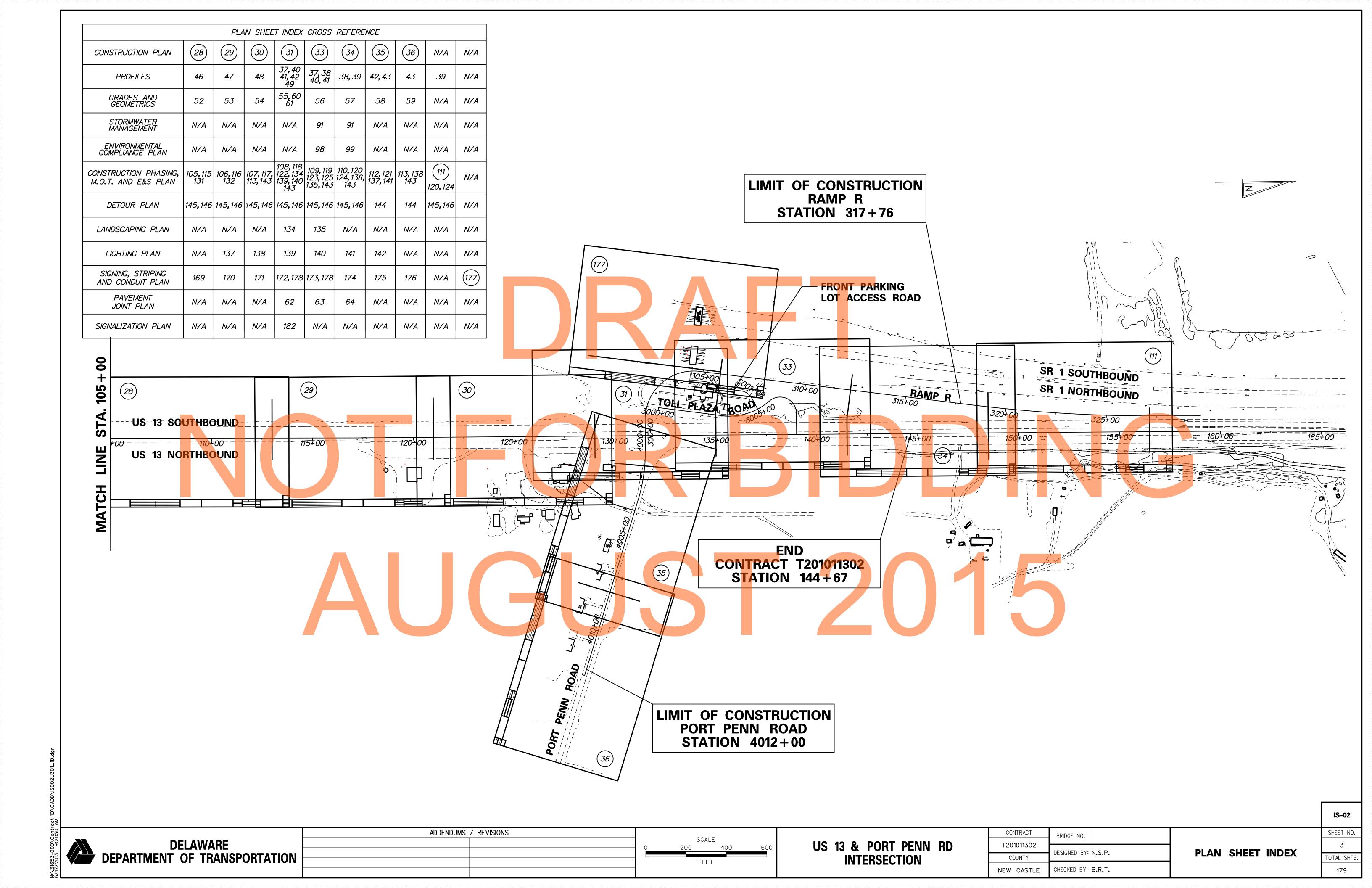


ADDENDUMS / REVISIONS

DELAWARE
DEPARTMENT OF TRANSPORTATION

| Mage castle | Mage and the content of the conte



# **EXISTING SYMBOLS**

	DRAINAGE
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
C.B.	DRAINAGE CATCH BASIN
J.B.	DRAINAGE JUNCTION BOX
0	DRAINAGE MANHOLE
SIZE/TYPE_LABEL	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
<b>∞</b>	RIPRAP - LINEAR FEATURE

_							
MANMA	MANMADE ROADSIDE FEATURES						
(TYPE LABEL)	CURB						
(TYPE LABEL)	CURB AND GUTTER						
—х——	FENCE - CHAINLINK OR STRANDED						
	FENCE - STOCKADE OR SPLIT RAIL						
FP	FLAG POLE						
_n	GUARDRAIL - STEEL BEAM						
	GUARDRAIL - WIRE ROPE						
LAMP ©	LAMP AND POST - RESIDENTIAL						
MB П	MAILBOX						
PM	PARKING METER AND POST						
	PAVEMENT - FLEXIBLE						
	PAVEMENT - RIGID						
	PILE - BRIDGE						
0	PILLAR OR MISCELLANEOUS POST						
4	TRAFFIC SIGN AND POST						
0000	WALL - BRICK OR BLOCK						
0000	WALL - STONE						

NATUR	AL ROADSIDE FEATURES						
A.K.	GRASS LAWN						
ancancanca	HEDGEROW OR THICKET						
	MARSH BOUNDARY LINE						
X	TREE - CONIFEROUS						
	TREE - DECIDUOUS						
а	TREE STUMP						
<b>\$</b>	SHRUBBERY						
WL	DELINEATED WETLAND BOUNDARY LINE						
	WOODS LINE BOUNDARY						
OHW	ORDINARY HIGH WATER						
	ORDINARY HIGH WATER / WETLAND						
DIO	LIT OF MAY CVAADOLC						

RIGHT-OF-WAY SYMBOLS				
C.M.	PROPERTY MARKER - CONCRETE MON.			
I.P.	PROPERTY MARKER - IRON PIPE			
100+00	HISTORIC RIGHT-OF-WAY BASELINE			
	EXISTING RIGHT-OF-WAY			
—— ਜ਼	EXISTING PROPERTY LINE			
EASEMENT TYPE	EXISTING EASEMENT			
——— DA ———	EXISTING DENIAL OF ACCESS			
R/W-DA	EXISTING R/W & DENIAL OF ACCESS			

SURVEY CO	ONTROL & MONUMENTATION
B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
Δ	SURVEY TRAVERSE POINT
0	POINT OF CURVATURE OR TANGENCY
0	POINT OF INTERSECTING TANGENTS

<b>⊚</b>	POINT OF CURVATURE OR TANGENCY				
<b>©</b>	POINT OF INTERSECTING TANGENTS				
	UTILITY				
•	SOIL BORING LOCATION				
•	UTILITY TEST HOLE LOCATION				
	CABLE TV DISTRIBUTION BOX				
©	ELECTRIC MANHOLE				
EM	ELECTRIC METER				
E	ELECTRIC TRANSFORMER				
	POLE MOUNTED LUMINAIRE				
©	GAS MANHOLE				
G.M.	GAS METER				
G.V.	GAS VALVE				
G.P.	GAS PUMP - SERVICE STATION				
	RAILROAD TRACKS				
<u> </u>	SANITARY SEWER MANHOLE				
S.V.	SANITARY SEWER VALVE				
VENT	SANITARY SEWER VENT OR CLEANOUT				
S.D.F	SEPTIC DRAIN FIELD				
В	TELEPHONE BOOTH				
1	TELEPHONE MANHOLE				
T	TELEPHONE TEST POINT				
J.W.	TRAFFIC - CONDUIT JUNCTION WELL				
(0)	TRAFFIC - LIGHT POLE AND BASE				
•	TRAFFIC - PEDESTRIAN POLE & BASE				
	TRAFFIC - SIGNAL CABINET & BASE				
8	TRAFFIC - SIGNAL POLE AND BASE				
U	UTILITY BOX				
<b>○→</b>	UTILITY POLE GUY WIRE ANCHOR				
×	UTILITY POLE				
F.H.	WATER - FIRE HYDRANT				
W.M.	WATER METER				
w.v.	WATER VALVE				
WELL	WELL HEAD				
?	MANHOLE - UNDETERMINED OWNER				

UTILITY COMPANY FACILITIES					
ESNG-G-	EASTERN SHORE NATURAL GAS				
EX-CON	DELDOT MULTIDUCT CONDUIT - EXISTING				
— EX-ITS —	DELDOT ITMS CONDUIT - EXISTING				
VER-C	VERIZON CONDUIT				
—— DP-E ——	DELMARVA POWER - ELECTRIC				
—— DP-G ——	DELMARVA POWER - GAS				
— ATLANTIC-C —	DELDOT ITMS CONDUIT - EXISTING				
AW-W	ARTESIAN WATER COMPANY				

# PROPOSED SYMBOLS

	CONSTRUCTION				
	CONCRETE SAFETY BARRIER - PERMANENT				
×	BOLLARD - WOOD POST				
0	BOLLARD - STEEL POLE				
×—— <i>BFS</i> ——×	BIOFILTRATION SWALE				
	BRICK PATTERNED SURFACE				
	BUTT JOINT				
100+00	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				
0-0-0-/	FENCE - METAL				
•	FENCE - WOOD				
	FLARED END SECTION				
<u> </u>	GUARDRAIL, TYPE 1				
<u> </u>	GUARDRAIL, TYPE 2				
<u> </u>	GUARDRAIL, TYPE 3				
Cn & &	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				
—— НС——	HORIZONTAL CLEARANCE				
	JUNCTION BOX - DRAINAGE				
LOC	LIMIT OF CONSTRUCTION				
•	MANHOLE				
	PAVEMENT PATCH				
	PIPE & DIRECTIONAL FLOW ARROW				
	CULVERT & DIRECTIONAL FLOW ARROW				
0 7840 7840 7840 778480 7840 77840	RIPRAP				
	P.C.C. SIDEWALK @ 4"				
	P.C.C. SIDEWALK @ 6"				
	UNDERDRAIN				
	UNDERDRAIN OUTLET				

IDENTIFIERS							
(A)	ADJUST BY CONTRACTOR						
Â	ADJUST BY OTHERS						
B	CONCRETE SAFETY BARRIER						
<u>©</u>	CURB OR CURB & GUTTER						
<u>CJB</u>	CONVERT TO JUNCTION BOX						
<u>CMH</u>	CONVERT TO DRAINAGE MANHOLE						
Ĉ	CURB OPENING						
<u>CR</u>	CURB RAMP / TYPE						
CR-N	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM						
<u>CSF</u>	CONSTRUCTION SAFETY FENCE						
Ø	DRAINAGE INLET						
DND	DO NOT DISTURB						
₽D.	ENERGY DISSIPATOR						
<u>F</u>	FENCE						
(FES)	FLARED END SECTION						
FFC	FILL WITH FLOWABLE FILL						
FS	FILTRATION STRUCTURE						
<u>GR</u>	GUARDRAIL						
JB)	JUNCTION BOX						
MH	MANHOLE						
M	MONUMENT - RIGHT-OF-WAY						
P	PIPE						
RL C	RELOCATE BY CONTRACTOR						
RLO	RELOCATE BY OTHERS						
RM	REMOVE BY CONTRACTOR						
RM	REMOVE BY OTHERS						
	UNDERDRAIN / LENGTH						
UDO	UNDERDRAIN OUTLET PIPE						
	TRAFFIC						
ITMS-CON	ITMS CONDUIT						

	TRAFFIC						
ITMS-CON	ITMS COND	UIT	-				
SIG-CON	SIGNAL CON	VDU	JIT				
	ITMS COND	UIT	JUNCTIO	DN/	WELL		
+	LUMINAIRE						
<b>→</b>	PAVEMENT	MA	ARKINGS				
	PAVEMENT	S7	RIPING				
<b>+</b>	TRAFFIC SI	'GN	1			7	

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					

	1	MISCELLANEOUS SYMBOLS							
			PAVEMENT REMOVAL OUTSIDE OF ROADWAY TEMPLATE						
			POND MAINTENANCE ACCESS ROAD						
			42" F-SHAPE CONCRETE SINGLE FACE BARRIER						
			EXISTING OVERHEAD SIGN STRUCTURE						
M			EXISTING OVERHEAD SIGN STRUCTURE						
			RESOURCE PROTECTION FENCING						
		W	ITMS CONDUIT JUNCTION WELL						
		8	ITMS CONDUIT						
		<u>CA</u>	TRAFFIC CABINET						
		PB	POLE BASE						
		<u>EW</u>	ENDWALL						
		<u>\$1</u>	SEDIMENT TRAP						
		(F)	SILT FENCE						

EROSIO	N & SEDIMENT CONTROL
- DWB -	DEWATERING BASIN
	EROSION CONTROL BLANKET
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
·=====================================	PERIMETER DIKE/SWALE
<b>6</b>	PORTABLE SEDIMENT TANK
——RSF——	REINFORCED SILT FENCE
SBD	SANDBAG DIKE
SB SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE SCE	STABILIZED CONSTRUCTION ENTRANCE
——SF——	SILT FENCE
<del>© -</del> SP-1	SUMP PIT, TYPE 1
O- SP-2	SUMP PIT, TYPE 2
ST	SEDIMENT TRAP
Ş	SEDIMENT TRAP WITH INLET AS OUTLET
ST-	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
·====/====	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

100+00

—— DA ——— PROPOSED DENIAL OF ACCESS

----PE---- PROPOSED PERMANENT EASEMENT

PROPOSED RIGHT-OF-WAY

--- TCE ---- TEMPORARY CONSTRUCTION EASEMENT

PROPOSED RIGHT-OF-WAY MONUMENT

PROPOSED RIGHT-OF-WAY BASELINE

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.		
T004044700	B11115 02 1101		
T201011302	DECICNED DV+		
COUNTY	DESIGNED BY:	J.A.D.	
NEW CASTLE	CHECKED BY:	B.R.T.	

**LEGEND** 

TOTAL SHTS. 179

## 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.
- FROSION POTENTIAL CONTRACTOR ESC SUPERVISOR REQUIREMENT FOR THIS PROJECT ) INSIGNIFICANT NONE CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND ( ) MINOR STORMWATER REGULATIONS. CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND ( ) MEDIUM STORMWATER REGULATIONS. CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 OF THE DELAWARE SEDIMENT (X) MAJOR AND STORMWATER REGULATIONS.
- 3. ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	ALL PLAN SHEETS, IN PDF FORMAT.
(X)	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

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

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

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

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( )	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.
(X)	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 27.95 ACRES.
- 7. 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 SHALL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN APPROVAL. DELDOT 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.
- 2. PRIOR TO PERFORMING ANY WORK ON THE PROJECT, THE CONTRACTOR AND THE ENGINEER'S REPRESENTATIVE SHALL JOINTLY PERFORM SUFFICIENT FIELD SURVEYS TO VERIFY THE ADVERTISED CROSS SECTIONS AND ELECTRONIC PROJECT FILES AND AGREE ON THE RESULTS TO ESTABLISH INITIAL GROUND ELEVATIONS THAT SHALL BE USED IN CALCULATING QUANTITIES. ANY DISCREPANCIES FOUND SHALL BE AGREED UPON PRIOR TO BEGINNING EARTHWORK OPERATIONS. ALL COSTS SHALL BE INCLUDED IN ITEM 763501 - CONSTRUCTION ENGINEERING.
- 3. PRIOR TO PERFORMING ANY WORK IN AREAS WHERE ADVANCE GRADING HAS BEEN PERFORMED UNDER OTHER CONTRACTS, THE CONTRACTOR AND THE ENGINEER'S REPRESENTATIVE SHALL JOINTLY PERFORM FIELD SURVEYS AND AGREE ON THE RESULTS TO OBTAIN - INITIAL GROUND ELEVATIONS THAT SHALL BE USED IN CALCULATING QUANTITIES. ALL COSTS SHALL BE INCLUDED IN ITEM 763501 CONSTRUCTION ENGINEERING.
- 4. DELETE IN ITS ENTIRETY STANDARD SPECIFICATION SUBSECTION 104.10 "RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK" AND REPLACE WITH THE FOLLOWING: THE CONTRACTOR CAN EXPECT TO ENCOUNTER HORIZONTAL AND VERTICAL DEPOSITS OF MATERIAL IN THE ON-SITE BORROW SITES, ROADWAY EXCAVATIONS, OR EXCAVATION FROM OTHER WORK ITEMS THAT WILL MEET THE REQUIREMENTS FOR BORROW TYPES A, C, D, F AND/OR FURNISHING BORROW, TYPE C AS WELL AS UNSUITABLE MATERIALS. ALL REFERENCES TO THESE VARIOUS BORROW TYPES IN THE PLANS AND SPECIAL PROVISIONS SHALL BE INTERPRETED TO MEAN MATERIALS OBTAINED FROM ON-SITE EXCAVATIONS MEETING THE GRADATION REQUIREMENTS OF THE BORROW TYPE STATED IN THE PLANS OR SPECIAL PROVISIONS. THE CONTRACTOR SHALL PERFORM THE EXCAVATIONS IN A METHOD APPROVED BY THE ENGINEER SO THAT THESE DEPOSITS OF MATERIAL ARE MADE AVAILABLE TO MEET THE PROJECT NEEDS. EXCESSIVE OR INSUFFICIENT MOISTURE CONTENT SHALL NOT BE CRITERIA FOR CLASSIFYING MATERIAL AS UNSUITABLE FOR USE. PAYMENT FOR ALL OF THESE BORROW TYPES INCORPORATED INTO THE PROJECT WILL BE MADE USING THE BID ITEM UNDER WHICH THE MATERIAL WAS ORIGINALLY EXCAVATED ON SITE. UNLESS APPROVED OR SPECIFIED OTHERWISE. BORROW. TYPE B IS INTENDED TO BE FURNISHED FROM A SOURCE OUTSIDE OF THE PROJECT LIMITS AND PAID FOR UNDER ITEM 209002. PLACEMENT, D. INITIAL EXCAVATION OF SWM PONDS THAT FUNCTION AS INFILTRATION BASINS SHALL ONLY BE COMPLETED ABOVE THE PERMANENT BOTTOM HAULING, STORING, AND COMPACTING OF ALL BORROW MATERIAL EXCAVATED ON SITE TO BE USED AS THE STATED BORROW TYPES A. C. D, F, AND OR /FURNISHING BORROW, TYPE C AS NOTED IN THE PLANS OR SPECIAL PROVISIONS IS INCIDENTAL TO THE ITEM UNDER WHICH IT WAS EXCAVATED (FOR EXAMPLE, ITEMS 202000, 207000, 208000, OR OTHERS AS APPLICABLE). THE MATERIALS SHALL BE PLACED IN ACCORDANCE WITH THEIR INTENDED USE BUT NO PAYMENT WILL BE MADE UNDER THE ITEMS FOR WHICH THE EXCAVATED MATERIALS ARE USED. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING THE ON-SITE EXCAVATIONS TO INCLUDE LOCATING THE TYPES OF BORROW REQUIRED TO MEET THE PLAN NEEDS, STOCKPILING, HAULING, WETTING OR DRYING THE MATERIAL TO MEET STANDARD SPECIFICATION 202.05(F), AND MULTIPLE HANDLING IF NEEDED, WITH ALL COSTS INCIDENTAL TO THE ITEM UNDER WHICH THE MATERIAL WAS INITIALLY EXCAVATED. ALL REQUIRED EROS<mark>ION AND SED</mark>IMENT CONTROL WILL BE PAID SEPARATELY USING THE APPLICABLE BID ITEMS.

#### ECTION 2

ADDENDUMS / REVISIONS

- THE CONTRACT<mark>OR SHALL REMOVE AND RESET ALL MAILBOXES TO MAIN</mark>TAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REL<mark>OCATE MAILBOXES AS REQUIRED BY THE PROP</mark>OSED 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.
- 6. IN AREAS WHERE TREES OR SHRUBS WILL BE OVERHANGING THE PROPOSED SIDEWALK, PRUNING MAY BE NECESSARY TO ACHIEVE A VERTICAL CLEAR SPACE OF 10 FEET ABOVE THE PROPOSED SIDEWALK ELEVATION. THE CONTRACTOR SHALL PRUNE EXISTING TREE AND SHRUB BRANCHES, WHICH OVERHANG THE SIDEWALK, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST ADMINISTRATOR, EUGENE 'CHIP' ROSAN, JR. (302) 760-2185 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION, ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.
- THE ENGINEER MAY REQ<mark>UIRE</mark> THE CONTRACTOR TO EXCAVATE TEST PITS ALONG PROPOSED DRAINAGE RUNS, AT POINTS OF POSSIBLE SECTION 300 UTILITY CONFLICTS, TO DETERMINE IF A CONFLICT EXISTS. ANY CONFLICTS SHALL BE COORDINATED BY THE CONTRACTOR, WITH THE ENGINEER AND THE UTILITY COMP<mark>ANY</mark> INVOLVED. THE ENGINEER SHALL ULTIMATELY DETERMINE THE SOLUTION TO THE UTILITY CONFLICT. TEST HOLES SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 208000, BUT ONLY TO THE ACTUAL DEPTH EXCAVATED.
- 8. ITEMS TO BE REMOVED UNDER ITEM 211000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- A. CONCRETE SUPPORT FOUNDATIONS FOR TRAFFIC POLES, SIGN STRUCTURES, GROUND MOUNT SIGNS, CABINETS AND LIGHT POLES; JUNCTION WELLS; ELECTRICAL SERVICES AND EQUIPMENT; LIGHT POLES AND POLES FOR OTHER TRAFFIC CONTROL DEVICES; AND OTHER MISCELLANEOUS TRAFFIC CONTROL DEVICE STRUCTURES NOT COVERED UNDER OTHER PAY ITEMS.
- B. MISCELLANEOUS SMALL STRUCTURES NOT COVERED UNDER OTHER PAY ITEMS, INCLUDING DISPOSAL OF ALL MATERIALS.
- 9. UNLESS OTHERWISE INDICATED IN THE PLANS, UNDER ITEM 201000-CLEARING AND GRUBBING, ALL VEGETATION, TREES, STUMPS, ROOTMAT, ETC. SHALL BE REMOVED IN THEIR ENTIRETY WITHIN THE LIMITS OF CONSTRUC<mark>TION</mark> REGARDLESS OF THE EMBANKMENT HEIGHT EXCEPT SUCH OBJECTS AS ARE DESIGNATED TO REMAIN OR ARE TO BE REMOVED IN ACCORDANCE WITH OTHER SECTIONS OF THE CONTRACT DOCUMENTS. WORK UNDER ITEM 201000 IS TO BE PERFORMED IN ITS ENTIRETY EITHER BY THE PRIME CONTRACTOR OR AN APPROVED SUBCONTRACTOR. CUTTING OF FIREWOOD BY PRIVATE CITIZENS OR OTHER PARTIES SHALL NOT BE PERMITTED.
- 10. RIGHT-OF-WAY FENCING IS TO BE INSTALLED ALONG THE DENIAL OF ACCESS THROUGHOUT THE PROJECT LIMITS AS SHOWN ON THE PLANS. CLEARING OUTSIDE OF THE LIMITS OF CONSTRUCTION LINE FOR INSTALLATION OF THE RIGHT-OF-WAY FENCE, UTILITY RELOCATIONS DESCRIBED IN THE UTILITY STATEMENT, OR OTHER NECESSARY CONSTRUCTION SHALL BE KEPT TO A MINIMUM AND SHALL BE INCLUDED IN ITEM 201000 - CLEARING AND GRUBBING. THERE SHALL BE NO GRUBBING OUTSIDE THE LIMITS OF CONSTRUCTION.
- 11. DELETE THE FIRST SENTENCE OF STANDARD SPECIFICATION SUBSECTION 202.03 (C) AND REPLACE WITH THE FOLLOWING: "ALL TOPSOIL, IF PRESENT, SHALL BE REMOVED IN ITS ENTIRETY IN BOTH CUT AND FILL SECTIONS, REGARDLESS OF EMBANKMENT HEIGHT. TOPSOIL SHALL ALSO BE REMOVED WITHIN THE LIMIT OF CONSTRUCTION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER".
- 12. EXISTING MATERIALS ALONG THE PROPOSED ROADWAY ALIGNMENTS HAVE THE POTENTIAL TO MEET THE REQUIREMENTS OF THE BORROW, TYPE A PORTION OF THE PROPOSED PAVEMENT SECTIONS. THE CONTRACTOR SHALL EXCAVATE TO THE TOP OF THE BORROW, TYPE A PORTION OF THE PROPOSED PAVEMENT SECTIONS AT WHICH TIME THE MATERIALS SHALL BE EVALUATED BY THE ENGINEER. IF THE MATERIALS ARE DEEMED SUITABLE FOR THE BORROW, TYPE A PORTION OF THE PROPOSED PAVEMENT SECTION, THEN ITEM 202515 -COMPACTING IN-SITU MATERIAL SHALL BE USED AS DIRECTED BY THE ENGINEER. IF THE MATERIALS ARE NOT DEEMED SUITABLE, THEN THE MATERIALS SHALL BE REMOVED WITH PAYMENT MADE UNDER ITEM 202000-EXCAVATION AND EMBANKMENT AS DIRECTED BY THE ENGINEER AND MATERIAL MEETING THE REQUIREMENTS OF BORROW, TYPE A SHALL BE PLACED.
- 13. APPROVED COVERS SHALL BE INSTALLED OVER ALL LOADED TRUCKS OR TRAILERS HAULING BORROW, EXCAVATED MATERIALS, AGGREGATES, ETC. TO OR FROM THE PROJECT SITE OVER STATE MAINTAINED ROADS. THE COVERS SHALL BE INSTALLED TO PREVENT MATERIAL FROM LEAVING THE TRUCKS OR TRAILERS. THE MATERIAL SHALL BE FULLY COVERED AND THE COVERS TIED ON THE REAR AND BOTH SIDES. ANY MATERIALS DELIVERED, TRANSPORTED, OR REMOVED IN UNCOVERED TRUCKS OR TRAILERS WILL BE INCORPORATED INTO THE PROJECT, OR REMOVED FROM THE SITE, WITH NO PAYMENT TO THE CONTRACTOR FOR FURNISHING, REMOVING, OR PLACING THE MATERIALS.
- 14. WHEN PERFORMING ANY EXCAVATION OR BACKFILLING OPERATION, THE CONTRACTOR SHALL PROVIDE DEWATERING MEASURES AT ALL TIMES TO KEEP THE GROUNDWATER LEVEL AT LEAST ONE FOOT BELOW THE EXCAVATION ELEVATION, IN COMPLIANCE WITH DELDOT STANDARD SPECIFICATIONS, SECTION 111 - DEWATERING OPERATIONS. THE CONTRACTOR SHALL ALSO PROVIDE NECESSARY DEWATERING TO STABILIZE EXCAVATED SLOPES DURING CONSTRUCTION AND UNTIL THE SLOPES ARE STABILIZED AS DETERMINED BY THE ENGINEER. ALL COSTS SHALL BE INCIDENTAL TO THE APPLICABLE EXCAVATION OR BACKFILLING ITEM.

# PROJECT NOTES (CONT.)

## SECTION 200 (CONT.)

- 15. AS DIRECTED BY THE ENGINEER, MATERIALS ARE TO BE STOCKPILED FOR LATER USE IN THE PROJECT. THE TOPSOIL FROM THESE STOCKPILE AREAS SHALL BE REMOVED IN ITS ENTIRETY AND STOCKPILED FOR REPLACEMENT IN THE AREA WHERE IT WAS EXCAVATED. THE EXCAVATION AND STOCKPILING OF THE TOPSOIL SHALL BE MEASURED FOR PAYMENT UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT. THE TOPSOIL SHALL BE REPLACED IN REASONABLY CLOSE CONFORMITY TO THE ORIGINAL LINES, GRADES AND ELEVATIONS AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH REPLACING THE FULL DEPTH OF THE TOPSOIL REMOVED SHALL BE PAID UNDER ITEM 733002-TOPSOILING, 6". THE AREA OF TOPSOIL REPLACED SHALL ONLY BE MEASURED ONCE FOR PAYMENT UNDER ITEM 733002 - TOPSOILING REGARDLESS OF THE FULL DEPTH OF TOPSOIL PLACED. SEEDING AND MULCHING OF THE REPLACED TOPSOIL SHALL BE PERFORMED UNDER THE APPLICABLE BID ITEMS.
- 16, FOR ESTIMATING PAYMENT FOR ALL EARTHWORK ITEMS, TWO-THIRDS OF THE FACTORY RATED CAPACITY OF THE EARTHWORK MOVING EQUIPMENT SHALL BE USED. FOR TEN-WHEEL DUMP TRUCKS, TEN (10) CUBIC YARDS SHALL BE USED.

#### 17. STORMWATER MANAGEMENT POND EXCAVATION:

- A. CLEARING AND GRUBBING OF STORMWATER POND AREAS IS TO BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 201000.
- B. ALL EXCAVATION AND EMBANKMENT REQUIRED FOR CONSTRUCTION OF STORMWATER PONDS WILL BE PERFORMED, MEASURED AND PAID FOR UNDER ITEM 202000, EXCAVATION AND EMBANKMENT. THE WORK WILL INCLUDE MEASUREMENT FOR:
- I. GENERAL POND EXCAVATION TO THE LINES AND GRADES SHOWN ON THE PLANS, INCLUDING THE INITIAL OVEREXCAVATION FOR USE OF THE SWM FACILITY AS A SEDIMENT BASIN IF INDICATED ON THE PLANS.
- II. EXCAVATION FOR FOREBAYS, CUT-OFF TRENCHES, AND / OR CORE TRENCHES AS SHOWN ON THE PLANS.
- C. EXCAVATION BELOW THE DESIGNED POND FINISHED GRADE OR SUBGRADE ELEVATION FOR RIP-RAP PLACEMENT AND OUTLET STRUCTURE FOUNDATIONS WILL BE INCIDENTAL TO THOSE RESPECTIVE PAY ITEMS.
- OF THE INFILTRATION BASIN AS NOTED ON THE SWM PLANS. AFTER ALL AREAS CONTRIBUTING DRAINAGE TO THE INFILTRATION BASIN HAVE BEEN STABILIZED AS APPROVED BY THE ENGINEER, EXCAVATION TO THE PERMANENT BOTTOM ELEVATION OF THE INFILTRATION BASIN SHALL BE PERFORMED.
- E. EXCEPT AS NEEDED FOR CONSTRUCTION OF DAM FOUNDATIONS, CUTOFF TRENCHES, AND OUTLET STRUCTURES, EXCAVATED SUBGRADES WITHIN THE SWM PONDS SHALL NOT BE TEST ROLLED PER SUBSECTION 202.02 OR COMPACTED PER SUBSECTION 202.06.A.
- F. ALL REQUIREMENTS OF STANDARD SPECIFICATION SECTION 271 FOR CONSTRUCTION OF THE SWM FACILITY SHALL APPLY. IF THERE ARE CONFLICTS BETWEEN THE REQUIREMENTS IN STANDARD SPECIFICATION SECTION 271 AND STANDARD SPECIFICATION SECTION 202, THEN THE MORE STRINGENT REQUIREMENT SHALL BE FOLLOWED.

#### 18. SEDIMENT BASIN CONSTRUCTION AND MAINTENANCE:

- A. CLEARING AND GRUBBING OF SEDIMENT BASIN POND AREAS IS TO BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 201000.
- B. ALL EXCAVATION AND EMBANKMENT REQUIRED FOR CONSTRUCTION OF SEDIMENT BASINS WILL BE PERFORMED, MEASURED AND PAID FOR UNDER ITEM 202000, EXCAVATION AND EMBANKMENT.
- C. REMOVAL OF SEDIMENT FROM THE SEDIMENT BASIN SHALL BE PERFORMED WHEN THE CLEANOUT ELEVATION IS REACHED AS NOTED ON THE PLANS.
- D. SEDIMENT REMOVAL FROM THE SEDIMENT BASIN SHALL BE MEASURED FOR PAYMENT UNDER ITEM 202000. ONLY REMOVAL OF SEDIMENT FROM A SEDIMENT BASIN SHALL BE MEASURED FOR PAYMENT UNDER ITEM 202000.
- REMOVAL OF SEDIMENT FROM ALL OTHER EROSION AND SEDIMENT CONTROL DEVICES AND REMOVAL OF SEDIMENT THAT HAS BYPASSED OR OTHE<mark>RWI</mark>SE NOT BEEN TRAPPED BY ANY SE<mark>DIME</mark>NT CONTROL DEVICE SHALL BE INCLUDED IN THE PAYMENT FOR THE SEDIMENT CONTROL ITEM PER SECTION 900.

- . A. THE CON<mark>TRAC</mark>TOR M<mark>AY E</mark>LECT <mark>TO U</mark>SE ANY <mark>OF THE F</mark>OLLOW<mark>ING M</mark>ATERIALS TO ME<mark>ET</mark> THE REQUIREMENTS OF ITEM 302007 GRADED AGGREGATE BASE COURSE, TYPE 'B':
  - a. CRUSHED STONE (PER STANDARD SPECIFICATION 821)
  - b. CRUSHED CONCRETE (PER STANDARD SPECIFICATION 821) c. 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 DELDOT'S PROJECT 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 MEETING THE ADVERTISED QUANTITY OF ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.
- C. THE CONTRACTOR MAY ALSO ELECT TO RECYCLE MILLINGS FOR USE IN WARM-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 MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.
- D. HOT-MIX MILLINGS MAY BE GENERATED FROM THE FOLLOWING SOURCES:
- a. MATERIAL MADE AVAILABLE WHEN MILLED ON THIS CONTRACT UNDER SECTION 760 PAVEMENT MILLING.
- b. MATERIAL MILLED ON THIS CONTRACT AT THE CONTRACTOR'S CHOICE UNDER ITEM 202000.
- c. 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. PAYMENT CLARIFICATION:

- a. SHOULD THE CONTRACTOR ELECT TO MILL PORTIONS OF HOT-MIX SHOWN ON THE PLANS TO BE REMOVED UNDER ITEM 202000 -EXCAVATION AND EMBANKMENT THE COST OF MILLING THIS HOT-MIX WILL BE PAID AS ITEM 202000 - EXCAVATION AND EMBANKMENT. THE MILLINGS GENERATED MAY BE RECYCLED INTO WARM-MIX, UTILIZED FOR BASE COURSE, OR DISPOSED OF TO AN APPROVED SITE. HAULING COSTS FOR DISPOSAL AND/OR RECYCLING ARE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.
- b. MILLINGS GENERATED UNDER SECTION 760 PAVEMENT MILLING MAY BE RECYCLED INTO WARM-MIX, UTILIZED FOR BASE COURSE OR DISPOSED OF BY THE CONTRACTOR TO AN APPROVED SITE. NO SEPARATE PAYMENT WILL BE MADE FOR TRANSPORTING MILLINGS ON SITE OR TO AN APPROVED DISPOSAL SITE.
- c. SHOULD THE CONTRACTOR ELECT TO TEMPORARILY STOCKPILE MILLINGS ON THE JOB SITE FOR LATER USE, ALL COSTS FOR STOCKPILING AND SUBSEQUENT REHANDLING SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.
- d. MILLINGS USED FOR BASE COURSE SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIAL PROVISION 302514 -MILLED HOT-MIX BASE COURSE. NO SEPARATE PAYMENT WILL BE MADE TO FURNISH MILLINGS FROM AN OUTSIDE SOURCE OR TRANSPORT MILLINGS WITHIN THE PROJECT LIMITS. MILLINGS USED FOR BASE COURSE WILL BE PAID IN PLACE AT THE UNIT BID PRICE FOR ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

**DELAWARE DEPARTMENT OF TRANSPORTATION** 

NOT TO SCALE

US 13 & PORT PENN RD **INTERSECTION** 

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

**NOTES** 

OTAL SHTS 179

SHEET NO.

#### 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 TO 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 SUBJET 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 FE<mark>ET, UNLESS OTHERWISE</mark> 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 MODIFIC<mark>ATIONS</mark> OR FOR NEW FRAMES SHALL BE DETERMINED BY THE ENGINEER. ALL REPLACED GRATES/FRAMES SHALL BE DELIVERED TO THE NE<mark>AREST D</mark>ISTRICT MAIN<mark>TEN</mark>ANCE YARD WIT<mark>H T</mark>HE CO<mark>ST OF</mark> 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 DEPARTMENT 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 44. I. ALL COSTS FOR INSTALLING, REMOVING, AND RESTORING THE TEMPORARY WETLAND ACCESS SHALL BE INCLUDED IN THE LUMP SUM 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 NOICAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

#### *IISCELLANEOUS*

- 2. THE CONTRACTO<mark>R S</mark>HALL 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
- 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. V<mark>EGET</mark>ATION SHALL N<mark>OT BE GRUBBED, AND SHALL BE CUT FLUSH WITH THE GROUND (I.<mark>E., NO DISTUR</mark>BANCE OF THE ROOT MAT).</mark>
- 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 O.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.)

- 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 COLLEC	TOR	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 CO	NSTRUCTION	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-W	AY MONU	JMENT SCH	EDULE
NO.	STATION	OFFSET	NORTHING	EASTING
1	96+05.00	100.00	<i>551883. 6387</i>	<i>590690. 9517</i>
2	96+05.00	<i>215.00</i>	<i>551882.1201</i>	<i>590805. 9417</i>
3	<i>97+75.00</i>	280.00	<i>552051. 2469</i>	<i>590873. 1809</i>
4	99+15.00	280.00	<i>5</i> 5 <i>2</i> 1 <i>9</i> 1 <i>. 23</i> 4 <i>7</i>	<i>590875. 0296</i>
5	99+15.00	99. 70	<i>552193. 6157</i>	590694. 7416
6	102+14.11	- <i>235.00</i>	<i>552497. 1244</i>	590364.0244
7	104+60.00	- <i>235.00</i>	<i>552742. 9879</i>	<i>590367. 2714</i>
8	104+60.00	- <i>84.58</i>	<del>552</del> 741.0015	<i>590517.6826</i>
9	110+38.08	-166.00	<del>553</del> 320. 1025	<i>590443. 8990</i>
10	111+05.00	-166.00	<i>553387.</i> 0206	590444. 7828
11	111+44.00	-146.00	<i>553425. 7530</i>	<i>590465. 2960</i>
12	117+12.79	-146.00	<i>553994. 4898</i>	<i>590472.8070</i>
13	118+60.00	-146.00	<i>554140. 7874</i>	<i>590473. 8247</i>
14	118+60.00	-171.00	<i>554140. 9613</i>	<i>590448. 8253</i>
15	118+80.00	-171.00	<i>554160.9609</i>	590448. 9644
16	118+80.00	-146 <b>.</b> 00	<i>554160.7870</i>	<i>590473. 9638</i>
17	122+26.00	-146.00	<i>554506. 7786</i>	<i>590476. 3706</i>
18	125+72.00	-146 <b>.</b> 00	<i>554852. 7702</i>	<i>590478. 7773</i>
19	129+19.56	-146.00	<i>555200. 3190</i>	
20	129+39.40	<i>87. 50</i>	<i>555218. 5377</i>	<i>590714.8273</i>
21	129+19.56	-90.00	<i>555199. 9291</i>	<i>590537. 1936</i>
22	131+25.00	- <i>90.00</i>	<i>555405. 3673</i>	
23	132+38.10	- <i>90.00</i>	<i>555518.</i> 4651	
24	132+38.10	-81.00		<i>590548. 4091</i>
25	130+58.00	<i>87. 50</i>		<i>590715. 6522</i>
26	4001+23.00	60.00		590747. 4523
27	4001+14.25	-119.45		590750. 2966
28	138+57.99	-81.00		590552. 7210
29	139+61.31	-81.00		590553. 4398
30	139+80.60	-85.00		590549. 5729
31	4002+50.00	-85.00	555491. 3418	
32	4005+50.00	-70.00	555386. 4228	
33	4002+50.00	60.00	555349. 9648	
34	4003+22.14	52.00	555339. 9058	
35	4003+50.00	<i>36. 91</i>	555345. 7557	
36	4003+22.14	- 78 <b>.</b> 57	555464. 2303	
37	4010+50.00	- 70 <b>.</b> 00		591661. 2162
38	4011+50.00	- <i>30.32</i>	<i>555165. 2592</i>	591744. 3039

**DELAWARE** DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

ADDENDUMS / REVISIONS

US 13 & PORT PENN RD INTERSECTION

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

**NOTES** 

SHEET NO. TOTAL SHTS. 179

## EARTHWORK SUMMARY - TOTALS

EXCAVATION - ALIGNMENT	
FROM CROSS-SECTIONS	
PLUS EXCAVATION FROM US 13 SB INSIDE SHOULDER	898 C.Y.
PLUS EXCAVATION FROM US 13 ACCELERATION LANE	12,007 C.Y.
PLUS EXCAVATION FROM US 13 DECELERATION LANE	3,685 C.Y.
PLUS EXCAVATION FROM US 13 NORTHBOUND RIGHT TURN LANE	782 C.Y.
PLUS EXCAVATION FROM US 13 LEFT TURN LANE	10,504 C.Y.
PLUS EXCAVATION FROM RAMP R	7,920 C.Y.
PLUS EXCAVATION FROM PORT PENN ROAD	3,872 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA ENTRANCE	3,078 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA FRONT PARKING ACCESS	1,011 C.Y.
PLUS EXCAVATION FROM US 13 SB TEMPORARY SHOULDER REMOVAL	151 C.Y.
SUBTOTAL - EXCAVATION FROM CROSS-SECTIONS	43,908 C.Y.
PLUS TOP SOIL REMOVED UNDER FILL	1,340 C.Y.
PLUS TOPSOIL PLACED IN CUT:	5,647 C.Y.
PLUS EXCAVATION FROM UTILITY RELOCATION (OUTSIDE OF CROSS SECTION FEMPLATES)	6,246 C.Y.
PLUS BIT UMINOUS PAVEMENT REMOVED UNDER FILL	545 C.Y.
LESS ROOTMAT REMOVED IN CUT	1,979 C.Y.
LESS REMOVAL OF EXISTING PCC PAVEMENT, ETC.	2,301 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
PLUS ST ORMWATER MANAGEMENT EXCAVATION	10,143 C.Y.
=TOTAL ITEM 202000-EXCAVATION AND EMBANKMENT	63,548 C.Y.
STORMWATER MANAGEMENT POND EXCAVATION	
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	3,026 C.Y.
SUBTOTAL - EXCAVATION FROM SURFA <mark>CE</mark> S AVERAGE END AREA METHOD	9,59 <mark>4 C</mark> .Y.
PLUS TOP SOIL REMOVED UNDER FILL	291 C.Y.
PLUS TOPSOIL PLACED IN CUT SECTIONS	1,752 C.Y.
LESS ROOT MAT REMOVED IN CUT	1,49 <mark>4 C</mark> .Y.
LESS ROCK EXCAVATION	0 C.Y.
=TOTAL STORMWATER MANAGEMENT POND	10,14 <mark>3 C</mark> .Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	837 C.Y.
=TOTAL SWM POND EXCAVATION AVAILABLE FOR EMBANKMENT	9,306 C.Y.
*INCLUDES 2' OF OVEREXCAVATION OF SWM PONDS FOR USE AS SEDIMENT BASIN	
EXCAVATION AVAILABLE FOR EMBANKMENT	
ΓΟΤ AL EXCAVATION AND EMBANKMENT QUANTITY (ITEM 202000)	63,548 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR STRUCTURES	75 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	1,289 C.Y.
PLUS CHANNEL EXCAVATION	0 C.Y.
PLUS EXCAVATION FROM LATERAL OR LONGITUDINAL DITCHES	0 C.Y.
PLUS EXCAVATION FROM INSTALLATION OF UNDERDRAINS	1,579 C.Y.
PLUS STOCKPILED MATERIAL FROM PREVIOUS PHASES	
LESS TOP SOIL REMOVED IN CUT AND FILL	8,733 C.Y.
LESS TOPSOIL REMOVED FROM STORMWATER MANAGEMENT PONDS	3,113 C.Y.
LESS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY RELOCATION)	5,777 C.Y.
	855 C.Y.
LESS UNSUITABLE EXCAVATION	
LESS UNSUIT ABLE EXCAVATION LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	837 C.Y.

EARTHWORK SUMMARY - TOTALS	
BORROW, TYPE A CAPPING REQUIRED	
BORROW, TYPE A FOR CAPPING	11,059 C.Y
LESS TOPSOIL PLACED ON FILL SLOPES	1,558 C.Y
=SUBT OT AL BORROW, TYPE A CAPPING REQUIRED	9,501 C.Y
PLUS CAPPING REQUIRED X ADJUST MENT FACT OR (0.20)	1,900 C.Y
=SUBT OT AL ADJUST ED BORROW, TYPE A REQUIRED	11,402 C.Y
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE A	0 C.Y
=TOTAL ADJUSTED BORROW, TYPE A REQUIRED	11,402 C.Y
BORROW, TYPE C REQUIRED	
TEST HOLE EXCAVATION BACKFILL REQUIRED	104 C.Y
PIPE/UTILITY BACKFILL REQUIRED	4,786 C.Y
PLUS BORROW, TYPE C REQUIRED X ADJUSTMENT FACTOR (0.20)	978 C.Y
=SUBT OT AL ADJUST ED BORROW, TYPE C REQUIRED	5,868 C.Y
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE C	0 C.Y
=TOTAL ADJUSTED BORROW, TYPE C REQUIRED	5,868 C.Y
DODDOW TUDE D DECLYDED	
BORROW, TYPE D REQUIRED	
SOIL CEMENT BASE COURSE (SY)	4,643 S.Y
VOLUME OF TYPE D, CY (6" DEPTH)	774 C.
PLUS BORROW, TYPE D REQUIRED X ADJUSTMENT FACTOR (0.20)	155 C.Y
SUBTOTAL ADJUSTED BORROW, TYPE D REQUIRED	929 C.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE D	0 C.
=TOTAL ADJUSTED BORROW, TYPE D REQUIRED	929 C.Y
BORROW, TYPE B REQUIRED	
BACKFILL FOR UNSTABLE SUBGRADES AFTER ROOTMAT REMOVED UNDER FILL	0 C.Y
PLUS BACKFILL X ADJUST MENT FACT OR (0.20)	0 C.Y
SUBTOTAL ADJUSTED BORROW, TYPE B REQUIRED	0 C.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE B	0 C.
=TOTAL ADJUSTED BORROW, TYPE B REQUIRED	0 C.Y
EMBANKMENT AND BORROW, TYPE F REQUIRED	
EMBANKMENT REQUIRED BELOW CAPPING	28,429 C.Y
PLUS TOPSOIL REMOVED UNDER FILL	1,318 C.Y
PLUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B	1,227 C.Y
PLUS UNDERCUT MATERIAL REMOVED UNDER FILL	0 C.Y
PLUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL	787 C.Y
PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)	596 C.
LESS TOPSOIL PLACED ON FILL SLOPES	904 C.
LESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES	6,220 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	25,232 C.
PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)	5,046 C.
	30,278 C.Y
-SUBIULAL ADUSTED EMBANK MENT KEULIKELI	
SUBTOTAL ADJUSTED EMBANKMENT REQUIRED  LESS TOTAL EXCAVATION AVAILABLE FOR BORROW TYPE F	41111
LESS TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F SURPLUS BORROW, TYPE F	47,177 C.Y

TOPSOIL SUMMARY	
TOPSOIL SALVAGED FROM CUT AND FILL	8,733 C.Y.
PLUS TOPSOIL FROM STORMWATER MANAGEMENT POND	3,113 C.Y.
PLUS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY	5,777 C.Y.
RELOCATION)	<i>5,777</i> C.1.
=SUBTOTAL TOPSOIL AVAILABLE	17,622 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	2,462 C.Y.
LESS TOPSOIL PLACED ON CUT SLOPES	5,647 C.Y.
LESS TOPSOIL PLACED OUTSIDE OF CROSS-SECTION TEMPLATES	5,868 C.Y.
LESS TOPSOIL PLACED IN SWM FACILITIES	2,899 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.
PROPOSAL QUANTITIES	
ITEM NO. 202000 EXCAVATION AND EMBANKMENT*	67,748 C.Y.
ITEM NO. 207000 EXCAVATION AND BACKFILL FOR STRUCTURES	75 C.Y.
ITEM NO. 208000 EXCAVATION AND BACKFILL FOR PIPE TRENCHES	1,289 C.Y.
ITEM NO. 209001 BORROW, TYPE A	11,402 C.Y.
ITEM NO. 209002 BORROW, TYPE B	0 C.Y.
ITEM NO. 209004 BORROW, TYPE D	929 C.Y.
ITEM NO. 210000 FURNISHING BORROW TYPE C FOR PIPE, UTILITY TRENCH, AND	5 969 C V
STRUCTURE BACKFILL	5,868 C.Y.
ITEM NO,. 732002 TOPSOIL, 6" DEPTH	0 S.Y.
ITEM NO. 733002 TOPSOILING (6" DEPTH)	101,256 S.Y.

\*INCLUDES 4,200 CY OF SEDIMENT REMOVAL

NOTE: ALL MATERIALS EXCAVATED AND NOT REQUIRED FOR EMBANKMENT, SUBGRADE, ETC. ON THE PROJECT SHALL BE REMOVED FROM THE CONTRACTOR.

DELAWARE
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

NOT TO SCALE

US 13 & PORT PENN RD INTERSECTION

US 13 & PORT PENN RD INTERSECTION

US 13 & PORT PENN RD INTERSECTION

DESIGNED BY: KSB

EARTHWORK SUMMARY

TOTAL SHTS.

179

11535-000\Contract 1D\CADD\PN003U301\_1D.dgn 7/2015 9:26:55 AM

#### **EARTHWORK SUMMARY - PRE PHASE 1**

EXCAVATION - ALIGNMENT	
FROM CROSS-SECTIONS	
PLUS EXCAVATION FROM US 13 SB INSIDE SHOULDER	898 C.Y.
PLUS EXCAVATION FROM US 13 ACCELERATION LANE	1,644 C.Y.
PLUS EXCAVATION FROM US 13 DECELERATION LANE	402 C.Y.
PLUS EXCAVATION FROM US 13 NORTHBOUND RIGHT TURN LANE	177 C.Y.
PLUS EXCAVATION FROM US 13 LEFT TURN LANE	0 C.Y.
PLUS EXCAVATION FROM RAMP R	2,448 C.Y.
PLUS EXCAVATION FROM PORT PENN ROAD	742 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA ENTRANCE	350 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA FRONT PARKING ACCESS	122 C.Y.
PLUS EXCAVATION FROM US 13 SB TEMPORARY SHOULDER REMOVAL	0 C.Y.
SUBTOTAL - EXCAVATION FROM CROSS-SECTIONS	6,783 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL	1,282 C.Y.
PLUS TOPSOIL PLACED IN CUT:	0 C.Y.
PLUS TOP SOIL/ROOT MAT EXCAVATION FOR UTILITY RELOCATION (OUT SIDE OF	6,246 C.Y.
CROSS SECTION TEMPLATES)	0,240 C.1.
PLUS BIT UMINOUS PAVEMENT REMOVED UNDER FILL	9 C.Y.
LESS ROOT MAT REMOVED IN CUT	1,979 C.Y.
LESS REMOVAL OF EXISTING PCC PAVEMENT, ETC.	0 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
PLUS STORMWATER MANAGEMENT EXCAVATION	0 C.Y.
=TOTAL ITEM 202000-EXCAVATION AND EMBANKMENT	12,340 C.Y.
STORMWATER MANAGEMENT POND EXCAVATION	
FROM SURFACES AVERAGE END AREA METHOD:	
SWM POND NO. 756	0 C.Y.
SWM POND NO. 757	0 C.Y.
SWM POND NO. 758	0 C.Y.
SUBTOTAL - EXCAVATION FROM SURFACES AVERAGE END AREA METHOD	0 C.Y.
PLUS TOP SOIL REMOVED UNDER FILL	0 C.Y.
PLUS TOPSOIL PLACED IN CUT SECTIONS	0 C.Y.
LESS ROOT MAT REMOVED IN CUT	0 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
=TOTAL STORMWATER MANAGEMENT POND	0 C.Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	0 C.Y.
=T OT AL SWM POND EXCAVATION AVAILABLE FOR EMBANKMENT	0 C.Y.
*INCLUDES 2' OF OVEREXCAVATION OF SWM PONDS FOR USE AS SEDIMENT BASIN	0 0.1.
THE COURSE OF STREET VITTORS OF SWINT STREET ON SECTION SECTION.	
EXCAVATION AVAILABLE FOR EMBANKMENT	
TOTAL EXCAVATION AND EMBANKMENT QUANTITY (ITEM 202000)	12,340 C.Y.
PLUS EXCAVATION AND EMBANKMENT QUANTITY (ITEM 202000)	
	0 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	642 C.Y.
PLUS CHANNEL EXCAVATION	0 C.Y.
PLUS EXCAVATION FROM LATERAL OR LONGITUDINAL DITCHES	0 C.Y.
PLUS EXCAVATION FROM INSTALLATION OF UNDERDRAINS	0 C.Y.
PLUS STOCKPILED MATERIAL FROM PREVIOUS PHASES	0 C.Y.
LESS TOP SOIL REMOVED IN CUT AND FILL	5,748 C.Y.
LESS TOPSOIL REMOVED FROM STORMWATER MANAGEMENT PONDS	0 C.Y.
LESS TOP SOIL REMOVED OUT SIDE OF CROSS-SECTION TEMPLATES (UTILITY RELOCATION)	5,777 C.Y.
LESS UNSUIT ABLE EXCAVATION	0 C.Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	0 C.Y.

EARTHWORK SUIVINARY - PRE PHASE I	
BORROW, TYPE A CAPPING REQUIRED	0 CV
BORROW, TYPE A FOR CAPPING	0 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	0 C.Y.
=SUBTOTAL BORROW, TYPE A CAPPING REQUIRED	0 C.Y.
PLUS CAPPING REQUIRED X ADJUST MENT FACT OR (0.20)	0 C.Y.
=SUBT OT AL ADJUST ED BORROW, T YPE A REQUIRED	0 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE A	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE A REQUIRED	0 C.Y.
BORROW, TYPE C REQUIRED	
TEST HOLE EXCAVATION BACKFILL REQUIRED	0 C.Y.
PIPE/UTILITY BACKFILL REQUIRED	4,336 C.Y.
PLUS BORROW, TYPE C REQUIRED X ADJUSTMENT FACTOR (0.20)	867 C.Y.
=SUBT OT AL ADJUSTED BORROW, TYPE C REQUIRED	5,203 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE C	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE C REQUIRED	5,203 C.Y.
BORROW, TYPE D REQUIRED	
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.
SUBT OT AL ADJUST ED 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.
BORROW, TYPE B REQUIRED	
BACKFILL FOR UNSTABLE SUBGRADES AFTER ROOTMAT REMOVED UNDER FILL	0 C.Y.
PLUS BACKFILL X ADJUST MENT FACT OR (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.
EMBANKMENT AND BORROW, TYPE F REQUIRED	
EMBANKMENT REQUIRED BELOW CAPPING	8 C.Y.
PLUS T OP SOIL REMOVED UNDER FILL	0 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 BIT UMINOUS PAVEMENT REMOVED UNDER FILL	9 C.Y.
PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)	504 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	0 C.Y.
LESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES	0 C.Y.
LESS MSE WAL <mark>L OR OTHER RET</mark> AINING WALL & BACKFILL	0 C.Y.
ESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND	0 C.Y.
SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING	521 C.Y.
PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)	104 C.Y.
SUBTOTAL ADJUSTED EMBANKMENT REQUIRED	625 C.Y.
LESS TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F	1,457 C.Y.
WIDDLING BODDOW, TUDE E	832 C.Y.
SURPLUS BORROW, TYPE F	

11	0 C.Y. 0 C.Y. 5,777 C.Y. 0 C.Y.
11	0,777 C.Y. 0,525 C.Y. 0 C.Y. 0 C.Y. 0 C.Y. 0 C.Y. 10 C.Y. 10 C.Y. 11 C.Y.
11	,525 C.Y.  0 C.Y.  0 C.Y.  0 C.Y.  0 C.Y.  525 C.Y.
	0 C.Y. 0 C.Y. 0 C.Y. 0 C.Y. ,525 C.Y.
11.	0 C.Y. 0 C.Y. 0 C.Y. ,525 C.Y.
11,	0 C.Y. 0 C.Y. ,525 C.Y.
11	0 C.Y.
11	,525 C.Y.
11	
	0 C.Y.
·	0 C.Y.
11	,525 C.Y.
SEE	PN-0
	SEE SEE SEE

SEE

SEE

PN-03

PN-03

ITEM NO,. 732002 TOPSOIL, 6" DEPTH

ITEM NO. 733002 TOPSOILING (6" DEPTH)

DELAWARE
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

US 13 & PORT PENN RD INTERSECTION

EARTHWORK SUMMARY

TO AUGUST

TO AUGUST

NEW CASTLE

COUNTY

NEW CASTLE

COUNTY

NEW CASTLE

CHECKED BY: BRT

TO 1011302

TO AUGUST

#### **EARTHWORK SUMMARY - PHASE 1**

EXCAVATION - ALIGNMENT	
FROM CROSS-SECTIONS	
PLUS EXCAVATION FROM US 13 SB INSIDE SHOULDER	0 C.Y.
PLUS EXCAVATION FROM US 13 ACCELERATION LANE	10,363 C.Y.
PLUS EXCAVATION FROM US 13 DECELERATION LANE	3,283 C.Y.
PLUS EXCAVATION FROM US 13 NORTHBOUND RIGHT TURN LANE	605 C.Y.
PLUS EXCAVATION FROM US 13 LEFT TURN LANE	0 C.Y.
PLUS EXCAVATION FROM RAMP R	5,472 C.Y.
PLUS EXCAVATION FROM PORT PENN ROAD	653 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA ENTRANCE	2,728 C.Y.
PLUS EXCAVATION FROM TOLL PLAZA FRONT PARKING ACCESS	888 C.Y.
PLUS EXCAVATION FROM US 13 SB TEMPORARY SHOULDER REMOVAL	0 C.Y.
SUBTOTAL - EXCAVATION FROM CROSS-SECTIONS	23,992 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL	22 C.Y.
PLUS TOPSOIL PLACED IN CUT:	4,042 C.Y.
PLUS TOP SOIL/ROOTMAT EXCAVATION FOR UTILITY RELOCATION (OUT SIDE OF	0 C.Y.
CROSS SECTION TEMPLATES)	
PLUS BIT UMINOUS PAVEMENT REMOVED UNDER FILL	219 C.Y.
LESS ROOTMAT REMOVED IN CUT	0 C.Y.
LESS REMOVAL OF EXISTING PCC PAVEMENT, ETC.	1,212 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
PLUS STORMWATER MANAGEMENT EXCAVATION	2,057 C.Y.
=TOTAL ITEM 202000-EXCAVATION AND EMBANKMENT	29,121 C.Y.
STORMWATER MANAGEMENT POND EXCAVATION	
FROM SURFACES AVERAGE END AREA METHOD:	
SWM POND NO. 756	0 C.Y.
SWM POND NO. 757	0 C.Y.
SWM POND NO. 758	3,026 C.Y.
SUBTOTAL - EXCAVATION FROM SURFACES AVERAGE END AREA METHOD	3,02 <mark>6 C</mark> .Y.
PLUS TOPSOIL REMOVED UNDER FILL	0 C.Y.
PLUS TOPSOIL PLACED IN CUT SECTIONS	525 C.Y.
LESS ROOTMAT REMOVED IN CUT	1,494 C.Y.
LESS ROCK EXCAVATION	0 C.Y.
=TOTAL STORMWATER MANAGEMENT POND	2,05 <mark>7 C</mark> .Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	0 C.Y.
=TOTAL SWM POND EXCAVATION AVAILABLE FOR EMBANKMENT	2,057 C.Y.
*INCLUDES 2' OF OVEREXCAVATION OF SWM PONDS FOR USE AS SEDIMENT BASIN	
EXCAVATION AVAILABLE FOR EMBANKMENT	
TOTAL EXCAVATION AND EMBANKMENT QUANTITY (ITEM 202000)	29,121 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR STRUCTURES	75 C.Y.
PLUS EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	364 C.Y.
PLUS CHANNEL EXCAVATION	0 C.Y.
PLUS EXCAVATION FROM LATERAL OR LONGITUDINAL DITCHES	0 C.Y.
PLUS EXCAVATION FROM INSTALLATION OF UNDERDRAINS	625 C.Y.
PLUS STOCKPILED MATERIAL FROM PREVIOUS PHASES	832 C.Y.
LESS TOP SOIL REMOVED IN CUT AND FILL	348 C.Y.
LESS TOPSOIL REMOVED FROM STORMWATER MANAGEMENT PONDS	739 C.Y.
LESS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY	
RELOCATION)	0 C.Y.
LESS UNSUIT ABLE EXCAVATION	845 C.Y.
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	0 C.Y.

EARTHWORK SUMMARY - PHASE 1	
BORROW, TYPE A CAPPING REQUIRED	
BORROW, TYPE A FOR CAPPING	7,058 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	1,558 C.Y.
=SUBT OT AL BORROW, TYPE A CAPPING REQUIRED	5,500 C.Y.
PLUS CAPPING REQUIRED X ADJUST MENT FACT OR (0.20)	1,100 C.Y.
=SUBT OT AL ADJUSTED BORROW, TYPE A REQUIRED	6,600 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE A	0 C.Y.
=TOTAL ADJUSTED BORROW, TYPE A REQUIRED	6,600 C.Y.
BORROW, TYPE C REQUIRED	
TEST HOLE EXCAVATION BACKFILL REQUIRED	104 C.Y.
PIPE/UTILITY BACKFILL REQUIRED	259 C.Y.
PLUS BORROW, TYPE C REQUIRED X ADJUSTMENT FACTOR (0.20)	73 C.Y.
SUBTOTAL ADJUSTED BORROW, TYPE C REQUIRED	436 C.Y.
LESS EXCAVATION AVAILABLE FOR BORROW, TYPE C	0 C.Y.
TOTAL ADJUSTED BORROW, TYPE C REQUIRED	436 C.Y.
BORROW, TYPE D REQUIRED	
OIL CEMENT BASE COURSE (SY)	4,643 S.Y.
OLUME OF TYPE D, CY (6" DEPTH)	774 C.Y.
LUS BORROW, TYPE D REQUIRED X ADJUSTMENT FACTOR (0.20)	155 C.Y.
SUBTOTAL ADJUSTED BORROW, TYPE D REQUIRED	929 C.Y.
ESS EXCAVATION AVAILABLE FOR BORROW, TYPE D	0 C.Y.
TOTAL ADJUSTED BORROW, TYPE D REQUIRED	929 C.Y.
BORROW, TYPE B REQUIRED	
BACKFILL FOR UNSTABLE SUBGRADES AFTER ROOT MAT REMOVED UNDER FILL	0 C.Y.
PLUS BACKFILL X ADJUST MENT FACT OR (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.
TOTAL TIBUOSI ED BOILLO III, I TI E BILEQUIAED	0 0.1.
EMBANKMENT AND BORROW, TYPE F REQUIRED	
EMBANKMENT REQUIRED BELOW CAPPING	26,578 C.Y.
PLUS TOP SOIL REMOVED UNDER FILL	1,282 C.Y.
LUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B	1,282 C.T.
LUS UNDERCUT MATERIAL REMOVED UNDER FILL	0 C.Y.
LUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL	236 C.Y.
LUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)	33 C.Y.
ESS TOPSOIL PLACED ON FILL SLOPES	713 C.Y.
ESS TOPSOIL PLACED ON FILL SLOPES  ESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES	4,770 C.Y.
ESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  ESS MSE WALL OR OTHER RETAINING WALL & BACKFILL	
	0 C.Y.
ESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND SUBTOTAL EMPANYMENT DECLUDED BELOW CARRING	0 C.Y.
SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING	23,872 C.Y.
LUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)	4,774 C.Y.
SUBTOTAL ADJUSTED EMBANKMENT REQUIRED	28,647 C.Y.
ECCHOTAL DVCAVATION AND ECONOMY TOTAL	29,086 C.Y.
LESS TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F	* * * · · · · · · · ·
LESS TOT AL EXCAVATION AVAILABLE FOR BORROW, TYPE F SURPLUS BORROW, TYPE F THEREFORE, TOT AL ADJUSTED BORROW, TYPE F REQUIRED	439 C.Y. 0 C.Y.

TOPSOIL SUMMARY		
TOPSOIL SALVAGED FROM CUT AND FILL		348 C.Y.
PLUS TOPSOIL FROM STORMWATER MANAGEMENT POND		739 C.Y.
PLUS TOPSOIL REMOVED OUTSIDE OF CROSS-SECTION TEMPLATES (UTILITY RELOCATION)		0 C.Y.
PLUS TOPSOIL FROM PREVIOUS PHASE	11	1,525 CY
=SUBTOTAL TOPSOIL AVAILABLE	12	2,612 C.Y.
LESS TOPSOIL PLACED ON FILL SLOPES	2	2,271 C.Y.
LESS TOPSOIL PLACED ON CUT SLOPES		4,042 C.Y.
LESS TOPSOIL PLACED OUTSIDE OF CROSS-SECTION TEMPLATES		4,418 C.Y.
LESS TOPSOIL PLACED IN SWM FACILITIES		525 C.Y.
=SUBTOTAL EXCESS (+) TOPSOIL OR TOPSOIL NEED (-)	1	1,356 C.Y.
LESS EXCESS TOPSOIL PLACED IN OUTER EMBANKMENTS		0 C.Y.
LESS CULTIVATED SOIL UNSUITABLE FOR EMBANKMENT		0 C.Y.
=TOTAL EXCESS TOPSOIL	1	1,356 C.Y.
	•	
PROPOSAL QUANTITIES		
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

ITEM NO. 210000 FURNISHING BORROW TYPE C FOR PIPE, UTILITY TRENCH, AND

ITEM NO. 209001 BORROW, TYPE A

ITEM NO. 209002 BORROW, TYPE B

ITEM NO. 209004 BORROW, TYPE D

ITEM NO,. 732002 TOPSOIL, 6" DEPTH

ITEM NO. 733002 TOPSOILING (6" DEPTH)

STRUCTURE BACKFILL

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 13 & PORT PENN RD INTERSECTION

CONTRACT
BRIDGE NO.

T201011302

COUNTY

DESIGNED BY: KSB

NEW CASTLE

CHECKED BY: BRT

EARTHWORK SUMMARY

SEE

SEE

SEE

SEE

PN-03

PN-03

PN-03

PN-03

PN-03

PN-03

PN-03

PN-05

SHEET NO.

9

TOTAL SHTS.

179

# EXCAVATION - ALIGNMENT FROM CROSS-SECTIONS PLUS EXCAVATION FROM US 13 SB INSIDE SHOULDER PLUS EXCAVATION FROM US 13 ACCELERATION LANE PLUS EXCAVATION FROM US 13 DECELERATION LANE PLUS EXCAVATION FROM US 13 NORTHBOUND RIGHT TURN LANE PLUS EXCAVATION FROM US 13 LEFT TURN LANE PLUS EXCAVATION FROM US 13 LEFT TURN LANE 10,504 C.Y. PLUS EXCAVATION FROM PORT PENN ROAD PLUS EXCAVATION FROM PORT PENN ROAD PLUS EXCAVATION FROM TOLL PLAZA ENTRANCE PLUS EXCAVATION FROM TOLL PLAZA FRONT PARKING ACCESS O C.Y. PLUS EXCAVATION FROM US 13 SB TEMPORARY SHOULDER REMOVAL 151 C.Y. SUBTOT AL - EXCAVATION FROM CROSS-SECTIONS 13,133 C.Y. PLUS TOPSOIL REMOVED UNDER FILL 36 C.Y.

PLUS TOPSOIL/ROOTMAT EXCAVATION FOR UTILITY RELOCATION (OUTSIDE OF

PLUS TOPSOIL PLACED IN CUT:

CROSS SECTION TEMPLATES)

LESS ROCK EXCAVATION

LESS ROOTMAT REMOVED IN CUT

PLUS BITUMINOUS PAVEMENT REMOVED UNDER FILL

LESS REMOVAL OF EXISTING PCC PAVEMENT, ETC.

PLUS STORMWATER MANAGEMENT EXCAVATION

EXCAVATION AVAILABLE FOR EMBANKMENT

PLUS CHANNEL EXCAVATION

LESS UNSUIT ABLE EXCAVATION

RELOCATION)

TOTAL EXCAVATION AND EMBANKMENT QUANTITY (ITEM 20<mark>200</mark>0)

PLUS EXCAVATION AND BACKFILLING FOR STRUCTURES

PLUS EXCAVATION AND BACKFILLING FOR PIPE TRENCHES

PLUS EXCAVATION FROM INSTALLATION OF UNDERDRAINS

PLUS STOCKPILED MATERIAL FROM PREVIOUS PHASES

LESS MATERIAL REQUIRED FOR SWM EMBANKMENT

=TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F

LESS TOPSOIL REMOVED IN CUT AND FILL

PLUS EXCAVATION FROM LATERAL OR LONGITUDINAL DITCHES

LESS TOPSOIL REMOVED FROM STORMWATER MANAGEMENT PONDS

LESS TOP SOIL REMOVED OUT SIDE OF CROSS-SECTION TEMPLATES (UTILITY

STORMWATER MANAGEMENT POND EXCAVATION	
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 SURFA <mark>CE</mark> S AVERAGE END AREA METHOD	6,568 C.Y
PLUS TOP SOIL REMOVED UNDER FILL	291 C.Y
PLUS TOP SOIL 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	8,08 <mark>6 C</mark> .Y
LESS MATERIAL REQUIRED FOR SWM EMBANKMENT	837 C.Y
=TOTAL SWM POND EXCAVATION AVAILABLE FOR EMBANKMENT	7,249 C.Y

0 C.Y.	LESS
0 C.Y.	=SUI
0 C.Y.	PLU
0 C.Y.	=SUI
10,504 C.Y.	LESS
0 C.Y.	=T O
2,477 C.Y.	
0 C.Y.	BOR
0 C.Y.	TES
151 C.Y.	PIPE
13,133 C.Y.	PLU
36 C.Y.	=SUI
	LESS
1,605 C.Y.	
0 C.Y.	=T O
317 C.Y.	DOD
0 C.Y.	BOR
1,089 C.Y.	SOIL
0 C.Y.	VOL
8,086 C.Y.	PLU
22,087 C.Y.	=SUI
22,007 C.1.	LESS
	=TO
	BOR
3,328 C.Y.	BAC
3,240 C.Y.	PLU
0 C.Y.	=SUI
6,56 <mark>8 C</mark> .Y.	LESS
291 C.Y.	=T O
1,227 C.Y.	
0 C.Y.	EME
0 C.Y.	EME
8,08 <mark>6 C</mark> .Y.	PLU
837 C.Y.	PLU
7,249 C.Y.	PLU
	PLU
	PLU
	LESS
22,087 C.Y.	LESS
0 C.Y.	LESS
283 C.Y.	LESS
0 C.Y.	=SUI
0 C.Y.	PLU
954 C.Y.	=SUI
439 CY	
2,636 C.Y.	LESS
2,374 C.Y.	SURI
·	THE
0 C.Y.	
10 C.Y.	
837 C.Y.	
17,906 C.Y.	
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EARTHWOTH COMMAN - THACL 2	
BORROW, TYPE A CAPPING REQUIRED	
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 ADJUST MENT FACT OR (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.
BORROW, TYPE C REQUIRED	
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.
=SUBT OT AL 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.
BORROW, TYPE D REQUIRED	
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.
=SUBT OT AL 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.
BORROW, TYPE B REQUIRED	
BACKFILL FOR UNSTABLE SUBGRADES AFTER ROOT MAT REMOVED UNDER FILL	0 C.Y.
PLUS BACKFILL X ADJUST MENT FACT OR (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.
-101AL ADJUSTED BORROW, THE B REQUIRED	0 C.1.
EMPANIZMENT AND DODDOW, TYDE E DEOLUDED	
EMBANKMENT AND BORROW, TYPE F REQUIRED	1 0 12 CV
EMBANKMENT REQUIRED BELOW CAPPING	1,843 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING PLUS TOP SOIL REMOVED UNDER FILL	36 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B	36 C.Y. 0 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL	36 C.Y. 0 C.Y. 0 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL	36 C.Y. 0 C.Y. 0 C.Y. 542 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)	36 C.Y. 0 C.Y. 0 C.Y. 542 C.Y. 59 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOPSOIL REMOVED UNDER FILL  PLUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOPSOIL PLACED ON FILL SLOPES	36 C.Y. 0 C.Y. 0 C.Y. 542 C.Y. 59 C.Y. 191 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOPSOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOPSOIL PLACED ON FILL SLOPES  LESS TOPSOIL PLACED OUTSIDE CROSS SECTION TEMPLATES	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOP SOIL PLACED ON FILL SLOPES  LESS TOP SOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOPSOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BIT UMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOPSOIL PLACED ON FILL SLOPES  LESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL  LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOP SOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOP SOIL PLACED ON FILL SLOPES  LESS TOP SOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL  LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND  =SUBT OT AL EMBANKMENT REQUIRED BELOW CAPPING	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.  0 C.Y.  839 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOPSOIL REMOVED UNDER FILL  PLUS ROOT MAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOPSOIL PLACED ON FILL SLOPES  LESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  LESS MSE WALL OR OTHER RETAINING WALL & BACKFILL  LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND  =SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING  PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.  0 C.Y.  839 C.Y.  168 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING PLUS TOPSOIL REMOVED UNDER FILL PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B PLUS UNDERCUT MATERIAL REMOVED UNDER FILL PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F) LESS TOPSOIL PLACED ON FILL SLOPES LESS TOPSOIL PLACED OUTSIDE CROSS SECTION TEMPLATES LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND =SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20) =SUBTOTAL ADJUSTED EMBANKMENT REQUIRED	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.  0 C.Y.  839 C.Y.  1,007 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING  PLUS TOPSOIL REMOVED UNDER FILL  PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B  PLUS UNDERCUT MATERIAL REMOVED UNDER FILL  PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL  PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F)  LESS TOPSOIL PLACED ON FILL SLOPES  LESS TOPSOIL PLACED OUT SIDE CROSS SECTION TEMPLATES  LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL  LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND  =SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING  PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20)  =SUBTOTAL ADJUSTED EMBANKMENT REQUIRED  LESS TOTAL EXCAVATION AVAILABLE FOR BORROW, TYPE F	36 C.Y.  0 C.Y.  10 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.  0 C.Y.  839 C.Y.  1,007 C.Y.  17,906 C.Y.
EMBANKMENT REQUIRED BELOW CAPPING PLUS TOPSOIL REMOVED UNDER FILL PLUS ROOTMAT REMOVED UNDER FILL NOT BACKFILLED WITH BORROW, TYPE B PLUS UNDERCUT MATERIAL REMOVED UNDER FILL PLUS PCC AND BITUMINOUS PAVEMENT REMOVED UNDER FILL PLUS EMBANKMENT FOR PIPE BACKFILL (TYPE F) LESS TOPSOIL PLACED ON FILL SLOPES LESS TOPSOIL PLACED OUTSIDE CROSS SECTION TEMPLATES LESS MSE WALL OR OTHER RET AINING WALL & BACKFILL LESS BORROW, TYPE B PLACED ABOVE ORIGINAL GROUND =SUBTOTAL EMBANKMENT REQUIRED BELOW CAPPING PLUS EMBANKMENT REQUIRED X ADJUSTMENT FACTOR (0.20) =SUBTOTAL ADJUSTED EMBANKMENT REQUIRED	36 C.Y.  0 C.Y.  0 C.Y.  542 C.Y.  59 C.Y.  191 C.Y.  1,450 C.Y.  0 C.Y.  839 C.Y.  1,68 C.Y.  1,007 C.Y.

**EARTHWORK SUMMARY - PHASE 2** 

TOPSOIL SUMMARY		
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		0 C.Y.
RELOCATION)		0 0.1.
PLUS TOPSOIL FROM PREVIOUS PHASE		1,356 CY
=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.
PROPOSAL QUANTITIES		
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

PN-03

PN-03

SEE

ITEM NO,. 732002 TOPSOIL, 6" DEPTH

ITEM NO. 733002 TOPSOILING (6" DEPTH)

ADDENDUMS / REVISIONS CONTRACT BRIDGE NO. **DELAWARE** US 13 & PORT PENN RD T201011302 DEPARTMENT OF TRANSPORTATION NOT TO SCALE **EARTHWORK SUMMARY** DESIGNED BY: KSB **INTERSECTION** OTAL SHTS. COUNTY CHECKED BY: BRT NEW CASTLE 179