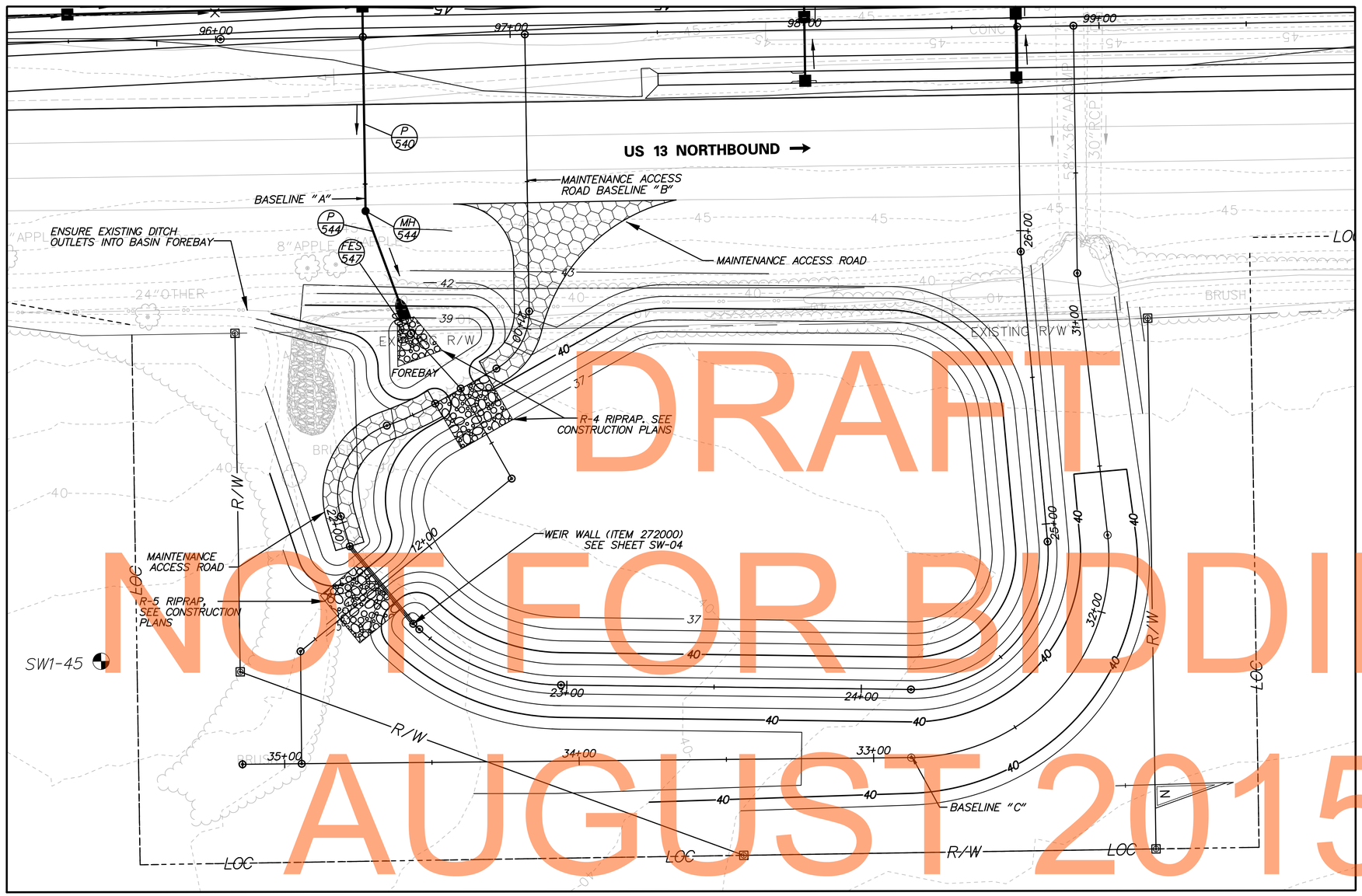

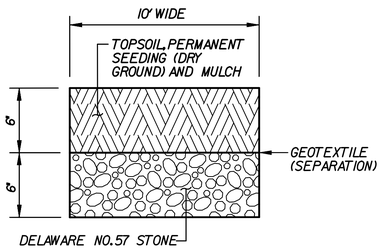

POND MAINTENANCE ACCESS ROAD
SCALE: NONE

PLAN – SWM BMP NO. 756 STA. 96+50 TO STA. 99+00, INFILTRATION BASIN
SCALE: 1" = 20'

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, BIOFILTRATION SWALES, BIO-RETENTION AREAS, ETC. THE "AS-BUILT" DRAWINGS SHALL SHOW THE ACTUAL FINISHED GROUND CONTOURS, OUTLET STRUCTURE DIMENSIONS AND ELEVATIONS, ETC., AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE. ALL "AS-BUILT" DRAWINGS SHALL BE SENT TO THE DELDOT STORMWATER ENGINEER. ALL COSTS FOR THIS WORK SHALL BE INCLUDED UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.
2. STORMWATER MANAGEMENT FACILITIES SERVING AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION SHALL HAVE SEDIMENT REMOVED AT TIMES DETERMINED BY THE ENGINEER OR AT THE CLEANOUT ELEVATION (39.38) AND AT THE CONCLUSION OF THE PROJECT AFTER ALL AREAS DRAINING TO THE FACILITY HAVE BEEN VEGETATIVELY STABILIZED. COST FOR SEDIMENT REMOVAL SHALL BE PAID FOR UNDER ITEM 250000 - SEDIMENT REMOVAL. ACCESS SHALL BE MAINTAINED TO ALL SEDIMENT REMOVAL CONTROL DEVICES REQUIRING MAINTENANCE UNTIL CONSTRUCTION PHASING AND VEGETATIVE STABILIZATION ALLOW THE REMOVAL OF THOSE CONTROLS, WHICH ARE NO LONGER REQUIRED.

STORMWATER MANAGEMENT FACILITY CONSTRUCTION SEQUENCE AND NOTES:
THE STORMWATER MANAGEMENT FACILITY SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:
SECTION 271 - STORMWATER MANAGEMENT POND
SECTION 272 - POND OUTLET STRUCTURE, CONCRETE

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER CONSTRUCTION PHASING, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON THE CONSTRUCTION PHASING PLANS, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
4. CLEAR AND GRUB REMAINING AREA FOR STORMWATER MANAGEMENT FACILITY CONSTRUCTION.
5. CONSTRUCT BASIN OUTLET WEIR WALL STRUCTURE AND RIPRAP PROTECTION AT OUTLET AS SHOWN. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. LOCATION OF SUMP PIT TO BE DETERMINED IN FIELD. INSTALL SKIMMER DEWATERING DEVICE AND OTHER TEMPORARY MODIFICATIONS AS NOTED ON CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLANS, SHEET CS-204.
6. EXCAVATE THE FACILITY AND COMPLETE THE BASIN TO LINES, GRADES, AND DETAILS SHOWN IN THE CONSTRUCTION PLANS; HOWEVER, GRADING SHALL ONLY BE COMPLETED TO 2-FEET ABOVE THE PERMANENT BOTTOM OF THE INFILTRATION BASIN TO PREVENT CLOGGING OF THE PERMANENT FACILITY. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE ANY SOILS CLASSIFIED AS CH, CL, CH, AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS.
7. STABILIZE ALL BARE AREAS BELOW 38.00, INCLUDING THE BOTTOM OF THE BASIN, WITH WET SEED MIX AND ABOVE 38.00 WITH DRY SEED MIX IN ACCORANCE WITH TURF ESTABLISHMENT SPECIFICATIONS.

MAINTENANCE OF STORMWATER MANAGEMENT FACILITY AS A SEDIMENT BASIN
1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION, 39.38, ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT FACILITY
1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT FACILITY AFTER ALL AREAS DRAINING TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE EXCESS ACCUMULATED SEDIMENT ON THE POND BOTTOM AND BENCHES, IF ANY, AND COMPLETE EXCAVATION TO THE SPECIFIED FINISHED LINES AND GRADES SHOWN ON THE PLAN AND DISPOSE SEDIMENT AND EXCAVATED MATERIALS AT A LOCATION APPROVED BY THE ENGINEER. SEDIMENT REMOVAL AND EXCAVATION TO FINAL GRADES SHALL BE PAID UNDER ITEM 250000-SEDIMENT REMOVAL.
3. PUMP DOWN STANDING WATER IN THE BASIN AS NECESSARY.
4. COMPLETE STABILIZATION OF ALL BARE AREAS, REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND REMOVE SKIMMER DEWATERING DEVICE AND PLYWOOD.

BMP NO. 756 – DESIGN SUMMARY

DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION	STORAGE VOLUME (AC-FT)
1-YEAR	3.3	0.0	38.00	0.00
10-YEAR	9.0	1.2	39.30	0.53
100-YEAR	18.6	4.2	40.28	1.05

HAZARD CLASSIFICATION "A" AS PER POND CODE 378

DRAINAGE AREA TO FACILITY: 4.47 ACRES

MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY CONTROL VIA INFILTRATION FOR 1-YEAR RESOURCE PROTECTION STORM AND QUANTITY CONTROL FOR THE 10 AND 100-YEAR EVENTS.

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

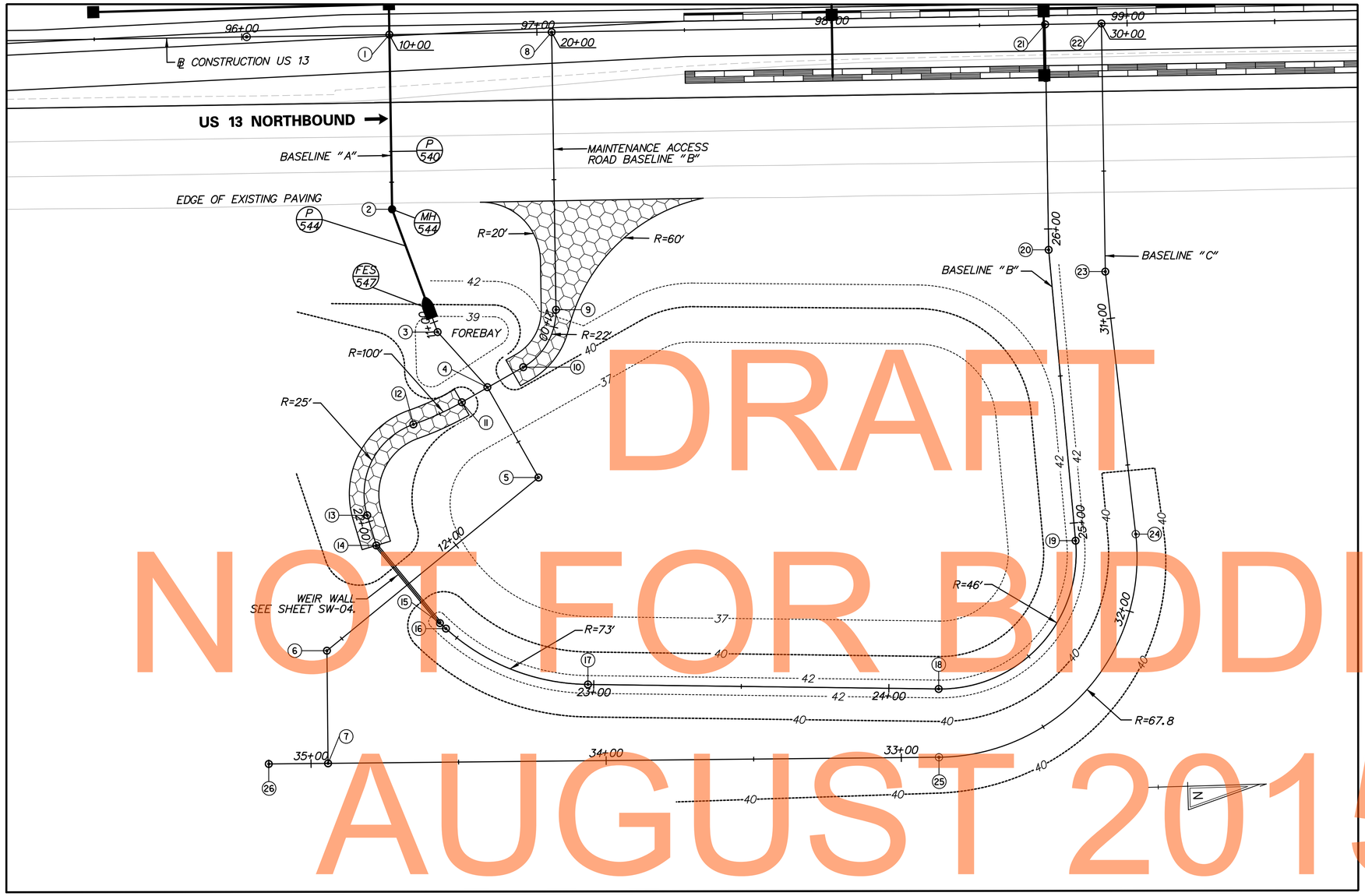
SCALE
0 20 40 60
FEET

US 13 & PORT PENN RD
INTERSECTION

CONTRACT T201011302
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: DLH
CHECKED BY: JDC

STORMWATER MANAGEMENT PLAN
BMP 756

SW-01
SHEET NO. 83
TOTAL SHTS. 179



PLAN – SWM BMP NO. 756 STA. 96+50 TO STA. 99+00, INFILTRATION BASIN

SCALE: 1" = 20'

BASELINE "A" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
1	POB STA.10+00.00	551929.96	590591.55
2	PI STA.10+59.18	551929.17	590650.73
3	PI STA.11+03.54	551943.40	590692.75
4	PI STA.11+28.70	551959.72	590711.90
5	PI STA.11+63.86	551976.14	590742.99
6	PI STA.12+56.50	551902.80	590799.57
7	POE STA.12+94.68	551902.08	590837.74

ACCESS ROAD BASELINE "B" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
8	POB STA.20+00.00	551984.95	590592.28
9	PC STA.20+94.08	551983.71	590686.35
10	PT STA.21+17.56	551972.06	590705.47
11	PI STA.21+41.54	551950.91	590716.75
12	PRC STA.21+59.60	551934.29	590723.78
13	PT STA.21+97.73	551917.77	590754.11
14	PI STA. 22+08.40	551920.55	590764.40
15	PI STA. 22+42.40	551941.32	590791.32
16	PC STA.22+45.18	551943.32	590793.25
17	PT STA.22+92.02	551990.87	590813.55
18	PC STA.24+16.87	552109.61	590818.50
19	PT STA.24+93.97	552157.44	590769.63
20	PI STA.25+92.92	552151.16	590670.87
21	POE STA.26+69.31	552152.17	590594.49

CHANNEL BASELINE "C" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
22	POB STA.30+00.00	552171.2491	590594.74
23	PI STA.30+84.06	552170.1391	590678.79
24	PC STA.31+73.60	552177.8672	590768.00
25	PT STA.32+87.23	552109.0479	590841.63
26	POE STA.35+14.32	551881.9924	590837.36

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

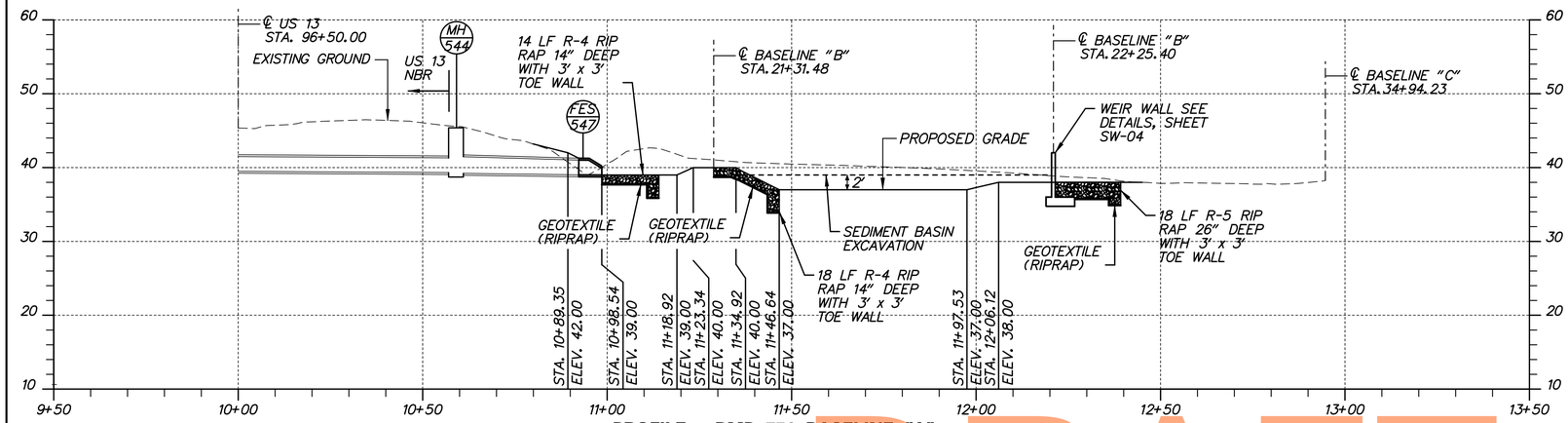
SCALE 0 20 40 60 FEET

US 13 & PORT PENN RD INTERSECTION

CONTRACT T201011302
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: CRH
CHECKED BY: JDC

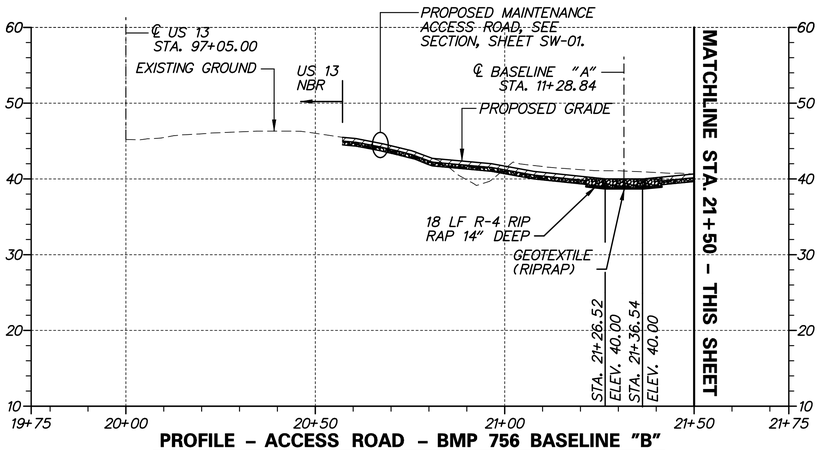
STORMWATER MANAGEMENT STAKEOUT PLAN BMP 756

SW-02
SHEET NO. 84
TOTAL SHTS. 179



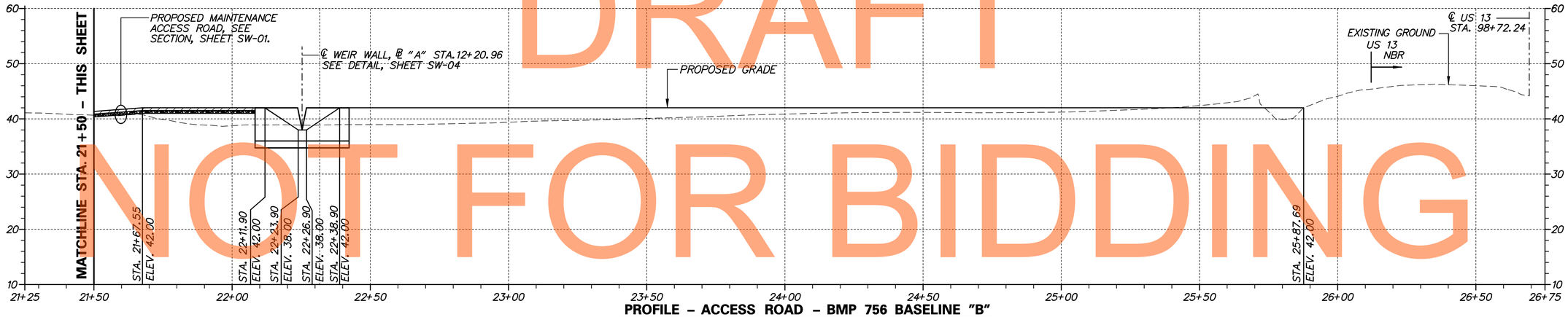
PROFILE – BMP 756 BASELINE "A"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



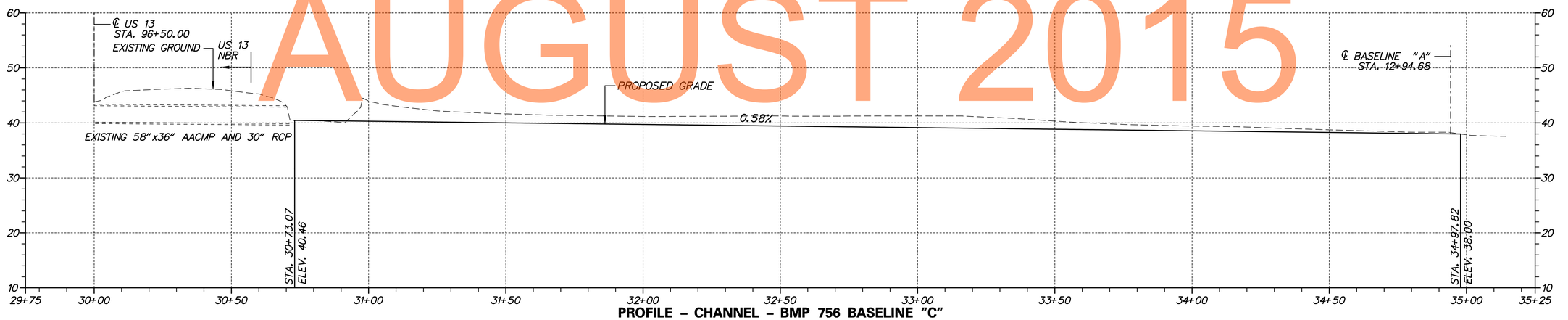
PROFILE – ACCESS ROAD – BMP 756 BASELINE "B"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



PROFILE – ACCESS ROAD – BMP 756 BASELINE "B"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



PROFILE – CHANNEL – BMP 756 BASELINE "C"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

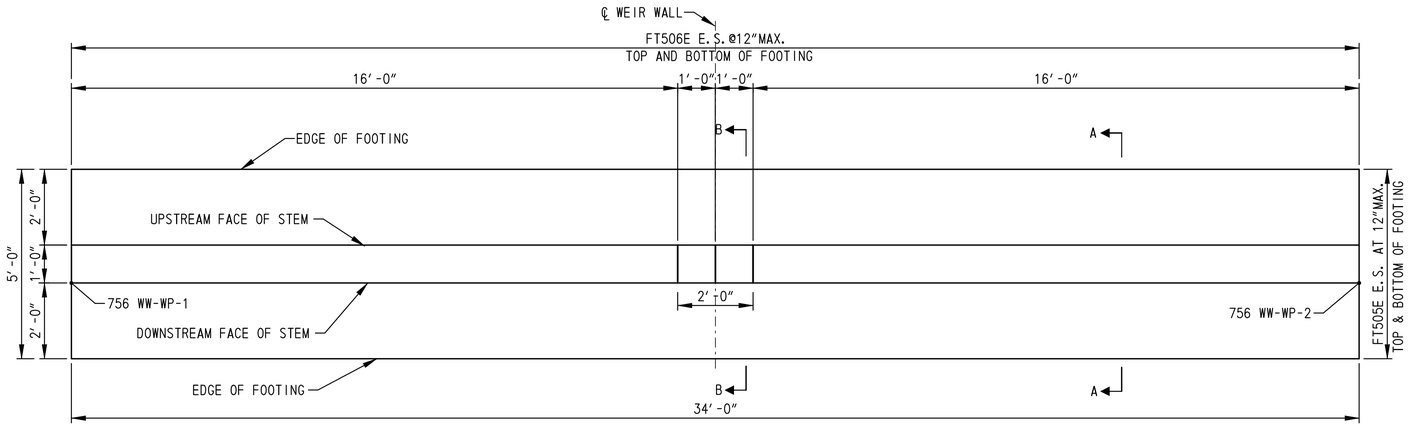
SCALE
0 20 40 60
FEET

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	DESIGNED BY: CRH
COUNTY	CHECKED BY: JDC
NEW CASTLE	

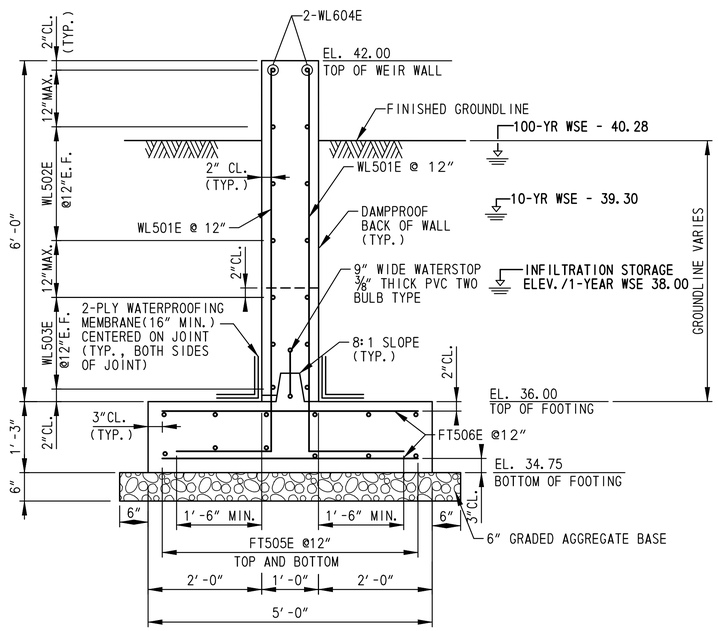
STORMWATER
MANAGEMENT PROFILES
BMP 756

SW-03	
SHEET NO.	85
TOTAL SHTS.	179



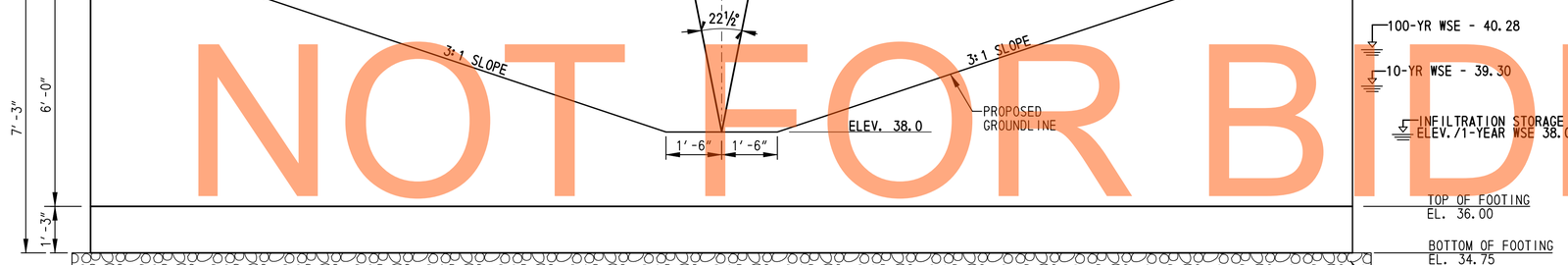
PLAN - SWM BMP NO. 756 WEIR WALL

SCALE: 1/2" = 1'



SECTION A-A

SCALE: 3/4"=1'-0"



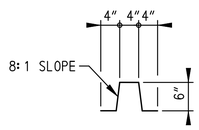
ELEVATION - SWM BMP NO. 756 WEIR WALL

SCALE: 1/2" = 1'

WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
756 WW-WP-1	551920.1541	590764.7081
756 WW-WP-2	551940.9175	590791.6249

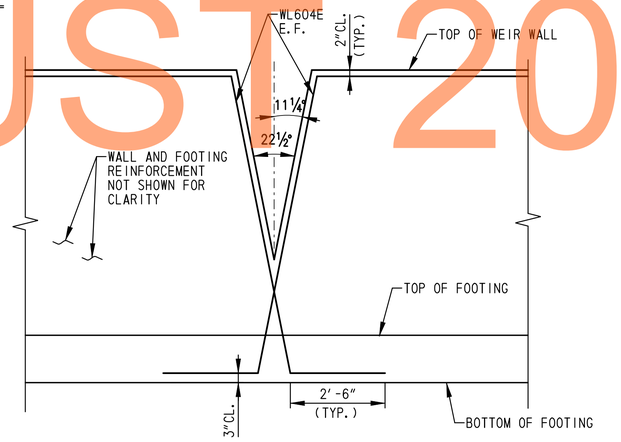
NOTES:

1. MAXIMUM FACTORED BEARING RESISTANCE FOR WEIR WALL IS 2 KSF.
2. KEYS ARE NOMINAL SIZE.
3. CONCRETE SHALL BE CLASS A, 4500 PSI.
4. RIPRAP NOT SHOWN FOR CLARITY.
5. E.F. = EACH FACE, E.S. =EQUAL SPACING.
6. SEE REINFORCING BAR LIST ON DRAWING SW-13.
7. THE CLAY CORE SHALL BE COMPACTED TO AT LEAST 95% OF THE LABORATORY MAXIMUM DENSITY AS DETERMINED BY AASHTO T99 METHOD C FOR A DISTANCE OF 5'-0" MINIMUM ON EITHER SIDE OF THE WEIR WALL FOOTING ALONG THE CENTERLINE OF EMBANKMENT/CLAY CORE.



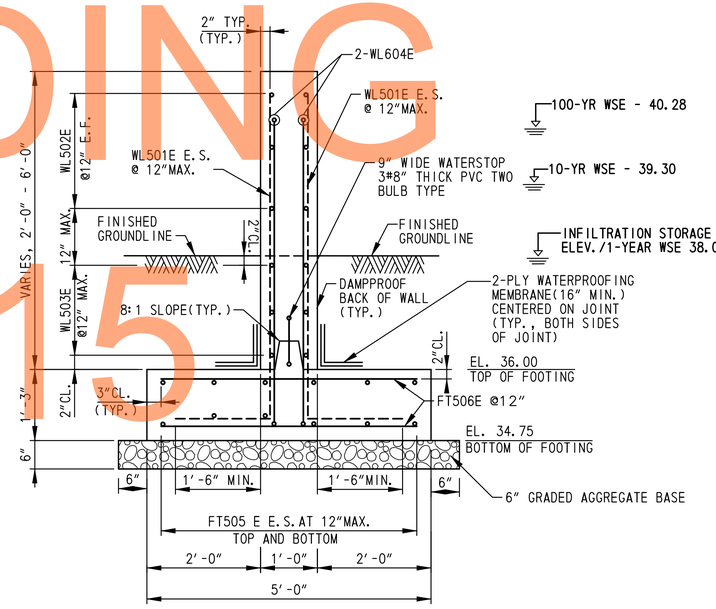
CONSTRUCTION JOINT DETAIL

SCALE: 3/4"=1'-0"



ADDITIONAL REINFORCEMENT AT WEIR WALL OPENING

SCALE: 1/2" = 1'



SECTION B-B

SCALE: 3/4"=1'-0"

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DELAWARE DEPARTMENT OF TRANSPORTATION

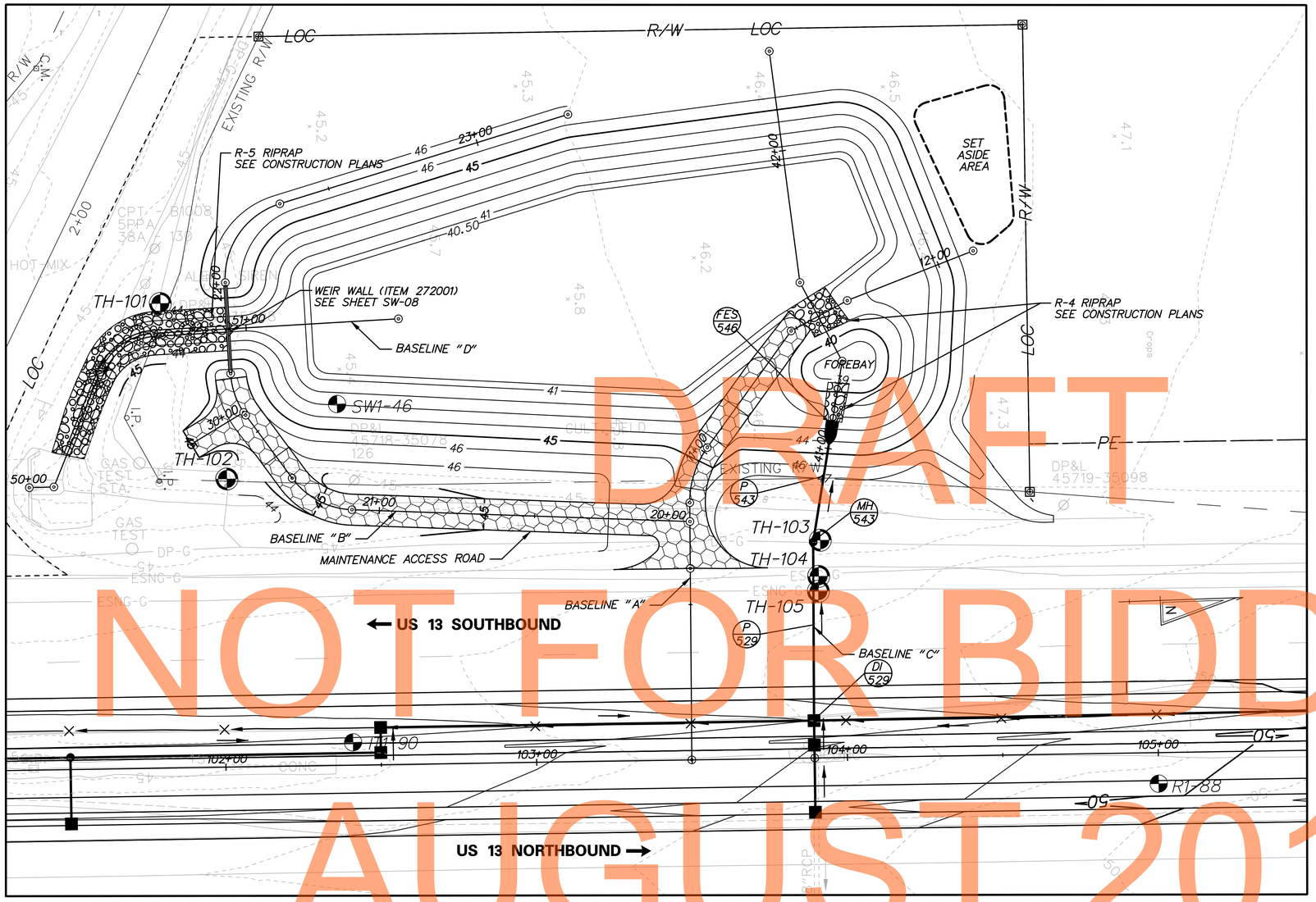
ADDENDUMS / REVISIONS

US 13 & PORT PENN RD INTERSECTION

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

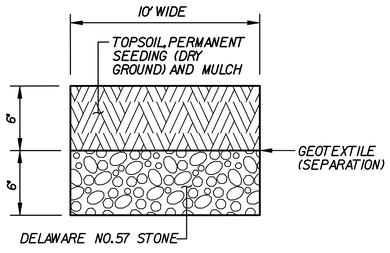
STORMWATER MANAGEMENT DETAILS BMP 756

SW-04
SHEET NO. 86
TOTAL SHTS. 179



PLAN – SWM BMP NO. 757 STA. 102+00 TO STA 104+50, INFILTRATION BASIN

SCALE: 1" = 20'



POND MAINTENANCE ACCESS ROAD

SCALE: NONE

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, BIOFILTRATION SWALES, BIO-RETENTION AREAS, ETC. THE "AS-BUILT" DRAWINGS SHALL SHOW THE ACTUAL FINISHED GROUND CONTOURS, OUTLET STRUCTURE DIMENSIONS AND ELEVATIONS, ETC., AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE. ALL "AS-BUILT" DRAWINGS SHALL BE SENT TO THE DELDOT STORMWATER ENGINEER. ALL COSTS FOR THIS WORK SHALL BE INCLUDED UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.
2. STORMWATER MANAGEMENT FACILITIES SERVING AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION SHALL HAVE SEDIMENT REMOVED AT TIMES DETERMINED BY THE ENGINEER OR AT THE CLEANOUT ELEVATION (42.60) AND AT THE CONCLUSION OF THE PROJECT AFTER ALL AREAS DRAINING TO THE FACILITY HAVE BEEN VEGETATIVELY STABILIZED. COST FOR SEDIMENT REMOVAL SHALL BE PAID FOR UNDER ITEM 250000 - SEDIMENT REMOVAL. ACCESS SHALL BE MAINTAINED TO ALL SEDIMENT REMOVAL CONTROL DEVICES REQUIRING MAINTENANCE UNTIL CONSTRUCTION PHASING AND VEGETATIVE STABILIZATION ALLOW THE REMOVAL OF THOSE CONTROLS, WHICH ARE NO LONGER REQUIRED.

STORMWATER MANAGEMENT FACILITY CONSTRUCTION SEQUENCE AND NOTES:

THE STORMWATER MANAGEMENT FACILITY SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:

SECTION 271 - STORMWATER MANAGEMENT POND
SECTION 272 - POND OUTLET STRUCTURE, CONCRETE

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER CONSTRUCTION PHASING, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON THE CONSTRUCTION PHASING PLANS, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
4. CLEAR AND GRUB REMAINING AREA FOR STORMWATER MANAGEMENT FACILITY CONSTRUCTION.
5. CONSTRUCT BASIN OUTLET WEIR WALL STRUCTURE AND RIPRAP PROTECTION AT OUTLET AS SHOWN. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. LOCATION OF SUMP PIT TO BE DETERMINED IN FIELD. INSTALL SKIMMER DEWATERING DEVICE AND OTHER TEMPORARY MODIFICATIONS AS NOTED ON CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLANS, SHEET CS-204.
6. EXCAVATE THE FACILITY AND COMPLETE THE BASIN TO LINES, GRADES, AND DETAILS SHOWN IN THE CONSTRUCTION PLANS; HOWEVER, GRADING SHALL ONLY BE COMPLETED TO 1-FOOT ABOVE THE PERMANENT BOTTOM OF THE INFILTRATION BASIN TO PREVENT CLOGGING OF THE PERMANENT FACILITY. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE ANY SOILS CLASSIFIED AS CH, CL, CH, AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS.
7. STABILIZE ALL BARE AREAS BELOW 41.50, INCLUDING THE BOTTOM OF THE BASIN, WITH WET SEED MIX AND ABOVE 41.50 WITH DRY SEED MIX IN ACCORANCE WITH TURF ESTABLISHMENT SPECIFICATIONS.

MAINTENANCE OF STORMWATER MANAGEMENT FACILITY AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION, 42.60, ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT FACILITY

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT FACILITY AFTER ALL AREAS DRAINING TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE EXCESS ACCUMULATED SEDIMENT ON THE POND BOTTOM AND BENCHES, IF ANY, AND COMPLETE EXCAVATION TO THE SPECIFIED FINISHED LINES AND GRADES SHOWN ON THE PLAN AND DISPOSE SEDIMENT AND EXCAVATED MATERIALS AT A LOCATION APPROVED BY THE ENGINEER. SEDIMENT REMOVAL AND EXCAVATION TO FINAL GRADES SHALL BE PAID UNDER ITEM 250000-SEDIMENT REMOVAL.
3. PUMP DOWN STANDING WATER IN THE BASIN AS NECESSARY.
4. COMPLETE STABILIZATION OF ALL BARE AREAS, REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND REMOVE SKIMMER DEWATERING DEVICE AND PLYWOOD.

BMP NO. 757 – DESIGN SUMMARY

DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION	STORAGE VOLUME (AC-FT)
1-YEAR	6.5	0.0	42.00	0.30
10-YEAR	15.3	2.4	43.84	0.67
100-YEAR	29.3	8.0	45.03	1.19

HAZARD CLASSIFICATION "A" AS PER POND CODE 378

DRAINAGE AREA TO FACILITY: 4.86 ACRES

MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY CONTROL VIA INFILTRATION FOR 1-YEAR RESOURCE PROTECTION STORM AND QUANTITY CONTROL FOR THE 10 AND 100-YEAR EVENTS.

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 20 40 60
FEET

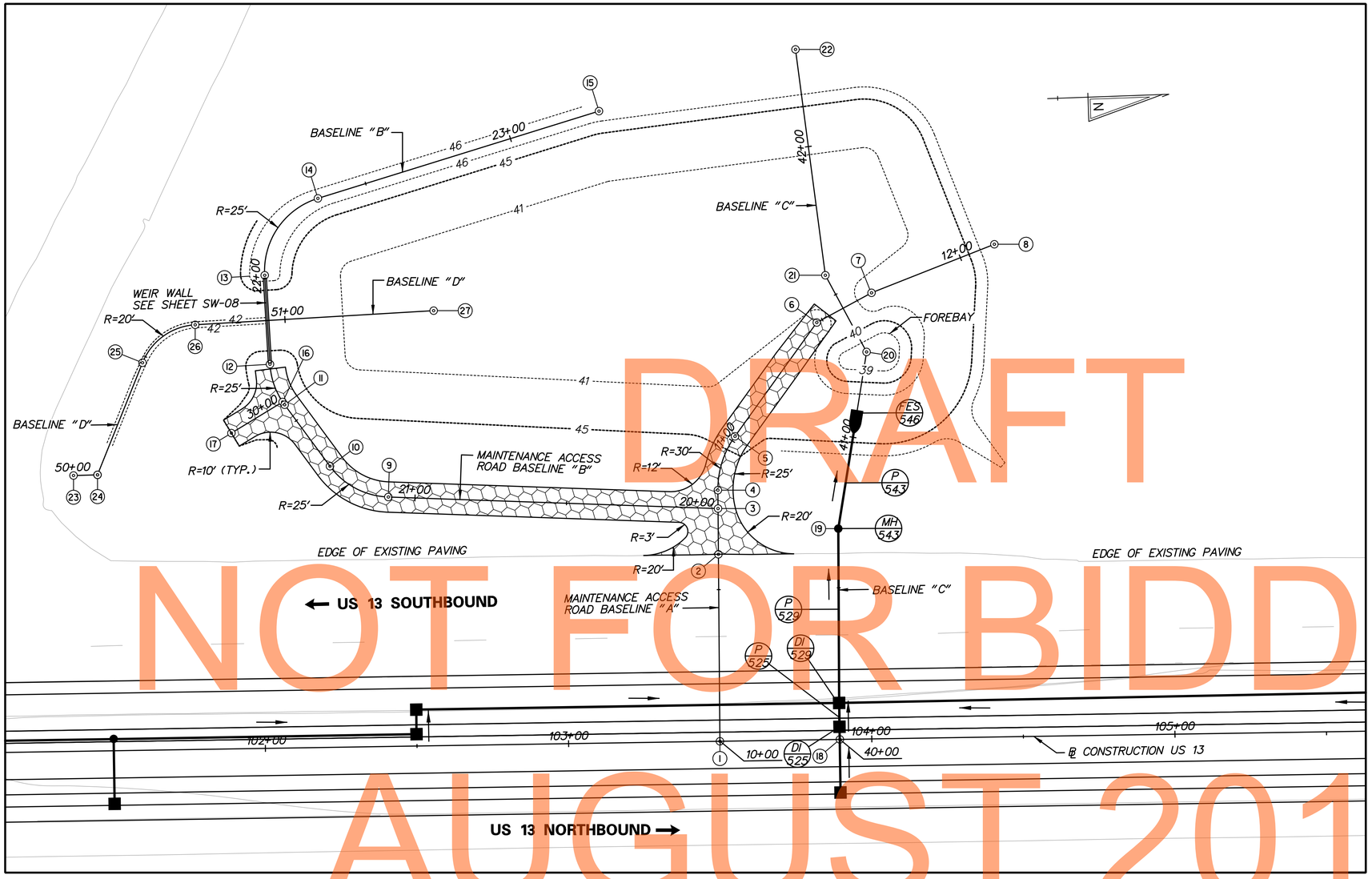
US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: DLH
NEW CASTLE	CHECKED BY: JDC

STORMWATER MANAGEMENT PLAN
BMP 757

SW-05

SHEET NO.	TOTAL SHTS.
87	179



PLAN – SWM BMP NO. 757 STA. 102+00 TO STA 104+50. INFILTRATION BASIN
SCALE: 1" = 20'

ACCESS ROAD BASELINE "A" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
1	POB STA.10+00.00	552629.81	590600.80
2	PI STA.10+61.66	552631.09	590539.15
3	PI STA.10+76.74	552631.40	590524.08
4	PC STA.10+82.79	552631.52	590518.02
5	PT STA.11+01.73	552637.67	590500.44
6	PI STA.11+47.96	552665.72	590463.70
7	PI STA.11+68.49	552684.04	590454.43
8	POE STA.12+12.06	552725.00	590439.60

ACCESS ROAD BASELINE "B" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
3	POB STA.20+00.00	552631.40	590524.08
9	PC STA.21+08.80	552522.82	590517.14
10	PT STA.21+31.32	552503.87	590506.44
11	PC STA.21+56.51	552489.51	590485.74
12	PT STA.21+70.91	552485.06	590472.25
13	PC STA.22+00.29	552484.17	590442.88
14	PT STA.22+33.52	552502.44	590418.04
15	POE STA.23+30.58	552595.93	590391.96
16	POB STA.30+00.00	552488.86	590484.81
17	POE STA.30+19.75	552471.70	590494.57

BASELINE "C" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
18	POB STA.40+00.00	552669.37	590601.32
19	PI STA.40+69.51	552670.85	590531.83
20	PI STA.41+28.51	552681.86	590473.86
21	PI STA.41+57.21	552669.00	590448.20
22	POE STA.42+32.32	552661.29	590373.48

BASELINE "D" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
23	POB STA.50+00.00	552419.24	590507.05
24	PI STA.50+07.92	552427.16	590507.06
25	PC STA.50+47.75	552443.05	590470.55
26	PT STA.50+70.34	552460.78	590458.54
27	POE STA.51+49.12	552539.53	590456.15

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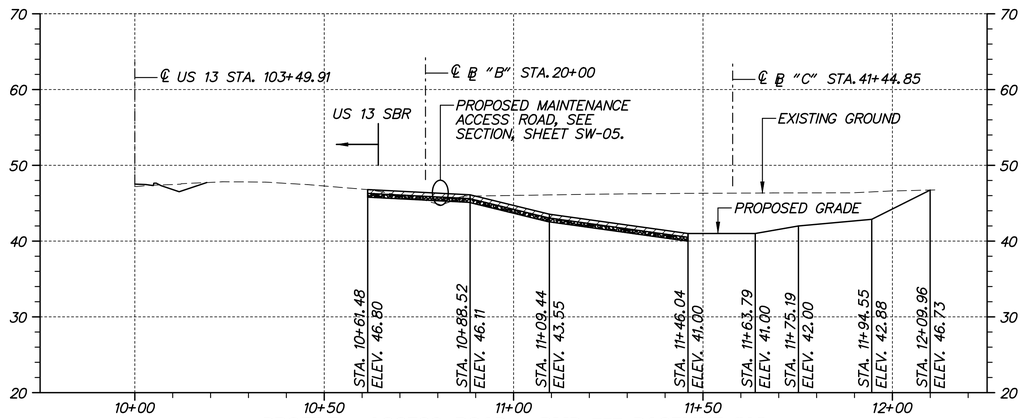
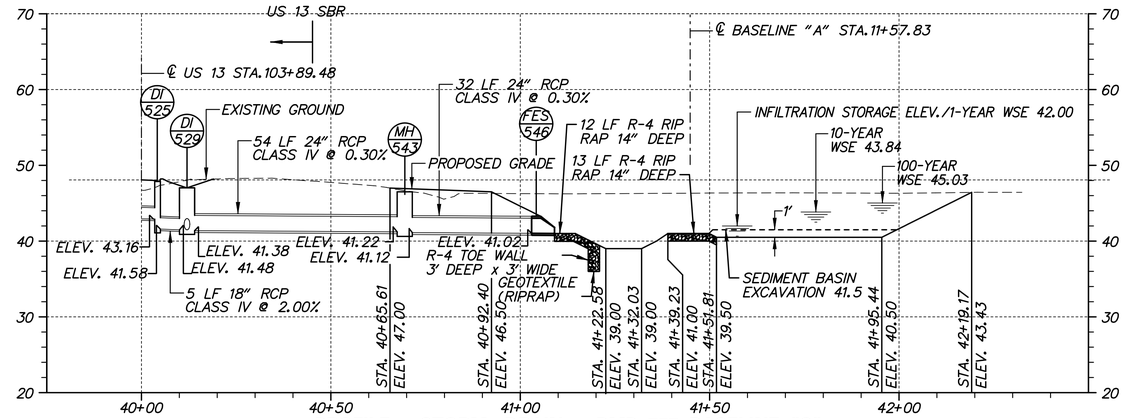
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 20 40 60 FEET	US 13 & PORT PENN RD INTERSECTION	CONTRACT T201011302	BRIDGE NO.	STORMWATER MANAGEMENT PLAN BMP 757	SW-06
				COUNTY NEW CASTLE	DESIGNED BY: DLH		SHEET NO. 88
					CHECKED BY: JDC		TOTAL SHTS. 179



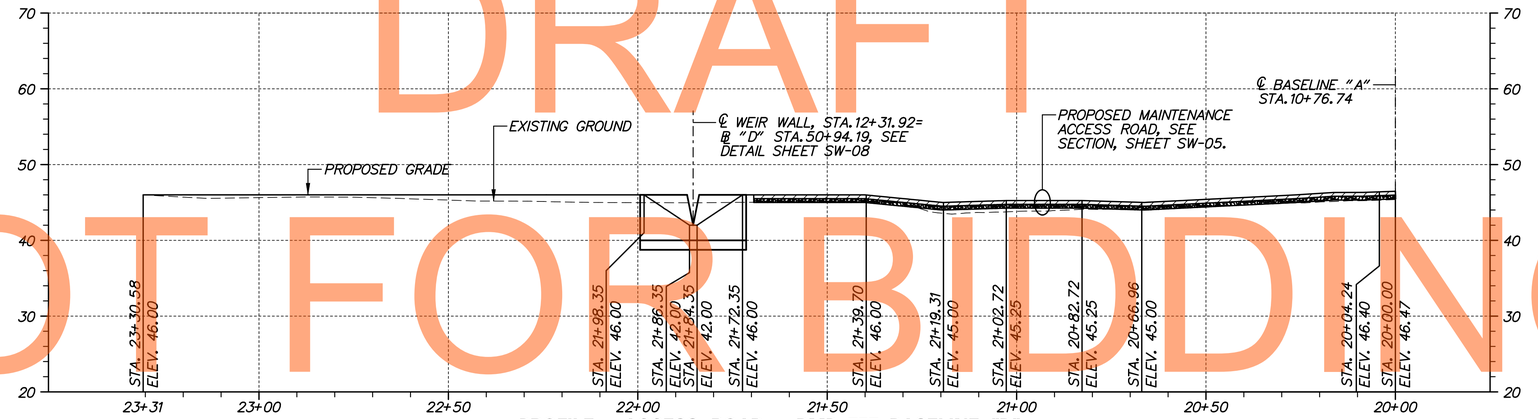
PROFILE – ACCESS ROAD – BMP 757 BASELINE "A"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



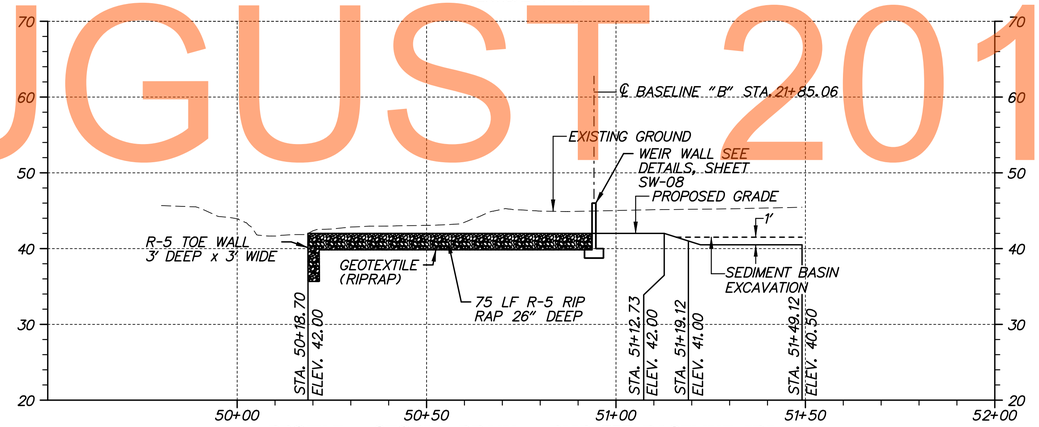
PROFILE – STORM DRAIN – BMP 757 BASELINE "C"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



PROFILE – ACCESS ROAD – BMP 757 BASELINE "B"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'



PROFILE – STORM DRAIN – BMP 757 BASELINE "D"

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

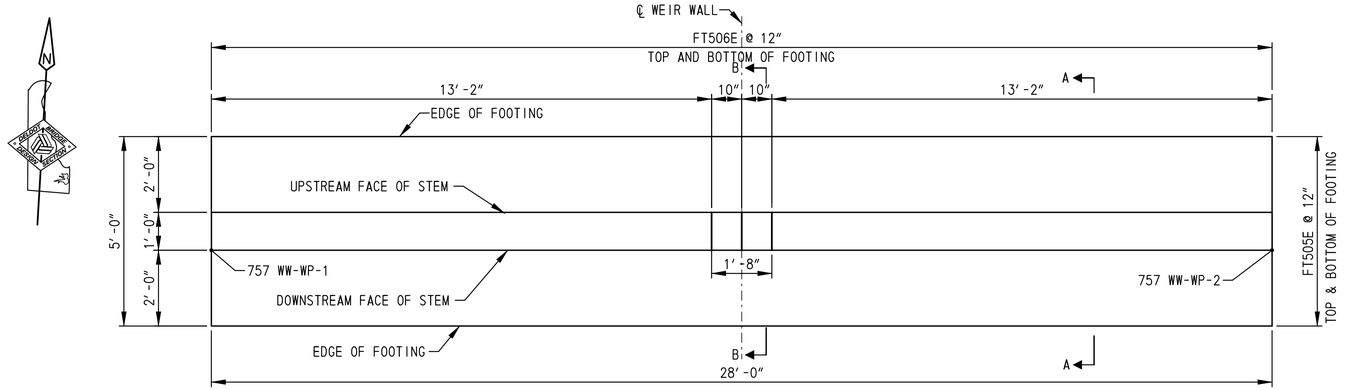
SCALE
0 20 40 60
FEET

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: CRH
NEW CASTLE	CHECKED BY: JDC

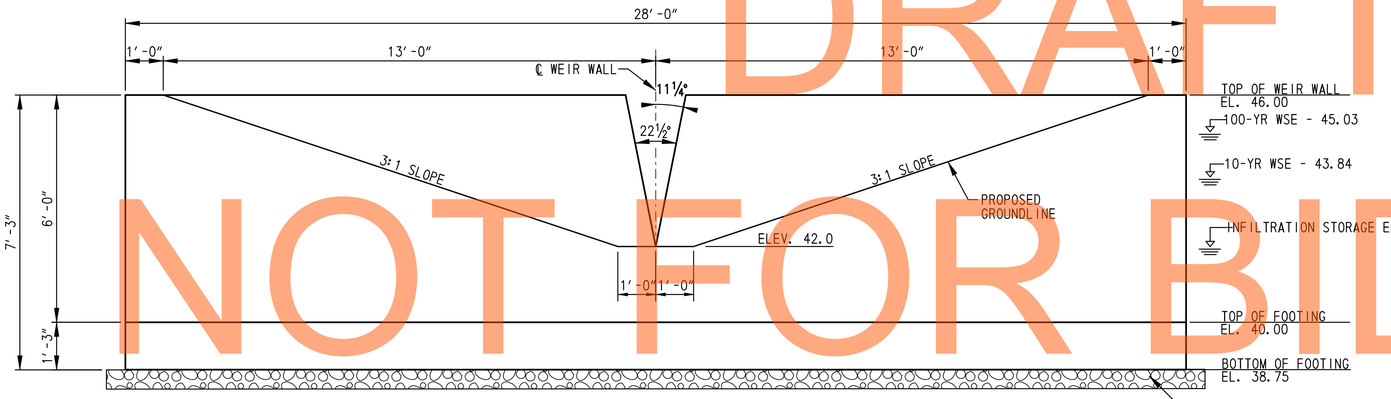
STORMWATER MANAGEMENT PROFILES BMP 757

SW-07
SHEET NO. 89
TOTAL SHTS. 179



PLAN - SWM BMP NO. 757 WEIR WALL

SCALE: 1/2" = 1'



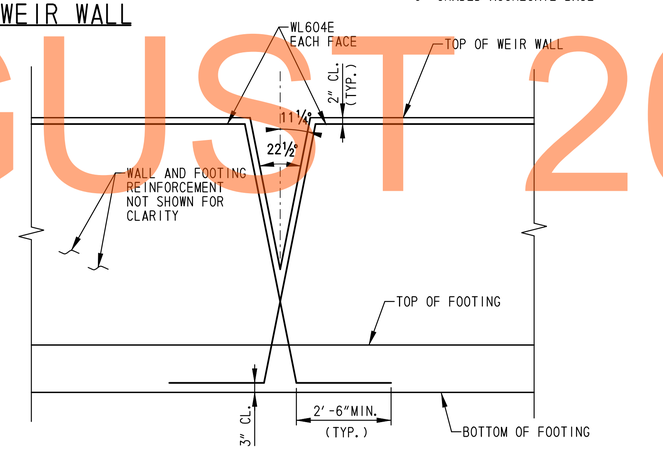
ELEVATION - SWM BMP NO. 757 WEIR WALL

SCALE: 1/2" = 1'

WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
757 WW-WP-1	552485.6254	590443.7777
757 WW-WP-2	552486.4758	590471.7648

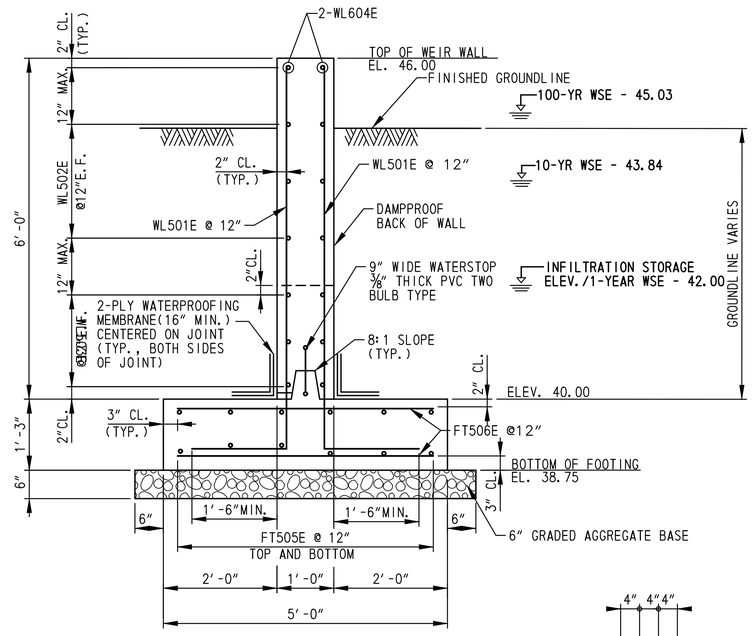
NOTES:

1. MAXIMUM FACTORED BEARING RESISTANCE FOR WEIR WALL IS 2 KSF.
2. KEYS ARE NOMINAL SIZE.
3. CONCRETE SHALL BE CLASS A, 4500 PSI.
4. RIPRAP NOT SHOWN FOR CLARITY.
5. E.F. = EACH FACE, E.S.=EQUAL SPACING.
6. SEE REINFORCING BAR LIST ON DRAWING SW-13.
7. THE CLAY CORE SHALL BE COMPACTED TO AT LEAST 95% OF THE LABORATORY MAXIMUM DENSITY AS DETERMINED BY AASHTO T99 METHOD C FOR A DISTANCE OF 5'-0" MINIMUM ON EITHER SIDE OF THE WEIR WALL FOOTING ALONG THE CENTERLINE OF EMBANKMENT/CLAY CORE.



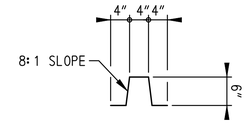
ADDITIONAL REINFORCEMENT AT WEIR WALL OPENING

SCALE: 1/2" = 1'



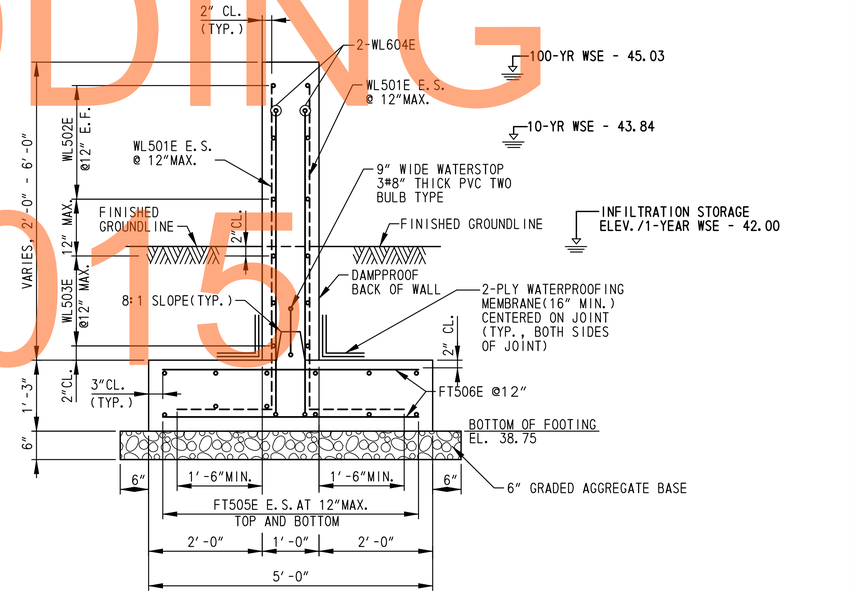
SECTION A-A

SCALE: ¾"=1'-0"



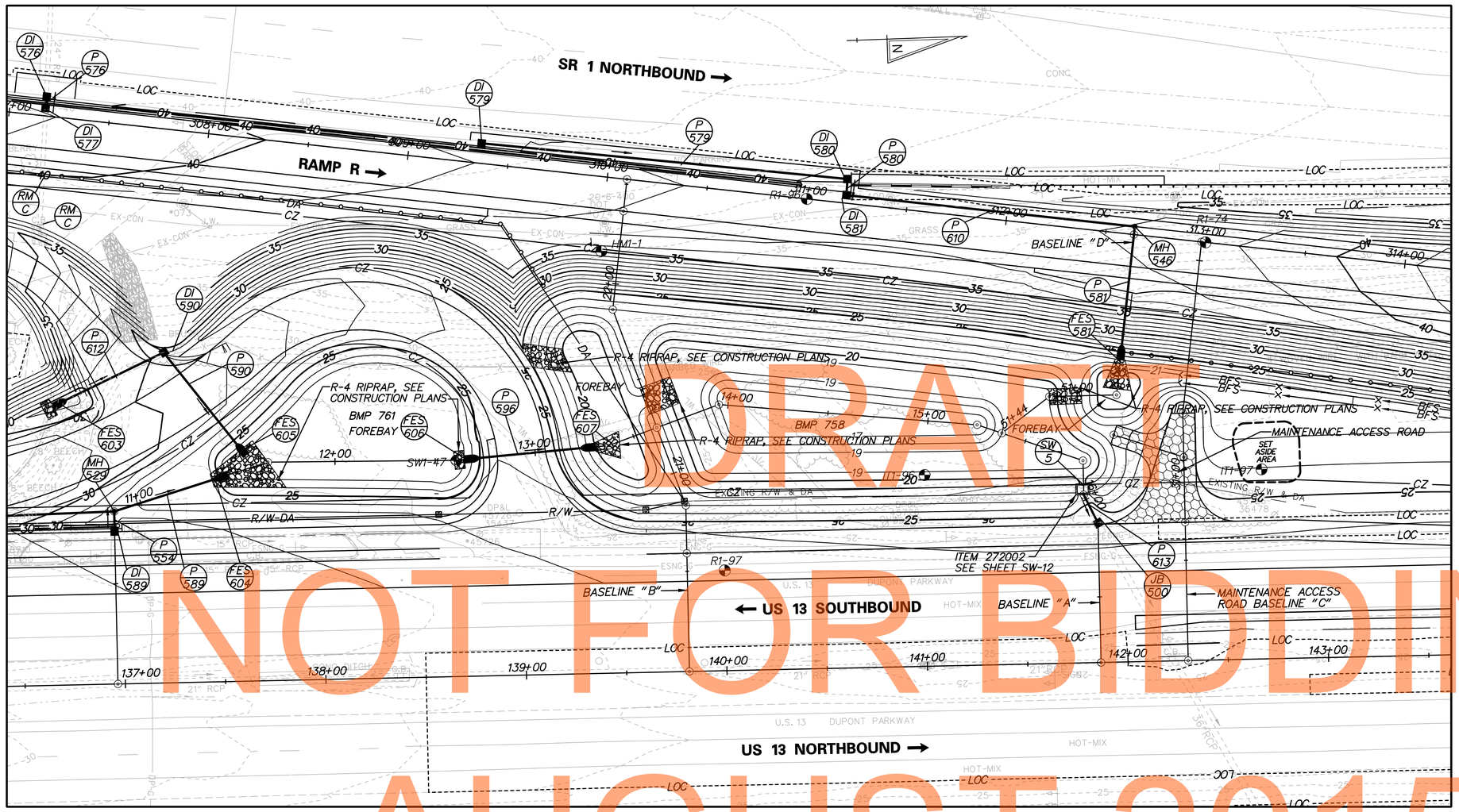
CONSTRUCTION JOINT DETAIL

SCALE: ¾"=1'-0"



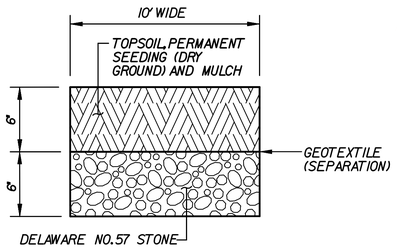
SECTION B-B

SCALE: ¾"=1'-0"



PLAN – SWM BMP NO. 758/761 STA. 137+00 TO STA. 142+00, WET POND

SCALE: 1" = 30'



POND MAINTENANCE ACCESS ROAD

SCALE: NONE

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF ALL STORMWATER MANAGEMENT FACILITIES, SUCH AS PONDS, BIOFILTRATION SWALES, BIO-RETENTION AREAS, ETC. THE "AS-BUILT" DRAWINGS SHALL SHOW THE ACTUAL FINISHED GROUND CONTOURS, OUTLET STRUCTURE DIMENSIONS AND ELEVATIONS, ETC., AS THEY EXIST AT THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE. ALL "AS-BUILT" DRAWINGS SHALL BE SENT TO THE DELDOT STORMWATER ENGINEER. ALL COSTS FOR THIS WORK SHALL BE INCLUDED UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.
2. STORMWATER MANAGEMENT PONDS SERVING AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION SHALL HAVE SEDIMENT REMOVED AT TIMES DETERMINED BY THE ENGINEER OR AT THE CLEANOUT ELEVATION (21.88) AND AT THE CONCLUSION OF THE PROJECT AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN VEGETATIVELY STABILIZED. COST FOR SEDIMENT REMOVAL SHALL BE PAID FOR UNDER ITEM 250000 - SEDIMENT REMOVAL. ACCESS SHALL BE MAINTAINED TO ALL SEDIMENT REMOVAL CONTROL DEVICES REQUIRING MAINTENANCE UNTIL CONSTRUCTION PHASING AND VEGETATIVE STABILIZATION ALLOW THE REMOVAL OF THOSE CONTROLS, WHICH ARE NO LONGER REQUIRED.

POND CONSTRUCTION SEQUENCE AND NOTES:

THE STORMWATER MANAGEMENT POND SHALL FUNCTION AS A SEDIMENT BASIN DURING ROADWAY CONSTRUCTION AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS:
SECTION 271 - STORMWATER MANAGEMENT POND
SECTION 272 - POND OUTLET STRUCTURE, CONCRETE

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER CONSTRUCTION PHASING, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
2. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
3. INSTALL PERIMETER SEDIMENT CONTROLS AS SHOWN ON THE CONSTRUCTION PHASING PLANS, MOT AND EROSION AND SEDIMENT CONTROL PLANS.
4. CLEAR AND GRUB REMAINING AREA FOR POND CONSTRUCTION.
5. CONSTRUCT POND OUTLET STRUCTURE, PRINCIPAL SPILLWAY, AND JUNCTION BOX AT DOWNSTREAM END OF PRINCIPAL SPILLWAY. EXCAVATE AS NEEDED TO INSTALL POND OUTLET STRUCTURE. INSTALL SKIMMER DEWATERING DEVICE. DE-WATER FOUNDATION AS NEEDED IN ACCORDANCE WITH SECTION 111 AND USE SUMP PIT FOR PUMPING. LOCATION OF SUMP PIT TO BE DETERMINED IN FIELD.
6. EXCAVATE THE POND AND COMPLETE THE BASIN TO LINES, GRADES, AND DETAILS SHOWN IN THE CONSTRUCTION PLANS. OVEREXCAVATE THE BOTTOM OF THE POOL 2 FEET FOR SEDIMENT STORAGE. DURING EXCAVATION, THE CONTRACTOR SHALL SALVAGE AND STOCKPILE ANY SOILS CLASSIFIED AS CH, CL, CH, AND GM PER THE UNIFIED SOIL CLASSIFICATION SYSTEM TO BE USED TO CONSTRUCT EMBANKMENT. THE ABOVE CLASSIFIED SOILS MAY BE OBTAINED FROM ELSEWHERE WITHIN THE PROJECT LIMITS.
7. STABILIZE ALL BARE AREAS BELOW 21.00, EXCLUDING THE POND BOTTOM, WITH WET SEED MIX AND ABOVE ELEVATION 21.00 WITH DRY SEED MIX.

MAINTENANCE OF POND AS A SEDIMENT BASIN

1. CONTRACTOR SHALL INSPECT THE BASIN IMMEDIATELY AFTER EVERY RAIN AND MAKE REPAIRS AS NEEDED.
2. CONTRACTOR SHALL CLEARLY MARK THE CLEANOUT ELEVATION, 21.88, ON A STAKE DRIVEN INTO THE GROUND AT A LOCATION CLEARLY VISIBLE FROM THE EMBANKMENT. SEDIMENT SHALL BE REMOVED WHEN CLEANOUT ELEVATION IS REACHED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.

CONVERSION TO PERMANENT STORMWATER MANAGEMENT POND

1. CONVERT THE BASIN INTO THE PERMANENT STORMWATER MANAGEMENT POND AFTER ALL AREAS DRAINING TO THE POND HAVE BEEN PERMANENTLY STABILIZED AND THE ENGINEER HAS APPROVED THE CONVERSION.
2. REMOVE EXCESS ACCUMULATED SEDIMENT ON THE POND BOTTOM AND BENCHES, IF ANY, TO THE SPECIFIED FINISHED LINES AND GRADES SHOWN IN THE PLAN AND DISPOSE SEDIMENT AT A LOCATION APPROVED BY THE ENGINEER. IF ELEVATION OF ACCUMULATED SEDIMENT IN POND BOTTOMS IS BELOW THE PROPOSED FINISHED ELEVATION, ADDITIONAL FILL MATERIAL SHALL NOT BE PLACED IN POND.
3. PUMP DOWN STANDING WATER IN THE POND AS NECESSARY.
4. COMPLETE STABILIZATION OF ALL BARE AREAS, REMOVE EROSION AND SEDIMENT CONTROL MEASURES, REMOVE SKIMMER DEWATERING DEVICE AND PLYWOOD, AND INSTALL CATCH BASIN TRAP.

BMP NO. 758/761 – DESIGN SUMMARY

DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVATION	STORAGE VOLUME (AC-FT)
PERM. POOL	N. A.	N. A.	20. 00	0. 41
1-YEAR	16. 9	2. 9	21. 46	0. 55
10-YEAR	44. 4	21. 6	22. 72	1. 16
100-YEAR	90. 0	48. 5	24. 02	2. 05

HAZARD CLASSIFICATION "A" AS PER POND CODE 378

DRAINAGE AREA TO FACILITY: 16.75 ACRES

MANAGEMENT PROVIDED BY FACILITY: WATER QUALITY CONTROL VIA EXTENDED DETENTION FOR 1-YEAR RESOURCE PROTECTION STORM. QUANTITY CONTROL FOR THE 10-YEAR AND 100-YEAR STORM EVENTS WAIVED DUE TO TIDAL NATURE OF SCOTT RUN.

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

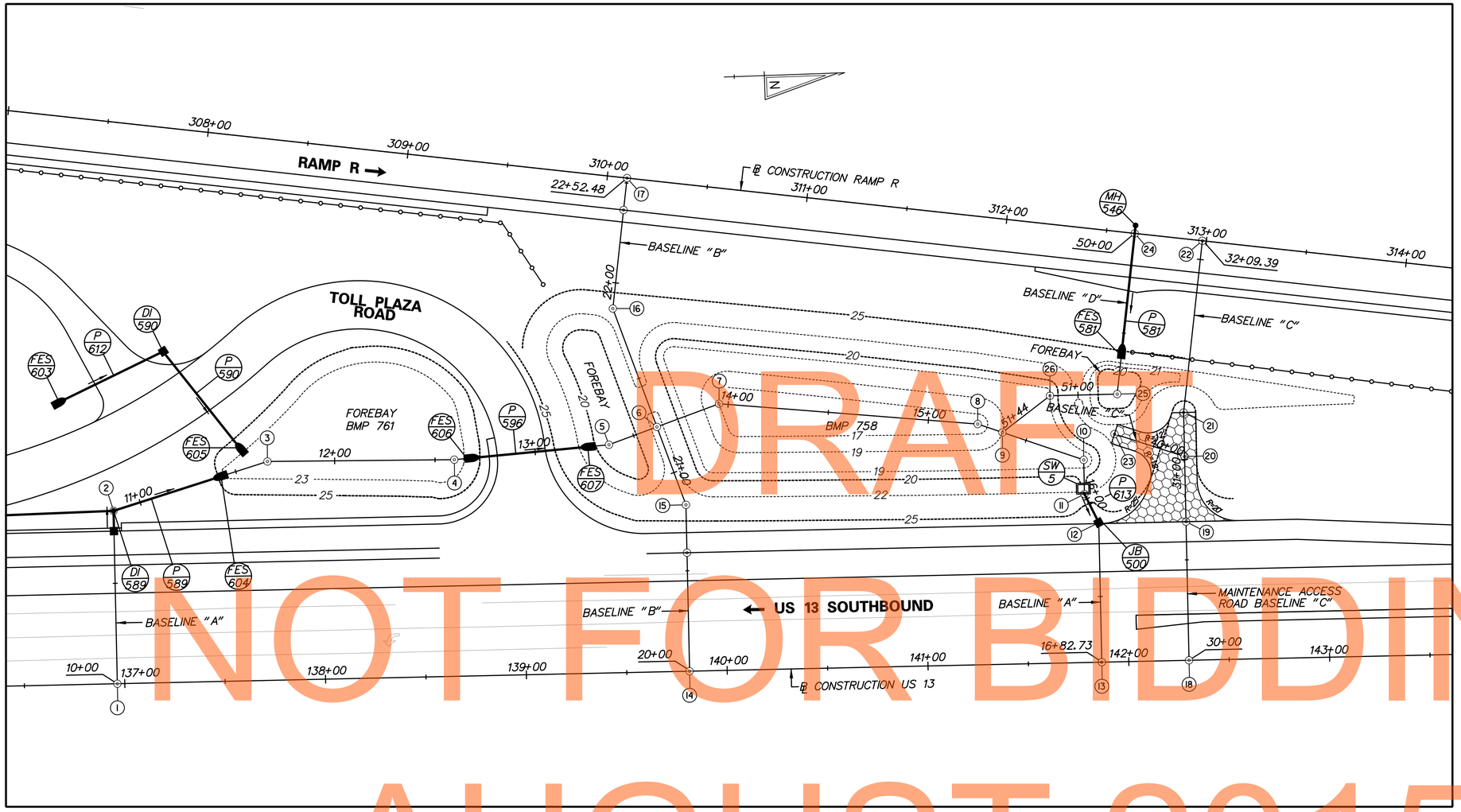
SCALE 0 30 60 90 FEET

US 13 & PORT PENN RD INTERSECTION

CONTRACT T201011302
COUNTY NEW CASTLE
BRIDGE NO.
DESIGNED BY: DLH
CHECKED BY: JDC

STORMWATER MANAGEMENT PLAN BMP 758/761

SW-09
SHEET NO. 91
TOTAL SHTS. 179



PLAN – SWM BMP NO. 758/761 STA. 137+00 TO STA. 142+00, WET POND

SCALE: 1" = 30'

BASELINE "A" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
1	POB STA.10+00.00	555976.02	590632.59
2	PI STA.10+86.09	555976.62	590546.51
3	PI STA.11+66.55	556053.91	590524.15
4	PI STA.12+59.58	556146.93	590525.93
5	PI STA.13+36.96	556224.13	590520.72
6	PI STA.13+62.42	556248.23	590512.52
7	PI STA.13+95.42	556279.48	590501.90
8	PI STA.15+24.60	556407.92	590515.72
9	PI STA.15+37.60	556420.11	590520.23
10	PI STA.15+80.30	556460.15	590535.06
11	PI STA.15+97.34	556460.05	590552.10
12	PI STA.16+13.23	556466.75	590566.51
13	POE STA.16+82.73	556466.27	590636.00

BASELINE "B" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
14	POB STA.20+00.00	556260.99	590634.58
15	PI STA.20+82.85	556261.56	590551.73
16	PI STA.21+87.14	556227.99	590452.99
17	POE STA.22+52.48	556236.94	590388.26

ACCESS ROAD BASELINE "C" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
18	POB STA.30+00.00	556509.71	590636.31
19	PI STA.30+69.03	556510.19	590567.28
20	PI STA.31+01.49	556510.42	590534.82
21	PI STA.31+23.40	556510.57	590512.91
22	POE STA.32+09.39	556522.35	590427.73
20	POB STA.40+00.00	556510.42	590534.82
23	POE STA.40+36.65	556475.85	590522.64

BASELINE "D" STAKEOUT INFORMATION

POINT NO.	STATION	NORTHING	EASTING
24	POB STA.50+00.00	556488.80	590423.09
25	PI STA.50+80.47	556477.78	590502.81
26	PI STA.51+13.96	556444.30	590502.67
9	POE STA.51+43.85	556420.11	590520.23

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

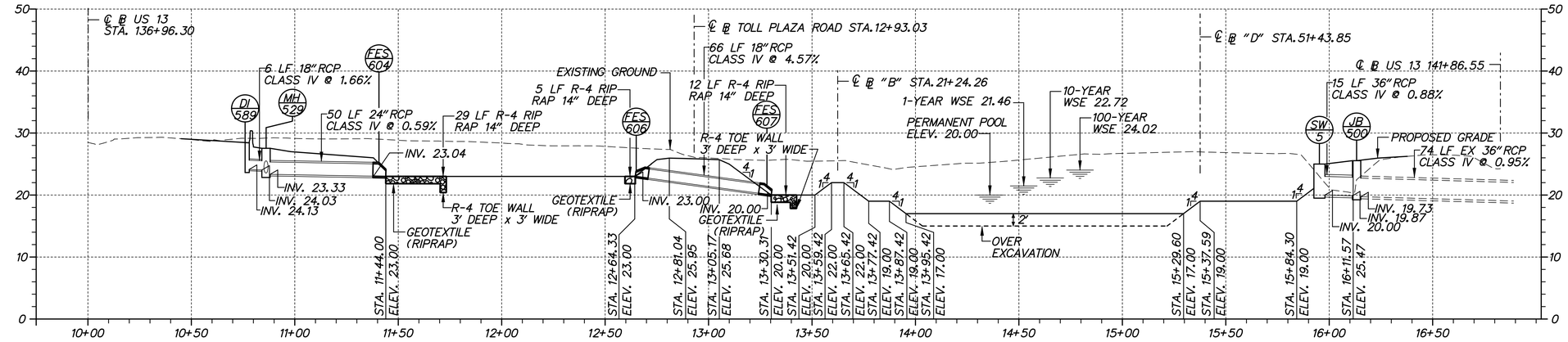
US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	
COUNTY	DESIGNED BY: DLH
NEW CASTLE	CHECKED BY: JDC

STORMWATER MANAGEMENT STAKEOUT PLAN BMP 758/761

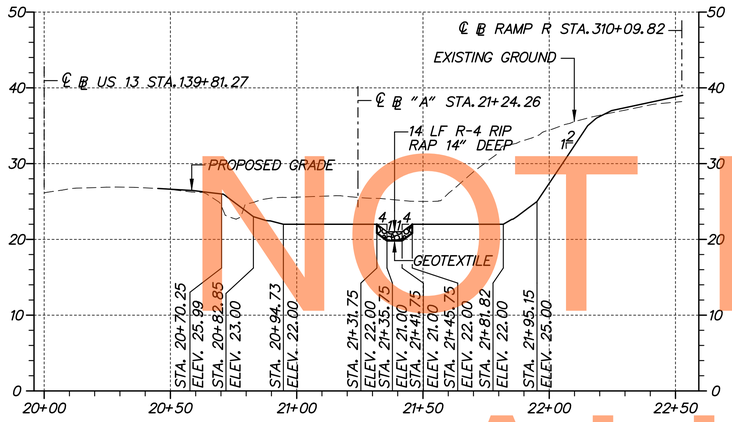
SW-10

SHEET NO.	TOTAL SHTS.
92	179



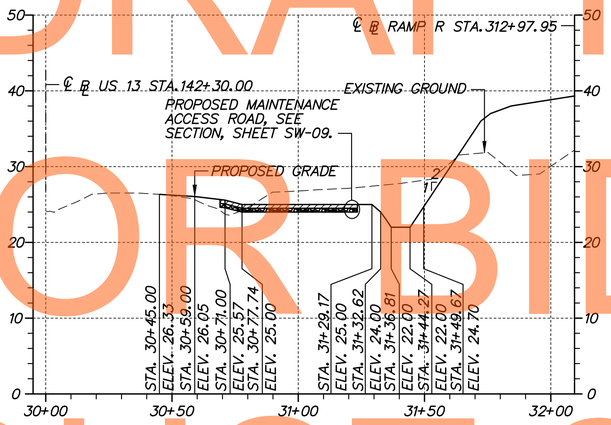
PROFILE – POND EMBANKMENT – BMP 758/761 BASELINE 'A'

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 30'



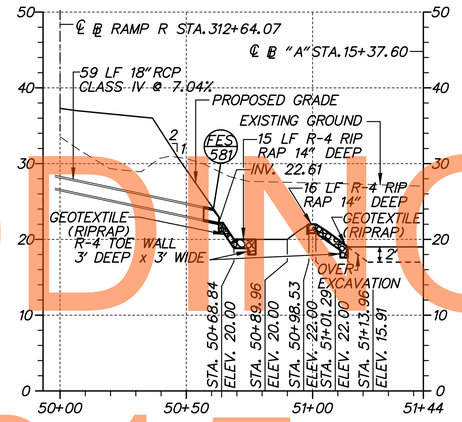
PROFILE – BMP 758/761 BASELINE 'B'

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 30'



PROFILE – BMP 758/761 BASELINE 'C'

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 30'



PROFILE – BMP 758/761 BASELINE 'D'

SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 30'

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DELAWARE
DEPARTMENT OF TRANSPORTATION

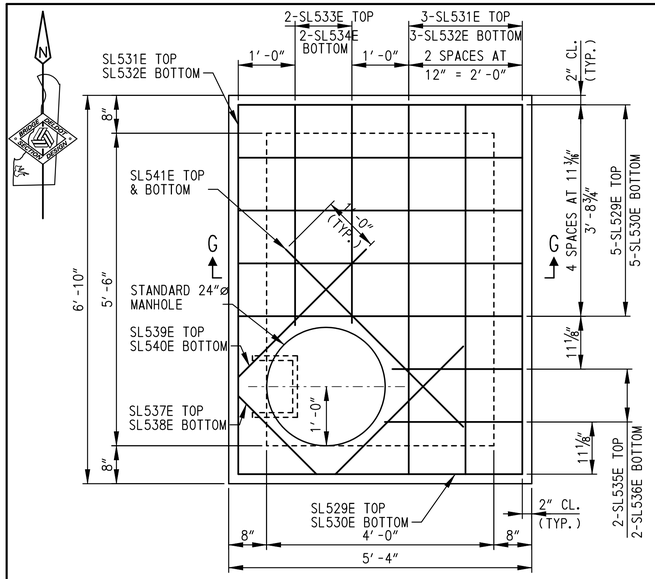
ADDENDUMS / REVISIONS	

US 13 & PORT PENN RD
INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	DESIGNED BY: CRH
COUNTY	CHECKED BY: JDC
NEW CASTLE	

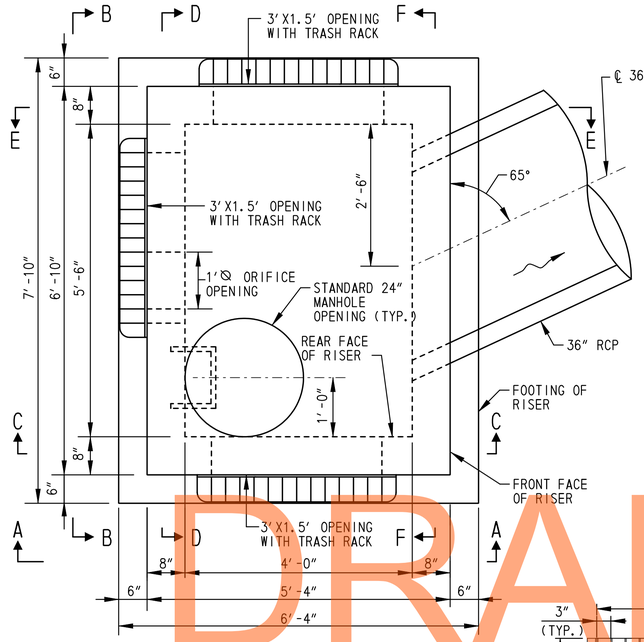
STORMWATER
MANAGEMENT
PROFILES
BMP 758/761

SW-11	
SHEET NO.	93
TOTAL SHTS.	179



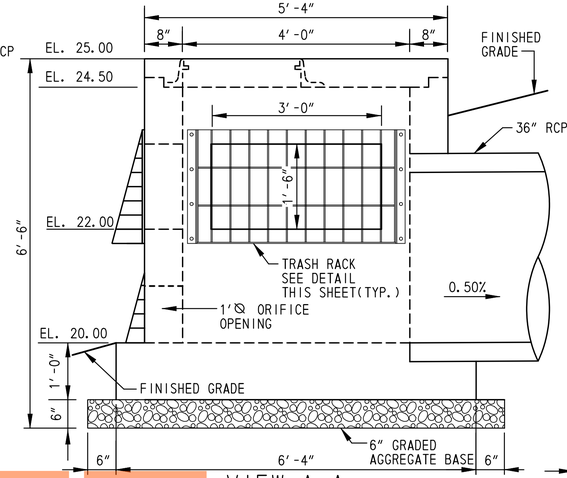
TOP SLAB - REINFORCEMENT PLAN

SCALE: 3/4"=1'-0"



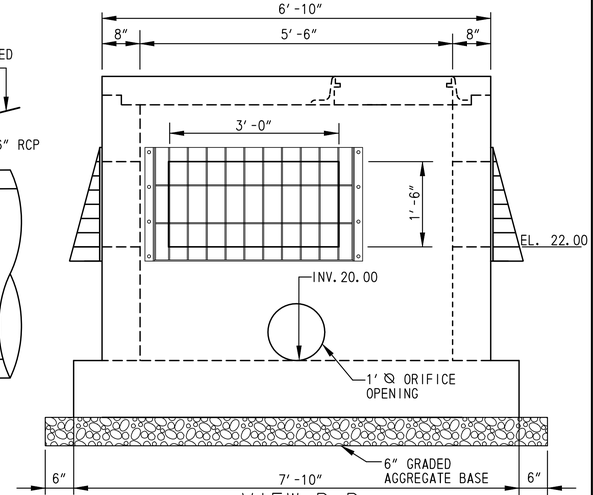
PLAN

SCALE: 3/4"=1'-0"



VIEW A-A

SCALE: 3/4"=1'-0"

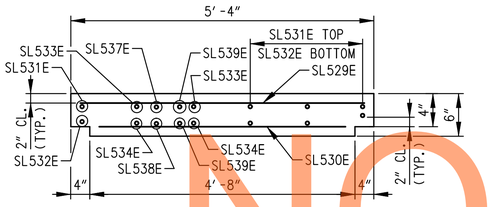


VIEW B-B

SCALE: 3/4"=1'-0"

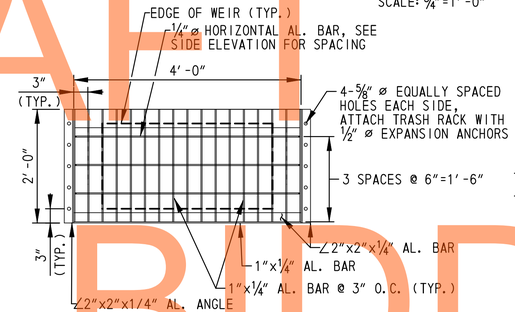
NOTES:

1. E.F. = EACH FACE
   F.F. = FRONT FACE
   R.F. = REAR FACE
2. MANHOLE STEPS NOT SHOWN IN SECTION VIEWS FOR CLARITY, SEE STANDARD CONSTRUCTION DETAILS FOR MANHOLE STEP DETAILS.
3. TOP SLAB NOT SHOWN IN SECTIONS C-C THROUGH F-F FOR CLARITY.
4. TOP SLAB SHALL BE PRECAST. A WATERSTOP SHALL BE PLACED BETWEEN THE PRECAST TOP SLAB AND THE CAST-IN-PLACE RISER STRUCTURE.
5. PAYMENT FOR EXCAVATION, CONCRETE, REINFORCING STEEL, HOOD, WATERSTOP, TRASH RACK, AND ALL WORK ASSOCIATED WITH CONSTRUCTION OF STORMWATER MANAGEMENT RISER STRUCTURE WILL BE MADE UNDER ITEM 272002 - POND OUTLET STRUCTURE, CONCRETE NO.1.



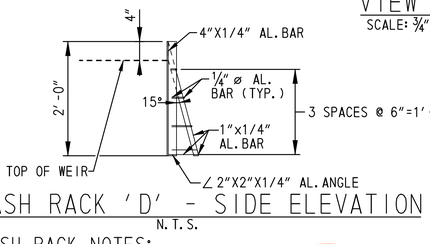
SECTION C-C

SCALE: 3/4"=1'-0"



TRASH RACK 'D' - FRONT ELEVATION

N.T.S.

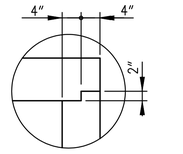


TRASH RACK 'D' - SIDE ELEVATION

N.T.S.

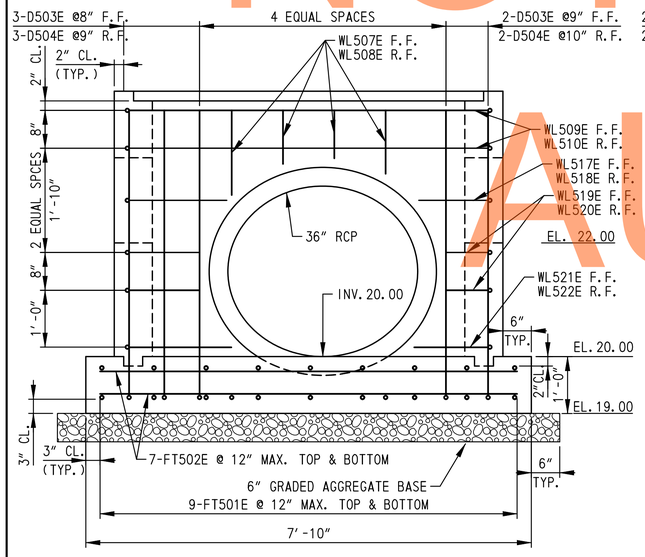
TRASH RACK NOTES:

1. EXPANSION ANCHORS SHALL CONFORM TO ASTM A510 AND SHALL HAVE A MINIMUM EMBEDMENT DEPTH OF 4" UNLESS NOTED OTHERWISE.
2. EXPANSION ANCHORS SHALL BE ZINC PLATED IN CONFORMANCE WITH ASTM B633, TYPE III FE/ZN 5.
3. ALUMINUM ANGLES SHALL CONFORM TO ASTM B308 ALLOY 6061-T6. REMAINING ALUMINUM SHALL CONFORM TO ASTM B211 ALLOY 6061-T6.



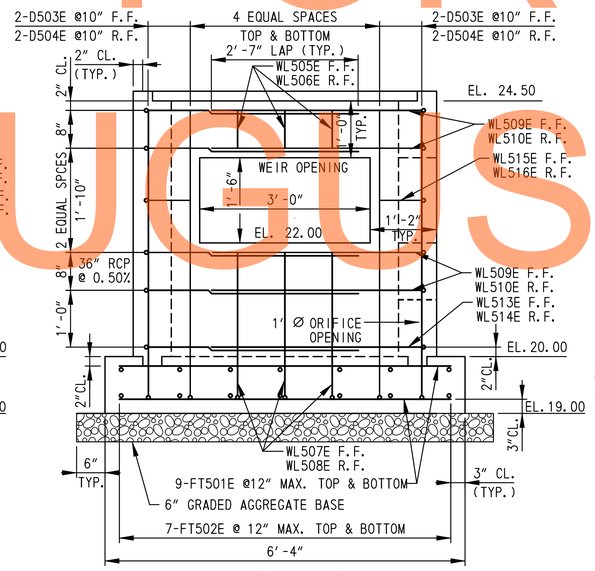
TOP SLAB KEY DETAIL

SCALE: 1"=1'-0"



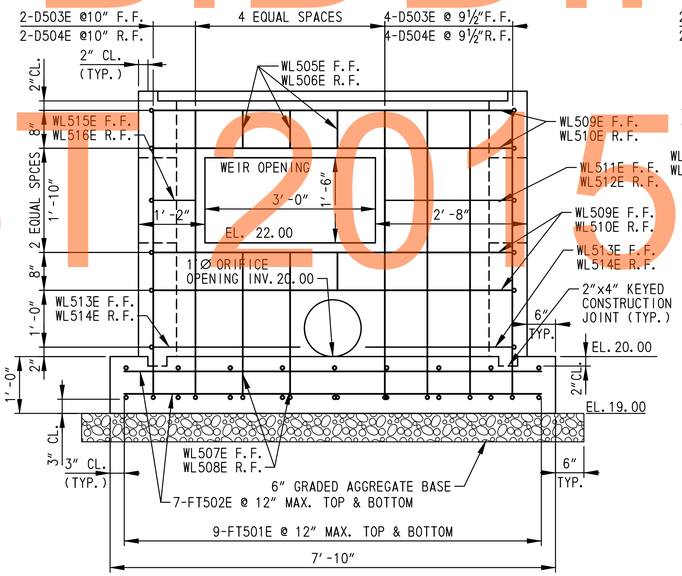
VIEW F-F

SCALE: 3/4"=1'-0"



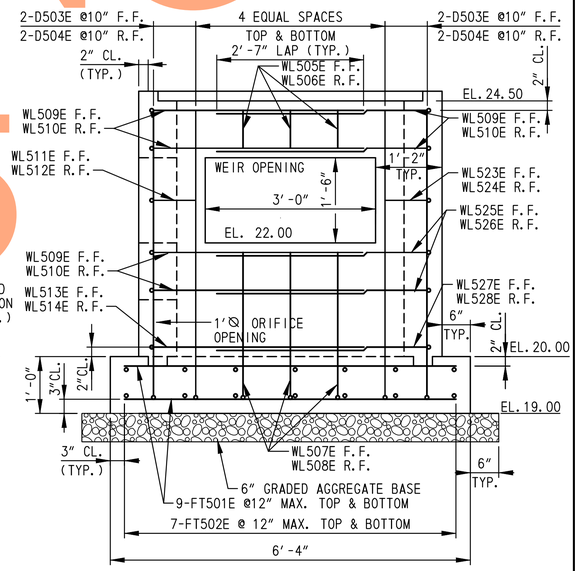
VIEW E-E

SCALE: 3/4"=1'-0"



VIEW D-D

SCALE: 3/4"=1'-0"



VIEW C-C

SCALE: 3/4"=1'-0"

DELAWARE DEPARTMENT OF TRANSPORTATION	
ADDENDUMS / REVISIONS	
US 13 & PORT PENN RD INTERSECTION	
CONTRACT T201011302	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: HQ
	CHECKED BY: JW
STORMWATER MANAGEMENT DETAILS BMP 758/761	
SW-12	
SHEET NO. 94	
TOTAL SHTS. 179	

N:\31653-000\Contract 1D\CADD\SW04-143U301_1D.dgn
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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

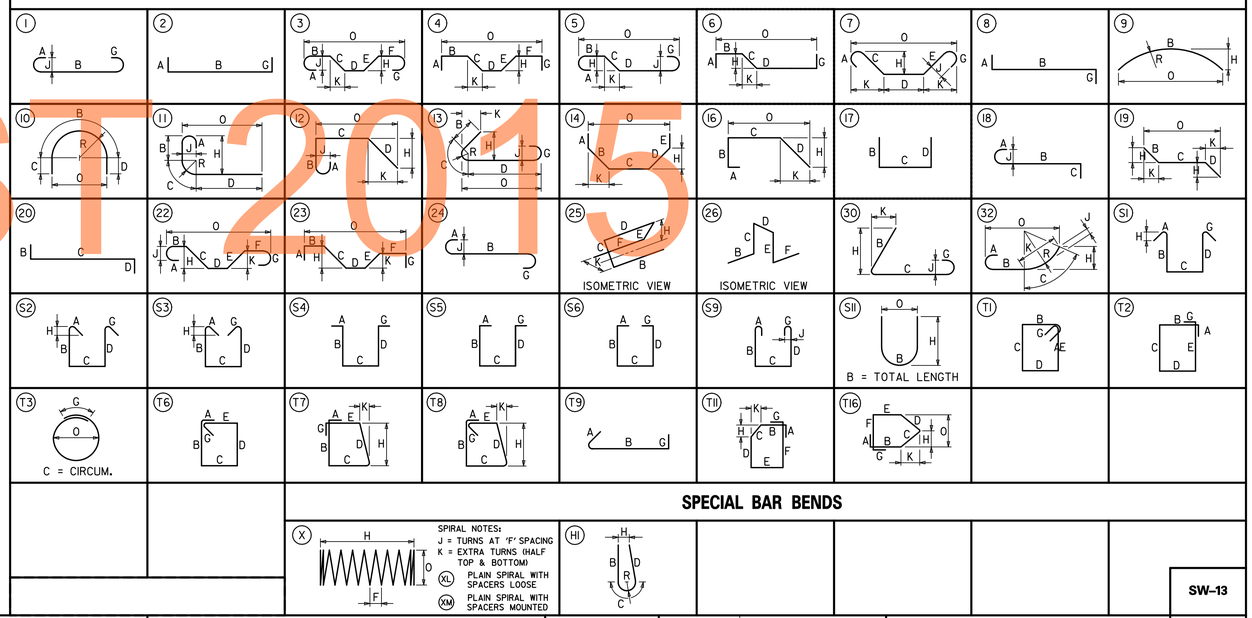
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES /QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
SWM BMP NO. 900 WEIR WALL															
68	5	8-4	WL501E	17		6-10	1-6								
4X4	5	15-8	WL502E	STR		15-8									
		TO				TO									
		16-6				16-6									
6	5	33-8	WL503E	STR		33-8									
4	6	22-4	WL604E	6		12-10	6-11	2-6				6-10		1-4	16-9
12	5	33-6	WL505E	STR		33-6									
70	5	4-6	WL506E	STR		4-6									
SWM BMP NO. 901 WEIR WALL															
56	5	8-4	WL501E	17		6-10	1-6								
4X3	5	13-1	WL502E	STR		13-1									
		TO				TO									
		13-6				13-6									
6	5	27-8	WL503E	STR		27-8									
4	6	22-4	WL604E	6		12-10	6-11	2-6				6-10		1-4	16-9
12	5	27-6	WL505E	STR		27-6									
58	5	4-6	WL506E	STR		4-6									
SWM BMP NO.902 RISER STRUCTURE															
14	5	5-10	FT501E	STR		5-10									
18	5	7-4	FT502E	STR		7-4									
19	5	6-1	DL503E	2		5-3						0-10			
19	5	5-11	DL504E	2		5-1						0-10			
9	5	0-10	WL505E	STR		0-10									
9	5	0-8	WL506E	STR		0-8									
8	5	3-5	WL507E	2		2-7						0-10			
8	5	3-5	WL508E	2		2-7						0-10			
6	5	14-1	WL509E	17		3-9	6-6	3-9							
6	5	12-9	WL510E	17		3-5	5-10	3-5							
1	5	3-2	WL511E	17		2-4	0-10								
1	5	2-6	WL512E	17		2-0	0-6								
2	5	6-4	WL513E	17			2-7	3-9							
2	5	5-9	WL514E	17			2-4	3-5							
1	5	1-8	WL515E	17			0-10	0-10							
1	5	1-0	WL516E	17			0-6	0-6							
1	5	2-1	WL517E	17		1-3	0-10								
1	5	1-5	WL518E	17		0-11	0-6								
2	5	1-4	WL519E	17		0-10	0-6								
2	5	0-10	WL520E	17		0-6	0-4								
1	5	5-1	WL521E	17		1-3	3-9								
1	5	4-5	WL522E	17		0-11	3-5								
1	5	2-7	WL523E	17			0-10	1-9							
1	5	1-11	WL524E	17			0-6	1-5							
2	5	5-4	WL525E	17			3-9	1-6							
2	5	4-8	WL526E	17			3-5	1-2							
1	5	5-7	WL527E	17			3-9	1-9							
1	5	4-11	WL528E	17			3-5	1-5							
6	5	5-0	SL529E	STR		5-0									
6	5	4-4	SL530E	STR		4-4									
4	5	6-6	SL531E	STR		6-6									
6	5	5-10	SL532E	STR		5-10									
2	5	3-10	SL533E	STR		3-10									
2	5	3-6	SL534E	STR		3-6									
2	5	2-3	SL535E	STR		2-3									
2	5	1-11	SL536E	STR		1-11									
1	5	1-11	SL537E	STR		1-11									
1	5	1-3	SL538E	STR		1-3									
2	5	3-2	SL539E	STR		3-2									
2	5	2-10	SL540E	STR		2-10									
2	5	4-5	SL541E	STR		4-5									

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

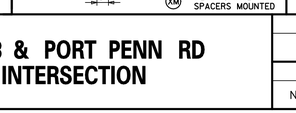
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
	NOMINAL DIMENSIONS				180° HOOKS		90° HOOKS		90° HOOK	135° HOOK	
BAR SIZE	DIAMETER (INCHES)	AREA (INCHES²)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2¼"	5"	3"	6"	1½"	4"	4"	2½"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4½"	4½"	3"
5	0.625	0.310	1.043	3¾"	7"	5"	10"	2½"	6"	5½"	3¾"
6	0.750	0.440	1.502	4½"	8"	6"	1-0"	4½"	1-0"	8"	4½"
7	0.875	0.600	2.044	5¼"	10"	7"	1-2"	5¼"	1-2"	9"	5¼"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10½"	6"
9	1.128	1.000	3.400	9½"	1-3"	11¾"	1-7"				
10	1.270	1.270	4.303	10¾"	1-5"	1-1¼"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2¾"	2-0"				
14	1.693	2.250	7.650	1-6¼"	2-3"	1-9¾"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4½"	3-5"				

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.

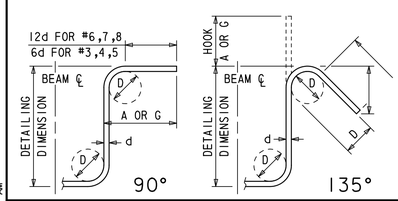
STANDARD BAR BENDS



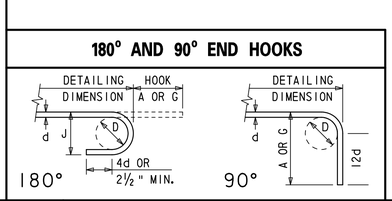
SPECIAL BAR BENDS

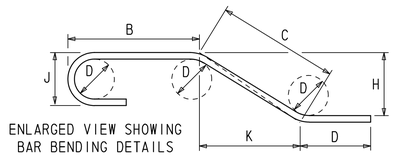


STIRRUP AND TIE HOOKS



180° AND 90° END HOOKS





ADDENDUMS / REVISIONS	

DELAWARE DEPARTMENT OF TRANSPORTATION

US 13 & PORT PENN RD INTERSECTION

CONTRACT	BRIDGE NO.
T201011302	DESIGNED BY: K.M.K.
COUNTY	CHECKED BY: J.A.G.
NEW CASTLE	

WIER WALL NO. 96B&96C, &RISER STRUCTURE NO.143 BAR CHART

SW-13

SHEET NO.	TOTAL SHTS.
95	179

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