

GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

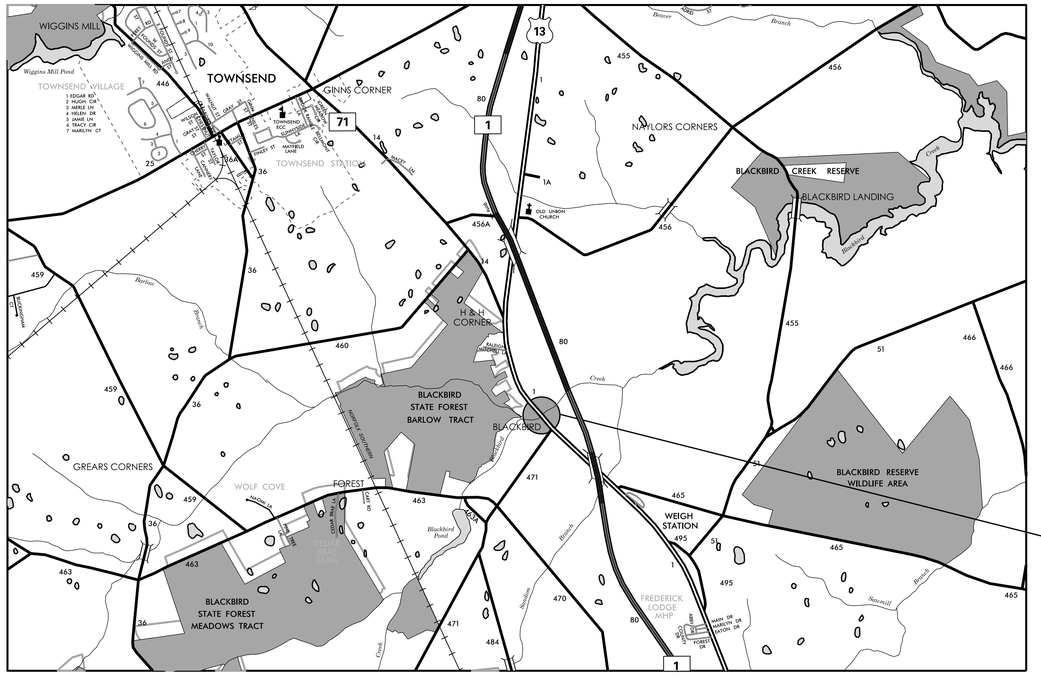
U.S. CUSTOMARY UNITS

CONSTRUCTION & RIGHT-OF-WAY PLANS FOR:

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT NUMBER: T200707404
FEDERAL AID PROJECT NUMBER: EBRN-N016(3)

COUNTY: NEW CASTLE M.R. #: N001



DESIGN DESIGNATION

MRD #: N001	ROAD NAME: DUPONT PARKWAY / U.S. 13 NORTHBOUND & SOUTHBOUND		
FUNCTIONAL CLASS: MINOR ARTERIAL		D.H.V. PROJECTED: 891	YEAR: 2050
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT		DESIGN SPEED: 60 M.P.H.	
A.A.D.T. CURRENT: 9812	YEAR: 2016	TRUCKS: 12 %	
A.A.D.T. PROJECTED: 13500	YEAR: 2050	DIRECTION OF DISTRIBUTION: 60 %	

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA / REVISIONS

1	REVISION 1	N. DEAN - 05/22/25

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
27	42'-0" R.C. ARCH BRIDGE OVER BLACKBIRD CREEK
88-074-04	BR. 488N ON U.S. 13
220	RIGID FRAME BRIDGE STA. 175+00.00± BLACKBIRD CREEK
701	BLACKBIRD TO ODESSA SOUTHBOUND LANE - DUPONT HWY.
1631	ROUTE 13 - SMYRNA TO ROUTE 896
79-012-01	U.S. ROUTE 13 - 3R SMYRNA TO ODESSA
83-110-02	S.R. 1, NORTH OF SMYRNA TO TOWNSEND (S. OF N25)

APPROVED FOR ADVERTISEMENT

DIRECTOR OF TRANSPORTATION SOLUTIONS — DATE: 07/08/2024

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
BRIDGE DESIGN

Nicholas E. Dean — 06/27/2024
DATE

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

NICHOLAS E. DEAN — LICENSED — No. 20419 — DELAWARE PROFESSIONAL ENGINEER
SEAL

LAST REVISED: 11/26/2018
27-JUN-2024
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REVISION PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
BRIDGE DESIGN

Nicholas E Dean — 05/22/2025 (DATE)

NICHOLAS E. DEAN LICENSED No. 20419 DELAWARE PROFESSIONAL ENGINEER (SEAL)

THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER REVISION #1:
1, 2, 11, 18, 19, 19A, 27, 59, & 62

ADDENDA / REVISIONS

1 REVISION 1	N. DEAN-05/22/25	

NOT TO SCALE

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT T200707404	BRIDGE NO.	1-488N&S	SECTION
	DESIGNED BY:	N. DEAN	
COUNTY NEW CASTLE	CHECKED BY:	M. RADOVIC	SHEET NO. 2

INDEX OF SHEETS & ADDENDA AND REVISIONS

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MANMADE ROADSIDE FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BOLLARD - STEEL POLE			
BOLLARD - WOOD POST			
CURB, TYPE 1 AND TYPE 3	CURB, TYPE "X"		
CURB, TYPE 2			
CURB & GUTTER, TYPE 1			C XXX
CURB & GUTTER, TYPE 2	C&G, TYPE "X"		
CURB & GUTTER, TYPE 3			
CURB OPENING - SUMP / ON GRADE			C O
CURB OPENING WITH SIDEWALK			CO SW
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			GR XXX
GUARDRAIL - END TREATMENT, TYPE 1			
GUARDRAIL - END TREATMENT, TYPE 2			
GUARDRAIL - END TREATMENT, TYPE 3			
GUARDRAIL - IMPACT ATTENUATOR			
LAMP AND POST - RESIDENTIAL	LAMP		
MAILBOX	MB	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		BFS	
DITCH OR STREAM CENTERLINE			
DIRECTIONAL STREAM FLOW ARROW			
DRAINAGE INLET	C.B. / D.I.		DI XXX
DRAINAGE JUNCTION BOX	J.B.		JB XXX
DRAINAGE MANHOLE	Ⓓ		MH 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 SECTION			SES XXX
UNDERDRAIN			UD XXX
UNDERDRAIN OUTLET			UDO XXX

UTILITY FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED
CABLE TV DISTRIBUTION BOX	TV	
COMMUNICATIONS - UNDERGROUND	COMM(A)	COMM
ELECTRIC - UNDERGROUND	E(A)	E
ELECTRIC MANHOLE	Ⓔ	
ELECTRIC METER	EM	
ELECTRIC TRANSFORMER	E	
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	B	
TELEPHONE MANHOLE	Ⓣ	
TELEPHONE TEST POINT	T	
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	U	
UTILITY MARKER	UM	
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	WV	WV
WELL HEAD	WELL	

PAVEMENT SECTION(S)

2" PAVEMENT MILLING 2" SUPERPAVE, TYPE C, PG 76-22 (NON-CARBONATE STONE)	
2" SUPERPAVE, TYPE C, PG 76-22 (NON-CARBONATE STONE) 3" SUPERPAVE, TYPE B, PG 76-22 5" SUPERPAVE, TYPE B, PG 64-22 8" GRADED AGGREGATE BASE COURSE * EXISTING HOT-MIX PAVEMENT TO BE MILLED OFF. EXISTING PCC PAVEMENT TO BE RUBBLIZED AND LEFT IN PLACE. PROPOSED PAVEMENT BOX TO BE PLACED ABOVE IT	
2" SUPERPAVE, TYPE C, PG 76-22 (NON-CARBONATE STONE) 3" SUPERPAVE, TYPE B, PG 76-22 5" SUPERPAVE, TYPE B, PG 64-22 8" GRADED AGGREGATE BASE COURSE * EXISTING PAVEMENT BOX TO BE FULLY REMOVED	
2" SUPERPAVE, TYPE C, PG 76-22 (NON-CARBONATE STONE) 8" GRADED AGGREGATE BASE COURSE, TYPE B	

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
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
BARRIER, DOUBLE-FACED, PERMANENT	
BARRIER, SINGLE-FACED, PERMANENT, TEST LEVEL 4 / TEST LEVEL 5	
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 XXXX
BUS STOP PAD / TYPE	BSP X
BUS STOP WITH SHELTER PAD / TYPE	BSSP X
CONCRETE SAFETY BARRIER	B XXX
CONVERT TO JUNCTION BOX	CJB XXX
CONVERT TO DRAINAGE MANHOLE	CMH XXX
DO NOT DISTURB	DND
ENERGY DISSIPATOR	ED XXX
FILL WITH FLOWABLE FILL	FF C
LANDSCAPE PLANTINGS	LS XXX
PEDESTRIAN CONNECTION / TYPE	PC XX
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	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	LEGEND	SECTION
				T200707404				BR
				COUNTY	DESIGNED BY:	N. DEAN		SHEET NO.
				NEW CASTLE	CHECKED BY:	M. RADOVIC		3

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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 BIDDERS INCLUDE:

( )	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D TRIANGLES REPRESENTING THE EXISTING SURFACE.
(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 "ELECTRONIC FILE SHARING RELEASE" 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 AWARDED CONTRACTOR, INCLUDE:

(X)	CROSS SECTIONS

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. A NIGHT WORK SURVEY OF ADJACENT PROPERTY OWNERS WAS CONDUCTED AND LOCAL NOISE ORDINANCES HAVE BEEN VERIFIED. NIGHT WORK IS PERMITTED ON THIS CONTRACT.

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 MULITPLE 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 CLEAR ZONE. 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. UNLESS OTHERWISE NOTED AS DO NOT DISTURB OR ADJUST BY CONTRACTOR/OTHERS, ALL EXISTING FEATURES, INCLUDING TREES, WITHIN THE PROPOSED LOC SHALL BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER THE RESPECTIVE BID ITEM. REMOVAL OF TREES AND SHRUBS SHALL BE PAID FOR UNDER 201000, AND REMOVAL OF ADDITIONAL EXISTING FEATURES SHALL BE PAID FOR UNDER ITEM 211000 AS NOTED IN SECTION 200 OF THE PROJECT NOTES.

6. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   a. ALL EXISTING DRAINAGE INLETS AND DRAINAGE PIPES WITHIN THE PROJECT LIMITS UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION PLANS. THIS INCLUDES THE EXCAVATION AND REMOVAL OF THE EXISTING PAVEMENT BOX.
   b. ALL EXISTING GUARDRAIL WITHIN THE PROJECT LIMITS UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION PLANS.
   c. FENCE ON THE NORTHEAST CORNER OF BR 1-488N. THE CONTRACTOR SHALL RESET THIS FENCE AT THE COMPLETION OF CONSTRUCTION.
   d. FENCE SOUTHWEST OF BR 1-488S. THE CONTRACTOR SHALL RESET THIS FENCE AT THE COMPLETION OF CONSTRUCTION.
   e. EXISTING CONCRETE STAIRCASE LOCATED NORTH OF BRIDGE 1-488N ON THE EAST SIDE OF US 13 NORTHBOUND.
   f. EXISTING RIPRAP UPSTREAM AND UNDERNEATH BR 1-488S, BETWEEN BR 1-488S AND BR 1-488N, AND DOWNSTREAM UNDERNEATH BR 1-488N. EXISTING STONE MAY BE RE-USED IF IT MEETS THE REQUIREMENTS FOR R-5 RIPRAP.
   g. BRIDGE 1-488S IN ITS ENTIRETY, INCLUDING:
      -EXISTING 40'-0" CONCRETE ARCH AND PARAPETS
      -EXISTING PORTABLE PCC BARRIER ON BOTH SIDES OF THE BRIDGE
      -EXISTING CONCRETE SUBSTRUCTURE
      -EXISTING PILES TO BE REMOVED OR CUT TO A MINIMUM DEPTH OF 1'-0" BELOW THE BOTTOM ELEVATION OF THE DE #3 STONE IN THE PROPOSED RIPAP APRON
   h. BRIDGE 1-488N IN ITS ENTIRETY, INCLUDING:
      -EXISTING 40'-0" CONCRETE RIGID FRAME AND PARAPETS
      -EXISTING CONCRETE SUBSTRUCTURE
      -EXISTING PILES TO BE REMOVED OR CUT TO A MINIMUM DEPTH OF 1'-0" BELOW THE BOTTOM ELEVATION OF THE DE #3 STONE IN THE PROPOSED RIPAP APRON

7. SIGNING:
   TO AVOID DAMAGE, SIGNS WITHIN PROJECT LIMITS THAT ARE MARKED "REMAIN" ON THE PERMANENT SIGN SCHEDULES ON DWG. NOS. SS-01, SS-02, AND SS-03 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.

SECTION 400

8. THE CONTRACTOR WILL MAINTAIN ACCESS TO ALL DRIVEWAYS WITHIN THE PROJECT LIMITS THROUGHOUT THE DURATION OF BOTH PHASES OF CONSTRUCTION. DURING THE PAVING OPERATIONS OF THE APPROACH ROADWAYS, THE CONTRACTOR WILL NOTIFY THE PROPERTY OWNERS OF THE WORK AND ASSOCIATED LIMITED ACCESS AT LEAST A WEEK PRIOR TO BEGINNING WORK. PEDESTRIAN ACCESS TO PROPERTIES WILL BE MAINTAINED, UNIMPEDED THROUGHOUT THE DURATION OF THE PROJECT.

9. 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

10. STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE FOR INLETS AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.

11. PORTLAND CEMENT CONCRETE:
    USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:
    (f'c = 28-DAY COMPRESSIVE STRENGTH)
    CLASS A CONCRETE WITH 2% HIGH EARLY STRENGTH ADDITIVE - ABUTMENT CLOSURE POUR, (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:
    a. DESIGNED TO PROVIDE BOTH OF THE FOLLOWING CHARACTERISTICS:
       (i.) EXPANDS AT A RATE THAT CLOSELY COMPENSATES FOR THE SHRINKAGE OF THE CONCRETE MIX.
       (ii.) REDUCES THE CAPILLARY SURFACE TENSION OF THE CONCRETE PORE WATER.
    b. PROVIDES AT LEAST 80% SHRINKAGE REDUCTION AS MEASURED AND DOCUMENTED BY FIELD PERFORMANCE.
    c. FORMULATED FOR USE IN FREEZING AND THAWING WEATHER.
    USE ADMIXTURES THAT ARE COMPATIBLE WITH ALL OTHER CONCRETE-MIX 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.

    USE PORTLAND CEMENT CONCRETE FOR PRECAST ELEMENTS AS FOLLOWS:
    (f'c = 28-DAY COMPRESSIVE STRENGTH)
    (f'ci = COMPRESSIVE STRENGTH AT INITIAL PRESTRESS)
    PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAM - f'c = 8.0 ksi; f'ci = 6.4 ksi
    PRECAST CONCRETE BRIDGE ELEMENTS (ABUTMENT, APPROACH SLAB, SLEEPER SLAB, MOMENT SLAB) - f'c = 8.0 ksi
    PRECAST CONCRETE T WALL - f'c = 5.0 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 CONSIDERATIONS OUTLINED IN A5.9.2.3.2b OF THE AASHTO LRFD. BY ASSUMING 0 ksi FOR 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.

12. ABUTMENT CAP FABRICATION:
    PRECAST 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 AND 610.3.4.D.3 OF THE STANDARD SPECIFICATIONS FOR FURTHER GUIDANCE.

13. DECK SLAB:
    THE DECK SLAB THICKNESS INCLUDES ½" INTEGRAL WEARING SURFACE.

14. BAR REINFORCEMENT:
    a. UTILIZE 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.

15. CONCRETE SEALER:
    REFER TO DIAGRAMS CONTAINING SILICONE-BASED ACRYLIC CONCRETE SEALER LIMITS ON SHEETS DWG. NO. BR-01, BR-02, AND BR-03. PAYMENT SHALL BE INCIDENTAL TO THE SPECIFIC PRECAST ELEMENT TO WHICH THE SEALER IS APPLIED.

16. ABUTMENT PROTECTION:
    SEE DWG. NO. AB-02 AND AB-03 FOR INFORMATION PERTAINING TO TYPE AND LIMITS OF ABUTMENT PROTECTION.

17. STABILITY OF BULB T BEAMS (DECKED):
    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

18. IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE TRANSITIONED CURB WORK SHALL BE MEASURED AND PAID FOR UNDER THE PROPOSED CURB ITEM. SAW CUTTING OF THE EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.

19. PAVEMENT MILLINGS ARE NOT AN ACCEPTABLE SUBSTITUTE FOR GABC.

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

    5369 SUMMIT BRIDGE ROAD
    MIDDLETOWN, DE 19709.

    CONTACT CANAL 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.

21. 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

22. ALL MAINTENANCE OF TRAFFIC ACTIVITIES FOR PHASE 1 WILL BE PAID FOR UNDER ITEM #801000 - MAINTENANCE OF TRAFFIC AND THEIR RESPECTIVE ITEMS IN ACCORDANCE WITH TA-33B:
    -ITEM 802003 - ARROW PANELS, TYPE C
    -ITEM 805001 - PLASTIC TRAFFIC CONTROL DRUMS
    -ITEM 808002 - PROVIDE AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II
    -ITEM 810001 - TEMPORARY WARNING SIGNS AND PLAQUES

23. MAINTENANCE OF TRAFFIC (PHASE 2):
    MAINTENANCE OF TRAFFIC FOR PHASE 2 CONSTRUCTION SHALL BE AS PER THE DETOUR PLAN AND TA-33B. THE DETOUR AND TA-33B SHALL REMAIN IN EFFECT UNTIL THE FINAL WARM MIX IS PLACED. ALL MOT ITEMS ASSOCIATED WITH THE HARD CLOSURE OF US 13, WITH THE EXCEPTION OF PORTABLE CHANGEABLE MESSAGE SIGNS (ITEM #803001) AND FLAGGERS (ITEM #811001 AND ITEM #811013), WILL BE INCLUDED IN ITEM #801500 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE. ALL MAINTENANCE OF TRAFFIC ACTIVITIES ASSOCIATED WITH TA-33B WILL BE PAID FOR UNDER ITEM #801000 - MAINTENANCE OF TRAFFIC AND THEIR RESPECTIVE ITEMS:
    -ITEM 802003 - ARROW PANELS, TYPE C
    -ITEM 805001 - PLASTIC TRAFFIC CONTROL DRUMS
    -ITEM 808002 - PROVIDE AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II
    -ITEM 810001 - TEMPORARY WARNING SIGNS AND PLAQUES

SECTION 900

24. 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

25. DESIGN SPECIFICATIONS:
    (A) DELDOT BRIDGE DESIGN MANUAL, 2022 EDITION
    (B) AASHTO LRFD BRIDGE SPECIFICATIONS, 2017, 8TH EDITION, CUSTOMARY U.S. UNITS.

26. LOADING:
    a. DEAD LOADS INCLUDE 25 PSF FOR FUTURE WEARING SURFACE ON DECK SLAB.
    b. DESIGN LIVE LOADS INCLUDE HL-93 LOADING.
    c. FATIGUE DESIGN IS BASED ON THE FOLLOWING ONE DIRECTIONAL TRAFFIC VOLUMES: ADTT = 13,500 (YEAR: 2050).
    d. LIVE LOAD DISTRIBUTION TO THE GIRDERS IS BASED ON THE AASHTO SIMPLIFIED METHOD.
    e. 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 SHALL BE CONSIDERED TO BE 68° F.
    f. LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/800.
    g. FOR REINFORCEMENT DISTRIBUTION REQUIREMENTS, CONSIDER CLASS 2 EXPOSURE CRITERIA FOR DECKS.
    h. BARRIERS HAVE BEEN DESIGNED FOR MASH TEST LEVEL 4 (TL-4).

27. HYDRAULIC DATA:

DRAINAGE AREA:	11.80 sq. miles	DESIGN FREQ.: 50 YEARS	
DESIGN DISCHARGE:	3192 cfs	100-YEAR DISCHARGE:	4038 cfs
EXISTING (DESIGN STORM) WSE:	11.73 ft	PROPOSED (DESIGN STORM) WSE:	10.98 ft
EXISTING (DESIGN STORM) VELOCITY:	11.08 fps	PROPOSED (DESIGN STORM) VELOCITY:	4.61 fps
EXISTING 100-YEAR WSE:	15.52 ft	PROPOSED 100-YEAR WSE:	11.66 ft
EXISTING 100-YEAR VELOCITY:	13.97 fps	PROPOSED 100-YEAR VELOCITY:	5.34 fps
EXISTING WATERWAY OPENING:	430.80 sq. ft	PROPOSED WATERWAY OPENING:	1305.10 sq. ft

28. SCOUR ANALYSIS:
    SCOUR DESIGN FREQUENCY: 200 YEARS
    SCOUR DESIGN FLOOD DISCHARGE: 4876 cfs
    SCOUR DESIGN FLOOD VELOCITY: 5.99 fps (AT BRIDGE OUTLET)
    WATER SURFACE ELEVATION: 12.28 ft (IMMEDIATELY UPSTREAM OF BRIDGE)

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

29. 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.

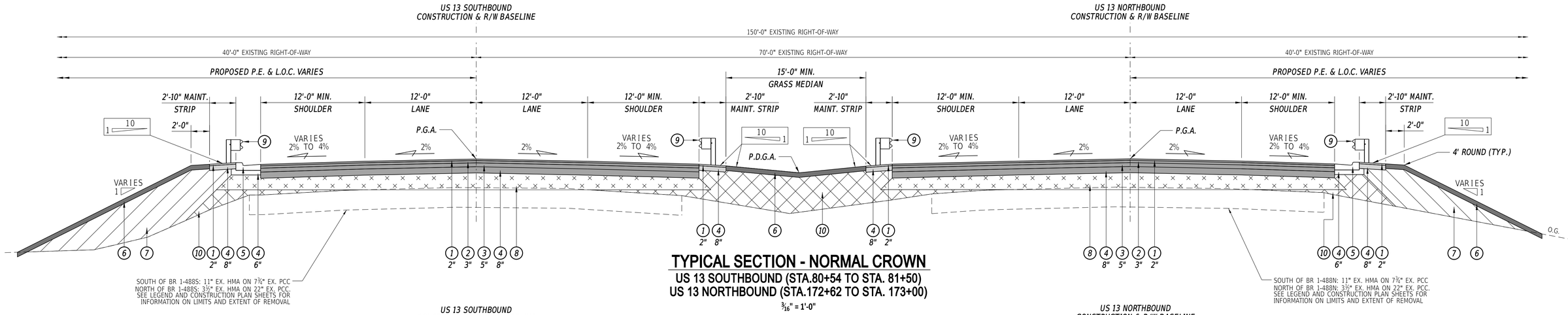
LOAD RATING SUMMARY

VEHICLE TYPE	RATING FACTOR	RATING WEIGHT (TONS)	CONTROLLING MEMBERS	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK+HL-93 LANE (INVENTORY)	1.36	N/A	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
HL-93 TANDEM+HL-93 LANE (INVENTORY)	1.67	N/A	INTERIOR BEAM	105	STRENGTH I_L. Reinf.
HS20 Truck (Inventory)	1.88	67.68	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
LANE HS20 (Inventory)	2.92	105.12	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
HL-93 TRUCK+HL-93 LANE (OPERATING)	1.73	N/A	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
HL-93 TANDEM+HL-93 LANE (OPERATING)	2.16	N/A	INTERIOR BEAM	105	STRENGTH I_L. Reinf.
HS20 Truck (Operating)	2.41	86.76	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
LANE HS20 (Operating)	3.76	135.36	INTERIOR BEAM	106	STRENGTH I_L. Reinf.
DE S220	3.63	72.60	INTERIOR BEAM	105	SERVICE III_Conc. Stress
DE S335	2.04	71.40	INTERIOR BEAM	105	SERVICE III_Conc. Stress
DE S437	1.94	71.08	INTERIOR BEAM	105	SERVICE III_Conc. Stress
DE T330	2.67	80.10	INTERIOR BEAM	105	SERVICE III_Conc. Stress
DE T435	2.32	81.20	INTERIOR BEAM	105	SERVICE III_Conc. Stress
DE T540	2.05	82.00	INTERIOR BEAM	105	SERVICE III_Conc. Stress
EV2	2.54	73.03	INTERIOR BEAM	105	SERVICE III_Conc. Stress
EV3	1.68	72.24	INTERIOR BEAM	105	SERVICE III_Conc. Stress
SU4	2.64	71.28	INTERIOR BEAM	105	SERVICE III_Conc. Stress
SU5	2.35	72.85	INTERIOR BEAM	105	SERVICE III_Conc. Stress
SU6	2.10	72.98	INTERIOR BEAM	105	SERVICE III_Conc. Stress
SU7	1.91	74.01	INTERIOR BEAM	105	SERVICE III_Conc. Stress

* NOTE: THE LOAD RATING SUMMARY TABLE ABOVE IS IDENTICAL FOR BRIDGE 1-488N AND BRIDGE 1-488S.

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	NOTES	SECTION BR
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 4
					CHECKED BY: M. RADOVIC		

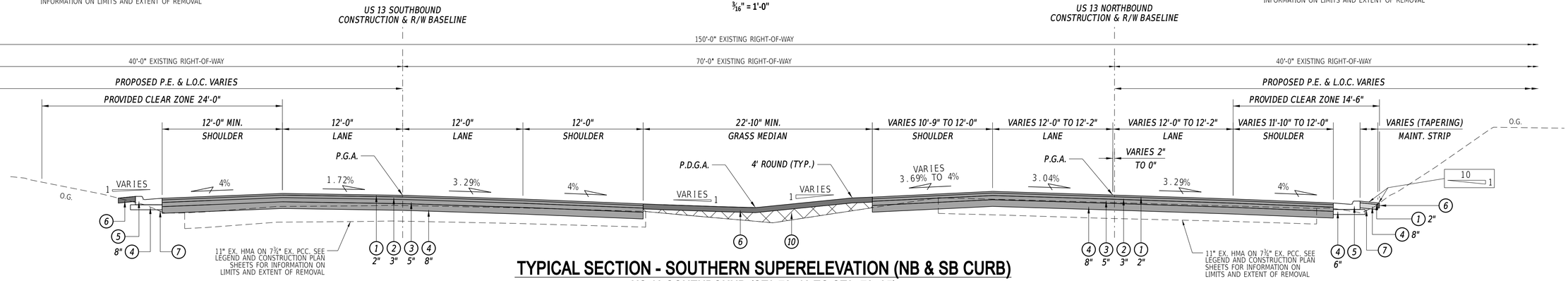
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TYPICAL SECTION - NORMAL CROWN

US 13 SOUTHBOUND (STA.80+54 TO STA. 81+50)
US 13 NORTHBOUND (STA.172+62 TO STA. 173+00)

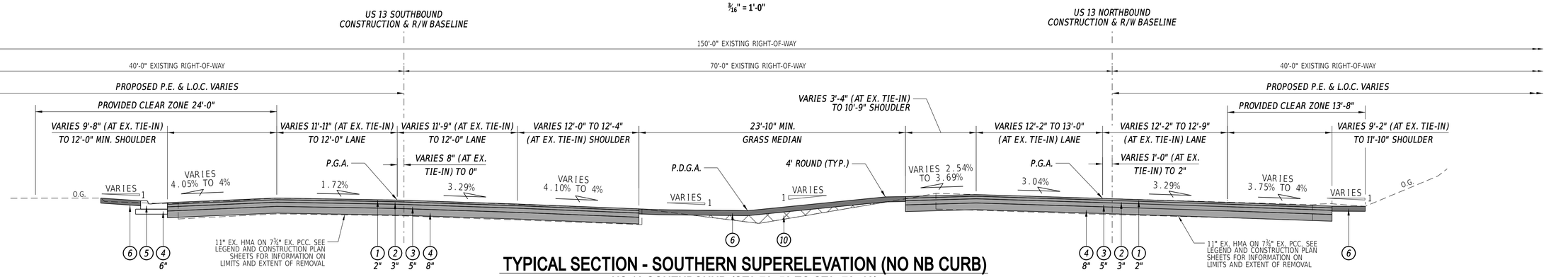
3/16" = 1'-0"



TYPICAL SECTION - SOUTHERN SUPERELEVATION (NB & SB CURB)

US 13 SOUTHBOUND (STA.78+19 TO STA. 78+35)
US 13 NORTHBOUND (STA.169+70.47 TO STA. 170+50)

3/16" = 1'-0"



TYPICAL SECTION - SOUTHERN SUPERELEVATION (NO NB CURB)

US 13 SOUTHBOUND (STA.76+50 TO STA. 78+19)
US 13 NORTHBOUND (STA.168+50 TO STA. 169+70.47)

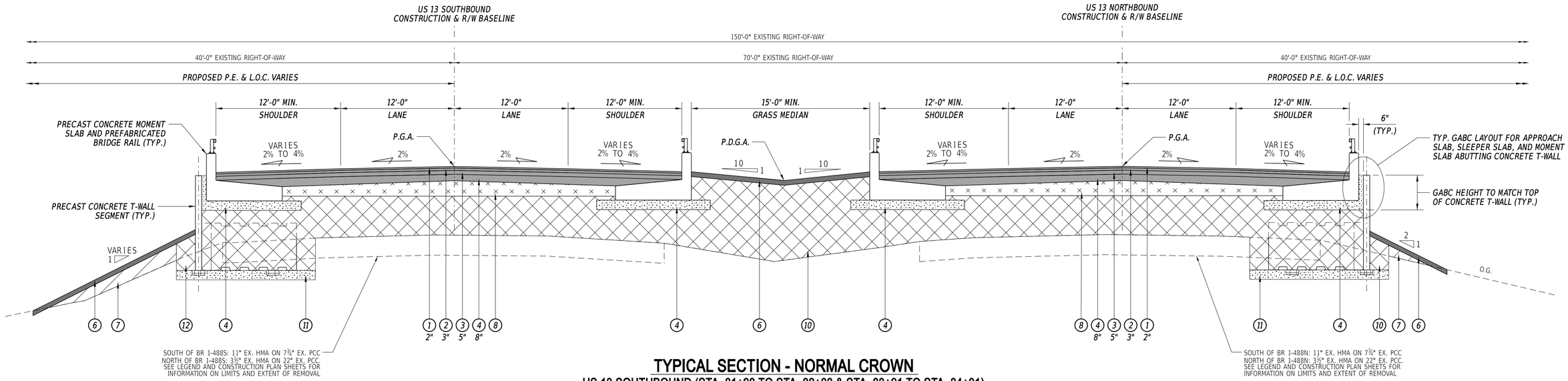
3/16" = 1'-0"

LEGEND

1. ITEM 401046 - SUPERPAVE TYPE C, PG-76-22 (NON-CARBONATE STONE)
2. ITEM 401016 - SUPERPAVE TYPE B, PG 76-22
3. ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
4. ITEM 301001 - GABC
5. ITEM 701016 - INTEGRAL PCC CURB AND GUTTER, TYPE 1-4
6. ITEM 908004 - TOPSOIL, 6" DEPTH
   ITEM 908019 - PERMANENT GRASS SEEDING, STREAMBANK
   ITEM 908020 - EROSION CONTROL BLANKET MULCH
7. ITEM 209004 - BORROW, TYPE C
8. ITEM 209001 - BORROW, TYPE A
9. 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
10. ITEM 202519 - FOAMED GLASS AGGREGATE
    ITEM 708001 - GEOTEXTILE, STABILIZATION
    **WRAPPED TO ENCOMPASS FOAMED GLASS AGGREGATE
11. DELAWARE NO. 57 STONE INCIDENTAL TO T-WALL SYSTEM

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	TYPICAL SECTIONS (SHEET 1 OF 3)	SECTION
				T200707404	DESIGNED BY: N. DEAN		BR
				COUNTY			SHEET NO.
				NEW CASTLE	CHECKED BY: M. RADOVIC		5

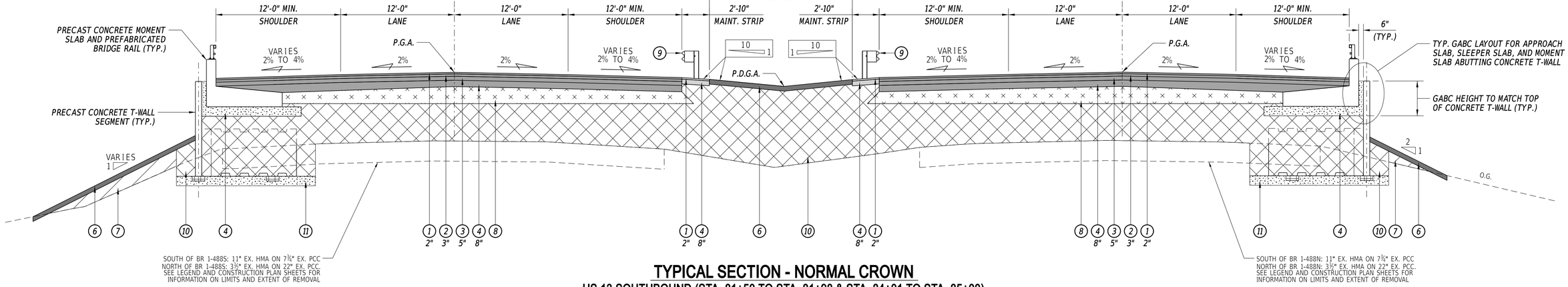
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TYPICAL SECTION - NORMAL CROWN

US 13 SOUTHBOUND (STA. 81+98 TO STA. 82+08 & STA. 83+91 TO STA. 84+01)
US 13 NORTHBOUND (STA. 173+99 TO STA. 174+09 & STA. 175+92 TO STA. 176+02)
***NOTE: BRIDGE AND APPROACH SLABS EXCLUDED**

$\frac{3}{16}$" = 1'-0"



TYPICAL SECTION - NORMAL CROWN

US 13 SOUTHBOUND (STA. 81+50 TO STA. 81+98 & STA. 84+01 TO STA. 85+00)
US 13 NORTHBOUND (STA. 173+00 TO STA. 173+99 & STA. 176+02 TO STA. 177+00)
***NOTE: BRIDGE AND APPROACH SLABS EXCLUDED**

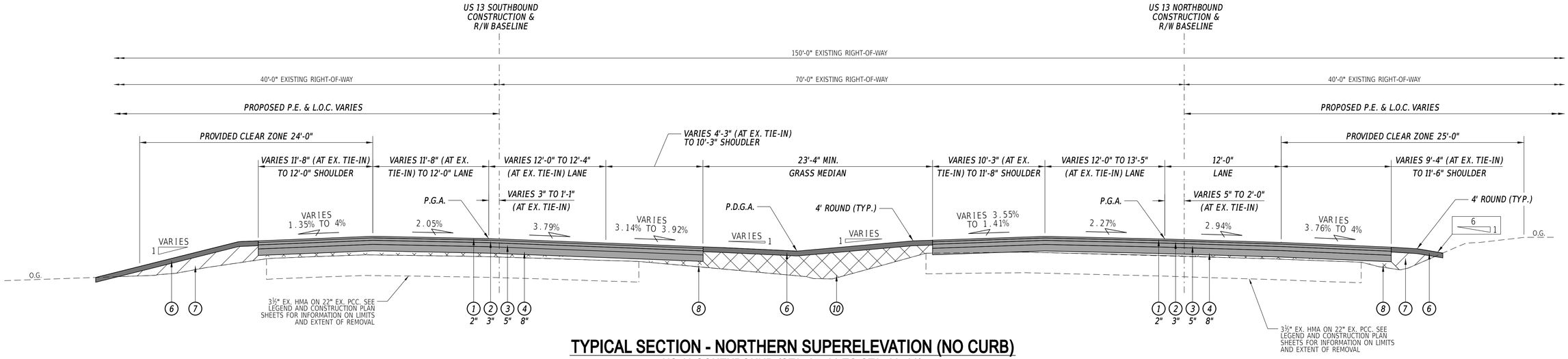
$\frac{3}{16}$" = 1'-0"

LEGEND

1. *ITEM 401046 - SUPERPAVE TYPE C, PG-76-22 (NON-CARBONATE STONE)*
2. *ITEM 401016 - SUPERPAVE TYPE B, PG 76-22*
3. *ITEM 401014 - SUPERPAVE TYPE B, PG 64-22*
4. *ITEM 301001 - GABC*
5. *ITEM 701016 - INTEGRAL PCC CURB AND GUTTER, TYPE 1-4*
6. *ITEM 908004 - TOPSOIL, 6" DEPTH*
   ITEM 908019 - PERMANENT GRASS SEEDING, STREAMBANK
   ITEM 908020 - EROSION CONTROL BLANKET MULCH
7. *ITEM 209004 - BORROW, TYPE C*
8. *ITEM 209001 - BORROW, TYPE A*
9. *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
10. *ITEM 202519 - FOAMED GLASS AGGREGATE*
    ITEM 708001 - GEOTEXTILE, STABILIZATION
    ***WRAPPED TO ENCOMPASS FOAMED GLASS AGGREGATE*
11. *DELAWARE NO. 57 STONE INCIDENTAL TO T-WALL SYSTEM*

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	TYPICAL SECTIONS (SHEET 2 OF 3)	SECTION
				T200707404				BR
				COUNTY	DESIGNED BY:	N. DEAN		SHEET NO.
				NEW CASTLE	CHECKED BY:	M. RADOVIC		6

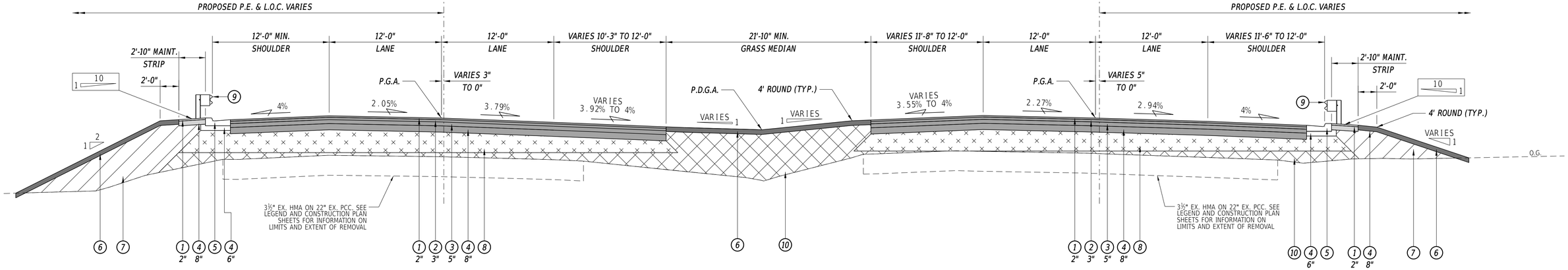
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TYPICAL SECTION - NORTHERN SUPERELEVATION (NO CURB)

US 13 SOUTHBOUND (STA. 87+06 TO STA. 89+00)
US 13 NORTHBOUND (STA. 179+39.19 TO STA. 181+00)

$\frac{3}{16}$" = 1'-0"



TYPICAL SECTION - SOUTHERN SUPERELEVATION (NB & SB CURB)

US 13 SOUTHBOUND (STA. 85+00 TO STA. 87+06)
US 13 NORTHBOUND (STA. 177+00 TO STA. 179+39.19)

$\frac{3}{16}$" = 1'-0"

LEGEND

1. *ITEM 401046 - SUPERPAVE TYPE C, PG-76-22 (NON-CARBONATE STONE)*
2. *ITEM 401016 - SUPERPAVE TYPE B, PG 76-22*
3. *ITEM 401014 - SUPERPAVE TYPE B, PG 64-22*
4. *ITEM 301001 - GABC*
5. *ITEM 701016 - INTEGRAL PCC CURB AND GUTTER, TYPE 1-4*
6. *ITEM 908004 - TOPSOIL, 6" DEPTH*
   ITEM 908019 - PERMANENT GRASS SEEDING, STREAMBANK
   ITEM 908020 - EROSION CONTROL BLANKET MULCH
7. *ITEM 209004 - BORROW, TYPE C*
8. *ITEM 209001 - BORROW, TYPE A*
9. *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
10. *ITEM 202519 - FOAMED GLASS AGGREGATE*
    ITEM 708001 - GEOTEXTILE, STABILIZATION
    ***WRAPPED TO ENCOMPASS FOAMED GLASS AGGREGATE*
11. *DELAWARE NO. 57 STONE INCIDENTAL TO T-WALL SYSTEM*

ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	TYPICAL SECTIONS (SHEET 3 OF 3)	SECTION BR
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 7
				CHECKED BY: M. RADOVIC		

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EXISTING RIGHT-OF-WAY BASELINE CURVE DATA (US 13 SOUTHBOUND)

	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #1			
PC (6001)	68+95.68	498964.8908	587822.5808
PI (6100)	73+80.17	499292.7087	587465.8410
CC (6002)		503183.8654	591699.5102
PT (6003)	78+62.36	499675.7730	587169.2105
Total Central Angle:	9°39'59.10" Right		
External:	20.4467		
Radius:	5729.7755		
Delta:	9°39'59.10"		
Length:	966.6751		
Degree of Curvature(Arc):	0°59'59.88"		
Tangent:	484.4872		
Chord:	965.5290		
Middle Ordinate:	20.3740		

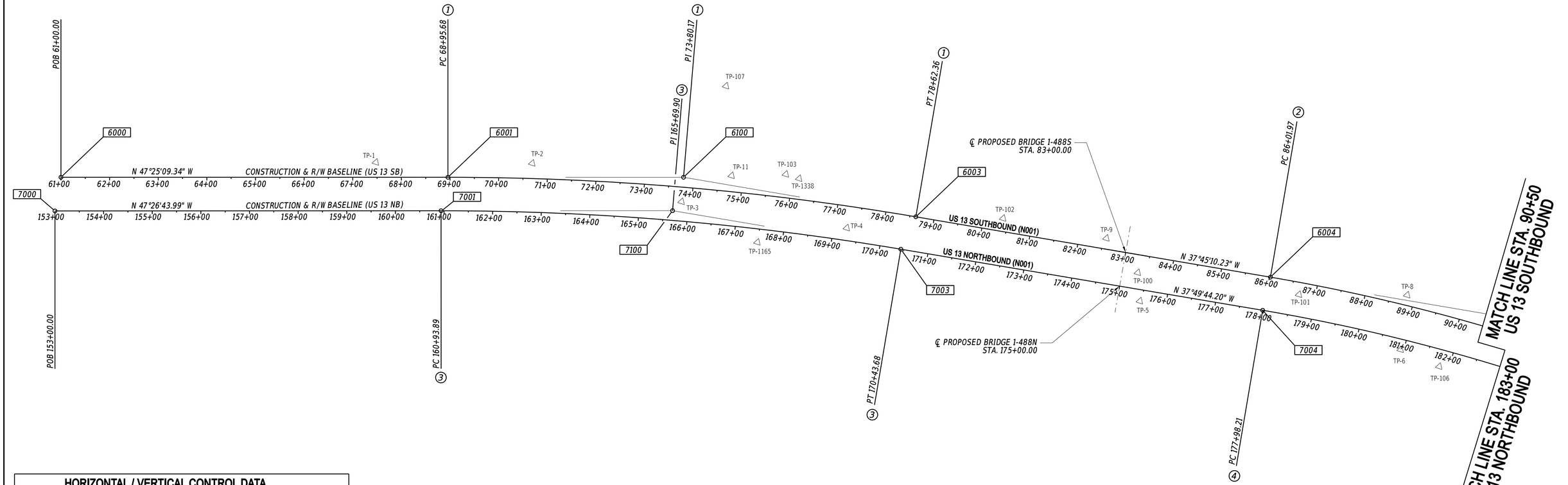
	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #2			
PC (6004)	86+01.97	500260.5525	586716.3794
PI (6200)	102+25.46	501544.1799	585722.3870
CC (6005)		502652.3724	589805.1409
PT (6006)	116+79.28	503154.2185	585930.9442
Total Central Angle:	45°08'00.90" Right		
External:	323.9161		
Radius:	3906.5650		
Delta:	45°08'00.90"		
Length:	3077.3170		
Degree of Curvature(Arc):	1°27'59.95"		
Tangent:	1623.4901		
Chord:	2998.3681		
Middle Ordinate:	299.1147		

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
6000	61+00.00	0.00	498426.5093	588408.4615	US 13 SB
7000	153+00.00	0.00	498469.2038	588464.4077	US 13 NB

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).



HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	67+47.66	-30.77	498842.0732	587910.7533	46.23
TP-2	70+68.26	-31.34	499061.1344	587675.3962	46.62
TP-3	73+79.24	29.91	499326.9510	587502.7700	46.42
TP-4	77+25.29	44.98	499596.7890	587289.3140	40.25
TP-5	83+45.68	93.57	500115.2030	586947.2790	13.62
TP-6	88+98.26	91.04	500551.5950	586620.0200	28.46
TP-8	88+84.18	-21.15	500478.0270	586534.1860	28.78
TP-9	82+56.15	-22.22	499973.5240	586910.5450	13.86
TP-11	74+76.79	-32.88	499357.2520	587390.7670	46.39
TP-100	83+31.68	36.70	500069.3187	586910.8855	13.81
TP-101	86+66.34	25.05	500326.7796	586697.4458	18.50
TP-102	80+39.94	-26.94	499799.6875	587039.1872	22.49
TP-103	75+86.47	-48.05	499430.5787	587306.7819	45.66
TP-106	89+85.89	104.68	500630.8173	586585.2550	31.99
TP-107	74+47.78	-215.34	499213.6458	587274.3877	43.52
TP-1165	75+44.53	97.70	499494.0111	587444.4781	45.49
TP-1338	76+14.45	-42.66	499455.5507	587292.6173	45.19

NOTE:

1. THE STATION AND OFFSET OF THE ABOVE REFERENCED TRAVERSE POINTS ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.
2. THE POINT OF BEGINNING OF THE PROPOSED CONSTRUCTION BASELINE (STA. 61+00.00) FOR US 13 SOUTHBOUND CORRESPONDS TO THE EXISTING RIGHT-OF-WAY BASELINE FOR CONTRACT #701 FROM THE ARCHIVED PLANS.
3. THE POINT OF BEGINNING OF THE PROPOSED CONSTRUCTION BASELINE (STA. 153+00.00) FOR US 13 SOUTHBOUND CORRESPONDS TO THE EXISTING RIGHT-OF-WAY BASELINE FOR CONTRACT #220 FROM THE ARCHIVED PLANS.
4. THE PROPOSED CONSTRUCTION BASELINE FOR US 13 NORTHBOUND SHALL ONLY BE USED FOR THE PROPOSED VERTICAL ALIGNMENT OF US 13 NORTHBOUND AND THE PROPOSED RIGHT-OF-WAY IMPACTS ON THE EAST SIDE OF US 13 NORTHBOUND. ALL STATIONS AND OFFSETS PROVIDED IN THE SCHEDULES AND FOR STRUCTURAL WORKING POINTS SHALL BE BASED SOLELY OFF OF THE PROPOSED CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.

EXISTING RIGHT-OF-WAY BASELINE CURVE DATA (US 13 NORTHBOUND)

	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #3			
PC (7001)	160+93.89	499006.1020	587879.6016
PI (7100)	165+69.90	499328.0262	587528.9519
CC (7002)		503174.6074	591706.6188
PT (7003)	170+43.68	499704.0045	587237.0088
Total Central Angle:	9°37'00.00" Right		
External:	19.9856		
Radius:	5658.8425		
Delta:	9°37'00.00"		
Length:	949.7942		
Degree of Curvature(Arc):	1°00'45.00"		
Tangent:	476.0151		
Chord:	948.6798		
Middle Ordinate:	19.9153		

	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #4			
PC (7004)	177+98.21	500299.9670	586774.2505
PI (7200)	193+94.77	501560.9977	585795.0740
CC (7005)		502656.1502	589808.6570
PT (7006)	208+24.47	503144.5954	585998.0608
Total Central Angle:	45°08'00.00" Right		
External:	318.5401		
Radius:	3841.7733		
Delta:	45°08'00.00"		
Length:	3026.2619		
Degree of Curvature(Arc):	1°29'29.00"		
Tangent:	1596.5542		
Chord:	2948.6237		
Middle Ordinate:	294.1506		

ADDENDA / REVISIONS

SCALE
0 100 200 300
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

HORIZONTAL AND VERTICAL CONTROL

	HV-01
SECTION	BR
SHEET NO.	8

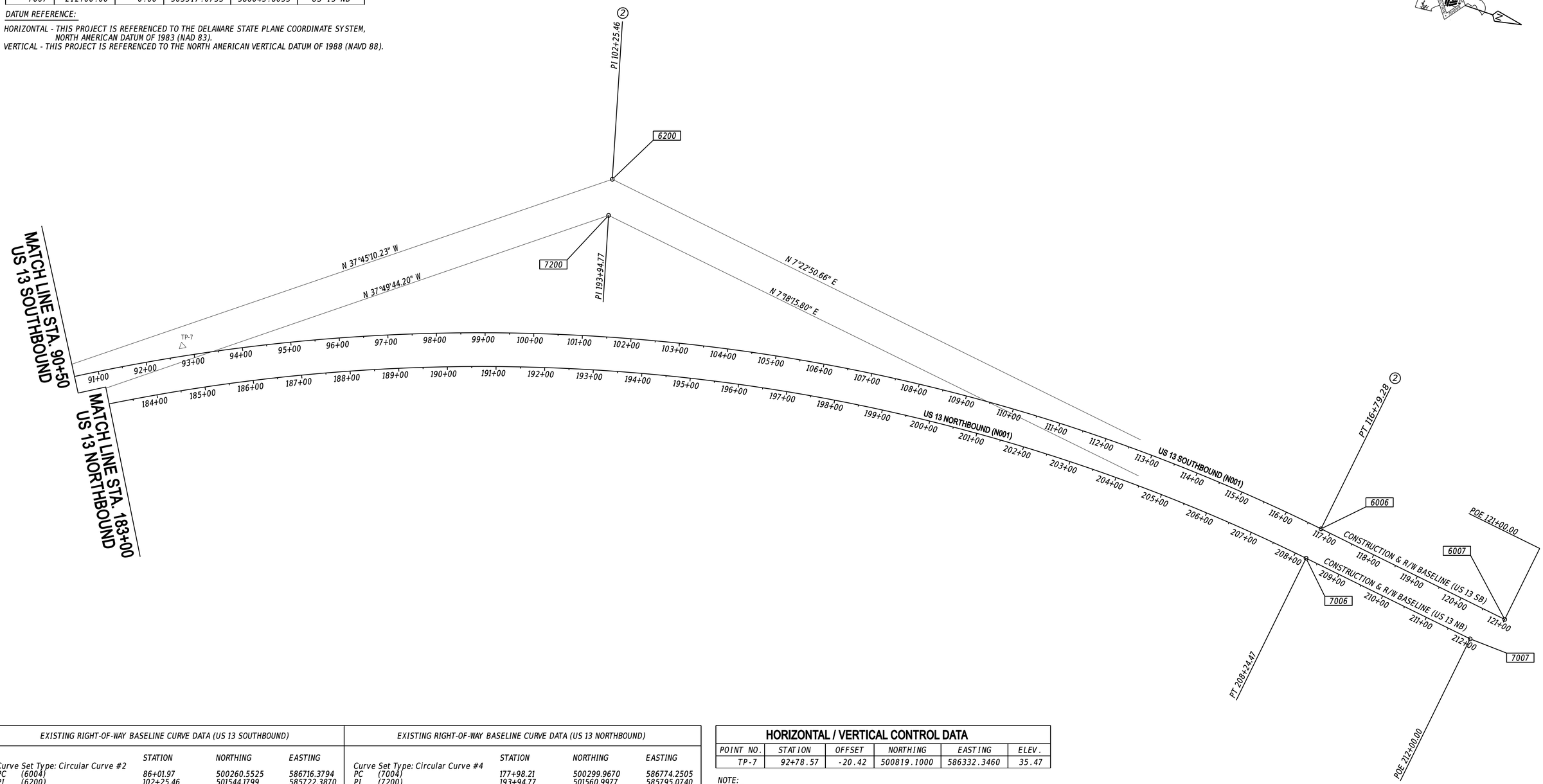
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CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
6007	121+00.00	0.00	503571.4479	585984.9902	US 13 SB
7007	212+00.00	0.00	503517.0733	586045.8053	US 13 NB

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).



EXISTING RIGHT-OF-WAY BASELINE CURVE DATA (US 13 SOUTHBOUND)

	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #2			
PC (6004)	86+01.97	500260.5525	586716.3794
PI (6200)	102+25.46	501544.1799	585722.3870
CC (6005)		502652.3724	589805.1409
PT (6006)	116+79.28	503154.2185	585930.9442
Total Central Angle:	45°08'00.90" Right		
First Subtangent Distance:	1623.4901		
Second Subtangent Distance:	1623.4901		
External:	323.9161		
Radius:	3906.5650		
Delta:	45°08'00.90"		
Length:	3077.3170		
Degree of Curvature(Arc):	1°27'59.95"		
Tangent:	1623.4901		
Chord:	2998.3681		
Middle Ordinate:	299.1147		
External:	323.9161		

EXISTING RIGHT-OF-WAY BASELINE CURVE DATA (US 13 NORTHBOUND)

	STATION	NORTHING	EASTING
Curve Set Type: Circular Curve #4			
PC (7004)	177+98.21	500299.9670	586774.2505
PI (7200)	193+94.77	501560.9977	585795.0740
CC (7005)		502656.1502	589808.6570
PT (7006)	208+24.47	503144.5954	585998.0608
Total Central Angle:	45°08'00.00" Right		
First Subtangent Distance:	1596.5542		
Second Subtangent Distance:	1596.5542		
External:	318.5401		
Radius:	3841.7733		
Delta:	45°08'00.00"		
Length:	3026.2619		
Degree of Curvature(Arc):	1°29'29.00"		
Tangent:	1596.5542		
Chord:	2948.6237		
Middle Ordinate:	294.1506		
External:	318.5401		

HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-7	92+78.57	-20.42	500819.1000	586332.3460	35.47

NOTE:

1. *THE STATION AND OFFSET OF THE ABOVE REFERENCED TRAVERSE POINT ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.*
2. *THE POINT OF BEGINNING OF THE PROPOSED CONSTRUCTION BASELINE (STA. 61+00.00) FOR US 13 SOUTHBOUND CORRESPONDS TO THE EXISTING RIGHT-OF-WAY BASELINE FOR CONTRACT #701 FROM THE ARCHIVED PLANS.*
3. *THE POINT OF BEGINNING OF THE PROPOSED CONSTRUCTION BASELINE (STA. 153+00.00) FOR US 13 SOUTHBOUND CORRESPONDS TO THE EXISTING RIGHT-OF-WAY BASELINE FOR CONTRACT #220 FROM THE ARCHIVED PLANS.*
4. *THE PROPOSED CONSTRUCTION BASELINE FOR US 13 NORTHBOUND SHALL ONLY BE USED FOR THE PROPOSED VERTICAL ALIGNMENT OF US 13 NORTHBOUND AND THE PROPOSED RIGHT-OF-WAY IMPACTS ON THE EAST SIDE OF US 13 NORTHBOUND. ALL STATIONS AND OFFSETS PROVIDED IN THE SCHEDULES AND FOR STRUCTURAL WORKING POINTS SHALL BE BASED SOLELY OFF OF THE PROPOSED CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.*

ADDENDA / REVISIONS

SCALE
0 100 200 300
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

HORIZONTAL AND VERTICAL CONTROL

HV-02
SECTION BR
SHEET NO. 9

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CURB AND GUTTER NOTES:

1. *CONTRACTOR SHALL BEGIN REMOVAL OF EXISTING CONCRETE CURB AT CURB JOINT.*
2. *THE PROPOSED CURB AND GUTTER ALONG US 13 SOUTHBOUND SHALL MATCH THE EXISTING CURB AND GUTTER DIMENSIONS AT STATION 76+50. THE PROPOSED CURB AND GUTTER SHALL TRANSITION FROM EXISTING CURB DIMENSIONS AT STA. 76+50 TO TYPE 1-4 CURB AND GUTTER DIMENSIONS AT STA. 76+54.*
3. *CURB DEPRESSIONS FOR DRIVEWAY ENTRANCES SHALL BE PLACED AT THE FOLLOWING LOCATIONS:*
   -PROPERTY 1-L: STA. 76+70.00 TO 76+93.00
   -PROPERTIES 2-L & 3-L: STA. 77+65.00 TO 78+06.00

GUARDRAIL NOTES:

1. *SEE CONSTRUCTION PLAN (SHEET 2 OF 3) FOR MORE INFORMATION ON GUARDRAIL SCHEDULES.*
2. *MEASUREMENTS FOR GUARDRAIL END TREATMENTS ARE BASED ON THE PAYMENT LIMITS OUTLINED IN THE STANDARD CONSTRUCTION DETAILS. START STATIONS, OFFSETS, AND LENGTHS CORRESPOND TO THE CENTER OF THE POSTS DETAILED IN THE STANDARD CONSTRUCTION DETAILS.*
3. *START STATIONS, OFFSETS, AND LENGTHS FOR GUARDRAIL TO BARRIER CONNECTIONS ARE BASED ON THE EDGE OF BARRIER AND THE CENTER OF THE 10TH POST FROM THE BARRIER.*

DRAINAGE INLET NOTES:

1. *THE STATIONS AND OFFSETS OF ALL DRAINAGE INLETS LOCATED IN THE MEDIAN SHALL BE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
2. *THE DRAINAGE INLET UNDERNEATH THE PROPOSED INTEGRAL PCC CURB AND GUTTER, TYPE 1-4, SHALL MATCH THE CURB FLOWLINE OFFSET AND ELEVATION.*

DRAINAGE PIPE NOTES:

1. *SEE CONSTRUCTION PLAN (SHEET 2 OF 3) AND CONSTRUCTION PLAN (SHEET 3 OF 3) FOR MORE INFORMATION ON DRAINAGE PIPE SCHEDULES.*

DRIVEWAY NOTES:

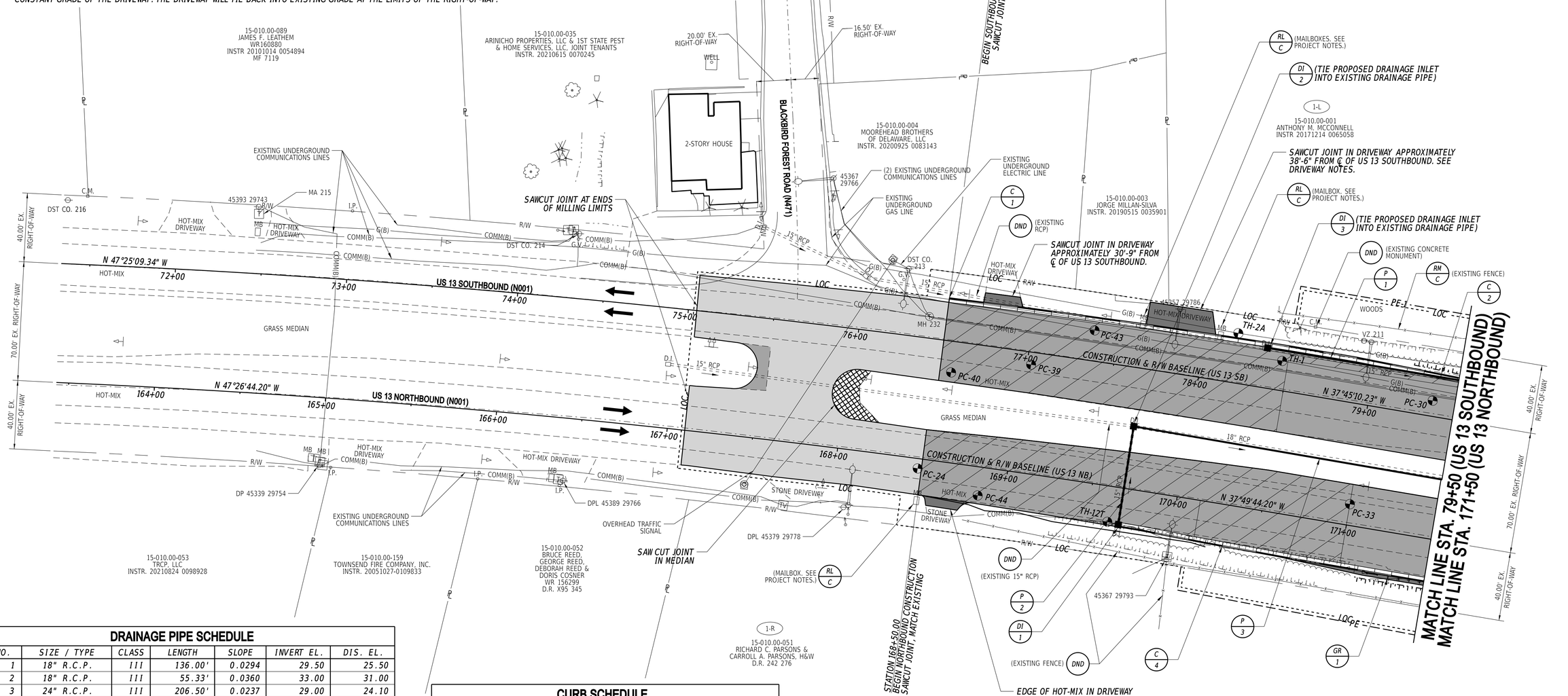
1. *THE SHARED DRIVEWAY OF PARCEL 1-L AND THE ADJACENT PROPERTY TO THE SOUTH HAS A RIDGE IN IT, CREATED BY THE INSTALLATION OF AN UNDERGROUND UTILITY. THIS RIDGE CREATES ISSUES FOR MOTORISTS ENTERING AND EXITING THIS DRIVEWAY.*
2. *THE SHARED DRIVEWAYS OF PARCEL 1-L AND THE ADJACENT PROPERTY TO THE SOUTH WILL BE REGRADED AND REPAVED WITHIN THE LIMITS OF THE EXISTING RIGHT-OF-WAY AND LIMITS OF CONSTRUCTION. THE REGRADING AND REPAVING WILL ELIMINATE THE EXISTING RIDGE AND ANY HIGH POINTS, AND CREATE A CONSTANT GRADE OF THE DRIVEWAY. THE DRIVEWAY WILL TIE BACK INTO EXISTING GRADE AT THE LIMITS OF THE RIGHT-OF-WAY.*

US 13 SOUTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
PC-30	79+36.92	-9.10'	12" HMA ON 7½" PCC
PC-39	77+02.38	7.27'	13½" HMA ON 7½" PCC
PC-40	76+56.69	18.12'	9" HMA ON 4"+ CR
PC-43	77+36.14	-17.82'	13½" HMA ON 4"+ CR

US13 NORTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
PC-24	168+47.82	5.75'	11" HMA ON 8½" PCC
PC-33	171+00.02	-12.34'	16" HMA ON 8½" PCC
PC-44	168+84.69	16.60'	6¼" HMA ON 4"+ CR



DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
1	18" R.C.P.	III	136.00'	0.0294	29.50	25.50
2	18" R.C.P.	III	55.33'	0.0360	33.00	31.00
3	24" R.C.P.	III	206.50'	0.0237	29.00	24.10

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
1	169+68.51	21.25'	34" x 24"	4	38.00	33.00
2	169+68.69	-36.56'	48" x 48"	2	36.50	29.00
3	78+37.00	NOTE 2	66" x 66"	4	NOTE 2	29.50

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	INTEGRAL PCC CURB AND GUTTER, TYPE 1-4	289.00'
2	PCC LAYDOWN CURB FOR GUARDRAIL	150.00'
3	INTEGRAL PCC CURB AND GUTTER, TYPE 1-4	61.50'
4	PCC LAYDOWN CURB FOR GUARDRAIL	193.00'
5	INTEGRAL PCC CURB AND GUTTER, TYPE 1-4	136.50'

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
*1	GUARDRAIL END TREATMENT, TYPE 1-31	171+22.66	25.62'	50.00'

** INSTALL GUARDRAIL END TREATMENT PARALLEL TO THE ROADWAY. DO NOT INSTALL THE END TREATMENT WITH THE STANDARD FLARE.*

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

CONSTRUCTION PLAN

	CP-01
SECTION	BR
SHEET NO.	10

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US 13 SOUTHBOUND SOIL BORING SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
DH-1	83+43.56	-6.62'	NORTH OF BR 1-488S / WEST LANE
DH-2	82+52.26	6.89'	SOUTH OF BR 1-488S / EAST LANE

US 13 NORTHBOUND SOIL BORING SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
B-3	175+50.94	13.13'	NORTH OF BR 1-488N / EAST LANE
B-4	174+59.74	1.70'	SOUTH OF BR 1-488N / EAST LANE

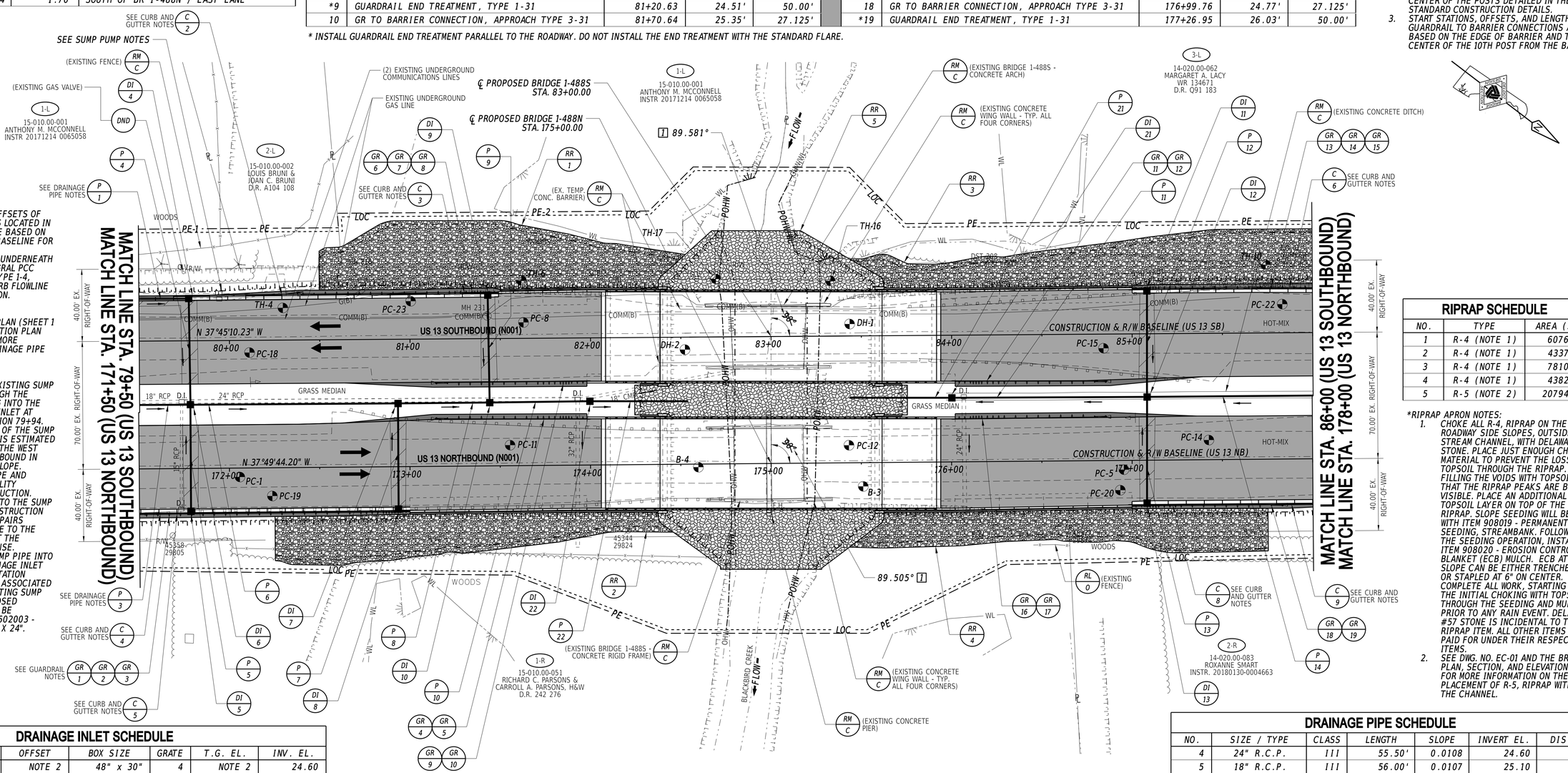
GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH	NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
2	STEEL BEAM GUARDRAIL, TYPE 1-31	171+72.66	26.12'	100.00'	11	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	84+01.82	-25.50'	27.125'
3	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	172+72.61	25.96'	27.125'	*12	GUARDRAIL END TREATMENT, TYPE 1-31	84+28.99	-26.95'	50.00'
*4	GUARDRAIL END TREATMENT, TYPE 1-31	173+21.03	-26.54'	50.00'	13	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	85+00.19	-24.57'	27.125'
5	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	173+71.04	-27.12'	27.125'	14	STEEL BEAM GUARDRAIL, TYPE 1-31	85+27.37	-25.94'	62.50'
*6	GUARDRAIL END TREATMENT, TYPE 1-31	80+47.09	-25.45'	50.00'	*15	GUARDRAIL END TREATMENT, TYPE 1-31	85+89.81	-25.74'	50.00'
7	STEEL BEAM GUARDRAIL, TYPE 1-31	80+97.07	-26.07'	25.00'	16	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	176+02.21	-23.87'	27.125'
8	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	81+22.02	-26.25'	27.125'	*17	GUARDRAIL END TREATMENT, TYPE 1-31	176+29.39	-25.24'	50.00'
*9	GUARDRAIL END TREATMENT, TYPE 1-31	81+20.63	24.51'	50.00'	18	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	176+99.76	24.77'	27.125'
10	GR TO BARRIER CONNECTION, APPROACH TYPE 3-31	81+70.64	25.35'	27.125'	*19	GUARDRAIL END TREATMENT, TYPE 1-31	177+26.95	26.03'	50.00'

* INSTALL GUARDRAIL END TREATMENT PARALLEL TO THE ROADWAY. DO NOT INSTALL THE END TREATMENT WITH THE STANDARD FLARE.

*CURB AND GUTTER NOTES:
1. SEE CONSTRUCTION PLAN SHEETS 1 OF 3 AND 3 OF 3 FOR INFORMATION ON CURB AND GUTTER SCHEDULE.

*GUARDRAIL NOTES:
1. SEE CONSTRUCTION PLAN (SHEET 1 OF 3) AND CONSTRUCTION PLAN (SHEET 3 OF 3) FOR MORE INFORMATION ON GUARDRAIL SCHEDULES.
2. MEASUREMENTS FOR GUARDRAIL END TREATMENTS ARE BASED ON THE PAYMENT LIMITS OUTLINED IN THE STANDARD CONSTRUCTION DETAILS. START STATIONS, OFFSETS, AND LENGTHS CORRESPOND TO THE CENTER OF THE POSTS DETAILED IN THE STANDARD CONSTRUCTION DETAILS.
3. START STATIONS, OFFSETS, AND LENGTHS FOR GUARDRAIL TO BARRIER CONNECTIONS ARE BASED ON THE EDGE OF BARRIER AND THE CENTER OF THE 10TH POST FROM THE BARRIER.



*DRAINAGE INLET NOTES:
1. THE STATIONS AND OFFSETS OF ALL DRAINAGE INLETS LOCATED IN THE MEDIAN SHALL BE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.
2. THE DRAINAGE INLET UNDERNEATH THE PROPOSED INTEGRAL PCC CURB AND GUTTER, TYPE 1-4, SHALL MATCH THE CURB FLOWLINE OFFSET AND ELEVATION.

*DRAINAGE PIPE NOTES:
1. SEE CONSTRUCTION PLAN (SHEET 1 OF 3) AND CONSTRUCTION PLAN (SHEET 3 OF 3) FOR MORE INFORMATION ON DRAINAGE PIPE SCHEDULES.

*SUMP PUMP/PIPE NOTES:
1. PARCEL 1-L HAS AN EXISTING SUMP PIPE RUNNING THROUGH THE PROPERTY AND TYING INTO THE EXISTING DRAINAGE INLET AT APPROXIMATELY STATION 79+94.
2. THE EXACT LOCATION OF THE SUMP PIPE IS UNKNOWN. IT IS ESTIMATED TO RUN PARALLEL TO THE WEST SIDE OF US 13 SOUTHBOUND IN THE EXISTING SIDE SLOPE.
3. LOCATE THE SUMP PIPE AND MAINTAIN FUNCTIONALITY THROUGHOUT CONSTRUCTION. REPAIR ANY DAMAGE TO THE SUMP LINE CAUSED BY CONSTRUCTION IMMEDIATELY. ANY REPAIRS REQUIRED TO BE MADE TO THE SUMP PIPE WILL BE AT THE CONTRACTOR'S EXPENSE.
4. TIE THE EXISTING SUMP PIPE INTO THE PROPOSED DRAINAGE INLET AT APPROXIMATELY STATION 79+77.64. ALL COSTS ASSOCIATED WITH TYING THE EXISTING SUMP PIPE INTO THE PROPOSED DRAINAGE INLET WILL BE INCIDENTAL TO ITEM 602003 - DRAINAGE INLET, 34" X 24".

RIPRAP SCHEDULE

NO.	TYPE	AREA (SY)
1	R-4 (NOTE 1)	6076.13
2	R-4 (NOTE 1)	4337.06
3	R-4 (NOTE 1)	7810.62
4	R-4 (NOTE 1)	4382.68
5	R-5 (NOTE 2)	20794.93

*RIPRAP APRON NOTES:
1. CHOKE ALL R-4, RIPRAP ON THE ROADWAY SIDE SLOPES, OUTSIDE THE STREAM CHANNEL, WITH DELAWARE #57 STONE. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF TOPSOIL THROUGH THE RIPRAP. 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 - PERMANENT GRASS SEEDING, STREAMBANK. FOLLOWING THE SEEDING OPERATION, INSTALL ITEM 908020 - EROSION CONTROL BLANKET (ECB) MULCH. 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.
2. SEE DWG. NO. EC-01 AND THE BRIDGE PLAN, SECTION, AND ELEVATION SHEET FOR MORE INFORMATION ON THE PLACEMENT OF R-5, RIPRAP WITHIN THE CHANNEL.

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
4	79+77.64	NOTE 2	48" x 30"	4	NOTE 2	24.60
5	171+78.54	NOTE 2	34" x 24"	4	NOTE 2	25.10 ~~25.30~~ [1]
6	171+78.69	-35.30'	48" x 48"	2	27.89	22.80
7	172+93.67	-35.05	48" x 48"	2	24.33	18.50 ~~18.80~~ [1]
8	172+93.52	NOTE 2	34" x 24"	4	NOTE 2	20.80
9	81+43.20	NOTE 2	34" x 24"	4	NOTE 2	18.80 ~~19.50~~ [1]
10	173+44.41	-35.09'	48" x 48"	2	23.12	16.50 ~~17.20~~ [1]
11	85+08.39	NOTE 2	34" x 24"	4	NOTE 2	16.00
12	177+08.54	-35.06'	48" x 48"	2	19.57	13.80
13	177+08.07	NOTE 2	34" x 24"	4	NOTE 2	16.00
21	176+00.00	-35.55	48" x 48"	2	19.15	9.90
22	174+00.00	-35.09	48" x 48"	2	22.61	13.60

US 13 SOUTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
DH-1	83+43.56	-6.62'	3½" HMA ON 22" PCC
DH-2	82+52.26	6.89'	11" HMA ON 7¾" PCC
PC-8	81+62.93	-8.84'	9½" HMA (BOT. 2½" BROKEN) ON 7¾" PCC
PC-15	84+84.09	7.85'	4½" HMA ON 17¼" PCC
PC-18	80+11.08	6.78'	11" HMA (BOT. 2" BROKEN) ON 7½" PCC
PC-22	85+83.26	-15.86'	8" HMA ON 3"+ CR
PC-23	81+00.54	-21.03'	4¼" HMA ON 3"+ CR

US13 NORTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
PC-1	172+05.73	4.95'	10¼" HMA ON 10½" PCC
PC-5	176+95.38	5.12'	12" HMA ON 8¼" PCC
PC-11	173+55.56	-11.40'	7" HMA ON 7½" PCC (BOT. 1" BROKEN)
PC-12	175+43.24	-9.71'	8" HMA ON 9" PCC
PC-14	177+42.59	-10.88'	11¼" HMA ON 9¼" PCC
PC-19	172+23.64	15.63'	5½" HMA ON 4"+ CR
PC-20	176+93.33	16.45	8" HMA ON 4"+ CR

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
4	24" R.C.P.	III	55.50'	0.0108	24.60	24.00
5	18" R.C.P.	III	56.00'	0.0107	25.10	24.50
6	24" R.C.P.	III	112.00	0.0205	22.80	20.50
7	18" R.C.P.	III	56.00'	0.0446	20.80	20.00
8	24" R.C.P.	III	48.00'	0.0208	18.50	17.90
9	18" R.C.P.	III	56.00'	0.0143	18.80	18.00
10	30" R.C.P.	III	51.75'	0.0309	16.50	14.90
11	24" R.C.P.	III	104.00'	0.0356	13.80	10.10
12	18" R.C.P.	III	55.83'	0.0358	16.00	14.00
13	18" R.C.P.	III	56.00'	0.0357	16.00	14.00
14	24" R.C.P.	III	96.00'	0.0083	14.80	14.00
21	24" R.C.P.	III	54.75'	0.0256	9.90	8.50
22	30" R.C.P.	III	52.50'	0.0638	13.60	10.25

ADDENDA / REVISIONS
[1] ADJUSTED BRIDGE SKEWS AND DRAINAGE INLET INVERTS N. DEAN-05/22/25

SCALE 0 30 60 90 FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

CONSTRUCTION PLAN

CP-02
SECTION BR
SHEET NO. 11

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GUARDRAIL NOTES:

1. *SEE CONSTRUCTION PLAN (SHEET 1 OF 3) AND CONSTRUCTION PLAN (SHEET 2 OF 3) FOR MORE INFORMATION ON GUARDRAIL SCHEDULES.*
2. *MEASUREMENTS FOR GUARDRAIL END TREATMENTS ARE BASED ON THE PAYMENT LIMITS OUTLINED IN THE STANDARD CONSTRUCTION DETAILS. START STATIONS, OFFSETS, AND LENGTHS CORRESPOND TO THE CENTER OF THE POSTS DETAILED IN THE STANDARD CONSTRUCTION DETAILS.*
3. *START STATIONS, OFFSETS, AND LENGTHS FOR GUARDRAIL TO BARRIER CONNECTIONS ARE BASED ON THE EDGE OF BARRIER AND THE CENTER OF THE 10TH POST FROM THE BARRIER.*

DRAINAGE INLET NOTES:

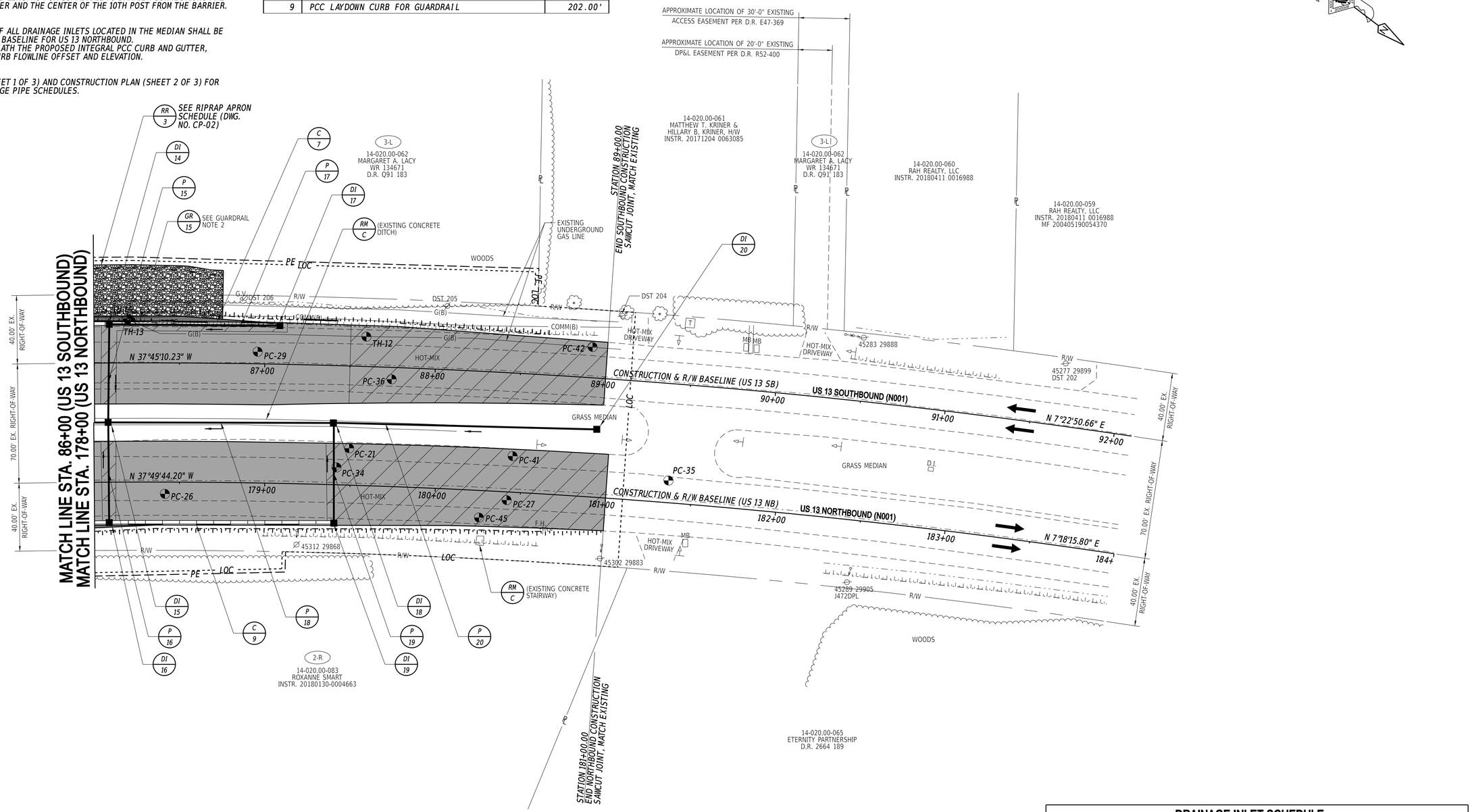
1. *THE STATIONS AND OFFSETS OF ALL DRAINAGE INLETS LOCATED IN THE MEDIAN SHALL BE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
2. *THE DRAINAGE INLET UNDERNEATH THE PROPOSED INTEGRAL PCC CURB AND GUTTER, TYPE 1-4, SHALL MATCH THE CURB FLOWLINE OFFSET AND ELEVATION.*

DRAINAGE PIPE NOTES:

1. *SEE CONSTRUCTION PLAN (SHEET 1 OF 3) AND CONSTRUCTION PLAN (SHEET 2 OF 3) FOR MORE INFORMATION ON DRAINAGE PIPE SCHEDULES.*

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
6	INTEGRAL PCC CURB AND GUTTER, TYPE 1-4	99.00'
7	PCC LAYDOWN CURB FOR GUARDRAIL	107.50'
8	INTEGRAL PCC CURB AND GUTTER, TYPE 1-4	36.50'
9	PCC LAYDOWN CURB FOR GUARDRAIL	202.00'



DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
15	18" R.C.P.	III	54.50'	0.0239	16.30	15.00
16	18" R.C.P.	III	56.00'	0.0179	16.00	15.00
17	18" R.C.P.	III	96.00'	0.0156	18.00	16.50
18	24" R.C.P.	III	128.00'	0.0156	17.00	15.00
19	18" R.C.P.	III	56.00'	0.0125	19.50	18.80
20	18" R.C.P.	III	152.00'	0.0276	23.00	18.80

US 13 SOUTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
PC-29	86+95.72	-7.06'	11" HMA ON 8" PCC
PC-36	87+74.65	6.95'	11¼" HMA ON 8¼" PCC
PC-42	88+91.17	-18.08'	3½" HMA ON 4"+ CR

US13 NORTHBOUND ROADWAY CORE SCHEDULE

NO.	STATION	OFFSET	DESCRIPTION
PC-26	178+41.47	6.91'	12¾" HMA ON 8" PCC
PC-34	179+41.78	-10.22'	11½" HMA ON 7¼" PCC
PC-41	180+44.26	-21.13'	11" HMA ON 4"+ CR
PC-45	180+26.49	15.89'	7" HMA ON 4"+ CR

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
14	86+08.92	NOTE 2	48" x 30"	4	NOTE 2	16.30
15	178+08.44	-35.03'	48" x 48"	2	20.53	14.80
16	178+08.61	NOTE 2	34" x 24"	4	NOTE 2	16.00
17	87+08.33	-22.63'	48" x 30"	4	23.96	18.00
18	179+39.24	-36.20'	48" x 48"	2	22.93	17.00
19	179+41.15	22.49	34" x 24"	4	23.99	19.50
20	180+92.41	-39.81'	34" x 24"	2	27.17	23.00

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

CONSTRUCTION PLAN

CP-03

SECTION	BR
SHEET NO.	12

28-JUN-2024
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Type of Curve = Symmetric Parabola
Direction = Crest
Length = 75.00'
G1 = -3.16%
G2 = -5.08%
K = 39.11
e = -0.18'
SSD = 600.19'

Type of Curve = Symmetric Parabola
Direction = Sag
Length = 1132.38'
G1 = -5.08%
G2 = 3.25%
K = 136.00
e = 11.79'
SSD = 571.23'

PVC 168+54.56
Elev. 43.83

PVI 168+92.06
Elev. 42.65

PVT 169+29.56
Elev. 40.75

PVC 169+59.78
Elev. 39.21

PVI 168+50.00
Elev. 43.98

PVT 180+92.16
Elev. 28.87

PVI 181+00.00
Elev. 29.13

Low 176+50.16
Elev. 21.69

Slope = -3.16%

Slope = -5.08%

Slope = 3.25%

EXISTING GRADE

EXISTING 40'-0" CONCRETE RIGID FRAME BRIDGE

EXISTING CONCRETE PIER (TYP.)

EXISTING RETAINING WALL (TYP.)

EXISTING TIMBER PILES (TYP.)

EXISTING 14" DIA. C.I.P. CONCRETE PILE (TYP.)

PVI 175+25.97
Elev. 10.47

NOTE: EXISTING AND PROPOSED DRAINAGE PIPES NOT SHOWN FOR CLARITY.

ELEVATION (FT)

50 40 30 20 10 0 -10

165+00	165+50	166+00	166+50	167+00	167+50	168+50	169+00	169+50	170+00	170+50	171+00	171+50	172+00	172+50	173+00	173+50	174+00	174+50	175+00	175+50	176+00	176+50	177+00	177+50	178+00	178+50	179+00	179+50	180+00	180+50	181+00	181+50	182+00	182+50	183+00
47.49	47.60	47.59	47.50	47.13	46.50	45.44	43.98	42.01	39.70	37.07	34.15	31.11	28.01	24.98	22.27	19.89	18.04	16.47	15.33	0.84	14.26	14.38	14.85	15.69	16.78	18.02	19.55	21.35	23.30	25.33	27.32	29.13	30.58	31.73	32.72	33.48
43.98	42.13	39.71	37.23	34.93	32.82	30.89	29.14	27.58	26.20	25.00	23.99	23.16	22.52	22.06	21.78	21.69	21.78	22.06	22.51	23.16	23.98	24.99	26.19	27.57	29.13										

STATION

N001 - US 13 NORTHBOUND

VERTICAL SCALE FEET 0 6 12 18

PF-01

ADDENDA / REVISIONS			

SCALE 0 60 120 180 FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

PROFILE

SECTION	BR
SHEET NO.	13

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Type of Curve = Symmetric Parabola
Direction = Crest
Length = 75.00'
G1 = -3.88%
G2 = -4.71%
K = 91.36
e = -0.08'
SSD = 1351.99'

Type of Curve = Symmetric Parabola
Direction = Sag
Length = 1058.17'
G1 = -4.71%
G2 = 3.08%
K = 136.00
e = 10.29'
SSD = 571.23'

PVI 76+50.00
Elev. 43.85

PVC 76+57.92
Elev. 43.55

PVI 76+95.42
Elev. 42.09

PVT 77+32.92
Elev. 40.33

PVC 78+09.40
Elev. 36.73

Low 84+49.30
Elev. 21.67

PVT 88+67.57
Elev. 28.10

PVI 89+00.00
Elev. 29.10

PVI 83+38.48
Elev. 11.83

Slope = -3.88%

Slope = -4.71%

Slope = 3.08%

EXISTING GRADE

EXISTING 42'-0" CONCRETE ARCH BRIDGE

EXISTING RETAINING WALL (TYP.)

EXISTING TIMBER PILES (TYP.)

NOTE: EXISTING AND PROPOSED DRAINAGE PIPES NOT SHOWN FOR CLARITY.

ELEVATION (FT)

50 40 30 20 10 0 -10

STATION	73+00	73+50	74+00	74+50	75+00	75+50	76+00	76+50	77+00	77+50	78+00	78+50	79+00	79+50	80+00	80+50	81+00	81+50	82+00	82+50	83+00	83+50	84+00	84+50	85+00	85+50	86+00	86+50	87+00	87+50	88+00	88+50	89+00	89+50	90+00	90+50	91+00
EXISTING	47.66	47.76	47.70	47.55	47.17	46.44	45.32	43.85	41.88	39.51	36.84	33.85	30.77	27.67	24.73	22.08	19.83	18.00	16.42	15.29	14.59	14.68	15.12	15.76	16.68	17.82	19.19	21.04	23.09	25.27	27.32	29.10	30.55	31.70	32.64	33.37	
PROPOSED	43.85	41.82	39.52	37.17	34.88	32.77	30.84	29.09	27.53	26.16	24.97	23.96	23.13	22.49	22.04	21.76	21.67	21.77	22.05	22.51	23.15	23.98	25.00	26.19	27.58	29.10											

STATION

VERTICAL SCALE FEET 0 6 12 18

N001 - US 13 SOUTHBOUND

PF-02

ADDENDA / REVISIONS		SCALE 0 60 120 180 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488S	PROFILE	SECTION BR
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 14
					CHECKED BY: M. RADOVIC		

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US 13 SOUTHBOUND COORDINATE LIST

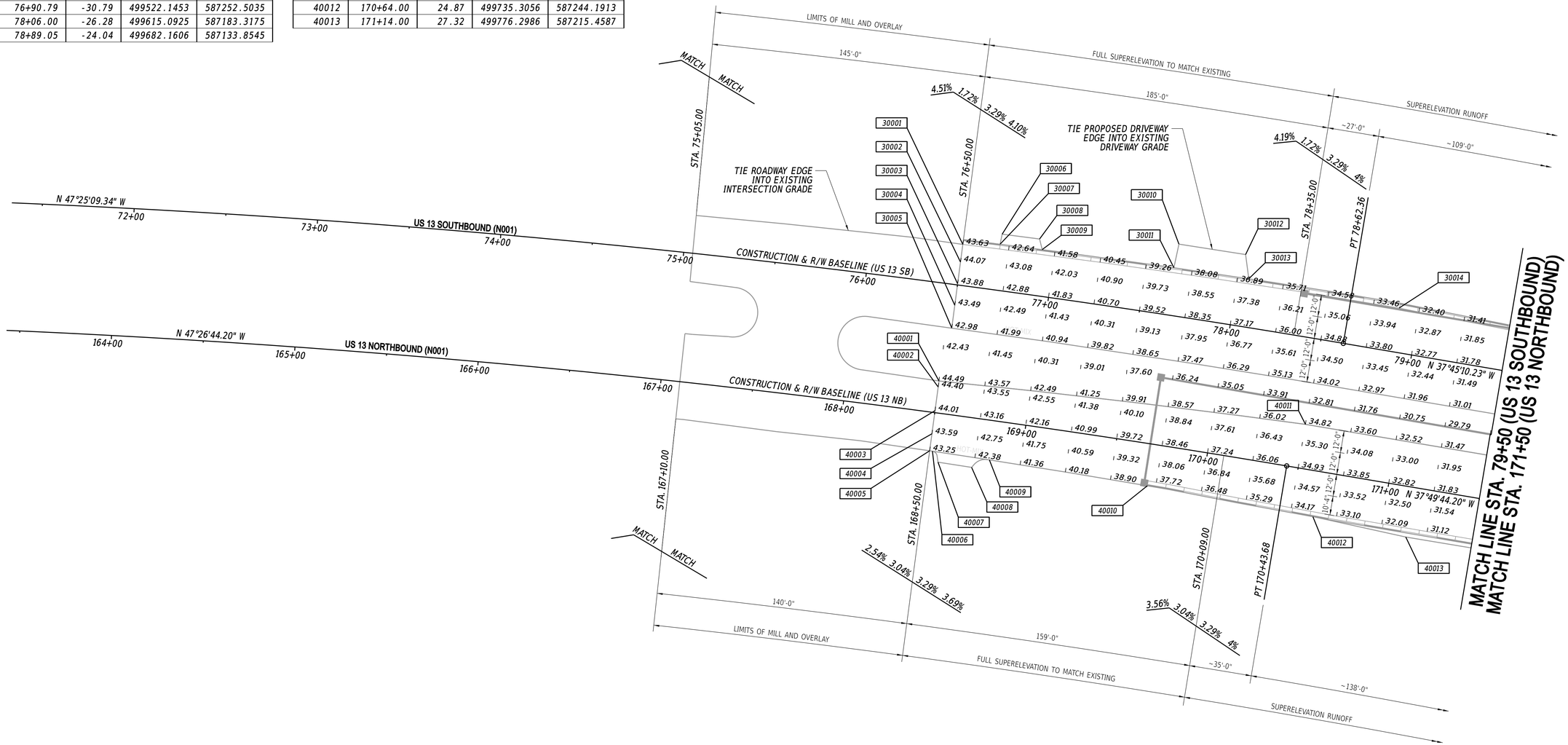
POINT NO.	STATION	OFFSET	NORTHING	EASTING
30001	76+50.00	-22.23	499496.0631	587285.2462
30002	76+50.00	-12.56	499502.2664	587292.6714
30003	76+50.00	-0.65	499509.9015	587301.8106
30004	76+50.00	11.15	499517.4657	587310.8648
30005	76+50.00	23.59	499525.4450	587320.4159
30006	76+70.38	-30.60	499506.4460	587265.7142
30007	76+70.00	-25.08	499509.6784	587270.2123
30008	76+90.79	-30.79	499522.1453	587252.5035
30009	76+93.00	-25.27	499527.3664	587255.3468
30010	76+70.38	-30.60	499506.4460	587265.7142
30011	77+65.00	-25.92	499583.0933	587209.2512
30012	76+90.79	-30.79	499522.1453	587252.5035
30013	78+06.00	-26.28	499615.0925	587183.3175
30014	78+89.05	-24.04	499682.1606	587133.8545

US 13 NORTHBOUND COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
40001	168+50.00	-17.37	499541.9738	587345.0452
40002	168+50.00	-14.01	499544.1237	587347.6264
40003	168+50.00	-1.01	499552.4436	587357.6158
40004	168+50.00	11.72	499560.5911	587367.3982
40005	168+50.00	20.93	499566.4848	587374.4746
40006	168+51.55	20.96	499567.6881	587373.5054
40007	168+55.35	26.48	499574.1243	587375.3282
40008	168+73.94	26.80	499588.5843	587363.7727
40009	168+81.93	21.42	499591.3003	587354.5618
40010	169+70.43	22.78	499660.6429	587300.1180
40011	170+50.00	-24.00	499694.2754	587214.1777
40012	170+64.00	24.87	499735.3056	587244.1913
40013	171+14.00	27.32	499776.2986	587215.4587

NOTES:

1. STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 NORTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.
2. STATIONS AND OFFSETS CORRELATING TO THE ELEVATIONS IN THE MEDIAN OF US 13 ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.
3. STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 SOUTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.
4. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.
5. UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND GUTTER IS GIVEN AT THE EDGE OF PAVEMENT.
6. PROPOSED PAVEMENT OR CURBS THAT TIE INTO THE EXISTING PAVEMENT OR EXISTING CURBS SHALL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.
7. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.



ADDENDA / REVISIONS		SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	GRADES AND GEOMETRICS	GG-01
		0 30 60 90 FEET		T200707404			SECTION BR
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 15
					CHECKED BY: M. RADOVIC		

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US 13 SOUTHBOUND COORDINATE LIST

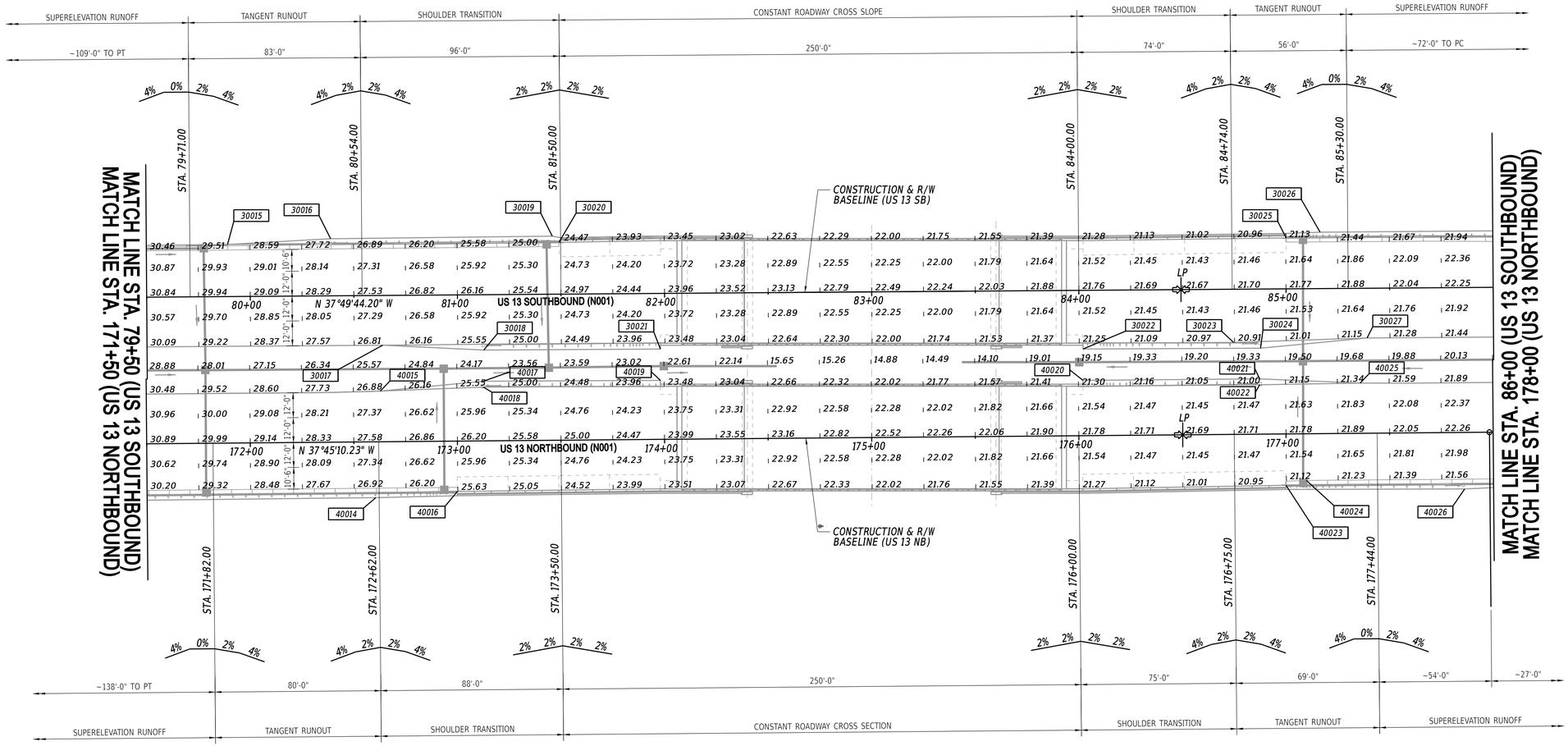
POINT NO.	STATION	OFFSET	NORTHING	EASTING
30015	79+89.00	-25.13	499760.5203	587071.8066
30016	80+39.00	-27.55	499798.5712	587039.2799
30017	80+63.81	24.00	499849.7495	587064.8452
30018	81+12.50	26.71	499889.9020	587037.1747
30019	81+46.04	-28.02	499882.9121	586973.3706
30020	81+49.20	-25.00	499887.2666	586973.8241
30021	81+97.80	26.84	499957.4306	586985.0523
30022	84+01.80	28.33	500119.6333	586861.3339
30023	84+74.50	25.68	500175.4915	586814.7269
30024	84+87.49	28.55	500187.5191	586809.0379
30025	85+00.19	-24.57	500165.0378	586759.2675
30026	85+16.67	-27.20	500176.4576	586747.0920
30027	85+38.95	24.00	500225.4204	586773.9417

US 13 NORTHBOUND COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
40014	172+60.38	26.95	499891.6907	587125.3918
40015	172+63.00	-24.46	499862.2330	587083.1837
40016	172+99.78	24.31	499921.1883	587099.1429
40017	173+12.80	-28.79	499898.9084	587049.2202
40018	173+12.78	-25.96	499900.6326	587051.4681
40019	173+98.24	-28.46	499966.5962	586997.0751
40020	176+02.23	-26.70	500128.7989	586873.3565
40021	176+87.50	-26.68	500196.1576	586821.0787
40022	176+87.50	-23.85	500197.8953	586823.3166
40023	176+99.76	24.77	500237.3966	586854.1956
40024	177+09.65	22.50	500243.8185	586846.3378
40025	177+36.00	-24.23	500235.9655	586793.2646
40026	177+86.00	27.29	500307.0576	586803.2951

NOTES:

1. *STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 NORTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
2. *STATIONS AND OFFSETS CORRELATING TO THE ELEVATIONS IN THE MEDIAN OF US 13 ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
3. *STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 SOUTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.*
4. *OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.*
5. *UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND GUTTER IS GIVEN AT THE EDGE OF PAVEMENT.*
6. *PROPOSED PAVEMENT OR CURBS THAT TIE INTO THE EXISTING PAVEMENT OR EXISTING CURBS SHALL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.*
7. *ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.*



ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	GRADES AND GEOMETRICS	GG-02
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 16

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US 13 SOUTHBOUND COORDINATE LIST

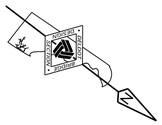
POINT NO.	STATION	OFFSET	NORTHING	EASTING
30028	86+48.00	-27.55	500280.5022	586666.5022
30029	87+00.00	24.00	500353.0210	586676.6758
30030	86+98.00	24.49	500322.6818	586638.7951
30031	87+06.00	-24.41	500329.2205	586634.0987
30032	87+78.30	-24.06	500388.5063	586591.9344
30033	89+00.00	-21.37	500491.1630	586525.2210
30034	89+00.00	-12.86	500495.8449	586532.3264
30035	89+00.00	-1.08	500502.3271	586542.1640
30036	89+00.00	11.26	500509.1195	586552.4724
30037	89+00.00	15.54	500511.4706	586556.0419

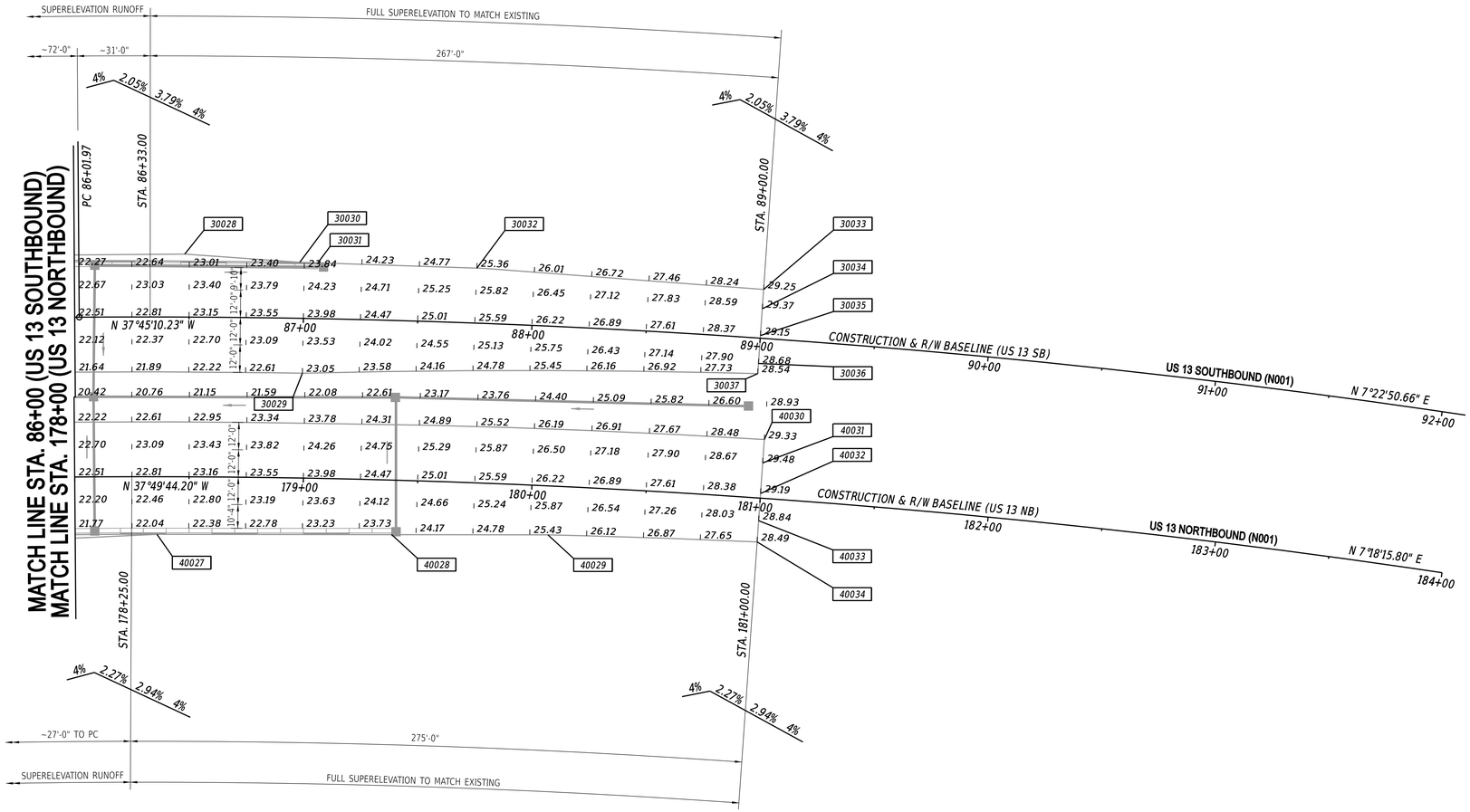
US 13 NORTHBOUND COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
40027	178+36.00	25.22	500345.1969	586771.2928
40028	179+39.25	23.78	500426.8143	586709.1213
40029	180+08.00	21.41	500481.2871	586667.7793
40030	181+00.00	-25.72	500531.2244	586577.2244
40031	181+00.00	-15.44	500536.8693	586585.8087
40032	181+00.00	-2.04	500544.2304	586597.0029
40033	181+00.00	9.89	500550.7883	586606.9756
40034	181+00.00	19.21	500555.9088	586614.7625

NOTES:

1. *STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 NORTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
2. *STATIONS AND OFFSETS CORRELATING TO THE ELEVATIONS IN THE MEDIAN OF US 13 ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.*
3. *STATIONS AND OFFSETS OF GEOMETRY POINTS ON US 13 SOUTHBOUND ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND.*
4. *OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.*
5. *UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB AND GUTTER IS GIVEN AT THE EDGE OF PAVEMENT.*
6. *PROPOSED PAVEMENT OR CURBS THAT TIE INTO THE EXISTING PAVEMENT OR EXISTING CURBS SHALL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.*
7. *ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.*

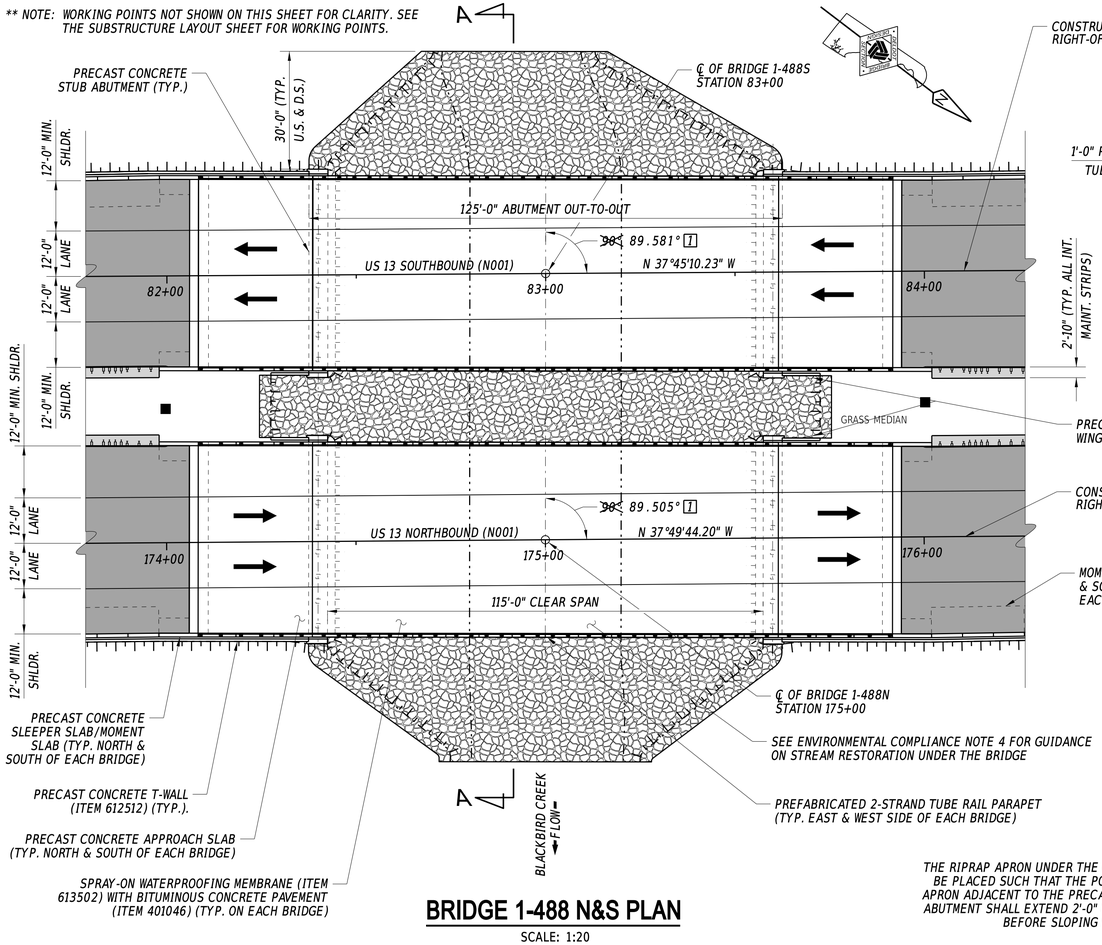




ADDENDA / REVISIONS		SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	GRADES AND GEOMETRICS	GG-03
		0 30 60 90		T200707404			SECTION
		FEET		COUNTY	DESIGNED BY: N. DEAN		BR
				NEW CASTLE	CHECKED BY: M. RADOVIC		SHEET NO. 17

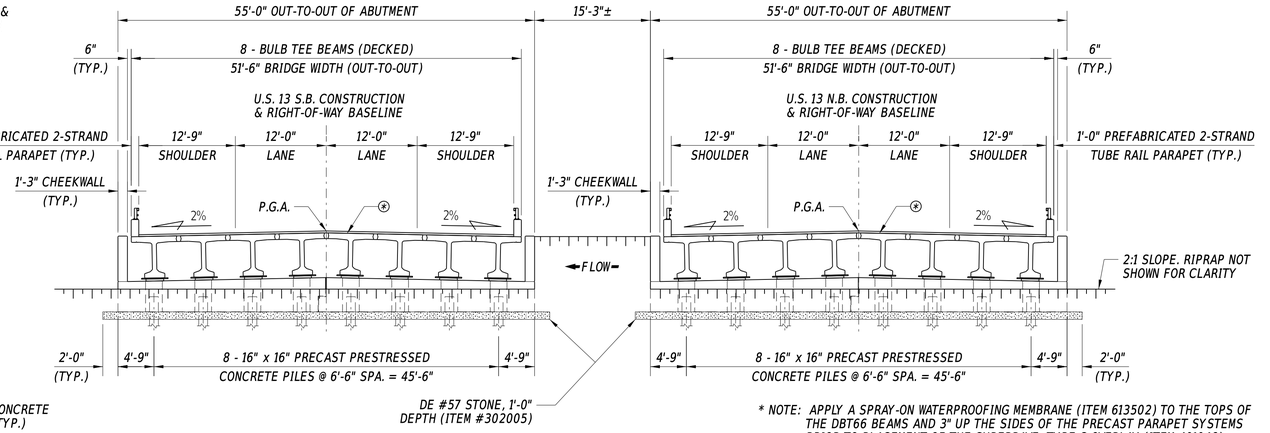
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** NOTE: WORKING POINTS NOT SHOWN ON THIS SHEET FOR CLARITY. SEE THE SUBSTRUCTURE LAYOUT SHEET FOR WORKING POINTS.



BRIDGE 1-488 N&S PLAN

SCALE: 1:20

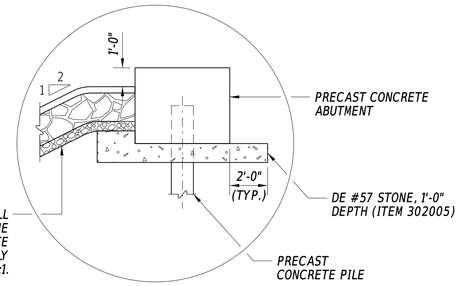


* NOTE: APPLY A SPRAY-ON WATERPROOFING MEMBRANE (ITEM 613502) TO THE TOPS OF THE DBT66 BEAMS AND 3" UP THE SIDES OF THE PRECAST PARAPET SYSTEMS PRIOR TO PLACEMENT OF THE SUPERPAVE, TYPE C OVERLAY (ITEM 401046). THE SUPERPAVE, TYPE C OVERLAY SHALL HAVE A MINIMUM THICKNESS OF 3".

BRIDGE 1-488 N&S SECTION

(SECTION A-A: SOUTH ABUTMENT)
**NORTH ABUTMENT VIEW SIMILAR

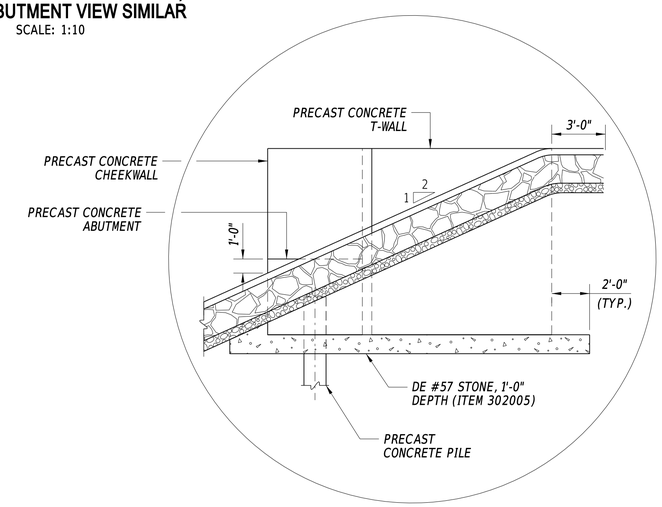
SCALE: 1:10



THE RIPRAP APRON UNDER THE BRIDGE SHALL BE PLACED SUCH THAT THE PORTION OF THE APRON ADJACENT TO THE PRECAST CONCRETE ABUTMENT SHALL EXTEND 2'-0" HORIZONTALLY BEFORE SLOPING DOWN AT A 2:1.

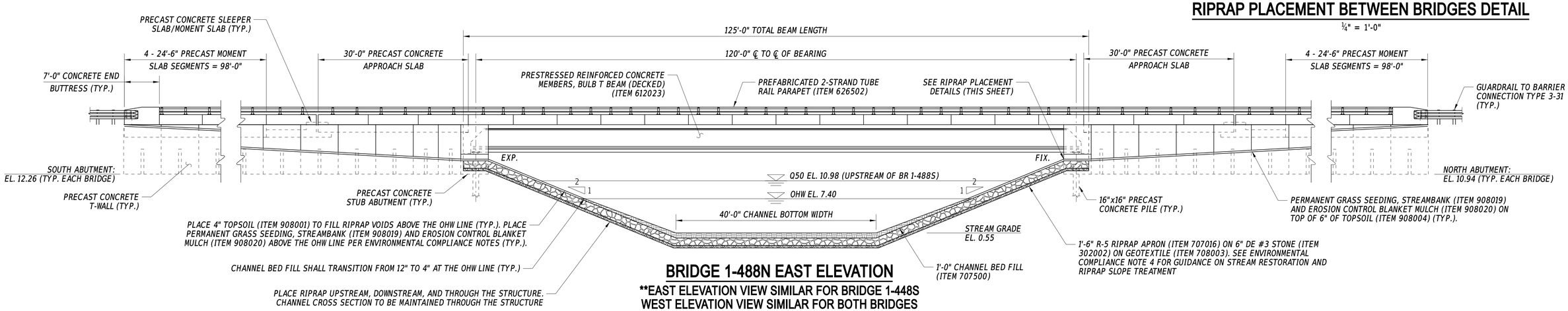
RIPRAP PLACEMENT UNDER BRIDGE DETAIL

¼" = 1'-0"



RIPRAP PLACEMENT BETWEEN BRIDGES DETAIL

¼" = 1'-0"



BRIDGE 1-488N EAST ELEVATION

**EAST ELEVATION VIEW SIMILAR FOR BRIDGE 1-448S
WEST ELEVATION VIEW SIMILAR FOR BOTH BRIDGES

SCALE: 1:10

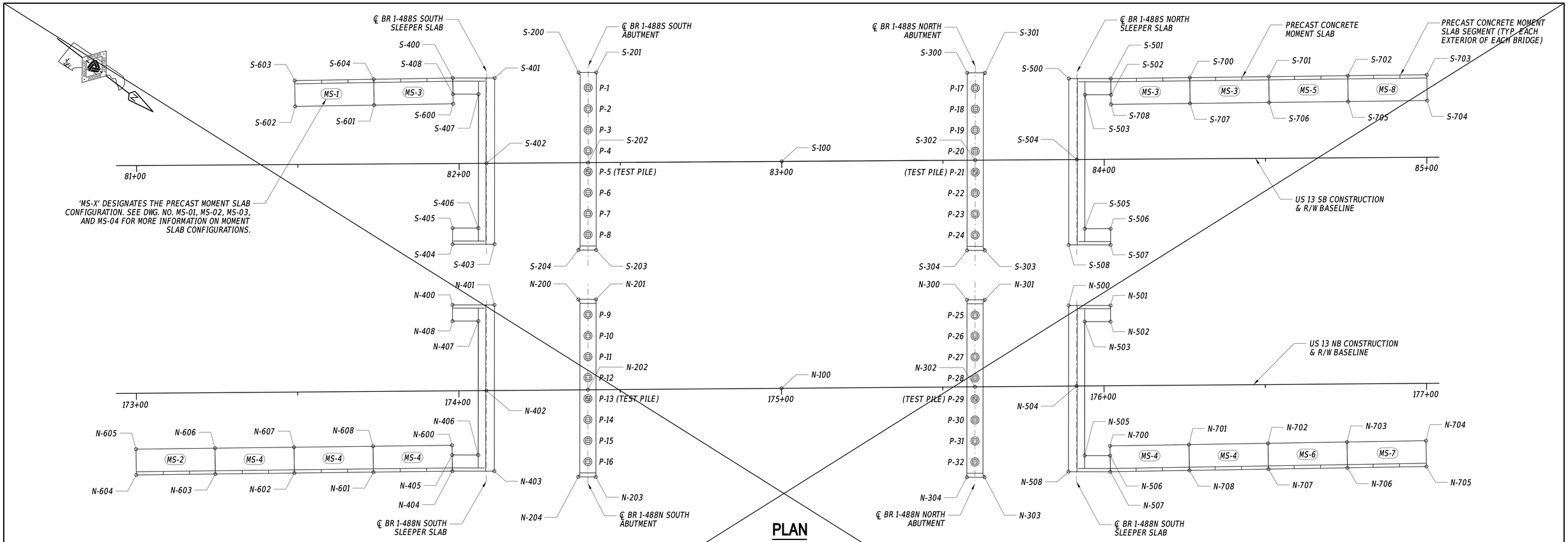
ADDENDA / REVISIONS		
1	ADJUSTED BRIDGE SKEWS	N. DEAN-05/22/25

SCALE AS NOTED

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S	BRIDGE PLAN SECTION AND ELEVATION
T200707404	DESIGNED BY:	N. DEAN	SECTION: BR
COUNTY	CHECKED BY:	M. RADOVIC	SHEET NO.: 18
NEW CASTLE			

23-MAY-2025
11:37
Y:\NEWCASTL\U001Bridge\2707404\Plans\Sheet Models\18PE01.dgn



PLAN

BR 1-488S PILE COORDINATES (SOUTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-1	82+40.17	-23.18	499960.2970	586919.5625
P-2	82+40.12	-16.68	499964.2391	586924.7307
P-3	82+40.07	-10.19	499968.1811	586929.8989
P-4	82+40.03	-3.69	499972.1231	586935.0671
P-5	82+39.98	2.81	499976.0651	586940.2354
P-6	82+39.93	9.31	499980.0071	586945.4036
P-7	82+39.88	15.81	499983.9491	586950.5718
P-8	82+39.84	22.31	499987.8911	586955.7400

BR 1-488N PILE COORDINATES (SOUTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-9	174+40.20	-23.27	500002.9221	586975.4467
P-10	174+40.14	-16.77	500006.8642	586980.6149
P-11	174+40.09	-10.27	500010.8062	586985.7831
P-12	174+40.03	-3.77	500014.7482	586990.9513
P-13	174+39.97	2.73	500018.6902	586996.1196
P-14	174+39.92	9.23	500022.6322	587001.2878
P-15	174+39.86	15.73	500026.5742	587006.4560
P-16	174+39.81	22.23	500030.5162	587011.6242

BRIDGE 1-488S ℄ WORKING POINT

PT.	STATION	OFFSET	NORTHING	EASTING
S-100	83+00.00	00.00	500021.7990	586901.2611

BRIDGE 1-488N ℄ WORKING POINT

PT.	STATION	OFFSET	NORTHING	EASTING
N-100	175+00.00	00.00	500064.4251	586957.1462

NOTE:

THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488S IS BASED ON THE US 13 SOUTHBOUND CONSTRUCTION BASELINE. THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488N IS BASED ON THE US 13 NORTHBOUND CONSTRUCTION BASELINE.

BR 1-488S PILE COORDINATES (NORTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-17	83+60.16	-22.31	500055.7104	586846.7869
P-18	83+60.12	-15.81	500059.6525	586851.9551
P-19	83+60.07	-9.31	500063.5945	586857.1233
P-20	83+60.02	-2.81	500067.5365	586862.2915
P-21	83+59.97	3.69	500071.4785	586867.4598
P-22	83+59.93	10.19	500075.4205	586872.6280
P-23	83+59.88	16.69	500079.3625	586877.7962
P-24	83+59.83	23.19	500083.3045	586882.9644

BR 1-488N PILE COORDINATES (NORTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-25	175+60.19	-22.23	500098.3356	586902.6711
P-26	175+60.14	-15.73	500102.2776	586907.8393
P-27	175+60.08	-9.23	500106.2196	586913.0076
P-28	175+60.03	-2.73	500110.1616	586918.1758
P-29	175+59.97	3.77	500114.1036	586923.3440
P-30	175+59.91	10.27	500118.0456	586928.5122
P-31	175+59.86	16.77	500121.9876	586933.6805
P-32	175+59.80	23.27	500125.9297	586938.8487

SOUTH PRECAST MOMENT SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-600	81+98.27	-18.49	499930.0441	586948.9226
	S-601	81+73.77	-18.24	499910.8262	586964.1188
	S-602	81+49.27	-18.00	499891.6083	586979.3150
	S-603	81+49.19	-26.00	499886.6464	586973.0398
	S-604	81+73.69	-26.24	499905.8643	586957.8437
BR 1-488N	N-600	173+97.75	16.87	499994.0072	587033.1853
	N-601	173+73.28	24.98	499979.6576	587054.5941
	N-602	173+48.78	25.09	499960.3734	587069.7060
	N-603	173+24.28	25.20	499941.0893	587084.8180
	N-604	172+99.78	25.31	499921.8051	587099.9299
	N-605	172+99.75	17.31	499916.8706	587093.6331
	N-606	173+24.25	17.20	499936.1548	587078.5212
	N-607	173+48.75	17.09	499955.4389	587063.4092
	N-608	173+73.25	16.98	499974.7231	587048.2973

SOUTH PRECAST SLEEPER SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-400	81+98.19	-26.49	499925.0822	586942.6475
	S-401	82+11.19	-26.40	499935.4186	586934.7635
	S-402	82+08.50	00.00	499949.4517	586957.2841
	S-403	82+10.81	25.10	499966.6523	586975.7128
	S-404	81+97.81	25.01	499956.3159	586983.5968
	S-405	81+97.85	20.01	499953.2835	586979.6213
	S-406	82+05.85	20.07	499959.6444	586974.7696
	S-407	82+06.15	-21.43	499934.4754	586941.7714
	S-408	81+98.24	-21.49	499928.1839	586946.5701
BR 1-488N	N-400	173+98.23	-26.63	499967.7081	586998.5328
	N-401	174+11.23	-26.52	499978.0445	586990.6488
	N-402	174+08.50	00.00	499992.1513	587013.2660
	N-403	174+10.78	24.98	500009.2782	587031.5981
	N-404	173+97.78	24.87	499998.9417	587039.4821
	N-405	173+97.76	19.87	499995.8574	587035.5462
	N-406	174+05.82	19.94	500002.2703	587030.6548
	N-407	174+06.18	-21.56	499977.1013	586997.6566
	N-408	173+98.18	-21.63	499970.7404	587002.5084

SOUTH ABUTMENT WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S ABUTMENT	S-200	82+37.20	-27.96	499955.0301	586917.6038
	S-201	82+42.70	-27.92	499959.4033	586914.2685
	S-202	82+40.00	00.00	499974.3582	586937.9975
	S-203	82+42.30	27.08	499992.7596	586958.0007
	S-204	82+36.80	27.04	499988.3866	586961.3364
BR 1-488N ABUTMENT	N-200	174+37.24	-28.04	499997.6560	586973.4891
	N-201	174+42.74	-27.99	500002.0292	586970.1537
	N-202	174+40.00	00.00	500017.0324	586993.9461
	N-203	174+42.26	27.01	500035.3855	587013.8859
	N-204	174+36.76	26.96	500031.0121	587017.2215

NORTH ABUTMENT WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S ABUTMENT	S-300	83+57.70	-27.08	500050.8411	586844.5252
	S-301	83+63.20	-27.04	500055.2143	586841.1897
	S-302	83+60.00	00.00	500069.2398	586864.5247
	S-303	83+62.80	27.96	500088.5706	586884.9220
	S-304	83+57.30	27.92	500084.1974	586888.2574
BR 1-488N ABUTMENT	N-300	175+57.74	-27.00	500093.4671	586900.4104
	N-301	175+63.23	-26.95	500097.8402	586897.0749
	N-302	175+60.00	00.00	500111.8174	586920.3466
	N-303	175+62.76	28.05	500131.1965	586940.8071
	N-304	175+57.26	28.00	500126.8234	586944.1427

NORTH PRECAST SLEEPER SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-500	83+89.19	-25.10	500076.9485	586826.8130
	S-501	84+02.19	-25.00	500087.2849	586818.9290
	S-502	84+02.21	-20.00	500090.3093	586822.8649
	S-503	83+94.15	-20.06	500083.9564	586827.7562
	S-504	83+91.50	00.00	500094.1462	586845.2381
	S-505	83+93.85	21.44	500109.1254	586860.7545
	S-506	84+01.85	21.50	500115.4863	586855.9028
	S-507	84+01.81	26.50	500118.5186	586859.8783
	S-508	83+88.81	26.40	500108.1821	586867.7623
BR 1-488N	N-500	175+89.22	-24.98	500119.5744	586882.6944
	N-501	176+02.18	-24.87	500129.9108	586874.843
	N-502	176+02.18	-19.87	500132.9432	586878.7898
	N-703	175+94.18	-19.94	500126.5823	586883.6415
	N-504	175+91.50	00.00	500136.6984	586901.0268
	N-505	175+93.82	21.56	500151.7513	586916.6397
	N-506	176+01.73	21.63	500158.0428	586911.8410
	N-507	176+01.77	26.63	500261.1445	586915.7636
	N-508	175+88.77	26.52	500150.8080	586923.6476

NORTH PRECAST MOMENT SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-700	84+26.69	-25.14	500106.5689	586803.8169
	S-701	84+51.18	-25.29	500125.8430	586788.7047
	S-702	84+75.68	-25.43	500145.1370	586773.5926
	S-703	85+00.18	-25.57	500164.4210	586758.4805
	S-704	85+00.23	-17.57	500169.3555	586764.7772
	S-705	84+75.73	-17.43	500150.0715	586779.8894
	S-706	84+51.23	-17.29	500130.7875	586795.0015
	S-707	84+26.73	-17.14	500111.5035	586810.1136
	S-708	84+02.23	-17.00	500092.2194	586825.2258
BR 1-488N	N-700	176+81.70	18.63	500156.1834	586909.4895
	N-701	176+26.20	18.42	500175.4014	586894.2934
	N-702	176+50.70	18.20	500194.6193	586879.0974
	N-703	176+75.20	17.99	500213.8373	586863.9013
	N-704	176+99.70	17.77	500233.0552	586848.7052
	N-705	176+99.77	25.77	500238.0163	586854.9793
	N-706	176+75.27	25.98	500218.7984	586870.1754
	N-707	176+50.77	26.20	500199.5804	586885.3715
	N-708	176+26.27	26.42	500180.3625	586900.5675

ADDENDA / REVISIONS

1	REMOVED SHEET	N. DEAN-05/22/25

SCALE 0 15 30 45 FEET

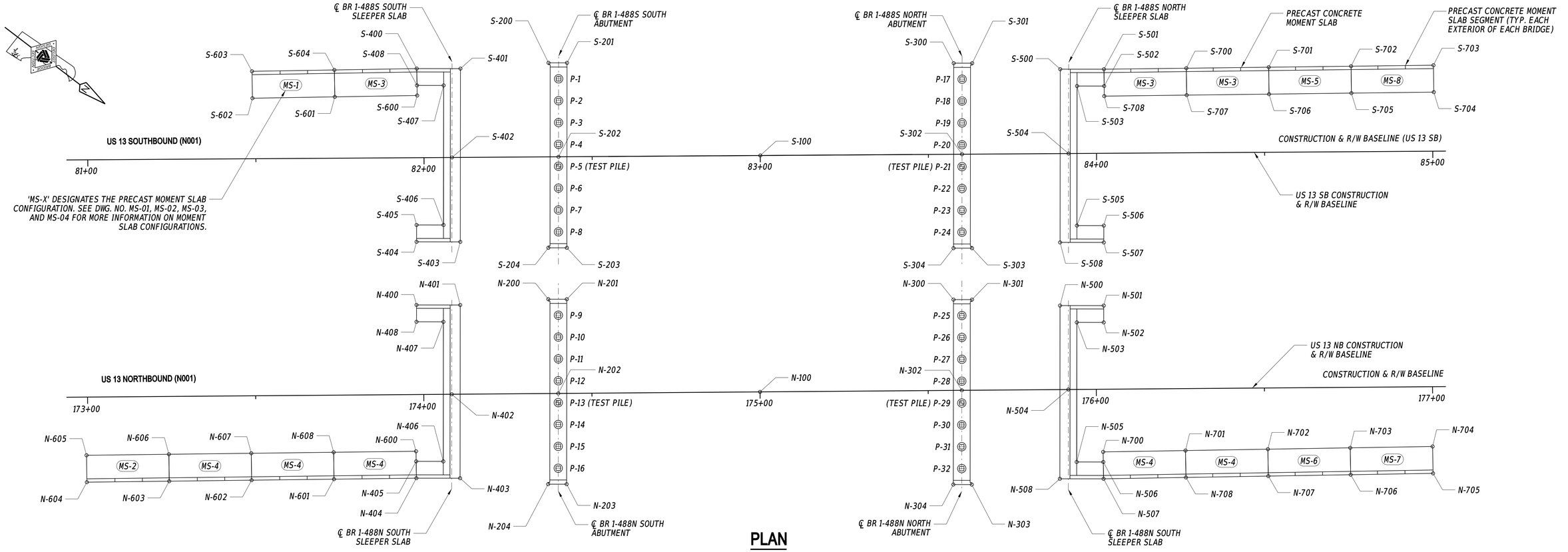
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

SUBSTRUCTURE LAYOUT PLAN

SECTION: BR
SHEET NO.: 19

23-MAY-2025
11:38
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PLAN

BR 1-488S PILE COORDINATES (SOUTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-1	82+40.17	-23.18	499960.2970	586919.5625
P-2	82+40.12	-16.68	499964.2391	586924.7307
P-3	82+40.07	-10.19	499968.1811	586929.8989
P-4	82+40.03	-3.69	499972.1231	586935.0671
P-5	82+39.98	2.81	499976.0651	586940.2354
P-6	82+39.93	9.31	499980.0071	586945.4036
P-7	82+39.88	15.81	499983.9491	586950.5718
P-8	82+39.84	22.31	499987.8911	586955.7400

BR 1-488N PILE COORDINATES (SOUTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-9	174+40.20	-23.27	500002.9221	586975.4467
P-10	174+40.14	-16.77	500006.8642	586980.6149
P-11	174+40.09	-10.27	500010.8062	586985.7831
P-12	174+40.03	-3.77	500014.7482	586990.9513
P-13	174+39.97	2.73	500018.6902	586996.1196
P-14	174+39.92	9.23	500022.6322	587001.2878
P-15	174+39.86	15.73	500026.5742	587006.4560
P-16	174+39.81	22.23	500030.5162	587011.6242

BRIDGE 1-488S ℄ WORKING POINT

PT.	STATION	OFFSET	NORTHING	EASTING
S-100	83+00.00	00.00	500021.7990	586901.2611

BRIDGE 1-488N ℄ WORKING POINT

PT.	STATION	OFFSET	NORTHING	EASTING
N-100	175+00.00	00.00	500064.4251	586957.1462

NOTE:

THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488S IS BASED ON THE US 13 SOUTHBOUND CONSTRUCTION BASELINE. THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488N IS BASED ON THE US 13 NORTHBOUND CONSTRUCTION BASELINE.

BR 1-488S PILE COORDINATES (NORTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-17	83+60.16	-22.31	500055.7104	586846.7869
P-18	83+60.12	-15.81	500059.6525	586851.9551
P-19	83+60.07	-9.31	500063.5945	586857.1233
P-20	83+60.02	-2.81	500067.5365	586862.2915
P-21	83+59.97	3.69	500071.4785	586867.4598
P-22	83+59.93	10.19	500075.4205	586872.6280
P-23	83+59.88	16.69	500079.3625	586877.7962
P-24	83+59.83	23.19	500083.3045	586882.9644

BR 1-488N PILE COORDINATES (NORTH ABUTMENT)

PT.	STATION	OFFSET	NORTHING	EASTING
P-25	175+60.19	-22.23	500098.3356	586902.6711
P-26	175+60.14	-15.73	500102.2776	586907.8393
P-27	175+60.08	-9.23	500106.2196	586913.0076
P-28	175+60.03	-2.73	500110.1616	586918.1758
P-29	175+59.97	3.77	500114.1036	586923.3440
P-30	175+59.91	10.27	500118.0456	586928.5122
P-31	175+59.86	16.77	500121.9876	586933.6805
P-32	175+59.80	23.27	500125.9297	586938.8487

SOUTH PRECAST MOMENT SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-600	81+98.08	-18.49	499929.8950	586949.0363
	S-601	81+73.59	-18.24	499910.6771	586964.2325
	S-602	81+49.09	-18.00	499891.4593	586979.4287
	S-603	81+49.01	-26.00	499886.4973	586973.1536
	S-604	81+73.49	-26.24	499905.7465	586958.0262
BR 1-488N	N-600	173+97.56	16.87	499993.8581	587033.2990
	N-601	173+73.09	24.98	499979.5085	587054.7078
	N-602	173+48.59	25.09	499960.2243	587069.8197
	N-603	173+24.09	25.20	499940.9402	587084.9317
	N-604	172+99.59	25.31	499921.6560	587100.0437
	N-605	172+99.56	17.31	499916.7215	587093.7468
	N-606	173+24.06	17.20	499936.0057	587078.6349
	N-607	173+48.56	17.09	499955.2899	587063.5229
	N-608	173+73.06	16.98	499974.5740	587048.4110

SOUTH PRECAST SLEEPER SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-400	81+98.00	-26.49	499924.9331	586942.7612
	S-401	82+11.00	-26.40	499935.2695	586934.8772
	S-402	82+08.31	00.00	499949.3035	586957.3989
	S-403	82+10.63	25.10	499966.5032	586975.8265
	S-404	81+97.63	25.01	499956.1667	586983.7105
	S-405	81+97.66	20.01	499953.1344	586979.7350
	S-406	82+05.66	20.06	499959.4953	586974.8833
	S-407	82+05.97	-21.44	499934.3263	586941.8851
	S-408	81+98.05	-21.49	499928.0348	586946.6838
BR 1-488N	N-400	173+98.04	-26.63	499967.5590	586998.6465
	N-401	174+11.04	-26.52	499977.8954	586990.7625
	N-402	174+08.31	00.00	499992.0032	587013.3810
	N-403	174+10.59	24.98	500009.1291	587031.7118
	N-404	173+97.59	24.87	499998.7926	587039.5958
	N-405	173+97.57	19.87	499995.7083	587035.6599
	N-406	174+05.64	19.94	500002.1212	587030.7686
	N-407	174+05.99	-21.56	499976.9522	586997.7704
	N-408	173+98.00	-21.63	499970.5913	587002.6221

SOUTH ABUTMENT WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S ABUTMENT	S-200	82+37.20	-27.96	499955.0301	586917.6038
	S-201	82+42.70	-27.92	499959.4033	586914.2685
	S-202	82+40.00	00.00	499974.3582	586937.9975
	S-203	82+42.30	27.08	499992.7596	586958.0007
	S-204	82+36.80	27.04	499988.3866	586961.3364
BR 1-488N ABUTMENT	N-200	174+37.24	-28.04	499997.6560	586973.4891
	N-201	174+42.74	-27.99	500002.0292	586970.1537
	N-202	174+40.00	00.00	500017.0324	586993.9461
	N-203	174+42.26	27.01	500035.3855	587013.8859
	N-204	174+36.76	26.96	500031.0121	587017.2215

NORTH ABUTMENT WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S ABUTMENT	S-300	83+57.70	-27.08	500050.8411	586844.5252
	S-301	83+63.20	-27.04	500055.2143	586841.1897
	S-302	83+60.00	00.00	500069.2398	586864.5247
	S-303	83+62.80	27.96	500088.5706	586884.9220
	S-304	83+57.30	27.92	500084.1974	586888.2574
BR 1-488N ABUTMENT	N-300	175+57.74	-27.00	500093.4671	586900.4104
	N-301	175+63.23	-26.95	500097.8402	586897.0749
	N-302	175+60.00	00.00	500111.8174	586920.3466
	N-303	175+62.76	28.05	500131.1965	586940.8071
	N-304	175+57.26	28.00	500126.8234	586944.1427

NORTH PRECAST SLEEPER SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-500	83+89.37	-25.10	500077.0976	586826.6993
	S-501	84+02.37	-25.00	500087.4340	586818.8153
	S-502	84+02.40	-20.00	500090.5184	586822.7511
	S-503	83+94.34	-20.06	500084.1054	586827.6426
	S-504	83+91.69	00.00	500094.2945	586845.1233
	S-505	83+94.03	21.44	500109.2745	586860.6408
	S-506	84+02.03	21.50	500115.6354	586855.7891
	S-507	84+02.00	26.50	500118.6677	586859.7646
	S-508	83+89.00	26.40	500108.3312	586867.6486
BR 1-488N	N-500	175+89.41	-24.98	500119.7234	586882.5846
	N-501	176+02.41	-24.87	500130.0599	586874.7006
	N-502	176+02.36	-19.87	500133.0922	586878.6761
	N-703	175+94.36	-19.94	500126.7313	586883.5278
	N-504	175+91.69	00.00	500136.8466	586900.9117
	N-505	175+94.00	21.56	500151.9004	586916.5260
	N-506	176+01.92	21.63	500158.1919	586911.7272
	N-507	176+01.96	26.63	500161.2936	586915.6499
	N-508	175+88.96	26.52	500150.9571	586923.5339

NORTH PRECAST MOMENT SLAB WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
BR 1-488S	S-700	84+26.87	-25.14	500106.7180	586803.7032
	S-701	84+51.37	-25.28	500126.0020	586788.5910
	S-702	84+75.87	-25.43	500145.2861	586773.4789
	S-703	85+00.37	-25.57	500164.5701	586758.3668
	S-704	85+00.42	-17.57	500169.5046	586764.6635
	S-705	84+75.92	-17.43	500150.2206	586779.7757
	S-706	84+51.42	-17.28	500130.9366	586794.8878
	S-707	84+26.92	-17.14	500111.6525	586809.9999
	S-708	84+02.42	-17.00	500092.3685	586825.1121
BR 1-488N	N-700	176+01.89	18.64	500156.3325	586909.3758
	N-701	176+26.39	18.42	500175.5505	586894.1797
	N-702	176+50.89	18.20	500194.7684	586878.9837
	N-703	176+75.39	17.99	500213.9864	586863.7876
	N-704	176+99.89	17.77	500233.2043	586848.5915
	N-705	176+99.96	25.77	500238.1654	586854.8656
	N-706	176+75.46	25.99	500218.9474	586870.0617
	N-707	176+50.96	26.20	500199.7295	586885.2577
	N-708	176+26.46	26.42	500180.5115	586900.4538

ADDENDA / REVISIONS

1 CREATED SHEET TO ADJUST MOMENT SLAB AND SLEEPER SLAB WORKING POINTS — N. DEAN-05/22/25

SCALE 0 15 30 45 FEET

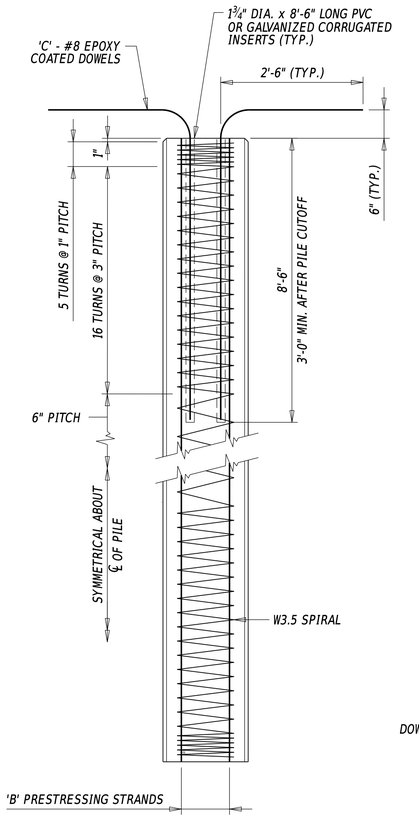
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

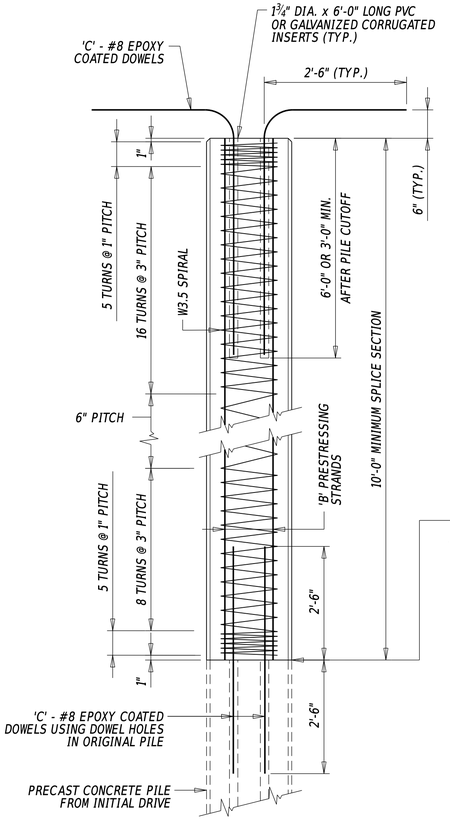
SUBSTRUCTURE LAYOUT PLAN

SECTION: BR
SHEET NO.: 19A

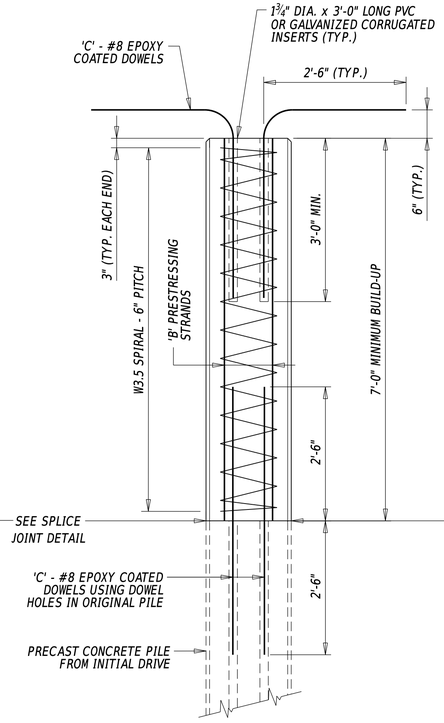
23-MAY-2025
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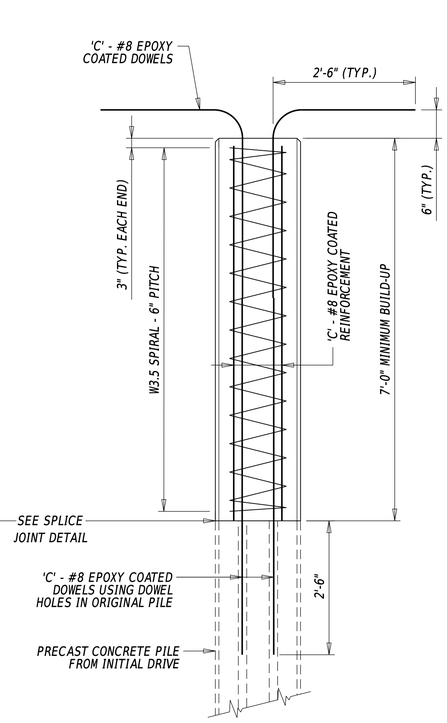
PILE ELEVATION



PILE BUILD-UP FOR DRIVING (PRECAST)



PILE BUILD-UP WITHOUT DRIVING (PRECAST)



PILE BUILD-UP WITHOUT DRIVING (CAST-IN-PLACE)

PRECAST PRESTRESSED CONCRETE PILE SIZES		
PILE SIZE	STRANDS 'B'	DOWELS 'C'
'A'		
12"	6	4
14"	8	4
16"	10	6
18"	12	8
20"	16	8
24"	24	12

PROJECT SPECIFIC PILE NOTES

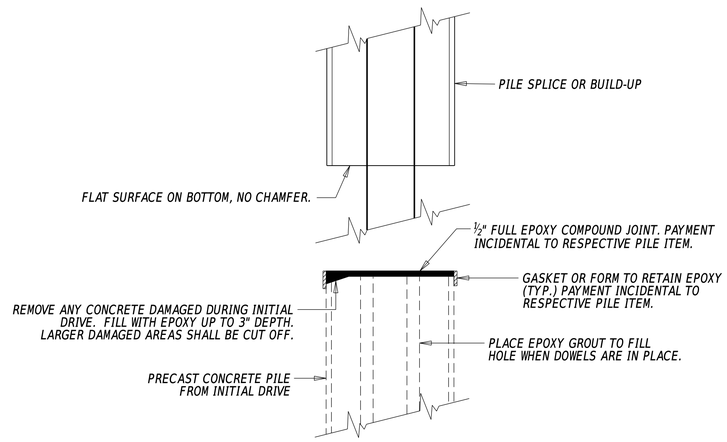
1. PILE TYPE:
   THIS PROJECT WILL UTILIZE 16" x 16" PRESTRESSED-PRECAST CONCRETE PILES.
2. ESTIMATED PRODUCTION PILE LENGTH IS 40'-0".
3. REQUIRED TEST PILE LENGTH IS 5'-0" LONGER THAN THE ESTIMATED PRODUCTION PILE LENGTH.
4. DRIVE PILES TO A BEARING RESISTANCE OF 531 KIPS USING A RESISTANCE FACTOR OF 0.65.
5. REFER TO THE PILE INSTALLATION DATA TABLE FOR MINIMUM TIP ELEVATION.
6. DESIGN ASSUMPTIONS: THE PRESTRESSED CONCRETE PILES WERE DESIGNED FOR NORMAL EXPOSURE CONDITIONS.
7. THE MAXIMUM ALLOWABLE VARIATION AT THE TOP OF THE PILE SHALL BE 2" IN ANY DIRECTION FROM THE LOCATION SHOWN ON THE PLANS.

GENERAL PILE NOTES

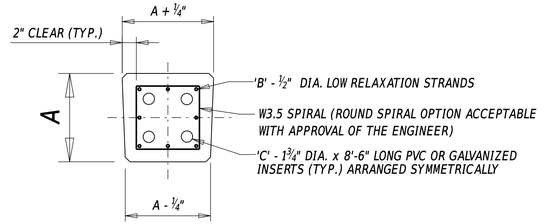
1. FOR MORE INFORMATION REGARDING PILE DRIVING, INSTALLATION, MATERIALS, AND FABRICATION, REFER TO SECTION 605 - DRIVEN PILES OF THE STANDARD SPECIFICATIONS.
2. TEST PILES, AS NOTED, WILL BE DRIVEN FIRST TO ESTABLISH DRIVING CRITERIA FOR THE OTHER PILES IN EACH SUBSTRUCTURE ELEMENT.

PRESTRESSED-PRECAST CONCRETE PILE NOTES

1. PROTECT ALL REINFORCING STEEL WITH FUSION BONDED EPOXY.
2. EPOXY GROUT FOR GROUTING THE DOWEL BARS IN THE TOP OF THE PRESTRESSED-PRECAST CONCRETE PILE MUST BE AN APPROVED NON-SHRINK EPOXY GROUT SPECIFICALLY DESIGNED AS A FAST SETTING COMPOUND THAT POURS EASILY TO FILL THE VOIDS. THE COST OF GROUTING THE DOWEL BARS IS INCIDENTAL TO THE RESPECTIVE PILE.
3. THE CONTRACTOR MAY CONSIDER USING ALTERNATIVE PILE BUILD-UP DETAILS FOR BOTH DRIVING AND WITHOUT DRIVING. SUBMIT ALTERNATIVE DETAILS FOR PILE BUILD-UPS TO THE DEPARTMENT FOR APPROVAL.
4. THE CONTRACTOR MAY CONSIDER USING ALTERNATIVE SPLICE JOINT DETAIL. SUBMIT ALTERNATIVE DETAILS FOR SPLICE JOINT TO THE DEPARTMENT FOR APPROVAL.



SPLICE JOINT DETAIL

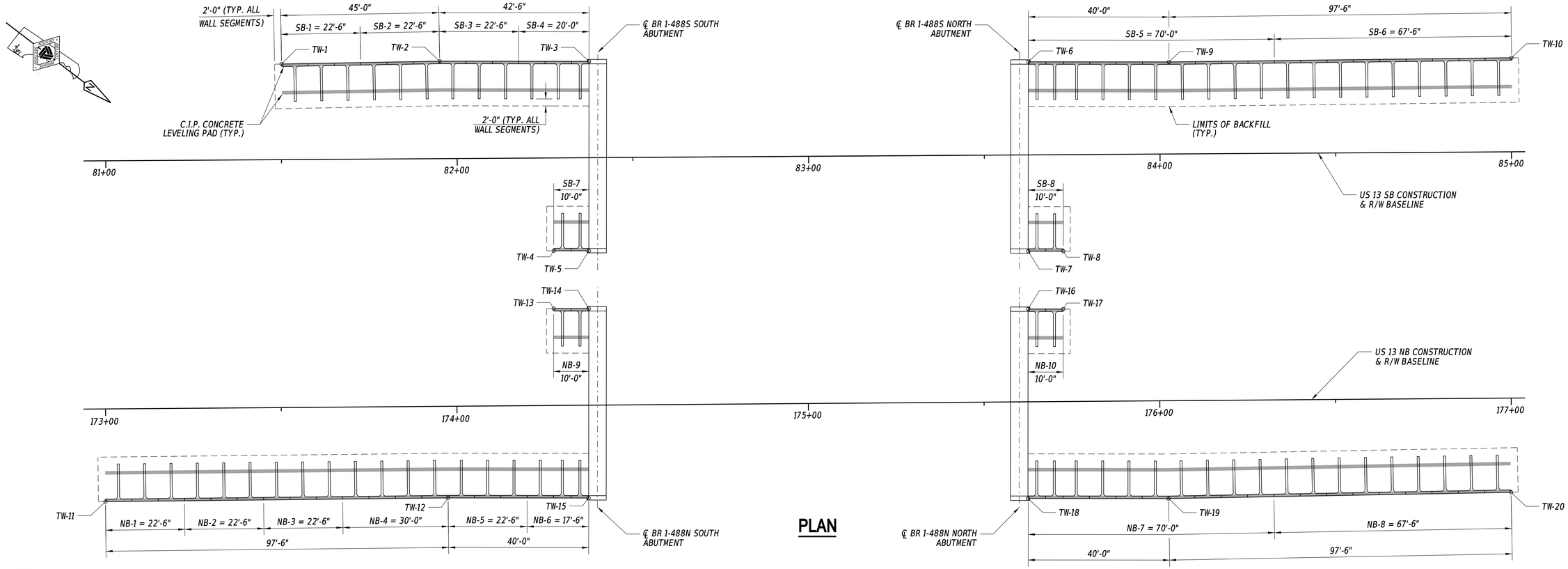


TYPICAL PRECAST PILE SECTION

PILE INSTALLATION DATA					
SUBSTRUCTURE UNIT	DESIGN DATA		ACTUAL FIELD DATA		
	MINIMUM TIP ELEVATION	ESTIMATED PILE TIP ELEVATION	ACTUAL MINIMUM TIP ELEVATION	ACTUAL AVERAGE TIP ELEVATION	ACTUAL MAXIMUM TIP ELEVATION
SOUTH ABUTMENT	-23.00	-25.62			
NORTH ABUTMENT	-23.00	-26.94			

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	PRECAST PRESTRESSED CONCRETE PILE DETAILS	SECTION
				T200707404	DESIGNED BY: N. DEAN		BR
				COUNTY			SHEET NO.
				NEW CASTLE	CHECKED BY: M. RADOVIC		20

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NOTES:

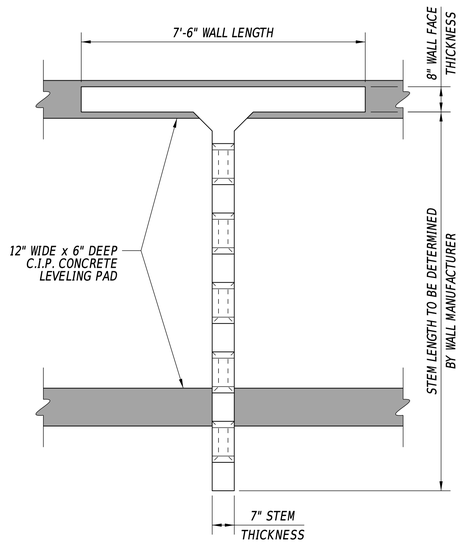
1. THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488S PRECAST CONCRETE TEE WALLS IS BASED ON THE US 13 SOUTHBOUND CONSTRUCTION BASELINE. THE WORKING POINT INFORMATION ASSOCIATED WITH BRIDGE 1-488N PRECAST CONCRETE T-WALLS IS BASED ON THE US 13 NORTHBOUND CONSTRUCTION BASELINE.
2. WORKING POINTS SHOWN ARE TO THE FRONT FACE OF THE PRECAST CONCRETE T-WALL PANELS.
3. DIMENSIONS SHOWN FOR THE LENGTHS OF THE PRECAST CONCRETE T-WALLS ARE MEASURED FROM WORKING POINT TO WORKING POINT ALONG THE FRONT FACE OF THE PANELS.
4. "SB-X" DESIGNATES A GROUP OF PRECAST TEE WALLS ON US 13 SOUTHBOUND THAT ARE SET AT A PARTICULAR ELEVATION.
5. "NB-X" DESIGNATES A GROUP OF PRECAST TEE WALLS ON US 13 NORTHBOUND THAT ARE SET AT A PARTICULAR ELEVATION.
6. THE T-WALL DETAILS ON THIS SHEET ARE REPRESENTATIVE OF A VIABLE CONFIGURATION FOR THE PRECAST CONCRETE WALL. THE CONTRACTOR WILL SUBMIT WORKING DRAWINGS AND DESIGN CALCULATIONS OF THE PROPOSED PRECAST CONCRETE T-WALL FOR APPROVAL PRIOR TO INSTALLATION.
7. PAYMENT FOR THE C.I.P. CONCRETE LEVELING PAD IS INCIDENTAL TO PRECAST CONCRETE T-WALL (ITEM 612512).
8. PAYMENT FOR THE DE #57 STONE IS INCIDENTAL TO PRECAST CONCRETE T-WALL (ITEM 612512).
9. THE CONTRACTOR WILL APPLY A GEOTEXTILE FABRIC ACROSS THE FULL HEIGHT OF EACH JOINT OF THE PRECAST CONCRETE T-WALL SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. PAYMENT FOR THE GEOTEXTILE FABRIC WILL BE INCIDENTAL TO PRECAST CONCRETE TEE WALL (ITEM 612512).
10. THE CONTRACTOR WILL BACKFILL AROUND THE PRECAST CONCRETE T-WALL SEGMENTS WITH FOAMED GLASS AGGREGATE. PAYMENT FOR THE FOAMED GLASS AGGREGATE BACKFILL WILL BE PAID UNDER ITEM 202519.
11. SEE DWG. NO. WA-02 FOR MORE INFORMATION ON PRECAST CONCRETE T-WALLS.

BRIDGE 1-488S PRECAST CONCRETE T-WALL WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
SOUTH WALL	TW-1	81+50.20	-27.19	499886.7137	586971.4787
	TW-2	81+95.20	-27.70	499921.9801	586943.5273
	TW-3	81+38.70	-27.37	499955.7816	586917.7647
	TW-4	82+27.31	26.39	499980.4817	586966.6371
	TW-5	82+37.30	26.46	499988.4302	586960.5690
NORTH WALL	TW-6	83+62.70	-26.46	500055.1683	586841.9538
	TW-7	83+62.30	27.38	500087.8192	586884.7612
	TW-8	83+72.30	27.44	500095.7677	586878.6932
	TW-9	84+02.69	-26.16	500086.9758	586817.6993
	TW-10	85+00.19	-26.73	500163.7164	586757.5567

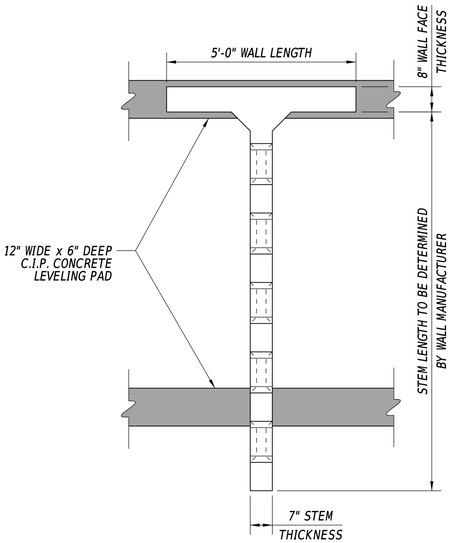
BRIDGE 1-488N PRECAST CONCRETE T-WALL WORKING POINTS

	PT.	STATION	OFFSET	NORTHING	EASTING
SOUTH WALL	TW-11	172+99.77	-26.36	499922.4395	587100.7642
	TW-12	173+97.27	26.03	499999.2486	587040.7089
	TW-13	174+27.73	-27.54	499990.4536	586979.7110
	TW-14	174+37.73	-27.45	499998.4075	586973.6500
	TW-15	174+37.27	26.38	500031.0561	587016.4543
NORTH WALL	TW-16	175+62.73	-26.37	500097.7964	586897.8419
	TW-17	175+72.73	-26.28	500105.7499	586891.7805
	TW-18	175+62.27	27.46	500130.4451	586940.6465
	TW-19	176+02.26	27.81	500162.2527	586916.3920
	TW-20	176+99.76	26.79	500238.6308	586855.7898



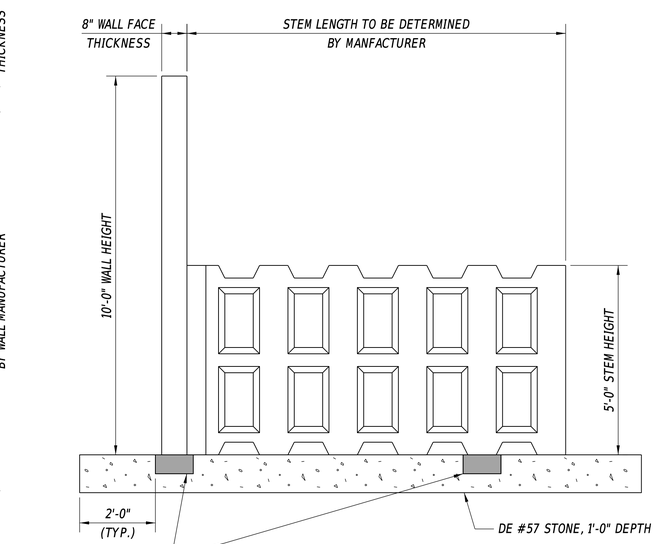
LARGE PANEL PLAN

½" = 1'-0"



SMALL PANEL PLAN

½" = 1'-0"



PANEL SIDE ELEVATION

½" = 1'-0"

ADDENDA / REVISIONS

SCALE 0 15 30 45 FEET

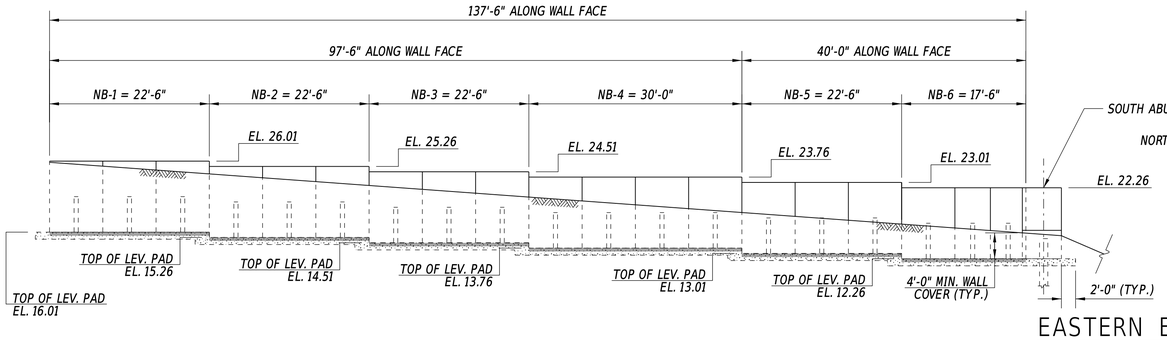
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

T-WALL LAYOUT PLAN & DETAILS

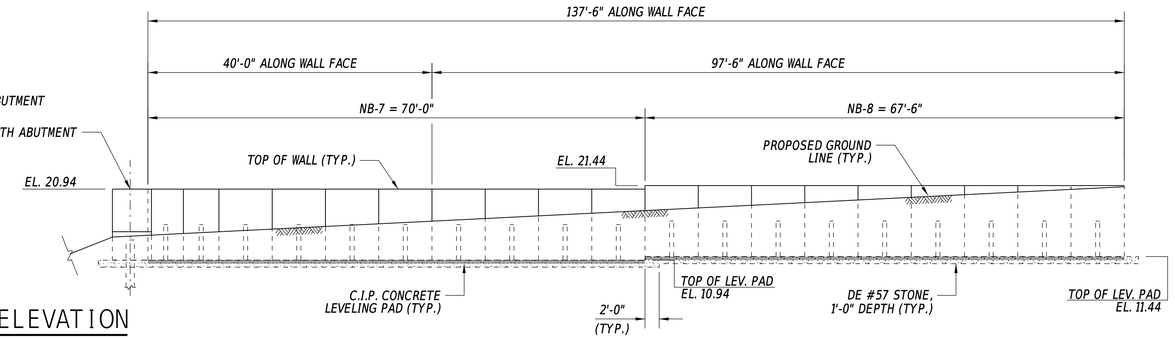
WA-01	
SECTION	BR
SHEET NO.	21

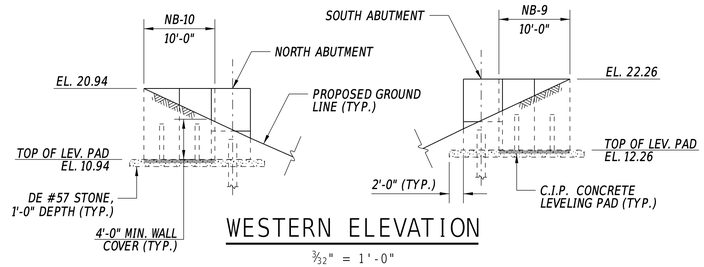
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EASTERN ELEVATION

3/32" = 1'-0"

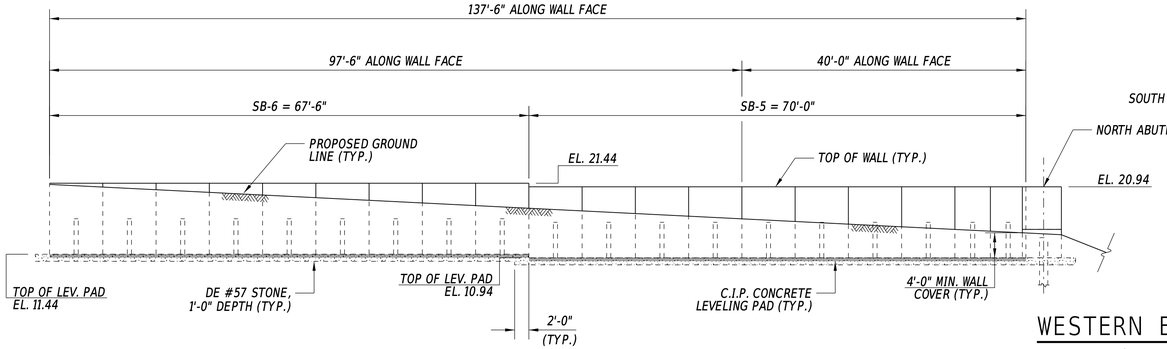




WESTERN ELEVATION

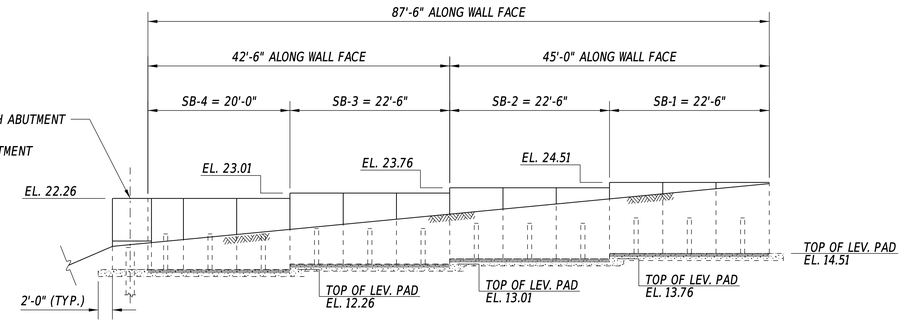
3/32" = 1'-0"

BRIDGE 1-488N T-WALL ELEVATIONS



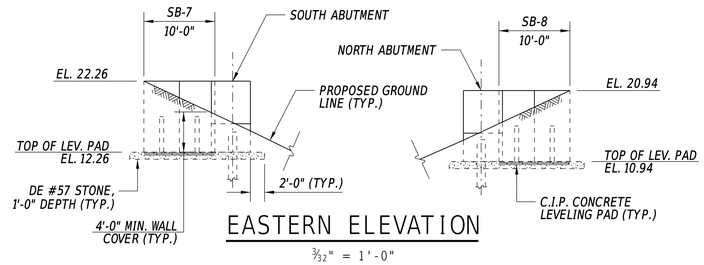
EASTERN ELEVATION

3/32" = 1'-0"



WESTERN ELEVATION

3/32" = 1'-0"



EASTERN ELEVATION

3/32" = 1'-0"

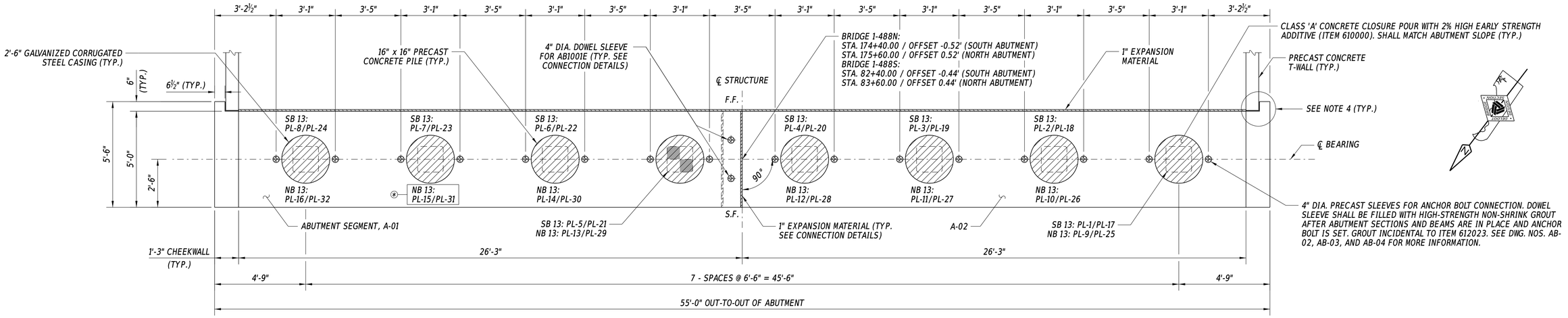
BRIDGE 1-488S T-WALL ELEVATIONS

NOTES:

1. *PAYMENT FOR THE C.I.P. CONCRETE LEVELING PAD IS INCIDENTAL TO PRECAST CONCRETE T-WALL (ITEM 612512).*
2. *PAYMENT FOR THE DE #57 STONE IS INCIDENTAL TO PRECAST CONCRETE T-WALL (ITEM 612512).*
3. *THE CONTRACTOR WILL APPLY A GEOTEXTILE FABRIC ACROSS THE FULL HEIGHT OF EACH JOINT OF THE PRECAST CONCRETE TEE WALL SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. PAYMENT FOR THE GEOTEXTILE FABRIC WILL BE INCIDENTAL TO PRECAST CONCRETE T-WALL (ITEM 612512).*
4. *"SB-X" DESIGNATES A GROUP OF PRECAST T-WALLS ON US 13 SOUTHBOUND THAT ARE SET AT A PARTICULAR ELEVATION.*
5. *"NB-X" DESIGNATES A GROUP OF PRECAST T-WALLS ON US 13 NORTHBOUND THAT ARE SET AT A PARTICULAR ELEVATION.*
6. *SEE DWG. NO. WA-01 FOR MORE INFORMATION ON THE T-WALL LAYOUT PLAN.*
7. *SEE DWG. NO. WA-01 FOR MORE INFORMATION ON THE T-WALL DETAILS.*

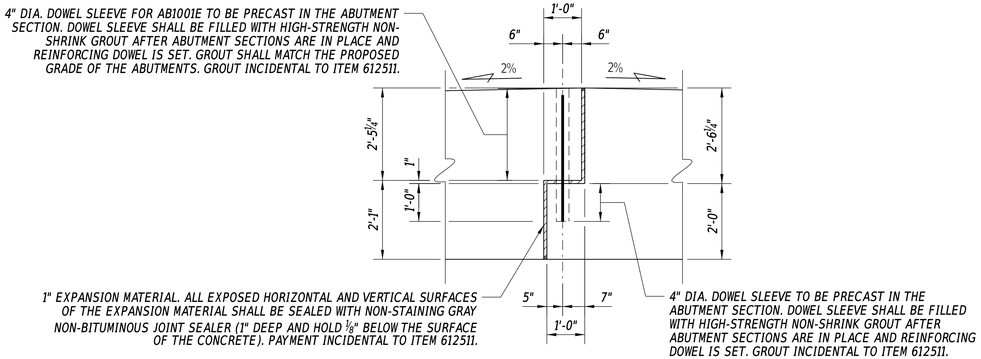
ADDENDA / REVISIONS		SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	TEE WALL ELEVATIONS	WA-02
		0 15 30 45		T200707404				SECTION
		FEET		COUNTY	DESIGNED BY:	N. DEAN		BR
				NEW CASTLE	CHECKED BY:	M. RADOVIC		SHEET NO.
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SOUTH ABUTMENT PLAN

3/16" = 1'-0"



ABUTMENT CONNECTION ELEVATION

½" = 1'-0"

LEGEND

- SB 13 - US 13 SOUTHBOUND
- NB 13 - US 13 NORTHBOUND
- E.F. - EACH FACE
- F.F. - FILL FACE
- S.F. - STREAM FACE
- DENOTES TEST PILE
- DENOTES HIGH EARLY STRENGTH CONCRETE CLOSURE POUR
- DENOTES NON-SHRINK GROUT CLOSURE POUR

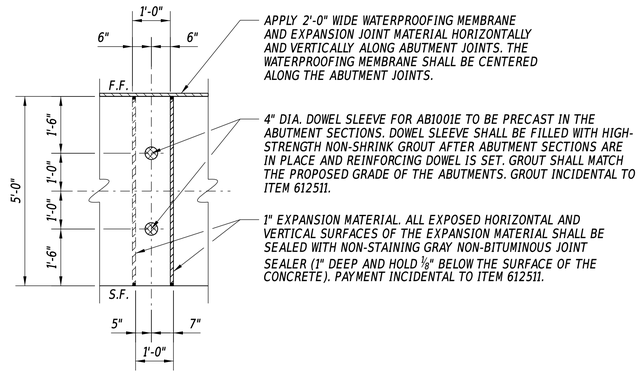
NOTES:

1. SOUTH ABUTMENT SHOWN ON ABUTMENT DETAILS. NORTH ABUTMENT IS A MIRROR IMAGE OF THE SOUTH ABUTMENT.
2. ABUTMENT DETAILS ARE IDENTICAL FOR US 13 SOUTHBOUND AND US 13 NORTHBOUND.
3. SEE DWG. NO. AB-02, AND AB-03 FOR INFORMATION ON SEGMENT DIMENSIONS AND REINFORCEMENT LAYOUT.
4. SEE DWG. NO. AB-04 FOR INFORMATION ON ABUTMENT AND APPROACH SLAB CONNECTION.

*PILE NUMBERING CONVENTION:

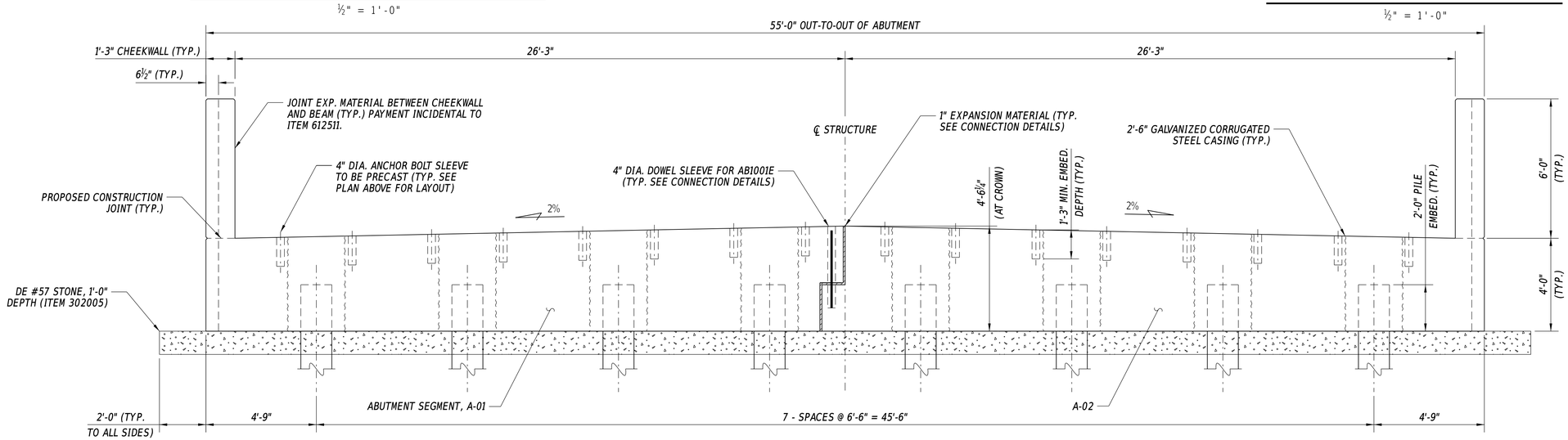
SB 13:
PL-XX (SOUTH ABUT.) / PL-XX (NORTH ABUT.)

NB 13:
PL-XX (SOUTH ABUT.) / PL-XX (NORTH ABUT.)



ABUTMENT CONNECTION PLAN

½" = 1'-0"

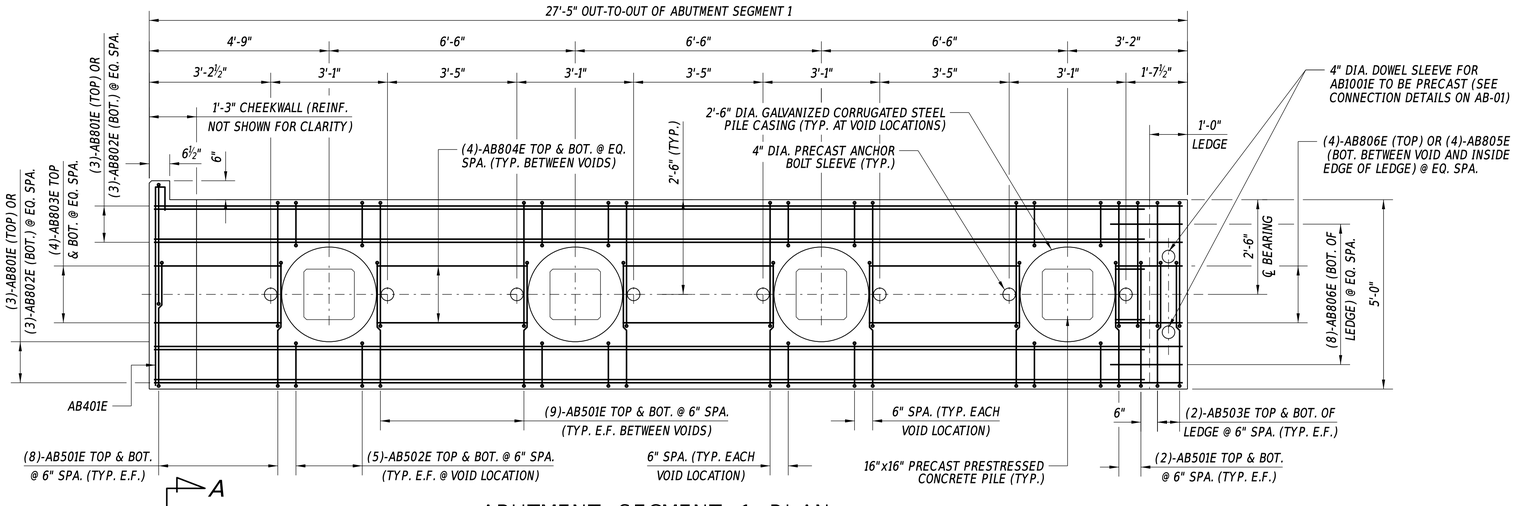


SOUTH ABUTMENT ELEVATION

3/16" = 1'-0"

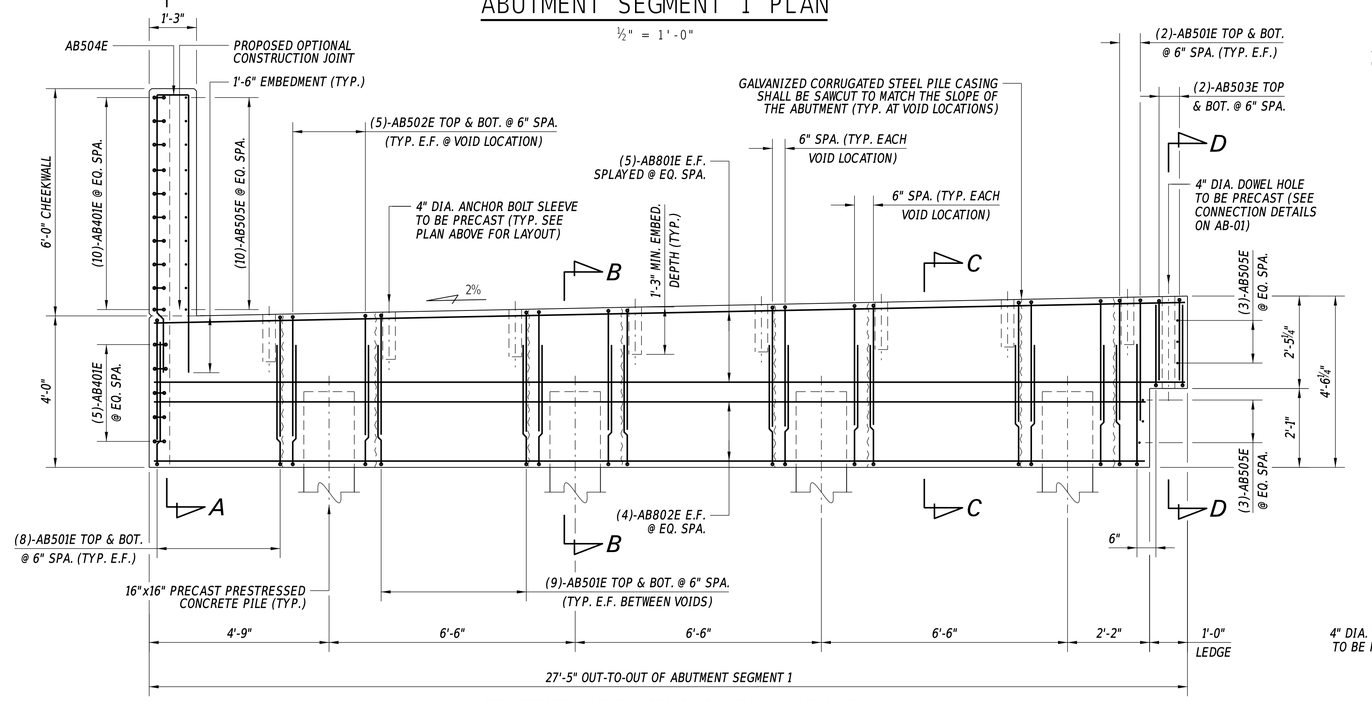
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	T200707404	BRIDGE NO.	1-488N&S	PRECAST ABUTMENT DETAILS	AB-01
				COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN		SECTION: BR
						CHECKED BY:	M. RADOVIC		SHEET NO. 23

28-JUN-2024
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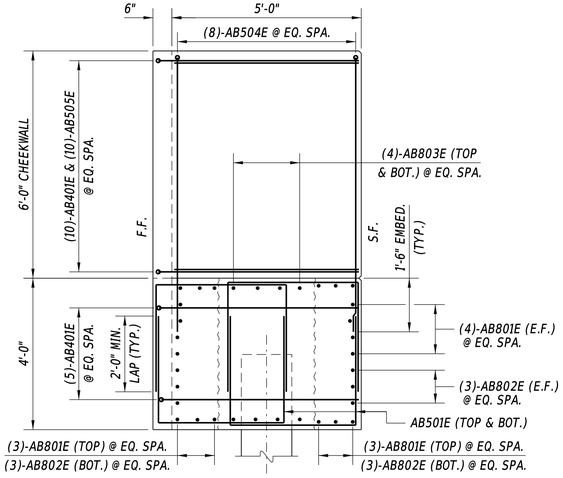
ABUTMENT SEGMENT 1 PLAN

½" = 1'-0"



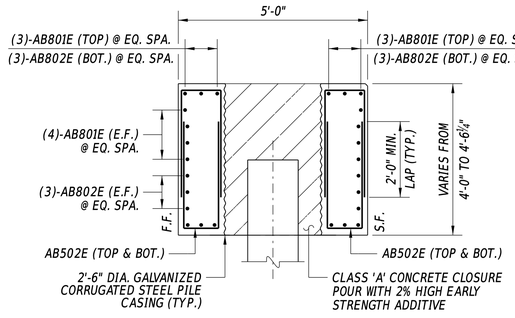
ABUTMENT SEGMENT 1 ELEVATION

½" = 1'-0"



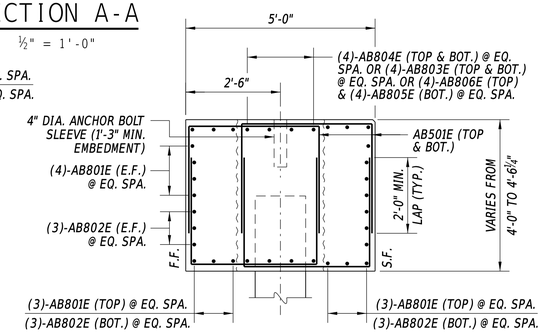
SECTION A-A

½" = 1'-0"



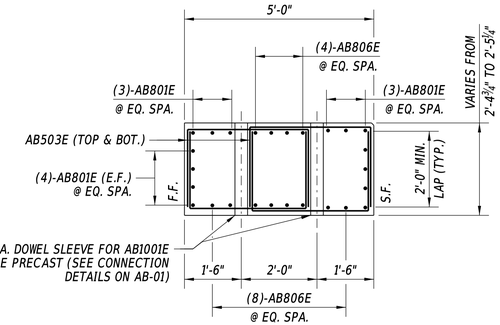
SECTION B-B

½" = 1'-0"



SECTION C-C

½" = 1'-0"

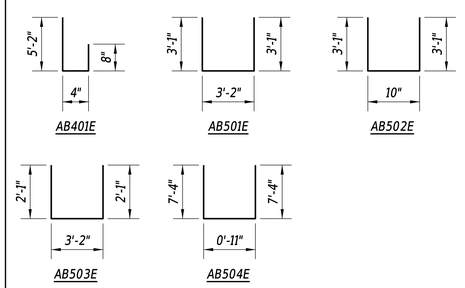


SECTION D-D

½" = 1'-0"

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



PRECAST ABUTMENT NOTES

GENERAL

1. ABUTMENT SEGMENT 1 IS DETAILED ABOVE. THIS SEGMENT WILL BE UTILIZED AT ALL FOUR ABUTMENT LOCATIONS.

DESIGN PLANS - WORKING DRAWINGS

2. 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

3. APPROXIMATE ABUTMENT SEGMENT 1 DEAD WEIGHT: 39.25 TONS (EACH).
4. PRECAST ABUTMENT SEGMENTS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
5. ALL ELEMENTS RELATED TO THE LIFTING OF THE BEAMS SHALL BE SPACED SO THAT THEY DO NOT CONFLICT WITH THE PRECAST CONCRETE CHEEKWALL. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

CONCRETE STRESSES

6. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

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

CONCRETE FINISH

10. ALL SIDES OF THE ABUTMENT SEGMENT SHALL BE PROTECTED WITH A WATER MISCIBLE, PENETRATING SILANE SEALER. PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.

CONCRETE FINISH CONTINUED...

11. APPLY EPOXY ACRYLIC CONCRETE SEALER TO THE INSIDE FACE OF THE CHEEKWALL, ABUTMENT SEATS, AND 6" DOWN THE FRONT FACE OF THE ABUTMENT. PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.
12. APPLY SILICONE-BASED ACRYLIC CONCRETE SEALER TO ALL FACES OF THE ABUTMENTS AND CHEEKWALLS THAT WILL BE EXPOSED IN THEIR FINAL POSITION (EXCEPT IN LOCATIONS WHERE EPOXY ACRYLIC CONCRETE SEALER IS APPLIED). PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.

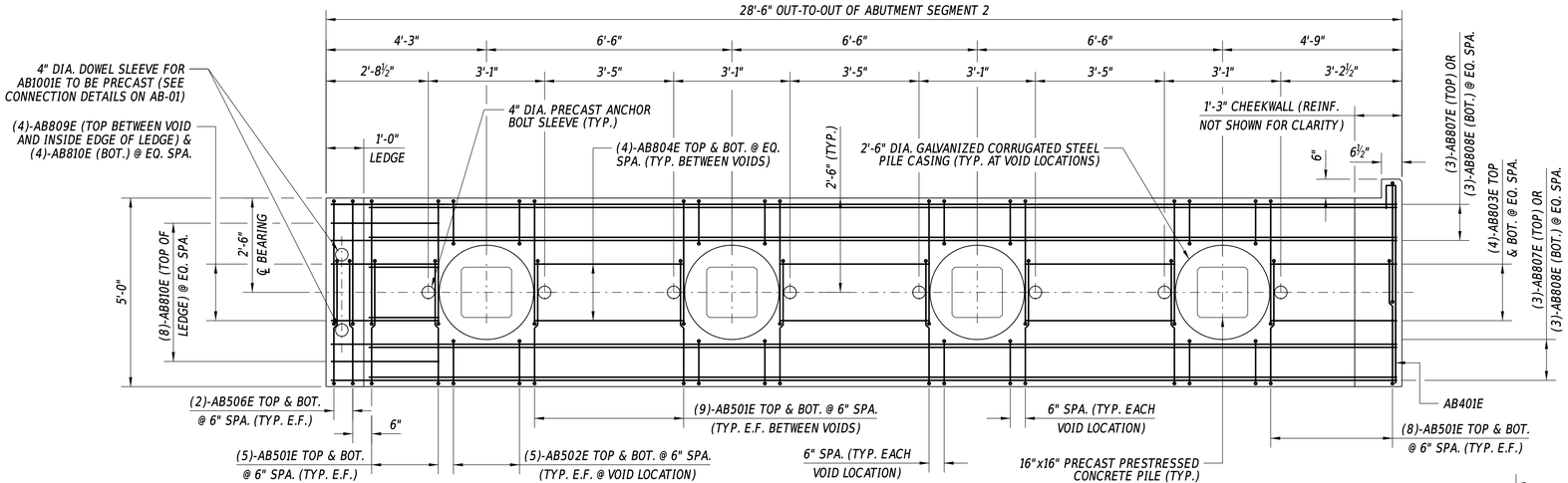
ABUTMENT SEGMENT 1 REINFORCING BAR LIST

STRAIGHT BARS								BENT BARS			
MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH
AB505E	5	16	4'-8"	AB1001E	10	2	3'-4"	AB401E	4	15	6'-2"
AB801E	8	14	27'-1"					AB501E	5	148	9'-4"
AB802E	8	12	26'-1"					AB502E	5	80	7'-0"
AB803E	8	8	3'-3"					AB503E	5	8	7'-4"
AB804E	8	24	3'-9"					AB504E	5	8	15'-7"
AB805E	8	4	0'-8"								
AB806E	8	12	1'-8"								

AB-02

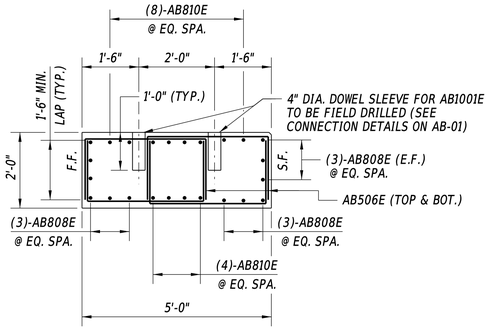
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	PRECAST ABUTMENT SEGMENT 1 DETAILS	SECTION BR
				T200707404	DESIGNED BY: N. DEAN		SHEET NO. 24
				COUNTY NEW CASTLE	CHECKED BY: M. RADOVIC		

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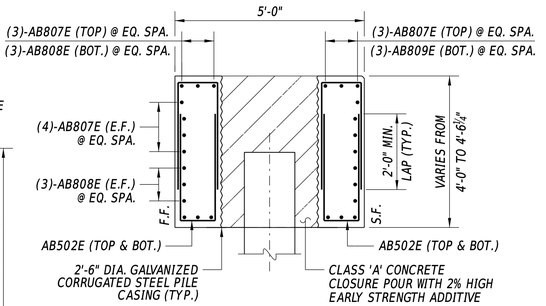
ABUTMENT SEGMENT 2 PLAN

½" = 1'-0"



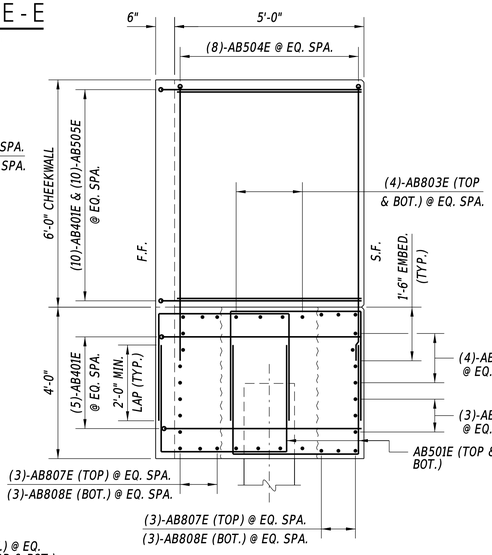
SECTION E-E

½" = 1'-0"



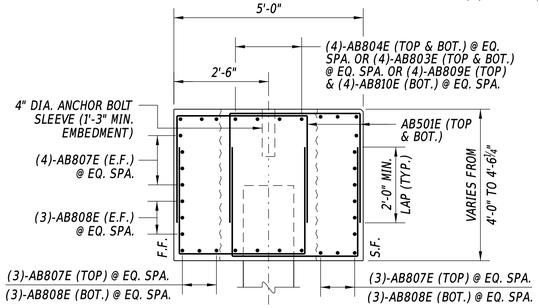
SECTION F-F

½" = 1'-0"



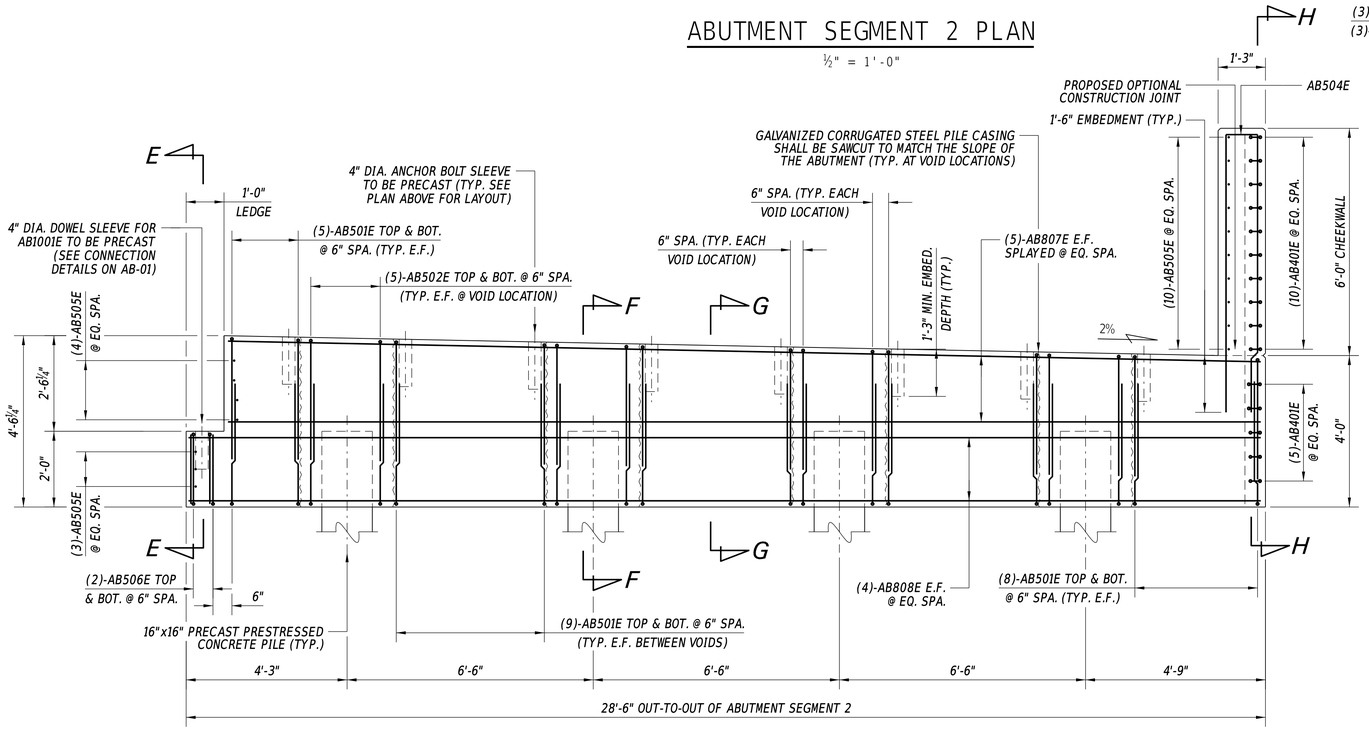
SECTION H-H

½" = 1'-0"



SECTION G-G

½" = 1'-0"

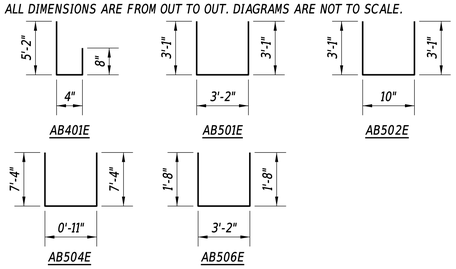


ABUTMENT SEGMENT 2 ELEVATION

½" = 1'-0"

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



PRECAST ABUTMENT NOTES

GENERAL

1. ABUTMENT SEGMENT 2 IS DETAILED ABOVE. THIS SEGMENT WILL BE UTILIZED AT ALL FOUR ABUTMENT LOCATIONS.

DESIGN PLANS - WORKING DRAWINGS

2. 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

3. APPROXIMATE ABUTMENT SEGMENT 2 DEAD WEIGHT: 40.92 TONS (EACH).
4. PRECAST ABUTMENT SEGMENTS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
5. ALL ELEMENTS RELATED TO THE LIFTING OF THE BEAMS SHALL BE SPACED SO THAT THEY DO NOT CONFLICT WITH THE PRECAST CONCRETE CHEEKWALL. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

CONCRETE STRESSES

6. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

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

CONCRETE FINISH

10. ALL SIDES OF THE ABUTMENT SEGMENT SHALL BE PROTECTED WITH A WATER MISCIBLE, PENETRATING SILANE SEALER. PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.

CONCRETE FINISH CONTINUED...

11. APPLY EPOXY ACRYLIC CONCRETE SEALER TO THE INSIDE FACE OF THE CHEEKWALL, ABUTMENT SEATS, AND 6" DOWN THE FRONT FACE OF THE ABUTMENT. PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.
12. APPLY SILICONE-BASED ACRYLIC CONCRETE SEALER TO ALL FACES OF THE ABUTMENTS AND CHEEKWALLS THAT WILL BE EXPOSED IN THEIR FINAL POSITION (EXCEPT IN LOCATIONS WHERE EPOXY ACRYLIC CONCRETE SEALER IS APPLIED). PAYMENT INCIDENTAL TO ITEM 612511 - PRECAST CONCRETE ABUTMENT CAP.

ABUTMENT SEGMENT 2 REINFORCING BAR LIST

STRAIGHT BARS								BENT BARS			
MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH
AB505E	5	17	4'-8"					AB401E	4	15	6'-2"
AB803E	8	8	3'-3"					AB501E	5	160	9'-4"
AB804E	8	24	3'-9"					AB502E	5	80	7'-0"
AB807E	8	14	27'-2"					AB504E	5	8	15'-7"
AB808E	8	12	28'-2"					AB506E	5	8	6'-6"
AB809E	8	4	1'-9"								
AB810E	8	12	2'-9"								

AB-03

ADDENDA / REVISIONS	

SCALE AS NOTED

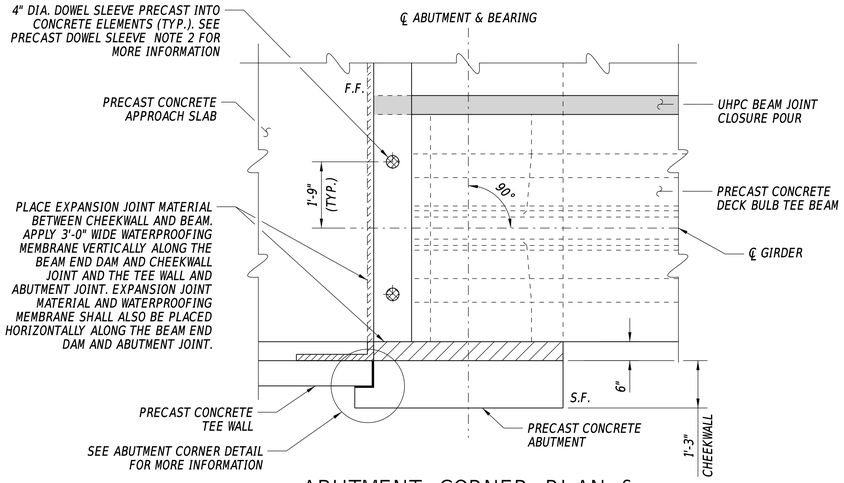
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

PRECAST ABUTMENT SEGMENT 2 DETAILS

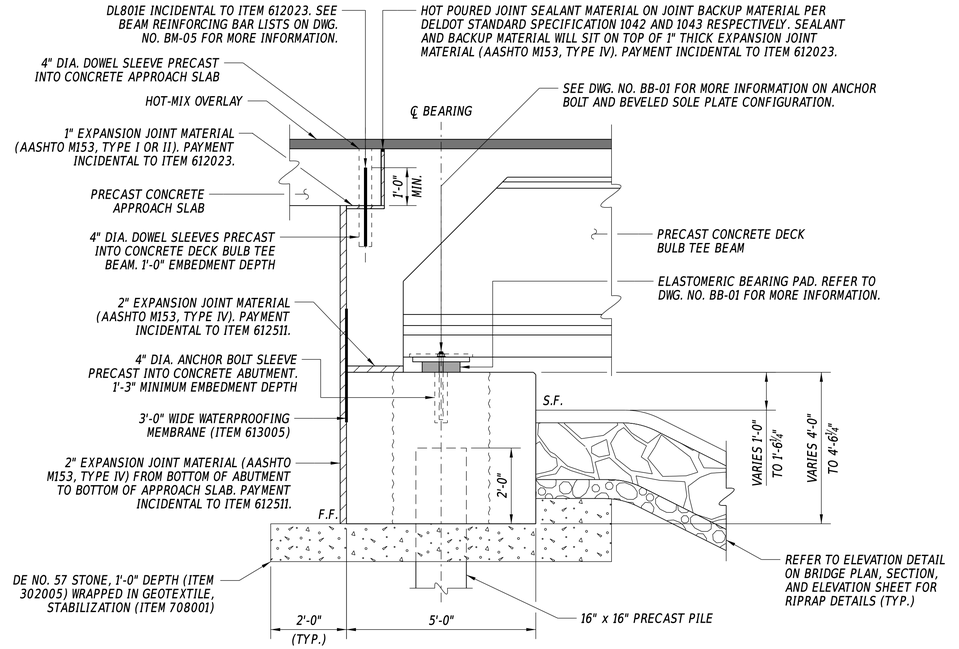
SECTION	
BR	
SHEET NO.	
25	

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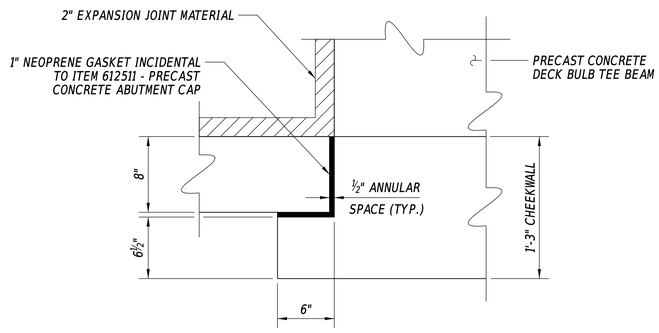
ABUTMENT CORNER PLAN & APPROACH SLAB - BEAM CONNECTION

½" = 1'-0"



TYPICAL ABUTMENT ELEVATION

½" = 1'-0"



ABUTMENT CORNER DETAIL

1½" = 1'-0"

ABUTMENT NOTES:

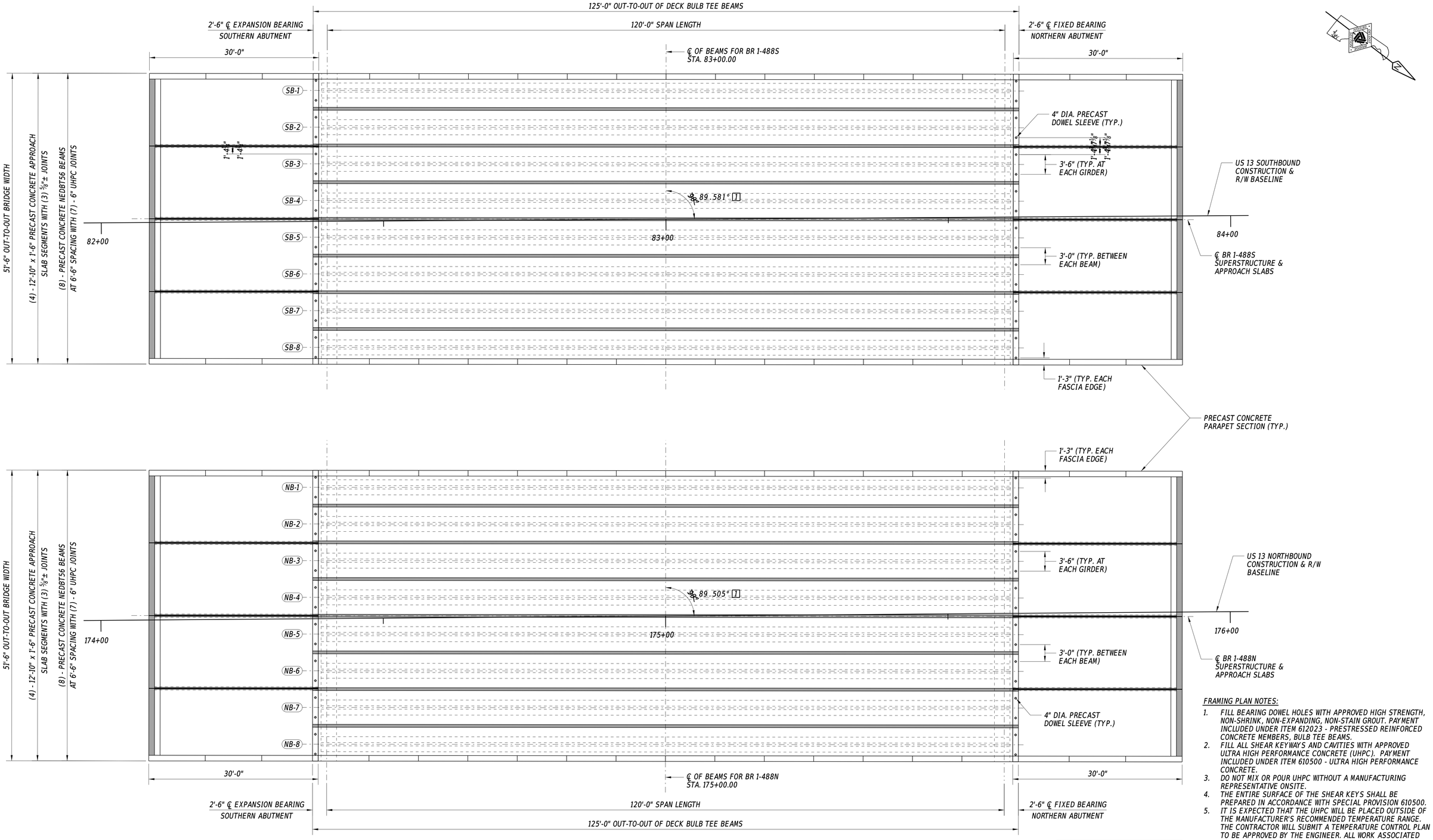
1. *PRECAST DOWEL SLEEVES ARE PRESENT IN BOTH THE NORTH AND SOUTH ABUTMENT SEGMENTS IN ORDER TO ACCOMMODATE THE CONNECTION BETWEEN PRECAST SEGMENTS. THE CONTRACTOR MAY ELECT TO CAST THE PRECAST ABUTMENT AS A SINGLE ELEMENT. ANY CHANGES TO THE PLANS IS TO BE SPECIFICALLY CALLED OUT IN THE SHOP DRAWINGS AND SUBMITTED TO THE ENGINEER FOR APPROVAL.*
2. *SEE DWG. NO. BB-01 FOR INFORMATION ON THE BEARINGS FOR THE BRIDGE SUPERSTRUCTURE.*
2. *SEE DWG. NO. AB-01, AB-02, AND AB-03 FOR INFORMATION ON SEGMENT DIMENSIONS AND REINFORCEMENT LAYOUT.*

PRECAST DOWEL SLEEVE NOTES:

1. *SEE THE FOLLOWING SHEETS FOR INFORMATION ON THE LOCATION OF THE PRECAST DOWEL SLEEVES:*
   -DWG. NOS. AB-01, AB-02, AND AB-03
   -DWG. NOS. BM-01, BM-02, & BM-03
   -DWG. NOS. AS-01 & AS-02
2. *SEE DWG. NO. BB-01 FOR MORE INFORMATION ON THE ABUTMENT ANCHOR BOLTS AND SLEEVES.*
3. *DOWEL SLEEVES TO BE FILLED WITH HIGH-STRENGTH NON-SHRINK GROUT ONCE PRECAST ELEMENTS ARE IN PLACE AND REINFORCING DOWEL IS SET. GROUT INCIDENTAL TO ITEM 612023.*

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	CONNECTION DETAILS AND NOTES	AB-04
				T200707404				SECTION
					DESIGNED BY:	N. DEAN		BR
				COUNTY				SHEET NO.
				NEW CASTLE	CHECKED BY:	M. RADOVIC		26

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SCALE: ⅛" = 1'-0"

LEGEND

- UHPC CLOSURE POUR

FRAMING PLAN NOTES:

1. FILL BEARING DOWEL HOLES WITH APPROVED HIGH STRENGTH, NON-SHRINK, NON-EXPANDING, NON-STAIN GROUT. PAYMENT INCLUDED UNDER ITEM 612023 - PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB TEE BEAMS.
2. FILL ALL SHEAR KEYWAYS AND CAVITIES WITH APPROVED ULTRA HIGH PERFORMANCE CONCRETE (UHPC). PAYMENT INCLUDED UNDER ITEM 610500 - ULTRA HIGH PERFORMANCE CONCRETE.
3. DO NOT MIX OR POUR UHPC WITHOUT A MANUFACTURING REPRESENTATIVE ONSITE.
4. THE ENTIRE SURFACE OF THE SHEAR KEYS SHALL BE PREPARED IN ACCORDANCE WITH SPECIAL PROVISION 610500.
5. IT IS EXPECTED THAT THE UHPC WILL BE PLACED OUTSIDE OF THE MANUFACTURER'S RECOMMENDED TEMPERATURE RANGE. THE CONTRACTOR WILL SUBMIT A TEMPERATURE CONTROL PLAN TO BE APPROVED BY THE ENGINEER. ALL WORK ASSOCIATED WITH CONTROLLING THE TEMPERATURE OF THE UHPC, THE TEMPERATURE OF THE ADJACENT PRECAST ELEMENTS, AND THE AMBIENT TEMPERATURE ARE PAID UNDER ITEM 610500 - ULTRA HIGH PERFORMANCE CONCRETE.

ADDENDA / REVISIONS		
1	ADJUSTED BRIDGE SKEWS	N. DEAN-05/22/25

SCALE AS NOTED

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

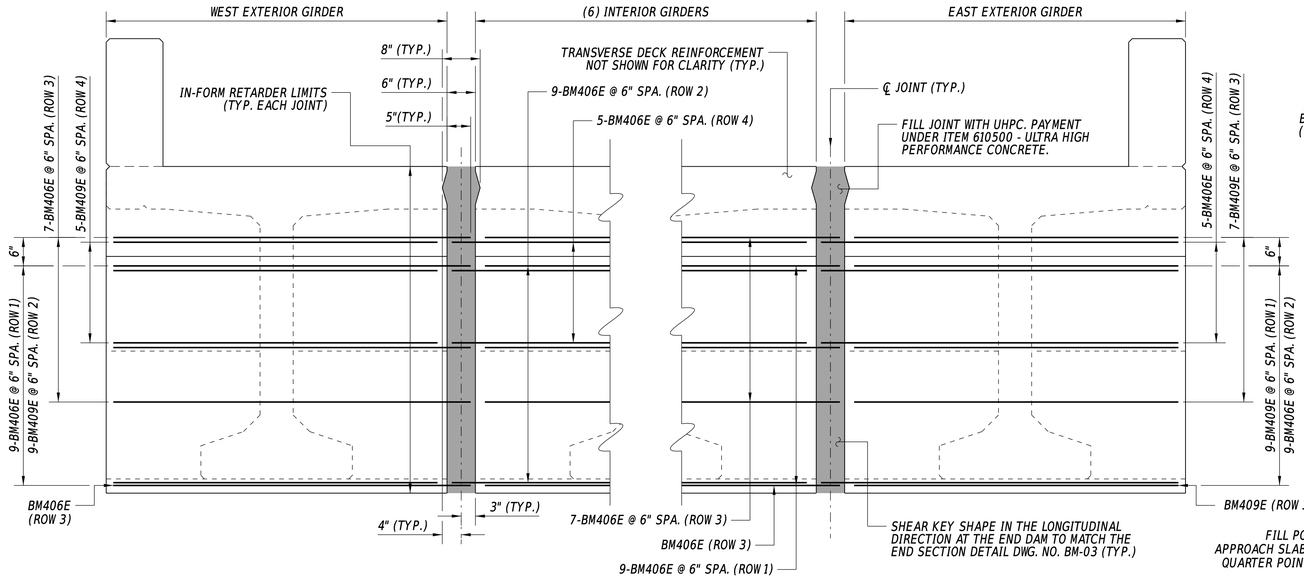
FRAMING PLAN

FR-01

SECTION BR

SHEET NO. 27

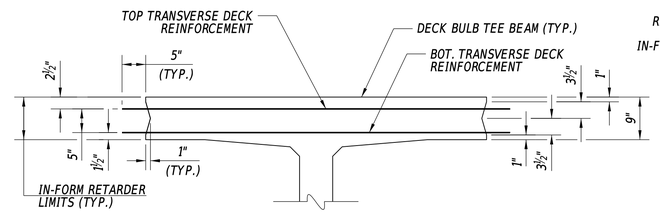
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BEAM END DAM SHEAR KEY DETAIL

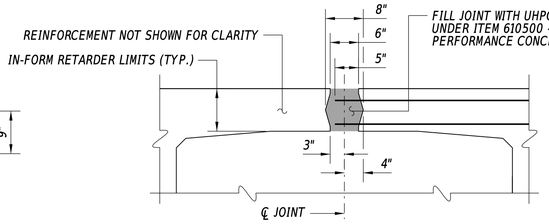
(BETWEEN EXTERIOR AND INTERIOR BEAMS)

¾" = 1'-0"



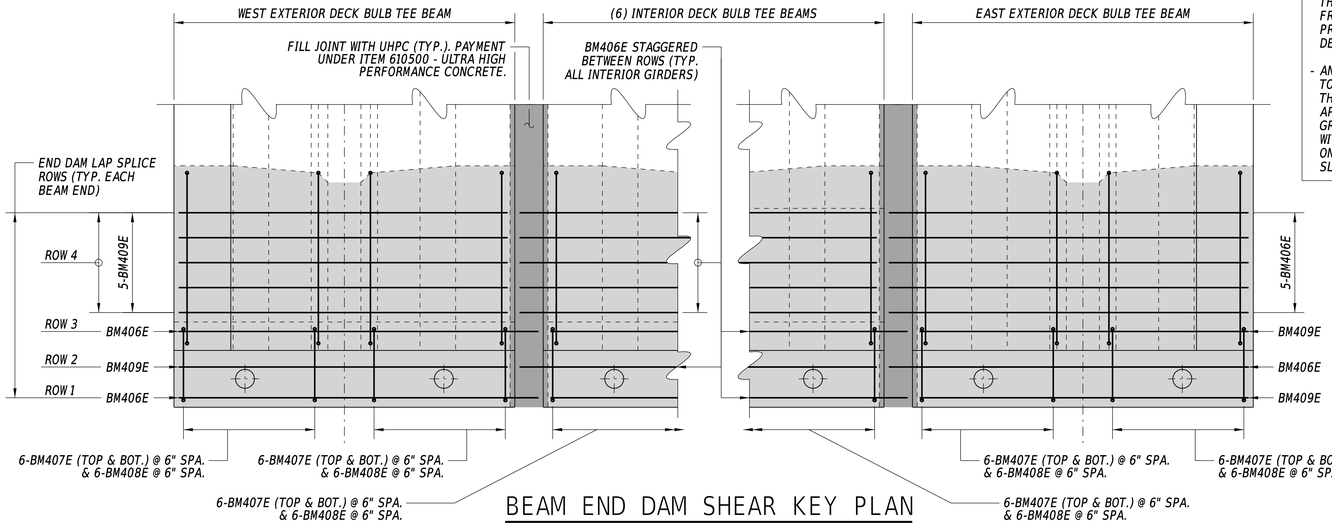
BEAM SHEAR KEY SECTION

¾" = 1'-0"



BEAM SHEAR KEY DETAIL

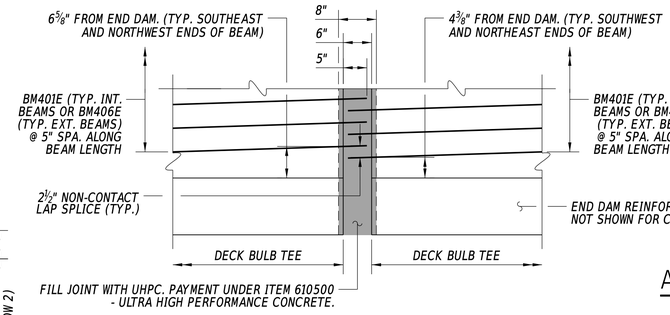
¾" = 1'-0"



BEAM END DAM SHEAR KEY PLAN

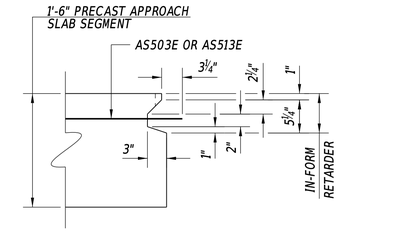
(BETWEEN EXTERIOR AND INTERIOR BEAMS)

¾" = 1'-0"



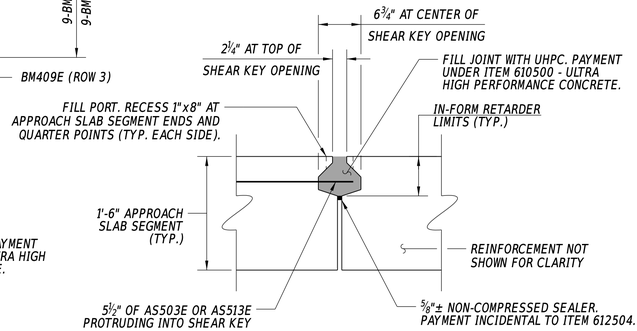
NON-CONTACT LAP SPLICE BEAM DETAIL

¾" = 1'-0"



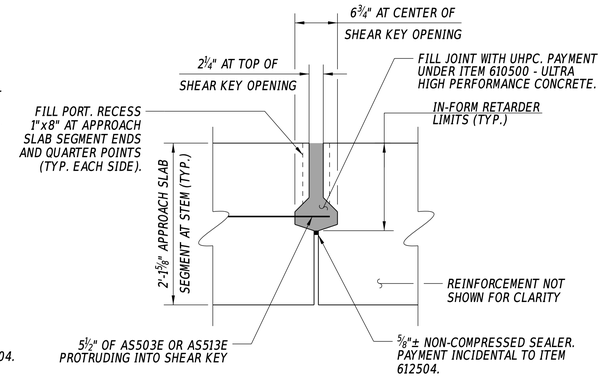
APPROACH SLAB SHEAR KEY SECTION

1" = 1'-0"



APPROACH SLAB SHEAR KEY DETAIL

1" = 1'-0"



APPROACH SLAB SHEAR KEY DETAIL AT STEM

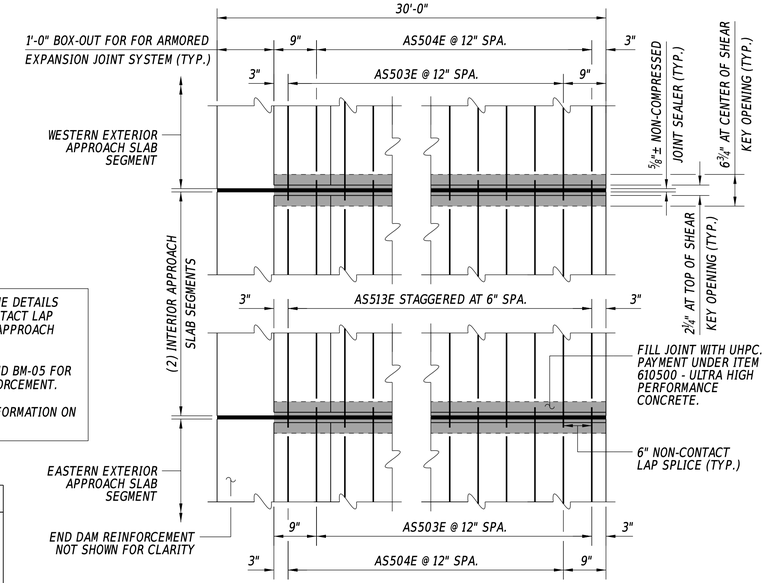
¾" = 1'-0"

PRECAST SHEAR KEY NOTES:

1. TO CREATE AN EXPOSED COARSE AGGREGATE SURFACE ON THE BEAMS AND APPROACH SLABS:
   - AN IN-FORM RETARDER SHALL BE APPLIED FROM THE TOP OF BEAM TO BOTTOM OF THE SHEAR KEY ALONG THE FULL LENGTH OF BEAM ON BOTH SIDES. NO STAINS FROM OIL, GREASE OR OTHER CONTAMINATES SHALL BE PRESENT WITHIN THE SHEAR KEY. OMIT THE SHEAR KEY DETAIL ON THE STREAM FACE OF THE FASCIA BEAMS.
   - AN IN-FORM RETARDER SHALL BE APPLIED FROM THE TOP OF THE APPROACH SLAB SEGMENT TO BOTTOM OF THE SHEAR KEY ALONG THE FULL LENGTH OF THE APPROACH SLAB ON BOTH SIDES. NO STAINS FROM OIL, GREASE OR OTHER CONTAMINATES SHALL BE PRESENT WITHIN THE SHEAR KEY. OMIT THE SHEAR KEY DETAIL ONTHE STREAM FACE OF THE EXTERIOR APPROACH SLAB SEGMENTS.
2. BARS SHALL BE STAGGERED ACCORDING TO THE DETAILS PROVIDED ON THIS SHEET TO FORM A NON-CONTACT LAP SPLICE FOR THE DECK BULB TEE BEAMS AND APPROACH SLABS.
3. SEE DWG. NOS. BM-01, BM-02, BM-03, BM-04, AND BM-05 FOR MORE INFORMATION ON DECK BULB TEE REINFORCEMENT.
4. SEE DWG. NOS. AS-01 AND AS-02 FOR MORE INFORMATION ON APPROACH SLAB REINFORCEMENT.

LEGEND

- UHPC CLOSURE POUR
- SECONDARY PRECAST POUR

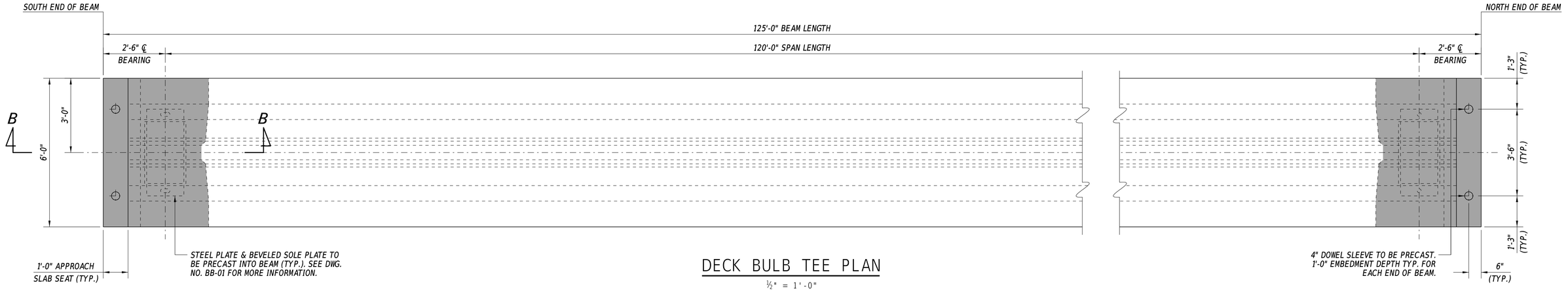


NON-CONTACT LAP SPLICE APPROACH SLAB DETAIL

¾" = 1'-0"

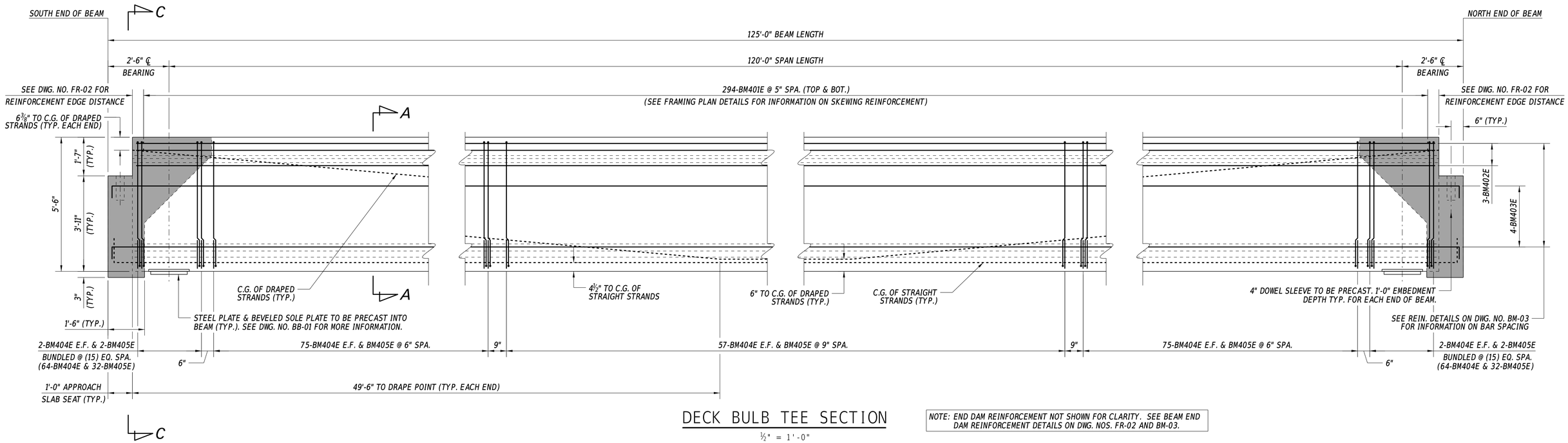
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	PRECAST SHEAR KEY DETAILS	FR-02
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 28

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DECK BULB TEE PLAN

½" = 1'-0"



DECK BULB TEE SECTION

½" = 1'-0"

NOTE: END DAM REINFORCEMENT NOT SHOWN FOR CLARITY. SEE BEAM END DAM REINFORCEMENT DETAILS ON DWG. NOS. FR-02 AND BM-03.

LEGEND

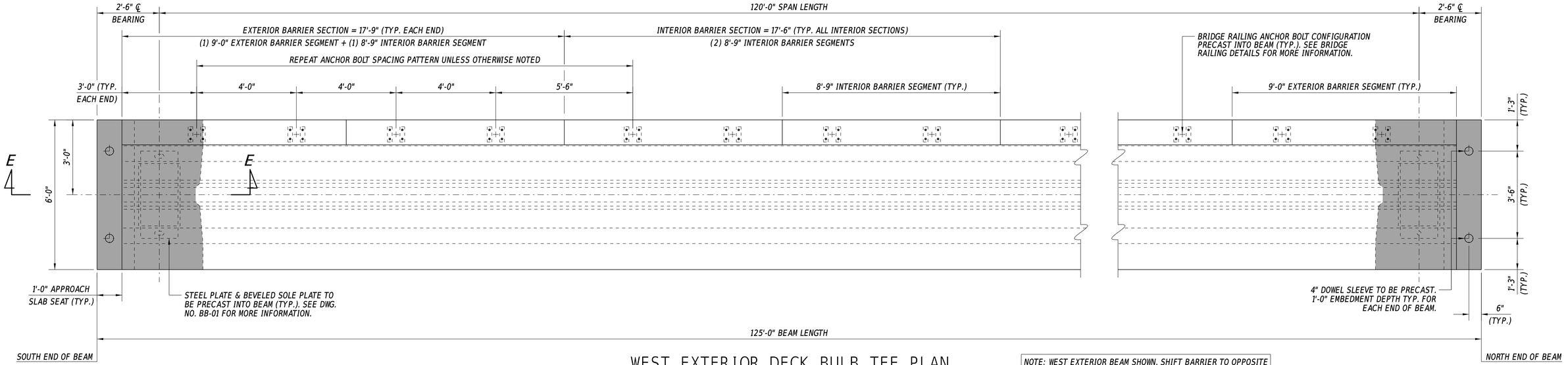
E.F. - DENOTES EACH FACE

▩ - DENOTES SECONDARY PRECAST POUR (SEE DWG. NO. BM-05 FOR DIMENSIONS)

** SEE DWG. NO. BM-05 FOR PRECAST BEAM NOTES AND REINFORCING BAR INFORMATION.

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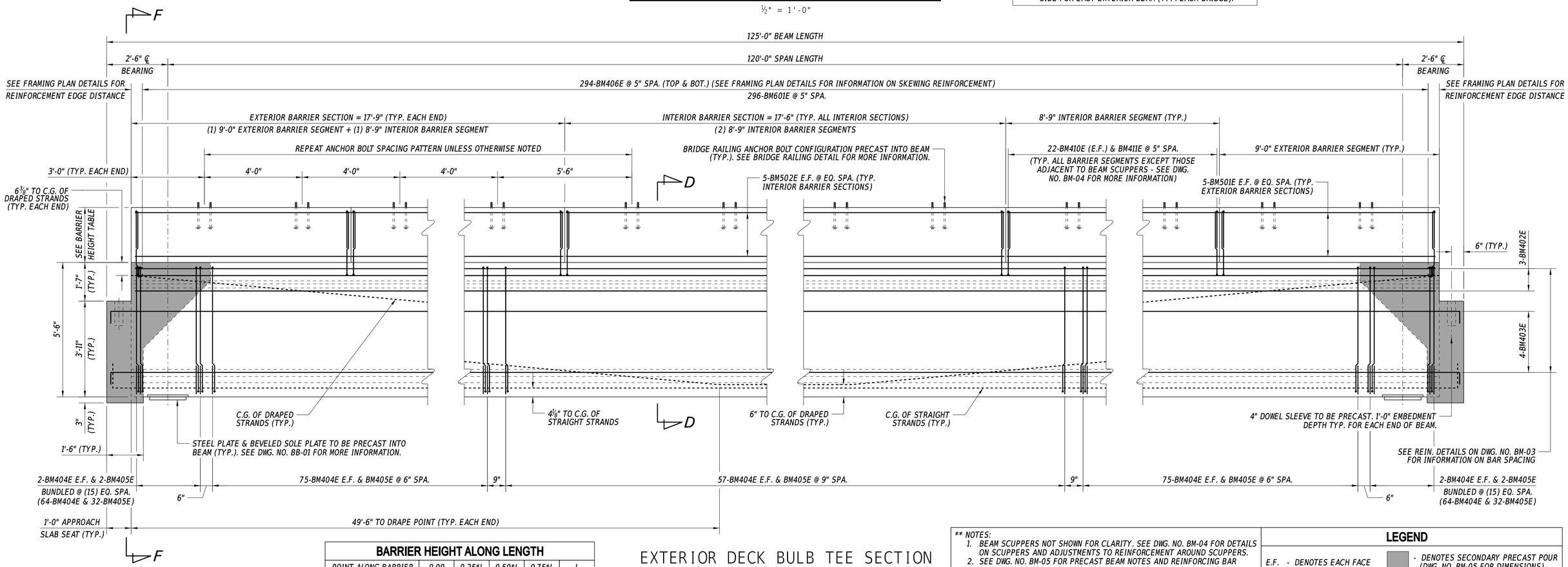
ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	INTERIOR DECK BULB TEE BEAM DETAILS	BM-01
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
				CHECKED BY: M. RADOVIC		SHEET NO. 29



WEST EXTERIOR DECK BULB TEE PLAN

½" = 1'-0"

NOTE: WEST EXTERIOR BEAM SHOWN. SHIFT BARRIER TO OPPOSITE SIDE FOR EAST EXTERIOR BEAM (TYP. EACH BRIDGE).



EXTERIOR DECK BULB TEE SECTION

½" = 1'-0"

NOTE: END DAM REINFORCEMENT NOT SHOWN FOR CLARITY. SEE BEAM END DAM REINFORCEMENT DETAILS ON DWG. NOS. FR-02 AND BM-03.

BARRIER HEIGHT ALONG LENGTH

POINT ALONG BARRIER	0.00	0.25*L	0.50*L	0.75*L	L
BARRIER HEIGHT	2'-7⅝"	2'-5¼"	2'-3"	2'-5¼"	2'-7⅝"

** L = LENGTH OF BARRIER = 123'-0"

** NOTES:
1. BEAM SCUPPERS NOT SHOWN FOR CLARITY. SEE DWG. NO. BM-04 FOR DETAILS ON SCUPPERS AND ADJUSTMENTS TO REINFORCEMENT AROUND SCUPPERS.
2. SEE DWG. NO. BM-05 FOR PRECAST BEAM NOTES AND REINFORCING BAR INFORMATION.

LEGEND

E.F. - DENOTES EACH FACE

- DENOTES SECONDARY PRECAST POUR (DWG. NO. BM-05 FOR DIMENSIONS)

ADDENDA / REVISIONS

SCALE AS NOTED

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

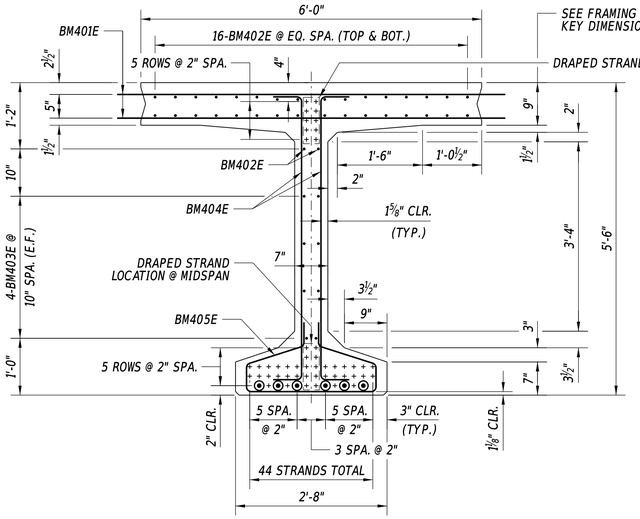
EXTERIOR DECK BULB TEE BEAM DETAILS

BM-02

SECTION: BR

SHEET NO.: 30

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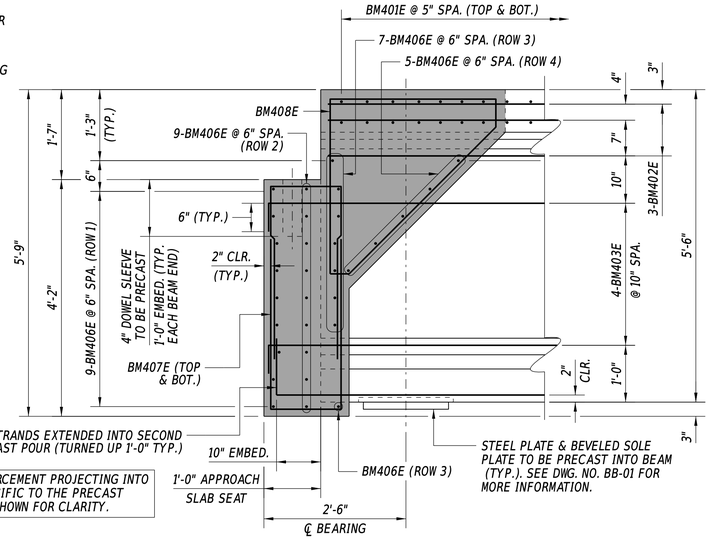


SEE FRAMING PLAN DETAILS FOR SHEAR KEY DIMENSIONS & BM401E LAYOUT

DRAPED STRAND LOCATION OVER BEARING

TYPICAL BEAM REINFORCEMENT (SECTION A-A)

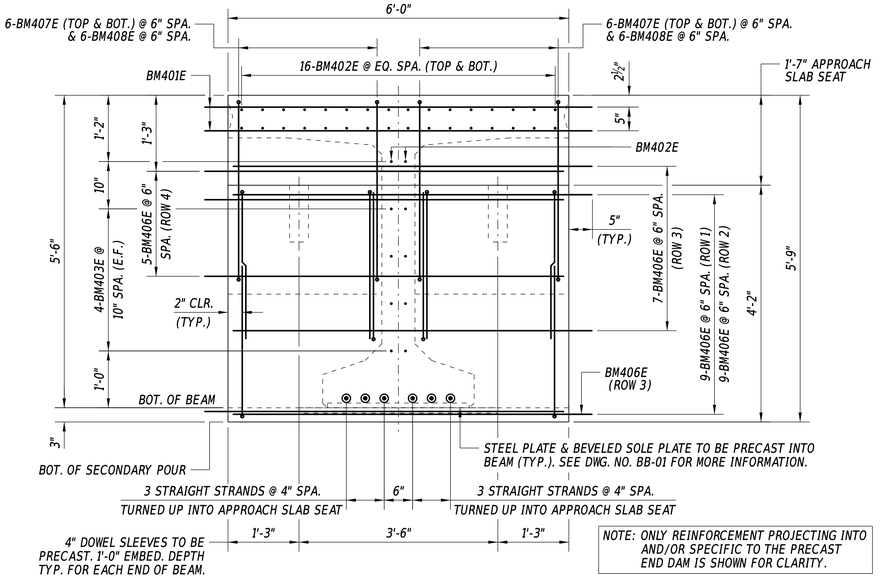
¾" = 1'-0"



NOTE: ONLY REINFORCEMENT PROJECTING INTO AND/OR SPECIFIC TO THE PRECAST END DAM IS SHOWN FOR CLARITY.

END DAM REINFORCEMENT ELEVATION (SECTION B-B)

¾" = 1'-0"



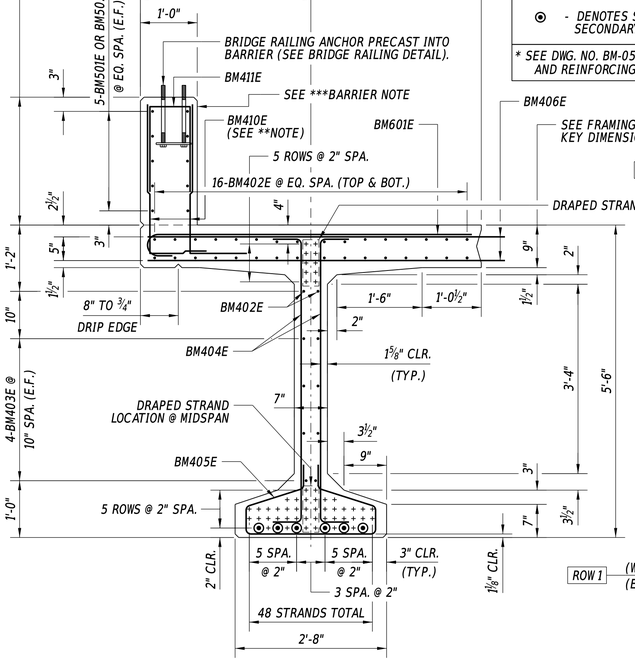
STEEL PLATE & BEVELED SOLE PLATE TO BE PRECAST INTO BEAM (TYP.). SEE DWG. NO. BB-01 FOR MORE INFORMATION.

NOTE: ONLY REINFORCEMENT PROJECTING INTO AND/OR SPECIFIC TO THE PRECAST END DAM IS SHOWN FOR CLARITY.

END DAM REINFORCEMENT END VIEW (SECTION C-C)

¾" = 1'-0"

INTERIOR BEAM DETAILS

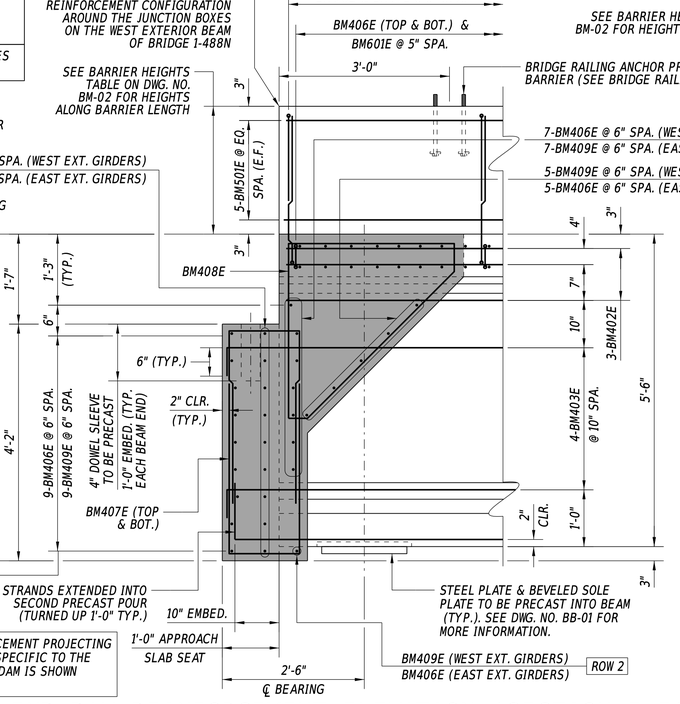


LEGEND	
E.F.	- DENOTES EACH FACE
	- DENOTES SECONDARY PRECAST POUR (SEE DWG. NO. BM-05 FOR DIMENSIONS)
+	- DENOTES STRAND LOCATION
⊙	- DENOTES STRANDS EXTENDED INTO SECONDARY PRECAST POUR

* SEE DWG. NO. BM-05 FOR PRECAST BEAM NOTES AND REINFORCING BAR INFORMATION.

TYPICAL BEAM REINFORCEMENT (SECTION D-D)

¾" = 1'-0"

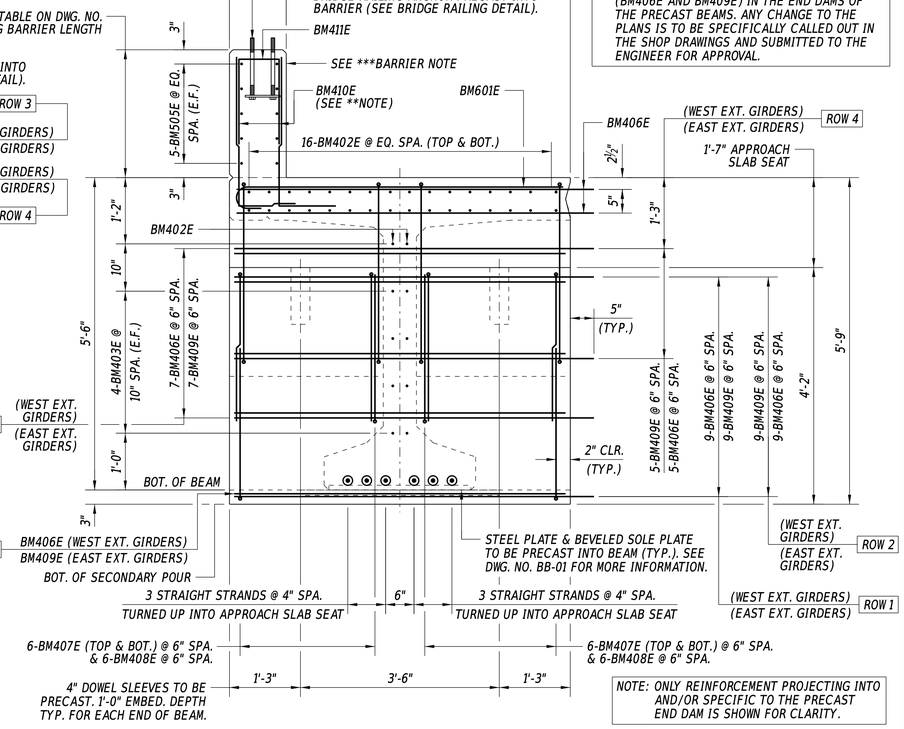


NOTE: ONLY REINFORCEMENT PROJECTING INTO AND/OR SPECIFIC TO THE PRECAST END DAM IS SHOWN FOR CLARITY.

END DAM REINFORCEMENT ELEVATION (SECTION E-E)

¾" = 1'-0"

**NOTE: NEST BM410E UNDERNEATH TOP LAYER OF LONGITUDINAL REINFORCEMENT IN THE TOP FLANGE OF THE BEAM.



NOTE TO FABRICATOR:

FABRICATOR CAN ELECT TO USE MECHANICAL COUPLERS TO HELP FACILITATE THE PLACEMENT OF THE TRANSVERSE REINFORCING BARS (BM406E AND BM409E) IN THE END DAMS OF THE PRECAST BEAMS. ANY CHANGE TO THE PLANS IS TO BE SPECIFICALLY CALLED OUT IN THE SHOP DRAWINGS AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

NOTE: ONLY REINFORCEMENT PROJECTING INTO AND/OR SPECIFIC TO THE PRECAST END DAM IS SHOWN FOR CLARITY.

END DAM REINFORCEMENT END VIEW (SECTION F-F)

¾" = 1'-0"

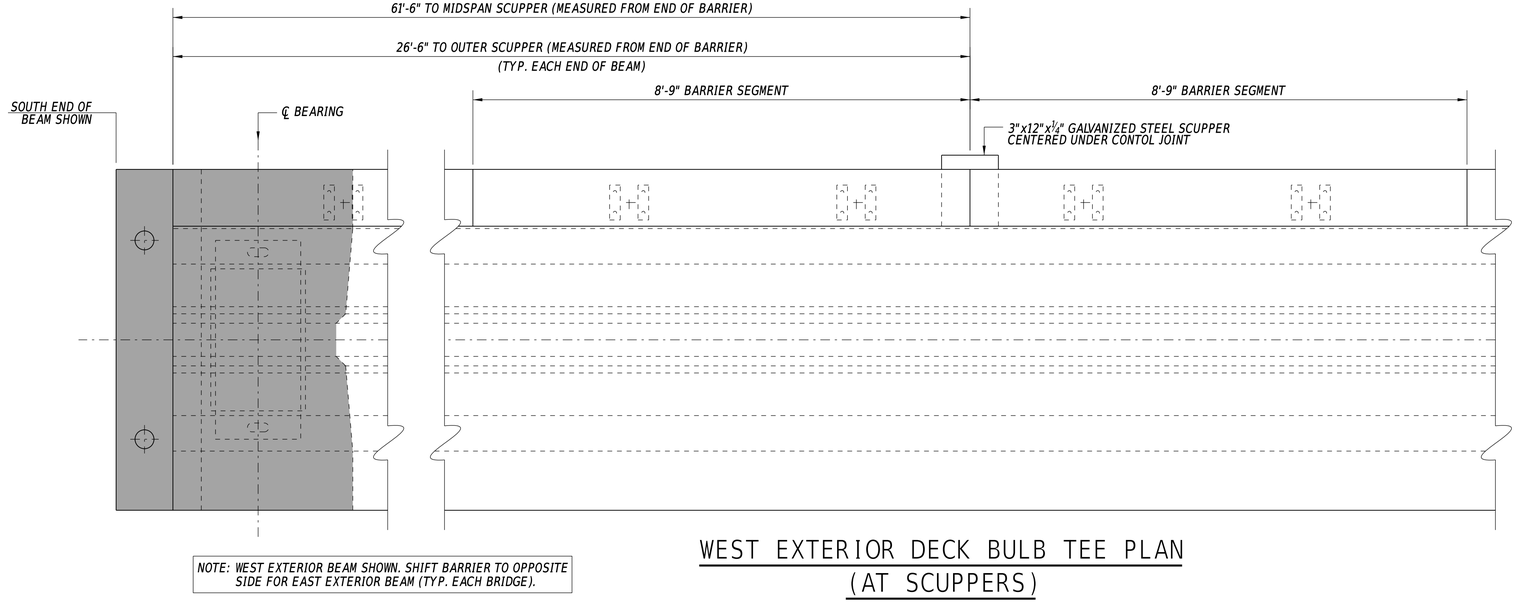
***BARRIER NOTE:
CAST BARRIER SUCH THAT IT IS PLUMB WHEN THE EXTERIOR BEAMS ARE PLACED IN THEIR FINAL POSITION ON SITE.

NOTE: SOUTHWEST EXTERIOR BEAM ENDS SHOWN. MIRROR DETAILS FOR EAST EXTERIOR BEAM ENDS, WITH THE EXCEPTION OF THE BAR LAYOUT FOR BM406E AND BM409E. SEE DETAILS ABOVE AND DWG. NO. FR-02 FOR CONFIGURATION VARIATION FOR BM406E & BM409E IN THE WEST AND EAST EXTERIOR BEAMS.

EXTERIOR BEAM DETAILS

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	INTERIOR & EXTERIOR DECK BULB TEE BEAM SECTIONS	BM-03 SECTION BR
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 31
					CHECKED BY: M. RADOVIC		

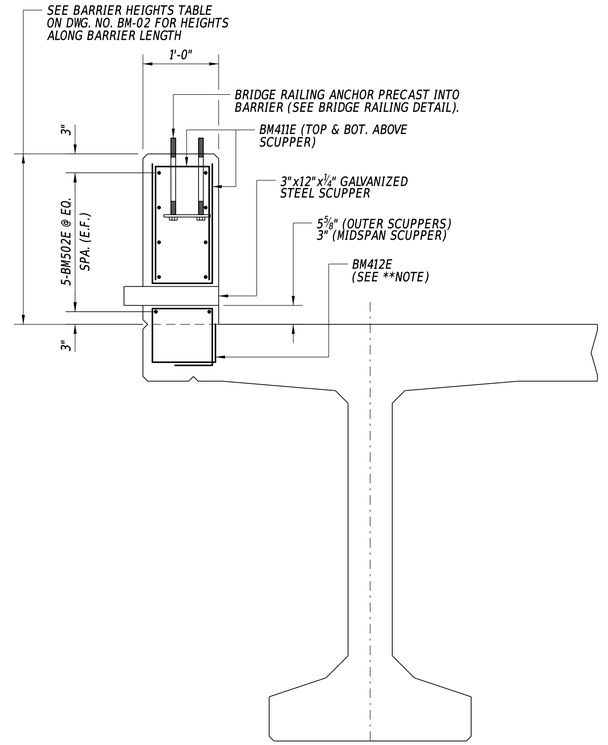
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NOTE: WEST EXTERIOR BEAM SHOWN. SHIFT BARRIER TO OPPOSITE SIDE FOR EAST EXTERIOR BEAM (TYP. EACH BRIDGE).

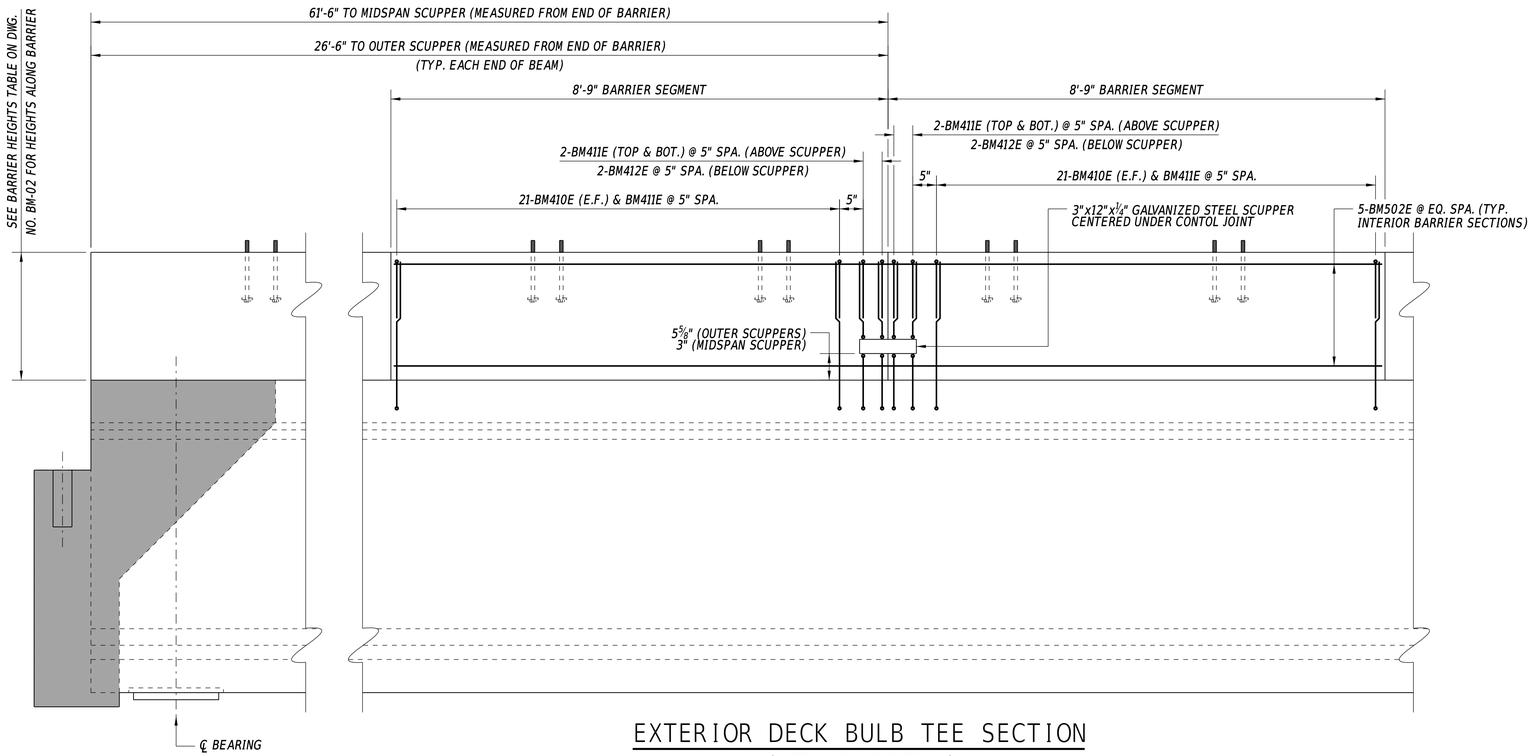
WEST EXTERIOR DECK BULB TEE PLAN (AT SCUPPERS)

¾" = 1'-0"



EXTERIOR DECK BULB TEE BARRIER REINFORCEMENT SECTION (AT SCUPPERS)

1" = 1'-0"



EXTERIOR DECK BULB TEE SECTION (AT SCUPPERS)

¾" = 1'-0"

LEGEND	
E.F. - DENOTES EACH FACE	- DENOTES SECONDARY PRECAST POUR (SEE DWG. NO. BM-05 FOR DIMENSIONS)

** NOTES:
1. SEE DWG. NO. BM-02 AND BM-03 FOR MORE INFORMATION ON BEAM CONFIGURATION AND REINFORCEMENT LAYOUT.
2. SEE DWG. NO. BM-05 FOR PRECAST BEAM NOTES AND REINFORCING BAR INFORMATION.

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	EXTERIOR DECK BULB TEE BEAM DETAILS (AT SCUPPERS)	BM-04
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 32

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PRECAST BEAM NOTES

GENERAL

1. 8 TOTAL BEAMS ARE REQUIRED FOR EACH BRIDGE:
   -6 INTERIOR BEAMS
   -2 EXTERIOR BEAMS
2. SEE THE BRIDGE RAILING DETAILS FOR ADDITIONAL INFORMATION ON THE PRECAST BARRIER SYSTEM.
3. PAYMENT FOR THE SECONDARY PRECAST CONCRETE POURS SHALL BE INCIDENTAL TO THE PRESTRESSED CONCRETE BEAMS.
4. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS SHALL BE INCIDENTAL TO THE PRESTRESSED CONCRETE BEAMS.

DESIGN PLANS - WORKING DRAWINGS

4. INFORMATION PERTAINING TO THE PRESTRESSED PRECAST REINFORCED DECK BULB TEE BEAMS 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.

HANDLING

5. APPROXIMATE INTERIOR BEAM DEAD WEIGHT: 89.41 TONS.
6. APPROXIMATE EXTERIOR BEAM DEAD WEIGHT: 110.36 TONS.
7. PRESTRESSED BEAMS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
8. ALL ELEMENTS RELATED TO THE LIFTING OF THE BEAMS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH STRAND SPACING. PRECASTER SHALL ENSURE PROPER PLACEMENT OF THE LIFTING ELEMENTS TO AVOID CONFLICT WITH THE PRECAST CONCRETE BARRIER AND METAL BRIDGE RAIL SYSTEM. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.
9. SUPPORT BEAMS ONLY AT SPECIFIED BEARING POINTS DURING STORAGE AND TRANSPORTING. SEE DWG. NO. BB-01 FOR MORE INFORMATION ON BEVELED SOLE PLATES AND BEARINGS.

CONCRETE STRESSES

10. MINIMUM COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS: 6400 PSI.
11. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

12. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
13. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
14. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612023 - PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAMS (DECKED).

PRESTRESSING STRANDS

15. INITIAL PRESTRESS ON EACH 0.6" DIA. 270 KSI LOW RELATION STRAND EQUALS 43943 LBS. MINIMUM.
16. ULTIMATE STRENGTH ON EACH 0.6" DIA. 270 KSI LOW RELATION STRAND EQUALS 58590 LBS.
17. USE A 1" DEEP RECESS AROUND LOCAL STRAND GROUPS WITH 2" MINIMUM EDGE CLEARANCE AND FILL WITH PNEUMATICALLY APPLIED MORTAR IMMEDIATELY AFTER CLIPPING THE STRANDS. AN APPROVED EPOXY MORTAR COVERING THE ENDS OF THE STRANDS WITH MINIMUM THICKNESS OF $\frac{1}{8}$" MAY BE USED AS AN ALTERNATE.

CONCRETE FINISH

18. PROVIDE A FLOAT FINISH ON THE TOPS OF THE BEAMS.
19. PROVIDE A CLASS ONE FINISH ON THE BEAM ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS).
20. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE BEAM ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS). IN ADDITION, FOR THE EXTERIOR GIRDERS, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
21. SEE DWG. NO. BR-01 FOR LIMITS OF SILICONE-BASED ACRYLIC CONCRETE SEALER.
22. SEE THE FRAMING PLAN DETAILS FOR INFORMATION ON THE SHEAR KEY PREPARATION.

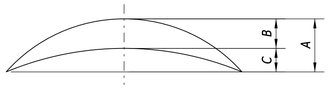
EXTERIOR BEAM REINFORCING BAR LIST

STRAIGHT BARS

MARK	SIZE	QTY. (PER BM.)	LENGTH	
BM402E	4	34	122'-8"	
BM406E	4	622	6'-3"	*WEST EXTERIOR BEAM ONLY
BM406E	4	616	6'-3"	*EAST EXTERIOR BEAM ONLY
BM409E	4	28	5'-8"	*WEST EXTERIOR BEAM ONLY
BM409E	4	34	5'-8"	*EAST EXTERIOR BEAM ONLY
BM501E	5	20	17'-5"	
BM502E	5	50	17'-2"	
BM503E	5	2	15'-6"	*WEST EXTERIOR BEAM ON BRIDGE 1-488N ONLY
BM504E	5	2	0'-8"	*WEST EXTERIOR BEAM ON BRIDGE 1-488N ONLY
DL801E	8	4	2'-1"	* SEE DOWEL BAR DETAIL ON DWG. NO. AB-04

BENT BARS

MARK	SIZE	QTY. (PER BM.)	LENGTH	
BM403E	4	8	125'-8"	
BM404E	4	542	6'-0"	
BM405E	4	271	6'-4¼"	
BM407E	4	48	7'-4"	
BM408E	4	24	11'-5¾"	
BM410E	4	604	3'-7"	
BM411E	4	314	3'-8"	
BM412E	4	12	3'-8"	
BM413E	4	6	3'-6"	*WEST EXTERIOR BEAM ON BRIDGE 1-488N ONLY
BM414E	4	6	2'-3"	*WEST EXTERIOR BEAM ON BRIDGE 1-488N ONLY
BM415E	4	6	4'-8"	*WEST EXTERIOR BEAM ON BRIDGE 1-488N ONLY
BM601E	6	296	6'-6"	



A = ESTIMATED PRESTRESS CAMBER LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP = 3.895"
B = DEFLECTION DUE TO DEAD LOAD OF BRIDGE RAIL AND OVERLAY = -0.594"
C = A - B = NET CAMBER = 3.301"
* ASSUMED CREEP FACTOR IS 1.6.
* ASSUMED PRESTRESS LOSS OF 10%.

EXTERIOR BEAM CAMBER DIAGRAGM

N.T.S.

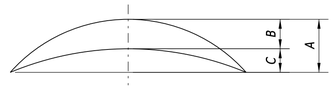
INTERIOR BEAM REINFORCING BAR LIST

STRAIGHT BARS

MARK	SIZE	QTY. (PER BM.)	LENGTH	
BM401E	4	588	6'-10"	
BM402E	4	34	122'-8"	
BM406E	4	62	6'-3"	
DL801E	8	4	2'-1"	* SEE DOWEL BAR DETAIL ON DWG. NO. AB-04

BENT BARS

MARK	SIZE	QTY. (PER BM.)	LENGTH
BM403E	4	8	125'-8"
BM404E	4	542	6'-0"
BM405E	4	271	6'-4¼"
BM407E	4	48	7'-4"
BM408E	4	24	11'-5¾"

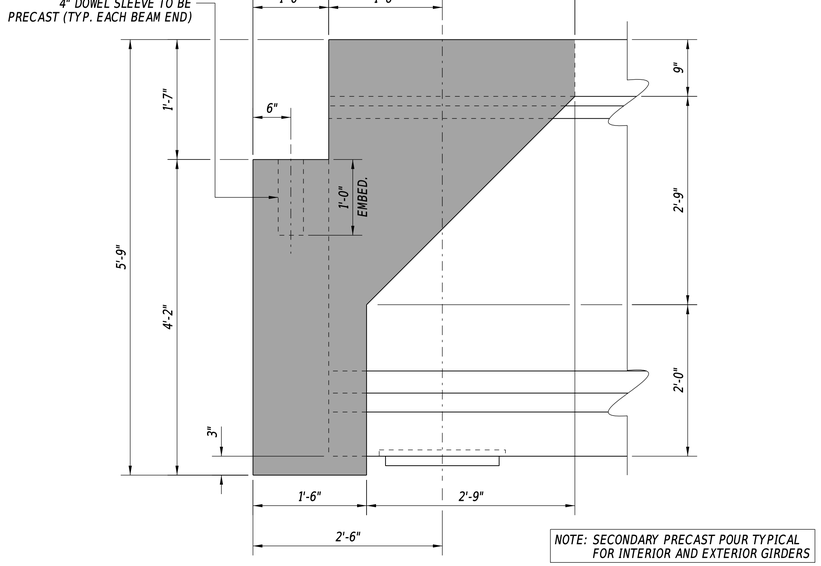


A = ESTIMATED PRESTRESS CAMBER LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP = 4.026"
B = DEFLECTION DUE TO DEAD LOAD OF BRIDGE RAIL AND OVERLAY = -0.753"
C = A - B = NET CAMBER = 3.273"

* ASSUMED CREEP FACTOR IS 1.6.
* ASSUMED PRESTRESS LOSS OF 10%.

INTERIOR BEAM CAMBER DIAGRAGM

N.T.S.



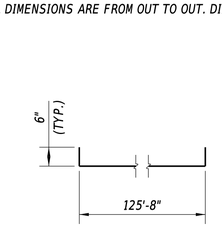
NOTE: SECONDARY PRECAST POUR TYPICAL FOR INTERIOR AND EXTERIOR GIRDERS

BEAM END DAM (SECONDARY PRECAST POUR) DETAIL

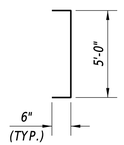
1" = 1'-0"

BENDING DIAGRAMS

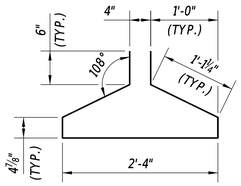
ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



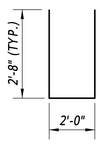
BM403E



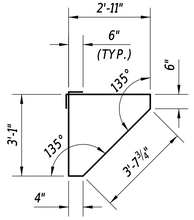
BM404E



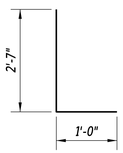
BM405E



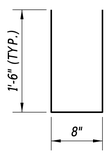
BM407E



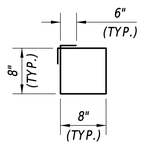
BM408E



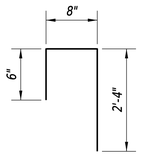
BM410E



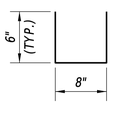
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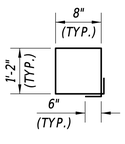
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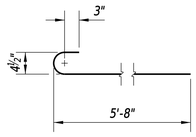
BM413E



BM414E



BM415E



BM601E

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	PRECAST BEAM NOTES & REINFORCING BAR INFORMATION	BM-05
				T200707404	DESIGNED BY:	N. DEAN		SECTION: BR
				COUNTY: NEW CASTLE	CHECKED BY:	M. RADOVIC		SHEET NO.: 33

28-JUN-2024
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LEGEND

F.F. - FILL FACE
S.F. - STREAM FACE

⊗ MAX. SERVICE I (UNFACTORED) REACTION PER BEARING (W/O DYNAMIC LOAD ALLOWANCE)

☒ TEMPERATURE MOVEMENT

STEEL REINFORCED ELASTOMERIC BEARING

DENOTES NON-SHRINK GROUT CLOSURE POUR

STEEL REINFORCED ELASTOMERIC BEARING TABLE

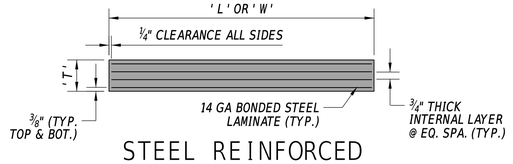
LOCATION		BEARING DESIGNATION MARK	TYPE	NEOPRENE HARDNESS (SHORE A)	TOTAL NO. REQD.	CAPACITY PER PAD REACTION ⊗	CAPACITY PER PAD MOVEMENT ☒	LAMINATED ELASTOMERIC BEARING DIMENSION 'L'	'W'	LAYER THICKNESS 'Ti'	LAYER THICKNESS 'Te'	INTERNAL LAYERS	TOTAL PAD THICKNESS 'T'
BR 1-488S	SOUTH ABUTMENT	EX #1	EXP.	60± 5 DURO	8	267 KIP	N/A	12"	28"	0.75	0.375	3	3.3125
	NORTH ABUTMENT	FX #1	FIX.	60± 5 DURO	8	267 KIP	0.855	12"	28"	0.75	0.375	3	3.3125
BR 1-488N	SOUTH ABUTMENT	EX #1	EXP.	60± 5 DURO	8	267 KIP	N/A	12"	28"	0.75	0.375	3	3.3125
	NORTH ABUTMENT	FX #1	FIX.	60± 5 DURO	8	267 KIP	0.855	12"	28"	0.75	0.375	3	3.3125

BRIDGE 1-488N - SOLE PLATE CONFIGURATION TABLE

GIRDER NO.	SUPPORT LOCATION	SOLE PLATE CONFIGURATION	T.MIN (IN.)	T.CL (IN.)	T.MAX (IN.)	G (%)
NB-1	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-2	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-3	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-4	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-5	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-6	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-7	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
NB-8	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08

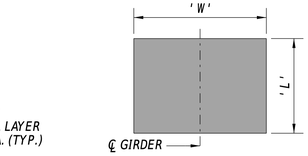
BRIDGE 1-488S - SOLE PLATE CONFIGURATION TABLE

GIRDER NO.	SUPPORT LOCATION	SOLE PLATE CONFIGURATION	T.MIN (IN.)	T.CL (IN.)	T.MAX (IN.)	G (%)
SB-1	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-2	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-3	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-4	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-5	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-6	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-7	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	0.35
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08
SB-8	SOUTH ABUTMENT	EXPANSION	$1\frac{15}{32}$	$1\frac{1}{2}$	$1\frac{17}{32}$	2.08
	NORTH ABUTMENT	FIXED	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2.08



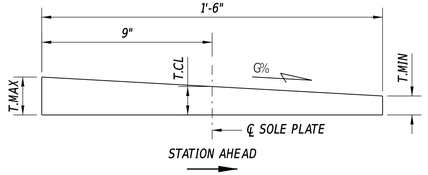
STEEL REINFORCED ELASTOMERIC BEARING ELEVATION

1½" = 1'-0"



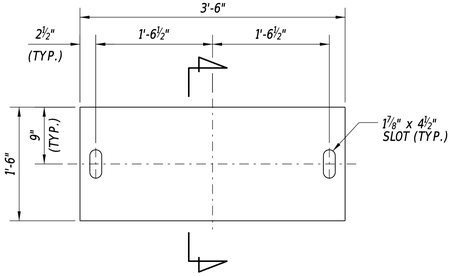
STEEL REINFORCED ELASTOMERIC BEARING PLAN

1½" = 1'-0"



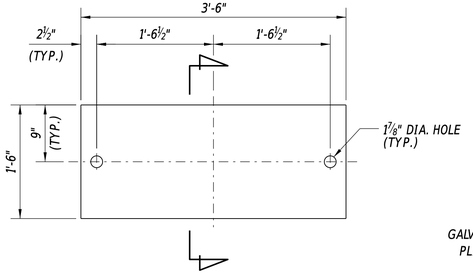
SOLE PLATE SECTION

3" = 1'-0"



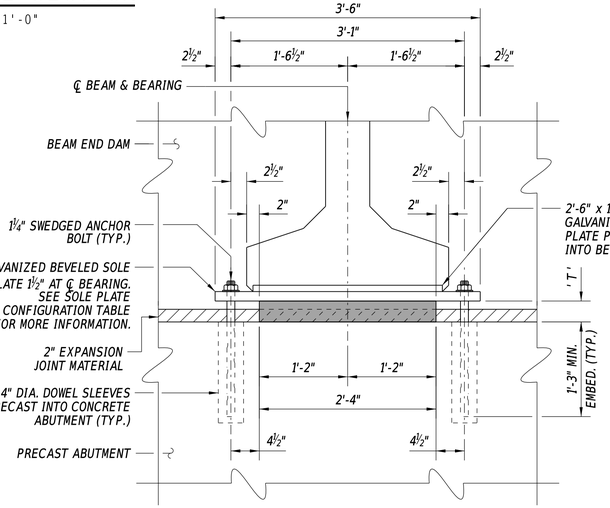
EXPANSION BEARING SOLE PLATE PLAN

1" = 1'-0"



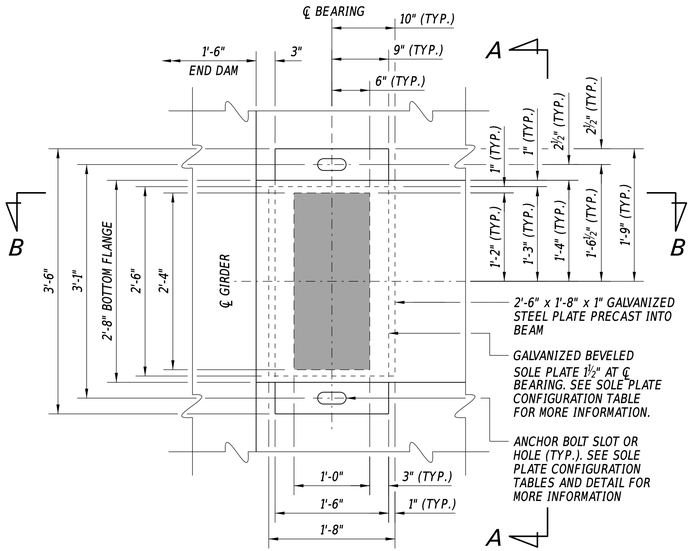
FIXED BEARING SOLE PLATE PLAN

1" = 1'-0"



BEARING & SOLE PLATE ELEVATION

1" = 1'-0"



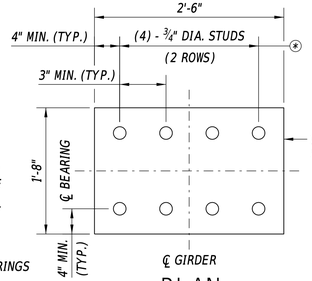
BEARING & SOLE PLATE PLAN

1" = 1'-0"

STEEL REINFORCED ELASTOMERIC BEARING NOTES:

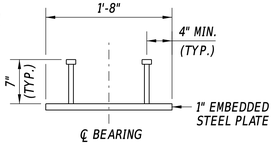
1. ALL THICKNESS VALUES IN TABLE ARE PROVIDED IN INCHES.
2. 32 TOTAL STEEL REINFORCED ELASTOMERIC BEARINGS REQUIRED.
3. PROVIDE ALL STEEL REINFORCED ELASTOMERIC BEARINGS IN ACCORDANCE WITH SECTION 623 - 'BEARING DEVICES' OF THE STANDARD SPECIFICATIONS. ALL STEEL LAMINATED ELASTOMERIC BEARINGS ARE DESIGNED AS PER AASHTO 14.7.5, METHOD B.
4. BEARING SHALL BE PLACED NORMAL TO CENTERLINE OF BEAM. REFER TO BEARING DETAIL FOR FURTHER GUIDANCE.
5. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL BE ATTACHED TO THE TOP OF THE ABUTMENT SEAT WITH AN APPROVED EPOXY ADHESIVE IN ACCORDANCE WITH SECTION 623.3.D.4 OF THE STANDARD SPECIFICATIONS IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED. ENSURE THE EPOXY ADHESIVE HAS SET PRIOR TO PLACEMENT OF BEAMS.
6. PAYMENT FOR FABRICATION AND INSTALLATION OF STEEL REINFORCED ELASTOMERIC BEARINGS WILL BE PAID UNDER ITEM 623000.
7. FIXED BEARINGS TO BE LOCATED AT THE NORTH ABUTMENTS. EXPANSION BEARINGS TO BE LOCATED AT THE SOUTH ABUTMENTS.
8. FOR EXPANSION BEARINGS:
   - USE 1⅞" x 4½" SLOTS IN SOLE PLATE AND ⅜" x 3" DIA. WASHERS WITH 1 5/16" DIA. HOLE IN WASHER.

   FOR FIXED BEARINGS:
   - USE 1⅞" DIA. HOLES IN SOLE PLATE AND ⅜" x 3" DIA. WASHERS WITH 1 5/16" DIA. HOLE IN WASHER.
9. PROVIDE GALVANIZED ANCHOR BOLTS IN ACCORDANCE WITH ASTM F1554, WASHERS IN ACCORDANCE WITH ASTM F436, AND NUTS IN ACCORDANCE WITH ASTM A563.
10. USE ¾" STAINLESS STEEL COUNTERSUNK TAP SCREWS FOR AN ULTIMATE STRENGTH OF 100 KSI TO CONNECT THE BEVELED SOLE PLATE TO THE EMBEDDED PLATE.
11. USE SWEDGED ANCHOR BOLTS. GROUT ANCHOR BOLTS IN PREFORMED (SLEEVED) HOLES WITH HIGH-STRENGTH NON-SHRINK GROUT ONCE GIRDERS ARE IN PLACE. SLEEVED HOLES SHALL BE CORRUGATED TO PREVENT SLIPPAGE. ANCHOR BOLT SLEEVES SHALL HAVE A DIAMETER OF 4". DRILLING INTO THE PRECAST ABUTMENT WILL NOT BE ACCEPTED. SEE DWG. NOS. AB-01, AB-02, AND & AB-03 FOR LOCATIONS OF SLEEVED ANCHOR BOLT HOLES.
12. PRECAST EMBEDDED STEEL PLATE WITH THE BULB T BEAMS. ATTACH THE BEVELED SOLE PLATES TO THE UNDERSIDE OF THE BEAMS AT THE PRECAST FACILITY PRIOR TO STORAGE AND TRANSPORT.
12. SOLE PLATES AND EMBEDDED PLATES SHALL BE UNPAINTED A709 GRADE 36 GALVANIZED STEEL AND BE BEVELED AS PRESCRIBED IN THESE PLANS. STEEL SURFACES OF SOLE PLATES TO BE MACHINE FINISHED AS SHOWN IN THE DETAILS, MEASURED IN ACCORDANCE WITH ANSI B46.1.
13. SOLE PLATES SHALL MEET A FLATNESS REQUIREMENT OF 0.5 PERCENT IN THE DIRECTION BEING MEASURED (WIDTH, LENGTH, AND DIAGONALS) MAXIMUM, BUT NOT TO EXCEED ⅛ INCH.
14. FILL SLOTS AND HOLES AROUND ANCHOR BOLTS WITH AN APPROVED NON-HARDENING CAULKING COMPOUND OR ELASTIC JOINT SEALER.
15. PAYMENT FOR FABRICATION AND INSTALLATION OF ELASTOMERIC BEARINGS WILL BE PAID FOR UNDER ITEM 623000.
16. PAYMENT FOR FABRICATION AND INSTALLATION OF STEEL ANCHOR BOLTS, NUTS, WASHERS, TAP SCREWS, AND SOLE PLATES WILL BE INCLUDED UNDER ITEM 612023 - PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAMS.



PLAN

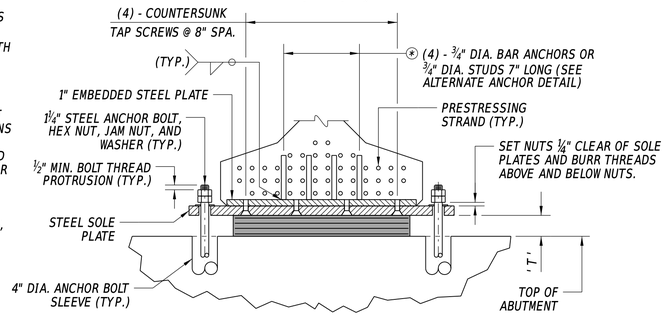
*NOTE: ANCHOR BARS OR STUDS TO BE SPACED AS REQUIRED TO AVOID PRESTRESSING STRAND PATTERN. A 3" MINIMUM SPACING IS REQUIRED.



SECTION

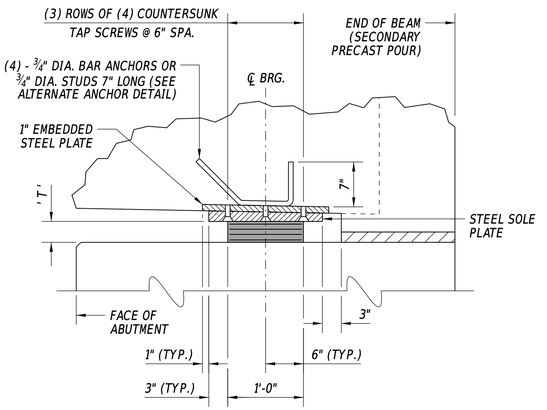
ALTERNATE ANCHOR DETAILS

1" = 1'-0"



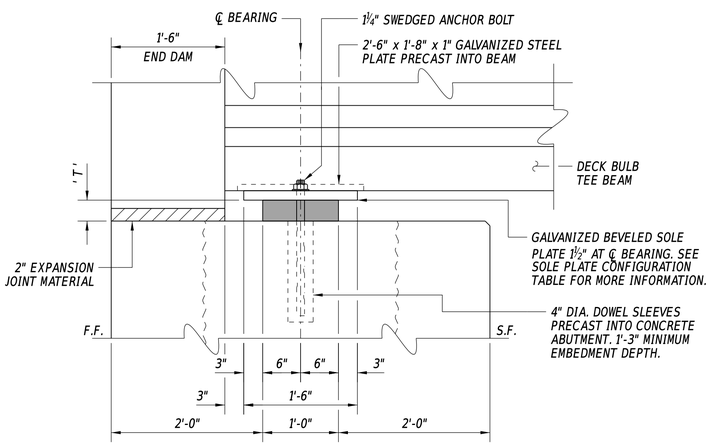
SOLE PLATE DETAIL (SECTION A-A)

1" = 1'-0"



SOLE PLATE DETAIL (SECTION B-B)

1" = 1'-0"

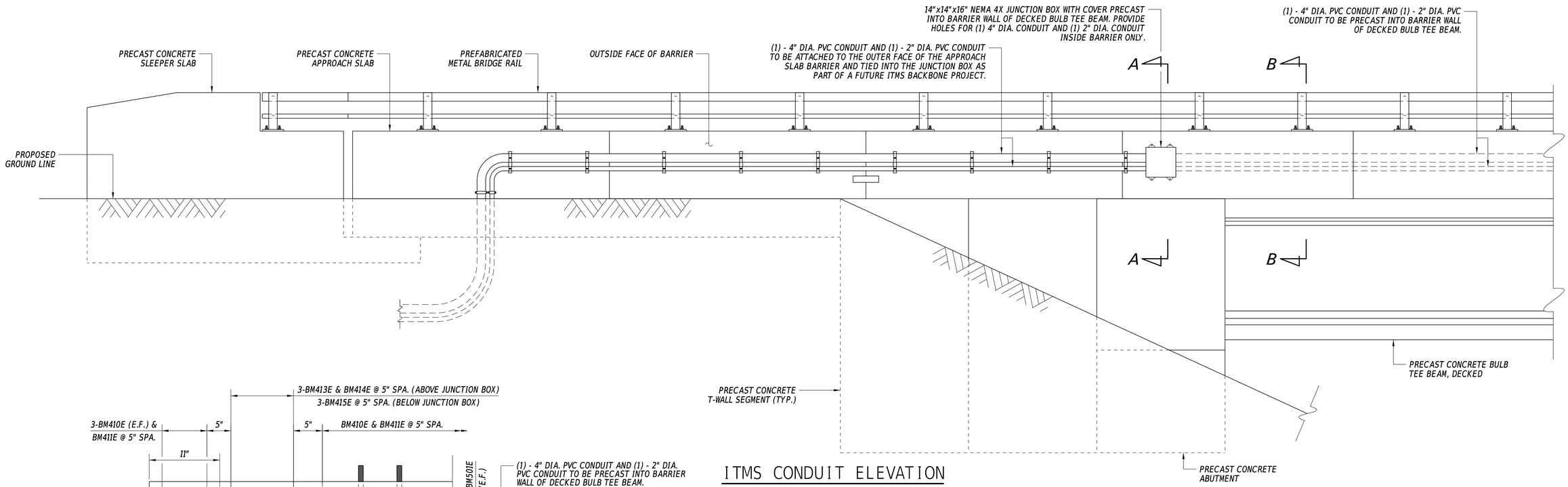


BEARING & SOLE PLATE SIDE ELEVATION

1" = 1'-0"

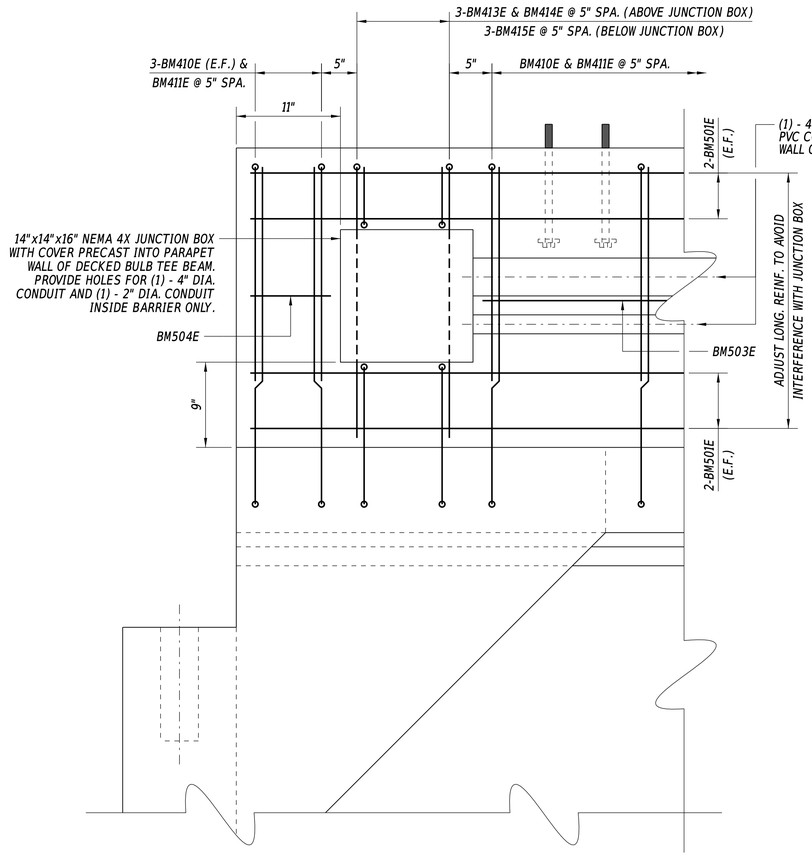
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	BEARING AND SOLE PLATE DETAILS	BB-01
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 34

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ITMS CONDUIT ELEVATION

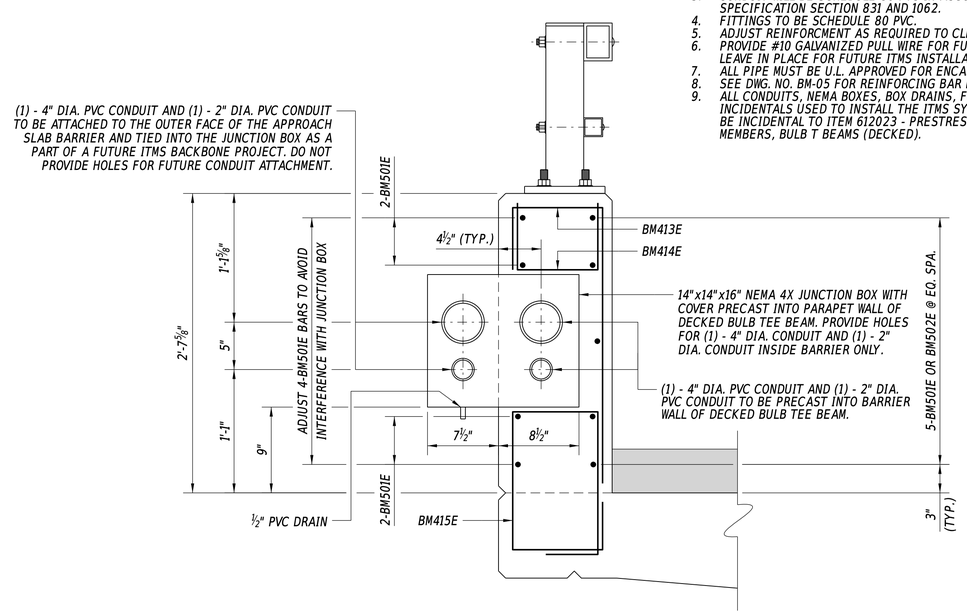
½" = 1'-0"



BARRIER REINFORCEMENT AT JUNCTION WELL

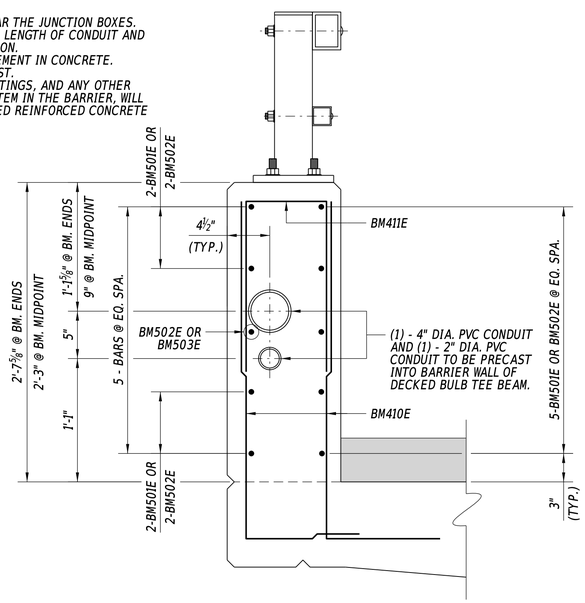
1½" = 1'-0"

NOTES:
1. INSTALL ITMS CONDUITS AND JUNCTION WELLS IN BARRIER OF WEST EXTERIOR GIRDER OF BRIDGE 1-488N ONLY.
2. NORTH END OF GIRDER SHOWN. JUNCTION BOX IS TYPICAL ON BOTH ENDS OF GIRDER. MIRROR ELEVATION DETAIL FOR SOUTH END OF GIRDER.
3. CONDUIT WILL BE SCHEDULE 80 PVC IN ACCORDANCE WITH DELDOT SPECIFICATION SECTION 831 AND 1062.
4. FITTINGS TO BE SCHEDULE 80 PVC.
5. ADJUST REINFORCMENT AS REQUIRED TO CLEAR THE JUNCTION BOXES.
6. PROVIDE #10 GALVANIZED PULL WIRE FOR FULL LENGTH OF CONDUIT AND LEAVE IN PLACE FOR FUTURE ITMS INSTALLATION.
7. ALL PIPE MUST BE U.L. APPROVED FOR ENCASEMENT IN CONCRETE.
8. SEE DWG. NO. BM-05 FOR REINFORCING BAR LIST.
9. ALL CONDUITS, NEMA BOXES, BOX DRAINS, FITTINGS, AND ANY OTHER INCIDENTALS USED TO INSTALL THE ITMS SYSTEM IN THE BARRIER, WILL BE INCIDENTAL TO ITEM 612023 - PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAMS (DECKED).



ITMS CONDUIT JUNCTION WELL DETAIL (SECTION A-A)

1½" = 1'-0"

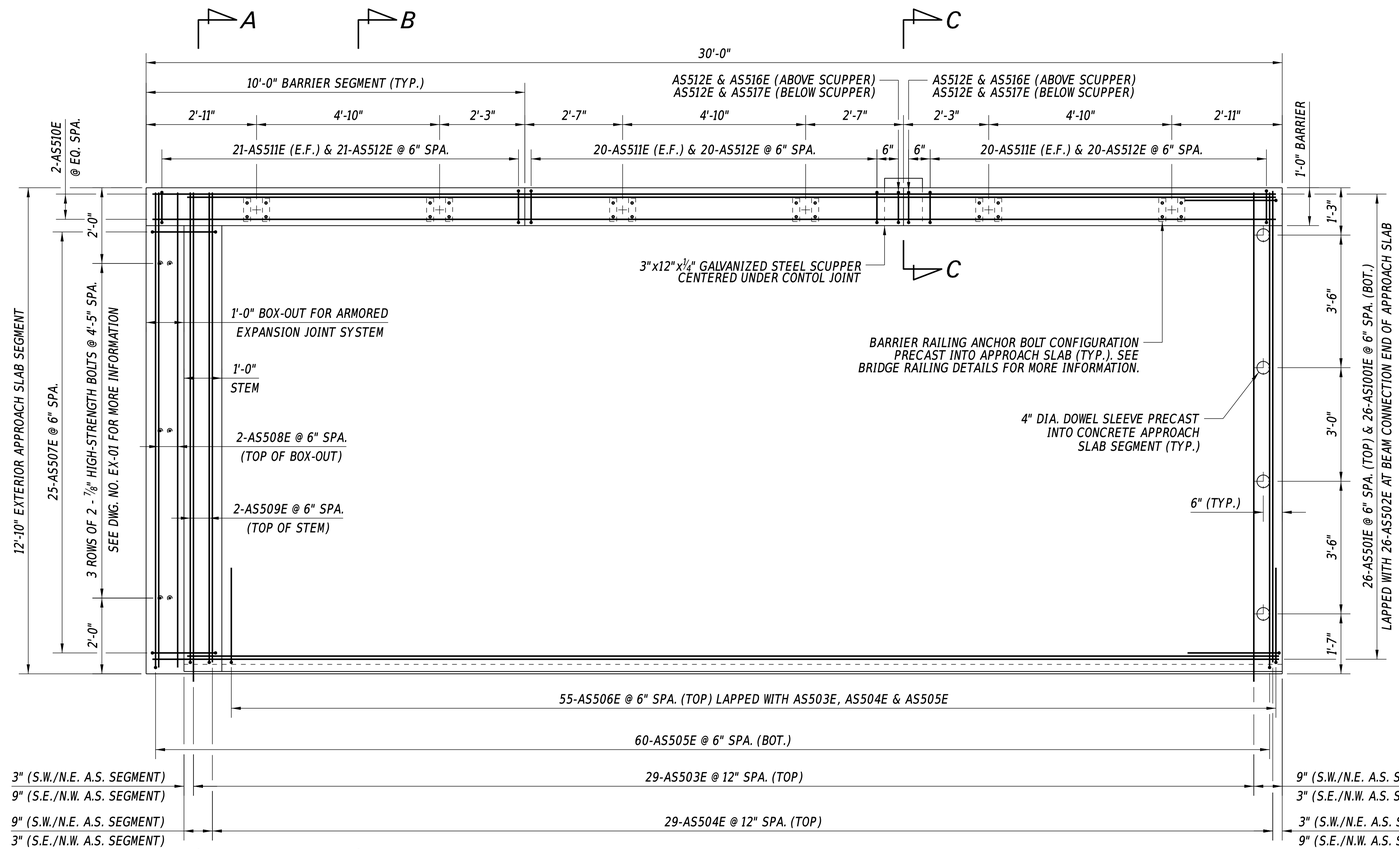


ITMS CONDUIT DETAIL (SECTION B-B)

1½" = 1'-0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	ITMS CONDUIT DETAILS	CD-01
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 35



EXTERIOR APPROACH SLAB SEGMENT PLAN

½" = 1'-0"

EXTERIOR APPROACH SLAB SEGMENT BAR LIST

STRAIGHT BARS

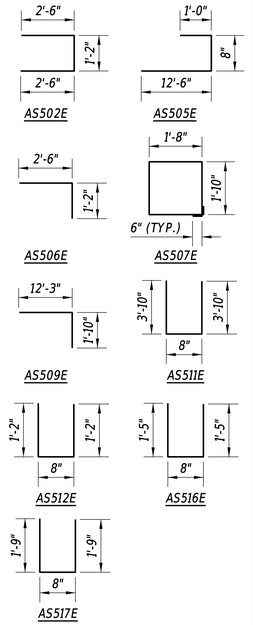
MARK	SIZE	QTY. (PER SEG.)	LENGTH
AS1001E	10	26	29'-8"
AS501E	5	26	28'-8"
AS503E	5	29	12'-11"
AS504E	5	29	12'-3"
AS508E	5	2	12'-6"
AS510E	5	10	29'-8"
AS518E	5	2	49'-2"

BENT BARS

MARK	SIZE	QTY. (PER SEG.)	LENGTH
AS502E	5	26	6'-2"
AS505E	5	60	14'-2"
AS506E	5	55	3'-8"
AS507E	5	25	8'-0"
AS509E	5	2	14'-1"
AS511E	5	61	8'-4"
AS512E	5	65	3'-0"
AS516E	5	2	3'-6"
AS517E	5	2	4'-2"

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



LEGEND

- E.F. - DENOTES EACH FACE
- A.S. - DENOTES APPROACH SLAB
- S.W. - SOUTHWEST
- S.E. - SOUTHEAST
- N.W. - NORTHWEST
- N.E. - NORTHEAST
- UHPC CLOSURE POUR

PRECAST EXTERIOR APPROACH SLAB SEGMENT NOTES

GENERAL

1. 4 TOTAL EXTERIOR APPROACH SLAB SEGMENTS ARE REQUIRED FOR EACH BRIDGE.
2. SEE THE BRIDGE RAILING DETAILS FOR ADDITIONAL INFORMATION ON THE PRECAST BARRIER SYSTEM.
3. SOUTHWEST AND NORTHEAST EXTERIOR APPROACH SLAB SEGMENTS SHOWN. MIRROR APPROACH SLAB REINFORCEMENT PLAN FOR SOUTHEAST AND NORTHWEST EXTERIOR APPROACH SLAB SEGMENTS, WITH THE EXCEPTION OF AS504E AND AS503E. ADJUST THE PLACEMENT OF THESE BARS ACCORDING TO THE DIMENSIONS PROVIDED IN THE APPROACH SLAB REINFORCEMENT PLAN.
4. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS SHALL BE INCIDENTAL TO THE PRECAST APPROACH SLAB UNITS.

DESIGN PLANS - WORKING DRAWINGS

5. INFORMATION PERTAINING TO THE PRECAST APPROACH SLAB 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 PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

HANDLING

6. APPROXIMATE EXTERIOR APPROACH SLAB SEGMENT DEAD WEIGHT: 49.48 TONS.
7. PRECAST APPROACH SLAB SEGMENTS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
8. ALL ELEMENTS RELATED TO THE LIFTING OF THE APPROACH SLAB SEGMENTS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH REINFORCEMENT SPACING. PRECASTER SHALL ENSURE PROPER PLACEMENT OF THE LIFTING ELEMENTS TO AVOID CONFLICT WITH THE PRECAST CONCRETE BARRIER AND METAL BRIDGE RAIL SYSTEM. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

CONCRETE STRESSES

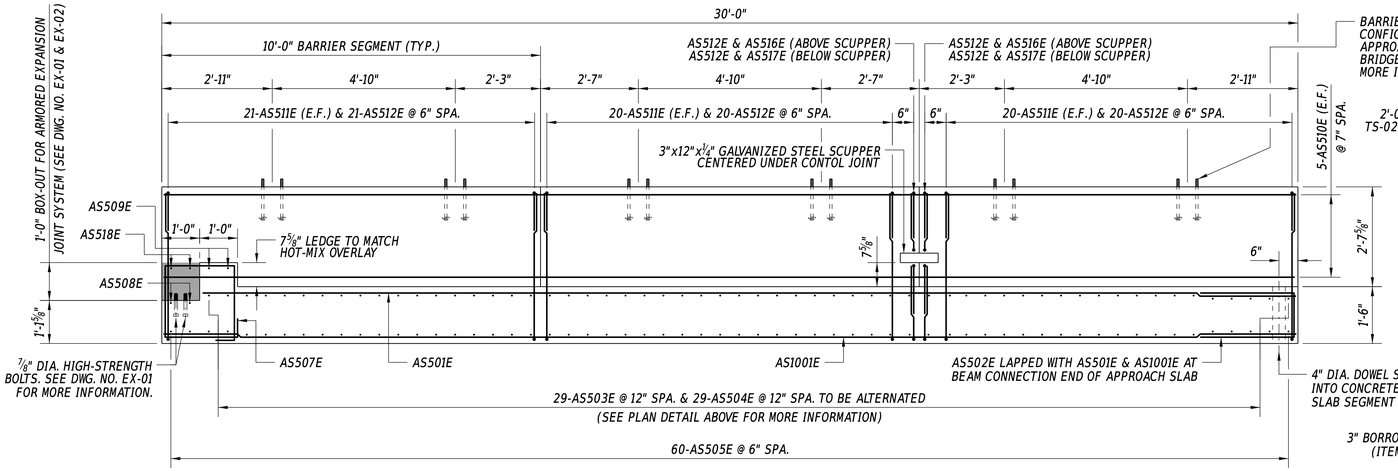
9. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

10. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
11. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
12. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.

CONCRETE FINISH

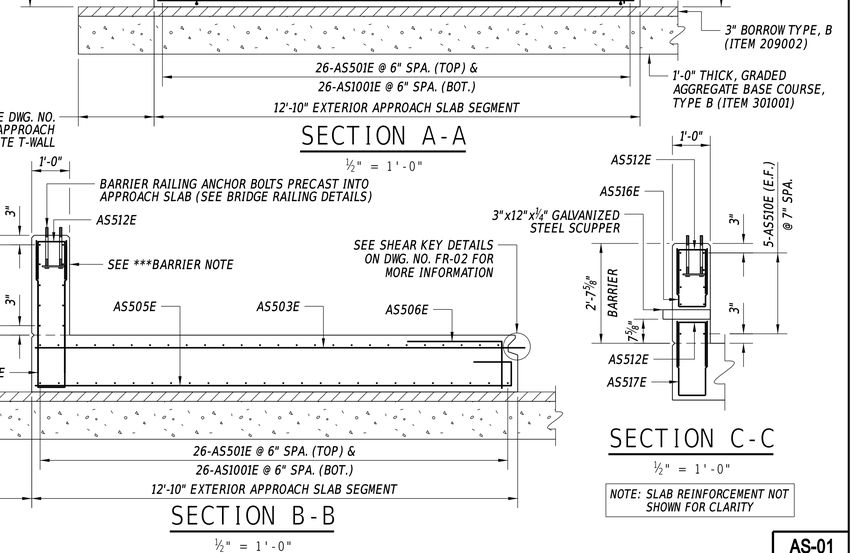
13. PROVIDE A FLOAT FINISH ON THE TOPS OF THE APPROACH SLAB SEGMENTS.
14. PROVIDE A CLASS ONE FINISH ON THE APPROACH SLAB SEGMENT ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS).
15. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE APPROACH SLAB SEGMENT ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS). IN ADDITION, FOR THE EXTERIOR APPROACH SLAB SEGMENT, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
16. SEE DWG. NO. BR-02 FOR LIMITS OF SILICONE-BASED ACRYLIC CONCRETE SEALER.
17. SEE THE FRAMING PLAN DETAILS FOR INFORMATION ON THE SHEAR KEY PREPARATION.



EXTERIOR APPROACH SLAB SEGMENT ELEVATION

½" = 1'-0"

***BARRIER NOTE:
CAST BARRIER SUCH THAT IT IS PLUMB WHEN THE EXTERIOR APPROACH SLAB SEGMENTS ARE PLACED IN THEIR FINAL POSITION ON SITE.



SECTION A-A

½" = 1'-0"

SECTION B-B

½" = 1'-0"

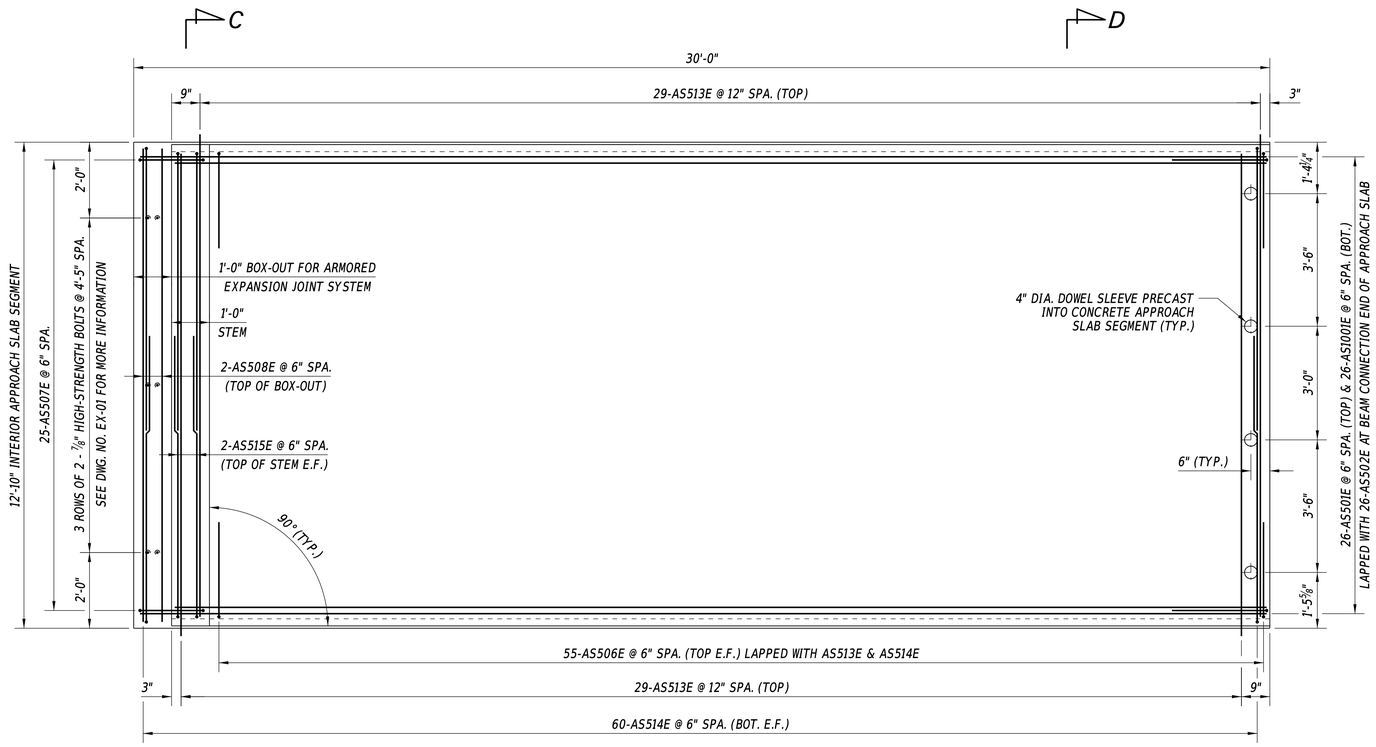
SECTION C-C

½" = 1'-0"

NOTE: SLAB REINFORCEMENT NOT SHOWN FOR CLARITY

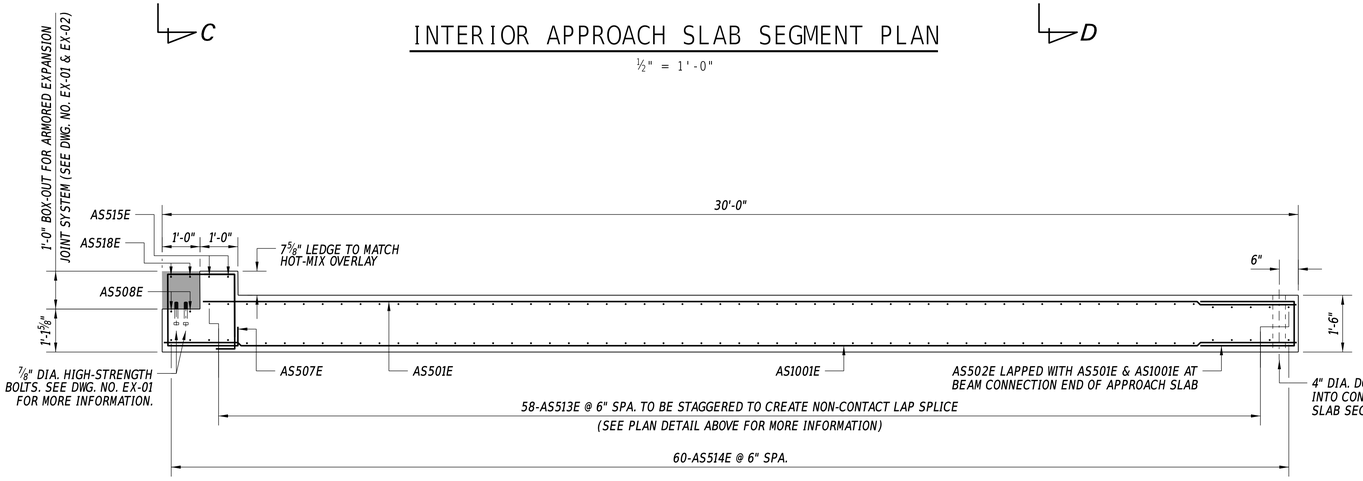
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	T200707404	BRIDGE NO.	1-488N&S	PRECAST APPROACH SLAB DETAILS (EXTERIOR SEGMENT)	AS-01
				COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN		SECTION BR
						CHECKED BY:	M. RADOVIC		SHEET NO. 36

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INTERIOR APPROACH SLAB SEGMENT PLAN

½" = 1'-0"



INTERIOR APPROACH SLAB SEGMENT ELEVATION

½" = 1'-0"

INTERIOR APPROACH SLAB SEGMENT REINFORCING BAR LIST

STRAIGHT BARS

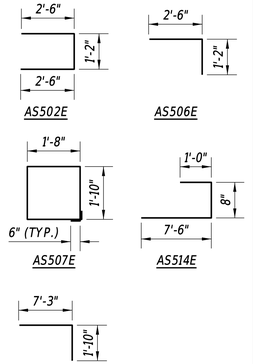
MARK	SIZE	QTY. (PER SEG.)	LENGTH
AS1001E	10	26	29'-8"
AS501E	5	26	28'-8"
AS508E	5	2	12'-6"
AS513E	5	58	12'-8"

BENT BARS

MARK	SIZE	QTY. (PER SEG.)	LENGTH
AS502E	5	26	6'-2"
AS506E	5	110	3'-8"
AS507E	5	25	8'-0"
AS514E	5	120	9'-2"
AS515E	5	4	9'-1"

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



LEGEND

E.F. - DENOTES EACH FACE

A.S. - DENOTES APPROACH SLAB

- UHPC CLOSURE POUR

PRECAST INTERIOR APPROACH SLAB SEGMENT NOTES

GENERAL

1. 4 TOTAL INTERIOR APPROACH SLAB SEGMENTS ARE REQUIRED FOR EACH BRIDGE.
2. ALL INTERIOR APPROACH SLAB SEGMENTS ARE IDENTICAL.

DESIGN PLANS - WORKING DRAWINGS

3. INFORMATION PERTAINING TO THE PRECAST APPROACH SLAB 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 PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

HANDLING

4. APPROXIMATE INTERIOR APPROACH SLAB SEGMENT DEAD WEIGHT: 43.58 TONS.
5. PRECAST APPROACH SLAB SEGMENTS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
6. ALL ELEMENTS RELATED TO THE LIFTING OF THE APPROACH SLAB SEGMENTS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH REINFORCEMENT SPACING. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

CONCRETE STRESSES

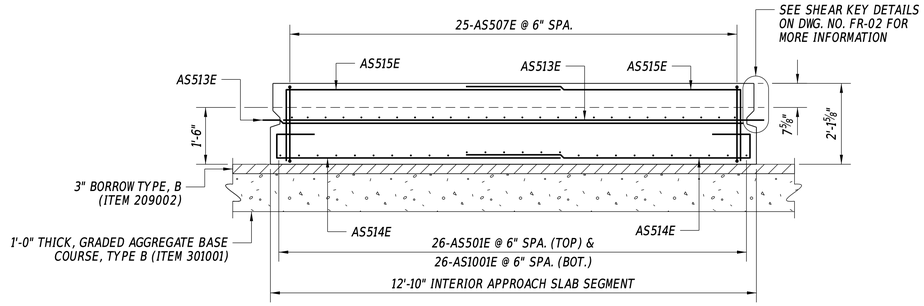
7. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

8. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
9. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
10. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.

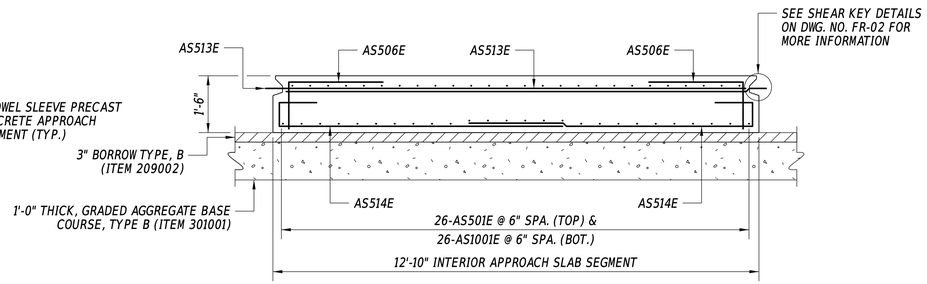
CONCRETE FINISH

11. PROVIDE A FLOAT FINISH ON THE TOPS OF THE APPROACH SLAB SEGMENTS.
12. PROVIDE A CLASS ONE FINISH ON THE APPROACH SLAB SEGMENT ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS).
13. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE APPROACH SLAB SEGMENT ENDS, BOTTOM, AND SIDES (EXCEPT IN THE AREAS OF THE SHEAR KEYS). IN ADDITION, FOR THE EXTERIOR APPROACH SLAB SEGMENT, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
14. SEE THE FRAMING PLAN DETAILS FOR INFORMATION ON THE SHEAR KEY PREPARATION.



INTERIOR APPROACH SLAB SEGMENT (SECTION C-C)

½" = 1'-0"



INTERIOR APPROACH SLAB SEGMENT (SECTION D-D)

½" = 1'-0"

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	PRECAST APPROACH SLAB DETAILS (INTERIOR SEGMENT)	AS-02
				T200707404				SECTION
				COUNTY	DESIGNED BY:	N. DEAN		BR
				NEW CASTLE	CHECKED BY:	M. RADOVIC		SHEET NO.
								37

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PRECAST SLEEPER SLAB NOTES

GENERAL

1. THE SOUTH SLEEPER SLAB OF BR 1-488S AND NORTH SLEEPER SLAB OF BR 1-488N ARE DETAILED BELOW.
2. SEE END BUTRESS DETAILS FOR MORE INFORMATION ON CONFIGURATION.
3. SEE DWG. NO. SL-03 FOR MORE INFORMATION ON THE REINFORCEMENT FOR THE BARRIER AND END BUTTRESS.
4. SEE THE BRIDGE RAILING DETAILS FOR ADDITIONAL INFORMATION ON THE PRECAST BARRIER SYSTEM.
5. JOINT ARMORING IN SLEEPER SLAB STEM NOT SHOWN FOR CLARITY. SEE EXPANSION JOINT DETAILS FOR MORE INFORMATION ON JOINT ARMORING.
6. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATS AND ANCHOR BOLTS SHALL BE INCIDENTAL TO THE PRECAST SLEEPER SLAB UNITS.

CONCRETE STRESSES

7. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

DESIGN PLANS - WORKING DRAWINGS

8. INFORMATION PERTAINING TO THE PRECAST SLEEPER SLABS 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 PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

HANDLING

9. APPROXIMATE SLEEPER SLAB SEGMENT DEAD WEIGHT: 54.73 TONS.
10. PRECAST SLEEPER SLABS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
11. ALL ELEMENTS RELATED TO THE LIFTING OF THE SLEEPER SLABS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH REINFORCEMENT SPACING. PRECASTER SHALL ENSURE PROPER PLACEMENT OF THE LIFTING ELEMENTS TO AVOID CONFLICT WITH THE PRECAST CONCRETE BARRIER AND METAL BRIDGE RAIL SYSTEM. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

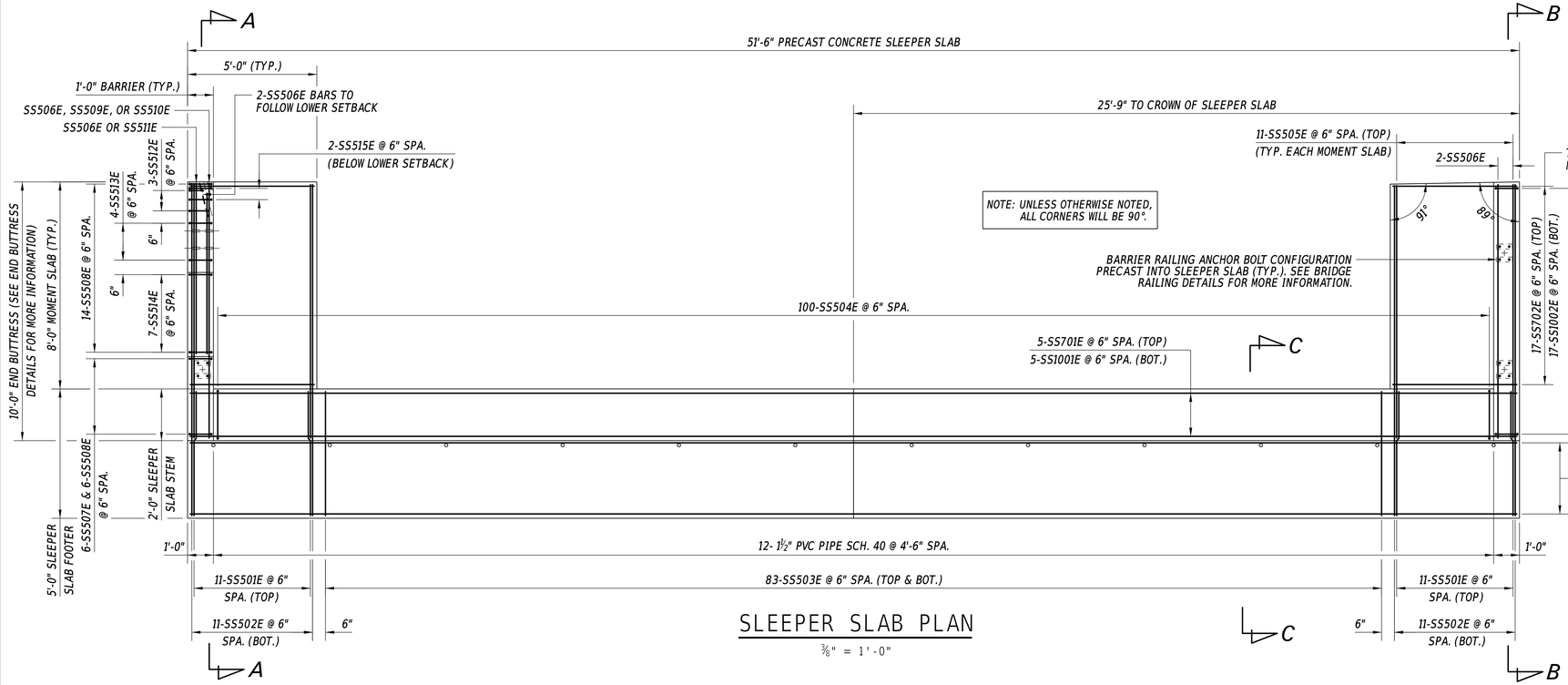
BAR REINFORCEMENT

12. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
13. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
14. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.

CONCRETE FINISH

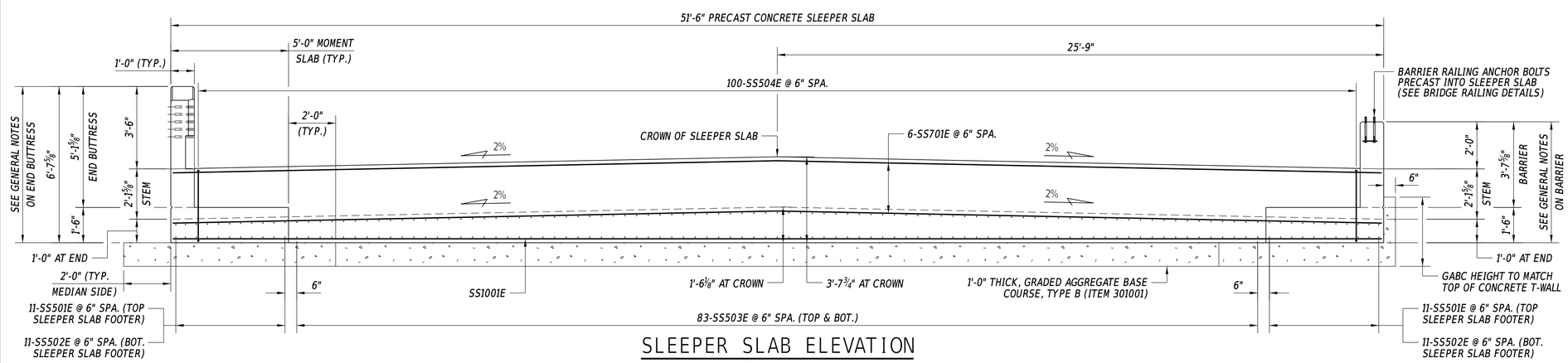
15. PROVIDE A FLOAT FINISH ON THE TOP OF THE SLEEPER SLAB STEM.
16. PROVIDE A CLASS ONE FINISH ON THE SLEEPER SLAB ENDS, BOTTOM, AND SIDES.
17. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE SLEEPER SLAB ENDS, BOTTOM, AND SIDES. IN ADDITION, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
18. SEE DWG. NO. BR-02 FOR LIMITS OF SILICONE-BASED ACRYLIC CONCRETE SEALER.

LEGEND		
E.F.	-	DENOTES EACH FACE
F.F.	-	DENOTES FRONT FACE
R.F.	-	DENOTES REAR FACE



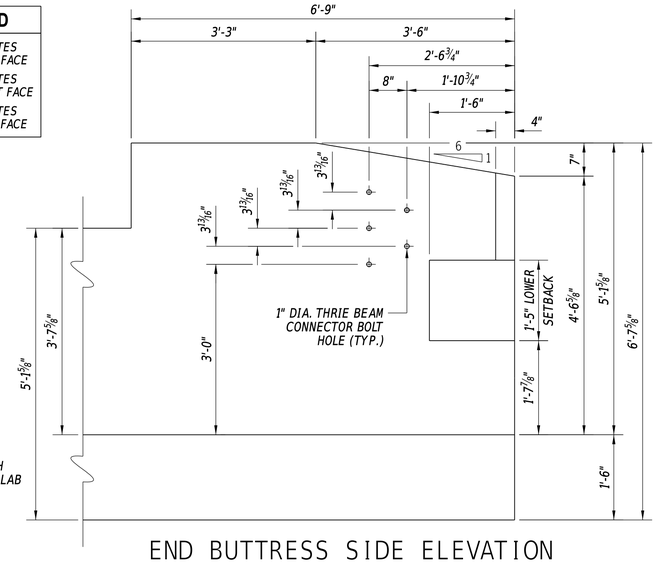
SLEEPER SLAB PLAN

$\frac{3}{8}$" = 1'-0"



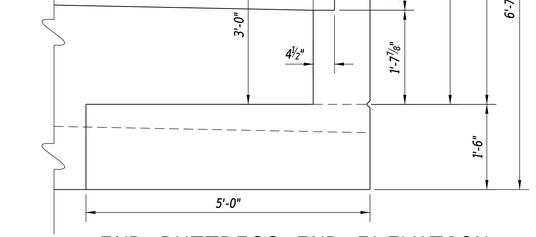
SLEEPER SLAB ELEVATION

$\frac{3}{8}$" = 1'-0"



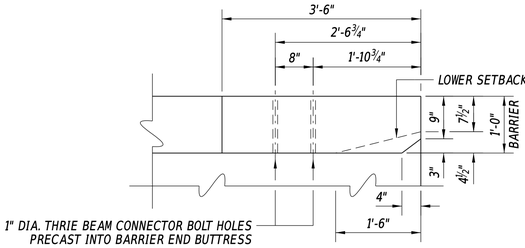
END BUTTRESS SIDE ELEVATION

$\frac{3}{4}$" = 1'-0"



END BUTTRESS END ELEVATION

$\frac{3}{4}$" = 1'-0"



END BUTTRESS PLAN

$\frac{3}{4}$" = 1'-0"

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	PRECAST SLEEPER SLAB DETAILS	SL-01
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 38

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PRECAST SLEEPER SLAB NOTES

GENERAL

1. THE NORTH SLEEPER SLAB OF BR 1-488S AND SOUTH SLEEPER SLAB OF BR 1-488N ARE DETAILED BELOW.
2. SEE END BUTRESS DETAILS FOR MORE INFORMATION ON CONFIGURATION.
3. SEE DWG. NO. SL-03 FOR MORE INFORMATION ON THE REINFORCEMENT FOR THE BARRIER AND END BUTTRESS.
4. SEE THE BRIDGE RAILING DETAILS FOR ADDITIONAL INFORMATION ON THE PRECAST BARRIER SYSTEM.
5. JOINT ARMORING IN SLEEPER SLAB STEM NOT SHOWN FOR CLARITY. SEE EXPANSION JOINT DETAILS FOR MORE INFORMATION ON JOINT ARMORING.
6. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS SHALL BE INCIDENTAL TO THE PRECAST SLEEPER SLAB UNITS.

CONCRETE STRESSES

7. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

DESIGN PLANS - WORKING DRAWINGS

8. INFORMATION PERTAINING TO THE PRECAST SLEEPER SLABS 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 PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

HANDLING

9. APPROXIMATE SLEEPER SLAB SEGMENT DEAD WEIGHT: 54.73 TONS.
10. PRECAST SLEEPER SLABS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
11. ALL ELEMENTS RELATED TO THE LIFTING OF THE SLEEPER SLABS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH REINFORCEMENT SPACING. PRECASTER SHALL ENSURE PROPER PLACEMENT OF THE LIFTING ELEMENTS TO AVOID CONFLICT WITH THE PRECAST CONCRETE BARRIER AND METAL BRIDGE RAIL SYSTEM. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

BAR REINFORCEMENT

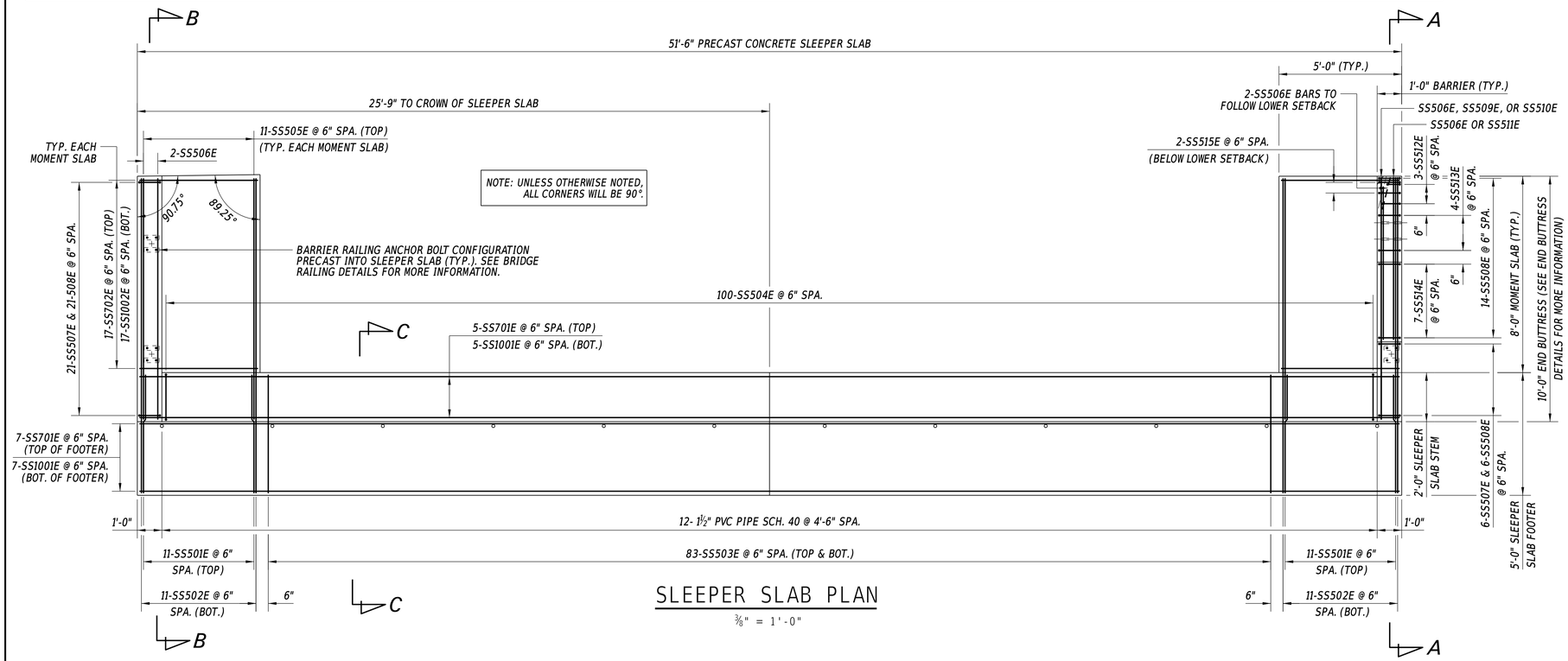
12. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
13. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
14. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.

CONCRETE FINISH

15. PROVIDE A FLOAT FINISH ON THE TOP OF THE SLEEPER SLAB STEM.
16. PROVIDE A CLASS ONE FINISH ON THE SLEEPER SLAB ENDS, BOTTOM, AND SIDES.
17. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE SLEEPER SLAB ENDS, BOTTOM, AND SIDES. IN ADDITION, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
18. SEE DWG. NO. BR-02 FOR LIMITS OF SILICONE-BASED ACRYLIC CONCRETE SEALER.

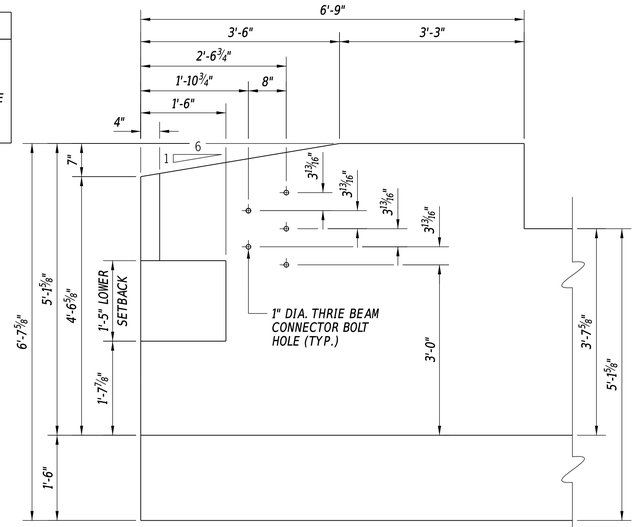
LEGEND

E.F.	-	DENOTES EACH FACE
F.F.	-	DENOTES FRONT FACE
R.F.	-	DENOTES REAR FACE



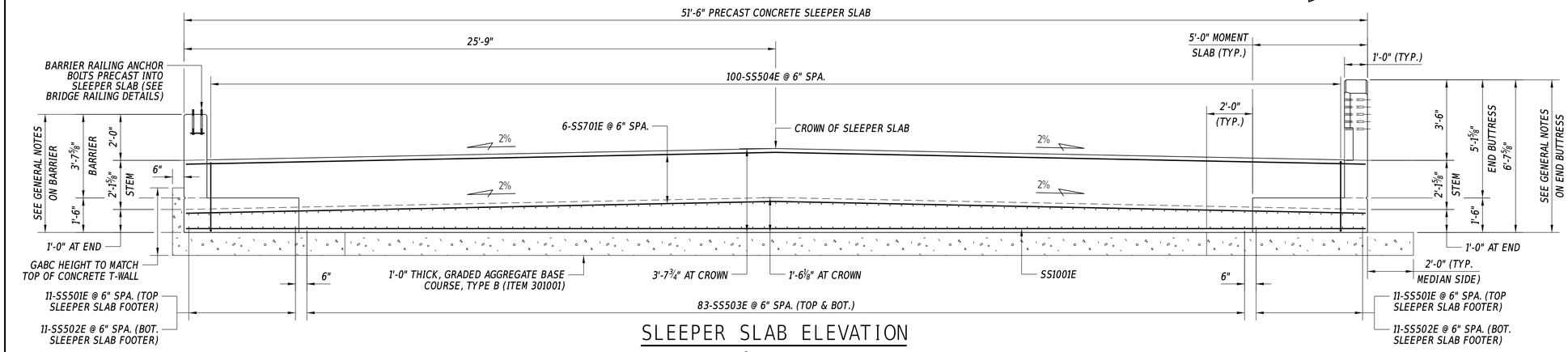
SLEEPER SLAB PLAN

⅜" = 1'-0"



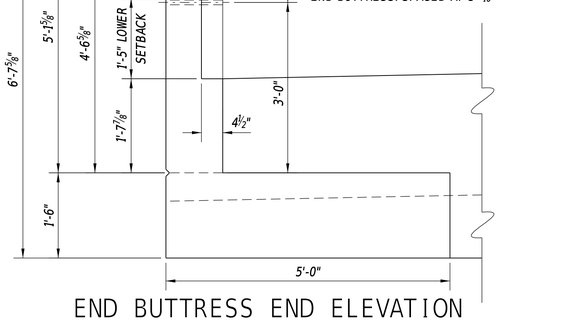
END BUTTRESS SIDE ELEVATION

¾" = 1'-0"



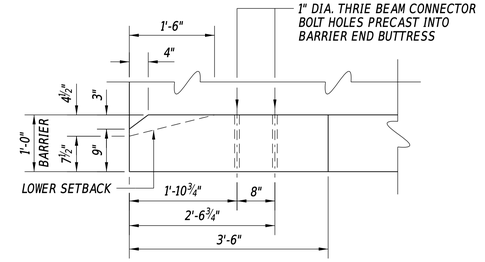
SLEEPER SLAB ELEVATION

⅜" = 1'-0"



END BUTTRESS END ELEVATION

¾" = 1'-0"

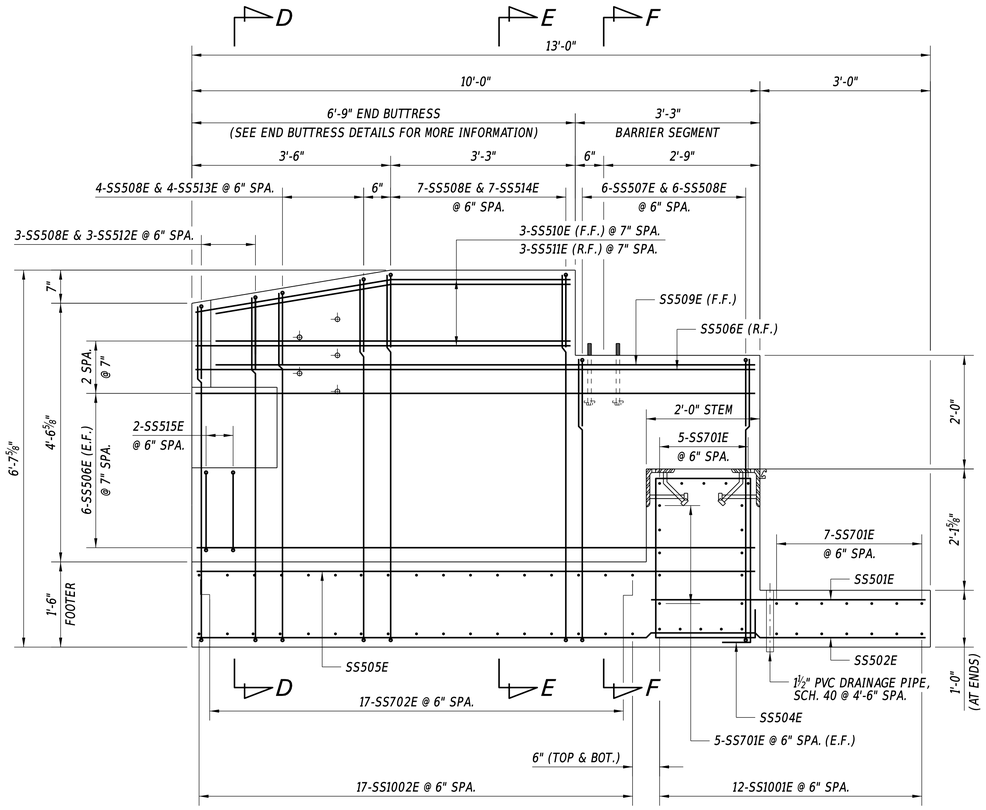


END BUTTRESS PLAN

¾" = 1'-0"

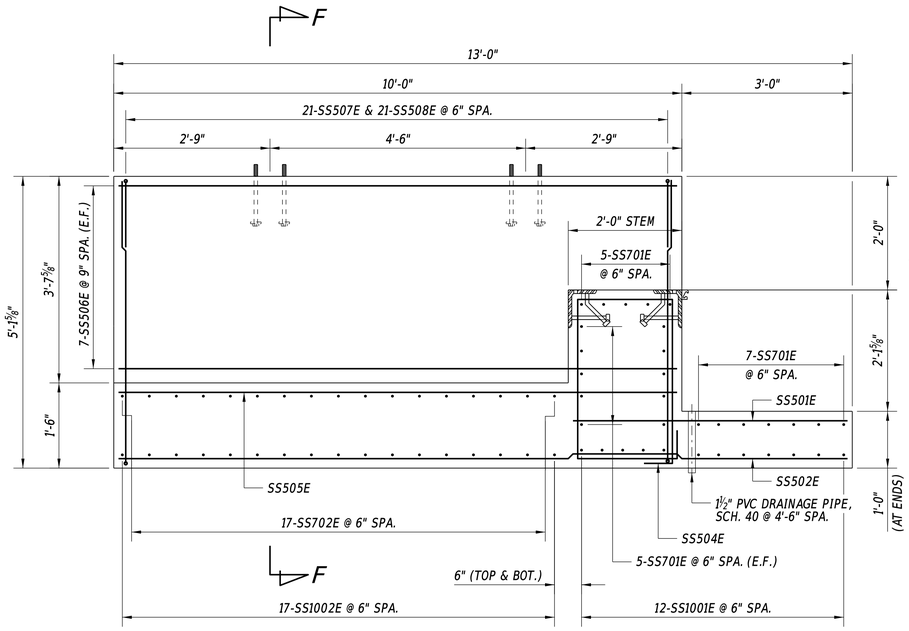
ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	PRECAST SLEEPER SLAB DETAILS	SL-02
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
				CHECKED BY: M. RADOVIC		SHEET NO. 39

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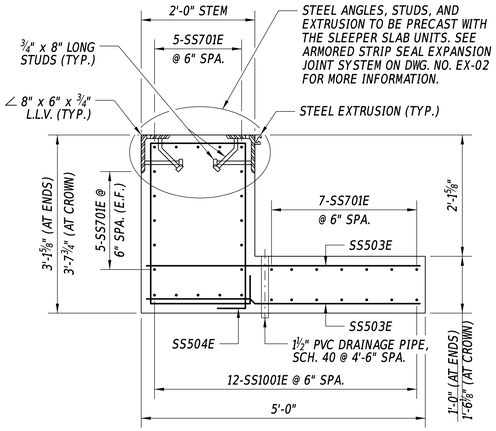
SECTION A-A

¾" = 1'-0"



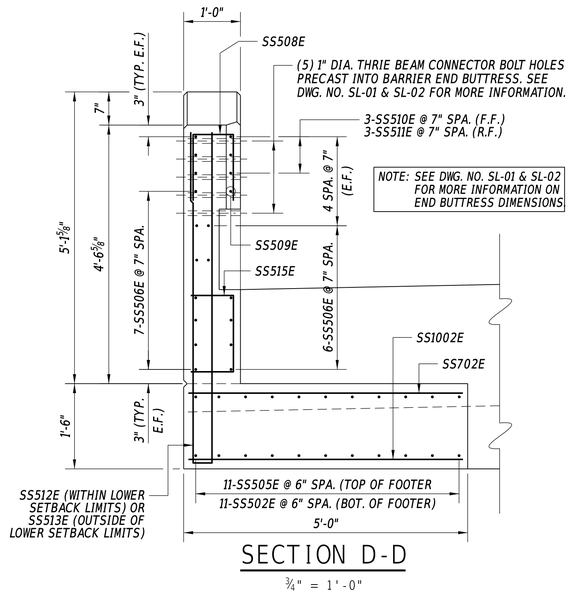
SECTION B-B

¾" = 1'-0"



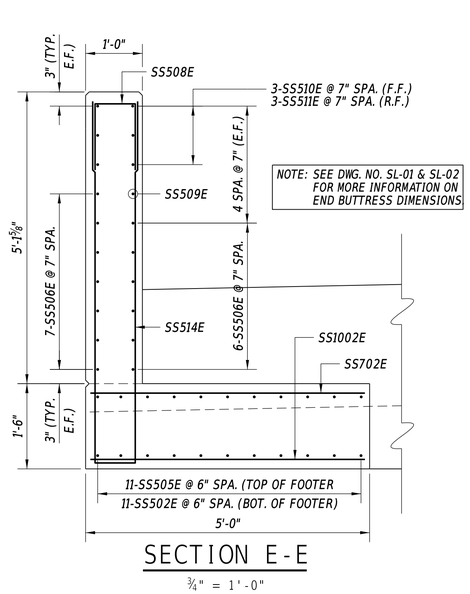
SECTION C-C

¾" = 1'-0"



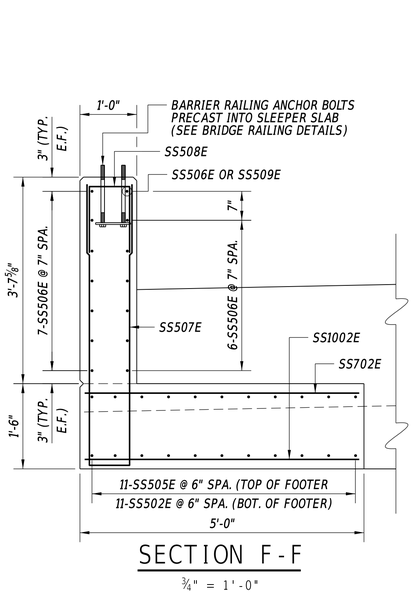
SECTION D-D

¾" = 1'-0"



SECTION E-E

¾" = 1'-0"



SECTION F-F

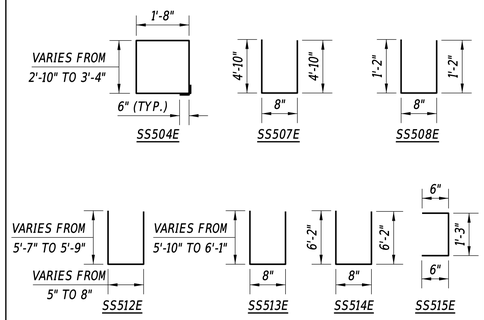
¾" = 1'-0"

LEGEND

- E.F. - DENOTES EACH FACE
- F.F. - DENOTES FRONT FACE
- R.F. - DENOTES REAR FACE

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



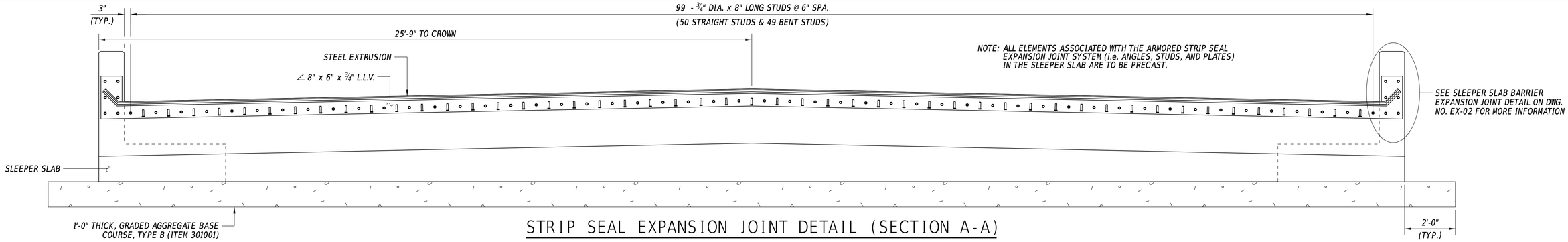
SLEEPER SLAB REINFORCING BAR LIST

STRAIGHT BARS				BENT BARS			
MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH
SS1001E	10	12	51'-2"				
SS1002E	10	34	4'-8"	SS504E	5	100	10'-0" TO 11'-0"
SS701E	7	22	51'-2"				
SS702E	7	34	4'-8"	SS507E	5	27	10'-4"
SS501E	5	22	4'-8"	SS508E	5	41	3'-0"
SS502E	5	22	12'-8"				
SS503E	5	166	4'-8"	SS512E	5	3	11'-10" TO X'-X"
SS505E	5	22	9'-8"				
SS506E	5	27	9'-8"				
SS509E	5	1	9'-4"	SS513E	5	4	12'-4" TO 12'-10"
SS510E	5	3	6'-1"				
SS511E	5	3	6'-5"	SS514E	5	7	13'-0"
				SS515E	5	2	2'-3"

NOTE: SS504E, SS512E, AND SS513E ARE SERIES BARS. SEE THE BENDING DIAGRAM FOR THE HEIGHT RANGE.

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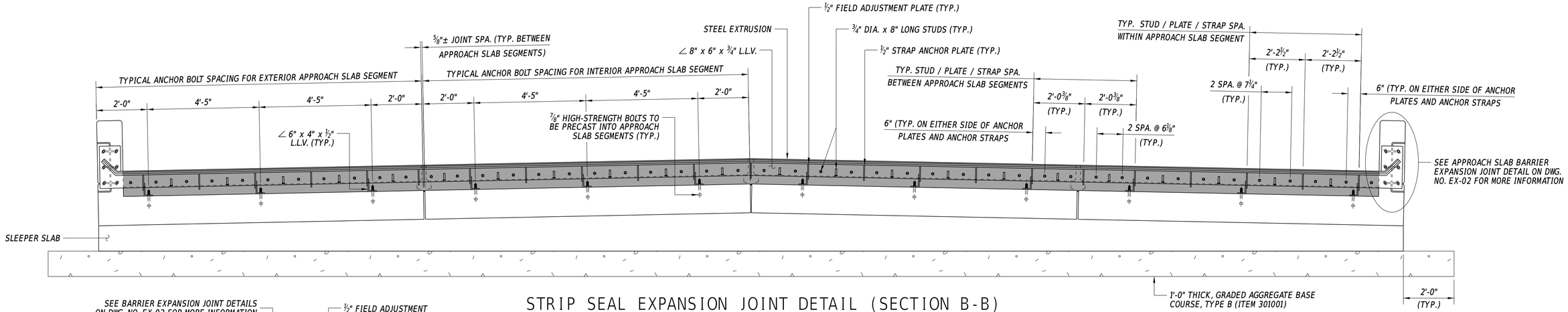
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	PRECAST SLEEPER SLAB DETAILS	SL-03
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 40



STRIP SEAL EXPANSION JOINT DETAIL (SECTION A-A)

(IN SLEEPER SLAB)

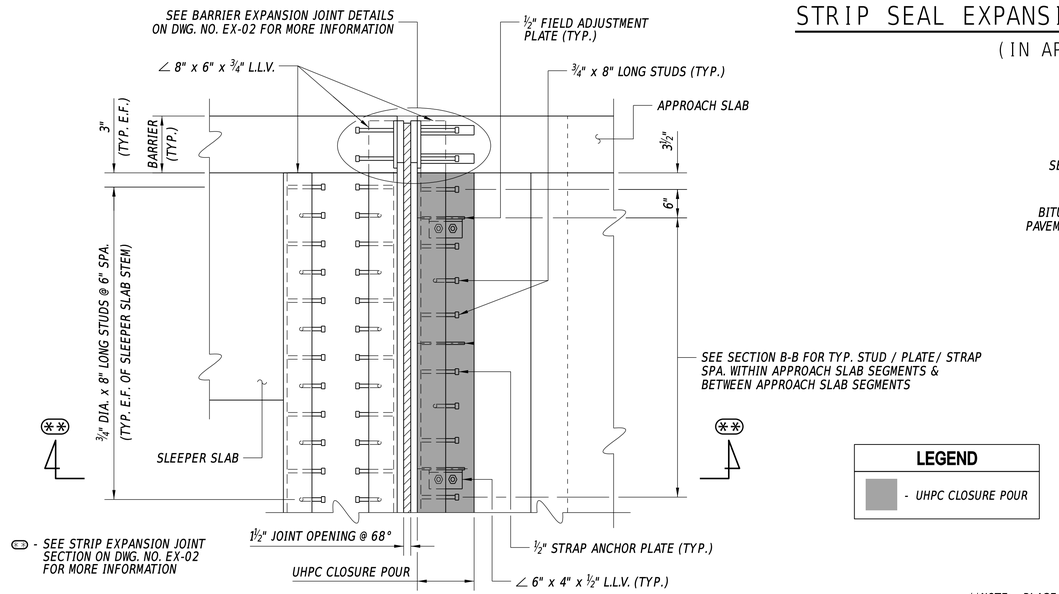
½" = 1'-0"



STRIP SEAL EXPANSION JOINT DETAIL (SECTION B-B)

(IN APPROACH SLAB SEGMENTS)

½" = 1'-0"

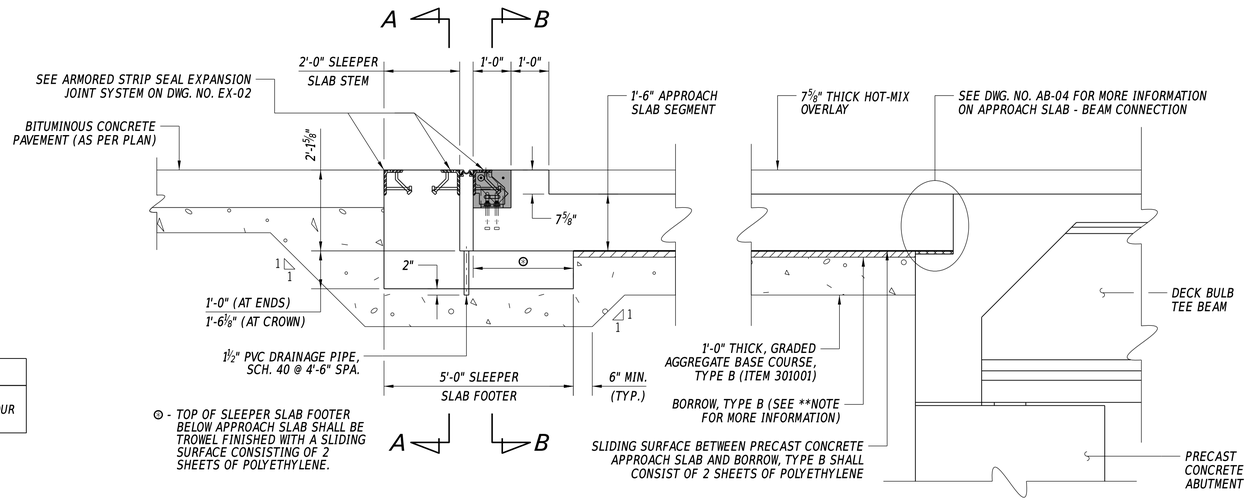


TYPICAL STRIP SEAL EXPANSION JOINT PLAN

¾" = 1'-0"

LEGEND

- UHPC CLOSURE POUR



**NOTE: PLACE A 3" LAYER OF BORROW TYPE, B BETWEEN THE GABC UNDER THE APPROACH SLAB AND THE POLYETHYLENE SLIDING SURFACE. PAID FOR UNDER ITEM 209002 - BORROW TYPE, B.

STRIP SEAL EXPANSION JOINT & SUBGRADE ELEVATION

½" = 1'-0"

ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	STRIP SEAL EXPANSION JOINT DETAILS	EX-01
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
				CHECKED BY: M. RADOVIC		SHEET NO. 41

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STRIP SEAL EXPANSION JOINT NOTES

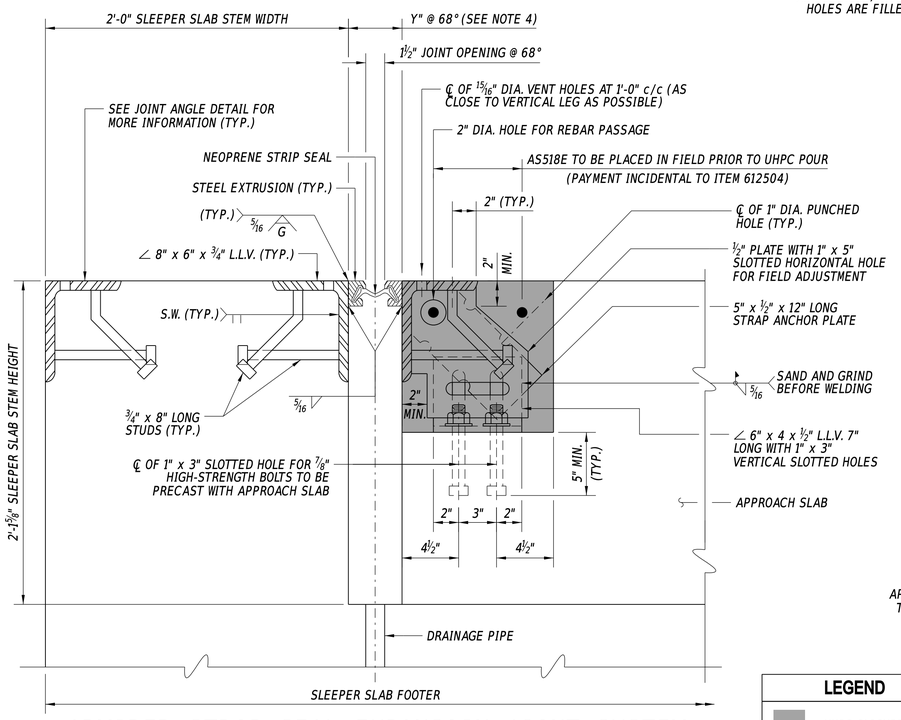
1. STEEL FOR EXPANSION JOINTS AND STEEL EXTRUSIONS SHALL BE AASHTO M270, GR. 36 (ASTM A36) AT MINIMUM.
2. NEOPRENE EXTRUSION TO MEET D-2628-81 MODIFIED, (RECOVERY TESTS EXCLUDED).
3. THE EXPANSION JOINT SHALL BE CAPABLE OF SEALING THE DECK TO PREVENT MOISTURE AND OTHER CONTAMINANTS FROM DESCENDING THROUGH THE JOINT.
4. THE CONTRACTOR SHALL ADJUST THE OPEN JOINT AS REQUIRED BY THE WIDTH OF THE STEEL EXTRUSION USED SO AS TO PROVIDE A 1½" JOINT OPENING AT 68°F. USE THE SAME JOINT OPENING AT THE SOUTH SLEEPER SLAB AND NORTH SLEEPER SLAB.
5. THE STRIP SEAL SHALL BE INSTALLED IN ONE PIECE ACROSS THE BRIDGE WIDTH. SPLICING OF THE STRIP SEAL IS NOT PERMITTED.
6. THE EXPANSION JOINT SYSTEM IS PAID FOR UNDER ITEM 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".
7. ENTIRE EXPANSION DAM SHALL BE PAINTED AFTER FABRICATION USING AN APPROVED URETHANE SYSTEM IN ACCORDANCE WITH SECTION 624 OF THE STANDARD SPECIFICATIONS, EXCEPT AS NOTED.
8. LUBRICANT-ADHESIVE FOR USE IN INSTALLING AND BONDING NEOPRENE SEAL ELEMENTS TO STEEL JOINT COMPONENTS SHALL BE A ONE QUART MOISTURE-CURING POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE HAVING THE FOLLOWING PHYSICAL PROPERTIES:

AVERAGE WEIGHT, POUNDS PER GALLON	8 +/- 10%
SOLIDS CONTENT	65%
ADHESIVE SHALL REMAIN LIQUID FROM	5°F TO 120°F
FILM STRENGTH, AS PER ASTM D-412	2,000 PSI
ELONGATION	250%

9. HOLES SHALL BE PLACED IN THE RIB PLATES AND STRAP ANCHOR PLATES FOR BAR REINFORCEMENT. IF THIS IS DONE IN THE FIELD AN APPROVED EPOXY-BONDED PAINT SHALL BE USED TO TOUCH-UP THE HOLES. PAYMENT INCIDENTAL TO ITEM #624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".
10. ANCHOR PLATE AND STEEL EXTRUSION SHALL BE WELDED TO BE WATERTIGHT AT CONSTRUCTION JOINTS. PAYMENT INCIDENTAL TO ITEM 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".
11. AT AREAS WHERE STEEL MEMBERS ARE TO BE SPLICED, USE OF COMPLETE JOINT PENETRATION (CJP) AND PARTIAL JOINT PENETRATION (PJP) WELD ARE BOTH PERMITTED. THE THICKNESS OF PJP WELD MUST BE MINIMUM HALF OF THE STEEL MEMBER THICKNESS.
12. THE EXPANSION JOINT, PRECAST APPROACH SLAB, AND SLEEPER SLAB FABRICATOR(S) SHALL SUBMIT FOR APPROVAL, SHOP DRAWINGS DETAILING THE CONFIGURATION OF THE EXPANSION JOINT SYSTEM. THE STEEL ARMORING OF THE STRIP SEAL EXPANSION JOINT SYSTEM WILL BE FABRICATED AND SHIPPED TO THE CONCRETE PRECAST FACILITY PRIOR TO CASTING OF THE PRECAST SLEEPER SLAB AND APPROACH SLAB ELEMENTS. SPACING OF THE ⅞" ANCHOR BOLTS IN THE PRECAST APPROACH SLAB SEGMENTS WILL BE CONFIRMED BASED ON THE STEEL EXPANSION JOINT CONFIGURATION.
13. TRAFFIC PARAPET PLATE SHALL BE AASHTO M270, GR. 36 (ASTM A36) AT A MINIMUM. SCREWS USED TO SECURE THE PLATE SHALL BE A304 STAINLESS STEEL ½" MIN. DIA., 1½" LONG WITH 3½" LONG A108 CONCRETE THREADED ANCHOR. RECESS THE TRAFFIC PLATE INTO THE CONCRETE SO THAT IT SITS FLUSH WITH THE PARAPET FACE. COUNTERSINK SCREWS SO THEY SIT FLUSH WITH THE TRAFFIC PLATE. PRECAST APPROACH SLAB AND SLEEPER SLAB FABRICATOR(S) SHALL SUBMIT WORKING DRAWINGS FOR APPROVAL BY THE ENGINEER. PAYMENT FOR TRAFFIC PARAPET PLATE, SCREWS, ANCHORS, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE ASSOCIATED WORK SHALL BE INCIDENTAL TO ITEM 624000 - PREFABRICATED EXPANSION JOINT SYSTEM, 3".

PRECAST ELEMENT NOTES

1. ALL ELEMENTS ASSOCIATED WITH THE ARMORED EXPANSION JOINT SYSTEM (i.e. ANGLES, STUDS, PLATES, AND STEEL EXTRUSION) IN THE SLEEPER SLAB ARE TO BE PRECAST.
2. ALL ELEMENTS ASSOCIATED WITH THE ARMORED EXPANSION JOINT SYSTEM (i.e. ANGLES, STUDS, STRAPS, AND PLATES) IN THE APPROACH SLAB ARE TO BE FIELD PLACED WITH THE EXCEPTION OF THE ANCHOR BOLTS AND PRECAST SLEEVES. THE ANCHOR BOLTS AND PRECAST SLEEVES ARE TO BE PRECAST INTO THE EXTERIOR APPROACH SLAB SEGMENTS.
3. THE CONTRACTOR SHALL FILL THE PRECAST SLEEVES IN THE BARRIERS OF THE APPROACH SLAB ONCE THE FIELD-PLACED ARMORED EXPANSION JOINT SYSTEM ELEMENTS ARE SET AND THE UHPC CLOSURE POUR(S) IN THE APPROACH SLAB HAS BEEN COMPLETED. THE PRECAST SLEEVES WILL BE FILLED WITH HIGH-STRENGTH, NON-SHRINK GROUT (PAYMENT IS INCIDENTAL TO ITEM #624000).
4. THE CONTRACTOR SHALL ENSURE THE GROUT PORTS AND AIR VENTS IN THE EXTERIOR APPROACH SLAB SEGMENTS DO NOT INTERFERE WITH ANY BARRIER REINFORCEMENT.
5. GROUT PORTS AND AIR VENTS SHALL BE TEMPORARILY PLUGGED UNTIL THE TIME OF GROUTING IN ORDER TO KEEP THEM FREE OF DEBRIS.

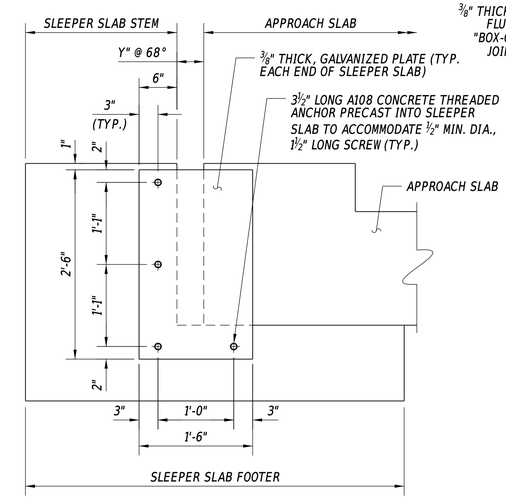


ARMORED STRIP SEAL EXPANSION JOINT SYSTEM

2" = 1'-0"

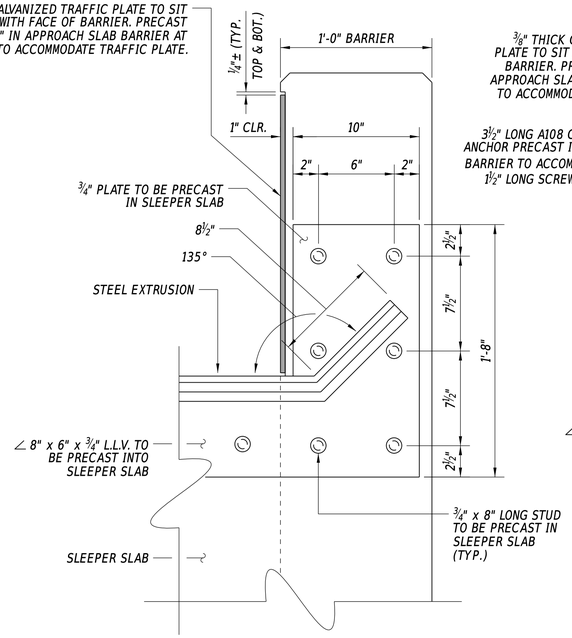
LEGEND

- UHPC CLOSURE POUR



SLEEPER SLAB END PLATE DETAIL

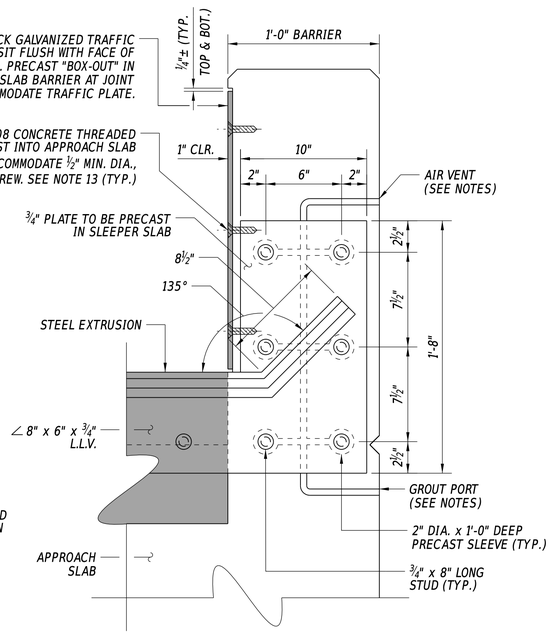
1" = 1'-0"



BARRIER EXPANSION JOINT DETAIL

(IN SLEEPER SLAB)

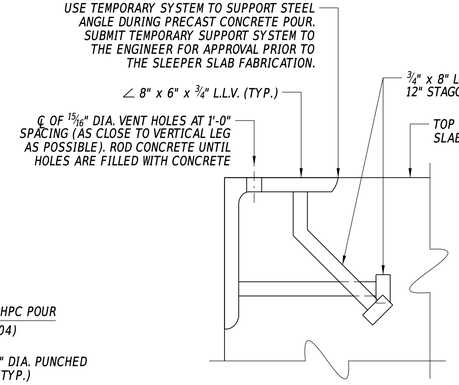
2" = 1'-0"



BARRIER EXPANSION JOINT DETAIL

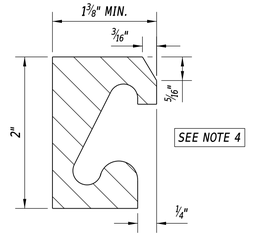
(IN APPROACH SLAB)

2" = 1'-0"



JOINT ANGLE DETAIL

3" = 1'-0"

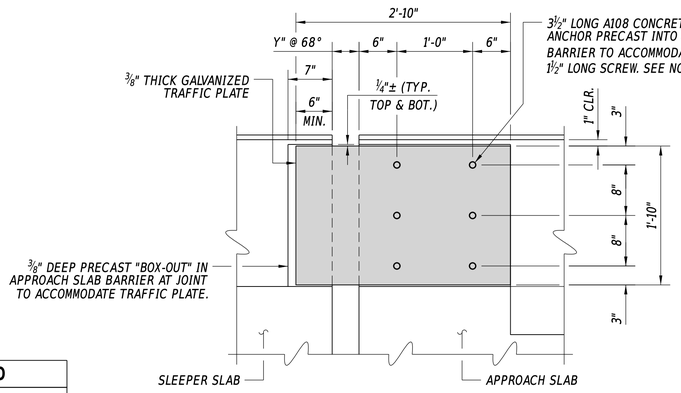


STEEL EXTRUSION DETAIL

12" = 1'-0"

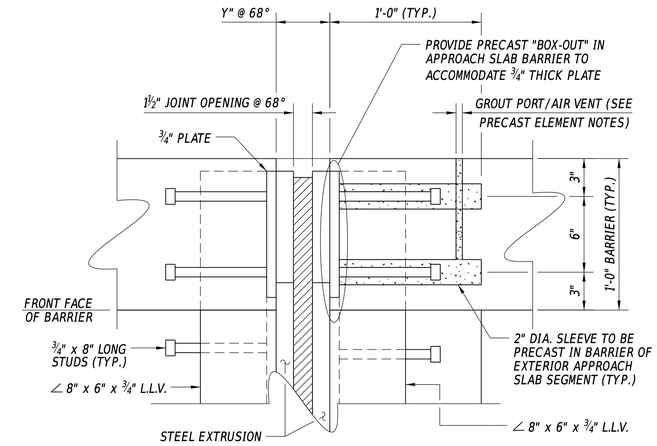
JOINT OPENING (INCH)

LOCATION	TEMPERATURE (°F)							MOVEMENT CLASSIFICATION
	10	20	30	40	50	60	70	80	
SOUTH SLEEPER SLAB	1⅞"	1¾"	1¾"	1¾"	1¾"	1¾"	1¾"	1⅝"	3"
NORTH SLEEPER SLAB	2⅛"	2"	1⅞"	1¾"	1¾"	1⅝"	1½"	1⅜"	3"



TRAFFIC BARRIER PLATE DETAIL

1" = 1'-0"

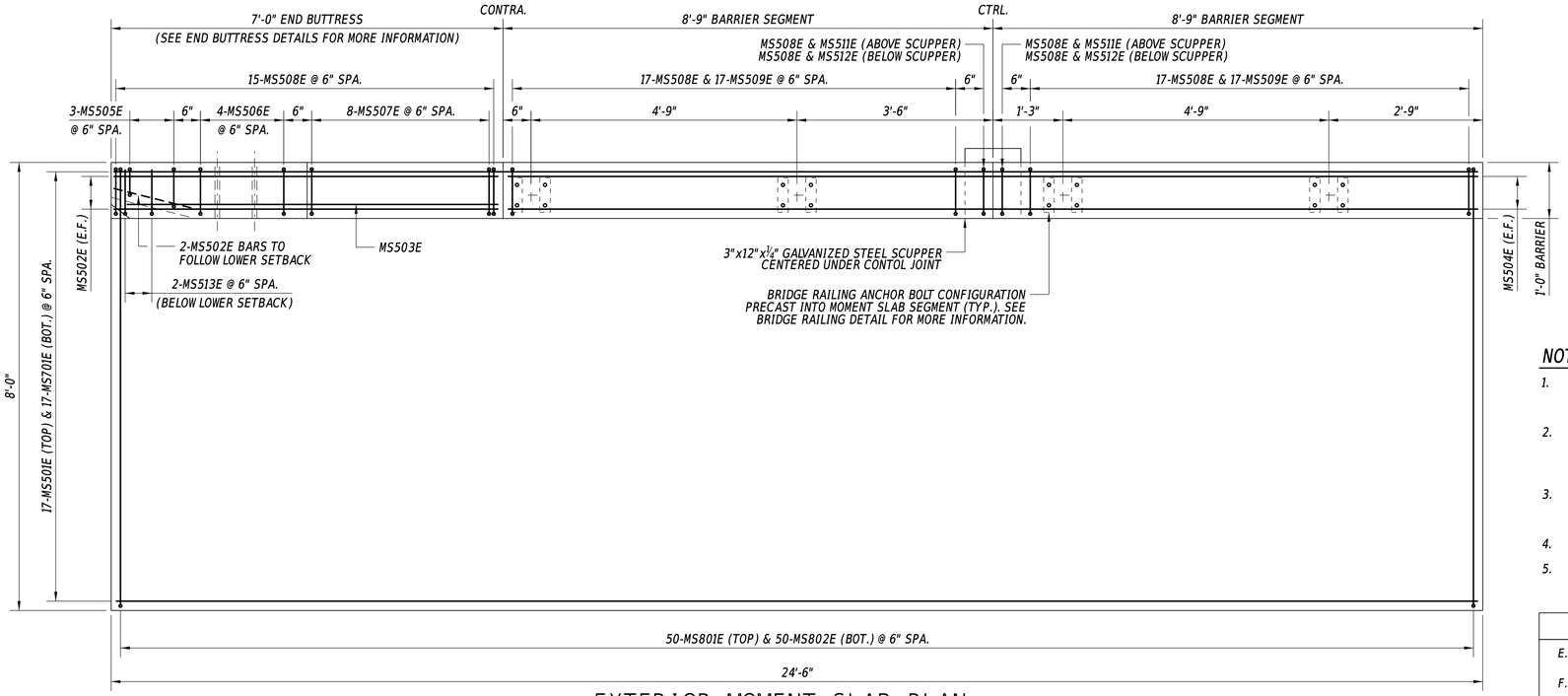


BARRIER EXPANSION JOINT PLAN

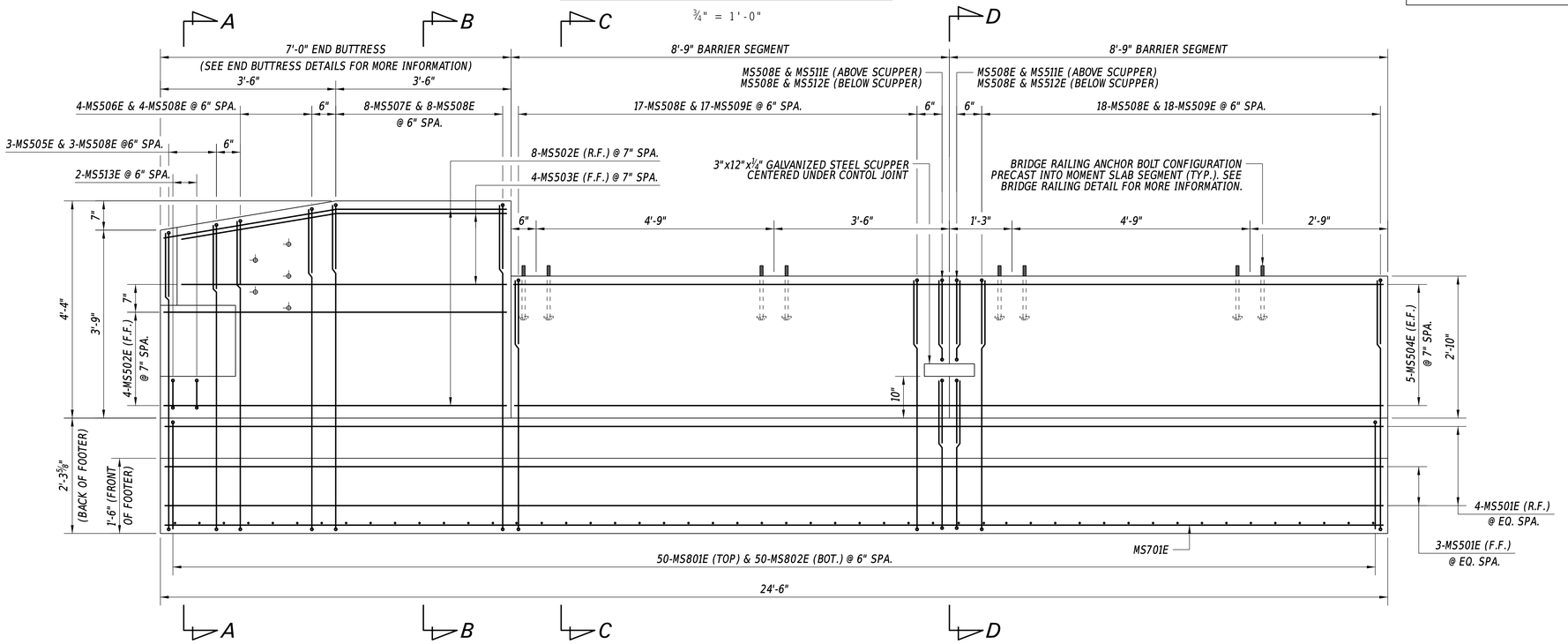
2" = 1'-0"

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	T200707404	BRIDGE NO.	1-488N&S	STRIP SEAL EXPANSION JOINT DETAILS	EX-02
				COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN		SECTION: BR
						CHECKED BY:	M. RADOVIC		SHEET NO.: 42

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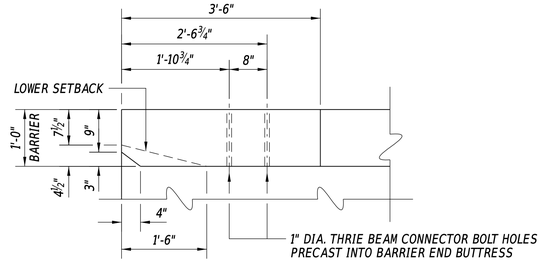


EXTERIOR MOMENT SLAB PLAN



EXTERIOR MOMENT SLAB ELEVATION

3/4" = 1'-0"

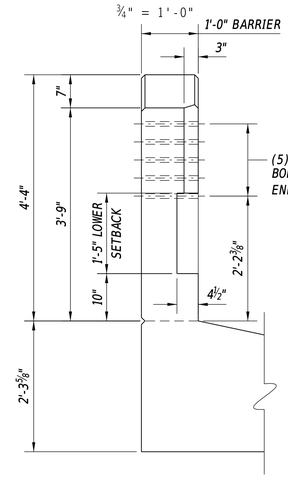


END BUTTRESS PLAN

NOTES

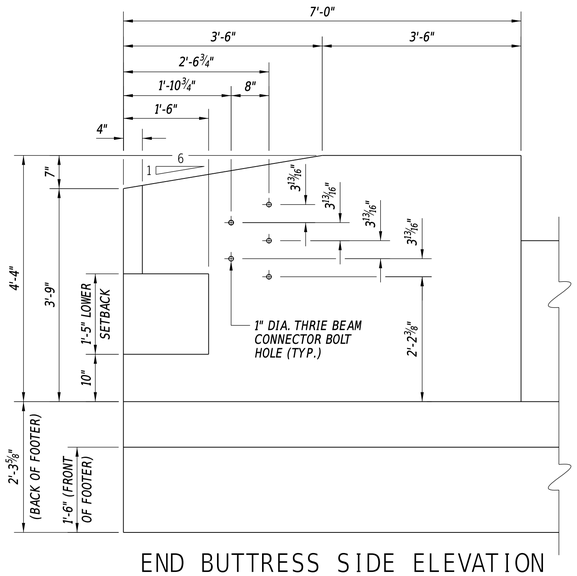
1. THE PLAN AND ELEVATION FOR THE PRECAST MOMENT SLAB CONFIGURATION, MS-1, ARE DETAILED. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-1.
2. FOR THE PRECAST MOMENT SLAB PLAN CONFIGURATION OF MS-2, MIRROR THIS PLAN ABOUT THE LENGTH OF THE MOMENT SLAB SEGMENT. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-2.
3. FOR THE PRECAST MOMENT SLAB ELEVATION CONFIGURATION OF MS-2, MIRROR THIS ELEVATION ABOUT THE VERTICAL EDGE OF THE MOMENT SLAB SEGMENT.
4. SEE DWG. NO. MS-05 FOR MOMENT SLAB SEGMENT REINFORCEMENT SECTIONS.
5. SEE DWG. NO. MS-05 FOR REINFORCEMENT BENDING DIAGRAMS, BAR LIST, AND PRECAST MOMENT SLAB NOTES.

LEGEND
E.F. - DENOTES EACH FACE
F.F. - DENOTES FRONT FACE
R.F. - DENOTES REAR FACE



END BUTTRESS END ELEVATION

3/4" = 1'-0"

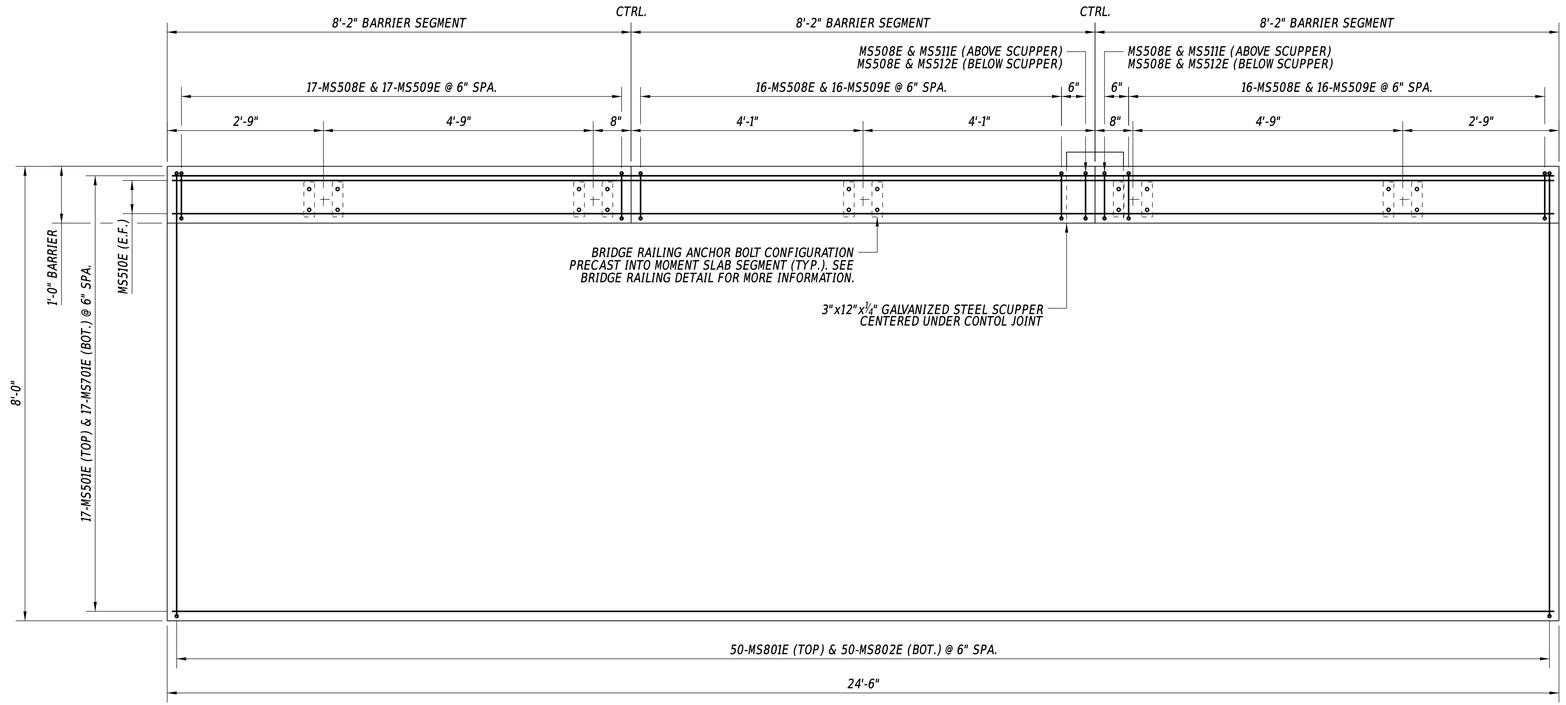


END BUTTRESS SIDE ELEVATION

3/4" = 1'-0"

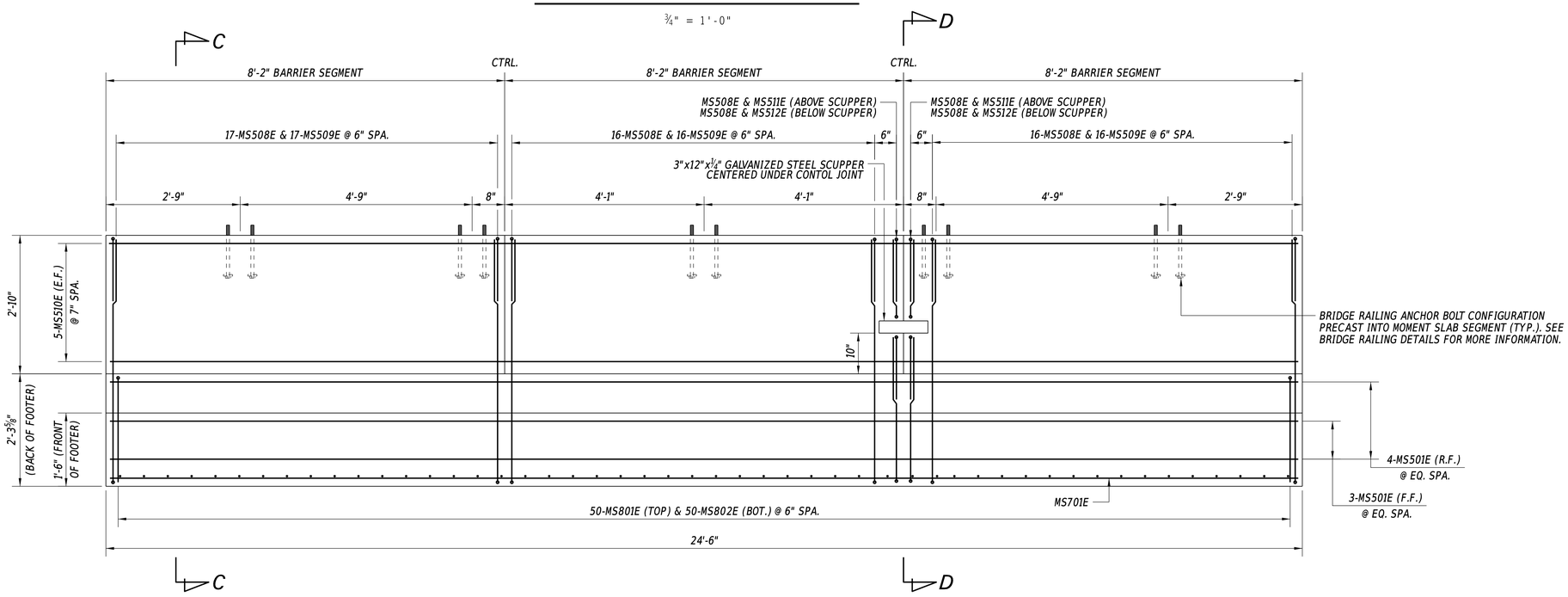
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	EXTERIOR MOMENT SLAB SEGMENT DETAILS	MS-01
				T200707404	DESIGNED BY: N. DEAN		SECTION: BR
				COUNTY: NEW CASTLE	CHECKED BY: M. RADOVIC		SHEET NO.: 43

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INTERIOR MOMENT SLAB PLAN

3/4" = 1'-0"



INTERIOR MOMENT SLAB ELEVATION

3/4" = 1'-0"

NOTES

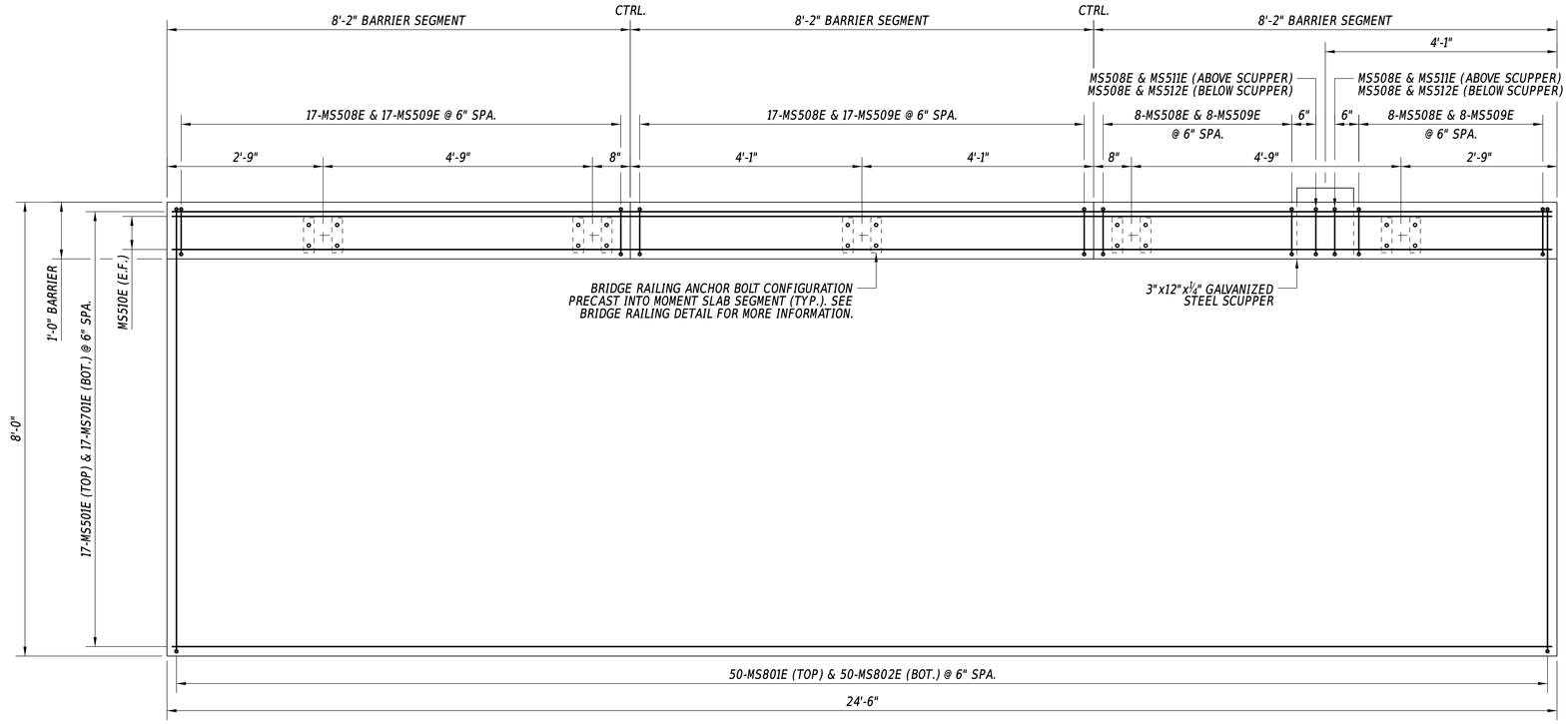
1. THE PLAN AND ELEVATION FOR THE PRECAST MOMENT SLAB CONFIGURATION, MS-3, ARE DETAILED. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-3.
2. FOR THE PRECAST MOMENT SLAB PLAN CONFIGURATION OF MS-4, MIRROR THIS PLAN ABOUT THE LENGTH OF THE MOMENT SLAB SEGMENT. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-4.
3. FOR THE PRECAST MOMENT SLAB ELEVATION CONFIGURATION OF MS-4, MIRROR THIS ELEVATION ABOUT THE VERTICAL EDGE OF THE MOMENT SLAB SEGMENT.
4. SEE DWG. NO. MS-05 FOR MOMENT SLAB SEGMENT REINFORCEMENT SECTIONS.
5. SEE DWG. NO. MS-05 FOR REINFORCEMENT BENDING DIAGRAMS, BAR LIST, AND PRECAST MOMENT SLAB NOTES.

LEGEND

E.F.	- DENOTES EACH FACE
F.F.	- DENOTES FRONT FACE
R.F.	- DENOTES REAR FACE

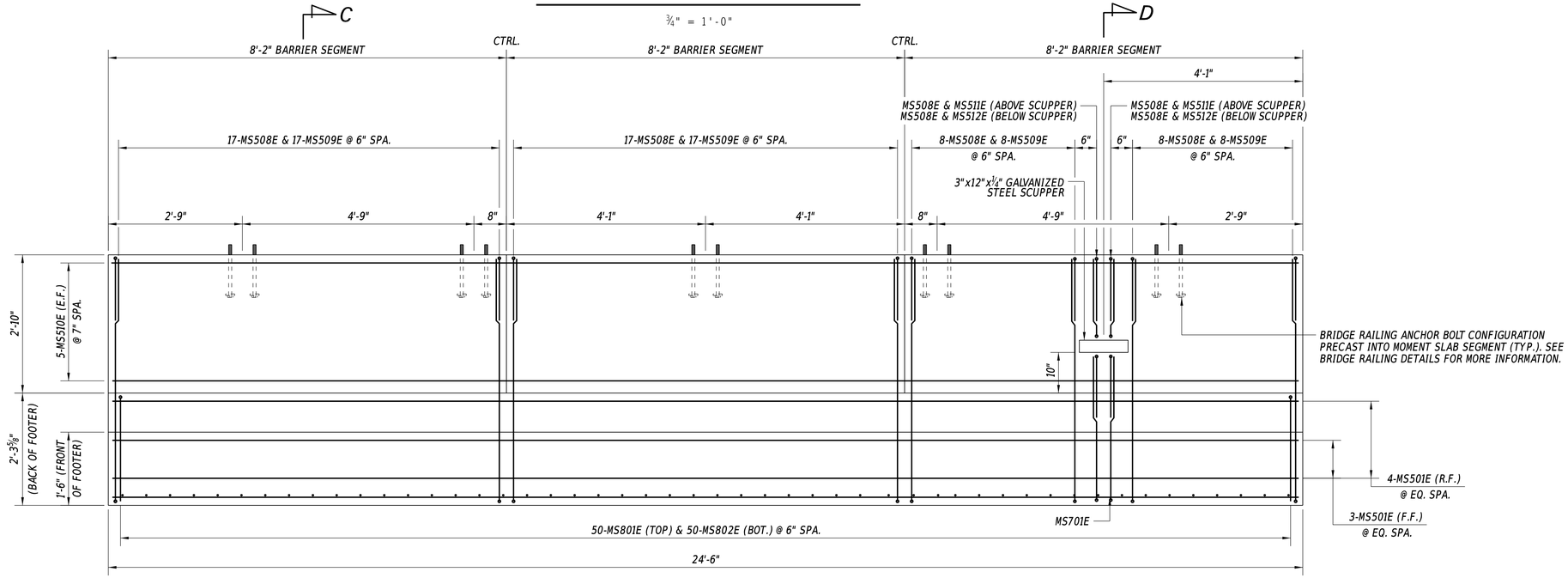
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	T200707404	BRIDGE NO.	1-488N&S	INTERIOR MOMENT SLAB SEGMENT DETAILS	MS-02
				COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN		SECTION: BR
						CHECKED BY:	M. RADOVIC		SHEET NO. 44

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INTERIOR MOMENT SLAB PLAN

3/4" = 1'-0"



INTERIOR MOMENT SLAB ELEVATION

3/4" = 1'-0"

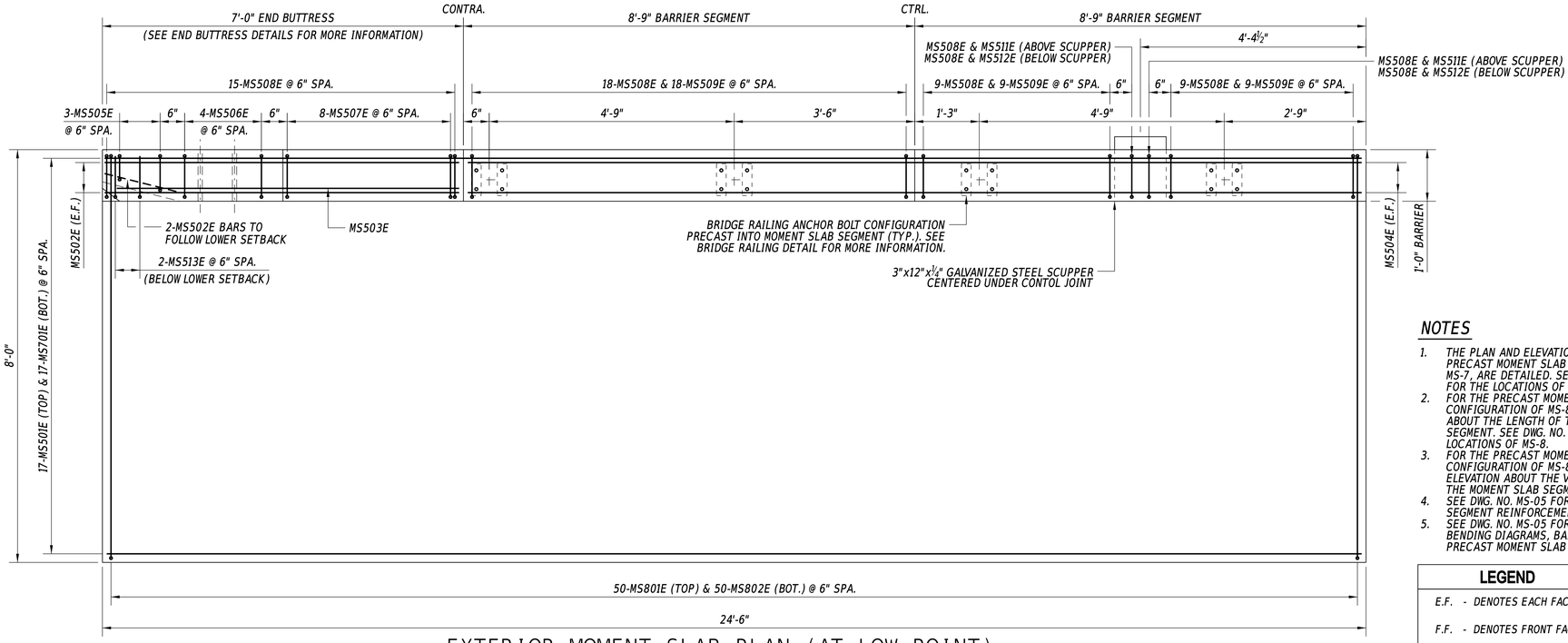
NOTES

1. THE PLAN AND ELEVATION FOR THE PRECAST MOMENT SLAB CONFIGURATION, MS-5, ARE DETAILED. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-5.
2. FOR THE PRECAST MOMENT SLAB PLAN CONFIGURATION OF MS-6, MIRROR THIS PLAN ABOUT THE LENGTH OF THE MOMENT SLAB SEGMENT. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-6.
3. FOR THE PRECAST MOMENT SLAB ELEVATION CONFIGURATION OF MS-6, MIRROR THIS ELEVATION ABOUT THE VERTICAL EDGE OF THE MOMENT SLAB SEGMENT.
4. SEE DWG. NO. MS-05 FOR MOMENT SLAB SEGMENT REINFORCEMENT SECTIONS.
5. SEE DWG. NO. MS-05 FOR REINFORCEMENT BENDING DIAGRAMS, BAR LIST, AND PRECAST MOMENT SLAB NOTES.

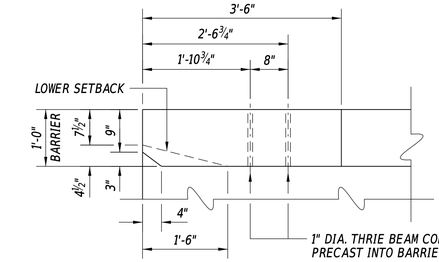
LEGEND
E.F. - DENOTES EACH FACE
F.F. - DENOTES FRONT FACE
R.F. - DENOTES REAR FACE

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ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	INTERIOR MOMENT SLAB SEGMENT DETAILS (AT PROFILE LOW POINT)	MS-03
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
				CHECKED BY: M. RADOVIC		SHEET NO. 45



EXTERIOR MOMENT SLAB PLAN (AT LOW POINT)

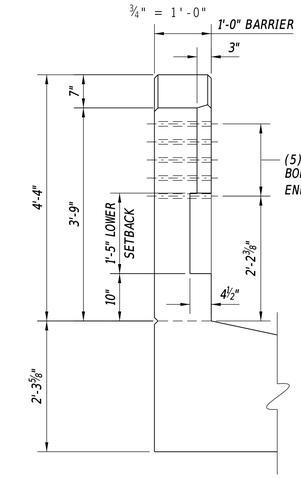


END BUTTRESS PLAN

NOTES

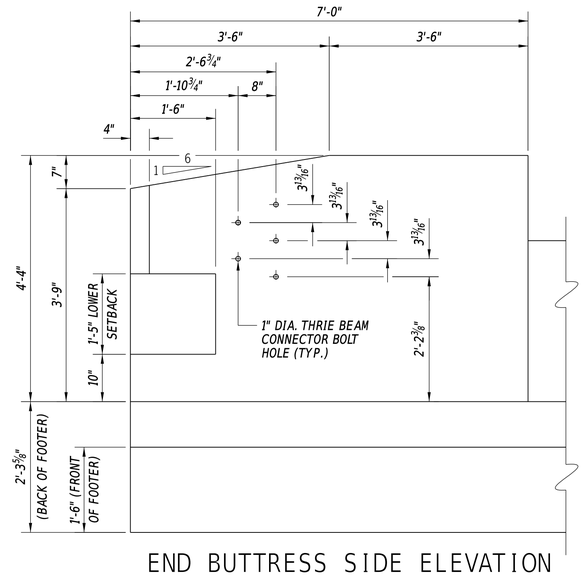
1. THE PLAN AND ELEVATION FOR THE PRECAST MOMENT SLAB CONFIGURATION, MS-7, ARE DETAILED. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-7.
2. FOR THE PRECAST MOMENT SLAB PLAN CONFIGURATION OF MS-8, MIRROR THIS PLAN ABOUT THE LENGTH OF THE MOMENT SLAB SEGMENT. SEE DWG. NO. FT-01 FOR THE LOCATIONS OF MS-8.
3. FOR THE PRECAST MOMENT SLAB ELEVATION CONFIGURATION OF MS-8, MIRROR THIS ELEVATION ABOUT THE VERTICAL EDGE OF THE MOMENT SLAB SEGMENT.
4. SEE DWG. NO. MS-05 FOR MOMENT SLAB SEGMENT REINFORCEMENT SECTIONS.
5. SEE DWG. NO. MS-05 FOR REINFORCEMENT BENDING DIAGRAMS, BAR LIST, AND PRECAST MOMENT SLAB NOTES.

LEGEND
E.F. - DENOTES EACH FACE
F.F. - DENOTES FRONT FACE
R.F. - DENOTES REAR FACE



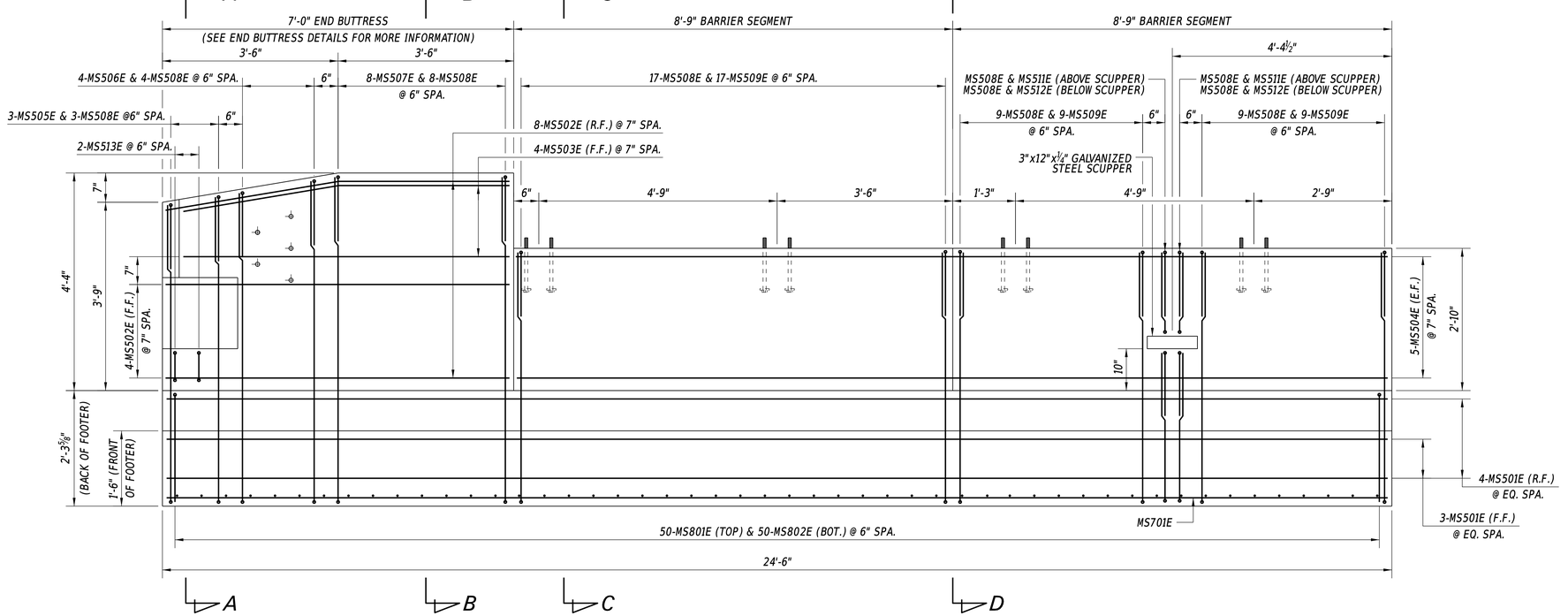
END BUTTRESS END ELEVATION

¾" = 1'-0"



END BUTTRESS SIDE ELEVATION

¾" = 1'-0"

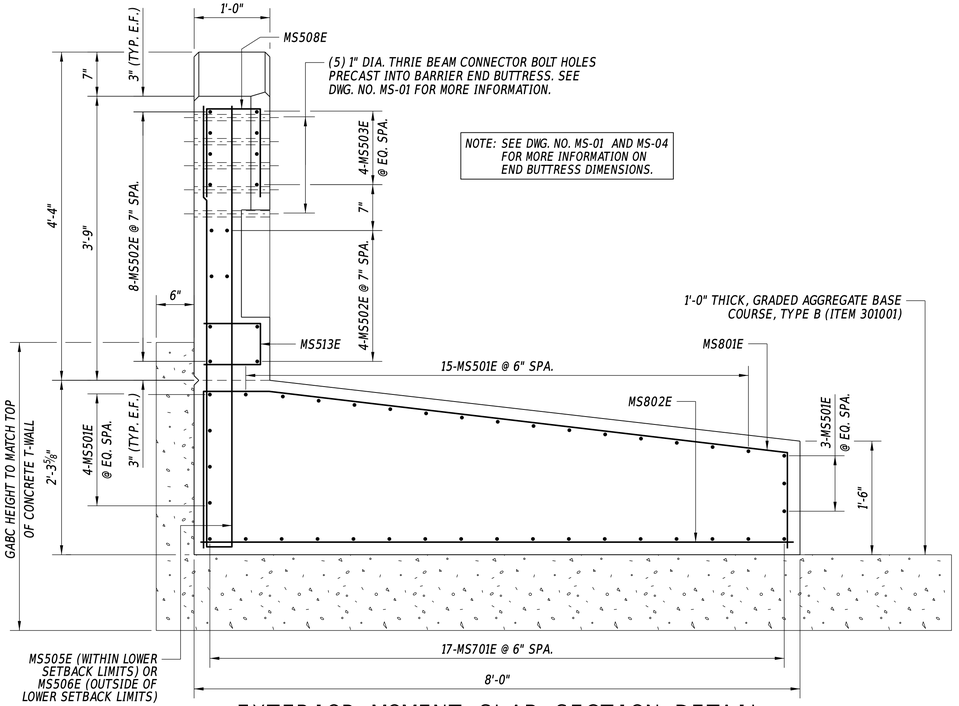


EXTERIOR MOMENT SLAB ELEVATION (AT LOW POINT)

¾" = 1'-0"

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	EXTERIOR MOMENT SLAB SEGMENT DETAILS (AT LOW POINT)	MS-04
				T200707404	DESIGNED BY: N. DEAN		SECTION BR
				COUNTY NEW CASTLE	CHECKED BY: M. RADOVIC		SHEET NO. 46

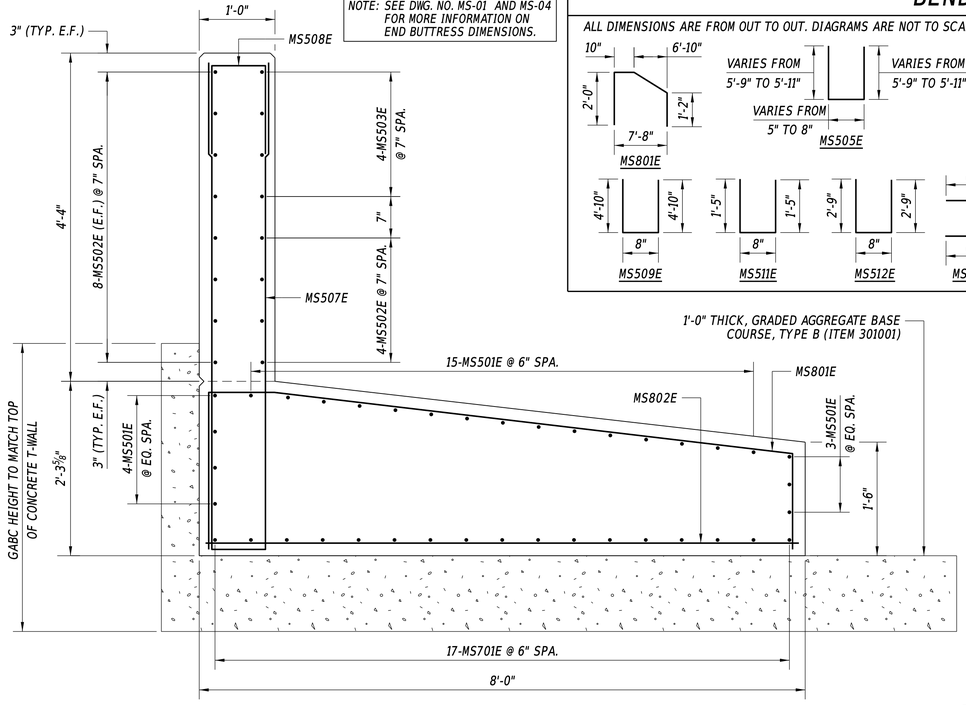
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EXTERIOR MOMENT SLAB SECTION DETAIL

(SECTION A-A)

1" = 1'-0"



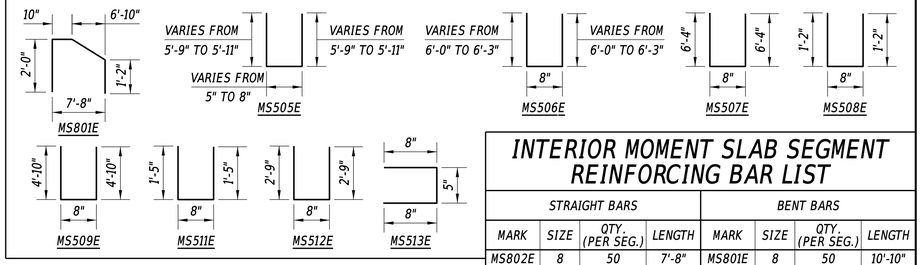
EXTERIOR MOMENT SLAB SECTION DETAIL

(SECTION B-B)

1" = 1'-0"

BENDING DIAGRAMS

ALL DIMENSIONS ARE FROM OUT TO OUT. DIAGRAMS ARE NOT TO SCALE.



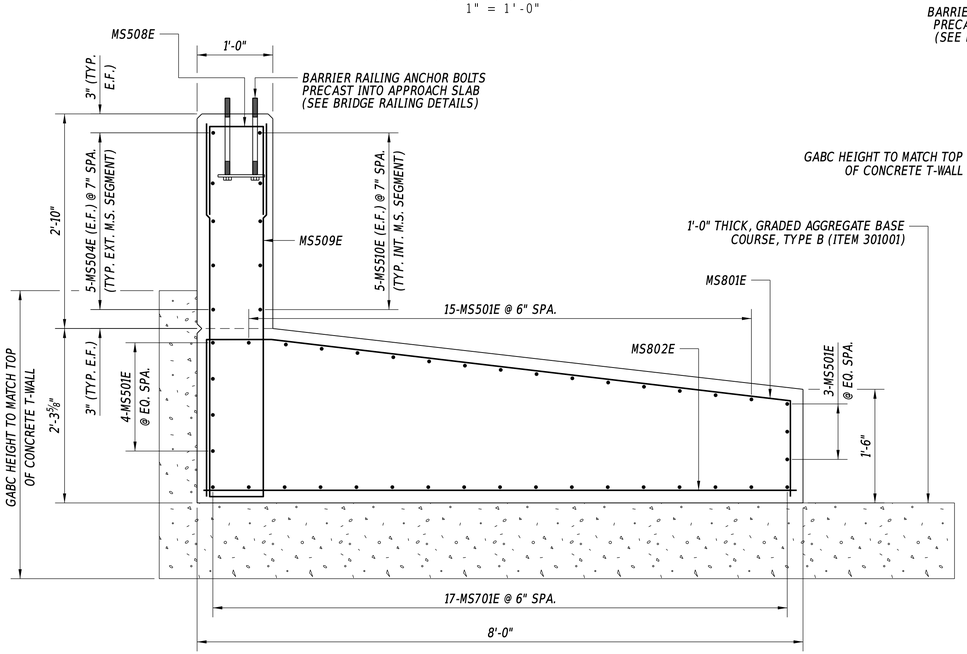
INTERIOR MOMENT SLAB SEGMENT REINFORCING BAR LIST

STRAIGHT BARS				BENT BARS			
MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH
MS802E	8	50	7'-8"	MS801E	8	50	10'-10"
MS701E	7	17	24'-2"	MS508E	5	54	3'-0"
MS501E	5	22	24'-2"	MS509E	5	50	10'-4"
MS510E	5	10	24'-2"	MS511E	5	2	3'-6"
				MS512E	5	2	6'-2"

EXTERIOR MOMENT SLAB SEGMENT REINFORCING BAR LIST

STRAIGHT BARS				BENT BARS			
MARK	SIZE	QTY. (PER SEG.)	LENGTH	MARK	SIZE	QTY. (PER SEG.)	LENGTH
MS802E	8	50	7'-8"	MS801E	8	50	10'-10"
MS701E	7	17	24'-2"	MS505E	5	3	11'-11" TO 12'-6"
MS501E	5	22	24'-2"				
MS502E	5	12	6'-8"				
MS503E	5	4	6'-4"	MS506E	5	4	12'-8" TO 13'-2"
MS504E	5	10	17'-2"				
				MS507E	5	8	13'-4"
				MS508E	5	54	3'-0"
				MS509E	5	35	10'-4"
				MS511E	5	2	3'-6"
				MS512E	5	2	6'-2"
				MS513E	5	2	1'-9"

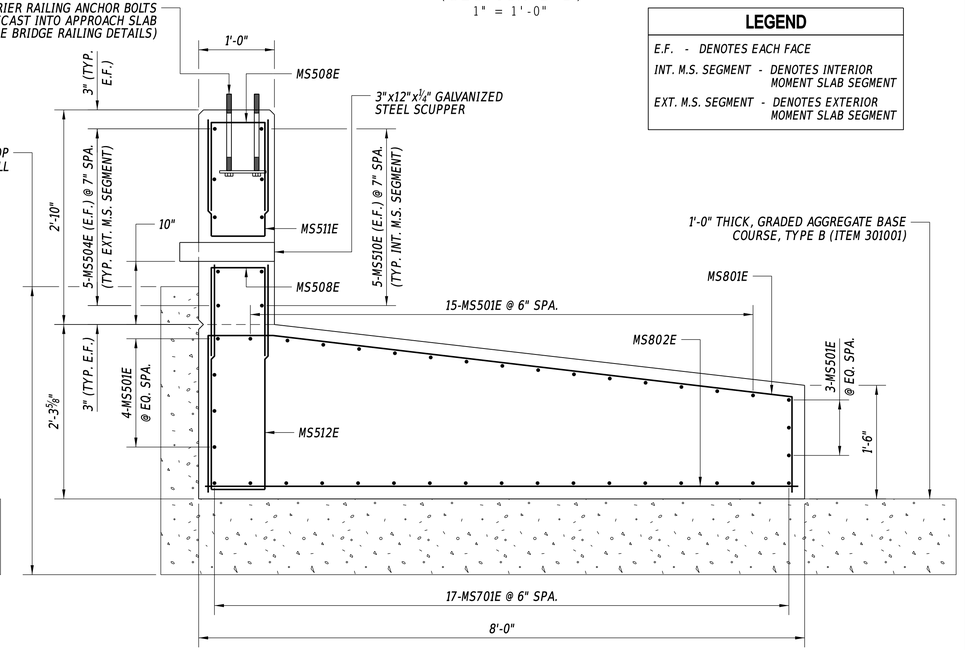
NOTE: MS505E AND MS506 ARE SERIES BARS. SEE THE BENDING DIAGRAM FOR THE DIMENSION RANGES.



EXTERIOR & INTERIOR MOMENT SLAB SECTION DETAIL

(SECTION C-C)

1" = 1'-0"



EXTERIOR & INTERIOR MOMENT SLAB SECTION DETAIL (AT SCUPPER)

(SECTION D-D)

1" = 1'-0"

LEGEND

E.F.	- DENOTES EACH FACE
INT. M.S. SEGMENT	- DENOTES INTERIOR MOMENT SLAB SEGMENT
EXT. M.S. SEGMENT	- DENOTES EXTERIOR MOMENT SLAB SEGMENT

PRECAST MOMENT SLAB SEGMENT NOTES

GENERAL

1. REQUIRED PRECAST SLEEPER SLAB SEGMENTS FOR EACH BRIDGE:
   -BRIDGE 1-488N:
   -2 EXTERIOR MOMENT SLAB SEGMENTS
   -4 INTERIOR MOMENT SLAB SEGMENTS
   -BRIDGE 1-488S:
   -2 EXTERIOR MOMENT SLAB SEGMENTS
   -6 INTERIOR MOMENT SLAB SEGMENTS
2. SEE THE BRIDGE RAILING DETAILS FOR ADDITIONAL INFORMATION ON THE PRECAST BARRIER SYSTEM.
3. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS SHALL BE INCIDENTAL TO THE PRECAST MOMENT SLAB SEGMENTS.

DESIGN PLANS - WORKING DRAWINGS

4. INFORMATION PERTAINING TO THE PRECAST MOMENT SLAB 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 PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH.

HANDLING

5. APPROXIMATE EXTERIOR MOMENT SLAB SEGMENT DEAD WEIGHT: 34.77 TONS.
6. APPROXIMATE INTERIOR MOMENT SLAB SEGMENT DEAD WEIGHT: 34.06 TONS.
7. PRECAST MOMENT SLAB SEGMENTS SHALL BE HANDLED ONLY BY THE APPROVED LIFTING ELEMENTS PROVIDED SPECIFICALLY FOR THIS PURPOSE.
8. ALL ELEMENTS RELATED TO THE LIFTING OF THE MOMENT SLAB SEGMENTS SHALL BE SPACED SO THAT THEY DO NOT INTERFERE WITH REINFORCEMENT SPACING. PRECASTER SHALL ENSURE PROPER PLACEMENT OF THE LIFTING ELEMENTS TO AVOID CONFLICT WITH THE PRECAST CONCRETE BARRIER AND METAL BRIDGE RAIL SYSTEM. THE PRECASTER SHALL INCLUDE DETAILS OF THE PLACEMENT OF THESE ITEMS IN THEIR SUBMITTED SHOP DRAWINGS.

CONCRETE STRESSES

9. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 8000 PSI.

BAR REINFORCEMENT

10. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE EPOXY-COATED IN ACCORDANCE WITH AASHTO M31, GRADE 60 AND ASTM A775.
11. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED.
12. PAYMENT FOR REINFORCING BARS IS INCIDENTAL TO ITEM 612502 - PRECAST CONCRETE MOMENT SLAB.

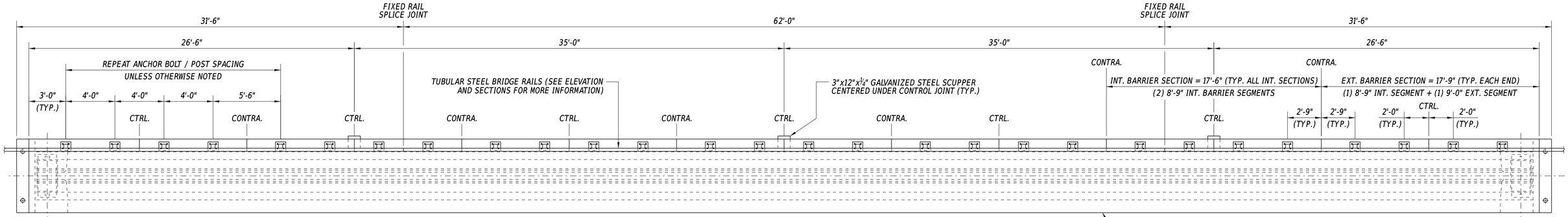
CONCRETE FINISH

13. PROVIDE A CLASS ONE FINISH ON THE MOMENT SLAB SEGMENT ENDS, TOP, BOTTOM, AND SIDES.
14. APPLY A WATER MISCIBLE, PENETRATING SILANE SEALER TO THE MOMENT SLAB SEGMENT ENDS, TOP, BOTTOM, AND SIDES. IN ADDITION, APPLY THE SEALER TO ALL SIDES OF THE CONCRETE PARAPET.
15. SEE DWG. NO. BR-03 FOR LIMITS OF SILICONE-BASED ACRYLIC CONCRETE SEALER.

MS-05

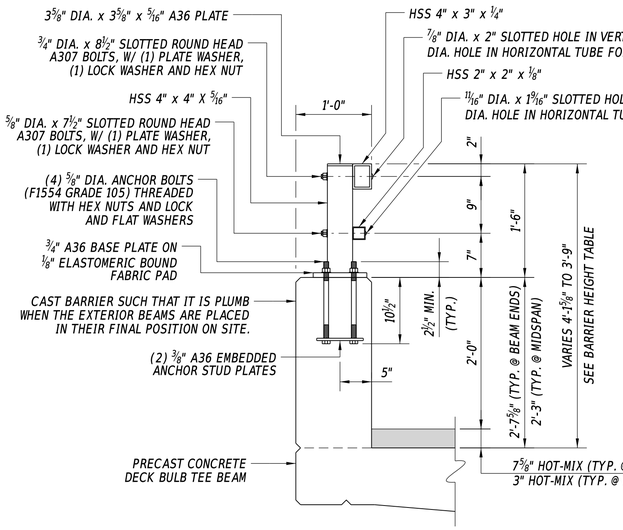
ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	MOMENT SLAB SEGMENT DETAILS	SECTION BR
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 47
				CHECKED BY: M. RADOVIC		

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BRIDGE RAILING PLAN

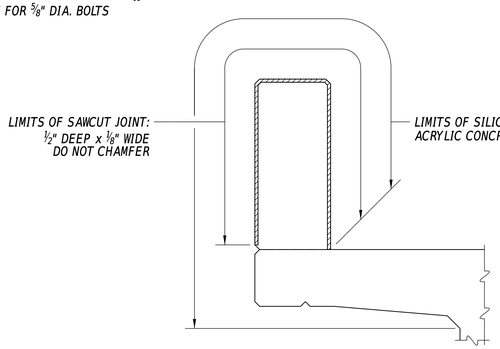
¼" = 1'-0"



TYPICAL BRIDGE RAILING SECTION

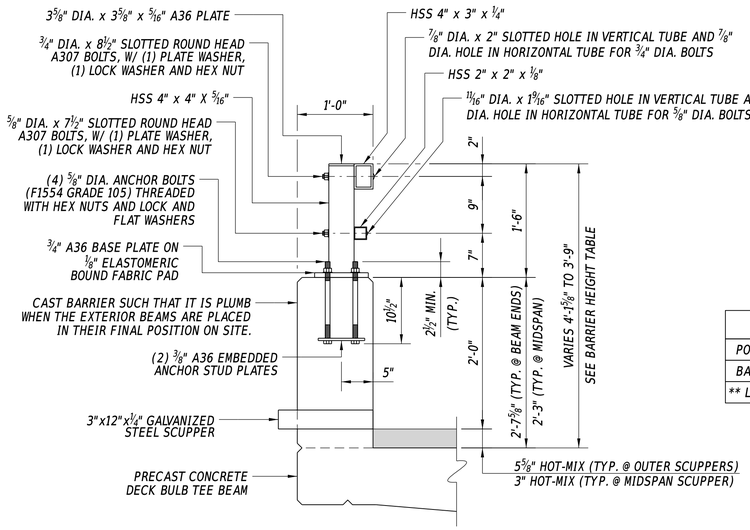
1" = 1'-0"

***BARRIER NOTE:
CAST BARRIER SUCH THAT IT IS PLUMB WHEN THE EXTERIOR BEAMS ARE PLACED IN THEIR FINAL POSITION ON SITE.



PARAPET SEALER LIMITS & CONTROL JOINT DETAIL

1" = 1'-0"



TYPICAL BRIDGE RAILING SECTION (AT SCUPPER)

1" = 1'-0"

NOTES:
1. PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY. SEE EXTERIOR BEAM DETAILS FOR MORE INFORMATION ON PARAPET REINFORCEMENT.
2. WEST EXTERIOR GIRDER SHOWN. MIRROR APPROPRIATELY FOR EAST EXTERIOR GIRDER.
3. CONTROL AND CONTRACTION JOINTS SHALL ALTERNATE ALONG THE LENGTH OF THE PARAPET.
4. SEE DWG. NO. BR-04 FOR MORE INFORMATION ON BRIDGE RAIL HARDWARE DETAILS.
5. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS ASSOCIATED WITH THE PRESTRESSED REINFORCED CONCRETE CONCRETE MEMBERS, BULB T BEAMS WILL BE INCIDENTAL TO ITEM 612023.
6. PAYMENT FOR ALL STEEL ELEMENTS OF THE TWO STRAND TUBE RAIL PARAPET WILL BE PAID FOR UNDER ITEM 626502, UNLESS OTHERWISE NOTED.

BARRIER HEIGHT ALONG LENGTH

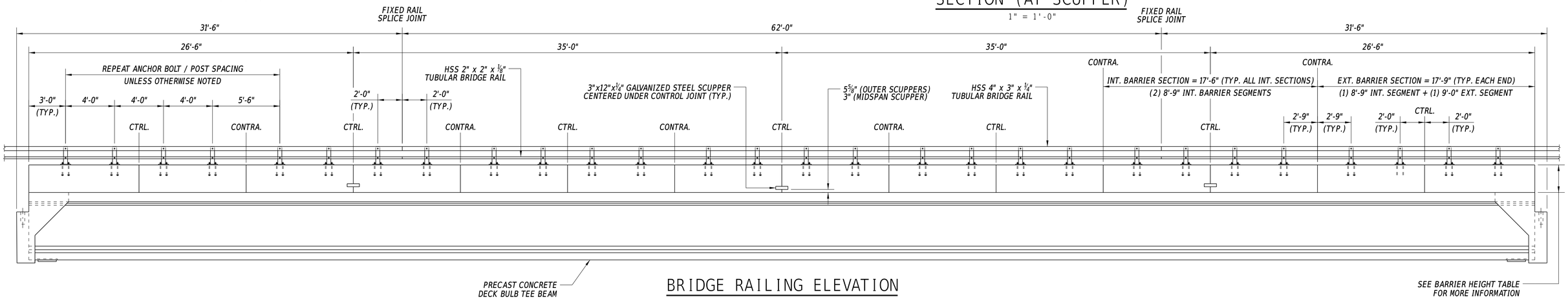
POINT ALONG BARRIER	0.00	0.25*L	0.50*L	0.75*L	L
BARRIER HEIGHT	2'-7⅝"	2'-5½"	2'-3"	2'-5¼"	2'-7⅝"
** L = LENGTH OF BARRIER = 123'-0"					

LEGEND

CONTRA. - PARAPET CONTRACTION JOINT DESIGNATION

CTRL. - PARAPET CONTROL JOINT DESIGNATION

DENOTES PROPOSED HOT-MIX OVERLAY

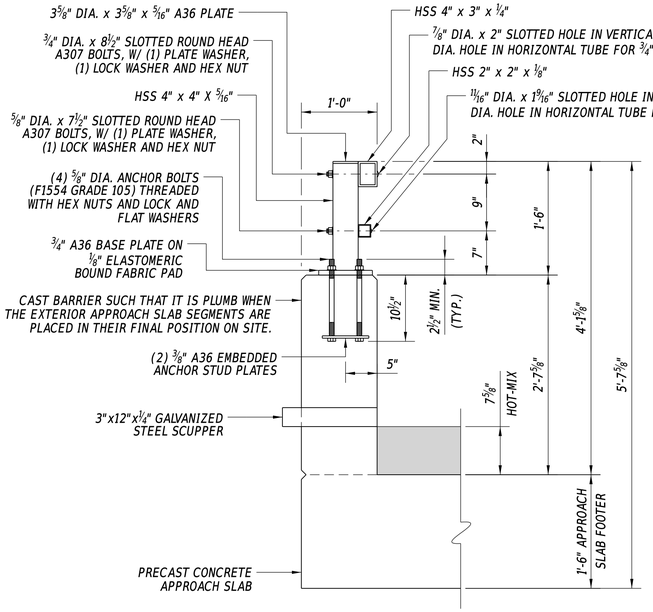


BRIDGE RAILING ELEVATION

¼" = 1'-0"

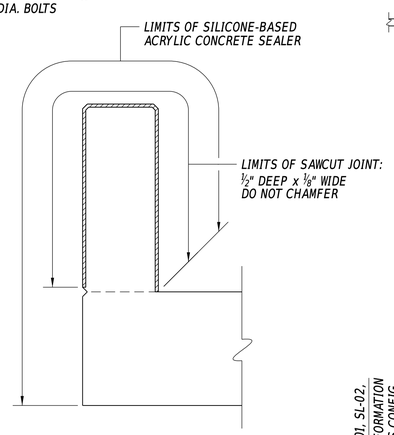
ADDENDA / REVISIONS	SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	BRIDGE RAILING DETAILS (GIRDERS)	BR-01
			COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
				CHECKED BY: M. RADOVIC		SHEET NO. 48

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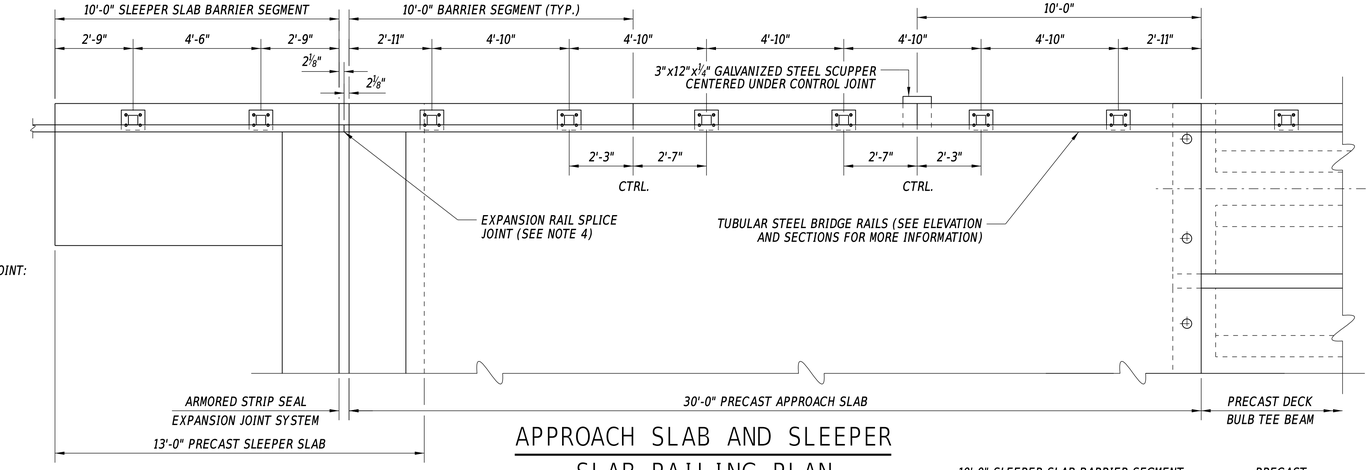
TYPICAL APPROACH SLAB RAILING SECTION

1" = 1'-0"



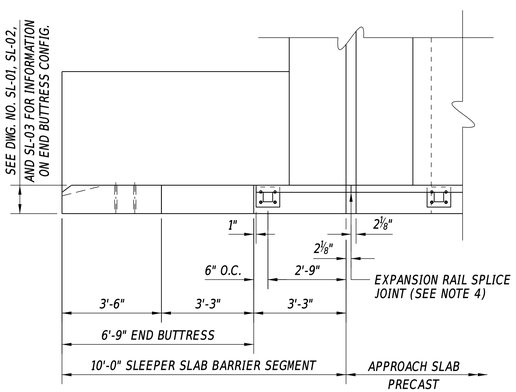
PARAPET SEALER LIMITS & CONTROL JOINT DETAIL

1" = 1'-0"



APPROACH SLAB AND SLEEPER SLAB RAILING PLAN

⅜" = 1'-0"

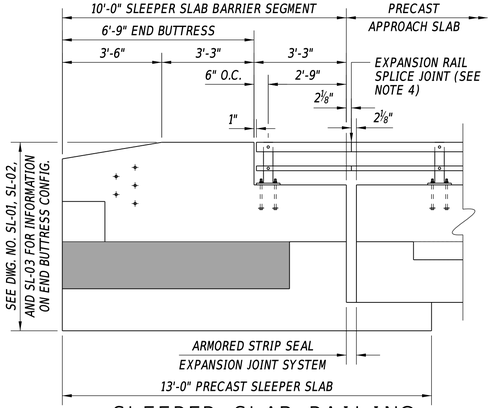


SLEEPER SLAB RAILING PLAN (MEDIAN SIDE ONLY)

⅜" = 1'-0"

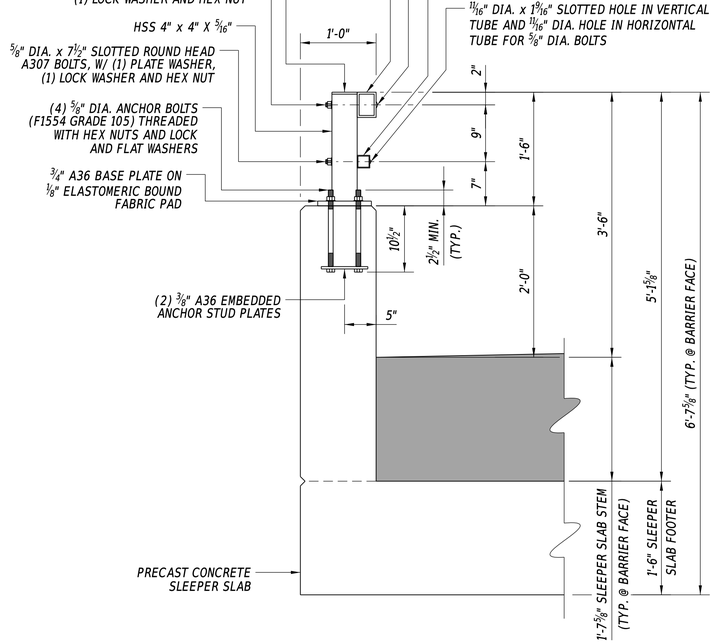
NOTES:

1. SOUTHWEST EXTERIOR APPROACH SLAB SEGMENTS SHOWN. ROTATE 180° FOR NORTHEAST SEGMENT. MIRROR APPROACH SLAB DETAILS FOR SOUTHEAST AND NORTHWEST EXTERIOR APPROACH SLAB SEGMENTS.
2. APPROACH SLAB PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY. SEE APPROACH SLAB DETAILS FOR MORE INFORMATION ON PARAPET REINFORCEMENT.
3. SLEEPER SLAB PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SLEEPER SLAB DETAILS FOR MORE INFORMATION ON PARAPET REINFORCEMENT.
4. SOUTH APPROACH SLAB AND SLEEPER SLAB SHOWN. MIRROR APPROPRIATELY FOR NORTH APPROACH SLAB AND SLEEPER SLAB.
5. SEE DWG. NO. BR-04 FOR MORE INFORMATION ON BRIDGE RAIL HARDWARE DETAILS.
6. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS ASSOCIATED WITH THE PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS WILL BE INCIDENTAL TO ITEM 612504.
7. PAYMENT FOR ALL STEEL ELEMENTS OF THE TWO STRAND TUBE RAIL PARAPET WILL BE PAID FOR UNDER ITEM 626502, UNLESS OTHERWISE NOTED.



SLEEPER SLAB RAILING ELEVATION (MEDIAN SIDE ONLY)

⅜" = 1'-0"

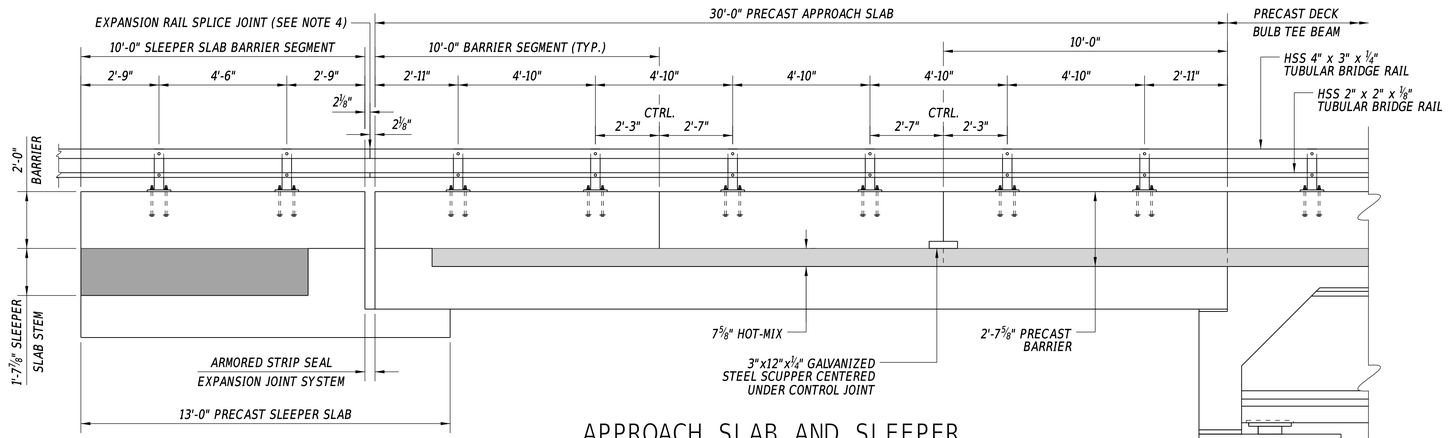


TYPICAL SLEEPER SLAB RAILING SECTION

1" = 1'-0"

LEGEND

CTRL. -	PARAPET CONTROL JOINT DESIGNATION
	DENOTES PROPOSED HOT-MIX OVERLAY
	DENOTES PROPOSED PAVEMENT BOX

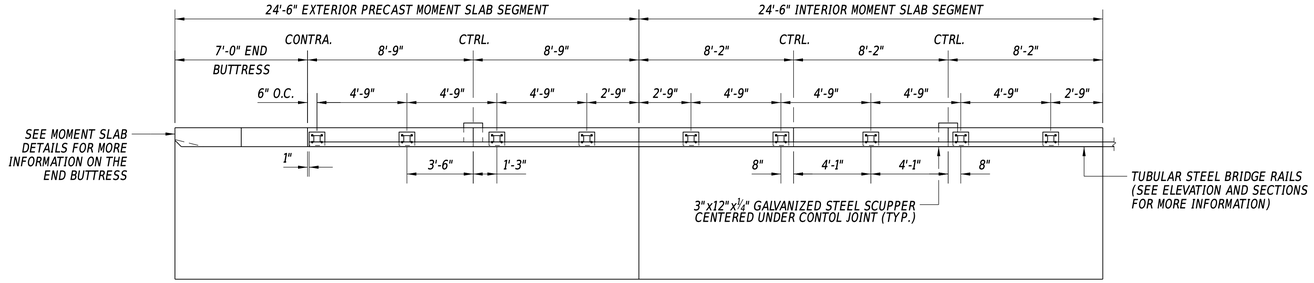


APPROACH SLAB AND SLEEPER SLAB RAILING ELEVATION

⅜" = 1'-0"

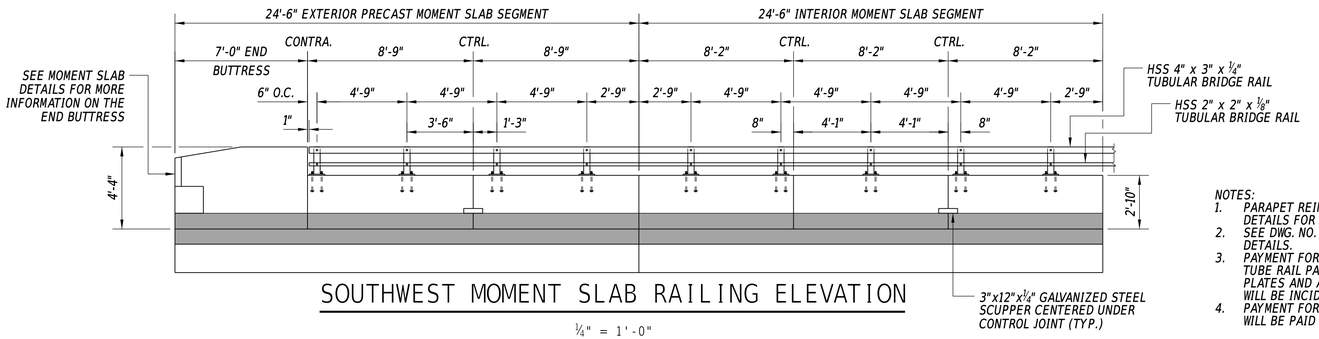
ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	BRIDGE RAILING DETAILS (APPROACH SLABS & SLEEPER SLABS)	BR-02
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 49

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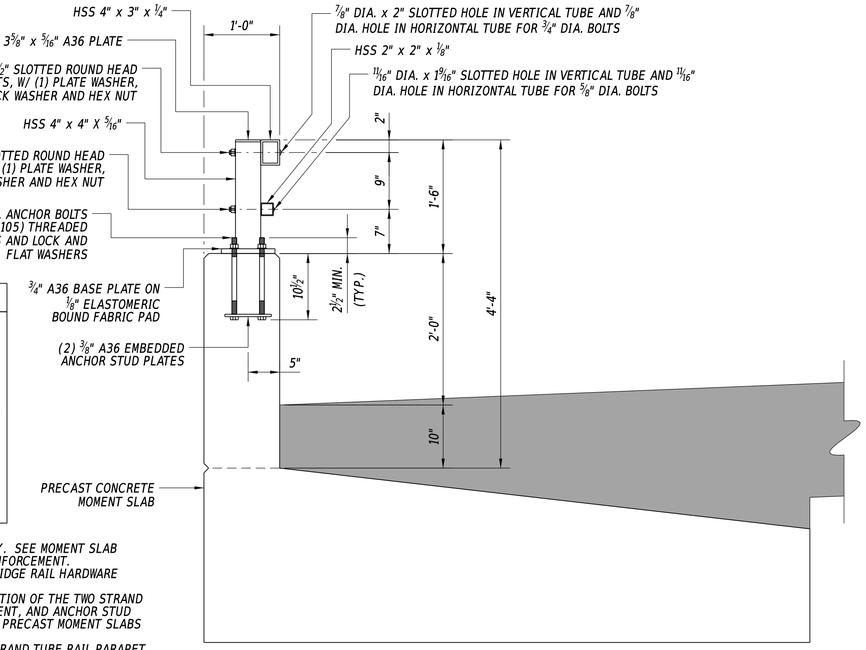
SOUTHWEST MOMENT SLAB RAILING PLAN

¼" = 1'-0"



SOUTHWEST MOMENT SLAB RAILING ELEVATION

¼" = 1'-0"



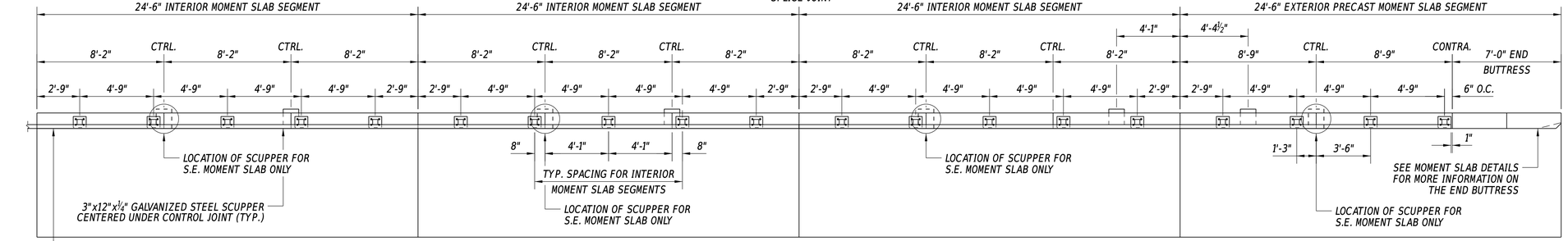
TYPICAL MOMENT SLAB RAILING SECTION

1" = 1'-0"

LEGEND

S.W.	SOUTHWEST
S.E.	SOUTHEAST
N.W.	NORTHWEST
N.E.	NORTHEAST
CONTRA.	PARAPET CONTRACTION JOINT DESIGNATION
CTRL.	PARAPET CONTROL JOINT DESIGNATION
	DENOTES PROPOSED HOT-MIX OVERLAY

NOTES:
1. PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY. SEE MOMENT SLAB DETAILS FOR MORE INFORMATION ON PARAPET REINFORCEMENT.
2. SEE DWG. NO. BR-04 FOR MORE INFORMATION ON BRIDGE RAIL HARDWARE DETAILS.
3. PAYMENT FOR FABRICATION OF THE CONCRETE PORTION OF THE TWO STRAND TUBE RAIL PARAPET, PARAPET STEEL REINFORCEMENT, AND ANCHOR STUD PLATES AND ANCHOR BOLTS ASSOCIATED WITH THE PRECAST MOMENT SLABS WILL BE INCIDENTAL TO ITEM 612502.
4. PAYMENT FOR ALL STEEL ELEMENTS OF THE TWO STRAND TUBE RAIL PARAPET WILL BE PAID FOR UNDER ITEM 626502, UNLESS OTHERWISE NOTED.

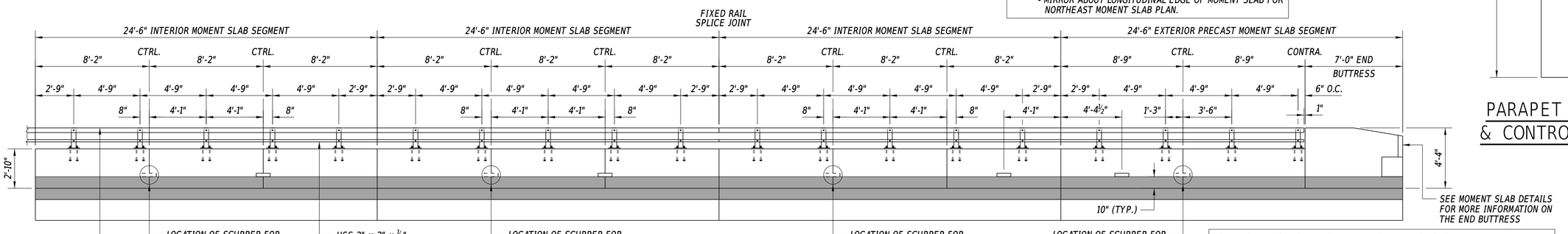


NORTHWEST MOMENT SLAB RAILING PLAN

¼" = 1'-0"

NOTE: NORTHWEST MOMENT SLAB RAILING SHOWN.

- ROTATE 180° AND ADJUST SCUPPERS ACCORDINGLY FOR SOUTHEAST MOMENT SLAB PLAN.
- MIRROR ABOUT LONGITUDINAL EDGE OF MOMENT SLAB FOR NORTHEAST MOMENT SLAB PLAN.

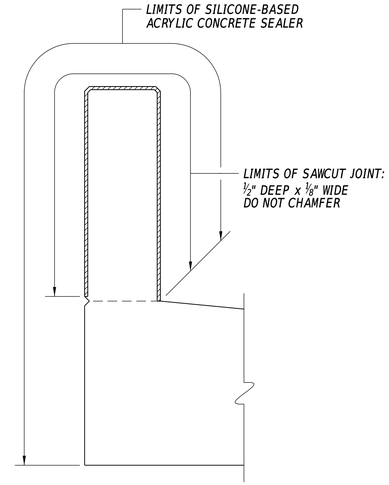


NORTHWEST MOMENT SLAB RAILING ELEVATION

¼" = 1'-0"

NOTE: NORTHWEST MOMENT SLAB RAILING ELEVATION SHOWN.

- SOUTHEAST MOMENT SLAB ELEVATION IS IDENTICAL WITH THE EXCEPTION OF DENOTED SCUPPER LOCATIONS (ADJUST ACCORDINGLY).
- MIRROR ABOUT VERTICAL EDGE OF MOMENT SLAB FOR NORTHEAST MOMENT SLAB ELEVATION.



PARAPET SEALER LIMITS & CONTROL JOINT DETAIL

1" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

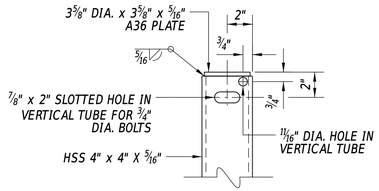
BRIDGE RAILING DETAILS (MOMENT SLABS)

BR-03	
SECTION	BR
SHEET NO.	50

28-JUN-2024
13:10
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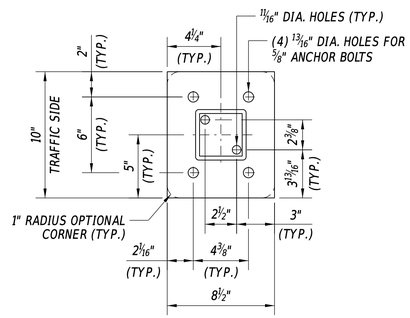
GENERAL 2 STRAND TUBE RAIL PARAPET NOTES:

1. THE CENTERLINE OF ANY SPLICE AND/OR CONTRACTION JOINT SHALL BE LOCATED AT LEAST 2'-0" AWAY FROM THE CENTERLINE OF A POST. CONTRACTION AND/OR SPLICE JOINTS FOR EACH STRAND OF TWO STRAND RAILING SHALL BE PLACED IN THE SAME LOCATION AND IN THE SAME PANEL.
2. RAIL ELEMENTS SHALL BE STRUCTURAL TUBING IN ACCORDANCE WITH ASTM A500 GRADE C.
3. POSTS SHALL BE SET VERTICAL.
4. MAXIMUM POST SPACING IS 6'-8".
5. ALL STRUCTURAL STEEL COMPONENTS, INCLUDING FASTENERS, SHALL BE HOT-DIP GALVANIZED AS PER ASTM A123 AFTER FABRICATION, EXCEPT AS NOTED.
6. PLATE WASHERS SHALL BE POSITIONED TO COMPLETELY COVER SLOTTED HOLES.



VERTICAL TUBE DETAIL

2" = 1'-0"



BASE PLATE DETAIL

2" = 1'-0"

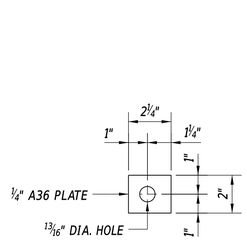
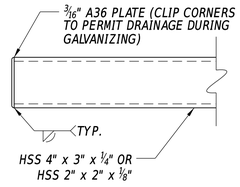


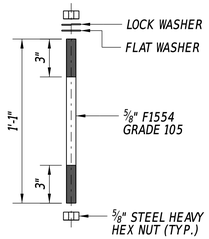
PLATE WASHER DETAIL

3" = 1'-0"



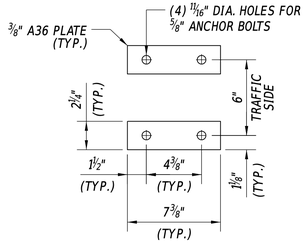
END OF RAIL DETAIL

2" = 1'-0"



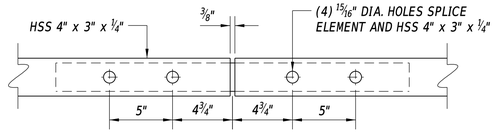
ANCHOR BOLT DETAIL

2" = 1'-0"

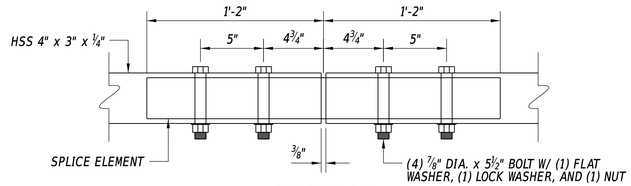


EMBEDDED ANCHOR STUD PLATE DETAIL

2" = 1'-0"



PLAN

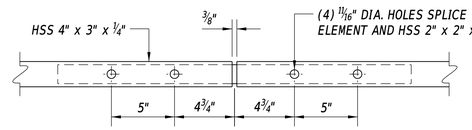


SECTION

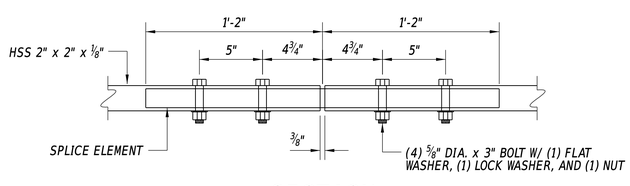
FIXED JOINT SPLICE DETAILS

(FOR HSS 4"x3"x1/4")

2" = 1'-0"



PLAN

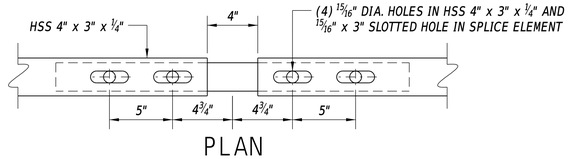


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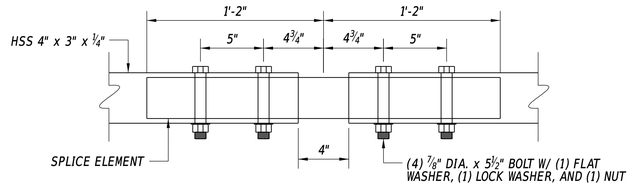
FIXED JOINT SPLICE DETAILS

(FOR HSS 2"x2"x1/8")

2" = 1'-0"



PLAN

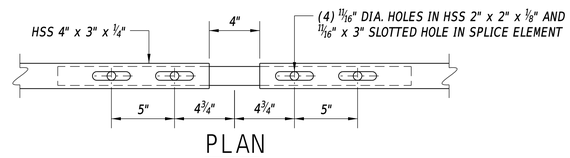


SECTION

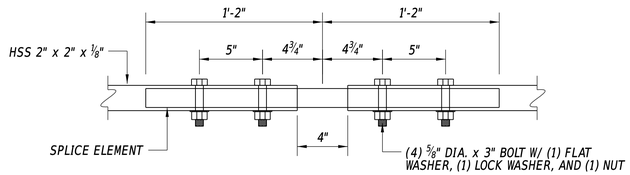
EXPANSION JOINT SPLICE DETAILS

(FOR HSS 4"x3"x1/4")

2" = 1'-0"



PLAN

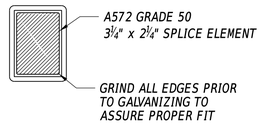


SECTION

EXPANSION JOINT SPLICE DETAILS

(FOR HSS 2"x2"x1/8")

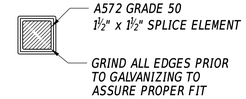
2" = 1'-0"



SPLICE ELEMENT

(FOR HSS 4"x3"x1/4")

3" = 1'-0"



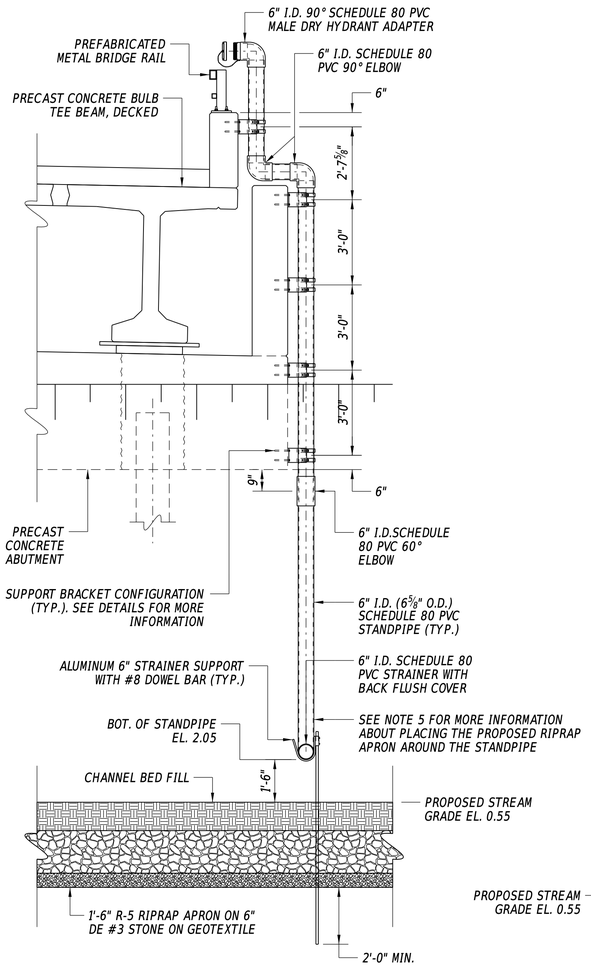
SPLICE ELEMENT

(FOR HSS 2"x2"x1/8")

3" = 1'-0"

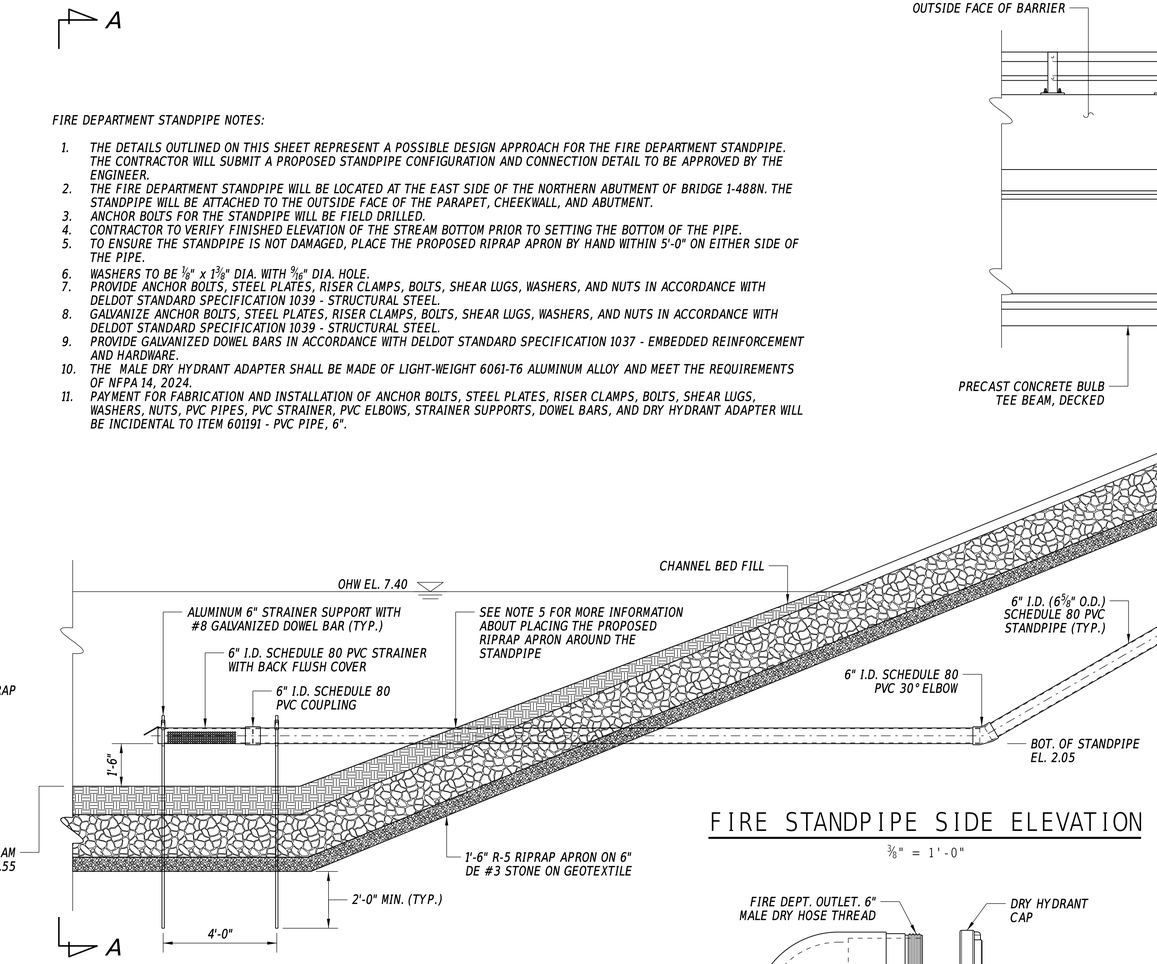
28-JUN-2024
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO.	1-488N&S	BRIDGE RAILING DETAILS (HARDWARE ELEMENTS)	BR-04
				T200707404	DESIGNED BY:	N. DEAN		SECTION
				COUNTY				BR
				NEW CASTLE	CHECKED BY:	M. RADOVIC		SHEET NO.
								51



FIRE STANDPIPE SECTION A-A

⅜" = 1'-0"

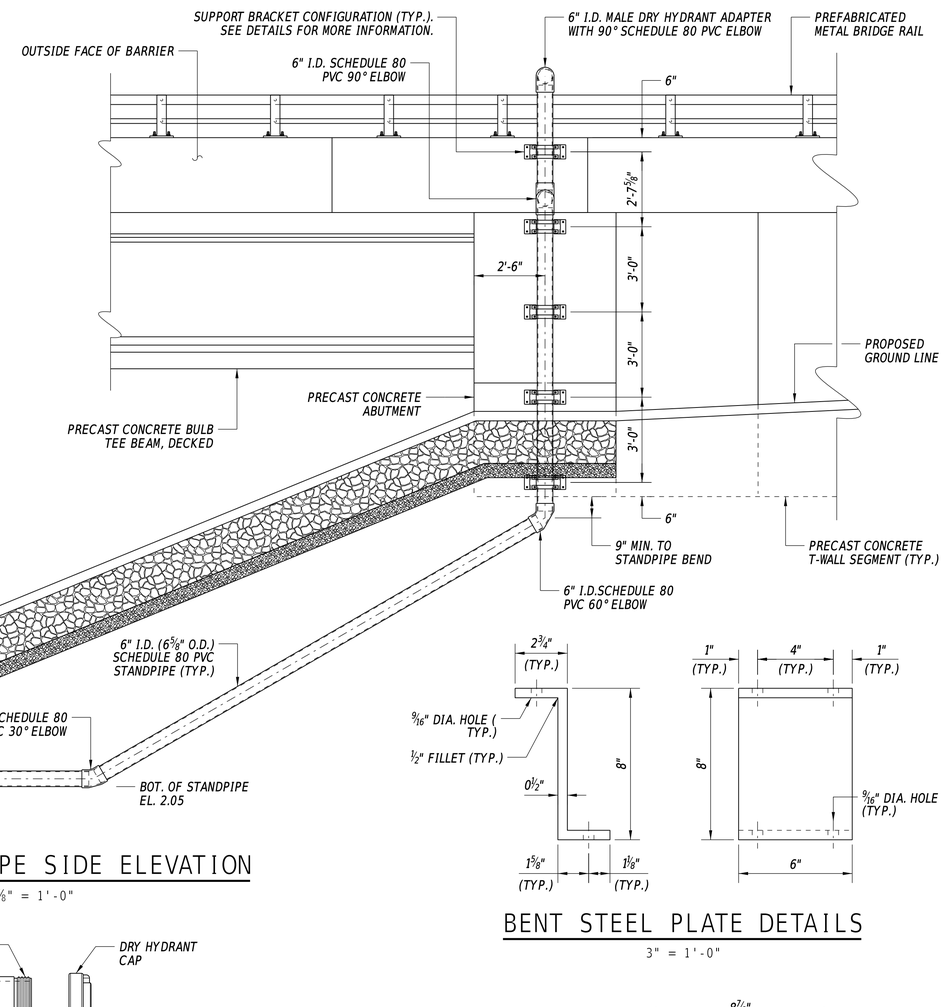


FIRE STANDPIPE SIDE ELEVATION

⅜" = 1'-0"

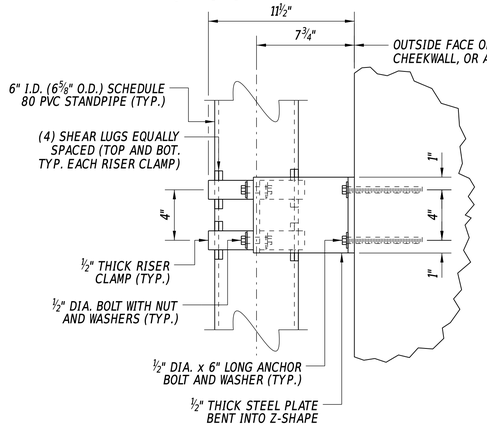
FIRE DEPARTMENT STANDPIPE NOTES:

1. *THE DETAILS OUTLINED ON THIS SHEET REPRESENT A POSSIBLE DESIGN APPROACH FOR THE FIRE DEPARTMENT STANDPIPE. THE CONTRACTOR WILL SUBMIT A PROPOSED STANDPIPE CONFIGURATION AND CONNECTION DETAIL TO BE APPROVED BY THE ENGINEER.*
2. *THE FIRE DEPARTMENT STANDPIPE WILL BE LOCATED AT THE EAST SIDE OF THE NORTHERN ABUTMENT OF BRIDGE 1-488N. THE STANDPIPE WILL BE ATTACHED TO THE OUTSIDE FACE OF THE PARAPET, CHEEKWALL, AND ABUTMENT.*
3. *ANCHOR BOLTS FOR THE STANDPIPE WILL BE FIELD DRILLED.*
4. *CONTRACTOR TO VERIFY FINISHED ELEVATION OF THE STREAM BOTTOM PRIOR TO SETTING THE BOTTOM OF THE PIPE.*
5. *TO ENSURE THE STANDPIPE IS NOT DAMAGED, PLACE THE PROPOSED RIPRAP APRON BY HAND WITHIN 5'-0" ON EITHER SIDE OF THE PIPE.*
6. *WASHERS TO BE ⅛" x 1⅜" DIA. WITH 9⁄16" DIA. HOLE.*
7. *PROVIDE ANCHOR BOLTS, STEEL PLATES, RISER CLAMPS, BOLTS, SHEAR LUGS, WASHERS, AND NUTS IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 1039 - STRUCTURAL STEEL.*
8. *GALVANIZE ANCHOR BOLTS, STEEL PLATES, RISER CLAMPS, BOLTS, SHEAR LUGS, WASHERS, AND NUTS IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 1039 - STRUCTURAL STEEL.*
9. *PROVIDE GALVANIZED DOWEL BARS IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 1037 - EMBEDDED REINFORCEMENT AND HARDWARE.*
10. *THE MALE DRY HYDRANT ADAPTER SHALL BE MADE OF LIGHT-WEIGHT 6061-T6 ALUMINUM ALLOY AND MEET THE REQUIREMENTS OF NFPA 14, 2024.*
11. *PAYMENT FOR FABRICATION AND INSTALLATION OF ANCHOR BOLTS, STEEL PLATES, RISER CLAMPS, BOLTS, SHEAR LUGS, WASHERS, NUTS, PVC PIPES, PVC STRAINER, PVC ELBOWS, STRAINER SUPPORTS, DOWEL BARS, AND DRY HYDRANT ADAPTER WILL BE INCIDENTAL TO ITEM 601191 - PVC PIPE, 6".*



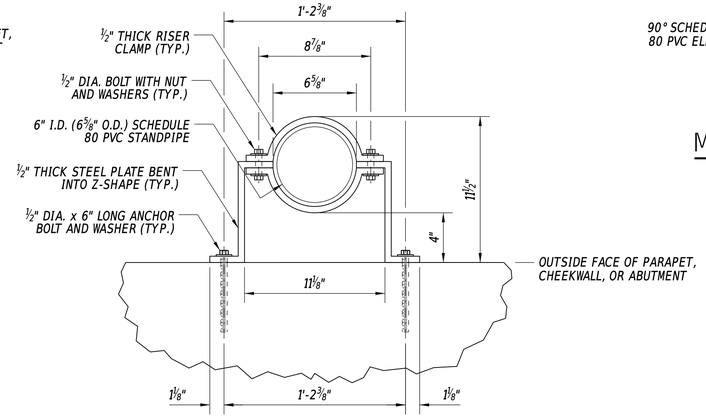
BENT STEEL PLATE DETAILS

3" = 1'-0"



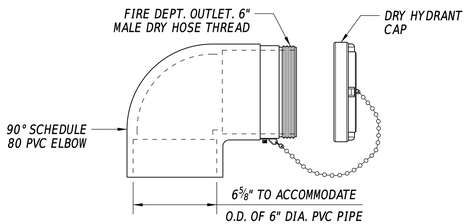
SUPPORT BRACKET CONFIGURATION ELEVATION

2" = 1'-0"



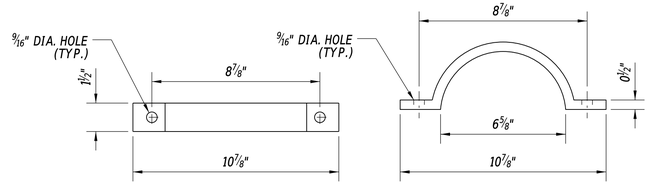
SUPPORT BRACKET CONFIGURATION PLAN

2" = 1'-0"



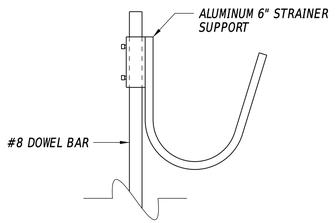
MALE HYDRANT ADAPTER DETAIL

2" = 1'-0"



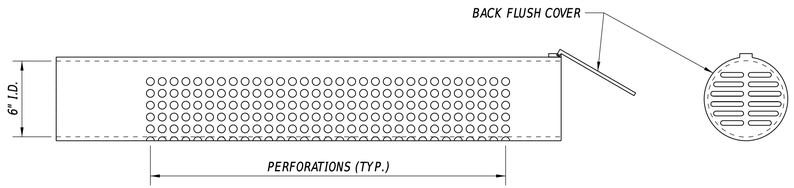
RISER CLAMP DETAILS

3" = 1'-0"



STRAINER SUPPORT DETAIL

2" = 1'-0"



HORIZONTAL PVC STRAINER DETAILS

2" = 1'-0"

ADDENDA / REVISIONS		SCALE AS NOTED	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	FIRE STANDPIPE DETAILS	SP-01
				T200707404	DESIGNED BY: N. DEAN		SECTION BR
				COUNTY NEW CASTLE	CHECKED BY: M. RADOVIC		SHEET NO. 52

28-JUN-2024
13:10
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BORING: B-3 | **DATE DRILLED:** 3/30/21
STATION: 175+50.94 | **OFFSET:** 13.13' | **ELEVATION:** 14.08 | **NORTHING:** 500112.717 | **EASTING:** 586936.274
COMMENTS: N/A

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
1	0.0	3	WET FIRM BROWN FINE SANDY CLAY W/SOME COARSE SAND, FINE GRAVEL AND SILT.	A-6(4)	
		4			
		4			
	2.0	4			
2	2.0	1	WET FIRM BROWN FINE SANDY CLAY W/SOME COARSE SAND AND SILT, TRACE OF FINE GRAVEL.	A-6(5)	
		3			
		2			
	4.0	3			
3	4.0	1	WET SOFT BROWN SILTY CLAY W/SOME FINE TO COARSE SAND, TRACE OF FINE GRAVEL.	A-6(10)	
		1			
		2			
	6.0	3			
4	6.0	2	WET VERY LOOSE BROWN FINE TO COARSE SAND AND FINE GRAVEL W/SOME SILT.	A-1-B	
		2			
		1			
	8.0	1			▽ WATER LEVEL (EL. 5.78)
5	8.0	3	WET SOFT BROWN FINE SANDY SILT W/SOME COARSE SAND AND CLAY, TRACE OF FINE GRAVEL.	A-4(0)	
		2			
		2			
	13.0	1			
6	13.0	7	WET LOOSE BROWN COARSE TO FINE SANDY FINE GRAVEL W/TRACE SILT.	A-1-B	
		8			
		2			
	18.0	3			
7	18.0	2	WET VERY LOOSE BROWN ORGANIC SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.	A-2-4(0)	
		1			
		1			
	23.0	1			
8	23.0	3	WET MEDIUM DENSE BROWN ORGANIC SILTY FINE TO COARSE SAND.	A-2-4(0)	
		8			
		8			
	28.0	11			
9	28.0	5	WET DENSE BROWN COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-1-B	
		20			
		26			
	33.0	50/3			
10	33.0	11	WET VERY DENSE BROWN COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-1-B	
	38.0	50/3			
11	38.0	10	WET VERY DENSE BROWN FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	
	43.0	50/5			
12	43.0	11	WET VERY DENSE BROWN FINE TO COARSE SAND W/SOME SILT.	A-2-4(0)	
	48.0	50/5			
13	48.0	12	WET VERY DENSE BROWN FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	
	53.0	50/3			
14	53.0	11	WET VERY DENSE BROWN SILTY FINE TO COARSE SAND.	A-2-4(0)	
	55.0	50/2			
			END BORING		

BORING: B-4 | **DATE DRILLED:** 3/23/21
STATION: 174+59.74 | **OFFSET:** 1.70' | **ELEVATION:** 15.15 | **NORTHING:** 500033.670 | **EASTING:** 586983.178
COMMENTS: N/A

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
1	0.0	3	WET FIRM BROWN FINE SANDY CLAY W/SOME COARSE SAND AND SILT, TRACE OF FINE GRAVEL.	A-6(3)	
		5			
		3			
	2.0	3			
2	2.0	1	WET SOFT BROWN CLAYEY SILT W/SOME FINE TO COARSE SAND, TRACE OF FINE GRAVEL.	A-4(5)	
		2			▽ WATER LEVEL (EL. 12.15)
		2			
	4.0	2			
3	4.0	1	WET SOFT BROWN SILTY CLAY W/SOME FINE SAND, TRACE OF COARSE SAND.	A-6(12)	
		2			
		2			
	6.0	4			
4	6.0	2	WET FIRM BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND.	A-4(2)	
		2			
		4			
	8.0	8			
5	8.0	1	WET VERY LOOSE BROWN SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
		1			
		3			
	13.0				
6	13.0	9			
	18.0	3			
7	18.0	1	SATURATED VERY LOOSE GRAY ORGANIC SILTY COARSE SAND W/SOME FINE SAND AND FINE GRAVEL.	A-1-B	
		1			
		2			
	23.0	2			
8	23.0	3	SATURATED VERY STIFF BROWN CLAYEY FINE TO COARSE SAND W/SOME SILT.	A-5(1)	
		9			
		12			
	28.0	14			
9	28.0	9	SATURATED VERY DENSE BROWN COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-1-B	
		21			
		30			
	33.0	50/2			
10	33.0	6	SATURATED VERY DENSE BROWN COARSE TO FINE SAND W/TRACE FINE GRAVEL AND SILT.	A-1-B	
		31			
	38.0	50/4			
11	38.0	8	SATURATED VERY DENSE BROWN COARSE TO FINE SAND W/TRACE SILT.	A-3	
		28			
	43.0	50/5			
12	43.0	10	SATURATED VERY DENSE BROWN FINE TO COARSE SAND W/SOME SILT.	A-2-4(0)	
	45.0	50/5			
			END BORING		

28-JUN-2024
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ADDENDA / REVISIONS					
			BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N
				COUNTY NEW CASTLE	DESIGNED BY: NED
					CHECKED BY: CAS

BORING LOGS

BO-01
SECTION BR
SHEET NO. 53

BORING: DH-1 | **DATE DRILLED:** 10/26/16
STATION: 83+43.56 | **OFFSET:** -6.62' | **ELEVATION:** 14.50 | **NORTHING:** 500052.191 | **EASTING:** 586869.358
COMMENTS: N/A

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
1	2.0	4	WET SOFT BROWN CLAY W/SOME COARSE TO FINE SAND, FINE GRAVEL AND SILT.	A-6(6)	
		2			
		2			
	4.0	3			
2	4.0	2	SATURATED SOFT BROWN SILTY FINE GRAVELLY CLAYEY W/TRACE FINE TO COARSE SAND.	A-7-6(14)	
		2			
		2			
	6.0	3			
3	6.0	3	SATURATED STIFF BROWN CLAY W/SOME COARSE TO FINE SAND W/TRACE FINE GRAVEL.	A-7-6(8)	
		5			
		5			
	8.0	4			
4	8.0	3	SATURATED SOFT BROWN SILTY CLAY W/SOME FINE SAND, TRACE OF COARSE SAND AND FINE GRAVEL.	A-6(10)	
		2			
		2			
	10.0	1			
5	10.0	4	SATURATED FIRM BROWN CLAYEY FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(3)	
		4			
		4			
	12.0	5			▽ WATER LEVEL (EL. 3.18)
6	12.0	4	SATURATED VERY STIFF GRAY FINE SANDY CLAY W/SOME SILT AND FINE GRAVEL, TRACE OF COARSE SAND.	A-6(5)	
		6			
		17			
	14.0	18			
7	14.0	4	SATURATED LOOSE GRAY CLAYEY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND.	A-2-4(0)	
		4			
		3			
	16.0	3			
U-1	16.0				
	18.0				
U-2	18.0				
	24.0				
8	24.0	6	SATURATED MEDIUM DENSE GRAY CLAYEY COARSE TO FINE SAND W/SOME FINE GRAVEL AND SILT.	A-2-7(2)	
		10			
		12			
	29.0	14			
9	29.0	22	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-1-B	
		30			
	34.0	50/4			
10	34.0	20	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/SOME SILT.	A-2-4(0)	
		40			
	39.0	50/4			
11	39.0	45	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/TRACE SILT.	A-3	
	44.0	50/1			
12	44.0	50/4	NO RECOVERY		
	49.0				
13	49.0	36	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/TRACE SILT.	A-3	
	54.0	50/4			
14	54.0	50/3	NO RECOVERY		
	59.0				
15	59.0	50/3	NO RECOVERY		
	64.0				
16	64.0	50/4	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/TRACE SILT.	A-3	
	68.0				
17	68.0	50/3	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	
	70.0				
			END BORING		

BORING: DH-2 | **DATE DRILLED:** 11/2/16
STATION: 82+52.26 | **OFFSET:** 6.89' | **ELEVATION:** 15.13 | **NORTHING:** 499988.267 | **EASTING:** 586935.936
COMMENTS: N/A

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
1	2.0	6	MOIST MEDIUM DENSE BROWN CLAYEY FINE TO COARSE SAND W/TRACE FINE GRAVEL AND SILT.	A-2-4(0)	
		8			
		7			
	4.0	5			
2	4.0	4	WET LOOSE BROWN CLAYEY FINE TO COARSE SAND W/SOME FINE GRAVEL AND SILT.	A-2-4(0)	
		4			
		2			
	6.0	7			
3	6.0	4	WET MEDIUM DENSE BROWN CLAYEY COARSE SAND AND FINE GRAVEL W/SOME FINE SAND AND SILT.	A-2-4(0)	
		7			
		8			
	8.0	14			
4	8.0	2	WET LOOSE BROWN CLAYEY FINE TO COARSE SAND AND FINE GRAVEL W/SOME SILT.	A-2-4(0)	
		2			
		3			
	10.0	3			
5	10.0	3	SATURATED STIFF BROWN CLAY W/SOME FINE TO COARSE SAND, FINE GRAVEL AND SILT.	A-6(5)	
		2			
		7			
	12.0	3			
U-1	12.0				▽ WATER LEVEL (EL. 2.25)
	14.0				
6	14.0	4	SATURATED MEDIUM DENSE GRAY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND AND SILT.	A-1-B	
		5			
		12			
	16.0	9			
7	16.0	8	NO SIEVE ANALYSIS - INDICATION OF SATURATED LOOSE GRAY FINE GRAVELLY COARSE SAND W/SOME FINE SAND AND SILT.		
		5			
		3			
	18.0	3			
8	18.0	1	SATURATED VERY DENSE GRAY FINE GRAVELLY COARSE SAND W/SOME FINE SAND AND SILT.	A-1-B	
		2			
		2			
	20.0	2			
U-2	20.0				
	24.0				
9	24.0	9	SATURATED VERY STIFF GRAY COARSE TO FINE SANDY CLAY W/SOME SILT.	A-7-5(2)	
		7			
		14			
	29.0	21			
10	29.0	26	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-1-B	
		34			
	34.0	50/5			
11	34.0	32	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/SOME SILT.	A-2-4(0)	
	39.0	50/5			
12	39.0	30	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/TRACE SILT.	A-3	
	44.0	50/3			
13	44.0	50/4	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/TRACE SILT.	A-3	
	49.0				
14	49.0	32	NO RECOVERY		
	54.0	50/4			
15	54.0	50/5	SATURATED VERY DENSE GRAY FINE GRAVELLY FINE TO COARSE SAND W/SOME SILT.	A-1-B	
	59.0				
16	59.0	50/2	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/TRACE SILT.	A-3	
	64.0				
17	64.0	50/2	SATURATED VERY DENSE GRAY COARSE TO FINE SAND W/TRACE SILT.	A-3	
	68.0				
18	68.0	50/4	SATURATED VERY DENSE GRAY FINE TO COARSE SAND W/SOME SILT.	A-2-4(0)	
	70.0				
			END BORING		

ADDENDA / REVISIONS						
			BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488S	BORING LOGS
				COUNTY NEW CASTLE	DESIGNED BY: NED	
					CHECKED BY: CAS	

BO-02 | SECTION BR | SHEET NO. 54

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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 (302-760-2259 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 WITH PCN
   DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT IS CONSISTENT WITH DELAWARE CODE CHAPTER 72, SECTION 7217, SPECIAL EXEMPTION (B)
   DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED (PROJECT NOT IN CRW)
   NCC DEPT. OF LAND USE: NCC FLOODPLAIN

   * 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 - DIADROMOUS FISH MIGRATIONS/SPAWNING. NO IN-WATER WORK FROM MARCH 1 TO JUNE 30 (INCLUSIVE)
   ENDANGERED SPECIES - NONE
   MIGRATORY BIRDS - APRIL 15 TO AUGUST 1 (INCLUSIVE) EITHER WORK ON THE UNDERSIDE OF THE STRUCTURE PRIOR TO APRIL 15 (TO PREVENT BIRDS FROM NESTING) OR WAIT UNTIL AFTER AUGUST 1 (AFTER HATCHLINGS HAVE LEFT) TO BEGIN WORK TO UNDERSIDE. IF NEITHER OPTION IS PRACTICAL, THEN DETERRENT NETTING OR SIMILAR DEVICE SHALL BE INSTALLED PRIOR TO APRIL 15.

3. CULTURAL RESOURCE ISSUES:

   A. BRIDGE 1-488N IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. THE BRIDGE WILL NEED TO BE DOCUMENTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THIS DOCUMENTATION WILL BE A PART OF THE MOA THAT IS CURRENTLY IN PROGRESS.

   B. THE PROPOSED PROJECT IS LOCATED IN THE BOUNDARIES OF THE BLACKBIRD VILLAGE HISTORIC DISTRICT, WHICH IS A NATIONAL REGISTER-ELIGIBLE AND SECTION 4(F) PROPERTY. ANY WORK THAT IS DONE IN OR AROUND THIS PROPERTY SHOULD BE LIMITED TO THE LIMITS OF CONSTRUCTION AS DEFINED BY THE PLANS. IF UNFORESEEN DAMAGE OCCURS WITHIN THIS DISTRICT (AS A DIRECT RESULT OF THE UNDERTAKING) DELDOT ENVIRONMENTAL STUDIES MUST BE NOTIFIED AT (302) 760-2093 TO ENSURE THAT THE DE SHPO, FHWA, AND/OR OTHERS ARE CONSULTED ON WAYS TO REPAIR THE DAMAGE CONSISTENT WITH THE SECRETARY OF THE INTERIOR'S STANDARDS. SHOULD IT BE NECESSARY TO ADD ADDITIONAL ACCESS LOCATIONS OR STAGING/STOCKPILING AREAS, OR OTHERWISE MODIFY THE PROJECT SCOPE, METHODS, OR LOC, DELDOT ENVIRONMENTAL STUDIES STAFF (DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV OR (302)760-2093) MUST BE CONTACTED.

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 - PERMANENT GRASS SEEDING, STREAMBANK. 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 908019 - PERMANENT GRASS SEEDING, STREAMBANK.

   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.

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT TYPE
W-1	PROPOSED U.S. RIPRAP PLACEMENT	266.96	0.0061	19.77	USACE	LOSS
TOTAL PERMANENT WETLAND IMPACT AREAS		266.96	0.0061	19.77	USACE	LOSS

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT TYPE
O-1	PROPOSED RIPRAP PLACEMENT	8046.99	0.1847	596.07	USACE / DNREC	IMPACT
TOTAL PERMANENT OPEN WATER IMPACTS		8046.99	0.1847	596.07	USACE / DNREC	IMPACT

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	IMPACT TYPE
OT-1	U.S. E&S AND CHANNEL GRADING	992.15	0.0228	36.75	USACE / DNREC	N/A
OT-2	D.S. E&S AND CHANNEL GRADING	1146.89	0.0263	42.48	USACE / DNREC	N/A
TOTAL TEMPORARY OPEN WATER IMPACTS		2139.04	0.0491	79.23	USACE / DNREC	N/A

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
WT-1	U.S. E&S AND WORK AREA	4734.89	0.1087	350.73	USACE	N/A
TOTAL TEMPORARY TIDAL WETLAND IMPACTS		4734.89	0.1087	350.73	USACE	N/A

ORIGINAL SHEET PREPARED BY NICHOLAS DEAN ON 03-02-2022. SHEET LAST UPDATED ON 06-26-2024.

EC-01

ADDENDA / REVISIONS	

NOT TO SCALE

BR 1-488N&S ON N001 US 13
OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

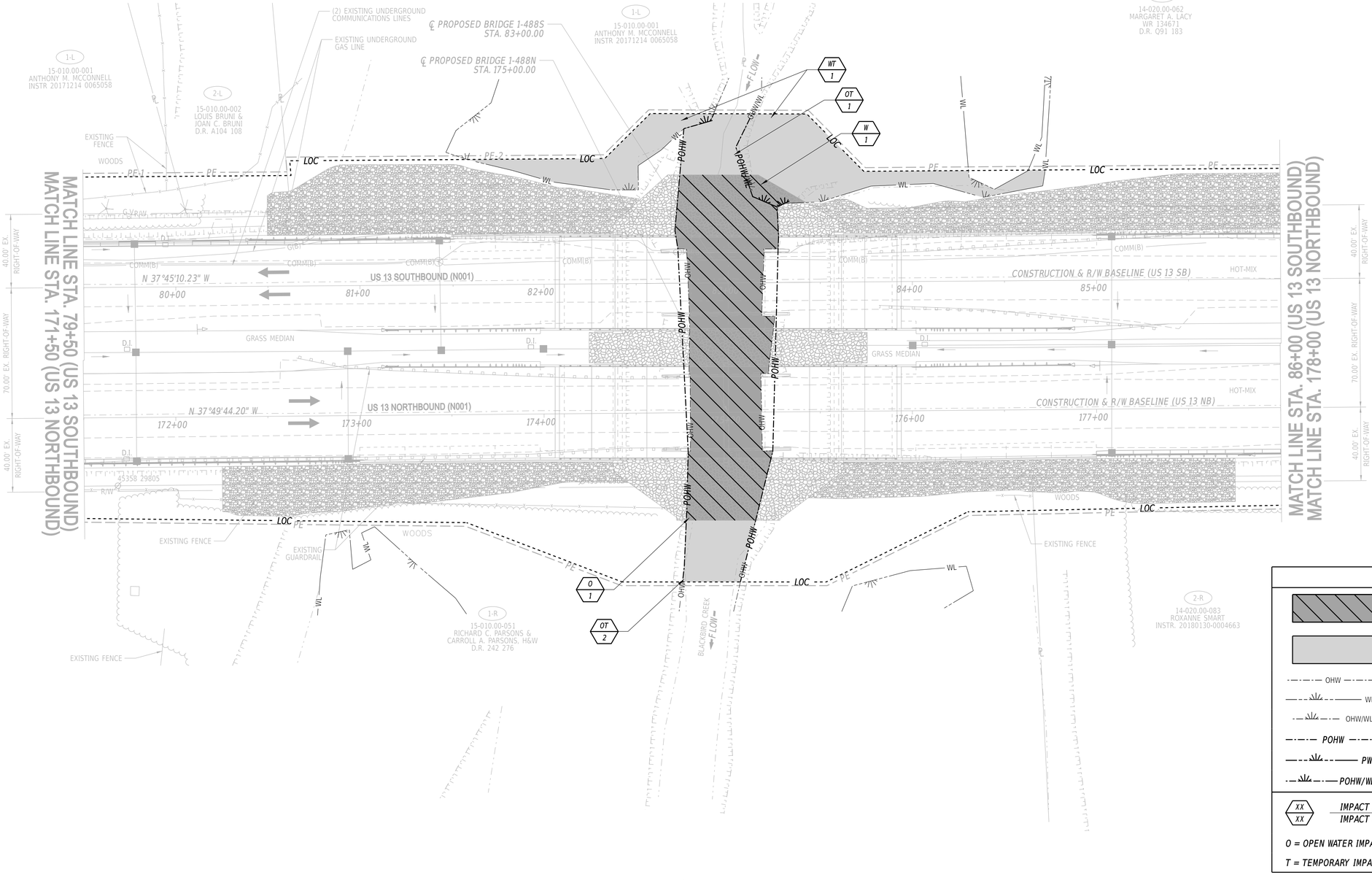
ENVIRONMENTAL COMPLIANCE NOTES

SECTION	BR
SHEET NO.	55

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WETLANDS DELINEATED BY SHANE MURPHY ON 09-11-2022 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY NICHOLAS DEAN ON 03-02-2022. SHEET LAST UPDATED ON 02-12-2024.



LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- WL — WETLAND BOUNDARY
- OHW/WL — ORDINARY HIGH WATER / WETLAND
- POHW — PROPOSED ORDINARY HIGH WATER
- PWL — PROPOSED WETLAND BOUNDARY
- POHW/WL — PROPOSED ORD. HIGH WATER / WETLAND

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

O = OPEN WATER IMPACT
W = WETLAND IMPACT
T = TEMPORARY IMPACT

ADDENDA / REVISIONS		SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT	BRIDGE NO. 1-488N&S	ENVIRONMENTAL COMPLIANCE PLAN	EC-02
		0 30 60 90 FEET		T200707404			SECTION
				COUNTY	DESIGNED BY: N. DEAN		BR
				NEW CASTLE	CHECKED BY: M. RADOVIC		SHEET NO. 56

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GENERAL EROSION AND SEDIMENT CONTROL (E&S) NOTES

1. 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.

Steven Sisson — 6/27/2024

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.

AMOUNT OF DISTURBED AREA FOR THE PROJECT	5.79 AC
ADDED IMPERVIOUS FOR THE PROJECT	22685.29 SF
HUC-10 WATERSHED	APPOQUINIMINK RIVER WATERSHED - DELAWARE RIVER

2. ASSIGN A RESPONSIBLE PERSON IN ACCORDANCE WITH SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS (DSSR). BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT.

3. FILE AS A CO-PERMITTEE IN ACCORDANCE WITH SECTION 901 OF THE STANDARD SPECIFICATIONS. POSTING AND MAINTENANCE OF THE NOI PERMIT COVERAGE IS INCIDENTAL TO THE CONTRACT.

4. REVISIONS TO THE SWPPP OR ENVIRONMENTAL COMPLIANCE PLAN SHEET(S) SHALL BE APPROVED PRIOR TO INITIATION IN THE FIELD. THE ENGINEER IS RESPONSIBLE FOR APPROVING ALL REDLINES AND REVISIONS TO THE SWPPP.

5. IMPLEMENTING AND MAINTAINING POLLUTION PREVENTION DEVICES AND PRACTICES IS REQUIRED UNDER THE DELAWARE CONSTRUCTION GENERAL PERMIT AND THE DSSR AND ARE INCIDENTAL TO THE CONTRACT.

6. A SOIL STOCKPILE, AS DESCRIBED IN DELDOT STANDARD SPECIFICATIONS AND DEFINED IN THE DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK, IS ANY LOCATION WITHIN THE LIMITS OF CONSTRUCTION WHERE A TEMPORARY DEPOSIT OF EXCAVATED SOIL IS BEING RESERVED FOR FUTURE USE. LOCATE STOCKPILES A MINIMUM OF 50 FEET FROM A STORM DRAIN INLET, OPEN CHANNEL, WETLAND, OR WATERBODY. A REQUEST MAY BE MADE TO THE ENGINEER TO PERMIT LOCATING A SOIL STOCKPILE LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL UPON APPROVAL, IF ANY PART OF A SOIL STOCKPILE IS LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL, INSTALL A SUPER SILT FENCE PERIMETER TO PROTECT THE SOIL STOCKPILE. THE SUPER SILT FENCE MUST BE CONSTRUCTED IN ACCORDANCE WITH SECTION 905.3.B.3 OF THE STANDARD SPECIFICATIONS. THE COST FOR INSTALLATION AND MAINTENANCE OF THE STOCKPILE SUPER SILT FENCE IS INCIDENTAL TO THE CONTRACT.

7. PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF FROM LEAVING THE SITE. CHECK PERIMETER CONTROLS DAILY AND ADJUST OR REPAIR TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. REMOVE ACCUMULATED SEDIMENT BEFORE IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE ENGINEER.

8. IMMEDIATELY ADDRESS ANY SEDIMENT LADEN DISCHARGE LEAVING THE LIMIT OF CONSTRUCTION THROUGH BEST AVAILABLE TECHNOLOGIES TO CONTROL ANY FURTHER SEDIMENT LADEN DISCHARGE. SUBMIT PLAN REVISIONS TO DOCUMENT SITE CHANGES REQUIRED TO REMEDIATE THE SEDIMENT LADEN DISCHARGE TO THE ENGINEER FOR APPROVAL.

9. INSTALL EROSION CONTROL BLANKET MULCH ON ALL TEMPORARY CONCENTRATED FLOW AREAS, INCLUDING CHANNEL SIDE SLOPES, AS DIRECTED BY THE ENGINEER. INSTALL WITHIN SEVEN CALENDAR DAYS UPON CONSTRUCTION INITIATION. A TEMPORARY CONCENTRATED FLOW AREA MAY INCLUDE DITCHES, SWALES, BERMS, CONCENTRATED RUNOFF AREAS, ETC.

10. PER DNREC GENERAL PERMIT, NO MORE THAN 20.0 ACRES MAY BE DISTURBED AT ANY TIME. FURTHER DISTURBANCE MAY NOT PROCEED UNTIL TEMPORARY OR PERMANENT STABILIZATION OF THE PREVIOUSLY DISTURBED AREA IS COMPLETED TO THE SATISFACTION OF AND AS APPROVED BY THE ENGINEER.

11. MAINTAIN POSITIVE DRAINAGE IN EXISTING AND PROPOSED DRAINAGE SYSTEMS BY CLEANING EXISTING DRAINAGE SYSTEMS AND PROPERLY DISPOSING OF SEDIMENT THROUGHOUT THE DURATION OF THE PROJECT.

GENERAL E&S SEQUENCE NOTES (FOR ALL PHASES)

1. POST NOI PERMIT COVERAGE SO THAT IT IS VISIBLE IN CLOSE PROXIMITY TO THE CONSTRUCTION SITE AS DIRECTED BY THE ENGINEER. THE NOTICE MUST BE IN ACCORDANCE WITH DELDOT GUIDANCE.

2. INSTALL ALL PERIMETER E&S ITEMS AND SENSITIVE AREA PROTECTIONS PRIOR TO ANY LAND DISTURBING ACTIVITIES. THE ONLY LAND DISTURBANCE ALLOWABLE IS WHAT IS NECESSARY TO INSTALL THE PERIMETER E&S ITEMS.

3. ESTABLISH CONSTRUCTION STAGING AREAS AND INSTALL E&S CONTROLS.

4. ONCE PERIMETER E&S CONTROLS ARE INSTALLED, THEY SHALL BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY OTHER LAND DISTURBING ACTIVITIES CAN BEGIN.

5. INTERIOR EROSION AND SEDIMENT CONTROL ITEMS SHALL BE PLACED AS PER PLAN.

6. NOTIFY THE ENGINEER 48 HOURS BEFORE CONSTRUCTION OF ALL STORMWATER MANAGEMENT FACILITY COMPONENTS IN ACCORDANCE WITH THE STORMWATER MANAGEMENT SHEET FACILITY CONSTRUCTION SEQUENCE.

7. PRIOR TO COMMENCING A NEW PHASE OF CONSTRUCTION, APPROVAL IS REQUIRED FROM THE ENGINEER THAT THE AREAS WITHIN THE PREVIOUS PHASE HAVE BEEN SUFFICIENTLY STABILIZED.

8. COMPLETE PERMANENT STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS UPON REACHING FINAL GRADE.

9. DO NOT REMOVE E&S DEVICES UNLESS DIRECTED BY THE ENGINEER.

GENERAL MOT NOTES

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

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
(X)	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. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302) 659-4060. ALL MONITORING REQUIREMENTS OF THE TMPSHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALLBE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THEMODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.

3. THE USE OF MILLINGS AND GRADED AGGREGATE BASE COURSE (GABC) IN THE TRAVEL WAY, TEMPORARY TRAVEL WAY, HIGH VOLUME ENTRANCES AND ACCESS RAMP FOR THE PURPOSE OF PROVIDING A TEMPORARY ROADWAY SURFACE, POTHOLE REPAIR, TAPERED EDGE FOR UTILITIES, BUTT JOINTS, AND LONGITUDINAL DROP-OFFS (MILLING AND PAVING OPERATIONS) IS PROHIBITED UNLESS IT IS OTHERWISE DESIGNATED TO BE USED IN THE CONTRACT PLANS. USE COLD PATCH, BITUMINOUS CONCRETE, BITUMINOUS CONCRETE WEDGE, OR TAPER MILL, AS NOTED IN THE CONTRACT DOCUMENTS OR APPROVED BY THE ENGINEER. PAYMENT FOR COLD PATCH, BITUMINOUS CONCRETE OR BITUMINOUS CONCRETE WEDGE SHALL BE PAID AS NOTED IN THE CONTRACT DOCUMENTS. TAPER MILL BITUMINOUS CONCRETE SHALL BE PAID UNDER THE BITUMINOUS CONCRETE MILLING ITEM.

   MILLINGS OR GABC SHALL BE USED AT THE FOLLOWING LOCATIONS WHERE ACCESS TO A BUSINESS, RESIDENCE, OR EDGE DROP OFF NEEDS TO BE MAINTAINED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER TO USE BITUMINOUS CONCRETE OR COLD PATCH. ALL MILLINGS AND GABC WILL BE ROLLED AND COMPACTED TO HELP PREVENT THE MATERIAL FROM UNRAVELLING:
   - A. DRIVEWAYS
   - B. ENTRANCES
   - C. LOW VOLUME ACCESS RAMPS (IDENTIFIED IN THE CONTRACT DOCUMENTS)
   - D. EDGE DROP-OFFS ADJACENT TO LIVE ROADWAY(LANES AND SHOULDER) AND THE PROPOSED ROAD CONSTRUCTION
   - E. EDGE OF ROADWAY DROP-OFF

   GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED FOR ROADWAY WEDGE/FILLET BETWEEN TRAVEL LANES AND PAVEMENT BOX, EDGE OF TRAVELWAY, DRIVEWAY OR ENTRANCE ACCESS SHALL BE INCIDENTAL TO ITEM NO. 801000 - MAINTENANCE OF TRAFFIC. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE PAY ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR MILLINGS OR GABC TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM.

   VERTICAL DIFFERENCES SHALL BE CORRECTED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.

4. ADDITIONAL USAGE OF TRAFFIC OFFICERS OUTSIDE OF THE ABOVE REQUIREMENTS SHALL BE APPROVED BY THE ENGINEER IN CONSULTATION WITH THE TRAFFIC SAFETY SECTION.

5. ALL NECESSARY SIGNS, PAVEMENT MARKINGS AND ROADSIDE APPURTENANCES SHALL BE INSTALLED PRIOR TO THE OPENING/REOPENING OF A ROADWAY OR RAMP. A WALKTHROUGH WITH THE ENGINEER, TRAFFIC SAFETY, TRAFFIC CONSTRUCTION AND OTHER PERSONNEL SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE OPENING/REOPENING OF ANY ROAD OR RAMP.

EROSION & SEDIMENT CONTROL

CFL	COMPOST FILTER LOG
CFL	COMPOST FILTER LOG / LENGTH
DWBAG	DEWATERING BAG
DWB	DEWATERING BASIN
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
STABILIZED CONSTRUCTION ENTRANCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
SF	SILT FENCE
RSF	REINFORCED SILT FENCE / LENGTH
RSF	REINFORCED SILT FENCE
SSF	SUPER SILT FENCE / LENGTH
SSF	SUPER SILT FENCE
SP	SUMP PIT
ST	SEDIMENT TRAP / NUMBER
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T XXX	TURBIDITY CURTAIN / LENGTH
T	TURBIDITY CURTAIN

CONSTRUCTION PHASING & M.O.T

	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
CSF XXX	CONSTRUCTION SAFETY FENCE / LENGTH
CSF	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
END ROAD WORK	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE

ADDENDA / REVISIONS	

NOT TO SCALE

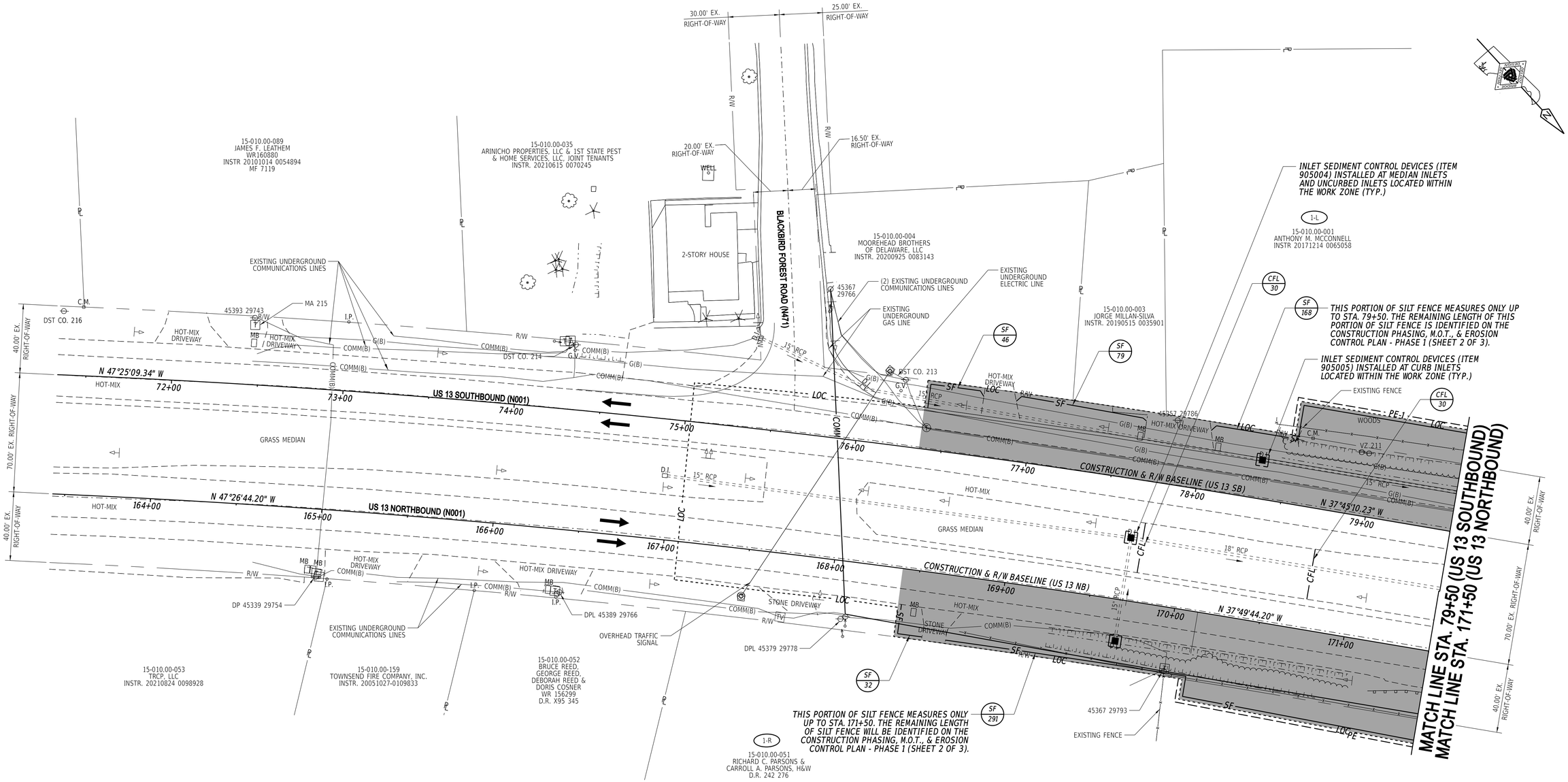
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL NOTES

SECTION
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MOT NOTES (PHASE 1: CLEARING & UTILITY WORK):

1. *SEE DWG. NO. CS-03 FOR NOTES ON THE MAINTENANCE OF TRAFFIC FOR PHASE 1.*

SEQUENCE OF CONSTRUCTION (PHASE 1: CLEARING & UTILITY WORK):

1. *SEE DWG. NO. CS-03 FOR NOTES ON THE SEQUENCE OF CONSTRUCTION FOR PHASE 1.*

ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 1	CS-02
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 58

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MOT NOTES (PHASE 1: CLEARING & UTILITY WORK):

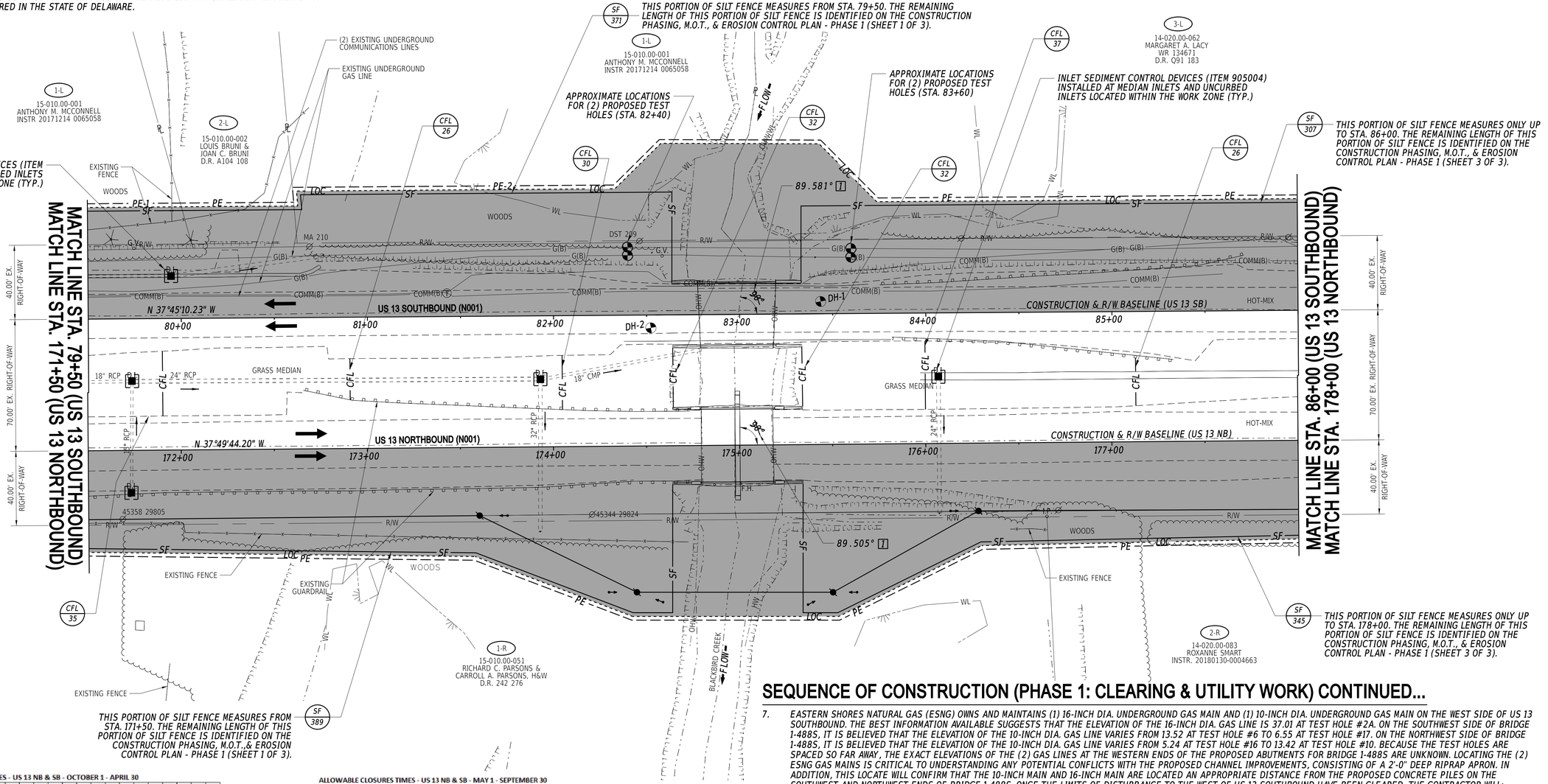
1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES AND LANE SHIFTS SHALL CONFORM TO TYPICAL APPLICATION 33B OF THE DELAWARE MUTCD. THE CONTRACTOR WILL ARRANGE THE DRUMS IN A MANNER THAT MAINTAINS ACCESS TO DRIVEWAYS, WHILE SAFELY AND CLEARLY DIRECTING TRAFFIC MERGING ONTO US 13 OUT OF THE WORK AREA.

2. SEE SECTION 800 NOTES ON PROJECT NOTES SHEET FOR INFORMATION ON PAYMENT FOR ALL MAINTENANCE OF TRAFFIC ACTIVITIES ASSOCIATED WITH PHASE 1.

3. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302) 659-4060. ALL MONITORING REQUIREMENTS OF THE TMP SHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALL BE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.

SEQUENCE OF CONSTRUCTION (PHASE 1: CLEARING & UTILITY WORK):

1. INSTALL MOT DEVICES IN ACCORDANCE WITH TA-33B OF THE DE MUTCD (60 MPH DESIGN SPEED).
2. INSTALL SILT FENCE (ITEM 905001) AND INLET SEDIMENT CONTROL (ITEM 905004 AND ITEM 905005).
3. INSTALL COMPOST FILTER LOGS (ITEM #907017) IN THE MEDIAN OF US 13:
   -EVERY 100'± FROM STATION 169+75 TO 174+07 AND AT THE TOP OF STREAM BANK AT STATION 174+65
   -EVERY 125'± FROM STATION 176+00 TO 179+75 AND AT THE TOP OF STREAM BANK AT STATION 175+35
   **STATIONING BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.
4. CLEAR WORK AREA OF TREES AND PLANTS IN PREPARATION FOR THE UTILITY RELOCATION AND BRIDGE REPLACEMENT.
   **REMOVAL OF TREE CANOPIES ABOVE THE AERIAL UTILITIES ON THE EAST SIDE OF US 13 NB WILL BE PERFORMED BY DELMARVA POWER. THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVAL OF THE DEBRIS RESULTING FROM DELMARVA POWER'S TREE CANOPY REMOVAL.
5. PROVIDE THE UTILITY COMPANIES WITH ACCESS BEHIND THE EXISTING GUARDRAIL OF THE WEST SIDE OF US 13 NORHTBOUND AND THE EAST SIDE OF US 13 SOUTHBOUND. REMOVE ONLY ENOUGH GUARDRAIL TO PROVIDE ADEQUATE ACCESS TO PERFORM THE WORK (NO MORE THAN 50'-0" AT EACH CORNER OF BRIDGES 1-488N&S). PRIOR TO THE REMOVAL OF ANY GUARDRAIL, A TRUCK MOUNTED ATTENUATOR WILL BE PLACED IN FRONT OF ANY PORTION OF GUARDRAIL TO BE REMOVED AND REMAIN IN PLACE FOR THE REMAINING DURATION OF PHASE 1 CONSTRUCTION.
6. PROVIDE A STABLE STABLE WORK AREA FROM WHICH CROWN CASTLE, VERIZON, AND DELMARVA POWER WILL PERFORM THEIR RELOCATION WORK.



ALLOWABLE CLOSURES TIMES - US 13 NB & SB - OCTOBER 1 - APRIL 30

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

ONE TRAVEL LANE PERMITTED TO BE CLOSED
NO TRAVEL OR TURN LANE CLOSURES PERMITTED

ALLOWABLE CLOSURES TIMES - US 13 NB & SB - MAY 1 - SEPTEMBER 30

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

ONE TRAVEL LANE PERMITTED TO BE CLOSED
NO TRAVEL OR TURN LANE CLOSURES PERMITTED

SEQUENCE OF CONSTRUCTION (PHASE 1: CLEARING & UTILITY WORK) CONTINUED...

7. EASTERN SHORES NATURAL GAS (ESNG) OWNS AND MAINTAINS (1) 16-INCH DIA. UNDERGROUND GAS MAIN AND (1) 10-INCH DIA. UNDERGROUND GAS MAIN ON THE WEST SIDE OF US 13 SOUTHBOUND. THE BEST INFORMATION AVAILABLE SUGGESTS THAT THE ELEVATION OF THE 16-INCH DIA. GAS LINE IS 37.01 AT TEST HOLE #2A. ON THE SOUTHWEST SIDE OF BRIDGE 1-488S, IT IS BELIEVED THAT THE ELEVATION OF THE 10-INCH DIA. GAS LINE VARIES FROM 13.52 AT TEST HOLE #6 TO 6.55 AT TEST HOLE #17. ON THE NORTHWEST SIDE OF BRIDGE 1-488S, IT IS BELIEVED THAT THE ELEVATION OF THE 10-INCH DIA. GAS LINE VARIES FROM 5.24 AT TEST HOLE #16 TO 13.42 AT TEST HOLE #10. BECAUSE THE TEST HOLES ARE SPACED SO FAR AWAY, THE EXACT ELEVATIONS OF THE (2) GAS LINES AT THE WESTERN ENDS OF THE PROPOSED ABUTMENTS FOR BRIDGE 1-488S ARE UNKNOWN. LOCATING THE (2) ESNG GAS MAINS IS CRITICAL TO UNDERSTANDING ANY POTENTIAL CONFLICTS WITH THE PROPOSED CHANNEL IMPROVEMENTS, CONSISTING OF A 2'-0" DEEP RIPRAP APRON. IN ADDITION, THIS LOCATE WILL CONFIRM THAT THE 10-INCH MAIN AND 16-INCH MAIN ARE LOCATED AN APPROPRIATE DISTANCE FROM THE PROPOSED CONCRETE PILES ON THE SOUTHWEST AND NORTHWEST ENDS OF BRIDGE 1-488S. ONCE THE LIMITS OF DISTURBANCE TO THE WEST OF US 13 SOUTHBOUND HAVE BEEN CLEARED, THE CONTRACTOR WILL:
   a. NOTIFY ESNG APPROXIMATELY (14) CALENDAR DAYS IN ADVANCE OF PERFORMING THE PRESCRIBED TEST HOLES. CONTACT ESNG, MARK PARKER AT 302-373-4715 OR MAPARKER@ESNG.COM.
   b. PERFORM (4) TEST HOLES ON ESNG'S EXISTING 10-INCH MAIN AND 16-INCH MAIN IN ACCORDANCE WITH ASCE 38-22. EACH GAS MAIN WILL BE LOCATED ON EACH SIDE OF THE STREAMBANK, IN PROXIMITY OF THE PROPOSED ABUTMENTS FOR BRIDGE 1-488S. ESNG REPRESENTATIVES WILL BE ON-SITE DURING THE PERFORMACE OF THE TEST HOLES TO FULLY SUPPORT THE ACTIVITY, INCLUDING LOCATING THE MAINS AND ENSURING SAFETY.
   c. ONCE THE GAS MAINS ARE LOCATED AND MINIMALLY EXPOSED, THE CONTRACTOR WILL SURVEY THE LINES AT EACH TEST HOLE LOCATION. THE NORTHING, EASTING, AND ELEVATION OF THE GAS MAIN AT EACH TEST HOLE LOCATION WILL BE RECORDED AND PROVIDED TO ESNG.
8. PERFORM UTILITY RELOCATIONS IN ACCORDANCE WITH THE UTILITY RELOCATION PLANS AND UTILITY STATEMENT.
   **IF PHASE 1 CONSTRUCTION IS COMPLETED AFTER LABOR DAY, THE CONTRACTOR SHOULD BE PREPARED TO SWITCH TO PHASE 2 OF CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE UTILITY RELOCATIONS.
9. ONE (1) MONTH PRIOR TO THE BEGINNING OF PHASE 2 OF CONSTRUCTION, INSTALL EMERGENCY DETOUR IN ACCORDANCE WITH THE EMERGENCY DETOUR PLANS. THE EMERGENCY DETOUR MUST BE TESTED AND OPERATIONAL PRIOR TO THE START OF ANY PHASE 2 CONSTRUCTION ACTIVITIES. WITH THE EXCEPTION OF THE CHANGEABLE MESSAGE BOARDS, PAYMENT FOR ALL MAINTENANCE OF TRAFFIC ACTIVITIES ASSOCIATED WITH THE EMERGENCY DETOUR WILL BE PAID UNDER ITEM 801500 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE. CHANGEABLE MESSAGE BOARDS SPECIFIC TO THE EMERGENCY DETOUR WILL BE PAID FOR UNDER ITEM 803501 - PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN.

ADDENDA / REVISIONS		
1 ADJUSTED BRIDGE SKEWS	N. DEAN-05/22/25	

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

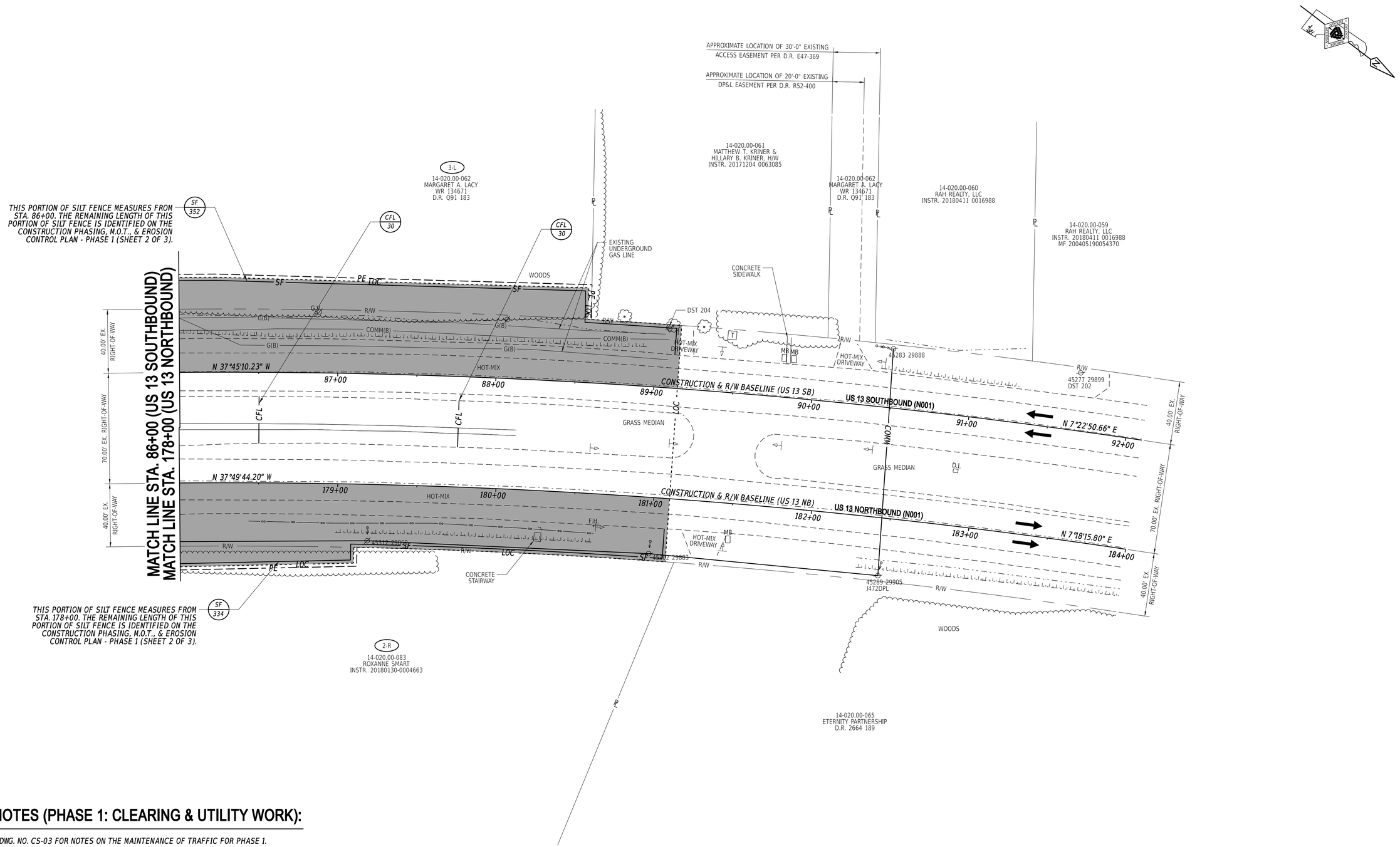
CONTRACT	T200707404
COUNTY	NEW CASTLE

BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 1

CS-03	
SECTION	BR
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MOT NOTES (PHASE 1: CLEARING & UTILITY WORK):

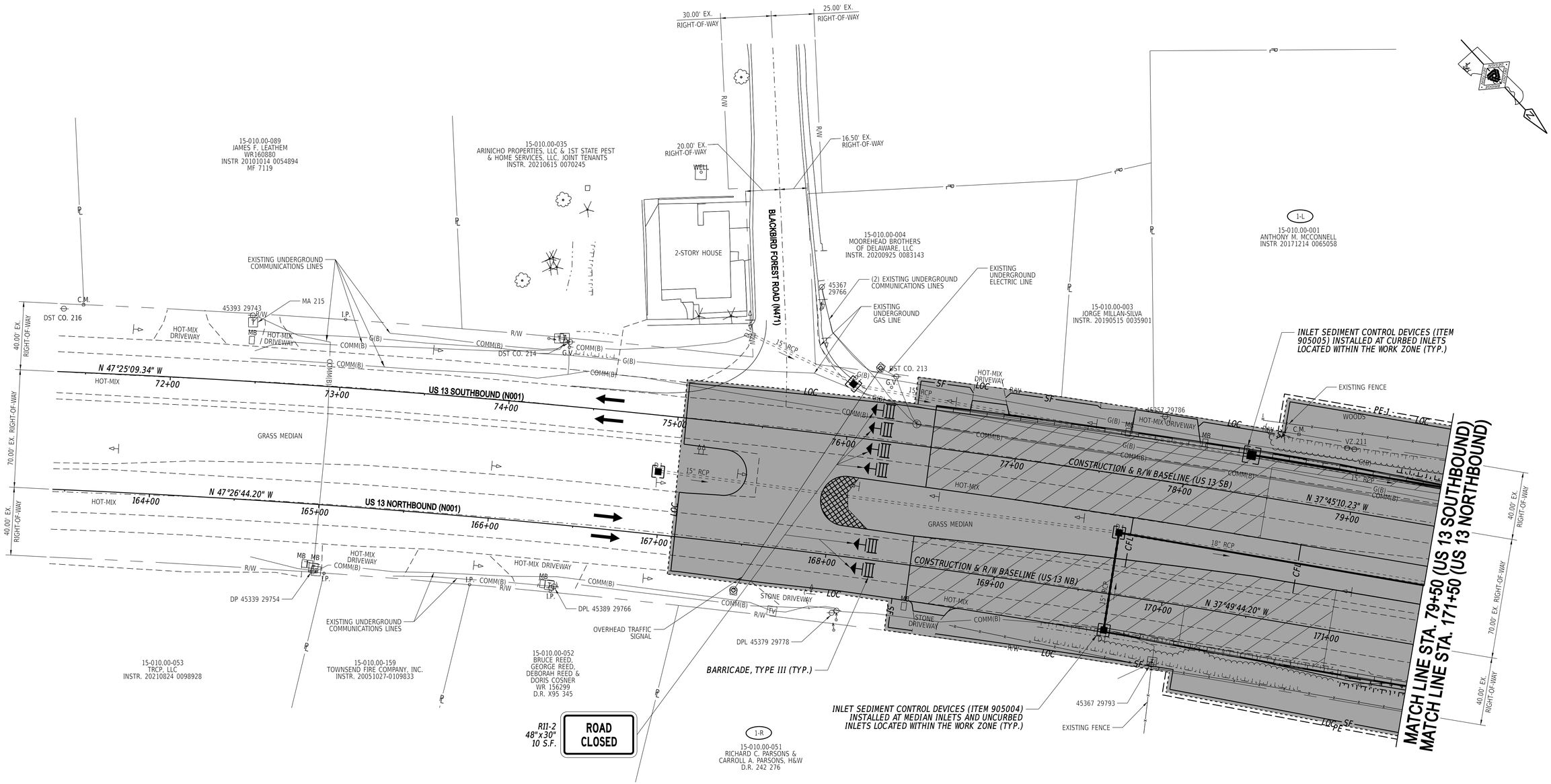
1. *SEE DWG. NO. CS-03 FOR NOTES ON THE MAINTENANCE OF TRAFFIC FOR PHASE 1.*

SEQUENCE OF CONSTRUCTION (PHASE 1: CLEARING & UTILITY WORK):

1. *SEE DWG. NO. CS-03 FOR NOTES ON THE SEQUENCE OF CONSTRUCTION FOR PHASE 1.*

ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 1	CS-04
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SECTION BR
					CHECKED BY: M. RADOVIC		SHEET NO. 60

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SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT):

1. *SEE DWG. NO. CS-06 FOR NOTES ON THE SEQUENCE OF CONSTRUCTION FOR PHASE 2.*

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ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK				CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 2	CS-05
				CONTRACT	BRIDGE NO.	1-488N&S		SECTION
				T200707404	DESIGNED BY:	N. DEAN		BR
				COUNTY				SHEET NO.
				NEW CASTLE	CHECKED BY:	M. RADOVIC		61

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SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT):

*** IF PHASE 1 CONSTRUCTION IS COMPLETED PRIOR TO LABOR DAY, CONSTRUCTION WORK WILL BE SUSPENDED WITH THE EXCEPTION OF MAINTENANCE OF E&S CONTROL DEVICES. PHASE 2 CONSTRUCTION WILL NOT COMMENCE UNTIL AFTER LABOR DAY.

1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN. INSTALL MOT DEVICES IN ACCORDANCE WITH TA-33B OF THE DE MUTCD (60 MPH DESIGN SPEED) IN THE LOCATIONS BELOW:

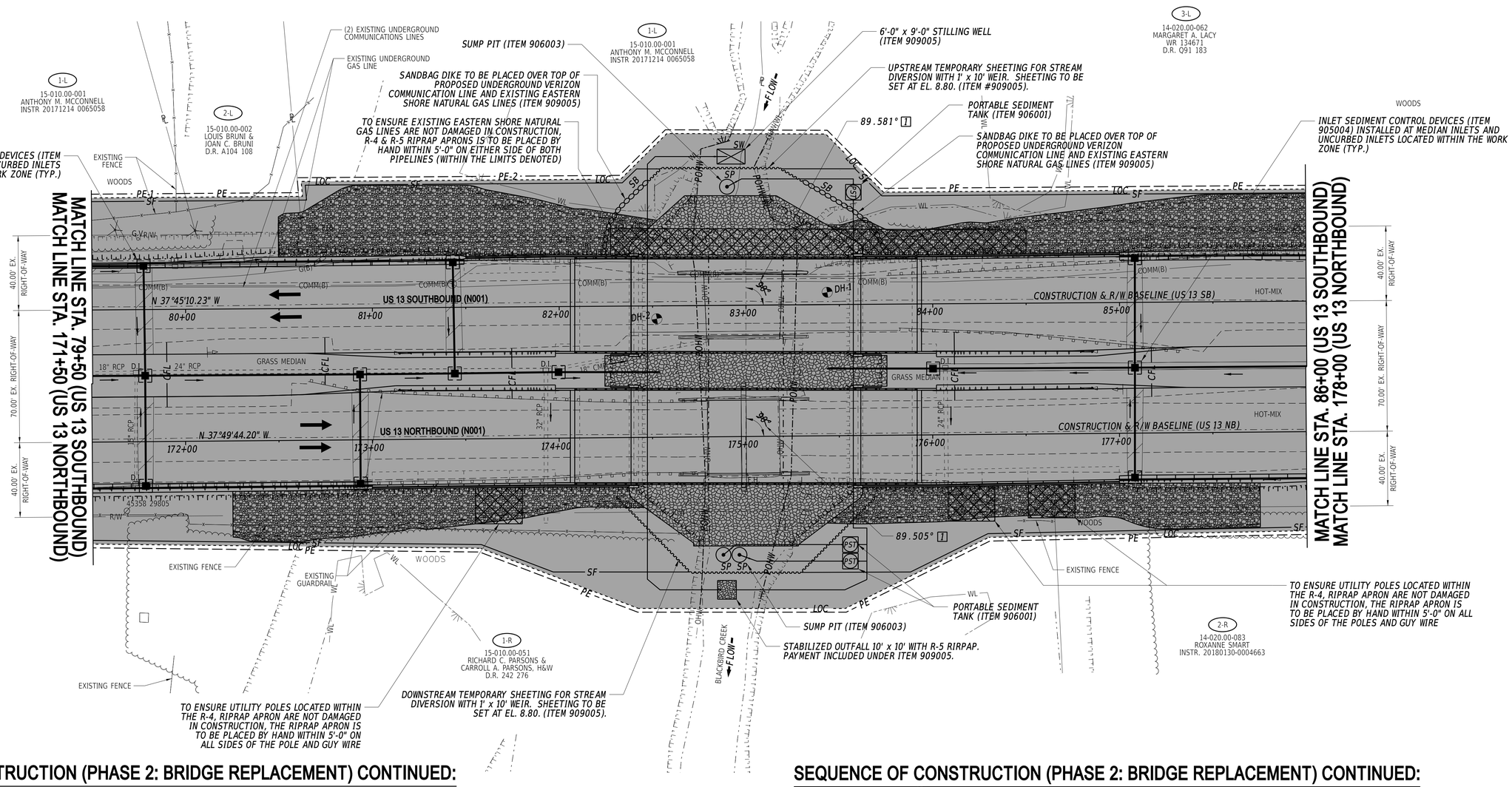
   - SOUTH OF THE HARD ROAD CLOSURE OF US 13 NORTHBOUND TO FACILITATE THE USE OF THE LEFT TURN LANE AT THE INTERSECTION OF US 13 AND BLACKBIRD FOREST ROAD.
   - NORTH OF THE HARD ROAD CLOSURE OF US 13 SOUTHBOUND TO FACILITATE THE USE OF THE LEFT TURN LANE AT THE MEDIAN CROSSOVER ON US 13, NORTH OF THE PROJECT LIMITS.

*** THE SEQUENCE OF ALL TASKS AFTER STEP 1 ARE SUBJECT TO CHANGE WITH APPROVAL OF THE ENGINEER. THE INTENTION OF THE STEPS OUTLINED BELOW IS TO LIMIT THE NUMBER OF DAYS THAT BLACKBIRD CREEK IS BEING DIVERTED.

2. REMOVE THE EXISTING GUARDRAIL ON ALL FOUR CORNERS OF BR 1-488N&S, ALL SPECIFIED EXISTING DRAINAGE INLETS AND PIPES, THE FENCE ON THE NORTHEAST CORNER OF BR 1-488N (THE CONTRACTOR SHALL RESET THIS FENCE AT THE COMPLETION OF CONSTRUCTION), THE EXISTING HOT-MIX WITHIN THE PROJECT LIMITS, THE CONCRETE DITCH IN THE MEDIAN NORTH OF BR 1-488N&S, THE TEMPORARY CONCRETE BARRIERS ON BR 1-488S, THE CONCRETE STAIRWAY ON PARCEL 2-R, AND THE ROADWAY SIGNS PER THE SIGNING AND STRIPING PLAN. THE CONTRACTOR SHALL ALSO RELOCATE THE MAILBOXES ON PARCELS 1-L, 1-R, AND 15-010.00-003 OUTSIDE OF THE CONSTRUCTION ZONE, AND RESET THE MAILBOXES AT THE COMPLETION OF CONSTRUCTION.

SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT) CONTINUED:

3. IN PREPARATION FOR RAISING THE PROFILE OF US 13 NORTHBOUND AND SOUTHBOUND, MILL OFF THE EXISTING HOT-MIX PAVEMENT IN THE AREAS DESIGNATED ON THE CONSTRUCTION PLANS TO EXPOSE THE EXISTING PCC PAVEMENT UNDERNEATH. TO ALLOW FOR DRAINAGE UNDER THE PROPOSED ROADWAY, RUBBLIZE THE EXISTING PCC PAVEMENT.
4. INSTALL PROPOSED PRECAST CONCRETE T-WALL SYSTEM, DRAINAGE INLETS AND PIPES, TEST PILES, AND PRODUCTION PILES.
5. REMOVE AND REINSTALL COMPOST FILTER LOGS AFTER GRADING.
6. COMPLETE ALL EARTHWORK ASSOCIATED WITH RAISING THE ROADWAYS OF US 13 NORTHBOUND AND SOUTHBOUND TO MATCH THE PROPOSED PROFILES. PLACE GEOTEXTILE (ITEM #708003), DE #3 STONE (ITEM #302002), R-4 RIPRAP (ITEM #707015) ALONG ROADWAY SIDE SLOPES. WITHIN THE LIMITS OF PRECAST CONCRETE TEE WALL STEMS, USE VIBRATORY PLATE COMPACTORS TO COMPACT THE FOAMED GLASS AGGREGATE. TRACKED EQUIPMENT WILL BE USED UNDER THE PROPOSED PAVEMENT BOX AND OUTSIDE OF THE LIMITS OF THE PRECAST CONCRETE TEE WALL STEMS TO ADEQUATELY COMPACT THE FOAMED GLASS AGGREGATE. THE USE OF ROLLERS IS NOT PERMITTED DIRECTLY ON THE FOAMED GLASS AGGREGATE LAYER. FULLY WRAP THE FOAMED GLASS AGGREGATE WITH GEOTEXTILE.
7. INSTALL THE PROPOSED PRECAST CONCRETE ABUTMENTS AND SLEEPER SLABS.
8. INSTALL STILLING WELL (ITEM 909005) JUST UPSTREAM OF THE PROPOSED UPSTREAM TEMPORARY SHEETING. PLACE R-5 RIPRAP (ITEM 909005) 10 FEET IN THE DIRECTION OF FLOW BY 10 FEET WIDE AT THE PROPOSED DISCHARGE AREA.



SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT) CONTINUED:

9. CONSTRUCT THE TEMPORARY SHEETING AND SANDBAG DIKES (ITEM 909005), AT THE LOCATIONS SHOWN, WITH THE TOP ELEVATION SET AT 8.80 AND A 1' x 10' WEIR OPENING UPSTREAM AND DOWNSTREAM. THE ELEVATION OF THE DOWNSTREAM SHEETING SHALL NOT BE HIGHER THAN THE LOWEST ELEVATION OF THE UPSTREAM SHEETING. ADJUST THE SILT FENCE SO THAT IT CONNECTS TO THE TEMPORARY SHEETING OR SANDBAG DIVERSION TO COMPLETELY ENCLOSE THE WORK AREA. THE SILT FENCE RUNNING PARALLEL TO BLACKBIRD CREEK MAY BE REMOVED ONCE THE STREAM DIVERSION IS IN PLACE. USE A PUMP(S) (ITEM 909005) TO DIVERT THE STREAM BASE FLOW AROUND THE ENCLOSED WORK AREA. THE PUMP SHALL OPERATE AT OR BELOW 70dBA AND BE SOUND TESTED TO ISO 3744, ANSI/HI 9.4, AND CPB NOISE LEVEL TESTING STANDARDS. WHEN THE FLOW IS HIGHER THAN THE PUMP CAPACITY DURING RAINFALL EVENTS, THE STREAM FLOW IS ALLOWED TO BACK UP INTO THE FLOOD PLAIN UPSTREAM OF THE DIVERSION UNTIL IT OVERTOPS THE TEMPORARY SHEETING. THEREFORE, THE ENCLOSED AREA SHALL BE KEPT CLEAR OF DEBRIS AND OBSTRUCTIONS AT THE END OF EACH WORKDAY. THE BASE FLOW CALCULATED FOR THE PUMP(S) IS ESTIMATED TO BE 22.55 CFS (BASED ON USGS STREAM GAGE DATA FROM THE PAST 10-YEARS).
10. INSTALL SUMP PITS (ITEM #906003) AND PORTABLE SEDIMENT TANKS (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 PIPE(S) OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
11. REMOVE THE EXISTING BRIDGE 1-488S (40'-0" CONCRETE ARCH) AND BRIDGE 1-488N (40'-0" RIGID FRAME WITH CONCRETE PIER) IN THEIR ENTIRETY. BASED ON SURVEY, IT IS BELIEVED THAT THERE ARE EXISTING OBSTRUCTIONS IN THE CHANNEL. THESE OBSTRUCTIONS, AS WELL AS THE EXISTING TIMBER AND CONCRETE PILES ON EACH BRIDGE SHALL BE REMOVED OR CUT TO A MINIMUM DEPTH OF 1'-0" BELOW THE BOTTOM ELEVATION OF THE DE #3 STONE IN THE PROPOSED RIPRAP APRON. TIMBER PILES WILL BE DISPOSED OF BY DELDOT'S ENVIRONMENTAL CONSULTANT. CONTRACTOR NEEDS TO ENSURE TIMBER PILES DO NOT EXCEED 14 FEET IN LENGTH AND ARE PLACED ON AND COVERED BY 8 MIL PLASTIC UNTIL REMOVAL. PLEASE REFER TO SPECIFICATION 202560 - CONTAMINATED MATERIAL FOR CONTRACTOR RESPONSIBILITIES.

SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT) CONTINUED:

12. CONSTRUCT THE STREAM CHANNEL SLOPES, PLACE GEOTEXTILE (ITEM #708003), DE #3 STONE (ITEM #302002), R-5 RIPRAP (ITEM #707016), AND CHANNEL BED FILL (ITEM #707500). IF THE CONTRACTOR CHOOSES TO USE ON-SITE CHANNEL BED FILL, EXCAVATE AND STOCKPILE THE EXISTING STREAM BED MATERIAL IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF ITEM #707500 - CHANNEL BED FILL. RIRRAP SHALL BE PLACED CONTINUOUSLY FROM 25' UPSTREAM OF THE FACE OF BRIDGE 1-488S TO 25' DOWNSTREAM OF THE FACE OF BRIDGE 1-488N. REFER TO ENVIRONMENTAL COMPLIANCE NOTE 4 FOR FURTHER GUIDANCE.
13. INSTALL THE PROPOSED SUPERSTRUCTURE OF BR 1-488N&S, INCLUDING THE PRECAST NEDBT56 BEAMS AND BRIDGE RAILING. INSTALL THE PRECAST CONCRETE APPROACH SLABS AND PRECAST CONCRETE MOMENT SLABS. COMPLETE THE UHPC CLOSURE POUR BETWEEN THE PRECAST SUPERSTRUCTURE JOINTS.
14. REMOVE THE STREAM DIVERSION AND RESTORE THE STREAM TO EXISTING CONDITIONS AS OUTLINED IN THE ENVIRONMENTAL COMPLIANCE NOTES. THE CONTRACTOR HAS THE OPTION TO REMOVE THE STREAM DIVERSION EITHER BEFORE OR AFTER THE INSTALLATION OF THE SUPERSTRUCTURE OF BR 1-488N&S.
15. COMPLETE ALL ROAD WORK, INCLUDING INSTALLATION OF THE PROPOSED GUARDRAIL, PAVEMENT BOX, WATERPROOFING MEMBRANE AND HOT-MIX OVERLAY OVERTOP OF THE BRIDGES, AND ROADWAY SIGNING AND STRIPING AS SHOWN ON THE PLANS.
16. 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.
17. REMOVE ALL MOT DEVICES AND REOPEN THE ROADWAYS TO TRAFFIC. REMOVAL OF MOT DEVICES MAY OCCUR PRIOR TO REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.

ADDENDA / REVISIONS		
7 ADJUSTED BRIDGE SKEWS	N. DEAN-05/22/25	

SCALE 0 30 60 90 FEET

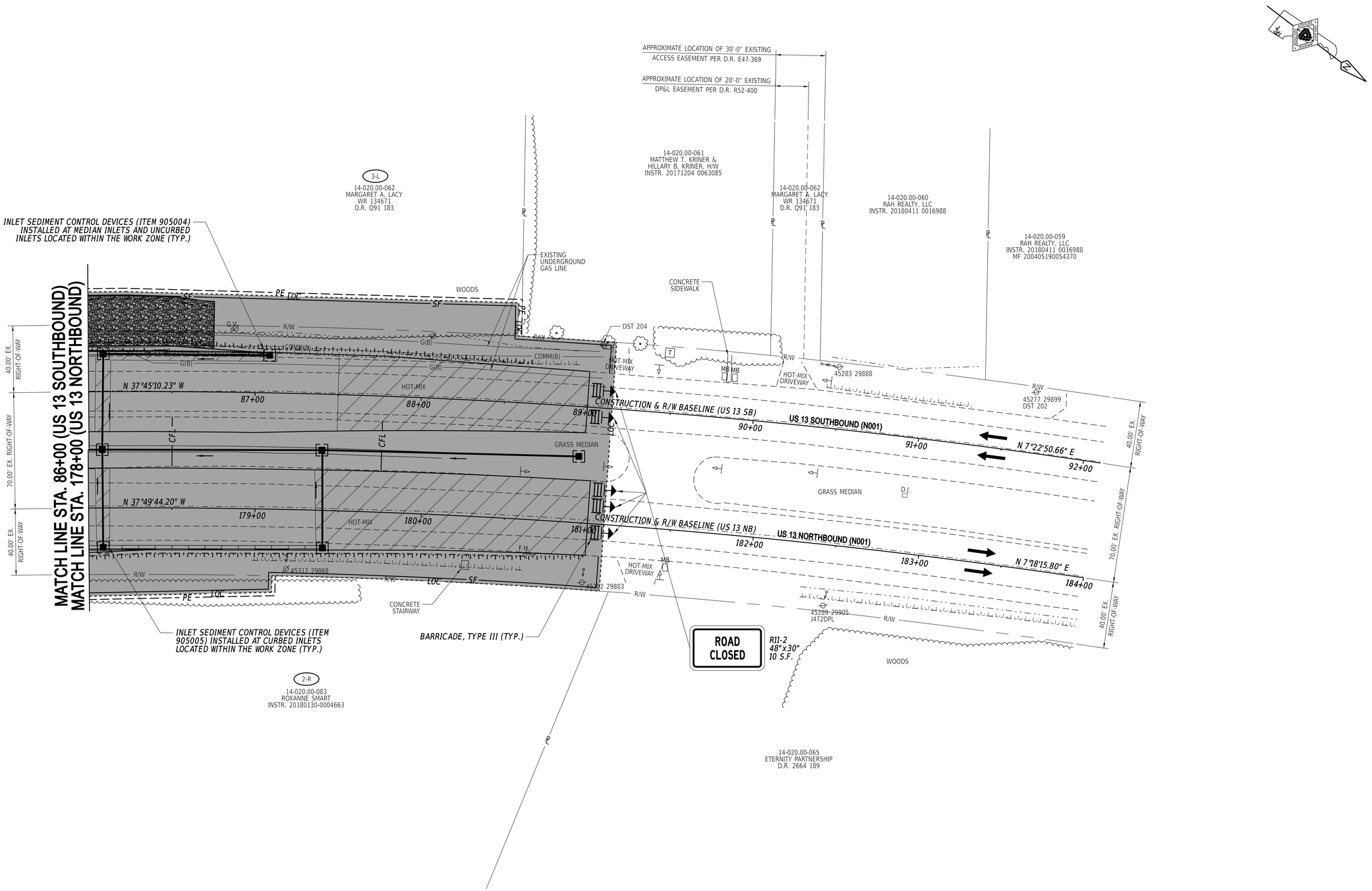
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY: NEW CASTLE	CHECKED BY:	M. RADOVIC

CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 2

CS-06 | SECTION: BR | SHEET NO.: 62

23-MAY-2025
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SEQUENCE OF CONSTRUCTION (PHASE 2: BRIDGE REPLACEMENT):

1. *SEE DWG. NO. CS-06 FOR NOTES ON THE SEQUENCE OF CONSTRUCTION FOR PHASE 2.*

.

ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

CONSTRUCTION PHASING, M.O.T., & EROSION CONTROL PLAN - PHASE 2

	CS-07
SECTION	BR
SHEET NO.	63

28-JUN-2024
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PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

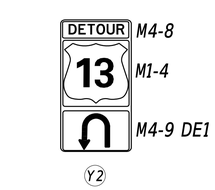
US 13 TO CLOSE	STARTING XX/XX/XX

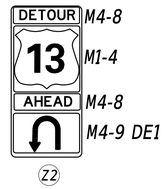
DURING DETOUR
(DISPLAY AFTER IMPLEMENTATION OF DETOUR)

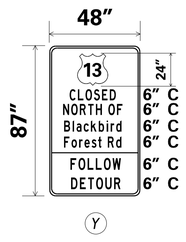
PCMS-2

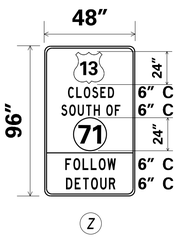
US 13 CLOSED	FOLLOW DETOUR

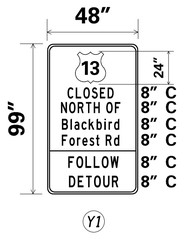
SPECIAL SIGNS

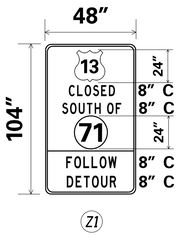












*D/G RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND

*ROUTE SHIELD – WHITE BACKGROUND; BLACK LEGEND

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

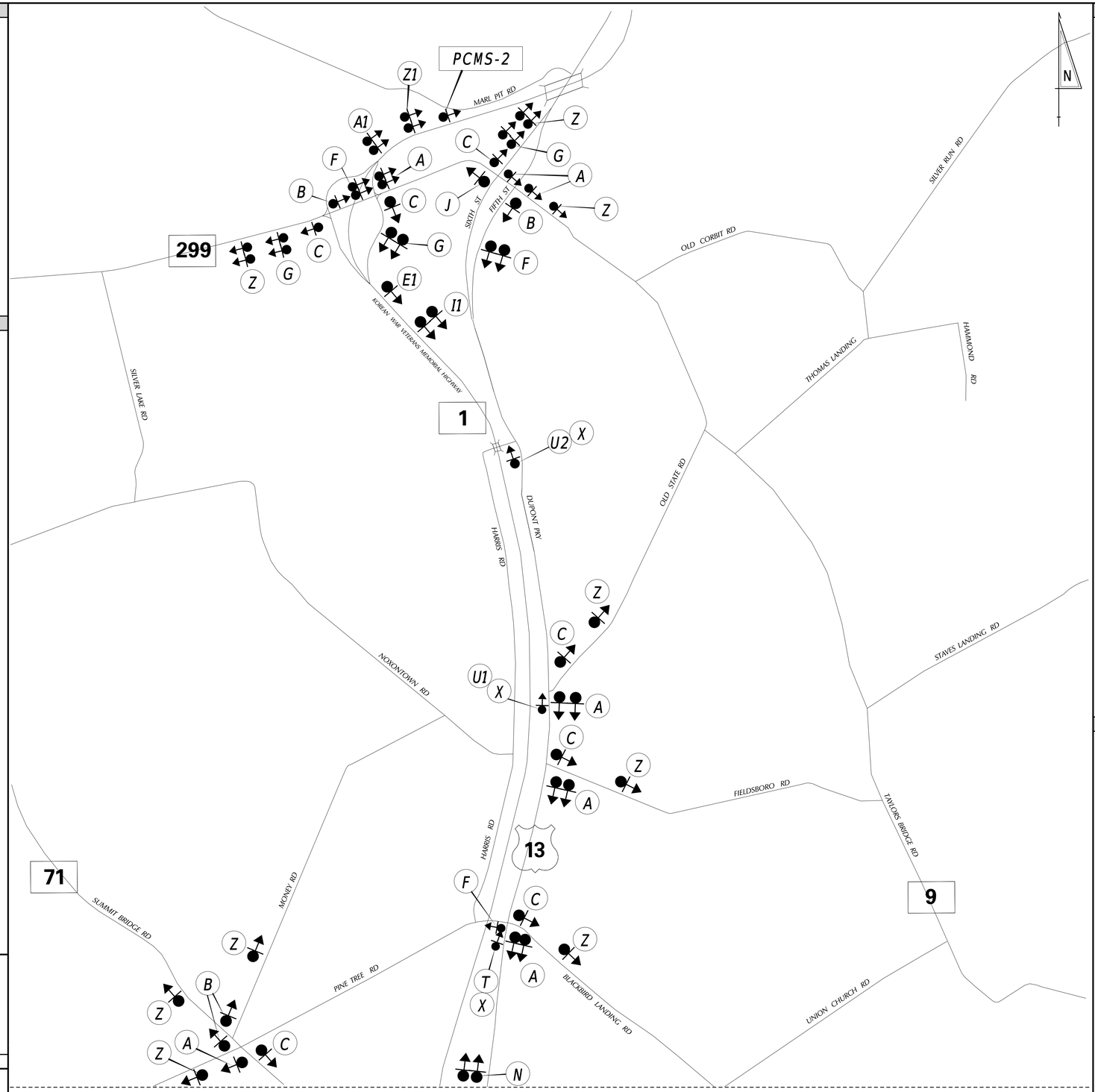
THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 06/29/2020 DATE

JEFFREY VAN HORN LICENSED No. 17249 DELAWARE PROFESSIONAL ENGINEER

SEAL

QA/QC REVIEWER — 6/29/20 DATE

I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.



(BELOW - SEE PAGE 65)

LEGEND

*SEE PAGE 67 FOR SIGNS & LEGEND

GENERAL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
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4. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 6/16/2020 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	DETOUR PLAN - VEHICULAR US 13 @ BR 1-488 (SHEET 1 OF 4)	SECTION TS
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 64
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

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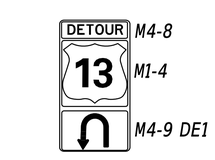
US 13 TO CLOSE	STARTING XX/XX/XX

DURING DETOUR
(DISPLAY AFTER IMPLEMENTATION OF DETOUR)

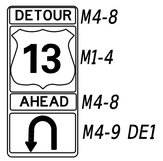
PCMS-2

US 13 CLOSED	FOLLOW DETOUR

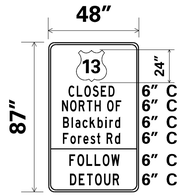
SPECIAL SIGNS



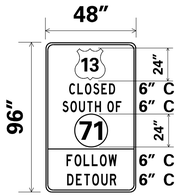
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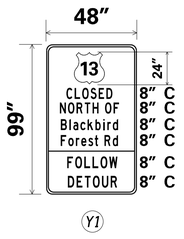
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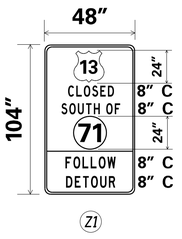
Y



Z



Y1



Z1

*D/G RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND

*ROUTE SHIELD – WHITE BACKGROUND; BLACK LEGEND

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 06/29/2020 DATE

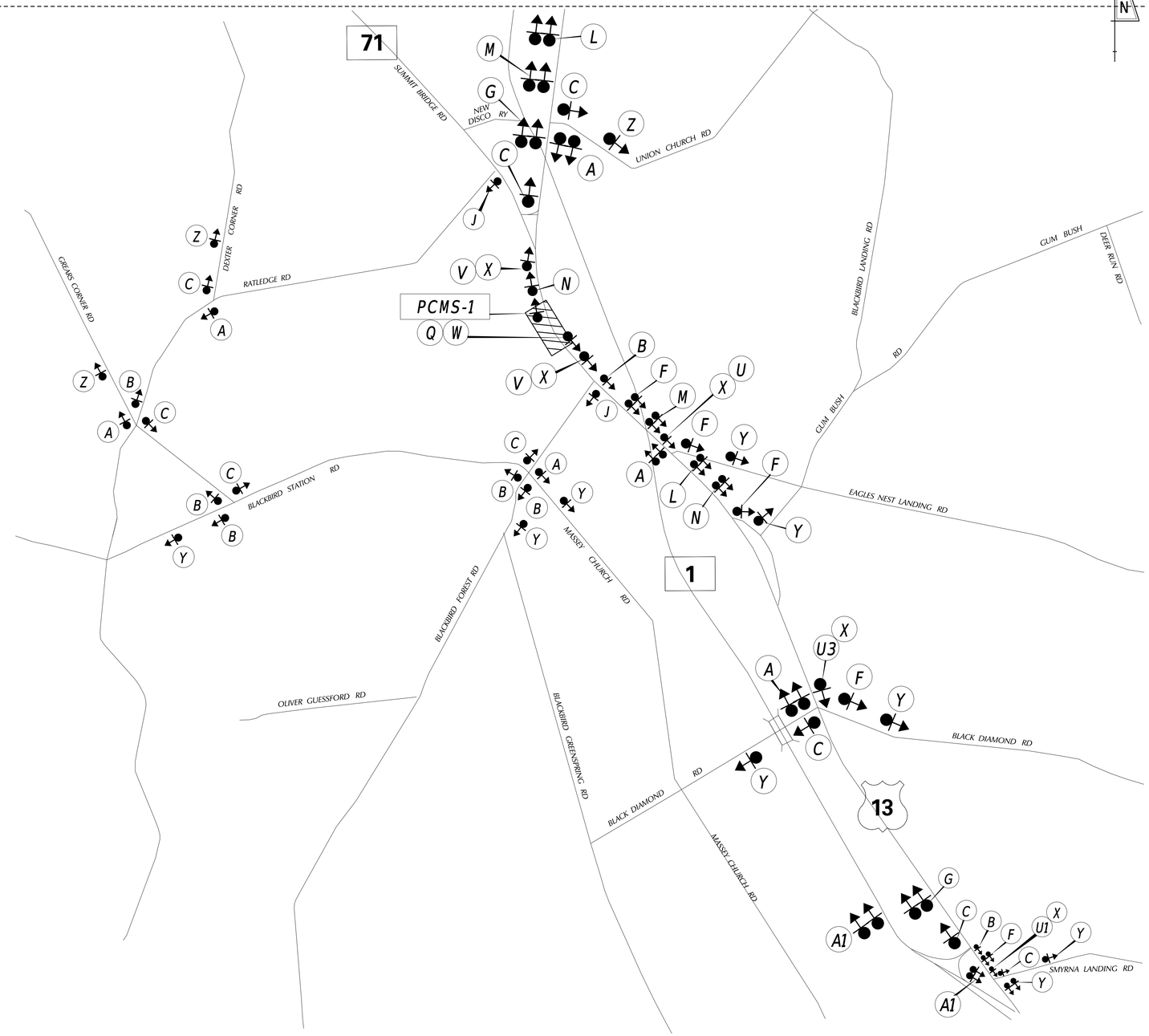
JEFFREY VAN HORN — LICENSED — No. 17249 — DELAWARE — PROFESSIONAL ENGINEER

SEAL

Gerald A Negrotto Jr. — 6/29/20
QA/QC REVIEWER — DATE

I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(ABOVE - SEE PAGE 64)



(BELOW - SEE PAGE 66)

LEGEND

*SEE PAGE 67 FOR SIGNS & LEGEND

GENERAL NOTES

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CONCURRENCE FOR IMPLEMENTATION

Dave Wyn — 6/16/2020
TRAFFIC SAFETY — DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	DETOUR PLAN - VEHICULAR US 13 @ BR 1-488 (SHEET 2 OF 4)	SECTION TS
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 65
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

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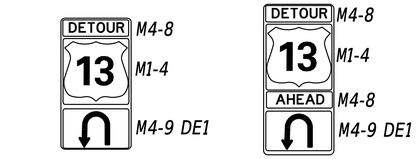
US 13	STARTING
TO CLOSE	XX/XX/XX

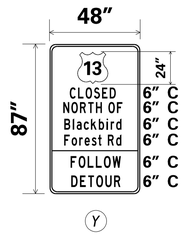
DURING DETOUR
(DISPLAY AFTER IMPLEMENTATION OF DETOUR)

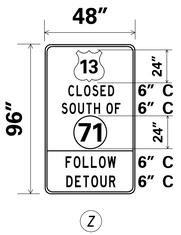
PCMS-2

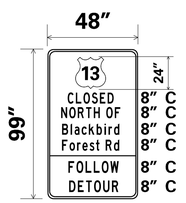
US 13	FOLLOW
CLOSED	DETOUR

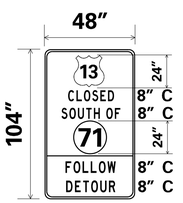
SPECIAL SIGNS











***D/G RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND**

***ROUTE SHIELD – WHITE BACKGROUND; BLACK LEGEND**

PREPARED BY

DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 06/29/2020 DATE

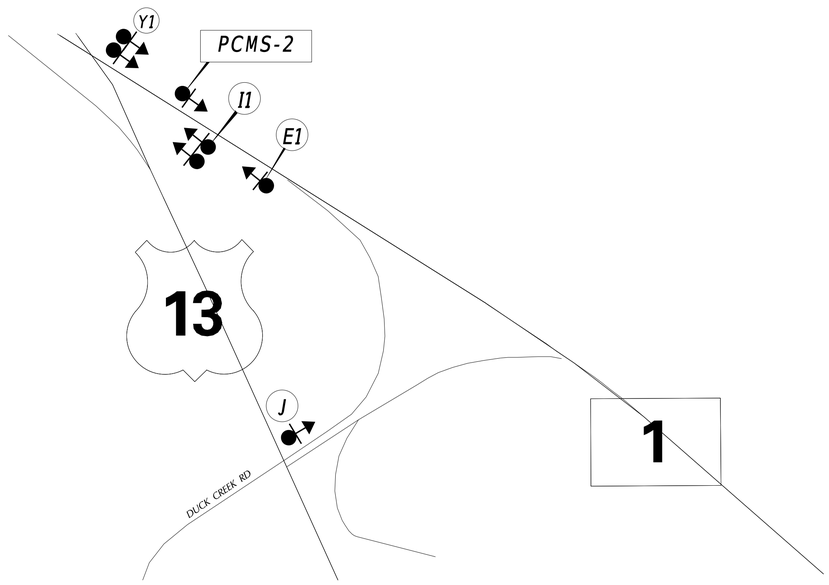
JEFFREY VAN HORN LICENSED No. 17249 DELAWARE PROFESSIONAL ENGINEER

SEAL

QA/QC REVIEWER — 6/29/20 DATE

I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(ABOVE - SEE PAGE 65)



N

LEGEND

*SEE PAGE 67 FOR SIGNS & LEGEND

GENERAL NOTES

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4. *BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.*

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 6/16/2020 DATE

ADDENDA / REVISIONS

NOT TO SCALE

BR 1-488N&S ON N001 US 13OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
PERMIT NO.	1-488N&S
DESIGNED BY:	DBW
CHECKED BY:	GAN

DETOUR PLAN - VEHICULAR
US 13 @ BR 1-488
(SHEET 3 OF 4)

SECTION	TS
SHEET NO.	66

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

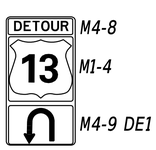
US 13	STARTING
TO CLOSE	XX/XX/XX

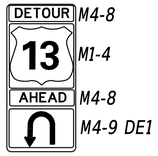
DURING DETOUR
(DISPLAY AFTER IMPLEMENTATION OF DETOUR)

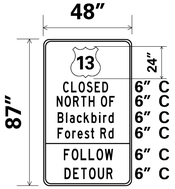
PCMS-2

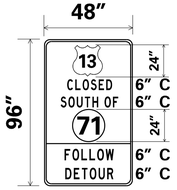
US 13	FOLLOW
CLOSED	DETOUR

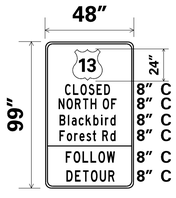
SPECIAL SIGNS

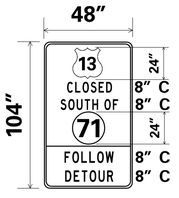












*D/G RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND

*ROUTE SHIELD – WHITE BACKGROUND; BLACK LEGEND

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

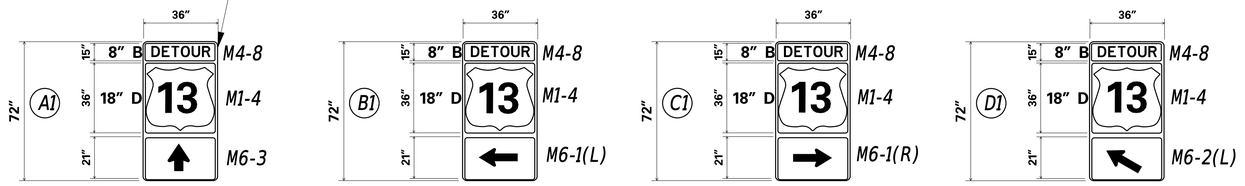
06/29/2020
THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — DATE

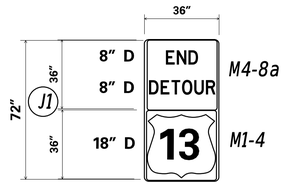
JEFFREY VAN HORN LICENSED No. 17249 DELAWARE PROFESSIONAL ENGINEER
SEAL

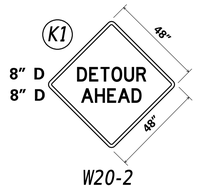
6/29/20
QA/QC REVIEWER — DATE

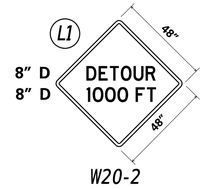
I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

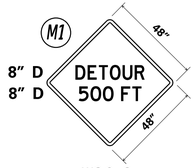
SIGN ASSEMBLY TO BE FABRICATED AS A SINGLE SIGN PANEL (TYP.)

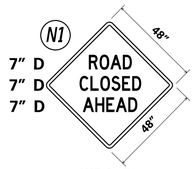


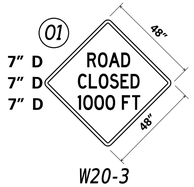


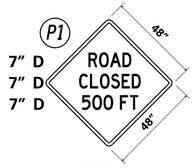








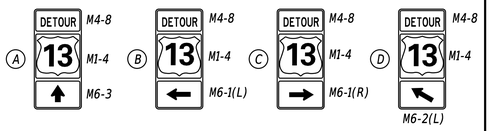


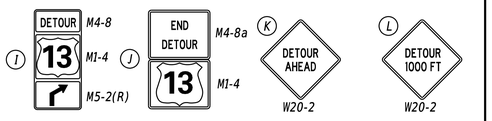


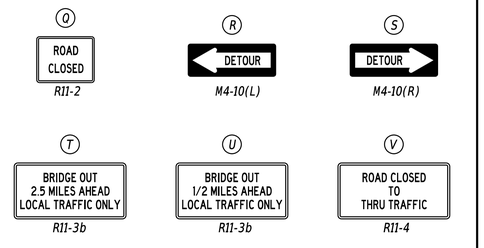
*INTERSTATE/FREEWAY/EXPRESSWAY SIGN DIMENSIONS

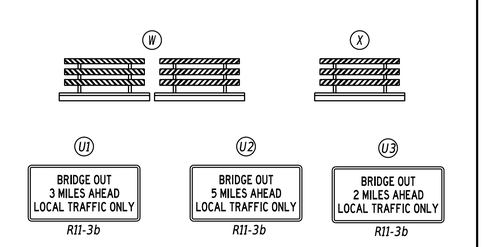
*COLOR (TYPICAL) : M4-8 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M5-1 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M5-2 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M6-1 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M6-2 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M6-3 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
W20-2 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
W20-3 BLACK ON RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE
M1-4 BLACK ON WHITE

LEGEND









GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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4. *BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.*

CONCURRENCE FOR IMPLEMENTATION

Dave Wynn
TRAFFIC SAFETY

6/16/2020
DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	DETOUR PLAN - VEHICULAR US 13 @ BR 1-488 (SHEET 4 OF 4)	SECTION TS
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 67
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

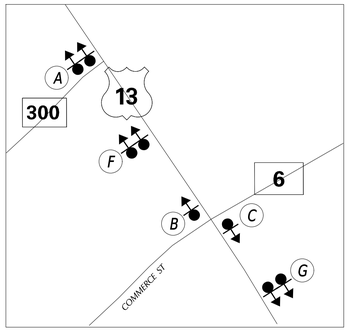
(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

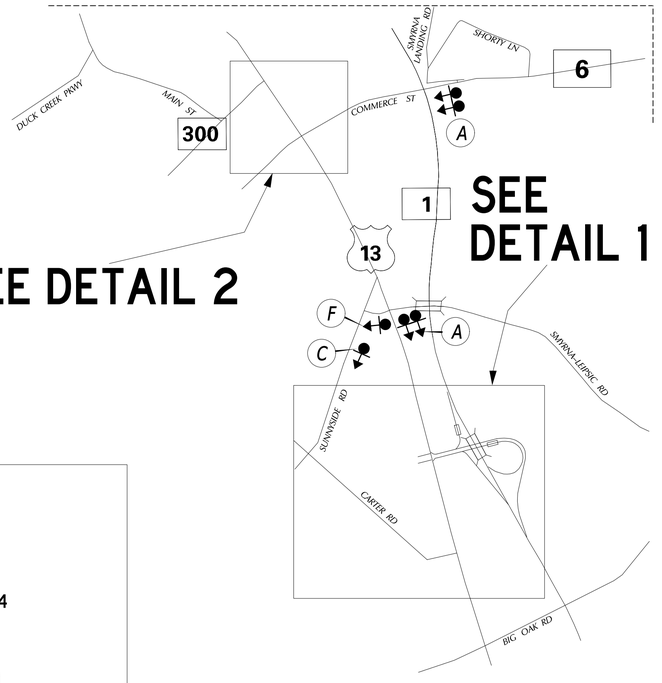
PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR

(MATCHLINE SR 1 NB DETOUR - 69)

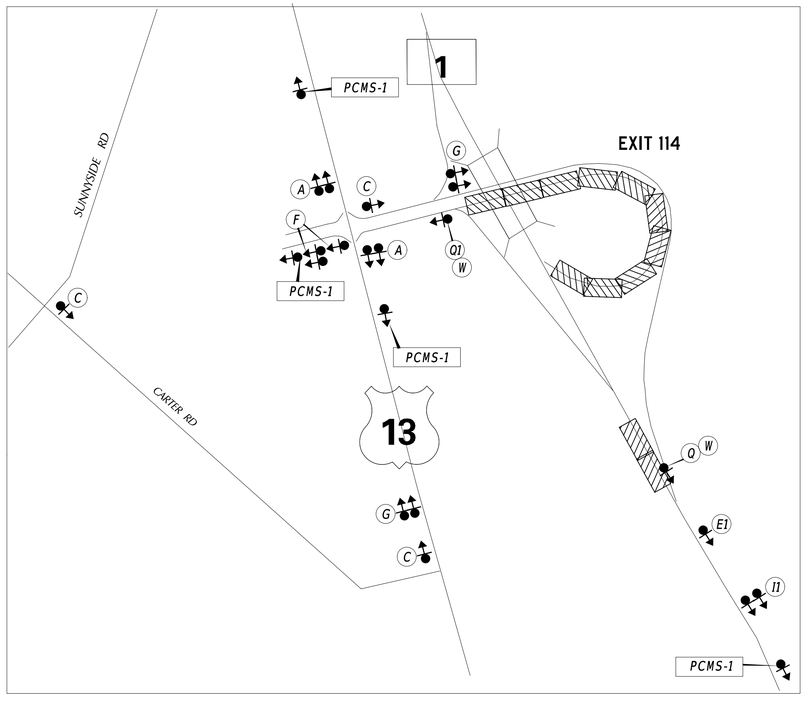
DETAIL 2





(MATCHLINE SR 1 NB DETOUR - 70)

DETAIL 1



*FOR SIGNS & LEGEND SEE SR 1 NB DETOUR - **74**

LEGEND

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
2. *SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.*
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4. *BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.*

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/24/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 10/13/2022 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 1 OF 7)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 68
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

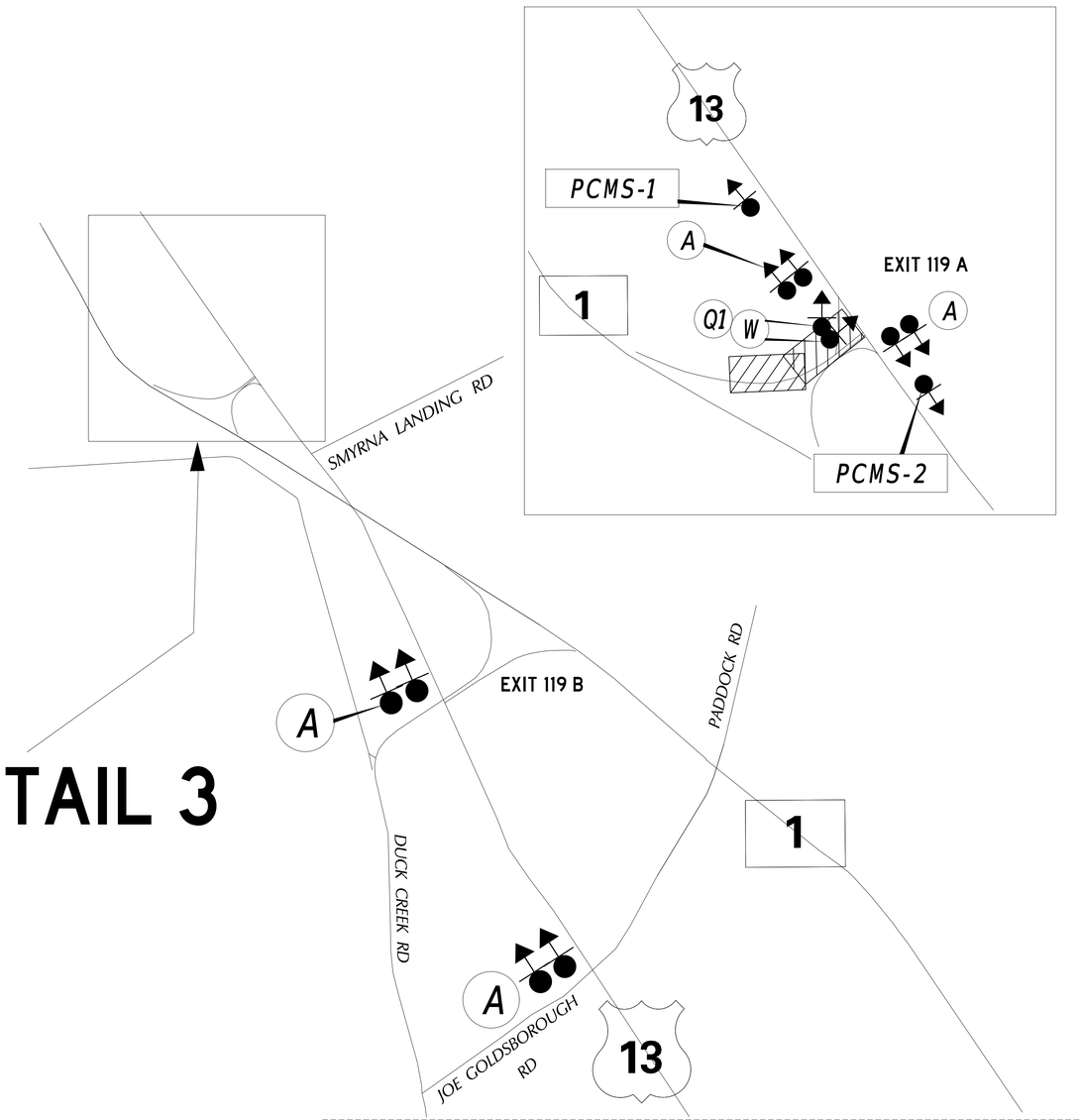
PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR

PCMS-2

FOLLOW US 13 NB DETOUR	TO SR299 WB TO SR 1 NB

DETAIL 3



SEE DETAIL 3

(MATCHLINE SR 1 NB DETOUR - 68)

LEGEND

*FOR SIGNS & LEGEND SEE SR 1 NB DETOUR - 74

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 10/14/2022 DATE

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

11/01/2022 DATE

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER

SEAL

10/24/22 DATE

QA/QC REVIEWER

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 2 OF 7)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 69
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR

(MATCHLINE SR 1 NB DETOUR - 71)



(MATCHLINE SR 1 NB DETOUR - 68)

LEGEND

*FOR SIGNS & LEGEND SEE SR 1 NB DETOUR - 74

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/24/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

Dave Wynn — TRAFFIC SAFETY — 10/13/2022 DATE

ADDENDA / REVISIONS			

NOT TO SCALE

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	PERMIT NO.	1-488N&S
T200707404	DESIGNED BY:	DBW
COUNTY	CHECKED BY:	GAN
NEW CASTLE		

EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 3 OF 7)

SECTION	TR
SHEET NO.	70

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

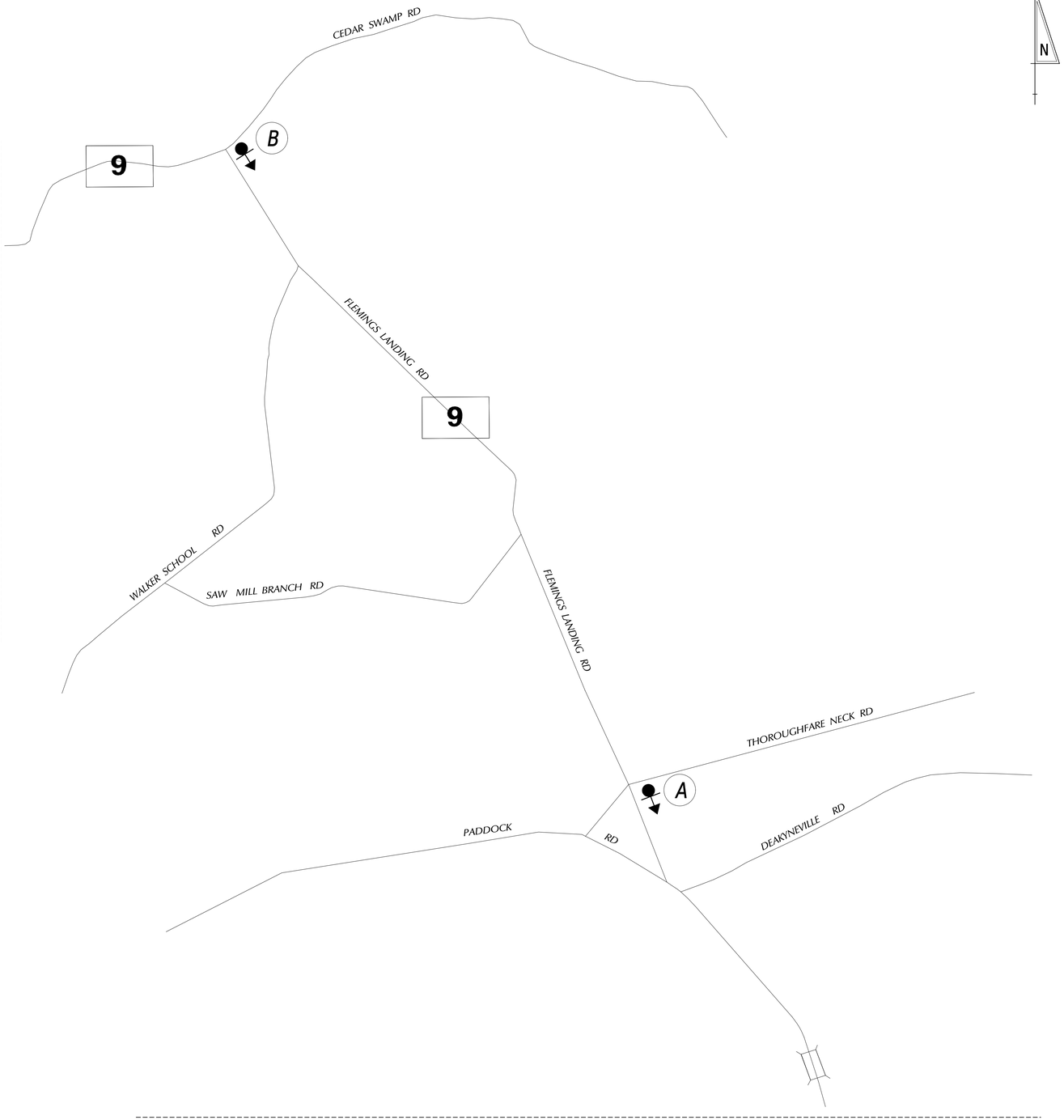
(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 809501).

PCMS-1

SR 1
NORTH
CLOSED

FOLLOW
SR 1 NB
DETOUR

(MATCHLINE SR 1 NB DETOUR - 72)



(MATCHLINE SR 1 NB DETOUR - 70)

LEGEND

*FOR SIGNS & LEGEND
SEE
SR 1 NB DETOUR - 74

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17258 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/24/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 10/13/2022 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 4 OF 7)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 71
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

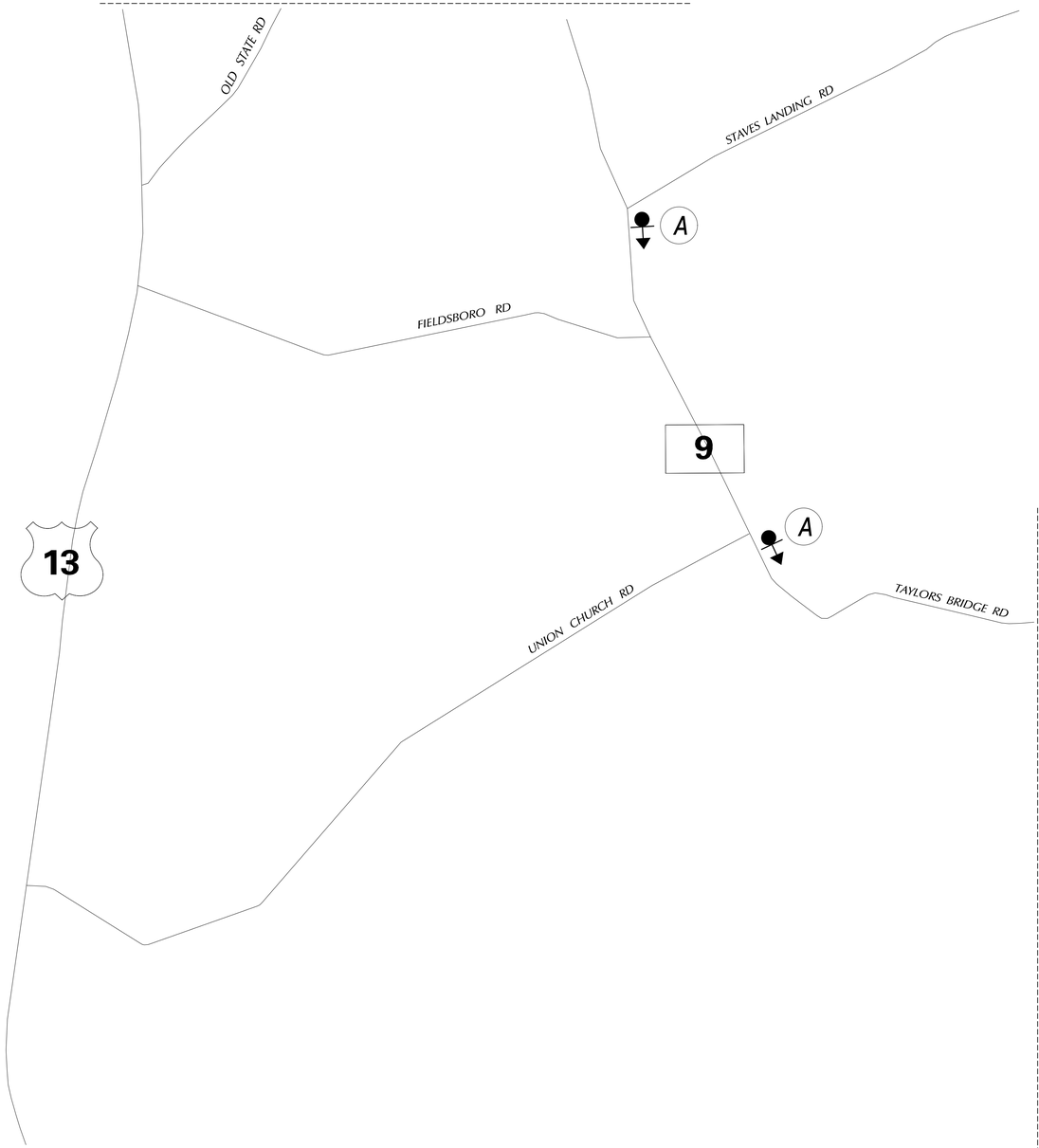
DURING DETOUR

(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR

(MATCHLINE SR 1 NB DETOUR - 73)



(MATCHLINE SR 1 NB DETOUR - 71)

LEGEND

***FOR SIGNS & LEGEND SEE SR 1 NB DETOUR - 74**

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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CONCURRENCE FOR IMPLEMENTATION

Dave Wynn — 10/13/2022

TRAFFIC SAFETY — DATE

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

11/01/2022

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — DATE

KERRY YOST LICENSE No. 17258 DELAWARE PROFESSIONAL ENGINEER

SEAL

10/24/22

QA/QC REVIEWER — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

ADDENDA / REVISIONS	

NOT TO SCALE

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	PERMIT NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	DBW
		CHECKED BY:	GAN

EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 5 OF 7)

SECTION	TR
SHEET NO.	72

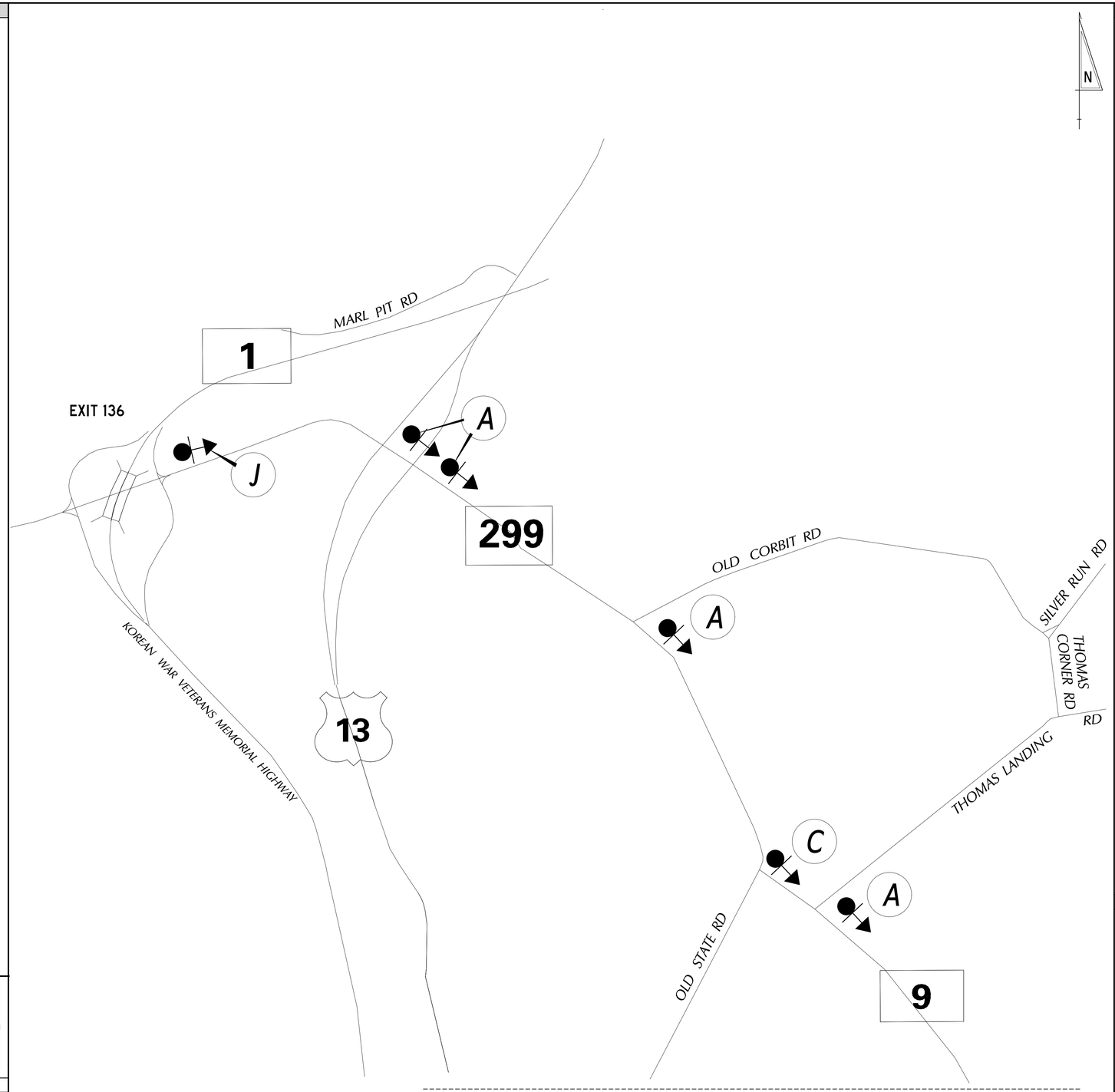
PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR



(MATCHLINE SR 1 NB DETOUR - 72)

LEGEND

*FOR SIGNS & LEGEND SEE SR 1 NB DETOUR - **74**

GENERAL NOTES

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CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — DATE: 10/13/2022

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

11/01/2022
DATE

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER

SEAL

10/24/22
DATE

QA/QC REVIEWER

I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ADDENDA / REVISIONS

NOT TO SCALE

BR 1-488N&S ON N001 US 13
OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
PERMIT NO.	1-488N&S
DESIGNED BY:	DBW
CHECKED BY:	GAN

EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 6 OF 7)

SECTION	TR
SHEET NO.	73

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

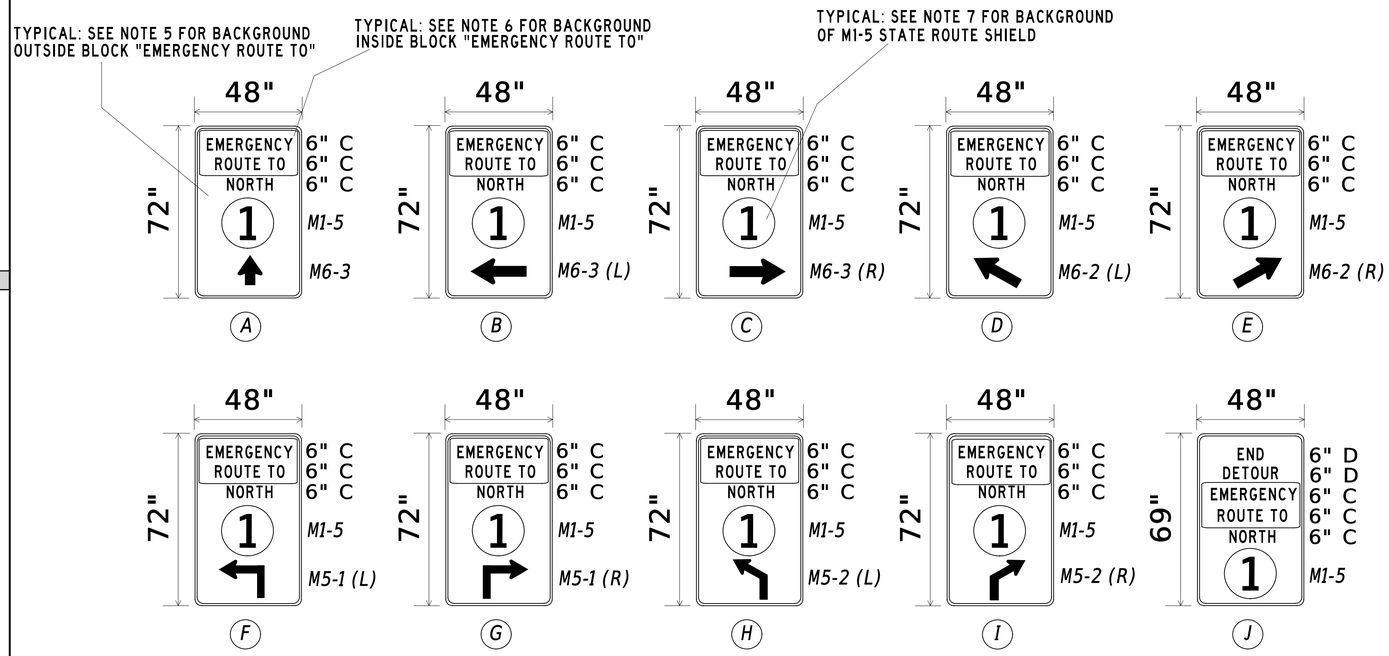
(DISPLAY DURING SR 1 NB INCIDENTS WHEN SR 1 NB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 NORTH CLOSED	FOLLOW SR 1 NB DETOUR

SPECIAL SIGNS

*SIGN ASSEMBLY TO BE FABRICATED AS A SINGLE SIGN PANEL (TYP).

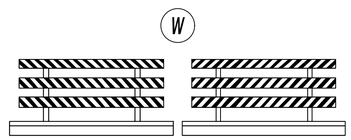


5. RETROREFLECTIVE PRISMATIC FLUORESCENT GREEN BACKGROUND; WHITE LEGEND

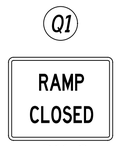
6. RETROREFLECTIVE PRISMATIC FLUORESCENT YELLOW BACKGROUND; BLACK LEGEND

7. STATE ROUTE SHIELD – PRISMATIC FLUORESCENT WHITE BACKGROUND; BLACK LEGEND

***BORDER:**
R = 1.5"
TH = 0.625"
IN = 0.375"







LEGEND

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
2. *SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.*
3. *"W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.*
4. *BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.*

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/30/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 10/25/2022 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 NB (SHEET 7 OF 7)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 74
					CHECKED BY: GAN		

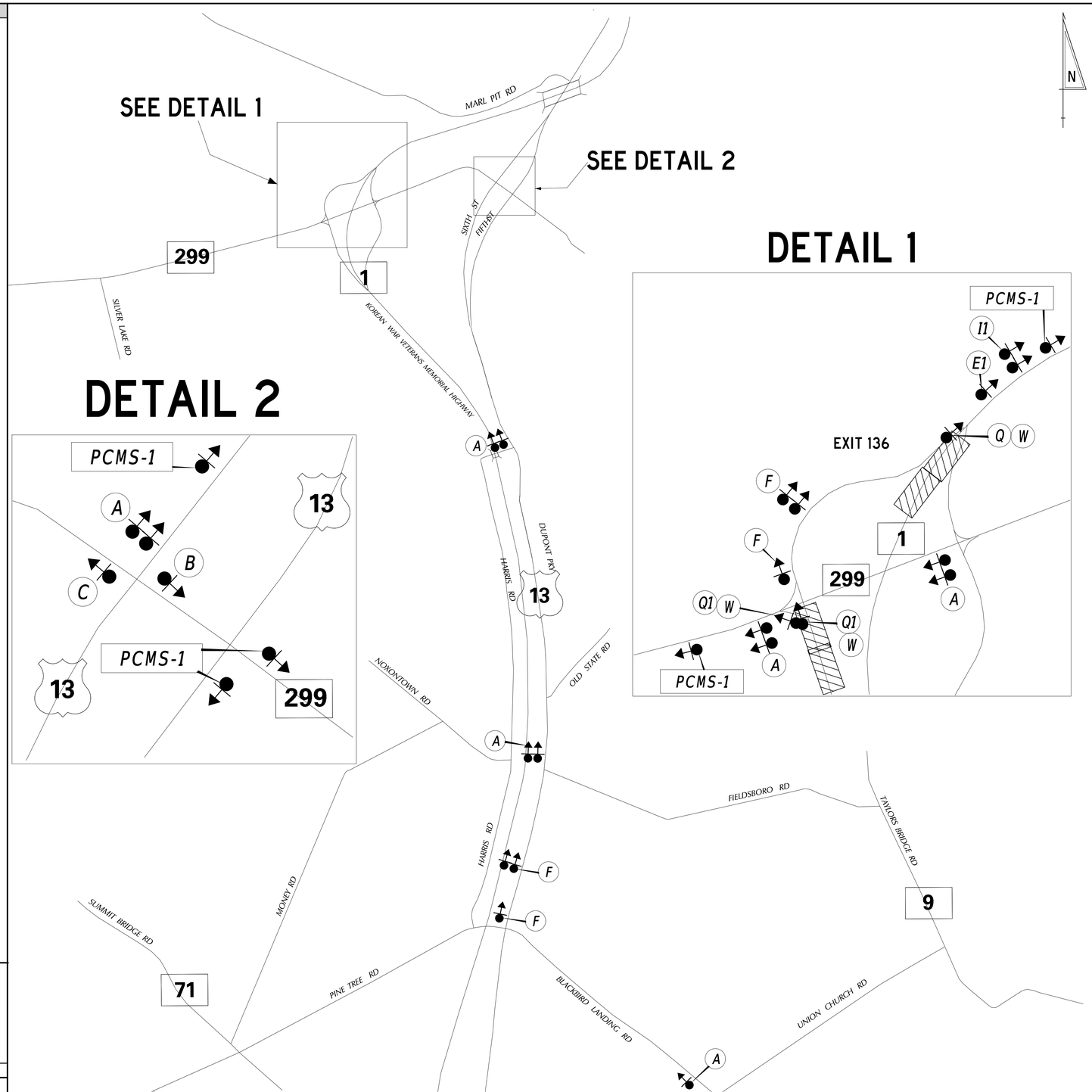
PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

(DISPLAY DURING SR 1 SB INCIDENTS WHEN SR 1 SB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 SOUTH CLOSED	FOLLOW SR 1 SB DETOUR



LEGEND

***FOR SIGNS & LEGEND SEE SR 1 SB DETOUR - 78**

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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(MATCHLINE SR 1 SB DETOUR - 76)

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/24/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — 10/13/2022 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 SB (SHEET 1 OF 4)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 75
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

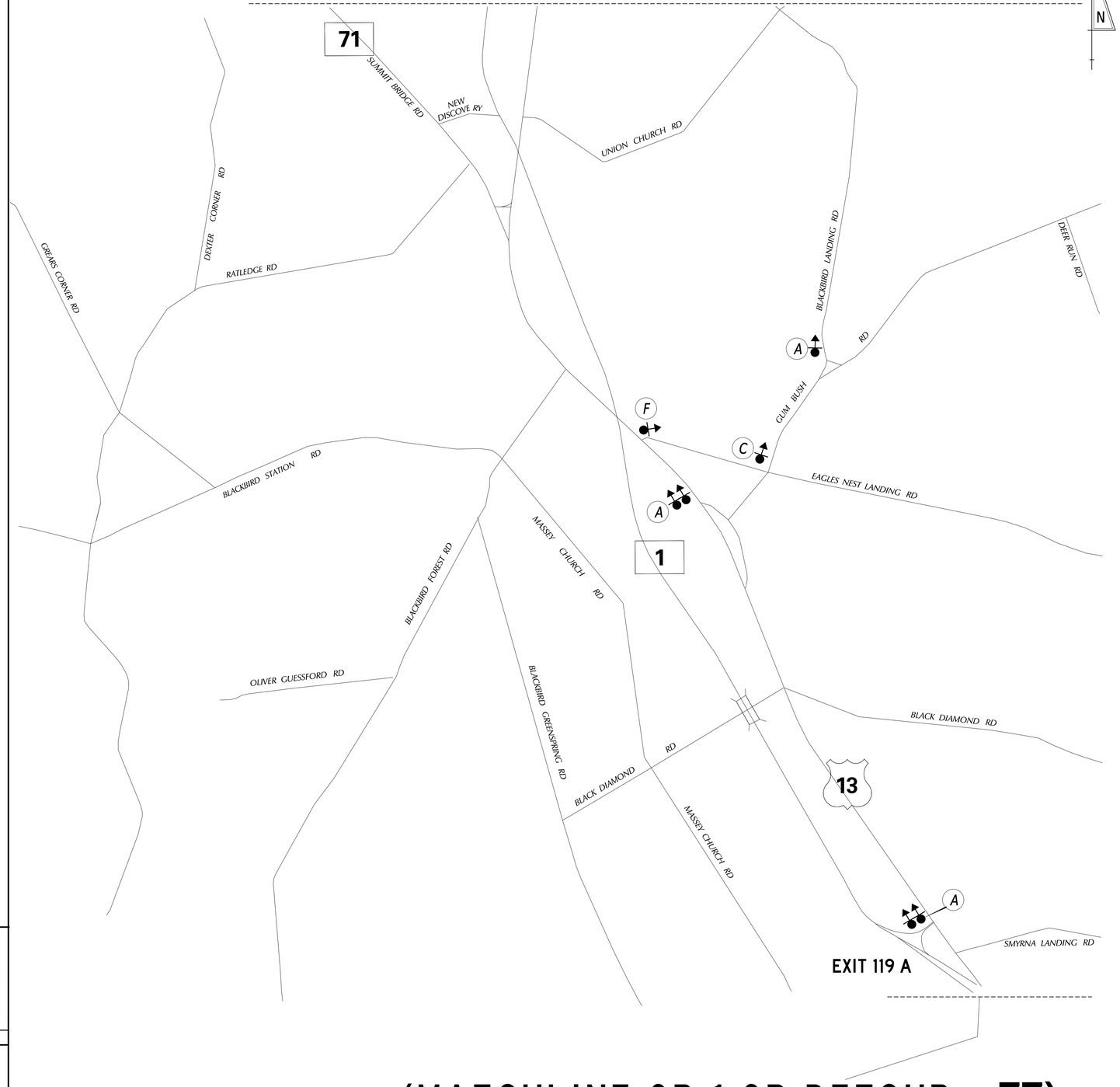
DURING DETOUR

(DISPLAY DURING SR 1 SB INCIDENTS WHEN SR 1 SB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 SOUTH CLOSED	FOLLOW SR 1 SB DETOUR

(MATCHLINE SR 1 SB RED DETOUR - 75)



(MATCHLINE SR 1 SB DETOUR - 77)

LEGEND

***FOR SIGNS & LEGEND SEE SR 1 SB DETOUR - 78**

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

11/01/2022
THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER
SEAL

10/24/22
QA/QC REVIEWER — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

10/13/2022
TRAFFIC SAFETY — DATE

ADDENDA / REVISIONS

NOT TO SCALE

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE

PERMIT NO.	1-488N&S
DESIGNED BY:	DBW
CHECKED BY:	GAN

EMERGENCY DETOUR PLAN - VEHICULAR SR 1 SB (SHEET 2 OF 4)

SECTION	TR
SHEET NO.	76

PORTABLE CHANGEABLE MESSAGE SIGNS

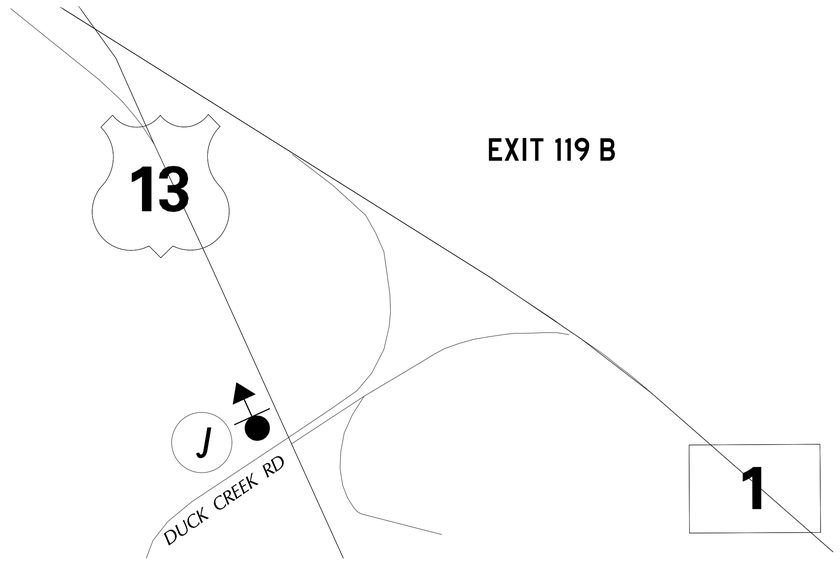
DURING DETOUR

(DISPLAY DURING SR 1 SB INCIDENTS WHEN SR 1 SB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 SOUTH CLOSED	FOLLOW SR 1 SB DETOUR

(MATCHLINE SR 1 SB DETOUR - 76)



LEGEND

***FOR SIGNS & LEGEND SEE SR 1 SB DETOUR - 78**

GENERAL NOTES

1. *ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.*
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PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER

SEAL

QA/QC REVIEWER — 10/24/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

Dave Wynn — TRAFFIC SAFETY — 10/13/2022 DATE

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 SB (SHEET 3 OF 4)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 77
					CHECKED BY: GAN		

PORTABLE CHANGEABLE MESSAGE SIGNS

DURING DETOUR

(DISPLAY DURING SR 1 SB INCIDENTS WHEN SR 1 SB HAS BEEN CLOSED TO TRAFFIC. DELDOT TO PROVIDE WIRELESS MODEM FOR REMOTE ACTIVATION OF SIGN. CONTRACTOR SHALL COORDINATE WITH DELDOT 30 DAYS IN ADVANCE FOR INSTALLATION AND TESTING OF MODEM (INCIDENTAL TO ITEM 803501).

PCMS-1

SR 1 SOUTH CLOSED	FOLLOW SR 1 SB DETOUR

SPECIAL SIGNS

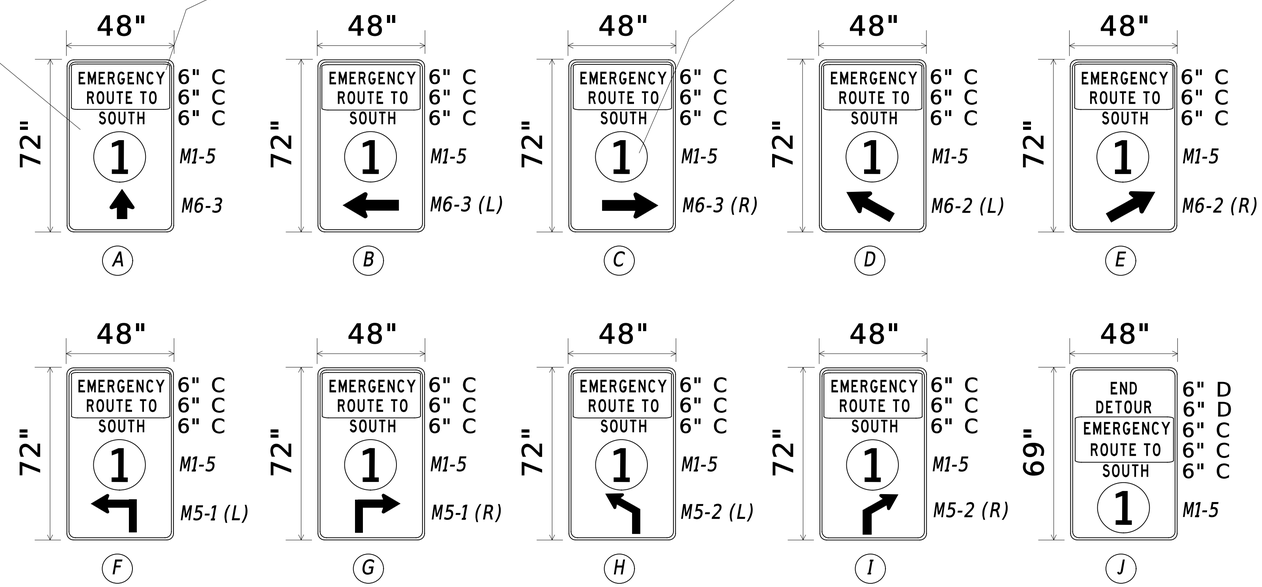
*SIGN ASSEMBLY TO BE FABRICATED AS A SINGLE SIGN PANEL (TYP).

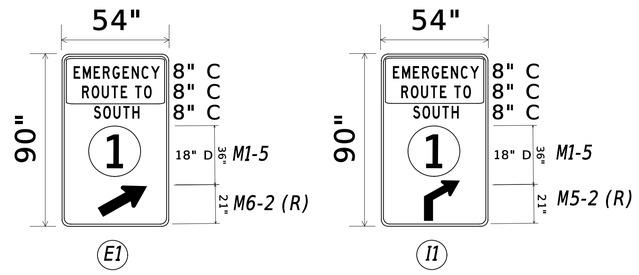
N

TYPICAL: SEE NOTE 5 FOR BACKGROUND OUTSIDE BLOCK "EMERGENCY ROUTE TO"

TYPICAL: SEE NOTE 6 FOR BACKGROUND INSIDE BLOCK "EMERGENCY ROUTE TO"

TYPICAL: SEE NOTE 7 FOR BACKGROUND OF M1-5 STATE ROUTE SHIELD



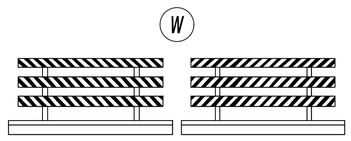


5. RETROREFLECTIVE PRISMATIC FLUORESCENT GREEN BACKGROUND; WHITE LEGEND

6. RETROREFLECTIVE PRISMATIC FLUORESCENT YELLOW BACKGROUND; BLACK LEGEND

7. STATE ROUTE SHIELD – PRISMATIC FLUORESCENT WHITE BACKGROUND; BLACK LEGEND

***BORDER:**
R = 1.5"
TH = 0.625"
IN = 0.375"







LEGEND

GENERAL NOTES

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CONCURRENCE FOR IMPLEMENTATION

Dave Wynn — TRAFFIC SAFETY — 10/25/2022 — DATE

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

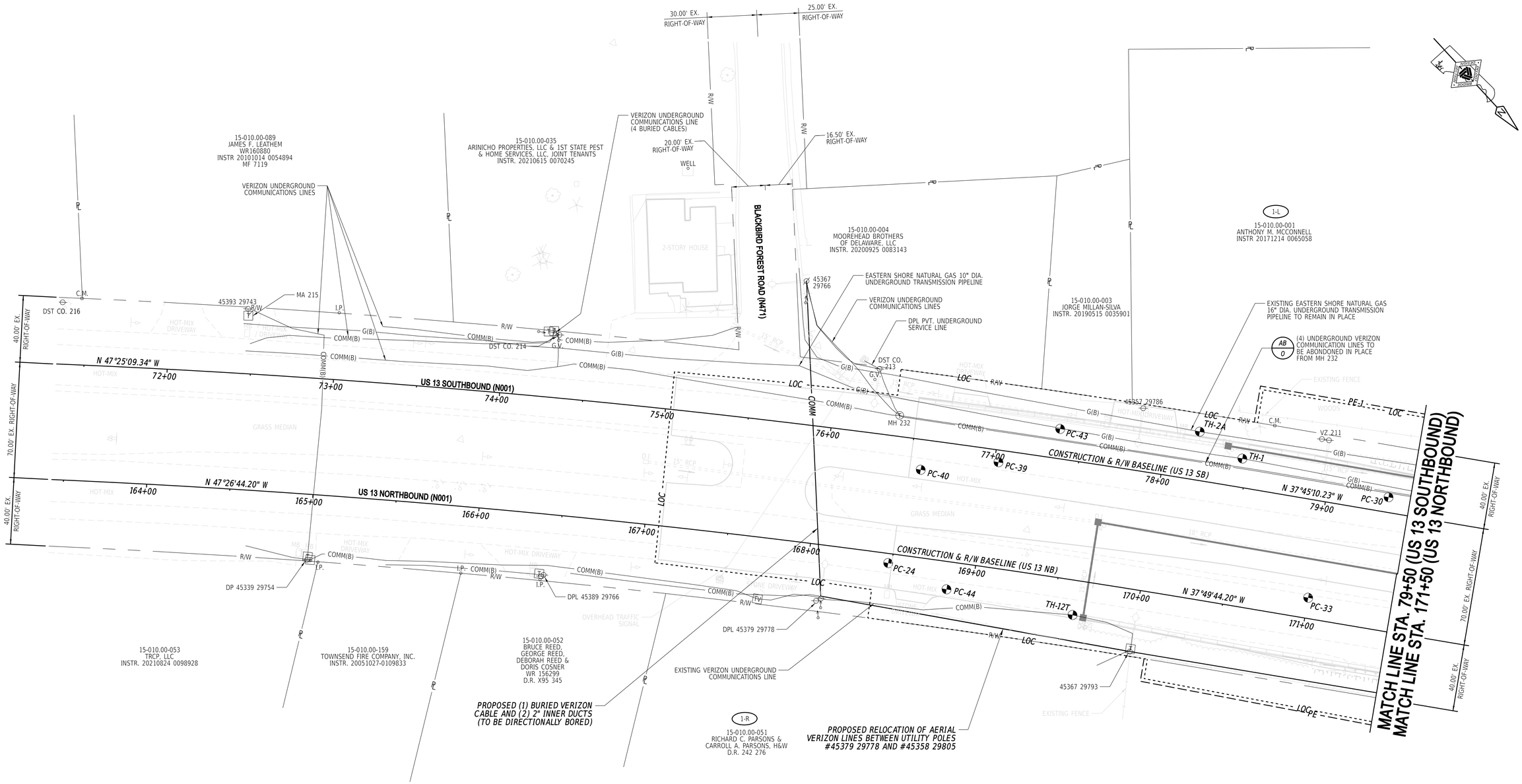
THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — 11/01/2022 DATE

KERRY YOST LICENSE No. 17256 DELAWARE PROFESSIONAL ENGINEER — SEAL

QA/QC REVIEWER — 10/30/22 DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	PERMIT NO. 1-488N&S	EMERGENCY DETOUR PLAN - VEHICULAR SR 1 SB (SHEET 4 OF 4)	SECTION TR
				COUNTY NEW CASTLE	DESIGNED BY: DBW		SHEET NO. 78
					CHECKED BY: GAN		



UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-1	ESNG-G	78+46.59	-17.25'	33.78	3.34	12" WRAPPED STEEL
TH-2A	ESNG-G	78+18.85	-29.01'	37.01	8.68	16" (PER RECORD)
TH-12T	ABB-C	169+62.02	20.83'	38.85	1.98	¾" DBC

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

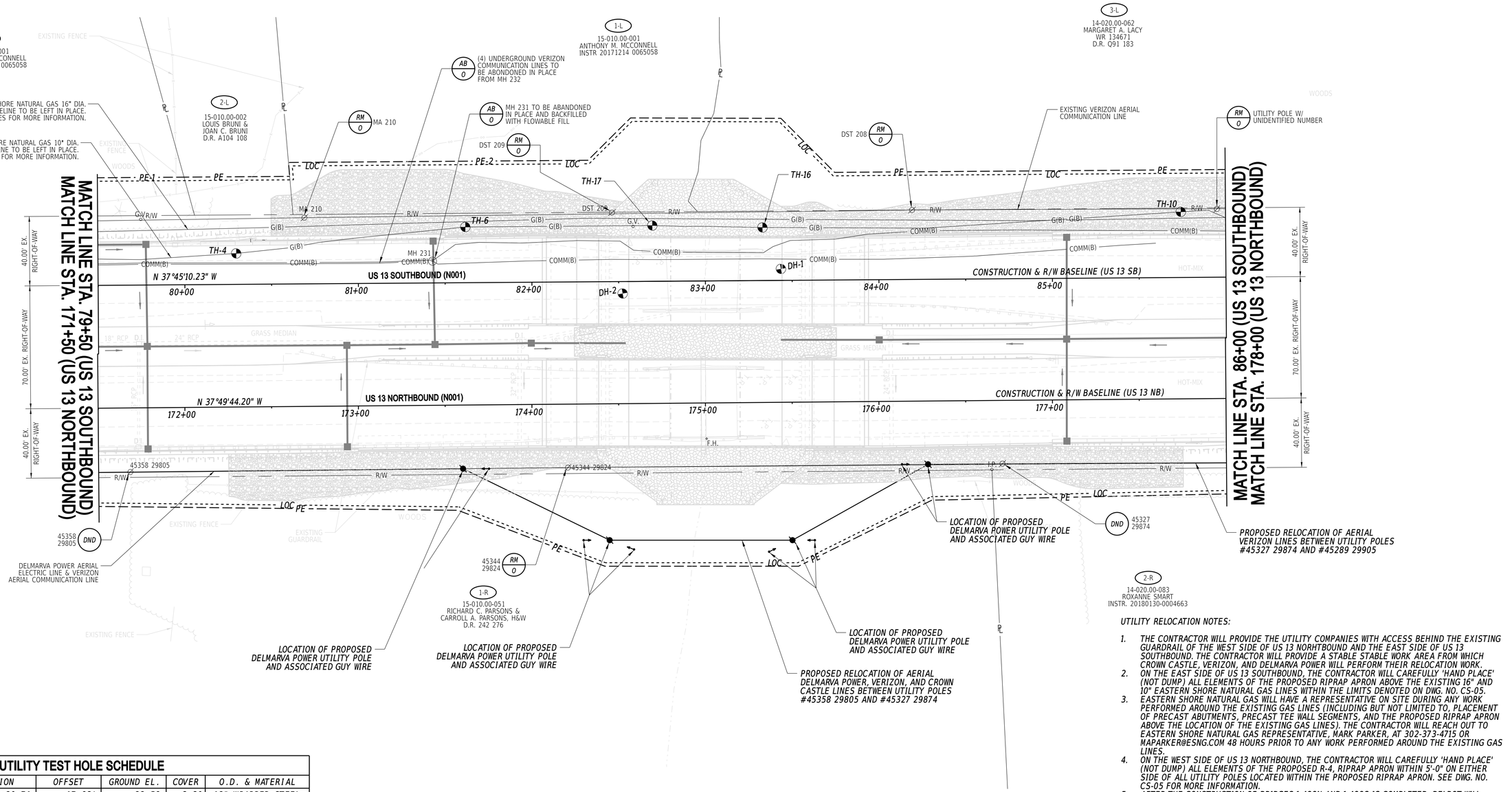
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	
COUNTY	NEW CASTLE	
BRIDGE NO.	1-488N&S	
DESIGNED BY:	N. DEAN	
CHECKED BY:	M. RADOVIC	

UTILITY RELOCATION PLAN

UT-01
SECTION BR
SHEET NO. 79

28-JUN-2024
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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-4	ESNG-G	80+29.71	-17.83'	22.58	3.39	12" WRAPPED STEEL
TH-6	ESNG-G	81+61.86	-32.08'	13.52	6.22	12" WRAPPED STEEL
TH-10	ESNG-G	85+74.25	-37.79'	13.42	4.68	10" STEEL
TH-16	ESNG-G	83+33.10	-30.55'	5.24	5.13	12" WRAPPED STEEL
TH-17	ESNG-G	82+69.63	-32.15'	6.55	6.07	12" WRAPPED STEEL

UTILITY RELOCATION NOTES:

1. *THE CONTRACTOR WILL PROVIDE THE UTILITY COMPANIES WITH ACCESS BEHIND THE EXISTING GUARDRAIL OF THE WEST SIDE OF US 13 NORHTBOUND AND THE EAST SIDE OF US 13 SOUTHBOUND. THE CONTRACTOR WILL PROVIDE A STABLE STABLE WORK AREA FROM WHICH CROWN CASTLE, VERIZON, AND DELMARVA POWER WILL PERFORM THEIR RELOCATION WORK.*
2. *ON THE EAST SIDE OF US 13 SOUTHBOUND, THE CONTRACTOR WILL CAREFULLY 'HAND PLACE' (NOT DUMP) ALL ELEMENTS OF THE PROPOSED RIPRAP APRON ABOVE THE EXISTING 16" AND 10" EASTERN SHORE NATURAL GAS LINES WITHIN THE LIMITS DENOTED ON DWG. NO. CS-05.*
3. *EASTERN SHORE NATURAL GAS WILL HAVE A REPRESENTATIVE ON SITE DURING ANY WORK PERFORMED AROUND THE EXISTING GAS LINES (INCLUDING BUT NOT LIMITED TO, PLACEMENT OF PRECAST ABUTMENTS, PRECAST TEE WALL SEGMENTS, AND THE PROPOSED RIPRAP APRON ABOVE THE LOCATION OF THE EXISTING GAS LINES). THE CONTRACTOR WILL REACH OUT TO EASTERN SHORE NATURAL GAS REPRESENTATIVE, MARK PARKER, AT 302-373-4715 OR MAPARKER@ESNG.COM 48 HOURS PRIOR TO ANY WORK PERFORMED AROUND THE EXISTING GAS LINES.*
4. *ON THE WEST SIDE OF US 13 NORTHBOUND, THE CONTRACTOR WILL CAREFULLY 'HAND PLACE' (NOT DUMP) ALL ELEMENTS OF THE PROPOSED R-4, RIPRAP APRON WITHIN 5'-0" ON EITHER SIDE OF ALL UTILITY POLES LOCATED WITHIN THE PROPOSED RIPRAP APRON. SEE DWG. NO. CS-05 FOR MORE INFORMATION.*
5. *AFTER THE CONSTRUCTION OF BRIDGES 1-488N AND 1-488S IS COMPLETED, DELDOT WILL INSTALL AN UNDERGROUND ITMS BACKBONE IN THE MEDIAN OF US 13. THE ITMS BACKBONE WILL CONSIST OF (1) 4" CONDUIT FOR FIBER AND (1) 2" CONDUIT FOR POWER. THE ITMS BACKBONE WILL RUN UNDERGROUND UNTIL REACHING THE LOCATION OF THE BRIDGES. AT THE LOCATION OF THE BRIDGES, THE ITMS LINES WILL BE ATTACHED TO THE EXTERIOR GIRDER ON THE MEDIAN SIDE OF BRIDGE 1-488N IN ORDER TO SPAN BLACKBIRD CREEK. AFTER SPANNING BLACKBIRD CREEK, THE ITMS BACKBONE WILL CONTINUE BACK UNDERGROUND.*

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

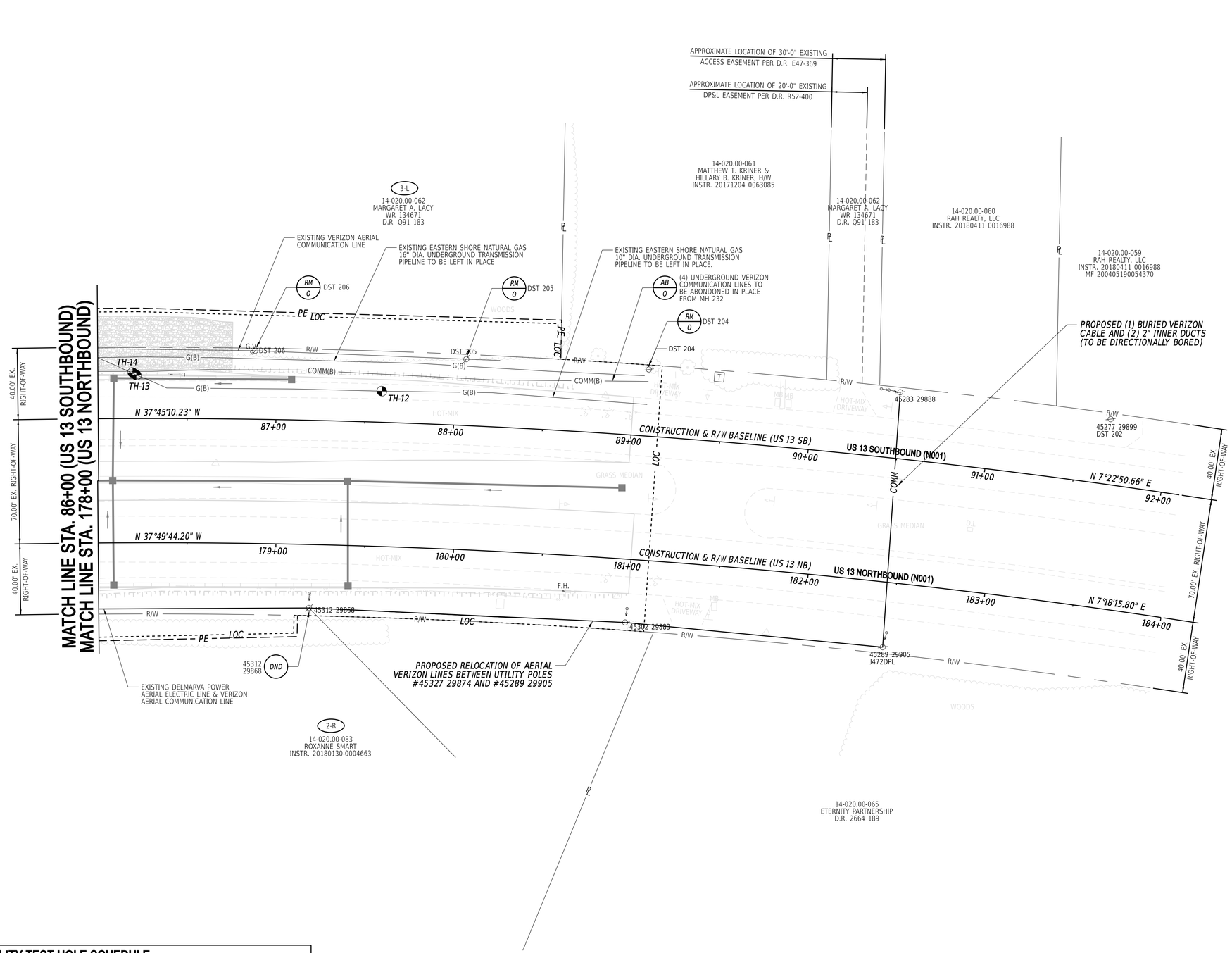
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

UTILITY RELOCATION PLAN

UT-02
SECTION BR
SHEET NO. 80

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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
TH-12	ESNG-G	87+59.03	-17.49'	23.81	4.45	12" WRAPPED STEEL
TH-13	ESNG-G	82+21.51	-24.40'	17.56	3.89	12" WRAPPED STEEL
TH-14	VER-C	82+19.42	-25.85'	17.10	2.57	2" DBC

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	M. RADOVIC

UTILITY RELOCATION PLAN

	UT-03
SECTION	BR
SHEET NO.	81

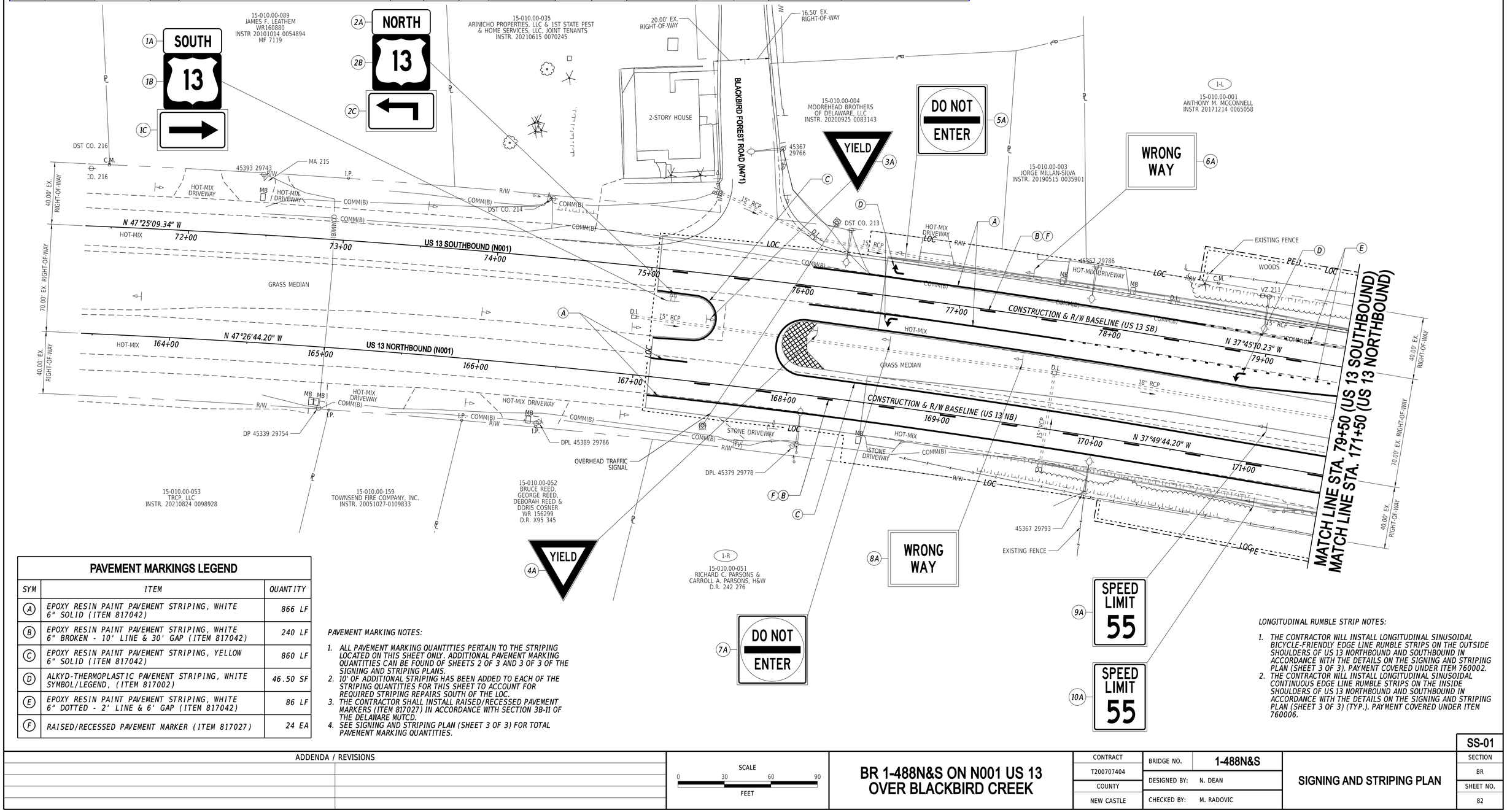
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PERMANENT SIGN SCHEDULE

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	REMARKS
								SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL		
49	1A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24	12		REMAIN							
49	1B	M1-4(24)	1	US ROUTE (2 - Digit Sign) - 24x24	24	24		REMAIN							
49	1C	M6-1_R(21)	1	DIRECTIONAL ARROW (Right) - 21x15	21	15		REMAIN							
49	2A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24	12		REMAIN							
49	2B	M1-4(24)	1	US ROUTE (2 - Digit Sign) - 24x24	24	24		REMAIN							
49	2C	M5-1_L	1	ADVANCE TURN ARROW (Left - 90)	21	15		REMAIN							
49	3A	R1-2(48)	1	YIELD	48	48		REMAIN							
49	4A	R1-2(48)	2	YIELD	48	48		REMAIN							
49	5A	R5-1(36)	1	DO NOT ENTER - 36x36	36	36		REPOSITION	1	1				SOIL	
49	6A	R5-1a(30)	1	WRONG WAY - 30x18	30	18		REPOSITION	1	1				SOIL	
49	7A	R5-1(36)	1	DO NOT ENTER - 36x36	36	36		REPOSITION	1	1				SOIL	
49	8A	R5-1a(30)	1	WRONG WAY - 30x18	30	18		REPOSITION	1	1				SOIL	
49	9A	R2-1-55(30)	1	SPEED LIMIT (55 MPH - 30x36)	30	36					REPOSITION	7.5	7.5	SOIL	PLACED ON 2-POST SYSTEM
49	10A	R2-1-55(30)	1	SPEED LIMIT (55 MPH - 30x36)	30	36					REPOSITION	7.5	7.5	SOIL	PLACED ON 2-POST SYSTEM

PERMANENT SIGN NOTES:

1. *THE CONTRACTOR WILL TEMORARILY REMOVE AND STORE ALL SIGNS MARKED FOR REPOSITIONING. ANY SIGNS THAT ARE DAMAGED DURING REMOVAL OR STORAGE WILL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.*
2. *ALL SIGNS TO BE REPOSITIONED WILL BE RESET IN THEIR GENERAL ORIGINAL LOCATION. IF THE PROPOSED ROADWAY GEOMETRICS AND/OR SITE CONDITIONS CONFLICT WITH THE ORIGINAL LOCATION OF SIGNS TO BE REPOSITIONED, THE CONTRACTOR WILL MOVE THE SIGN OUTSIDE OF THE CONFLICT WITH THE APPROVAL OF THE ENGINEER.*



PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	866 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" BROKEN - 10' LINE & 30' GAP (ITEM 817042)	240 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	860 LF
(D)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	46.50 SF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" DOTTED - 2' LINE & 6' GAP (ITEM 817042)	86 LF
(F)	RAISED/RECESSED PAVEMENT MARKER (ITEM 817027)	24 EA

PAVEMENT MARKING NOTES:

1. *ALL PAVEMENT MARKING QUANTITIES PERTAIN TO THE STRIPING LOCATED ON THIS SHEET ONLY. ADDITIONAL PAVEMENT MARKING QUANTITIES CAN BE FOUND OF SHEETS 2 OF 3 AND 3 OF 3 OF THE SIGNING AND STRIPING PLANS.*
2. *10' OF ADDITIONAL STRIPING HAS BEEN ADDED TO EACH OF THE STRIPING QUANTITIES FOR THIS SHEET TO ACCOUNT FOR REQUIRED STRIPING REPAIRS SOUTH OF THE LOC.*
3. *THE CONTRACTOR SHALL INSTALL RAISED/RECESSED PAVEMENT MARKERS (ITEM 817027) IN ACCORDANCE WITH SECTION 3B-11 OF THE DELAWARE MUTCD.*
4. *SEE SIGNING AND STRIPING PLAN (SHEET 3 OF 3) FOR TOTAL PAVEMENT MARKING QUANTITIES.*

LONGITUDINAL RUMBLE STRIP NOTES:

1. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL BICYCLE-FRIENDLY EDGE LINE RUMBLE STRIPS ON THE OUTSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3). PAYMENT COVERED UNDER ITEM 760002.*
2. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL CONTINUOUS EDGE LINE RUMBLE STRIPS ON THE INSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3) (TYP.). PAYMENT COVERED UNDER ITEM 760006.*

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404	BRIDGE NO.	1-488N&S
COUNTY	NEW CASTLE	DESIGNED BY:	N. DEAN
		CHECKED BY:	M. RADOVIC

SIGNING AND STRIPING PLAN

SS-01
SECTION BR
SHEET NO. 82

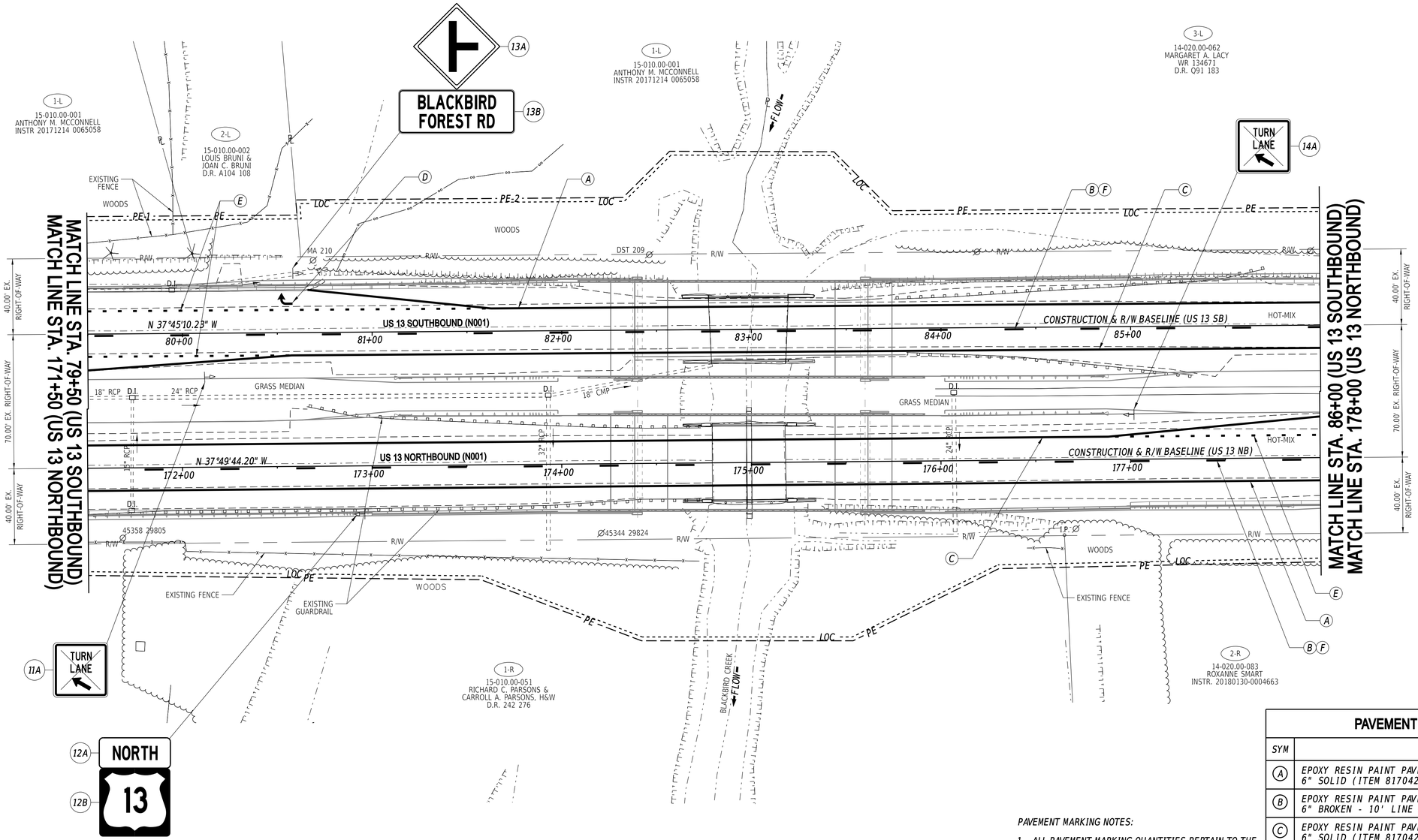
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PERMANENT SIGN SCHEDULE

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE POST (EACH)			POST INSTALLATION TYPE	REMARKS
								SIGN DISPOSITION	REMOVE	INSTALL		
50	11A	R3-20-DE	1	TURN LANE	18	18		REMOVE	1		SOIL	
50	12A	W2-2_R(30)	1	SIDE ROAD (Perpendicular - Right) - 30x30	30	30		REPOSITION	1	1	SOIL	SHARES POST WITH SIGN 12B
50	12B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	30	18		REPOSITION	1	1	SOIL	SHARES POST WITH SIGN 12A
50	13A	M3-1(24)	1	CARDINAL DIRECTION - NORTH - 24x12	24	12		REPOSITION	1	1	SOIL	SHARES POST WITH SIGN 13B
50	13B	M1-4(24)	1	US ROUTE (2 - Digit Sign) - 24x24	24	24		REPOSITION	1	1	SOIL	SHARES POST WITH SIGN 13A
50	14A	R3-20-DE	1	TURN LANE	18	18		REMOVE	1		SOIL	

PERMANENT SIGN NOTES:

1. *THE CONTRACTOR WILL TEMORARILY REMOVE AND STORE ALL SIGNS MARKED FOR REPOSITIONING. ANY SIGNS THAT ARE DAMAGED DURING REMOVAL OR STORAGE WILL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.*
2. *ALL SIGNS TO BE REPOSITIONED WILL BE RESET IN THEIR GENERAL ORIGINAL LOCATION. IF THE PROPOSED ROADWAY GEOMETRICS AND/OR SITE CONDITIONS CONFLICT WITH THE ORIGINAL LOCATION OF SIGNS TO BE REPOSITIONED, THE CONTRACTOR WILL MOVE THE SIGN OUTSIDE OF THE CONFLICT WITH THE APPROVAL OF THE ENGINEER.*



LONGITUDINAL RUMBLE STRIP NOTES:

1. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL BICYCLE-FRIENDLY EDGE LINE RUMBLE STRIPS ON THE OUTSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3). PAYMENT COVERED UNDER ITEM 760002.*
2. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL CONTINUOUS EDGE LINE RUMBLE STRIPS ON THE INSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3) (TYP.). PAYMENT COVERED UNDER ITEM 760006.*

PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	1,185 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" BROKEN - 10' LINE & 30' GAP (ITEM 817042)	350 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	1,302 LF
D	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	15.50 SF
E	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" DOTTED - 2' LINE & 6' GAP (ITEM 817042)	120 LF
F	RAISED/RECESSED PAVEMENT MARKER (ITEM 817027)	34 EA

PAVEMENT MARKING NOTES:

1. *ALL PAVEMENT MARKING QUANTITIES PERTAIN TO THE STRIPING LOCATED ON THIS SHEET ONLY. ADDITIONAL PAVEMENT MARKING QUANTITIES CAN BE FOUND OF SHEETS 1 OF 3 AND 3 OF 3 OF THE SIGNING AND STRIPING PLANS.*
2. *THE CONTRACTOR SHALL INSTALL RAISED/RECESSED PAVEMENT MARKERS (ITEM 817027) IN ACCORDANCE WITH SECTION 38-11 OF THE DELAWARE MUTCD.*
3. *SEE SIGNING AND STRIPING PLAN (SHEET 3 OF 3) FOR TOTAL PAVEMENT MARKING QUANTITIES.*

ADDENDA / REVISIONS

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

SIGNING AND STRIPING PLAN

SS-02
SECTION
BR
SHEET NO.
83

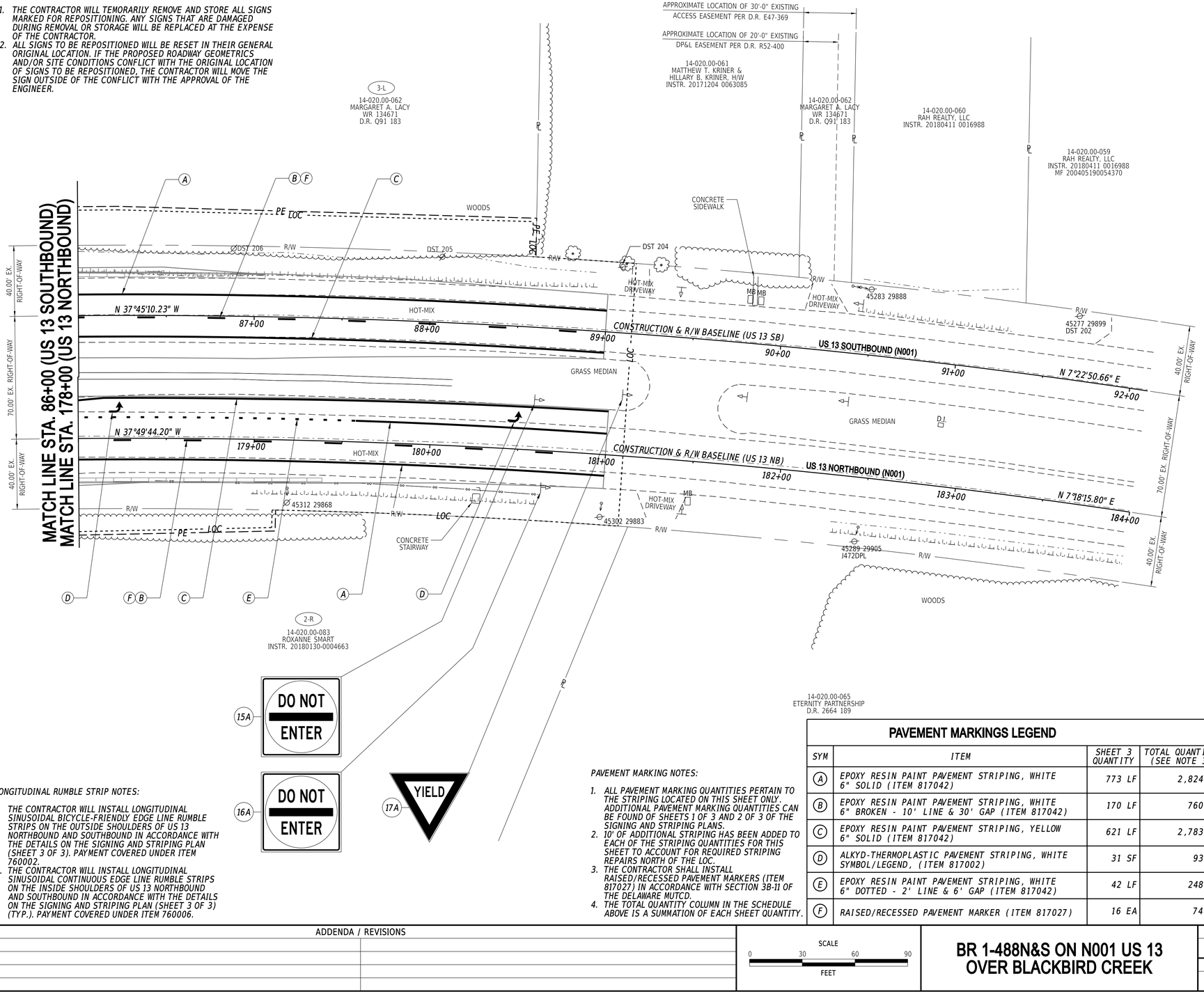
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PERMANENT SIGN SCHEDULE

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE POST (EACH)			POST INSTALLATION TYPE	REMARKS
								SIGN DISPOSITION	REMOVE	INSTALL		
51	15A	R5-1(36)	1	DO NOT ENTER - 36x36	36	36		REPOSITION	1	1	SOIL	
51	16A	R5-1(36)	1	DO NOT ENTER - 36x36	36	36		REPOSITION	1	1	SOIL	
51	17A	R1-2(48)	1	YIELD	48	48		REPOSITION	1	1	SOIL	

PERMANENT SIGN NOTES:

1. *THE CONTRACTOR WILL TEMORARILY REMOVE AND STORE ALL SIGNS MARKED FOR REPOSITIONING. ANY SIGNS THAT ARE DAMAGED DURING REMOVAL OR STORAGE WILL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.*
2. *ALL SIGNS TO BE REPOSITIONED WILL BE RESET IN THEIR GENERAL ORIGINAL LOCATION. IF THE PROPOSED ROADWAY GEOMETRICS AND/OR SITE CONDITIONS CONFLICT WITH THE ORIGINAL LOCATION OF SIGNS TO BE REPOSITIONED, THE CONTRACTOR WILL MOVE THE SIGN OUTSIDE OF THE CONFLICT WITH THE APPROVAL OF THE ENGINEER.*



LONGITUDINAL RUMBLE STRIP NOTES:

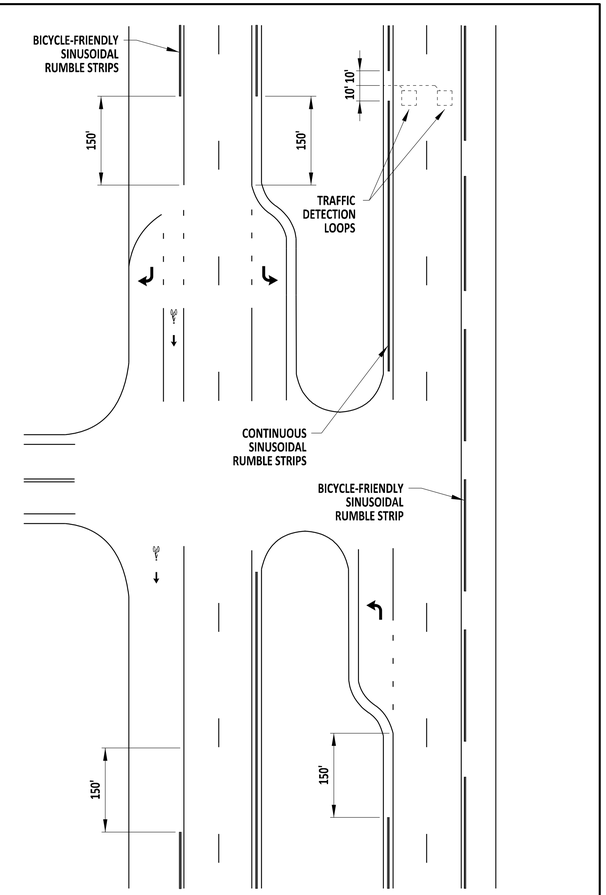
1. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL BICYCLE-FRIENDLY EDGE LINE RUMBLE STRIPS ON THE OUTSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3). PAYMENT COVERED UNDER ITEM 760002.*
2. *THE CONTRACTOR WILL INSTALL LONGITUDINAL SINUSOIDAL CONTINUOUS EDGE LINE RUMBLE STRIPS ON THE INSIDE SHOULDERS OF US 13 NORTHBOUND AND SOUTHBOUND IN ACCORDANCE WITH THE DETAILS ON THE SIGNING AND STRIPING PLAN (SHEET 3 OF 3) (TYP.). PAYMENT COVERED UNDER ITEM 760006.*

PAVEMENT MARKING NOTES:

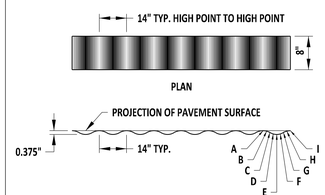
1. *ALL PAVEMENT MARKING QUANTITIES PERTAIN TO THE STRIPING LOCATED ON THIS SHEET ONLY. ADDITIONAL PAVEMENT MARKING QUANTITIES CAN BE FOUND OF SHEETS 1 OF 3 AND 2 OF 3 OF THE SIGNING AND STRIPING PLANS.*
2. *10' OF ADDITIONAL STRIPING HAS BEEN ADDED TO EACH OF THE STRIPING QUANTITIES FOR THIS SHEET TO ACCOUNT FOR REQUIRED STRIPING REPAIRS NORTH OF THE LOC.*
3. *THE CONTRACTOR SHALL INSTALL RAISED/RECESSED PAVEMENT MARKERS (ITEM 817027) IN ACCORDANCE WITH SECTION 3B-11 OF THE DELAWARE MUTCD.*
4. *THE TOTAL QUANTITY COLUMN IN THE SCHEDULE ABOVE IS A SUMMATION OF EACH SHEET QUANTITY.*

PAVEMENT MARKINGS LEGEND

SYM	ITEM	SHEET 3 QUANTITY	TOTAL QUANTITY (SEE NOTE 3)
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" SOLID (ITEM 817042)	773 LF	2,824 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" BROKEN - 10' LINE & 30' GAP (ITEM 817042)	170 LF	760 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 6" SOLID (ITEM 817042)	621 LF	2,783 LF
(D)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	31 SF	93 SF
(E)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 6" DOTTED - 2' LINE & 6' GAP (ITEM 817042)	42 LF	248 LF
(F)	RAISED/RECESSED PAVEMENT MARKER (ITEM 817027)	16 EA	74 EA

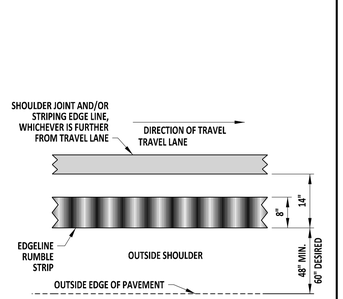


SINUSOIDAL SHOULDER RUMBLE STRIPS AT INTERSECTIONS

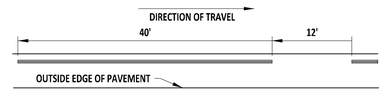


DESIGN OF CURVE PROFILE FOR SINUSOIDAL RUMBLE STRIP		
POINT	DEPTH FROM PAVEMENT SURFACE (IN.) (+/- 1/32")	DISTANCE FROM HIGH POINT "A" (IN.)
A	1/16	0
B	1/8	1 1/4
C	7/32	3 1/2
D	11/32	5 1/4
E	3/8	7
F	11/32	8 3/4
G	7/32	10 1/2
H	1/8	12 1/4
I	1/16	14

RUMBLE STRIP SECTION - SINUSOIDAL SHOULDER RUMBLE STRIPS



SINUSOIDAL SHOULDER RUMBLE STRIP



BICYCLE-FRIENDLY SINUSOIDAL SHOULDER RUMBLE STRIP SEGMENT DETAILS

ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

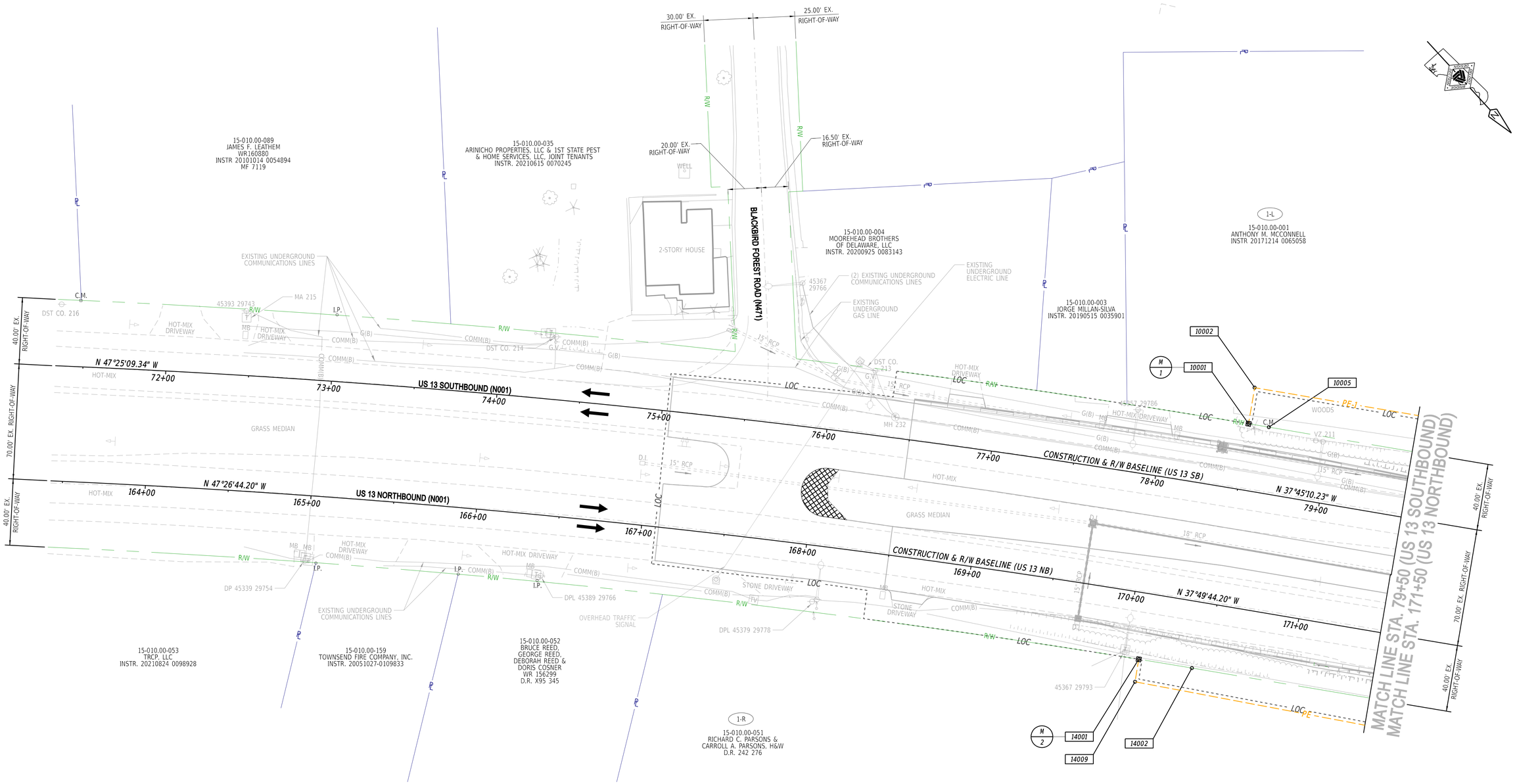
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

SIGNING AND STRIPING PLAN

SS-03	
SECTION	BR
SHEET NO.	84

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BR 1-488S - RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
1	CAPPED REBAR	78+50.00	-40.00'	499641.4521	587245.2136
BR 1-488N - RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
2	CAPPED REBAR	170+08.77	40.00'	499701.2225	587289.9467

NOTE: STATIONS AND OFFSETS OF THE RIGHT-OF-WAY MONUMENTS WEST OF BR 1-488S ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND. STATIONS AND OFFSETS OF THE RIGHT-OF-WAY MONUMENTS EAST OF BR 1-488N ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.

NOTE: THIS SHEET SHALL BE USED FOR RIGHT-OF-WAY ACQUISTITION PURPOSES ONLY.

RECOMMENDED AS TO PROCESS

Shehnaz Chaudhuri — GROUP ENGINEER, ROW ENGINEERING — 11/14/2022 DATE

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

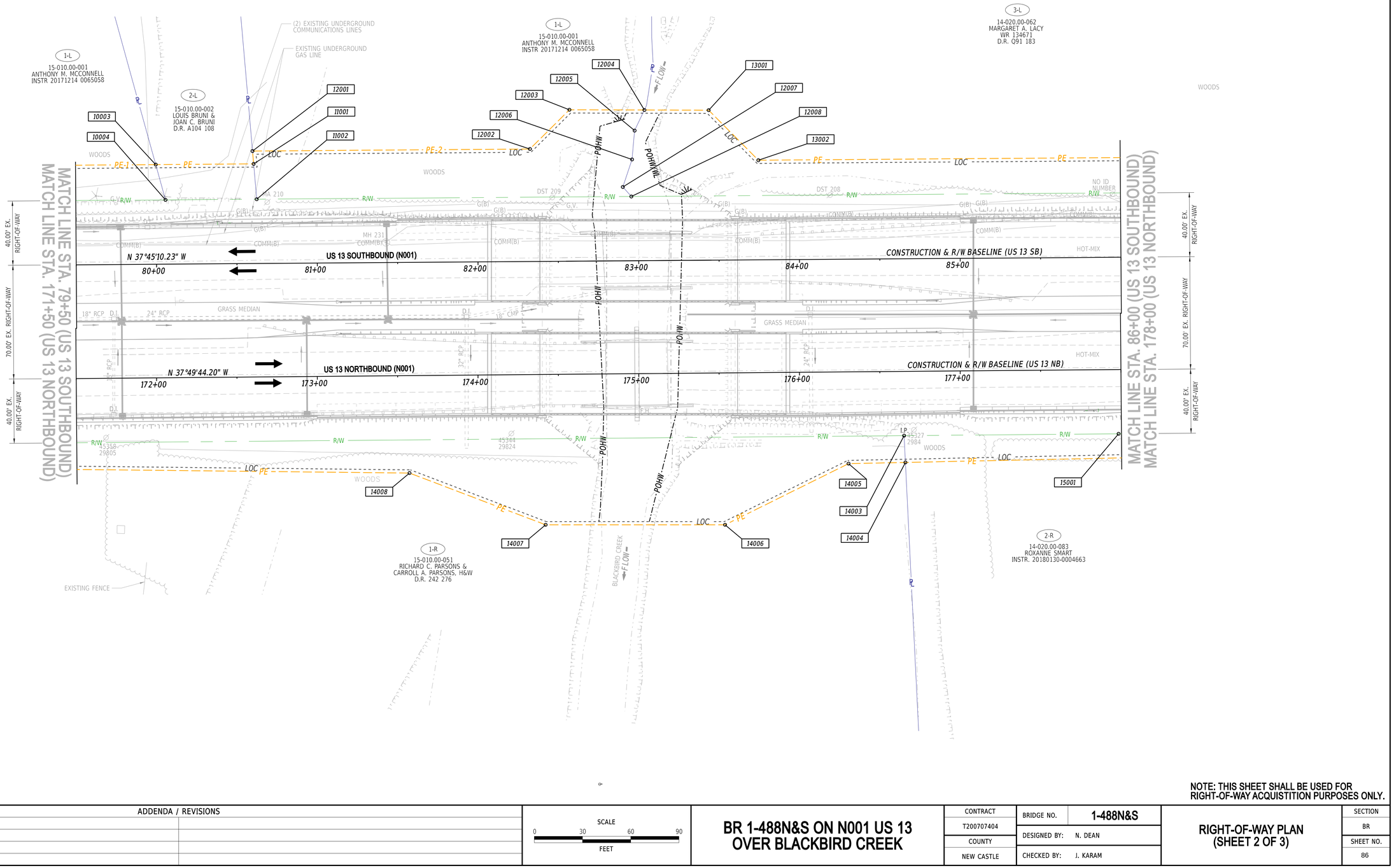
BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	BRIDGE NO.	1-488N&S
T200707404	DESIGNED BY:	N. DEAN
COUNTY	CHECKED BY:	J. KARAM
NEW CASTLE		

RIGHT-OF-WAY PLAN (SHEET 1 OF 3)

SECTION	BR
SHEET NO.	85

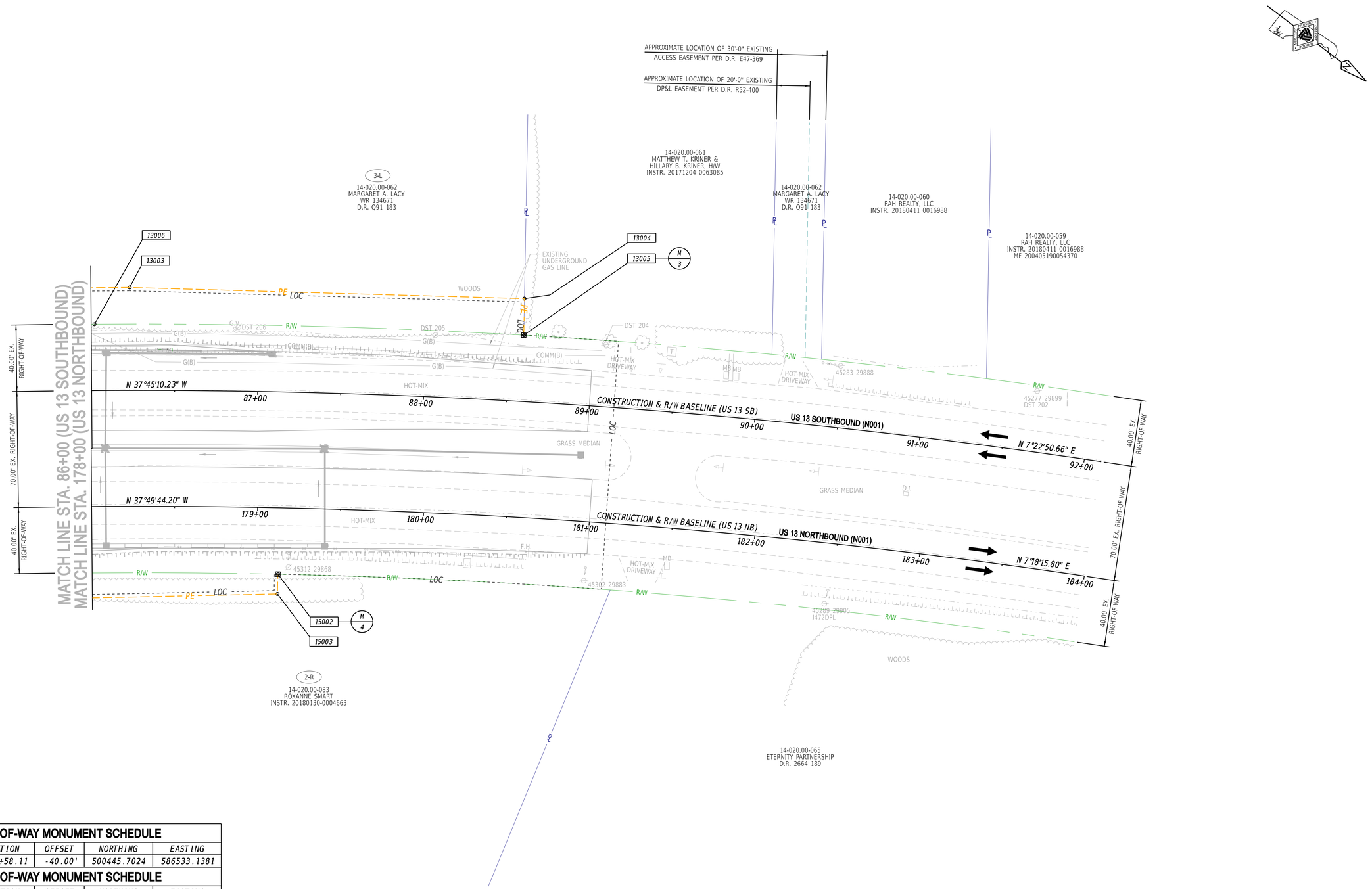
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NOTE: THIS SHEET SHALL BE USED FOR RIGHT-OF-WAY ACQUISITION PURPOSES ONLY.

ADDENDA / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK	CONTRACT T200707404	BRIDGE NO. 1-488N&S	RIGHT-OF-WAY PLAN (SHEET 2 OF 3)	SECTION BR
				COUNTY NEW CASTLE	DESIGNED BY: N. DEAN		SHEET NO. 86
					CHECKED BY: J. KARAM		

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BR 1-488S - RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
3	CAPPED REBAR	88+58.11	-40.00'	500445.7024	586533.1381

BR 1-488N - RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
4	CAPPED REBAR	179+13.02	40.00'	500415.2636	586737.5159

NOTE: STATIONS AND OFFSETS OF THE RIGHT-OF-WAY MONUMENTS WEST OF BR 1-488S ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 SOUTHBOUND. STATIONS AND OFFSETS OF THE RIGHT-OF-WAY MONUMENTS EAST OF BR 1-488N ARE BASED ON THE CONSTRUCTION BASELINE FOR US 13 NORTHBOUND.

NOTE: THIS SHEET SHALL BE USED FOR RIGHT-OF-WAY ACQUISITION PURPOSES ONLY.

ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N&S
DESIGNED BY:	N. DEAN
CHECKED BY:	J. KARAM

RIGHT-OF-WAY PLAN (SHEET 3 OF 3)

SECTION	
BR	
SHEET NO.	
87	

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ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
15-010.00-051	(1-R) RICHARD C. PARSONS & CARROLL A. PARSONS, H&W	P/E	D.R. 242 276	7.160

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
14001	7000	170+08.77	40.00	499701.2227	587289.9471			N 38°00'20.47" W	34.66	34.66	5618.84
14002	7000	170+43.68	40.00	499728.5367	587268.6027	N 37°49'44.20" W	621.09				
14003	7000	176+64.77	40.00	500219.0980	586887.6873	N 49°51'15.51" E	16.69				
14004	7000	176+65.44	56.67	500229.8558	586900.4419	S 38°32'28.96" E	35.39				
14005	7000	176+30.05	57.11	500202.1754	586922.4925	S 63°40'54.89" E	85.76				
14006	7000	175+52.88	94.51	500164.1523	586999.3653	S 37°20'03.14" E	111.62				
14007	7000	174+41.26	93.55	500075.3987	587067.0612	S 16°30'52.17" E	90.61				
14008	7000	173+56.84	60.61	499988.5269	587092.8177	S 36°43'00.99" E	347.84				
14009	7000	170+08.73	53.75	499709.6956	587300.7804	S 51°58'13.74" W	13.75				
14001	7000	170+08.77	40.00	499701.2227	587289.9471						

FIGURE P_PE_14000 AREA = 18509.6262 SQ. FT. (0.4249 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
14-020.00-083	(2-R) ROXANNE SMART	P/E	INSTR. 20180130 0004663	9.420

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
14003	7000	176+64.77	40.00	500219.0980	586887.6873	N 37°49'44.20" W	133.45				
15001	7000	177+98.21	40.00	500324.4992	586805.8443			N 36°58'22.17" W	113.61	113.61	3801.77
15002	7000	179+13.02	40.00	500415.2636	586737.5159	N 53°51'11.35" E	11.92				
15003	7000	179+13.03	51.92	500422.2950	586747.1418	S 38°32'28.92" E	246.04				
14004	7000	176+65.44	56.67	500229.8558	586900.4419	S 49°51'15.51" W	16.69				
14003	7000	176+64.77	40.00	500219.0980	586887.6873						

FIGURE P_PE_15000 AREA = 3669.3291 SQ. FT. (0.0842 ACRES)

COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE) D=DEED C=CALCULATED A=ASSESMENT	ACQUISITION CODE FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED				PROPERTY AREA REMAINING (SQ. FEET/ACRES)	DEED RECORD OF ACQUISTITION	REMARKS
						ACQUISITION (SQ. FEET/ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET/ACRES)	EASEMENT				
								PERMANENT (SQ. FEET/ACRES)	TEMPORARY (SQ. FEET/ACRES)			
15-010.00-051	84 - 85	(1-R) RICHARD C. PARSONS & CARROLL A. PARSONS, H&W	D.R. 242 276	D - 7.16	P/E			18509.6262 / 0.42		311889.60 / 7.16		
14-020.00-083	85 - 86	(2-R) ROXANNE SMART	INSTR. 20180130 0004663	D - 9.42	P/E			3669.3291 / 0.08		410335.20 / 9.42		

LEGEND

FEE	AREA OF ACQUISITION
R/W	AREA OCCUPIED BY EXISTING R/W
P/E	PERMANENT EASEMENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
*	"-" OFFSET IS LEFT OF BASELINE
**	"-" CURVE TURNS TO THE LEFT

ADDENDA / REVISIONS

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488N
DESIGNED BY:	N. DEAN
CHECKED BY:	J. KARAM

RIGHT-OF-WAY DATA & TABULATION SHEET

SECTION	BR
SHEET NO.	88

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ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
15-010.00-001	(1-L) ANTHONY M. MCCONNELL	P/E-1	INSTR. 20171214 0065058	2.920

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
10001	6000	78+50.00	-40.00	499641.4521	587145.2136	S 52°22'12.46" W	22.00				
10002	6000	78+50.09	-62.00	499628.0198	587127.7902	N 37°45'17.88" W	149.98				
10003	6000	79+99.94	-61.99	499746.5984	587035.9604	N 37°12'21.20" E	22.77				
10004	6000	80+05.85	-40.00	499764.7358	587049.7304	S 37°45'10.23" E	143.49				
10005	6000	78+62.36	-40.00	499651.2827	587137.5841			S 37°48'52.66" E	12.44	12.44	-5769.78
10001	6000	78+50.00	-40.00	499641.4521	587145.2136						

FIGURE P_PE_10000 AREA = 3363.4876 SQ. FT. (0.0772 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
15-010.00-001	(1-L) ANTHONY M. MCCONNELL	P/E-2	INSTR. 20171214 0065058	2.920

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
11002	6000	80+62.59	-40.00	499809.6016	587014.9880	S 47°42'21.28" W	30.09				
12001	6000	80+60.21	-69.99	499789.3538	586992.7313	N 37°45'17.84" W	172.61				
12002	6000	82+32.82	-70.00	499925.8233	586887.0464	N 82°09'57.68" W	34.61				
12003	6000	82+57.54	-94.22	499930.5407	586852.7597	N 37°09'57.69" W	46.67				
12004	6000	83+04.21	-93.74	499967.7323	586824.5645	N 78°06'33.42" E	14.17				
12005	6000	82+98.03	-80.99	499970.6526	586838.4334	N 57°45'59.20" E	18.04				
12006	6000	82+96.29	-63.03	499980.2754	586853.6943	N 71°08'37.10" E	18.05				
12007	6000	82+90.45	-45.95	499986.1100	586870.7782	N 10°53'27.79" E	7.93				
12008	6000	82+95.69	-40.00	499993.8972	586872.2765	S 37°45'10.23" E	233.09				
11002	6000	80+62.59	-40.00	499809.6016	587014.9880						

FIGURE P_PE_12000 AREA = 8284.8975 SQ. FT. (0.1902 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
15-010.00-002	(2-L) LOUIS BRUNI & JOAN C. BRUNI	P/E	D.R. A104 108	0.190

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
10004	6000	80+05.85	-40.00	499764.7358	587049.7304	S 37°12'21.20" W	22.77				
10003	6000	79+99.94	-61.99	499746.5984	587035.9604	N 37°45'17.93" W	60.91				
11001	6000	80+60.85	-61.99	499794.7542	586998.6675	N 47°42'21.28" E	22.06				
11002	6000	80+62.59	-40.00	499809.6016	587014.9880	S 37°45'10.23" E	56.74				
10004	6000	80+05.85	-40.00	499764.7358	587049.7304						

FIGURE P_PE_11000 AREA = 1293.7838 SQ. FT. (0.0297 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
14-020.00-062	(3-L) MARGARET A. LACY	P/E	WR 134671	7.680

ALIGNMENT NUMBER & DESCRIPTION:

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
12008	6000	82+95.69	-40.00	499993.8972	586872.2765	S 10°53'27.79" W	7.93				
12007	6000	82+90.45	-45.95	499986.1100	586870.7782	S 71°08'37.10" W	18.05				
12006	6000	82+96.29	-63.03	499980.2754	586853.6943	S 57°45'59.20" W	18.04				
12005	6000	82+98.03	-80.99	499970.6526	586838.4334	S 78°06'33.42" W	14.17				
12004	6000	83+04.21	-93.74	499967.7323	586824.5645	N 37°09'57.69" W	39.99				
13001	6000	83+44.19	-93.33	499999.5962	586800.4082	N 7°50'02.52" E	43.87				
13002	6000	83+74.89	-62.00	500043.0531	586806.3874	N 37°45'13.86" W	248.43				
13003	6000	86+22.99	-62.06	500239.4741	586654.2809	N 35°42'37.11" W	237.94				
13004	6000	88+57.24	-61.99	500432.6748	586515.3994	N 53°42'21.09" E	22.01				
13005	6000	88+58.11	-40.00	500445.7039	586533.1401			S 35°52'28.10" E	258.72	258.77	-3946.57
13006	6000	86+01.97	-40.00	500236.0623	586684.7530	S 37°45'10.23" E	306.28				
12008	6000	82+95.69	-40.00	499993.8972	586872.2765						

FIGURE P_PE_13000 AREA = 14133.7149 SQ. FT. (0.3245 ACRES)

COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE) D=DEED C=CALCULATED A=ASSESMENT	ACQUISITION CODE FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED				PROPERTY AREA REMAINING (SQ. FEET/ACRES)	DEED RECORD OF ACQUISITION	REMARKS
						ACQUISITION (SQ. FEET/ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET/ACRES)	EASEMENT				
								PERMANENT (SQ. FEET/ACRES)	TEMPORARY (SQ. FEET/ACRES)			
15-010.00-001	84 - 85	(1-L) ANTHONY M. MCCONNELL	INSTR. 20171214 0065058	D - 2.92	P/E-1			3363.4876 / 0.08				
					P/E-2			8284.8975 / 0.19		127195.20 / 2.92		
15-010.00-002	85	(2-L) LOUIS BRUNI & JOAN C. BRUNI	D.R. A104 108	D - 0.19	P/E			1293.7838 / 0.03		8276.40 / 0.19		
14-020.00-062	85 - 86	(3-L) MARGARET A. LACY	WR 134671	D - 7.68	P/E			14133.7149 / 0.32		334540.80 / 7.68		

LEGEND

FEE	AREA OF ACQUISITION
R/W	AREA OCCUPIED BY EXISTING R/W
P/E	PERMANENT EASEMENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
*	*-* OFFSET IS LEFT OF BASELINE
**	*-* CURVE TURNS TO THE LEFT

ADDENDA / REVISIONS

BR 1-488N&S ON N001 US 13 OVER BLACKBIRD CREEK

CONTRACT	T200707404
COUNTY	NEW CASTLE
BRIDGE NO.	1-488S
DESIGNED BY:	N. DEAN
CHECKED BY:	J. KARAM

RIGHT-OF-WAY DATA & TABULATION SHEET

SECTION	BR
SHEET NO.	89

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