

**POST CONSTRUCTION BMP LEGEND**

SUBSURFACE INFILTRATION BED

WATER QUALITY INLET INSERT

PALUSTRINE EMERGENT WETLAND

PALUSTRINE SCRUB SHRUB WETLAND

PROJECT NO.: 3746-S

FILE NAME: PCSM1.DWG

DATE: 10/21/21

DESIGNED BY: BSP

DRAWN BY: BSP

CHECKED BY: BSP

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**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**

HUNTINGDON RUTER'S STORE #93

SMITHFIELD TOWNSHIP, HUNTINGDON COUNTY, PENNSYLVANIA

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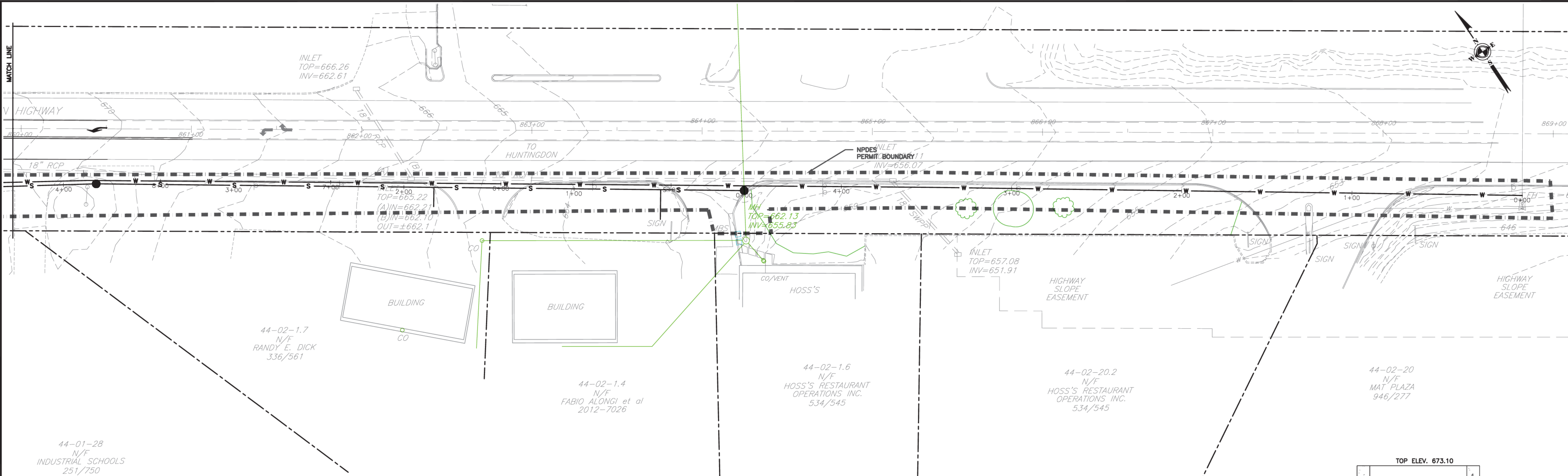
PCSM1

DATE	REVISION DESCRIPTION
12/30/22	BSP NPDES PERMIT RESUBMISSION
09/09/22	BSP NPDES PERMIT RESUBMISSION
02/24/22	BSP NPDES PERMIT RESUBMISSION
DATE & INITIALS	REVISION DESCRIPTION

SCALE: 1"=30'

30' 0' 30'





WATER QUALITY INLET INSERT

RECOMMENDED FREQUENCY OF SERVICE:

DRAINAGE PROTECTION SYSTEMS (DPS) RECOMMENDS THAT INSTALLED FLOGARD-PLUS CATCH BASIN INSERT FILTERS BE SERVICED ON A RECURRING BASIS. EACH INSTALLATION BE SERVICED A MINIMUM OF THREE TIMES PER YEAR, WITH A CHANGE OF FILTER MEDIUM ONCE PER YEAR. DPS TECHNICIANS ARE AVAILABLE TO DO AN ON-SITE EVALUATION, UPON REQUEST.

RECOMMENDED TIMING OF SERVICE:

DPS GUIDELINES FOR THE TIMING OF SERVICE ARE AS FOLLOWS:

- FOR AREAS WITH A DEFINITE RAINY SEASON: PRIOR TO, DURING AND FOLLOWING THE RAINY SEASON.
- FOR AREAS SUBJECT TO YEAR-ROUND RAINFALL: ON A RECURRING BASIS (AT LEAST THREE TIMES PER YEAR).
- FOR AREAS WITH WINTER SNOW AND SUMMER RAIN: PRIOR TO AND JUST AFTER THE SNOW SEASON AND DURING THE SUMMER RAIN SEASON.
- FOR INSTALLED DEVICES NOT SUBJECT TO THE ELEMENTS (WASH RACKS, PARKING GARAGES, ETC.): ON A RECURRING BASIS (NO LESS THAN THREE TIMES PER YEAR).

SERVICE PROCEDURES:

- THE CATCH BASIN GRATE SHALL BE REMOVED AND SET TO ONE SIDE. THE CATCH BASIN SHALL BE VISUALLY INSPECTED FOR DEFECTS AND POSSIBLE ILLEGAL DUMPING. IF ILLEGAL DUMPING HAS OCCURRED, THE PROPER AUTHORITIES AND PROPERTY OWNER REPRESENTATIVE SHALL BE NOTIFIED AS SOON AS PRACTICABLE.
- USING AN INDUSTRIAL VACUUM, THE COLLECTED MATERIALS SHALL BE REMOVED FROM THE LINER. (NOTE: DPS USES A TRUCK-MOUNTED VACUUM FOR SERVICING FLOGARD-PLUS CATCH BASIN INSERTS).
- WHEN ALL OF THE COLLECTED MATERIALS HAVE BEEN REMOVED, THE FILTER MEDIUM POUCHES SHALL BE REMOVED BY UNSNAPPING THE TETHER FROM THE D-RING AND SET TO ONE SIDE. THE FILTER MEDIUM POUCHES SHALL BE INSPECTED FOR DEFECTS AND POSSIBLE ILLEGAL DUMPING. IF ILLEGAL DUMPING HAS OCCURRED, THE PROPER AUTHORITIES AND PROPERTY OWNER REPRESENTATIVE SHALL BE NOTIFIED AS SOON AS PRACTICABLE.
- IF DAMAGE OR DEFECTS FOUND SHALL BE CORRECTED ON-THE-SPOT AND A NOTATION MADE ON THE MAINTENANCE RECORD. MORE EXTENSIVE DEFICIENCIES THAT AFFECT THE EFFICIENCY OF THE FILTER (TORN LINER, ETC.), IF APPROVED BY THE CUSTOMER REPRESENTATIVE, WILL BE CORRECTED AND AN INVOICE SUBMITTED TO THE REPRESENTATIVE ALONG WITH THE MAINTENANCE RECORD.
- THE FILTER MEDIUM POUCHES SHALL BE INSPECTED FOR DEFECTS AND CONTINUED SERVICEABILITY AND REPLACED AS NECESSARY, AND THE POUCH TETHERS RE-ATTACHED TO THE LINER'S D-RING.
- THE GRATE SHALL BE REPLACED REPLACEMENT AND DISPOSAL OF EXPOSED FILTER MEDIUM AND COLLECTED DEBRIS THE FREQUENCY OF FILTER MEDIUM EXCHANGE WILL BE IN ACCORDANCE WITH THE EXISTING DPS-CUSTOMER MAINTENANCE CONTRACT. DPS RECOMMENDS THAT THE MEDIUM BE CHANGED AT LEAST ONCE PER YEAR. DURING THE APPROPRIATE SERVICE, OR IF SO DETERMINED BY THE SERVICE TECHNICIAN DURING A NON-SCHEDULED SERVICE, THE FILTER MEDIUM WILL BE REPLACED WITH NEW MATERIAL. ONCE THE EXPOSED POUCHES AND DEBRIS HAVE BEEN REMOVED, DPS HAS POSSESSION AND MUST DISPOSE OF IT IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS.

SPECIFIER CHART		
MODEL	INLET ID (GRATE OD)	COMMENTS
FF-120	12" X 12"	15" X 15" GRATED INLET
FF-160	12" X 16"	15" X 15" GRATED INLET
FF-180	15" X 18"	20" X 20" GRATED INLET
FF-1836SD	18" X 36"	18" X 40" GRATED INLET
FF-1836SDG	18" X 36"	18" X 40" COMBINATION INLET
FF-24D	24" X 24"	25" X 25" GRATED INLET
FF-2436SD	24" X 36"	24" X 40" GRATED INLET
FF-2436SDG	24" X 36"	24" X 40" COMBINATION INLET
FF-2436DGO	24" X 36"	24" X 40" COMBINATION INLET
FF-36D (2 P.ECE)	36" X 36"	36" X 40" GRATED INLET
FF-3648D (2 P.ECE)	36" X 48"	40" X 45" GRATED INLET

#### STORMWATER FACILITIES MAINTENANCE AGREEMENT

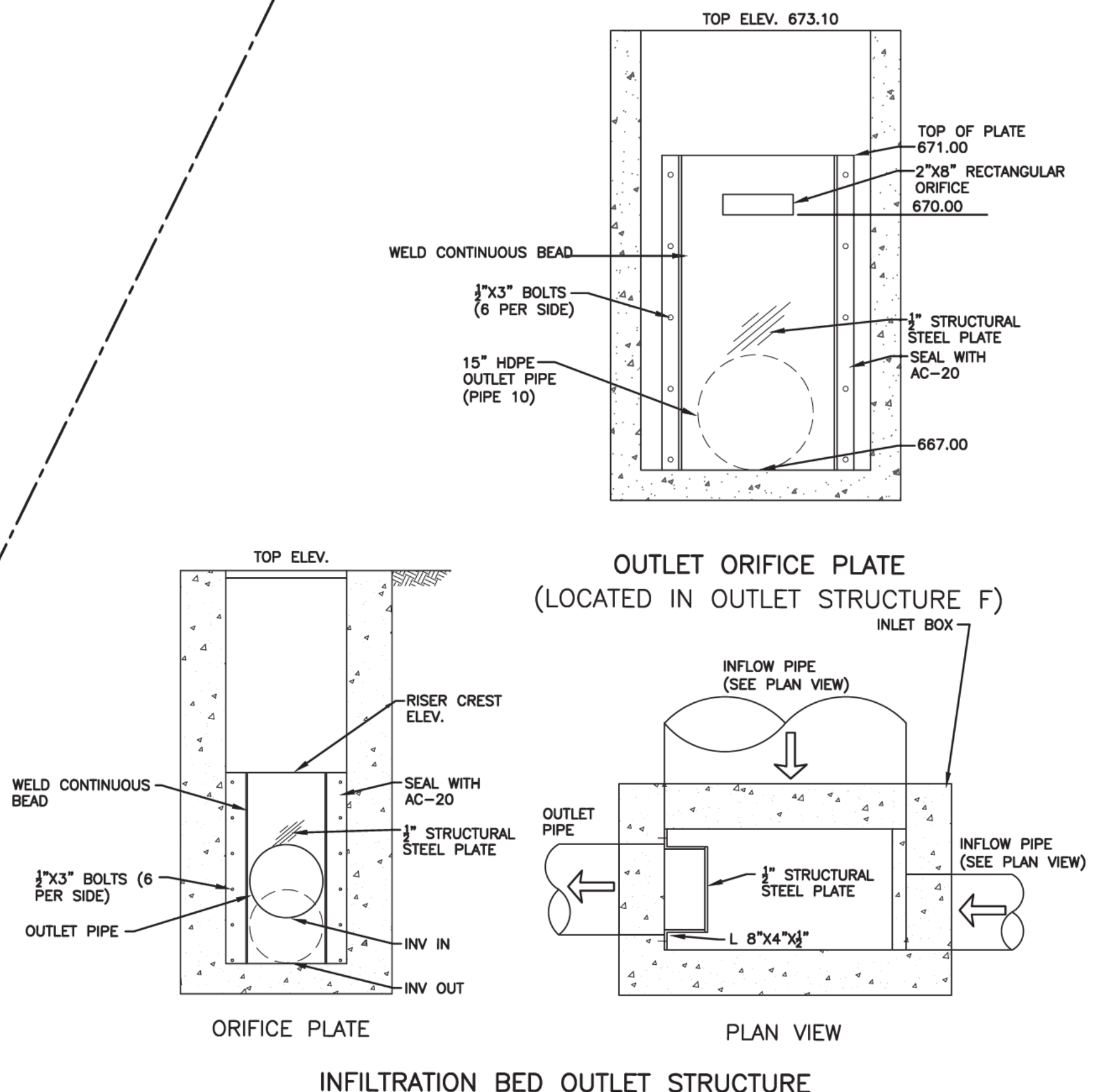
- THE MAINTENANCE OF ALL STORMWATER CONVEYANCE AND MANAGEMENT FACILITIES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, THEIR HEIRS, ASSIGNS OR SUCCESSORS IN TITLE. MAINTENANCE SHALL INCLUDE BUT, NOT BE LIMITED TO NORMAL MAINTENANCE AS WELL AS REPAIR OF STRUCTURAL DAMAGE OR DETERIORATION OF ANY KIND, INCLUDING THAT CAUSED BY SINKHOLES OR OTHER EVENTS. THE TOWNSHIP SHALL HAVE THE RIGHT, BUT NOT THE DUTY, OF ACCESS AT ANY TIME TO INSPECT AND MAINTAIN THE FACILITY AT THE PROPERTY OWNER'S EXPENSE IF THE OWNER SHALL FAIL TO PROPERLY MAINTAIN THE FACILITY. THE TOWNSHIP SHALL HAVE THE RIGHT TO SECURE RECOVERY OF SUCH COSTS BY FILING A MUNICIPAL LIEN AGAINST THE PROPERTY.
- STORMWATER FACILITIES ASSOCIATED WITH THIS MAINTENANCE AGREEMENT INCLUDE, BUT ARE NOT LIMITED TO, STORMWATER INLETS, STORM WATER QUALITY UNITS, INFILTRATION BEDS, STORM PIPES, DOWNSPOUTS, ROOF DRAINS.
- GENERAL OBJECTIVES OF MAINTENANCE ARE TO PREVENT CLOGGING OF STORM SEWERS FACILITIES AS WELL AS PREVENTING THE RELEASE OF TRASH, DEBRIS, OILS, GREASE, GRIT, ETC TO REGULATED WATERS OF THE COMMONWEALTH.
- REQUIRED MAINTENANCE SHALL CONSIST OF INSPECTING AND CLEANING THE STORM WATER FACILITIES TO ENSURE THEY ARE IN PROPER WORKING ORDER. MAINTENANCE SHALL ALSO INCLUDE IMMEDIATELY REPAIRING OR REPLACING FACILITY COMPONENTS THAT ARE NOT WORKING PROPERLY. STORM SEWER FACILITIES SHALL BE INSPECTED QUARTERLY AND AFTER MAJOR STORMS. DETAILED INSPECTIONS BY A QUALIFIED INSPECTOR SHALL OCCUR AS NOTED BELOW TO ENSURE THAT THE FACILITIES ARE OPERATING AS DESIGNED AND TO SCHEDULE MAINTENANCE THAT THE FACILITIES MAY REQUIRE. IN ADDITION TO REGULARLY SCHEDULED INSPECTIONS, DEFICIENCIES SHOULD BE NOTED DURING ANY VISIT BY MAINTENANCE PERSONNEL. ANY TRASH, DEBRIS, OILS, GREASE, GRIT, ETC THAT HAS COLLECTED SHALL BE REMOVED AND DISPOSED OF IMMEDIATELY IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- LAWN SHALL NOT BE TREATED WITH FERTILIZERS - EXCEPT WHEN REESTABLISHING LAWN DUE TO DISTURBANCE.
- THE POINT OF CONTACT FOR MAINTENANCE, INSPECTION, RECORDS, OR EMERGENCY SHALL BE: CHR CORP. (CONTACT: ADAM BISKER, DIRECTOR OF MAINTENANCE) 2295 SUSQUEHANNA TRAIL, SUITE C YORK, PA 17404 717-771-5908
- MAINTENANCE OF SAID STORMWATER FACILITIES SHALL CONSIST OF:  
INSPECTION - STORMWATER FACILITIES SHALL BE INSPECTED QUARTERLY AND AFTER MEASURABLE RAINFALL EVENTS (GREATER THAN 1"). REPAIRS, IF ANY, SHALL BE MADE IMMEDIATELY. THESE INSPECTIONS DO NOT NEED TO BE PERFORMED BY A QUALIFIED INSPECTOR. A MAINTENANCE/INSPECTION LOG AND WRITTEN REPORT SHALL BE KEPT OF ALL INSPECTIONS, REPAIRS, AND MAINTENANCE ACTIVITIES.

IN ADDITION TO SOMEONE PERFORMING THE ABOVE INSPECTIONS, A QUALIFIED INSPECTOR SHALL PERFORM INSPECTIONS OF THE STORMWATER FACILITIES ANNUALLY FOR THE FIRST FIVE (5) YEARS. AFTER FIVE YEARS OF ANNUAL INSPECTIONS, INSPECTIONS THEREON SHALL BE PERFORMED EVERY THREE (3) YEARS. INSPECTIONS BY A QUALIFIED INSPECTOR ARE ALSO REQUIRED DURING OR IMMEDIATELY AFTER THE SECESSION OF A 10 YEAR OR GREATER STORM (EQUATING TO AT LEAST 4.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD). SAID RECORDS SHALL BE KEPT ON SITE, ACCESSIBLE AND OPENED TO THE STORMWATER OFFICER UPON REQUEST SO THAT HE OR SHE MAY VERIFY THAT MAINTENANCE IS PROCEEDING AS APPROVED. THE ENTITY CONDUCTING THE INSPECTION SHALL SUBMIT A WRITTEN REPORT TO THE OWNER AND MUNICIPALITY REGARDING ANY MAINTENANCE / REPAIRS PERFORMED WITHIN THE PREVIOUS YEAR, THE CONDITIONS OF THE BMP'S, ANY RECOMMENDED REPAIRS, IF NEEDED, AND A SCHEDULE FOR COMPLETION OF SUCH REPAIRS. THE OWNER SHALL IMPLEMENT ALL NECESSARY REPAIRS IN ACCORDANCE WITH THE SUBMITTED SCHEDULE.

DEBRIS AND LITTER CONTROL - STORMWATER MANAGEMENT FACILITIES SHALL BE KEPT IN FUNCTIONING ORDER FREE OF DEBRIS AND LITTER. MAINTENANCE RECORD - THE LOT OWNER IS TO KEEP A WRITTEN RECORD OF ALL INSPECTIONS, REPAIRS, AND CLEANINGS. THE MAINTENANCE RECORD SHALL BE KEPT CURRENT AND PROVIDED TO THE MUNICIPALITY AS NOTED ABOVE.

SUBSURFACE INFILTRATION BED - STORMWATER FACILITIES SHALL BE INSPECTED QUARTERLY AND AFTER MEASURABLE RAINFALL EVENTS (GREATER THAN 1"). THESE INSPECTIONS DO NOT NEED TO BE PERFORMED BY A QUALIFIED INSPECTOR, AND WRITTEN REPORTS ARE NOT REQUIRED. THE OUTLET STRUCTURES SHALL BE INSPECTED YEARLY. PLEASE SEE THE "INSPECTION" SECTION FOR MORE DETAILS ON INSPECTIONS. IF ANY REPAIRS ARE REQUIRED, THEY SHALL BE MADE IMMEDIATELY. IF SEDIMENT ACCUMULATES TO A DEPTH GREATER THAN 4", SEDIMENT SHALL BE REMOVED VIA A VACUUM TRUCK. DEBRIS SHALL BE REMOVED FROM THE OUTLET STRUCTURES. DEFORMATION TO THE PAVEMENT ABOVE THE TERREARCH BASIN, CHANGES IN GRADE ACROSS THE BASIN, AND/OR POTHOLES IN THE STONE BASIN BOTTOM, COULD ALL BE INDICATIONS THAT A SINKHOLE OR OTHER KARST FEATURE HAS DEVELOPED UNDER THE BASIN(S). CHR CORP SHALL BE CONSULTED IMMEDIATELY IF ANY OF THESE ITEMS ARE NOTICED. PARTIAL OR FULL REPLACEMENT OF THE BASIN(S) MAY BE REQUIRED. THE TERREARCH UNITS AND OR PIPING WOULD NEED TO BE REMOVED, THE SINKHOLE WOULD NEED TO BE FILLED/STABILIZED, AND THE BASIN(S) WOULD NEED TO BE REINSTALLED PER THE INSTALLATION DETAIL(S). THIS WORK SHALL BE DONE WHEN NO RAIN IS IN THE FORECAST. ACCESS: VIA PARKING LOT

NATIVE TREE PLANTINGS - WHILE TREES ARE BEING ESTABLISHED, PRUNING MAY BE REQUIRED. DETRITUS MAY ALSO NEED TO BE REMOVED EVERY YEAR. STONE BASE COVER SHOULD BE RE-SPREAD WHEN LOSS OF STONE IS EVIDENT AND SHALL BE REPLISHED AS NEEDED. DURING PERIODS OF EXTENDED DROUGHT, NATIVE PLANTINGS MAY REQUIRE WATERING. TREES SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH. ANY DEAD TREES SHALL BE REPLANTED. IF NATIVE TREE REPLACEMENT IS NEEDED; TREE AND STONE SHALL BE REMOVED AND REPLACED. INSTALL THE NEW NATIVE TREE(S) PER THE LANDSCAPING NOTES, TREE PLANTING DETAIL, AND PER THE PLAN. ACCESS: VIA PARKING LOT



OUTLET STRUCTURE SCHEDULE:						
BMP AREA	A	B	C	D	E	F
OUTLET PIPE	PIPE 1	PIPE 19	PIPE 4	PIPE 6	PIPE 8	PIPE 10
OUTLET PIPE DIA.	24"	15"	24"	15"	24"	15"
INV. OUT	655.00	661.50	663.50	664.00	665.00	667.00
INV. IN	658.00	661.50	663.50	664.00	665.00	667.00
TOP ELEV.	669.00	675.50	669.10	671.00	671.20	673.10
INLET BOX	STANDARD	STANDARD	STANDARD	STANDARD	TYPE 4	STANDARD
OUTLET STRUCTURE TOP UNIT	M TOP	M TOP	C TOP	C TOP	C TOP	C TOP
OUTLET STRUCTURE TYPE	RISER	RISER	RISER	RISER	RISER	ORIFICE
RISER CREST ELEV.	660.00	663.00	664.17	666.00	666.50	671.00
RISER CREST LENGTH	4 FT	2 FT	4 FT	2 FT	4 FT	2'X8"

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PROJECT NO.: 3748-S	FILE NAME: PCSM2-DWG	DATE: 10/21/21	DESIGNED BY: BSP	DRAWN BY: BSP	CHECKED BY: ---
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**POST CONSTRUCTION  
STORMWATER MANAGEMENT PLAN**  
HUNTINGDON RUTTER'S STORE #33  
SMITHFIELD TOWNSHIP, HUNTINGDON COUNTY  
PENNSYLVANIA

SCALE: 1"=30'

30' 0' 30'

**PCSM2**



PROJECT DESCRIPTION/SITE CHARACTERISTICS  
LAND USE PAST FARMLAND PRESENT VACANT/IDLE LAND PROPOSED CONVENIENCE STORE WITH FUELING ISLANDS  
RECEIVING WATERS ADJACENT WETLANDS

- CONSTRUCTION NOTES
- SEQUENCE OF INSTALLATION OF PCSM BMP'S
- NOTE: CRITICAL STAGE REQUIRING OVERSIGHT BY LICENSED PROFESSIONAL
1. WHEN ALL SURFACES TRIBUTARY TO THE PCSM BMP'S, RAIN GARDENS, VEGETATED SWALE, VOLUME STORAGE BMP'S, AND LANDSCAPE RESTORATION AREAS, HAVE ACHIEVED PERMANENT VEGETATION, DEFINED AS THE ESTABLISHMENT OF A UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES OR COVERED WITH AN ACCEPTABLE PERMANENT BMP, SUCH AS, PAVEMENT FOR STREETS AND SIDEWALKS, THE PCSM BMP'S CAN BE CONSTRUCTED ACCORDING TO THE FOLLOWING SEQUENCE:
  - SUBSURFACE INFILTRATION BED PCSM BMP'S
  2. EXCAVATE BMP'S TO THE DEPTH NEEDED TO ADD THE ROCK LAYER AND TERRE ARCH STRUCTURES TO THE REQUIRED FINAL DEPTH. SCARIFY THE BASIN FLOOR TO A MINIMUM DEPTH OF 18 INCHES AND AVOID COMPACTION OF THE BASIN FLOOR.
  3. OUTFALL DEVICES, SUCH AS, PIPES AND RISERS, CAN NOW BE INSTALLED AND BECOME OPERATIONAL.
  4. BACKFILL AREA WITH STONE AS REQUIRED BY MANUFACTURERS SPECIFICATIONS.
  5. COMPLETE FINAL LEVELING TO ACHIEVE PROPOSED DESIGN ELEVATIONS.
  6. STABILIZE ALL SURROUNDING DISTURBED SOIL SURFACES BY SEEDING AND MULCHING
  7. ADDITIONAL SITE LANDSCAPE PLANTINGS CAN TAKE PLACE AT THIS TIME OR IN THE NEAR FUTURE.

- RECYCLING & DISPOSAL OF WASTE MATERIALS
- UPON COMPLETION OF CONSTRUCTION THE OWNER IS RESPONSIBLE TO ASSURE WASTES THAT RESULT FROM NORMAL MAINTENANCE OF THE PCSM BMP'S ARE PROPERLY DISPOSED. LITTER AND TRASH THAT COULD ACCUMULATE IN DRAINAGE FACILITIES MUST BE REMOVED DURING MAINTENANCE AND PROPERLY DISPOSED ACCORDING TO DEP REGULATORY REQUIREMENTS, SEE BELOW. DEAD OR DYING VEGETATION OR GRASS CLIPPINGS MUST BE DISPOSED AT AN APPROVED YARD WASTE RECYCLING FACILITY. ACCUMULATED SEDIMENT THAT IS REMOVED DURING REPAIR AND MAINTENANCE MUST BE PLACED IN AN UPLAND LOCATION OR REMOVED FROM THE PROPERTY AND IMMEDIATELY STABILIZED WITH SEED AND MULCH.
  - ALL WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
  - SHOULD SHALE BEDROCK BE EXPOSED DURING EXCAVATION THE FOLLOWING STEPS MUST BE TAKEN: NOTIFY THE GEOTECHNICAL ENGINEER-OF-RECORD (GER) IMMEDIATELY IF DECOMPOSED, WEATHERED AND/OR INTACT SHALE BEDROCK IS ENCOUNTERED. THE GER SHALL VISIT THE SITE WITHIN 24 HOURS TO DETERMINE IF ADDITIONAL LABORATORY TESTING (TOTAL SULFUR AND NEUTRALIZATION POTENTIAL) IS WARRANTED. ADDITIONAL COMMUNICATION BETWEEN THE SITE CIVIL ENGINEER, THE GER AND THE PADEP WILL BE REQUIRED TO REVIEW ANY LABORATORY RESULTS AND TO DETERMINE THE MOST APPROPRIATE REMEDIAL PROGRAM, IF WARRANTED

#### LICENSED PROFESSIONAL MUST OVERSEE IMPLEMENTATION OF ALL PCSM BMP'S

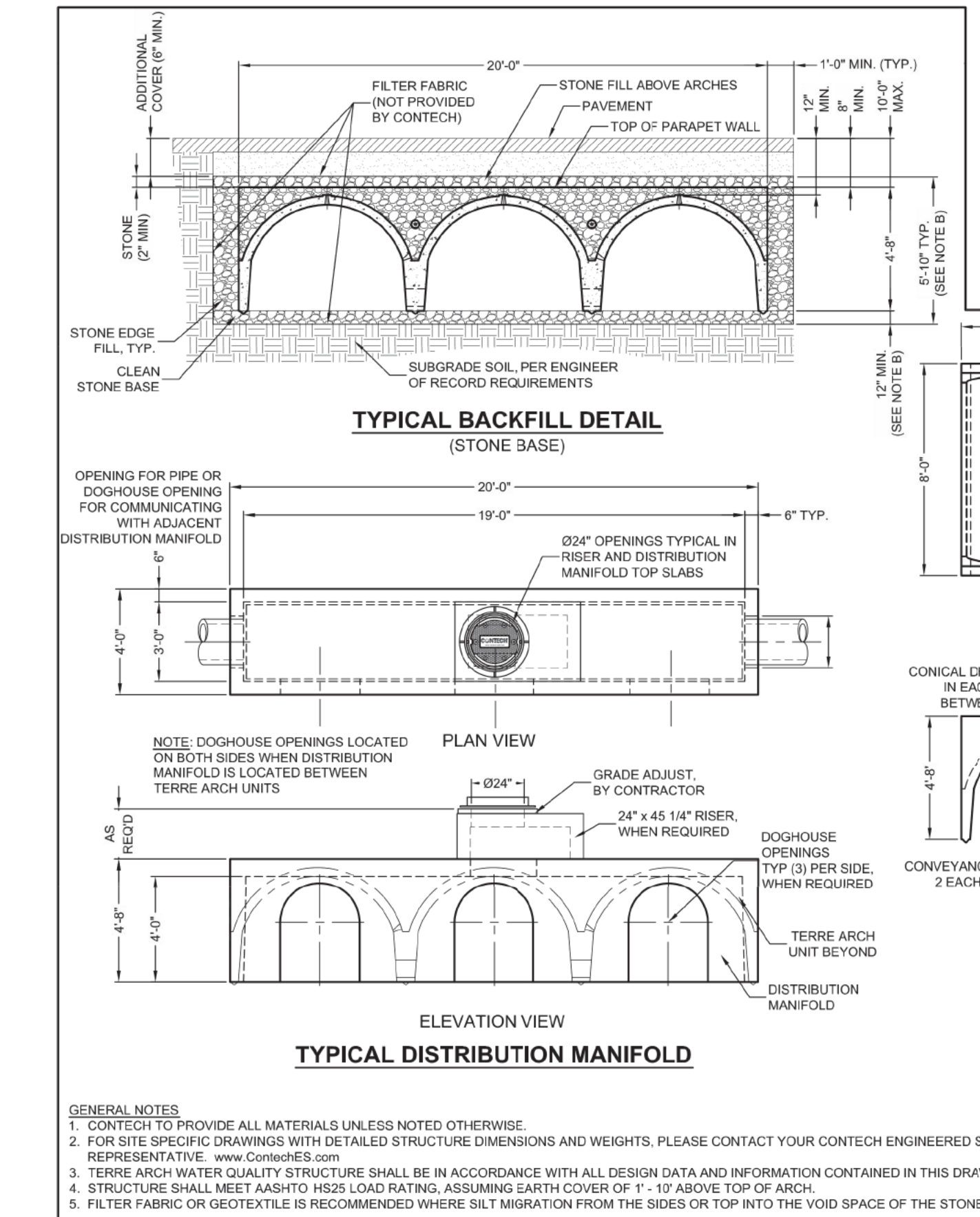
SUBSURFACE INFILTRATION BED BMP'S  
THIS INVOLVES INSTALLATION OF A PROPRIETARY SUBSURFACE STORMWATER STORAGE SYSTEM, TERRE ARCH PROVIDED BY CONTECH. CONTRACTOR IS RESPONSIBLE FOR OBTAINING INSTALLATION AND MAINTENANCE SPECIFICATIONS FROM CONTECH TO ASSURE PROPER IMPLEMENTATION OF THESE BMP'S.

EXCAVATION OF THE FUEL STORAGE TANK AREA SHALL BE CONSIDERED A CRITICAL STAGE. A DESIGN PROFESSIONAL OR THEIR DESIGNEE SHALL BE ONSITE TO OBSERVE AND PROVIDE DIRECTION SHOULD PYRITIC SHALE BE UNCOVERED.

MAINTENANCE NOTES

REGULAR MAINTENANCE IS NEEDED INITIALLY AFTER CONSTRUCTION AND CONTINUING INSPECTION AND MAINTENANCE IS REQUIRED TO ASSURE PROPER OPERATION OF ALL BMP'S. THE CONTRACTOR MUST MAINTAIN A WRITTEN REPORT ON THE PROJECT SITE DOCUMENTING EACH INSPECTION AND ALL REPAIR OR REPLACEMENTS AND MAINTENANCE ACTIVITIES.

SHOULD ROUTINE INSPECTION REVEAL THAT A PCSM BMP IS NOT FUNCTIONING AS DESIGNED, THE OWNER MUST IMMEDIATELY TAKE ACTION TO CORRECT THE PROBLEM. STRUCTURAL FAILURES SUCH AS, BROKEN OR CLOGGED PIPES CAN BE RESOLVED BY REPLACING AND REPAIRING THE BMP TO THE ORIGINAL DESIGN (SEE PCSM BMP MAINTENANCE GUIDELINES FOR THIS PROJECT'S SPECIFIC BMP'S SHOWN BELOW). SHOULD A PCSM BMP CONSTRUCTED TO THE ORIGINAL DESIGN SPECIFICATIONS FAIL TO FUNCTION, THE OWNER MUST IMMEDIATELY CONTACT A STORMWATER DESIGN ENGINEER/PROFESSIONAL TO EVALUATE THE PROBLEM AND RECOMMEND CORRECTIONS. ANY MODIFICATION PROPOSED TO ADDRESS THE PROBLEM MUST BE SUBMITTED TO THE HUNTINGDON COUNTY CONSERVATION DISTRICT AND DEP FOR REVIEW AND APPROVAL PRIOR TO INITIATING IMPLEMENTATION OF CORRECTIVE ACTIONS.



IN ACCORDANCE WITH PERMIT CONDITIONS, WHERE PCSM BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION OR ANY OTHER TIME THE PERMITTEE BECOMES AWARE OF ANY INCIDENT CAUSING OR THREATENING POLLUTION AS DESCRIBED IN TITLE 25 PA CODE § 91.33, AS REQUIRED IN TITLE 25 PA CODE § 92A.41(B), THE PERMITTEE AND CO-PERMITTEE SHALL WITHIN 24 HOURS CONTACT THE DEPARTMENT OR AUTHORIZED COUNTY CONSERVATION DISTRICT BY PHONE OR PERSONAL CONTACT, FOLLOWED BY SUBMISSION OF A WRITTEN REPORT WITHIN FIVE (5) DAYS OF THE INITIAL CONTACT.

SUBSURFACE INFILTRATION BED BMP'S  
MANUFACTURER SPECIFIED MAINTENANCE PROGRAM MUST BE IMPLEMENTED FOR THIS BMP.

PROFESSIONAL CERTIFICATION:  
UPON COMPLETION OF THE PROJECT AND SUBMISSION OF THE REQUIRED NOTICE OF TERMINATION (NOT) THE RECORD DRAWINGS SHALL INCLUDE THE FOLLOWING EXECUTED CERTIFICATION, WITH THE PROFESSIONAL'S SEAL:

"I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 P.A.C.S.A. § 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

#### OWNERSHIP/OPERATION/MAINTENANCE:

M&G REALTY/RUTTERS, AS THE OWNER OF THIS DEVELOPMENT, WILL BE RESPONSIBLE FOR THE DAY TO DAY OPERATION AND MAINTENANCE OF THE PERMANENT FACILITIES AND WILL BE ULTIMATELY RESPONSIBLE FOR LONG-TERM MAINTENANCE OF THE PERMANENT STORMWATER BMP'S. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF THE PERMANENT VEGETATION, THE BIO-RETENTION AREAS SHALL BE INSPECTED AND REPAIRED AS NEEDED ACCORDING TO THE ABOVE NOTES. A WRITTEN REPORT WILL BE MAINTAINED AT THE SITE DOCUMENTING ALL INSPECTION AND MAINTENANCE ACTIVITIES.

#### TERRE ARCH 48

PERFORMANCE, DESIGN & INSTALLATION SPECIFICATIONS

THE TERRE ARCH 48 IS A PRECAST CONCRETE MODULAR ROMAN ARCH STRUCTURE WITH 5000PSI COMPRESSIVE STRENGTH CONSISTING OF THREE CONNECTED PARALLEL VAULTS FOR SUBSURFACE STORAGE OF STORMWATER.

1. INFILTRATION TO RECHARGE THE GROUND WATER; DETENTION WHERE SITE CONDITIONS REQUIRE
2. HS-25 LOAD RATING ON THE CROWN OF THE ARCH; NO MINIMUM COVER OR FILL REQUIREMENTS; NO REQUIREMENT FOR STONE BETWEEN THE ARCHES OR ABOVE THE STRUCTURE; DIRECT ACCESS FOR HEAVY INSTALLATION EQUIPMENT.

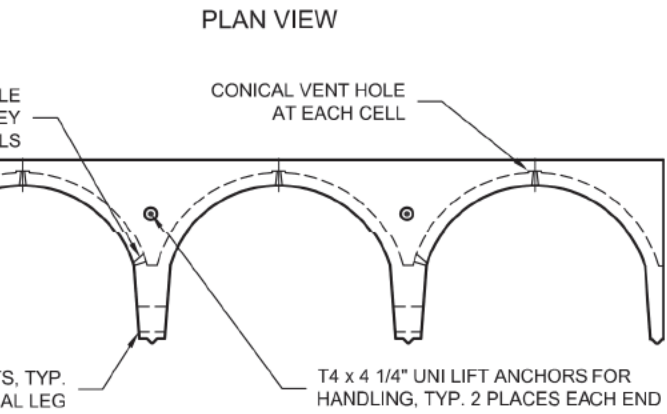
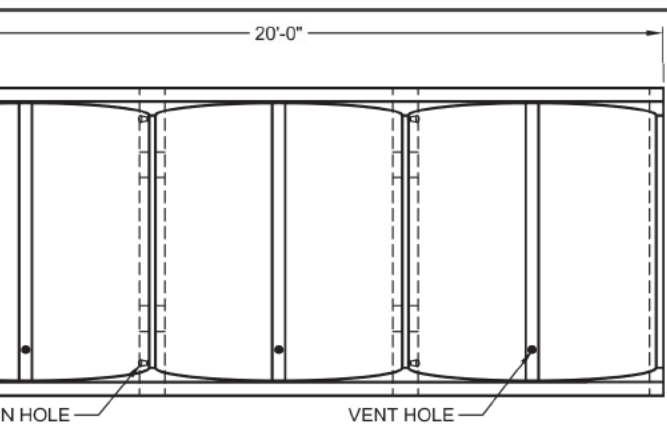
- (PERIMETER STONE FILL IS REQUIRED PRIOR TO INSTALLATION EQUIPMENT ACCESS);
- MINIMUM STONE SUB-BASE DEPTH OF SIX (6) INCH WITH A MINIMUM SUBSURFACE BEARING CAPACITY OF 3000 PSF. STONE BASE MAY BE INCREASED BY ENGINEER, IF REQUIRED TO BALANCE LOADS;
- MAXIMUM COVER UP TO 20 FT. (VERIFY SUB-BASE DEPTH AND SOIL BEARING CAPACITY);
- A WATER QUALITY TREATMENT DEVICE, SUCH AS TERRE KLEEN, SHOULD BE PLACED UPSTREAM FROM THE TERRE ARCH TO PREVENT ENTRY OF SEDIMENT, OIL, GREASE, LITTER, AND DEBRIS INTO TERRE ARCH
- 160 FT 2 (8 FEET BY 20 FEET) INFILTRATION SURFACE PER STRUCTURE;
- 638 FT 3 (5.32FT 3 / FT 2 ) OF IN CUSTOMARY INSTALLATION (I.E. 6" STONE BED (5" #8 AND 1" #5 STONE) AND VALLEYS

- BETWEEN ARCHES FILLED WITH 4" OF STONE TO THE TOP OF THE BUTTRESSES & 6" OF STONE COVER);
- TERRE ARCH 48 WEIGHS 15,700 LBS.; PLACEMENT FROM TRUCK INTO THE PREPARED EXCAVATION BY CRANE;
- VENT AND DRAIN HOLES CAST AT THE TOP OF THE ARCH AND IN THE VALLEY AREAS OF THE TERRE ARCH;
- DISTRIBUTION HOLES ARE CAST INTO THE LEGS OF THE ARCHES TO ALLOW FLOW BETWEEN ALL SECTIONS;
- THE ANTI-SCOUR AND EROSION MAT REQUIRED UNDER MANIFOLD AND TERRE ARCH WHERE INFLOW OCCURS;
- NO GRADE SUBSIDENCE OR MISALIGNMENT WITH PROPER INSTALLATION;
- NO REQUIREMENT FOR SPACING OR BACKFILLING BETWEEN EACH STRUCTURE;
- NO REQUIREMENT FOR GEOTEXTILE SEPARATION LAYER BELOW. USE FILTER FABRIC OR GEOTEXTILE WHERE SILT MIGRATION FROM THE SIDES OR TOP INTO THE STONES VOID SPACE IS POSSIBLE
- MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND SUCH OTHER INFORMATION REQUESTED BY ENGINEER;
- EACH TERRE ARCH SHALL HAVE FOUR (4) LIFTING POINTS WITH UNI-LIFT PINS. CONTRACTOR SHALL PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING CAPACITY TO UNLOAD AND SET THE TERRE ARCH;
- CONTRACTOR SHALL EXCAVATE, Dewater AND SHORE AS REQUIRED BY ENGINEER OR SAFETY REGULATIONS;
- TERRE ARCH DISTRIBUTION BOX SHALL INCLUDE RISER SECTIONS THAT EXTEND TO GRADE WITH MANHOLE ACCESS INTO ENTIRE TERRE ARCH SYSTEM.
- WARRANTY: 4 YEARS FROM DATE OF SUBSTANTIAL COMPLETION FOR LABOR AND MATERIAL IN THE EVENT THAT THE MATERIAL SUPPLIED IS NOT FREE FROM DEFECTS; STRUCTURE SHALL BE INSTALLED ONLY FOR THE PARTICULAR APPLICATION FOR WHICH IT WAS SPECIFICALLY MANUFACTURED;
- TERRE ARCH INSTALLATION MAY REQUIRE DISTRIBUTION BOX(ES) AND END CAPS AS SHOWN ON THE DRAWINGS.

#### PRODUCT SUBSTITUTION PROCEDURES

1. NO SUBSTITUTE SYSTEM SHALL BE APPROVED AS EQUIVALENT TO TERRE ARCH SYSTEM UNLESS THE ENGINEER SHALL RECEIVE AND APPROVE DRAWINGS AND SPECIFICATIONS STAMPED AND SEALED BY A PROFESSIONAL ENGINEER SHOWING THE FOLLOWING:
2. PROJECT SPECIFIC SIZING CALCULATIONS CLEARLY SHOWING THAT THE UNIT MEETS OR EXCEEDS THE PERFORMANCE, DESIGN AND INSTALLATION SPECIFICATIONS OF THE TERRE ARCH.
3. SYSTEM SHALL ALLOW ACCESS FROM GRADE THROUGH MANHOLE INTO THE ENTIRE UNDERGROUND SYSTEM

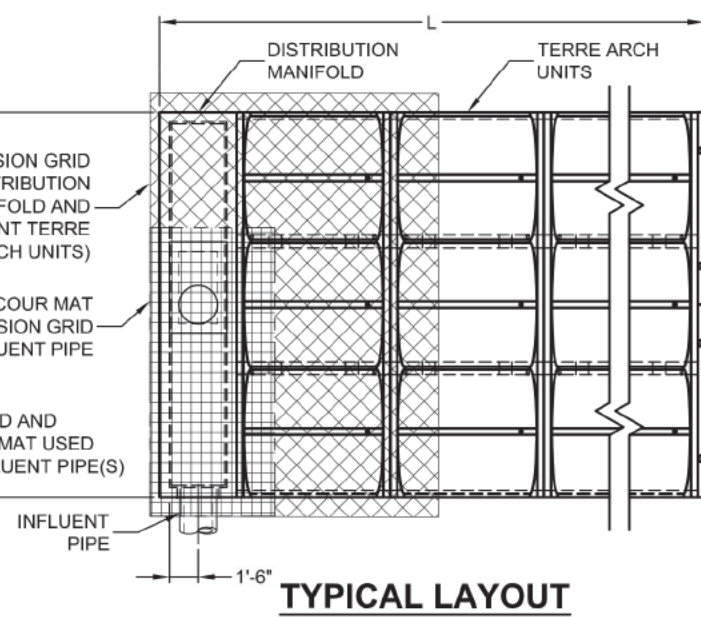
- MAINTENANCE PROCEDURES
1. WHEN A PROPER WATER QUALITY DEVICE IS PLACED IN FRONT OF THE TERRE ARCH SYSTEM NO CLEAN OUT OR
  2. MAINTENANCE IS ANTICIPATED;
  3. INSPECTION CAN BE ACCOMPLISHED FROM GRADE WITH PROPER EQUIPMENT, BY ENTRY THROUGH THE MANHOLE
  4. OPENINGS IN THE DISTRIBUTION MANIFOLD.
  5. SYSTEM SHALL CONTAIN SUFFICIENT DISTRIBUTION MANIFOLDS TO ALLOW ENTRY FOR INSPECTION AND MAINTENANCE INTO EACH ARCH ROW OF EACH TERRE ARCH.



ELEVATION VIEW  
TERRE ARCH 48 STRUCTURE

#### SUBSURFACE INFILTRATION BED BMP SCHEDULE:

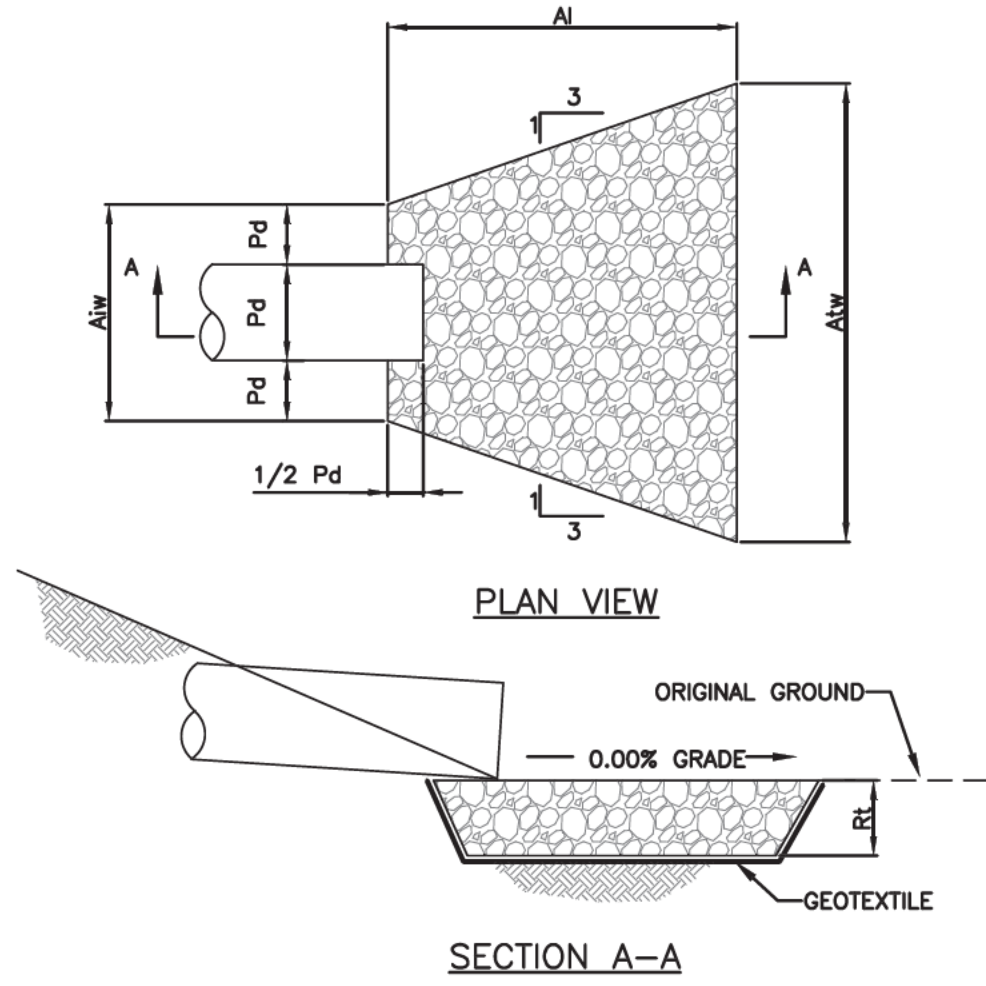
BMP AREA	A	B	C	D	E	F
TERRE ARCH 48 UNITS	26	51	16	27	27	29
PONDING DEPTH (PD)	2.0 FT	1.5 FT	0.67 FT	2.0 FT	1.5 FT	0 FT
FOUNDATION STONE DEPTH (SD)	1.0'	1.0'	1.0'	1.0'	1.0'	1.0'
COVER STONE DEPTH (SD)	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
OUTLET STRUCTURE TOP UNIT	M TOP	M TOP	C TOP	C TOP	C TOP	C TOP
OUTLET STRUCTURE TYPE	RISER	RISER	RISER	RISER	RISER	ORIFICE
OUTLET STRUCTURE CREST ELEV.	660.00	663.00	664.17	666.00	666.50	671.00
100 YR WATER SURFACE ELEV.	661.15	665.60	665.45	666.04	666.73	669.50
2 YR WATER SURFACE ELEV.	660.01	663.13	664.31	665.22	665.63	668.62
FLOOR ELEV.	657.00	660.50	662.50	663.00	664.00	666.00
STRUCTURE BOTTOM ELEV.	658.00	661.50	663.50	664.00	665.00	667.00
STRUCTURE TOP ELEV.	669.00	675.50	669.10	671.00	671.20	673.10
DISCHARGE PIPE INV.	655.00	661.50	663.50	664.00	665.00	667.00
DISCHARGE PIPE OUTLET INV.	654.25	658.00	658.00	663.50	663.00	665.00
DISCHARGE PIPE	PIPE 1	PIPE 19	PIPE 4	PIPE 6	PIPE 8	PIPE 10



TYPICAL LAYOUT

NOTE:  
A LICENSED PROFESSIONAL SHALL OVERSEE CONSTRUCTION OF THIS BMP.

### SUBSURFACE INFILTRATION BED



SECTION A-A

OUTLET NO.	PIPE NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R--	THICK. RT (IN)	LENGTH AI (FT)	APRON INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
1	1	24	5	30	18	6.0	24.0
2	19	15	4	18	12	3.75	15.75

#### NOTES:

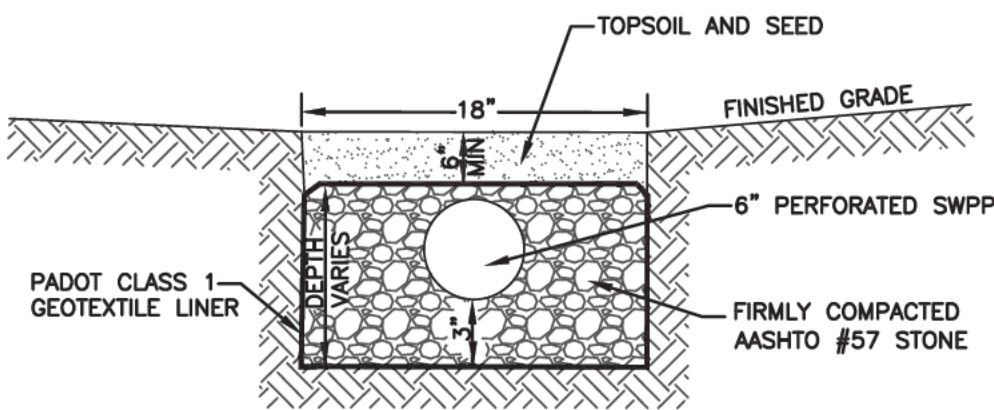
ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

#### STANDARD CONSTRUCTION DETAIL #9-2 RIPRAP APRON AT PIPE OUTLET NO FLARED ENDWALL

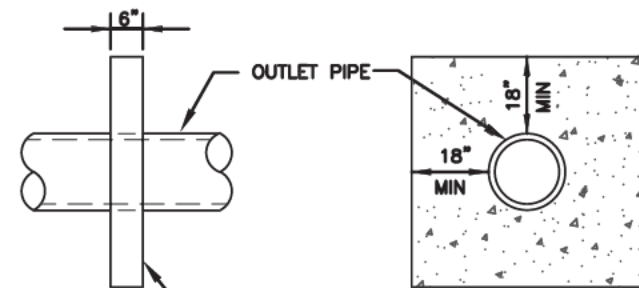
NOT TO SCALE



#### NOTES:

1. GROUNDWATER SEEPS UNCOVERED DURING EXCAVATION SHALL BE DIRECTED TO THE NEAREST WETLAND.
2. SLOPE PIPE AT A MINIMUM 0.25% TO DAYLIGHT.
3. COMPLETELY WRAP STONE IN GEOTEXTILE MATERIAL.

#### GROUNDWATER REMEDIATION-PERFORATED DRAIN

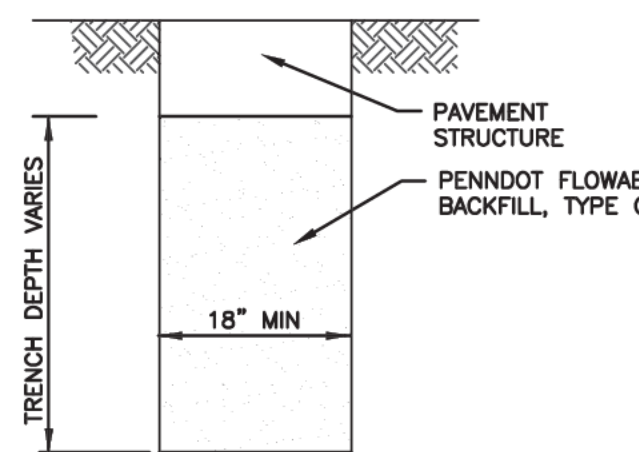


PaDOT CLASS A CONCRETE

#### NOTE:

IN LIEU OF CONCRETE COLLAR, A HIGH DENSITY POLYETHYLENE PLASTIC ANTI-SEEP COLLAR MAY BE USED. POLYETHYLENE PLASTIC ANTI-SEEP COLLAR MUST BE BY "SCHEIB DRAINAGE PRODUCTS" OR APPROVED EQUAL.

#### ANTI-SEEP COLLAR

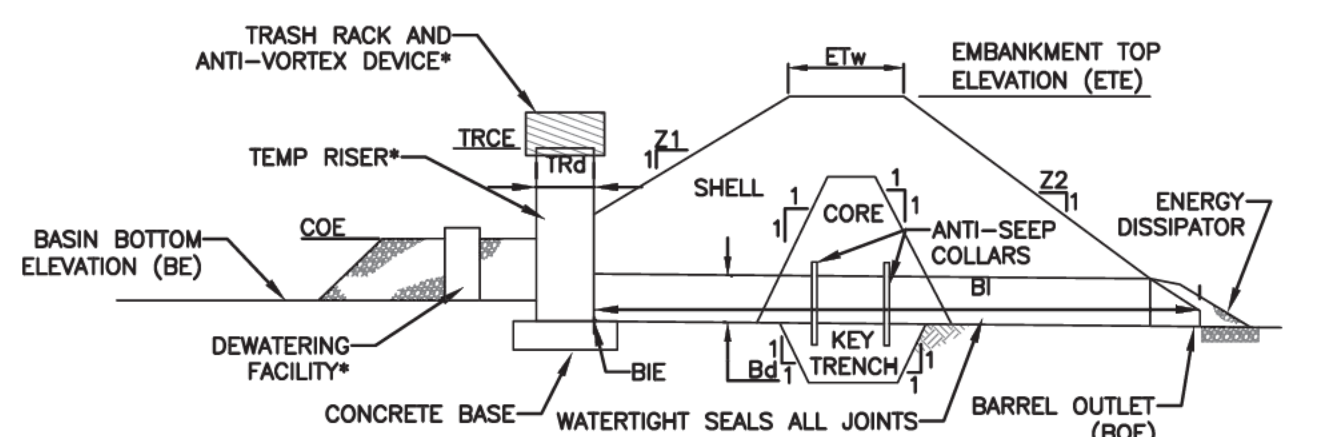


#### NOTE:

1. TRENCH WALLS TO BE VERTICAL

BARRIER NO.	BOTTOM ELEV. (FT)	TOP ELEV. (FT)	HEIGHT (FT)	THICKNESS (IN)
1	664.00	667.00	3.0	18
2	662.50	667.00	4.5	18
3	662.50	664.00	1.5	18
4	657.00	664.00	7.0	18

#### GROUNDWATER BARRIER



\* ALSO REFER TO SEDIMENT BASIN TEMPORARY RISER, EMERGENCY SPILLWAY, ENERGY DISSIPATOR, TRASH RACK AND ANTI-VORTEX DEVICE, AND SEDIMENT STORAGE DEWATERING FACILITY DETAILS.

BASIN NO.	Z1 (FT)	Z2 (FT)	DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH (FT)	OUTLET ELEV BOE (FT)	EMBANKMENT TOP ELEV ETE (FT)	TOP WIDTH ETW (FT)	KEY TRENCH DEPTH (FT)	KEY TRENCH WIDTH (FT)	BOTTOM ELEV BE (FT)
A	NA	NA	24	655.00	HDPE	48	654.00	NA	NA	1.5	4	658.00
B	NA	NA	15	661.50	HDPE	36	660.50	NA	NA	1	3	661.50
C	NA	NA	24	663.50	HDPE	33	658.00	NA	NA	1.5	4	663.50
D	NA	NA	15	664.00	HDPE	22	663.50	NA	NA	1	3	664.00
E	NA	NA	24	665.00	HDPE	35	663.00	NA	NA	1.5	4	665.00
F	NA	NA	15	667.00	HDPE	37	665.00	NA	NA	1	3	667.00

#### NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 9 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

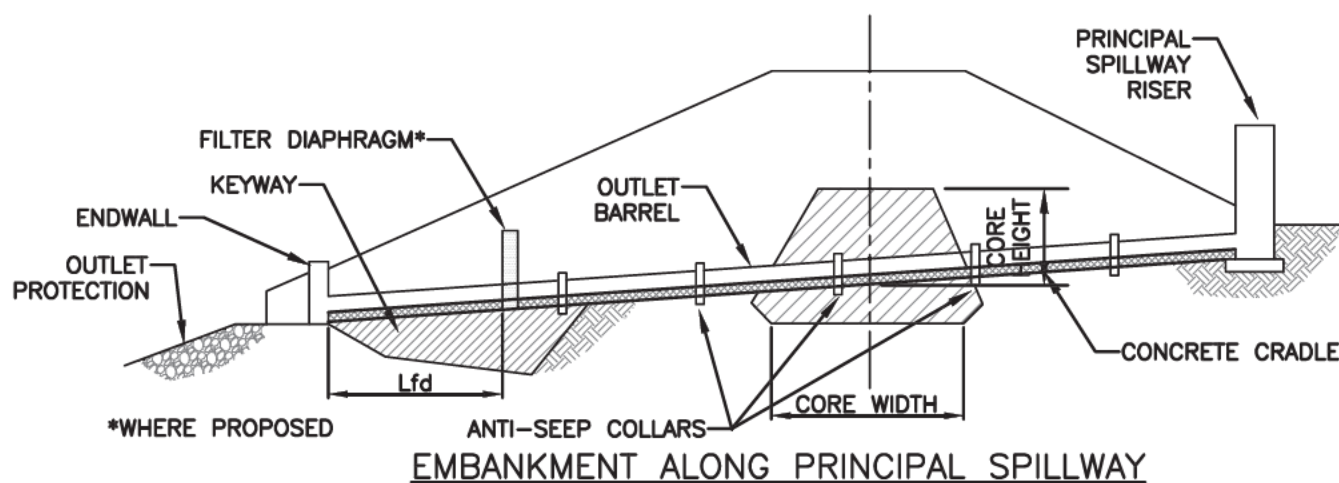
ACCESS SHALL BE PROVIDED FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

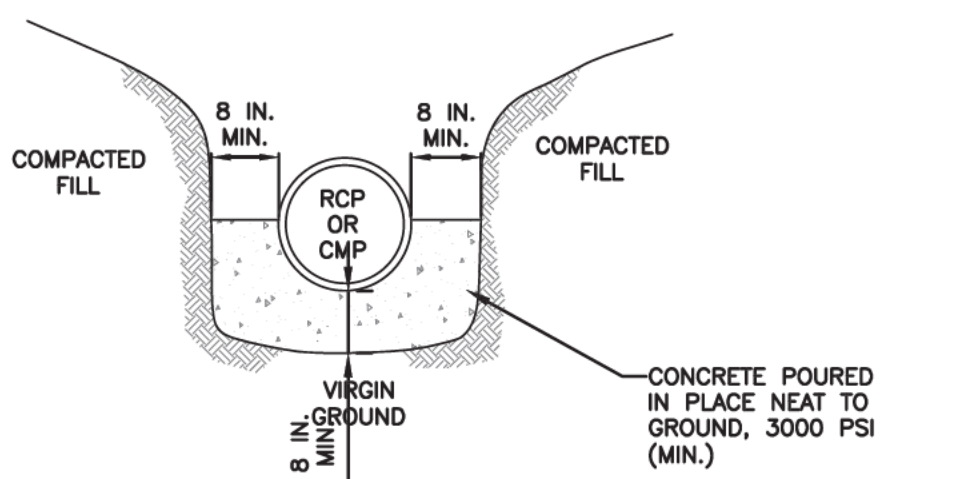
INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. CHECK BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATOR SHALL BE REPLACED IMMEDIATELY. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

#### STANDARD CONSTRUCTION DETAIL #7-6 SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS PERFORATED RISER

NOT TO SCALE



EMBANKMENT ALONG PRINCIPAL SPILLWAY



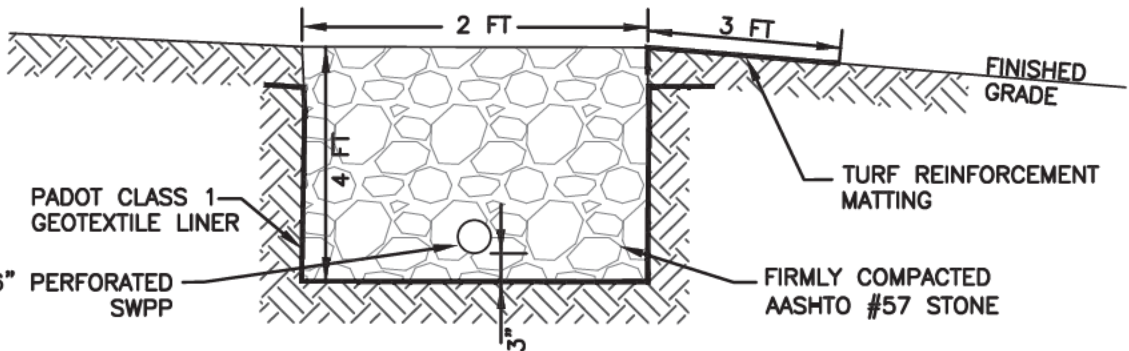
CROSS-SECTION AT OUTLET BARREL

#### NOTES:

A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER DIAPHRAGM. ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN. FILTER DIAPHRAGM LOCATION (Lfd) SHALL BE AS SHOWN IN FIGURE 7.8 OF THE PA DEP EROSION CONTROL MANUAL.

#### STANDARD CONSTRUCTION DETAIL #7-17 CONCRETE CRADLE FOR BASIN OR TRAP OUTLET BARREL

NOT TO SCALE



SUBSURFACE LEVEL SPREADER

PROJECT NO.:	FILE NAME:	DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
3748-B-5	PCSM3.DWG	10/21/21	BSP	BSP	---

SCALE: 1"=30'

30' 0' 30'

### POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HUNTINGDON RUTTER'S STORE #93

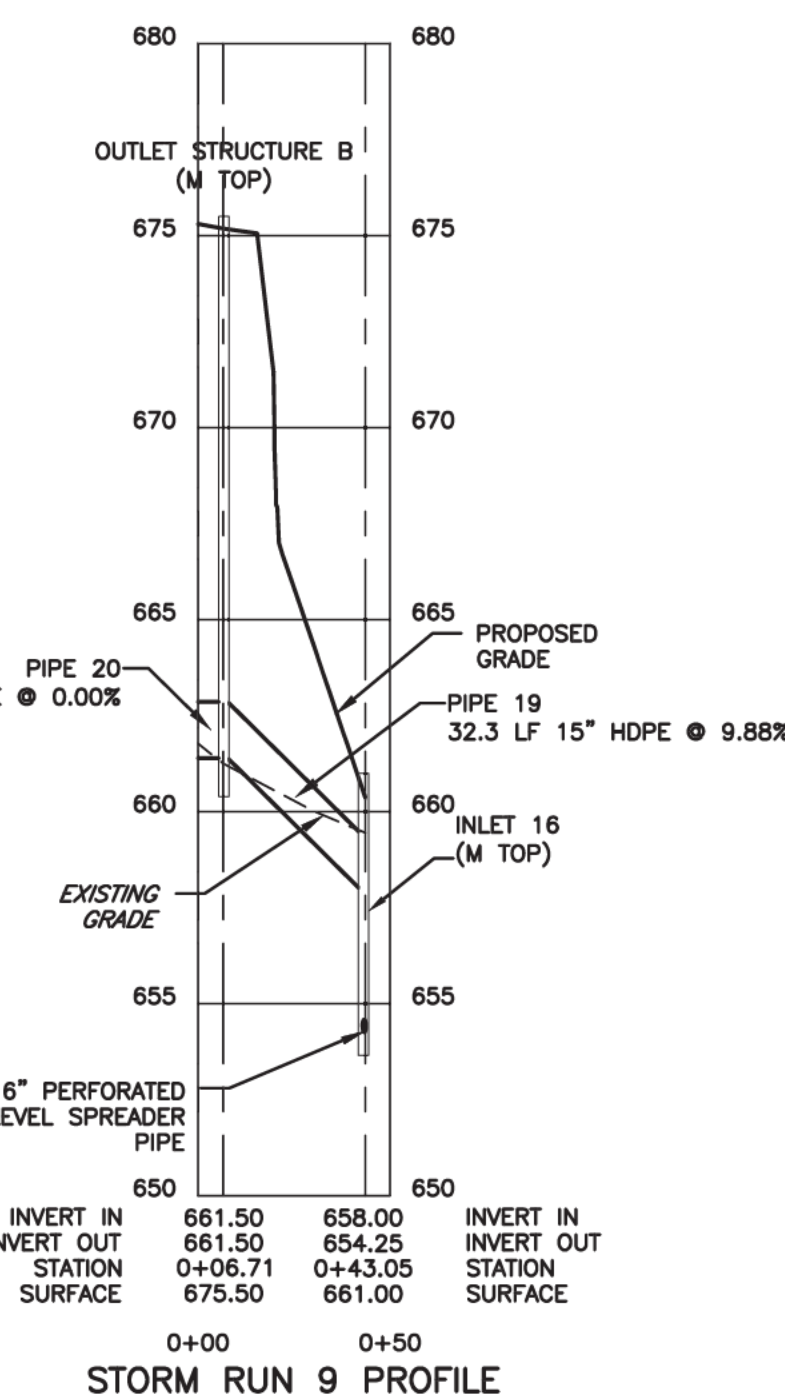
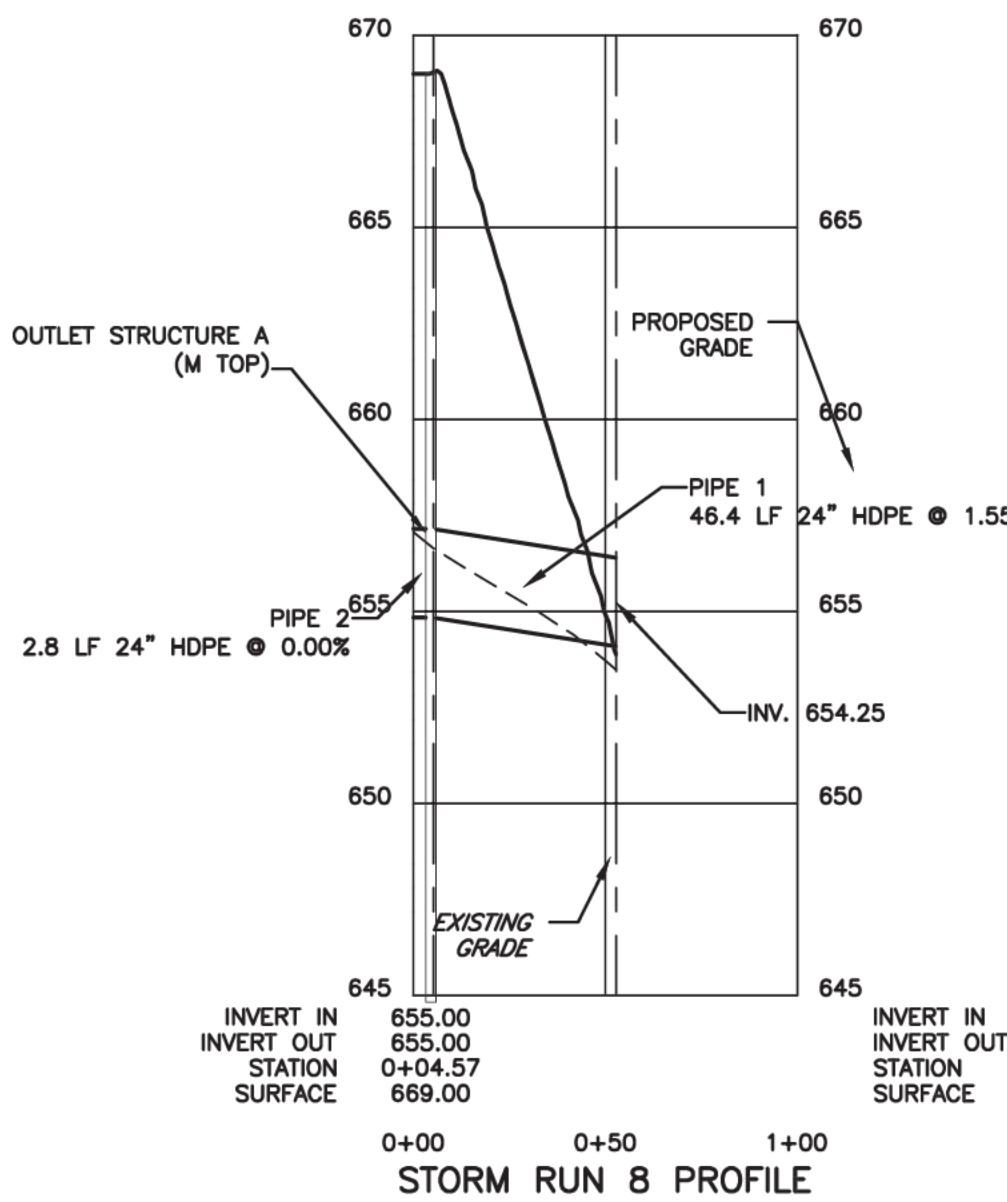
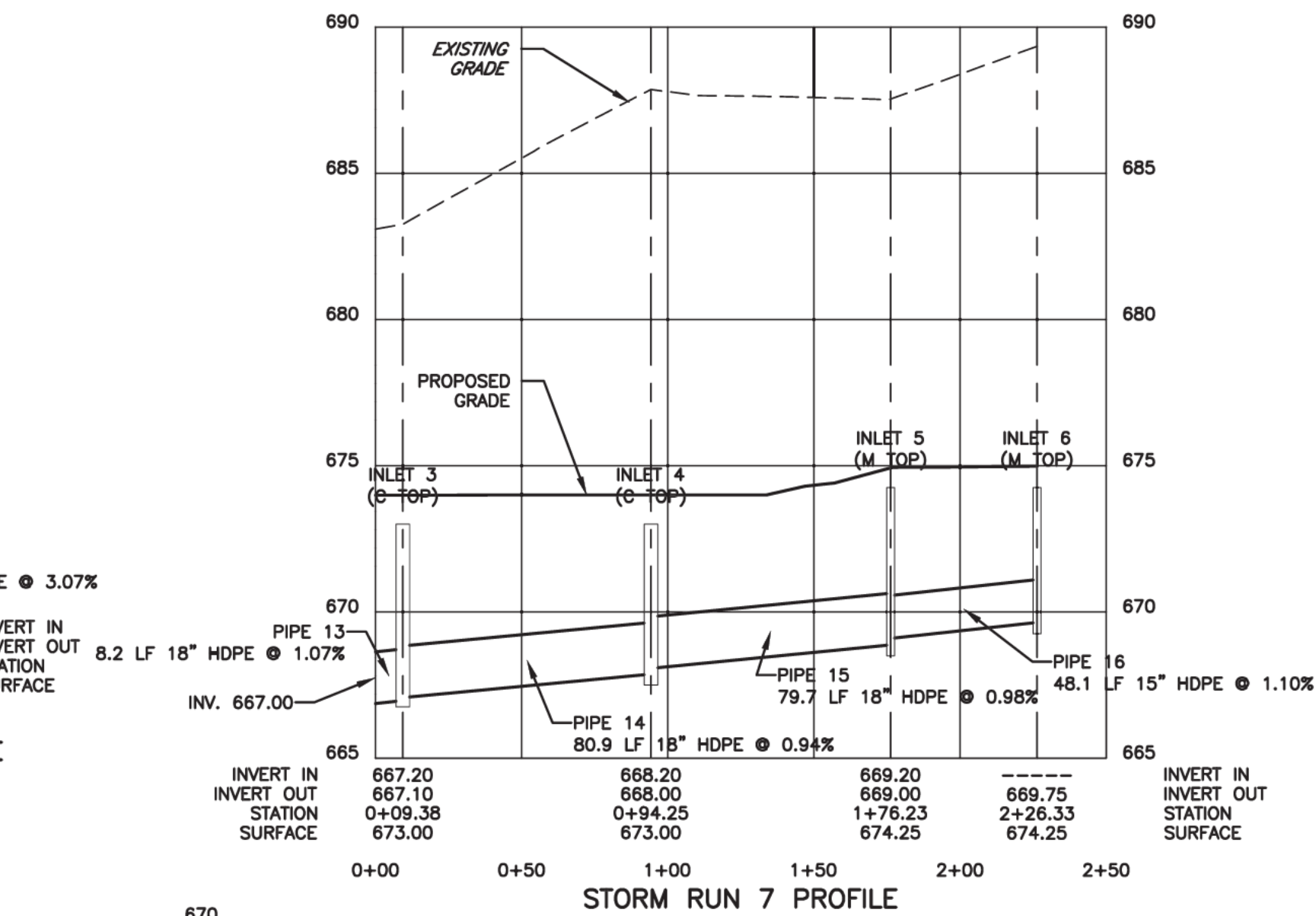
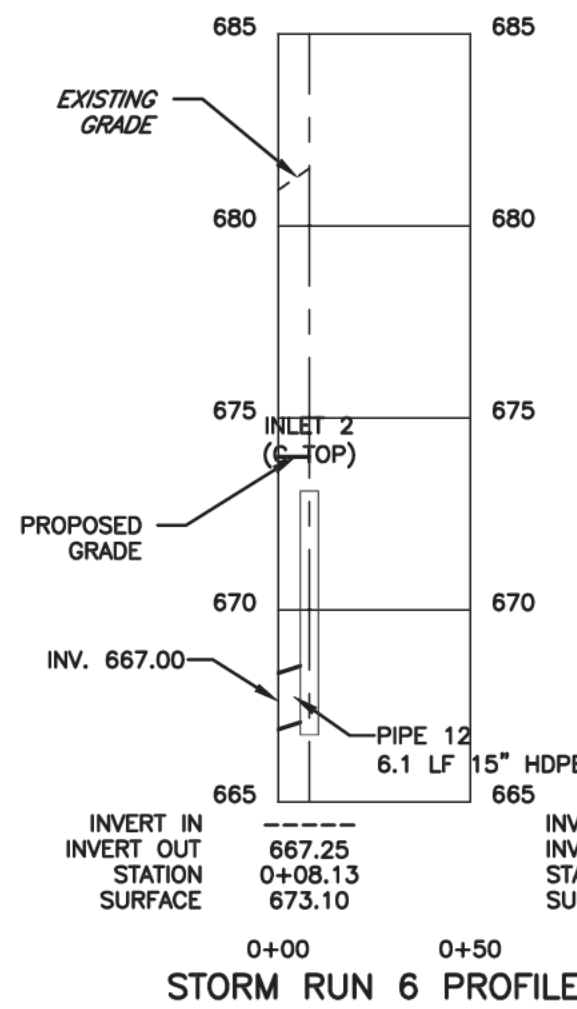
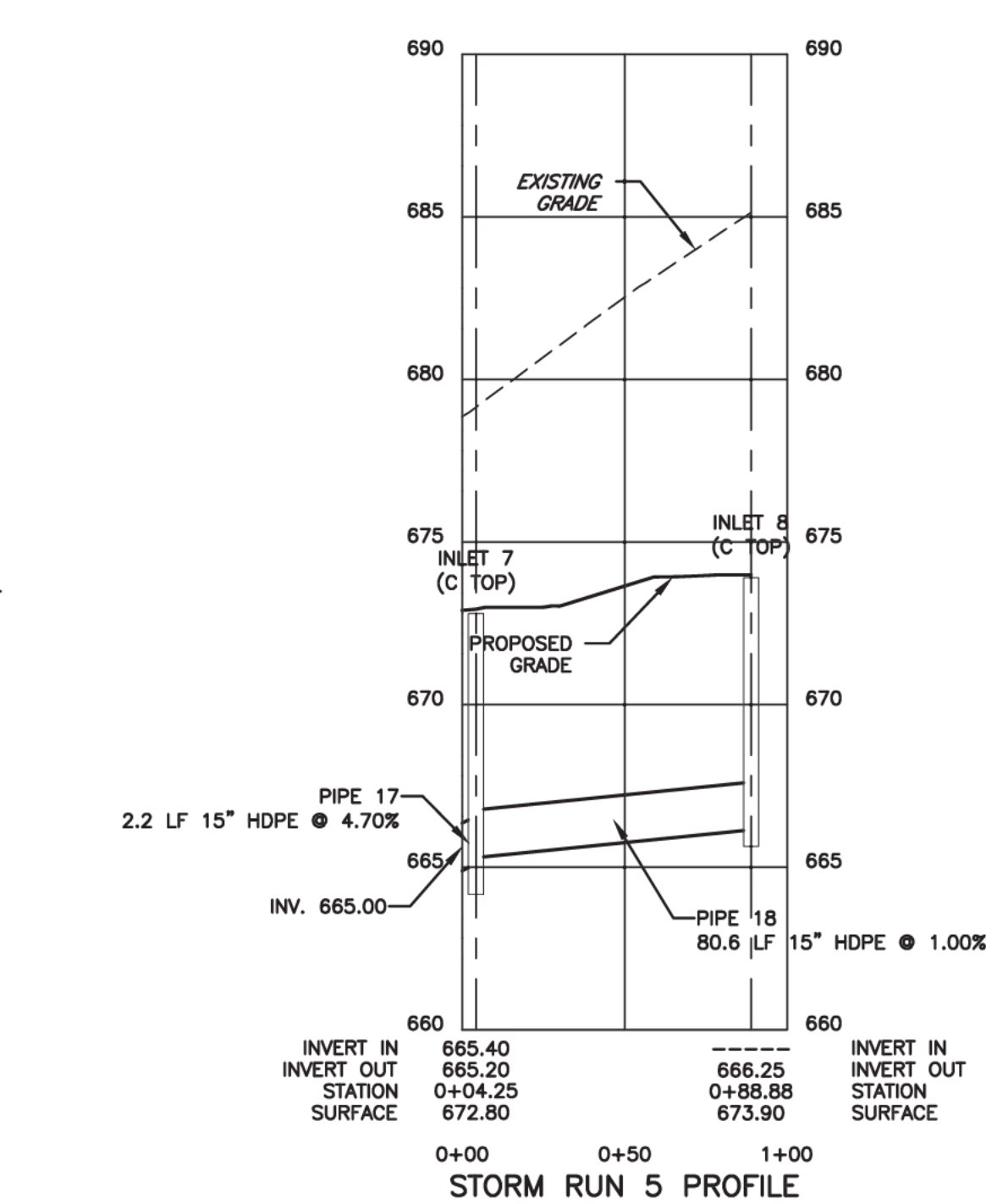
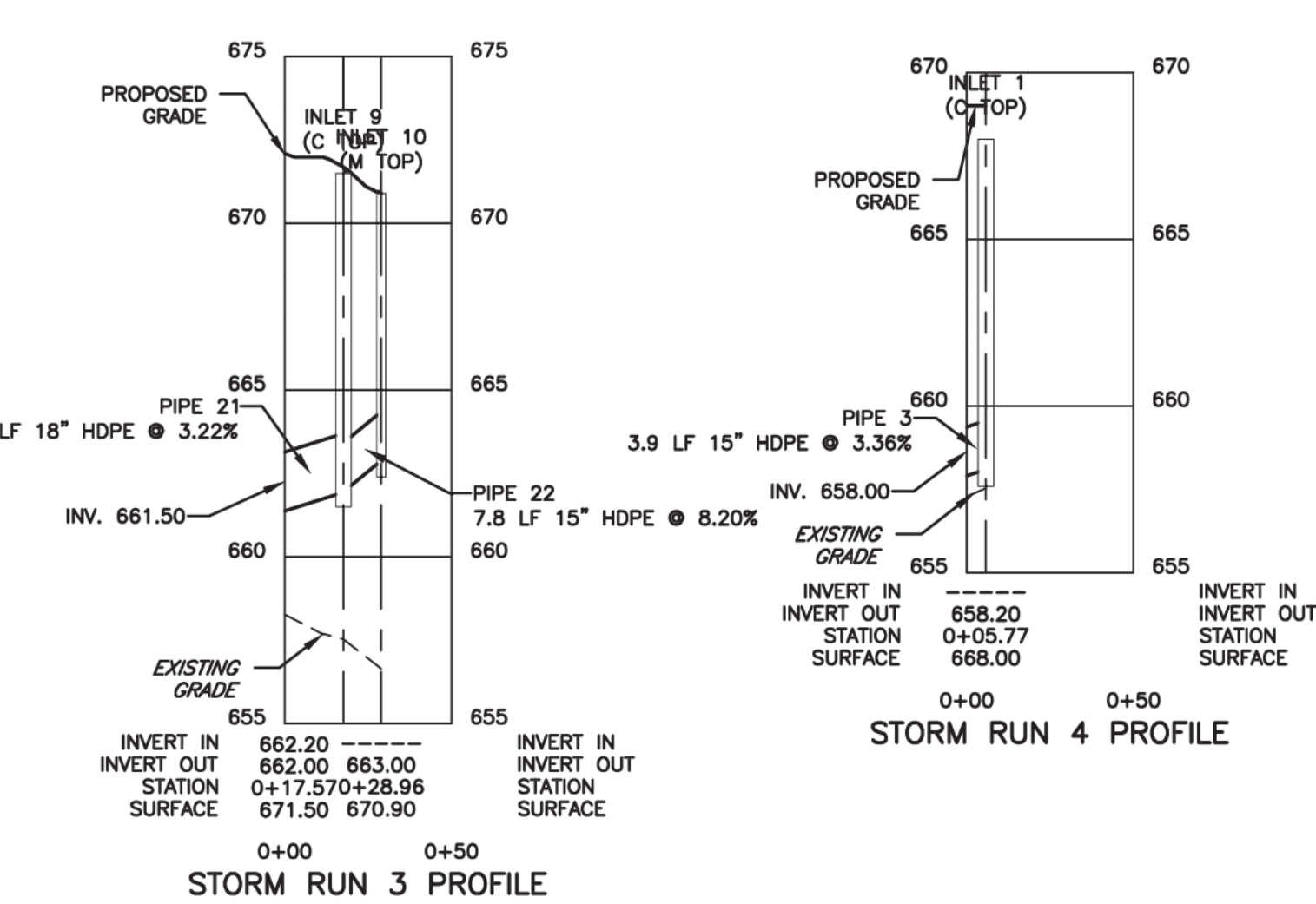
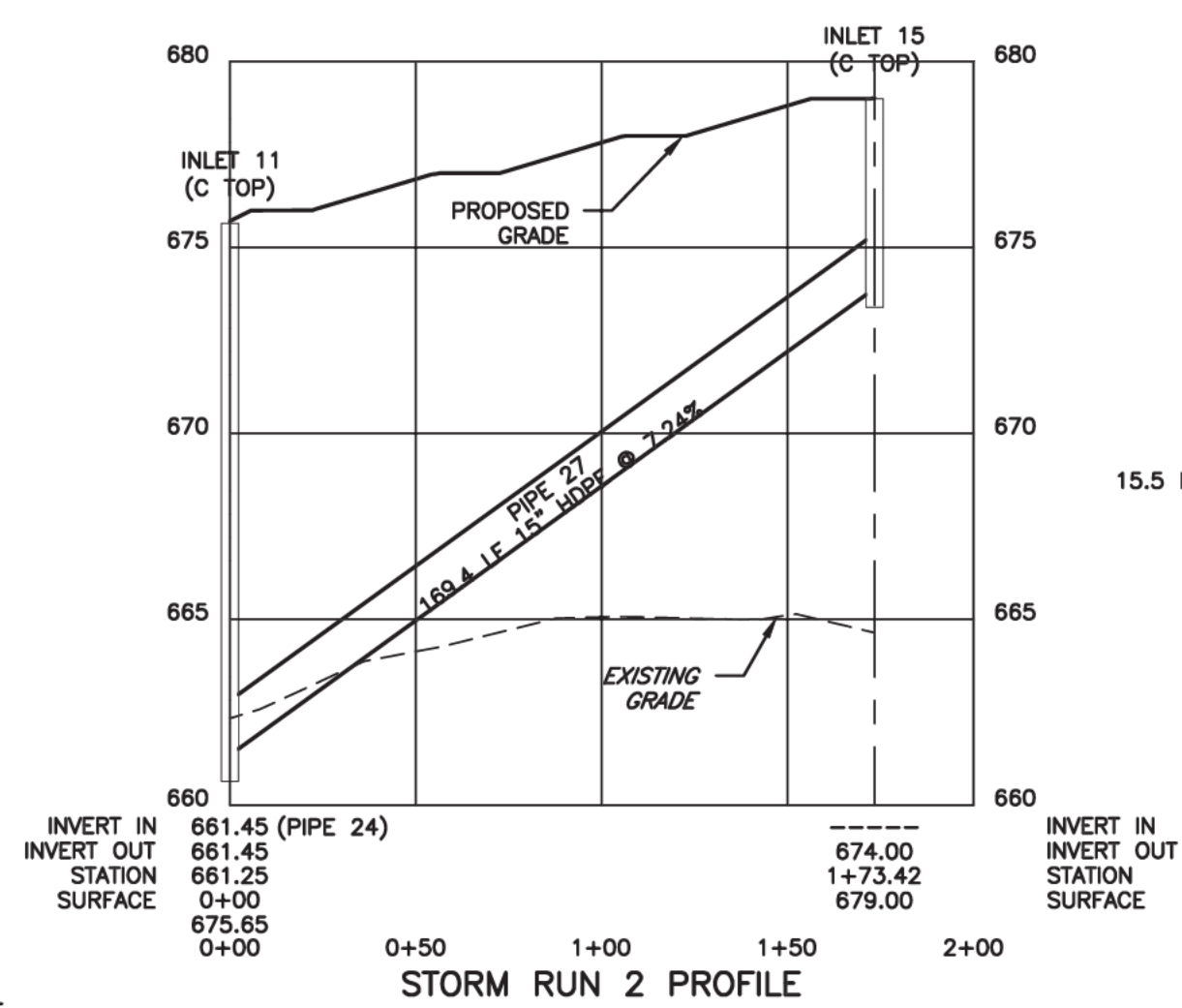
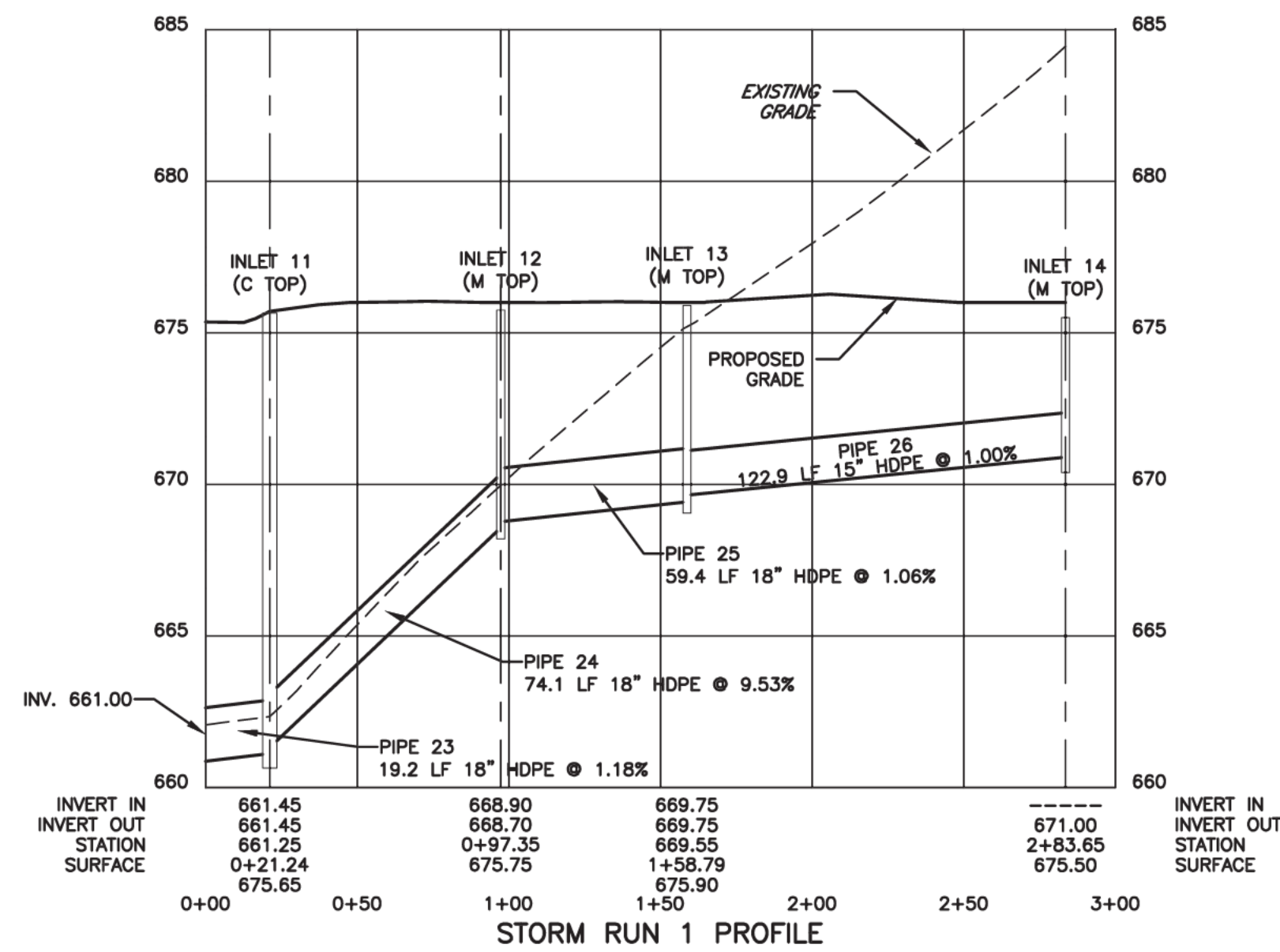
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DATE	REVISION	DESCRIPTION
12/30/22	BSP	NPDES PERMIT RESUBMISSION
09/09/22	BSP	NPDES PERMIT RESUBMISSION
02/24/22	BSP	NPDES PERMIT RESUBMISSION
DATE & INITIALS	REVISION	DESCRIPTION
50'	0'	HORIZONTAL
5'	0'	VERTICAL

# POST CONSTRUCTION STORMWATER MANAGEMENT PLAN HUNTINGDON RUTTER'S STORE #93

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PROJECT NO.:	3748-5
FILE NAME:	PCSM4.DWG
DATE:	10/21/21
DESIGNED BY:	BSP
DRAWN BY:	BSP
CHECKED BY:	---

## PCSM4