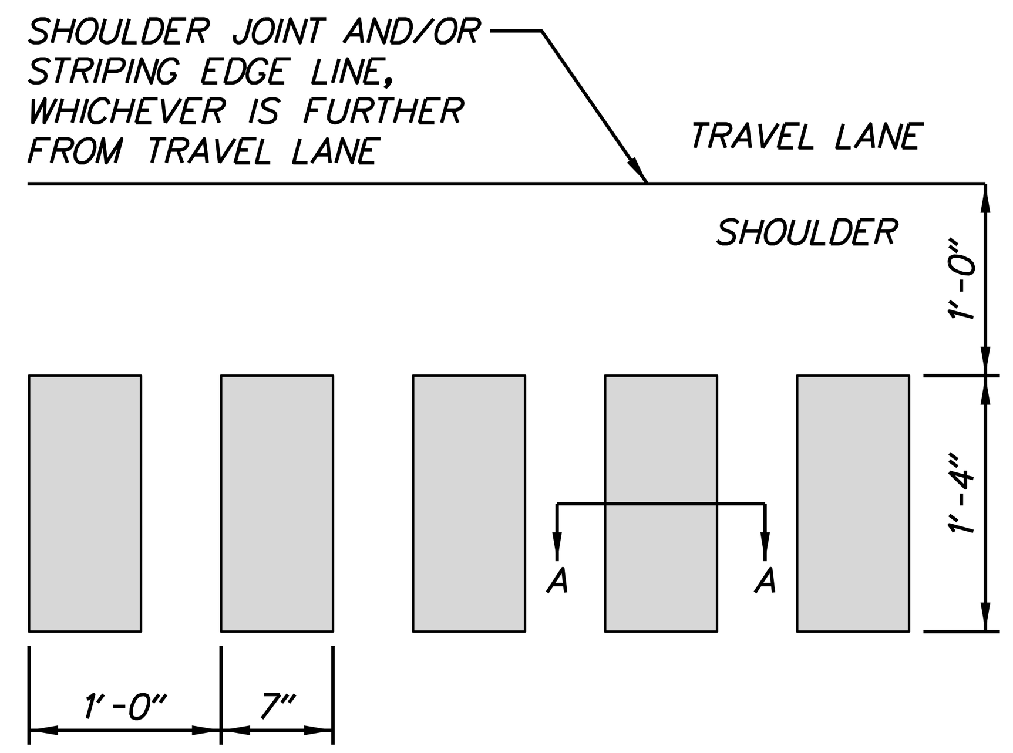
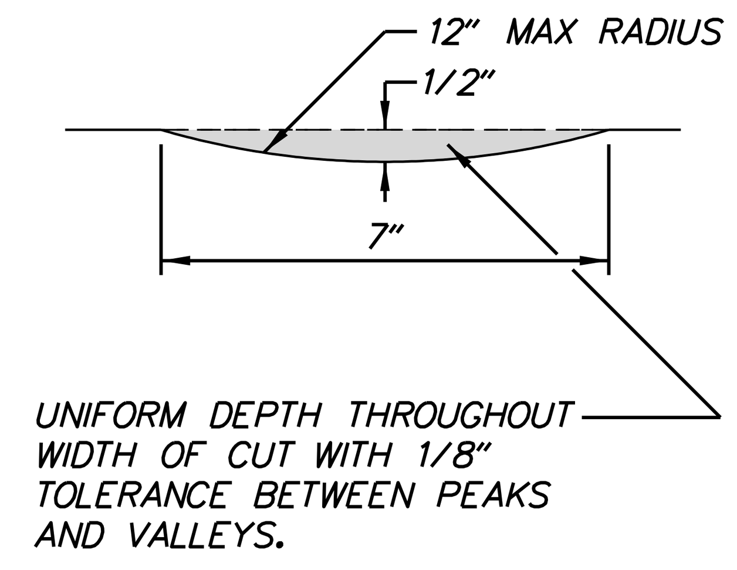


PLAN



SECTION A-A

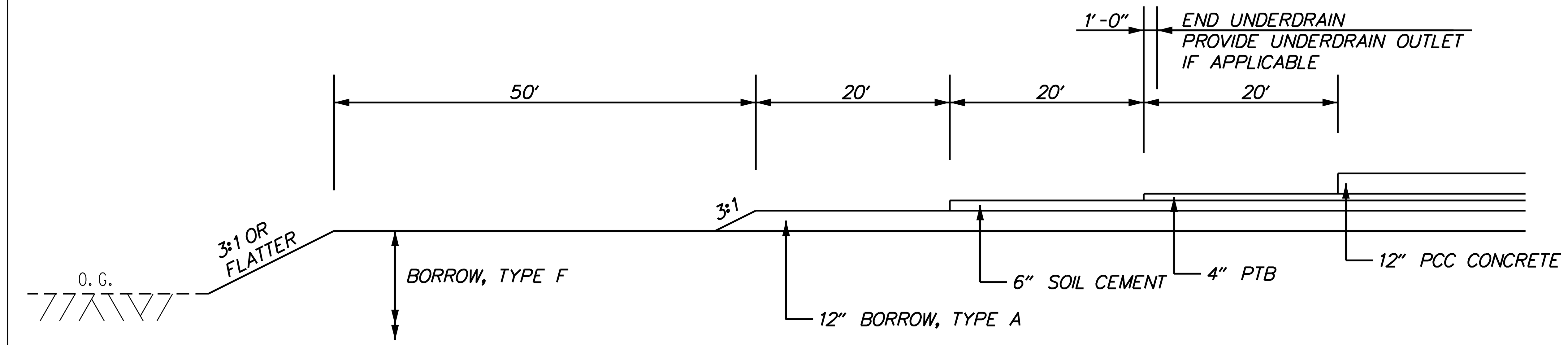
EDGELINE RUMBLE STRIPS DETAIL

NOT TO SCALE

NOTES:

- ALL WORK REQUIRED TO COMPLETE THE INSTALLATION OF EDGELINE RUMBLE STRIPS SHALL BE INCIDENTAL TO ITEM 760504 - RUMBLE STRIPS, HOT MIX AND/OR ITEM 760506 - RUMBLE STRIPS, CONCRETE.
- RUMBLE STRIPS END 50' PRIOR TO PHYSICAL GORE
- EDGELINE RUMBLE STRIPS SHALL BE INSTALLED ALONG SHOULDERS, AS PER THIS DETAIL, AT THE FOLLOWING STATIONS:

STATION 80+50 TO STATION 123+00 , US 13 NB OUTSIDE SHOULDER
STATION 97+50 TO STATION 131+00 , US 13 SB OUTSIDE SHOULDER
STATION 133+25 TO STATION 138+50, US 13 NB OUTSIDE SHOULDER
STATION 139+75 TO STATION 144+66 , US 13 SB OUTSIDE SHOULDER
STATION 301+00 TO STATION 316+00 , RAMP R INSIDE & OUTSIDE SHOULDERS
STATION 4001+50 TO STATION 4003+22, PORT PENN EB OUTSIDE SHOULDERS
STATION 4004+10 TO STATION 4008+85, PORT PENN WB OUTSIDE SHOULDERS
STATION 4001+20 TO STATION 4003+00, PORT PENN WB OUTSIDE SHOULDERS

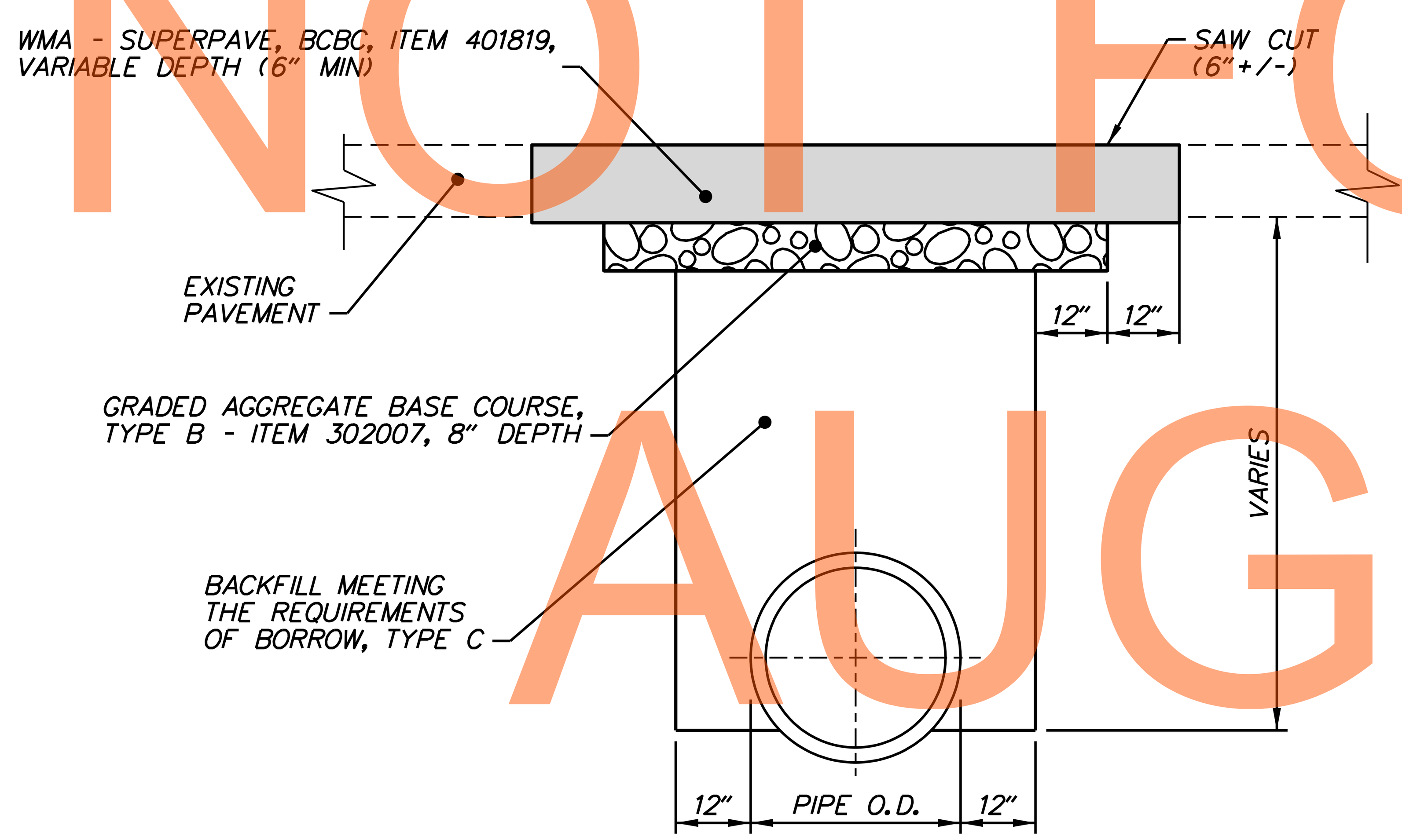


NOTES:

1. THIS DETAIL SHALL APPLY TO PAVEMENT CONSTRUCTED BY THE FIRST CONTRACTOR TO PERFORM WORK IN THIS AREA. SELECTION OF WHICH CONTRACT WILL CONSTRUCT THIS DETAIL WILL BE BASED UPON FIELD CONDITIONS AND WILL BE AT THE DIRECTION OF THE ENGINEER. PAYMENT SHALL BE MADE UNDER THE APPLICABLE CONTRACT PAY ITEMS.
2. THE FIRST CONTRACTOR SHALL COVER THE EXPOSED PERMEABLE TREATED BASE COURSE AND SOIL CEMENT BASE COURSE, INCLUDING SIDES AND ENDS, WITH POLYETHYLENE SHEETING, PROPERLY ANCHORED AND LAPPED AT LEAST 18". NO CONSTRUCTION TRAFFIC OF ANY KIND SHALL BE PERMITTED TO TRAVERSE OVER THE PTB OR SOIL CEMENT AT ANY TIME, EITHER COVERED OR UNCOVERED WITH POLYETHYLENE, EXCEPT FOR NECESSARY EQUIPMENT UTILIZED DURING PAVING OPERATIONS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING THE POLYETHYLENE SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE PTB AND SOIL CEMENT BASE COURSE PAY ITEMS.
3. THE SECOND CONTRACTOR TO PERFORM OPERATIONS IN THIS AREA SHALL REMOVE AND PROPERLY DISPOSE OF THE POLYETHYLENE AND ANCHORING IMMEDIATELY PRIOR TO BEGINNING PAVEMENT OPERATIONS WITH ALL COSTS INCIDENTAL TO THE UNIT PRICE BID FOR THE PTB AND SOIL CEMENT BASE COURSE PAY ITEMS.
4. THE SECOND CONTRACTOR SHALL ALSO SAW CUT THE ENDS OF THE PTB AND SOIL CEMENT BASE COURSE A MINIMUM OF 6" FROM THE END FINISHED BY THE FIRST CONTRACTOR OR AS DIRECTED BY THE ENGINEER. COSTS FOR SAWCUTTING THE PTB SHALL BE MEASURED FOR PAYMENT UNDER ITEM 762001 SAWCUTTING, HOT MIX. COSTS FOR SAWCUTTING THE SOIL CEMENT BASE COURSE SHALL BE MEASURED FOR PAYMENT UNDER ITEM 762002 SAWCUTTING, CONCRETE, FULL DEPTH.
5. THE FIRST CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EDGE BERMS AND TEMPORARY SLOPE DRAINS ALONG THE TOP OF ALL SIDE AND END SLOPES PER THE INCREMENTAL STABILIZATION DETAILS (STANDARD NO. E-1).
6. THE SECOND CONTRACTOR SHALL REMOVE THE EDGE BERMS AND TEMPORARY SLOPE DRAINS WITH ALL COSTS INCIDENTAL TO ITEM 202000.

PAVEMENT DETAIL AT LIMIT OF CONSTRUCTION

NOT TO SCALE

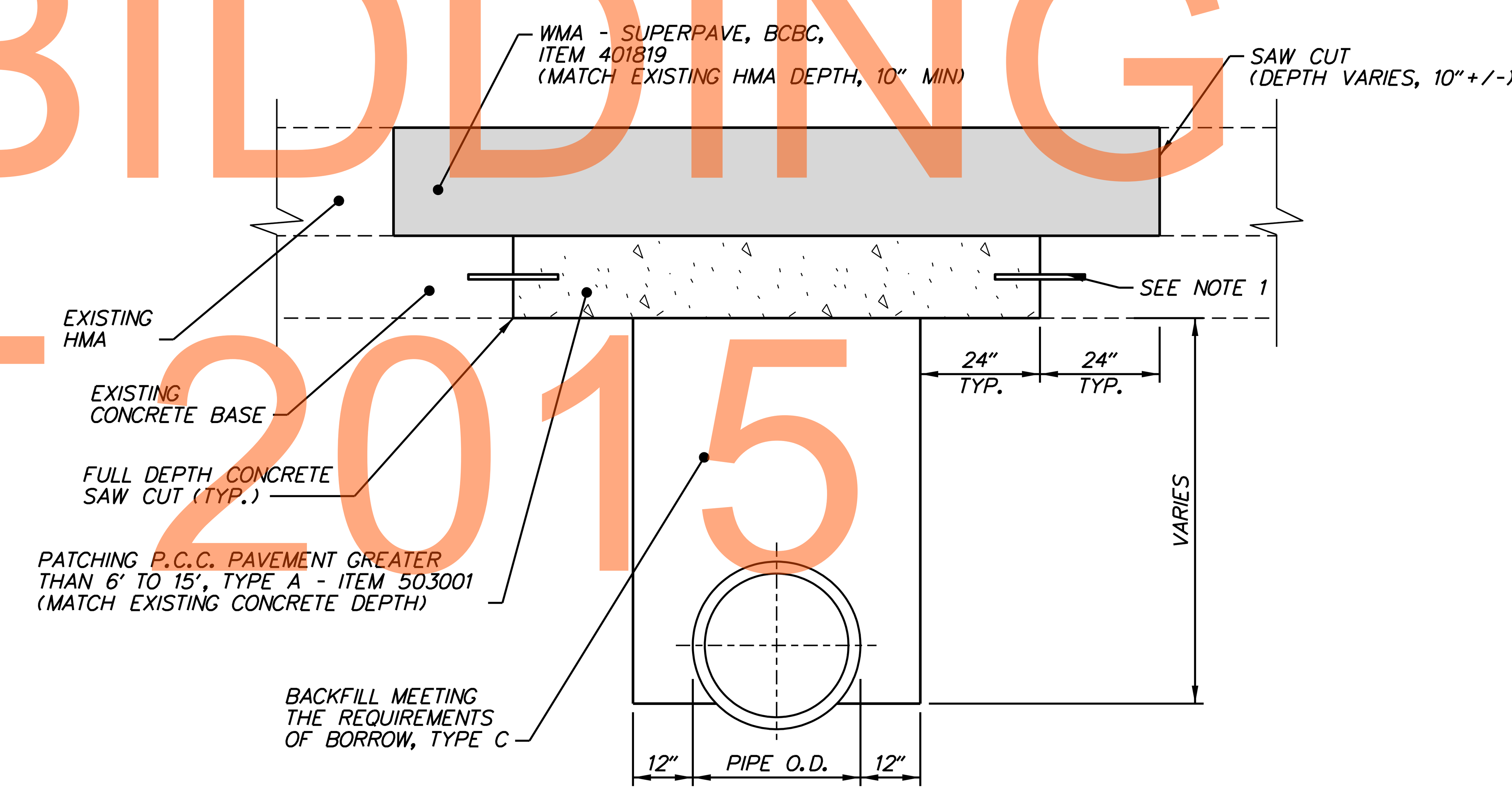


HOT-MIX PAVEMENT PATCH AND PIPE TRENCH

NOT TO SCALE

NOTES:

1. EXISTING HOT-MIX PAVEMENT MAY BE REMOVED BY A MILLING OPERATION. ALL HOT-MIX MATERIAL MUST BE REMOVED TO THE SAW CUT JOINTS PRIOR TO HOT-MIX PATCHING.
2. SEE STANDARD DETAILS FOR PIPE BEDDING.
3. THESE DETAILS SHOW MINIMUM PAVEMENT PATCH REQUIREMENTS. IF EXISTING ROADWAY HAS A HEAVIER CROSS SECTION, PROPOSED PAVEMENT PATCH WILL MATCH HEAVIER CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.



COMPOSITE PAVEMENT PATCH AND PIPE TRENCH

NOT TO SCALE

NOTES:

1. P.C.C. PAVEMENT PATCH SHALL BE DOWELED INTO ADJACENT CONCRETE PER STANDARD DETAILS. PAYMENT FOR DOWELS SHALL BE MADE INCIDENTAL TO ITEM 503002.
2. SEE STANDARD DETAILS FOR PIPE BEDDING.
3. THESE DETAILS SHOW MINIMUM PAVEMENT PATCH REQUIREMENTS. IF EXISTING ROADWAY HAS A HEAVIER CROSS SECTION, PROPOSED PAVEMENT PATCH WILL MATCH HEAVIER CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 13 & PORT PENN RD INTERSECTION	CONTRACT T201011302 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: KAH / CHECKED BY: BRT	CONSTRUCTION DETAILS

DT-01

SHEET NO. 65

TOTAL SHTS. 179

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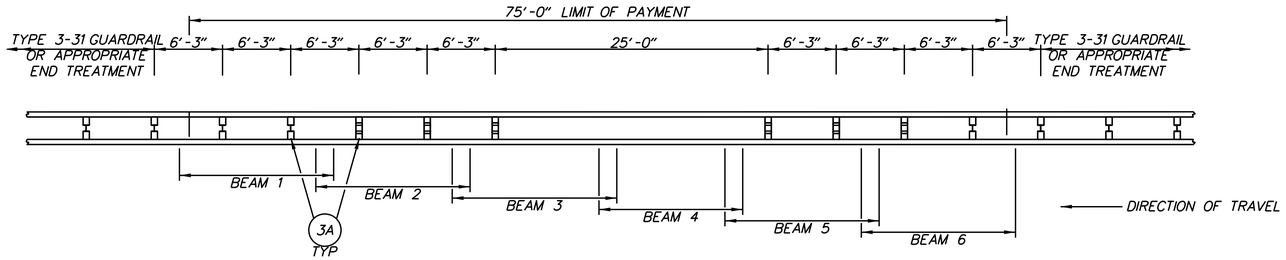
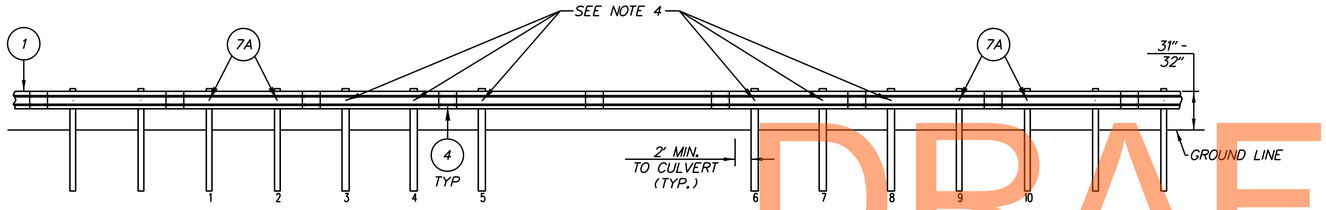


PLAN



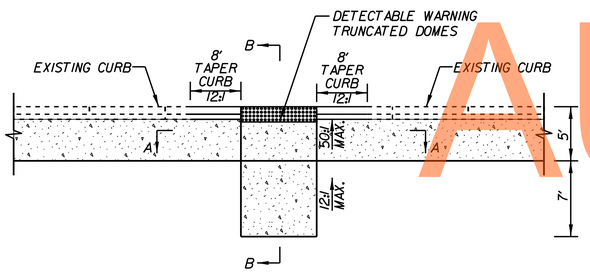
ELEVATION

MEDIAN GUARDRAIL OVER CULVERT, MODIFIED TYPE 3-31

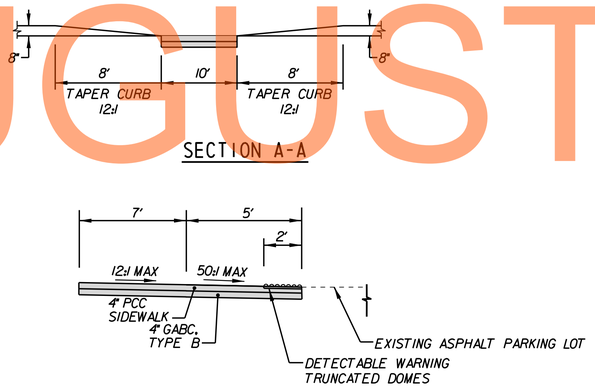
NOT TO SCALE

NOTES:

1). ALL W-BEAMS ARE 13'-6½" (4130) IN LENGTH.
2). PLACE GUARDRAIL DELINEATORS AT THE INTERVALS SPECIFIED IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3). POSTS 1, 2, 9, & 10 ARE TO BE W6x9 (W15x13.5) STEEL POSTS. POSTS 3 THROUGH 8 ARE TO BE TYPE 31 LONG WOOD BREAKAWAY POSTS.
4). THE RAIL SHALL BE ATTACHED AT POSTS 3 THROUGH 8 WITH A ⅝" (16) x 22" (560) GUARDRAIL BOLT, STEEL WASHER, AND RECESS NUT.



PLAN

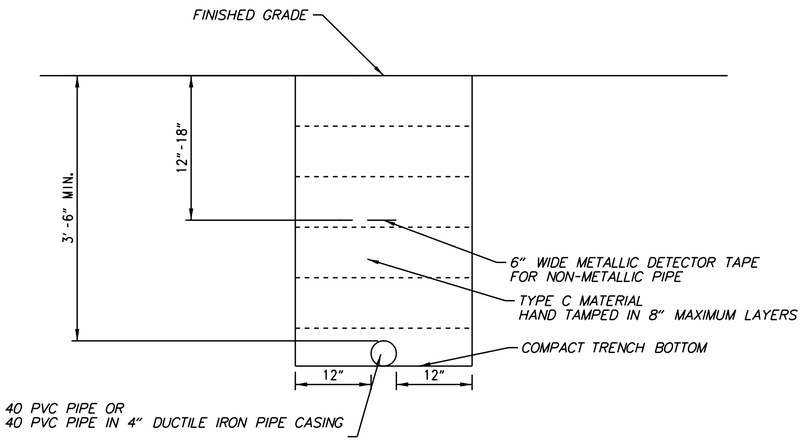


SECTION A-A

SECTION B-B

CURB RAMP DETAIL

NOT TO SCALE



TRENCH DETAIL

NOTES:

1). INSTALL 2" PVC SCHEDULE 40 PIPE FROM STA. 302+00, 82.6' LEFT TO STA. 303+50, 25' LEFT AND FROM STA. 303+50, 25' LEFT TO STA. 303+50,38' RIGHT. FROM STA. 303+50, 35' RIGHT TO STA. 303+50, 20' LEFT 2" PVC SCHEDULE 40 PIPE SHALL BE INSTALLED IN A 4" DUCTILE IRON PIPE CASING.

2). ALL JOINTS, INCLUDING ATTACHMENT TO THE EXISTING PIPE, SHALL BE WATERTIGHT. THE SUBGRADE SHALL BE WELL COMPACTED AND ALL COMPACTION OVER THE UNENCASED PORTION OF THE PIPE SHALL BE HAND COMPACTION.

3). THE CONTRACTOR SHALL MINIMIZE THE LENGTH OF SERVICE OUTAGE FOR SANITARY FACILITIES AT THE TOLL PLAZA ADMINISTRATION BUILDING. THE WORK PROCEDURE SHALL BE AS FOLLOWS:
a. PRIOR TO THE OUTAGE, THE CONTRACTOR SHALL COORDINATE WITH THE PLAZA MANAGER.
b. TEMPORARY RESTROOM FACILITIES SHALL BE PROVIDED DURING THE OUTAGE.
c. THE DIP CASING AND ALL PIPE JUST SHORT OF THE CONNETIONS SHALL BE PLACED AND TESTED PRIOR TO THE OUTAGE. TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH NOTE 4.
d. AFTER COMPLETION OF TESTS AND BEGINNING OF OUTAGE,THE EXISTING PIPE SHALL BE EMPTIED BY THE CONTRACTOR AND WASTE MATERIAL PROPERLY DISPOSED OF.
e. CONNECTIONS SHALL BE MADE IN AN EXPEDIENT MANNER
f. SANITARY SERVICE SHALL BE RESTORED TO THE TOLL PLAZA ADMINISTRATION BUILDING AS QUICKLY AS POSSIBLE.

4.) TESTING. THE 2" PVC FM SHALL BE SUBJECTED TO A PRESSURE TEST AND A LEAKAGE TEST.
a. PRESSURE TEST - AFTER BACKFILLING HAS BEEN COMPLETED, THE NEWLY LAID PIPE, JUST SHORT OF THE CONNECTIONS TO THE EXISTING FORCE MAIN, SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST OF 150 PSI FOR A DURATION OF TWO HOURS WITH THE PRESSURE MEASURED AT THE HIGHEST ELEVATION ON THE LINE. THE TEST PRESSURE SHALL BE APPLIED BY MEANS OF A CONTRACTOR PROVIDED PUMP CONNECTED TO THE PIPE IN A MANNER SATISFACTORY TO THE OWNER. BEFORE APPLYING THE TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. THE CONTRACTOR SHALL INSTALL CORPORATION STOPS AT HIGH POINTS SO THE AIR CAN BE EXPELLED.
b. LEAKAGE TEST - AFTER THE PRESSURE TEST BUT BEFORE CONNECTIONS ARE MADE, A LEAKAGE TEST SHALL BE CONDUCTED. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT FOR TESTING, INCLUDING GAUGE, MEASURING DEVICE, PUMP AND PIPE CONNECTIONS. LEAKAGE IS THE WATER THAT MUST BE SUPPLIED INTO THE PIPE TO MAINTAIN 100 PSI, MEASURED AT THE HIGHEST ELEVATION. AFTER THE PIPE HAS BEEN FILLED WITH WATER AND ALL AIR EXPRESSED, THE ALLOWABLE LEAKAGE SHALL BE NOT MORE THAN 25 GALLONS PER INCH DIAMETER OF PIPE PER MILE OF PIPE TESTED PER 24 HOURS. LEAKAGE TEST SHALL BE CARRIED OUT FOR NOT LESS THAN A FOUR HOUR DURATION.
C. FAILURE OF THE LINE TO PASS EITHER TEST SHALL BE CAUSE FOR THE CONTRACTOR TO PERFORM THE NECESSARY REPAIRS AND RETEST THE LINE UNTIL IT PASSES BOTH TESTS. ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER.

5.) ALL LABOR, MATERIALS, CASING, TEMPORARY RESTROOM FACILITIES, VACATING OF EXISTING PIPE, FITTINGS AND ATTACHMENTS, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID UNDER ITEM 753515- RELOCATE FORCE MAIN.
TYPE C BACKFILL, COMPACTION, ETC. SHALL BE PAID FOR UNDER 209003 - TYPE C BORROW.

2" PVC - SCH 40 FORCE MAIN DETAILS

NOT TO SCALE

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

NOT TO SCALE

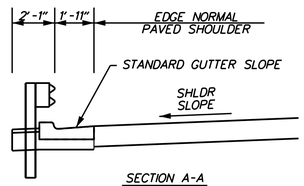
US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.	
T201011302	DESIGNED BY: KAH	
COUNTY	CHECKED BY: BRT	
NEW CASTLE		

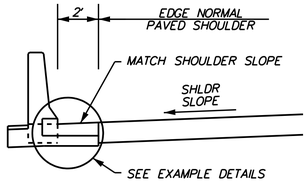
CONSTRUCTION DETAILS

DT-02

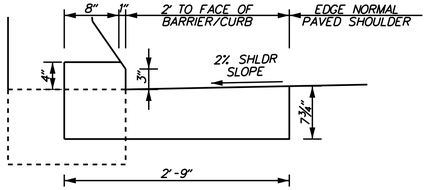
SHEET NO.	TOTAL SHTS.
66	179



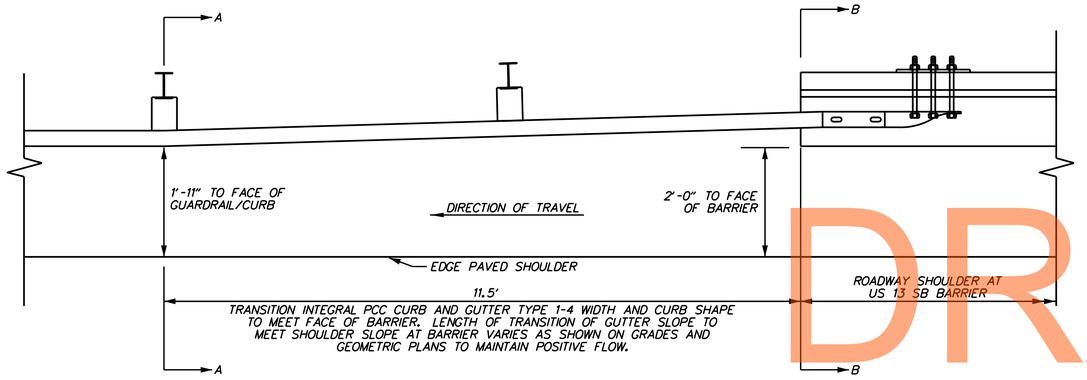
SECTION A-A



SECTION B-B



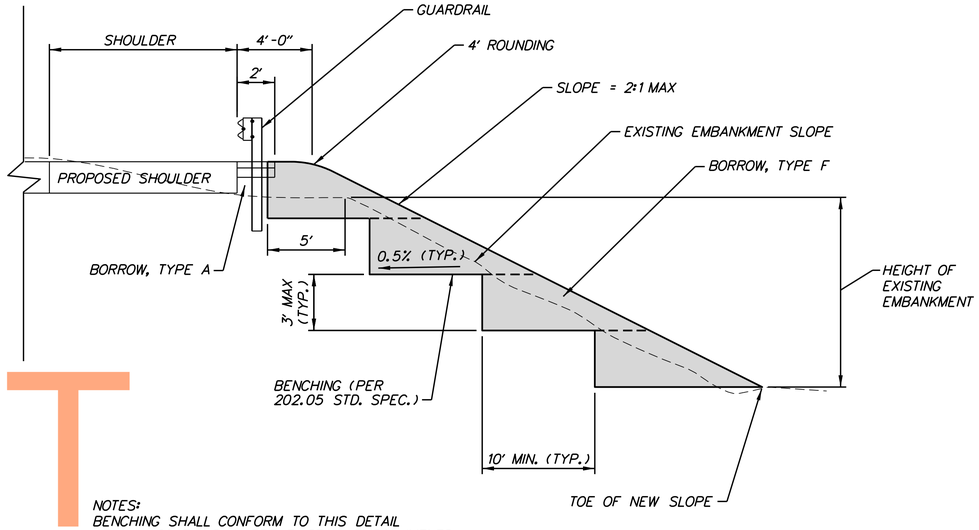
BARRIER/CURB DETAIL (2%)



NOTES:
1. PLACE PREFORMED EXPANSION JOINT MATERIAL BETWEEN END OF CURB AND BARRIER PER SECTION 701.03.
2. TRANSITION LIMITS TO BE MEASURED FOR PAYMENT UNDER ITEM 701016 WITH ALL COSTS FOR TRANSITION INCLUDED IN ITEM 701016.

CURB TRANSITION DETAILS AT GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE)

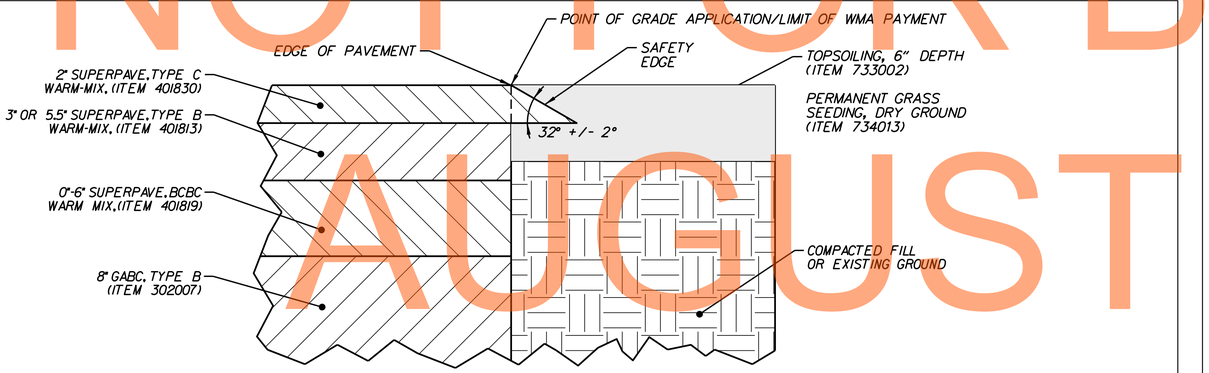
US 13 SOUTHBOUND OUTSIDE SHOULDER: STA. 133+32.5 TO STA. 133+21.0



NOTES:
BENCHING SHALL CONFORM TO THIS DETAIL AT ALL LOCATIONS WHERE EXISTING EMBANKMENTS WITH A SLOPE 4:1 OR STEEPER, AND A HEIGHT OF 3' OR MORE, ARE WIDENED.

BENCHING DETAIL

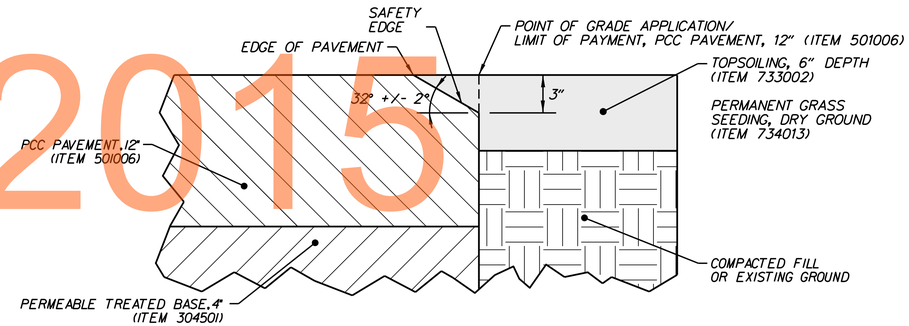
NOT TO SCALE



SAFETY EDGE - BITUMINOUS PAVEMENT AND OVERLAYS

NOT TO SCALE

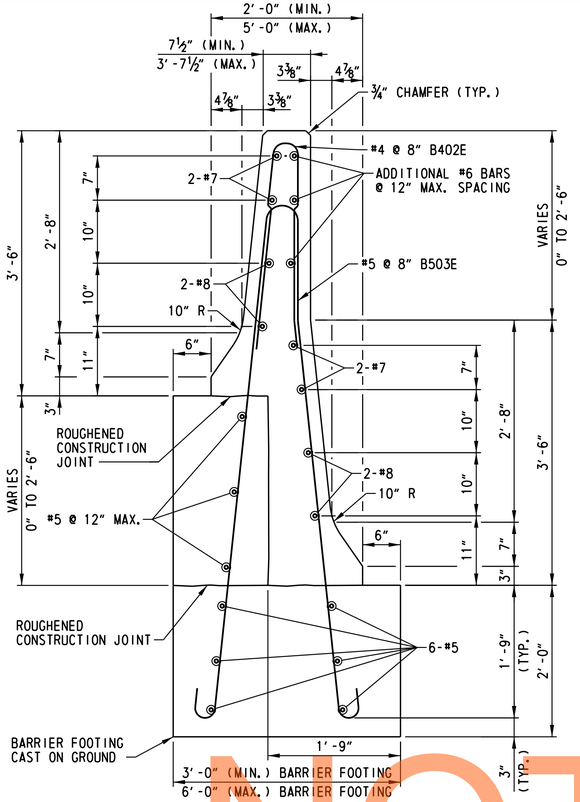
NOTE:
1. FOR ADDITIONAL INFORMATION, SEE ITEM 401572 SAFETY EDGE FOR ROADWAY PAVEMENT.
2. THE SAFETY EDGE SHALL NOT BE CONSTRUCTED ADJACENT TO OTHER PAVEMENTS, CURB, CURB & GUTTER, CONCRETE SAFETY BARRIER OR MAINTENANCE PAVEMENT UNDER GUARDRAIL. THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF THE AREAS NOT TO RECIEVE THE SAFETY EDGE FOR APPROVAL BY TH ENGINEER PRIOR TO BEGINNING PAVEMENT OPERATIONS.
3. IN BITUMINOUS CONCRETE PAVEMENT SECTIONS, PRIOR TO THE CONSTRUCTION OF THE SAFETY EDGE IN OVERLAY SECTIONS AND MILL/OVERLAY SECTIONS, THE EXISTING TOPSOIL OR IN-SITU MATERIAL AT THE EDGE OF PAVEMENT SHALL BE COMPACTED SO THAT IT IS LEVEL WITH THE BOTTOM OF THE FINAL SURFACE LAYER PRIOR TO PLACING THE FINAL SURFACE OVERLAY. AFTER THE FINAL SURFACE OVERLAY IS PACED, TOPSOIL SHALL BE PLACED TO THE TOP OF THE FINAL SURFACE OVERLAY.
4. IN BITUMINOUS CONCRETE PAVEMENT SECTIONS WHERE FULL DEPTH TOPSOIL IS PROPOSED TO BE PLACED ADJACENT TO THE EDGE OF PAVEMENT, THE TOPSOIL SHALL BE PLACED AND COMPACTED ALONG THE PAVEMENT EDGE TO THAT IS IT LEVEL WITH THE BOTTOM OF THE FINAL SURFACE LAYER PRIOR TO PACING THE FINAL SURFACE OVERAY. AFTER THE FINAL SURFACE OVERLAY IS PLACED, THE TOPSOIL SHALL BE PLACED TO THE TOP OF THE FINAL SURFACE OVERLAY. ALL COSTS FOR PLACING AND COMPACTING THE TOPSOIL SHALL BE INCLUDED IN THE PRICE OF THE TOPSOIL ITEM,



SAFETY EDGE - CONCRETE PAVEMENT

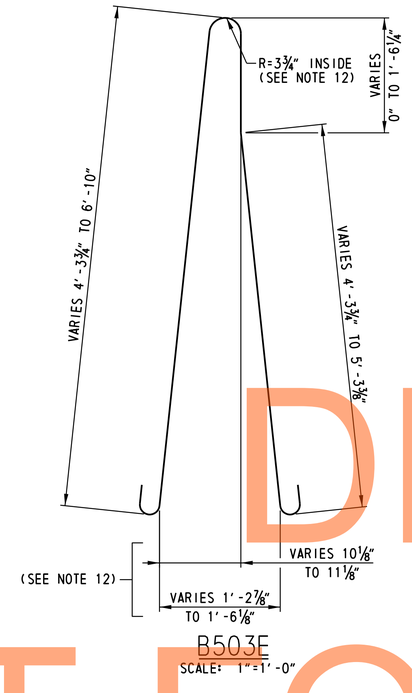
NOT TO SCALE

NOTE:
1. FOR ADDITIONAL INFORMATION, SEE ITEM 401572 SAFETY EDGE FOR ROADWAY PAVEMENT.
2. THE SAFETY EDGE SHALL NOT BE CONSTRUCTED ADJACENT TO OTHER PAVEMENTS, CURB, CURB & GUTTER, CONCRETE SAFETY BARRIER OR MAINTENANCE PAVEMENT UNDER GUARDRAIL. THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF THE AREAS NOT TO RECIEVE THE SAFETY EDGE FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING PAVEMENT OPERATIONS.



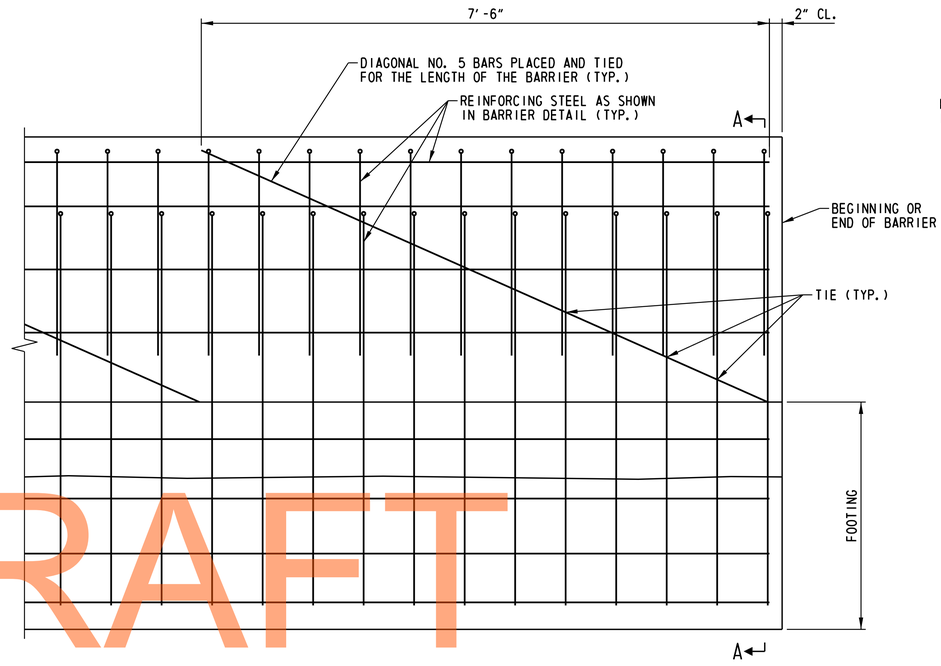
BIFURCATED CONCRETE MEDIAN BARRIER

SCALE: 1"=1'-0"

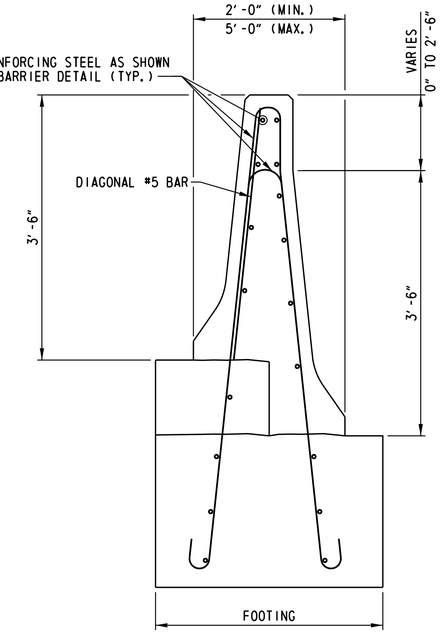


B503E

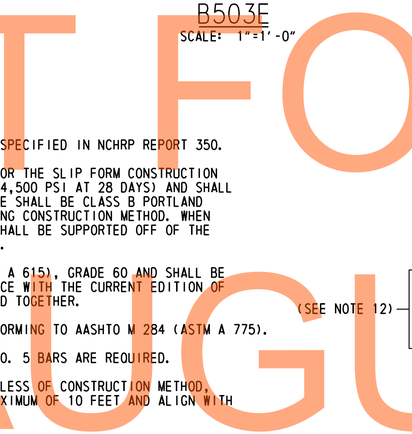
SCALE: 1"=1'-0"



ELEVATION

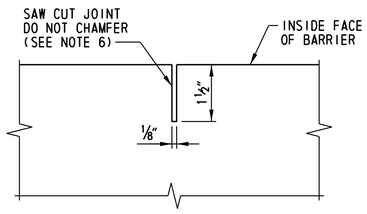


SECTION A-A BIFURCATED CONCRETE MEDIAN BARRIER



B402E

SCALE: 1"=1'-0"

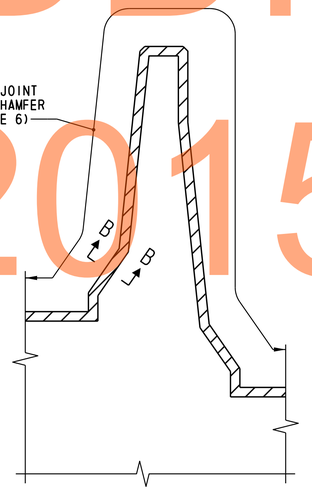


SECTION B-B

NOT TO SCALE

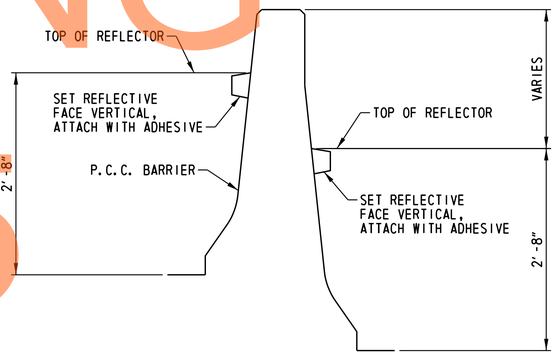
DIAGONAL BAR DETAIL

SCALE: 1"=1'-0"



BARRIER CONTROL JOINT DETAIL

SCALE: 1"=1'-0"



REFLECTOR DETAIL

SCALE: 1"=1'-0"

CONCRETE BARRIER NOTES:

1. BIFURCATED CONCRETE MEDIAN BARRIER MUST MEET TL-4 LOADING CRITERIA AS SPECIFIED IN NCHRP REPORT 350.
2. THE BARRIER AND FOOTING SHALL BE CAST SEPARATELY USING THE FIXED FORM OR THE SLIP FORM CONSTRUCTION METHOD. ALL CONCRETE SHALL BE CLASS A PORTLAND CEMENT CONCRETE (f'c = 4,500 PSI AT 28 DAYS) AND SHALL BE CONTINUOUSLY PLACED WHEN USING FIXED FORM CONSTRUCTION. ALL CONCRETE SHALL BE CLASS B PORTLAND CEMENT CONCRETE (f'c = 3,000 PSI AT 28 DAYS) WHEN USING THE SLIP FORMING CONSTRUCTION METHOD. WHEN USING THE SLIP FORMING CONSTRUCTION METHOD, THE SLIP FORMING MACHINE SHALL BE SUPPORTED OFF OF THE THE CONCRETE SOIL CEMENT BASE COURSE REQUIRED FOR THE ADJACENT ROADWAY.
3. ALL REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF AASHTO M 31 (ASTM A 615), GRADE 60 AND SHALL BE BENT BEFORE APPLYING EPOXY COATING. ALL BAR LAPS SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND ALL BARS SHALL BE TIED TOGETHER.
4. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION-BONDED EPOXY CONFORMING TO AASHTO M 284 (ASTM A 775).
5. WHEN THE BARRIER IS CONSTRUCTED USING THE SLIP FORM METHOD, DIAGONAL NO. 5 BARS ARE REQUIRED.
6. SPACING OF BARRIER CONTROL JOINTS SHALL BE A MAXIMUM OF 10 FEET REGARDLESS OF CONSTRUCTION METHOD, SEE DETAIL THIS SHEET. SPACING OF FOOTING CONTROL JOINTS SHALL BE A MAXIMUM OF 10 FEET AND ALIGN WITH THE CONTROL JOINTS IN THE BARRIER.
7. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE FOOTING AND BARRIER AFTER CONSTRUCTION OF THE PAVEMENT. THE FOOTING FORMS, IF USED, SHALL BE REMOVED IF THE BARRIER AND FOOTING ARE CONSTRUCTED BEFORE THE PAVEMENT.
8. THE FOOTING REAR VERTICAL WALL SHALL BE FORMED OR THE CONCRETE PLACED AGAINST THE VERTICAL EARTH SIDE IF APPROVED BY THE ENGINEER. NO ADDITIONAL COMPENSATION FOR ADDITIONAL CONCRETE WILL BE PAID IF THE CONCRETE IS PLACED AGAINST THE EARTH.
9. THE CONTRACTOR SHALL ATTACH THE YELLOW AND/OR WHITE REFLECTORS TO THE BARRIERS AS SHOWN IN THE DETAIL ON THIS SHEET. PAYMENT FOR THE REFLECTORS SHALL BE IN ACCORDANCE WITH ITEM NOS. 720544 AND 720545 AS APPROPRIATE.
10. PRIOR TO PLACING BARRIER CONCRETE ADJACENT TO EXISTING CONCRETE PAVEMENT, OR PRIOR TO PLACING CONCRETE PAVEMENT ADJACENT TO EXISTING BARRIER CONCRETE, AN APPROVED BOND BREAKER SHALL BE APPLIED TO THE EXISTING CONCRETE VERTICAL FACE. THIS LONGITUDINAL JOINT AT THE INTERFACE BETWEEN THE CONCRETE PAVEMENT AND THE BARRIER CONCRETE SHALL BE CONSTRUCTED PER THE LONGITUDINAL DETAIL ON STANDARD P-2, SHEET 3 OF 5. VERTICAL CRACKS IN THE EXISTING CONCRETE FACE SHALL BE COVERED OR SEALED AS APPROVED BY THE ENGINEER TO PREVENT INTRUSION OF THE NEW CONCRETE INTO THE EXISTING CONCRETE. ALL WORK SHALL BE INCIDENTAL TO THE APPROPRIATE BARRIER ITEM.
11. COST OF THE BIFURCATED CONCRETE MEDIAN BARRIER CONCRETE FOOTING, REINFORCING STEEL AND EXCAVATION SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR BIFURCATED CONCRETE MEDIAN BARRIER (ITEM 720629).
12. BARS B402E AND B503E ARE FOR A 2'-0" WIDE BARRIER. DIMENSIONS WILL VARY FOR BARRIERS GREATER THAN 2'-0" WIDE.

REFLECTOR DETAIL NOTES:

1. COLOR OF REFLECTOR ON TRAFFIC SIDE SHALL MATCH ADJACENT LANE LINE COLOR. BACK SIDE OF ALL REFLECTORS SHALL BE RED.
2. THE SPACING OF REFLECTORS ON PERMANENT P.C.C. BARRIER SHALL BE COORDINATED WITH THE DELINEATORS AT THE APPROACHES TO THE BARRIER SUCH THAT THE SPACING OF DELINEATORS/REFLECTORS DOES NOT EXCEED 100 FT.
3. ALL COST SHALL BE INCLUDED IN ITEM 720544 - REFLECTORS, WHITE, CONCRETE AND 720545 - REFLECTORS, YELLOW, CONCRETE.

DT-04

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: AS NOTED

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.	
T201011302	DESIGNED BY: B.K.B.	
COUNTY	CHECKED BY: W.A.G.	
NEW CASTLE		

CONSTRUCTION DETAILS

SHEET NO.	68
TOTAL SHTS.	179

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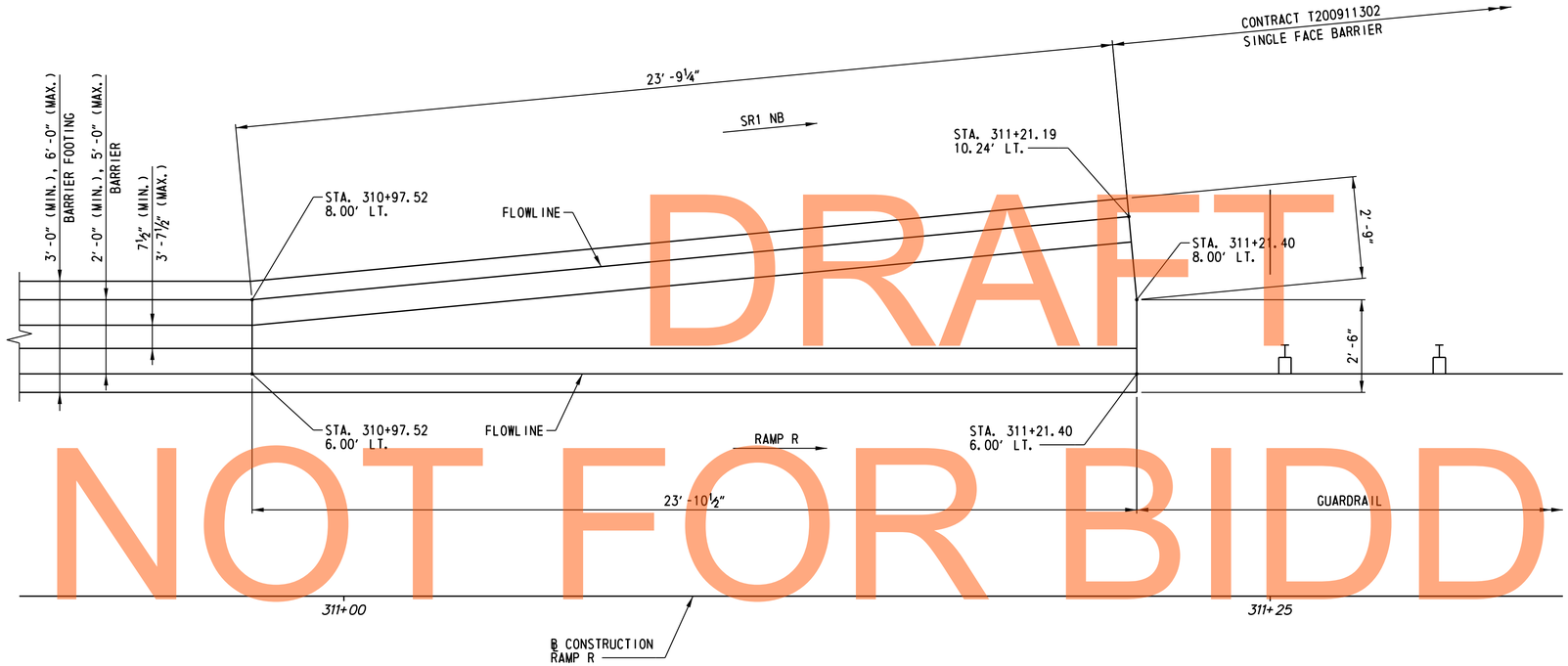
9/17/2012 9:45:33 AM



MEDIAN BARRIER AT RAMP R AND SR1 SPLIT - PLAN

SCALE: ½"=1'-0"

NOTE:
FOR CONCRETE BARRIER NOTES, SEE DWG. NO. DT-04.

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9/17/2012 9:45:40 AM

DELAWARE
DEPARTMENT OF TRANSPORTATION

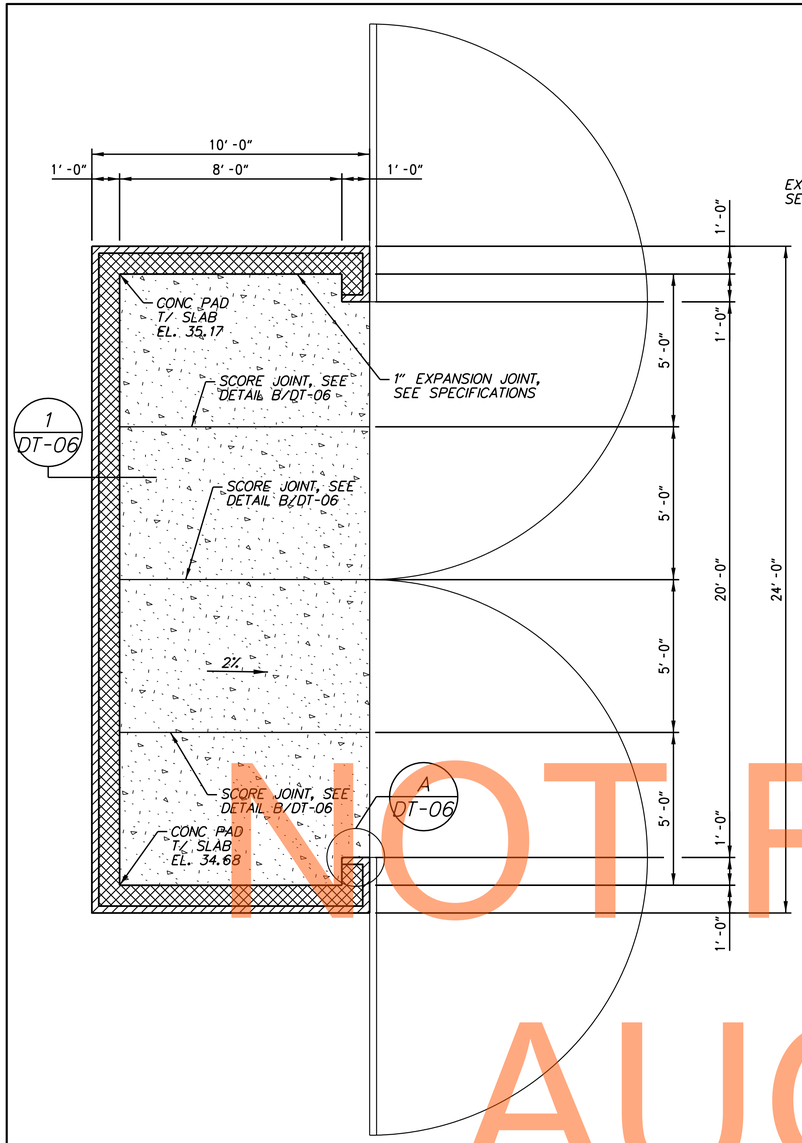
ADDENDUMS / REVISIONS	

US 13 & PORT PENN RD
INTERSECTION

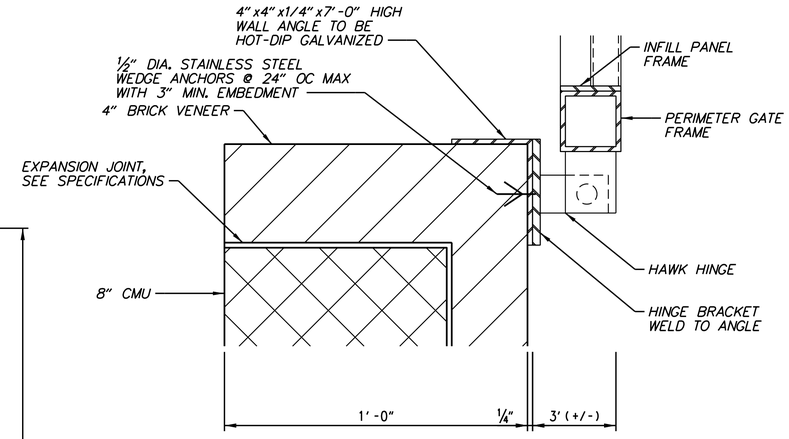
CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: B.K.B.
NEW CASTLE	CHECKED BY: W.A.G.

MEDIAN BARRIER
AT RAMP R
AND SR1 SPLIT – PLAN

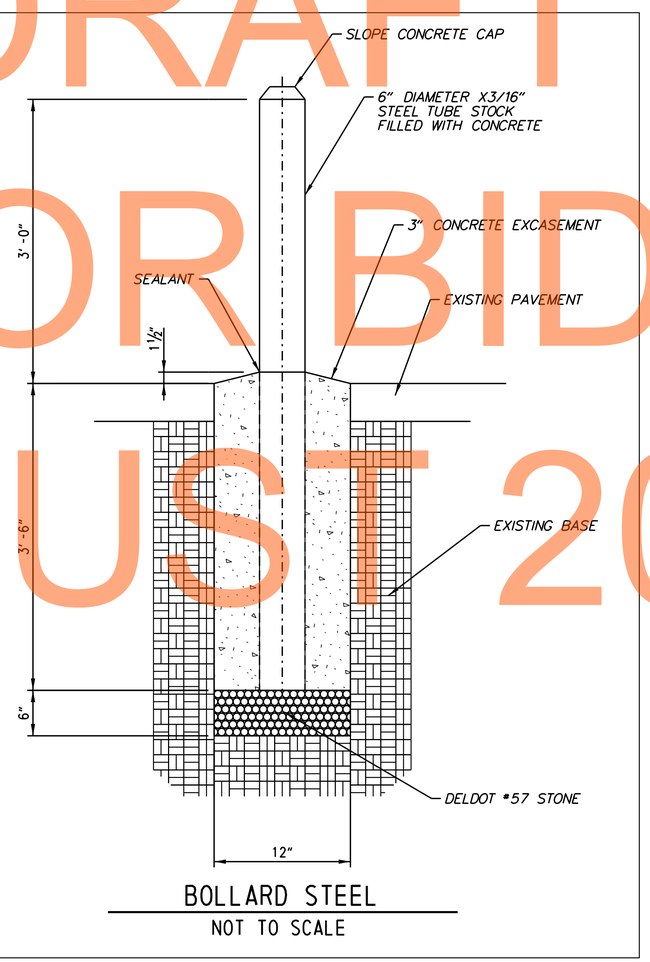
DT-05
SHEET NO.
69
TOTAL SHTS.
179



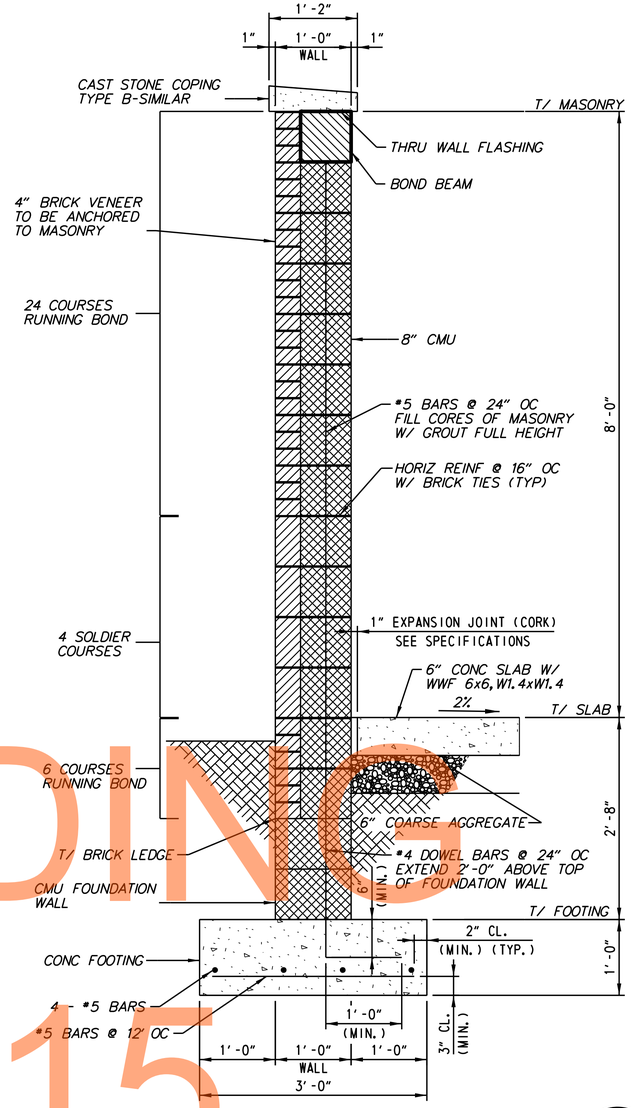
ENLARGED PLAN - DUMPSTER ENCLOSURE
NOT TO SCALE



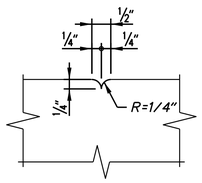
DETAIL A DT-06
NOT TO SCALE



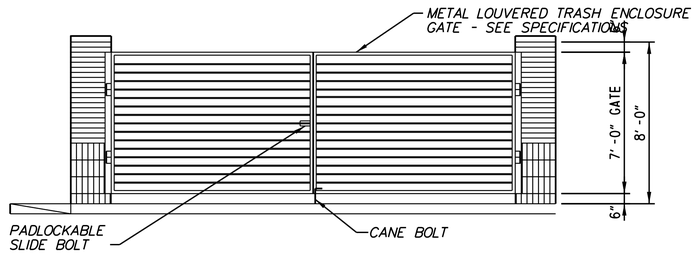
BOLLARD STEEL
NOT TO SCALE



SECTION 1 DT-06
NOT TO SCALE



DETAIL B DT-06
NOT TO SCALE



ELEVATION A

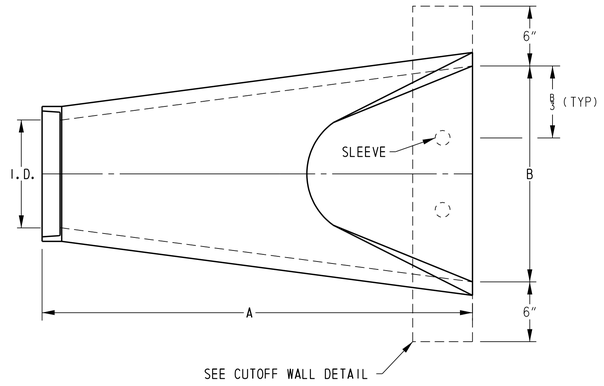
NOTES:

1. PAYMENT FOR DUMPSTER ENCLOSURE SHALL BE MADE UNDER ITEM 763659 - DUMPSTER ENCLOSURE.
2. ALL HARDWARE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. THE CONCRETE PAD SHALL BE CLASS A, 4500 PSI CONCRETE.
4. TOLERANCE ON ALL SCORE JOINT DETAIL DIMENSIONS SHOWN SHALL BE PLUS 1/16", MINUS 0".
5. REFER TO SPECIAL PROVISIONS FOR ADDITIONAL MATERIALS AND CONSTRUCTION REQUIREMENTS.

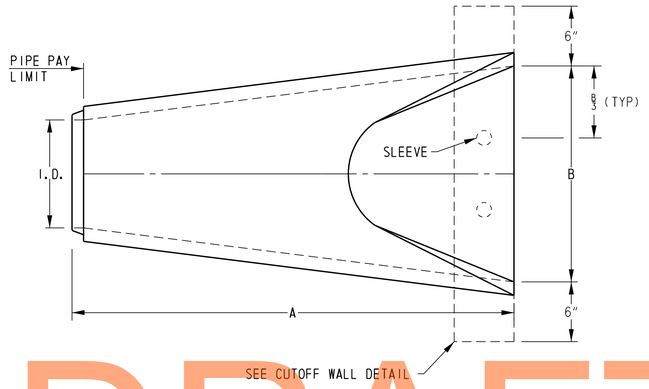
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 13 & PORT PENN RD INTERSECTION	CONTRACT T201011302 / COUNTY NEW CASTLE / BRIDGE NO. / DESIGNED BY: KAH / CHECKED BY: BRT	CONSTRUCTION DETAILS

DT-06
SHEET NO. 70
TOTAL SHTS. 179

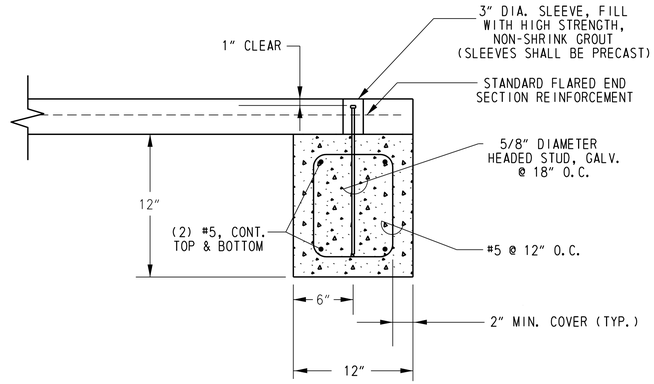
REINFORCED CONCRETE FLARED END SECTION
12" - 33" DIAMETER



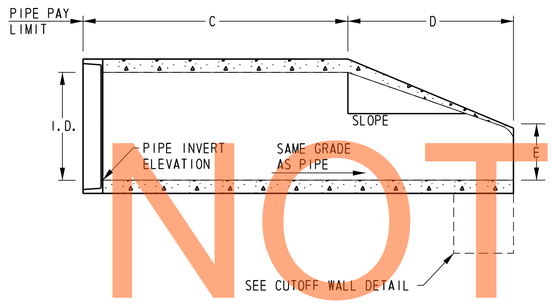
PLAN VIEW



PLAN VIEW

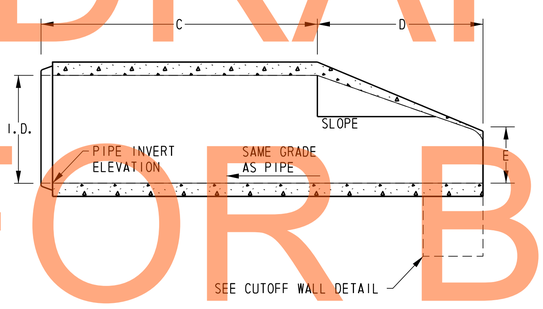


CUTOFF WALL DETAIL
N.T.S.



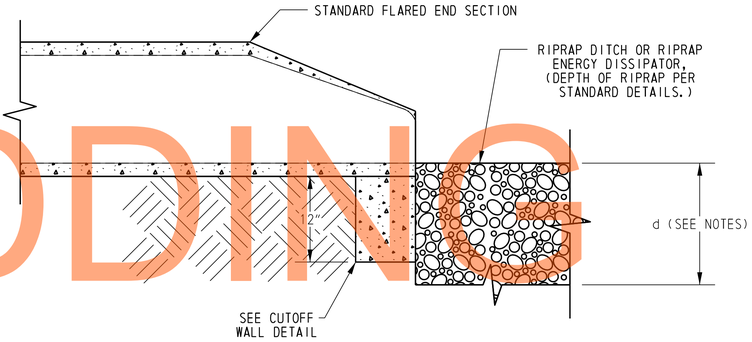
SIDE VIEW

FLARED END SECTION - OUTLET
N.T.S.



SIDE VIEW

FLARED END SECTION - INLET
N.T.S.



SIDE VIEW WITH OUTLET PROTECTION
N.T.S.

PIPE I.D.	SLOPE	WALL	A (INCHES)	B (INCHES)	C (INCHES)	D (INCHES)	E (INCHES)
12	3:1	2	69	24	48	21	5
15	3:1	2 1/4	73	30	46	27	6
18	3:1	2 1/2	73	36	46	27	9
21	3:1	2 3/4	74	42	38	36	9
24	3:1	3	72 1/2	48	29	43 1/2	9 1/2
27	3:1	3 1/4	75	54	25 1/2	49 1/2	10 1/2
30	3:1	3 1/2	73 3/4	60	19 3/4	54	12
33	3:1	3 3/4	81	66	26	55	14

NOTES:

1. FLARED END SECTIONS SHALL BE MANUFACTURED TO ASTM C-76 AND AASHTO M-170 WITH CLASS III REINFORCEMENT.
2. FLARED END SECTIONS SHALL BE BEDDED IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 612, REINFORCED CONCRETE PIPE.
3. FLARED END SECTIONS 27 INCHES AND LARGER SHALL INCLUDE A 12 INCH WIDE CUTOFF WALL CONSTRUCTED AS SHOWN. CUTOFF WALL MAY BE CAST-IN-PLACE OR PRECAST CLASS B CONCRETE. ALL COSTS FOR THE CUTOFF WALL SHALL BE INCIDENTAL TO THE FLARED END SECTION.
4. DEPTH OF RIPRAP (d) PER STANDARD DETAILS.

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

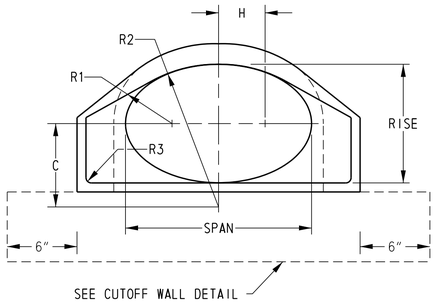
US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: KAH
NEW CASTLE	CHECKED BY: BRT

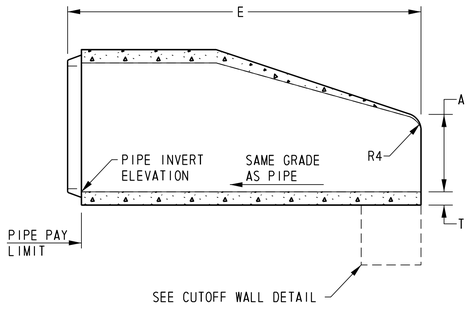
CONSTRUCTION DETAILS

DT-07

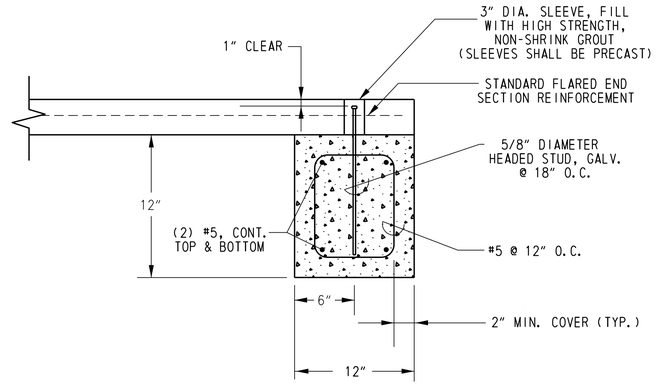
SHEET NO.
71
TOTAL SHTS.
179



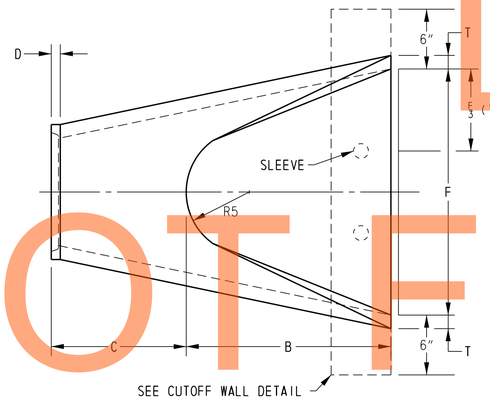
FRONT VIEW



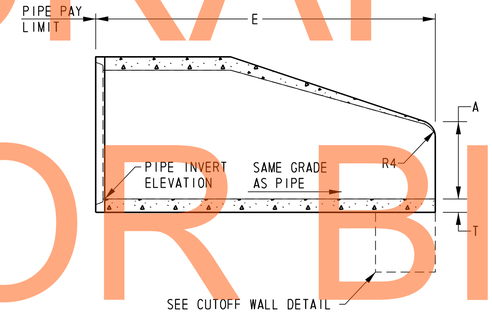
INLET SIDE VIEW



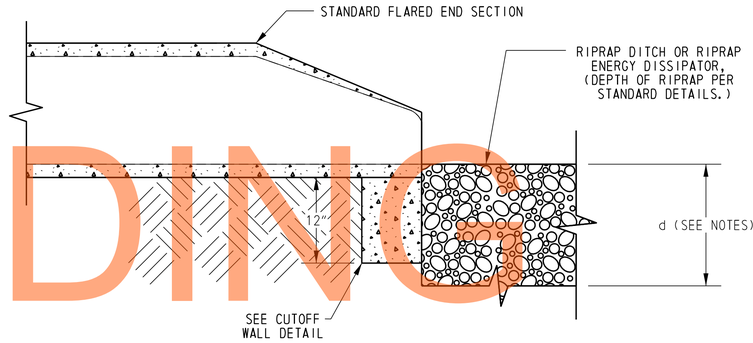
CUTOFF WALL DETAIL
N. T. S.



TOP VIEW



OUTLET SIDE VIEW



SIDE VIEW WITH OUTLET PROTECTION
N. T. S.

FLARED END SECTION - ELLIPTICAL
N. T. S.

ELLIPTICAL FLARED END SECTIONS
TABLE OF DIMENSIONS

NOMINAL		EQUIVALENT	ACTUAL		T	A	B	C	D	E	F	G	H	R1	R2	R3	R4	R5
RISE	SPAN	DIA.	RISE	SPAN	(INCHES)	(INCHES)			(INCHES)		(INCHES)	(INCHES)	(INCHES)	(INCHES)	(INCHES)	(INCHES)	(INCHES)	(INCHES)
14	23	18	14 5/8	22 7/8	2 3/4	6	2'-2"	3'-11"	2	6'-1"	36	12 25/32	5 11/32	8 27/32	20 11/16	1 1/2	3	12
19	30	24	19 1/8	30 1/8	3 1/4	9	2'-7"	3'-6"	2	6'-1"	48	16 11/16	6 27/32	11 15/32	29 1/2	1 1/2	3	14
22	34	27	21 9/16	34	3 1/2	10 1/2	2'-9"	3'-4"	2 1/4	6'-1"	54	18 3/4	7 3/4	12 3/4	33 1/32	1 1/2	3	14 1/2
24	38	30	24	37 7/8	3 3/4	12	4'-6"	1'-6"	2 1/2	6'-0"	60	20 13/16	8 11/16	14	36 9/16	1 1/2	3	15
27	42	33	26 23/32	41 15/16	4 1/2	11	5'-3"	2'-9"	3	8'-0"	72	24 31/32	10 5/16	16 13/16	43 7/8	1 1/2	4	18

NOTES:

1. FLARED END SECTIONS SHALL BE MANUFACTURED TO ASTM C-76 AND AASHTO M-170 WITH CLASS III REINFORCEMENT.
2. FLARED END SECTIONS SHALL BE BEDDED IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATION 612, REINFORCED CONCRETE PIPE.
3. FLARED END SECTIONS WITH A RISE OF 27 INCHES AND LARGER SHALL INCLUDE A 12 INCH WIDE CUTOFF WALL CONSTRUCTED AS SHOWN. CUTOFF WALL MAY BE CAST-IN-PLACE OR PRECAST CLASS B CONCRETE. ALL COSTS FOR THE CUTOFF WALL SHALL BE INCIDENTAL TO THE FLARED END SECTION.
4. DEPTH OF RIPRAP (d) PER STANDARD DETAILS.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	DESIGNED BY: KAH
COUNTY	CHECKED BY: BRT
NEW CASTLE	

CONSTRUCTION DETAILS

SHEET NO.	TOTAL SHTS.
72	179

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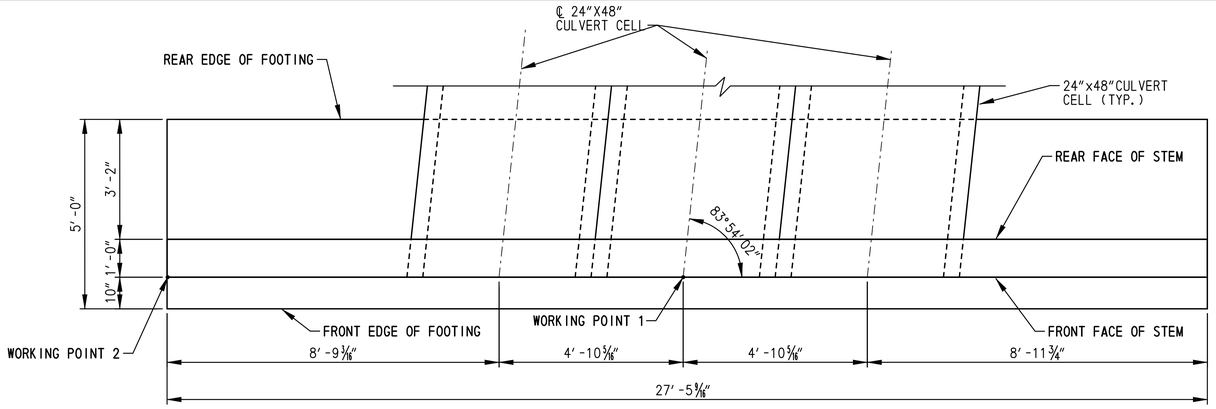
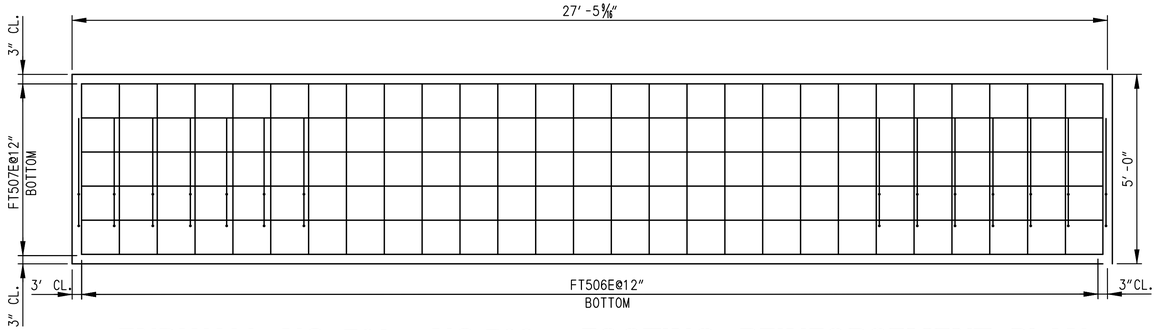


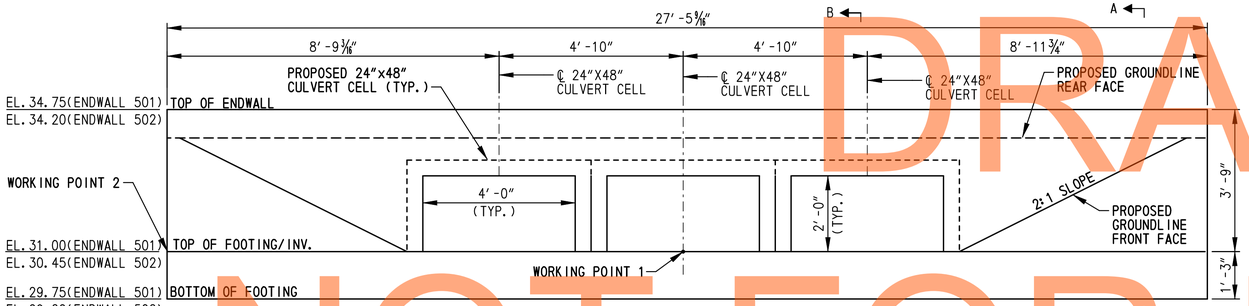
ENDWALL NO. 501 – NO. 502 – PLAN

SCALE: 1/2"=1'-0"



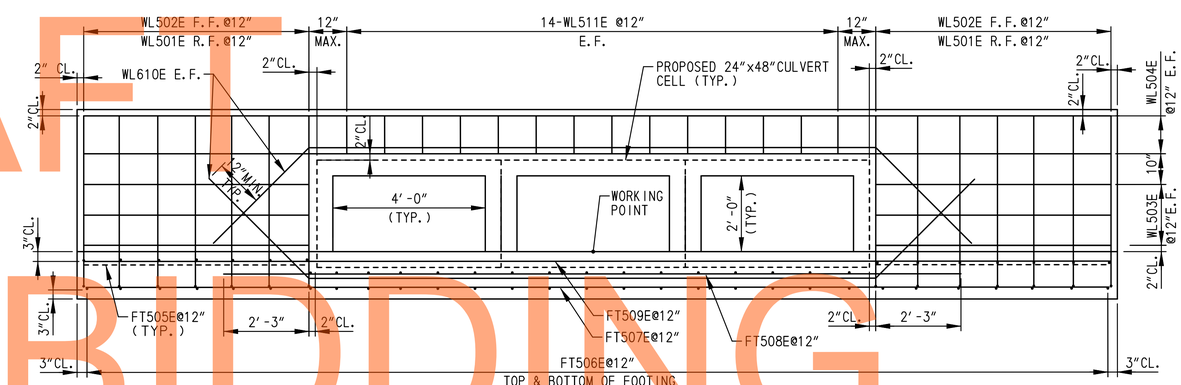
ENDWALL NO. 501 – NO.502 – FOOTING REINFORCEMENT PLAN

SCALE: 1/2"=1'-0"



ENDWALL NO. 501 – NO. 502 – ELEVATION

SCALE: 1/2"=1'-0"



ENDWALL NO. 501 – NO. 502 – REINFORCEMENT ELEVATION

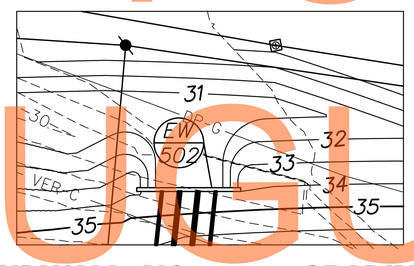
SCALE: 1/2"=1'-0"

EW502 WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
WORKINGG POINT-1	555458.8156	590866.5220
WORKINGG POINT-2	555456.2264	590879.8980

EW501 WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
WORKINGG POINT-1	555380.0247	590842.3506
WORKINGG POINT-2	555382.6114	590828.9878

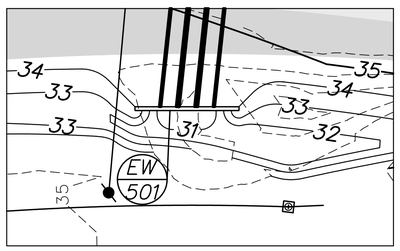
ENDWALL NO. 501 - NO.502 NOTES:

1. MAXIMUM FACTORED BEARING RESISTANCE FOR THE ENDWALL IS 2 KSF.
2. KEYS ARE NOMINAL SIZE.
3. CONCRETE SHALL BE CLASS A, 4500 PSI.
4. RIPRAP IN FRONT OF WALL NOT SHOWN FOR CLARITY.
5. ENDWALL NO.203 SHALL BE CAST-IN-PLACE. NO PRECAST ALTERNATIVE WILL BE ALLOWED.
6. E.F. = EACH FACE
   F.F. = FRONT FACE
   R.F. = REAR FACE
   E.S. = EQUAL SPACING.
7. SEE REINFORCING BAR LIST ON DRAWING DT-10.



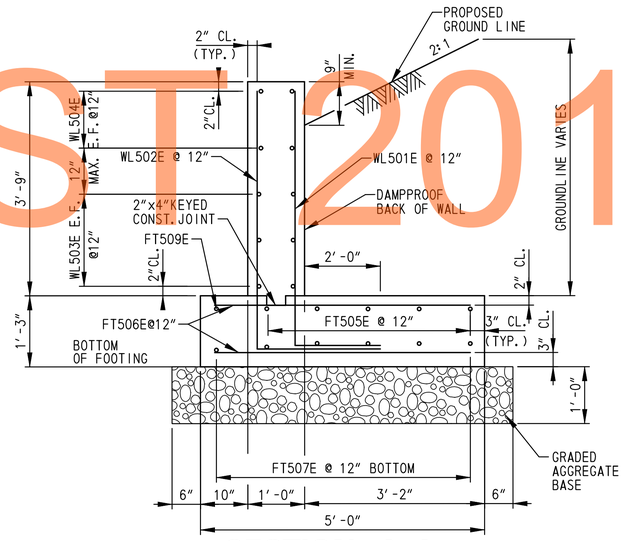
ENDWALL NO. 502 – GRADING

SCALE: 1"=20'



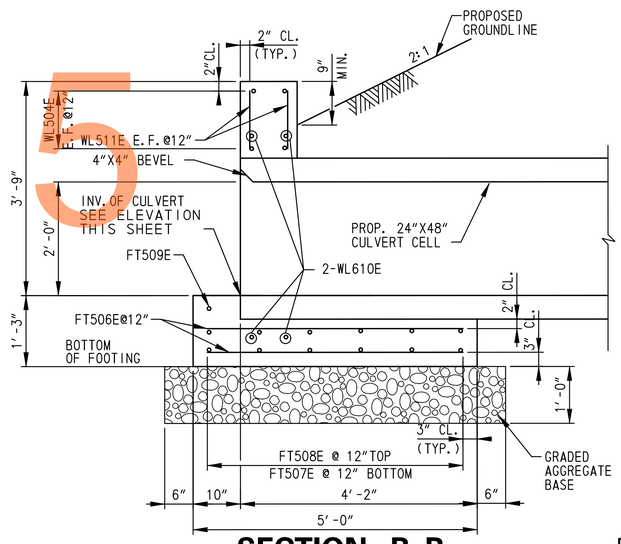
ENDWALL NO. 501 – GRADING

SCALE: 1"=20'



SECTION A–A

SCALE: ¾"=1'-0"



SECTION B–B

SCALE: ¾"=1'-0"

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: HQ
NEW CASTLE	CHECKED BY: JW

ENDWALL NO. 501~NO. 502 DETAILS

DT-09	
SHEET NO.	73
TOTAL SHTS.	179

(1) ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

(2) ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SL = SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
		ENDWALL NO. 501													
14	5	5-4	WL501E	17		3-10	1-6								
14	5	6-0	WL502E	17		3-10	2-2								
6X2	5	6-0	WL503E	STR		6-0									
		TO				TO									
		6-1				6-1									
2	5	27-1	WL504E	STR		27-1									
2X5	5	5-11	FT505E	STR		5-11									
		TO				TO									
		6-4				6-4									
56	5	4-6	FT506E	STR		4-6									
6	5	26-10	FT507E	STR		26-10									
6	5	19-2	FT508E	STR		19-2									
1	5	26-11	FT509E	STR		26-11									
4	5	21-11	WL610E	14		3-6	14-10	3-6				2-6		2-6	19-10
14	5	1-00	WL511E	STR		1-00									
		ENDWALL NO. 502													
14	5	5-4	WL501E	17		3-10	1-6								
14	5	6-0	WL502E	17		3-10	2-2								
6X2	5	6-0	WL503E	STR		6-0									
		TO				TO									
		6-1				6-1									
2	5	27-1	WL504E	STR		27-1									
2X5	5	5-11	FT505E	STR		5-11									
		TO				TO									
		6-4				6-4									
56	5	4-6	FT506E	STR		4-6									
6	5	26-10	FT507E	STR		26-10									
6	5	19-2	FT508E	STR		19-2									
1	5	26-11	FT509E	STR		26-11									
4	5	21-11	WL610E	14		3-6	14-10	3-6				2-6		2-6	19-10
14	5	1-00	WL511E	STR		1-00									

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O

ASTM STANDARD ENGLISH REINFORCING BARS

BAR SIZE	NOMINAL DIMENSIONS: DIAMETER (INCHES)	AREA (INCHES²)	WEIGHT (LBS./FT.)
3	0.375	0.110	0.376
4	0.500	0.200	0.668
5	0.625	0.310	1.043
6	0.750	0.440	1.502
7	0.875	0.600	2.044
8	1.000	0.790	2.670
9	1.128	1.000	3.400
10	1.270	1.270	4.303
11	1.410	1.560	5.313
14	1.693	2.250	7.650
18	2.257	4.000	13.600

RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES

	180° HOOKS		90° HOOKS
	D	A OR G	J	A OR G
3	2¼"	5"	3"	6"
4	3"	6"	4"	8"
5	3¾"	7"	5"	10"
6	4½"	8"	6"	1-0"
7	5¼"	10"	7"	1-2"
8	6"	11"	8"	1-4"
9	9½"	1-3"	11¾"	1-7"
10	10¾"	1-5"	1-1¼"	1-10"
11	1-0"	1-7"	1-2¾"	2-0"
14	1-6¼"	2-3"	1-9¾"	2-7"
18	2-0"	3-0"	2-4½"	3-5"

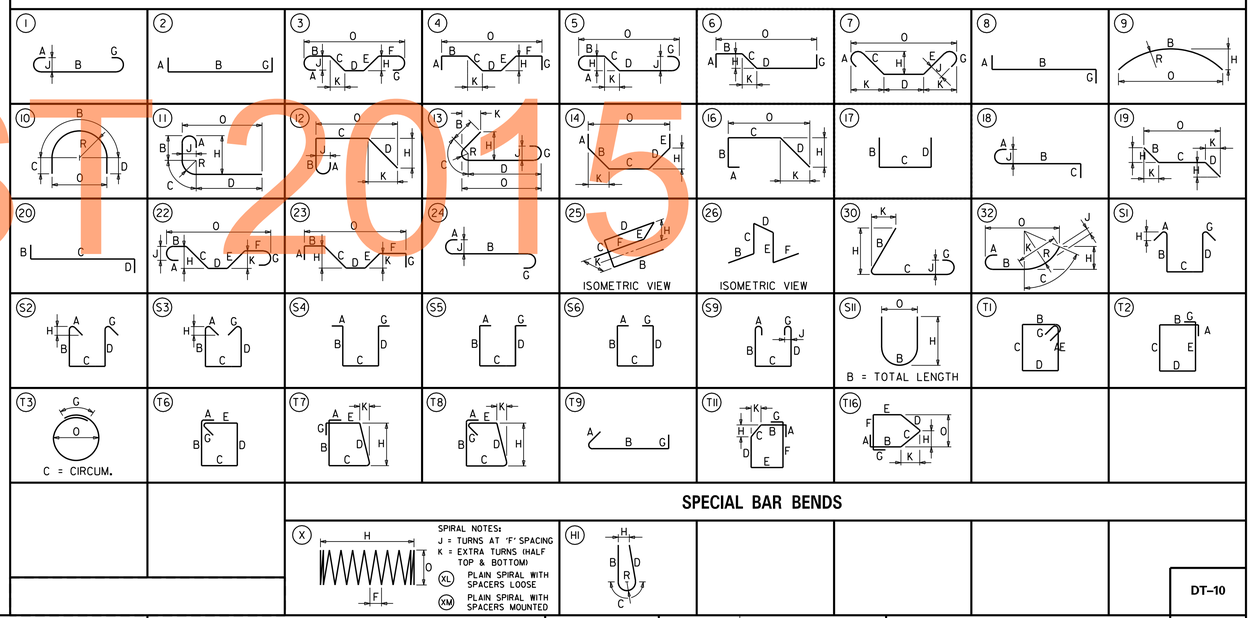
STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES

	90° HOOK	135° HOOK	
	D	A OR G	A OR G
3	1½"	4"	4"	2½"
4	2"	4½"	4½"	3"
5	2½"	6"	5½"	3¾"
6	4½"	1-0"	8"	4½"
7	5¼"	1-2"	9"	5¼"
8	6"	1-4"	10½"	6"

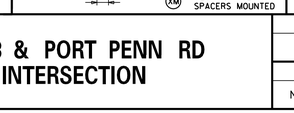
NOTES:

1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

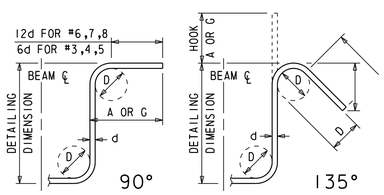
STANDARD BAR BENDS



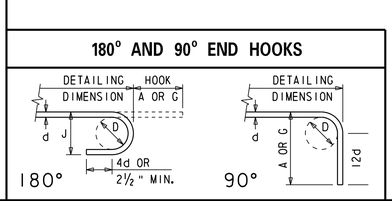
SPECIAL BAR BENDS

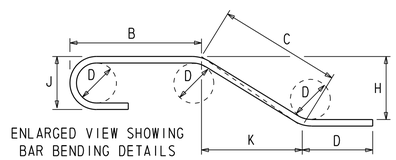


STIRRUP AND TIE HOOKS



180° AND 90° END HOOKS





ADDENDUMS / REVISIONS

DELAWARE
DEPARTMENT OF TRANSPORTATION

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.	
T201011302	DESIGNED BY: H.Q.	
COUNTY	CHECKED BY: J.A.C.	
NEW CASTLE		

ENDWALL NO. 501~502
BAR CHART

DT-10	
SHEET NO.	74
TOTAL SHTS.	179

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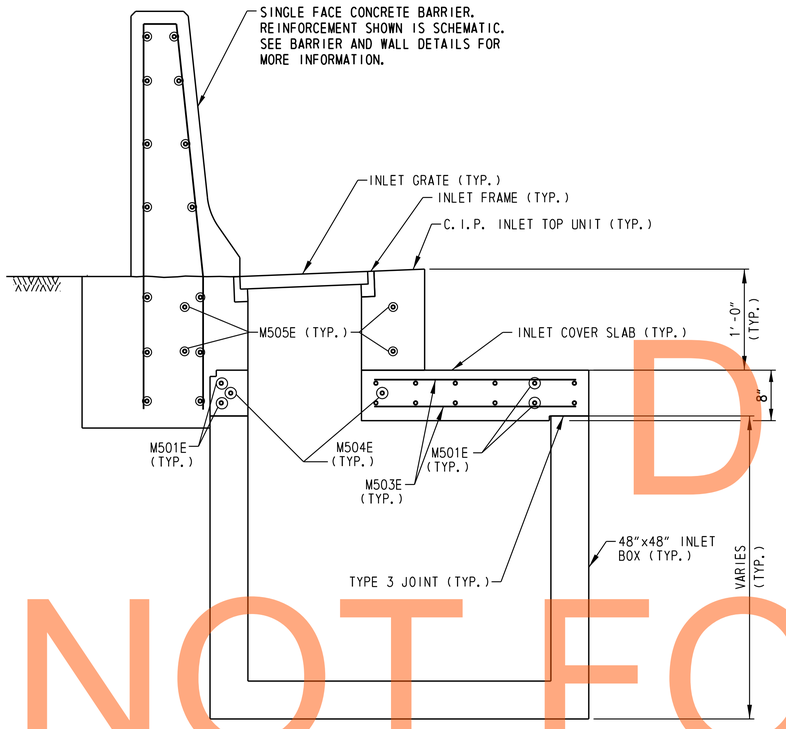
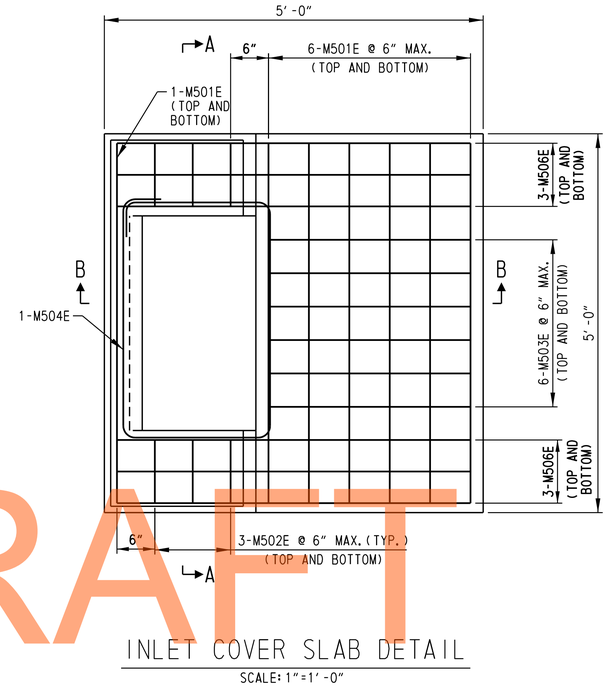


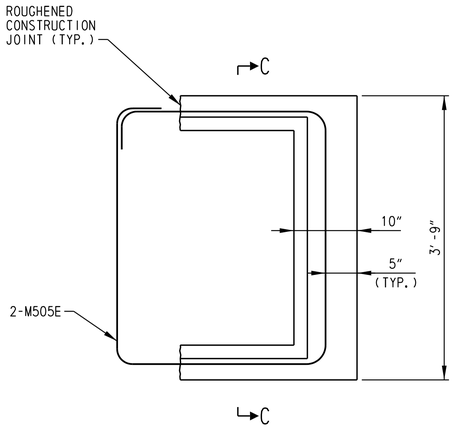
48"X48" DRAINAGE INLET ASSEMBLY

SCALE: 1"=1'-0"



INLET COVER SLAB DETAIL

SCALE: 1"=1'-0"

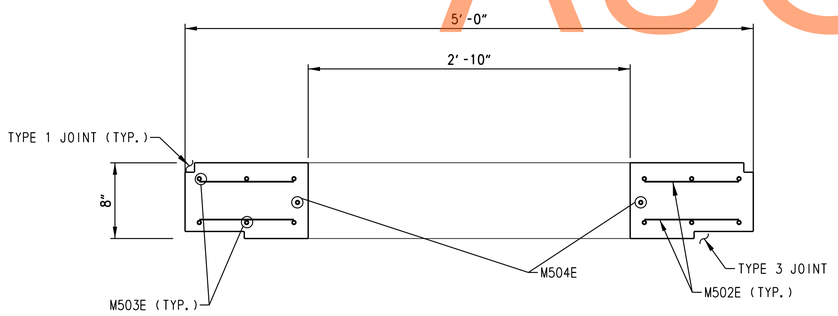


INLET TOP UNIT DETAIL

SCALE: 1"=1'-0"

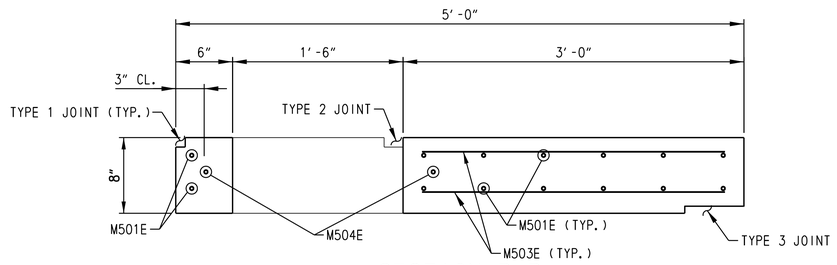
NOTES:

1. PAYMENT FOR DRAINAGE INLETS INCLUDING BOXES, GRATES, TOP UNITS, COVER SLABS, MODIFICATIONS TO CONCRETE MEDIAN BARRIER, JOINT SEALANT AND ALL WORK ASSOCIATED WITH DRAINAGE INLET ASSEMBLIES WILL BE MADE UNDER ITEM NO. 708053 - DRAINAGE INLET, 48"X48".
2. FOR DRAINAGE INLET ASSEMBLY LOCATIONS SEE CONSTRUCTION PLANS.
3. SEE STANDARD NO. D-4 FOR INLET BOX DETAILS. SEE STANDARD NO. D-5 FOR GRATE, FRAME, AND JOINT DETAILS.
4. MINIMUM REINFORCEMENT COVER SHALL BE 1½".
5. HOT POURED JOINT SEALANT SHALL BE USED TO FILL THE GAP BETWEEN THE DRAINAGE INLET FRAMES.



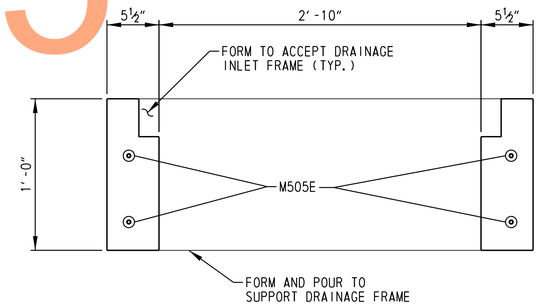
SECTION A-A

SCALE: 1½"=1'-0"



SECTION B-B

SCALE: 1½"=1'-0"



SECTION C-C

SCALE: 1½"=1'-0"

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE: AS SHOWN

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: K.M.K.
NEW CASTLE	CHECKED BY: B.K.B.

MODIFIED 48"X48" INLET TOP UNIT AND SLAB DETAILS

DT-11
SHEET NO. 75
TOTAL SHTS. 179

SR 1 NORTHBOUND

CONTRACTOR TO COORDINATE WITH ESNG TO ENSURE SUFFICIENT AREA PROVIDED FOR UTILITY CONSTRUCTION, INCLUDING, DIRECTIONAL DRILLING AND ASSOCIATED MATERIAL LAYDOWN. CONTRACTOR SHALL ALLOW FOR ADEQUATE ACCESS TO DRILLING LOCATION FROM THE 20' WIDE ACCESS ROAD.

US 13 SOUTHBOUND

US 13 NORTHBOUND

EXISTING R/W

ESNG

RSF

LOC

BEGIN DA

END DA

POTENTIAL LAYDOWN AND STOCKPILE AREA

SET ASIDE AREA FOR POTENTIAL FIELD OFFICE (CONTRACT T200911302)

20' WIDE ACCESS ROAD

CONTRACT T200911302 LAYDOWN AND STOCKPILE AREA

EXISTING R/W & DA

B-9-1

B-9-2

B-9-3

B-9-4

B-9-5

NOTES:

1. ALL AREAS ON THIS PLAN DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL GRADES AND CONDITIONS UPON COMPLETION OF THE CONTRACT. TOPSOIL STRIPPING AND TOPSOILING AREAS ON THIS PLAN SHALL BE INCIDENTAL TO THE CONTRACT. SEEDING DISTURBED AREAS ON THIS PLAN SHALL BE MEASURED AND PAID UNDER ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND.
2. CONTRACT T200911302 CONTRACTOR SHALL CONSTRUCT AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE AND ACCESS ROAD TO LAYDOWN AND STOCKPILE AREAS.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 50 100 150
FEET

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	DESIGNED BY: NSP
COUNTY	CHECKED BY: BRT
NEW CASTLE	

ST. GEORGES
LAYDOWN AREA

DT-12
SHEET NO. 76
TOTAL SHTS. 179

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