MOT NOTES

1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES AND LANE SHIFTS SHALL CONFORM TO TYPICAL APPLICATION TA-10 AND TA-33 OF THE DELAWARE MUTCD.

2. MAINTENANCE OF TRAFFIC DURING CULVERT INSTALLATIONS SHALL CONFORM TO TYPICAL APPLICATION TA-10 OF THE DELAWARE MUTCD. CULVERT INSTALLATIONS SHALL NOT OCCUR SIMULTANEOUSLY.

3. MAINTENANCE OF TRAFFIC FOR HAUL ROAD CROSSINGS SHALL CONFORM TO TYPICAL APPLICATION 14 OF THE DELAWARE MUTCD. HAUL ROAD CROSSING OPERATIONS SHALL NOT OCCUR SIMULTANEOUSLY. FLAGGER SIGNS SHALL BE REMOVED OR COVERED WHEN NOT IN USE. TYPE III BARRICADES WITH ROAD CLOSED SIGNS SHALL BE PLACED AT ALL HAUL ROAD CROSSINGS WHEN NOT IN USE.

4. MAINTENANCE OF TRAFFIC DURING TEMPORARY BARRIER PLACEMENT AND REMOVAL SHALL CONFORM TO TYPICAL APPLICATION TA-10 AND TA-33 OF THE DELAWARE MUTCD.

5. MAINTENANCE OF TRAFFIC DURING LANE STRIPING AND ERADICATION OPERATIONS SHALL CONFORM TO TYPICAL APPLICATION TA-17B AND TA-35C OF THE DELAWARE MUTCD.

6. GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED AS A TRAVELWAY, DRIVEWAY, ACCESS RAMP, ETC. SHALL BE INCIDENTAL TO ITEM 743000 - MAINTENANCE OF TRAFFIC. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE PAY ITEM. NO PAYMENT SHALL BE MADE FOR TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM. CONSTRUCTION OF A PLANNED RUNAROUND OR DETOUR WOULD BE ELIGIBLE FOR PAYMENT AS SPECIFIED IN THE CONTRACT.

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

8. A TYPE II TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE REQUIRED ON THIS PROJECT DURING THE FOLLOWING PAVEMENT OPERATIONS: TEMPORARY/PERMANENT PAVEMENT MARKINGS, ROADSIDE SPRAYING, PATCHING, MILLING, SWEEPING, TEMPORARY TRAFFIC BARRIER PLACEMENT OR AS DIRECTED BY THE ENGINEER. THE ROLL AHEAD DISTANCE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE TMA SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6F OF THE DELAWARE MUTCD.

9. LONGITUDINAL EDGE DROP-OFFS SHALL BE CORRECTED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.

   a) WHERE PLACEMENT OF A WEDGE/FILLET BETWEEN TRAVEL LANES AND A PAVEMENT BOX IS REQUIRED, APPROVED BASE COURSE MATERIAL SHALL BE USED FOR THE FILLET MATERIAL. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE ITEM.

   b) WHERE PLACEMENT OF A WEDGE/FILLET AT THE EDGE OF THE ROADWAY IS REQUIRED, PAVEMENT MILLINGS SHALL BE USED FOR THE FILLET MATERIAL. PAYMENT FOR PAVEMENT MILLINGS SHALL BE INCIDENTAL TO ITEM 743000. NO SEPARATE PAYMENT SHALL BE MADE FOR PAVEMENT MILLINGS TO CORRECT PAVEMENT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY USED AS PART OF A PERMANENT ROADWAY, AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT BID ITEM.

10. PRIOR TO ANY CHANGES IN TRAFFIC PATTERNS, A CHANGEABLE MESSAGE SIGN SHALL BE PLACED ON THE APPROACH TO THE WORK AREA AS SHOWN ON THE PLANS. THE FOLLOWING CMS MESSAGES SHALL BE DISPLAYED AS NOTED BELOW.

CMS: NEW TRAFFIC PATTERN — ON XX/XX/XX

CONSTRUCTION PHASES
14 DAYS PRIOR TO TRAFFIC PATTERN MODIFICATION

CMS: CAUTION CAUTION CAUTION — NEW TRAFFIC PATTERN

CONSTRUCTION PHASES
10 DAYS AFTER TRAFFIC PATTERN MODIFICATION

11. OFF PEAK WORK HOURS ARE BETWEEN 9 A.M. THROUGH 3 P.M. AND 7 P.M. THROUGH 6 A.M. MONDAY THROUGH THURSDAY. THE FOLLOWING ACTIVITIES SHALL BE PERFORMED DURING OFF-PEAK HOURS:
    - TEMPORARY BARRIER PLACEMENT
    - MILL AND OVERLAY OPERATIONS
    - CULVERT INSTALLATIONS
    - LANE CLOSURES
    - OVERHEAD BRIDGE WORK
    - TRAFFIC SIGNAL MODIFICATIONS
    - LINE STRIPING
    - TRAFFIC PATTERN SHIFTS

12. TEMPORARY TRAFFIC CONTROL WORK ZONES WHICH REQUIRE INSTALLATION OF TRAFFIC CONTROL DEVICES IN MARYLAND SHALL BE MAINTAINED IN ACCORDANCE WITH THE MARYLAND STATE HIGHWAY (MDSHA) BOOK OF STANDARDS FOR HIGHWAYS AND STRUCTURES AND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS. MDSHA TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS SHALL BE FOLLOWED AS NOTED ON PLANS. ALL TEMPORARY TRAFFIC CONTROL DEVICES TO BE INSTALLED WITHIN MARYLAND SHALL BE ON THE MDSHA QUALIFIED PRODUCTS LIST.

13. PRIOR TO IMPLEMENTING DETOURS THAT UTILIZE ROADS MAINTAINED BY CECIL COUNTY A VIDEO INSPECTION SHALL BE PERFORMED TO DOCUMENT EXISTING ROADWAY CONDITIONS ALONG EACH DETOUR ROUTE. THE CONTRACTOR SHALL SUPPLY A MINIMUM OF TWO DVD RECORDINGS OF EACH DETOUR ROUTE. A TYPED REPORT SHALL BE SUBMITTED FOR EACH DETOUR ROUTE CLEARLY SHOWING THE RELATION OF THE VIDEO METER AT EACH INTERSECTION OBSERVED DURING INSPECTION. GOOD QUALITY LABELED DVDS IN HARD PLASTIC CASES SHALL BE SUBMITTED AND BECOME THE PROPERTY OF THE DELAWARE DEPARTMENT OF TRANSPORTATION. THE COST SHALL BE INCIDENTAL TO ITEM 743000 - MAINTENANCE OF TRAFFIC. THE ENGINEER WILL PROVIDE ONE COPY TO CECIL COUNTY AT THE FOLLOWING ADDRESS:

    CHIEF
    ROADS DIVISION OF CECIL COUNTY, MD
    758 E. OLD PHILADELPHIA ROAD
    ELKTON, MD 21921
    (410)996-6270

14. THE CONTRACTOR IS REQUIRED TO SUBMIT REQUESTS FOR TRAFFIC RESTRICTIONS TO DELDOT IN ACCORDANCE WITH THE TABLE BELOW:

TYPE OF RESTRICTION	MINIMUM ADVANCE NOTICE	MAXIMUM ADVANCE NOTICE
1	30 DAYS	45 DAYS
2, 3, 4	10 DAYS	14 DAYS

TYPE 1: PLANNED AND ACCEPTABLE CLOSURES OF AN ARTERIAL OR LOCAL STREET, TRAFFIC SWITCHES NEW RAMP OPENINGS, OR CHANGED TRAFFIC PATTERNS.

TYPE 2: A LANE(S) CLOSURE THAT WOULD HAVE SIGNIFICANT IMPACT ON TRAFFIC, SUCH AS TEMPORARILY STOPPING TRAFFIC COMPLETELY (TRAFFIC DRAGS), CLOSING 2 OR MORE LANES, CLOSING AN EXIT OR ENTRANCE RAMP AT FREEWAY INTERCHANGES, OR FLAGGING OPERATIONS.

TYPE 3: A LANE CLOSURE THAT WOULD HAVE MINOR OR NO IMPACT ON THE FLOW OF TRAFFIC, SUCH AS CLOSING ONE LANE ON A THREE-LANE FREEWAY DURING OFF-PEAK HOURS.

TYPE 4: A LANE CLOSURE THAT WOULD CLOSE A SHOULDER (RIGHT OR LEFT).

PROPOSED SYMBOLS

CONSTRUCTION PHASING & M.O.T

	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
CSF	CONSTRUCTION SAFETY FENCE / LENGTH
—CSF—	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
END ROAD WORK	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	SOIL BORING
	SOIL BOUNDARY
MnB2	SOIL DESIGNATION
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE
	TYPE C ARROW BOARD
	PORTABLE IMPACT ATTENUATOR

EROSION & SEDIMENT CONTROL

DWB	DEWATERING BASIN
ED	EARTH DIKE
	EROSION CONTROL BLANKET
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
—SF—	SILT FENCE
—RSF—	SILT FENCE - REINFORCED
SP-1	SUMP PIT, TYPE 1
SP-2	SUMP PIT, TYPE 2
ST	SEDIMENT TRAP IDENTIFIER
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
	TEMPORARY HAUL ROAD

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CS-001

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH	
NEW CASTLE		

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

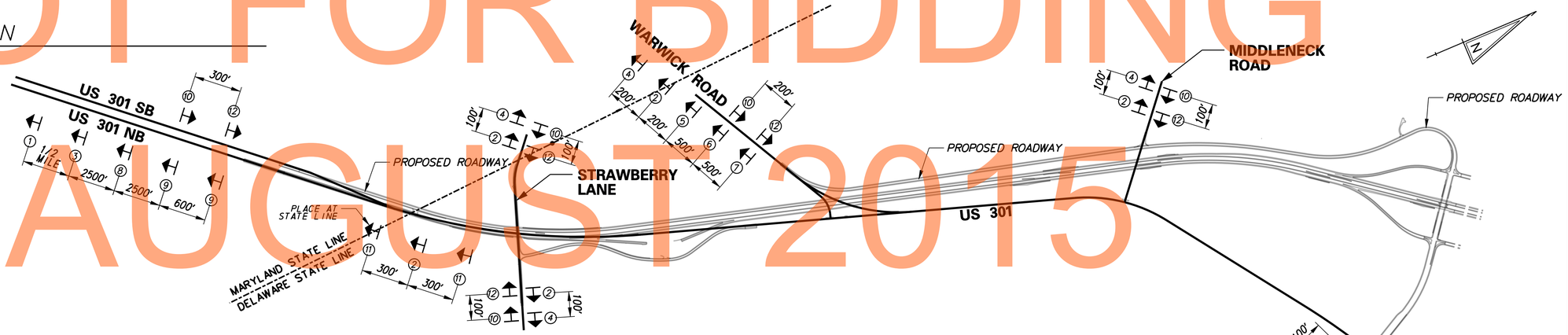
SHEET NO. 465
TOTAL SHTS. 850

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	PHASE 1	PHASE 2A	PHASE 2B	PHASE 3	PHASE 4	PHASE 5	PHASE 6
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	2,290 LF	3,655 LF	0 LF	0 LF	0 LF	0 LF	0 LF
(B)	10" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748034)	810 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0 LF
(C)	WHITE TEMPORARY PAVEMENT SYMBOL TAPE (ITEM 748527)	160 SF	80 SF	80 SF	0 SF	0 SF	240 SF	80 SF
(D)	5" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	145 LF	2,790 LF	0 LF	0 LF	0 LF	0 LF	0 LF
(E)	5" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 3' LINE, 9' GAP (ITEM 748032)	457 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0 LF
(F)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	0 LF	3,420 LF	0 LF	1,738 LF	0 LF	0 LF	0 LF
(G)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	648 SF	455 LF	0 LF	0 LF	0 LF	0 LF	0 LF
(H)	4" SOLID DOUBLE YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	240 LF	2,770 LF	0 LF	560 LF	0 LF	0 LF	0 LF
(I)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748026)	60 SF	136 SF	0 SF	0 SF	0 SF	80 SF	0 SF
(J)	4" SOLID WHITE TEMPORARY MARKING TAPE (ITEM 748525)	0 LF	0 LF	785 LF	0 LF	0 LF	20,065 LF	2,410 LF
(K)	4" SOLID YELLOW TEMPORARY MARKING TAPE (ITEM 748525)	0 LF	1,460 LF	0 LF	0 LF	0 LF	5,520 LF	2,290 LF
(L)	4" SOLID DOUBLE YELLOW TEMPORARY MARKING TAPE (ITEM 748525)	0 LF	0 LF	0 LF	0 LF	0 LF	15,420 LF	0 LF
(M)	4" DASHED WHITE TEMPORARY MARKING TAPE, 3' LINE, 9' GAP (ITEM 748525)	0 LF	0 LF	0 LF	0 LF	0 LF	158 LF	40 LF

WARNING SIGN LOCATION PLAN

(NOT TO SCALE)



WARNING SIGN LEGEND

ROAD WORK NEXT 4 MILES	BEGIN HIGHER FINES ZONE	ROAD WORK 1 MILE	ROAD WORK AHEAD	ROAD WORK 1500 FT	ROAD WORK 1000 FT	ROAD WORK 500 FT	WARNING WORK AREA SPEED LIMIT AHEAD FINES DOUBLE	WORK AREA SPEED LIMIT 50 FINES DOUBLE	END HIGHER FINES ZONE	SPEED LIMIT 50	END ROAD WORK
G20-1 72"X48" ①	R2-10 24"X30" ②	W20-1 48"X48" ③	W20-1 48"X48" ④	W20-1 48"X48" ⑤	W20-1 48"X48" ⑥	W20-1 48"X48" ⑦	W3-5 96"X84" ⑧	R2-1 48"X96" ⑨	R2-11 24"X30" ⑩	R2-1 24"X30" ⑪	G20-2 48"X24" ⑫

CS-002

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 466
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

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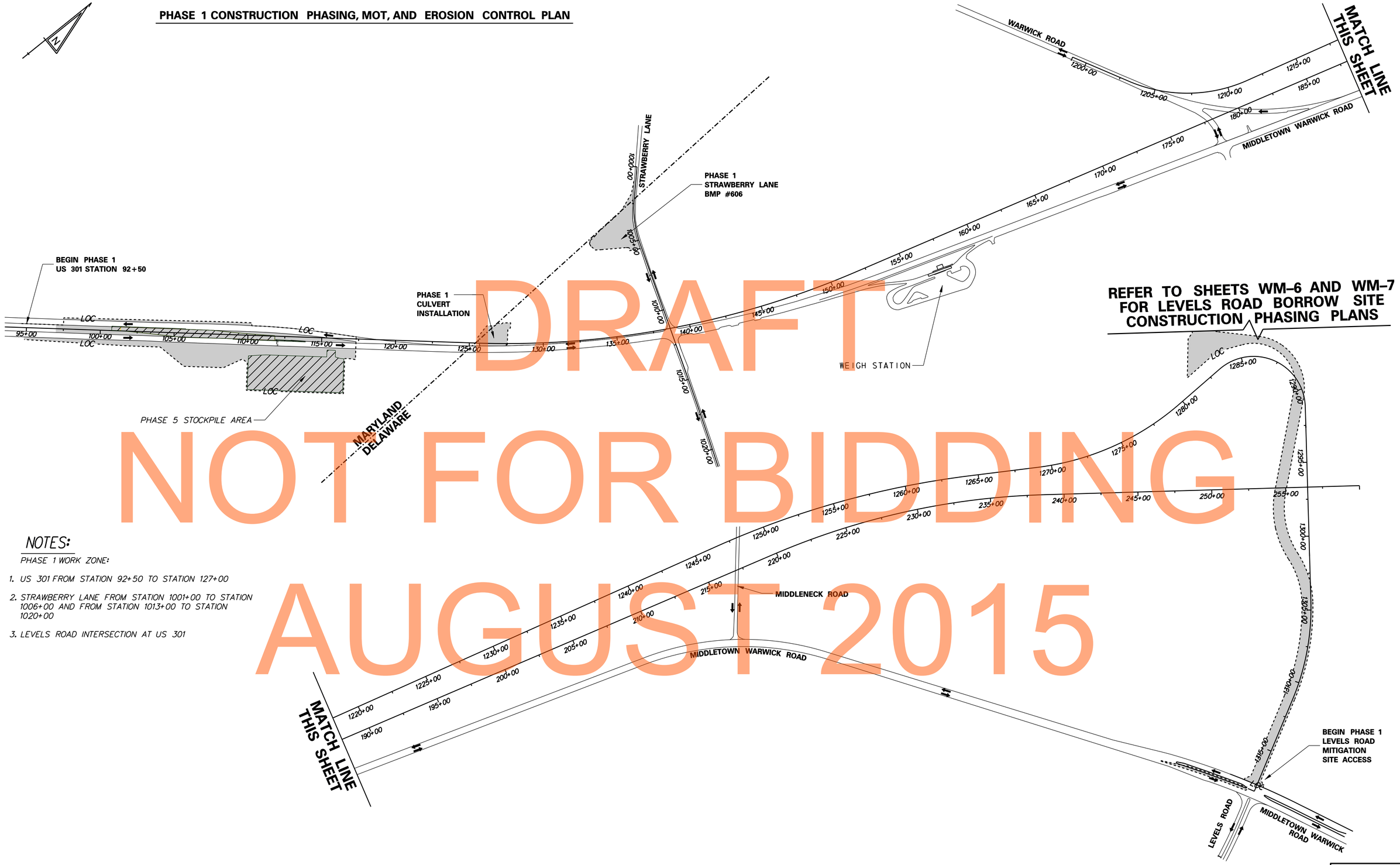
PHASE 1 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



NOTES:

PHASE 1 WORK ZONE:

1. US 301 FROM STATION 92+50 TO STATION 127+00
2. STRAWBERRY LANE FROM STATION 1001+00 TO STATION 1006+00 AND FROM STATION 1013+00 TO STATION 1020+00
3. LEVELS ROAD INTERSECTION AT US 301

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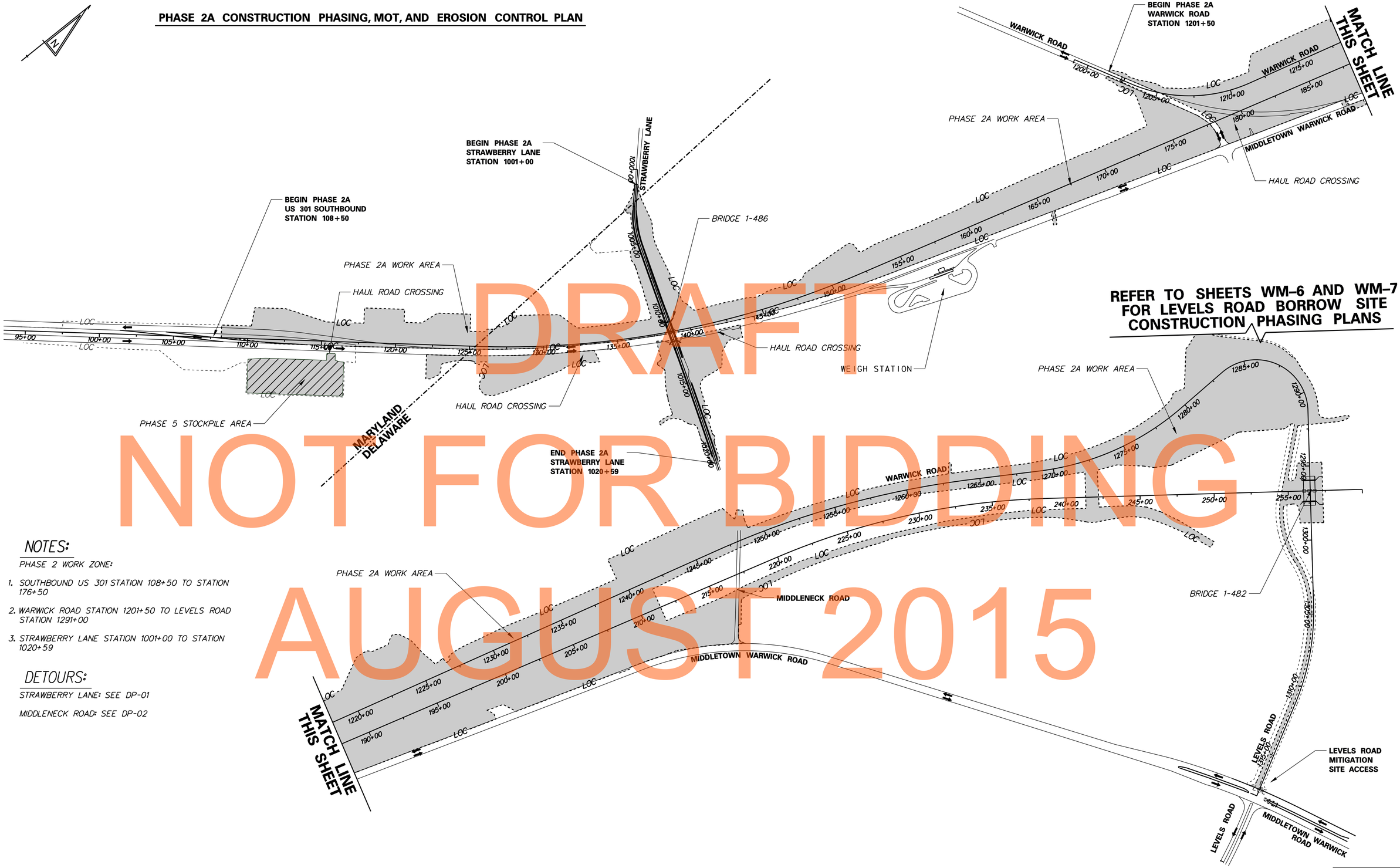
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: MFM / CHECKED BY: SKH	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	CS-003 / SHEET NO. 467 / TOTAL SHTS. 850

PHASE 2A CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



NOTES:

PHASE 2 WORK ZONE:

1. SOUTHBOUND US 301 STATION 108+50 TO STATION 176+50
2. WARWICK ROAD STATION 1201+50 TO LEVELS ROAD STATION 1291+00
3. STRAWBERRY LANE STATION 1001+00 TO STATION 1020+59

DETOURS:

STRAWBERRY LANE: SEE DP-01

MIDDLENECK ROAD: SEE DP-02

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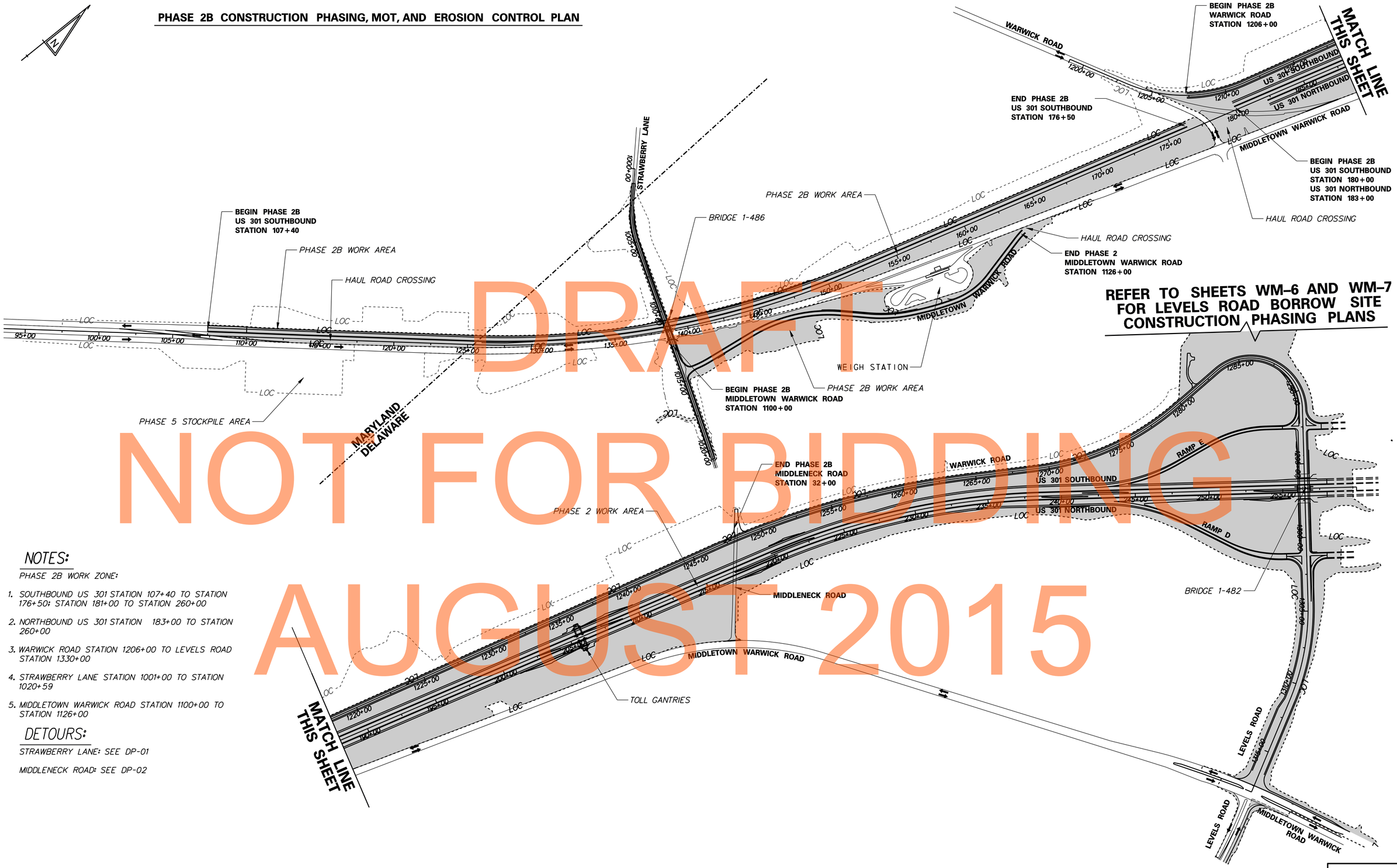
CS-004

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 468
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

PHASE 2B CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



NOTES:

PHASE 2B WORK ZONE:

1. SOUTHBOUND US 301 STATION 107+40 TO STATION 176+50; STATION 181+00 TO STATION 260+00
2. NORTHBOUND US 301 STATION 183+00 TO STATION 260+00
3. WARWICK ROAD STATION 1206+00 TO LEVELS ROAD STATION 1330+00
4. STRAWBERRY LANE STATION 1001+00 TO STATION 1020+59
5. MIDDLETOWN WARWICK ROAD STATION 1100+00 TO STATION 1126+00

DETOURS:

STRAWBERRY LANE: SEE DP-01

MIDDLENECK ROAD: SEE DP-02

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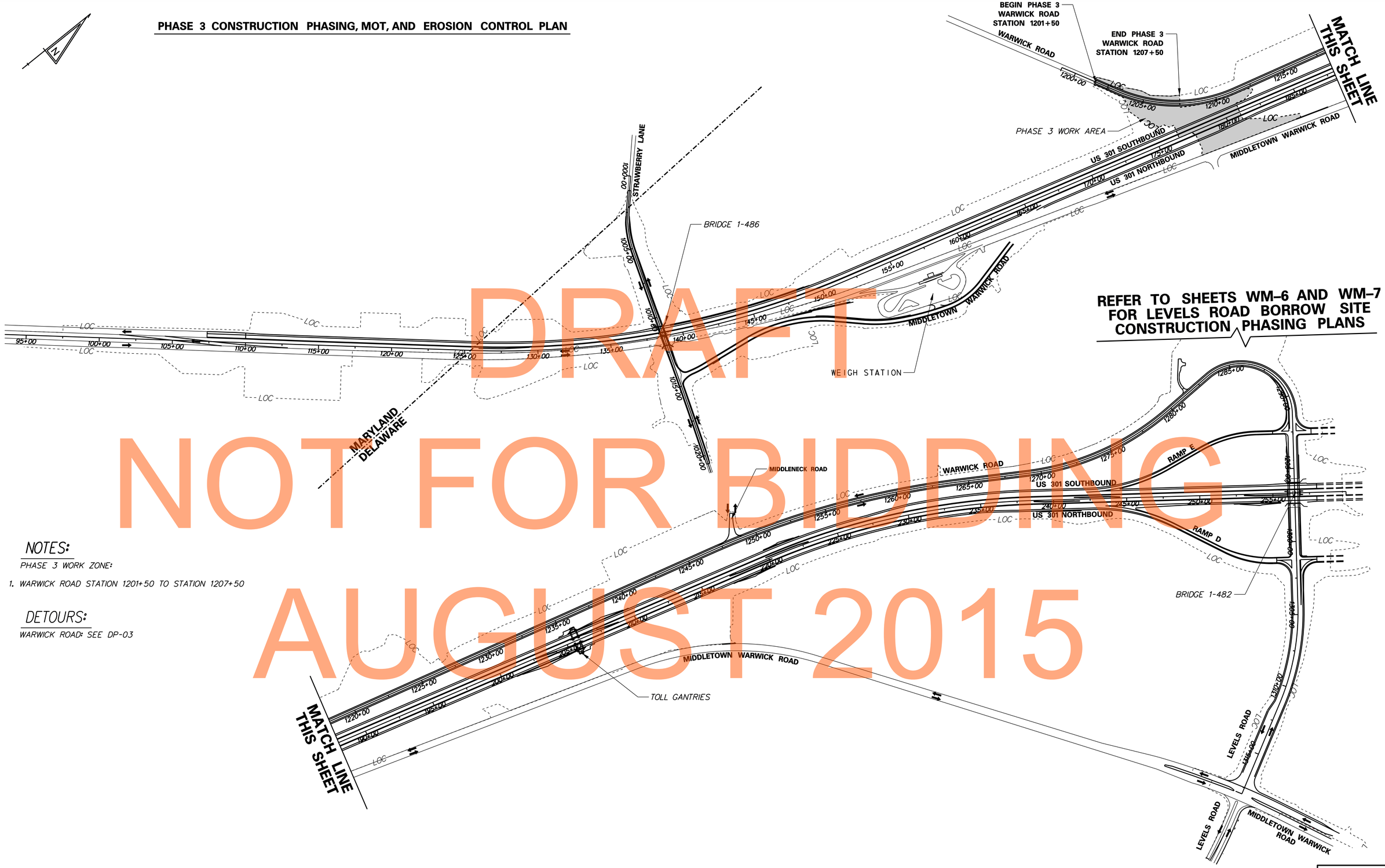
CS-005

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 469
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

PHASE 3 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



REFER TO SHEETS WM-6 AND WM-7 FOR LEVELS ROAD BORROW SITE CONSTRUCTION PHASING PLANS

NOTES:

PHASE 3 WORK ZONE:

1. WARWICK ROAD STATION 1201+50 TO STATION 1207+50

DETOURS:

WARWICK ROAD: SEE DP-03

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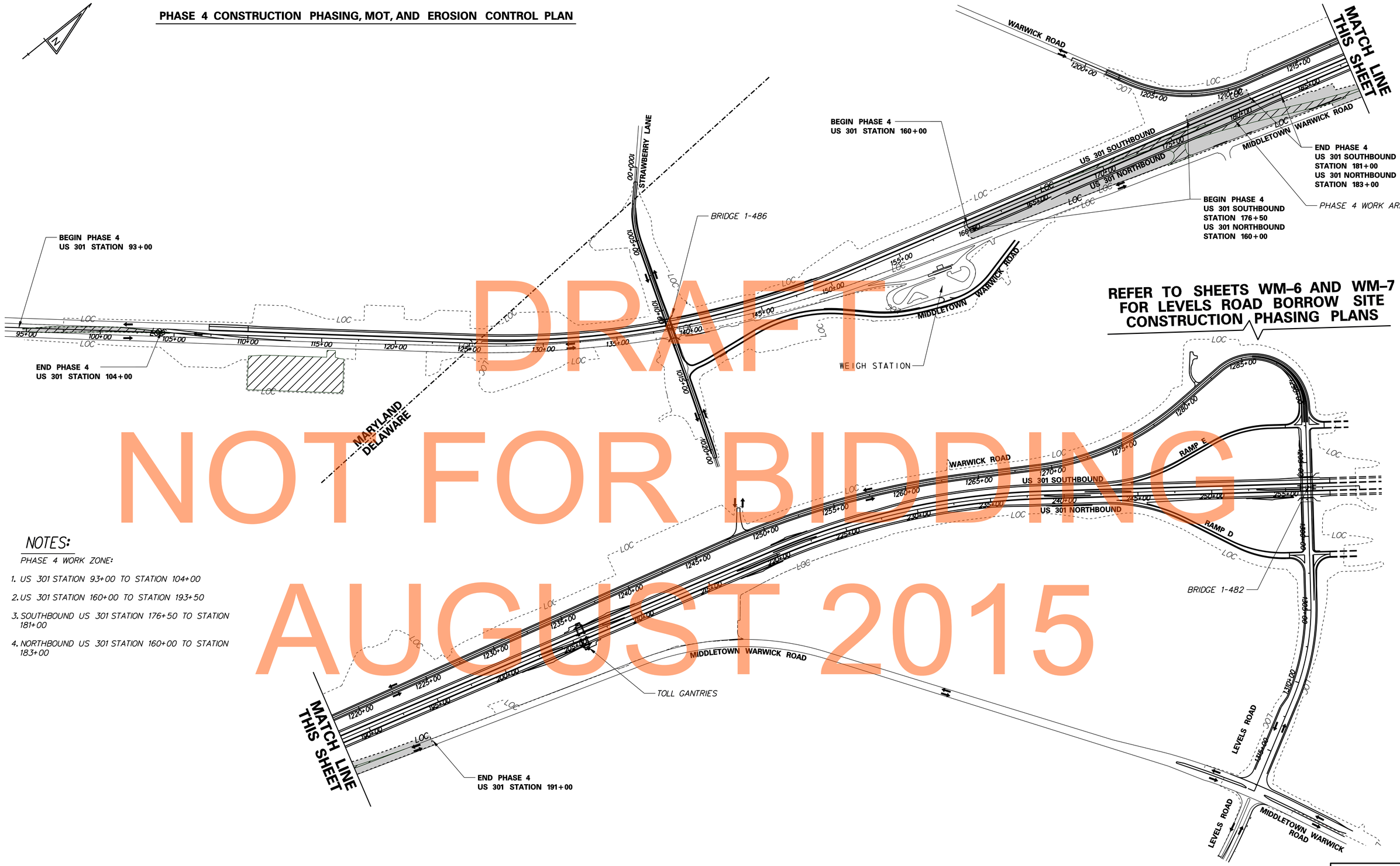
CS-006

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 470
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

PHASE 4 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



REFER TO SHEETS WM-6 AND WM-7 FOR LEVELS ROAD BORROW SITE CONSTRUCTION PHASING PLANS

NOTES:

PHASE 4 WORK ZONE:

1. US 301 STATION 93+00 TO STATION 104+00
2. US 301 STATION 160+00 TO STATION 193+50
3. SOUTHBOUND US 301 STATION 176+50 TO STATION 181+00
4. NORTHBOUND US 301 STATION 160+00 TO STATION 183+00

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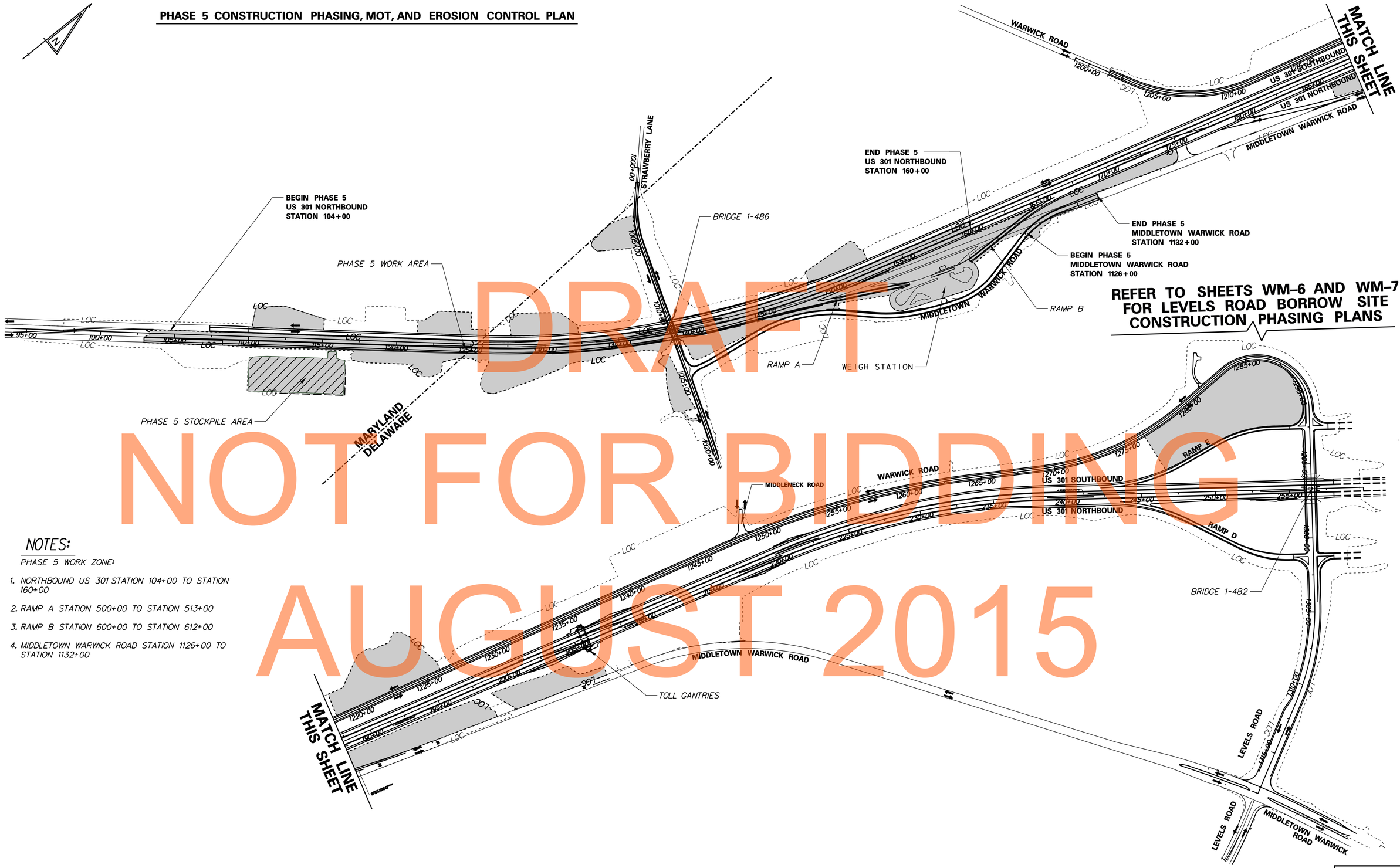
CS-007

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 471
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

PHASE 5 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



NOTES:

PHASE 5 WORK ZONE:

1. NORTHBOUND US 301 STATION 104+00 TO STATION 160+00
2. RAMP A STATION 500+00 TO STATION 513+00
3. RAMP B STATION 600+00 TO STATION 612+00
4. MIDDLETOWN WARWICK ROAD STATION 1126+00 TO STATION 1132+00

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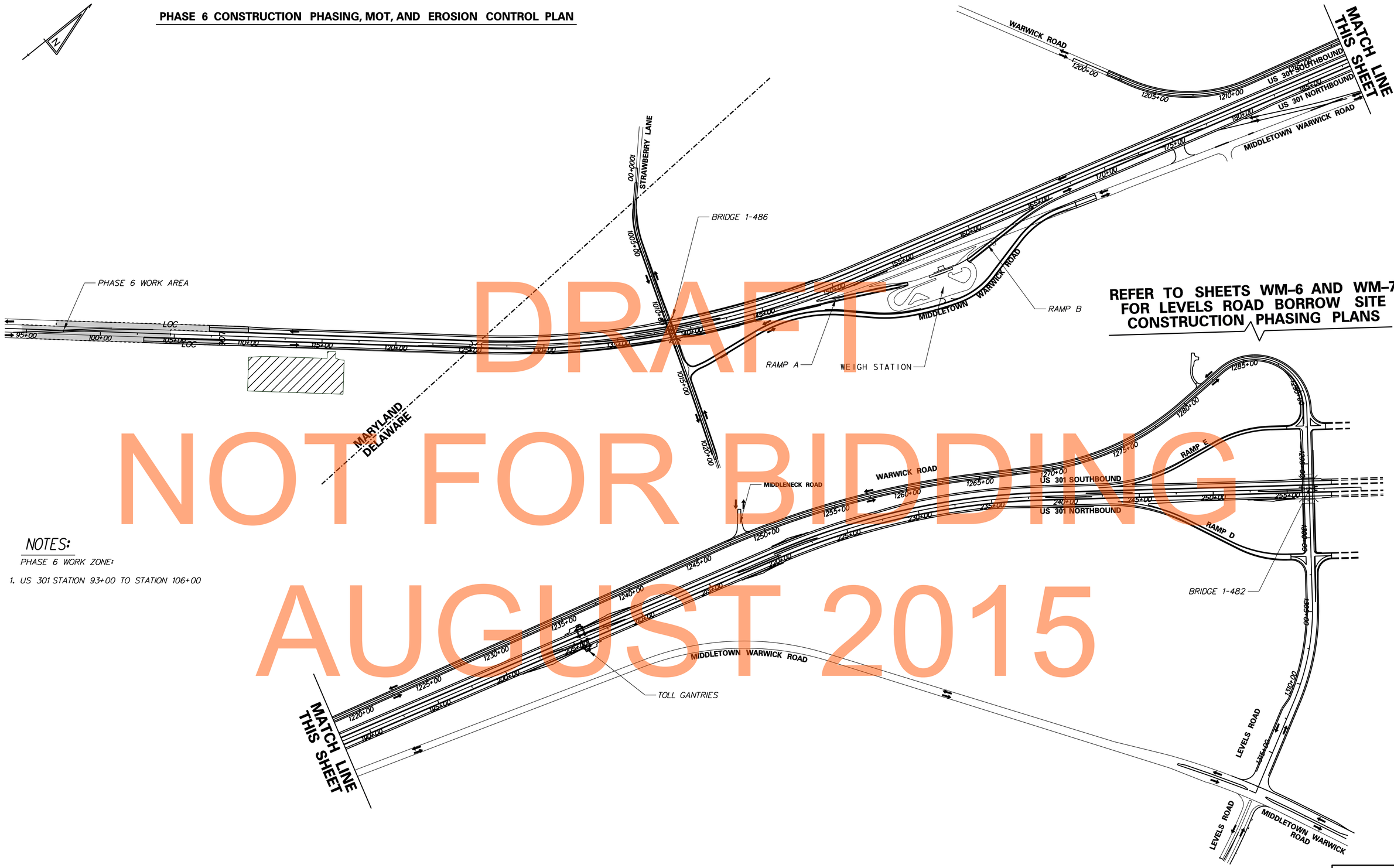
CS-008

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 472
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

PHASE 6 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN



REFER TO SHEETS WM-6 AND WM-7 FOR LEVELS ROAD BORROW SITE CONSTRUCTION PHASING PLANS

NOTES:

PHASE 6 WORK ZONE:

1. US 301 STATION 93+00 TO STATION 106+00

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CS-009

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 473
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

EROSION AND SEDIMENT CONTROL - GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ADMINISTRATION (WMA) AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE ADMINISTRATION, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA.

2. THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
   - A. THE REQUIRED PRE-CONSTRUCTION MEETING.
   - B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
   - C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
   - D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   - E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
   - F. PRIOR TO FINAL ACCEPTANCE.

3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND WMA APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND / OR SEQUENCE OF CONSTRUCTION.

4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR.

6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREAS.)

7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS.)

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.

9. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WMA AND THE AGENCY RESPONSIBLE FOR PROJECT.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF A CUT OR FILL SLOPE UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP, OR BY OTHER APPROVED STABILIZATION MEASURES.

12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WMA INSPECTOR AND AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.

15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.

16. THE WMA INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.

18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.

19. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.

20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.

21. ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH A WMA APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.

22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR:
   - A. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK.
   - B. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
   - C. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS:
   - D. TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

23. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.

24. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES: OTHERWISE APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

25. SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.

26. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.

27. SITE INFORMATION:
   - A. TOTAL AREA OF FACILITY 25.67 ACRES (BASE, CAMPUS, PARK, ETC.)
   - B. AREA DISTURBED 23.0846 ACRES
   - C. AREA TO BE ROOFED OR PAVED 3.4165 ACRES
   - D. TOTAL CUT 8,712 CUBIC YARDS
   - E. TOTAL FILL 22,508 CUBIC YARDS
   - F. OFF-SITE WASTE / BORROW AREA LOCATION TBD

NOTE TO CONTRACTOR: EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED.

SUPPLEMENTAL EROSION AND SEDIMENT CONTROL NOTES:

STAGING AND STOCKPILING:
THE CONTRACTOR SHALL ESTABLISH STAGING AND STOCKPILE AREAS AT LOCATIONS APPROVED BY THE ENGINEER AND WMA INSPECTOR. THESE AREAS SHALL BE ESTABLISHED SUCH THAT WETLAND, WETLAND BUFFERS, FORESTED AREAS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS ARE NOT IMPACTED. EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILT FENCE SHALL BE INSTALLED DOWNGRADE OF THE STAGING AND STOCKPILING AREAS AS DIRECTED BY THE ENGINEER AND WITH THE APPROVAL OF THE MDE INSPECTOR.

STABILIZED CONSTRUCTION ENTRANCE LOCATIONS:
THE LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES ON THE PLANS ARE RECOMMENDED AND HAVE BEEN APPROVED BY MDE. THE CONTRACTOR MAY DETERMINE OTHER LOCATIONS FOR INGRESS/EGRESS TO THE CONSTRUCTION SITE WITH THE APPROVAL OF THE ENGINEER AND WMA INSPECTOR.

STORM DRAIN AND DITCH CONSTRUCTION:
STORM DRAIN SYSTEMS AND PERMANENT DITCHES/SWALES SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER.

COORDINATION WITH MAINTENANCE OF TRAFFIC PLAN:
THE SEDIMENT AND EROSION CONTROL SEQUENCES SHALL BE COORDINATED WITH THE MAINTENANCE OF TRAFFIC PLANS TO MAINTAIN CONTINUITY OF THE PRACTICES DURING ALL PHASES OF THE PROPOSED WORK. CONCURRENT CONSTRUCTION WITHIN THE VARIOUS PHASES MAY BE UNDERTAKEN IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLAN. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO BEGINNING CONCURRENT WORK. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF THEIR INTENDED FUNCTION. PERMANENT STABILIZATION OF CONTRIBUTORY DRAINAGE AREA AND PRIOR APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR. SEDIMENT AND EROSION CONTROL MEASURES NECESSARY FOR SUBSEQUENT PHASE OF THE WORK SHALL BE MAINTAINED AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.

DEWATERING:
ANY EFFLUENT FROM DEWATERING FOUNDATIONS, TRENCHES AND OTHER DISTURBED AREAS MUST BE TREATED BY AN APPROVED SEDIMENT CONTROL DEVICE BEFORE BEING DISCHARGED.

SEQUENCE OF CONSTRUCTION:
THE SEQUENCE OF CONSTRUCTION INCLUDED IN THESE PLANS IS APPROVED BY THE MDE. THIS SEQUENCE OF CONSTRUCTION MAY BE MODIFIED BY THE CONTRACTOR. HOWEVER, THE CONTRACTOR MUST OBTAIN MDE APPROVAL FOR ANY MODIFICATIONS PRIOR TO IMPLEMENTING A REVISED SEQUENCE OF CONSTRUCTION IN THE FIELD.

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE.

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLAND, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

5. REPAIR AND MAINTAIN SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR PERMANENT MODIFICATIONS OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:

   ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CERALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:

   CLASS I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIP RAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

EROSION AND SEDIMENT CONTROL NOTES

1. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, TOPSOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THESE REQUIREMENTS DO NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE, OR FOR THOSE AREAS ON WHICH ACTUAL EARTH MOVING ACTIVITIES ARE CURRENTLY BEING PERFORMED.

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS.

NAME _____ SIGNATURE _____

MARYLAND. REGISTRATION NUMBER. P.E., R.L.S. OR R.L.A. (circle) _____ DATE _____

PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. _____, EXPIRATION DATE: _____."

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-010

J:\2008 PROJECTS\E3X3480I\700CADD\750AET\MOT_GENERAL\CS_301AET_010.DGN

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM/DJJ	
COUNTY	CHECKED BY: SKH/SGS	
CECIL		

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

SHEET NO.
474
TOTAL SHTS.
850

STANDARD SYMBOLS

EARTH DIKE ..... A-2 / B-3

TEMPORARY SWALE ..... A-2 / B-3

PERIMETER DIKE/SWALE PD/S-1

STONE CHECK DAM ..... CD

GABION OUTLET STRUCTURE ..... TGOS

SILT FENCE ..... SF

SUPER SILT FENCE ..... SSF

STRAW BALES ..... SB

STANDARD INLET PROTECTION ..... SIP

AT GRADE INLET PROTECTION ..... AGIP

CURB INLET PROTECTION ..... CIP

MEDIAN INLET PROTECTION ..... MIP

GABION INFLOW PROTECTION ..... GM

RIPRAP INFLOW PROTECTION ..... RRP

SUMP PIT ..... SP

REMOVABLE PUMPING STATION ..... RPS

PORTABLE SEDIMENT TANK ..... PST

INTERCEPTOR BERM ..... IB, TB, TB, BSD-1.2

TEMPORARY BERM .....

PIPE SLOPE DRAIN ..... SCE

STABILIZED CONSTRUCTION ENTRANCE .....

SOIL STABILIZATION MATTING .....

PLACED RIPRAP DITCH .....

GABIONS .....

CONCRETE GUTTER .....

STONE OUTLET SEDIMENT TRAP ..... SSOST

RIPRAP OUTLET SEDIMENT TRAP ..... RSOST

STONE/RIPRAP OUTLET SEDIMENT TRAP ..... SRPOST

PIPE OUTLET SEDIMENT TRAP .....

LIMIT OF DISTURBANCE ..... LOD

EXISTING CONTOURS 100

PROPOSED CONTOURS 100

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1): AND

b.) SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION (2011 MARYLAND DEPARTMENT OF THE ENVIRONMENT)

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION
USING VEGETATION AS COVER TO PROTECT EXPOSED SOIL FROM EROSION.

PURPOSE
TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES
ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION: SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY
STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS
STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS.

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.

VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING,
AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT
INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.
2. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
3. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION
ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES.

PURPOSE
TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES
ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

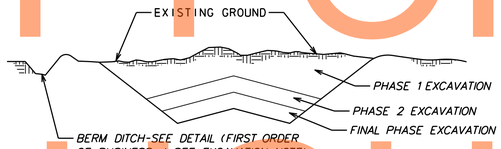

FIGURE B.1 INCREMENTAL STABILIZATION - CUT

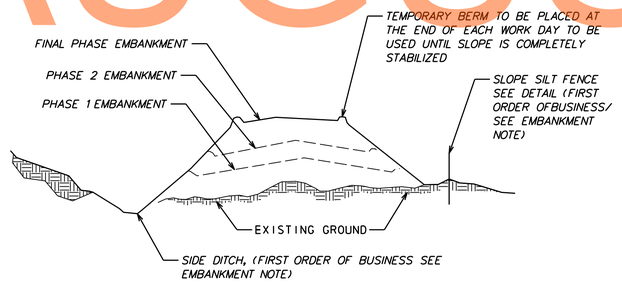

FIGURE B.2 INCREMENTAL STABILIZATION - FILL

CRITERIA
A. INCREMENTAL STABILIZATION - CUT SLOPES
1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
   A. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
   B. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
   C. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
   D. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

B. INCREMENTAL STABILIZATION - FILL SLOPES
1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
   A. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
   B. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
   C. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
   D. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
   E. PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA
A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
   A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
   B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
   C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
   A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
      I. SOIL PH BETWEEN 6.0 AND 7.0.
      II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
      III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
      IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
      V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
   B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
   C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
   D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
   E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.
B. TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
   A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
   B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
   C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
   D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
   A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" 64 INCHES IN DIAMETER.
   B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
   C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
   A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
   B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
   C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING B.14 AND SEEDBED PREPARATION.
C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA
A. SEEDING
1. SPECIFICATIONS
   A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
   B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
   C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
   D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
   A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
      I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
      II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT
   B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
      I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
      II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
   C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
      I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
      II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
      III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
      IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
   A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
   B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

MDE No. 10-SF-0061

CS-011

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 475
				COUNTY CECIL	DESIGNED BY: MFM/DJJ		TOTAL SHTS. 850
					CHECKED BY: SKH/SGS		

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION (2011 MARYLAND DEPARTMENT OF THE ENVIRONMENT) -CONTINUED

I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.CONTACT.

2. APPLICATION
A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING
A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME,
PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA
1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA
A. SEED MIXTURES
1. GENERAL USE
A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 159*64 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:
SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 159*64 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (59*64TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¾ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
2. SOD INSTALLATION
A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
3. SOD MAINTENANCE
A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ??OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

B-4-6 STANDARDS AND SPECIFICATIONS FOR SOIL STABILIZATION MATTING

DEFINITION
MATERIAL USED TO TEMPORARILY OR PERMANENTLY STABILIZE CHANNELS OR STEEP SLOPES UNTIL GROUNDCOVER IS ESTABLISHED.

PURPOSE
TO PROTECT THE SOILS UNTIL VEGETATION IS ESTABLISHED.

CONDITIONS WHERE PRACTICE APPLIES
ON NEWLY SEEDED SURFACES TO PREVENT THE APPLIED SEED FROM WASHING OUT: IN CHANNELS AND ON STEEP SLOPE WHERE THE FLOW HAS EROSIVE VELOCITIES OR CONVEYS CLEAR WATER: ON TEMPORARY SWALES, EARTH DIKES, AND PERIMETER DIKE SWALES AS REQUIRED BY THE RESPECTIVE DESIGN STANDARD: AND, ON STREAM BANKS WHERE MOVING WATER IS LIKELY TO WASH OUT NEW VEGETATIVE PLANTINGS.

DESIGN CRITERIA
1. THE SOIL STABILIZATION MATTING THAT IS USED MUST WITHSTAND THE FLOW VELOCITIES AND SHEAR STRESSES DETERMINED FOR THE AREA, BASED ON THE 2-YEAR, 24-HOUR FREQUENCY STORM FOR TEMPORARY APPLICATIONS AND THE 10-YEAR, 24-HOUR FREQUENCY STORM FOR PERMANENT APPLICATIONS. DESIGNATE ON THE PLAN THE TYPE OF SOIL STABILIZATION MATTING USING THE STANDARD SYMBOL AND INCLUDE THE CALCULATED SHEAR STRESS FOR THE RESPECTIVE TREATMENT AREA.
2. MATTING IS REQUIRED ON PERMANENT CHANNELS WHERE THE RUNOFF VELOCITY EXCEEDS TWO AND HALF FEET PER SECOND (2.5 FPS) OR THE SHEAR STRESS EXCEEDS TWO POUNDS PER SQUARE FOOT (2 LBS/FT2). ON TEMPORARY CHANNELS DISCHARGING TO A SEDIMENT TRAPPING PRACTICE, PROVIDE MATTING WHERE THE RUNOFF VELOCITY EXCEEDS FOUR FEET PER SECOND (4 FPS).
3. TEMPORARY SOIL STABILIZATION MATTING IS MADE WITH DEGRADABLE (LASTS 6 MONTHS MINIMUM), NATURAL, OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND IS SMOLDER RESISTANT. THE MAXIMUM PERMISSIBLE VELOCITY FOR TEMPORARY MATTING IS 6 FEET PER SECOND.
4. PERMANENT SOIL STABILIZATION MATTING IS AN OPEN WEAVE, SYNTHETIC MATERIAL CONSISTING OF NONDEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION OF WEAVE THROUGHOUT. THE MAXIMUM PERMISSIBLE VELOCITY FOR PERMANENT MATTING IS 8.5 FEET PER SECOND.
5. CALCULATE CHANNEL VELOCITY AND SHEAR STRESS USING THE FOLLOWING PROCEDURE:
SHEAR STRESS (g) IS A MEASURE OF THE FORCE OF MOVING WATER AGAINST THE SUBSTRATE AND IS CALCULATED AS:

t= G47*64R47*64SW WHERE:
t= SHEAR STRESS (LB/FT2)
G= WEIGHT DENSITY OF WATER (62.4 LB/FT3)
R = AVERAGE WATER DEPTH (HYDRAULIC RADIUS) (FT)
SW = WATER SURFACE SLOPE (FT/FT)

VELOCITY (V) MEASURES THE RATE OF FLOW THROUGH A DEFINED AREA AND IS CALCULATED AS:
V=1.486R2/3S1/2/N
WHERE:
V = VELOCITY (FT/SEC)
N = MANNING#S ROUGHNESS COEFFICIENT
R = HYDRAULIC RADIUS (FT)
S = CHANNEL SLOPE (FT/FT)

6. USE TABLE B.7 TO ASSIST IN SELECTING THE APPROPRIATE SOIL STABILIZATION MATTING FOR SLOPE APPLICATIONS BASED ON THE SLOPE, THE SLOPE LENGTH, AND THE SOIL-ERODIBILITY K FACTOR.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA
1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

B-4-7 STANDARDS AND SPECIFICATIONS FOR HEAVY USE AREA

DEFINITION
THE STABILIZATION OF AREAS FREQUENTLY AND INTENSIVELY USED BY SURFACING WITH SUITABLE MATERIALS (E.G., MULCH AND AGGREGATE).

PURPOSE
TO PROVIDE A STABLE, NON-ERODING SURFACE FOR AREAS FREQUENTLY USED AND TO IMPROVE THE WATER QUALITY FROM THE RUNOFF OF THESE AREAS.

CONDITIONS WHERE PRACTICE APPLIES
THIS PRACTICE APPLIES TO INTENSIVELY USED AREAS (E.G., EQUIPMENT AND MATERIAL STORAGE, STAGING AREAS, HEAVILY USED TRAVEL LANES).

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 6B SEED MIXTURE (FROM TABLE B.3)					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
1	SWITCH GRASS CREEPING RED FESCUE PATRIDGE PEA	10 15 4	2/15 – 4/30 5/1 – 5/31	1/4" – 1/2"	45 LB/AC (1.0 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
8	TALL FESCUE (85%), TALL FESCUE	100 60	2/15 – 4/30 8/15 – 10/31 11/1 – 11/30					
9	KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	40 20	2/15 – 4/30 8/15 – 10/31 11/1 – 11/30					

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 6B SEED MIXTURE (FROM TABLE B.1)					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
	ANNUAL RYEGRASS	40 LB/ACRE	2/15 – 4/30 8/15 – 11/30	1/2"	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
	FOXTAIL MILLET	30 LB/ACRE	5/1 – 8/14	1/2"		

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-012

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM/DJJ	
COUNTY	CHECKED BY: SKH/SGS	
CECIL		

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

SHEET NO.
476
TOTAL SHTS.
850

CRITERIA
1. A MINIMUM 4-INCH BASE COURSE OF CRUSHED STONE OR OTHER SUITABLE MATERIALS INCLUDING WOOD CHIPS OVER NONWOVEN GEOTEXTILE SHOULD BE PROVIDED AS SPECIFIED IN SECTION H-1 MATERIALS.
2. SELECT THE STABILIZING MATERIAL BASED ON THE INTENDED USE, DESIRED MAINTENANCE FREQUENCY, AND RUNOFF CONTROL.
3. THE TRANSPORT OF SEDIMENTS, NUTRIENTS, OILS, CHEMICALS, PARTICULATE MATTER ASSOCIATED WITH VEHICULAR TRAFFIC AND EQUIPMENT, AND MATERIAL STORAGE NEEDS TO BE CONSIDERED IN THE SELECTION OF MATERIAL. ADDITIONAL CONTROL MEASURES MAY BE NECESSARY TO CONTROL SOME OF THESE POTENTIAL POLLUTANTS.
4. SURFACE EROSION CAN BE A PROBLEM ON LARGE HEAVY USE AREAS. IN THESE SITUATIONS, MEASURES TO REDUCE THE FLOW LENGTH OF RUNOFF OR EROSIVE VELOCITIES NEED TO BE CONSIDERED. MAINTENANCE THE HEAVY USE AREAS MUST BE MAINTAINED IN A CONDITION THAT MINIMIZES EROSION. THIS MAY REQUIRE ADDING SUITABLE MATERIAL, AS SPECIFIED ON THE APPROVED PLANS, TO MAINTAIN A CLEAN SURFACE.

TABLE B.7: SOIL STABILIZATION ON SLOPES

SLOPE	20:1 OR FLATTER (<5%)			<20:1 TO 4:1 (>5–25%)			<4:1 TO 3:1 (>25–33%)			<3:1 TO 2.5:1 (>33–40%)			<2.5:1 TO 2:1** (>40–50%)		
SLOPE LENGTH (FEET)*	0–30	30–60	60–120	0–30	30–60	60–120	0–30	30–60	60–120	0–30	30–60	60–120	0–30	30–60	60–120
STRAW MULCH/WOOD CELLULOSE FIBER	■	■	■	■	■	■	■	■							
TEMPORARY MATTING WITH DESIGN SHEAR STRESS > 1.5LB/SF	■	■	■	■	■	■	■	■	■	■					
TEMPORARY MATTING WITH DESIGN SHEAR STRESS > 1.75 LB/SF	■	■	■	■	■	■	■	■	■	■	■	■			
TEMPOARARY MATTING WITH DESIGN SHEAR STRESS > 2.0 LB/SF	■	■	■	■	■	■	■	■	■	■	■	■	■		
TEMPORARY MATTING WITH DESIGN SHEAR STRESS > 2.25 LB/SF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

■ EFFECTIVE RANGE FOR ALL K VALUES UNLESS OTHERWISE SPECIFIED

* SLOPE LENGTH INCLUDES CONTRIBUTING FLOW LENGTH.
** SLOPES STEEPER THAN 2:1 MUST BE ENGINEERED.
*** SOIL HAVING A K VALUE LESS THAN OR EQUAL TO 0.35 CAN BE STABILIZED EFFECTIVELY WITH STRAW MULCH OR WOOD CELLULOSE FIBER WHEN LOCATED ON SLOPES STEEPER THAN 5%. SOIL STABILIZATION MATTING IS REQUIRED ON ALL SLOPES STEEPER THAN 5% THAT HAVE SOIL WITH A K FACTOR GREATER THAN 0.35. K FACTOR RATINGS ARE PUBLISHED IN THE NRCS SOIL SURVEY HTTP://WEBSOILSURVEY.NRCS.USDA.GOV/APP. DURING CONSTRUCTION OR RECLAMATION, THE SOILERODIBILITY K VALUE SHOULD REPRESENT THE UPPER 6 INCHES OF THE FINAL FILL MATERIAL RE-SPREAD AS THE LAST LIFT. ONLY THE EFFECTS OF ROCK FRAGMENTS WITHIN THE SOIL PROFILE ARE CONSIDERED IN THE ESTIMATION OF THE K VALUE. DO NOT ADJUST K VALUES TO ACCOUNT FOR ROCKS ON THE SOIL SURFACE OR INCREASES IN SOIL ORGANIC MATTER RELATED TO MANAGEMENT ACTIVITIES.

MAINTENANCE
VEGETATION MUST BE ESTABLISHED AND MAINTAINED SO THAT THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

LIMIT OF CONSTRUCTION FOR MARYLAND

PHASE 1 LIMIT OF CONSTRUCTION

STATION	OFFSET	STATION	OFFSET
92+50.00	74.000'	112+50.00	373.000'
93+00.00	75.400'	113+00.00	373.000'
93+50.00	76.800'	113+50.00	373.000'
94+00.00	78.200'	114+00.00	373.000'
94+50.00	79.600'	114+50.00	373.000'
95+00.00	81.000'	115+00.00	373.000'
95+50.00	82.400'	115+50.00	373.000'
96+00.00	83.800'	116+00.00	373.000'
96+50.00	85.200'	116+50.00	373.000'
97+00.00	86.600'	116+60.00	373.000'
97+50.00	88.000'	116+60.00	135.000'
98+00.00	89.300'	117+00.00	135.000'
98+50.00	90.670'	117+32.68	139.902'
99+00.00	92.000'	97+50.00	-75.000'
99+50.00	93.300'	98+00.00	-75.454'
100+00.00	94.670'	98+50.00	-75.909'
100+50.00	96.000'	99+00.00	-76.363'
101+00.00	97.500'	99+50.00	-76.818'
101+50.00	98.750'	100+00.00	-77.272'
102+00.00	100.000'	100+50.00	-77.727'
102+50.00	100.000'	101+00.00	-78.181'
103+00.00	100.000'	101+50.00	78.636'
103+50.00	100.000'	102+00.00	-79.090'
104+00.00	100.000'	102+50.00	-79.545'
104+09.20	100.000'	103+00.00	-80.000'
104+50.00	131.030'	103+50.00	-80.500'
105+00.00	169.111'	104+00.00	-81.000'
105+50.00	207.200'	104+50.00	-81.500'
105+73.37	225.000'	105+00.00	-82.000'
106+00.00	225.000'	105+50.00	-82.500'
106+50.00	225.000'	106+00.00	-83.000'
107+00.00	225.000'	106+50.00	-83.500'
107+50.00	225.000'	107+00.00	-84.000'
108+00.00	225.000'	107+50.00	-84.500'
108+41.58	225.000'	108+00.00	-85.000'
108+50.00	220.800'	108+50.00	-85.000'
109+00.00	195.880'	109+00.00	-85.000'
109+50.00	170.960'	109+50.00	-85.000'
109+61.96	165.000'	110+00.00	-85.000'
110+00.00	165.000'	110+24.00	-85.000'
110+02.00	165.000'	125+54.01	-37.084'
110+02.00	373.000'	125+59.78	-18.646'
110+50.00	373.000'	126+15.15	-118.000'
111+00.00	373.000'	126+68.58	-118.000'
111+50.00	373.000'		
112+00.00	373.000'		

NOTE:
POSITIVE OFFSET VALUE DENOTES RIGHT OFFSET.
NEGATIVE OFFSET VALUE DENOTES LEFT OFFSET.

PHASE 2A LIMIT OF CONSTRUCTION

STATION	OFFSET	STATION	OFFSET
122+12.00	230.000'	117+50.00	-130.000'
122+50.00	230.000'	117+82.00	-130.000'
122+62.00	230.000'	117+82.00	-233.000'
123+00.00	205.902'	118+00.00	-233.000'
123+03.00	204.000'	118+50.00	-233.000'
123+50.00	145.070'	119+00.00	-233.000'
123+70.00	106.130'	119+50.00	-233.000'
123+89.23	106.130'	120+00.00	-233.000'
124+00.00	106.310'	120+50.00	-233.000'
124+31.58	106+310'	120+53.00	-233.000'
110+24.00	-85.000'	120+53.00	-145.000'
110.43.00	-210.000'	121+00.00	-145.000'
110+50.00	-210.000'	121+50.00	-145.000'
111+00.00	-210.000'	121+72.54	-145.000'
111+50.00	-210.000'	122+00.00	-163.402'
112+00.00	-210.000'	122+50.00	-196.907'
112+50.00	-210.000'	122+77.00	-215.000'
113+00.00	-195.710'	123+00.00	-215.000'
113+50.00	-181.428'	123+50.00	-215.000'
114+00.00	-167.142'	124+00.00	-215.000'
114+50.00	-152.857'	124+50.00	-215.000'
115+00.00	-130.000'	125+00.00	-215.000'
115+30.00	-130.000'	125+00.00	-100.000'
115+50.00	-130.000'	126+00.00	-100.000'
116+00.00	-130.000'	126+15.15	-118.000'
116+50.00	-130.000'	126+68.58	-118.000'
117+00.00	-130.000'		

NOTE:
PHASE 2B & 3 WORK IS WITHIN DELAWARE.
PHASE 4 WORK IS WITHIN EXISTING MEDIAN.

PHASE 5 LIMIT OF CONSTRUCTION

STATION	OFFSET	STATION	OFFSET
79+10.00	60.000'	118+50.00	150.000'
79+10.00	82.000'	119+00.00	150.000'
79+85.00	82.000'	119+50.00	150.000'
79+85.00	60.000'	120+00.00	150.000'
89+10.00	61.000'	120+50.00	150.000'
89+10.00	82.000'	120+86.00	150.000'
89+86.00	82.000'	121+00.00	162.174'
89+86.00	61.000'	121+50.00	205.652'
117+32.68	139.902'	121+78.00	230.000'
117+50.00	142.500'	122+00.00	230.000'
118+00.00	150.000'	122+12.00	230.000'

NOTE:
PHASE 6 WORK IS WITHIN EXISTING MEDIAN.

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-013

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301
BRIDGE NO.
COUNTY CECIL
DESIGNED BY: MFM/DJJ
CHECKED BY: SKH/SGS

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

SHEET NO. 477
TOTAL SHTS. 850

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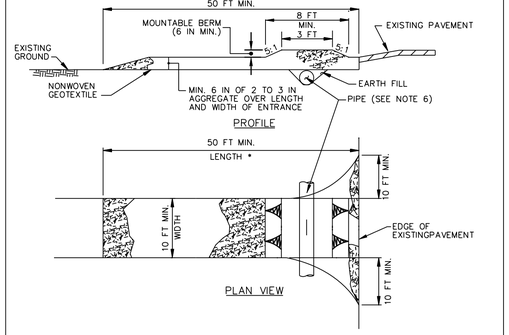
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.

4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

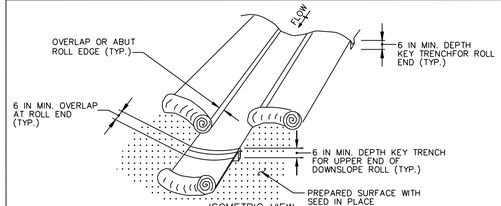
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.

7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

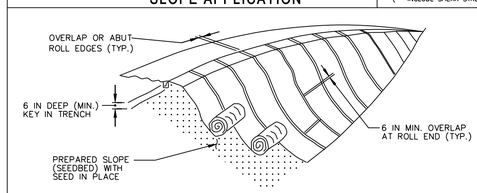
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.

5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.

7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

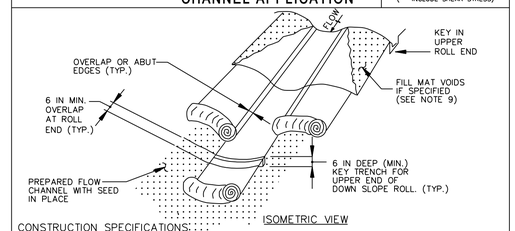
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: PSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

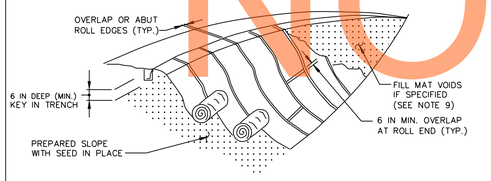
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: PSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

5. UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.

7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

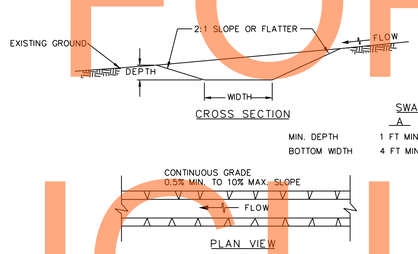
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-2 TEMPORARY SWALE

STANDARD SYMBOL: A-1



SWALE TYPE

	A	B
MIN. DEPTH	1 FT MIN.	1 FT MIN.
BOTTOM WIDTH	4 FT MIN.	6 FT MIN.

FLOW CHANNEL STABILIZATION

A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF TEMPORARY SWALE.

2. EXCAVATE OR SHAPE TEMPORARY SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.

3. STABILIZE TEMPORARY SWALE WITHIN THREE DAYS OF INSTALLATION. STABILIZE SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.

4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.

5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.

6. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP TEMPORARY SWALE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

7. UPON REMOVAL OF TEMPORARY SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

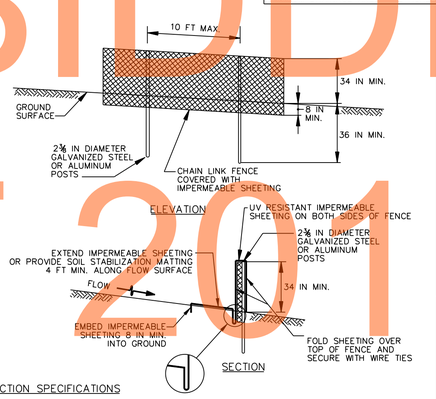
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

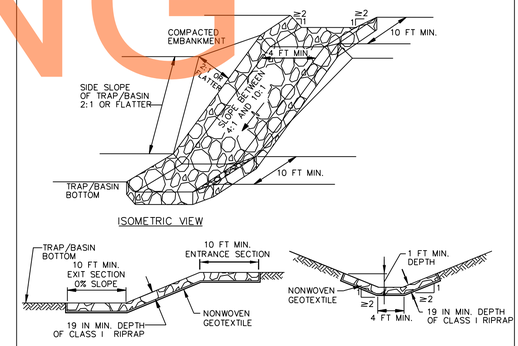
1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-3- 1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-014

J:\2008 PROJECTS\E3X3480I\700CADD\750AET\MOT_GENERAL\CS_301AET_014.DGN

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

NOT TO SCALE

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	T200811301
COUNTY	CECIL

BRIDGE NO.

DESIGNED BY: MFM/DJJ

CHECKED BY: SKH/SGS

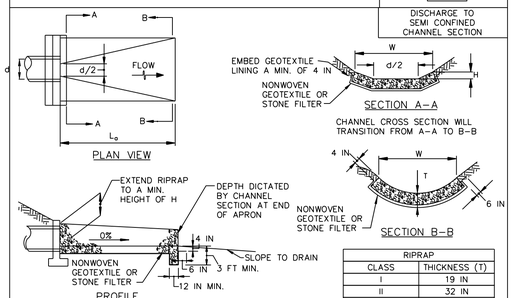
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SHEET NO.	478
TOTAL SHTS.	850

DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1

DISCHARGE TO SEMI CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.

3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.

5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.

6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.

7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.

8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

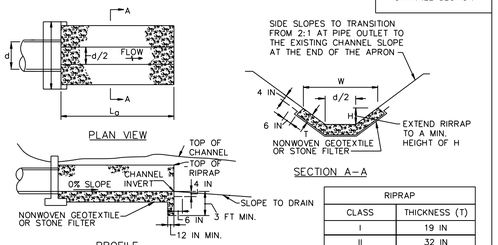
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.

3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.

5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.

6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.

7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.

8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

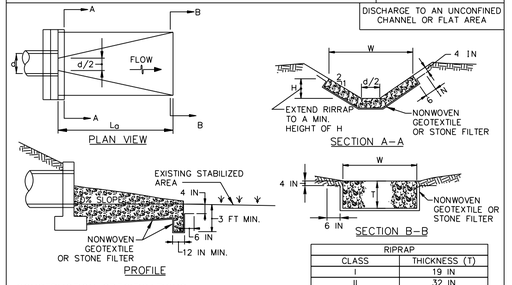
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL: ROPIII

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.

3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.

5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.

6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.

7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.

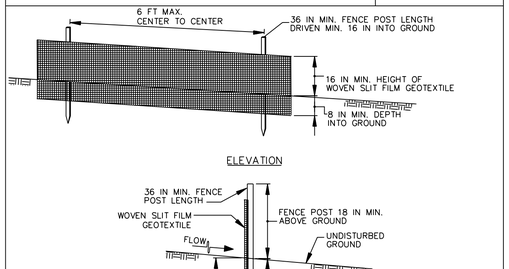
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.

2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.

3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.

4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.

5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.

8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

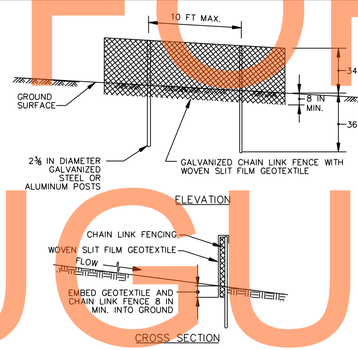
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.

7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

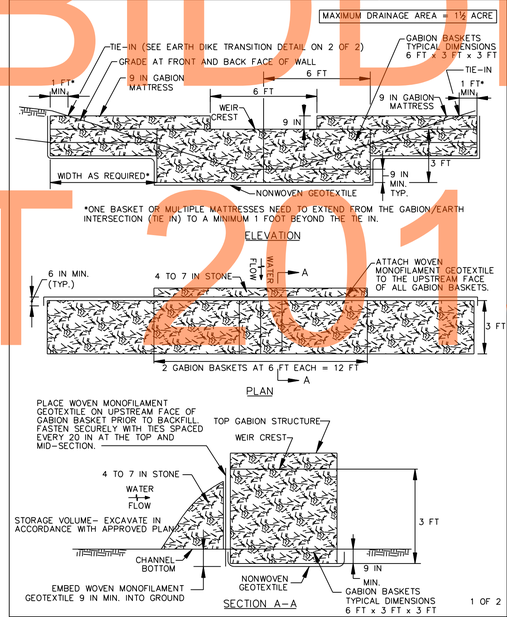
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E- 8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL: TGOS

MAXIMUM DRAINAGE AREA = 1½ ACRE



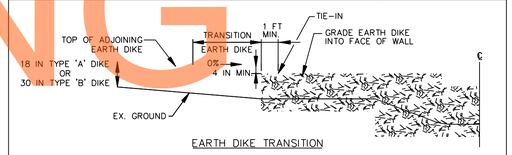
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E- 8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL: TGOS



NOTES:

1. PROVIDE TRANSITION LENGTH AND HEIGHT AS SPECIFIED ON PLAN. HEIGHT OF TRANSITION EARTH DIKE MUST EXCEED 4 INCH MINIMUM FREEBOARD ABOVE TOP OF GABION AND EXTEND AT THIS ELEVATION UNTIL IT INTERCEPTS THE TOP OF ADJOINING EARTH DIKE.

2. PROVIDE POSITIVE DRAINAGE ALONG EARTH DIKE TO GABION OUTLET STRUCTURE.

3. COMPACT FILL.

4. SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED ON PLAN. BANK PROJECTIONS OR IRREGULARITIES ARE NOT ALLOWED.

CONSTRUCTION SPECIFICATIONS

1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.

2. USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.

3. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.

4. INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

5. EMBED THE GABION OUTLET STRUCTURE INTO THE SOIL A MINIMUM OF 9 INCHES. PROVIDE NONWOVEN GEOTEXTILE UNDER ALL GABIONS.

6. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.

7. MAKE THE WEIR CREST OF THE GABION OUTLET STRUCTURE 9 INCHES LOWER THAN THE TOP OF THE ADJACENT GABIONS.

8. PROVIDE A MINIMUM WEIR CREST OF 6 FEET.

9. ATTACH WOVEN MONOFILAMENT GEOTEXTILE TO THE UPSTREAM FACE OF GABION BASKETS AND COVER WITH 4 TO 7 INCH STONE.

10. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 12 INCHES OF THE WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO FUNCTION. MAINTAIN LINE, GRADE, AND CROSS SECTION.

11. UPON REMOVAL OF GABION OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MDE No. 10–SF–0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS–015

J:\2008 PROJECTS\E3X3480I\700CADD\750AET\MOT_GENERAL\CS_301AET_015.DGN

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM/DJJ	
COUNTY	CHECKED BY: SKH/SGS	
CECIL		

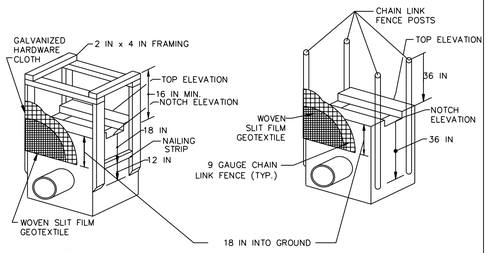
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SHEET NO.
479
TOTAL SHTS.
850

DETAIL E-9-1 STANDARD INLET PROTECTION

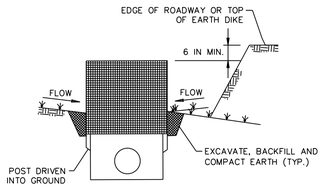
STANDARD SYMBOL: SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



TYPE A TYPE B

ISOMETRIC VIEW



SECTION FOR TYPE A AND B

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.

3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.

4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.

5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

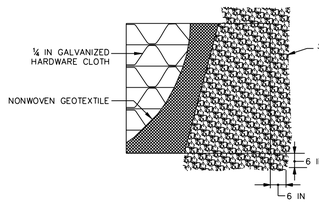
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

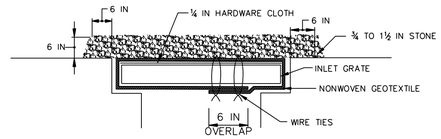
DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



PLAN / CUT AWAY VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.

3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.

4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

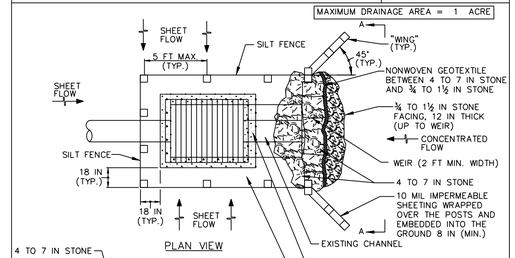
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

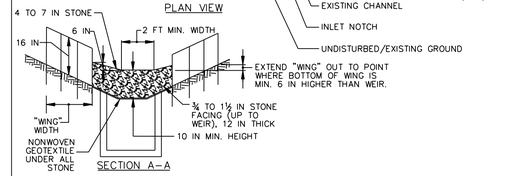
DETAIL E-9-4 MEDIAN INLET PROTECTION

STANDARD SYMBOL: MIP

MAXIMUM DRAINAGE AREA = 1 ACRE



PLAN VIEW



SECTION A-A

CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E-1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.

3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.

4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C-9.

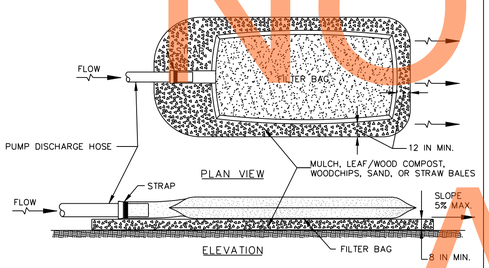
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ☒FB



ELEVATION

CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.

2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.

3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.

4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.

5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

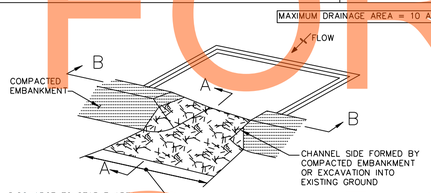
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

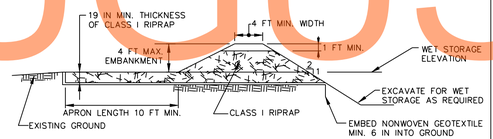
DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

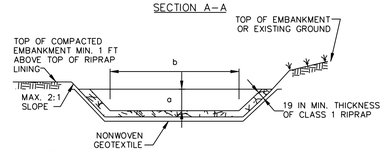
MAXIMUM DRAINAGE AREA = 10 ACRES



ISOMETRIC VIEW



SECTION A-A



o – DEPTH OF OUTLET
b – BOTTOM WIDTH OF OUTLET

SECTION B-B

1 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.

2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.

3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.

4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE TOP OF RIPRAP OUTLET. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.

6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.

7. USE CLEAN CLASS 1 RIPRAP PLACED 19 INCHES IN DEPTH FOR THE OUTLET AND APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.

8. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.

9. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.

10. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (25% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.

11. WHEN DEWATERING TRAP, PASS THE REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.

12. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-016

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM/DJJ	
COUNTY		
CECIL	CHECKED BY: SKH/SGS	

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

SHEET NO.
480
TOTAL SHTS.
850

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

RIPRAP OUTLET SEDIMENT TRAP ST-III, TRAP NO. 1		
DRAINAGE AREA – INITIAL	4.61	ACRES
DRAINAGE AREA – INTERIM	4.61	ACRES
DRAINAGE AREA – FINAL	4.61	ACRES
WET STORAGE REQUIRED	27,000	CF
WET STORAGE PROVIDED	28,975	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	60.50	FT
TRAP BOTTOM ELEVATION	56.50	FT
TRAP BOTTOM DIMENSIONS	40x270	FT x FT
DEPTH OF OUTLET (a)	1.5	FT
BOTTOM WIDTH OF OUTLET (b)	12	FT
CLEANOUT ELEVATION	57.50	FT
TOP OF EMBANKMENT HEIGHT ELEVATION	63.10	FT
SIDE SLOPE	4:1	H:V RATIO
EMBANKMENT TOP WIDTH	12	FT
OUTLET PROTECTION – LENGTH	25	FT
OUTLET PROTECTION – DEPTH	19	IN

3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

RIPRAP OUTLET SEDIMENT TRAP ST-III, TRAP NO. 2		
DRAINAGE AREA – INITIAL	1.76	ACRES
DRAINAGE AREA – INTERIM	1.76	ACRES
DRAINAGE AREA – FINAL	1.76	ACRES
WET STORAGE REQUIRED	10,800	CF
WET STORAGE PROVIDED	16,158	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	63.50	FT
TRAP BOTTOM ELEVATION	60.00	FT
TRAP BOTTOM DIMENSIONS	35x160	FT x FT
DEPTH OF OUTLET (a)	1.5	FT
BOTTOM WIDTH OF OUTLET (b)	8	FT
CLEANOUT ELEVATION	60.88	FT
TOP OF EMBANKMENT HEIGHT ELEVATION	66.00	FT
SIDE SLOPE	4:1	H:V RATIO
EMBANKMENT TOP WIDTH	12	FT
OUTLET PROTECTION – LENGTH	10	FT
OUTLET PROTECTION – DEPTH	19	IN

3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

RIPRAP OUTLET SEDIMENT TRAP ST-III, TRAP NO. 3		
DRAINAGE AREA – INITIAL	1.28	ACRES
DRAINAGE AREA – INTERIM	1.28	ACRES
DRAINAGE AREA – FINAL	1.28	ACRES
WET STORAGE REQUIRED	10,800	CF
WET STORAGE PROVIDED	12,216	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	61.00	FT
TRAP BOTTOM ELEVATION	58.00	FT
TRAP BOTTOM DIMENSIONS	30x90	FT x FT
DEPTH OF OUTLET (a)	1.5	FT
BOTTOM WIDTH OF OUTLET (b)	10	FT
CLEANOUT ELEVATION	58.75	FT
TOP OF EMBANKMENT HEIGHT ELEVATION	63.50	FT
SIDE SLOPE	4:1	H:V RATIO
EMBANKMENT TOP WIDTH	12	FT
OUTLET PROTECTION – LENGTH	10	FT
OUTLET PROTECTION – DEPTH	19	IN

3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

RIPRAP OUTLET SEDIMENT TRAP ST-III, TRAP NO. 4		
DRAINAGE AREA – INITIAL	2.90	ACRES
DRAINAGE AREA – INTERIM	2.90	ACRES
DRAINAGE AREA – FINAL	2.90	ACRES
WET STORAGE REQUIRED	16,200	CF
WET STORAGE PROVIDED	20,094	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	63.50	FT
TRAP BOTTOM ELEVATION	60.00	FT
TRAP BOTTOM DIMENSIONS	40x90	FT x FT
DEPTH OF OUTLET (a)	1.5	FT
BOTTOM WIDTH OF OUTLET (b)	10	FT
CLEANOUT ELEVATION	60.88	FT
TOP OF EMBANKMENT HEIGHT ELEVATION	67.00	FT
SIDE SLOPE	4:1	H:V RATIO
EMBANKMENT TOP WIDTH	12	FT
OUTLET PROTECTION – LENGTH	30	FT
OUTLET PROTECTION – DEPTH	19	IN

3 OF 3

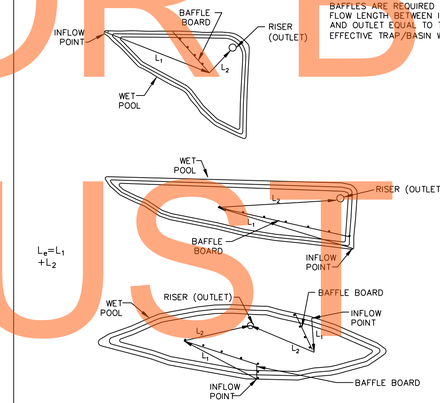
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

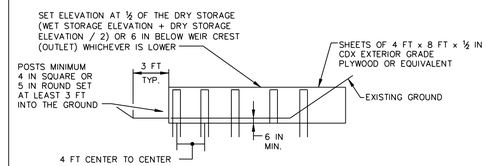
DETAIL G-2-4 BAFFLE BOARDS

STANDARD SYMBOL: BB

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.



PLAN VIEWS



BAFFLE DETAIL

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

WETLAND PROTECTION AREA SIGNAGE DETAIL-ENGLISH

NOT TO SCALE

WETLAND PROTECTION AREA SIGNAGE DETAIL-SPANISH

NOT TO SCALE

MDE No. 10-SF-0061

INFORMATION ON THIS SHEET PERTAINS TO MARYLAND WORK ONLY

CS-017

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

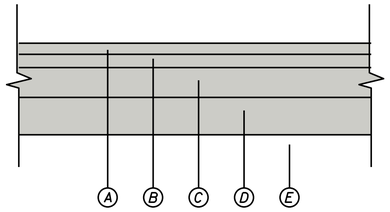
NOT TO SCALE

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM/DJJ	
COUNTY	CHECKED BY: SKH/SGS	
CECIL		

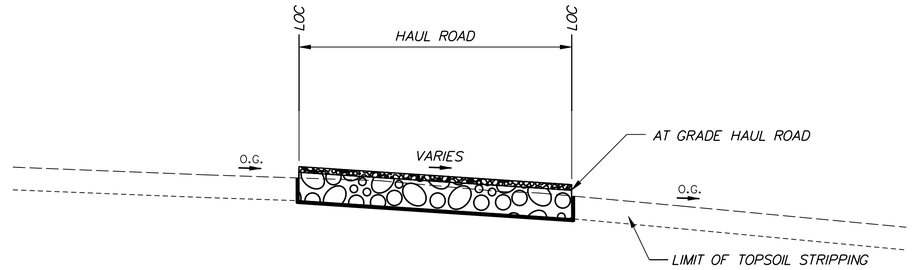
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SHEET NO.
481
TOTAL SHTS.
850



(A) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE), 2"
(B) ITEM 401810 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, 3"
(C) ITEM 401819 - WMA, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, 6"
(D) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B, 8"
(E) ITEM 209006 - BORROW, TYPE F

PROPOSED TEMPORARY PAVEMENT DETAIL



TYPICAL TEMPORARY ACCESS ROAD
AT GRADE HAUL ROAD TO LEVELS MITIGATION SITE
*** ALL ITEMS TO BE INCIDENTAL TO ITEM 202000**

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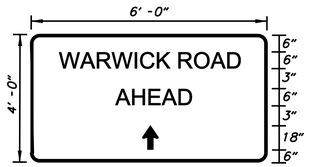
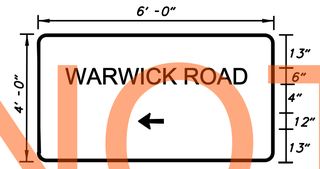
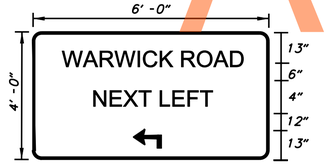
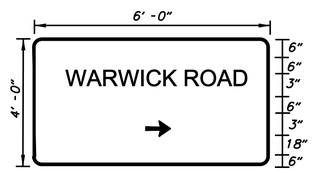
CS–018

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 482
				COUNTY NEW CASTLE	DESIGNED BY: MFM/DJJ		TOTAL SHTS. 850
					CHECKED BY: SKH/SGS		

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	SIZE AREA	SIZE WIDTH	SIZE HEIGHT	COLOR LEGEND	COLOR BCKGRND	BORDER WIDTH	BORDER RADIUS	ARROW	SHIELD	REMARKS
				24 SF	6'	4'	BLK	0	2"	8"			
				24 SF	6'	4'	BLK	0	2"	8"			
				24 SF	6'	4'	BLK	0	2"	8"			

PANEL DESIGNATION	SHEET NO.	QUANTITY	LEGEND	SIZE AREA	SIZE WIDTH	SIZE HEIGHT	COLOR LEGEND	COLOR BCKGRND	BORDER WIDTH	BORDER RADIUS	ARROW	SHIELD	REMARKS
				24 SF	6'	4'	BLK	0	2"	8"			
				24 SF	6'	4'	BLK	0	2"	8"			
				24 SF	6'	4'	BLK	0	2"	8"			

LEGEND & BACKGROUND COLORS: BLK=BLACK, BLU=BLUE, G=GREEN, R=RED, W=WHITE/SILVER, Y=YELLOW, FY=FLUORESCENT YELLOW, P=PURPLE, O=ORANGE
REFER TO THE DELDOT WEBSITE FOR THE LATEST "E-ZPass" LOGO DETAIL.

CS-019

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT T200811301
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: DJJ
CHECKED BY: MFM

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

SHEET NO. 483
TOTAL SHTS. 850

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SEQUENCE OF CONSTRUCTION GENERAL NOTES (ALL CONSTRUCTION PHASES)

1. INSTALL ALL RESOURCE PROTECTION FENCING AS SHOWN ON ENVIRONMENTAL COMPLIANCE AND CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLANS PRIOR TO EARTH DISTURBANCE ACTIVITIES WITHIN EACH RESPECTIVE CONSTRUCTION PHASE.

2 INSTALL SILT FENCE / SUPER SILT FENCE, AS SHOWN ON THE PROJECT PLANS, UPSLOPE OF EXISTING WETLAND AREAS WITHIN THE RESPECTIVE CONSTRUCTION PHASE LIMITS OF CONSTRUCTION (LOC) AS REQUIRED FOR PROTECTION FROM SEDIMENT LADEN RUNOFF. INSTALL WETLAND PROTECTION SIGNAGE.

3. CLEAR AND GRUB ONLY AS NECESSARY TO INSTALL PERIMETER E&S CONTROLS.

4. INSTALL ALL PERIMETER E&S CONTROLS AS SHOWN ON PLANS.

5. CLEAR AND GRUB ONLY AS NECESSARY TO EFFECTIVELY INSTALL THE TEMPORARY AND PERMANENT CONSTRUCTION IMPROVEMENTS WITHIN RESPECTIVE CONSTRUCTION PHASE. STABILIZE ALL RESULTING DISTURBANCE IMMEDIATELY.

6. STRIP TOPSOIL AND STOCKPILE AT THE DESIGNATED LOCATION AS INDICATED ON THE PROJECT PLANS WITHIN THE RESPECTIVE CONSTRUCTION PHASE LOC. THE PERIMETER OF THE STOCKPILE SHALL BE IMMEDIATELY STABILIZED WITH SUPER SILT FENCE. IMMEDIATELY STABILIZE THE TOPSOIL STOCKPILE USING SEED AND MULCH MEASURES.

7. SEDIMENT TRAPS AND BASINS SHALL BE STABILIZED AND FUNCTIONAL PRIOR TO EARTH DISTURBANCE ACTIVITY WITHIN THE CONTRIBUTING DRAINAGE AREA. CONSTRUCTION OF THE TRAP SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS ABATED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATED FLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE TRAP.

8. ALL SWALES, CLEAN WATER DIVERSION SWALES, AND DRAINAGE DITCHES ARE TO BE CONSTRUCTED FROM THE LOWEST ELEVATION WORKING UPSLOPE. THE SWALE/DITCH IS TO BE STABILIZED AT THE END OF EACH DAY WITH EROSION CONTROL MATTING AS IT IS CONSTRUCTED.

9. PIPES ARE TO BE CONSTRUCTED FROM THE LOWEST ELEVATION WORKING UPSLOPE. STABILIZE ANY RESULTING DISTURBANCE IMMEDIATELY. PIPE SHALL BE INSPECTED PERIODICALLY DURING ALL PHASES OF CONSTRUCTION AND ANY SEDIMENT ACCUMULATION OBSERVED IS TO BE REMOVED AND DISPOSED OF IN AN APPROPRIATE AND LAWFUL MANNER. EXCAVATED TRENCH MATERIAL, WHERE APPLICABLE, SHALL BE PILED ON THE UPSLOPE SIDE OF THE TRENCH EXCAVATION. ALL PIPE INSTALLATION SHALL BE CONSTRUCTED AT SUCH A RATE THAT THE DAILY EXTENT OF WORK IS COMPLETELY BACKFILLED AND STABILIZED. DEWATERING OF TRENCH EXCAVATION, WHEN NECESSARY SHALL BE PERFORMED USING AN APPROVED METHOD. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO A WATERS OR WETLANDS UNDER ANY CIRCUMSTANCE.

10. ANY EXCAVATED TRENCH MATERIAL, WHERE APPLICABLE, SHALL BE PILED ON THE UPSLOPE SIDE OF THE TRENCH EXCAVATION. ALL PIPE INSTALLATION SHALL BE CONSTRUCTED AT SUCH A RATE THAT THE DAILY EXTENT OF WORK IS COMPLETELY BACKFILLED AND STABILIZED. DEWATERING OF TRENCH EXCAVATION, WHEN NECESSARY SHALL BE PERFORMED USING AN APPROVED METHOD. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO A WATERS OR WETLANDS UNDER ANY CIRCUMSTANCE. STABILIZE ANY RESULTING DISTURBANCE IMMEDIATELY. ANY SEDIMENT DEPOSITED ONTO PUBLIC ROADWAYS SHALL BE IMMEDIATELY REMOVED. THE USE OF WATER TO REMOVE SEDIMENT DEPOSITS IS NOT PERMITTED.

11. ALL CONDUIT INSTALLATION SHALL BE CONSTRUCTED AT SUCH A RATE THAT THE DAILY EXTENT OF WORK IS COMPLETELY BACKFILLED AND STABILIZED. DEWATERING OF TRENCH EXCAVATION, WHEN NECESSARY SHALL BE PERFORMED USING AN APPROVED METHOD. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO A WATERS OR WETLANDS UNDER ANY CIRCUMSTANCE. STABILIZE ANY RESULTING DISTURBANCE IMMEDIATELY.

12. EXCAVATED MATERIAL DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OF OFFSITE AT AN APPROVED FACILITY. OFFSITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE, AND FEDERAL RULES, REGULATIONS AND LAWS.

SEQUENCE OF CONSTRUCTION - PHASE 1)

OBJECTIVES: CONSTRUCT STABILIZED ACCESS TO THE LEVELS ROAD MITIGATION SITE. CONSTRUCT THE MARYLAND SOUTHBOUND CROSSOVER AND ASSOCIATED E&S FACILITIES. ESTABLISH NORTHBOUND US 301 STOCKPILE SITE IN MARYLAND. INSTALL CULVERTS AT STATION 126+00. CONSTRUCT SWM BMP NO. 606 ALONG STRAWBERRY LANE.

1. THE CONTRACTOR SHALL NOTIFY MDE AT 410-537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITIES IN MARYLAND AND HOLD A PRECONSTRUCTION MEETING BETWEEN THE PROJECT REPRESENTATIVES AND A REPRESENTATIVE FROM MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

2. PLACE ALL ADVANCE WARNING SIGNS AS SHOWN ON THE PHASE 1 CONSTRUCTION PHASING, MOT, AND EROSION CONTROL PLAN.

3. INSTALL ALL TRAFFIC CONTROL DEVICES AS SHOWN AND IMPLEMENT PHASE 1 TRAFFIC CONTROL SCHEME.

4. CONSTRUCT TEMPORARY HAUL ROAD FROM THE EXISTING INTERSECTION OF US 301 AND LEVELS ROAD TO THE LEVELS ROAD MITIGATION SITE.

5. CONSTRUCT A PORTION OF LEVELS ROAD, AS SHOWN, UP TO PAVEMENT ITEM G (2.25" SUPERPAVE, TYPE B). INSTALL VEHICLE LOOP DETECTORS, TRAFFIC SIGNAL, AND SIGNING TO PERMIT SIGNAL CONTROLLED CONSTRUCTION VEHICLE ACCESS AS SHOWN ON TEMPORARY SIGNAL PLAN, SG-01.

6. INSTALL MEDIAN INLET PROTECTION FOR EXISTING INLETS AT STATION 97+50.

7. INSTALL ALL PERIMETER E&S CONTROL AS SHOWN ON THE PROJECT PLANS WITHIN THE MARYLAND PHASE 1 WORK LIMITS, INCLUDING THE TEMPORARY PIPE (P-900) AT STATION 115+60 AND ASSOCIATED ROCK OUTLET PROTECTION (ROP-1).

8. PRIOR TO THE CONSTRUCTION OF SEDIMENT TRAP NO. 1, THE ADJACENT CLEAN WATER DIVERSION SWALE SHALL BE CONSTRUCTED, AS SHOWN ON THE PROJECT PLANS. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. CONSTRUCT SEDIMENT TRAP NO. 1, STATION 106+00 NB, PER PLANS AND PROJECT SPECIFICATIONS. EXCAVATE TRAP TO LOWEST ELEVATION. DEWATER THE EXISTING ROADSIDE DITCH USING AN APPROVED METHOD. EXCAVATE UNSUITABLE MATERIAL. FILL EXISTING DITCH.

9. CONSTRUCT TEMPORARY ROADSIDE CONVEYANCE SWALE ALONG NORTHBOUND US 301 FROM STATION 110+00 TO 116+75.

10. INSTALL MEDIAN INLET DI-112, STATION 112+00, ASSOCIATED PIPE AND END TREATMENT AS SHOWN ON THE PROJECT PLANS. IMMEDIATELY INSTALL MEDIAN INLET PROTECTION. CULVERT INSTALLATION UNDER EXISTING US 301 MUST OCCUR DURING OFF-PEAK HOURS.

11. TEMPORARILY BLOCK EXISTING MEDIAN DRAINAGE STRUCTURES AT STATION 104+50, AND STATION 108+50. DRAINAGE IS TO BE REDIRECTED TO DI-97+50, DI-103+20, AND DI-112.

12. CONSTRUCT TEMPORARY SOUTHBOUND CROSSOVER IN MARYLAND AS SHOWN ON THE PROJECT PLANS.

13. CONSTRUCT MEDIAN TO TEMPORARY GRADE CONDITION TO PROVIDE POSITIVE DRAINAGE TO MEDIAN INLET DI-97+50 AT STATION 97+50, DI-103+20 AT STATION 103+20, AND DI-112 AT STATION 112+00.

14. INSTALL TEMPORARY DIVERSION PUMP BYPASS TO FACILITATE CONSTRUCTION AND INSTALLATION OF THE TEMPORARY CULVERT EXTENSION AT STATION 126+00.

15. INSTALL TEMPORARY CULVERT EXTENSION (P-902) AND MANHOLE 900 AT STATION 126+00 TO FACILITATE CONSTRUCTION OF CULVERT (P-001). CONTRACTOR TO INSTALL CULVERT EXTENSION AND MANHOLE DURING A CLEAR/DRY WEATHER FORECAST.

16. INSTALL TEMPORARY SANDBAG DIVERSION TO REDIRECT WATER AWAY FROM THE WORK AREA OF CULVERT P-001 AT STATION 126+00.

17. INSTALL CULVERT P-001 AT STATION 126+00 FROM WESTERN HEADWALL TO MEDIAN AREA. TEMPORARILY BLOCK BOTH ENDS OF CULVERT (P-001) UPON INSTALLATION. THE REMAINING PORTION OF CULVERT P-001 WILL BE INSTALLED IN PHASE 5.

18. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 606 ALONG STRAWBERRY LANE FOR TEMPORARY USE AS A SEDIMENT BASIN, PER PLANS AND PROJECT SPECIFICATIONS.

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MDE No. 10-SF-0061

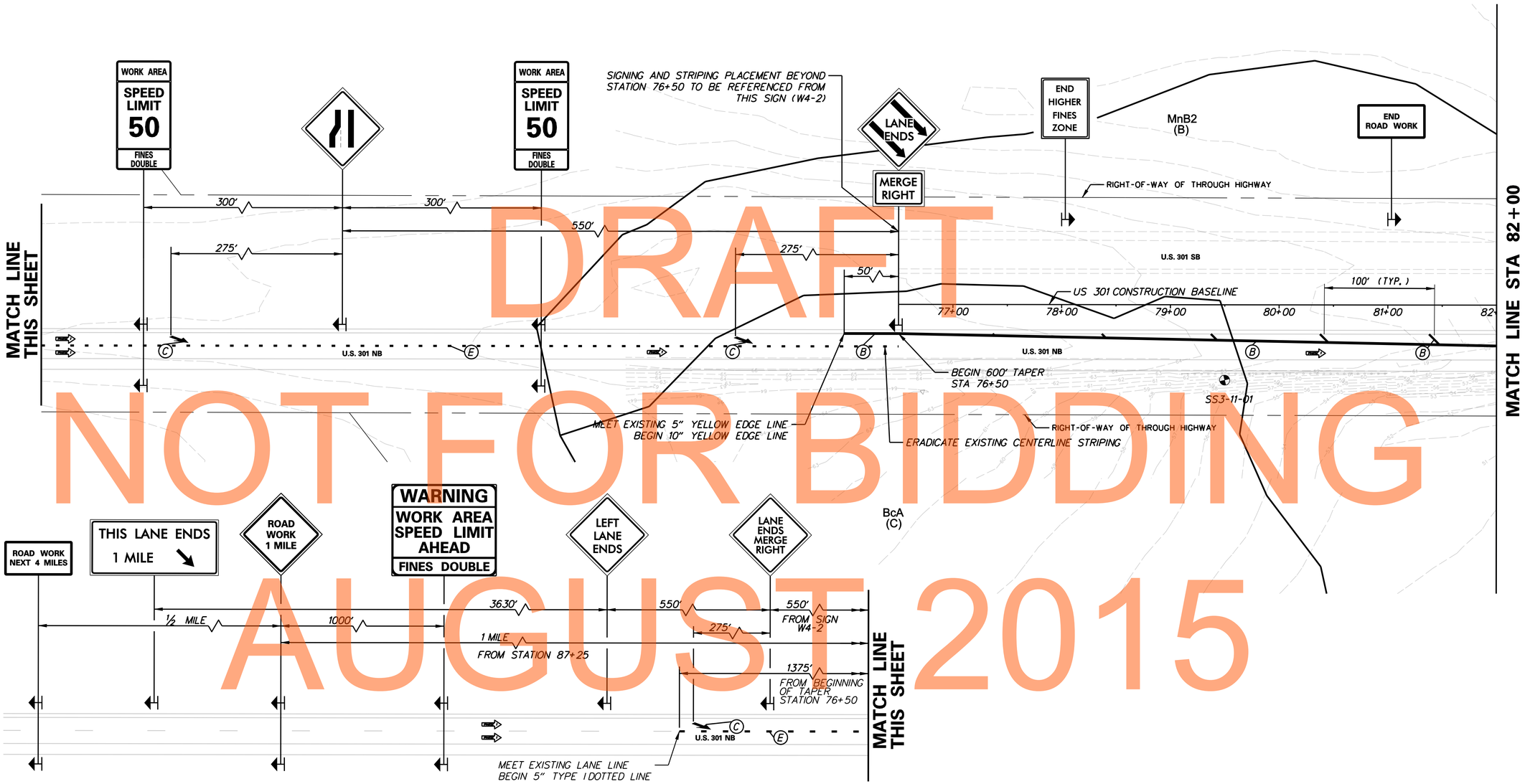
CS-020

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	SHEET NO. 484
				COUNTY NEW CASTLE	DESIGNED BY: SGS		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

LOC ------- EQUIVALENT TO SHA ——— LOD ———

PHASE 1 – SEQUENCE OF CONSTRUCTION
FOR SEQUENCE OF CONSTRUCTION SEE CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(B)	10" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748034)	630 LF
(C)	WHITE TEMPORARY PAVEMENT SYMBOL TAPE (ITEM 748527)	120 SF
(E)	5" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 3' LINE, 9' GAP (ITEM 748032)	344 LF

CS–021

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH	
CECIL		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO.
485
TOTAL SHTS.
850

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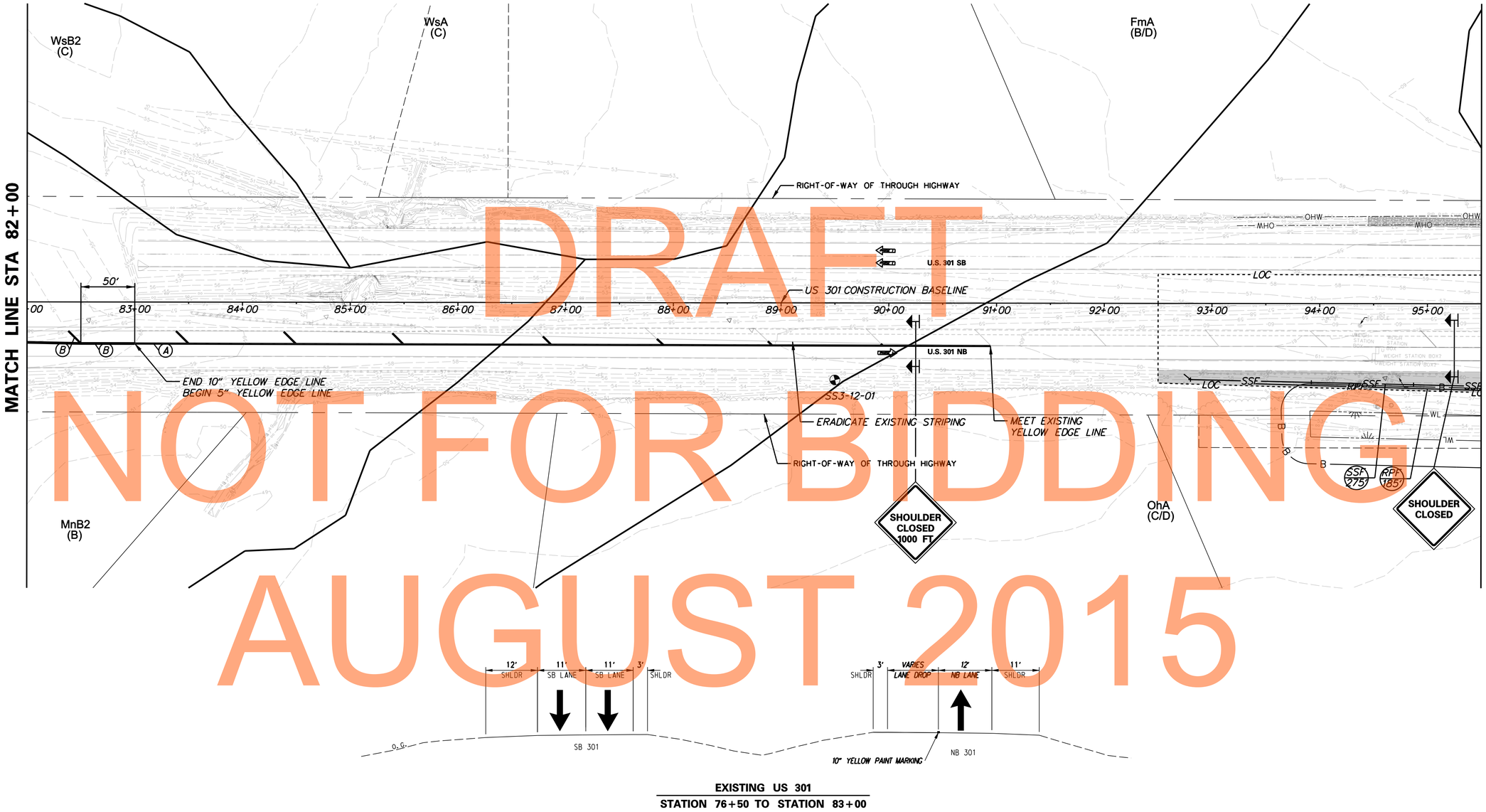
CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

LOC ------ EQUIVALENT TO SHA ——— LOD

INSTALL SILT FENCE
STA. 92+75 TO STA. 95+50 RT-(275 LF)



EXISTING US 301
STATION 76+50 TO STATION 83+00

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	800 LF
(B)	10" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748034)	180 LF

NOTE: STATION 93+50 TO 95+50, RT, INSTALL MD SHA WETLAND PROTECTION SIGNS EVERY 50' ON ORANGE FENCE ALONG WETLAND BUFFER.

MDE No. 10-SF-0061

CS-022

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.		CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO.
T200811301	DESIGNED BY: MFM			486
COUNTY	CHECKED BY: SKH			TOTAL SHTS.
CECIL				850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
------ LOC ------	EQUIVALENT TO SHA ——— LOD ———

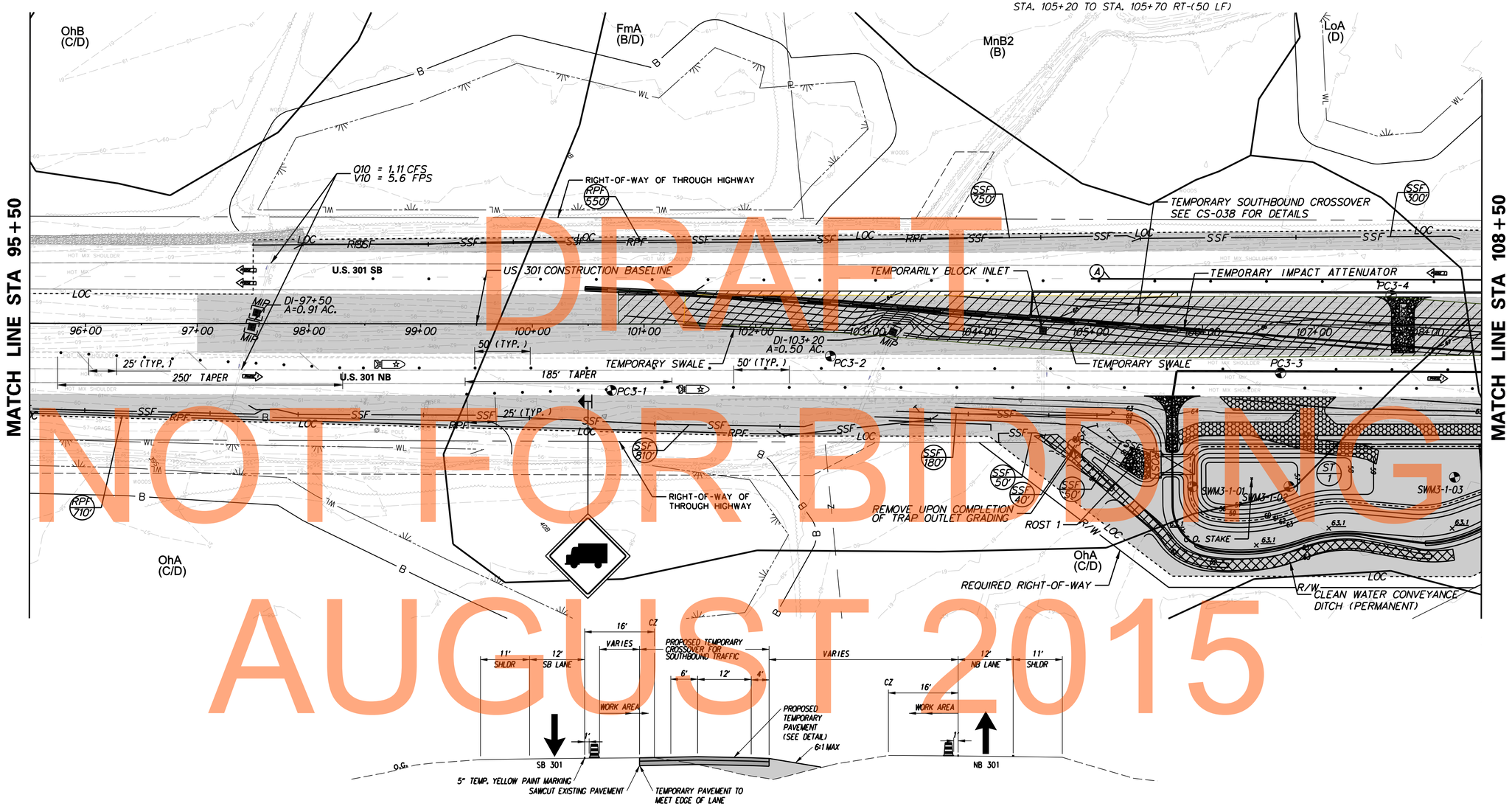
SEDIMENT TRAP SCHEDULE

NO.	D. AREA	LENGTH	WIDTH	DEPTH	OUT. TYPE	OUT. EL.	CLEAN EL.	STORAGE REQ'D	STORAGE PROV'D
1	4.61 AC	270.00'	40.00'	4.00'	ROST ST III	60.50	57.50	27,000 (CF)	27,639 (CF)

RIP-RAP OUTLET SCHEDULE

NO.	CHANNEL DEPTH	WEIR WIDTH	WEIR EL.	WEIR CREST EL.	APRON FLARE REQ'D	APRON FLARE PROV'D	APRON LENGTH REQ'D	APRON LENGTH PROV'D
ROST 1	1.50'	12.00'	60.50	62.00	27.00'	18.00'	10.00'	25.00'

INSTALL SUPER SILT FENCE
STA. 95+50 TO STA. 103+50 RT-(810 LF)
STA. 97+75 TO STA. 108+30 LT-(1050 LF)
STA. 103+50 TO STA. 105+20 RT-(180 LF)
STA. 104+10 TO STA. 104+60 RT-(50 LF)
STA. 104+80 TO STA. 105+20 RT-(40 LF)
STA. 105+20 TO STA. 105+70 RT-(50 LF)



US 301 – TEMPORARY CROSSOVER
STATION 101+50 TO STATION 108+50

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	350 LF

NOTE: STATION 95+50 TO 101+50, RT, AND STATION 97+00 TO 102+50, LT, INSTALL MD SHA WETLAND PROTECTION SIGNS EVERY 50' ON ORANGE FENCE ALONG WETLAND BUFFER.

MDE No. 10-SF-0061

CS-023

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 50 100 150 FEET

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT T200811301
COUNTY CECIL
BRIDGE NO.
DESIGNED BY: MFM
CHECKED BY: SKH

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO. 487
TOTAL SHTS. 850

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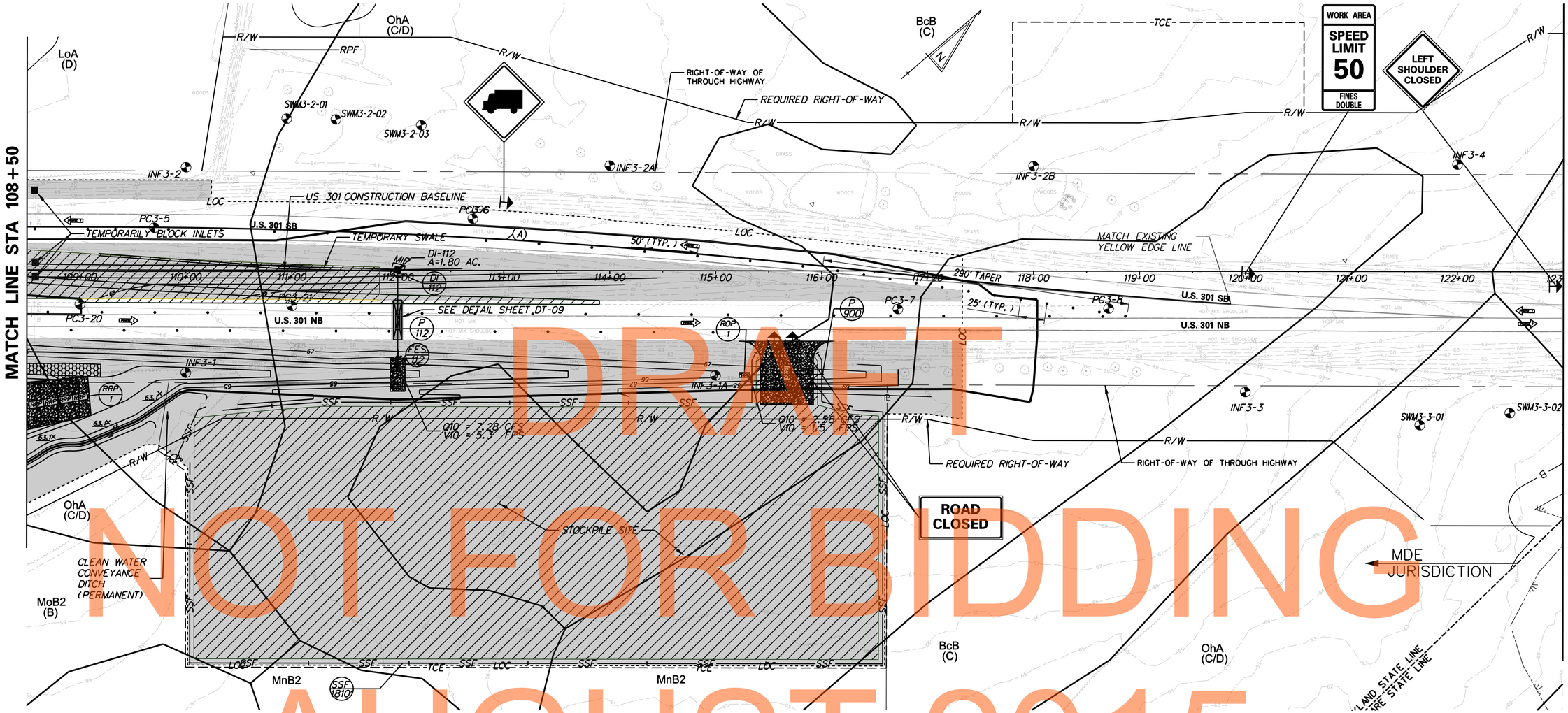


CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

LOC ------ EQUIVALENT TO SHA —— LOD ——

ROCK OUTLET PROTECTION SCHEDULE

NO.	TYPE	WIDTH	LENGTH	DEPTH	AREA
ROP 1	I	4.50'	10.00'	1.50'	45 SF

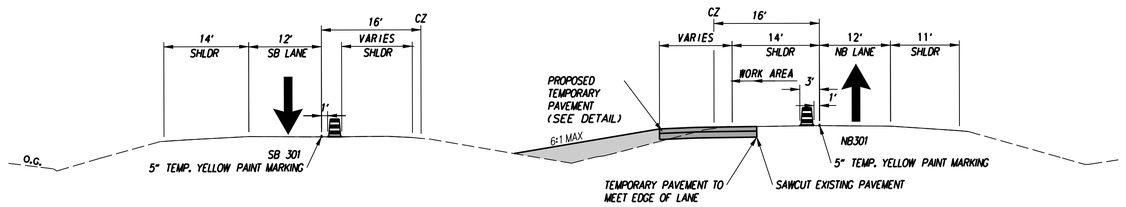
RIP-RAP INFLOW PROTECTION SCHEDULE

NO.	WIDTH	LENGTH	DEPTH	AREA
RRP 1	40.00'	60.00'	1.50'	2400 SF

TEMPORARY DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
900	18" RCP	III	70.00'	0.71%	66.72	66.22

INSTALL SUPER SILT FENCE
STA. 110+00 TO STA. 116+60 RT
(AROUND STOCKPILE SITE)-(1810 LF)



US 301 – TEMPORARY CROSSOVER
STATION 108+50 TO STATION 117+50

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	1,140 LF

MDE No. 10-SF-0061

CS-024

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 50 100 150 FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH
CECIL	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO.	TOTAL SHTS.
488	850

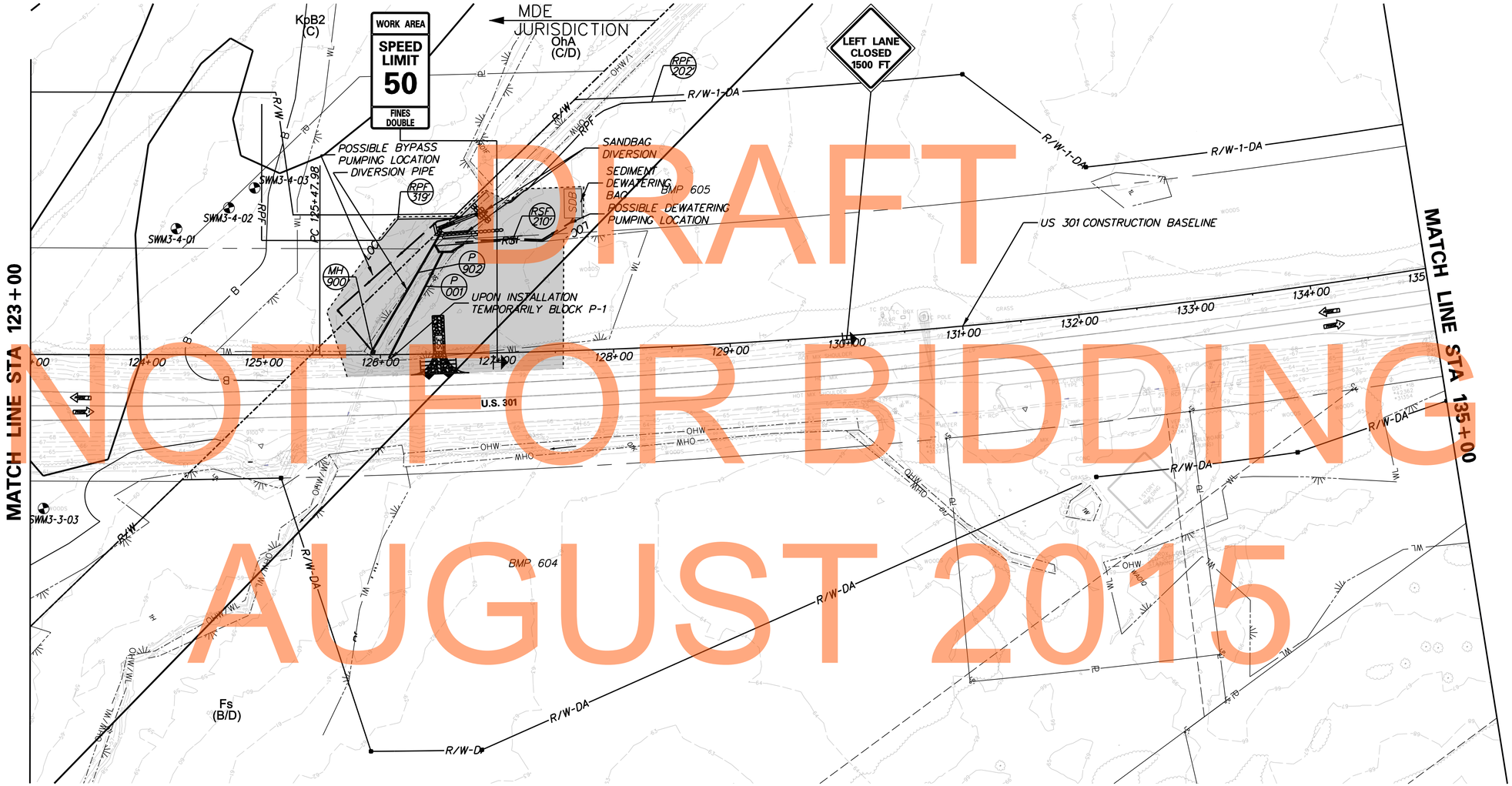
CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

NOTE: ------ LOC ------ EQUIVALENT TO SHA ——— LOD ———

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
902	24" RCP	IV	110.00'	0.31%	58.00	57.66

MANHOLE SCHEDULE					
NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
900	125+94.00	-2.30'	48" x 30"*	66.34	57.66

*DOGHOUSE MANHOLE



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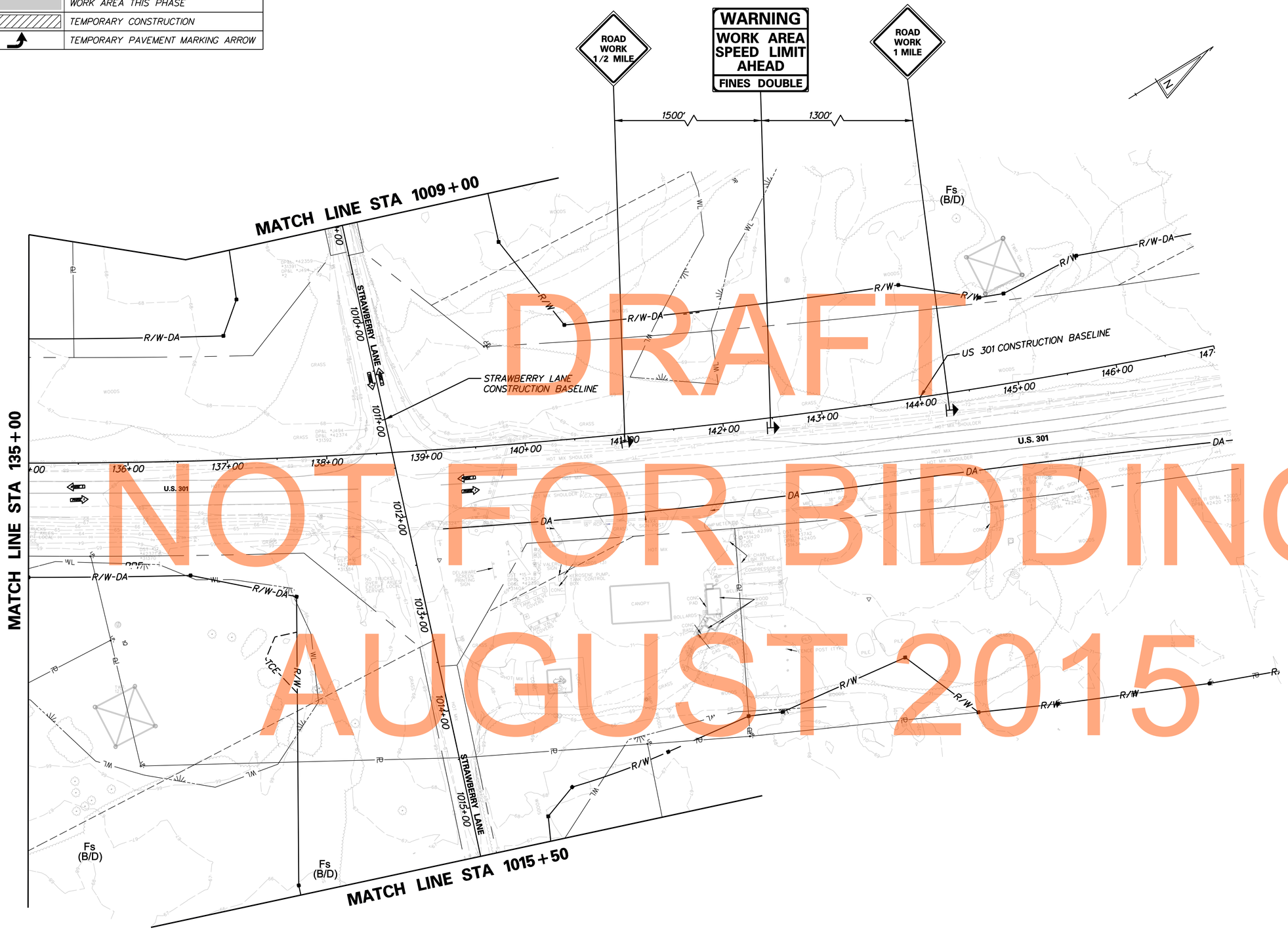
MDE No. 10-SF-0061

CS-025

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 489
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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CS-026

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: MFM / CHECKED BY: SKH	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 490 / TOTAL SHTS. 850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

REFER TO SHEETS WM-6 AND WM-7 FOR LEVELS ROAD BORROW SITE CONSTRUCTION PHASING PLANS

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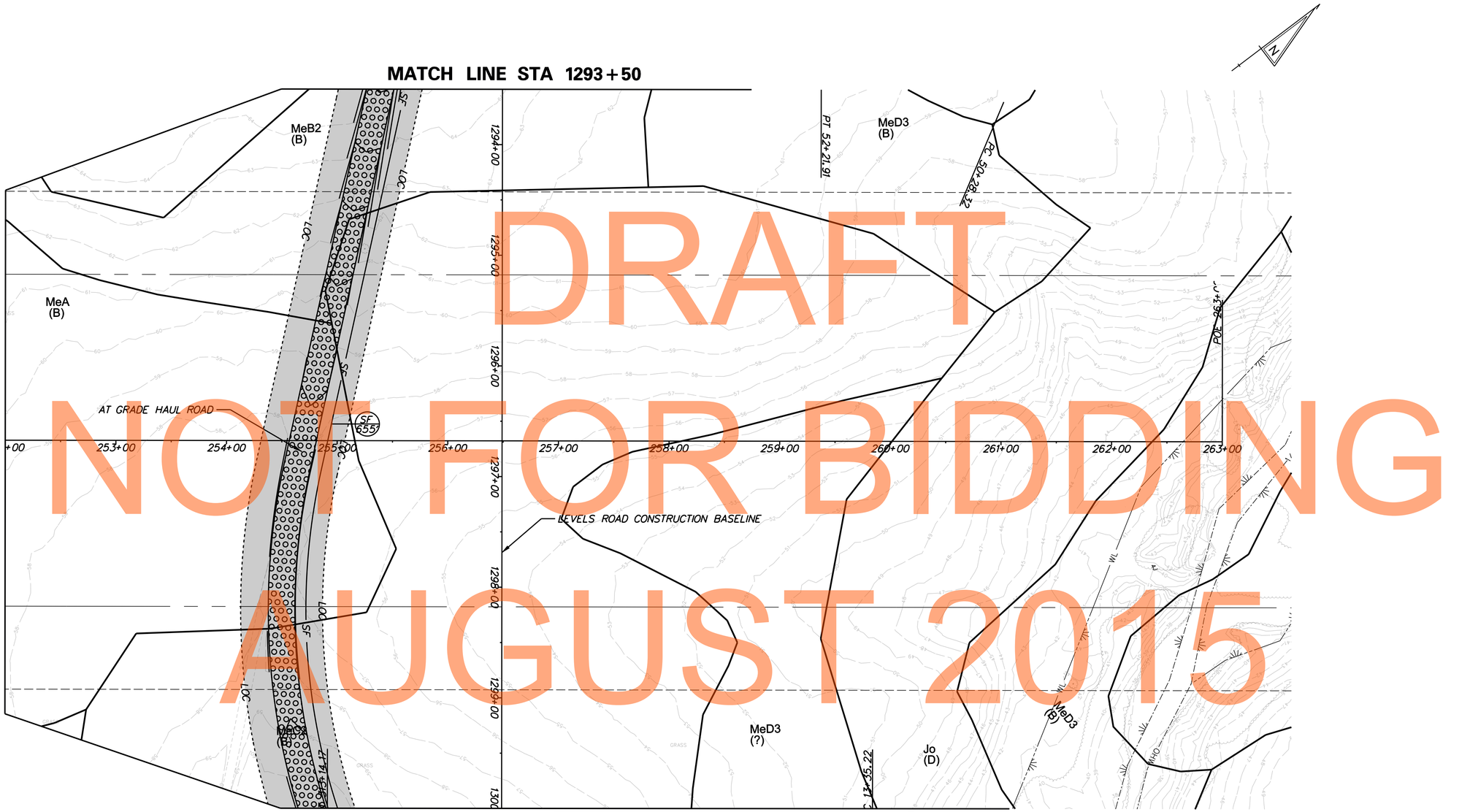
CS-027

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
				COUNTY NEW CASTLE	DESIGNED BY: MFM	SHEET NO. 491
					CHECKED BY: SKH	TOTAL SHTS. 850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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CS-028

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE
0 50 100 150
FEET

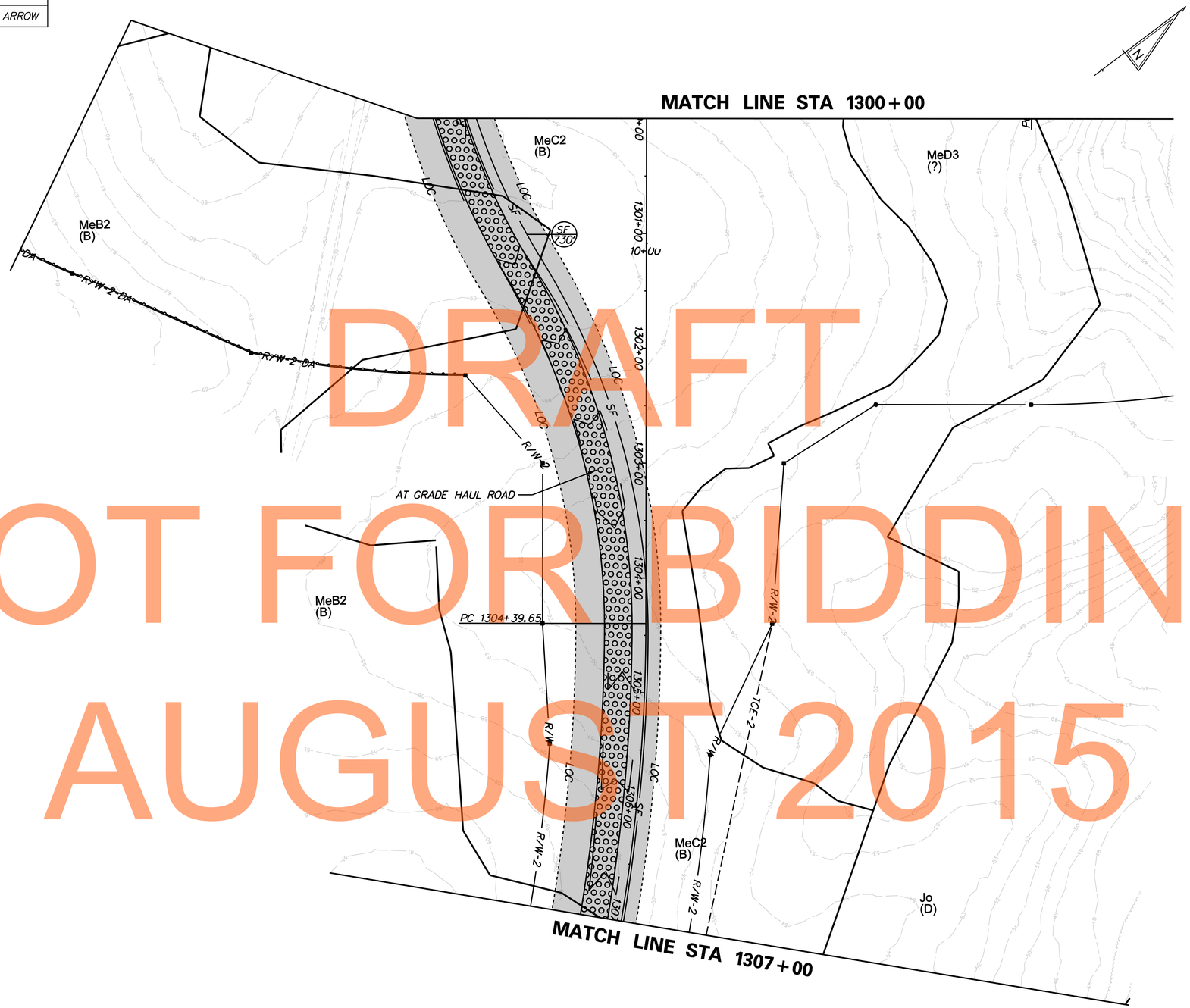
US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	DESIGNED BY: MFM
COUNTY	CHECKED BY: SKH
NEW CASTLE	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO.	TOTAL SHTS.
492	850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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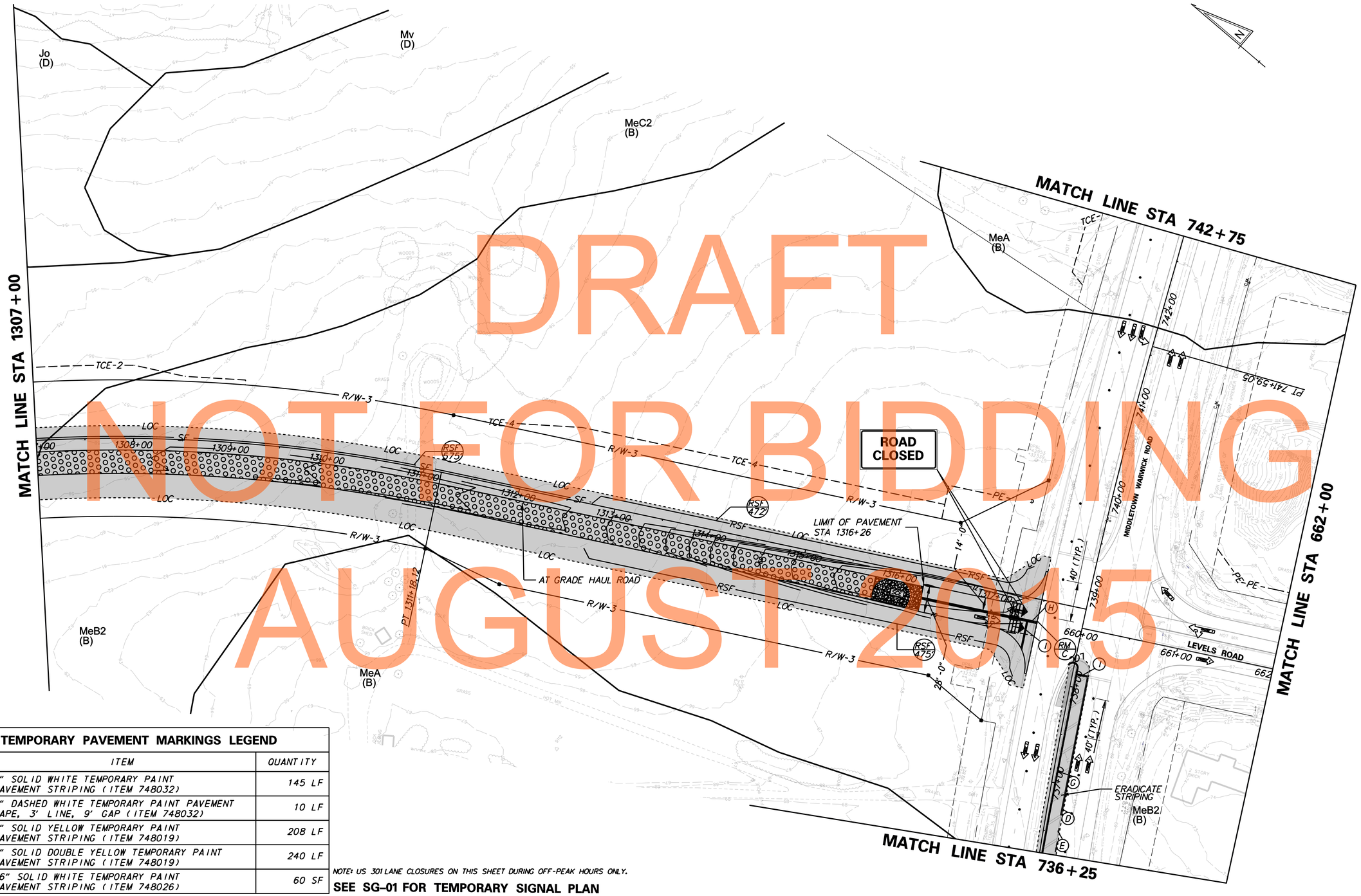
CS-029

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 493
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(D)	5" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	145 LF
(E)	5" DASHED WHITE TEMPORARY PAINT PAVEMENT TAPE, 3' LINE, 9' GAP (ITEM 748032)	10 LF
(G)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	208 LF
(H)	4" SOLID DOUBLE YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	240 LF
(I)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748026)	60 SF

NOTE: US 301 LANE CLOSURES ON THIS SHEET DURING OFF-PEAK HOURS ONLY.

SEE SG-01 FOR TEMPORARY SIGNAL PLAN

CS-030

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
COUNTY	CHECKED BY: SKH	SHEET NO. 494
NEW CASTLE		TOTAL SHTS. 850

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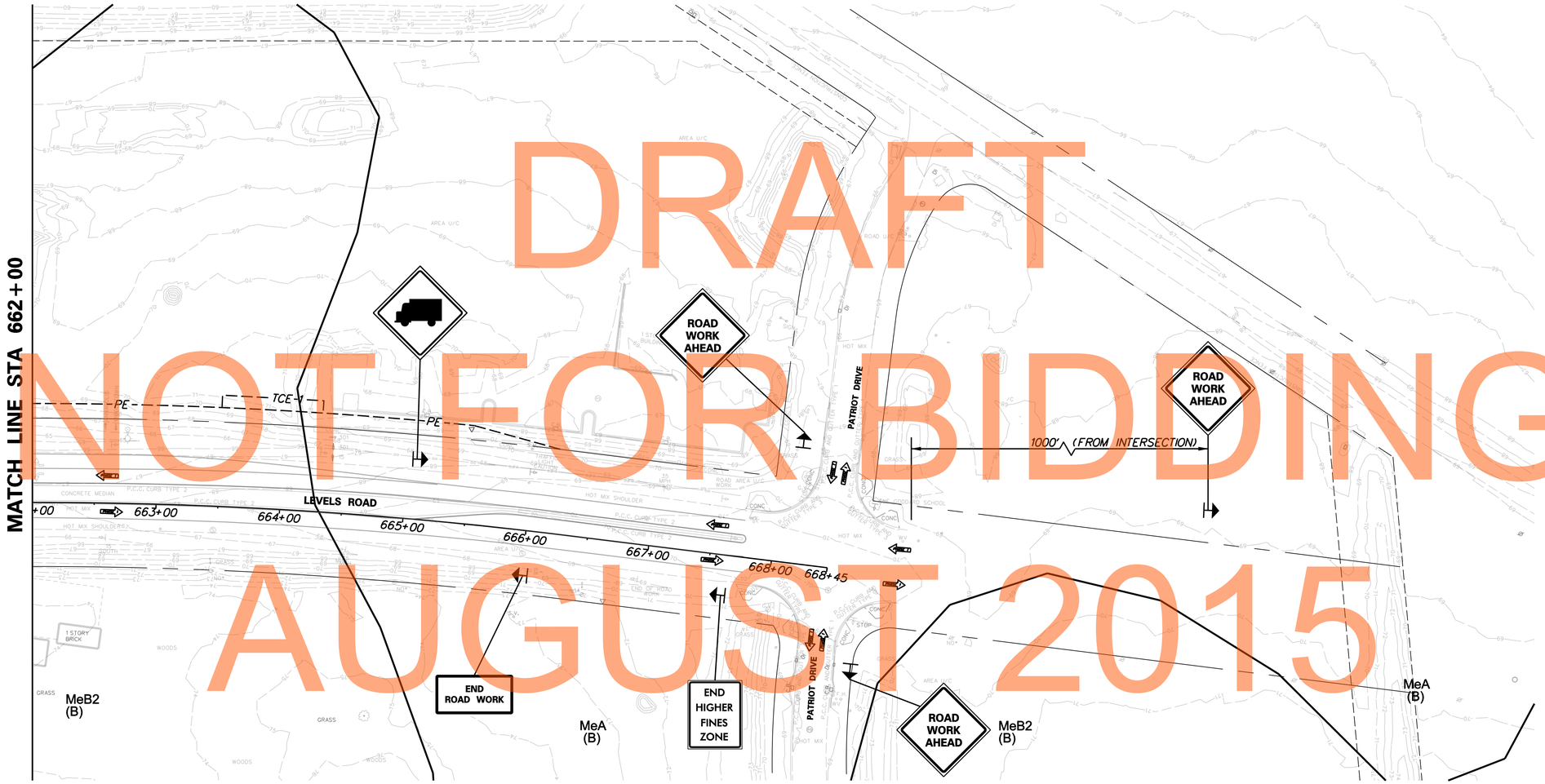
CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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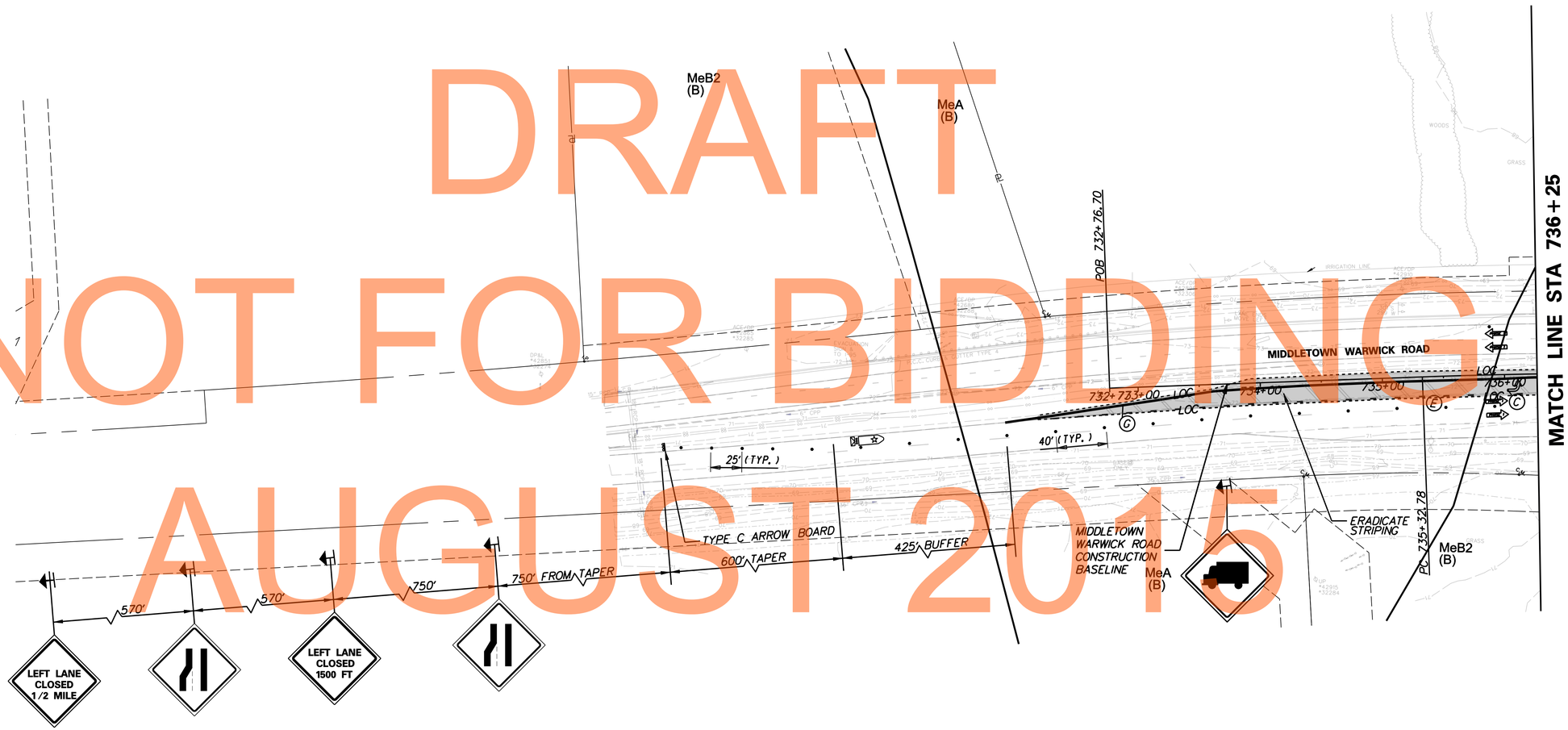
CS–031

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 495
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓒ	WHITE TEMPORARY PAVEMENT SYMBOL TAPE (ITEM 748527)	40 LF
Ⓔ	5" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 3' LINE, 9' GAP (ITEM 748032)	103 LF
Ⓖ	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	440 LF

NOTE: NORTHBOUND US 301 LEFT LANE CLOSURE DURING OFF-PEAK HOURS ONLY.

CS-032

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 50 100 150 FEET

US 301 MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO.
496
TOTAL SHTS.
850

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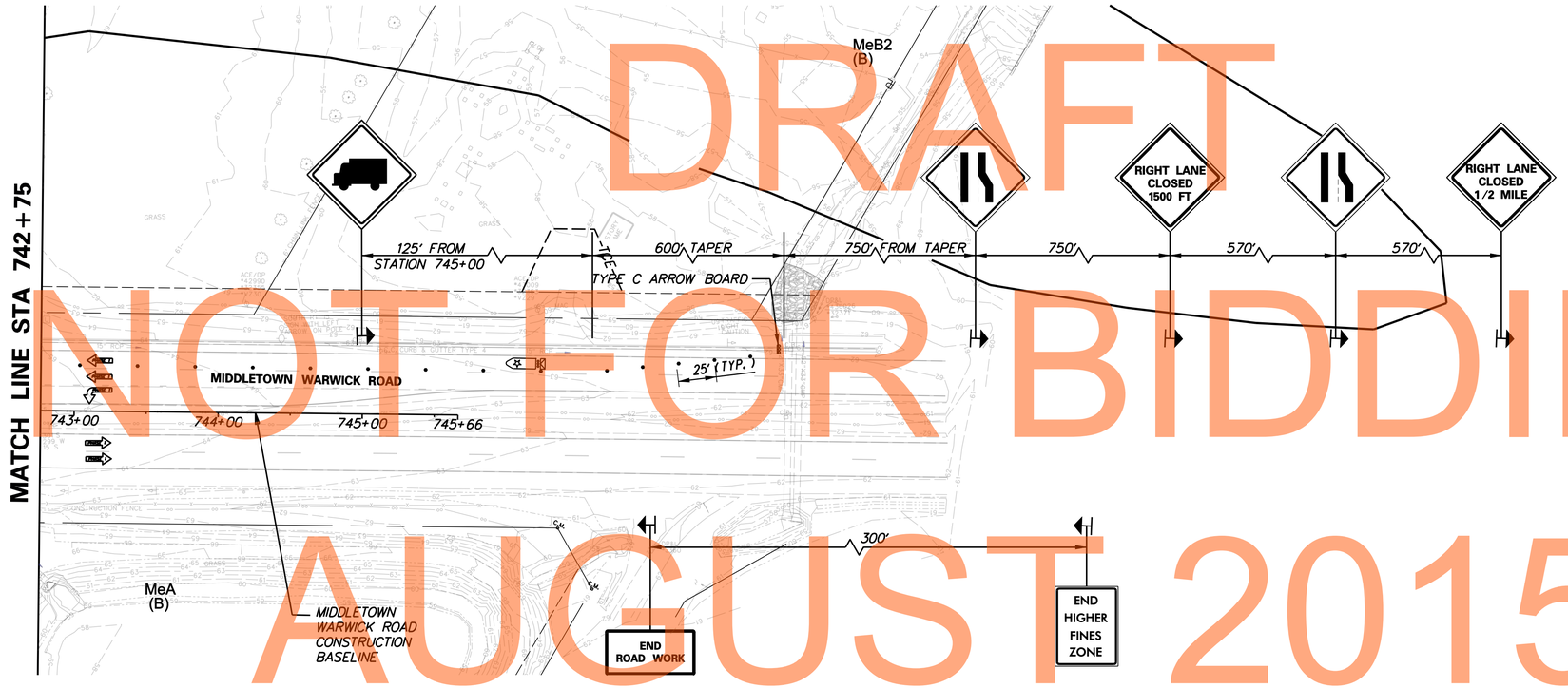
CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



NOTE: SOUTHBOUND US 301 RIGHT LANE CLOSURE DURING OFF-PEAK HOURS ONLY.

CS-033

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
COUNTY	CHECKED BY: SKH	SHEET NO. 497
NEW CASTLE		TOTAL SHTS. 850

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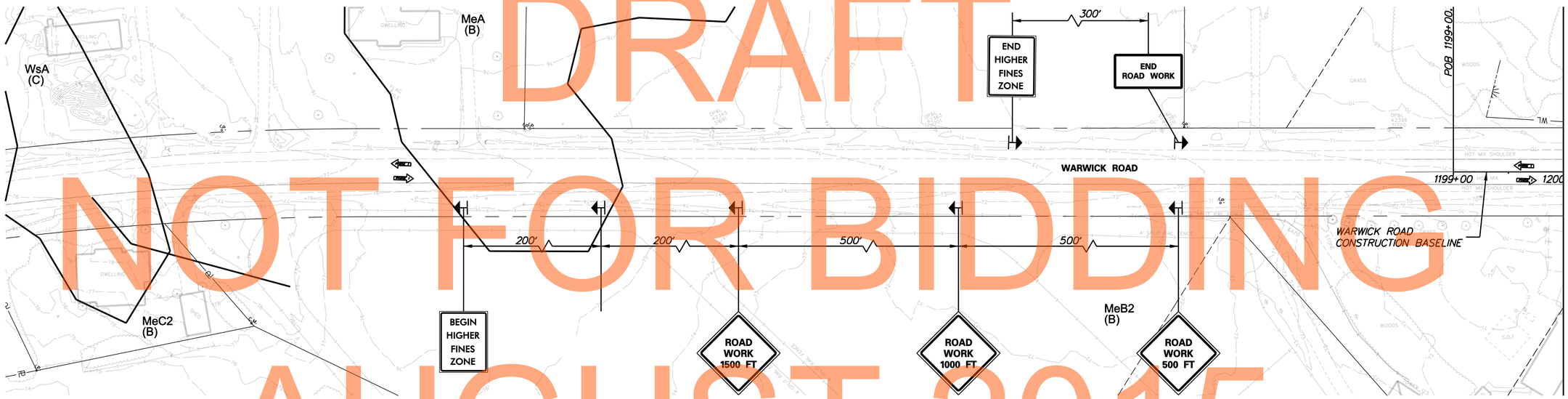
CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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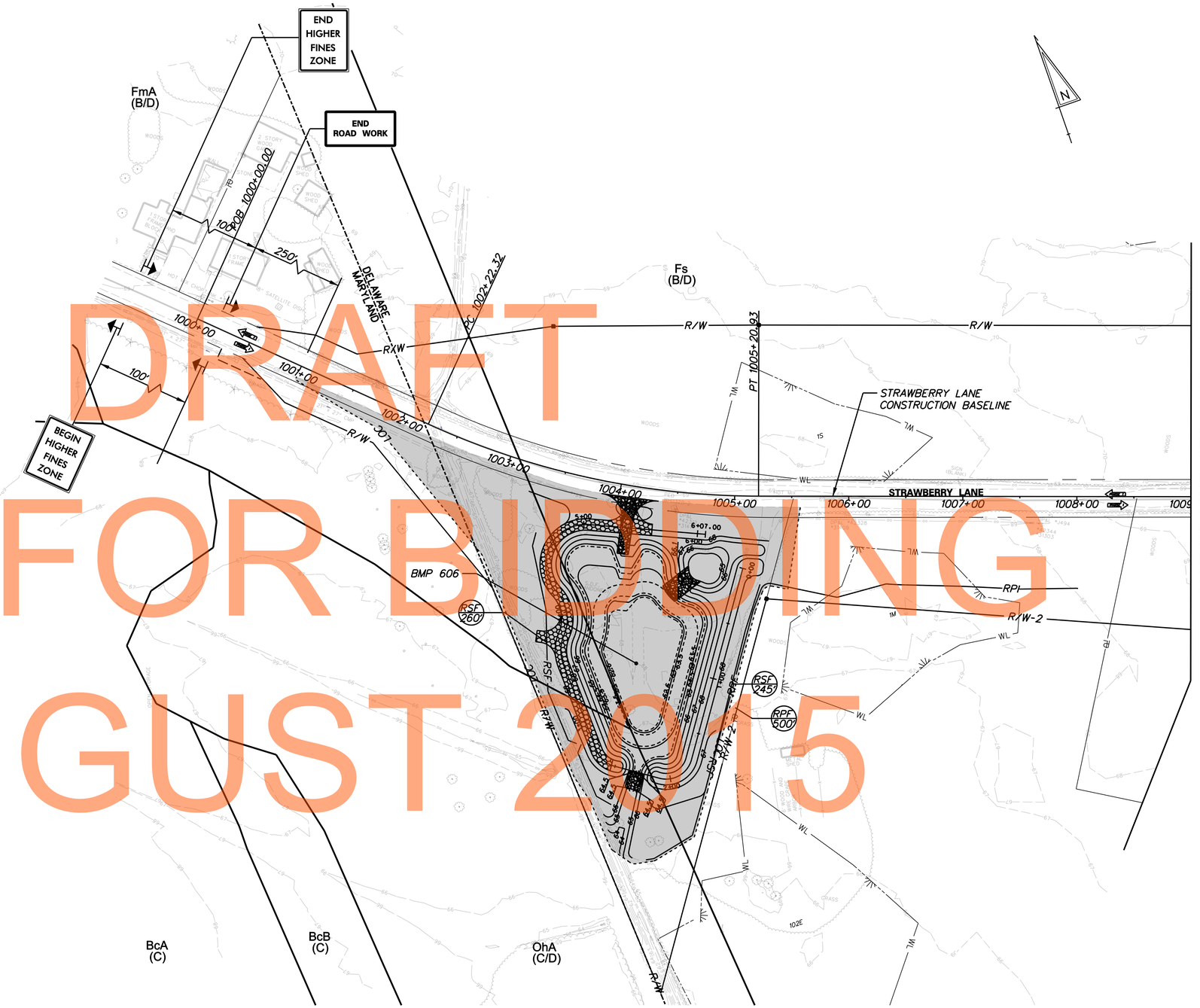
CS-034

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: MFM / CHECKED BY: SKH	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 498 / TOTAL SHTS. 850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



MATCH LINE STA 1009+00

MDE No. 10-SF-0061

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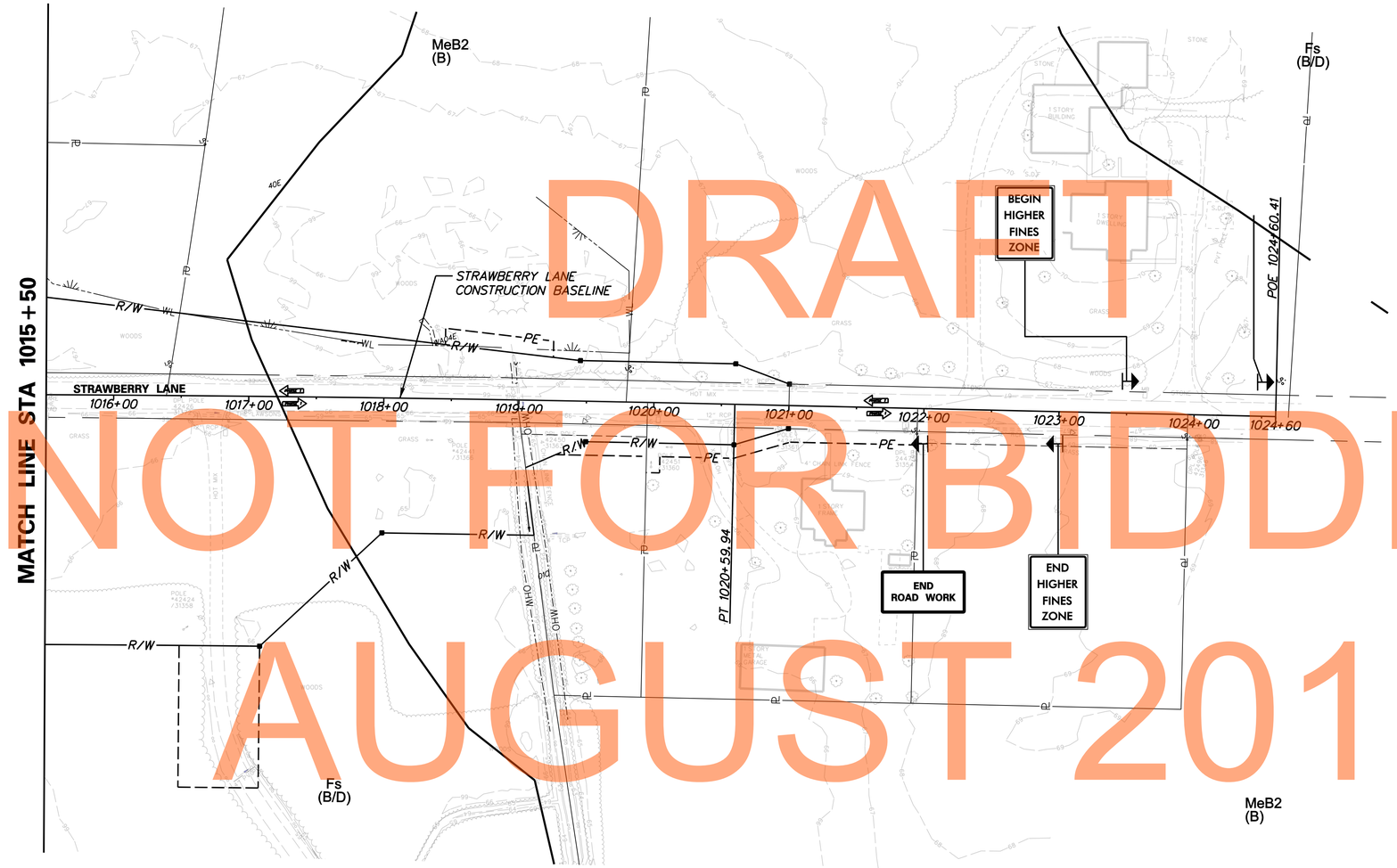
CS-035

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1	SHEET NO. 499
				COUNTY NEW CASTLE	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW



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CS-036

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

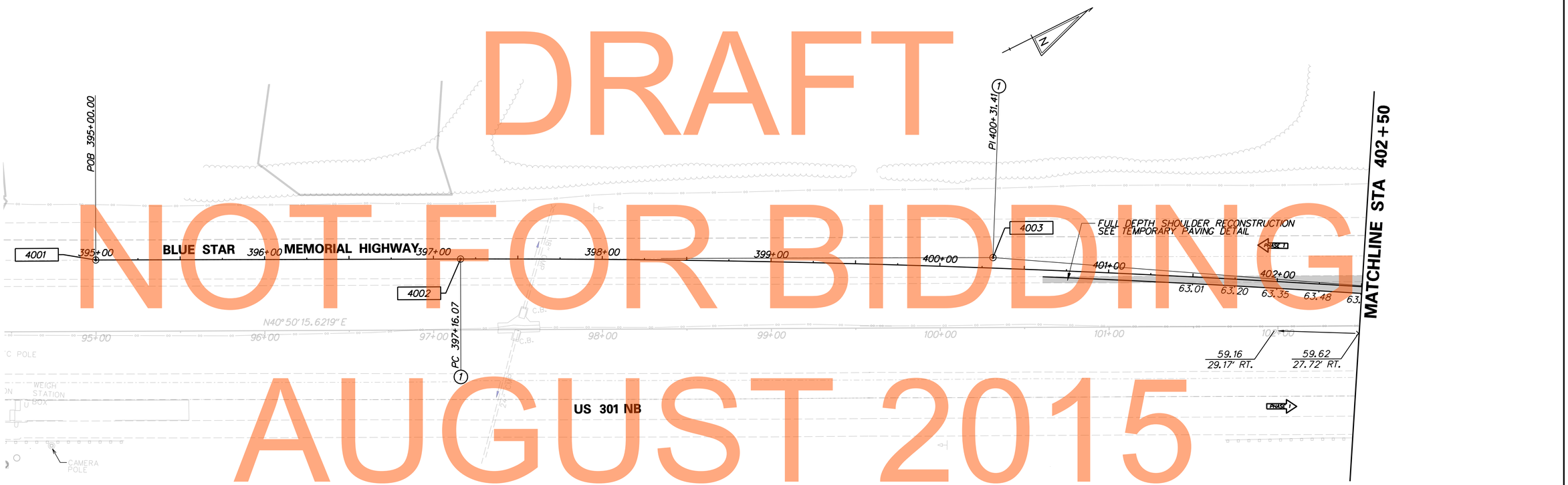
CONTRACT	BRIDGE NO.
T200811301	DESIGNED BY: MFM
COUNTY	CHECKED BY: SKH
NEW CASTLE	

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1

SHEET NO.
500
TOTAL SHTS.
850

CIRCULAR CURVE NO. ①			
	STATION	NORTHING	EASTING
ELEMENT:	CIRCULAR		
PC	(4002) 397+16.07	512372.0393	554630.7994
PI	(4003) 400+31.41	512610.2747	554837.3928
CC	(4005)	507130.8184	560674.7719
PT	(4004) 403+46.42	512831.5097	555062.0971
Radius:			8000.0000
Delta:			4° 30' 52.2788" Right
Degree of Curvature(Arc):			0° 42' 58.3101"
Length:			630.3462
Tangent:			315.3362
Chord:			630.1831
Middle Ordinate:			6.2076
External:			6.2124
Tangent Direction:			N 40° 55' 52.4032" E
Radial Direction:			S 49° 04' 07.5968" E
Chord Direction:			N 43° 11' 18.5426" E
Radial Direction:			S 44° 33' 15.3181" E
Tangent Direction:			N 45° 26' 44.6819" E

CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
· 4001	395+00.00	0.0000	512208.7977	554489.2394



SB CROSSOVER PLAN

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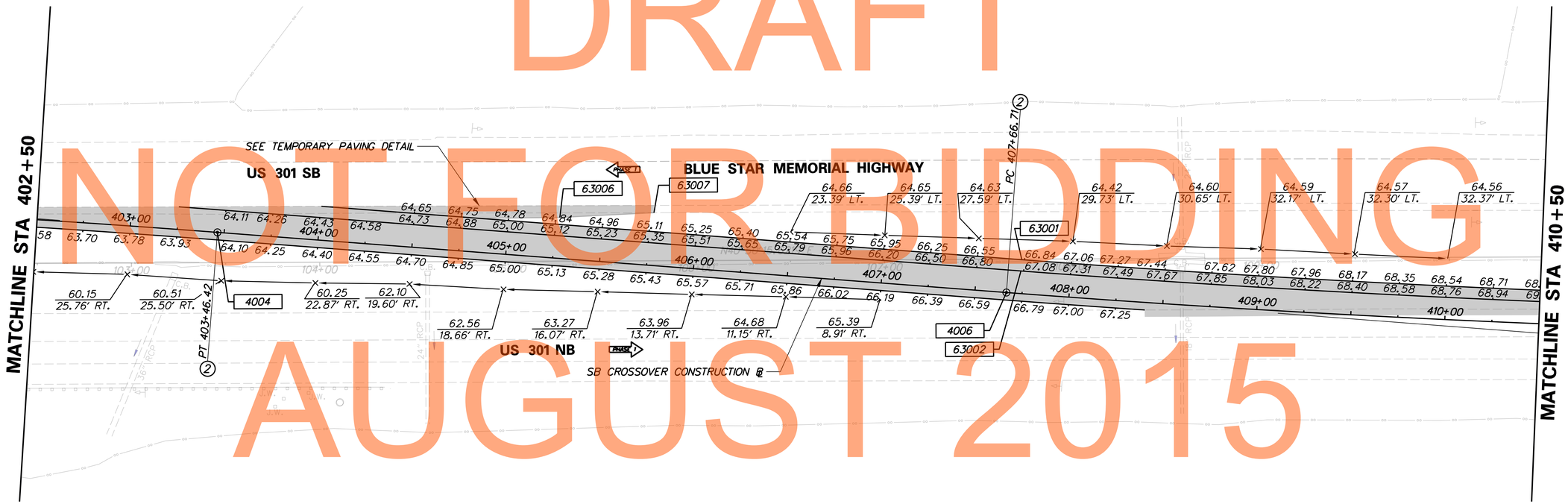
CS-037

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
				COUNTY CECIL	DESIGNED BY: MFM	SHEET NO. 501
					CHECKED BY: SKH	TOTAL SHTS. 850

COORDINATE LIST				
POINT	STATION	OFFSET	NORTHING	EASTING
· 63001	407+73.54	18.0000	513143.9909	555353.8223
· 63002	407+73.54	12.0000	513139.7154	555358.0318
· 63006	405+27.14	21.6941	512973.7803	555175.6772
· 63007	405+76.82	28.0110	513013.1190	555206.6290

CIRCULAR CURVE NO. ②			
	STATION	NORTHING	EASTING
ELEMENT: CIRCULAR			
PC (4006)	407+66.71	513126.3775	555361.5889
PI (4007)	410+80.70	513346.6726	555585.3387
CC (4009)		518827.0688	549748.9141
PT (4008)	413+94.38	513583.8272	555791.1337
Radius:			8000.0000
Delta:			4° 29′ 43.3087″ Left
Degree of Curvature(Arc):			0° 42′ 58.3101″
Length:			627.6712
Tangent:			313.9967
Chord:			627.5102
Middle Ordinate:			6.1550
External:			6.1597
Tangent Direction:			N 45° 26′ 44.6819″ E
Radial Direction:			S 44° 33′ 15.3181″ E
Chord Direction:			N 43° 11′ 53.0276″ E
Radial Direction:			S 49° 02′ 58.6268″ E
Tangent Direction:			N 40° 57′ 01.3732″ E



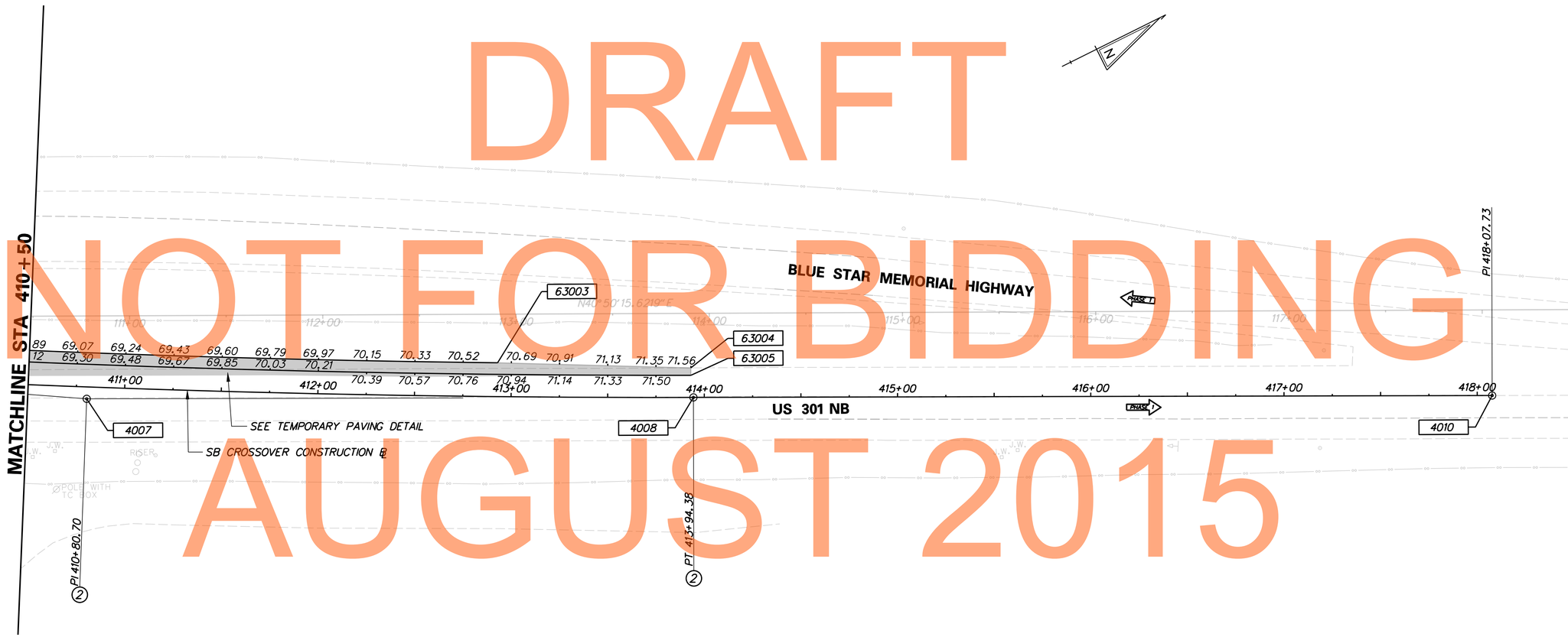
SB CROSSOVER PLAN

JN\2008 PROJECTS\E3X34801\700CADD\750AET\MOT_PHASE 1\CS_301AET_038.DGN

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
				COUNTY CECIL	DESIGNED BY: MFM	SHEET NO. 502
					CHECKED BY: SKH	TOTAL SHTS. 850

CS-038

CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
4010	418+07.73	0.0000	513896.0254	556062.0491



SB CROSSOVER PLAN

CS-039

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
				COUNTY CECIL	DESIGNED BY: MFM	SHEET NO. 503
					CHECKED BY: SKH	TOTAL SHTS. 850

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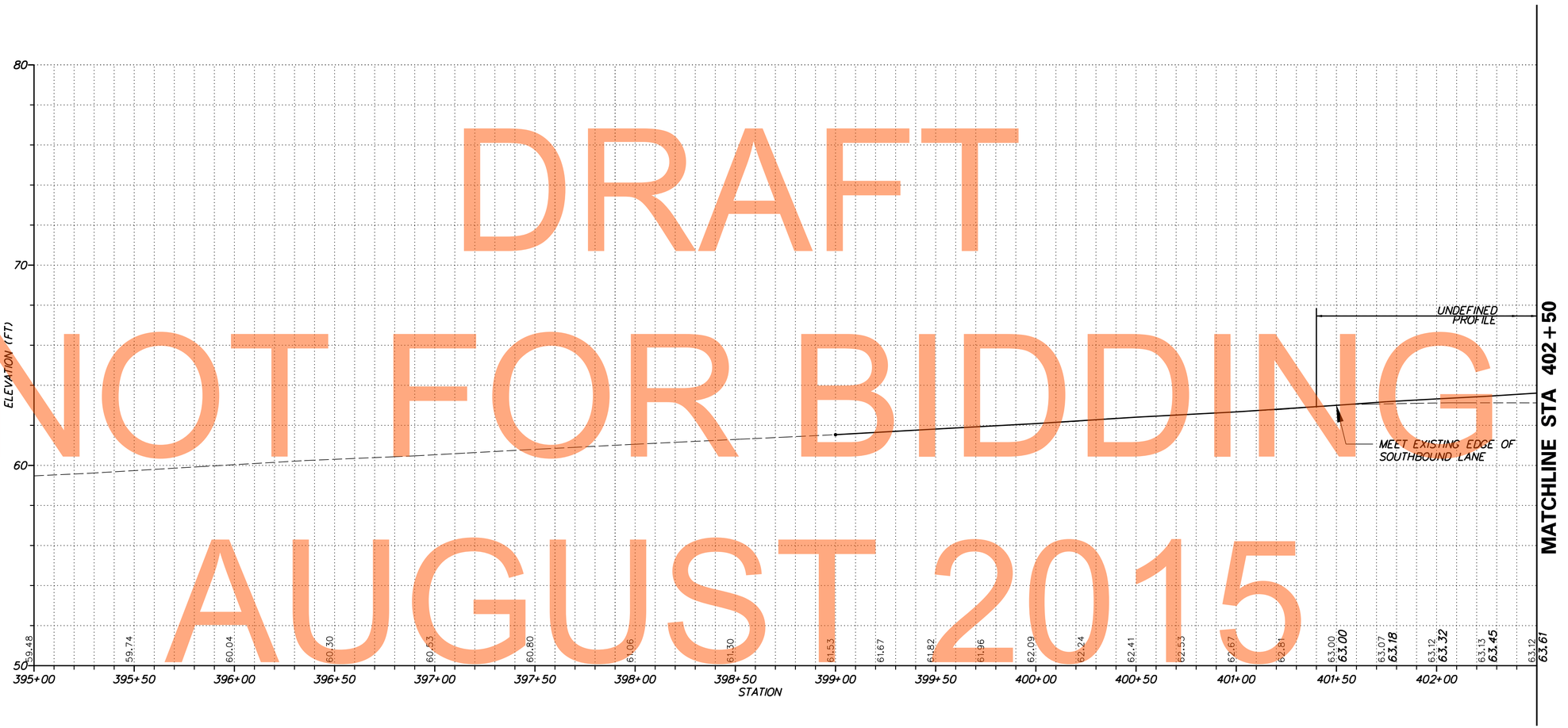

SB CROSSOVER PROFILE

VERTICAL SCALE FEET 0 3 6 9

CS-040

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	**US 301 MARYLAND STATE LINE TO LEVELS ROAD**	CONTRACT T200811301 / COUNTY CECIL	BRIDGE NO. / DESIGNED BY: MFM / CHECKED BY: SKH	**CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1**	SHEET NO. 504 / TOTAL SHTS. 850

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SB CROSSOVER PROFILE

VERTICAL SCALE FEET 9 6 3 0

CS-041

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1
				COUNTY CECIL	DESIGNED BY: MFM	SHEET NO. 505
					CHECKED BY: SKH	TOTAL SHTS. 850

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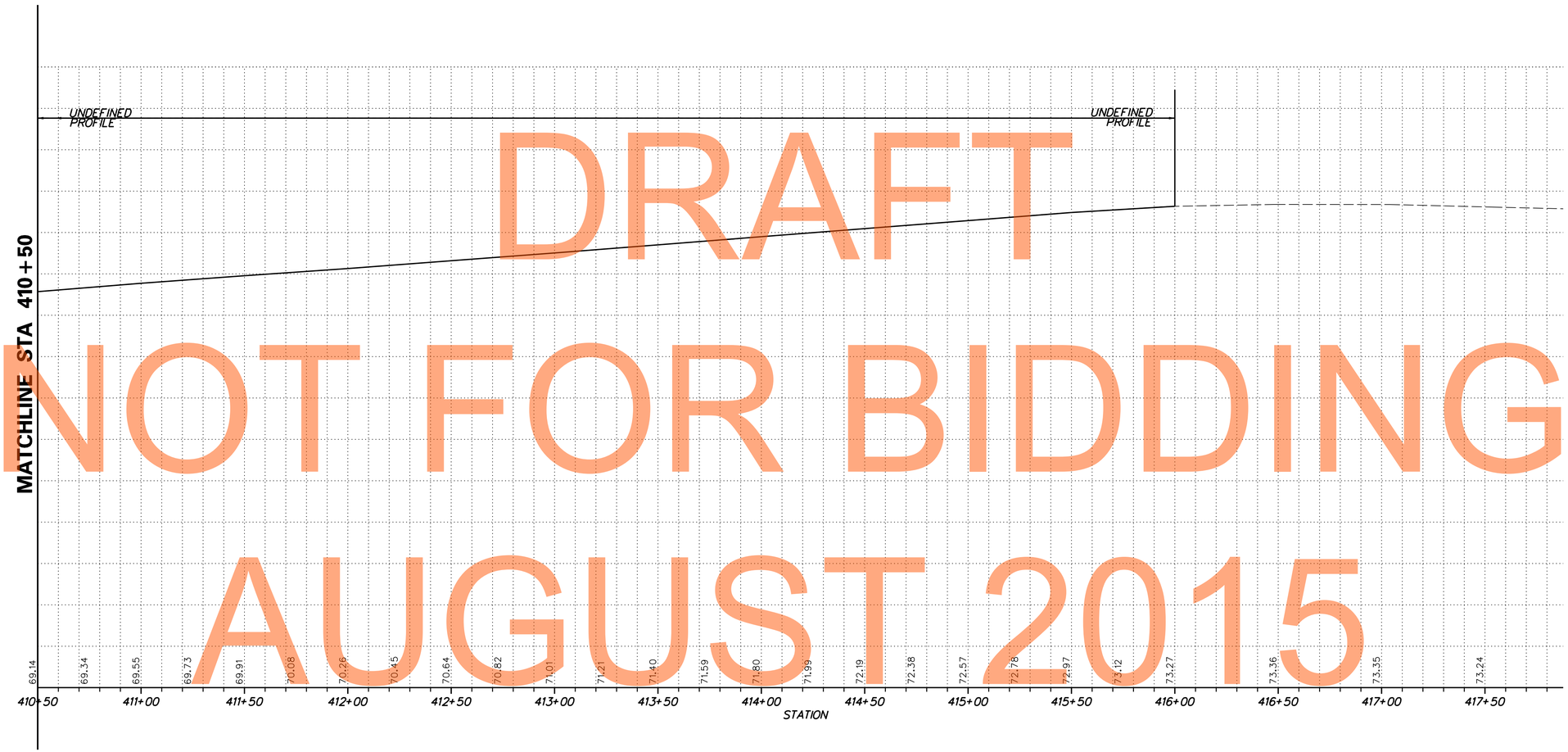

SB CROSSOVER PROFILE

VERTICAL SCALE FEET 0 3 6 9

CS-042

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	**US 301 MARYLAND STATE LINE TO LEVELS ROAD**	CONTRACT T200811301 / COUNTY CECIL	BRIDGE NO. / DESIGNED BY: MFM / CHECKED BY: SKH	**CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1**	SHEET NO. 506 / TOTAL SHTS. 850

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SEQUENCE OF CONSTRUCTION - (PHASE 2A)

OBJECTIVES: TRANSPORT BORROW MATERIAL FOR PHASE 5 FROM LEVELS ROAD MITIGATION SITE TO MARYLAND STOCKPILE SITE VIA OFF-ROAD ACCESS. BEGIN CONSTRUCTION OF NEW ALIGNMENTS US 301, STRAWBERRY LANE, AND WARWICK ROAD. BEGIN CONSTRUCTION OF BRIDGES 1-482 AND 1-486.

1. INSTALL ALL TRAFFIC CONTROL DEVICES AS SHOWN AND IMPLEMENT PHASE 2A TRAFFIC CONTROL SCHEME.
2. PLACE TEMPORARY ROADWAY STRIPING AND SIGNAGE AS SHOWN ON THE PROJECT PLANS.
3. SHIFT SOUTHBOUND TRAFFIC ONTO TEMPORARY SOUTHBOUND CROSSOVER IN MARYLAND.
4. INSTALL ALL TRAFFIC CONTROL DEVICES FOR THE DETOUR OF STRAWBERRY LANE AND IMPLEMENT DETOUR.
5. INSPECT AND MAINTAIN ALL EXISTING EROSION AND SEDIMENT CONTROL FACILITIES AND FEATURES. THE ENGINEER MUST GRANT APPROVAL PRIOR TO THE REMOVAL OF ANY EROSION AND SEDIMENT CONTROL.
6. BEGIN FOUNDATION CONSTRUCTION OF LEVELS ROAD BRIDGE 1-482.
7. CONTRACTOR TO BEGIN BORROW TRANSPORT OPERATIONS TO THE DESIGNATED STOCKPILE LOCATION IN MARYLAND AS SHOWN ON THE PROJECT PLANS.
8. STOCKPILE BORROW MATERIAL AT THE DESIGNATED MARYLAND LOCATION AS INDICATED ON THE PROJECT PLANS. THE PERIMETER OF THE STOCKPILE SHALL BE IMMEDIATELY STABILIZED WITH SUPER SILT FENCE. IMMEDIATELY STABILIZE THE TOPSOIL STOCKPILE USING SEED AND MULCH MEASURES.
9. INSTALL SCE'S ALONG EXISTING US 301 FOR STRAWBERRY LANE BRIDGE 1-486 CONSTRUCTION ACCESS.
10. PRIOR TO BEGINNING BRIDGE CONSTRUCTION AT STRAWBERRY LANE (1-486) THE CONTRACTOR MUST COORDINATE WITH THE WIM VENDOR TO TEMPORARILY RELOCATE FIBER OPTIC COMMUNICATIONS CABLE FROM NEAREST EXISTING JUNCTION WELL ON EITHER SIDE OF STRAWBERRY LANE ALONG THE NORTHBOUND SIDE OF US 301. COMMUNICATION CABLE IS TO BE TEMPORARILY RELOCATED IN A MANNER THAT WILL NOT INTERFERE WITH BRIDGE CONSTRUCTION NOR WEIGH STATION OPERATIONS AND AS APPROVED BY THE ENGINEER. THE PROPOSED RELOCATION SCHEME MUST BE PROVIDED TO THE ENGINEER AT LEAST 2 WEEKS IN ADVANCE OF SCHEDULED RELOCATION WORK. THE ENGINEER WILL COORDINATE THE RELOCATION SCHEME AND SCHEDULE OF WORK WITH THE DSP AND CONTRACTOR. NO TEMPORARY RELOCATION WORK WILL BE AUTHORIZED UNTIL THE DSP AND ENGINEER APPROVE THE PROPOSED SCHEME AND SCHEDULE A TEMPORARY CLOSURE OF THE WEIGH STATION.
11. BEGIN FOUNDATION CONSTRUCTION OF STRAWBERRY LANE BRIDGE 1-486.
12. INSTALL CONDUIT(S) AND JUNCTION WELL(S) ALONG SOUTHBOUND US 301 BETWEEN STATION 137+50 AND 139+50.
13. INSTALL CULVERTS (P-002, P-003, P-004, P-005, P-006, P-077, P-078 AND P-081) ON STRAWBERRY LANE BETWEEN STATION 1002+00 AND 1008+00.
14. INSTALL CULVERTS (P-070 AND P-071), AND ADJOINING DITCHES AT STRAWBERRY LANE STATION 1017+50. CONTRACTOR TO INSTALL CULVERTS AND RIPRAP DURING A CLEAR/DRY WEATHER FORECAST.
15. CONSTRUCT REALIGNED DRIVEWAY TO PARCEL 108. NOTE: MAINTAIN ACCESS TO PARCEL 108 AT ALL TIMES.
16. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 619 FOR TEMPORARY USE AS A SEDIMENT BASIN AT STRAWBERRY LANE STATION 1019+00 PER PLANS AND PROJECT SPECIFICATIONS.
17. INSTALL CULVERTS (P-007, P-008, P-072, P-079, P-080, AND P-082) ALONG STRAWBERRY LANE.
18. INSTALL CONSTRUCTION FENCE AT THE INFILTRATION AREA OF STORMWATER MANAGEMENT POND BMP NO. 620. CONSTRUCTION VEHICLE TRAFFIC IS TO BE LIMITED TO THE GREATEST EXTENT PRACTICABLE WITHIN THE FENCED AREA.
19. IF CONDITIONS NECESSITATE, INSTALL TEMPORARY CLEAN WATER DIVERSION PUMP BYPASS TO FACILITATE INSTALLATION OF CULVERTS (P-061, P-062, P-027 AND P-028) AT US 301 STATION 198+00.
20. INSTALL CULVERTS (P-061, P-062, P-027 AND P-028) AT US 301 STATION 198+00.
21. CULVERTS (P-061, P-062, P-027 AND P-028) ARE TO BE STABILIZED, INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO REMOVAL OF THE CLEAN WATER DIVERSION PUMP BYPASS.
22. INSTALL CULVERTS (P-060, P-023, P-022, P-021, P-019, AND P-018) BETWEEN US 301 STATION 186+75 AND 198+00 WITH ASSOCIATED DRAINAGE STRUCTURES. CULVERT INSTALLATION UNDER EXISTING US 301 (P-018) MUST OCCUR DURING OFF-PEAK HOURS).
23. FILL EXISTING 18" RCP PIPE AT STATION 187+70, RIGHT, UNDER EXISTING US 301.
24. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 616 FOR TEMPORARY USE AS A SEDIMENT BASIN, PER PLANS AND PROJECT SPECIFICATIONS. THE PERMANENT OUTLET STRUCTURE SHALL BE BLOCKED AND A DEWATERING SKIMMER DEVICE IS TO BE USED WHILE THIS FACILITY OPERATES AS A SEDIMENT REMOVAL BMP.
25. CONSTRUCT PERMANENT CLEAN WATER DIVERSION SWALE ALONG WARWICK ROAD BETWEEN STATION 1269+00 AND STATION 1280+00. THE SWALE IS TO BE CONSTRUCTED FROM THE LOWEST ELEVATION WORKING UPSLOPE. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. STABILIZE ANY RESULTING DISTURBANCE IMMEDIATELY.
26. INSTALL CLEAN WATER DIVERSION PIPES (P-048, P-047, P-046, P-045, P-044, AND P-043) AT US 301 STATION 242+00. THE UPSLOPE END OF PIPE (P-043) IS TO BE TEMPORARILY BLOCKED UPON INSTALLATION.
27. CONSTRUCT PERMANENT CLEAN WATER DIVERSION SWALE AND TEMPORARY BERM ALONG US 301 BETWEEN STATION 228+00 AND STATION 249+00. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. ONCE CONSTRUCTED AND STABILIZED, REMOVE THE OBSTRUCTION FROM CLEAN WATER DIVERSION PIPE (P-043).
28. INSTALL PIPES (P-049 AND P-050) AT WARWICK ROAD STATION 1275+00.
29. CONSTRUCT ROADSIDE CONVEYANCE SWALE ALONG WARWICK ROAD FROM STATION 1257+00 TO STATION 1278+00, LEFT, INCLUDING DRIVEWAY CULVERT (P-038), AND STATION 1280+00 TO 1281+00 INCLUDING DRIVEWAY CULVERT (P-009). INSTALL SWALE FROM STATION 1282+00 TO 1291+00.
30. CONSTRUCT WARWICK ROAD EMBANKMENT BETWEEN STATION 1257+00 AND STATION 1291+00.
31. INSTALL ALL TRAFFIC CONTROL DEVICES FOR THE DETOUR OF MIDDLENECK ROAD AND IMPLEMENT DETOUR.
32. SAW CUT AND REMOVE THE EXISTING PAVEMENT SECTION OF MIDDLENECK ROAD AS SHOWN ON THE PLANS. INSTALL A SCE IN THE AREA OF THE REMOVED PAVEMENT SECTION.
33. CONSTRUCT PERMANENT CLEAN WATER DIVERSION SWALE FROM WARWICK ROAD STATION 1227+25 TO 1239+60, LEFT, AS SHOWN ON THE PROJECT PLANS. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. INSTALL CULVERT PIPE (P-033, AND P-031) AND CULVERT PIPE (P-034, AND P-032) AND ASSOCIATED DRAINAGE STRUCTURES. UPON INSTALLATION, TEMPORARILY BLOCK CULVERT PIPES (P-031 AND P-032) AT THE UPSLOPE END.
34. CONSTRUCT PERMANENT CLEAN WATER DIVERSION SWALE FROM US 301 STATION 205+00 TO STATION 227+50, RIGHT. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. ONCE VEGETATION IS ESTABLISHED REMOVE OBSTRUCTION FROM CULVERT PIPES (P-031 AND P-032).
35. CONSTRUCT TEMPORARY EARTH DIKE FROM STATION 183+60 TO STATION 198+35 AS SHOWN ON THE PROJECT PLANS.
36. CONSTRUCT WARWICK ROAD EMBANKMENT, ROADSIDE CONVEYANCE SWALE, UNDERDRAIN OUTLET PIPES, AND DRIVEWAY CULVERT (P-037) BETWEEN STATION 1229+00 AND STATION 1257+00.
37. PRIOR TO THE CONSTRUCTION OF STORMWATER MANAGEMENT BMP NO. 610, THE ADJACENT PERMANENT CLEAN WATER DIVERSION SWALE SHALL BE CONSTRUCTED, AS SHOWN ON THE PROJECT PLANS FROM STATION 1214+00 TO STATION 1222+00. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES.
38. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 610 FOR TEMPORARY USE AS A SEDIMENT BASIN, PER PLANS AND PROJECT SPECIFICATIONS.
39. INSTALL TEMPORARY SIGNAL AND INTERSECTION MODIFICATIONS AT US 301 AND WARWICK ROAD (SEE SIGNAL PLAN SG-04). CLOSE WARWICK ROAD OFF-RAMP TO 299 WEST. TRAFFIC TO UTILIZE EXISTING INTERSECTION.
40. INSTALL SCE'S AT WARWICK ROAD INTERSECTION, STATION 178+00, AS SHOWN ON PLANS.
41. SAW CUT AND REMOVE EXISTING DRIVEWAY PAVEMENT FROM PARCEL 131 AT WARWICK ROAD STATION 1211+25, RIGHT, WHILE MAINTAINING ACCESS TO PARCEL 131.
42. CONSTRUCT ROADSIDE CONVEYANCE SWALE AND DRIVEWAY CULVERT (P-100) ALONG WARWICK ROAD FROM STATION 1206+50 TO STATION 1219+00.
43. CONSTRUCT WARWICK ROAD EMBANKMENT FROM STATION 1207+00 TO STATION 1229+00 INCLUDING ALL CULVERT PIPES (P-024, P-025, P-026).
44. CONSTRUCT SEDIMENT TRAP NO. 7, PER PLANS AND PROJECT SPECIFICATIONS.
45. INSTALL CULVERTS (P-015, P-016, AND P-017) AT WARWICK ROAD STATION 1202+50 INCLUDING ASSOCIATED DRAINAGE FEATURES. CULVERT INSTALLATION MUST OCCUR DURING OFF-PEAK HOURS. CONTRACTOR TO INSTALL CULVERT AND RIPRAP DURING A CLEAR/DRY WEATHER FORECAST.
46. CONSTRUCT PERMANENT CLEAN WATER DIVERSION SWALE BETWEEN CULVERT PIPES (P-015, P-016, AND P-017) AT WARWICK ROAD STATION 1202+50 AND US 301 STATION 161+60, AND INSTALL CLEAN WATER DIVERSION PIPES (P-014 AND P-013) AT STATION 166+25. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES. INSTALL DRAINAGE PIPES (P-175, P-174, P-172, P-171, P-168, P-166, AND P-165) AND ASSOCIATED DRAINAGE STRUCTURES, BLOCK ALL PIPE OPENINGS TEMPORARILY. CONTRACTOR TO INSTALL CULVERT AND RIPRAP DURING A CLEAR/DRY WEATHER FORECAST.
47. CONSTRUCT EARTHEN VISUAL BERM BETWEEN STATIONS 165+00 AND 176+00, LEFT.
48. CONSTRUCT SOUTHBOUND US 301 EMBANKMENT AND ROADSIDE CONVEYANCE SWALE FROM STATION 161+50 TO STATION 176+50.
49. INSTALL CULVERT INLET PROTECTION AT STATION 152+00 AS SHOWN ON PLANS.
50. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 608. THE PERMANENT SWM OUTLET CONTROL IS TO BE BLOCKED UPON INSTALLATION.
51. BMP NO. 608 SHALL FUNCTION AS SEDIMENT TRAP NO. 6 IN A TEMPORARY CONDITION, CONSTRUCT PER PLANS AND PROJECT SPECIFICATIONS.
52. CONSTRUCT SOUTHBOUND US 301 EMBANKMENT, CROSS CULVERT (P-156), AND ROADSIDE CONVEYANCE SWALE BETWEEN STATIONS 148+00 AND 161+50.
53. INSTALL SWM CULVERT FROM STORMWATER MANAGEMENT BMP NO. 608 TO THE PROPOSED MEDIAN AS SHOWN. TEMPORARILY BLOCK BOTH ENDS OF CULVERT. THE REMAINING SECTIONS OF THE CULVERT ARE INSTALLED IN PHASE 2B AND PHASE 5.
54. CONSTRUCT THE PERMANENT CLEAN WATER DIVERSION SWALE ALONG STRAWBERRY LANE BETWEEN STATION 1002+00 AND STATION 1010+00, THE ROADSIDE CONVEYANCE SWALE ALONG BOTH SIDES OF STRAWBERRY LANE BETWEEN STATION 1005+00 AND STATION 1010+00 AND ALONG US 301 SOUTHBOUND TO STATION 148+50. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES.
55. BEGIN STRAWBERRY LANE BRIDGE 1-486 WEST EMBANKMENT. THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH IN ACCORDANCE WITH INCREMENTAL STABILIZATION CRITERIA FOR EMBANKMENTS.
56. CONSTRUCT SEDIMENT TRAP NO. 5, PER PLANS AND PROJECT SPECIFICATIONS. INSTALL SUMP PIT AS SHOW ON PLANS.
57. BEGIN STRAWBERRY LANE BRIDGE 1-486 EAST EMBANKMENT.
58. CONSTRUCT SOUTHBOUND US 301 EMBANKMENT BETWEEN STATION 139+00 AND STATION 148+00.
59. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 605 FOR TEMPORARY USE AS A SEDIMENT BASIN, PER PLANS AND PROJECT SPECIFICATIONS.
60. CONSTRUCT STORMWATER MANAGEMENT BMP NO. 604 FOR TEMPORARY USE AS A SEDIMENT BASIN, PER PLANS AND PROJECT SPECIFICATIONS.
61. INSTALL CULVERT (P-129) AT US 301 STATION 129+50 DURING OFF-PEAK HOURS.
62. CONSTRUCT ROADSIDE CONVEYANCE SWALE ALONG SOUTHBOUND US 301 BETWEEN STATION 132+00 AND STATION 137+50.
63. CONSTRUCT MEDIAN TO TEMPORARY GRADE CONDITION TO PROVIDE POSITIVE DRAINAGE TO PIPE AT US 301 STATION 129+50 (P-129).
64. CONSTRUCT SOUTHBOUND US 301 EMBANKMENT INCLUDING UNDERDRAIN OUTLET PIPE (P-135) BETWEEN STATION 126+00 AND STATION 139+00.

MDE No. 10-SF-0061

CS-043

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2A	SHEET NO. 507
				COUNTY NEW CASTLE	DESIGNED BY: SGS		TOTAL SHTS. 850
					CHECKED BY: SKH		

SEQUENCE OF CONSTRUCTION - (PHASE 2A - CONTINUED)

65. INSTALL ALL PERIMETER E&S CONTROL AS SHOWN ON THE PROJECT PLANS WITHIN THE PHASE 2A WORK LIMITS IN MARYLAND, INCLUDING TEMPORARY PIPE (P-901) AND ASSOCIATED ROCK OUTLET PROTECTION (ROP-2) AT US 301 STATION 115+75.

66. REMOVE THE EXISTING MEDIAN INLET AT US 301 STATION 108+50. FILL THE EXISTING PIPE BENEATH THE SOUTHBOUND LANES OF US 301 WITH FLOWABLE FILL.

67. STRIP TOPSOIL AND STOCKPILE AT THE DESIGNATED LOCATION AS INDICATED ON THE PROJECT PLANS. THE PERIMETER OF THE STOCKPILE SHALL BE IMMEDIATELY STABILIZED WITH SUPER SILT FENCE.

68. PRIOR TO THE CONSTRUCTION OF SEDIMENT TRAP NO. 4, THE ADJACENT CLEAN WATER DIVERSION SWALE SHALL BE CONSTRUCTED AS SHOWN ON THE PROJECT PLANS. INSTALL SILT FENCE BETWEEN THE CLEAN WATER DIVERSION SWALE AND ADJACENT EARTHWORK ACTIVITIES TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE CLEAN WATER DIVERSION. ONCE THE EARTHWORK ACTIVITIES ADJACENT TO THE CLEAN WATER DIVERSION SWALE ARE COMPLETE AND STABILIZED, REMOVE THE CLEAN WATER DIVERSION SWALE PROTECTION MEASURES.

69. CONSTRUCT SEDIMENT TRAP NO. 4 AT SOUTHBOUND US 301, STATION 124+00, PER PLANS AND PROJECT SPECIFICATIONS.

70. CONSTRUCT SEDIMENT TRAP NO. 2 AT SOUTHBOUND US 301, STATION 112+00, PER PLANS AND PROJECT SPECIFICATIONS. EXCAVATE TRAP TO LOWEST ELEVATION. DEWATER THE EXISTING ROADSIDE DITCH USING AN APPROVED METHOD. EXCAVATE UNSUITABLE MATERIAL. FILL EXISTING DITCH.

71. CONSTRUCT ROADSIDE CONVEYANCE SWALE ALONG SOUTHBOUND US 301 FROM STATION 113+50 TO STATION 122+50.

72. INSTALL DRAINAGE PIPE (P-123) AT US 301 STATION 122+50 AND PIPE (P-125) AT STATION 124+50, INCLUDING ASSOCIATED END TREATMENTS AS SHOWN ON THE PROJECT PLANS (INLETS TO BE INSTALLED IN PHASE 5).

73. CONSTRUCT SOUTHBOUND US 301 EMBANKMENT BETWEEN STATION 108+00 AND STATION 126+00.

74. CONSTRUCT MEDIAN TO TEMPORARY GRADE CONDITION TO PROVIDE POSITIVE DRAINAGE TO PIPE (P-123) AT STATION 122+50 AND PIPE (P-125) AT STATION 122+50.

75. INSTALL CONDUITS AND JUNCTION WELLS ALONG SOUTHBOUND US 301 BETWEEN APPROXIMATE STATIONS 114+80 TO 149+00 AS SHOWN ON THE WIM AND CVISN PLANS. BORINGS WILL BE REQUIRED FOR THE ROAD CROSSINGS LOCATED AT STATIONS 114+80, 137+50 AND 149+00. INSTALL POWER CONDUIT ALONG STRAWBERRY LANE TO NEW POINT OF SERVICE NO. 1. THE CONTRACTOR MUST NOTIFY THE DELAWARE STATE POLICE TWO WEEKS PRIOR TO ANY ANTICIPATED IMPACTS TO THE US 301 WEIGH STATION IN DELAWARE.

76. INSTALL TEMPORARY SIGNAL AND INTERSECTION MODIFICATIONS AT US 301 AND LEVELS ROAD (SEE SIGNAL PLAN SG-01A).

77. CONSTRUCT MEDIAN ISLAND MODIFICATIONS ON THE NORTH SIDE OF THE US 301 AND LEVELS ROAD INTERSECTION.

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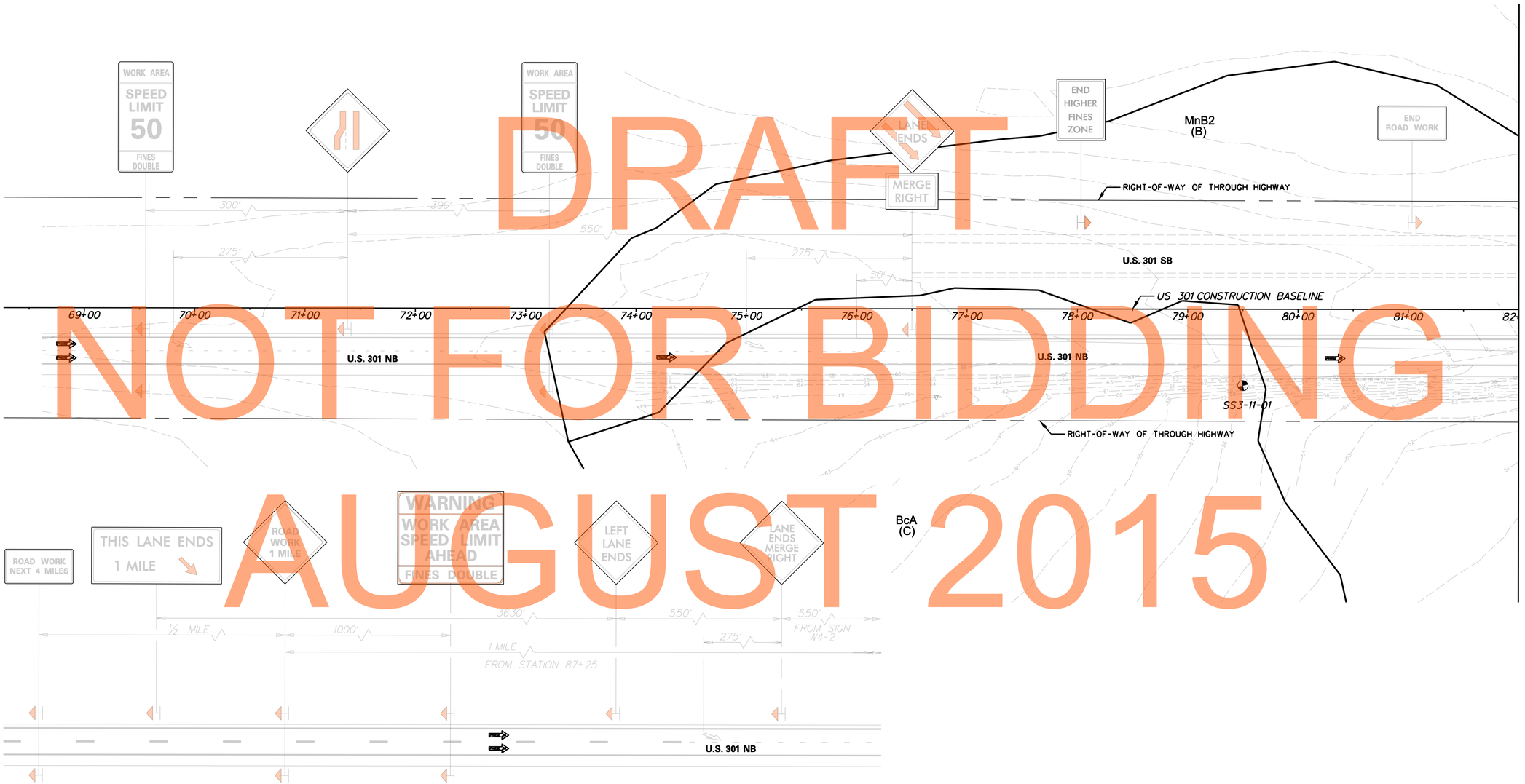
MDE No. 10-SF-0061

CS-044

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: SGS / CHECKED BY: SKH	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2A	SHEET NO. 508 / TOTAL SHTS. 850

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

NOTE: ------ LOC ------ EQUIVALENT TO SHA ——— LOD ———



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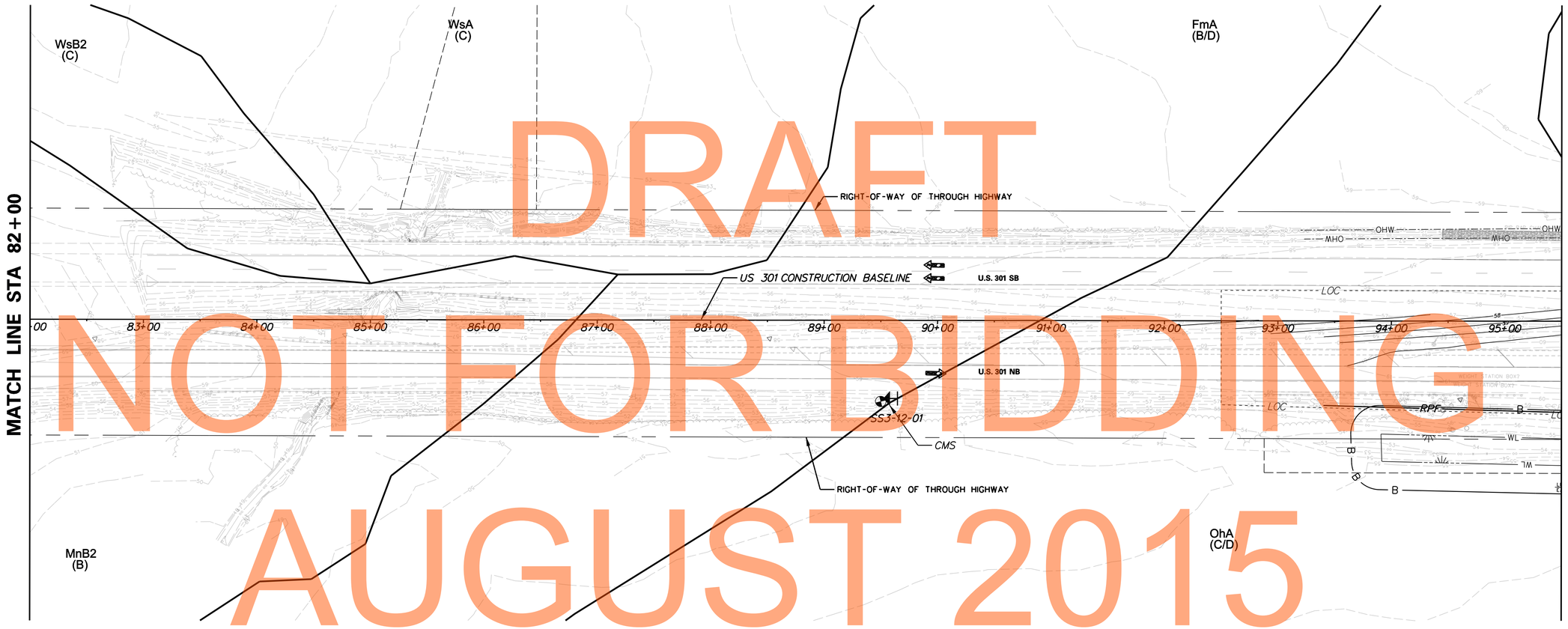
CS-045

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A	SHEET NO. 509
				COUNTY CECIL	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

NOTE: ------- LOC ------- EQUIVALENT TO SHA ——— LOD ———



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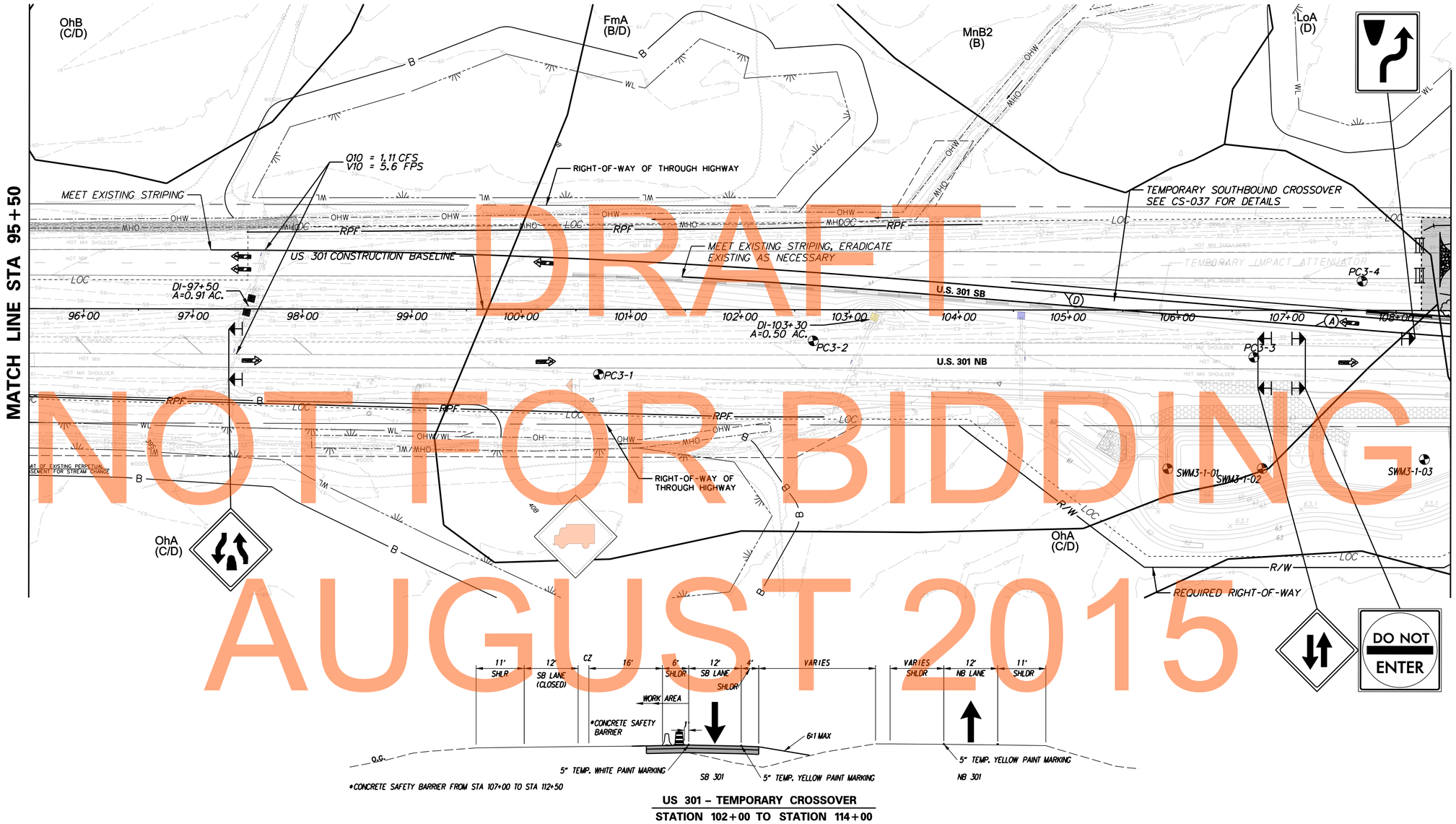
MDE No. 10-SF-0061

CS-046

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 50 100 150 FEET	US 301 MARYLAND STATE LINE TO LEVELS ROAD	CONTRACT T200811301	BRIDGE NO.	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A	SHEET NO. 510
				COUNTY CECIL	DESIGNED BY: MFM		TOTAL SHTS. 850
					CHECKED BY: SKH		

CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
------ LOC ------	EQUIVALENT TO SHA ——— LOD ———

INSTALL SUPER SILT FENCE
STA. 108+30 TO STA. 108+50 LT-(20 LF)



*CONCRETE SAFETY BARRIER FROM STA 107+00 TO STA 112+50

US 301 – TEMPORARY CROSSOVER
STATION 102+00 TO STATION 114+00

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	705 LF
(D)	5" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	1,140 LF

MDE No. 10-SF-0061

CS-047

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH	
CECIL		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A

SHEET NO.
511
TOTAL SHTS.
850

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SEDIMENT TRAP SCHEDULE									
NO.	D. AREA	LENGTH	WIDTH	DEPTH	OUT. TYPE	OUT. EL.	CLEAN EL.	STORAGE REQ'D	STORAGE PROV'D
2	1.76 AC	160.00'	35.00'	3.50'	ROST STII	63.50	60.88	10,800 (CF)	16,158 (CF)

RIP-RAP OUTLET SCHEDULE								
NO.	CHANNEL DEPTH	WEIR WIDTH	WEIR EL.	WEIR CREST EL.	APRON FLARE REQ'D	APRON FLARE PROV'D	APRON LENGTH REQ'D	APRON LENGTH PROV'D
ROST 2	1.50'	8.00'	63.50	65.00	21.00'	21.00'	10.00'	10.00'

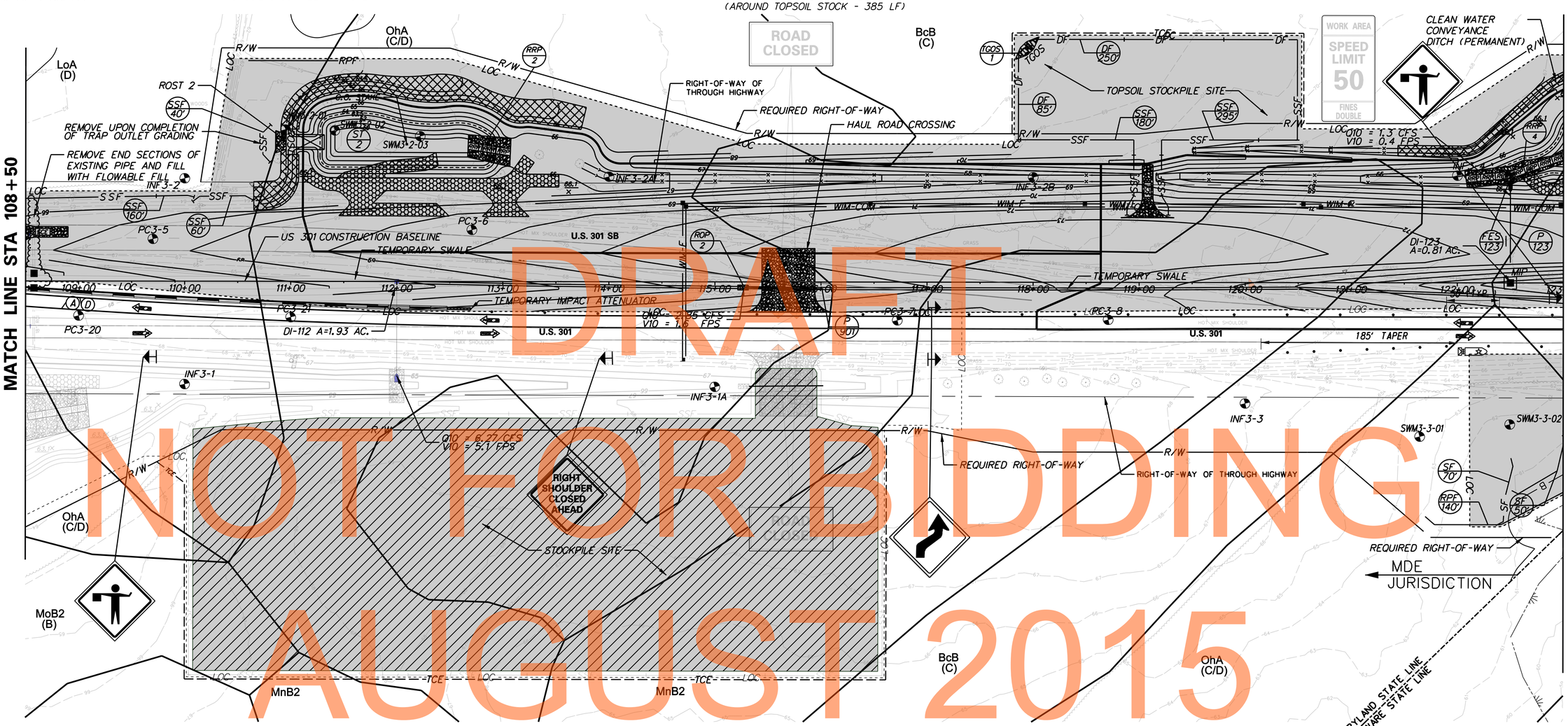
RIP-RAP INFLOW PROTECTION SCHEDULE				
NO.	WIDTH	LENGTH	DEPTH	AREA
RRP 2	26.00'	40.00'	1.50'	1040 SF

INSTALL SUPER SILT FENCE
STA. 108+50 TO STA. 110+70 LT-(220 LF)
STA. 110+70 LT-(50 LF)

INSTALL SUPER SILT FENCE
STA. 117+90 TO STA. 120+50 LT
(AT TOPSOIL STOCKPILE)- (475 LF)

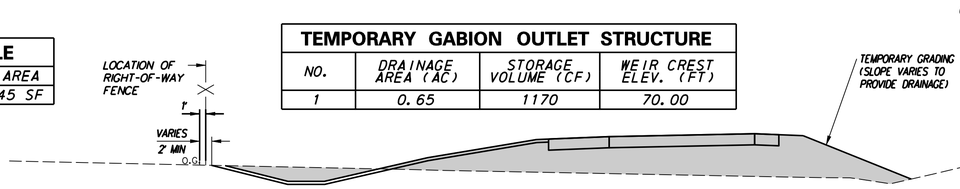
INSTALL SILT FENCE
STA. 122+30 TO STA. 123+00 RT-(120 LF)

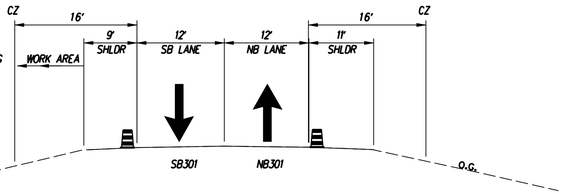
INSTALL DIVERSION FENCE
STA. 177+90 TO STA. 120+50 LT
(AROUND TOPSOIL STOCK - 385 LF)



ROCK OUTLET PROTECTION SCHEDULE					
NO.	TYPE	WIDTH	LENGTH	DEPTH	AREA
ROP 2	I	4.50'	10.00'	1.50'	45 SF

TEMPORARY GABION OUTLET STRUCTURE			
NO.	DRAINAGE AREA (AC)	STORAGE VOLUME (CF)	WEIR CREST ELEV. (FT)
1	0.65	1170	70.00





CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
LOC	EQUIVALENT TO SHA — LOD —

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	2,550 LF
(D)	5" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	1,450 LF

NOTE: BEGIN DOUBLE YELLOW MARKINGS AT STA. 112+00.

US 301 MOT TYPICAL SECTION
STATION 114+00 TO STATION 137+00

TEMPORARY DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
901	18" RCP	III	70.00'	0.78%	70.86	70.33

MDE No. 10-SF-0061

CS-048

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
CECIL	CHECKED BY: SKH

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN – PHASE 2A

SHEET NO.	TOTAL SHTS.
512	850

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CONSTRUCTION PHASING LEGEND	
	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

NOTE: ------ LOC ------ EQUIVALENT TO SHA ——— LOD ———

SEDIMENT TRAP SCHEDULE

NO.	D. AREA	LENGTH	WIDTH	DEPTH	OUT. TYPE	OUT. EL.	CLEAN EL.	STORAGE REQ'D	STORAGE PROV'D
4	2.90 AC	90.00'	40.00'	3.50'	ROST STII	63.50	60.88	16,200 (CF)	20,094 (CF)

RIP-RAP OUTLET SCHEDULE

NO.	CHANNEL DEPTH	WEIR WIDTH	WEIR EL.	WEIR CREST EL.	APRON FLARE REQ'D	APRON FLARE PROV'D	APRON LENGTH REQ'D	APRON LENGTH PROV'D
ROST 4	1.50'	10.00'	63.50	65.00	24.00'	26.00'	10.00'	30.00'

RIP-RAP INFLOW PROTECTION SCHEDULE

NO.	WIDTH	LENGTH	DEPTH	AREA
RRP 4	20.00'	80.00'	1.50'	1600 SF
RRP 5	12.00'	65.00'	1.50'	780 SF

BAFFLE SCHEDULE

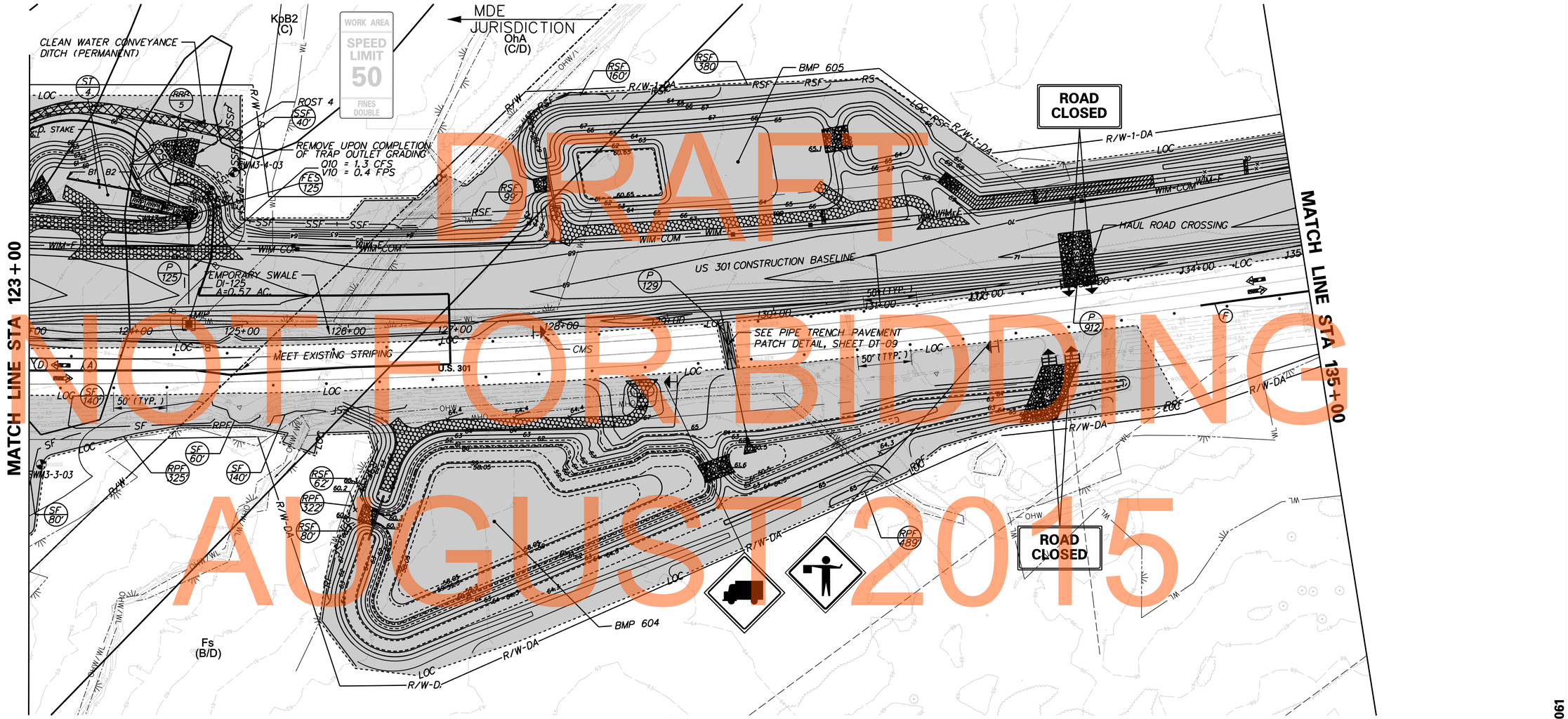
POINT	STATION	OFFSET
B1	123+35	136.00'
B2	124+05	124.00'

TEMPORARY DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
912	18" RCP	IV	36.00'	0.67%	73.18	72.94

INSTALL SUPER SILT FENCE
STA. 124+60 TO STA. 127+90 LT-(350 LF)
STA. 124+80 TO STA. 124+90 LT-(20 LF)
STA. 124+85 TO STA. 124+95 LT-(30 LF)

INSTALL SILT FENCE
STA. 123+00 TO STA. 126+50 RT-(420 LF)



TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	400 LF
(D)	5" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748032)	200 LF
(F)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	100 LF

NOTE: STATION 122+50 TO 126+50, RT, AND STATION 122+50 TO 126+50, LT, TO INSTALL MD SHA WETLAND PROTECTION SIGNS EVERY 50' ON ORANGE FENCE ALONG WETLAND BUFFER.

MDE No. 10-SF-0061

CS-049

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 50 100 150 FEET

US 301
MARYLAND STATE LINE TO LEVELS ROAD

CONTRACT	BRIDGE NO.	
T200811301	DESIGNED BY: MFM	
COUNTY	CHECKED BY: SKH	
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 2A

SHEET NO.	
513	
TOTAL SHTS.	
850	

CONSTRUCTION PHASING LEGEND

	WORK AREA THIS PHASE
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW

NOTE: SEE SHEET CS-002 FOR TEMPORARY STRIPING LEGEND

TEMPORARY DRAINAGE PIPE SCHEDULE

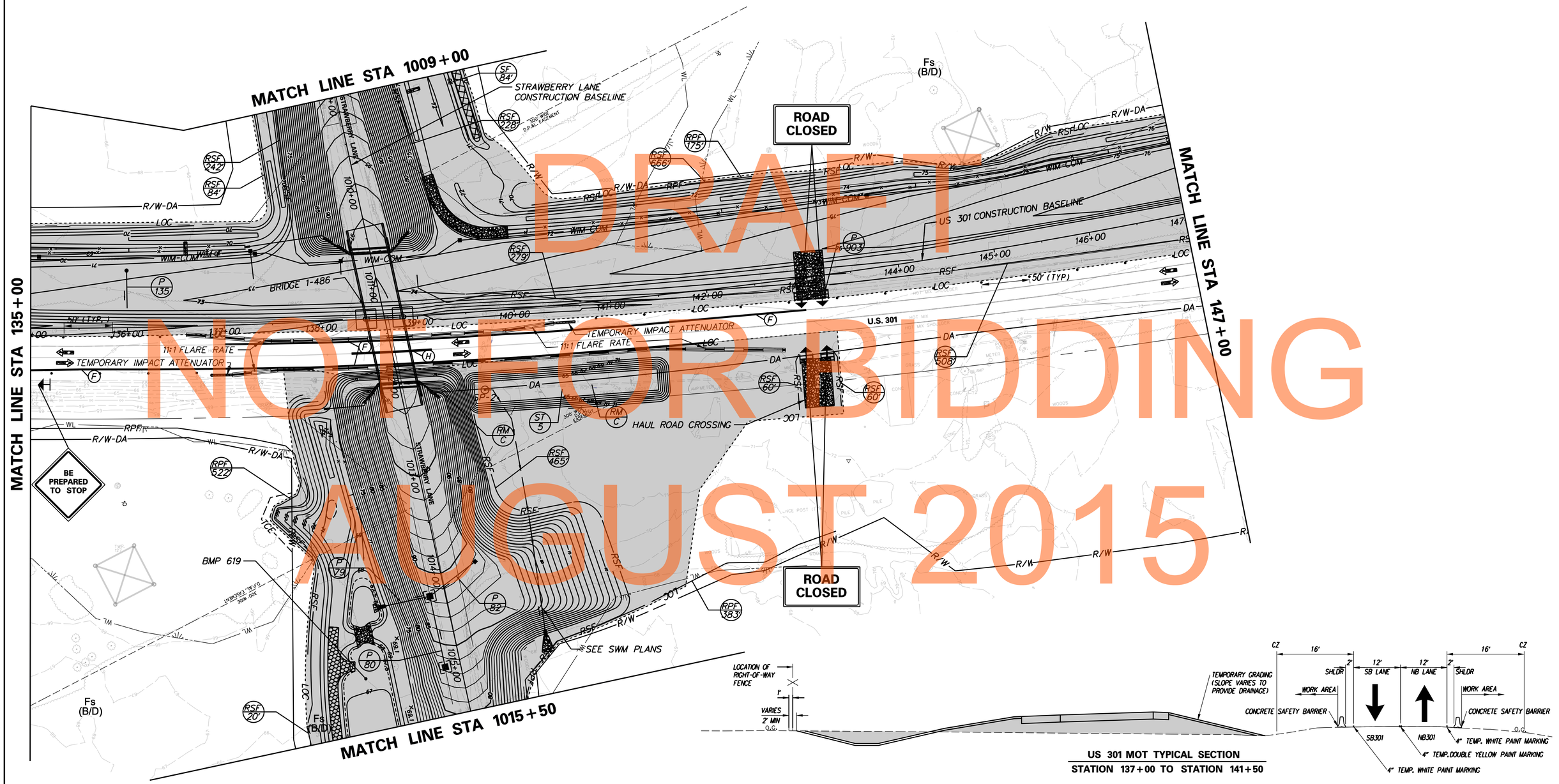
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
903	14"X23" RCP	IV	36.00'	0.50%	70.33	70.15

SEDIMENT TRAP SCHEDULE

NO.	D. AREA	LENGTH	WIDTH	DEPTH	OUT. TYPE	OUT. EL.	CLEAN EL.	STORAGE REQ'D	STORAGE PROV'D
5	2.65 Ac	190.00'	22.00'	2.00'	SP TYPE II	65.00	66.00	9,540 (CF)	10,091 (CF)

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(F)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	1,300 LF
(H)	4" SOLID DOUBLE YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 748019)	170 LF



US 301 MOT TYPICAL SECTION
STATION 137+00 TO STATION 141+50

SEE DP-01 FOR STRAWBERRY LANE DETOUR

CS-050

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 301
MARYLAND STATE LINE
TO LEVELS ROAD

CONTRACT	BRIDGE NO.
T200811301	
COUNTY	DESIGNED BY: MFM
NEW CASTLE	CHECKED BY: SKH

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

SHEET NO.
514
TOTAL SHTS.
850

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