

GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION



CONSTRUCTION & RIGHT-OF-WAY PLANS FOR: BR 3-713 ON S277 ROBINSONVILLE ROAD OVER LOVE CREEK

CONTRACT NUMBER: **T201407303**
FEDERAL AID PROJECT NUMBER: **EBROS-S277(02)**

COUNTY: **SUSSEX** M.R. #: **S277**

U.S. CUSTOMARY
UNITS

DESIGN DESIGNATION

FUNCTIONAL CLASS: RURAL LOCAL	D.H.V. PROJECTED: 235	YEAR: 2040
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT	DESIGN SPEED: 50 M.P.H.	
A.A.D.T. CURRENT: 2271	YEAR: 2010	TRUCKS: 14%
A.A.D.T. PROJECTED: 3600	YEAR: 2040	DIRECTION OF DISTRIBUTION: 65%

INDEX OF SHEETS

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TOTAL SHEETS: 21

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
HORIZONTAL CURVE RADIUS	833'-0"	550'-0"	05/02/14

ADDENDA & REVISIONS

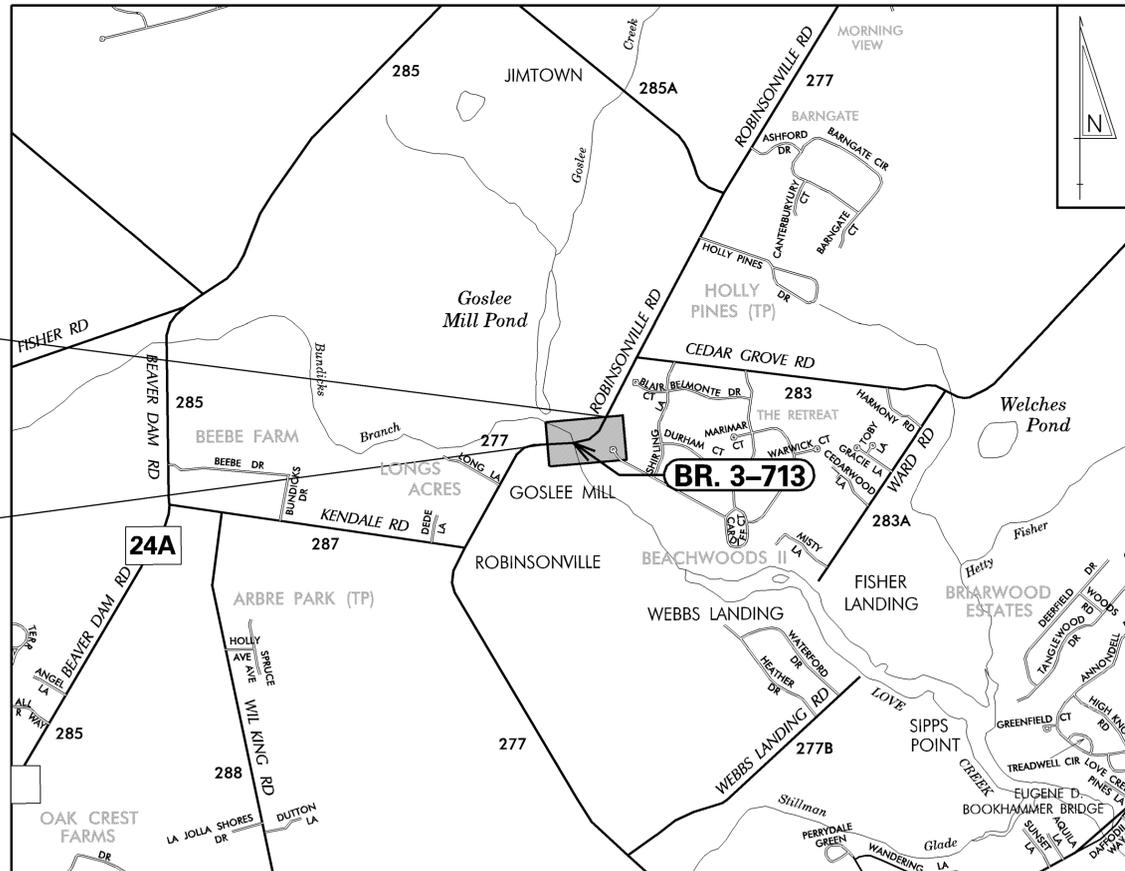
DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
1395	PLAN FOR CONSTRUCTION OF CONTRACT NO 1395

END CONTRACT
STATION 19+20

BEGIN CONTRACT
STATION 10+70



RECOMMENDED

Sanh E Criswell
AREA ENGINEER, CONSTRUCTION 06/11/2015
DATE

Bradford L. Schmitz
GROUP ENGINEER, CONSTRUCTION 06/12/2015
DATE

Jim A. Zujewski
ASSISTANT DIRECTOR, CONSTRUCTION 07/22/2015
DATE

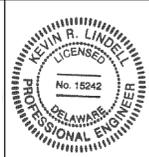
RECOMMENDED

Vincent W. Davis
STORMWATER ENGINEER
DATE 06/10/2015



RECOMMENDED

Kevin R. Lindell
SQUAD MANAGER, BRIDGE DESIGN
DATE 06/09/2015



RECOMMENDED

Jim A. Zujewski
BRIDGE DESIGN ENGINEER
DATE 06/15/2015



RECOMMENDED

Jim A. Zujewski
ASSISTANT DIRECTOR, BRIDGE
DATE 06/18/2015



APPROVED

Robert Brian McCleary
CHIEF ENGINEER
DATE 07/20/2015



EXISTING SYMBOLS

DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
	DRAINAGE INLET
	DRAINAGE JUNCTION BOX
	DRAINAGE MANHOLE
	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES	
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	CURB
	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
	LAMP AND POST - RESIDENTIAL
	MAILBOX
	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES	
	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

RIGHT-OF-WAY SYMBOLS	
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE
	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING DENIAL OF ACCESS
	EXISTING R/W & DENIAL OF ACCESS

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
	GAS MANHOLE
	GAS METER
	GAS VALVE
	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD
	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES	
	VERIZON - CABLE
	DELAWARE ELECTRIC COOPERATIVE

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	BRICK PATTERNED SURFACE
	BUTT JOINT
	CONSTRUCTION BASELINE
	CONSTRUCTION SAFETY FENCE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CLEAR ZONE
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPE 1
	GUARDRAIL, TYPE 2
	GUARDRAIL, TYPE 3
	GUARDRAIL END ANCHORAGE
	GUARDRAIL END TREATMENT, TYPE 1
	GUARDRAIL END TREATMENT, TYPE 2
	GUARDRAIL END TREATMENT, TYPE 3
	HORIZONTAL CLEARANCE
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
	LIMIT OF CONSTRUCTION
	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	PROPOSED DENIAL OF ACCESS
	PROPOSED PERMANENT EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED R/W & DENIAL OF ACCESS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED RIGHT-OF-WAY BASELINE

PROPOSED SYMBOLS

IDENTIFIERS	
	ADJUST BY CONTRACTOR
	ADJUST BY OTHERS
	CONCRETE SAFETY BARRIER
	CURB OR CURB & GUTTER
	CONVERT TO JUNCTION BOX
	CONVERT TO DRAINAGE MANHOLE
	CURB OPENING
	CURB RAMP / TYPE
	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
	CONSTRUCTION SAFETY FENCE
	DRAINAGE INLET
	DO NOT DISTURB
	ENERGY DISSIPATOR
	FENCE
	FLARED END SECTION
	FILL WITH FLOWABLE FILL
	FILTRATION STRUCTURE
	GUARDRAIL
	JUNCTION BOX
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	REMOVE BY CONTRACTOR
	REMOVE BY OTHERS
	UNDERDRAIN / LENGTH
	UNDERDRAIN OUTLET PIPE

LANDSCAPING	
	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC	
	ITMS CONDUIT
	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

PAVEMENT SECTION(S)	
	2" WARM-MIX TYPE C 6" GABC
	2" TYPE C, PG 64-22, 160 GYRATIONS, CARBONATE STONE 3" TYPE B, PG 64-22, 160 GYRATIONS, 8" GABC
	2" WARM-MIX TYPE C
	POROUS FLEXIBLE PAVEMENT

UTILITY COMPANY FACILITIES	
	VERIZON - CABLE
	DELAWARE ELECTRIC COOPERATIVE
	SUSSEX - SANITARY SEWER MAIN

EROSION & SEDIMENT CONTROL	
	DEWATERING BASIN
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	REINFORCED SILT FENCE
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE
	SUMP PIT
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN

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GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
() INSIGNIFICANT	NONE
() MINOR	CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
(X) MEDIUM	THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MAJOR	SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR PRIOR TO THE EXECUTION OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT.

3. ELECTRONIC PROJECT 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)	RASTER FILES, IN PDF FILE FORMAT, FOR ALL PLAN SHEETS.
()	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, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

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.

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

(X)	CROSS SECTIONS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)
(X)	RIGHT-OF-WAY PLANS (INCLUDED IN PLAN SET)

5. 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. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 743000.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR SHALL BE PAID FOR UNDER ITEM 743031.

6. THE DISTURBED AREA FOR THIS PROJECT IS 2.22 ACRES.

7. THE ADDITIONAL IMPERVIOUS AREA FOR THIS PROJECT IS 6912.00 SQ. FT

8. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A THREE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE THREE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

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.

SECTION 200

- THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE SET 46 INCHES ABOVE THE ROADWAY SURFACE. 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 PLACED IN AN APPROPRIATE SIZE PVC SLEEVE. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.
- ITEMS TO BE REMOVED UNDER ITEM 210000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - EXISTING (3) - 6" DIAMETER CORRUGATED METAL PIPES
 - EXISTING 18" HDPE DRAINAGE PIPES
 - EXISTING 18" REINFORCED CONCRETE PIPES
 - PORTION OF EXISTING 12" RCP AS SHOWN ON PLANS
 - EXISTING RIPRAP ON THE UPSTREAM AND DOWNSTREAM ENDS OF EXISTING PIPES
- THE SOIL BORING REVEALED POTENTIAL UNSUITABLE MATERIAL AT THE APPROXIMATE ELEVATION OF THE PROPOSED COARSE AGGREGATE. THE LAYER MAY BE UNACCEPTABLE FOR THE BEARING OF THE STRUCTURE AND SHALL BE EXCAVATED AN ADDITIONAL 1'-0" PAST THE DEPTH OF THE COARSE AGGREGATE. THE ADDITIONAL EXCAVATION SHALL BE PAID UNDER ITEM 207000 - EXCAVATION AND BACKFILL FOR STRUCTURES AND SHALL BE BACKFILLED WITH CRUSHED CONCRETE AGGREGATE (PAYMENT UNDER ITEM UP TO THE 1'-0" OF ADDITIONAL EXCAVATION.

SECTION 300

- A. THE CONTRACTOR MAY ELECT TO USE ANY OF THE FOLLOWING MATERIALS TO MEET THE REQUIREMENTS OF ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B':
 - CRUSHED STONE (PER STANDARD SPECIFICATION 821)
 - CRUSHED CONCRETE (PER STANDARD SPECIFICATION 821)
 - HOT-MIX MILLINGS (PER SPECIAL PROVISION 302514 MILLED HOT-MIX BASE COURSE)

THE CONTRACTOR WILL NOT BE ALLOWED TO MIX DIFFERENT MATERIALS (OR SIMILAR MATERIALS FROM DIFFERENT SOURCES) TO MEET THE REQUIREMENTS OF ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

ALL OF THE ABOVE LISTED MATERIALS ARE PERMITTED FOR USE ON THE JOB, PROVIDED THEY ARE SEPARATED INTO APPROVED AREAS. EACH AREA OF BASE COURSE MUST BE CONSTRUCTED USING MATERIALS FROM A SINGULAR SOURCE, FULL DEPTH, IN ORDER THAT PROPER TESTING MAY BE ACCOMPLISHED. THE CONTRACTOR AND ENGINEER SHALL AGREE ON THE LIMITS OF EACH SOURCE OF MATERIAL PRIOR TO PLACEMENT.

B. THE QUANTITY USED FOR BASE OF EACH OF THE ABOVE LISTED MATERIALS WILL BE THE CONTRACTOR'S CHOICE, WITH THE TOTAL BEING EQUAL TO THE ACTUAL QUANTITY USED UNDER ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

C. THE CONTRACTOR MAY ALSO ELECT TO RECYCLE MILLINGS FOR USE IN HOT-MIX AS PERMITTED BY THE STANDARD SPECIFICATIONS. THE CHOICE OF THE QUANTITY OF MILLINGS USED FOR THIS PURPOSE, OR FOR BASE COURSE, LIES WITH THE CONTRACTOR. ALL EXCESS MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

D. HOT-MIX MILLINGS MAY BE GENERATED FROM THE FOLLOWING SOURCES:

- MATERIAL MILLED ON THIS CONTRACT AT THE CONTRACTOR'S CHOICE UNDER ITEM 202000.
- MILLED MATERIAL FURNISHED ON THE JOB FROM THE CONTRACTOR'S YARD OR OTHER OUTSIDE SOURCE. ALL MILLED MATERIALS SHALL MEET THE MATERIAL REQUIREMENTS OF ITEM 302514 - MILLED HOT-MIX BASE COURSE.

E. PORTLAND CEMENT CONCRETE STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED: (f'c = 28 DAY COMPRESSIVE STRENGTH) PRECAST CONCRETE ELEMENTS - f'c = 5000 psi ITEM 602017 - P.C.C. MASONRY, PAPAPET, CLASS A - f'c = 4500 psi MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS WITH THE FOLLOWING MODIFICATIONS: ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

SECTION 600

6. THE DEPARTMENT AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES AND DRAINAGE STRUCTURES TO BE USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION PRIOR TO THE START OF CONSTRUCTION. EXISTING PIPES AND DRAINAGE STRUCTURES DAMAGED DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED OR REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE. THE DEPARTMENT WILL VIDEO INSPECT NEW PIPE RUNS TO CONFIRM CONDITION PRIOR TO ACCEPTANCE. PIPE CLEANING PRIOR TO VIDEO INSPECTION AND MAINTENANCE OF TRAFFIC DURING THE VIDEO INSPECTION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE PIPE ITEM THAT IS BEING VIDEO INSPECTED.

7. PORTLAND CEMENT CONCRETE STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED: (f'c = 28 DAY COMPRESSIVE STRENGTH) PRECAST CONCRETE ELEMENTS - f'c = 5000 psi ITEM 602017 - P.C.C. MASONRY, PAPAPET, CLASS A - f'c = 4500 psi MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS WITH THE FOLLOWING MODIFICATIONS: ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

8. BAR REINFORCEMENT REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60, ALL REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY, EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963).

SECTION 700

- ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO BE INTO THE EXISTING PAVEMENT. ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH.
- PROPOSED STRIPING SHALL MATCH THE EXISTING STRIPING PATTERN OF A DOUBLE YELLOW CENTERLINE. WHITE EDGE LINES SHALL BE ADDED ALONG THE PROJECT LIMITS. PAYMENT FOR PERMANENT PAVEMENT STRIPING UNDER ITEM 748548.
- ALL M.O.T. ITEMS WITH THE EXCEPTION OF CHANGEABLE MESSAGE BOARDS AND FLAGGERS WILL BE INCLUDED IN ITEM 763643 - MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.

SECTION 900

12. 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 THE CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NDIS KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S TEAM SUPPORT SECTION. A COPY OF THE GENERAL PERMIT OR THE NDIS CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

MISCELLANEOUS

- DESIGN CRITERIA
AASHTO HL-93 FOR LIVE LOAD
25 PSF DEAD LOAD HAS BEEN INCLUDED FOR FUTURE OVERLAY.
- HYDRAULIC DATA
DRAINAGE AREA = 10.8 SQ. MILES
DESIGN FREQUENCY = 25 YEARS
DESIGN DISCHARGE = 400 CFS
25 YEAR FLOOD ELEVATION = 5.33 FT

SCOUR ANALYSIS

THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH HEC-18 - 'EVALUATING SCOUR AT BRIDGES' AND HEC-14 - 'HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS.' SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE WORST CASE OF THE OVERTOPPING FLOOD OR THE 500-YR FLOOD EVENT.

SCOUR DESIGN EVENT: 50 YEAR STORM
DESIGN DISCHARGE: 481 CFS
DESIGN VELOCITY: 3.73 FT/S
TAILWATER DEPTH: 5.01 FT

- ALL GUARDRAIL ELEMENTS, SHAPES, AND HARDWARE FOR ITEMS 720050, 720585, 726001, 725003, AND 720055 SHALL BE FUSION BONDED POLYESTER COATED AND SHALL BE GALVANIZED. THE COATING SHALL BE MEDIUM BROWN IN COLOR, WITH THE PROPOSED COLOR BEING SUBMITTED TO THE ENGINEER FOR APPROVAL. PAYMENT FOR FURNISHING AND APPLICATION OF ALL MATERIAL NECESSARY FOR THE FUSION BONDED POLYESTER COATING SHALL BE UNDER ITEM 720509 - GALVANIZED AND FUSION-BONDED POLYESTER COATED GUARDRAIL. REFER TO SPECIAL PROVISIONS OF ITEM 720509 FOR FURTHER GUIDANCE.
- ENVIRONMENTAL COMPLIANCE
SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.
- ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT WITH SPECIAL CONSIDERATION FOR THE DRIVEWAYS IN 2-L AND 2-R.
- UTILITIES
SEE UTILITY STATEMENT FOR DETAILS. OVERHEAD UTILITIES ARE TO REMAIN IN PLACE AND PROPER CLEARANCES ARE TO BE MAINTAINED. DEC UNDERGROUND UTILITIES ARE TO REMAIN IN PLACE AND SHALL NOT BE DISTURBED.

LOAD RATING SUMMARY

DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.39	N/A	SPAN 1: EXTERIOR BEAM	109	SHEAR
HL-93 TANDEM (INVENTORY)	1.33	N/A	SPAN 1: EXTERIOR BEAM	101	SHEAR
HL-93 TRUCK TRAIN (INVENTORY)	N/A	N/A	N/A	N/A	N/A
HS-20 (INVENTORY)	1.39	46.89	SPAN 1: EXTERIOR BEAM	109	SHEAR
HL-93 TRUCK (OPERATING)	1.80	N/A	SPAN 1: EXTERIOR BEAM	109	SHEAR
HL-93 TANDEM (OPERATING)	1.72	N/A	SPAN 1: EXTERIOR BEAM	101	SHEAR
HL-93 TRUCK TRAIN (OPERATING)	N/A	N/A	N/A	N/A	N/A
HS-20 (OPERATING)	1.80	64.67	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S220 & LEGAL-LANE (LEGAL)	2.63	52.62	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S335 & LEGAL-LANE (LEGAL)	1.47	51.44	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S437 & LEGAL-LANE (LEGAL)	1.47	53.89	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S330 & LEGAL-LANE (LEGAL)	2.54	76.29	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S435 & LEGAL-LANE (LEGAL)	2.09	73.24	SPAN 1: EXTERIOR BEAM	109	SHEAR
DE S540 & LEGAL-LANE (LEGAL)	1.95	77.90	SPAN 1: EXTERIOR BEAM	109	SHEAR

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

ADDENDUMS / REVISIONS

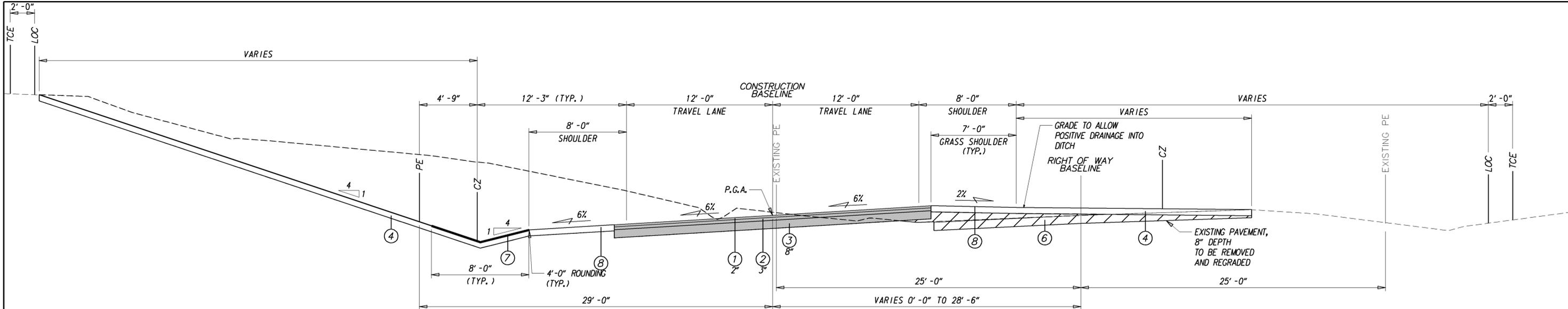
NOT TO SCALE

BR 3-713 ON S277
ROBINSONVILLE ROAD OVER
LOVE CREEK

CONTRACT	BRIDGE NO.	3-713
T201407303	DESIGNED BY:	CBB
COUNTY	CHECKED BY:	KRL
SUSSEX		

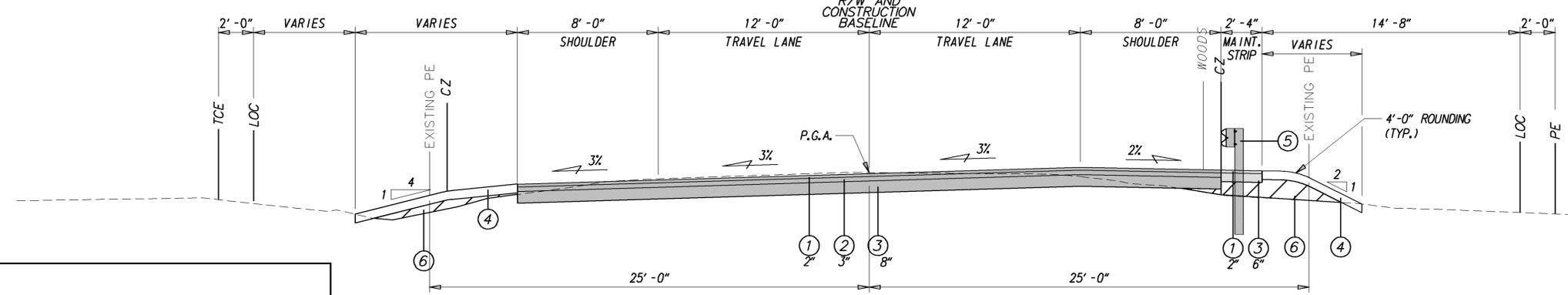
NOTES

SHEET NO.	3
TOTAL SHTS.	21



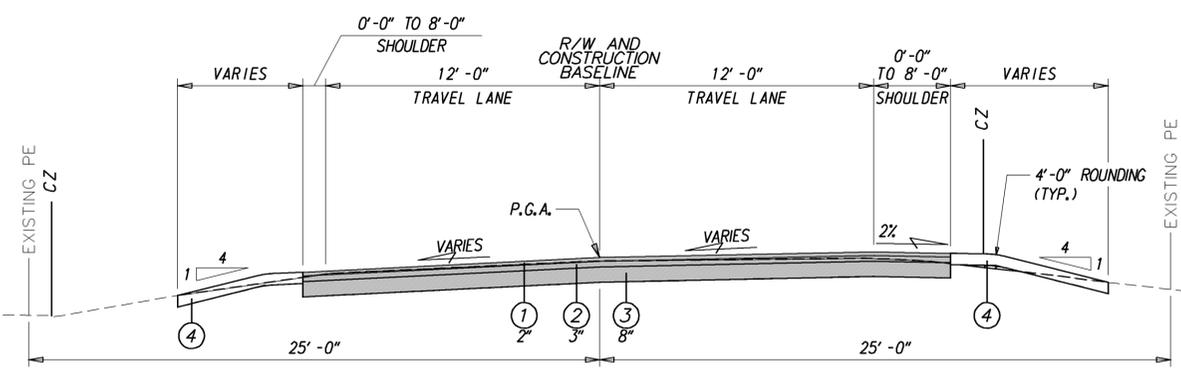
TYPICAL SECTION

TRANSITIONING CROSS SLOPES
STA. 13+82.67 TO 17+44.14



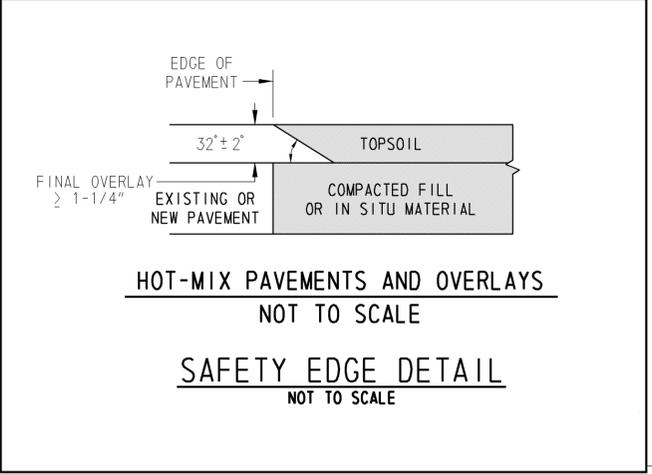
TYPICAL SECTION

TRANSITIONING CROSS SLOPES
STA. 11+54.03 TO 13+00.00



TYPICAL SECTION

TRANSITIONING CROSS SLOPES
STA. 10+70.00 TO STA. 11+54.03 AND STA. 17+44.14 TO STA. 19+20.00



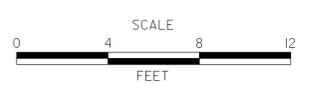
HOT-MIX PAVEMENTS AND OVERLAYS
NOT TO SCALE
SAFETY EDGE DETAIL
NOT TO SCALE

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

LEGEND

- ① ITEM 401801 - WMA, SUPERPAVE TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- ② ITEM 401810 - WMA, SUPERPAVE TYPE B, 160 GYRATIONS, PG 64-22
- ③ ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- ④ ITEM 908004 - TOPSOIL, 6" DEPTH
ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- ⑤ ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
ITEM 720055 - CURVED GUARDRAIL SECTION
ITEM 720585 - GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1-31
- ⑥ ITEM 209006 - BORROW, TYPE F
- ⑦ ITEM 908020 - EROSION CONTROL BLANKET MULCH
- ⑧ ITEM 401510 - POROUS FLEXIBLE PAVEMENT

ADDENDUMS / REVISIONS



CONTRACT T201407303	BRIDGE NO. 3-713
COUNTY SUSSEX	DESIGNED BY: CBB CHECKED BY: KRL

TYPICAL SECTIONS	SHEET NO. 4
	TOTAL SHTS. 21

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HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
TP #2	18+01.54	-13.96	261772.30	722142.35	11.90
TP #3	14+95.18	8.03	261528.32	721964.61	6.33
TP #4	11+27.69	-14.81	261431.25	721611.40	3.84
TP #5	15+07.57	76.06	261479.90	722014.23	8.02
TP #9	13+29.53	-85.30	261546.06	721786.45	11.61
TP #10	15+12.97	-24.97	261565.40	721960.10	11.10
TP #15	10+05.93	16.41	261375.93	721498.46	4.48

CONSTRUCTION ALIGNMENT CONTROL					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
10006	19+20.00	0.00	261873.27	722205.87	

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

Element: Circular Curve #1

PC (10000)	10+00.00	261391.07	721489.78
PI (10100)	10+61.70	261401.59	721550.58
CC (10001)		263361.79	721148.79
PT (10002)	11+23.37	261415.84	721610.62
Radius:	2000.00		
Delta:	3° 32' 04" Left		
Degree of Curvature (Arc):	2° 51' 53"		
Length:	123.37		
Tangent:	61.70		
Chord:	123.35		
Middle Ordinate:	0.95		
External:	0.95		
Tangent Direction:	N 80° 11' 01" E		
Radial Direction:	S 09° 48' 59" E		
Chord Direction:	N 78° 24' 59" E		
Radial Direction:	S 13° 21' 03" E		
Tangent Direction:	N 76° 38' 57" E		

Element: Circular Curve #2

PC (10003)	12+97.32	261456.01	721779.86
PI (10101)	15+60.82	261516.85	722036.24
CC (10004)		261991.14	721652.86
PT (10005)	17+88.78	261754.78	722149.48
Radius:	550.00		
Delta:	51° 11' 53" Left		
Degree of Curvature (Arc):	10° 25' 03"		
Length:	491.47		
Tangent:	263.50		
Chord:	475.28		
Middle Ordinate:	53.99		
External:	59.86		
Tangent Direction:	N 76° 38' 57" E		
Radial Direction:	S 13° 21' 03" E		
Chord Direction:	N 51° 03' 01" E		
Radial Direction:	S 64° 32' 56" E		
Tangent Direction:	N 25° 27' 04" E		

Element: Circular Curve #4

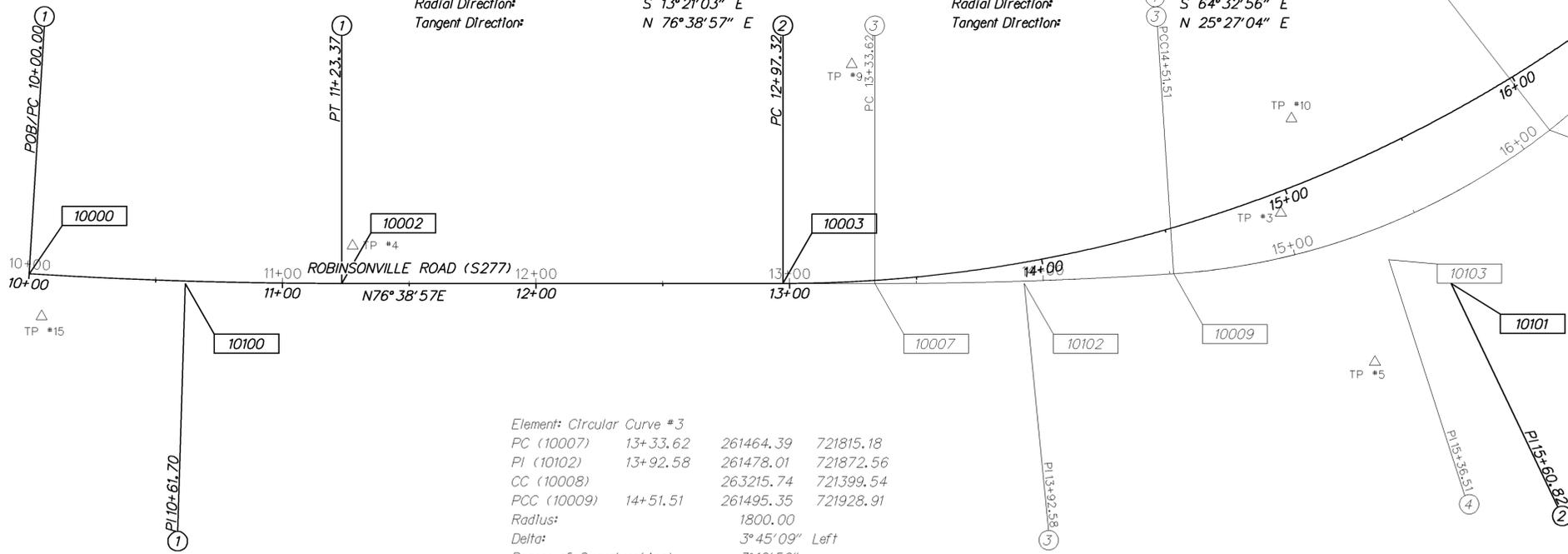
PCC (10009)	14+51.51	261495.35	721928.91
PI (10103)	15+34.52	261519.76	722008.25
CC (10010)		261753.41	721849.51
PCC (10011)	16+12.57	261584.53	722060.17
Radius:	270.00		
Delta:	34° 10' 44" Left		
Degree of Curvature (Arc):	21° 13' 14"		
Length:	161.06		
Tangent:	83.01		
Chord:	158.69		
Middle Ordinate:	11.92		
External:	12.47		
Tangent Direction:	N 72° 53' 48" E		
Radial Direction:	S 17° 06' 12" E		
Chord Direction:	N 55° 48' 26" E		
Radial Direction:	S 51° 16' 55" E		
Tangent Direction:	N 38° 43' 05" E		

Element: Circular Curve #3

PC (10007)	13+33.62	261464.39	721815.18
PI (10102)	13+92.58	261478.01	721872.56
CC (10008)		263215.74	721399.54
PCC (10009)	14+51.51	261495.35	721928.91
Radius:	1800.00		
Delta:	3° 45' 09" Left		
Degree of Curvature (Arc):	3° 10' 59"		
Length:	117.89		
Tangent:	58.97		
Chord:	117.89		
Middle Ordinate:	0.97		
External:	0.97		
Tangent Direction:	N 76° 38' 57" E		
Radial Direction:	S 13° 21' 03" E		
Chord Direction:	N 74° 46' 23" E		
Radial Direction:	S 17° 06' 12" E		
Tangent Direction:	N 72° 53' 48" E		

Element: Circular Curve #5

PCC (10011)	16+12.57	261584.53	722060.17
PI (10104)	16+47.17	261611.81	722081.44
CC (10012)		261779.03	721810.60
PT (10013)	16+81.49	261643.05	722096.31
Radius:	316.41		
Delta:	12° 28' 48" Left		
Degree of Curvature (Arc):	18° 06' 29"		
Length:	68.92		
Tangent:	34.60		
Chord:	68.78		
Middle Ordinate:	1.87		
External:	1.89		
Tangent Direction:	N 37° 55' 53" E		
Radial Direction:	S 52° 04' 07" E		
Chord Direction:	N 31° 41' 28" E		
Radial Direction:	S 64° 32' 56" E		
Tangent Direction:	N 25° 27' 04" E		



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GUARDRAIL SCHEDULE				
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
1	GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1-31	11+40.38	22.09	50.00
2	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	11+93.42	19.72	50.00
3	GUARDRAIL TO BARRIER CONNECTION, APPR. TYPE 2-31	12+43.42	19.72	26.94
4	GUARDRAIL TO BARRIER CONNECTION, APPR. TYPE 2-31	12+92.94	20.00	26.94
5	CURVED GUARDRAIL SECTION (R = 8.50')	13+19.10	20.17	36.35
6	END ANCHORAGE 31	13+37.45	36.36	12.50

ENERGY DISSIPATOR SCHEDULE								
NO.	STATION	OFFSET	RIPRAP SIZE	D (FT)	T1 (FT)	L (FT)	W1 (FT)	W2 (FT)
1	18+45.00	30.00	R-5	1.00	1.00	5.00	2.50	2.50

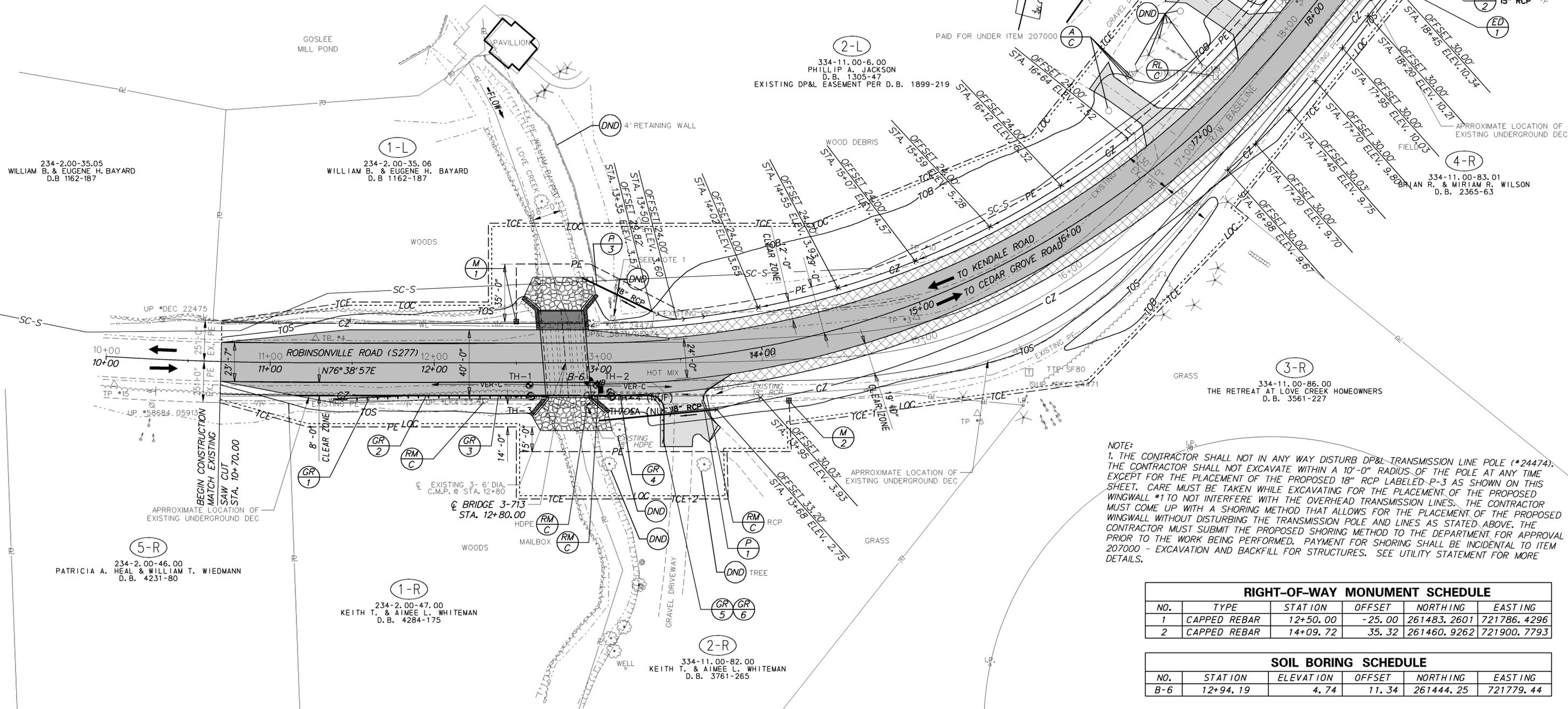
JUNCTION BOX SCHEDULE					
NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
1	18+77.82	20.00	48" x 30"	13.06	10.83

STATION, ELEVATION, AND OFFSET OF THE PROPOSED JUNCTION BOX MAY NEED TO BE ADJUSTED TO CONNECT TO THE EXISTING PIPE SEGMENT.

UTILITY TEST HOLE SCHEDULE							
NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL	OWNER
TH-1	TELEPHONE	12+57.98	13.58	4.73	2.78	3/4" CABLE	VERIZON
TH-2	TELEPHONE	12+98.77	13.43	4.74	2.00	3/4" CABLE	VERIZON
TH-3	ELECTRIC	12+58.94	21.21	3.83	18.95	PLASTIC	DEC
TH-5	TELEPHONE	18+60.60	16.18	12.79	2.57	3/4" CABLE	VERIZON
TH-6	ELECTRIC	18+60.59	21.81	12.73	4.29	(3) 4" PLASTIC	DEC

DELDOT SWM FACILITY SCHEDULE		
NO.	TYPE / DESCRIPTION	LOCATION
195	FILTER STRIP	STA. 13+80 LT. TO STA. 16+50 LT.

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	18" RCP	111	72.00	0.0200	2.75	1.31
2	15" RCP	111	32.00	0.0132	10.83	10.36
3	18" RCP	111	48.00	0.0518	3.57	1.50

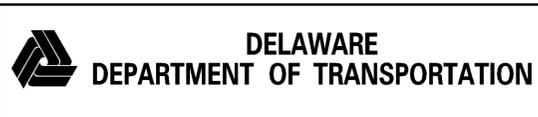
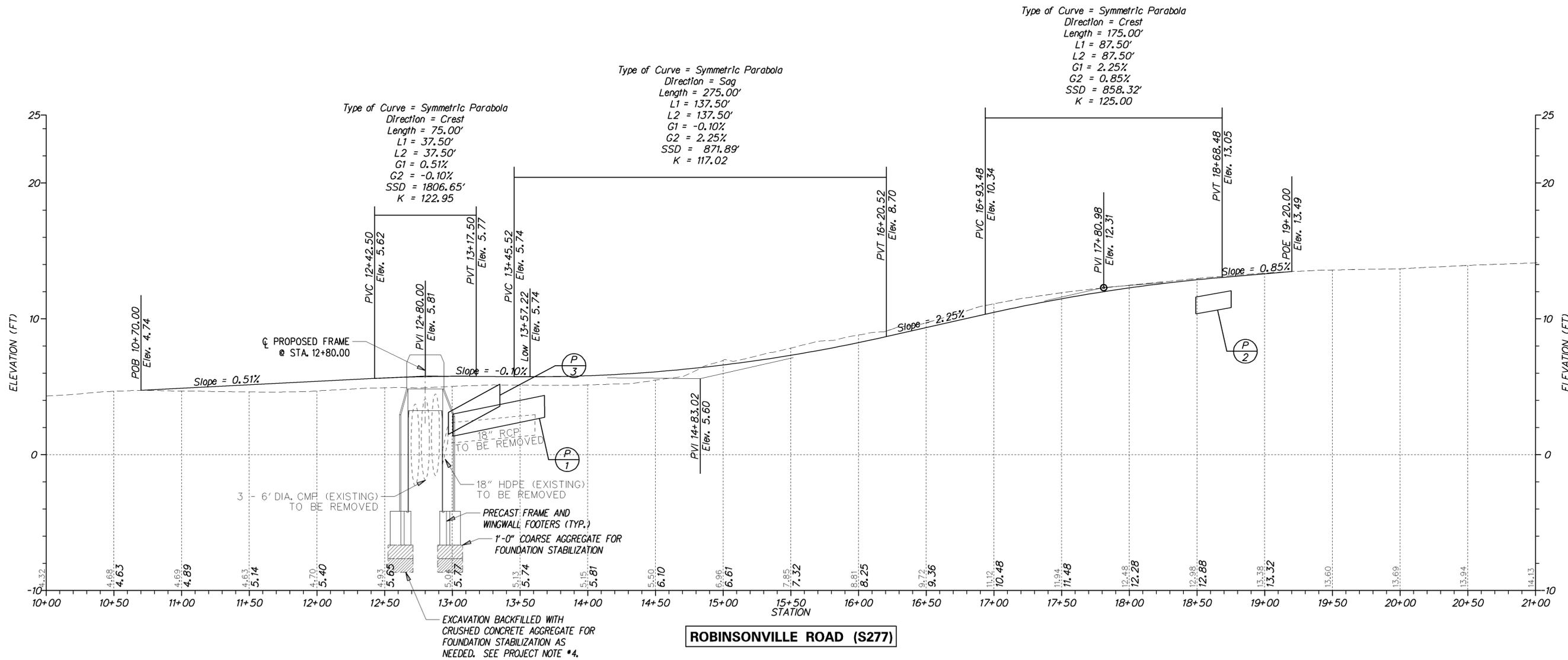


NOTE:
 1. THE CONTRACTOR SHALL NOT IN ANY WAY DISTURB DP&L TRANSMISSION LINE POLE (#24474). THE CONTRACTOR SHALL NOT EXCAVATE WITHIN A 10'-0" RADIUS OF THE POLE AT ANY TIME EXCEPT FOR THE PLACEMENT OF THE PROPOSED 18" RCP LABELED P-3 AS SHOWN ON THIS SHEET. CARE MUST BE TAKEN WHILE EXCAVATING FOR THE PLACEMENT OF THE PROPOSED WINGWALL #1 TO NOT INTERFERE WITH THE OVERHEAD TRANSMISSION LINES. THE CONTRACTOR MUST COME UP WITH A SHORING METHOD THAT ALLOWS FOR THE PLACEMENT OF THE PROPOSED WINGWALL WITHOUT DISTURBING THE TRANSMISSION POLE AND LINES AS STATED ABOVE. THE CONTRACTOR MUST SUBMIT THE PROPOSED SHORING METHOD TO THE DEPARTMENT FOR APPROVAL PRIOR TO THE WORK BEING PERFORMED. PAYMENT FOR SHORING SHALL BE INCIDENTAL TO ITEM 207000 - EXCAVATION AND BACKFILL FOR STRUCTURES. SEE UTILITY STATEMENT FOR MORE DETAILS.

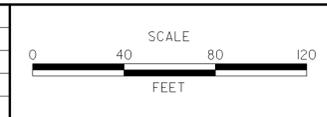
RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
1	CAPPED REBAR	12+50.00	-25.00	261483.2601	721786.4296
2	CAPPED REBAR	14+09.72	35.32	261460.9262	721900.7793

SOIL BORING SCHEDULE					
NO.	STATION	ELEVATION	OFFSET	NORTHING	EASTING
B-6	12+94.19	4.74	11.34	261444.25	721779.44

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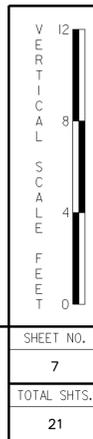
ADDENDUMS / REVISIONS	

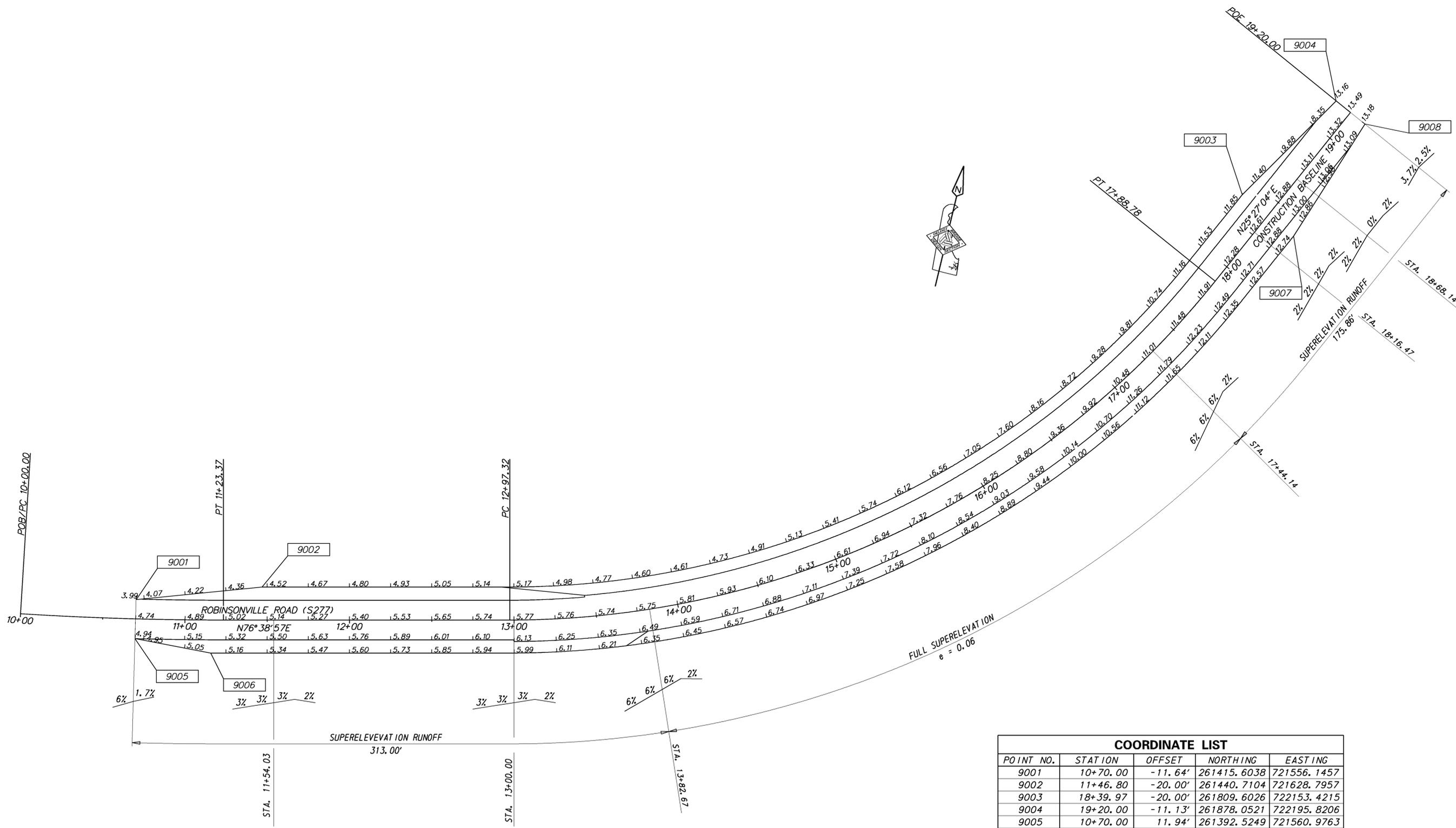


**BR 3-713 ON S277
ROBINSONVILLE ROAD OVER
LOVE CREEK**

CONTRACT	BRIDGE NO.	3-713
T201407303	DESIGNED BY:	CBB
COUNTY	CHECKED BY:	KRL
SUSSEX		

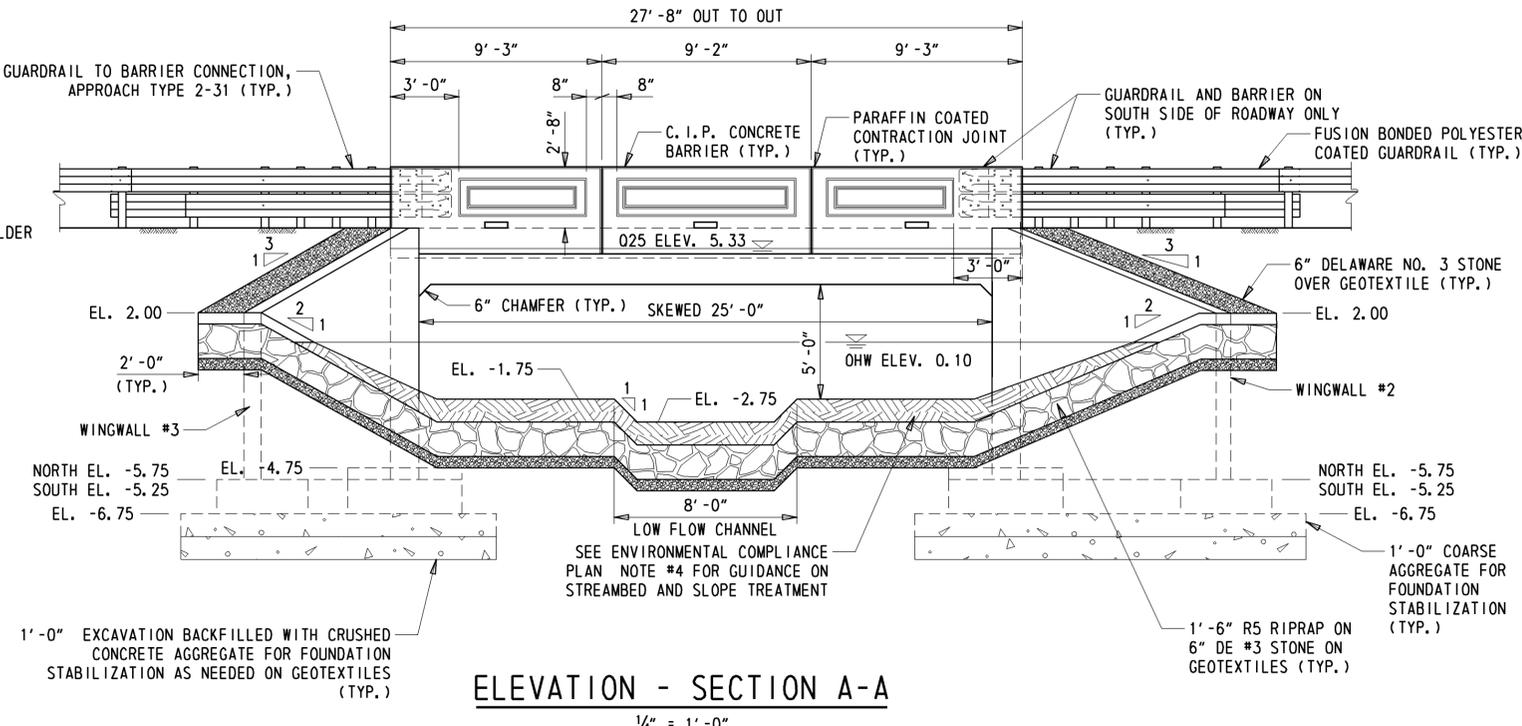
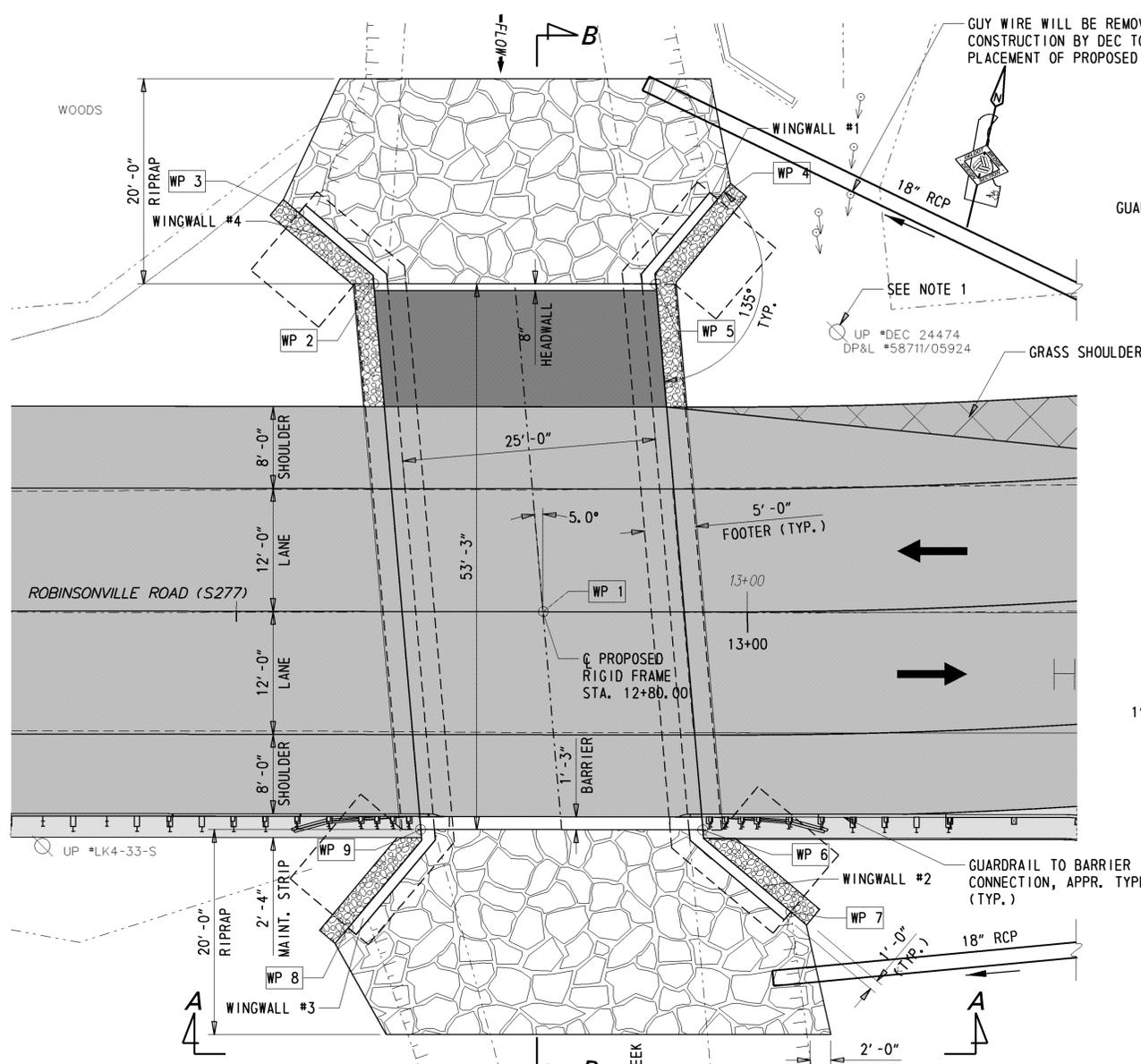
PROFILE	SHEET NO.	7
	TOTAL SHTS.	21





COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
9001	10+70.00	-11.64'	261415.6038	721556.1457
9002	11+46.80	-20.00'	261440.7104	721628.7957
9003	18+39.97	-20.00'	261809.6026	722153.4215
9004	19+20.00	-11.13'	261878.0521	722195.8206
9005	10+70.00	11.94'	261392.5249	721560.9763
9006	11+15.73	20.00'	261394.6229	721607.7162
9007	18+40.00	20.00'	261792.4385	722189.5518
9008	19+20.00	11.27'	261868.4282	722216.0442

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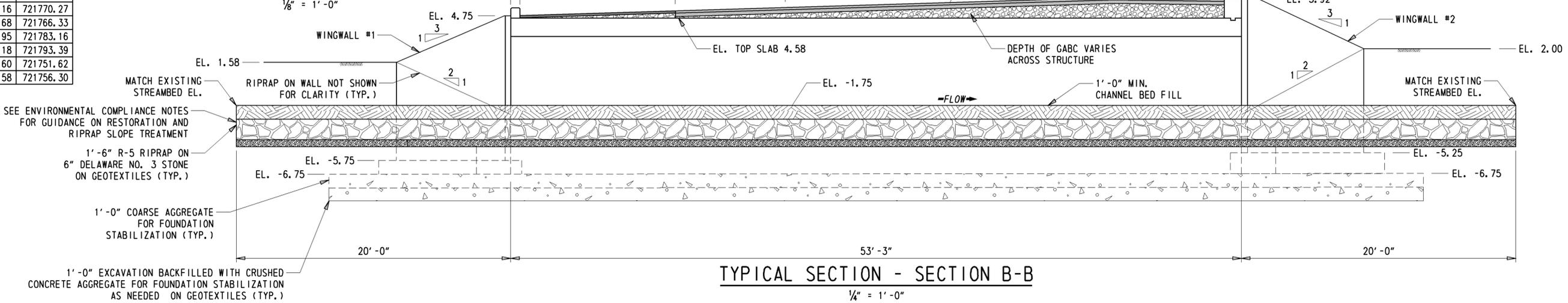
ELEVATION - SECTION A-A
1/4" = 1'-0"

NOTES:
 1. THE CONTRACTOR SHALL NOT IN ANY WAY DISTURB DP&L TRANSMISSION LINE POLE (#24474). THE CONTRACTOR SHALL NOT EXCAVATE WITHIN A 10'-0" RADIUS OF THE POLE AT ANY TIME EXCEPT FOR THE PLACEMENT OF THE PROPOSED 18" RCP LABELED P-3 AS SHOWN ON THIS SHEET. CARE MUST BE TAKEN WHILE EXCAVATING FOR THE PLACEMENT OF THE PROPOSED WINGWALL #1 TO NOT INTERFERE WITH THE OVERHEAD TRANSMISSION LINES. THE CONTRACTOR MUST COME UP WITH A SHORING METHOD THAT ALLOWS FOR THE PLACEMENT OF THE PROPOSED WINGWALL WITHOUT DISTURBING THE TRANSMISSION POLE AND LINES AS STATED ABOVE. THE CONTRACTOR MUST SUBMIT THE PROPOSED SHORING METHOD TO THE DEPARTMENT FOR APPROVAL PRIOR TO THE WORK BEING PERFORMED. PAYMENT FOR SHORING SHALL BE INCIDENTAL TO ITEM 207000 - EXCAVATION AND BACKFILL FOR STRUCTURES. SEE UTILITY STATEMENT FOR MORE DETAILS.

WORKING POINTS				
PT.	STATION	OFFSET	NORTHING	EASTING
1	12+80.00	00.00	261452.01	721763.01
2	12+63.40	-32.00	261479.31	721739.47
3	12+56.05	-38.91	261484.34	721730.73
4	12+97.02	-40.31	261495.16	721770.27
5	12+91.00	-32.00	261485.68	721766.33
6	12+95.66	21.25	261434.95	721783.16
7	13+03.93	29.27	261429.18	721793.39
8	12+60.97	30.85	261417.60	721751.62
9	12+68.06	21.25	261428.58	721756.30

NOTE: RIPRAP THROUGH STRUCTURE NOT SHOWN FOR CLARITY

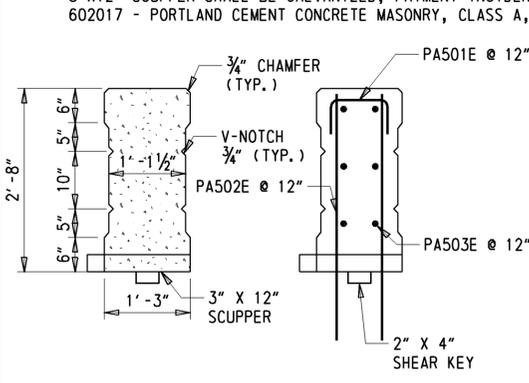
PLAN
1/8" = 1'-0"



TYPICAL SECTION - SECTION B-B
1/4" = 1'-0"

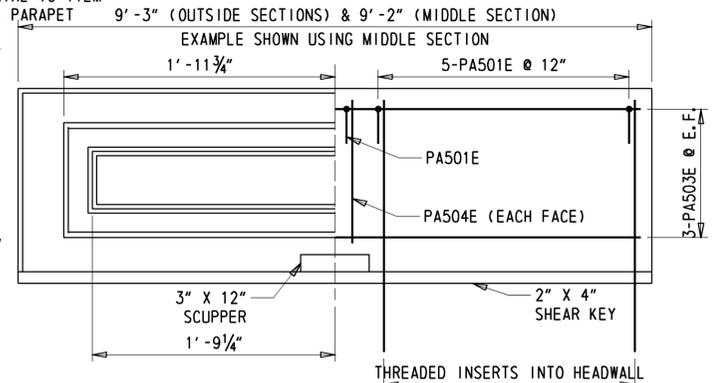
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NOTE: - ALL BARRIER SECTIONS SHALL BE CAST-IN-PLACE.
 - 3"x12" SCUPPER SHALL BE GALVANIZED, PAYMENT INCIDENTAL TO ITEM
 602017 - PORTLAND CEMENT CONCRETE MASONRY, CLASS A, PARAPET



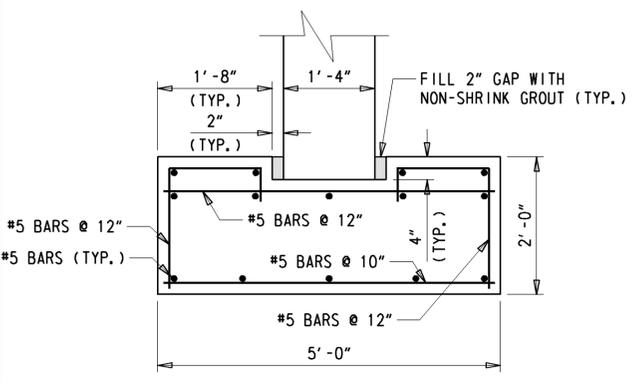
BARRIER SECTION

3/4" = 1'-0"



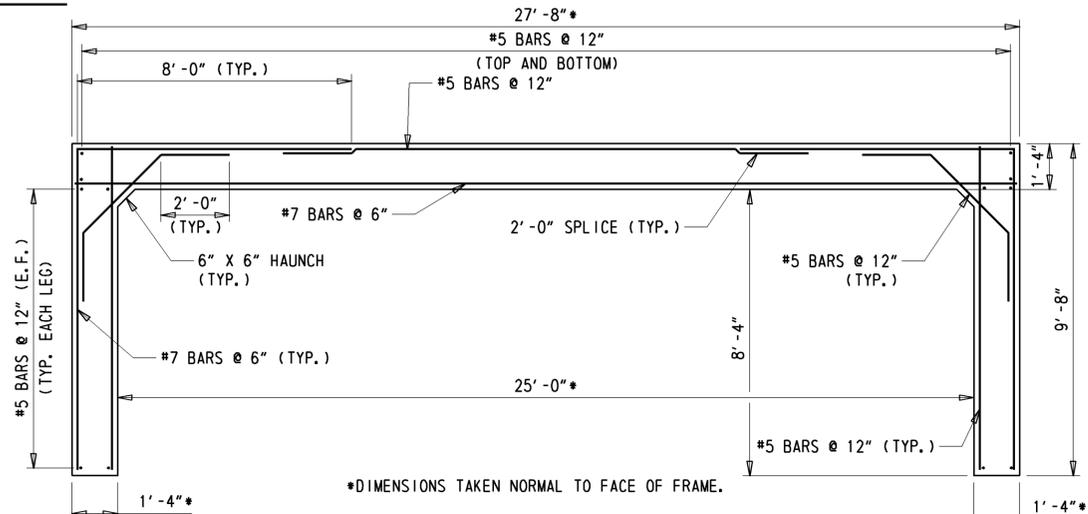
BARRIER ELEVATION

3/4" = 1'-0"



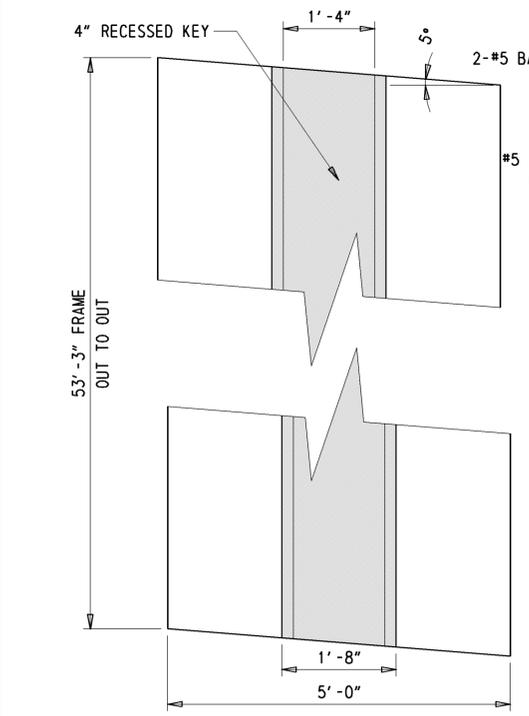
FOOTER SECTION

3/4" = 1'-0"



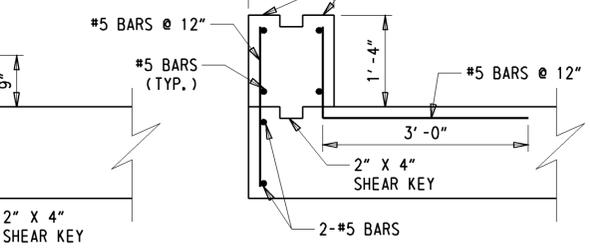
FRAME SECTION

3/8" = 1'-0"



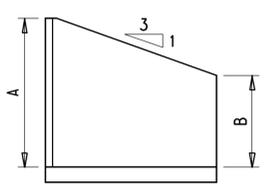
FOOTER PLAN

3/4" = 1'-0"



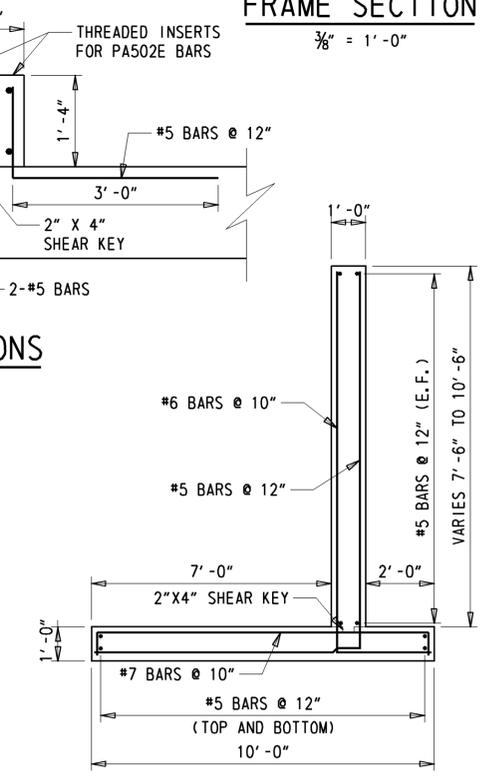
HEADWALL SECTIONS

3/4" = 1'-0"



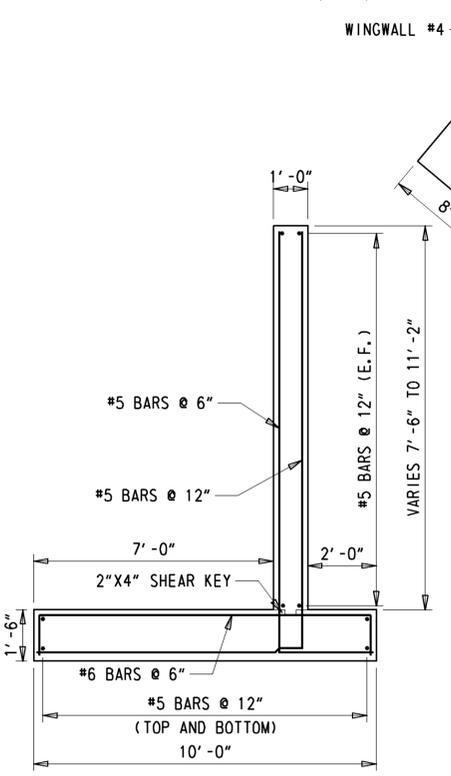
WINGWALL STEM HEIGHTS

	A	B
1	10'-6"	7'-6"
2	10'-6"	7'-6"
3	11'-2"	7'-6"
4	11'-2"	7'-6"



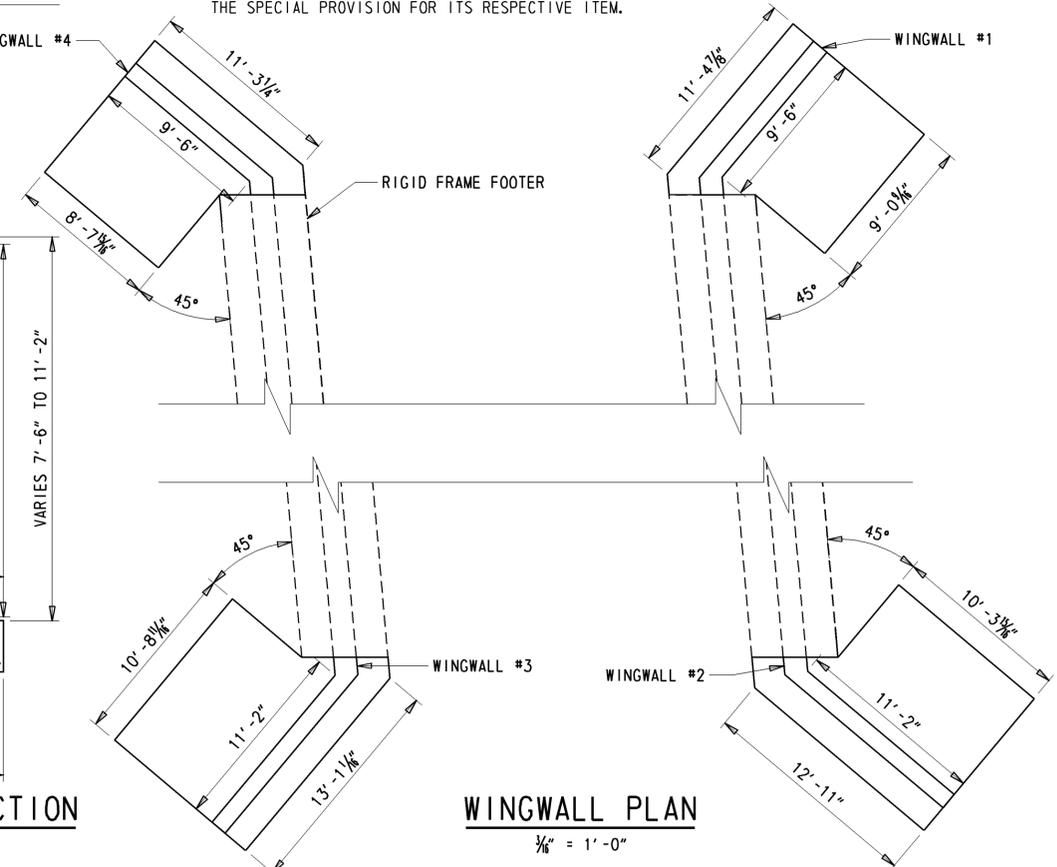
WINGWALL #1 & #4 SECTION

3/8" = 1'-0"



WINGWALL #2 & #3 SECTION

3/8" = 1'-0"



WINGWALL PLAN

3/8" = 1'-0"

REINFORCING BAR LIST				
MARK	SIZE	NUMBER	TYPE	LENGTH
PA501E	5	36	BENT	1'-8"
PA502E	5	60	STR	3'-6"
PA503E	5	18	STR	8'-11"
PA504E	5	12	STR	2'-1"

BENDING DIAGRAMS	
NOTE: LENGTH OF PA502E ASSUMES 1'-0" LENGTH FOR THREADED INSERT. ACTUAL LENGTH MAY BE ADJUSTED FOR CONTRACTOR'S OR PRECASTER'S PREFERENCE OF THREADED INSERT. ACTUAL LENGTH MUST ALLOW PA502E TO FULLY DEVELOP.	

- PRECAST ELEMENT NOTES**
- DESIGN PLANS / WORKING DRAWINGS INFORMATION PERTAINING TO THE PRECAST REINFORCED CONCRETE RIGID FRAME AND WINGWALL SECTIONS IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT FOR APPROVAL A COMPLETE SET OF DETAILED SHOP DRAWINGS FOR THE PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH. THE SHOP DRAWINGS SHALL INCLUDE:
 - AN OVERALL PLAN SHOWING ALL UNITS TOGETHER AND DETAILS OF EACH TYPE OF UNIT.
 - A PLAN VIEW OF REINFORCEMENT FOR ANY IRREGULAR SHAPED (SKEWED, CURVED, ETC.) SECTIONS.
 - REINFORCING BAR LIST
 - BILL OF MATERIALS INCLUDING ALL ACCESSORIES
 - METHOD AND SEQUENCE OF POST-TENSIONING
 - PRECAST ELEMENTS, ACCESSORIES AND INSTALLATION PAYMENT FOR ITEM 602739 - PRECAST RIGID FRAME AND ITEM 602738 - PRECAST CONCRETE RETAINING WALL SHALL INCLUDE:
 - ALL PRECAST ELEMENTS FOR THE RESPECTIVE ITEM (RIGID FRAME, FOOTERS UNDER ITEM 602739 AND WINGWALLS UNDER ITEM 602738).
 - ALL ASSOCIATED REINFORCEMENT
 - ALL ACCESSORIES (INCLUDING, BUT NOT LIMITED TO, WEEP HOLES, CONCRETE FINISH, POST-TENSIONING TENDONS, CONNECTION PLATES, GROUT, JOINT WRAP, THREADED INSERTS) MENTIONED IN THE FOLLOWING NOTES UNLESS NOTED OTHERWISE.
 - DELIVERY AND INSTALLATION OF ALL PRECAST ELEMENTS AND ALL ACCESSORIES.
 - MISCELLANEOUS CONCRETE NOTES
 - ALL EXPOSED SURFACES SHALL BE PROTECTED WITH A WATER MISCIBLE, PENETRATING SILANE SEALER.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
 - RIGID FRAME POST-TENSIONING THE PRECAST RIGID FRAME SECTIONS SHALL BE POST-TENSIONED TOGETHER WITH A MINIMUM OF FOUR POST-TENSIONING TENDONS. THE FRAME SHALL BE POST-TENSIONED SUCH THAT THE NEOPRENE GASKETS ARE COMPRESSED ALL AROUND AND THERE IS A 1/2" MAXIMUM GAP BETWEEN SECTIONS. MAXIMUM POST-TENSIONING FORCE SHALL BE 28,900 LBS. POST-TENSIONING DETAILS (PLACEMENT, SEQUENCE OF TENSIONING, etc.) SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS. ALL POCKETS FOR POST-TENSIONING DUCTS SHALL BE FILLED WITH NON-SHRINK GROUT.
 - WINGWALL POST TENSIONING
 - THE PRECAST WINGWALL SECTIONS SHALL BE POST TENSIONED TOGETHER AND POSITIVELY CONNECTED TO THE RIGID FRAME WITH A MINIMUM OF TWO POST-TENSIONING TENDONS. POST-TENSIONING SHALL BE AS PER NOTE 4.
 - AT LOCATIONS WHERE POST TENSIONING OF THE WINGWALLS IS NOT FEASIBLE, A BOLTED CONNECTION MAY BE USED. BOLTED CONNECTION DETAILS SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS. THE BOLTED CONNECTION MUST CONSIST OF A MINIMUM OF TWO 3'-0" WIDE x 2'-0" TALL x 1/4" THICK PLATES PER JOINT WITH AT LEAST FOUR 3/4" BOLTS PER PLATE. ANGLED PLATES SHALL HAVE 8 BOLTS. SLOTTED HOLES IN THE PLATE SHALL NOT BE PERMITTED. HOLES FOR ANCHOR BOLTS MAY BE FIELD DRILLED.
 - JOINTS BETWEEN PRECAST SECTIONS
 - NEOPRENE GASKETS SHALL BE PROVIDED AT THE JOINTS BETWEEN ALL PRECAST UNITS IN ORDER TO MAKE THE JOINTS WATERTIGHT. AFTER INSTALLATION, THE GASKETS SHALL BE COMPRESSED SUCH THAT GAPS ARE NOT VISIBLE.
 - ALL JOINTS BETWEEN PRECAST FRAME SECTIONS SHALL HAVE A SHEAR KEY ALL AROUND.
 - ALL WINGWALL TO WINGWALL AND WINGWALL TO RIGID FRAME JOINTS SHALL HAVE A GROUTED SHEAR KEY.
 - THE LOCATIONS OF THE JOINTS IN THE RIGID FRAME SHALL BE DETERMINED BY THE PRECASTER AND SUBMITTED IN THE SHOP DRAWINGS FOR APPROVAL.
 - THE REINFORCEMENT SHALL HAVE 2" COVER AT THE END OF EACH SECTION AND MEET OR EXCEED THE MINIMUM AREA OF STEEL PER FOOT NOTED ON THE PLANS.
 - ALL JOINT EXTERIORS SHALL BE COVERED WITH A MINIMUM 9" WIDE WRAP CENTERED ON THE JOINT AS PER THE SPECIAL PROVISION FOR ITS RESPECTIVE ITEM.

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BRIDGE 3-713					
BORING: B-6		DATE DRILLED: 4/24/13			
STATION: 2+94.11		OFFSET: 11.34		ELEVATION: 4.74	
		NORTHING: 261444.25		EASTING: 721779.44	
COMMENTS: N/A					
SAMPLE INFORMATION					
NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0	13	MOIST MEDIUM DENSE BROWN FINE GRAVEL W/SOME FINE TO COARSE SAND, TRACE OF SILT	A-1-A	HOT-MIX 6.5" STONE 8"
	2.0	12			
2	2.0	2	MOIST VERY LOOSE LIGHT BROWN FINE TO COARSE SAND W/TRACE OF SILT AND FINE GRAVEL.	A-2-4(0)	APPROXIMATE WATER LEVEL DEPTH.
	4.0	4			
3	4.0	2	WET LOOSE LIGHT BROWN FINE TO COARSE SAND W/TRACE OF SILT AND FINE GRAVEL.	A-3	
	6.0	3			
4	6.0	2	WET LOOSE GRAY SILTY FINE GRAVEL AND FINE TO COARSE SAND.	A-1-B	
	8.0	4			
5	8.0	2	SATURATED VERY LOOSE LIGHT BROWN SILTY FINE SAND W/TRACE OF COARSE SAND AND FINE GRAVEL.	A-2-4(0)	
	10.0	2			
6	10.0	1	SATURATED VERY LOOSE TAN FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	BOTTOM OF FOOTER LOCATION
	12.0	4			
7	12.0	2	SATURATED LOOSE TAN COARSE TO FINE SAND W/TRACE OF FINE GRAVEL AND SILT.	A-1-B	EXCAVATION LIMIT
	14.0	5			
8	14.0	2	SATURATED LOOSE TAN COARSE TO FINE SAND W/TRACE OF SILT AND FINE GRAVEL.	A-1-B	
	16.0	3			
9	16.0	2	SATURATED LOOSE TAN COARSE TO FINE SAND W/TRACE OF SILT AND FINE GRAVEL.	A-1-B	
	18.0	12			
10	18.0	6	SATURATED MEDIUM DENSE TAN COARSE TO FINE SAND W/TRACE OF FINE GRAVEL AND SILT.	A-1-B	
	23.0	6			
11	23.0	2	SATURATED LOOSE TAN FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.	A-2-4(0)	
	28	8			
12	28	5	SATURATED MEDIUM DENSE TAN COARSE TO FINE SAND W/SOME FINE GRAVEL, TRACE OF SILT.	A-1-B	
	33	11			
13	33	5	SATURATED MEDIUM DENSE TAN FINE GRAVELLY COARSE SAND W/SOME FINE SAND, TRACE OF SILT.	A-1-B	
	38	11			
14	38	8	SATURATED MEDIUM DENSE TAN FINE GRAVELLY COARSE TO FINE SAND, W/TRACE OF SILT.	A-1-B	
	43	10			
15	43	4	SATURATED MEDIUM DENSE TAN COARSE SAND W/TRACE OF FINE GRAVEL, FINE SAND AND SILT.	A-1-B	
	48	8			
16	48	5	SATURATED MEDIUM DENSE TAN FINE GRAVELLY COARSE SAND W/TRACE OF FINE SAND AND SILT.	A-1-B	
	50	15			
	50		END BORING		

NOTES:

- BORING LOGS CREATED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION. SUBSURFACE EXPLORATION COMPLETED BY HILLIS-CARNES ENGINEERING ASSOCIATES INC (HCEA).
- REFER TO CONSTRUCTION PLAN SHEET (SHEET 6) FOR APPROXIMATE BORING LOCATIONS. THE BORING LOG IS LABELED AS B-6.
- SOIL SAMPLING: 2 IN. OUTSIDE DIA. SPLIT BARREL SAMPLER, DRIVEN WITH A 140 LB. HAMMER FALLING 30 IN.
- ALL DEPTHS ARE GIVEN IN FEET.



ADDENDUMS / REVISIONS

NOT TO SCALE

**BR 3-713 ON S277
ROBINSONVILLE ROAD OVER
LOVE CREEK**

CONTRACT	BRIDGE NO.	3-713
T201407303	DESIGNED BY:	CBB
COUNTY	CHECKED BY:	KRL
SUSSEX		

SOIL BORING LOG

SHEET NO.	11
TOTAL SHTS.	21

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

- A. THE PURPOSE OF THESE SHEETS ARE 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, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT (302)760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THESE SHEETS 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): NATIONWIDE PERMIT 3(a) & (c) (NO PCN)
 DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT CONSISTENT WITH DEL CODE CH. 72, SECTION 7217 (b), AS AMENDED BY SB186
 DNREC - WATER QUALITY CERTIFICATION (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED (PROJECT IS NOT LOCATED IN CRW)

* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THIS APPROVAL.

NOTE: THE ABSENCE OF ASTERISKS AFTER A PERMIT (COE, WLSL, WQC, CZM) INDICATES THAT COORDINATION HAS BEEN DONE WITH THAT AGENCY BUT NO WRITTEN AUTHORIZATION WAS REQUIRED. AS SUCH, NO PAPERWORK FROM THAT AGENCY SHOULD BE ANTICIPATED.

B. CONSTRUCTION RESTRICTIONS:

FISHERIES - (IRON-COLOR SHINER) - NO IN-WATER WORK FROM MAY 15 TO JULY 31
 ENDANGERED SPECIES - NONE
 MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

- A. THIS PROJECT WAS PROCESSED AS A PROGRAMMATIC AGREEMENT STIPULATION II.B.4.a. PROVIDED THAT WORK CONTINUES WITHIN THE LOC WITH NO CHANGES OR MODIFICATIONS IN PLANS, NO FURTHER CULTURAL RESOURCES EFFORTS ARE NEEDED.

4. STREAM RESTORATION AND RIPRAP TREATMENTS

- A. THE CONTRACTOR SHALL FOLLOW THE SPECIAL PROVISIONS OF ITEM *712531 CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFF-SITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ITEM *712531 CHANNEL BED FILL. ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) SHALL BE RECESSED ONE FOOT BELOW STREAM BED ELEVATION AND CHOKED WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH MATERIAL. PAYMENT UNDER ITEM *209002 BORROW TYPE 'B'. THE RIPRAP SHALL THEN BE COVERED WITH A MINIMUM OF 12" CHANNEL BED FILL. FINAL CHANNEL ELEVATIONS SHALL MATCH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS SHALL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM *712531 - CHANNEL BED FILL.
- B. 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) SHALL BE RESTORED TO EXISTING CONDITIONS. ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE FILLED WITH CHANNEL BED FILL. PAYMENT UNDER ITEM *712531 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. ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, SHALL BE CHOKED WITH DELAWARE *57 STONE, FILLED WITH TOPSOIL, AND SEEDED. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF TOPSOIL THROUGH THE RIPRAP, AND THEN FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. AN ADDITIONAL 4-INCH TOPSOIL LAYER SHALL BE PLACED ON TOP OF THE RIPRAP. SLOPE SEEDING SHALL BE WITH ITEM *908019 STREAMBANK SEED MIX. FOLLOWING THE SEEDING OPERATION, ITEM *908020 SOIL RETENTION BLANKET MULCH, TYPE 5, OR OTHER BLANKET AS SHOWN ON THE PLANS SHALL BE INSTALLED. ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING SHALL BE COMPLETED PRIOR TO ANY RAIN EVENT. PAYMENT FOR DELAWARE *57 STONE SHALL BE INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS SHALL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

5. WETLAND CLEARING AND RESTORATION

CLEARING IN WETLAND AREAS SHALL BE KEPT TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. IN WETLAND AREAS THAT ARE CLEARED, THERE SHALL BE NO GRUBBING EXCEPT WHERE NECESSARY TO CONSTRUCT PROJECT COMPONENTS SUCH AS FOUNDATIONS AND RIPRAP PROTECT. VEGETATION SHALL BE CUT FLUSH WITH THE GROUND (I.E. NO DISTURBANCE OF THE ROOT MAT). TEMPORARILY DISTURBED WETLAND AREAS SHALL BE RESTORED TO GRADE AND SEEDED WITH TEMPORARY GRASS SEEDING - DRY GROUND, (PAYMENT UNDER ITEM 908017).

6. PLANTING GUIDANCE (INFORMATIONAL ONLY, WORK TO BE DONE BY OTHERS. THERE SHALL BE NO PAYMENT FOR PLANTING ON THIS CONTRACT.):

UPON FINAL ACCEPTANCE OF THE CONTRACT, APPROPRIATE TREES AND/OR SHRUBS SHALL BE PLANTED IN A NATURALIZED PATTERN (MINIMUM 8', MAXIMUM 12' CENTERS) IN TEMPORARILY DISTURBED WOODED WETLAND AREAS WITHIN THE LOC. FINAL PLANT COUNTS WILL BE BASED ON FIELD CONDITIONS AND DETERMINED BY THE ROADSIDE ENVIRONMENTAL ADMINISTRATOR OR HIS DESIGNEE. SPECIFIC PLANT SELECTION IS ALSO AT HIS DISCRETION BUT SHALL BE A NATIVE SPECIES APPROVED BY THE DELAWARE DEPARTMENT OF NATURAL RESOURCES

7. SILT FENCE INSTALLATION ADJACENT TO WOODED WETLANDS:

PROVIDED PROPER EROSION & SEDIMENT CONTROL CAN BE MAINTAINED, IT IS RECOMMENDED THAT SANDBAGS BE USED TO SECURE SILT FENCE IN LIEU OF TRENCHING. THE ENVIRONMENTAL STUDIES SECTION (CAROL SULLIVAN, (302-760-2129) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.

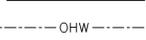
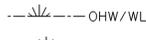
WETLANDS DELINEATED BY ENVIRONMENTAL RESOURCES, INC. ON 02-01-2013 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ORIGINAL SHEET PREPARED BY CBB ON 08-05-2013. SHEET LAST UPDATED ON 07/16/15.

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		NOT TO SCALE	BR 3-713 ON S277 ROBINSONVILLE ROAD OVER LOVE CREEK	CONTRACT	BRIDGE NO.	3-713	ENVIRONMENTAL NOTES	SHEET NO.
					T201407303	DESIGNED BY: CBB			12
					COUNTY	CHECKED BY: KRL			TOTAL SHTS.
					SUSSEX				20

LEGEND

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

XX IMPACT AREA TYPE ID. (SEE BELOW)
2X IMPACT AREA ID. AND/OR NUMBER

O = OPEN WATER IMPACT W = WETLAND IMPACT
 T = TEMPORARY IMPACT C = CREATION AREA

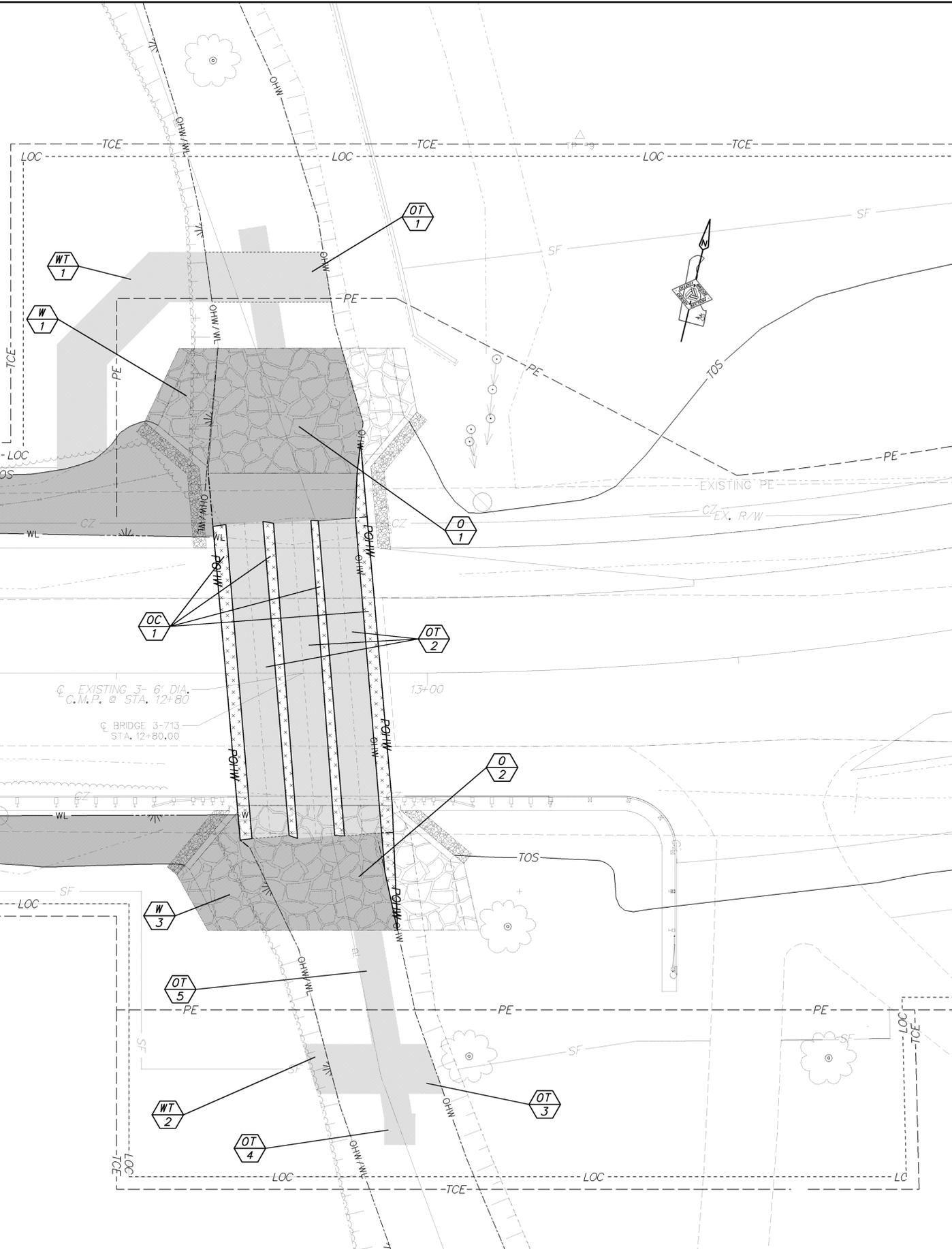
OPEN WATER CREATION AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OC-1	FRAME	377.11	0.0087	25.84	COE/DNREC
TOTAL OPEN WATER CREATION AREAS		377.11	0.0087	25.84	COE/DNREC

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-1	UPSTREAM SANDBAGS	152.53	0.0035	11.30	COE/DNREC
OT-2	EXISTING PIPE EXCAVATION	910.84	0.0209	134.94	COE/DNREC
OT-3	DOWNSTREAM SANDBAGS	134.85	0.0031	14.98	COE/DNREC
OT-4	RIPRAP OUTFALL	25.00	0.0006	3.70	COE/DNREC
OT-5	PIPE DIVERSION	149.47	0.0034	19.57	COE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		1372.69	0.0315	184.49	COE/DNREC

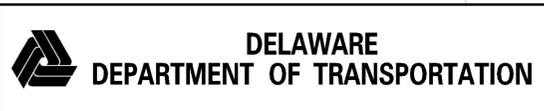
PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O-1	UPSTREAM RIPRAP	460.46	0.0106	51.16	COE/DNREC
O-2	DOWNSTREAM RIPRAP	294.30	0.0068	32.70	COE/DNREC
TOTAL PERMANENT OPEN WATER IMPACTS		754.76	0.0173	83.86	COE/DNREC

TEMPORARY WETLAND IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
WT-1	UPSTREAM SANDBAGS	328.16	0.0075	N/A	COE
WT-2	DOWNSTREAM SANDBAGS	25.62	0.0006	N/A	COE
TOTAL TEMPORARY WETLAND IMPACT AREAS		341.25	0.0078	N/A	COE

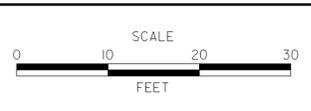
PERMANENT WETLAND IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
W-1	UPSTREAM RIPRAP	134.97	0.0031	N/A	COE
W-2	NORTH TOE OF SLOPE	1157.66	0.0266	N/A	COE
W-3	DOWNSTREAM RIPRAP	193.05	0.0044	N/A	COE
W-4	SOUTH TOE OF SLOPE	1007.60	0.0231	N/A	COE
TOTAL PERMANENT WETLAND IMPACT AREAS		2493.28	0.0341	N/A	COE



WETLANDS DELINEATED BY ENVIRONMENTAL RESOURCES, INC. ON 02-01-2013 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".
 ORIGINAL SHEET PREPARED BY CBB ON 08-05-2013, SHEET LAST UPDATED ON 07/24/2015.



ADDENDUMS / REVISIONS	



**BR 3-713 ON S277
 ROBINSONVILLE ROAD OVER
 LOVE CREEK**

CONTRACT T201407303	BRIDGE NO. 3-713
COUNTY SUSSEX	DESIGNED BY: CBB
	CHECKED BY: KRL

ENVIRONMENTAL COMPLIANCE PLAN	SHEET NO. 13
	TOTAL SHTS. 21

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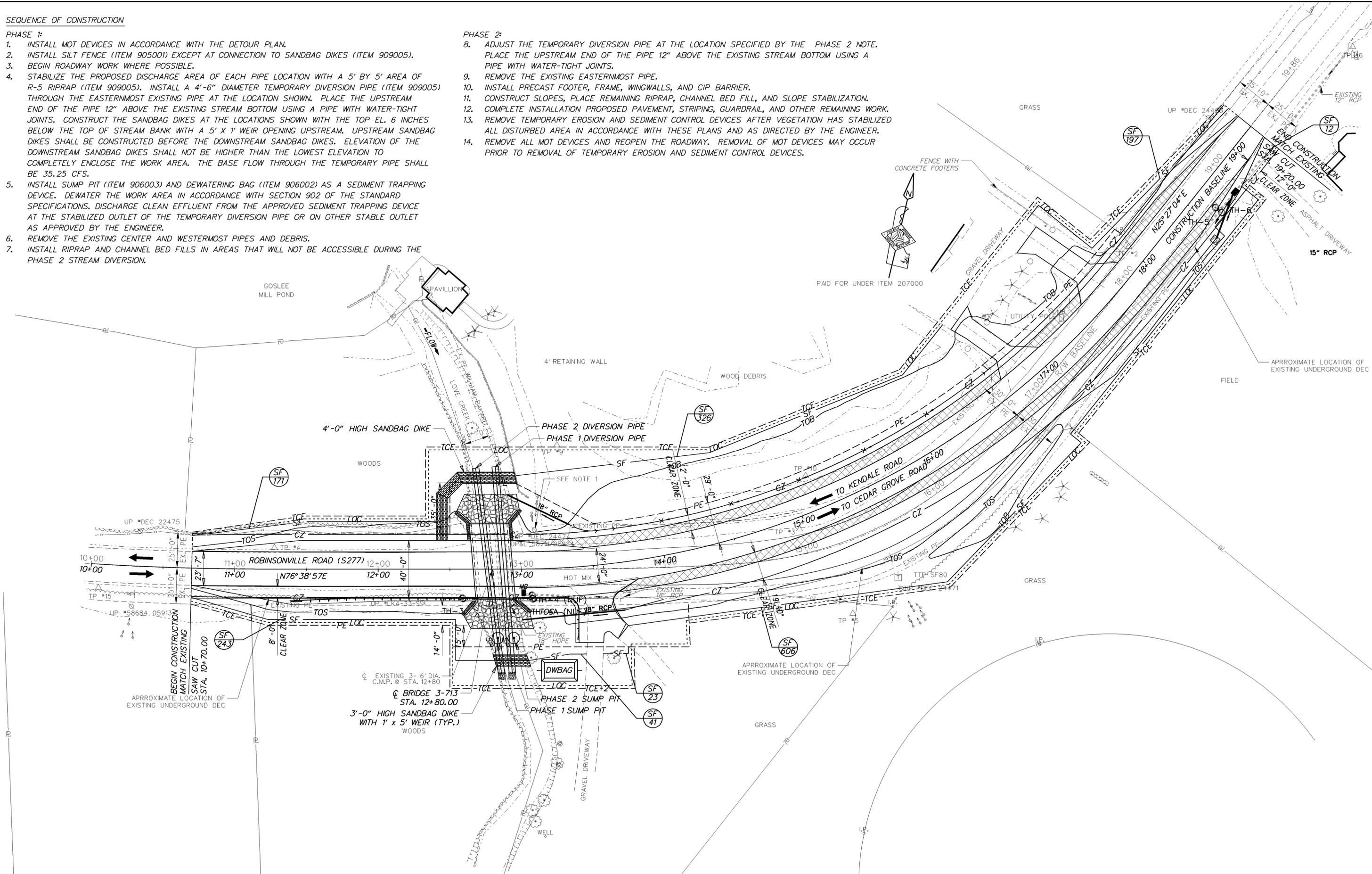
SEQUENCE OF CONSTRUCTION

PHASE 1:

1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN.
2. INSTALL SILT FENCE (ITEM 905001) EXCEPT AT CONNECTION TO SANDBAG DIKES (ITEM 909005).
3. BEGIN ROADWAY WORK WHERE POSSIBLE.
4. STABILIZE THE PROPOSED DISCHARGE AREA OF EACH PIPE LOCATION WITH A 5' BY 5' AREA OF R-5 RIPRAP (ITEM 909005). INSTALL A 4'-6" DIAMETER TEMPORARY DIVERSION PIPE (ITEM 909005) THROUGH THE EASTERNMOST EXISTING PIPE AT THE LOCATION SHOWN. PLACE THE UPSTREAM END OF THE PIPE 12" ABOVE THE EXISTING STREAM BOTTOM USING A PIPE WITH WATER-TIGHT JOINTS. CONSTRUCT THE SANDBAG DIKES AT THE LOCATIONS SHOWN WITH THE TOP EL. 6 INCHES BELOW THE TOP OF STREAM BANK WITH A 5' X 1' WEIR OPENING UPSTREAM. UPSTREAM SANDBAG DIKES SHALL BE CONSTRUCTED BEFORE THE DOWNSTREAM SANDBAG DIKES. ELEVATION OF THE DOWNSTREAM SANDBAG DIKES SHALL NOT BE HIGHER THAN THE LOWEST ELEVATION TO COMPLETELY ENCLOSE THE WORK AREA. THE BASE FLOW THROUGH THE TEMPORARY PIPE SHALL BE 35.25 CFS.
5. INSTALL SUMP PIT (ITEM 906003) AND DEWATERING BAG (ITEM 906002) AS A SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OF THE TEMPORARY DIVERSION PIPE OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
6. REMOVE THE EXISTING CENTER AND WESTERMOST PIPES AND DEBRIS.
7. INSTALL RIPRAP AND CHANNEL BED FILLS IN AREAS THAT WILL NOT BE ACCESSIBLE DURING THE PHASE 2 STREAM DIVERSION.

PHASE 2:

8. ADJUST THE TEMPORARY DIVERSION PIPE AT THE LOCATION SPECIFIED BY THE PHASE 2 NOTE. PLACE THE UPSTREAM END OF THE PIPE 12" ABOVE THE EXISTING STREAM BOTTOM USING A PIPE WITH WATER-TIGHT JOINTS.
9. REMOVE THE EXISTING EASTERNMOST PIPE.
10. INSTALL PRECAST FOOTER, FRAME, WINGWALLS, AND CIP BARRIER.
11. CONSTRUCT SLOPES, PLACE REMAINING RIPRAP, CHANNEL BED FILL, AND SLOPE STABILIZATION.
12. COMPLETE INSTALLATION PROPOSED PAVEMENT, STRIPING, GUARDRAIL, AND OTHER REMAINING WORK.
13. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREA IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER.
14. REMOVE ALL MOT DEVICES AND REOPEN THE ROADWAY. REMOVAL OF MOT DEVICES MAY OCCUR PRIOR TO REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.



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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	BR 3-713 ON S277 ROBINSONVILLE ROAD OVER LOVE CREEK	CONTRACT T201407303	BRIDGE NO. 3-713	CONSTRUCTION SEQUENCE & E&S PLAN	SHEET NO. 14
				COUNTY SUSSEX	DESIGNED BY: CBB		TOTAL SHTS. 21
					CHECKED BY: KRL		

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

PCMS-1

ROBIN-SONVILLE ROAD

TO CLOSE STARTING
XX/XX/XX

DURING DETOUR
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-1

ROBIN-SONVILLE ROAD

CLOSED FOLLOW
DETOUR

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

PCMS-1

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
XXXXXXXXXX
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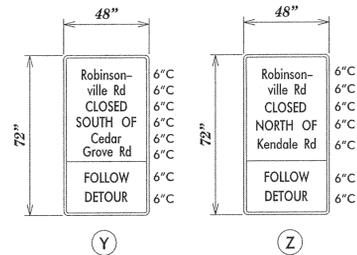
DURING DETOUR
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-1

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

XXXXXXXXXX
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XXXXXXXXXX

SPECIAL SIGNS



*DG RETROREFLECTIVE FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND

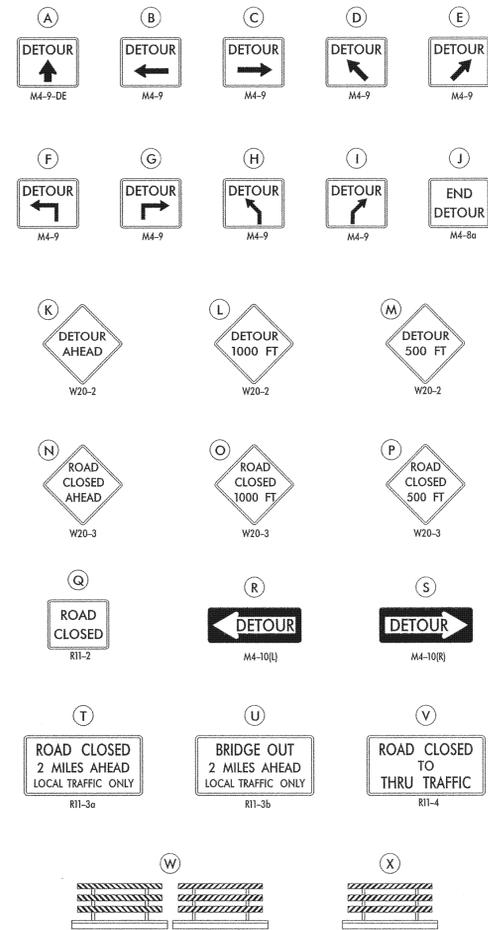
U

BRIDGE OUT
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY

R11-3b



LEGEND



GENERAL NOTES

- ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
- THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
- DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
- SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
- SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
- FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
- SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
- WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
- "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED

Mundy

DATE: 2-27-15

RECOMMENDED

DATE:

RECOMMENDED

Dan Thompson

DATE: 2-27-13

APPROVED CHIEF SAFETY OFFICER

John J. Thompson

DATE: 2-26-13

APPROVED TRAFFIC ENGINEER

ASW

DATE: 2/28/15



ADDENDUM / REVISIONS

NOT TO SCALE

BR 3-713
ROBINSONVILLE RD (S277)
OVER LOVE CREEK

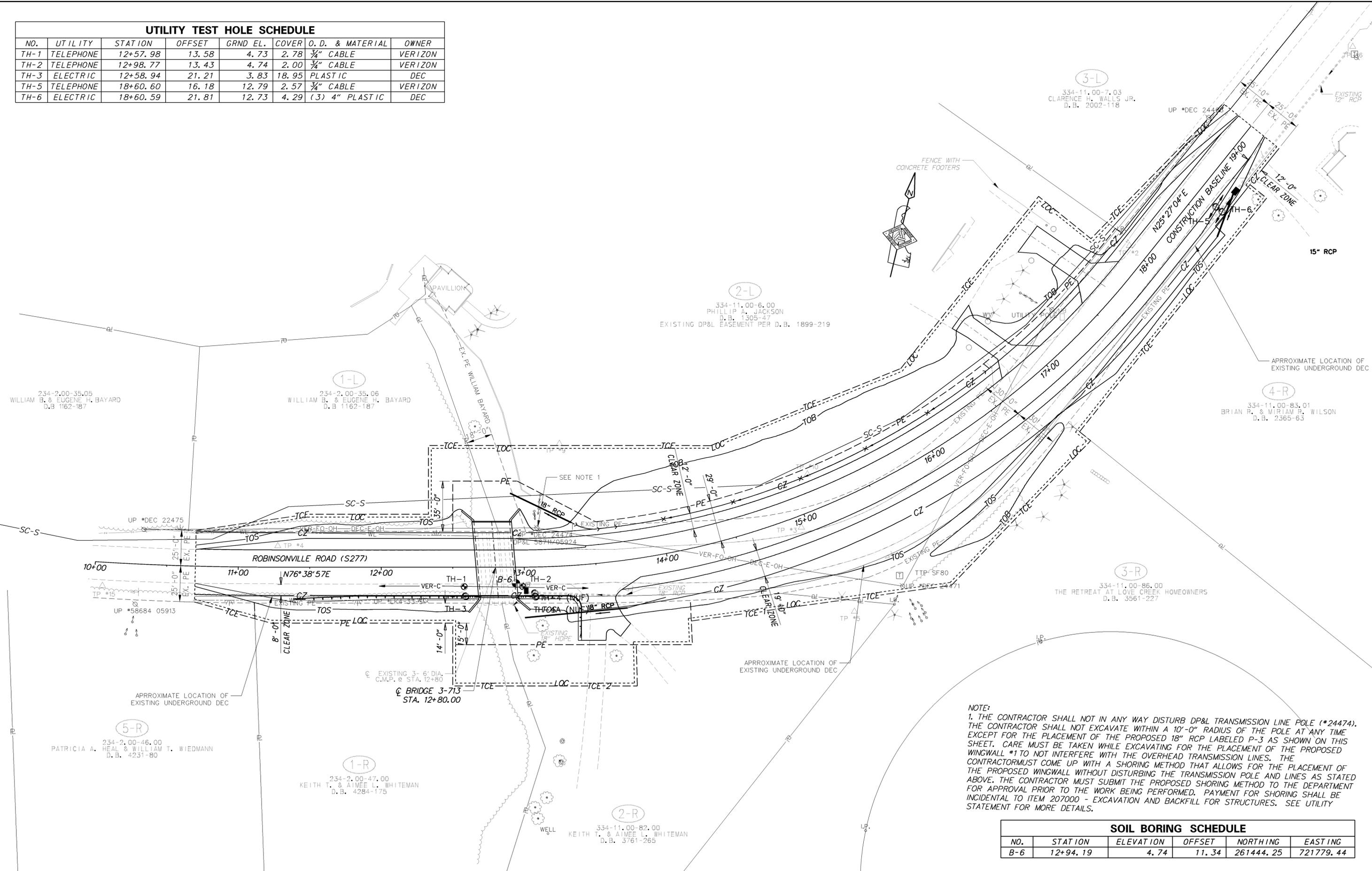
CONTRACT	ROAD NO.	S277
T201407303	DESIGNED BY: MFR	
COUNTY	CHECKED BY: ASW	
SUSSEX		

DETOUR PLAN

SHEET NO.	15
TOTAL SHTS.	21

UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL	OWNER
TH-1	TELEPHONE	12+57.98	13.58	4.73	2.78	3/4" CABLE	VERIZON
TH-2	TELEPHONE	12+98.77	13.43	4.74	2.00	3/4" CABLE	VERIZON
TH-3	ELECTRIC	12+58.94	21.21	3.83	18.95	PLASTIC	DEC
TH-5	TELEPHONE	18+60.60	16.18	12.79	2.57	3/4" CABLE	VERIZON
TH-6	ELECTRIC	18+60.59	21.81	12.73	4.29	(3) 4" PLASTIC	DEC



NOTE:
 1. THE CONTRACTOR SHALL NOT IN ANY WAY DISTURB DP&L TRANSMISSION LINE POLE (#24474). THE CONTRACTOR SHALL NOT EXCAVATE WITHIN A 10'-0" RADIUS OF THE POLE AT ANY TIME EXCEPT FOR THE PLACEMENT OF THE PROPOSED 18" RCP LABELED P-3 AS SHOWN ON THIS SHEET. CARE MUST BE TAKEN WHILE EXCAVATING FOR THE PLACEMENT OF THE PROPOSED WINGWALL #1 TO NOT INTERFERE WITH THE OVERHEAD TRANSMISSION LINES. THE CONTRACTOR MUST COME UP WITH A SHORING METHOD THAT ALLOWS FOR THE PLACEMENT OF THE PROPOSED WINGWALL WITHOUT DISTURBING THE TRANSMISSION POLE AND LINES AS STATED ABOVE. THE CONTRACTOR MUST SUBMIT THE PROPOSED SHORING METHOD TO THE DEPARTMENT FOR APPROVAL PRIOR TO THE WORK BEING PERFORMED. PAYMENT FOR SHORING SHALL BE INCIDENTAL TO ITEM 207000 - EXCAVATION AND BACKFILL FOR STRUCTURES. SEE UTILITY STATEMENT FOR MORE DETAILS.

SOIL BORING SCHEDULE

NO.	STATION	ELEVATION	OFFSET	NORTHING	EASTING
B-6	12+94.19	4.74	11.34	261444.25	721779.44

ADDENDUMS / REVISIONS



**BR 3-713 ON S277
 ROBINSONVILLE ROAD OVER
 LOVE CREEK**

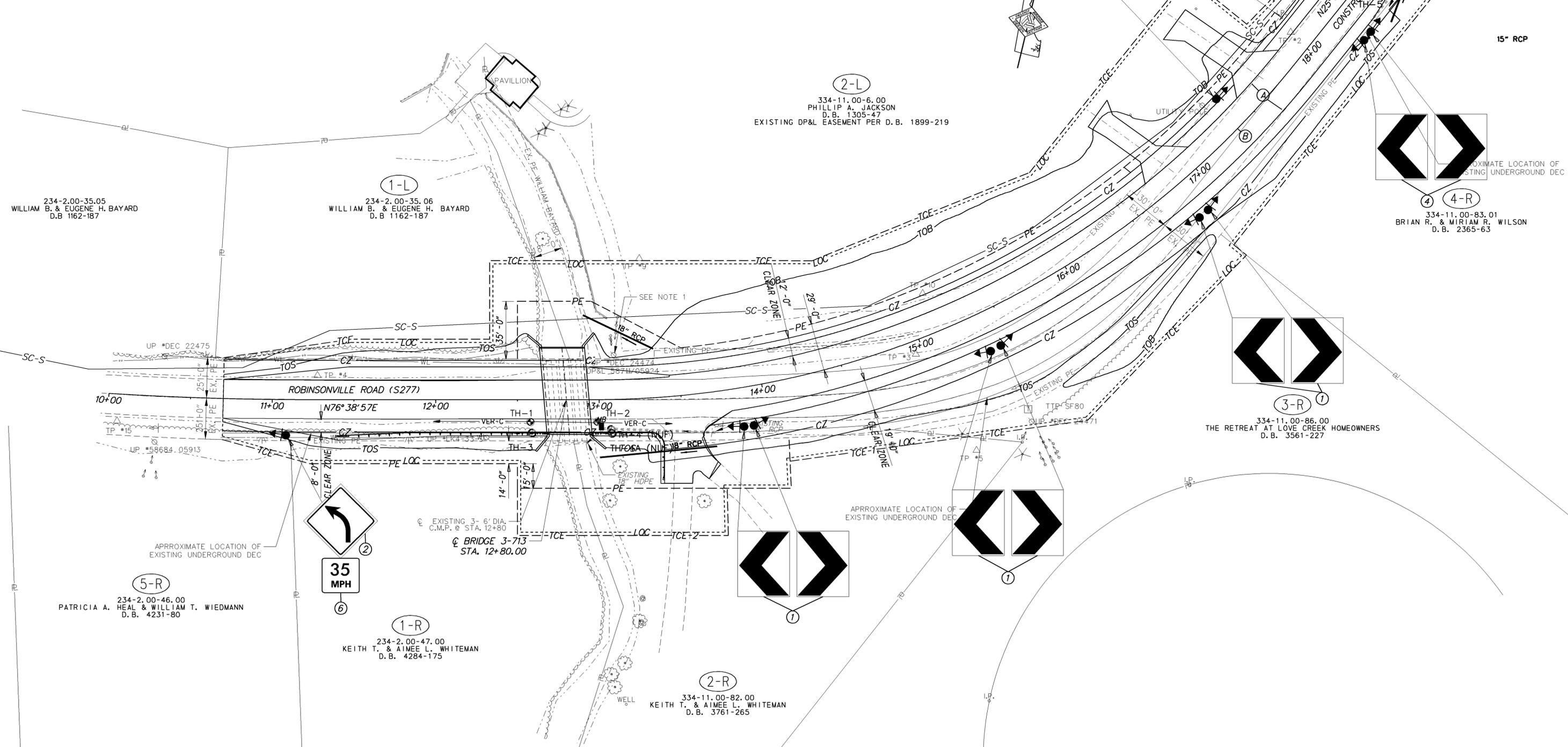
CONTRACT	BRIDGE NO.	3-713	SHEET NO.	16
T201407303	DESIGNED BY:	CBB	TOTAL SHTS.	21
COUNTY	CHECKED BY:	KRL		
SUSSEX				

**DELAWARE
 DEPARTMENT OF TRANSPORTATION**

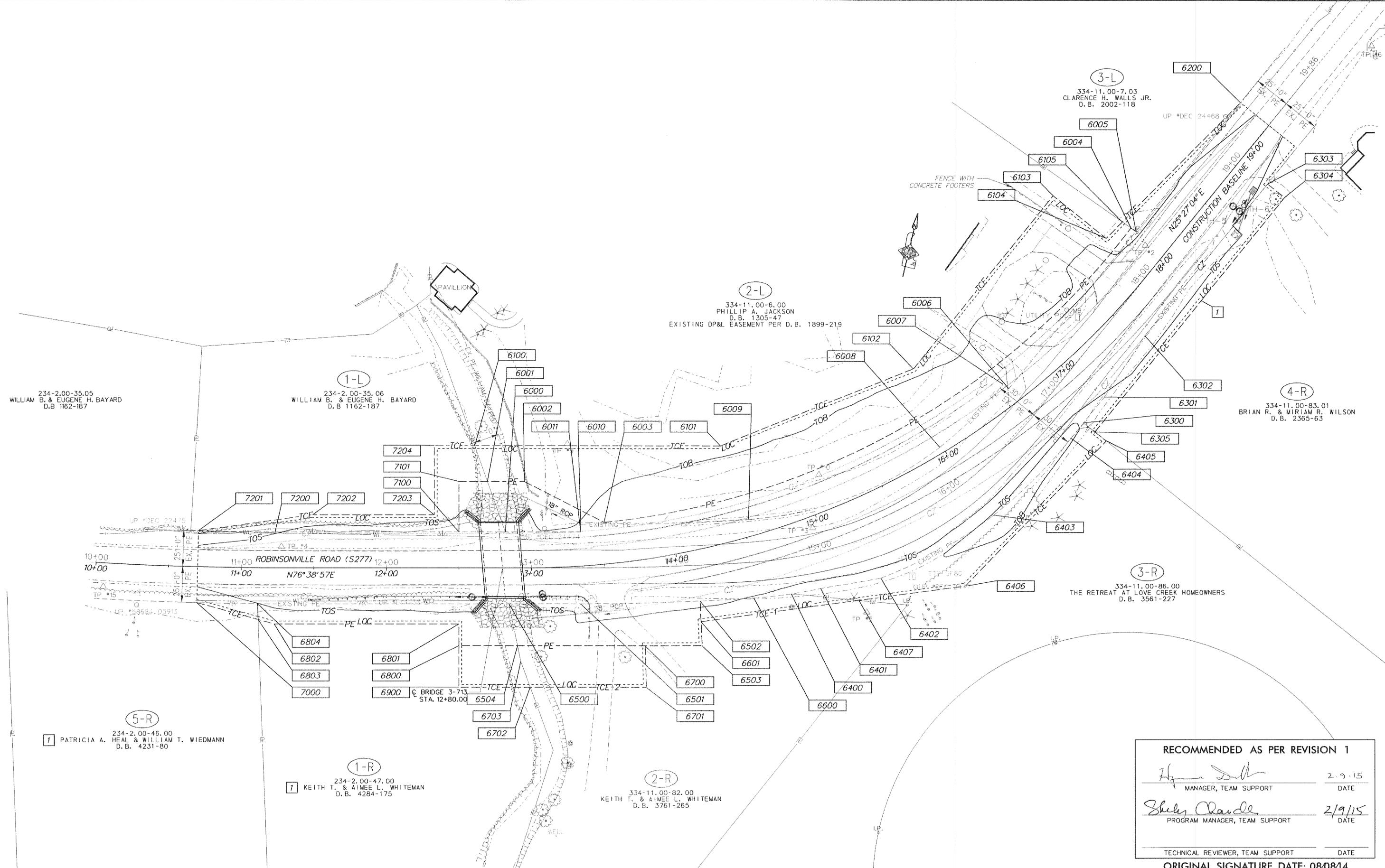
Y:\SUSSEX\277\BRIDGE\T201407303\PLANS\CP01.DGN

NO.	SHEET NO.	PLAN INDICATOR	CODE (DE-MUTCD)	QTY.	DESCRIPTION	ASSEMBLY NO.	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 749687 SINGLE POST (EACH)			ITEM 749690 MULTI POST (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost)	ITEM 749688 4" HOLE, 0-6" (EACH)	ITEM 749689 4" HOLE, >6" (EACH)	REMARKS		
										SIGN DISPOSITION	TOTAL SIGN AREA (SF)	REMOVE	INSTALL	SIGN DISPOSITION	TOTAL SIGN AREA (SF)						REMOVE	INSTALL
1	16	1	W1-8(18)	6	CHEVRON ALIGNMENT - 18x24		18	18	2	REPOSITION	14	6	6	SOIL	0	0	0					
2	16	2	W1-2_L(36)	1	CURVE (Left) - 36x36	1	36	36	9	NEW	0	0	2	SOIL	2	0	0					
3	16	3	W1-2_R(36)	1	CURVE (Right) - 36x36	2	36	36	9	NEW	0	0	2	SOIL	2	0	0					
4	16	4	W1-8(18)	2	CHEVRON ALIGNMENT - 18x24		18	18	2	NEW	5	0	2	SOIL	2	0	0					
5	16	5	OM3-R	1	TYPE 3 OBJECT MARKER		12	36	3	NEW	3	0	1	SOIL	1	0	0					
6	16	6	W13-1P-35(18)	1	ADVISORY SPEED (35 MPH) 18x18	1	18	36	5	NEW	5	0	1	SOIL	1	0	0					
7	16	7	W13-1P-35(18)	1	ADVISORY SPEED (35 MPH) 18x18	2	18	36	2	NEW	2	0	1	SOIL	1	0	0					

PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548)	1,700 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 748548)	850 LF



Y:\SUSSEX\277\BRIDGE\T201407303\PLANS\CP01.DGN



234-2.00-35.05
WILLIAM B. & EUGENE H. BAYARD
D.B. 1162-187

234-2.00-35.06
WILLIAM B. & EUGENE H. BAYARD
D.B. 1162-187

334-11.00-6.00
PHILLIP A. JACKSON
D.B. 1305-47
EXISTING DP&L EASEMENT PER D.B. 1899-219

334-11.00-7.03
CLARENCE H. WALLS JR.
D.B. 2002-118

334-11.00-83.01
BRIAN R. & MIRIAM R. WILSON
D.B. 2365-63

334-11.00-86.00
THE RETREAT AT LOVE CREEK HOMEOWNERS
D.B. 3561-227

234-2.00-46.00
PATRICIA A. HEAL & WILLIAM T. WIEDMANN
D.B. 4231-80

234-2.00-47.00
KEITH T. & AIMEE L. WHITEMAN
D.B. 4284-175

334-11.00-82.00
KEITH T. & AIMEE L. WHITEMAN
D.B. 3761-265

RECOMMENDED AS PER REVISION 1

Hyman Dull 2/9/15
MANAGER, TEAM SUPPORT DATE

Shelby Chaudh 2/9/15
PROGRAM MANAGER, TEAM SUPPORT DATE

TECHNICAL REVIEWER, TEAM SUPPORT DATE

ORIGINAL SIGNATURE DATE: 08/08/14



ADDENDUMS / REVISIONS	
7 MODIFICATION TO PARCEL 4-R DUE TO PROPERTY OWNER NEGOTIATION. CONVERTED PROPOSED PE TO TCE MODIFIED OWNERSHIP OF PARCEL 5-R & 1-R	CBB 1/20/15 CBB 1/30/15



**BR 3-713 ON S277
ROBINSONVILLE ROAD OVER
LOVE CREEK**

CONTRACT	BRIDGE NO.	3-713
T201407303	DESIGNED BY:	CBB
COUNTY	CHECKED BY:	KRL
SUSSEX		

RIGHT-OF-WAY PLAN	
SHEET NO.	18
TOTAL SHTS.	21

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-6.00	(2-L) PHILLIP A. JACKSON					P/E	D.B. 1305-47	4.500			
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE, 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6000	30000	12+81.84	-25.00	261476.7576	721759.0306	N 32°41'57.09" W	37.10				
6001	30000	12+69.55	-60.00	261507.9737	721738.9908	N 76°38'57.00" E	25.45				
6002	50000	12+95.00	-60.00	261513.8505	721763.7530	S 75°57'08.33" E	61.63				
6003	30000	13+52.72	-29.00	261498.8922	721823.5352			N 47°17'00.83" E	417.06	429.08	-521.00
6004	30000	18+04.79	-29.25	261781.8109	722129.9548	S 68°08'08.86" E	4.25				
6005	30000	18+05.06	-25.00	261780.2265	722133.9032	S 25°27'04.10" W	140.02				
6006	30000	16+61.47	-10.61	261653.7953	722073.7309	N 64°32'54.77" W	5.00				
6007	30000	16+60.29	-15.48	261655.9440	722069.2161			S 31°40'14.58" W	62.06	62.18	286.41
6008	30000	15+98.11	-4.25	261603.1294	722036.6345			S 55°49'53.62" W	140.86	142.96	240.00
6009	30000	14+54.96	-11.84	261524.0209	721920.0918			S 74°46'22.36" W	115.90	115.92	1770.00
6010	30000	13+35.65	-28.73	261493.5791	721808.2567	S 13°21'03.06" E	5.00				
6011	30000	13+35.29	-23.75	261488.7142	721809.4112	S 76°38'57.00" W	51.78				
6000	30000	12+81.84	-25.00	261476.7576	721759.0306						
FIGURE 6000 AREA = 8334.3621 SQ. FT. (0.1913 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-6.00	(2-L) PHILLIP A. JACKSON					TCE	D.B. 1305-47	4.500			
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE, 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6001	30000	12+69.55	-60.00	261507.9737	721738.9908	N 32°42'39.38" W	26.24				
6100	30000	12+60.85	-84.76	261530.0556	721724.8085	N 76°39'40.55" E	169.48				
6101	30000	14+50.47	-66.08	261569.1561	721889.7169	N 54°37'32.48" E	143.14				
6102	30000	16+12.60	-60.08	261652.0247	722006.4351	N 25°27'09.40" E	154.03				
6103	30000	17+88.51	-85.00	261791.1032	722072.6310	S 64°32'55.90" E	47.00				
6104	30000	17+88.53	-38.00	261770.9054	722115.0698	N 31°05'23.69" E	15.88				
6105	30000	18+04.35	-36.44	261784.5016	722123.2683	S 68°04'45.37" E	7.21				
6004	30000	18+04.79	-29.25	261781.8109	722129.9548			S 47°17'00.83" W	417.06	429.08	521.00
6003	30000	13+52.72	-29.00	261498.8922	721823.5352	N 75°57'08.33" W	61.63				
6002	50000	12+95.00	-60.00	261513.8505	721763.7530	S 76°38'57.00" W	25.45				
6001	30000	12+69.55	-60.00	261507.9737	721738.9908						
FIGURE 6100 AREA = 20137.2202 SQ. FT. (0.4623 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-7.03	(3-L) CLARENCE H. WALLS JR.					TCE	D.B. 2002-118	2.857			
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6005	30000	18+05.06	-25.00	261780.2265	722133.9032	N 68°06'00.90" W	11.46				
6105	30000	18+04.35	-36.44	261784.5016	722123.2683	N 31°06'01.48" E	116.21				
6200	30000	19+20.00	-25.00	261884.0118	722183.2976	S 25°27'04.10" W	114.94				
6005	30000	18+05.06	-25.00	261780.2265	722133.9032						
FIGURE 6200 AREA = 657.4568 SQ. FT. (0.0151 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-83.01	(4-R) BRIAN R. & MIRIAM R. WILSON					TCE	D.B. 2365-63	5.005			
ALIGNMENT NUMBER & DESCRIPTION: 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6300	50000	16+95.16	30.00	261642.5027	722129.2677	N 25°27'04.10" E	22.94				
6301	50000	17+18.10	30.00	261663.2164	722139.1260	N 19°50'35.01" E	51.16				
6302	50000	17+69.02	25.00	261711.3435	722156.4937	N 25°27'04.10" E	134.98				
6303	50000	19+04.00	25.00	261833.2239	722214.5001	S 64°32'55.90" E	15.00				
6304	50000	19+04.00	40.00	261826.7778	722228.0444	S 25°27'04.10" W	208.84				
6305	50000	16+95.16	40.00	261638.2053	722138.2973	N 64°32'55.90" W	10.00				
6300	50000	16+95.16	30.00	261642.5027	722129.2677						
FIGURE 6300 AREA = 2890.6000 SQ. FT. (0.0664 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-86.00	(3-R) THE RETREAT AT LOVE CREEK HOMEOWNERS					TCE	D.B. 3561-227	32.169			
ALIGNMENT NUMBER & DESCRIPTION: 50000 - HISTORIC R/W BASELINE, 30000 - PROPOSED CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6400	50000	14+75.28	25.00	261480.1736	721960.7218	N 65°50'55.58" E	20.62		20.63		-295.00
6401	50000	14+94.16	25.00	261488.6118	721979.5405	N 66°38'47.09" E	42.00				
6402	50000	15+32.04	30.00	261505.2612	722018.1007	N 47°14'34.08" E	89.35		89.69		-300.00
6403	30000	16+04.74	55.35	261565.9218	722083.7064	N 31°42'29.42" E	75.51				
6404	50000	16+81.49	30.00	261630.1609	722123.3939	N 25°27'04.10" E	13.67				
6300	50000	16+95.16	30.00	261642.5027	722129.2677	S 64°32'55.90" E	20.00				
6405	50000	16+95.16	50.00	261633.9079	722147.3268	S 30°38'33.20" W	140.21				
6406	50000	15+75.00	60.00	261513.2780	722075.8655	S 68°51'40.00" W	73.82				
6407	50000	15+14.92	39.78	261486.6554	722007.0107	S 82°01'43.43" W	46.74				
6400	50000	14+75.28	25.00	261480.1736	721960.7218						
FIGURE 6400 AREA = 4419.8328 SQ. FT. (0.1015 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-82.00	(2-R) KEITH T. & AIMEE L. WHITEMAN					P/E	D.B. 3761-265	1.104			
ALIGNMENT NUMBER & DESCRIPTION: 50000 - HISTORIC R/W BASELINE, 30000 - PROPOSED CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6500	50000	12+84.41	25.00	261428.7023	721773.0768	N 76°38'57.00" E	49.21				
6501	50000	13+33.62	25.00	261440.0655	721820.9569			N 75°21'14.21" E	82.50	82.51	-1825.00
6502	50000	14+15.00	25.00	261460.9262	721900.7793	S 15°56'28.52" E	30.90				
6503	50000	14+15.00	55.90	261431.2145	721909.2661	S 76°39'02.72" W	127.17				
6504	30000	12+90.33	54.00	261401.8530	721785.5333	N 24°53'18.78" W	29.60				
6500	50000	12+84.41	25.00	261428.7023	721773.0768						
FIGURE 6500 AREA = 3806.2707 SQ. FT. (0.0874 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-82.00	(2-R) KEITH T. & AIMEE L. WHITEMAN					TCE-1	D.B. 3761-265	1.104			
ALIGNMENT NUMBER & DESCRIPTION: 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6502	50000	14+15.00	25.00	261460.9262	721900.7793			N 73°28'39.60" E	37.02	37.02	-1825.00
6600	50000	14+51.51	25.00	261471.4534	721936.2675			N 70°22'26.68" E	25.96	25.97	-295.00
6400	50000	14+75.28	25.00	261480.1736	721960.7218	N 82°01'43.43" E	46.74				
6407	50000	15+14.92	39.78	261486.6554	722007.0107	S 68°51'24.03" W	109.66				
6601	50000	14+15.00	39.38	261447.0992	721904.7288	N 15°56'28.52" W	14.38				
6502	50000	14+15.00	25.00	261460.9262	721900.7793						
FIGURE 6600 AREA = 1003.1628 SQ. FT. (0.0230 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
334-11.00-82.00	(2-R) KEITH T. & AIMEE L. WHITEMAN					TCE-2	D.B. 3761-265	1.104			
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE, 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6504	30000	12+90.33	54.00	261401.8530	721785.5333	N 76°39'00.39" E	87.98				
6700	50000	13+77.00	54.54	261422.1674	721871.1360	S 14°43'54.04" E	28.79				
6701	50000	13+77.00	83.33	261394.3238	721878.4571	S 76°39'04.97" W	79.91				
6702	50000	12+99.09	82.78	261375.8736	721800.7022	N 33°20'29.69" W	19.22				
6703	50000	12+92.52	64.72	261391.9285	721790.1395	N 24°53'49.10" W	10.94				
6504	30000	12+90.33	54.00	261401.8530	721785.5333						
FIGURE 6700 AREA = 2431.4921 SQ. FT. (0.0558 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
234-2.00-47.00	(1-R) KEITH T. & AIMEE L. WHITEMAN					P/E	D.B. 4284-175	2.550			
ALIGNMENT NUMBER & DESCRIPTION: 50000 - HISTORIC R/W BASELINE, 30000 - PROPOSED CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6500	50000	12+84.41	25.00	261428.7023	721773.0768	S 24°53'18.7					

ASSESSMENT NUMBER	OWNERSHIP OF RECORD				TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)				
234-2.00-35.06	(1-L) WILLIAM B. & EUGENE H. BAYARD				P/E	D.B. 1162-187	0.592				
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6000	30000	12+81.84	-25.00	261476.7576	721759.0306	S 76°38' 57.00" W	31.84				
7100	30000	12+50.00	-25.00	261469.4053	721728.0511	N 13°21' 03.00" W	35.00				
7101	30000	12+50.00	-60.00	261503.4594	721719.9692	N 76°38' 57.00" E	19.55				
6001	30000	12+69.55	-60.00	261507.9737	721738.9908	S 32°41' 57.09" E	37.10				
6000	30000	12+81.84	-25.00	261476.7576	721759.0306						

FIGURE 7100 AREA = 899.3250 SQ. FT. (0.0206 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD				TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)				
234-2.00-35.06	(1-L) WILLIAM B. & EUGENE H. BAYARD				TCE	D.B. 1162-187	0.592				
ALIGNMENT NUMBER & DESCRIPTION: 30000 - PROPOSED CONSTRUCTION BASELINE, 50000 - HISTORIC R/W BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6100	30000	12+60.85	-84.76	261530.0556	721724.8085	S 32°42' 39.38" E	26.24				
6001	30000	12+69.55	-60.00	261507.9737	721738.9908	S 76°38' 57.00" W	19.55				
7101	30000	12+50.00	-60.00	261503.4594	721719.9692	S 13°21' 03.00" E	35.00				
7100	30000	12+50.00	-25.00	261469.4053	721728.0511	S 76°38' 57.00" W	126.63				
7200	50000	11+23.37	-25.00	261440.1648	721604.8434	S 77°24' 49.16" W	52.70				
7201	50000	10+70.00	-25.00	261428.6806	721553.4086	N 68°31' 22.91" E	79.21				
7202	30000	11+49.09	-36.90	261457.6823	721627.1204	N 76°38' 57.00" E	83.91				
7203	30000	12+33.00	-36.90	261477.0582	721708.7627	N 13°21' 03.00" W	47.86				
7204	30000	12+33.00	-84.76	261523.6247	721697.7112	N 76°38' 57.00" E	27.85				
6100	30000	12+60.85	-84.76	261530.0556	721724.8085						

FIGURE 7200 AREA = 2866.4225 SQ. FT. (0.0658 ACRES)

LEGEND	
FEE	AREA OF ACQUISITION
RW	AREA OCCUPIED BY EXISTING RW
PE	PERMANENT EASEMENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
*	" - " OFFSET IS LEFT OF BASELINE
**	" - " CURVE TURNS TO THE LEFT

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 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS				BR 3-713 ON S277 ROBINSONVILLE ROAD OVER LOVE CREEK	CONTRACT	BRIDGE NO.	3-713	RIGHT-OF-WAY DATA SHEET	SHEET NO.	20
						T201407303	DESIGNED BY: CBB			TOTAL SHTS.	21
						COUNTY	CHECKED BY: KRL				
						SUSSEX					

COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE) D=DEED C=CALCULATED A=ASSESSMENT	ACQUISITION CODE FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED				PROPERTY AREA REMAINING (SQ. FEET /ACRES)	DEED RECORD OF ACQUISITION	REMARKS
						ACQUISITION (SQ. FEET /ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET /ACRES)	EASEMENT				
								PERMANENT (SQ. FEET /ACRES)	TEMPORARY (SQ. FEET /ACRES)			
334-11.00-6.00	6	(2-L) PHILLIP A. JACKSON	D.B. 1305-47	D - 4.50	P/E TCE			8334.3621 / 0.19	20137.2202 / 0.46	196020.00 / 4.50		
334-11.00-7.03	6	(3-L) CLARENCE H. WALLS JR.	D.B. 2002-118	D - 2.86	TCE				657.4568 / 0.02	124455.00 / 2.86		
334-11.00-83.01	6	(4-R) BRIAN R. & MIRIAM R. WILSON	D.B. 2365-63	D - 5.01	TCE				2890.60 / 0.07	218000.00 / 5.00		
334-11.00-86.00	6	(3-R) THE RETREAT AT LOVE CREEK HOMEOWNERS	D.B. 3561-227	D - 32.17	TCE				4419.8328 / 0.10	1401273.00 / 32.17		
334-11.00-82.00	6	(2-R) KEITH T. & AIMEE L. WHITEMAN	D.B. 3761-265	D - 1.10	P/E TCE-1 TCE-2			3806.2707 / 0.09	1003.1628 / 0.02 2431.4921 / 0.06	48090.00 / 1.10		
234-2.00-47.00	6	(1-R) KEITH T. & AIMEE L. WHITEMAN	D.B. 4284-175	A - 2.55	P/E TCE			3009.2289 / 0.07	1271.3143 / 0.03	111078.00 / 2.55		
234-2.00-46.00	6	(5-R) PATRICIA A. HEAL & WILLIAM T. WIEDMANN	D.B. 4231-80	A - 2.51	TCE				229.6874 / 0.01	109336.00 / 2.51		
234-2.00-35.06	6	(1-L) WILLIAM B. & EUGENE H. BAYARD	D.B. 1162-187	A - 0.59	P/E TCE			899.325 / 0.02	2866.4225 / 0.07	25770.00 / 0.59		

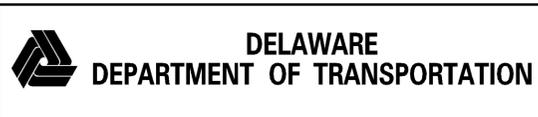
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ACQUISITION CODES
 FEE - ACQUISITION
 R/W - AREA OCCUPIED BY EXISTING R/W
 P/E - PERMANENT EASEMENT
 TCE - TEMPORARY EASEMENT



ADDENDUMS / REVISIONS	
1	MODIFICATION TO PARCEL 4-R DUE TO PROPERTY OWNER NEGOTIATION. CONVERTED PROPOSED PE TO TCE. UPDATED OWNERS ON 1-R AND 5-R
	CBB 1/20/15

**BR 3-713 ON S277
 ROBINSONVILLE ROAD OVER
 LOVE CREEK**

CONTRACT T201407303	BRIDGE NO. 3-713
COUNTY SUSSEX	DESIGNED BY: CBB CHECKED BY: KRL

**RIGHT-OF-WAY
 TABULATION**

SHEET NO. 21
TOTAL SHTS. 21