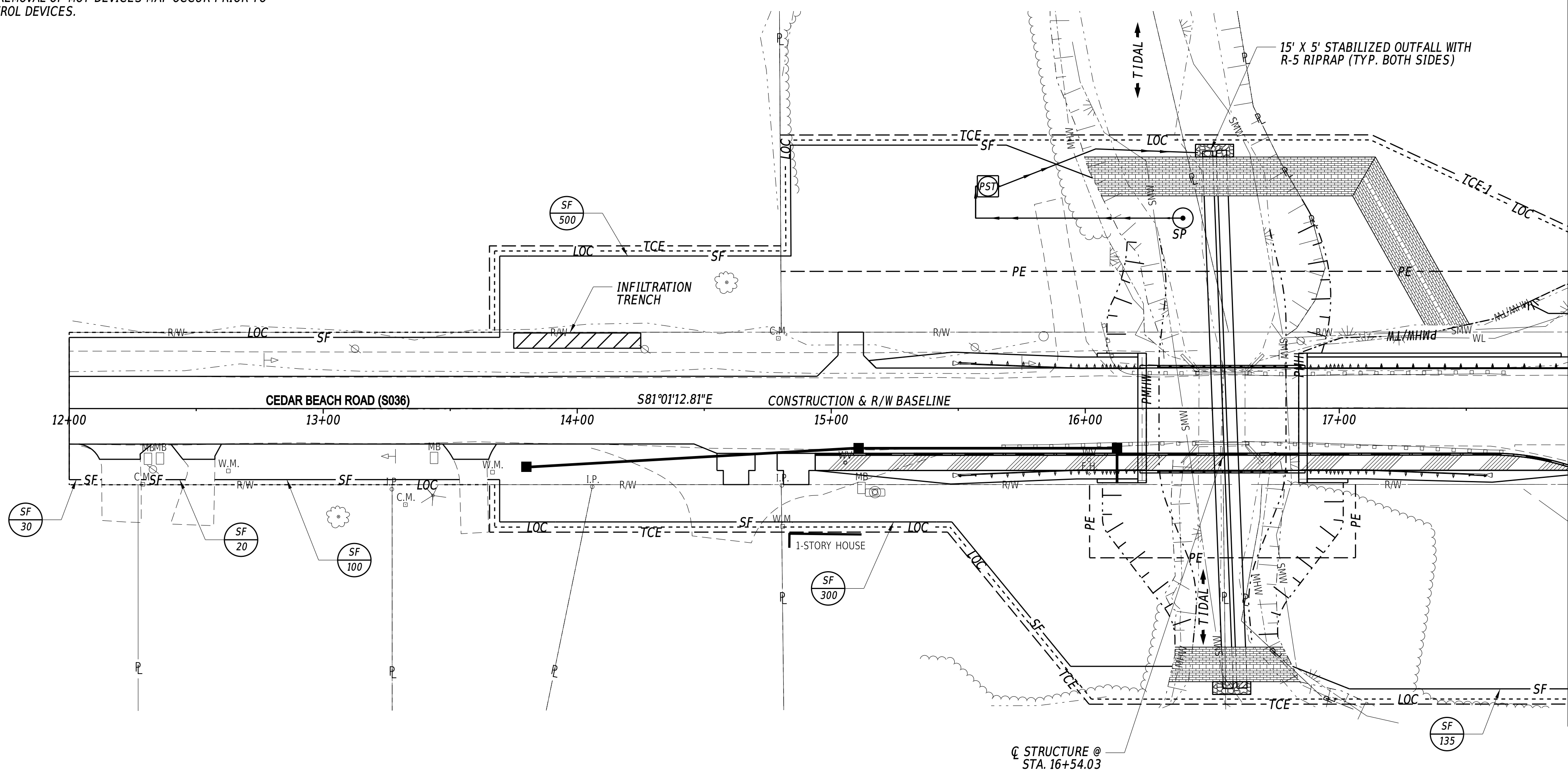
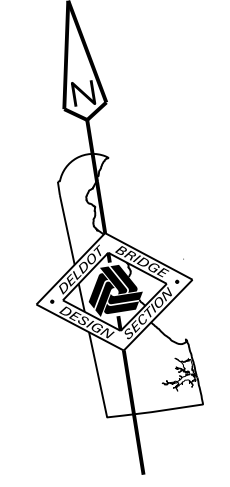
1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN.
2. INSTALL SILT FENCE (ITEM #905001) EXCEPT CONNECTION TO SANDBAG DIKES (ITEM #909005).
3. STABILIZE THE PROPOSED DISCHARGE AREA OF EACH PIPE WITH A 5' x 5' AREA OF R-5 RIPRAP (ITEM #909005). INSTALL 2-48" TEMPORARY DIVERSION PIPES (ITEM #909005) AT LOCATION SHOWN. PLACE THE UPSTREAM END OF THE PIPE TO MATCH EXISTING STREAM BOTTOM USING PIPE WITH WATER-TIGHT JOINTS. SECURE THE PIPES TO MINIMIZE MOVEMENT TO PREVENT LEAKAGE INTO THE WORK AREA. CONSTRUCT THE SANDBAG DIKES AT THE LOCATIONS SHOWN, WITH TOP ELEVATION OF 3 FEET WITH A MAXIMUM ELEVATION OF 6" BELOW TOP OF STREAM BANK. CONNECT SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA. THE BASE FLOW THROUGH THE TEMPORARY PIPES SHALL BE 80 c.f.s.
4. IF CONDITIONS ALLOW, INSTALL PROPOSED TEST PILES, PRODUCTION PILES, PRECAST ABUTMENTS, AND PRECAST WINGWALLS PRIOR TO DEWATERING AND WORKING IN THE STREAM. IF CONDITIONS DO NOT ALLOW, INSTALL STREAM DIVERSION AS DESCRIBED BELOW PRIOR TO EXCAVATING.
5. INSTALL SUMP PIT (ITEM #906003) AND PORTABLE SEDIMENT TANK (ITEM #906001) AS A SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OF THE TEMPORARY DRAINAGE PIPES OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
6. REMOVE EXISTING CHANNEL PROTECTION, EXISTING STRUCTURE, AND ALL OTHER ITEMS INCLUDED UNDER ITEM #211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS PER PLAN NOTE SHEET.
7. INSTALL PROPOSED SUBSTRUCTURE AND SUPERSTRUCTURE ELEMENTS, INCLUDING PILES, PRECAST ABUTMENT, SHEETPILE WINGWALLS AND CAP, AND PRECAST NEXT BEAMS.
8. WHEN NO LONGER NEEDED, REMOVE SANDBAG DIKES, EROSION AND SEDIMENT CONTROL DEVICES RELATING TO THE STREAM DIVERSION (I.E. STABILIZED OUTFALL RIPRAP). RESTORE STREAM TO EXISTING CONDITIONS AS OUTLINED IN THE ENVIRONMENTAL COMPLIANCE NOTES.
9. COMPLETE ALL ROAD WORK, INCLUDING INSTALLATION OF GUARDRAIL AND PROPOSED PAVEMENT BOX.
10. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER.
11. REMOVE ALL MOT DEVICES AND REOPEN THE ROADWAY. REMOVAL OF MOT DEVICES MAY OCCUR PRIOR TO REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

**NOTES:**

1. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.
 

( X )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT AND THAT PERSON'S SOLE RESPONSIBILITY SHALL BE THE MANAGEMENT AND SUPERVISION OF THE PROJECT'S TEMPORARY TRAFFIC CONTROL ACTIVITIES. THIS PERSON SHALL NOT HAVE ANY OTHER ROLE ON THE PROJECT. RESPONSIBILITIES AND REQUIREMENTS OF THE ATSSA SUPERVISOR ARE DEFINED IN SECTION 812 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.
2. THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. PLAN APPROVAL IS VALID FOR A FIVE YEAR PERIOD BEGINNING ON THE DATE OF THE STORMWATER ENGINEER'S SIGNATURE. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, NOTIFY THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION. ANY DEVIATIONS TO THE SWPPP NEED APPROVAL FROM THE ENGINEER.

AMOUNT OF DISTURBED AREA FOR THE PROJECT	1.41 AC
ADDED IMPERVIOUS FOR THE PROJECT	8877 SF
HUC-10 WATERSHED	0204020705



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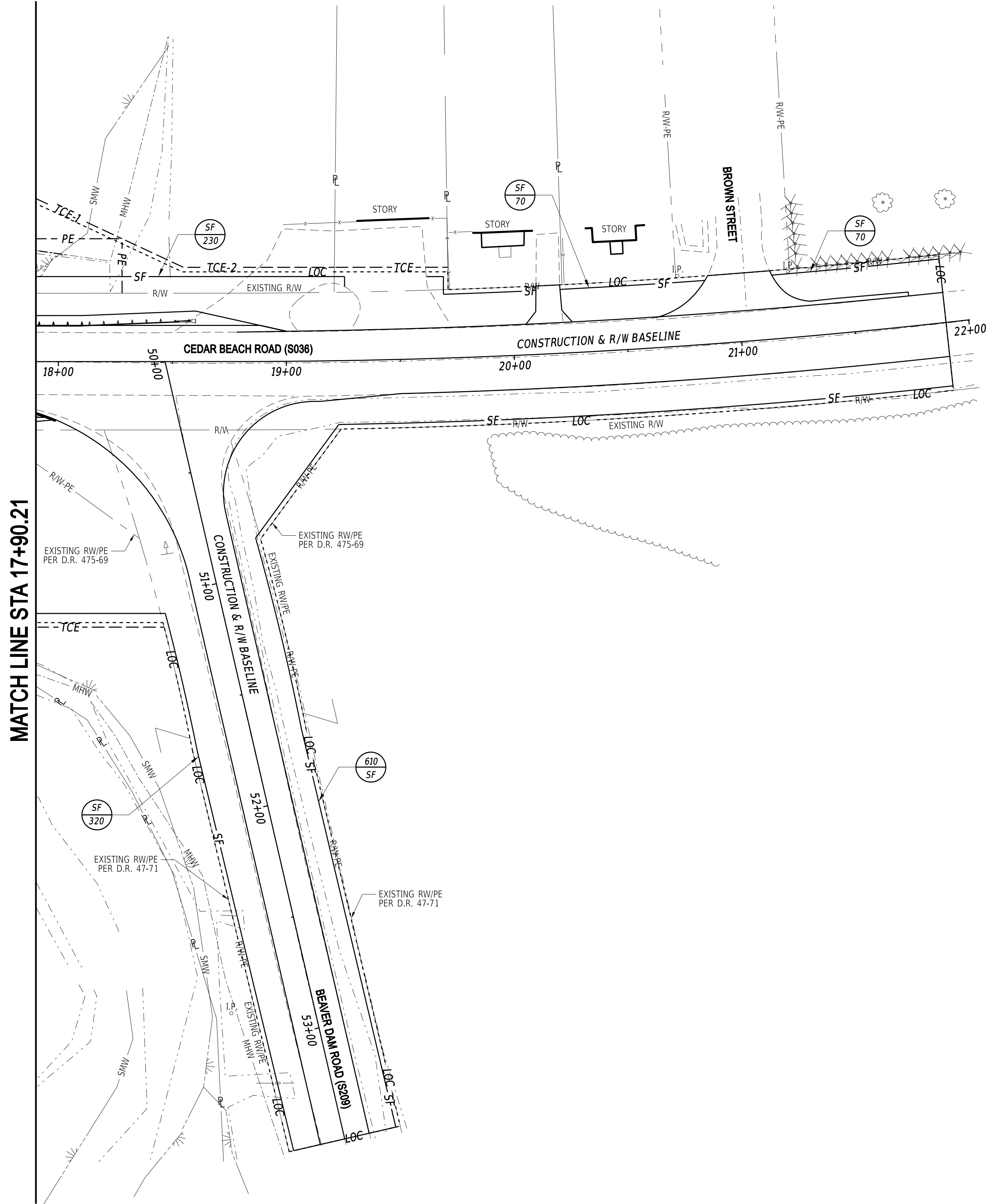
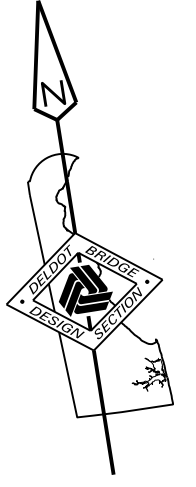
DELDOT STORMWATER ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS."

EROSION & SEDIMENT CONTROL	
	PORTABLE SEDIMENT TANK
	SANDBAG DIKE
	SILT FENCE / LENGTH
	SILT FENCE
	SUMP PIT
	STILLING WELL

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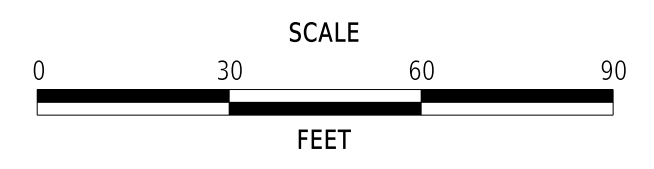
<p>ADDENDA / REVISIONS</p> <table border="1" style="width: 100%; height: 40px;"> <tr><td> </td><td> </td></tr> </table>			<p>SCALE</p> <p>0 30 60 90</p> <p>FEET</p>	<p><b>REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD</b></p>	<p>CONTRACT T202107302</p> <p>COUNTY SUSSEX</p>	<p>BRIDGE NO. <b>3-927</b></p> <p>DESIGNED BY: M. TOUSSAINT</p> <p>CHECKED BY: S. WEAVER</p>	<p><b>CONSTRUCTION SEQUENCE AND EROSION AND SEDIMENT CONTROL PLAN</b></p>	<p><b>CS-01</b></p> <p>SECTION BR</p> <p>SHEET NO. 27</p>



MATCH LINE STA 17+90.21

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ADDENDA / REVISIONS



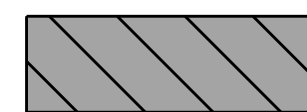
**REPLACEMENT OF BR 3-927  
ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

**CONSTRUCTION SEQUENCE  
AND EROSION AND  
SEDIMENT CONTROL PLAN**

<b>CS-02</b>
SECTION
BR
SHEET NO.
28

**LEGEND**



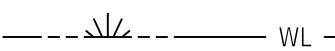
PERMANENT IMPACT AREA



TEMPORARY IMPACT AREA



MEAN HIGH WATER



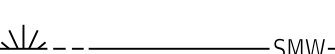
WETLAND BOUNDARY



PROPOSED MEAN HIGH WATER



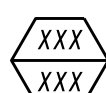
PROP. MEAN HIGH WATER / TIDAL WETLAND



STATE MAPPED WETLAND



LIMIT OF CONSTRUCTION



IMPACT AREA TYPE ID. (SEE BELOW)  
IMPACT AREA ID. AND/OR NUMBER

O = OPEN WATER IMPACT

W = WETLAND IMPACT

T = TEMPORARY IMPACT

**PERMANENT TIDAL OPEN WATER IMPACT AREA SCHEDULE**

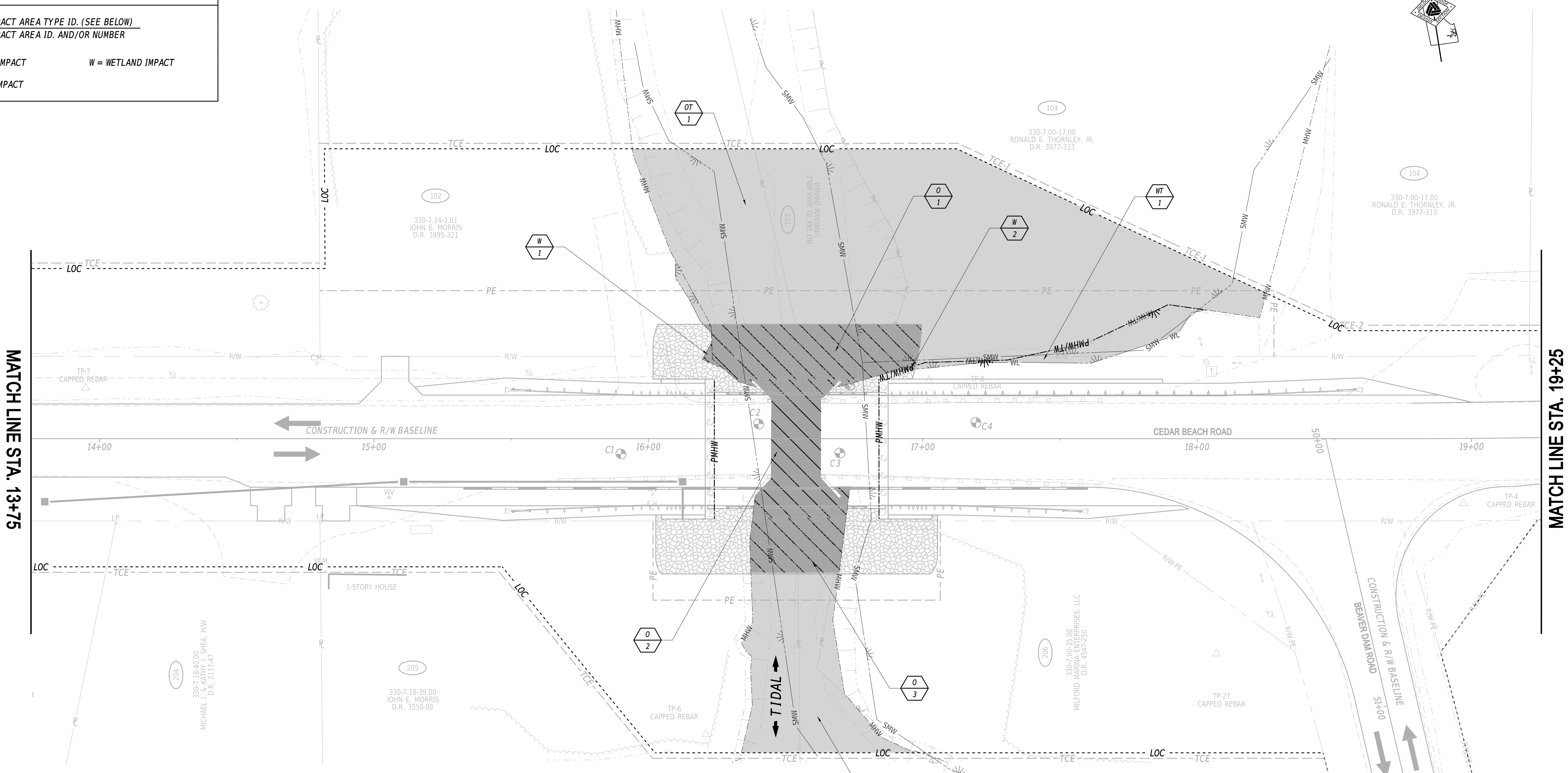
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT/LOSS
O-1	DOWNSTREAM RIPRAP	1441.88	0.0331	80.10	USACE/DNREC	IMPACT
O-2	RIPRAP THROUGH STRUCTURE	1170.51	0.0269	65.02	USACE/DNREC	IMPACT
O-3	UPSTREAM RIPRAP	670.57	0.0154	37.25	USACE/DNREC	IMPACT
<b>TOTAL PERMANENT OPEN WATER IMPACTS</b>		<b>3282.96</b>	<b>0.0754</b>	<b>182.39</b>	<b>USACE/DNREC</b>	<b>N/A</b>

**TEMPORARY TIDAL OPEN WATER IMPACT AREA SCHEDULE**

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	JURISDICTION
OT-1	NORTH SIDE E&S AND CHANNEL GRADING	12070.60	0.2771	USACE/DNREC
OT-2	SOUTH SIDE E&S AND CHANNEL GRADING	2523.05	0.0579	USACE/DNREC
<b>TOTAL TEMPORARY OPEN WATER IMPACTS</b>		<b>14593.65</b>	<b>0.3350</b>	<b>USACE/DNREC</b>

**PERMANENT TIDAL WETLAND IMPACT AREA SCHEDULE**

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT/LOSS
W-1	DOWNSTREAM RIPRAP	18.22	0.0004	1.01	USACE/DNREC	LOSS
W-2	DOWNSTREAM RIPRAP	7.21	0.0002	0.40	USACE/DNREC	LOSS
<b>TOTAL PERMANENT WETLAND IMPACT AREAS</b>		<b>25.43</b>	<b>0.0014</b>	<b>1.41</b>	<b>USACE/DNREC</b>	<b>N/A</b>



MATCH LINE STA. 13+75

MATCH LINE STA. 19+25

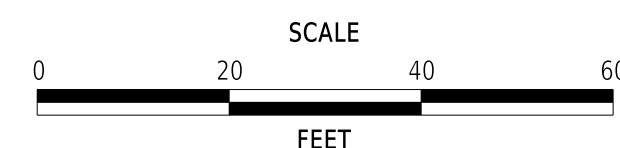
**TEMPORARY TIDAL WETLAND IMPACT AREA SCHEDULE**

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	JURISDICTION
WT-1	UPSTREAM E&S	528.1919	0.0121	USACE/DNREC
<b>TOTAL TEMPORARY OPEN WATER IMPACTS</b>		<b>528.1919</b>	<b>0.0121</b>	<b>USACE/DNREC</b>

WETLANDS DELINEATED BY VAN ADAMS ON 04-29-2021 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY MARC TOUSSAINT ON 06/01/2023. SHEET LAST UPDATED ON 09/12/2025.

ADDENDA / REVISIONS



**REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD**

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

**ENVIRONMENTAL COMPLIANCE PLAN**

SECTION	BR
SHEET NO.	30

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# ENVIRONMENTAL COMPLIANCE NOTES

## 1. GENERAL NOTES:

- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, CONTACT THE ENVIRONMENTAL STUDIES SECTION AT (302-760-2264 OR DOT\_ENVIRONMENTALSTUDIES@DELAWARE.GOV) TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

## 2. NATURAL RESOURCE ISSUES:

- A. PERMIT REQUIREMENTS/APPROVALS \*:
  - U.S. ARMY CORPS OF ENGINEERS (COE): NWP 23: CATEGORICAL EXCLUSIONS, PCN WILL BE REQUIRED
  - DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): SUBAQUAUS LANDS PERMIT/WETLANDS PERMIT
  - DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED
  - NCC DEPT. OF LAND USE (NCC): N/A
  - CITY OF WILMINGTON (COW): N/A
  - US COAST GUARD (USCG): TBD
- \* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THESE APPROVALS.
- \*\* THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE THEY ARE DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.
- B. CONSTRUCTION RESTRICTIONS:
  - FISHERIES - NO IN WATER WORK MARCH 1 - JUNE 30
  - ENDANGERED SPECIES - N/A
  - MIGRATORY BIRDS - IF BRIDGE WORK IS PROPOSED DURING THE BREEDING SEASON (APRIL 15 TO AUGUST 1), CONTACT DELDOT ENVIRONMENTAL STUDIES VIA EMAIL AT DOT\_ENVIRONMENTALSTUDIES@DELAWARE.GOV NO MORE THAN 14 DAYS PRIOR TO THE ESTART OF WORK FOR A SURVEY TO DETERMINE IF ACTIVE NESTS ARE PRESENT. IF THE SURVEY DETECTS NESTING ACTIVITY, THE FOLLOWING STEPS MUST BE TAKEN TO AVOID NEST DESTRUCTION AND TAKE, WHICH IS A VIOLATION OF STATE LAW:
    1. ONLY PERFORM CONSTRUCTION ACTIVITIES FROM AUGUST 2 TO APRIL 14.
    2. OR IF CONSTRUCTION CANNOT BE PERFORMED FROM AUGUST 2 TO APRIL 14, A DETERRENT SUCH AS MESH NETTING MUST BE USED TO BLOCK ACCESS TO NESTING SITES ON THE UNDERSIDE OF THE BRIDGE IN ACCORDANCE WITH SPECIAL PROVISION #763623 - NETTING MIGRATORY BIRD EXCLUSION. THE MATERIAL WOULD NEED TO BE IN PLACE NO LATER THAN APRIL 14, THE UNDERSIDE OF THE BRIDGE WOULD NEED TO BE FULLY ENCAPSULATED, AND THE MATERIAL MUST BE LEFT IN PLACE UNTIL CONSTRUCTION BEGINS.

## 3. CULTURAL RESOURCE ISSUES:

- A. IN ACCORDANCE WITH STIPULATION III.B.1 OF THE 2018 PROGRAMMATIC AGREEMENT FOR THE FEDERAL AID HIGHWAY PROGRAM IN DELAWARE, DELDOT QUALIFIED STAFF HAVE REVIEWED THE ABOVE-REFERENCED PROJECT AND DETERMINED THAT NO HISTORIC PROPERTIES WILL BE AFFECTED.

## 4. STREAM RESTORATION AND RIPRAP TREATMENT:

- A. FOLLOW THE SPECIAL PROVISION FOR ITEM #707500 - CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFFSITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL MUST CONFORM TO THE REQUIREMENTS OF ITEM #707500 - CHANNEL BED FILL. RECESS ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION AND CHOKE WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH SPECIFIED MATERIAL. PAYMENT UNDER ITEM #209002 - BORROW, TYPE B. COVER THE RIPRAP WITH A MINIMUM OF 12" CHANNEL BED FILL. MATCH THE FINAL CHANNEL ELEVATIONS WITH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS WILL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM #707500 - CHANNEL BED FILL.
- B. RESTORE OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) TO EXISTING CONDITIONS. FILL ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES WITH CHANNEL BED FILL. PAYMENT UNDER ITEM #707500 - CHANNEL BED FILL.
- C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.
- D. CHOKE ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, WITH DELAWARE #57 STONE. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF CHANNEL BED FILL OR TOPSOIL (DEPENDING ON LOCATION AS INDICATED BELOW) THROUGH THE RIPRAP.
  1. BENEATH THE BRIDGE: AFTER PLACING DELAWARE #57 STONE, PERFORM A FINAL CHOKE OF CHANNEL BED FILL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PAYMENT UNDER ITEM #707500 - CHANNEL BED FILL. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM.
  2. ALL OTHER LOCATIONS: FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PLACE AN ADDITIONAL 6-INCH TOPSOIL LAYER ON TOP OF THE RIPRAP. SLOPE SEEDING WILL BE DONE WITH ITEM #908019 - STREAMBANK SEED MIX, SEEDING. FOLLOWING THE SEEDING OPERATION, INSTALL ITEM #908020 - EROSION CONTROL BLANKET (ECB) MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS. ECB AT TOE OF SLOPE CAN BE EITHER TRENCHED IN OR STAPLED AT 6" ON CENTER. COMPLETE ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING PRIOR TO ANY RAIN EVENT. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.
- E. THE TOPSOIL/SEED/MULCH CAN BE PLACED BEFORE OR AFTER THE REMOVAL OF THE STREAM DIVERSION. IF THE PLACEMENT OCCURS AFTER STREAM DIVERSION REMOVAL, USE A TURBIDITY CURTAIN TO MINIMIZE IN-STREAM SEDIMENTATION. PAYMENT WILL BE INCIDENTAL TO ITEM #909005 - STREAM DIVERSION.

## 5. PROTECTION OF RESOURCES:

- A. KEEP CLEARING IN WETLAND AREAS TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. SUPPORT ALL EQUIPMENT TRAVERSING WETLANDS AND SUBAQUEOUS LAND ON MATS. PAYMENT FOR MATS WILL BE MADE UNDER ITEM #621500 - TEMPORARY TIMBER MAT. IN WETLAND AREAS THAT ARE CLEARED, NO GRUBBING EXCEPT WHERE NECESSARY TO CONSTRUCT PROJECT COMPONENTS SUCH AS FOUNDATIONS AND RIPRAP PROTECTION IS PERMITTED. CUT VEGETATION FLUSH WITH THE GROUND (I.E. NO DISTURBANCE OF THE ROOT MAT). RESTORE TEMPORARILY DISTURBED WETLAND AREAS TO GRADE AND SEED WITH ITEM #908017 - TEMPORARY GRASS SEEDING (ANNUAL RYEGRASS).
- B. USE SILT FENCE OR CONSTRUCTION SAFETY FENCE ALONG THE LIMITS OF CONSTRUCTION IN ALL AREAS WHERE WATER WETLANDS ARE BEING IMPACTED (AS SHOWN ON ENVIRONMENTAL COMPLIANCE SHEETS), AND ALSO IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LIMIT OF CONSTRUCTION (AS SHOWN ON CONSTRUCTION PLAN SHEETS). ANY CONTRACTOR ACCESS BEYOND THE LIMIT OF CONSTRUCTION IS STRICTLY PROHIBITED.
- C. USE SANDBAGS OR COMPOST FILTER LOG (CFL) TO SECURE SILT FENCE AT AREAS ADJACENT TO WOODED UPLANDS/ ALL WETLANDS IN LIEU OF TRENCHING UNLESS PROPER EROSION AND SEDIMENT CONTROL CANNOT BE MAINTAINED. REMOVE SANDBAGS AND CFLS (AND CONTENTS) IN THEIR ENTIRETY WHEN NO LONGER NEEDED. SANDBAGS/CFLS USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM #905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (302-760-2259 OR DOT\_ENVIRONMENTALSTUDIES@DELAWARE.GOV) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.
- D. CLEARLY MARK ALL TREES TO BE REMOVED WITH PAINT PRIOR TO THE EROSION AND SEDIMENT CONTROL MEETING.

ADDENDA / REVISIONS

NOT TO SCALE

## REPLACEMENT OF BR 3-927 ON SR36 CEDAR BEACH ROAD

CONTRACT	BRIDGE NO.	<b>3-927</b>
T202107302	DESIGNED BY:	M. TOUSSAINT
COUNTY	CHECKED BY:	S. WEAVER
SUSSEX		

## ENVIRONMENTAL COMPLIANCE NOTES

SECTION	BR
SHEET NO.	29



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL**

DIVISION OF FISH & WILDLIFE  
RICHARDSON & ROBBINS BUILDING  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

**DIRECTOR'S  
OFFICE**

PHONE  
(302) 739-9910

August 15, 2023

John Caruano  
800 Bay Road  
P.O. Box 778  
Dover, DE 19903

*Re: DelDOT 2023 Replacement of BR 3-927 on Cedar Beach Road (T202107302)*

Dear John Caruano:

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

*State Natural Heritage Site*

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

*Migratory Birds*

Bridge 3-297 has not been surveyed for the presence of nesting migratory birds, which are protected by Title 7, Delaware Code, Chapter 7, Sections 734 and 735. It is possible that one or more pairs of barn swallow (*Hirundo rustica*) and/or eastern phoebe (*Sayornis phoebe*) nest under the bridge(s). If work is proposed during the breeding season (**April 15<sup>th</sup> – August 1<sup>st</sup>**), a survey should be completed prior to the start of work to determine if nests are present. If a survey detects nesting activity, the following steps should be taken to avoid nest destruction and take, which is a violation of state law:

1. Perform construction activities from **August 1<sup>st</sup> to April 15<sup>th</sup>**.
2. If construction cannot be performed in this time period, a deterrent such as mesh netting should be used to block access to nesting sites on the underside of the bridge(s). The

material would need to be in place no later than **April 15<sup>th</sup>**, the underside of the bridge(s) would need to be fully encapsulated, and the material should be left in place until construction begins.

If active nests are discovered during work, activities should be halted immediately and SCRP contacted for further guidance.

### *Fisheries*

Mispillion River provides spawning habitat for anadromous species including Blueback Herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), and White Perch (*Morone americana*). Alewife and blueback herring, often collectively referred to as 'river herring', are listed by the National Marine Fisheries Service as a Species of Concern. These species are also important to both commercial and recreational fisheries and form an important forage base for other animal species. We request a time of year restriction be put in place on in-water work activities. In-water work should not take place from **March 15<sup>th</sup> through June 30<sup>th</sup>**.

Also, Mispillion River is used by large numbers of American Eel (*Anguilla rostrata*). We request that in stream work not take place from **March 1<sup>st</sup> to May 15<sup>th</sup>** to allow upstream passage of elvers (young eels).

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

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

Sincerely,



Katie Kadlubar  
*Environmental Review Coordinator*  
Phone: (302) 735-8665  
6180 Hay Point Landing Road  
Smyrna, DE 19977



# United States Department of the Interior



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

In Reply Refer To:  
Project Code: 2023-0113804  
Project Name: T202107302

August 14, 2023

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

## To Whom It May Concern:

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

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

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

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

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

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

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

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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

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Attachment(s):

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

## **OFFICIAL SPECIES LIST**

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

This species list is provided by:

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

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## PROJECT SUMMARY

Project Code: 2023-0113804

Project Name: T202107302

Project Type: Bridge - Replacement

Project Description: This project involves the replacement of the existing 18' concrete frame with precast concrete NEXT beams on pile supported precast stub abutments. The roadway will also be raised by approximately 2 feet to accommodate considerations for future sea-level rise. Precast/prefabricated elements for construction has been selected in an effort to reduce the time needed for a detour. The project will also involve placement of riprap in the stream for channel stabilization, installation of new guardrail, and reconstructing the approach roadway as necessary. The total width of the travel lanes will remain unchanged from their existing condition but roadway shoulders will be added at the bridge approaches to meet department requirements. Work will be performed under a full road closure with a posted detour.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.9143619,-75.40779709973387,14z>



Counties: Sussex County, Delaware

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## ENDANGERED SPECIES ACT SPECIES

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

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

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## CRITICAL HABITATS

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

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

## USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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

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

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## WETLANDS

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

RIVERINE

- [R1UBV](#)
-

## **IPAC USER CONTACT INFORMATION**

Agency: Delaware Department of Transportation

Name: Nicole Start

Address: 800 S Bay Road

City: Dover

State: DE

Zip: 19901

Email: [nicole.start@delaware.gov](mailto:nicole.start@delaware.gov)

Phone: 3027602547

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Property Address	Property Owner(s)	Owner Address of Record	Town	State	Zip Code
74 CEDAR BEACH RD	MORRIS JOHN E	21839 SHOCKLEY RD	MILFORD	DE	19963
70 CEDAR BEACH RD	MCBANE WILLIAM JOHN III	20031 MCBANE LN	LINCOLN	DE	19960
68 CEDAR BEACH RD	JONES LISA, BRUCE HOWELL, KRUSER JEANIE K, BONNIE L HOWELL	68 CEDAR BEACH RD	MILFORD	DE	19963
66 CEDAR BEACH RD	COLLINS KENNETH, CYNTHIA H	66 CEDAR BEACH RD	MILFORD	DE	19963
64 CEDAR BEACH RD	HOWELL KENNETH MARK	64 CEDAR BEACH RD	MILFORD	DE	19963
62 CEDAR BEACH RD	MITCHELL RENTALS LLC	309 S REHOBOTH BLVD	MILFORD	DE	19963
50 CEDAR BEACH RD	SZYPIOTKO TRAVIS, ASHLEY SZYPIOTKO	50 CEDAR BEACH RD	MILFORD	DE	19963
48 CEDAR BEACH RD	HOTPADS LLC	203 SE FRONT ST	MILFORD	DE	19963
46 CEDAR BEACH RD	BAIRD PROPERTIES LLC	908 WEST LN	MILFORD	DE	19963
44 CEDAR BEACH RD	Cory and Reba Fox	44 CEDAR BEACH RD	MILFORD	DE	19963
42 CEDAR BEACH RD	MCDOUGALL BRAD, EMILY MCDOUGALL	42 CEDAR BEACH RD	MILFORD	DE	19963
28 CEDAR BEACH RD	JOHNSON DIXIE ANNE, EMILY MCDOUGALL	28 CEDAR BEACH RD	MILFORD	DE	19963
26 CEDAR BEACH RD	KRAUSZ DONALD, CHRISTINA M KRAUSZ	26 CEDAR BEACH RD	MILFORD	DE	19963
19840 BEAVER DAM RD	KELLY MARY E	14 KINGSTON TER	MILFORD	DE	19963
19858 BEAVER DAM RD	WEBB JESSE C SR, JOYCE L WEBB	19858 BEAVER DAM RD	MILFORD	DE	19963
19880 BEAVER DAM RD	WEBB MARIE E	19880 BEAVER DAM RD	MILFORD	DE	19963
17151 WINDWARD BLVD	WINDWARD ON THE RIVER LP	246 REHOBOTH AVE	REHOBOTH	DE	19971
19927 BEAVER DAM RD	BURGESS RICHARD, GAIL M BURGESS	19927 BEAVER DAM RD	MILFORD	DE	19963
19810 CEDAR BEACH RD	MILFORD MARINA ENTERPRISES LLC	26412 BROADKILL RD	MILTON	DE	19968
19777 CEDAR BEACH RD	SAINT BRIAN P	515 FAIRVIEW AVE	DOVER	DE	19904
19781 CEDAR BEACH RD	HOPKINS WILLIAM D J	4991 MILLS RD	MILFORD	DE	19963
5349 BROWN ST	LIGHTCAP TIMOTHY	695 MOUNTAIN RD	BOYERTOWN	PA	19512
19817 CEDAR BEACH RD	LEVAN BRIAN A, HEATHER L LEVAN	124 CHURCH STREET	BALLY	PA	19503
5344 BROWN ST	STEWART BETTY JEAN	5344 BROWN ST	MILFORD	DE	19963
5334 BROWN ST	PERNS PROPERTIES LLC	112 N REHOBOTH BLVD	MILFORD	DE	19963
5326 BROWN ST	HOPKINS WILLIAM DAVID JUDSON	4991 MILLS RD	MILFORD	DE	19963
5318 BROWN ST	BEAUCEGOUR SALNAVE, MARIE C BEAUCEGOUR	5318 BROWN ST	MILFORD	DE	19963
5319 BROWN ST	GRIFFITH CHARLES R, ANGELA D GRIFFITH	742 GRIFFITH RD	ACCIDENT	MD	21520
5323 BROWN ST	SWEENEY KARIN A	PO BOX 33	TOWNSEND	DE	19734
5331 BROWN ST	GRIFFITH CHARLES R, ANGELA D GRIFFITH	742 GRIFFITH RD	ACCIDENT	MD	21520
5341 BROWN ST	LEVAN HEATHER L, BRIAN A LEVAN	19817 CEDAR BEACH RD	MILFORD	DE	19963
47 CEDAR BEACH RD	BETTS MARY COLLEEN	47 CEDAR BEACH RD	MILFORD	DE	19963
43 CEDAR BEACH RD	HARPER CLAIRE B	43 CEDAR BEACH RD	MILFORD	DE	19963



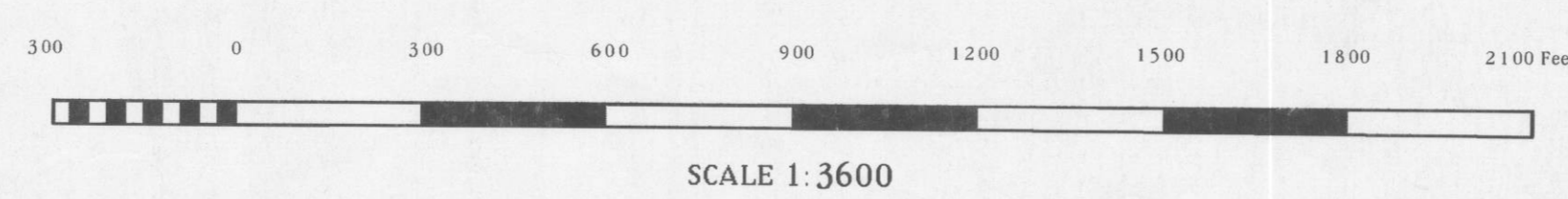


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UNREC

17-033

3-22-88



SCALE 1:3600



### State of Delaware Wetlands KENT COUNTY, DELAWARE

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

Prepared for: DEPARTMENT OF NATURAL RESOURCES  
and ENVIRONMENTAL CONTROL

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

### Legend for Delaware Tidal Wetland Delineations:

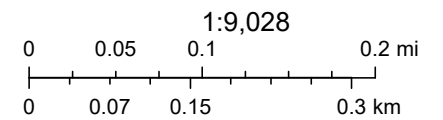
- |   |  |   |
|---|--|---|
| B - Beach   | IS - Impounded Scrub-Shrub Wetland                                   | S - Tidal Scrub-Shrub Swamps  |
| DF - Disturbed Forested Swamp   | IW - Impounded Water   | SS - Areas flooded by tidal storm surges                              |
| DM - Disturbed Marsh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

*MAP CHANGE  
CHECK MAP  
FILE - Red Pile*

# WRR Project Area Map - Satellite

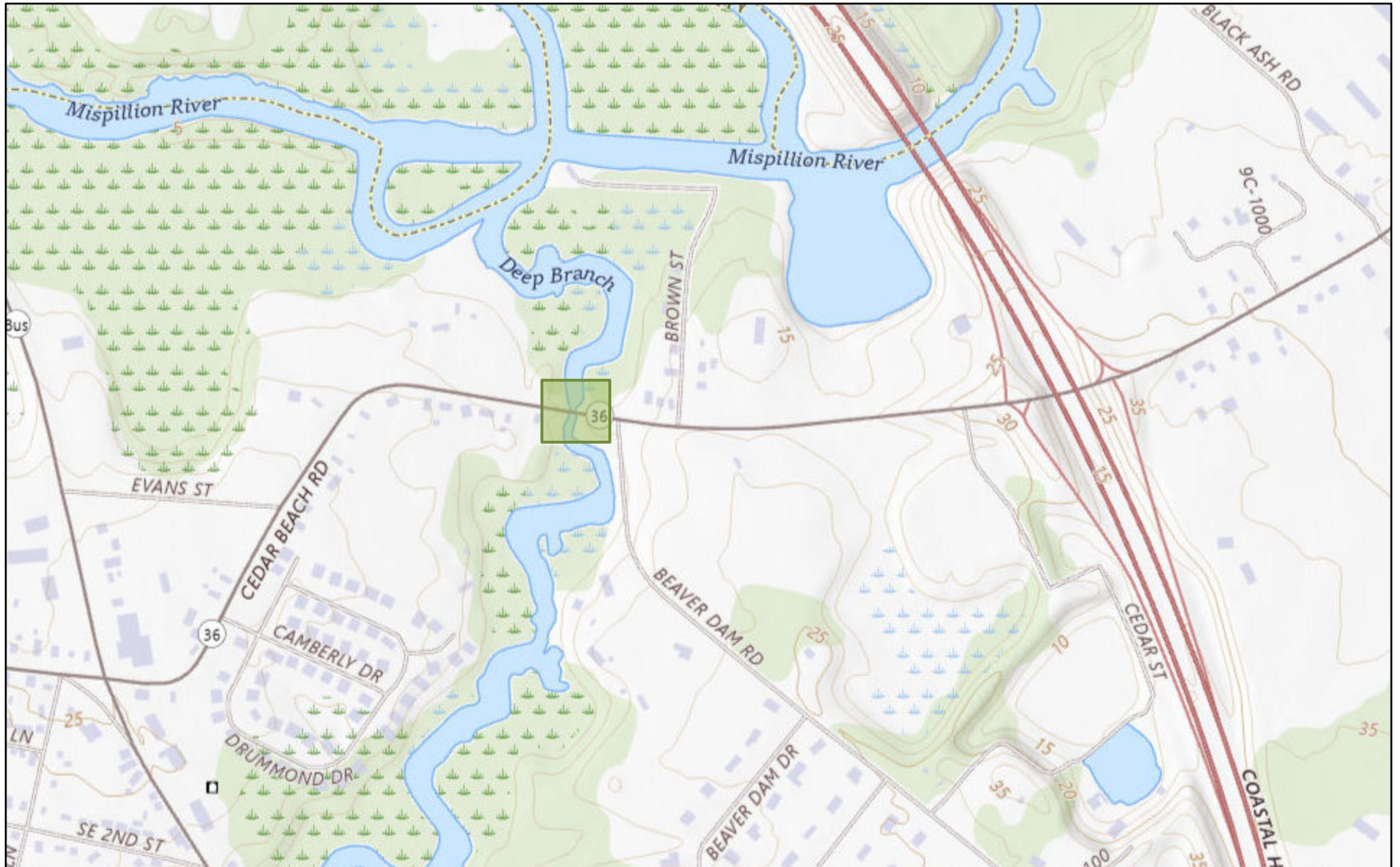


2/4/2026, 8:12:00 AM

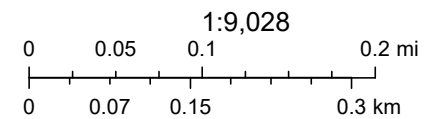


Vantor

# WRR Project Area Map



2/4/2026, 8:10:18 AM



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global