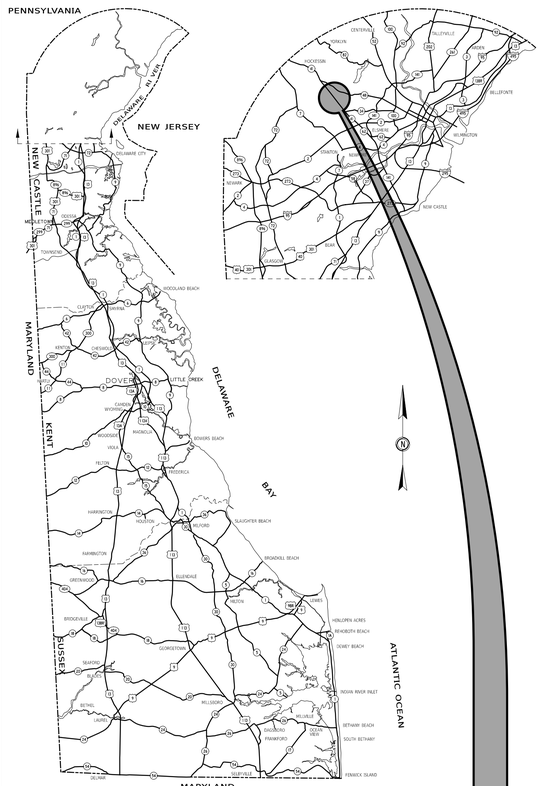


GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

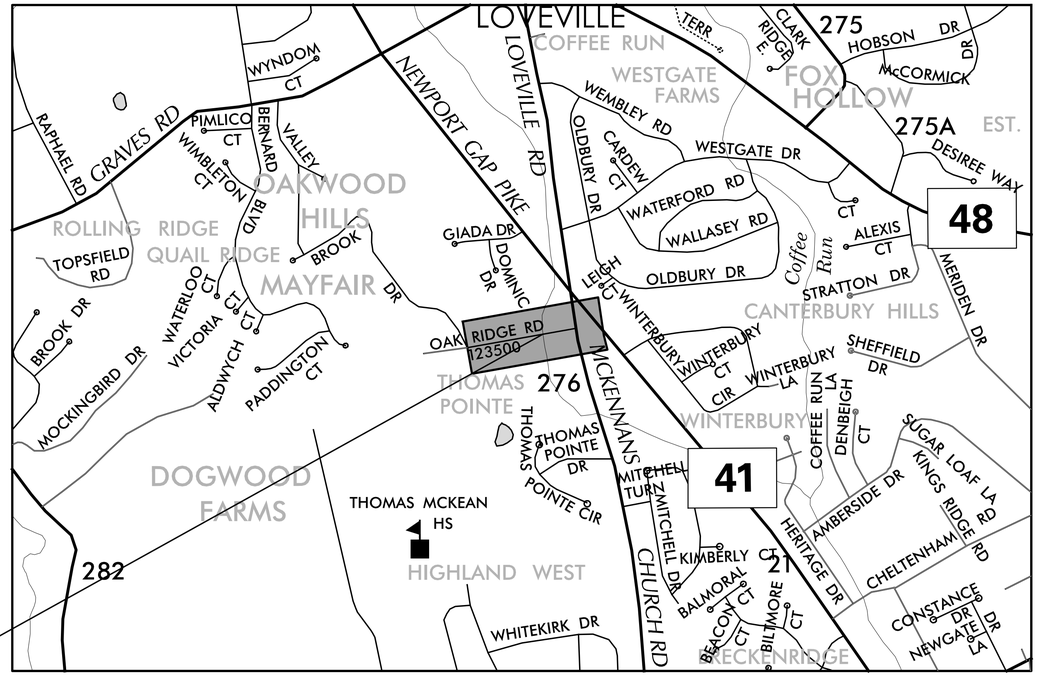
U.S. CUSTOMARY UNITS

CONSTRUCTION & RIGHT-OF-WAY PLANS FOR:

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT NUMBER: T201407106
FEDERAL AID PROJECT NUMBER: BFP-N1235(1)

COUNTY: NEW CASTLE **M.R. #:** N123500



BR. 1-185

LOCATION MAP
NOT TO SCALE

DESIGN DESIGNATION

MRD #: N123500	ROAD NAME: OAK RIDGE ROAD		
FUNCTIONAL CLASS: LOCAL		D.H.V. PROJECTED: 85	YEAR: 2050
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT		DESIGN SPEED: 25 M.P.H.	
A.A.D.T. CURRENT: 523	YEAR: 2021	TRUCKS: 8.6%	
A.A.D.T. PROJECTED: 523	YEAR: 2050	DIRECTION OF DISTRIBUTION: 59.9%	

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA / REVISIONS

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
66-09-006	MCKENNANS CHURCH ROAD BARDELL DRIVE TO NEWPORT GAP PIKE
T202007104	REPLACEMENT OF BRIDGES 1-183, 1-615 AND 1-616 OVER HYDE RUN

APPROVED FOR ADVERTISEMENT

DIRECTOR OF TRANSPORTATION SOLUTIONS — DATE: 03/31/2025

PREPARED BY
PENNONI ASSOCIATES INC.

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

12/3/2024
DATE

HOUSTON A. BROWN — LICENSE — No. 18197 — DELAWARE PROFESSIONAL ENGINEER
SEAL

ADDENDUM PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
XXXXXXXXXXXXXXXXXXXX

THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER ADDENDUM #X:
XX, XX-XX, XX

DATE

SEAL

REVISION PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
XXXXXXXXXXXXXXXXXXX

THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER REVISION #X:
XX, XX-XX, XX

DATE

SEAL

PENNONI ASSOCIATES INC.	$FILEAS	PEN TABLE:	$PENTBLSS
FILE NAME:		PLOT DRIVER:	$PLTDRVSS
MICROSTATION VERSION:	$VERSIONS	DATE PLOTTED:	$DATES @ $TIMES
MICROSTATION WORKSPACE:	$WORKSPACES	USER NAME:	$USERS OFFICE LOCATION: $OFFICENAMES

SECTION	SHEET DESCRIPTION	SHEET NO(S)
PAI	TITLE	1
PAI	INDEX OF SHEETS & ADDENDA AND REVISIONS	2
PAI	LEGEND	3
PAI	NOTES	4
PAI	TYPICAL SECTIONS	5-6
PAI	HORIZONTAL AND VERTICAL CONTROL	7
PAI	CONSTRUCTION PLAN (CP)	8
PAI	PROFILES	9
PAI	GRADES AND GEOMETRICS (GG)	10
PAI	BRIDGE PLAN AND SECTION	11
PAI	RIGID FRAME ELEVATION	12
PAI	BORING LOGS	13
PAI	ENVIRONMENTAL COMPLIANCE NOTES	14
PAI	ENVIRONMENTAL COMPLIANCE PLAN	15
PAI	CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLANS	16-17
PAI	DETOUR PLAN	18
PAI	SIGNING, STRIPING AND CONDUIT PLANS (SS)	19
PAI	RIGHT-OF-WAY PLAN	20
PAI	RIGHT-OF-WAY DATA SHEET	21
PAI	RIGHT-OF-WAY TABULATION SHEET	22
PAI	CROSS SECTIONS	23-24
CDA	SEWER RELOCATION PLANS	25-29

ADDENDA / REVISIONS	

NOT TO SCALE

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185	SECTION
T201407106	DESIGNED BY:	O. GREEN	PAI
COUNTY			SHEET NO.
NEW CASTLE	CHECKED BY:	P. HORSEY	2

INDEX OF SHEETS ADDENDA AND REVISIONS

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
DRAINAGE PIPE HEADWALL			
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 POLE GUY WIRE ANCHOR		
UTILITY POLE		
UTILITY TEST HOLE LOCATION		
WATER - UNDERGROUND	W(A)	W
WATER - FIRE HYDRANT	F.H.	F.H.
WATER METER	W.M.	
WATER VALVE	W.V.	W.V.
WELL HEAD	WELL	

PAVEMENT SECTION(S)

OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS	

NATURAL ROADSIDE FEATURES

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

RIGHT-OF-WAY FEATURES

FEATURE DESCRIPTION	EXISTING	PROPOSED
DENIAL OF ACCESS	DA	DA
EASEMENT - OTHERS	EASEMENT TYPE	
PERMANENT EASEMENT	PE	PE
PROPERTY LINE		
PROPERTY MARKER - CONCRETE	C.M.	
PROPERTY MARKER - IRON PIPE	I.P.	
RIGHT-OF-WAY BASELINE	100+00	100+00
RIGHT-OF-WAY LINE		R/W
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	C/JB XXX
CONVERT TO DRAINAGE MANHOLE	C/MH 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

PENNONI ASSOCIATES INC. $FILEAS
FILE NAME: $VERSIONS
MICROSTATION VERSION: $WORKSPACE:
MICROSTATION WORKSPACE:
PEN TABLE: $PENTBLSS
PLOT DRIVER: $PLOTDRVSS
DATE PLOTTED: $DATES @ $TIMES
USER NAME: $USERS OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

NOT TO SCALE

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185	SECTION
T201407106	DESIGNED BY:	O. GREEN	PAI
COUNTY	CHECKED BY:	P. HORSEY	SHEET NO.
NEW CASTLE			3

LEGEND

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 2022, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

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

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

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

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

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

(X)	CROSS SECTIONS (INCLUDED IN PLANS)
(X)	RIGHT-OF-WAY PLANS (INCLUDED IN PLANS)

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.

SECTION 200

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

4. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   a. REMOVAL AND REINSTALLATION BASKETBALL HOOP
   b. REMOVAL OF EXISTING 85' X 54" CORRUGATED STEEL ARCH PIPE
   c. REMOVAL OF FOUR EXISTING DRAINAGE INLETS ON OAK RIDGE ROAD
   d. REMOVAL OF STONE PILLAR

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 EXISTING STORM DRAIN PIPE SHALL BE PAID ITEM 202000 UNLESS NOTED WITH A FLOWABLE FILL IDENTIFIER, 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.

SECTION 400

6. 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.

PROJECT NOTES (CONT.)

SECTION 600

7. 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.

8. PORTLAND CEMENT CONCRETE:
   USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:
   (f'c = 28-DAY COMPRESSIVE STRENGTH)
   CLASS B - RIGID FRAME FOOTER (f'c = 3.0 ksi)
   -CHAMFER ALL EXPOSED EDGES ¾" X ¾" UNLESS OTHERWISE NOTED.
   -DO NOT SLIP-FORM BARRIERS, UNLESS OTHERWISE APPROVED BY THE DEPARTMENT.

   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:
   RIGID FRAME FOOTINGS, AND WINGWALLS:
   f'c = 5 ksi

9. BAR REINFORCEMENT:
   -PROVIDE REINFORCING STEEL CONFORMING TO AASHTO M31 (ASTM A615), GRADE 60.
   -PROVIDE A 3" CLEAR COVER FOR ALL REINFORCING STEEL PLACED IN CONCRETE CAST AGAINST EARTH OR A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
   -WHERE A SUFFIX IS INCLUDED IN BAR MARKS, PROTECT ALL REINFORCING STEEL WITH THE MATERIAL DENOTED.
   SUFFIX 'E' DENOTES EPOXY COATED BAR REINFORCEMENT
   SUFFIX 'G' DENOTES GALVANIZED BAR REINFORCEMENT
   SUFFIX 'S' DENOTES STAINLESS STEEL BAR REINFORCEMENT

   -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.

10. THE FACTORED BEARING RESISTANCE OF SOIL BENEATH PRECAST ELEMENTS IS 4.5 ksf.

SECTION 700

11. 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.

12. WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762001 - SAWCUTTING, CONCRETE, FULL DEPTH.

13. THE NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL SUPPLY AND THE STATE'S CONTRACTOR SHALL INSTALL NEW SELF SEALING MANHOLE FRAMES AND COVERS ON ALL COUNTY SEWER MANHOLES THAT ARE NOT BEING RELOCATED, WITHIN THE PROJECT LIMITS IN ACCORDANCE WITH THE COUNTY'S STANDARD SPECIFICATIONS. THE EXISTING MANHOLE FRAMES AND COVERS THAT ARE REMOVED SHALL BECOME THE PROPERTY OF THE STATE'S CONTRACTOR. PAYMENT SHALL BE INCIDENTAL TO ITEM 711500 - ADJUST AND REPAIR EXISTING SANITARY SEWER MANHOLE.

14. ALL EXCESS MILLED MATERIALS ARE TO BE THE PROPERTY OF THE CONTRACTOR.

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

SECTION 900

16. 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 NOTES

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

    WITHIN 30 DAYS, DELDOT WILL;
    1) APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S);
    2) REJECT THE REQUEST; OR
    3) PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

18. DESIGN SPECIFICATIONS:
    (A) DELDOT BRIDGE DESIGN MANUAL, 2021 EDITION
    (B) AASHTO LRFD BRIDGE SPECIFICATIONS, 2017, 8TH EDITION, CUSTOMARY U.S. UNITS.

19. EXISTING CONDITIONS:
    -ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE ONLY. FIELD VERIFY ALL EXISTING DIMENSIONS, GEOMETRY, AND ELEVATIONS AS NECESSARY PRIOR TO ORDERING ANY MATERIALS AND COMMENCING CONSTRUCTION TO ENSURE PROPER FIT OF THE PROPOSED CONSTRUCTION. PAYMENT UNDER ITEM #763501 - CONSTRUCTION ENGINEERING.
    -DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT WILL BE ENCOUNTERED IN THE FIELD.

20. HYDRAULIC DATA (BRIDGE 1-185):

DRAINAGE AREA:	0.45 sq. miles	DESIGN FREQ.: 25 YEARS	
DESIGN DISCHARGE:	453 cfs	100-YEAR DISCHARGE:	642 cfs
EXISTING (DESIGN STORM) WSE:	234.25 ft	PROPOSED (DESIGN STORM) WSE:	231.72 ft
EXISTING (DESIGN STORM) VELOCITY:	8.90 fps	PROPOSED (DESIGN STORM) VELOCITY:	6.07 fps
EXISTING 100-YEAR WSE:	234.69 ft	PROPOSED 100-YEAR WSE:	233.61 ft
EXISTING 100-YEAR VELOCITY:	8.67 fps	PROPOSED 100-YEAR VELOCITY:	7.57 fps
EXISTING WATERWAY OPENING:	25.2 sq. ft	PROPOSED WATERWAY OPENING:	74.6 sq. ft

21. SCOUR ANALYSIS:
    SCOUR DESIGN FREQUENCY: 100 YEARS (AS PER GUIDANCE OF SECTION 104.4 - 'SCOUR EVALUATION AND PROTECTION' AND FIGURE 104-8)
    SCOUR DESIGN FLOOD DISCHARGE: 642 cfs
    SCOUR DESIGN FLOOD VELOCITY: 7.57 fps (AT BRIDGE OUTLET)
    WATER SURFACE ELEVATION: 233.61 ft (IMMEDIATELY UPSTREAM OF BRIDGE)
    CALCULATED CONTRACTION SCOUR DEPTH: 2.04 ft
    CALCULATED TOTAL ABUTMENT SCOUR DEPTH: 2.91 ft

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

22. ADJACENT HOMES ON PARCELS 08-020.00-114, 08-020.00-113 & 08-026.00-014 TO BE VIDEO MONITORED DURING CONSTRUCTION. PAYMENT SHALL BE MADE UNDER 211508 - VIDEOTAPING BUILDINGS.

23. 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 TABLE

LOAD RATING SUMMARY - BR 1-185

VEHICLE TYPE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK+LANE (INVENTORY)	1.82	65.52	Frame - Top Slab	104	Flexure
HL-93 TANDEM+LANE (INVENTORY)	1.57	39.25	Frame - Top Slab	106	Flexure
HS-20 (INVENTORY)	2.01	72.36	Frame - Top Slab	104	Flexure
HL-93 TRUCK+LANE (OPERATING)	2.35	84.60	Frame - Top Slab	104	Flexure
HL-93 TANDEM+LANE (OPERATING)	2.01	50.25	Frame - Top Slab	106	Flexure
HS-20 (OPERATING)	2.59	93.24	Frame - Top Slab	104	Flexure
DE S220 & LEGAL-LANE (LEGAL)	3.81	76.20	Frame - Top Slab	104	Flexure
DE S335 & LEGAL-LANE (LEGAL)	2.10	73.50	Frame - Top Slab	106	Flexure
DE S437 & LEGAL-LANE (LEGAL)	2.25	83.25	Frame - Top Slab	106	Flexure
DE T330 & LEGAL-LANE (LEGAL)	3.72	111.60	Frame - Top Slab	106	Flexure
DE T435 & LEGAL-LANE (LEGAL)	2.82	98.70	Frame - Top Slab	106	Flexure
DE T540 & LEGAL-LANE (LEGAL)	2.82	112.80	Frame - Top Slab	106	Flexure
EV2 (EMERGENCY VEHICLE)	2.57	73.89	Frame - Top Slab	104	Flexure
EV3 (EMERGENCY VEHICLE)	1.84	79.12	Frame - Top Slab	106	Flexure
SU4 (LEGAL)	3.08	83.16	Frame - Top Slab	106	Flexure
SU5 (LEGAL)	3.11	96.41	Frame - Top Slab	105	Flexure
SU6 (LEGAL)	2.92	101.47	Frame - Top Slab	106	Flexure
SU7 (LEGAL)	2.90	112.38	Frame - Top Slab	106	Flexure

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

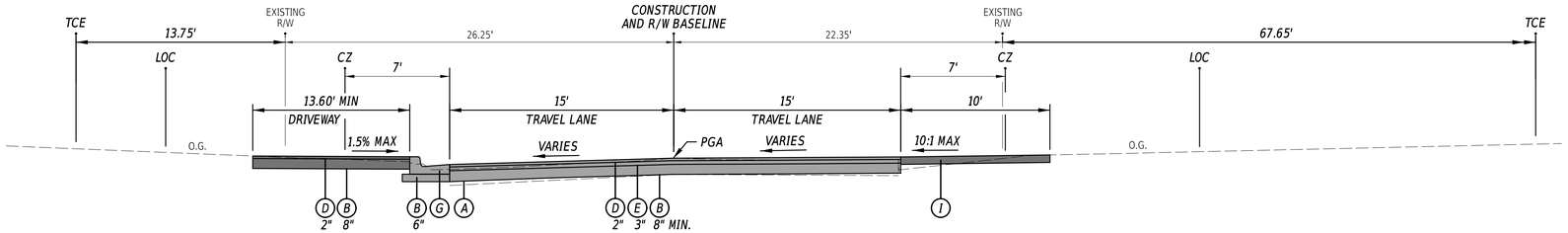
PENNONI ASSOCIATES INC. | PEN TABLE: $PENTBLSS
FILE NAME: $FILEAS | PLOT DRIVER: $PLTDRVSS
MICROSTATION VERSION: $VERSIONS | DATE PLOTTED: 30-JUN-2025@ 10:51
MICROSTATION WORKSPACE: $WORKSPACES | USER NAME: $USERS | OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS		NOT TO SCALE	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT T201407106	BRIDGE NO. 1-185	NOTES	SECTION PAI
				COUNTY NEW CASTLE	DESIGNED BY: O. GREEN		SHEET NO. 4
					CHECKED BY: P. HORSEY		

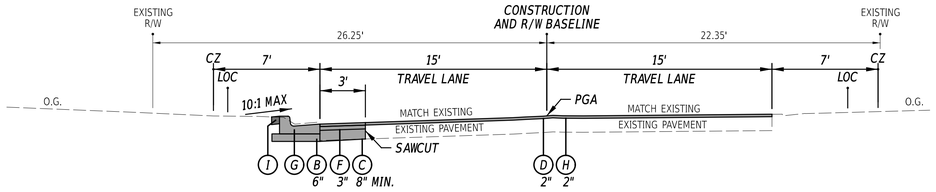
LEGEND

- (A) ITEM 209004 - BORROW, TYPE C
- (B) ITEM 301001 - GABC
- (C) ITEM 301002 - GABC, PATCHING
- (D) ITEM 401005 - SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)
- (E) ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
- (F) ITEM 401030 - SUPERPAVE TYPE B, PG 64-22, PATCHING
- (G) ITEM 701018 - I.P.C.C. CURB & GUTTER, TYPE 1-8
- (H) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (I) ITEM 908004 - TOPSOIL, 6" DEPTH
  ITEM 908016 - PERMANENT GRASS SEEDING, SUBDIVISION

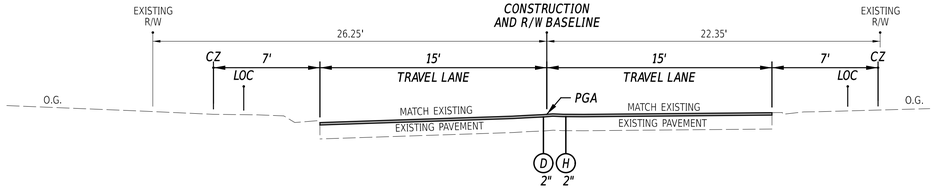
MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0



OAK RIDGE ROAD
STATION 301+70 TO STATION 302+20



OAK RIDGE ROAD
STATION 301+30 TO STATION 301+70



OAK RIDGE ROAD
STATION 301+00 TO STATION 301+30
STATION 303+50 TO STATION 303+70

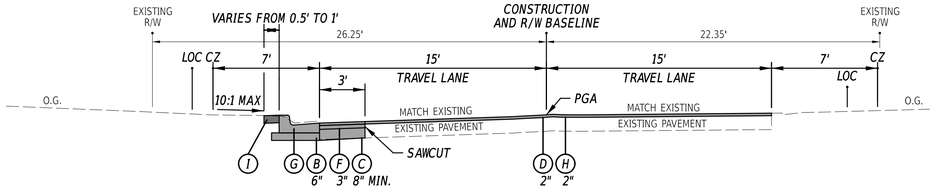
PENNONI ASSOCIATES INC. — PEN TABLE: $PENTBLSS
FILE NAME: $FILEAS — PLOT DRIVER: $PLOTDRVS
MICROSTATION VERSION: $VERSIONS — DATE PLOTTED: 26-NOV-2024@ 15:05
MICROSTATION WORKSPACE: $WORKSPACES — USER NAME: $USERS — OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS		NOT TO SCALE	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT	BRIDGE NO. 1-185	TYPICAL SECTIONS	SECTION
				T201407106	DESIGNED BY: O. GREEN		PAI
				COUNTY			SHEET NO.
				NEW CASTLE	CHECKED BY: P. HORSEY		5

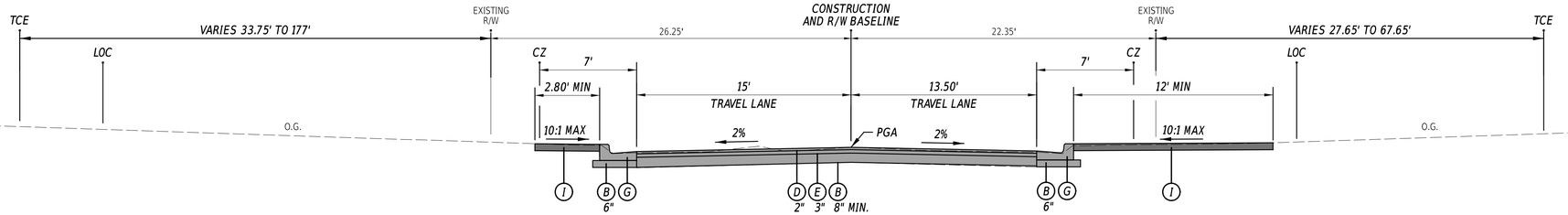
LEGEND

- (A) ITEM 209004 - BORROW, TYPE C
- (B) ITEM 301001 - GABC
- (C) ITEM 301002 - GABC, PATCHING
- (D) ITEM 401005 - SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)
- (E) ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
- (F) ITEM 401030 - SUPERPAVE TYPE B, PG 64-22, PATCHING
- (G) ITEM 701018 - I.P.C.C. CURB & GUTTER, TYPE 1-8
- (H) ITEM 760010 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT
- (I) ITEM 908004 - TOPSOIL, 6" DEPTH
  ITEM 908016 - PERMANENT GRASS SEEDING, SUBDIVISION

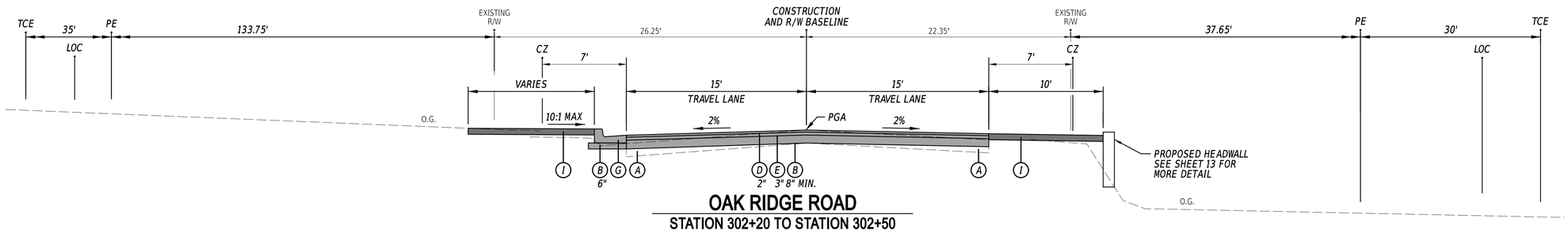
MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0



OAK RIDGE ROAD
STATION 303+20 TO STATION 303+50



OAK RIDGE ROAD
STATION 302+50 TO STATION 303+20



OAK RIDGE ROAD
STATION 302+20 TO STATION 302+50

PENNONI ASSOCIATES INC.
FILE NAME: $FILEAS
MICROSTATION VERSION: $VERSIONS
MICROSTATION WORKSPACE: $WORKSPACES
PEN TABLE: $PENTABLES
PLOT DRIVER: $PLOTDRVRS
DATE PLOTTED: 26-NOV-2024@ 15:05
USER NAME: $USERS OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS	NOT TO SCALE	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT T201407106	BRIDGE NO. 1-185	TYPICAL SECTIONS	SECTION PAI
			COUNTY NEW CASTLE	DESIGNED BY: O. GREEN		SHEET NO. 6
				CHECKED BY: P. HORSEY		

CIRCULAR CURVE NO. ①

		STATION	NORTHING	EASTING
Element: Circular				
PC	(11001)	86+38.90	641755.4457	587041.3484
PI	(11002)	88+34.05	641942.1380	586984.5065
CC	(11003)		642172.6528	588411.6298
PT	(11004)	90+26.82	642137.2322	586979.6806

Radius:	1432.39
Delta:	15°31'00.66" Right
Degree of Curvature (Arc):	04°00'00.07"
Length:	387.92
Tangent:	194.15
Chord:	386.73
Middle Ordinate:	13.11
External:	13.23
Tangent Direction:	N16°56'01.78"W
Radial Direction:	N73°03'58.22"E
Chord Direction:	N09°10'31.45"W
Radial Direction:	N88°34'58.88"E
Tangent Direction:	N01°25'01.12"W

CIRCULAR CURVE NO. ②

		STATION	NORTHING	EASTING
Element: Circular				
PC	(11005)	92+37.39	642347.7373	586974.4729
PI	(11006)	93+05.91	642416.2366	586972.7783
CC	(11007)		642291.0569	584683.3485
PT	(11008)	93+74.39	642484.5124	586966.9944

Radius:	2291.83
Delta:	03°25'30.01"Left
Degree of Curvature (Arc):	02°30'00.02"
Length:	137.00
Tangent:	T8.52
Chord:	136.98
Middle Ordinate:	1.02
External:	1.02
Tangent Direction:	N01°25'01.78"W
Radial Direction:	N88°34'58.22"E
Chord Direction:	N03°07'46.78"W
Radial Direction:	N85°09'28.22"E
Tangent Direction:	N04°50'31.78"W

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING
10001	298+00.00	0.00	641885.1455	586344.5899
10002	304+54.76	0.00	641988.9462	586991.0719
12001	0+00.00	0.00	642293.8439	586975.8062
12002	4+00.00	0.00	642604.9922	586724.4377

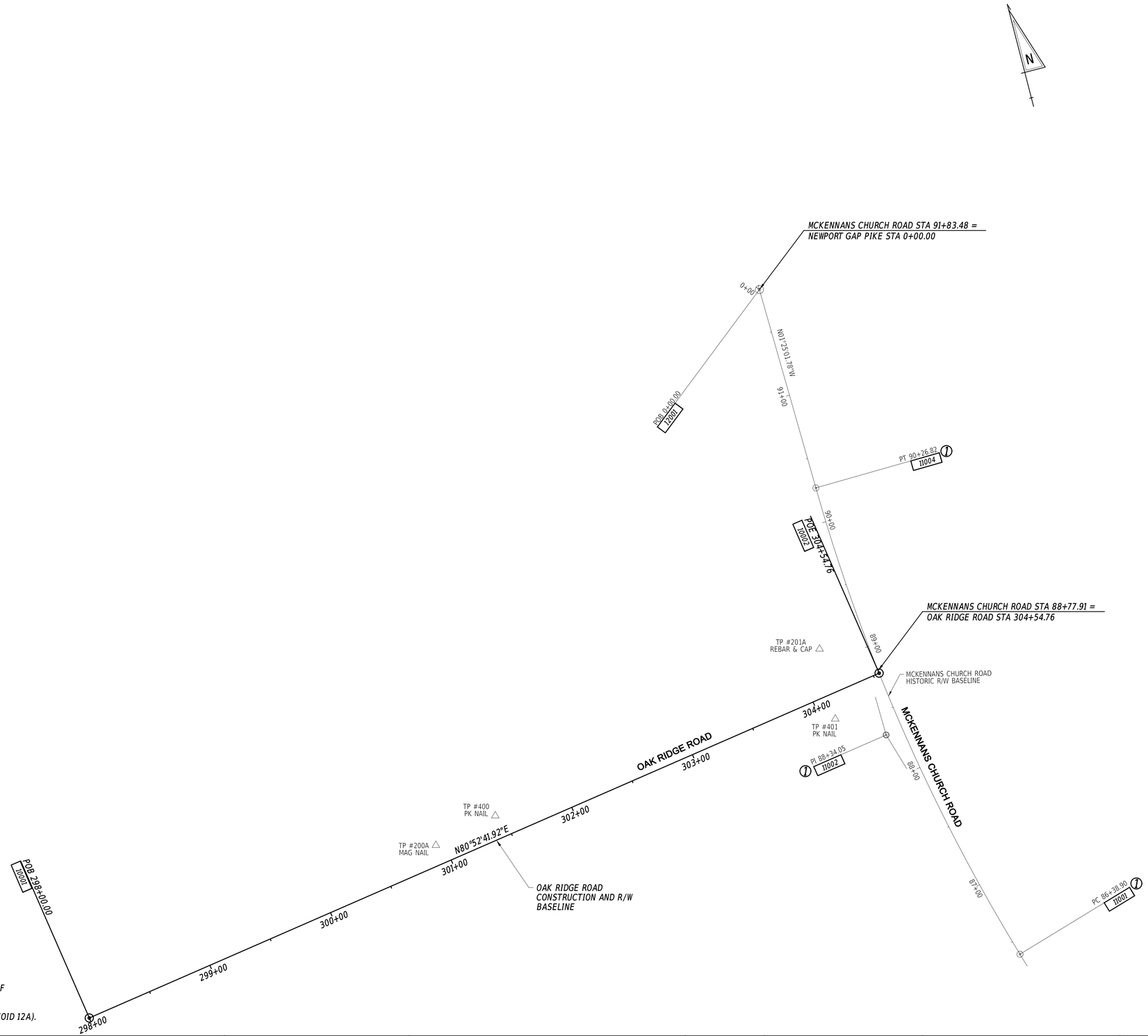
HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-200A	300+93.79	-14.89	641946.4250	586632.3070	235.26
TP-201A	304+20.61	-34.95	642018.0388	586951.8155	238.84
TP-300A	2+58.36	38.85	642519.2320	586843.6700	244.24
TP-400	301+44.19	-17.31	641956.8001	586681.6810	233.03
TP-401	304+10.24	18.55	641963.5750	586950.0531	237.17
TP-500	4+52.79	-51.71	642613.5639	586651.0413	253.80
TP-501	1+79.74	75.76	642481.2675	586921.7855	241.76

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83 / 2011 / EPOCH 2010.00).

VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 BASED ON MODELED GEOID 12A).



PENNONI ASSOCIATES INC.	PEN TABLE: SPENTBSS
FILE NAME: SFILEAS	PLOT DRIVER: SPLTDRVSS
MICROSTATION VERSION: SVERSIONS	DATE PLOTTED: 26-NOV-2024@ 15:06
MICROSTATION WORKSPACE: SWORKSPACES	USER NAME: SUSERS OFFICE LOCATION: SOFFICENAMES

ADDENDA / REVISIONS

SCALE
0 40 80 120
FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	T201407106
COUNTY	NEW CASTLE
BRIDGE NO.	1-185
DESIGNED BY:	O. GREEN
CHECKED BY:	P. HORSEY

HORIZONTAL AND VERTICAL CONTROL

SECTION	PAI
SHEET NO.	7

NOTES

1. CONTRACTOR SHALL REMOVE BASKETBALL HOOP TO PERFORM WORK. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL RESET IN ORIGINAL LOCATION. IT SHALL BE RESET WITH A NEW CONCRETE BASE AND BASE HARDWARE TO MATCH EXISTING CONDITIONS. PAYMENT UNDER 211000.
2. CONTRACTOR SHALL REMOVE FENCE TO PERFORM WORK. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL RELOCATE FENCE IN ORIGINAL LOCATION AND REPLACE FOUNDATION IN KIND. PAYMENT UNDER 727030.
3. CONTRACTOR SHALL REMOVE PLASTIC UNDERDRAIN PIPE TO PERFORM WORK. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPLACE IT WITH 6" PVC PIPE. PAYMENT UNDER 601191.
4. LOCATION OF TEMPORARY PARKING FOR CORRESPONDING PROPERTY OWNER. PAVEMENT SECTION WILL BE 6" GABC. PAYMENT FOR INSTALLATION AND REMOVAL UNDER ITEM 301001.
5. MAINTAIN 10 FEET OF CLEAR ACCESS TO GARAGE THROUGHOUT CONSTRUCTION OTHER THAN WHEN DRIVEWAY IS BEING RECONSTRUCTED.
6. FOR TREES TO BE REMOVED INSIDE THE LOC AS SHOWN ON THIS CONSTRUCTION PLAN, CONTRACTOR SHALL LEAVE WOOD FROM TRUNK AND BRANCHES LARGER THAN 4" DIAMETER FOR PARCEL #3. WOOD LEFT BEHIND SHALL BE CUT INTO 18" LENGTHS. DISPOSE OF REMAINDER OF TREE.
7. SEE NEW CASTLE COUNTY SEWER RELOCATION PLANS FOR DETAILS.
8. THE CONTRACTOR SHALL COORDINATE WITH DELMARVA POWER TO TEMPORARILY RELOCATE EXISTING OVERHEAD LINES, AS SHOWN.
9. DELMARVA GAS LINE TO BE RELOCATED PRIOR TO CONSTRUCTION AS SHOWN. ARTESIAN WATER LINE TO BE PARTIALLY RELOCATED PRIOR TO CONSTRUCTION AND FINALIZED DURING CONSTRUCTION OF THIS PROJECT BY ARTESIAN. SEE UTILITY STATEMENT FOR MORE DETAILS.
10. SEE STANDARD CONSTRUCTION DETAIL P-7(1) (2024) FOR SPEED BUMP DETAIL. PAYMENT UNDER ITEM 401506.

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	1.PCC CURB AND GUTTER, TYPE 1-8	284.00
2	1.PCC CURB AND GUTTER, TYPE 1-8	115.00

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INVERT EL.	DIS. EL.
100	15" RCP	IV	34.00	0.009	228.60	228.30
101	18" RCP	IV	27.00	0.005	228.10	227.97
102	18" RCP	IV	64.00	0.005	227.77	227.42
200	15" RCP	IV	35.00	0.009	228.80	228.50
201	18" RCP	IV	74.00	0.025	227.50	225.66

ARTICULATED PRECAST CONCRETE BLOCK SCHEDULE

NO.	TYPE	AREA (SF)
1+	PRECAST BLOCK	883.93
2+	PRECAST BLOCK	572.17
3+	PRECAST BLOCK	3297.00

NOTE: SEE RR IDENTIFIERS FOR PRECAST BLOCK LOCATIONS.

\+ TO BE PAID UNDER ITEM 612505 - ARTICULATED PRECAST CONCRETE BLOCKS

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
100	303+43.36	*	34" x 24"	1	**	228.60
101	303+05.53	*	72" x 24"	1	**	228.10
102	303+05.53	*	72" x 48"	1	**	227.77
200	301+40.00	*	72" x 24"	1	**	228.80
201	301+79.33	*	48" x 30"	1	**	227.50

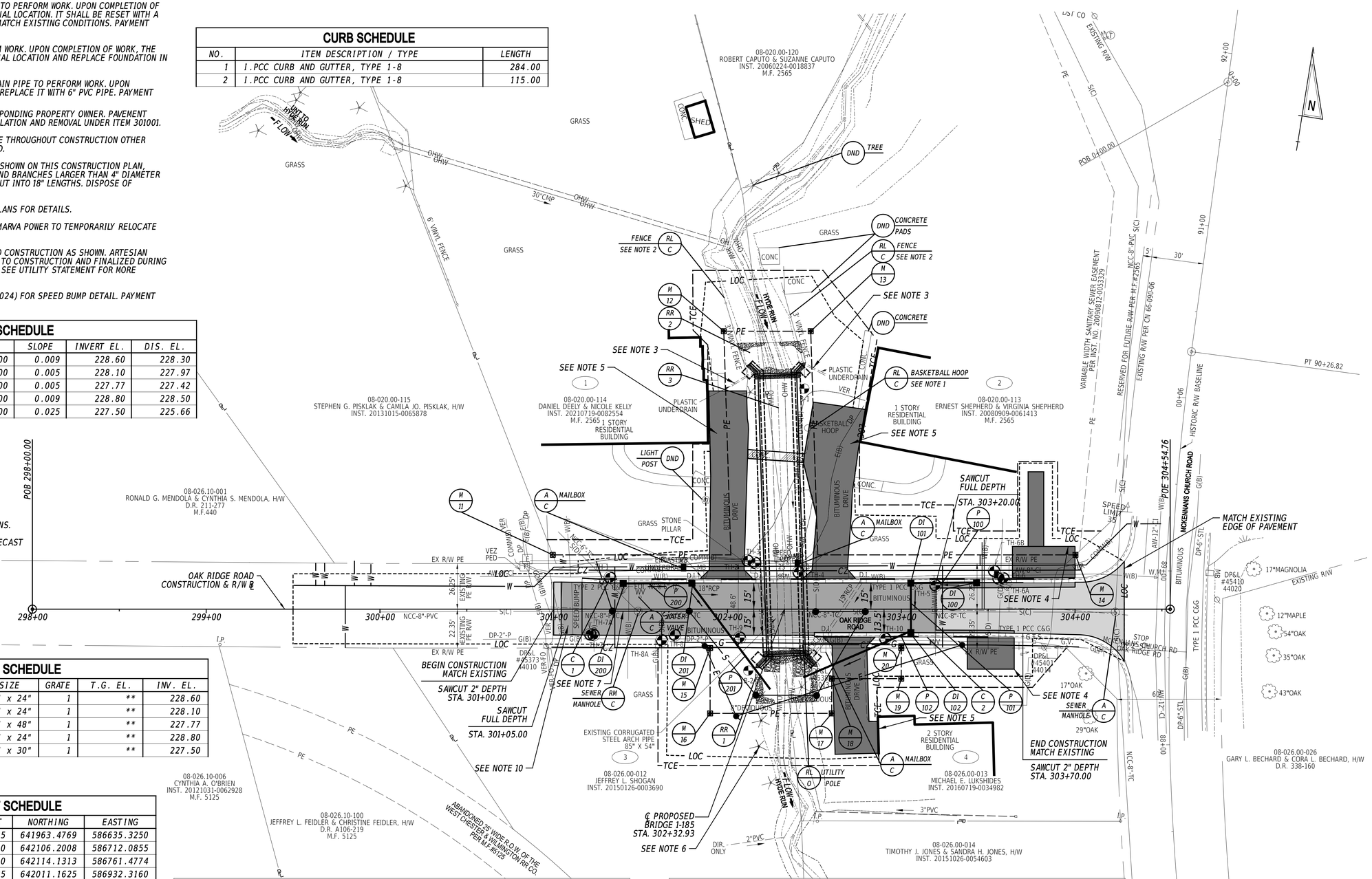
* MATCH CURB FLOWLINE OFFSET
** MATCH CURB FLOWLINE ELEVATION

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
11	CAPPED PIN	300+99.48	-31.25	641963.4769	586635.3250
12	CAPPED PIN	301+97.89	-160.00	642106.2008	586712.0855
13	CAPPED PIN	302+47.92	-160.00	642114.1313	586761.4774
14	CAPPED PIN	304+00.27	-31.25	642011.1625	586932.3160
15	CAPPED PIN	301+90.00	22.35	641924.9057	586733.2011

RIGHT-OF-WAY MONUMENT SCHEDULE

NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
16	CAPPED PIN	301+90.00	60.00	641887.7275	586739.1705
17	CAPPED PIN	302+60.00	60.00	641898.8247	586808.2852
18	CAPPED PIN	302+60.00	40.00	641918.5760	586805.1139
19	CAPPED PIN	303+00.00	40.00	641924.9173	586844.6081
20	CAPPED PIN	303+00.00	22.35	641942.3442	586841.8100



UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	NORTHING	EASTING	GROUND EL.	COVER	O.D. & MATERIAL
TH-1	NCC-S	641955.78	586669.95	233.21	7.35	SEE TH FORM
TH-2	VER-COMM	641978.05	586746.57	231.84	2.19	0.25" DBC
TH-3	DP-E	641977.41	586751.06	231.85	2.72	2.5" PVC
TH-4	UNKNOWN	641976.03	586776.61	231.63	2.79	CONCRETE
TH-5	AW-W	641981.11	586855.53	231.97	5.32	0.75" COPPER
TH-6	N/A	641991.24	586893.60	233.83	N/A	NO UTILITY FOUND
TH-6A	N/A	641990.72	586890.71	233.62	N/A	NO UTILITY FOUND

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	NORTHING	EASTING	GROUND EL.	COVER	O.D. & MATERIAL
TH-6B	N/A	641994.61	586887.56	233.80	N/A	NO UTILITY FOUND
TH-7	N/A	641921.69	586663.90	234.41	N/A	NO UTILITY FOUND
TH-7A	N/A	641921.78	586665.77	234.33	N/A	NO UTILITY FOUND
TH-8	N/A	641929.13	586711.96	232.60	N/A	NO UTILITY FOUND
TH-8A	PRIVATE-S	641924.87	586705.12	233.10	7.40	UNKNOWN
TH-9	DP-G	641933.52	586749.10	231.90	2.70	2.5" PE
TH-10	DP-G	641946.26	586831.86	231.89	3.29	2.5" PE

PENNONI ASSOCIATES INC. | PEN_TABLE: SPENTBISS
FILE NAME: $FILEAS | PLOT DRIVER: SPTDRVSS
MICROSTATION VERSION: SVERSIONS | DATE PLOTTED: 17-MAR-2025@ 15:19
MICROSTATION WORKSPACE: SWORKSPACES | USER NAME: SUSERS | OFFICE LOCATION: SOFFICENAMES

ADDENDA / REVISIONS

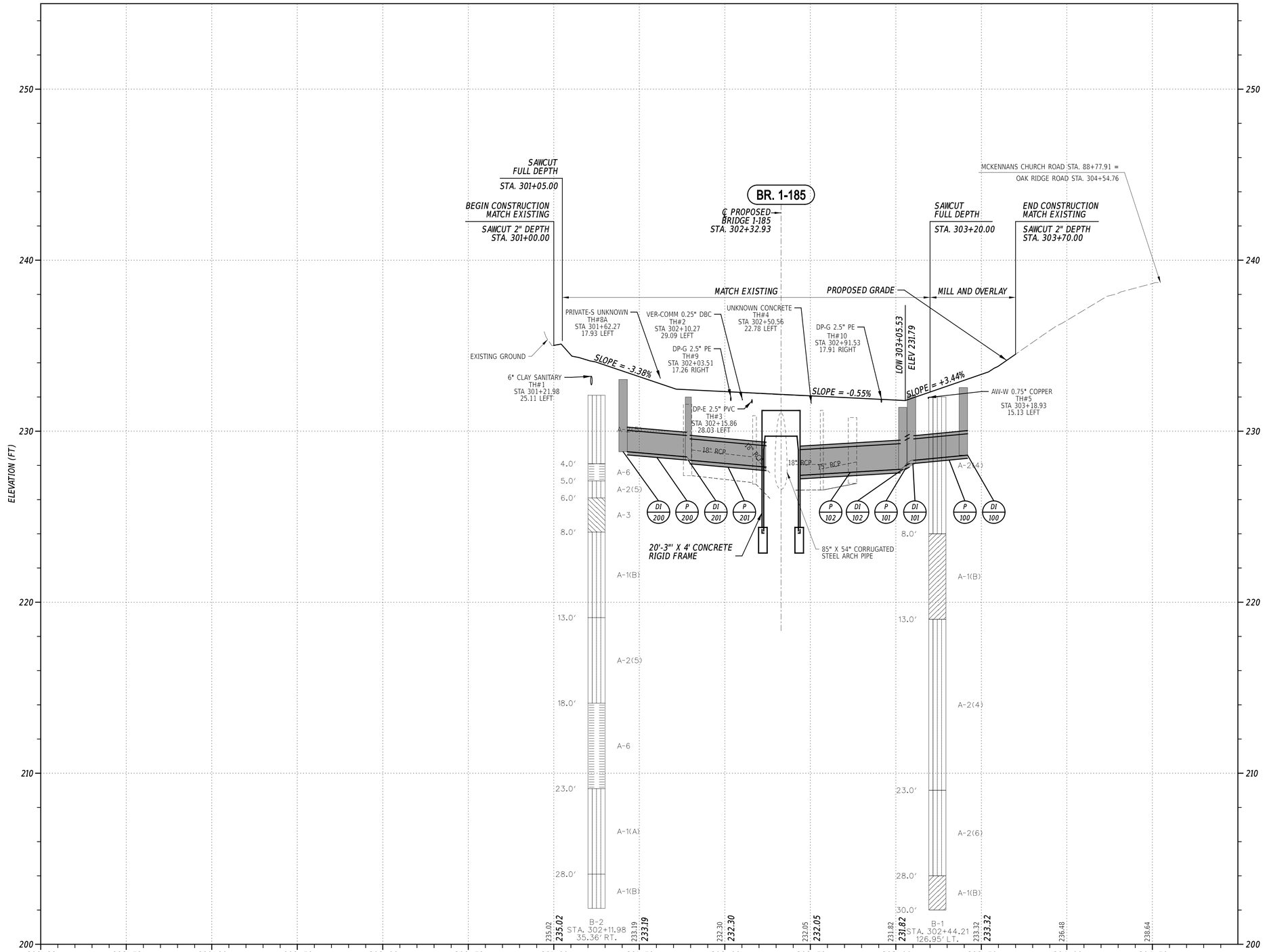
SCALE 0 30 60 90 FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	O. GREEN
COUNTY	CHECKED BY:	P. HORSEY
NEW CASTLE		

CONSTRUCTION PLAN

CP-01
SECTION PAI
SHEET NO. 8



OAK RIDGE ROAD

NOTES

1. SOIL BORINGS ARE SHOWN AT DIFFERENT LOCATIONS GRAPHICALLY ON PROFILE FOR CLARITY OF INFORMATION.

VERTICAL SCALE FEET 0 3 6 9

PENNONI ASSOCIATES INC.
FILE NAME: $FILEAS
MICROSTATION VERSION: $VERSIONS
MICROSTATION WORKSPACE: $WORKSPACES
PEN TABLE: $PENTABLES
PLOT DRIVER: $PLOTDRVRS
DATE PLOTTED: 26-NOV-2024@ 15:06
USER NAME: $USER$ OFFICE LOCATION: $OFFICENAME

ADDENDA / REVISIONS

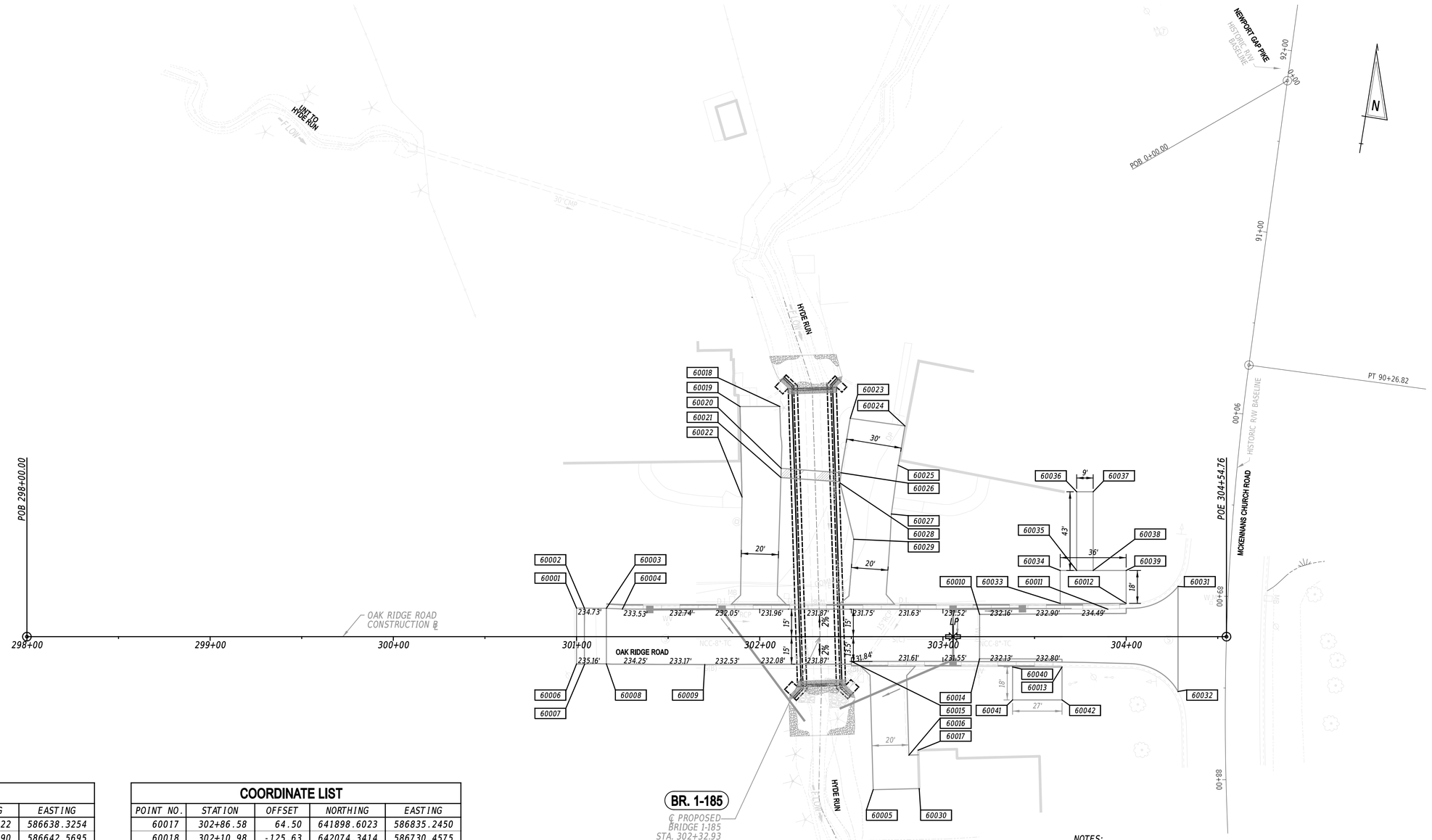
SCALE 0 30 60 90 FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	O. GREEN
COUNTY	CHECKED BY:	P. HORSEY
NEW CASTLE		

PROFILES

SECTION
PAI
SHEET NO.
9



COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60001	301+00.00	-15.58	641948.0922	586638.3254
60002	301+04.30	-15.59	641948.7790	586642.5695
60003	301+16.30	-15.52	641950.6099	586654.4292
60004	301+26.30	-15.00	641951.6846	586664.3847
60005	302+61.91	83.53	641875.8995	586813.9021
60006	301+00.00	14.89	641918.0028	586643.1567
60007	301+04.30	14.96	641918.6182	586647.4122
60008	301+16.30	14.89	641920.5900	586659.2493
60009	301+70.00	15.24	641928.7570	586712.3265
60010	303+20.00	-12.14	641979.5687	586856.0915
60011	303+90.00	-15.00	641993.4896	586924.7507
60012	304+00.00	-18.12	641998.1567	586934.1294
60013	303+65.00	16.52	641958.4006	586905.0645
60014	303+20.00	12.06	641955.6755	586859.9231
60015	302+50.00	13.50	641943.1556	586791.0393
60016	302+81.41	64.64	641897.6437	586830.1569

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60017	302+86.58	64.50	641898.6023	586835.2450
60018	302+10.98	-125.63	642074.3414	586730.4575
60019	301+89.24	-125.59	642070.8578	586708.9963
60020	302+11.73	-91.87	642041.1211	586736.5454
60021	302+11.56	-86.86	642036.1573	586737.1783
60022	301+90.34	-76.25	642022.3146	586717.9045
60023	302+49.43	-119.19	642074.0789	586769.4412
60024	302+79.24	-115.01	642074.6779	586799.5383
60025	302+75.54	-93.57	642052.9196	586799.2785
60026	302+44.33	-89.51	642043.9660	586769.1134
60027	302+71.83	-66.78	642025.8812	586799.8709
60028	302+43.84	-83.90	642038.3491	586769.5178
60029	302+51.35	-53.18	642009.2019	586781.8007
60030	302+87.05	82.90	641880.5078	586838.6214
60031	304+28.32	-27.44	642011.8495	586960.6113
60032	304+28.32	29.97	641955.1642	586969.7129

COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
60033	303+64.00	-18.12	641992.4495	586898.5847
60034	303+64.00	-36.12	642010.2219	586895.7311
60035	303+73.00	-36.12	642011.6487	586904.6173
60036	303+73.00	-79.09	642054.0754	586897.8052
60037	303+82.00	-79.09	642055.5022	586906.6913
60038	303+82.00	-36.12	642013.0755	586913.5035
60039	304+00.00	-36.12	642015.9290	586931.2758
60040	303+38.00	16.52	641954.1202	586878.4059
60041	303+38.00	34.52	641936.3478	586881.2595
60042	303+65.00	34.52	641940.6282	586907.9180

NOTES:

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

PENNONI ASSOCIATES INC. | $FILEAS
FILE NAME: | PEN TABLE: $PENTBLSS
MICROSTATION VERSION: $VERSIONS | PLOT DRIVER: $PLTDRVSS
MICROSTATION WORKSPACE: $WORKSPACES | DATE PLOTTED: 26-NOV-2024@ 15:06
USER NAME: $USERS | OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

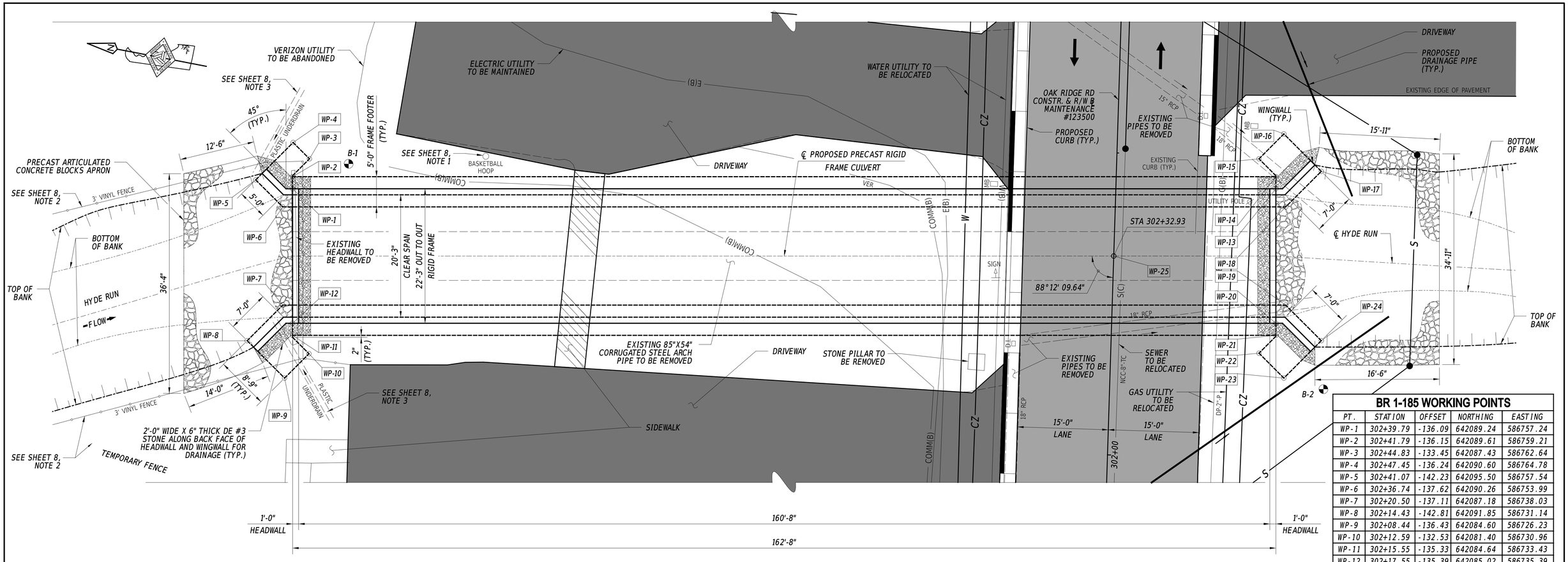
SCALE
0 30 60 90
FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	O. GREEN
COUNTY	CHECKED BY:	P. HORSEY
NEW CASTLE		

GRADES AND GEOMETRICS

	GG-01
SECTION	PAI
SHEET NO.	10

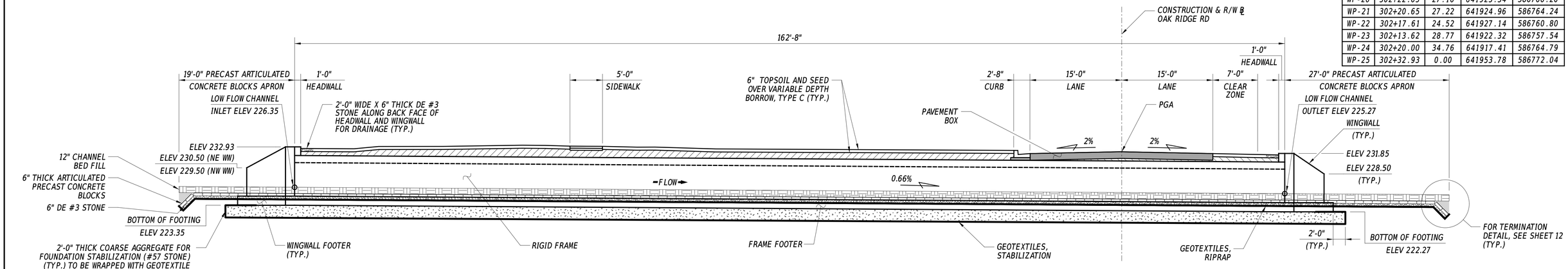


BR 1-185 WORKING POINTS

PT.	STATION	OFFSET	NORTHING	EASTING
WP-1	302+39.79	-136.09	642089.24	586757.24
WP-2	302+41.79	-136.15	642089.61	586759.21
WP-3	302+44.83	-133.45	642087.43	586762.64
WP-4	302+47.45	-136.24	642090.60	586764.78
WP-5	302+41.07	-142.23	642095.50	586757.54
WP-6	302+36.74	-137.62	642090.26	586753.99
WP-7	302+20.50	-137.11	642087.18	586738.03
WP-8	302+14.43	-142.81	642091.85	586731.14
WP-9	302+08.44	-136.43	642084.60	586726.23
WP-10	302+12.59	-132.53	642081.40	586730.96
WP-11	302+15.55	-135.33	642084.64	586733.43
WP-12	302+17.55	-135.39	642085.02	586735.39
WP-13	302+44.89	26.46	641929.55	586788.05
WP-14	302+46.89	26.40	641929.93	586790.01
WP-15	302+49.76	23.51	641933.23	586792.39
WP-16	302+54.00	27.50	641929.97	586797.21
WP-17	302+48.01	33.88	641922.72	586792.31
WP-18	302+41.94	28.17	641927.39	586785.41
WP-19	302+25.70	28.68	641924.31	586769.45
WP-20	302+22.65	27.16	641925.34	586766.20
WP-21	302+20.65	27.22	641924.96	586764.24
WP-22	302+17.61	24.52	641927.14	586760.80
WP-23	302+13.62	28.77	641922.32	586757.54
WP-24	302+20.00	34.76	641917.41	586764.79
WP-25	302+32.93	0.00	641953.78	586772.04

BRIDGE PLAN

1/8" = 1 ' - 0 "

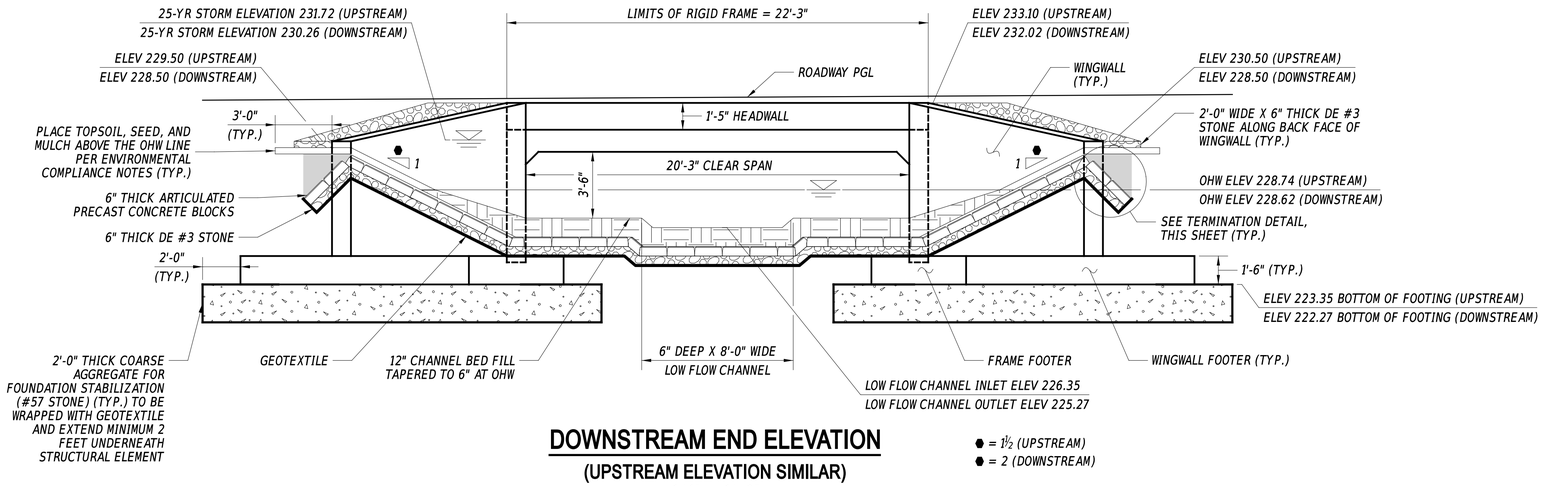


BRIDGE SECTION ALONG STRUCTURE FLOW CENTERLINE

1/8" = 1 ' - 0 "

PENNONI ASSOCIATES INC. | PEN TABLE: $PRINTBLSS
FILE NAME: $FILEAS | PLOT DRIVER: $PLOTDRVSS
MICROSTATION VERSION: $VERSIONS | DATE PLOTTED: $DATES @ $TIMES
MICROSTATION WORKSPACE: $WORKSPACES | USER NAME: $USERS OFFICE LOCATION: $OFFICENAME

ADDENDA / REVISIONS		SCALE AS NOTED	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT	BRIDGE NO. 1-185	RIGID FRAME BRIDGE PLAN AND SECTION	SECTION
				T201407106	DESIGNED BY: L. MULLER		PAI
				COUNTY	CHECKED BY: B. DEELY		SHEET NO.
				NEW CASTLE			11



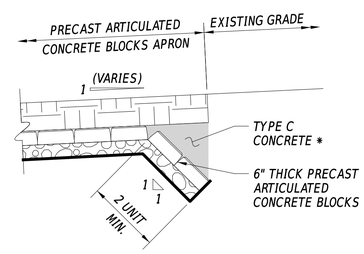
DOWNSTREAM END ELEVATION

(UPSTREAM ELEVATION SIMILAR)

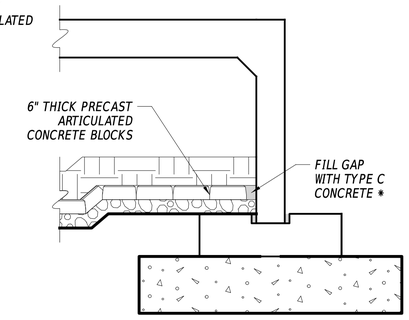
1/4" = 1'-0"

● = 1½ (UPSTREAM)
● = 2 (DOWNSTREAM)

* NOTE: ALL WORK FOR PRECAST ARTICULATED CONCRETE BLOCK PLACEMENT IS INCIDENTAL TO ITEM 612505 - PRECAST ARTICULATED CONCRETE BLOCKS



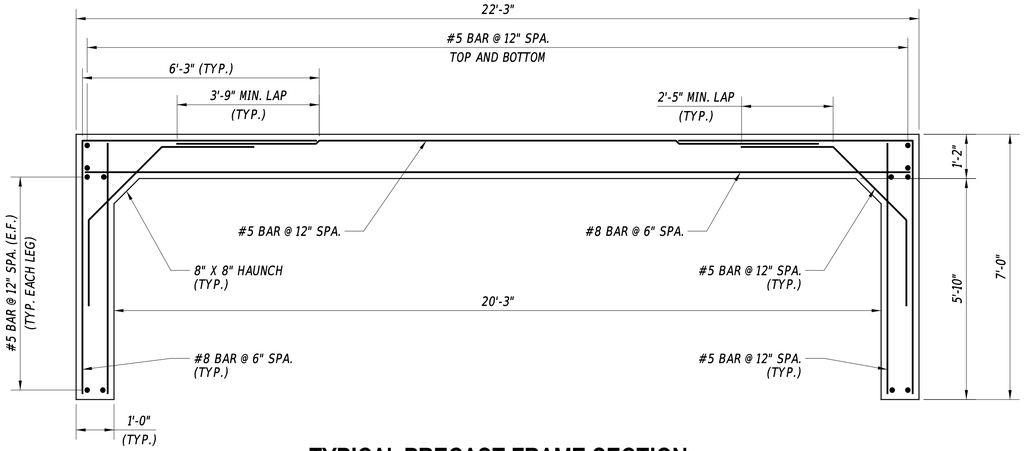
AT TIE-IN TO EXISTING GRADE
(STREAM SHOWN, TOP OF BANK SIMILAR)



AT STRUCTURE
(FRAME SHOWN, WINGWALL SIMILAR)

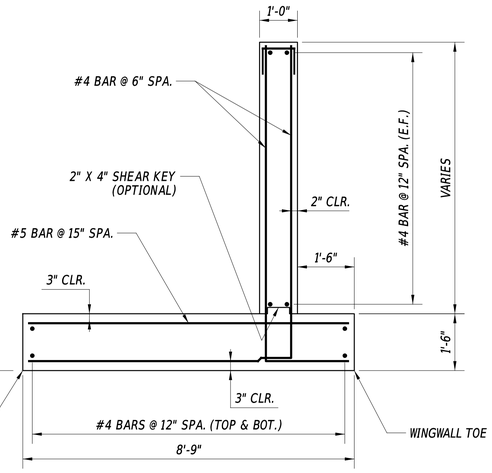
PRECAST ARTICULATED CONCRETE BLOCK TERMINATION DETAILS

3/8" = 1'-0"



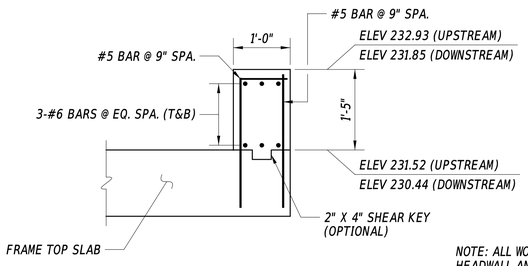
TYPICAL PRECAST FRAME SECTION

1/2" = 1'-0"



PRECAST WINGWALL DETAIL

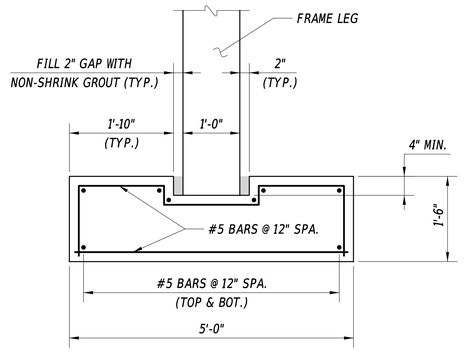
1/2" = 1'-0"



PRECAST HEADWALL DETAIL

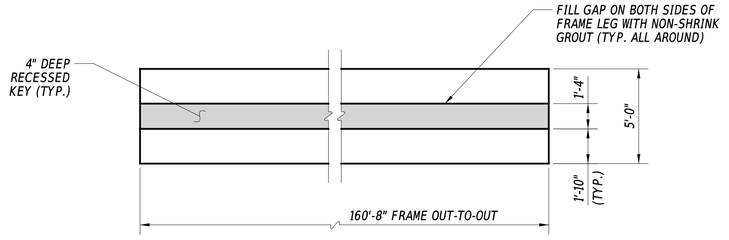
3/4" = 1'-0"

NOTE: ALL WORK FOR PRECAST HEADWALL AND PRECAST FOOTER PLACEMENT IS INCIDENTAL TO ITEM 612001 - PRECAST CONCRETE RIGID FRAME.



TYPICAL PRECAST FRAME FOOTER SECTION

3/4" = 1'-0"



TYPICAL PRECAST FOOTER PLAN

1/4" = 1'-0"

PENNONI ASSOCIATES INC.	PEN TABLE: SPENTRUSS
FILE NAME: SFILEAS	PLOT DRIVER: SPTDRVSS
MICROSTATION VERSION: SVERSIONS	PLOT DATE/TIME: $DATE$ @ $TIME$
MICROSTATION WORKSPACE: SWORKSPACES	USER NAME: SUSER$ OFFICE LOCATION: $OFFICENAME$

Pennoni

ADDENDA / REVISIONS	SCALE AS NOTED	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT T201407106	BRIDGE NO. 1-185	RIGID FRAME ELEVATION	SECTION PAI
			COUNTY NEW CASTLE	DESIGNED BY: L. MULLER		SHEET NO. 12
				CHECKED BY: B. DEELY		

BORING: B-1 | **DATE DRILLED:** 6/8/21
STATION: 302+44.21 | **OFFSET:** 126.95' LT | **ELEVATION:** 232.75 | **NORTHING:** 642080.911 | **EASTING:** 586763.052
COMMENTS: N/A

SAMPLE INFORMATION

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
	0 0.33		4 INCHES TOPSOIL	T	
1	0.33 2.0	3 3 3 7	18" RECOVERY. LIGHT BROWN FINE TO MEDIUM SAND, SOME SILT, TRACE FINE GRAVEL, MICACEOUS	A-2-4	
2	2.0 4.0	5 4 5 4	10" RECOVERY. TAN TO DARK GRAY FINE TO MEDIUM SAND, LITTLE SILT, LITTLE CLAY, TRACE FINE GRAVEL	A-2-4	
3	4.0 6.0	3 2 2 2	20" RECOVERY. DARK GRAY TO BLUE FINE TO MEDIUM SAND, SOME SILT, MICACEOUS	A-2-4	
4	6.0 8.0	3 6 4 4	10" RECOVERY. DARK GRAY TO BLUE FINE TO MEDIUM SAND, SOME SILT, MICACEOUS		
5	8.0 10.0	1 2 3 2	FULL RECOVERY. BROWN TO WHITE FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, LITTLE FINE GRAVEL, MICACEOUS	A-1-B	BOTTOM OF FOOTER AT 9.25 FT
	10.0 13.0				BOTTOM OF COARSE AGGREGATE AT 11.25 FT APPROXIMATE LOCATION OF WATER TABLE
6	13.0 15.0	2 5 11 13	16" RECOVERY. DECOMPOSED ROCK: BLACK TO WHITE TO ORANGE FINE TO MEDIUM SAND, SOME SILT, MICACEOUS	A-2-4	
	15.0 18.0				
7	18.0 20.0	11 13 18 16	FULL RECOVERY. DECOMPOSED ROCK: GRAY TO WHITE TO BLACK FINE TO MEDIUM SAND, SOME SILT, MICACEOUS	A-2-4	
	20.0 23.0				
8	23.0 25.0	12 10 17 19	FULL RECOVERY. DECOMPOSED ROCK: WHITE TO BLACK TO GRAY TO ORANGE FINE TO MEDIUM TO COARSE SAND, SOME CLAY, MICACEOUS	A-2-6	
	25.0 28.0				
9	28.0 30.0	4 9 9 32	FULL RECOVERY. DECOMPOSED ROCK: WHITE TO BLACK TO ORANGE FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, MICACEOUS	A-1-B	
	30.0		END OF THE BORINGS		

BORING: B-2 | **DATE DRILLED:** 6/8/21
STATION: 302+11.98 | **OFFSET:** 35.36' RT | **ELEVATION:** 231.25 | **NORTHING:** 641915.548 | **EASTING:** 586756.974
COMMENTS: N/A

SAMPLE INFORMATION

NO.	DEPTH	BLOWS / 6"	DESCRIPTION	CLASS / G.I.	REMARKS
	0 0.5		6 INCHES TOPSOIL	T	
1	0.5 2.0	2 2 4 4	10" RECOVERY. TAN FINE TO MEDIUM SAND, LITTLE SILTY CLAY, TRACE FINE TO COARSE GRAVEL, MICACEOUS	A-2-5	
2	2.0 4.0	3 4 3 3	NO RECOVERY		
3	4.0 6.0	1 1 3 4	FULL RECOVERY. BLACK TO GRAY SILTY CLAY, LITTLE FINE TO MEDIUM SAND, TRACE FINE GRAVEL BLACK FINE TO MEDIUM TO COARSE SAND, LITTLE SILTY CLAY	A-6 A-2-5	
4	6.0 8.0	4 7 8 8	15" RECOVERY. BLACK FINE TO MEDIUM TO COARSE SAND, TRACE SILTY CLAY	A-3	APPROXIMATE LOCATION OF WATER TABLE
5	8.0 10.0	6 10 13 16	16" RECOVERY. BROWN TO WHITE TO BLACK FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, LITTLE FINE GRAVEL, MICACEOUS	A-1-B	BOTTOM OF FOOTER AT 8.75 FT
	10.0 13.0				BOTTOM OF COARSE AGGREGATE AT 10.75 FT
6	13.0 15.0	6 9 14 17	18" RECOVERY. GRAY TO ORANGE TO WHITE FINE TO MEDIUM SAND, LITTLE TO SOME SILTY CLAY, MICACEOUS	A-2-5	
	15.0 18.0				
7	18.0 20.0	4 6 32 50/5	20" RECOVERY. DECOMPOSED ROCK: GRAY TO TAN FINE SAND, AND SILTY CLAY, MICACEOUS	A-6	
	20.0 23.0				
8	23.0 25.0	50/3	3" RECOVERY. DECOMPOSED ROCK: GRAY FINE TO COARSE GRAVEL SIZED ROCK FRAGMENTS, SOME FINE TO MEDIUM TO COARSE SAND, TRACE SILT	A-1-A	
	25.0 28.0				
9	28.0 30.0	4 5 10 16	20" RECOVERY. DECOMPOSED ROCK: ORANGE TO TAN TO BLACK FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, MICACEOUS	A-1-B	
	30.0		END OF THE BORINGS		

NOTES:
1. *BORING LOGS AND SUBSURFACE EXPLORATION COMPLETED BY PENNONI ASSOCIATES.*
2. *REFER TO CONSTRUCTION PLAN SHEET FOR APPROXIMATE BORING LOCATIONS. THE BORING LOGS ARE LABELED AS B-1 AND B-2.*
3. *SOIL SAMPLING: 2 IN. OUTSIDE DIA. SPLIT BARREL SAMPLER, DRIVEN WITH A 140 LB HAMMER FALLING 30 IN.*
4. *ALL DEPTHS ARE GIVEN IN FEET.*

PENNONI ASSOCIATES INC. | PEN TABLE: $PRMTBLS$
FILE NAME: $FILEAS$ | PLOT DRIVER: $PLTDRVR$
MICROSTATION VERSION: $VERSIONS | DATE PLOTTED: 26-NOV-2024@ 15:06
MICROSTATION WORKSPACE: $WORKSPACES | USER NAME: $USERS | OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

SCALE AS NOTED

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	L. MULLER
COUNTY	CHECKED BY:	B. DEELY
NEW CASTLE		

BORING LOGS

SECTION: PAI
SHEET NO.: 13

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

   A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.

   B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, CONTACT THE ENVIRONMENTAL STUDIES SECTION AT (302-760-2264 OR DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV) TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.

   C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

   A. PERMIT REQUIREMENTS/APPROVALS *:
   U.S. ARMY CORPS OF ENGINEERS (COE): NWP #3 (A) AND (C) NO PCN
   DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT CONSISTENT WITH DEL. CODE CH. 72, SECTION 7217, SPECIAL EXEMPTION (A)
   DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED

   * 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 - NONE
   ENDANGERED SPECIES - NONE
   MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

   A. BASED ON CURRENT COORDINATION, THE PROJECT IS CLEAR FOR CULTURAL RESOURCES AND EXEMPT FROM SHPO REVIEW UNDER STIPULATION III OF DELDOT'S PROGRAMMATIC AGREEMENT WITH FEDERAL HIGHWAYS ADMINISTRATION (FHWA) AND DELAWARE STATE HISTORIC PRESERVATION OFFICE (SHPO). AS A RESULT, DELDOT CULTURAL RESOURCE STAFF HAVE ISSUED A FINDING OF NO HISTORIC PROPERTIES AFFECTED FOR THIS PROJECT. THERE ARE NO CULTURAL RESOURCE CONCERNS AS LONG AS THE PROJECT SCOPE IS NOT MODIFIED AND ALL STAGING AND STOCKPILING REMAIN WITHIN THE EXISTING ROADWAY FOOTPRINT. SHOULD IT BE NECESSARY TO ADD ADDITIONAL ACCESS LOCATIONS, OTHER STOCKPILING/STAGING AREAS, OR OTHERWISE ALTER THE SCOPE OF THE PROJECT, DELDOT ENVIRONMENTAL STUDIES STAFF WILL NEED TO BE CONTACTED AT DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV OR (302) 760-2093 TO REVIEW THESE CHANGES FOR POTENTIAL CULTURAL RESOURCES CONCERNS.

4. STREAM RESTORATION AND RIPRAP TREATMENT:

   A. FOLLOW THE SPECIAL PROVISION FOR ITEM 707021 – 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 MEDIUM GRADATION REQUIREMENTS OF ITEM 707021 – CHANNEL BED FILL. RECESS ALL ARTICULATED BLOCKS IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION. COVER THE ARTICULATED BLOCKS WITH A MINIMUM OF 12" CHANNEL BED FILL (MEDIUM GRADATION). 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 707021 – 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 707021 - 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. PLACE AN ADDITIONAL 6-INCH TOPSOIL LAYER ON TOP OF THE ARTICULATED BLOCKS. SLOPE SEEDING WILL BE DONE WITH ITEM 908019 – STREAMBANK SEED MIX, SEEDING. FOLLOWING THE SEEDING OPERATION, INSTALL ITEM 908020 – EROSION CONTROL BLANKET (ECB) MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS. ECB AT TOP OF SLOPE CAN BE EITHER TRENCHED IN OR STAPED AT 6" ON CENTER. COMPLETE ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING PRIOR TO ANY RAIN EVENT.

   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. 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.

   B. 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.

   C. CLEARLY MARK ALL TREES TO BE REMOVED WITH PAINT PRIOR TO THE EROSION AND SEDIMENT CONTROL MEETING.

ORIGINAL SHEET PREPARED BY PENNONI ON 8-20-2021. SHEET LAST UPDATED ON 08-28-2024.

PENNONI HAS DELINEATED THE ORDINARY HIGH WATER (OHW) LINES FOR BR 1-185 ON 08-20-2021.

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
1-OT-01	WORK AREA / E&S CONTROLS	201.08	0.0046	3.72	COE/DNREC
1-OT-02	WORK AREA / E&S CONTROLS	207.88	0.0048	3.85	COE/DNREC
TOTAL FOR THIS SHEET		408.96	0.0094	7.57	COE/DNREC

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	LOSS VS. IMPACT
1-O-01	CHANNEL BED FILL / RIP RAP	197.16	0.0045	14.60	COE/DNREC	IMPACT
1-O-02	CHANNEL BED FILL / RIP RAP	124.24	0.0029	9.20	COE/DNREC	IMPACT
1-O-03	PROPOSED STRUCTURE / RIP RAP	1313.86	0.0302	97.32	COE/DNREC	IMPACT
TOTAL FOR THIS SHEET		1635.26	0.0376	121.12	COE/DNREC	

OPEN WATER ENHANCEMENT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
1-OE-01	CHANNEL WIDENING	923.66	0.0212	N/A	COE/DNREC
1-OE-02	CHANNEL WIDENING	925.38	0.0212	N/A	COE/DNREC
TOTAL FOR THIS SHEET		1849.04	0.0424	N/A	COE/DNREC

PENNONI ASSOCIATES INC. | PEN TABLE: $PENTBLSS
FILE NAME: $FILEAS | PLOT DRIVER: $PLTDRVSS
MICROSTATION VERSION: $VERSIONS | DATE PLOTTED: 21-MAR-2029 16:16
MICROSTATION WORKSPACE: $WORKSPACES | USER NAME: $USERS | OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS		NOT TO SCALE	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT T201407106	BRIDGE NO. 1-185	ENVIRONMENTAL COMPLIANCE NOTES	SECTION PAI
				COUNTY NEW CASTLE	DESIGNED BY: O. GREEN		SHEET NO. 14
					CHECKED BY: P. HORSEY		

OPEN WATER ENHANCEMENT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
1-OE-01	CHANNEL WIDENING	923.66	0.0212	N/A	COE/DNREC
1-OE-02	CHANNEL WIDENING	925.38	0.0212	N/A	COE/DNREC
TOTAL FOR THIS SHEET		1849.04	0.0424	N/A	COE/DNREC

LEGEND

- ENHANCEMENT AREA
- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW — ORDINARY HIGH WATER
- POHW — PROPOSED ORDINARY HIGH WATER
- LOC — LIMIT OF CONSTRUCTION
- XX / ?X — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

T = TEMPORARY IMPACT
O = OPEN WATER IMPACT
E = ENHANCEMENT AREA

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	LOSS VS. IMPACT
1-O-01	CHANNEL BED FILL / RIP RAP	197.16	0.0045	14.60	COE/DNREC	IMPACT
1-O-02	CHANNEL BED FILL / RIP RAP	124.24	0.0029	9.20	COE/DNREC	IMPACT
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TOTAL FOR THIS SHEET		1635.26	0.0376	121.12	COE/DNREC	

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
1-OT-01	WORK AREA / E&S CONTROLS	201.08	0.0046	3.72	COE/DNREC
1-OT-02	WORK AREA / E&S CONTROLS	207.88	0.0048	3.85	COE/DNREC
TOTAL FOR THIS SHEET		408.96	0.0094	7.57	COE/DNREC

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	T201407106
COUNTY	NEW CASTLE
BRIDGE NO.	1-185
DESIGNED BY:	O. GREEN
CHECKED BY:	P. HORSEY

ENVIRONMENTAL COMPLIANCE PLAN

EC-01
SECTION PAI
SHEET NO. 15

PENNONI ASSOCIATES INC. — PEN_TABLE: $PENTBLSS; FILE NAME: $FILEAS; MICROSTATION VERSION: $VERSIONS; PLOT DRIVER: $PLTDRVSS; DATE PLOTTED: 26-NOV-2024@ 15:06; MICROSTATION WORKSPACE: $WORKSPACES; USER NAME: $USERS; OFFICE LOCATION: $OFFICENAMES

GENERAL MAINTENANCE OF TRAFFIC NOTES:

1. MAINTENANCE OF TRAFFIC DURING ROAD CLOSURE SHALL CONFORM TO THE DETOUR PLAN AS SHOWN ON SHEET 19.

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

(X)	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( )	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT AND THAT PERSON'S SOLE RESPONSIBILITY SHALL BE THE MANAGEMENT AND SUPERVISION OF THE PROJECT'S TEMPORARY TRAFFIC CONTROL ACTIVITIES. THIS PERSON SHALL NOT HAVE ANY OTHER ROLE ON THE PROJECT. RESPONSIBILITIES AND REQUIREMENTS OF THE ATSSA SUPERVISOR ARE DEFINED IN SECTION 812 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801500.

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. 801500 - MAINTENANCE OF TRAFFIC - ALL INCLUSIVE. 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. ALL NECESSARY SIGNS, PAVEMENT MARKINGS AND ROADSIDE APPURTENANCES SHALL BE INSTALLED PRIOR TO THE OPENING/REOPENING OF A ROADWAY OR RAMP. A WALKTHROUGH WTH THE ENGINEER, TRAFFIC SAFETY, AND OTHER PERSONNEL SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE OPENING/REOPENING OF ANY ROAD OR RAMP.

5. MAIL SERVICE AND PEDESTRIAN ACCESS IS TO BE MAINTAINED TO PARCELS 1, 2 & 4 THROUGHOUT CONSTRUCTION.

GENERAL EROSION AND SEDIMENT CONTROL 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 ONE YEAR PERIOD BEGINNING ON THE DATE OF THE STORMWATER ENGINEER'S SIGNATURE. ANY DEVIATIONS TO THE SWPPP NEED APPROVAL FROM THE ENGINEER.

Steven Sisson — 11/12/2024
DELDOT STORMWATER ENGINEER — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND THAT ALL CLEARING, GRADING, AND CONSTRUCTION WILL BE ACCOMPLISHED PURSUANT TO THE PLAN."

AMOUNT OF DISTURBED AREA FOR THE PROJECT	0.90 AC
ADDED IMPERVIOUS FOR THE PROJECT	0 SF
HUC-10 WATERSHED	WHITE CLAY CREEK

2. ASSIGN A RESPONSIBLE PERSON TO BE ON SITE DURING ALL EARTH DISTURBING ACTIVITIES AND BE AN ACTIVE DNREC BLUE CARD HOLDER AS DEFINED IN 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. A SOIL STOCKPILE SHALL BE LOCATED 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 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. ANY SEDIMENT LADEN DISCHARGE LEAVING THE LIMIT OF CONSTRUCTION SHALL IMMEDIATELY BE ADDRESSED THROUGH BEST AVAILABLE TECHNOLOGIES TO CONTROL ANY FURTHER SEDIMENT LADEN DISCHARGE. REMEDIATION MAY INCLUDE STANDARD E&S PRACTICES OR OTHER METHODS AS APPROVED BY THE ENGINEER.

9. ALL TEMPORARY CONCENTRATED FLOW AREAS INCLUDING CHANNEL SIDE SLOPES SHALL HAVE EROSION CONTROL BLANKET MULCH 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 MINOR BRIDGE AND CULVERT CONSTRUCTION STANDARD PLAN APPROVAL, THE TOTAL DISTURBED AREA FOR CONSTRUCTION OF THE IMPROVEMENTS NOT EXCEED 1.0 ACRE.

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

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
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
PHASE	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE

PENNONI ASSOCIATES INC. — PEN_TABLE: $PENTBL$S
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MICROSTATION VERSION: $VERSIONS — DATE PLOTTED: 29-OCT-2024@ 13:28
MICROSTATION WORKSPACE: $WORKSPACES — USER NAME: $USERS — OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

NOT TO SCALE

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

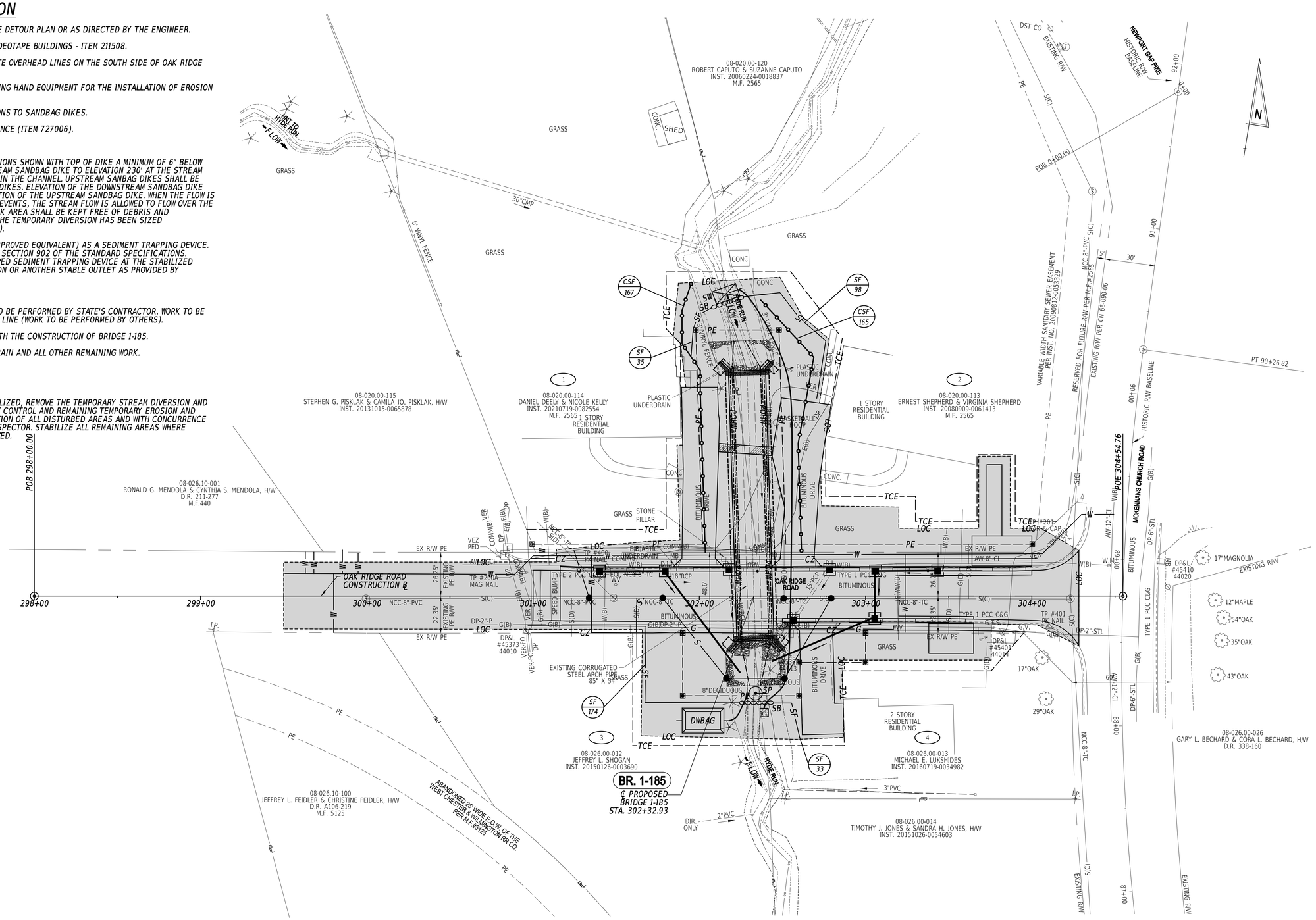
CONTRACT	T201407106
COUNTY	NEW CASTLE
BRIDGE NO.	1-185
DESIGNED BY:	T. LORD
CHECKED BY:	Z. BRANDER

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION: PAI
SHEET NO.: 16

SEQUENCE OF CONSTRUCTION

1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN OR AS DIRECTED BY THE ENGINEER.
2. VIDEOTAPE ADJACENT HOMES ACCORDING TO VIDEOTAPE BUILDINGS - ITEM 211508.
3. COORDINATE WITH DELMARVA POWER TO RELOCATE OVERHEAD LINES ON THE SOUTH SIDE OF OAK RIDGE ROAD.
4. PERFORM MINIMAL CLEARING AND GRUBBING USING HAND EQUIPMENT FOR THE INSTALLATION OF EROSION AND SEDIMENT PERIMETER CONTROLS.
5. INSTALL SILT FENCE EXCEPT AT THE CONNECTIONS TO SANDBAG DIKES.
6. INSTALL TEMPORARY CONSTRUCTION SAFETY FENCE (ITEM 727006).
7. INSTALL TEMPORARY PARKING AREAS.
8. CONSTRUCT THE SANDBAG DIKES AT THE LOCATIONS SHOWN WITH TOP OF DIKE A MINIMUM OF 6" BELOW TOP OF STREAM BANK. DEPRESS TOP OF UPSTREAM SANDBAG DIKE TO ELEVATION 230' AT THE STREAM CENTERLINE TO DIRECT STORMFLOW CENTRALLY IN THE CHANNEL. UPSTREAM SANBAG DIKES SHALL BE CONSTRUCTED BEFORE DOWNSTREAM SANDBAG DIKES. ELEVATION OF THE DOWNSTREAM SANDBAG DIKE SHALL NOT BE HIGHER THAN THE LOWEST ELEVATION OF THE UPSTREAM SANDBAG DIKE. WHEN THE FLOW IS HIGHER THAN PUMP CAPCITY DURING RAINFALL EVENTS, THE STREAM FLOW IS ALLOWED TO FLOW OVER THE SANDBAG DIKE. THEREFORE THE ENCLOSED WORK AREA SHALL BE KEPT FREE OF DEBRIS AND OBSTRUCTION AT THE END OF EACH WORKDAY. THE TEMPORARY DIVERSION HAS BEEN SIZED TO CONVEY 25% OF THE 2-YEAR STORM (38 CFS).
9. INSTALL SUMP PIT AND DEWATERING BAG (OR APPROVED EQUIVALENT) 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 CLEANWATER PUMPING OPERATION OR ANOTHER STABLE OUTLET AS PROVIDED BY THEENGINEER.
10. DEMOLISH AND REMOVE EXISTING BRIDGE 1-185.
11. RELOCATE NEW CASTLE COUNTY SEWER (WORK TO BE PERFORMED BY STATE'S CONTRACTOR, WORK TO BE PAID UNDER ITEM 711002) AND ARTESIAN WATER LINE (WORK TO BE PERFORMED BY OTHERS).
12. COMPLETE ALL PROPOSED WORK ASSOCIATED WITH THE CONSTRUCTION OF BRIDGE 1-185.
13. CONSTRUCT PROPOSED ROADWAY AND STORM DRAIN AND ALL OTHER REMAINING WORK.
14. REMOVE TEMPORARY PARKING AREAS.
15. STABILIZE ALL DISTURBED AREAS.
16. AFTER ALL DISTURBED AREAS ARE FULLY STABILIZED, REMOVE THE TEMPORARY STREAM DIVERSION AND RESTORE STREAM CHANNEL FLOW. REMOVE INLET CONTROL AND REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER STABILIZATION OF ALL DISTURBED AREAS AND WITH CONCURRENCE FROM THE EROSION AND SEDIMENT CONTROL INSPECTOR. STABILIZE ALL REMAINING AREAS WHERE EROSION AND SEDIMENT CONTROLS WERE REMOVED.
17. REMOVE ALL MOT DEVICES.



PENNONI ASSOCIATES INC.	
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MICROSTATION VERSION:	$VERSIONS
MICROSTATION WORKSPACE:	$WORKSPACES
PEN TABLE:	$PENTABLES
PLOT DRIVER:	$PLTDRVRS
DATE PLOTTED:	20-MAR-2025@ 11:34
USER NAME:	$USERS
OFFICE LOCATION:	$OFFICENAMES

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

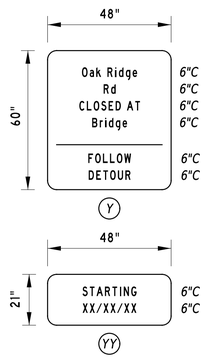
CONTRACT	T201407106	BRIDGE NO.	1-185
COUNTY	NEW CASTLE	DESIGNED BY:	O. GREEN
		CHECKED BY:	P. HORSEY

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION	CS-01
	PAI
SHEET NO.	17

PORTABLE CHANGEABLE MESSAGE SIGNS

SPECIAL SIGNS



1. DISPLAY (Y) SIGNS, ALONG WITH THE (YY) PLAQUE, FOR 10 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR. (YY) PLAQUE TO COMPLETELY COVER "FOLLOW DETOUR" LEGEND ON (Y) SIGNS. UPON IMPLEMENTATION OF THE DETOUR, REMOVE (YY) PLAQUE FROM (Y) SIGNS AND RELOCATE (Y) SIGNS TO A LOCATION OUTSIDE OF THE CLOSURE AREA.
2. ALL SIGNS SHALL HAVE A BLACK LEGEND ON A RETROREFLECTIVE, PRISMATIC, FLUORESCENT ORANGE BACKGROUND. DELAWARE ROUTE SYMBOL SHALL HAVE A BLACK LEGEND ON A WHITE BACKGROUND.

PREPARED BY
PENNONI ASSOCIATES INC.

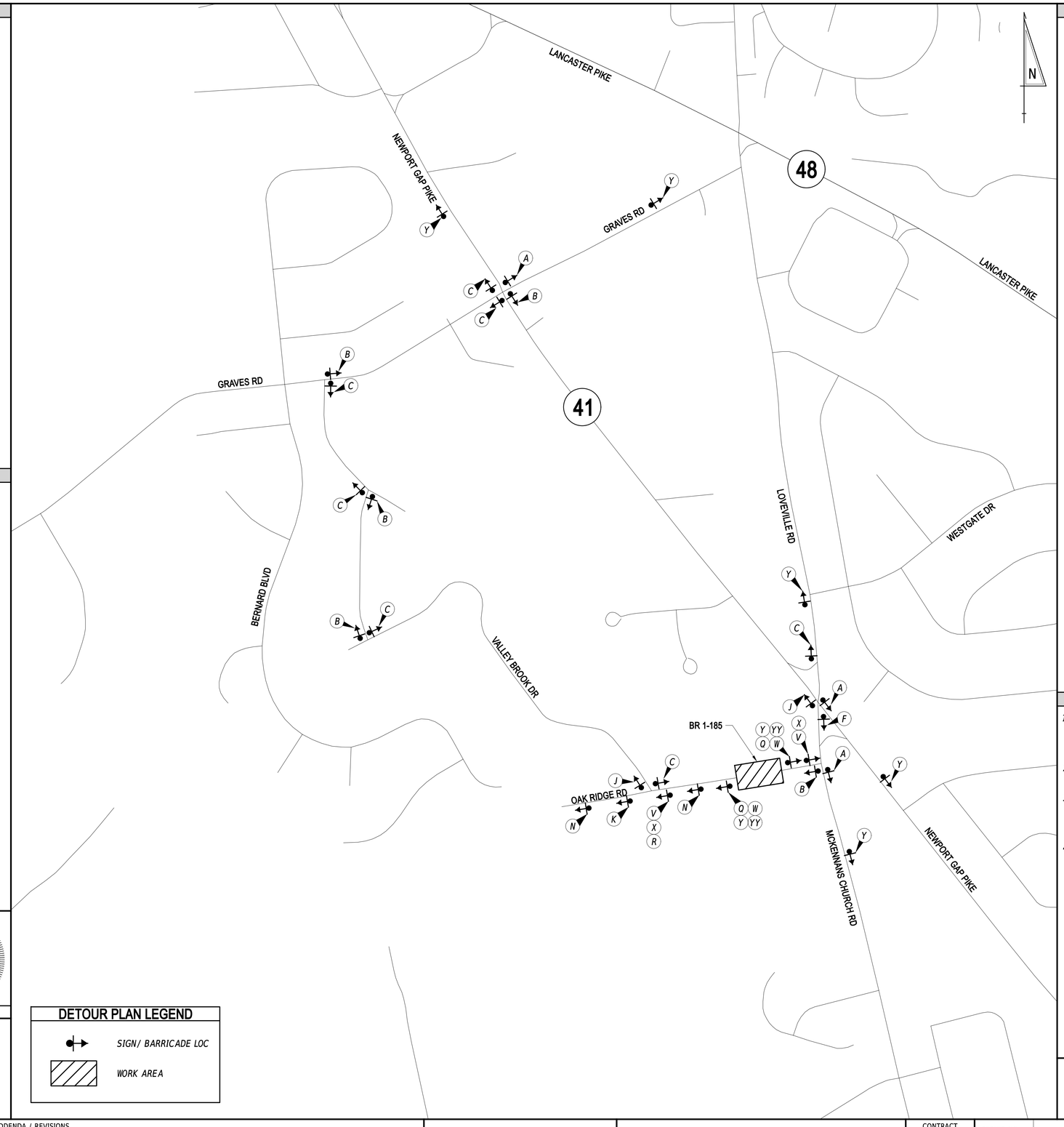
Pennoni

Teresa Lord — 9/13/2022
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "PAI" SECTION DESIGNATION. — DATE

TERESA M. LORD LICENSE No. 24274 DELAWARE PROFESSIONAL ENGINEER
SEAL

Zack Brander — 9/19/2022
QA/QC REVIEWER — DATE

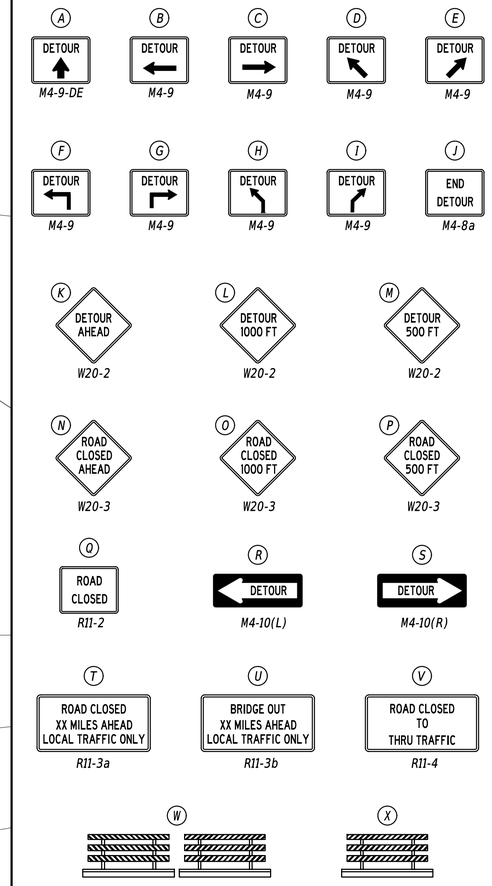
"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."



DETOUR PLAN LEGEND

- SIGN/ BARRICADE LOC
- WORK AREA

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.

CONCURRENCE FOR IMPLEMENTATION

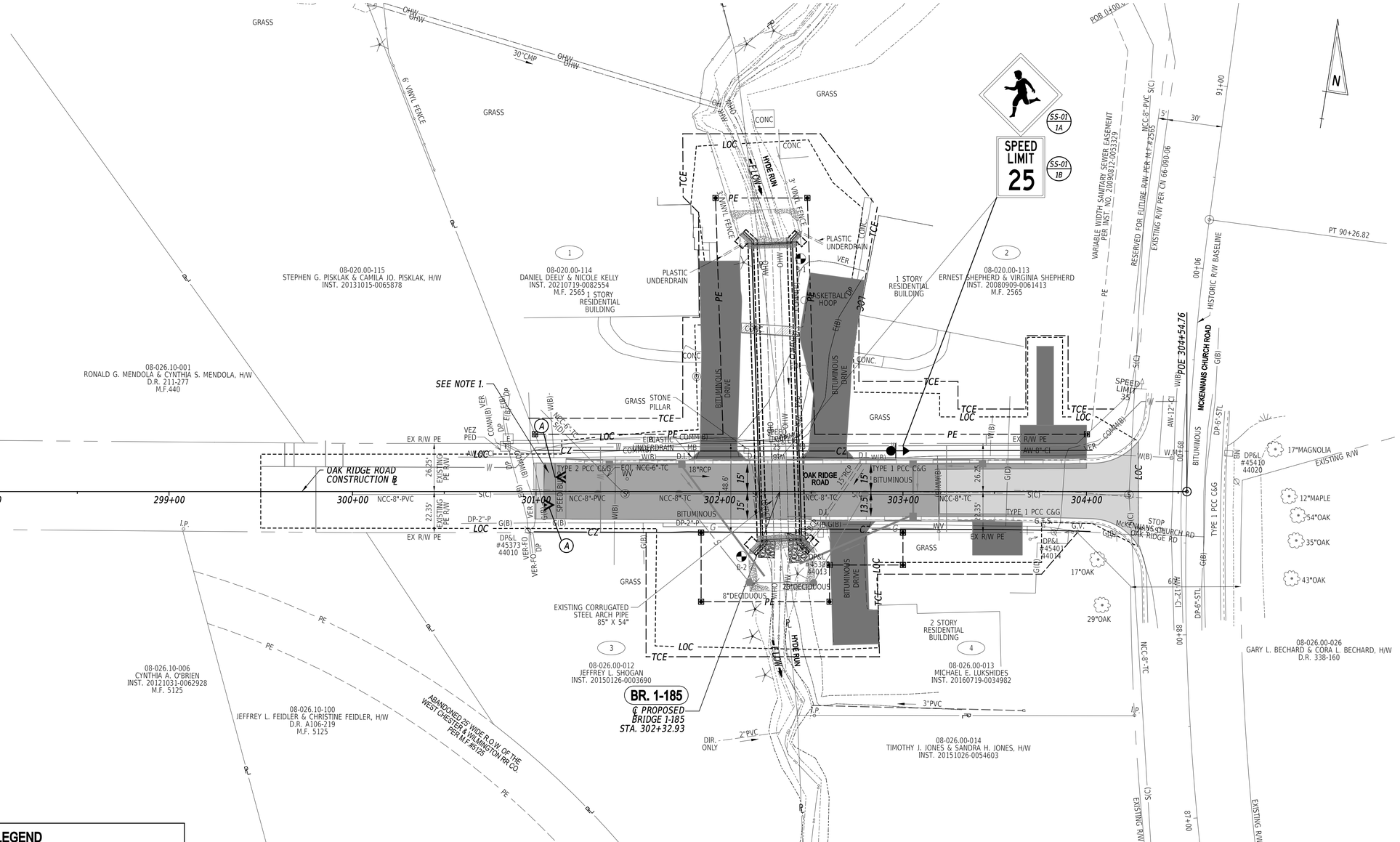
10-3-22
TRAFFIC SAFETY — DATE

ADDENDA / REVISIONS		NOT TO SCALE	REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD	CONTRACT T201407106	PERMIT NO. N/A	DETOUR PLAN - VEHICULAR OAK RIDGE RD @ BR 1-185	SECTION PAI
				COUNTY NEW CASTLE	DESIGNED BY: T. LORD		SHEET NO. 18
					CHECKED BY: Z. BRANDER		

LAST REVISED: 9/11/2018
12-SEP-2022
15:01
U:\ACCounts\DEDOT\DEDOT20031 - AGR 1970F Task 4 BR 1-185\DESIGN\CTLDGN\DP01.dgn

PERMANENT SIGN SCHEDULE - ROADWAY

SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	X13 / ITEM 818001 SUPPLY OF FLAT SHEET ALUMINUM, TYPE IV, RETROREFLECTIVE SHEETING (SF)	X14 / ITEM 818003 SUPPLY OF FLAT SHEET ALUMINUM, TYPE XI, RETROREFLECTIVE SHEETING (SF)	X15 / ITEM 819512 SIGN POST REFLECTIVE PANEL (EA)	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	X16 / ITEM 819011 12' SIGNPOSTS W/ BASEPOSTS & HARDWARE (EACH)	X17 / ITEM 819023 15' SIGNPOSTS W/ BASEPOSTS & HARDWARE (EACH)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
										SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL						
SS-01	1A	W21-11-DE	1	WATCH CHILDREN (Symbol)	30	30				REPOSITION	1	1				SOIL	1				
SS-01	1B	R2-1-25(24)	1	SPEED LIMIT (25 MPH - 24x30)	24	30				REPOSITION	1	1									
PAGE TOTALS							0	0	0		2	2		0	0		1	0	0	0	



PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
(A)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (WORK SHALL CONFORM TO ITEM 817002 AND IS INCIDENTAL TO ITEM 401506)	28 SF

NOTES

1. PAVEMENT MARKINGS AND DELINEATORS FOR SPEED HUMP SHALL BE INSTALLED PER STANDARD DETAIL - SPEED HUMP P-7 (2024).

PENNONI ASSOCIATES INC.
FILE NAME: $FILEAS
MICROSTATION VERSION: $VERSIONS
MICROSTATION WORKSPACE: $WORKSPACES
PEN TABLE: $PENTBLSS
PLOT DRIVER: $PLTDRVSS
DATE PLOTTED: 26-NOV-2024@ 15:07
USER NAME: $USERS
OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

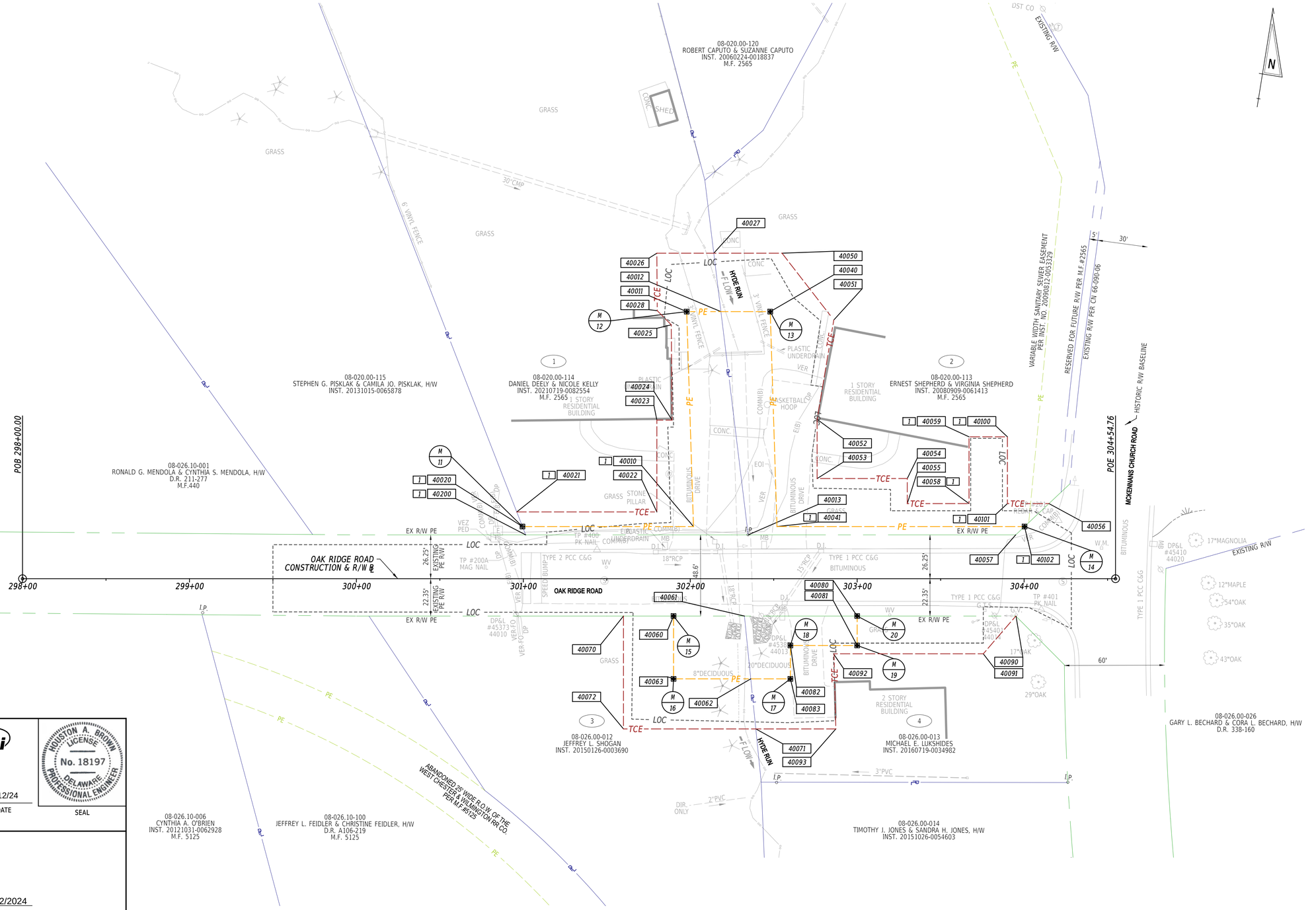
SCALE 0 30 60 90 FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	T. LORD
COUNTY	CHECKED BY:	Z. BRANDER
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SS-01
SECTION
PAI
SHEET NO.
19



PENNONI ASSOCIATES INC. | PEN_TABLE: SPENTBLSS
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MICROSTATION VERSION: S:\VERSIONS | DATE PLOTTED: 12-JAN-2024 @ 14:53
MICROSTATION WORKSPACE: S:\WORKSPACES | USER NAME: SUSERS OFFICE LOCATION: S:\OFFICENAMES

REVISION PREPARED BY PENNONI

Pennoni

1/12/24
DATE

THIS SEAL APPLIES TO THE FOLLOWING SHEETS CHANGED UNDER REVISION #1:
21, 22, 23

HOUSTON A. BROWN — LICENSE — No. 18197 — DELAWARE — PROFESSIONAL ENGINEER
SEAL

ORIGINAL SIGNATURE DATE: 04/18/2023
RECOMMENDED AS TO PROCESS AS PER R/W REVISION #1

Shehnaz Chaudhri 01/22/2024
GROUP ENGINEER, ROW ENGINEERING — DATE

THE FOLLOWING PARCELS WERE CHANGED UNDER REVISION#1:
1, 2

ADDENDA / REVISIONS

1	PARCEL 1: REVISED PE, REVISED TCE; M. RADOVIC, H. BROWN 12/22/23
	PARCEL 2: REVISED PE, REVISED TCE; M. RADOVIC, H. BROWN 12/22/23

SCALE
0 30 60 90
FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	T201407106	BRIDGE NO.	1-185
COUNTY	NEW CASTLE	DESIGNED BY:	O. GREEN
		CHECKED BY:	Z. BRANDER

RIGHT-OF-WAY PLAN

SECTION: PAI
SHEET NO.: 20

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-020.00-114	(1) DANIEL DEELY & NICOLE KELLY	P/E	INST 20210719-0082554	1.559

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40013	1000	302+34.71	-26.25	641979.9790	586769.6413	S 80°52'41.92" W	133.29				
40200	1000	301+01.42	-26.25	641958.8484	586638.0379	N 30°22'32.45" W	5.36				
40020	1000	300+99.48	-31.25	641963.4769	586635.3250	N 80°52'41.92" E	102.46				
40010	1000	302+01.93	-31.25	641979.7194	586736.4854	N 10°55'08.44" W	128.81				
40011	1000	301+97.89	-160.00	642106.2008	586712.0855	N 80°52'41.92" E	20.49				
40012	1000	302+18.38	-160.00	642109.4493	586732.3176	S 16°04'52.45" E	134.74				
40013	1000	302+34.71	-26.25	641979.9790	586769.6413						

FIGURE 1-PE AREA = 4059.6836 SQ. FT. (0.0932 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-020.00-114	(1) DANIEL DEELY & NICOLE KELLY	TCE	INST 20210719-0082554	1.559

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40020	1000	300+99.48	-31.25	641963.4769	586635.3250	N 30°22'32.45" W	9.39				
40021	1000	300+96.07	-40.00	641971.5767	586630.5775	N 80°52'41.92" E	83.93				
40022	1000	301+80.00	-40.00	641984.8818	586713.4431	N 9°07'18.08" W	55.00				
40023	1000	301+80.00	-95.00	642039.1862	586704.7238	N 80°52'41.92" E	9.13				
40024	1000	301+89.13	-95.00	642040.6339	586713.7400	N 9°38'11.99" W	57.12				
40025	1000	301+88.62	-152.12	642096.9462	586704.1784	N 53°46'53.44" W	11.93				
40028	1000	301+80.23	-160.60	642103.9942	586694.5552	N 9°30'41.42" W	34.40				
40026	1000	301+80.00	-195.00	642137.9216	586688.8706	N 80°52'34.28" E	34.11				
40027	1000	302+14.11	-195.00	642143.3306	586722.5503	S 16°04'52.45" E	35.26				
40012	1000	302+18.38	-160.00	642109.4493	586732.3176	S 80°52'41.92" W	20.49				
40011	1000	301+97.89	-160.00	642106.2008	586712.0855	S 10°55'08.44" E	128.81				
40010	1000	302+01.93	-31.25	641979.7194	586736.4854	S 80°52'41.92" W	102.46				
40020	1000	300+99.48	-31.25	641963.4769	586635.3250						

FIGURE 1-TCE AREA = 4003.4103 SQ. FT. (0.0919 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-020.00-113	(2) ERNEST SHEPHERD & VIRGINIA SHEPHERD	P/E	INST 20080909-0061413	1.566

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40102	1000	304+00.27	-31.25	642011.1625	586932.3160	S 37°37'46.17" W	7.30				
40057	1000	303+94.96	-26.25	642005.3830	586927.8605	S 80°52'41.92" W	160.25				
40013	1000	302+34.71	-26.25	641979.9790	586769.6413	N 16°04'52.45" W	134.74				
40012	1000	302+18.38	-160.00	642109.4493	586732.3176	N 80°52'41.92" E	29.53				
40040	1000	302+47.92	-160.00	642114.1313	586761.4774	S 10°55'08.44" E	128.81				
40041	1000	302+51.96	-31.25	641987.6499	586785.8774	N 80°52'41.92" E	148.31				
40102	1000	304+00.27	-31.25	642011.1625	586932.3160						

FIGURE 2-PE AREA = 3866.8090 SQ. FT. (0.0888 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-020.00-113	(2) ERNEST SHEPHERD & VIRGINIA SHEPHERD	TCE	INST 20080909-0061413	1.566

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40055	1000	304+09.57	-40.00	642021.2764	586940.1132	S 37°37'46.17" W	12.77				
40102	1000	304+00.27	-31.25	642011.1625	586932.3160	S 80°52'41.92" W	148.31				
40041	1000	302+51.96	-31.25	641987.6499	586785.8774	N 10°55'08.44" W	128.81				
40040	1000	302+47.92	-160.00	642114.1313	586761.4774	S 80°52'41.92" W	29.53				
40012	1000	302+18.38	-160.00	642109.4493	586732.3176	N 16°04'52.45" W	35.26				
40027	1000	302+14.11	-195.00	642143.3306	586722.5503	N 80°52'48.30" E	40.89				
40050	1000	302+55.00	-195.00	642149.8115	586762.9222	S 46°53'50.54" E	50.61				
40051	1000	302+86.00	-155.00	642115.2318	586799.8714	S 0°24'04.90" W	60.36				
40052	1000	302+76.01	-95.47	642054.8694	586799.4486	S 9°06'11.18" E	40.47				
40053	1000	302+76.00	-55.00	642014.9111	586805.8511	S 52°08'48.32" E	20.52				
40054	1000	302+90.00	-40.00	642002.3203	586822.0520	N 80°52'41.92" E	119.57				
40055	1000	304+09.57	-40.00	642021.2764	586940.1132						

FIGURE 2-TCE AREA = 6758.3429 SQ. FT. (0.1552 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-026.00-012	(3) JEFFREY L. SHOGAN	P/E	INST 20150126-0003690	0.820

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40060	1000	301+90.00	22.35	641924.9057	586733.2011	N 80°52'41.92" E	42.45				
40061	1000	302+32.45	22.35	641931.6351	586775.1127	S 14°53'46.83" E	37.85				
40062	1000	302+36.26	60.00	641895.0606	586784.8419	S 80°52'41.92" W	46.26				
40063	1000	301+90.00	60.00	641887.7275	586739.1705	N 9°07'18.08" W	37.65				
40060	1000	301+90.00	22.35	641924.9057	586733.2011						

FIGURE 3-PE AREA = 1670.0637 SQ. FT. (0.0383 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-026.00-012	(3) JEFFREY L. SHOGAN	TCE	INST 20150126-0003690	0.820

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40070	1000	301+60.00	22.35	641920.1497	586703.5804	N 80°52'41.92" E	30.00				
40060	1000	301+90.00	22.35	641924.9057	586733.2011	S 9°07'18.08" E	37.65				
40063	1000	301+90.00	60.00	641887.7275	586739.1705	N 80°52'41.92" E	46.26				
40062	1000	302+36.26	60.00	641895.0606	586784.8419	S 14°53'46.83" E	30.15				
40071	1000	302+39.29	90.00	641865.9251	586792.5923	S 80°52'41.92" W	79.29				
40072	1000	301+60.00	90.00	641853.3551	586714.3051	N 9°07'18.08" W	67.65				
40070	1000	301+60.00	22.35	641920.1497	586703.5804						

FIGURE 3-TCE AREA = 3462.4923 SQ. FT. (0.0795 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-026.00-013	(4) MICHAEL E. LUKSHIDES	P/E	INST 20160719-0034982	0.423

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40061	1000	302+32.45	22.35	641931.6351	586775.1127	N 80°52'41.92" E	67.55				
40080	1000	303+00.00	22.35	641942.3442	586841.8100	S 9°07'18.08" E	17.65				
40081	1000	303+00.00	40.00	641924.9173	586844.6081	S 80°52'41.92" W	40.00				
40082	1000	302+60.00	40.00	641918.5760	586805.1139	S 9°07'18.08" E	20.00				
40083	1000	302+60.00	60.00	641898.8247	586808.2852	S 80°52'41.92" W	23.74				
40062	1000	302+36.26	60.00	641895.0606	586784.8419	N 14°53'46.83" W	37.85				
40061	1000	302+32.45	22.35	641931.6351	586775.1127						

FIGURE 4-PE AREA = 1671.7472 SQ. FT. (0.0384 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)
08-026.00-013	(4) MICHAEL E. LUKSHIDES	TCE	INST 20160719-0034982	0.423

ALIGNMENT NUMBER & DESCRIPTION: 1000 - OAK RIDGE ROAD

PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
40090	1000	303+95.05	22.35	641957.4132	586935.6616	S 31°38'11.94" W	29.90				
40091	1000	303+75.53	45.00	641931.9546	586919.9769	S 80°52'41.92" W	89.42				
40092	1000	302+86.11	45.00	641917.7789	586831.6886	S 10°32'32.37" E	45.01				
40093	1000	302+87.23	90.00	641873.5249	586839.9244	S 80°52'41.92" W	47.94				
40071	1000	302+39.29	90.00	641865.9251	586792.5923	N 14°53'46.83" W	30.15				
40062	1000	302+36.26	60.00	641895.0606	586784.8419	N 80°52'41.92" E	23.74				
40083	1000	302+60.00	60.00	641898.8247	586808.2852	N 9°07'18.08" W	20.00				
40082	1000	302+60.00	40.00	641918.5760	586805.1139	N 80°52'41.92" E	40.00				
40081	1000	303+00.00	40.00	641924.9173	586844.6081	N 9°07'18.08" W	17.65				
40080	1000	303+00.00	22.35	641942.3442	586841.8100	N 80°52'41.92" E	95.05				
40090	1000	303+95.05	22.35	641957.4132	586935.6616						

FIGURE 4-TCE AREA = 3998.7546 SQ. FT. (0.0918 ACRES)

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

PENNONI ASSOCIATES INC. $FILEAS
TILE NAME:
MICROSTATION VERSION: $VERSIONS
MICROSTATION WORKSPACE: $WORKSPACES
PEN TABLE: $PENTABLES
PLOT DRIVER: $PLOTDRVSS
DATE PLOTTED: 26-NOV-2024@ 15:07
USER NAME: $USERS OFFICE LOCATION: $OFFICENAMES

Pennoni

ADDENDA / REVISIONS

NOT TO SCALE

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	BRIDGE NO. 1-185
T201407106	DESIGNED BY: O. GREEN
COUNTY	CHECKED BY: Z. BRANDER
NEW CASTLE	

RIGHT-OF-WAY DATA SHEET

SECTION	PAI
SHEET NO.	21

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)			
08-020.00-114	21	(1) DANIEL DEELY & NICOLE KELLY	INST 20210719-0082554	C - 1.56	P/E			4059.6836 / 0.09				
					TCE				4003.4103 / 0.09	67904.47 / 1.56		
08-020.00-113	21	(2) ERNEST SHEPHERD & VIRGINIA SHEPHERD	INST 20080909-0061413	C - 1.57	P/E			3866.809 / 0.09				
					TCE				6758.3429 / 0.16	68235.11 / 1.57		19.71 SF VARIABLE WIDTH SANITARY SEWER EASEMENT PER INST. NO 20090
08-026.00-012	21	(3) JEFFREY L. SHOGAN	INST 20150126-0003690	C - 0.82	P/E			1670.0637 / 0.04				
					TCE				3462.4923 / 0.08	35697.85 / 0.82		
08-026.00-013	21	(4) MICHAEL E. LUKSHIDES	INST 20160719-0034982	D - 0.42	P/E			1671.7472 / 0.04				
					TCE				3998.7546 / 0.09	18438.00 / 0.42		

ACQUISITION CODES

FEE - ACQUISITION
R/W - AREA OCCUPIED BY EXISTING R/W
P/E - PERMANENT EASEMENT
TCE - TEMPORARY EASEMENT

ADDENDA / REVISIONS

NOT TO SCALE

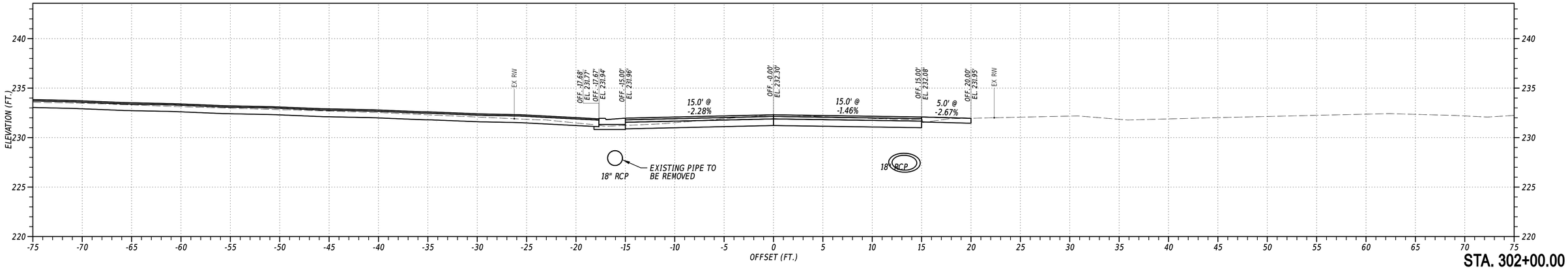
REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	T201407106
COUNTY	NEW CASTLE
BRIDGE NO.	1-185
DESIGNED BY:	O. GREEN
CHECKED BY:	Z. BRANDER

RIGHT-OF-WAY TABULATION SHEET

SECTION	PAI
SHEET NO.	22

PENNONI ASSOCIATES INC.
FILE NAME: $FILEAS
MICROSTATION VERSION: $VERSIONS
MICROSTATION WORKSPACE: $WORKSPACES
PEN TABLE: $PENTBLSS
PLOT DRIVER: $PLTDRVSS
DATE PLOTTED: 26-NOV-2024@ 15:07
USER NAME: $USERS OFFICE LOCATION: $OFFICENAMES



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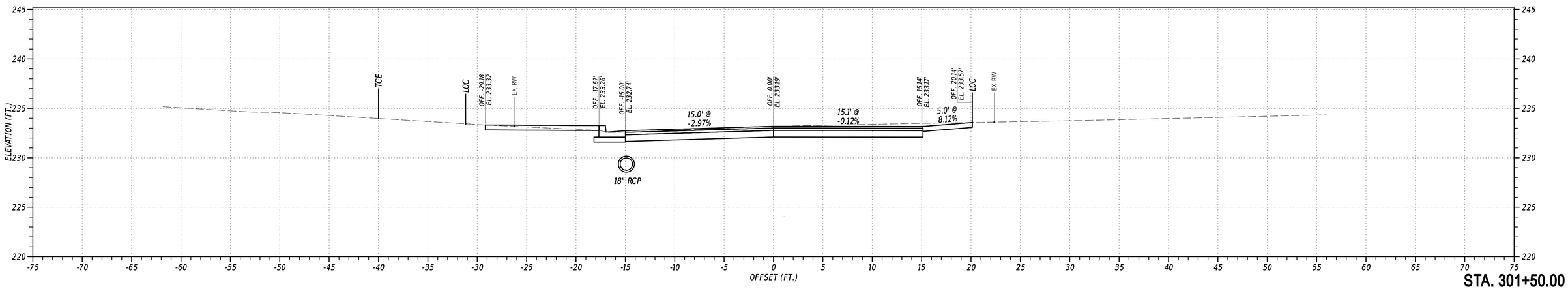

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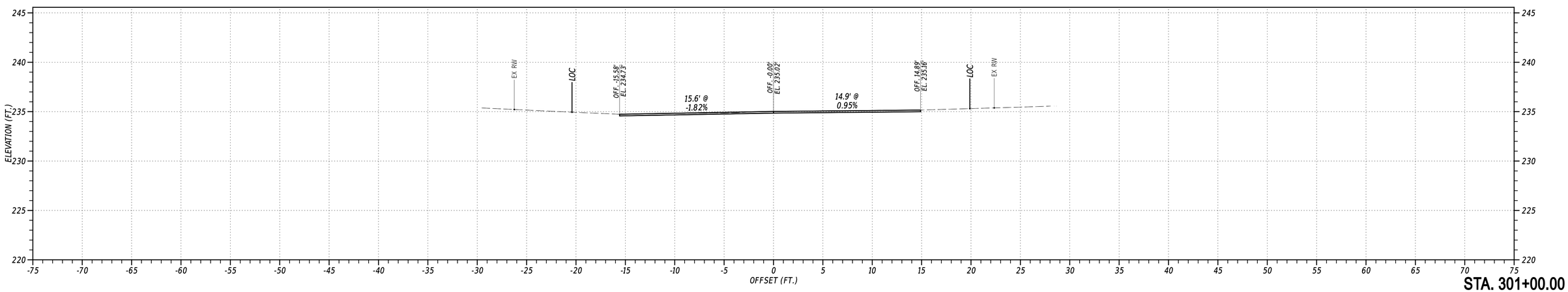

STA. 301+00.00

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MICROSTATION VERSION:	$VERSIONS	DATE PLOTTED:	26-NOV-2024@ 15:08
MICROSTATION WORKSPACE:	$WORKSPACES	USER NAME:	$USERS OFFICE LOCATION: $OFFICENAMES

ADDENDA / REVISIONS

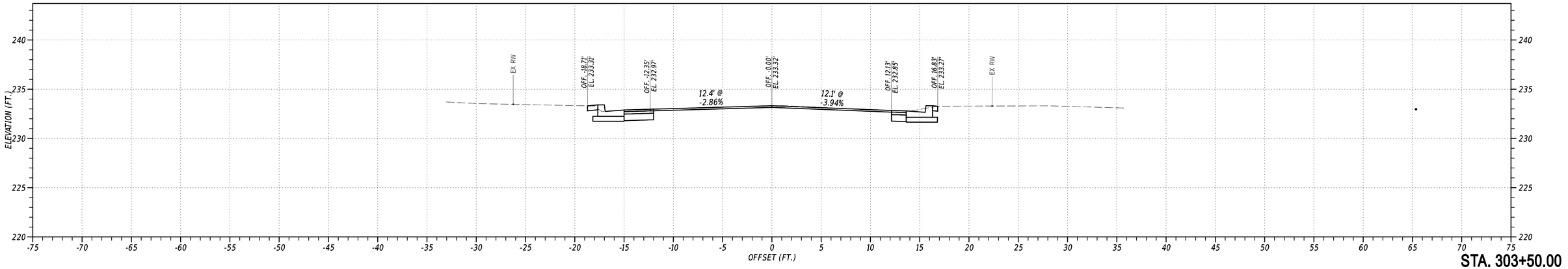
SCALE
0 5 10 15
FEET

REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

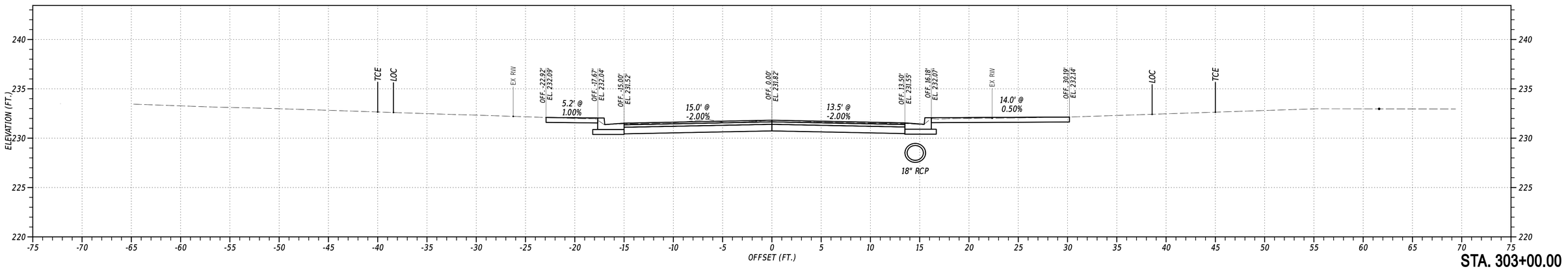
CONTRACT	BRIDGE NO.	1-185
T201407106	DESIGNED BY:	O. GREEN
COUNTY	CHECKED BY:	P. HORSEY
NEW CASTLE		

CROSS SECTIONS

SECTION
PAI
SHEET NO.
23



STA. 303+50.00



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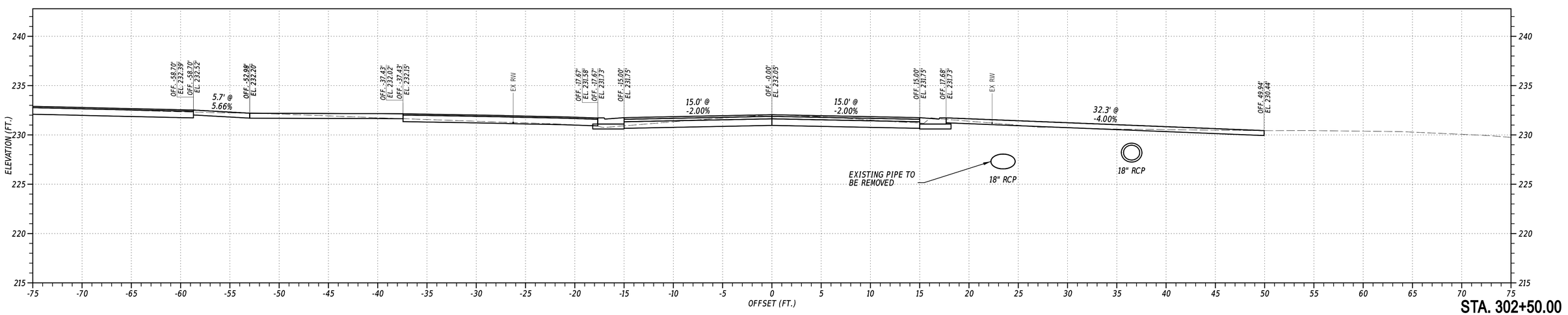

STA. 302+50.00

PENNONI ASSOCIATES INC.	PEN TABLE: $PENTBLSS
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ADDENDA / REVISIONS

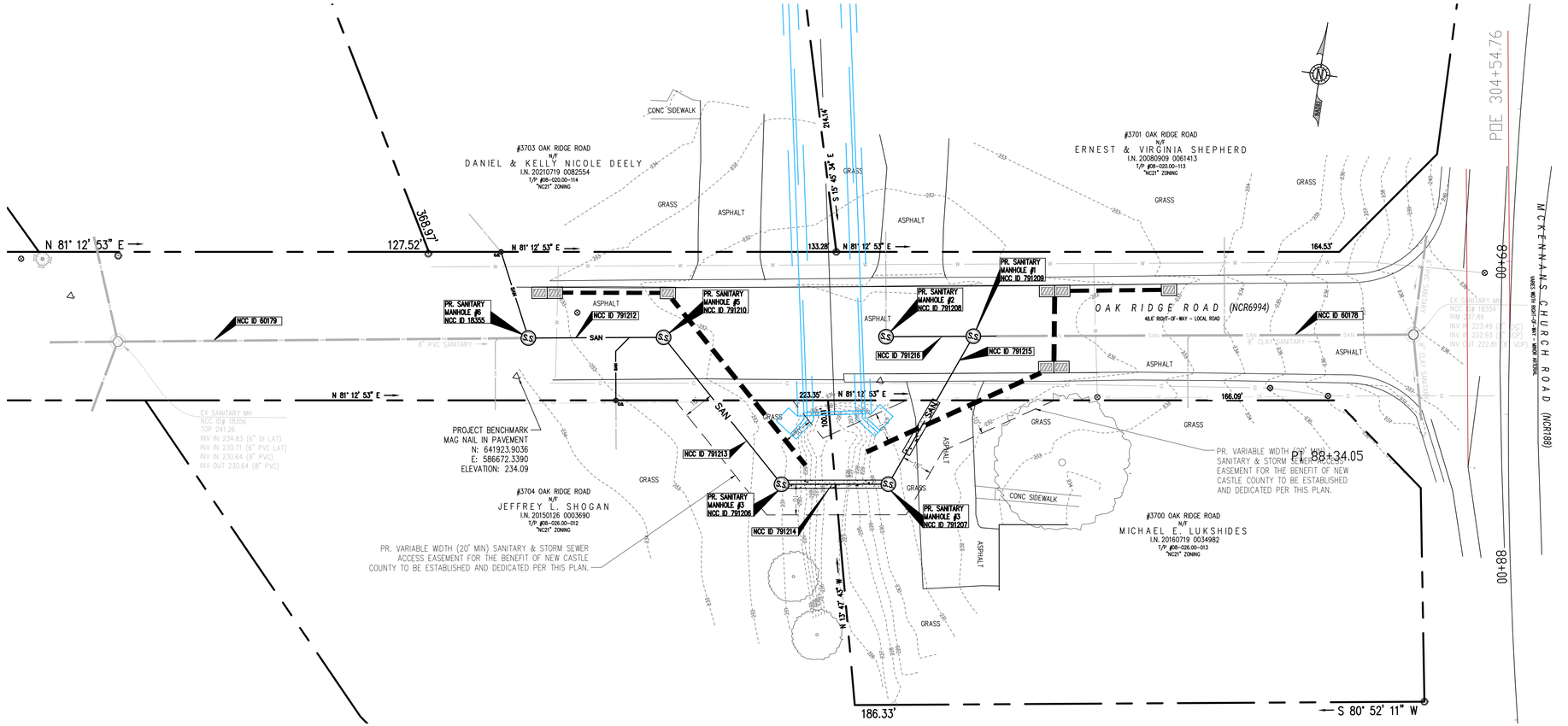
SCALE
0 5 10 15
FEET

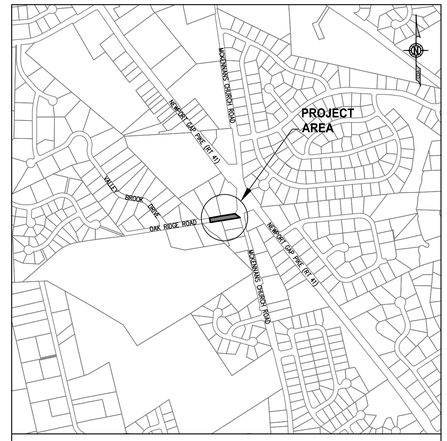
REPLACEMENT OF BRIDGE 1-185 ON OAK RIDGE ROAD

CONTRACT	T201407106
COUNTY	NEW CASTLE
BRIDGE NO.	1-185
DESIGNED BY:	O. GREEN
CHECKED BY:	P. HORSEY

CROSS SECTIONS

SECTION	PAI
SHEET NO.	24





SHEET INDEX

SANITARY SEWER COVER SHEET	SS-01
SANITARY SEWER DEMOLITION PLAN	SS-02
SANITARY SEWER PROPOSED CONDITIONS & PROFILE	SS-03
SANITARY SEWER DETAILS	SS-04 - SS-05

FOR USE BY DEPARTMENT OF PUBLIC WORKS

REVISION

PER NCC COMMENTS	3/21/24

PURPOSE: THIS PLAN PROPOSES TO REROUTE THE EXISTING NEW CASTLE COUNTY PUBLIC SEWER AROUND BRIDGE I-185 LOCATED ON OAK RIDGE ROAD.

GENERAL NOTES

1. DATUM: VERTICAL – NORTH AMERICAN VERTICAL DATUM (1988)
   HORIZONTAL – DELAWARE STATE PLANE NORTH AMERICAN DATUM (1983)
2. SANITARY SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS, AND RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES OR STRICTER STANDARDS IDENTIFIED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES AND SEQUENCE OF CONSTRUCTION INCLUDING ANY BYPASS PUMPING (STORMWATER OR SANITARY FLOWS) AND/OR DEWATERING IN CONJUNCTION WITH THE WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN APPROVAL AND ACCEPTANCE OF THE SANITARY SEWER SYSTEM BY NEW CASTLE COUNTY UPON COMPLETION OF CONSTRUCTION. AS-BUILT PLANS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR OR PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE MUST BE SUBMITTED TO NEW CASTLE COUNTY BEFORE ACCEPTANCE.
5. DURING CONSTRUCTION, THE CONTRACTOR MUST HAVE IN HIS POSSESSION ON SITE, A SET OF CONSTRUCTION PLANS BEARING NEW CASTLE COUNTY'S STAMP OF APPROVAL.
6. THE CONTRACTOR SHALL NOT PLACE, PLANT, PUT OR SET ANY STRUCTURE WITHIN THE SANITARY SEWER EASEMENT.
7. A CONSTRUCTION PERMIT ISSUED BY THE STATE OF DELAWARE, DEPARTMENT OF TRANSPORTATION (DELDOT) IS REQUIRED BEFORE ANY WORK IS PERFORMED WITHIN A DELDOT RIGHT-OF-WAY. ALL WORK PERFORMED WITHIN DELDOT'S RIGHT-OF-WAY OR PROPERTY OWNED BY THE STATE OF DELAWARE SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST RECENT DELDOT STANDARD SPECIFICATIONS AND UTILITY MANUAL.
8. SANITARY SEWER IS TO BE PUBLICLY OWNED AND MAINTAINED BY NEW CASTLE COUNTY PUBLIC WORKS.
9. CONSTRUCTION SHALL NOT DEVIATE FROM THE PLANS AND SPECIFICATIONS APPROVED BY NEW CASTLE COUNTY WITHOUT WRITTEN PERMISSION FROM NEW CASTLE COUNTY'S DEPARTMENT OF PUBLIC WORKS.
10. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK AND THE NEW CASTLE COUNTY DRAINAGE CODE, AS AMENDED.
11. TYPICAL SEQUENCE OF CONSTRUCTION:
    A. PRIOR TO ANY CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED TO PROCEED WITH THE PROPOSED SANITARY SEWER CONSTRUCTION.
    B. CONTACT NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS (TWO BUSINESS DAYS NOTICE AT 395-5756) PRIOR TO ANY EXCAVATION OR ACTIVITY INVOLVING SANITARY SEWER CONSTRUCTION, PUMP STATION CONSTRUCTION OR LATERAL TIE-IN'S TO EXISTING LINES.
    C. CONSTRUCT PROPOSED SANITARY SEWER SYSTEM AS APPROVED BY NEW CASTLE COUNTY.
    D. BACKFILL AND REGRADE AS REQUIRED.
    E. PERFORM AIR TEST, IF REQUIRED, IN ACCORDANCE WITH SECTION 32.01-3 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, IN THE PRESENCE OF A NEW CASTLE COUNTY INSPECTOR. AIR TEST TO INCLUDE PROPOSED SANITARY SEWER, AS WELL AS THE EXISTING SANITARY SEWER TO REMAIN IN PLACE.
    F. FOLLOWING A PASSING AIR TEST (IF APPLICABLE), A FINAL VISUAL INSPECTION (LAMP TEST) MUST BE PERFORMED PRIOR TO ACCEPTANCE BY NEW CASTLE COUNTY INSPECTOR PRIOR TO ACCEPTANCE BY NEW CASTLE COUNTY.
    G. BASED UPON THE RESULTS OF THE VISUAL INSPECTION, A MANDREL TEST MAY BE REQUIRED FOLLOWING THE VISUAL INSPECTION.
    H. LATERAL CONNECTIONS FROM NEW HOMES/OFFICE BUILDINGS INTO THE SEWER LINE WILL NOT BE PERMITTED UNTIL AFTER FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM.
    I. PRIOR TO NEW CASTLE COUNTY MAKING A FINAL INSPECTION, THE FOLLOWING ITEMS MUST BE COMPLETED:
       i. ALL MANHOLES MUST BE BROUGHT TO GRADE AND HAVE CONCRETE COLLARS INSTALLED.
       ii. CHANNELS MUST BE COMPLETED IN ALL MANHOLES.
       iii. ALL MANHOLES AND SEWER PIPES MUST BE CLEANED AND FLUSHED.
       iv. AS-BUILT DRAWINGS (SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER IN DELAWARE) WITH (1) MYLAR AND (3) SETS OF PRINTS MUST BE SUBMITTED TO NEW CASTLE COUNTY.
       v. TURF TRAIL IS CONSTRUCTED IN ACCORDANCE WITH NCC DETAIL SS-MISC-2, OR IF PIPE AND MANHOLES ARE WITHIN PROPOSED ROADWAY, STABILIZED ROADWAY ACCESS IS CONSTRUCTED FOR THE PURPOSE OF MAINTAINING THE CONSTRUCTED SANITARY SEWER SYSTEM UNTIL FINAL PAVING IS COMPLETED.
    J. CERTIFICATES OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE AS-BUILTS HAVE BEEN RECEIVED, REVIEWED AND APPROVED AND THE SANITARY SEWER CONSTRUCTION HAS BE ACCEPTED BY NEW CASTLE COUNTY.
12. MANHOLE COVER(S) ON PRIVATELY OWNED AND MAINTAINED SEWER SYSTEMS SHALL NOT BE LABELED "NEW CASTLE COUNTY."
13. OWNER/DEVELOPER TO PROVIDE NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS WITH A PACP COMPLIANT CCTV INSPECTION OF THE EXISTING ON-SITE SANITARY SEWER SYSTEM, IN PART, ASCERTAINING ACCEPTABLE ABANDONMENT OF ANY PORTION OF THE SYSTEM AND PROVIDING A CONDITION ASSESSMENT OF THE EXISTING ON-SITE SANITARY SEWER PROPOSED TO REMAIN. THE DEPARTMENT OF PUBLIC WORKS RESERVES THE RIGHT FOR ADDITIONAL COMMENTS AND THE OWNER/DEVELOPER AGREES TO COMPLETE ANY REQUIRED IMPROVEMENTS AS DETERMINED BY THE DEPARTMENT OF PUBLIC WORKS' REVIEW OF THE CCTV INSPECTION RESULTS PRIOR TO ACCEPTANCE BY NEW CASTLE COUNTY.
14. THE MINIMUM STANDARD DESIGN SLOPE FOR 8-INCH DIAMETER GRAVITY SANITARY SEWERS PROPOSED BY THE SANITARY SEWER CONSTRUCTION PLAN(S) IS 0.00500 FT./FT. HOWEVER, AS-BUILT SLOPE FOR 8-INCH DIAMETER GRAVITY SANITARY SEWER NO LESS THAN 0.00400 MAY BE CONSIDERED. IF THE AS-BUILT MINIMUM SLOPE OF 0.00400 IS NOT ACHIEVED, THE DEPARTMENT OF PUBLIC WORKS MAY REFUSE TO ACCEPT THE SANITARY SEWER SYSTEM.

PIPE SCHEDULE

PIPE NO.	UPSTREAM MH	DOWNSTREAM MH	LINEAR FEET	MATERIAL	SIZE	SLOPE (FT/FT)	INVERT UP	INVERT DOWN
P-1	PR MH #2	PR MH #1	24	SDR26 PVC	8"	0.0042	223.62'±	223.52'±
P-2	PR MH #3	PR MH #1	52	SDR26 PVC	8"	0.0050	223.78'±	223.52'±
P-3	PR MH #4	PR MH #3	30	SDR26 PVC	8"	0.0050	223.96'±	223.81'±
P-4	PR MH #5	PR MH #4	56	SDR26 PVC	8"	0.0050	224.27'±	223.99'±
P-5	PR MH #6	PR MH #5	40	SDR26 PVC	8"	0.0093	224.67'±	224.30'±

MANHOLE SCHEDULE

MANHOLE NO.	MANHOLE TYPE	NORTHING	EASTING	FLOW ANGLE	RIM ELEV.	MANHOLE DEPTH	INVERT IN ELEV.	INVERT OUT ELEV.
PR. M.H. #1	DOGHOUSE	641959.7620	586818.0619	180°	231.53'±	8.03'±	223.52'±	223.50'±
PR. M.H. #2	A-2	641955.2372	586789.8467	180°	231.48'±	7.86'±	223.64'±	223.62'±
PR. M.H. #3	A-2	641907.6644	586797.9909	120°	231.50'±	7.72'±	223.81'±	223.78±
PR. M.H. #4	A-2	641902.2758	586763.4500	129°	232.00'±	8.04'±	223.99'±	223.96'±
PR. M.H. #5	A-2	641943.9229	586717.9911	128°	232.34'±	8.07'±	224.30'±	224.27'±
PR. M.H. #6	DOGHOUSE	641936.9369	586674.3137	180°	233.70'±	9.03'±	224.70'±	224.67'±

SANITARY SEWER DETAIL TABLE

STREET NAME	TOTAL NO. OF MANHOLES	NOMINAL DIAMETER OF SEWER PIPE (IN)	TOTAL LINEAR FEET OF GRAVITY SEWER PIPE	TOTAL LINEAR FEET OF FORCE MAIN	PIPE MATERIAL	PUBLIC/ PRIVATE
OAK RIDGE	6	8"	207	0	SDR-26 PVC	PUBLIC

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
SAN	SANITARY	SAN
	STORM	
	CONCRETE CURB	
	FENCE	
58	CONTOUR	
S	SANITARY MANHOLE	S
	LIGHT POLE	
U.P.	UTILITY POLE	
	FIRE HYDRANT	
FDC	FIRE DEPARTMENT CONNECTION	
	BUILDING	

PROPOSED CONNECTIONS TO EXISTING SANITARY SEWER SHALL COMPLY WITH NEW CASTLE COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION. FURTHERMORE, IT IS SUBJECT TO A VISUAL INSPECTION BY AN INSPECTOR WITH THE DEPARTMENT OF PUBLIC WORKS AND FINAL APPROVAL CONTINGENT UPON THEIR JUDGEMENT. THE CONTRACTOR IS ADVISED TO CONTACT THE DEPARTMENT OF PUBLIC WORKS (ATTENTION: CHUCK RUTTER @ 302-395-5756) AT LEAST TWO BUSINESS DAYS PRIOR TO THE BEGINNING ANY WORK RELATED TO THE SANITARY SEWER

811 Know what's below. Call before you dig.

MISS UTILITY PHONE 1-800-257-7777
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

CONTRACTOR TO VERIFY AND CONFIRM ALL UTILITY CROSSINGS PRIOR TO THE ORDERING OF ANY STRUCTURES, PIPES, MATERIALS, ETC. IN THE EVENT THAT UNKNOWN UTILITIES ARE FOUND OR CONFLICTS ARE DISCOVERED, CONTRACTOR SHALL NOTIFY THE COUNTY FOR DIRECTION.

CERTIFICATION OF PLAN ACCURACY:

I, PETE MANDEVILLE, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE WITH A BACKGROUND IN CIVIL ENGINEERING AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, I CERTIFY THAT ALL OF THE INFORMATION ON THESE SANITARY SEWER DRAWINGS IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE ACCEPTED SURVEYING AND ENGINEERING STANDARDS AND PRACTICES AND BY THE NEW CASTLE COUNTY UNIFIED DEVELOPMENT CODE. ADDITIONALLY, THE SANITARY SEWER DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH AND COMPLIES WITH ALL APPLICABLE REGULATIONS, CODES, STANDARDS, GUIDELINES, LAWS AND POLICIES, INCLUDING BUT NOT LIMITED TO CHAPTER 38 OF THE NEW CASTLE COUNTY CODE, THE DEPARTMENT OF SPECIAL SERVICES POLICIES #6 AND #7, THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AMENDMENTS AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES.

PETE MANDEVILLE
REGISTRATION #17544

3/21/24
DATE

CDA ENGINEERING INC.
CIVIL/SITE ENGINEERING AND LAND PLANNING
6 LARCH AVENUE
SUITE 401
WILMINGTON, DE 19804
Tel: 302 998 9202
Fax: 302 691 1314
cdaengineering.com

DRAWN BY:	PJM
CHECKED BY:	CD
PROJECT No.:	22.118.00
SCALE:	1"=20'
DATE:	2/1/23
CAD FILE:	...\DWG\22.118 DELDOT.DWG

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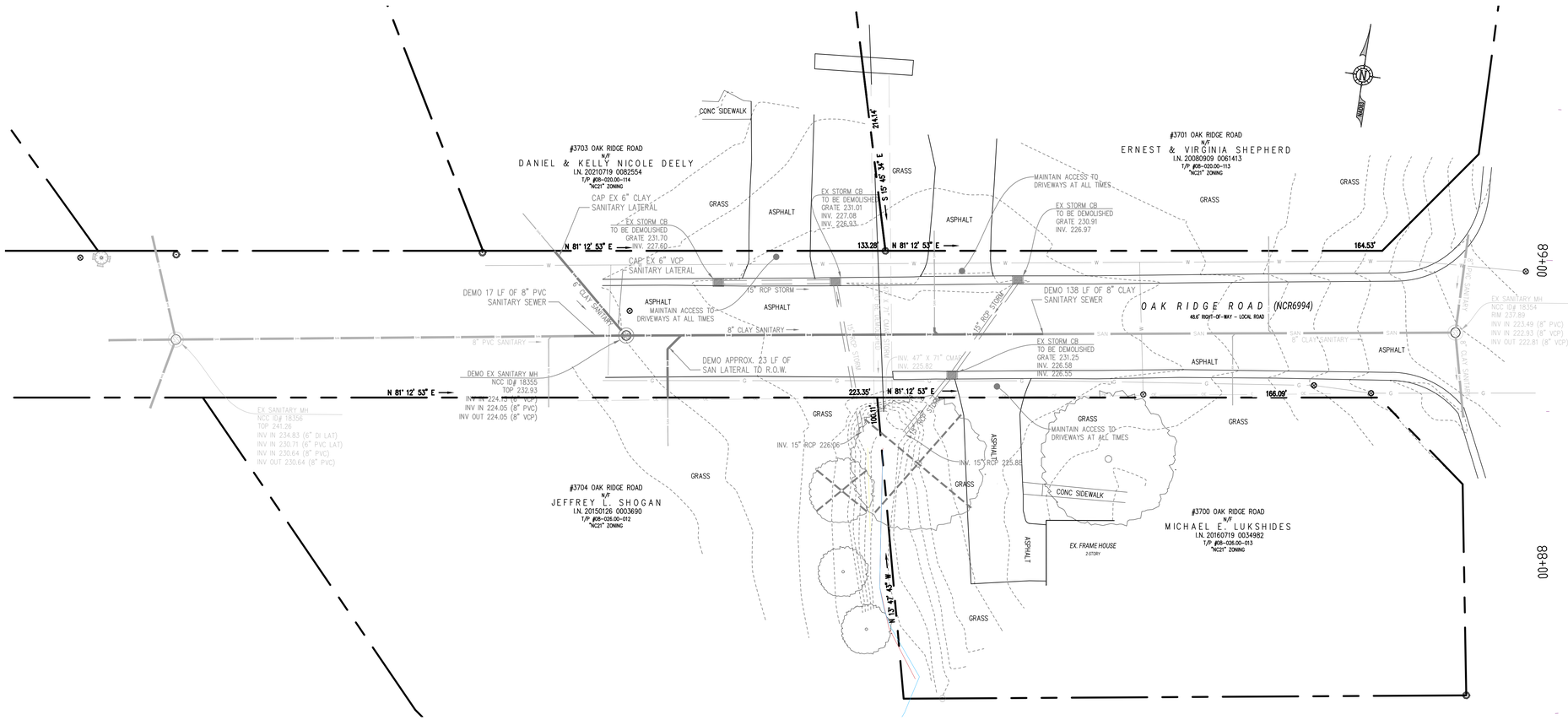
1"=20'

REPLACEMENT OF BRIDGE I-185 ON OAK RIDGE ROAD

MILL CREEK HUNDRED NEW CASTLE COUNTY DELAWARE

DRAWING TITLE: COVER SHEET

DRAWING NUMBER: SS-01



SITE CONSTRUCTION NOTES:

1. PUBLIC ACCESS TO OAK RIDGE DRIVE TO SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ACCESS TO ALL DRIVEWAYS & RESIDENCES SHALL ALSO BE MAINTAINED AT ALL TIMES.
2. EXISTING SANITARY LATERALS TO REMAIN ACTIVE AND IN SERVICE AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE LATERAL REPLACEMENTS AND CONNECTIONS TO PREVENT LOSS OF SERVICE.

811
Know what's **below.**
Call before you dig.

MISS UTILITY PHONE 1-800-257-7777
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD SURVEY DATA AND PREVIOUS SURVEY DOCUMENTS. THERE LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF PRIVATE UTILITY MARKOUT.

FOR USE BY DEPARTMENT OF PUBLIC WORKS

REVISION	
PER NCC COMMENTS	3/21/24

CDA ENGINEERING INC.

CIVIL/SITE ENGINEERING AND LAND PLANNING

6 LARCH AVENUE
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WILMINGTON, DE 19804

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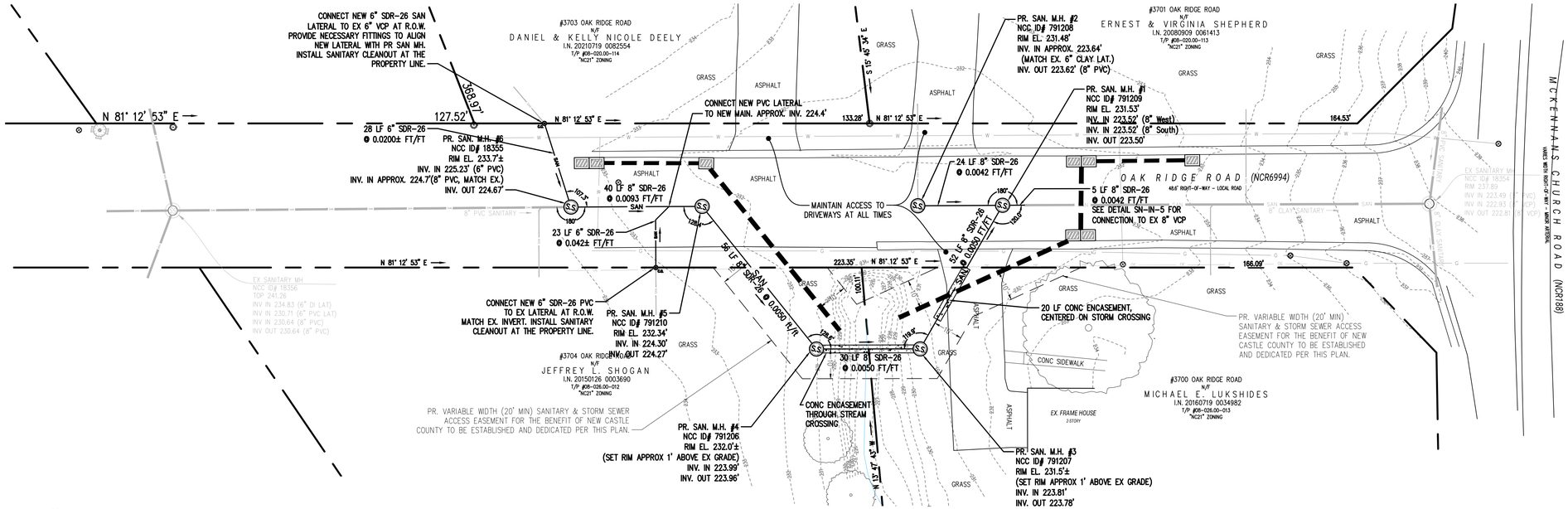
0' 10' 20' 40' 60'
1"=20'

REPLACEMENT OF BRIDGE I-185 ON OAK RIDGE ROAD

MILL CREEK HUNDRED NEW CASTLE COUNTY DELAWARE

DRAWING TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

DRAWING NUMBER: SS-02



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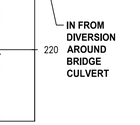
FOR USE BY DEPARTMENT OF PUBLIC WORKS



REVISION	
PER NCC COMMENTS	3/21/24

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0' 10' 20' 40' 60'
1"=20'

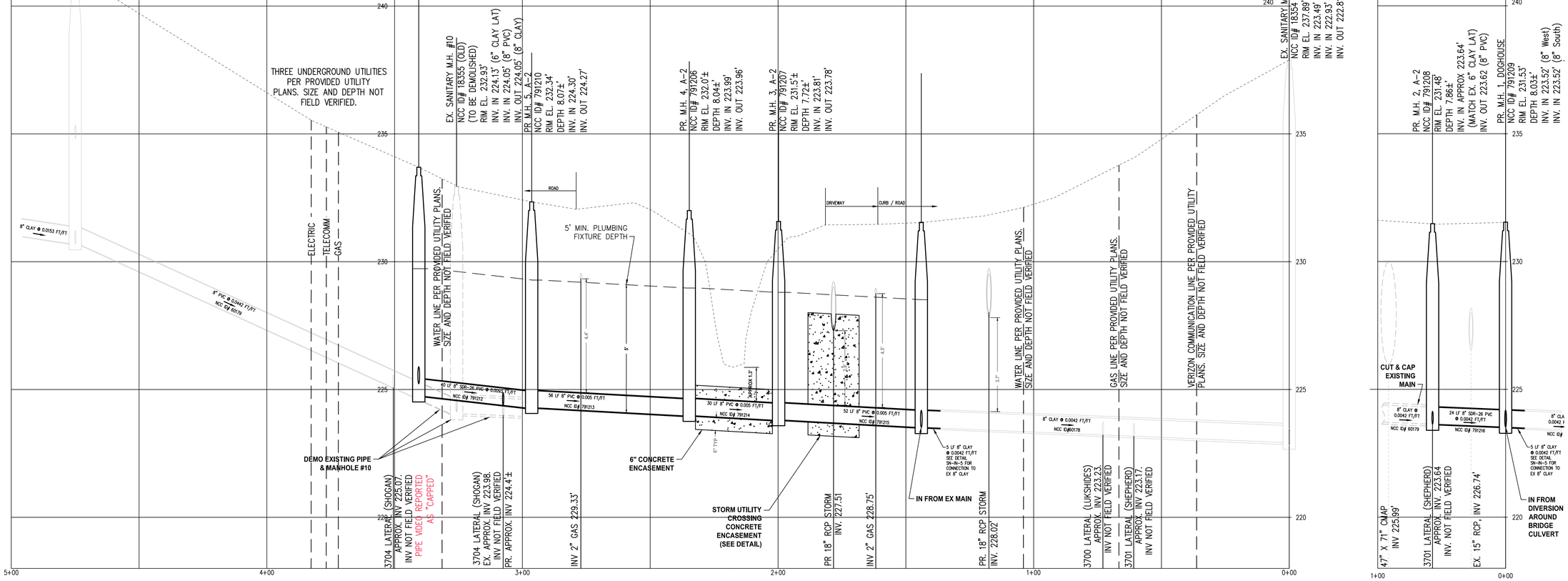
REPLACEMENT OF BRIDGE I-185 ON OAK RIDGE ROAD

MILL CREEK HUNDRED NEW CASTLE COUNTY DELAWARE

PROPOSED CONDITIONS

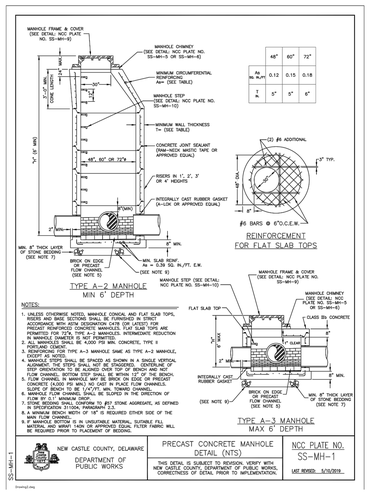
DRAWING TITLE:

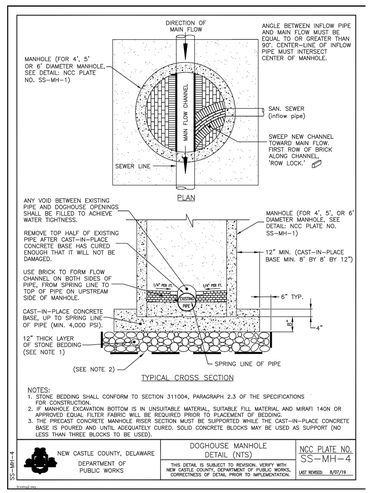
DRAWING NUMBER: SS-03

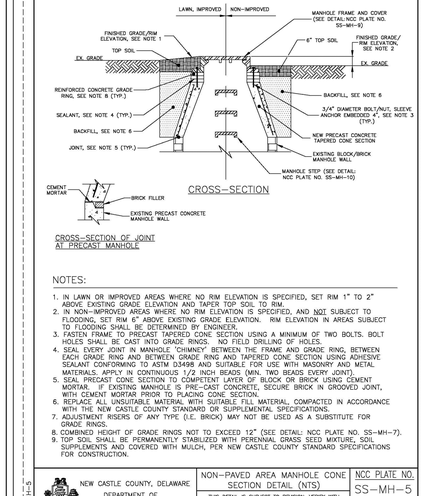


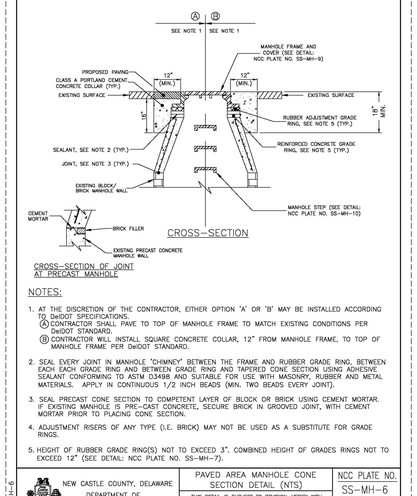
PROFILE: EX SAN MH #9 - EX SAN MH #11 (THROUGH NEW BYPASS) AND PR MH-1 TO PR MH-2 STUB

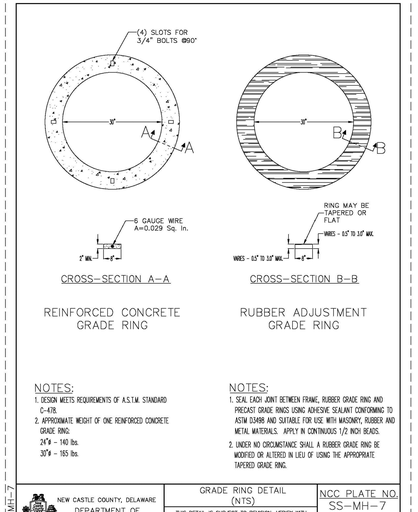
SCALE: HORIZONTAL 1" = 20' VERTICAL 1" = 2'

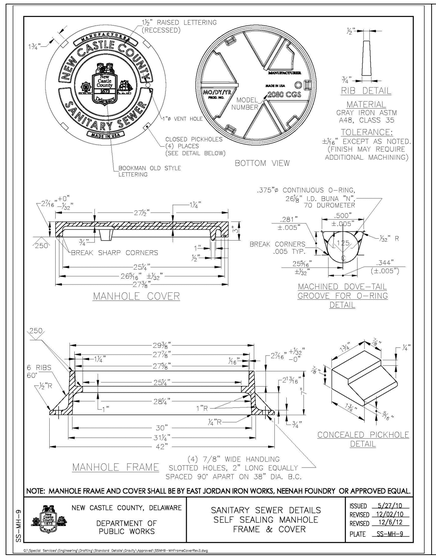


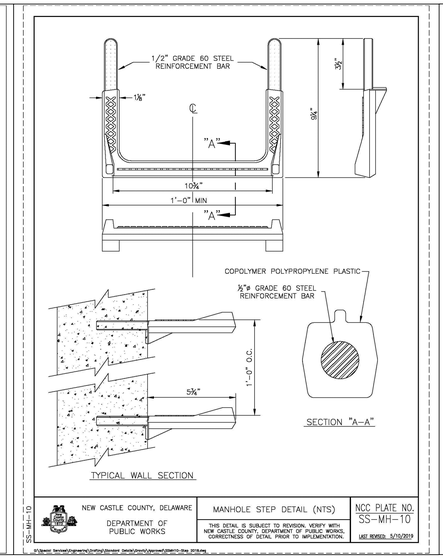


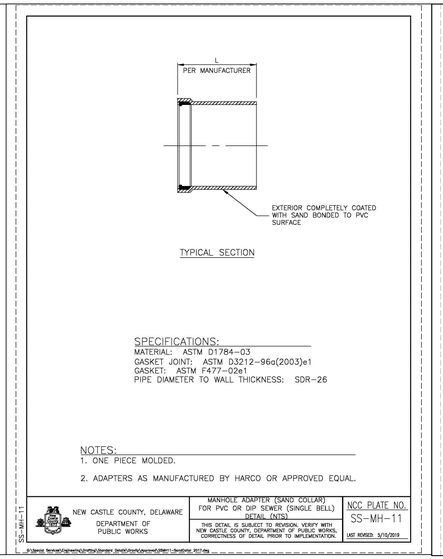


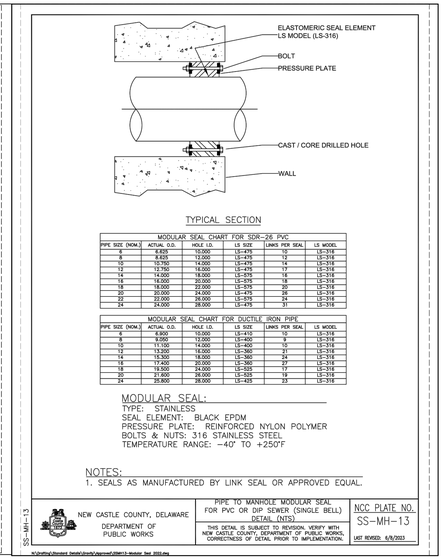












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FOR USE BY DEPARTMENT OF PUBLIC WORKS

REVISION
PER NCC COMMENTS 3/21/24

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CIVIL/SITE ENGINEERING AND LAND PLANNING
6 LARCH AVENUE
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WILMINGTON, DE 19804
Tel: 302 998 9202
Fax: 302 691 1314
cdaengineering.com

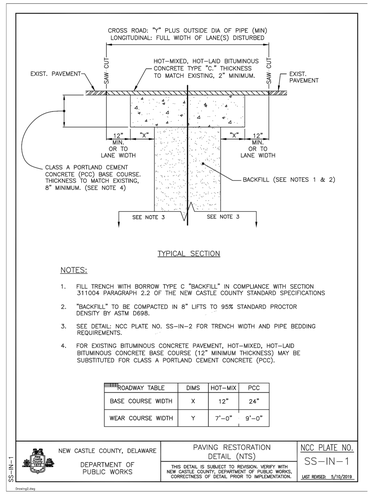
DRAWN BY: PJM
CHECKED BY: CD
PROJECT No.: 22.118.00
SCALE: AS NOTED
DATE: 2/1/23
CAD FILE: ...\DWG\22.118 DELDOT.DWG

REPLACEMENT OF BRIDGE I-185 ON OAK RIDGE ROAD

MILL CREEK HUNDRED NEW CASTLE COUNTY DELAWARE

DRAWING TITLE: SANITARY SEWER DETAILS

DRAWING NUMBER: SS-04



TYPICAL SECTION

NOTES:

1. FILL TRENCH WITH BORROW TYPE C "BACKFILL" IN COMPLIANCE WITH SECTION 311004 PARAGRAPH 2.2 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS
2. "BACKFILL" TO BE COMPACTED IN 8" LIFTS TO 95% STANDARD PROCTOR DENSITY BY ASTM D698.
3. SEE DETAIL: NCC PLATE NO. SS-IN-2 FOR TRENCH WIDTH AND PIPE BEDDING REQUIREMENTS.
4. FOR EXISTING BITUMINOUS CONCRETE PAVEMENT, HOT-MIXED, HOT-LAID BITUMINOUS CONCRETE BASE COURSE (12" MINIMUM THICKNESS) MAY BE SUBSTITUTED FOR CLASS A PORTLAND CEMENT CONCRETE (PCC).

ROADWAY TABLE	DIMS	HOT-MIX	PCC
BASE COURSE WIDTH	X	12"	24"
WEAR COURSE WIDTH	Y	7'-0"	9'-0"

SS-IN-1

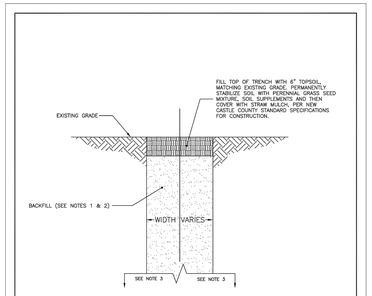
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

PAVING RESTORATION DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-1

LAST REVISED: 5/15/2019



TYPICAL SECTION

NOTES:

1. FILL TRENCH WITH BORROW TYPE C "BACKFILL" IN COMPLIANCE WITH SECTION 311004, PARAGRAPH 2.2 OF NEW CASTLE COUNTY SPECIFICATIONS.
2. ALL "BACKFILL" TO BE COMPACTED USING MECHANICAL TAMPER OR VIBRATORY COMPACTOR IN 8" LIFTS.
3. FOR TYPICAL TRENCH WIDTH AND PIPE BEDDING, SEE DETAIL: NCC PLATE NO. SS-IN-2.
4. FOR NON-PAVED AREAS IN WHICH A TURF TRAIL IS PROPOSED, SEE DETAIL: NCC PLATE NO. SS-MISC-2.

SS-IN-1A

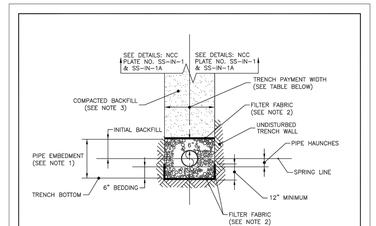
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

RESTORATION & TRENCH BACKFILL NON-PAVED AREA DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-1A

LAST REVISED: 5/15/2019



TYPICAL SECTION

NOTES:

1) PIPE EMBEDMENT: BEDDING, HAUNCHING AND INITIAL BACKFILL SHALL CONFORM TO #57 STONE AGGREGATE AS DEFINED IN SECTION 311004, PARAGRAPH 2.3 OF THE NEW CASTLE COUNTY SPECIFICATIONS.

1A) BEDDING: PRIOR TO PIPE INSTALLATION, CAREFULLY BRING STONE BEDDING UP TO PROPOSED BOTTOM OF PIPE TO BE INSTALLED AND ALONG ITS ENTIRE LENGTH. IF UNSUITABLE MATERIAL IS IN UNSTABLE MATERIAL SUITABLE FILL MATERIAL WILL BE REQUIRED PRIOR TO PLACEMENT OF BEDDING.

1B) PIPE HAUNCHES: CAREFULLY WORK, BY HAND, STONE BEDDING FROM THE EDGE OF THE TRENCH UP AND UNDER THE PIPE, TO SUPPORT THE HAUNCHES; CONTINUE FILLING, BY HAND, TO THE SPRING LINE OF THE PIPE.

2) MIRAFI 140N OR APPROVED EQUAL FILTER FABRIC.

3) FILL TRENCH WITH BORROW TYPE C "BACKFILL" IN COMPLIANCE WITH SECTION 311004, PARAGRAPH 2.2 OF THE NEW CASTLE COUNTY SPECIFICATIONS.

4) FOR NEW CASTLE COUNTY CAPITAL IMPROVEMENT PROJECTS, SEE TABLE FOR TRENCH PAYMENT WIDTH.

PIPE DIAMETER	TRENCH PAYMENT WIDTH
6"	36"
8"	36"
10"	36"
12"	36"
15" AND 16"	36"
18"	42"
20" AND 21"	42"
24"	48"
27"	60"
30"	60"

SS-IN-2

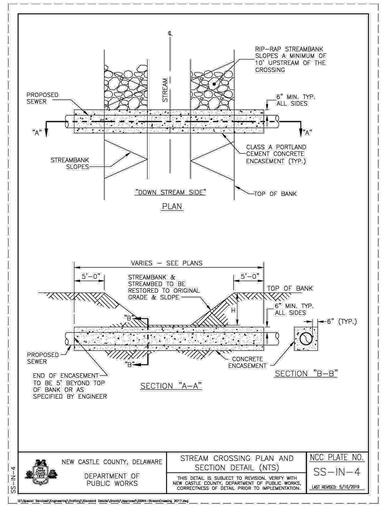
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

TRENCH WIDTH AND PIPE BEDDING DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-2

LAST REVISED: 5/24/2019



SS-IN-4

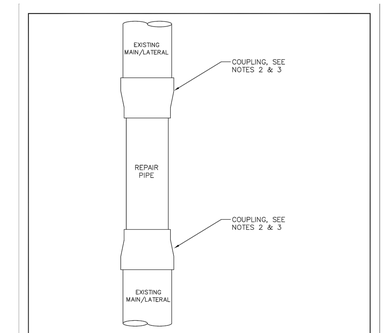
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

STREAM CROSSING PLAN AND SECTION DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-4

LAST REVISED: 5/15/2019



(NOT TO SCALE)

NOTES:

1. CONTRACTOR SHALL CONNECT COUPLINGS AND REPAIR PIPE TO EXISTING MAIN WHERE STRUCTURALLY SOUND.
2. CONTRACTOR SHALL USE GASKETED PVC COUPLINGS TO CONNECT EXISTING PVC MAIN TO REPAIR PIPE.
3. CONTRACTOR SHALL USE FERNCO SHIELDED PIPE COUPLING OR APPROVED EQUAL WHEN MATERIAL OF EXISTING MAIN IS DIFFERENT THAN REPAIR PIPE.

SS-IN-5

NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

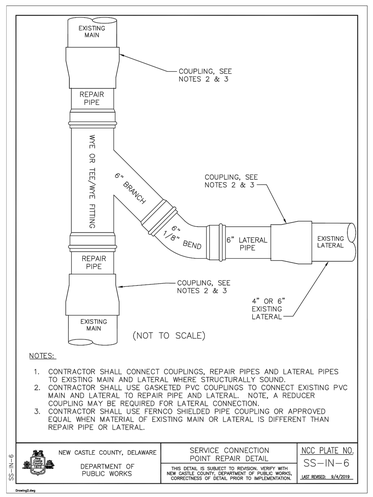
MAINLINE POINT REPAIR DETAIL

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-5

LAST REVISED: 5/1/2019

PROPOSED CONNECTIONS TO EXISTING SANITARY SEWER SHALL COMPLY WITH NEW CASTLE COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION. FURTHERMORE, IT IS SUBJECT TO A VISUAL INSPECTION BY AN INSPECTOR WITH THE DEPARTMENT OF PUBLIC WORKS AND FINAL APPROVAL CONTINGENT UPON THEIR JUDGEMENT. THE CONTRACTOR IS ADVISED TO CONTACT THE DEPARTMENT OF PUBLIC WORKS (ATTENTION: CHUCK RUTTER @ 302-395-5756) AT LEAST TWO BUSINESS DAYS PRIOR TO THE BEGINNING ANY WORK RELATED TO THE SANITARY SEWER



(NOT TO SCALE)

NOTES:

1. CONTRACTOR SHALL CONNECT COUPLINGS, REPAIR PIPES AND LATERAL PIPES TO EXISTING MAIN AND LATERAL WHERE STRUCTURALLY SOUND.
2. CONTRACTOR SHALL USE GASKETED PVC COUPLINGS TO CONNECT EXISTING PVC MAIN AND LATERAL TO REPAIR PIPE AND LATERAL. NOTE, A REDUCER COUPLING MAY BE REQUIRED FOR LATERAL CONNECTION.
3. CONTRACTOR SHALL USE FERNCO SHIELDED PIPE COUPLING OR APPROVED EQUAL WHEN MATERIAL OF EXISTING MAIN OR LATERAL IS DIFFERENT THAN REPAIR PIPE OR LATERAL.

SS-IN-6

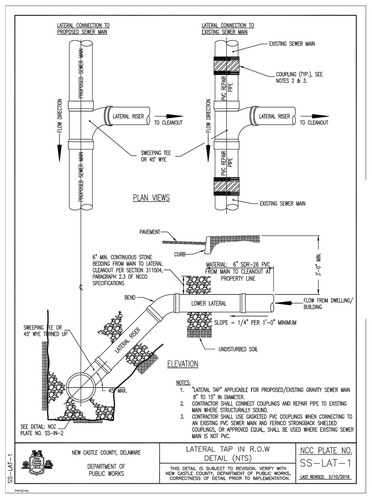
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

SERVICE CONNECTION REPAIR DETAIL

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-IN-6

LAST REVISED: 5/15/2019



NOTES:

1. "LATERAL TAP" APPLICABLE FOR PROPOSED/EXISTING GRAVITY SEWER MAIN 8" TO 15" IN DIAMETER.
2. CONTRACTOR SHALL CONNECT COUPLINGS AND REPAIR PIPE TO EXISTING MAIN WHERE STRUCTURALLY SOUND.
3. CONTRACTOR SHALL USE GASKETED PVC COUPLINGS WHEN CONNECTING TO AN EXISTING PVC SEWER MAIN AND FERNCO STRONGBACK SHIELDED COUPLINGS, OR APPROVED EQUAL, SHALL BE USED WHERE EXISTING SEWER MAIN IS NOT PVC.

SS-LAT-1

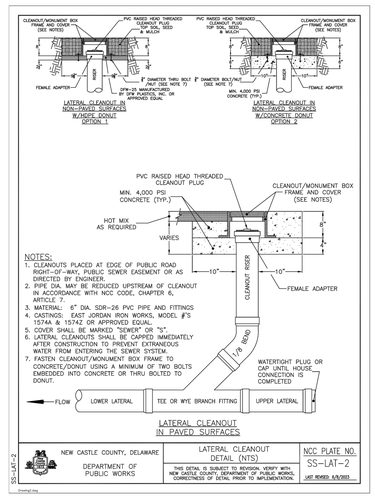
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

LATERAL TAP IN R.O.W DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-LAT-1

LAST REVISED: 5/15/2019



NOTES:

1. CLEANOUTS PLACED AT EDGE OF PUBLIC ROAD RIGHT-OF-WAY, PUBLIC SEWER EASEMENT OR AS DIRECTED BY ENGINEER.
2. PIPE DIA. MAY BE REDUCED UPSTREAM OF CLEANOUT IN ACCORDANCE WITH NCC CODE, CHAPTER 6, ARTICLE 7.
3. MATERIAL: 6" DIA. SDR-26 PVC PIPE AND FITTINGS
4. CASTINGS: EAST JORDAN IRON WORKS, MODEL #'S 1574A & 1574Z OR APPROVED EQUAL.
5. COVER SHALL BE MARKED "SEWER" OR "S".
6. LATERAL CLEANOUTS SHALL BE CAPPED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EXTRANEOUS WATER FROM ENTERING THE SEWER SYSTEM.
7. FASTEN CLEANOUT/MONUMENT BOX FRAME TO CONCRETE/DONUT USING A MINIMUM OF TWO BOLTS EMBEDDED INTO CONCRETE OR THRU BOLTED TO DONUT.

SS-LAT-2

NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

LATERAL CLEANOUT IN PAVED SURFACES

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-LAT-2

LAST REVISED: 6/5/2023

NOTES:

1. WHEN CROSSING UTILITY IS STORM SEWER
   IF STORM SEWER IS LESS THAN 18"ø AND WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 2', CONCRETE SHALL FILL THE VOID BETWEEN THEM WHILE CRADLING THE STORM SEWER.

   IF STORM SEWER IS EQUAL TO OR GREATER THAN 18"ø AND WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 3', CONCRETE SHALL FILL VOID BETWEEN THEM WHILE CRADLING THE STORM SEWER.

   CROSSING UTILITY OTHER THAN STORM SEWER OR WATER MAIN:
   WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 12", CONCRETE SHALL FILL THE VOID BETWEEN THEM WHILE CRADLING THE CROSSING UTILITY.

   WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS 12" OR GREATER, THE CROSSING UTILITY SHALL BE SUPPORTED WITH AASHTO #57 STONE OR EQUIVALENT.
2. WHEN CROSSING UTILITY IS A WATER MAIN, SEE NCC PLATE NO. SS-MISC-4.
3. CONCRETE ENCASEMENT SHALL SPAN A MINIMUM DISTANCE OF 10' TO EITHER SIDE OF CROSSING UTILITY.
4. ALL CONCRETE SHALL BE 4,000 P.S.I. MINIMUM.
5. THE VERTICAL SEPARATION SHALL NOT BE LESS THAN 6".

SS-UC-1

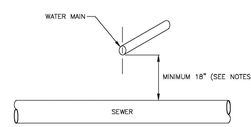
NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

CONCRETE ENCASEMENT DETAIL FOR UTILITY CROSSING (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-UC-1

LAST REVISED: 5/15/2019



WATER MAIN/SEWER CROSSING

NOTES:

WHERE THE VERTICAL SEPARATION BETWEEN A WATER MAIN AND SEWER (WHETHER WATER MAIN IS LOCATED ABOVE OR BELOW THE SEWER) IS 18" OR LESS:

1) SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE AND BE PRESSURE TESTED AT 150 p.s.i. TO ASSURE WATER TIGHTNESS, PRIOR TO BACKFILLING.
2) EITHER THE WATER MAIN OR SEWER MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING, AS MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY NEW CASTLE COUNTY FOR USE IN WATER MAIN CONSTRUCTION.
3) THE JOINTS IN THE SEWER PIPELINE SHALL BE ARRANGED SUCH THAT THEY WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN CROSSING.
4) WHEN THE WATER MAIN CROSSES BELOW THE SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

SS-MISC-4

NEW CASTLE COUNTY, DELAWARE
DEPARTMENT OF PUBLIC WORKS

WATER MAIN CROSSING DETAIL (NTS)

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION.

NCC PLATE NO. SS-MISC-4

LAST REVISED: 5/15/2019

BYPASS PUMPING NOTES

1. CONTRACTOR TO CONTACT NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS OF PROPOSED PUMP AROUND METHOD AND SCHEDULE. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AN EMERGENCY CONTACT NAME AND PHONE NUMBER. CONTACT NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS AT 302-395-5700.
2. SEWAGE FLOW IN EXISTING SEWER IS TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. AT NO TIME SHALL IT BE PERMITTED FOR SEWAGE TO BE DISCHARGED ONTO THE GROUND OR INTO STREAMS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FLOODING OR DAMAGE THAT MAY RESULT FROM THIS OPERATION.
4. THE CONTRACTOR SHALL NOTIFY NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS AT 302-395-5700 AT LEAST 48 HOURS IN ADVANCE OF THE INTENDED START OF CONSTRUCTION AND COORDINATE ALL WORK WITH THE COUNTY REPRESENTATIVE.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PUMPS, SUCTION AND DISCHARGE PIPING, PLUGS, AND APPURTENANCES TO DIVERT THE FLOW OF SEWAGE AROUND THE PIPE SECTION. THE BYPASS PUMPING SYSTEM SHALL BE OF SUFFICIENT CAPACITY TO TRANSPORT THE DESIGN FLOW NOTED ON THESE CONTRACT DRAWINGS. THE CONTRACTOR WILL BE RESPONSIBLE FOR FOR FURNISHING THE NECESSARY LABOR AND SUPERVISION TO SET UP AND OPERATE THE BYPASS PUMPING SYSTEM. STATIONARY EQUIPMENT (PUMPS, COMPRESSORS, ELECTRIC GENERATORS, ETC.) ENGINES SHALL BE CRITICALLY SILENCED WITH EXHAUST SILENCERS AND INSULATED ENCLOSURES. THE BYPASS PUMPING SYSTEM SHALL BE FURNISHED AND INSTALLED AS TO PREVENT SPILLS FROM THE PUMPS AND PIPING. ANY SPILLAGE THAT OCCURS SHALL BE IMMEDIATELY CLEANED UP, AND THE SPILL AREA RETURNED TO A CLEAN AND SANITARY CONDITION. THE LOCATION OF THE BYPASS PUMPING DISCHARGE MUST BE APPROVED IN ADVANCE BY NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS.
6. FLOW CONTROL PRECAUTIONS: WHEN FLOW IN SANITARY SEWER IS UNPLUGGED, SUFFICIENT PRECAUTIONS MUST BE TAKEN TO PROTECT THE SANITARY SEWER LINE AND ADJACENT PROPERTY OWNERS FROM OVERFLOW DAMAGE THAT MIGHT RESULT FROM THE SANITARY SEWER SURCHARGING.
7. DESIGN FLOW FOR PUMPING AROUND SYSTEMS BASED ON PIPE DIAMETER AND PIPE SLOPE PROVIDED BY NEW CASTLE COUNTY.
   a. PUMPING SYSTEM FROM MANHOLE #18356 TO 18354 SHALL BE DESIGNED FOR 0.25 MGPD PEAK.
8. EXISTING SEWER SYSTEM MAY BE SUBJECT TO HIGHER FLOWS DURING STORM EVENTS. THE CONTRACTORS SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID SEWAGE OVERFLOWS DURING INCLEMENT WEATHER.
9. PUMP AROUND SYSTEM COMPONENTS, INSTALLATION, AND OPERATION SHALL CONFORM TO THE SPECIFICATIONS AND GUIDELINES OF THE MANUFACTURER.
10. PUMP DISCHARGE PIPING SHALL BE SUPPORTED OVER STREAMS OR CULVERTS AS REQUIRED DURING CONSTRUCTION ACTIVITIES.
11. ALL PRIVATE PROPERTY OWNERS SHALL BE NOTIFIED OF BYPASS PUMPING OPERATIONS.
12. THE CONTRACTOR SHALL UTILIZE ROAD RAMPS OVER BYPASS PUMP DISCHARGE PIPING WHEN CROSSING ANY ROAD OR DRIVEWAY TO MAINTAIN PROPER ACCESS.
13. THE CONTRACTOR SHALL SUBMIT TO NEW CASTLE COUNTY, BYPASS PUMPING SHOP DRAWINGS FOR REVIEW.
14. BYPASS PUMPING SYSTEM SHALL INCLUDE AN INSTALLED SECONDARY PUMP. SECONDARY PUMP SHALL BE OF EQUAL SIZE AND CAPACITY AS THE PRIMARY PUMP AND SHALL AUTOMATICALLY OPERATE IN CASE THE PRIMARY PUMP FAILS.
15. ALL BYPASS PUMPING OPERATIONS SHALL CONFORM TO DELDOT PROJECT SPECIFICATIONS AND NEW CASTLE COUNTY SPECIFICATION 021005 – TEMPORARY BYPASS PUMPING SYSTEM.

FOR USE BY DEPARTMENT OF PUBLIC WORKS

REVISION
PER NCC COMMENTS 3/21/24

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CHECKED BY: CD
PROJECT No.: 22.118.00
SCALE: AS NOTED
DATE: 2/1/23
CAD FILE: ...\DWG\22.118 DELDOT.DWG

REPLACEMENT OF BRIDGE I-185 ON OAK RIDGE ROAD

MILL CREEK HUNDRED NEW CASTLE COUNTY DELAWARE

DRAWING TITLE: SANITARY SEWER DETAILS & NOTES

DRAWING NUMBER: SS-05