

GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY
UNITS



CONSTRUCTION PLANS FOR:

US 13 & PORT PENN ROAD INTERSECTION

CONTRACT NUMBER: T201011302
 FEDERAL AID PROJECT NUMBER: NH-2015(26)
 COUNTY: NEW CASTLE M.R. #: 84

DESIGN DESIGNATION - US 13 (N22)		
FUNCTIONAL CLASS: MINOR ARTERIAL	D.H.V. PROJECTED: 4,360	YEAR: 2030
TYPE OF CONSTRUCTION: WIDENING	DESIGN SPEED: 65 M.P.H.	
A.A.D.T. CURRENT: 24,318	YEAR: 2008	TRUCKS: 7 %
A.A.D.T. PROJECTED: 43,600	YEAR: 2030	DIRECTION OF DISTRIBUTION: 50 %
SEE SHEET PN-02 FOR PORT PENN ROAD & RAMP R DESIGN DESIGNATIONS		

INDEX OF SHEETS	
SHEET NO	TABLE OF CONTENTS
1	TITLE
2-3	PLAN SHEET INDEX
4	LEGEND
5-6	NOTES
7-10	EARTHWORK SUMMARY
11-20	TYPICAL SECTIONS
21-23	HORIZONTAL AND VERTICAL CONTROL
24-36	CONSTRUCTION PLANS
37-49	PROFILES
50-61	GRADES AND GEOMETRICS
62-64	PAVEMENT JOINT LAYOUT PLANS
65-76	CONSTRUCTION DETAILS
77-82	STRUCTURAL SLAB DETAILS
83-95	STORMWATER MANAGEMENT PLANS
96-99	ENVIRONMENTAL COMPLIANCE PLANS
100-143	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLANS
144-146	DETOUR PLANS
147-155	LIGHTING PLANS
156-159	UTILITY RELOCATION PLANS
160-178	SIGNING, STRIPING AND CONDUIT PLANS
179	TRAFFIC SIGNAL PLAN

LIMIT OF CONSTRUCTION
RAMP R
STATION 317 + 76

LIMIT OF CONSTRUCTION
PORT PENN ROAD
STATION 4012 + 00



LOCATION MAP
SCALE: 1" = 3000'

END
CONTRACT T201011302
STATION 144 + 67

BEGIN
CONTRACT T201011302
STATION 80 + 50

TOTAL SHEETS: 182

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
SUPERELEVATION RATE - PORT PENN ROAD	6%	3.9%	8/8/2013

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
T200911308	US 301 SR 896 TO SR 1
T200911302	US 301 & SR 1 INTERCHANGE

PREPARED BY
THE CONSULTING FIRM OF



Whitman, Reardon & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

RECOMMENDED _____ DATE _____

RECOMMENDED

SQUAD MANAGER, CONSTRUCTION _____ DATE _____
 GROUP ENGINEER, CONSTRUCTION _____ DATE _____
 ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) _____ DATE _____

RECOMMENDED

STORMWATER ENGINEER _____
DATE _____

RECOMMENDED

SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN) _____
DATE _____

RECOMMENDED

BRIDGE DESIGN ENGINEER _____
DATE _____

RECOMMENDED

GROUP ENGINEER, PROJECT DEVELOPMENT _____
DATE _____

RECOMMENDED

ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS _____
DATE _____

APPROVED

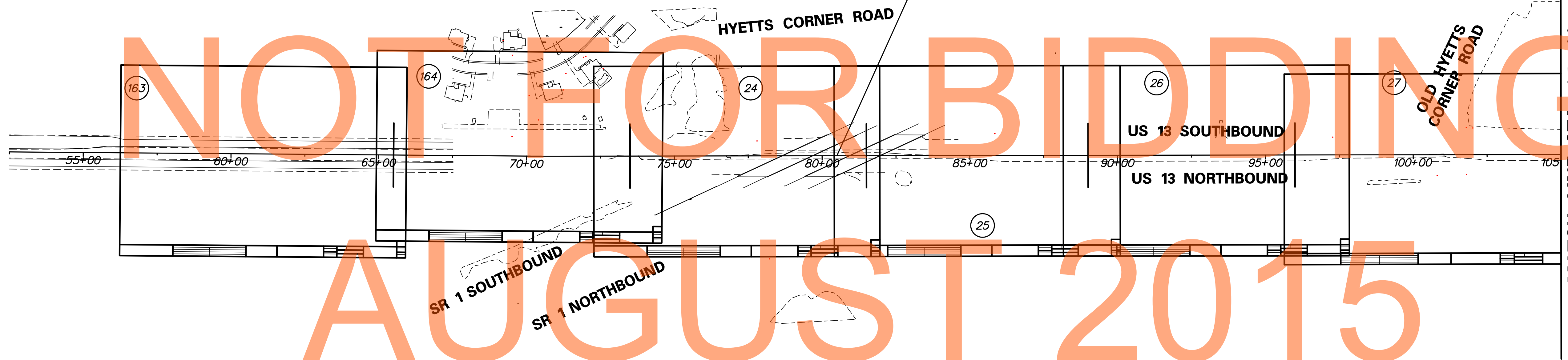
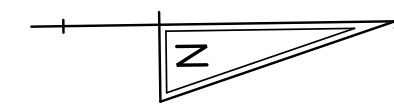
CHIEF ENGINEER _____
DATE _____

LAST REVISED: 8/7/2008
N:\31653-111\CONTRACT_IB\CADD\T201011302\IB.DGN

PLAN SHEET INDEX CROSS REFERENCE						
CONSTRUCTION PLAN	N/A	N/A	(24)	(25)	(26)	(27)
PROFILES	N/A	N/A	N/A	N/A	44	45
GRADES AND GEOMETRICS	N/A	N/A	N/A	N/A	50	51
STORMWATER MANAGEMENT	N/A	N/A	N/A	N/A	83	87
ENVIRONMENTAL COMPLIANCE PLAN	N/A	N/A	N/A	N/A	N/A	N/A
CONSTRUCTION PHASING, M.O.T. AND E&S PLAN	142	N/A	127,142	128,142	129,142	105,114,130,142
DETOUR PLAN	145,146	145,146	145,146	145,146	145,146	145,146
LANDSCAPING PLAN	N/A	N/A	N/A	N/A	N/A	N/A
LIGHTING PLAN	N/A	N/A	N/A	N/A	N/A	N/A
SIGNING, STRIPING AND CONDUIT PLAN	(163)	(164)	165	166	167	168
PAVEMENT JOINT PLAN	N/A	N/A	N/A	N/A	N/A	N/A
SIGNALIZATION PLAN	N/A	N/A	N/A	N/A	N/A	N/A

DRAFT

BEGIN
CONTRACT T201011302
STATION 80+50

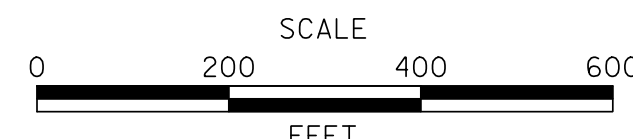


AUGUST 2015

M:\16531-000\Contract ID\CADD\16000\301.L10.dgn
 8/17/2015 9:26:15 AM



ADDENDUMS / REVISIONS	



US 13 & PORT PENN RD INTERSECTION

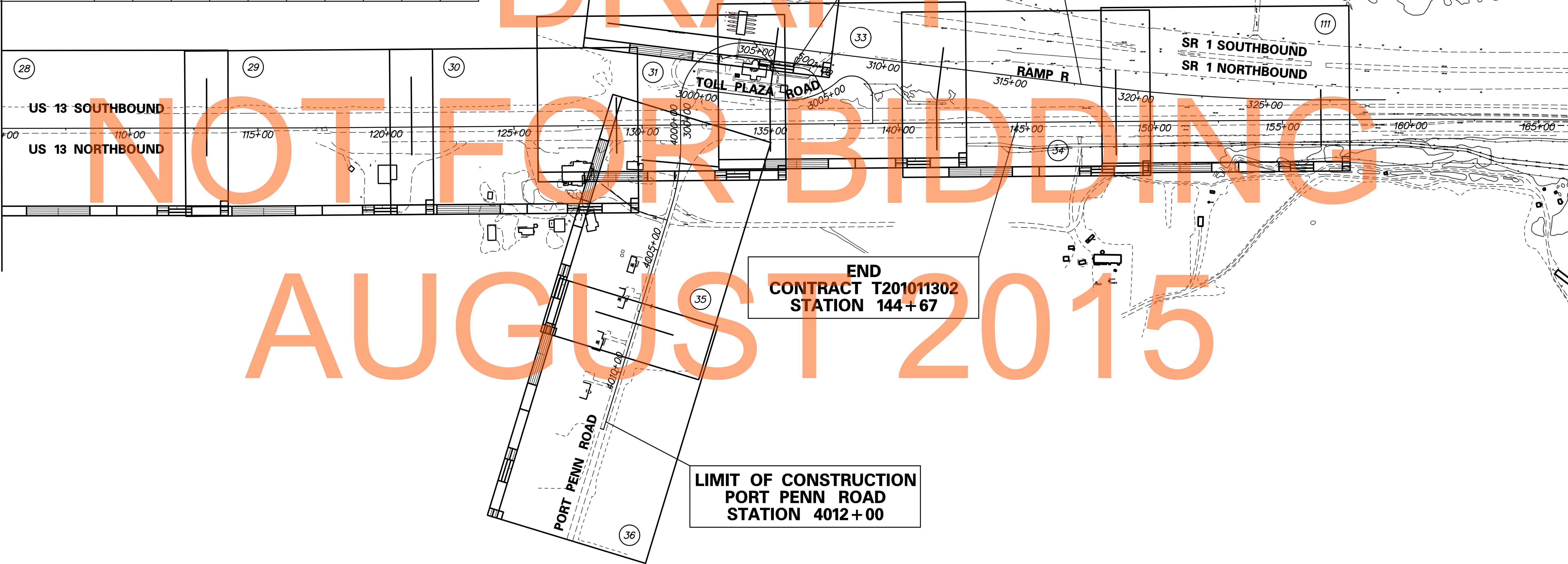
CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: N.S.P.
NEW CASTLE	CHECKED BY: B.R.T.

PLAN SHEET INDEX

IS-01
SHEET NO.
2
TOTAL SHTS.
179

PLAN SHEET INDEX CROSS REFERENCE										
CONSTRUCTION PLAN	(28)	(29)	(30)	(31)	(33)	(34)	(35)	(36)	N/A	N/A
PROFILES	46	47	48	37, 40 41, 42 49	37, 38 40, 41	38, 39	42, 43	43	39	N/A
GRADES AND GEOMETRICS	52	53	54	55, 60 61	56	57	58	59	N/A	N/A
STORMWATER MANAGEMENT	N/A	N/A	N/A	N/A	91	91	N/A	N/A	N/A	N/A
ENVIRONMENTAL COMPLIANCE PLAN	N/A	N/A	N/A	N/A	98	99	N/A	N/A	N/A	N/A
CONSTRUCTION PHASING, M.O.T. AND E&S PLAN	105, 115 131	106, 116 132	107, 117, 113, 143	108, 118 122, 134 139, 140 143	109, 119 123, 125 135, 143	110, 120 124, 136, 143	112, 121 137, 141	113, 138 143	(111) 120, 124	N/A
DETOUR PLAN	145, 146	145, 146	145, 146	145, 146	145, 146	145, 146	144	144	145, 146	N/A
LANDSCAPING PLAN	N/A	N/A	N/A	134	135	N/A	N/A	N/A	N/A	N/A
LIGHTING PLAN	N/A	137	138	139	140	141	142	N/A	N/A	N/A
SIGNING, STRIPING AND CONDUIT PLAN	169	170	171	172, 178	173, 178	174	175	176	N/A	(177)
PAVEMENT JOINT PLAN	N/A	N/A	N/A	62	63	64	N/A	N/A	N/A	N/A
SIGNALIZATION PLAN	N/A	N/A	N/A	182	N/A	N/A	N/A	N/A	N/A	N/A

MATCH LINE STA. 105+00



**LIMIT OF CONSTRUCTION
RAMP R
STATION 317+76**

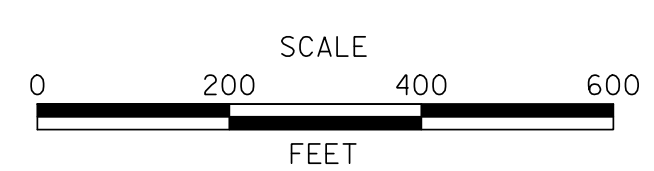
**END
CONTRACT T201011302
STATION 144+67**

**LIMIT OF CONSTRUCTION
PORT PENN ROAD
STATION 4012+00**

M:\16531-000\Contract\16531-000\CADD\165002\1301_1D.dgn 9/17/2015 9:21:50 AM



ADDENDUMS / REVISIONS	



**US 13 & PORT PENN RD
INTERSECTION**

CONTRACT T201011302	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: N.S.P. CHECKED BY: B.R.T.

PLAN SHEET INDEX

IS-02
SHEET NO. 3
TOTAL SHTS. 179

EXISTING SYMBOLS

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

MANMADE ROADSIDE FEATURES	
	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
	ORDINARY HIGH WATER
	ORDINARY HIGH WATER / WETLAND

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
	SANITARY SEWER MANHOLE
	SANITARY SEWER VALVE
	SANITARY SEWER VENT OR CLEANOUT
	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	
	EASTERN SHORE NATURAL GAS
	DELDOT MULTIDUCT CONDUIT - EXISTING
	DELDOT ITMS CONDUIT - EXISTING
	VERIZON CONDUIT
	DELMARVA POWER - ELECTRIC
	DELMARVA POWER - GAS
	DELDOT ITMS CONDUIT - EXISTING
	ARTESIAN WATER COMPANY

PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BOLLARD - WOOD POST
	BOLLARD - STEEL POLE
	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
	CONSTRUCTION BASELINE
	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
	IMPACT ATTENUATOR
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	HORIZONTAL CLEARANCE
	JUNCTION BOX - DRAINAGE
	LIMIT OF CONSTRUCTION
	MANHOLE
	PAVEMENT PATCH
	PIPE & DIRECTIONAL FLOW ARROW
	CULVERT & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK @ 4"
	P.C.C. SIDEWALK @ 6"
	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

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

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

PAVEMENT SECTION(S)	
	OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	FULL DEPTH PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	DRIVEWAY, ENTRANCE AND MISC. PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS

MISCELLANEOUS SYMBOLS	
	PAVEMENT REMOVAL OUTSIDE OF ROADWAY TEMPLATE
	POND MAINTENANCE ACCESS ROAD
	42" F-SHAPE CONCRETE SINGLE FACE BARRIER
	EXISTING OVERHEAD SIGN STRUCTURE
	EXISTING OVERHEAD SIGN STRUCTURE
	RESOURCE PROTECTION FENCING
	ITMS CONDUIT JUNCTION WELL
	ITMS CONDUIT
	TRAFFIC CABINET
	POLE BASE
	ENDWALL
	SEDIMENT TRAP
	SILT FENCE

EROSION & SEDIMENT CONTROL	
	DEWATERING BASIN
	EROSION CONTROL BLANKET
	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, TYPE 1
	SUMP PIT, TYPE 2
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN

ADDENDUMS / REVISIONS

NOT TO SCALE

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: J.A.D.
NEW CASTLE	CHECKED BY: B.R.T.

LEGEND

LG-01

SHEET NO.

4

TOTAL SHTS.

179

PROJECT NOTES (CONT.)

SECTION 400

- e. ALL COSTS TO UTILIZE MILLINGS IN RECYCLED WARM-MIX WILL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE WARM-MIX ITEM USING THE RECYCLED MATERIAL.
- f. SPECIAL PROVISION 302514 - MILLED HOT-MIX BASE COURSE IS PROVIDED TO SPECIFY THE MEANS OF LAY DOWN AND COMPACTION AS WELL AS THE MATERIAL REQUIREMENTS FOR MILLINGS USED AS BASE COURSE. ALL COSTS TO BRING THE MILLINGS INTO COMPLIANCE WITH THE REQUIREMENTS OF ITEM 302514 - MILLED HOT-MIX BASE COURSE ARE INCIDENTAL TO ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'. NO PAYMENT WILL BE MADE FOR ITEM 302514 - MILLED HOT-MIX BASE COURSE. THE QUANTITY OF MILLINGS USED FOR BASE COURSE WILL BE PAID FOR UNDER ITEM 302007 - GRADED AGGREGATE BASE COURSE.
- 20. THE PAVEMENT SECTION FOR AGRICULTURAL LAND USE ENTRANCE SHALL BE 2" WARM-MIX, TYPE 'C' OVER 8" GRADED AGGREGATE BASE COURSE, TYPE 'B', UNLESS OTHERWISE NOTED IN THE PLANS.
- 21. MEASURES FOR MAINTAINING PUBLIC TRAFFIC, SUCH AS TEMPORARY ROADS, DETOURS, RUN-AROUNDS, ETC. SHALL BE CONSTRUCTED UTILIZING THE APPLICABLE STANDARD BID ITEMS, NOT TEMPORARY ROADWAY MATERIAL (TRM). TRM IS INTENDED FOR MAINTAINING INGRESS AND EGRESS TO PROPERTIES OR BUSINESSES AS WELL AS MAINTENANCE OF EXISTING PUBLIC ROADWAYS. TRM SHALL ALSO BE USED TO MAINTAIN DETOUR ROADS, ETC. AFTER THEIR INITIAL CONSTRUCTION.
- 22. PRIOR TO PLACEMENT OF ANY SECTION OF PCC PAVEMENT, THE UNDERLYING BASE COURSES OF SOIL CEMENT AND PERMEABLE TREATED BASE SHALL BE COMPLETED TO THEIR FULL WIDTH (OUTSIDE OF SHOULDER) AND THE UNDERDRAIN AND UNDERDRAIN OUTLETS INSTALLED FOR THE ENTIRE SECTION OF PAVING BEING CONSIDERED BY THE CONTRACTOR.
- 23. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT ALL PERMEABLE TREATED BASE (PTB) PLACED DURING ANY ONE CONSTRUCTION SEASON IS COVERED WITH PCC OR WARM MIX PAVEMENT, AS APPLICABLE, BY THE END OF THE CONSTRUCTION SEASON. ANY PTB WHICH HAS NOT BEEN PAVED OVER AT THE END OF THE SEASON MUST BE ENTIRELY COVERED WITH POLYETHYLENE SHEETING, PROPERLY ANCHORED AND OVERLAPPED AT LEAST EIGHTEEN INCHES FOR THE WINTER AND UNTIL PAVING OPERATIONS RESUME. NO CONSTRUCTION TRAFFIC OF ANY KIND WILL BE PERMITTED TO TRAVERSE OVER PTB AT ANY TIME, EITHER UNCOVERED OR COVERED WITH POLYETHYLENE, EXCEPT FOR NECESSARY EQUIPMENT UTILIZED DURING PAVING OPERATIONS. THE COST OF FURNISHING, INSTALLING AND MAINTAINING THE POLYETHYLENE SHEETING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE PTB.
- 24. EXCEPT FOR NECESSARY EQUIPMENT UTILIZED DURING PAVING OPERATIONS, NO CONSTRUCTION TRAFFIC OF ANY KIND SHALL BE PERMITTED TO RUN ON THE SOIL CEMENT BASE COURSE.

SECTION 600

- 25. 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 OR ITS REPRESENTATIVE WILL INSPECT NEW PIPE RUNS TO CONFIRM CONDITION PRIOR TO ACCEPTANCE.

- 26. ITEM 602002-P.C.C. MASONRY, CLASS B SHALL BE USED TO CONSTRUCT MISCELLANEOUS TYPES OF STRUCTURES SUCH AS PADS, WHEEL STOPS, BOLLARDS, ENCASEMENTS, ETC. AS DIRECTED BY THE ENGINEER UNLESS THE WORK IS TO BE PAID OTHERWISE AS INDICATED IN THE CONTRACT DOCUMENTS. THESE MISCELLANEOUS TYPES OF STRUCTURES ARE ANTICIPATED TO INVOLVE LESS THAN FIVE CUBIC YARDS PER SITE. THE VOLUME MEASURED FOR PAYMENT SHALL BE THE VOLUME OF P.C.C. MASONRY ACTUALLY PLACED TO CONSTRUCT THE MISCELLANEOUS STRUCTURE WITHIN THE LIMITS APPROVED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH FURNISHING ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK INCLUDING CONCRETE, REINFORCING STEEL, EXCAVATION, BACKFILL, BACKFILLING, ETC. SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 602002 - P.C.C. MASONRY, CLASS B.

- 27. DRAINAGE INLETS TO BE ATTACHED TO EXISTING PIPES SHALL BE CAST IN PLACE. CAST IN PLACE CONSTRUCTION SHALL BE INCIDENTAL TO THE APPLICABLE BID ITEM FOR THE SUBJECT INLET.

SECTION 700

- 28. 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. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.
- 29. 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 762002 - SAWCUTTING, CONCRETE, FULL DEPTH.
- 30. STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE ALONG THE FLOWLINE FOR INLETS, AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.
- 31. WHERE SPECIFIED ON THE PLANS, DRAINAGE INLET GRATES ADJACENT TO THE ROAD, WITHIN THE PROJECT LIMITS, WHICH ARE NOT TYPE 1 SHALL BE REPLACED. THE ACTUAL LOCATIONS, THE NEED FOR ANY GRATE MODIFICATIONS OR FOR NEW FRAMES SHALL BE DETERMINED BY THE ENGINEER. ALL REPLACED GRATES/FRAMES SHALL BE DELIVERED TO THE NEAREST DISTRICT MAINTENANCE YARD WITH THE COST OF DELIVERY INCIDENTAL TO ITEM 708500 - REPLACING CATCH BASIN GRATES. FINAL PAYMENT FOR REPLACED GRATES/FRAMES SHALL NOT BE MADE UNTIL RECEIPT OF DELIVERED MATERIALS IS PRODUCED, SIGNED BY A DELDOT MAINTENANCE YARD SUPERVISOR.
- 32. 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.
- 33. RAISED/RECESSED PAVEMENT MARKERS (RPM) SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL TITLED "DELAWARE GUIDE OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS" (PART 3) AND THE LATEST RPM GUIDELINES. PAYMENT FOR RPM INSTALLATION SHALL BE MADE UNDER ITEM 748502 - RAISED/RECESSED PAVEMENT MARKER.
- 34. ALL UNDERDRAIN OUTLETS, CATCH BASINS, PIPES, CONDUITS, JUNCTION WELLS, ETC. IN GUARDRAIL AREAS OR NEAR OTHER CONSTRUCTION YET TO BE PERFORMED SHALL BE VISIBLY MARKED BY THE CONTRACTOR AT THE TIME OF INSTALLATION IN ORDER TO AVOID FUTURE DAMAGE DURING DRIVING OF THE GUARDRAIL POSTS OR PERFORMANCE OF OTHER CONSTRUCTION. THE LOCATION OF GUARDRAIL POSTS AND OTHER CONSTRUCTION SHALL BE STAKED IN THE FIELD PRIOR TO PLACING THESE ITEMS. THE LOCATION OF THESE ITEMS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH THE GUARDRAIL OR OTHER CONSTRUCTION. ALTERATIONS TO THE GUARDRAIL POST SPACING WILL NOT BE ALLOWED. ANY WORK REQUIRED TO RELOCATE THESE ITEMS DUE TO CONFLICTS WITH GUARDRAIL OR OTHER CONSTRUCTION SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE AT THE CONTRACTOR'S EXPENSE, INCLUDING ANY REMOVAL AND REPLACEMENT OF PAVEMENT.
- 35. DELDOT OR ITS REPRESENTATIVE SHALL FURNISH AND INSTALL RIGHT-OF-WAY MONUMENTS AFTER THE COMPLETION OF THE PROJECT. LOCATIONS OF RIGHT-OF-WAY MONUMENTS ARE PROVIDED ON THE PLANS FOR INFORMATION ONLY.
- 36. THE DELDOT FIELD OFFICE (759506 - FIELD OFFICE, TYPE II.22 SPECIAL COMPLEX) WILL BE PROVIDED IN CONTRACT T200911302 AND WILL BE LOCATED ON THE DELDOT OWNED PARCEL EAST OF US 13 AT APPROXIMATE SR 1 STATION 1832+00 RT.
- 37. THE COST OF ANY FLOODLIGHTING NECESSARY DUE TO WORK BY THE CONTRACTOR ON ANY ITEM OCCURRING AFTER DARK SHALL BE INCIDENTAL TO THE BID PRICE OF THE ITEM BEING CONSTRUCTED AFTER DARK. DURING NIGHT WORK, ALL PERSONS WITHIN THE WORK ZONE SHALL HAVE SAFETY WEAR IN ACCORDANCE WITH THE DEMUTCD.

PROJECT NOTES (CONT.)

SECTION 700 (CONT.)

- 38. NO LESPEDEZA, ERAGROSTIS CURVULA, OR CORONILLA VARIA SHALL BE SEEDED. SECTION 734 - SEEDING HAS BEEN MODIFIED TO REMOVE LESPEDEZA, ERAGROSTIS CURVULA, AND CORONILLA VARIA.
- 39. INSTALLATION OF RIPRAP OUTLET PROTECTION (ITEMS 712005 AND 712006) SHALL BE IN ACCORDANCE WITH DIMENSIONS AND QUANTITIES INDICATED ON THE CONSTRUCTION PLANS. THE SPECIFIED DIMENSIONS ARE MINIMUM DIMENSIONS NECESSARY TO PROVIDE SUFFICIENT EROSION CONTROL. THE QUANTITY LISTED REPRESENTS THE SQUARE YARDAGE BASED UPON THE PLAN DEPICTION OF THE RIPRAP. DUE TO THE IRREGULAR CONFIGURATION OF SOME RIPRAP PADS, THE NOTED QUANTITY MAY NOT BE ACHIEVED BY A NOMINAL AMOUNT NOT TO EXCEED 5% LESS THAN THE NOTED QUANTITY. THE ENGINEER SHALL APPROVE ALL RIPRAP INSTALLATION. THE COST FOR SUPPLY AND INSTALLATION OF ALL STONE BEDDING BELOW PROPOSED RIPRAP SHALL BE INCIDENTAL TO THE ASSOCIATED RIPRAP ITEM.
- 40. ITEM 727000-RIGHT-OF-WAY FENCE SHALL BE INSTALLED BY HAND IN SENSITIVE AREAS. SENSITIVE AREAS INCLUDE WOODS, WETLANDS, STREAMS, CULTURAL RESOURCE AREAS AND OTHER AREAS AS SHOWN ON THE PLANS AND AS DETERMINED BY THE ENGINEER. THERE SHALL BE NO VEHICLE ACCESS AND GRUBBING FOR THE PURPOSES OF INSTALLING RIGHT-OF-WAY FENCE IN SENSITIVE AREAS. CLEARING OF VEGETATION FOR THE PURPOSE OF INSTALLING RIGHT-OF-WAY FENCE SHALL BE KEPT TO A MINIMUM IN SENSITIVE AREAS. IF REMOVAL OF VEGETATION CANNOT BE AVOIDED, THE VEGETATION SHALL BE CUT FLUSH WITH THE GROUND SURFACE (I.E., NO DISTURBANCE OF THE ROOT MAT). HAND-MIXED CONCRETE SHALL BE USED FOR CONCRETE FOOTINGS IN SENSITIVE AREAS. POST SPACING SHALL BE ADJUSTED AS APPROVED BY THE ENGINEER TO COMPLY WITH THE MINIMUM AND MAXIMUM CLEARANCE OF THE BOTTOM OF THE FABRIC. NO EXCAVATION OR BACKFILLING OF THE EXISTING GROUND SHALL BE CONDUCTED TO COMPLY WITH THE MINIMUM AND MAXIMUM CLEARANCE OF THE BOTTOM OF FABRIC OVER GROUND IN SENSITIVE AREAS. EXCAVATIONS FOR POSTS AND FOOTERS WITHIN SENSITIVE AREAS THAT WILL BE USED FOR BACKFILLING OF THE POSTS AND FOOTERS SHALL BE PLACED ON PLASTIC AND ANY EXCESS EXCAVATIONS SHALL BE REMOVED AND DISPOSED OF IN NON-SENSITIVE AREAS AS APPROVED BY THE ENGINEER.

SECTION 900

- 41. 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 NOIS KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S STORMWATER SECTION. A COPY OF THE GENERAL PERMIT OR THE NOIS CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

MISCELLANEOUS

- 42. THE CONTRACTOR SHALL CONTACT MICHAEL ELLER, THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6061.
- 43. ANY CHANGES TO OR DEVIATIONS FROM THESE PLANS REQUESTED BY THE CONTRACTOR MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND ENVIRONMENTAL MONITOR PRIOR TO CONDUCTING ANY WORK. APPROVAL MAY TAKE A SIGNIFICANT AMOUNT OF TIME TO COMPLETE AND ALL CHANGES MAY NOT BE APPROVED. THE CONTRACTOR SHALL HAVE NO CLAIM AGAINST THE DEPARTMENT FOR COSTS OR DELAYS ASSOCIATED WITH THE APPROVAL OR REJECTION OF REQUESTED CHANGES OR DEVIATIONS FROM THESE PLANS.
- 44. RESTORATION OF TEMPORARY IMPACTS
 - A. PRIOR TO PERFORMING ANY WORK ASSOCIATED WITH TEMPORARY IMPACTS TO DELINEATED WETLANDS, THE CONTRACTOR SHALL STAKE THE LIMITS OF TEMPORARY DISTURBANCE WITHIN THE WETLANDS AND ALLOW 14 CALENDAR DAYS FOR DELDOT TO OBTAIN EXISTING TOPOGRAPHY SURVEY WITHIN THE TEMPORARY DISTURBANCE. THIS EXISTING SURFACE SHALL BE PROVIDED TO AND ACCEPTED BY THE CONTRACTOR BEFORE ANY WORK IS PERFORMED WITHIN THE WETLANDS. THE CONTRACTOR SHALL HAVE 5 CALENDAR DAYS TO RESPOND TO THE EXISTING SURFACE INFORMATION OR OTHERWISE IT SHALL BE CONSIDERED ACCEPTED. THE EXISTING SURFACE PLAN SHALL BE PROVIDED IN BOTH DIGITAL AND PAPER COPIES CONFORMING TO DELDOT CADD STANDARDS AT THE SAME SCALE AS THE CONTRACT PLANS.
 - B. UPON MUTUAL ACCEPTANCE OF THE EXISTING SURFACE TOPOGRAPHY PLAN, THE CONTRACTOR SHALL FIRST INSTALL THE RESOURCE PROTECTION FENCE, AND THEN INSTALL THE NECESSARY EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS AND DIRECTED BY THE ENGINEER. THE AREA OF THE TEMPORARY DISTURBANCE MAY BE CLEARED OF VEGETATION AS NECESSARY. VEGETATION SHALL NOT BE GRUBBED, AND SHALL BE CUT FLUSH WITH THE GROUND (I.E., NO DISTURBANCE OF THE ROOT MAT).
 - C. INSTALL THE TEMPORARY ACCESS ROAD OR OTHER NEEDED TEMPORARY DISTURBANCE AS SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER. GEOTEXTILE SHALL BE PLACED ON TOP OF THE EXISTING GROUND TO PROVIDE SEPARATION BETWEEN THE EXISTING GROUND AND ANY PLACED MATERIALS.
 - D. WHEN THE CONTRACTOR HAS COMPLETED THE WORK REQUIRING THE TEMPORARY WETLAND DISTURBANCE, ALL MATERIALS THAT WERE PLACED BY THE CONTRACTOR SHALL BE REMOVED IN THEIR ENTIRETY. ONCE ALL MATERIALS HAVE BEEN REMOVED, THE CONTRACTOR SHALL ALLOW 14 CALENDAR DAYS FOR DELDOT TO OBTAIN EXISTING SURFACE ELEVATIONS OF THE DISTURBED AREA FOLLOWING THE SAME PROCEDURE DESCRIBED ABOVE FOR OBTAINING ORIGINAL ELEVATIONS. THESE EXISTING SURFACE ELEVATIONS SHALL BE PROVIDED TO THE CONTRACTOR AND INCLUDE A PLAN SHOWING THE ELEVATION DIFFERENCES BETWEEN THE ORIGINAL AND EXISTING SURFACES.
 - E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE TEMPORARY DISTURBED AREA TO ORIGINAL ELEVATIONS WITH A GRADING TOLERANCE OF PLUS OR MINUS 0.1 FEET. RESTORATION OF THE DISTURBED AREA SHALL BE ACCOMPLISHED IN THE FOLLOWING MANNER:
 - I. TILL THE GROUND WITHIN THE DISTURBED AREA TO LOOSEN UP THE SOILS DUE TO COMPACTION DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS OF ITEM 202555 - SUBSOIL TILLAGE. MINIMUM VERTICAL TILLAGE DEPTH SHALL BE 24 INCHES AS MEASURED BY FIELD PERFORMANCE.
 - II. PLACE TOPSOIL TO FILL DEPRESSIONS TO THE ORIGINAL GROUND ELEVATIONS. TOPSOIL SHALL BE THE TOP 9 INCHES OF SOIL OBTAINED FROM AN ACTIVE OR RECENTLY (LESS THAN TWO YEARS) FALLOW OR ABANDONED CROP PRODUCING FARM FIELD OR A SANDY LOAM WITH A MINIMUM OF 4% ORGANIC MATTER. MAXIMUM DEPTH OF A SINGLE LIFT OF TOPSOIL PLACED SHALL BE 6 INCHES AND SHALL BE PLACED IN ACCORDANCE WITH SECTION 732.
 - III. DISK THE FINAL TOPSOIL SURFACE WITHIN THE DISTURBED AREA TO PREPARE THE AREA FOR SEED. USE A MINIMUM OF 3 PASSES OF A DISK USING LOW GROUND PRESSURE EQUIPMENT TO A MINIMUM DEPTH OF 4 INCHES.
 - IV. WHEN THE CONTRACTOR BELIEVES THAT RESTORATION OF THE ORIGINAL ELEVATIONS HAS BEEN ACHIEVED, 7 CALENDAR DAYS SHALL BE ALLOWED FOR THE AREA TO AGAIN BE SURVEYED BY DELDOT UNDER THE SAME CONDITIONS DESCRIBED ABOVE AND THE SURVEY PLAN OF THE RESTORED ELEVATIONS WILL BE PROVIDED TO THE CONTRACTOR. DELDOT SHALL ADVISE THE CONTRACTOR IF ADDITIONAL RESTORATION WORK IS REQUIRED AND THE CONTRACTOR SHALL ADDRESS THOSE AREAS AND ALLOW FOR 7 CALENDAR DAYS FOR NEW SURVEY INFORMATION TO BE OBTAINED UNTIL THE RESTORATION IS APPROVED BY DELDOT.
 - F. UPON ACCEPTANCE OF THE RESTORED ELEVATIONS, THE CONTRACTOR SHALL APPLY SEED TO THE DISTURBED WETLAND. SEEDING SHALL VARY BASED ON THE SLOPE TO BE SEEDED. ON SLOPES 5:1 OR FLATTER, SEEDING SHALL BE CONDUCTED UNDER ITEM 734552 - WET GROUND EROSION CONTROL GRASS SEEDING - FLATS. ON SLOPES GREATER THAN 5:1, SEEDING SHALL BE CONDUCTED UNDER ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND.
 - G. THE RESTORED AREAS WITHIN THE LIMITS OF THE DELINEATED WETLANDS SHALL BE PLANTED IN ACCORDANCE WITH ITEM 737523 - PLANTING. SMOOTH ALDER SHALL BE PLANTED 10 FOOT ON CENTER ON SLOPES FLATTER THAN 5:1 AND SOUTHERN ARROWWOOD SHALL BE PLANTED 10 FOOT ON CENTER ON SLOPES STEEPER THAN 5:1. PLANTS SHALL BE INSTALLED DURING THE FIRST AVAILABLE PLANTING WINDOW PER THE STANDARD SPECIFICATIONS. SHRUBS SHALL NOT BE PLANTED UNDER BRIDGES. BEGIN SHRUB PLANTING 10 FEET OUTSIDE OF THE BRIDGE PARAPETS.
 - H. UPON FINAL ACCEPTANCE OF THE PLANTING, THE CONTRACTOR SHALL REMOVE THE RESOURCE PROTECTION FENCING AND THE EROSION AND SEDIMENT CONTROL MEASURES.

PROJECT NOTES (CONT.)

MISCELLANEOUS (CONT.)

- 44. I. ALL COSTS FOR INSTALLING, REMOVING, AND RESTORING THE TEMPORARY WETLAND ACCESS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 202508 - WETLAND ACCESS ROAD, TYPE II, WITH THE EXCEPTION OF THE RESOURCE PROTECTION FENCE, WHICH SHALL BE PAID UNDER ITEM 727552, AND THE REINFORCED SILT FENCE, WHICH SHALL BE PAID UNDER ITEM 251001. MAINTENANCE OF STREAM FLOW ASSOCIATED WITH THE WETLAND ACCESS ROAD, BRIDGE CONSTRUCTION AND ASSOCIATED ACTIVITIES TO BE PERFORMED IN WHOLE OR IN PART FROM THE WETLAND ACCESS ROAD, AND STREAM AND WETLAND RESTORATION ACTIVITIES SHALL BE INCIDENTAL TO THE WETLAND ACCESS ROAD, TYPE II.
- 45. THE CONTRACTOR SHALL FOLLOW ALL STATE AND LOCAL ORDINANCES CONCERNING CONSTRUCTION NOISE DURING THE DURATION OF THE CONSTRUCTION ACTIVITIES.
- 46. EXCAVATION WITHIN WOODED AREAS SHALL BE INCIDENTAL TO ITEM 201000 - CLEARING AND GRUBBING. ALL OTHER EXCAVATION SHALL BE PAID FOR UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT.

DESIGN DESIGNATION - PORT PENN ROAD (N2)		
FUNCTIONAL CLASS: MINOR COLLECTOR	D.H.V. PROJECTED: 675	YEAR: 2030
TYPE OF CONSTRUCTION: WIDENING	DESIGN SPEED: 50 M.P.H.	
A.A.D.T. CURRENT: 1600	YEAR: 2009	TRUCKS: 2 %
A.A.D.T. PROJECTED: 6,750	YEAR: 2030	DIRECTION OF DISTRIBUTION: 50 %

DESIGN DESIGNATION - RAMP R		
FUNCTIONAL CLASS: N/A	D.H.V. PROJECTED: 1,200	YEAR: 2030
TYPE OF CONSTRUCTION: NEW CONSTRUCTION	DESIGN SPEED: 50 M.P.H.	
A.A.D.T. CURRENT: N/A	YEAR: N/A	TRUCKS: 6 %
A.A.D.T. PROJECTED: 14,000	YEAR: 2030	DIRECTION OF DISTRIBUTION: N/A

RIGHT-OF-WAY MONUMENT SCHEDULE				
NO.	STATION	OFFSET	NORTHING	EASTING
1	96+05.00	100.00	551883.6387	590690.9517
2	96+05.00	215.00	551882.1201	590805.9417
3	97+75.00	280.00	552051.2469	590873.1809
4	99+15.00	280.00	552191.2347	590875.0296
5	99+15.00	99.70	552193.6157	590694.7416
6	102+14.11	-235.00	552497.1244	590364.0244
7	104+60.00	-235.00	552742.9879	590367.2714
8	104+60.00	-84.58	552741.0015	590517.6826
9	110+38.08	-166.00	553320.1025	590443.8990
10	111+05.00	166.00	553387.0206	590444.7828
11	111+44.00	-146.00	553425.7530	590465.2960
12	117+12.79	-146.00	553994.4898	590472.8070
13	118+60.00	-146.00	554140.7874	590473.8247
14	118+60.00	-171.00	554140.9613	590448.8253
15	118+80.00	-171.00	554160.9609	590448.9644
16	118+80.00	-146.00	554160.7870	590473.9638
17	122+26.00	-146.00	554506.7786	590476.3706
18	125+72.00	-146.00	554852.7702	590478.7773
19	129+19.56	-146.00	555200.3190	590481.1949
20	129+39.40	87.50	555218.5377	590714.8273
21	129+19.56	-90.00	555199.9291	590537.1936
22	131+25.00	-90.00	555405.3673	590538.6226
23	132+38.10	-90.00	555518.4651	590539.4094
24	132+38.10	-81.00	555518.4025	590548.4091
25	130+58.00	87.50	555337.1342	590715.6522
26	4001+23.00	60.00	555367.3015	590747.4523
27	4001+14.25	-119.45	555546.9547	590750.2966
28	138+57.99	-81.00	556138.2741	590552.7210
29	139+61.31	-81.00	556241.5975	590553.4398
30	139+80.60	-85.00	556260.9103	590549.5729
31	4002+50.00	-85.00	555491.3418	590896.1184
32	4005+50.00	-70.00	555386.4228	591185.1430
33	4002+50.00	60.00	555349.9648	590863.9071
34	4003+22.14	52.00	555339.9058	590930.8948
35	4003+50.00	36.91	555345.7557	590962.0370
36	4003+22.14	-78.57	555464.2303	590970.8034
37	4010+50.00	-70.00	555233.6016	591661.2162
38	4011+50.00	-30.32	555165.2592	591744.3039

15
 2015
 0003
 CONTRACT
 08/26/15
 ID: CAD0-PN002UJ30_L_ID.dgn



ADDENDUMS / REVISIONS	

NOT TO SCALE

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: N.S.P.
NEW CASTLE	CHECKED BY: B.R.T.

NOTES

PN-02
SHEET NO.
6
TOTAL SHTS.
179

EARTHWORK SUMMARY - PHASE 2

<u>EXCAVATION - ALIGNMENT</u>	
FROM CROSS-SECTIONS	
PLUS EXCAVATION FROM US 13 SB INSIDE SHOULDER	0 C.Y.
PLUS EXCAVATION FROM US 13 ACCELERATION LANE	0 C.Y.
PLUS EXCAVATION FROM US 13 DECELERATION LANE	0 C.Y.
PLUS EXCAVATION FROM US 13 NORTHBOUND RIGHT TURN LANE	0 C.Y.
PLUS EXCAVATION FROM US 13 LEFT TURN LANE	10,504 C.Y.
PLUS EXCAVATION FROM RAMP R	0 C.Y.
PLUS EXCAVATION FROM PORT PENN ROAD	2,477 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA ENTRANCE	0 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA FRONT PARKING ACCESS	0 C.Y.
PLUS EXCAVATION FROM US 13 SB TEMPORARY SHOULDER REMOVAL	151 C.Y.
SUBTOTAL - EXCAVATION FROM CROSS-SECTIONS	13,133 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL	36 C.Y.
PLUS TOPSOIL PLACED IN CUT:	1,605 C.Y.
PLUS TOPSOIL/ROOTMAT EXCAVATION FOR UTILITY RELOCATION (OUTSIDE OF CROSS SECTION TEMPLATES)	0 C.Y.
PLUS BITUMINOUS PAVEMENT REMOVED UNDER FILL	317 C.Y.
LESS ROOTMAT REMOVED IN CUT	0 C.Y.
LESS REMOVAL OF EXISTING PCC PAVEMENT, ETC.	1,089 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
PLUS STORMWATER MANAGEMENT EXCAVATION	8,086 C.Y.
=TOTAL ITEM 202000-EXCAVATION AND EMBANKMENT	22,087 C.Y.
<u>STORMWATER MANAGEMENT POND EXCAVATION</u>	
FROM SURFACES AVERAGE END AREA METHOD:	
SWM POND NO. 756	3,328 C.Y.
SWM POND NO. 757	3,240 C.Y.
SWM POND NO. 758	0 C.Y.
SUBTOTAL - EXCAVATION FROM SURFACES AVERAGE END AREA METHOD	6,568 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL	291 C.Y.
PLUS TOPSOIL PLACED IN CUT SECTIONS	1,227 C.Y.
LESS ROOTMAT REMOVED IN CUT	0 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
=TOTAL STORMWATER MANAGEMENT POND	8,086 C.Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	837 C.Y.
=TOTAL SWM POND EXCAVATION AVAILABLE FOR EMBANKMENT	7,249 C.Y.
*INCLUDES 2' OF OVEREXCAVATION OF SWM PONDS FOR USE AS SEDIMENT BASIN	
<u>EXCAVATION AVAILABLE FOR EMBANKMENT</u>	
TOTAL EXCAVATION AND EMBANKMENT QUANTITY (ITEM 202000)	22,087 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR STRUCTURES	0 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	283 C.Y.
PLUS CHANNEL EXCAVATION	0 C.Y.
PLUS EXCAVATION FROM LATERAL OR LONGITUDINAL DITCHES	0 C.Y.
PLUS EXCAVATION FROM INSTALLATION OF UNDERDRAINS	954 C.Y.
PLUS STOCKPILED MATERIAL FROM PREVIOUS PHASES	439 C.Y.
LESS TOPSOIL REMOVED IN CUT AND FILL	2,636 C.Y.
LESS TOPSOIL REMOVED FROM STORMWATER MANAGEMENT PONDS	2,374 C.Y.
LESS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY RELOCATION)	0 C.Y.
LESS UNSUITABLE EXCAVATION	10 C.Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	837 C.Y.
=TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F	17,906 C.Y.

<u>BORROW, TYPE A CAPPING REQUIRED</u>	
BORROW, TYPE A FOR CAPPING	4,002 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	0 C.Y.
=SUBTOTAL BORROW, TYPE A CAPPING REQUIRED	4,002 C.Y.
PLUS CAPPING REQUIRED X ADJUSTMENT FACTOR (0.20)	800 C.Y.
=SUBTOTAL ADJUSTED BORROW, TYPE A REQUIRED	4,802 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE A	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE A REQUIRED	4,802 C.Y.
<u>BORROW, TYPE C REQUIRED</u>	
TEST HOLE EXCAVATION BACKFILL REQUIRED	0 C.Y.
PIPE/UTILITY BACKFILL REQUIRED	191 C.Y.
PLUS BORROW, TYPE C REQUIRED X ADJUSTMENT FACTOR (0.20)	38 C.Y.
=SUBTOTAL ADJUSTED BORROW, TYPE C REQUIRED	229 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE C	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE C REQUIRED	229 C.Y.
<u>BORROW, TYPE D REQUIRED</u>	
SOIL CEMENT BASE COURSE (SY)	0 S.Y.
VOLUME OF TYPE D, CY (6" DEPTH)	0 C.Y.
PLUS BORROW, TYPE D REQUIRED X ADJUSTMENT FACTOR (0.20)	0 C.Y.
=SUBTOTAL ADJUSTED BORROW, TYPE D REQUIRED	0 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE D	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE D REQUIRED	0 C.Y.
<u>BORROW, TYPE B REQUIRED</u>	
BACKFILL FOR UNSTABLE SUBGRADES AFTER ROOTMAT REMOVED UNDER FILL	0 C.Y.
PLUS BACKFILL X ADJUSTMENT FACTOR (0.20)	0 C.Y.
=SUBTOTAL ADJUSTED BORROW, TYPE B REQUIRED	0 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE B	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE B REQUIRED	0 C.Y.
<u>EMBANKMENT AND BORROW, TYPE F REQUIRED</u>	
EMBANKMENT REQUIRED BELOW CAPPING	1,843 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL	36 C.Y.
PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B	0 C.Y.
PLUS UNDERCUT MATERIAL REMOVED UNDER FILL	0 C.Y.
PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL	542 C.Y.
PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)	59 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	191 C.Y.
LESS TOPSOIL PLACED OUTSIDE CROSS SECTION TEMPLATES	1,450 C.Y.
LESS MSE WALL OR OTHER RETAINING WALL & BACKFILL	0 C.Y.
LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND	0 C.Y.
=SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING	839 C.Y.
PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)	168 C.Y.
=SUBTOTAL ADJUSTED EMBANKMENT REQUIRED	1,007 C.Y.
LESS TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F	17,906 C.Y.
SURPLUS BORROW, TYPE F	16,899 C.Y.
THEREFORE, TOTAL ADJUSTED BORROW, TYPE F REQUIRED	0 C.Y.

<u>TOPSOIL SUMMARY</u>	
TOPSOIL SALVAGED FROM CUT AND FILL	2,636 C.Y.
PLUS TOPSOIL FROM STORMWATER MANAGEMENT POND	2,374 C.Y.
PLUS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY RELOCATION)	0 C.Y.
PLUS TOPSOIL FROM PREVIOUS PHASE	1,356 C.Y.
=SUBTOTAL TOPSOIL AVAILABLE	6,366 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	191 C.Y.
LESS TOPSOIL PLACED ON CUT SLOPES	1,605 C.Y.
LESS TOPSOIL PLACED OUTSIDE OF CROSS-SECTION TEMPLATES	1,450 C.Y.
LESS TOPSOIL PLACED IN SWM FACILITIES	2,374 C.Y.
=SUBTOTAL EXCESS (+) TOPSOIL OR TOPSOIL NEED (-)	746 C.Y.
LESS EXCESS TOPSOIL PLACED IN OUTER EMBANKMENTS	0 C.Y.
LESS CULTIVATED SOIL UNSUITABLE FOR EMBANKMENT	0 C.Y.
=TOTAL EXCESS TOPSOIL	746 C.Y.
<u>PROPOSAL QUANTITIES</u>	
ITEM NO. 202000 EXCAVATION AND EMBANKMENT	SEE PN-03
ITEM NO. 207000 EXCAVATION AND BACKFILL FOR STRUCTURES	SEE PN-03
ITEM NO. 208000 EXCAVATION AND BACKFILL FOR PIPE TRENCHES	SEE PN-03
ITEM NO. 209001 BORROW, TYPE A	SEE PN-03
ITEM NO. 209002 BORROW, TYPE B	SEE PN-03
ITEM NO. 209004 BORROW, TYPE D	SEE PN-03
ITEM NO. 210000 FURNISHING BORROW TYPE C FOR PIPE, UTILITY TRENCH, AND STRUCTURE BACKFILL	SEE PN-03
ITEM NO., 732002 TOPSOIL, 6" DEPTH	SEE PN-03
ITEM NO. 733002 TOPSOILING (6" DEPTH)	SEE PN-03

NOT FOR BIDDING

AUGUST 2015

p:\1705-000\170501\170501.dgn 8/17/2015 9:27:36 AM