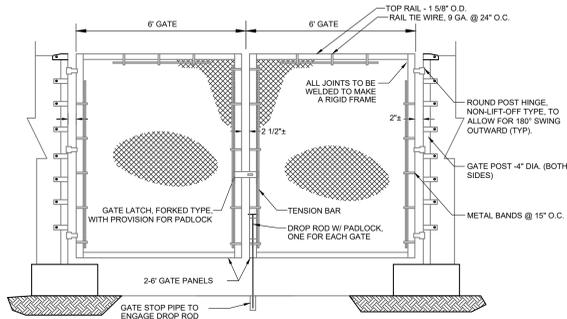


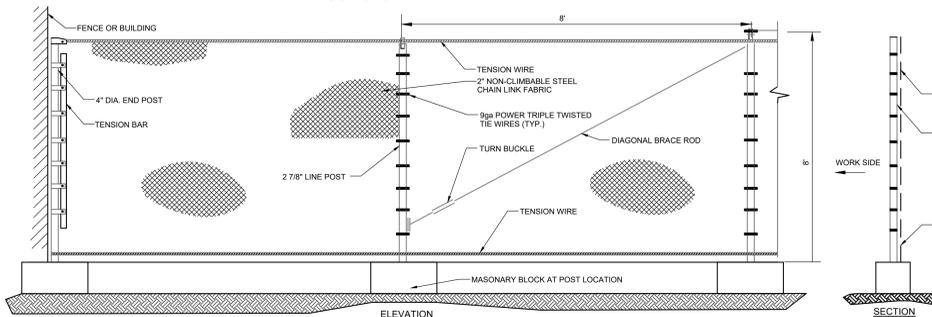
- NOTES:**
- THOSE TREES WHICH ARE WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED EXCAVATION OR GRADING OPERATION, OR IN ANY OTHER LOCATION DEEMED APPROPRIATE BY THE ENGINEER, SHALL BE PROTECTED BY INSTALLING AND MAINTAINING A FENCE AT THE DRIP LINE.
 - NO BOARDS OR OTHER MATERIAL SHALL BE NAILED TO TREES DURING CONSTRUCTION.
 - HEAVY EQUIPMENT OPERATORS SHALL AVOID DAMAGING EXISTING TREE TRUNKS FEET FROM TREE TRUNKS.
 - TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY BEING TREATED IMMEDIATELY.
 - FREES LIMBS DAMAGED DURING CONSTRUCTION SHALL BE PROPERLY PRUNED AND TREATED IMMEDIATELY.
 - THE OPERATION OF HEAVY EQUIPMENT OVER ROOT SYSTEMS OF SUCH TREES SHALL BE MINIMIZED IN ORDER TO PREVENT SOIL COMPACTION.
 - DAMAGED TREES SHALL BE FERTILIZED TO AID IN THEIR RECOVERY.
 - CONSTRUCTION DEBRIS SHALL NOT BE DISPOSED OF NEAR OR AROUND TREES.

TREE PROTECTION DETAIL

N.T.S.

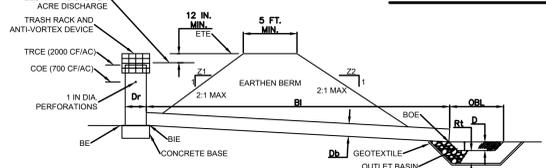


- NOTES:**
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF FENCE TO ENGINEER PRIOR TO CONSTRUCTION.
 - ALL RAIL CLAMPS AND MISCELLANEOUS HARDWARE SHALL BE DIMENSIONED TO BE COMPATIBLE WITH POST AND RAILS BEING USED FOR THE FENCING ON THIS PROJECT.
 - ALL RAIL CLAMPS AND MISCELLANEOUS HARDWARE SHALL BE SPACED PER MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
 - CONSTRUCTION FENCE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 01000.
 - PROVIDE ONE ADDITIONAL GATE STOP PIPE TO HOLD GATE IN OPEN POSITION. SEE LAYOUT PLAN FOR LOCATION.
 - ALL RAILS AND POSTS TO BE GALVANIZED, SCHEDULE 40 PIPE.



TEMPORARY CHAIN LINK FENCE AND GATE

NOT TO SCALE



TRAP NO.	Z1 (FT)	Z2 (FT)	MATL	RISER			BARREL			EMBANKMENT		CLEAN OUT ELEV COE (FT)	BOTTOM BE ELEV (FT)		
				DI (IN)	CRST ELEV (FT)	BOT PERF ELEV (FT)	MATL	DI (IN)	INLET ELEV BIE (FT)	LENGTH BI (FT)	OUTLET ELEV BOE (FT)			TOP ELEV ETE (FT)	WIDTH Etw (FT)
1	3	3	CMP	24	514.55	513.00	HDPE	15	512	72	510.30	515.55	7	513.00	512.00

TRAP NO.	CONCRETE BASE			OUTLET BASIN				
	LENGTH CBI (IN)	WIDTH Cbw (IN)	THICK. CBI (IN)	RIPRAP SIZE (R--)	ROCK THICK RT (IN)	DEPTH D (IN)	WIDTH Cbw (FT)	LENGTH CBL (FT)
1	36	36	6	N/A	N/A	N/A	N/A	NA

NOTES:

- SEE DETAIL #8-3 TEMPORARY RISER FOR DETAILS OF THE TEMPORARY RISER CONSTRUCTION.
- 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 6 TO 8 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.
- ALL BASIN EMBANKMENTS SHOULD BE COMPACTED BY SHEEPSFOOT OR PAD ROLLER. THE LOOSE LIFT THICKNESS SHOULD BE 9 INCHES OR LESS, DEPENDING ON ROLLER SIZE, AND THE MAXIMUM PARTICLE SIZE IS 6 INCHES OR LESS. 2/3 LIFT THICKNESS. FIVE PASSES OF THE COMPACTION EQUIPMENT OVER THE ENTIRE SURFACE OF EACH LIFT IS REQUIRED. EMBANKMENT COMPACTION TO VISIBLE NON-MOVEMENT IS ALSO REQUIRED.
- UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.
- ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.
- A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.
- CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS. DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.
- ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. TO ASSIST IN REMOVING SEDIMENT, WHICH MAY BE SATURATED, A DEVICE SUCH AS IS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-18 MAY BE USED TO DEWATER THE SEDIMENT PRIOR TO ITS REMOVAL.

STANDARD CONSTRUCTION DETAIL #8-2
BARREL/RISER SEDIMENT TRAP

N.T.S.

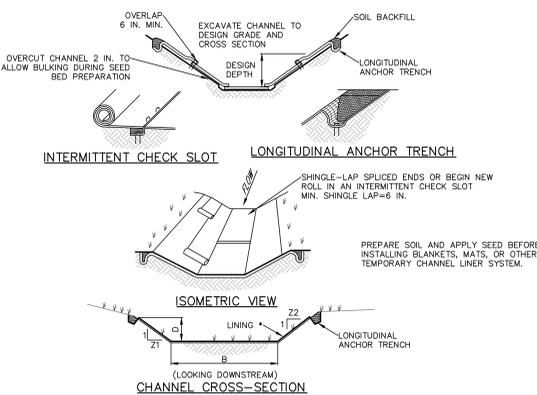
TRAP NO.	DI (IN)	CRST ELEV (FT)	MATL	TEMPORARY RISER			CONCRETE BASE			BARREL
				COE ELEV (FT)	LENGTH CBI (FT)	WIDTH Cbw (IN)	THICKNESS CBI (IN)	INLET ELEV BIE (FT)		
1	24	514.55	CMP	513.00	36	36	6	512.00		

NOTES:

- IN SPECIAL PROTECTION WATERSHEDS, ANCHOR A 6 IN. LAYER OF COMPOST SHALL BE SECURELY ANCHORED ON TOP OF STONE (HQ) OR REPLACE STONE WITH SUITABLE COMPOST FILTER SOCK (HQ OR EQ).
- A MINIMUM OF 2-#8 REBAR SHALL BE PLACED AT RIGHT ANGLES AND PROJECTING THROUGH SIDES OF RISER TO ANCHOR IT TO CONCRETE BASE. REBAR SHALL PROJECT A MINIMUM OF 1/4 RISER DIAMETER BEYOND OUTSIDE OF RISER.
- CONCRETE BASE SHALL BE POURED IN SUCH A MANNER SO AS TO INSURE THAT CONCRETE FILLS BOTTOM OF RISER TO INVERT OF THE OUTLET PIPE TO PREVENT RISER FROM BREAKING AWAY FROM THE BASE. MINIMUM BASE WIDTH EQUALS 2 TIMES RISER DIAMETER.
- EMBEDDED SECTION OF ALUMINUM OR ALUMINIZED PIPE SHALL BE PAINTED WITH ZINC CHROMATE OR EQUIVALENT.
- CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

STANDARD CONSTRUCTION DETAIL #8-5
DRY SEDIMENT TRAP TEMPORARY RISER

NOT TO SCALE



- * SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION
- NOTES:**

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.

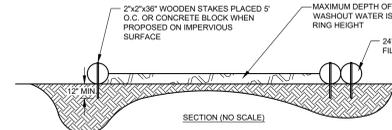
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

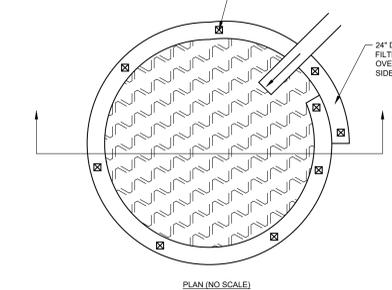
CHANNEL NO.	LOCATION	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
1	EAST OF SEDIMENT TRAP-1	5	1	11	3	3	S150BN

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE



- NOTES:**
- INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
 - 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

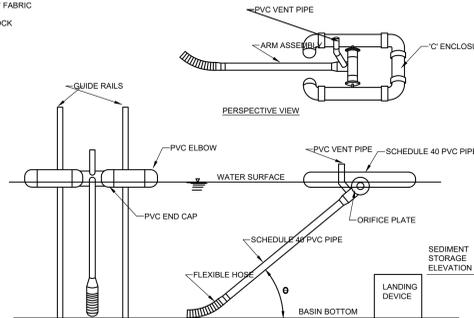


TYPICAL COMPOST SOCK / CONCRETE WASHOUT

NOT TO SCALE

NOTES:

- A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
- WHENEVER COMPOST SOCK WASHOUTS ARE USED, A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND THE PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER (AS SHOWN ABOVE). CARE SHOULD BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STAKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS SECTION.
- ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 70% CAPACITY. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.



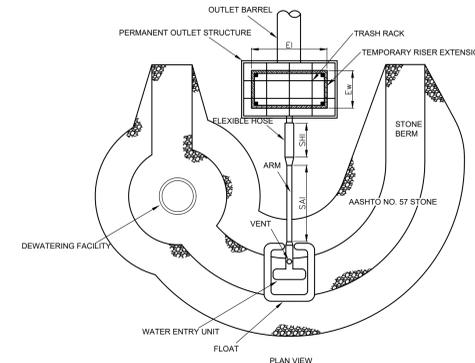
BASIN NO.	WATER SURFACE ELEVATION (FT)	ARM LENGTH (FT)	ARM DIA. (IN)	ORIFICE DIA. (IN)	TOP OF LANDING DEVICE ELEVATION (FT)	FLEXIBLE HOSE LENGTH (IN)	FLEXIBLE HOSE ATTACHMENT ELEVATION (FT)
TRAP 1	514.55	5	2.5	2.2	513.00	24	512.00

NOTES:

- ORIFICE DIAMETER MUST BE EQUAL TO OR LESS THAN ARM DIAMETER.
- A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.
- SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS.
- SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE LANDING DEVICE.
- A SEMI-CIRCULAR LANDING ZONE MAY BE SUBSTITUTED FOR THE GUIDE RAILS (STANDARD CONSTRUCTION DETAIL #7-3).

STANDARD CONSTRUCTION DETAIL #7-1
SKIMMER

N.T.S.



STANDARD CONSTRUCTION DETAIL #7-3
SKIMMER WITH STONE LANDING BERM

N.T.S.

BASIN TRAP NO.	BAFFLE LENGTH Bbl (FT)	TEMPORARY RISER HEIGHT Htr (FT)	TEMPORARY RISER CREST ELEV. TRCE (FT)	BOTTOM BE ELEV (FT)
1	174	2.55	514.55	512.00

NOTES:

- SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.
- AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION
- IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRICE ELEVATION.
- BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.
- SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.
- DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.
- BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-14
BAFFLE

NOT TO SCALE

ROLLMAX
ROLLED EROSION CONTROL

Specification Sheet

BioNet® S150BN™ Erosion Control Blanket

DESCRIPTION

The short-term double net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: Functional longevity may vary depending upon climatic conditions, soil, geographical location and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with a 100% biodegradable woven natural fiber netting. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form an approximate 0.50 x 1.0 in. (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches (5-12.5 cm) from the edge) as an overlap guide for adjacent mats.

The S150BN shall meet Type 2-D specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17

Material Content	Weight
Matrix	100% Straw Fiber
Top Leno weaves	100%
Netting	100% biodegradable organic jute
Thread	Biodegradable

Standard Roll Sizes	Weight
Width	6.67 ft (2.03 m), 8.0 ft (2.4 m), 16.0 ft (4.87 m)
Length	108 ft (32.92 m), 112 ft (34.14 m), 112 ft (34.14 m)
Weight 10%	52.22 lbs (23.69 kg), 65.28 lbs (29.6 kg), 88.94 lbs (40.33 kg)
Area	88 sq yd (86.9 sq m), 100 sq yd (98.6 sq m), 200 sq yd (197.22 sq m)

Design Permissible Shear Stress	Unvegetated Shear Stress
Unvegetated Shear Stress	1.85 psf (88 Pa)
Unvegetated Velocity	6.00 fps (1.83 m/s)

Slope Design Data: C Factors	Slope Design Data: C Factors
Slope Length (L)	± 3:1, 3:1 - 2:1, ± 2:1
± 20 ft (6 m)	0.00014, 0.039, N/A
± 50 ft (15.2 m)	0.01, 0.070, N/A
	0.02, 0.100, N/A

Roughness Coefficients - Unveg.	Roughness Coefficients - Unveg.
Flow Depth	Manning's n
± 0.50 ft (0.15 m)	0.055
± 0.50 - 2.0 ft	0.055-0.021
± 2.0 ft (0.60 m)	0.021

PROJECT TEAM

CLIENT
Tredyffrin/Easttown School District
940 West Valley Road, Suite 1700
Wayne, PA 19087
(610) 240-1900

ARCHITECTURAL
Heckendorn Shiles Architects
347 East Conestoga Road
Wayne, PA 19087
610-994-3500

STRUCTURAL ENGINEER
N/A

MEPFP ENGINEER
Schiller and Hersh Associates, Inc.
636 Skippack Pike, Suite 200
Blue Bell, PA 19422
(215) 886-8947

SITE / CIVIL
Pennoni Associates, Inc
158 W Gay Street, Suite 300
West Chester, PA 19380
(610) 429-8907

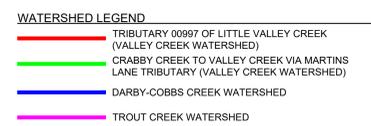
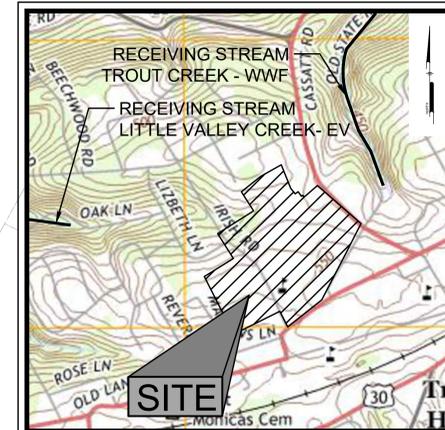
MISC DISCIPLINE
N/A

NOT FOR CONSTRUCTION

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE. IN WITNESS WHEREOF, THE PROJECT ENGINEER HAS HEREBY SIGNED AND SEALED HIS OFFICE AND AFFIXED HIS SIGNATURE AND SEAL TO THESE DOCUMENTS. THESE DOCUMENTS SHALL BE VALID FOR THE PROJECT AND ANY OTHER PROJECTS ONLY IF THE PROJECT ENGINEER HAS HEREBY SIGNED AND SEALED HIS OFFICE AND AFFIXED HIS SIGNATURE AND SEAL TO THESE DOCUMENTS. PENNONI ASSOCIATES, INC. SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT.

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN NOTES:

- THE PROJECTS RECEIVING WATERCOURSE IS THE TRIBUTARY 00997 OF LITTLE VALLEY CREEK AND TROUT CREEK WATERSHED.
 - A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOTICE OF TERMINATION, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER BMPs.
 - UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER §102.22(A)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPs IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH §102.4 AND §102.3 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS) AND PCSM REQUIREMENTS, THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.
- THE NOTICE OF TERMINATION MUST INCLUDE:
- (1) THE FACILITY NAME, ADDRESS AND LOCATION.
 - (2) THE OPERATOR NAME AND ADDRESS.
 - (3) THE PERMIT NUMBER.
 - (4) THE REASON FOR PERMIT TERMINATION.
 - (5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH §102.8(M) AND PROOF OF COMPLIANCE WITH §102.8(M)(2).
- PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION.
- THE PERMITTEE SHALL INCLUDE WITH A NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL WHICH READS AS FOLLOWS:
 - "I, PAUL J. AREA SCHOOL AUTHORITY, DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 P. S. A. §4884 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."
 - THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.
 - THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs.
 - ALL STORMWATER CONVEYANCE AND MANAGEMENT FACILITIES SHOWN ON THIS PLAN ARE PERMANENT AND ARE NOT TO BE REMOVED OR ALTERED WITHOUT THE APPROVAL OF TREDYFFRIN TOWNSHIP, THE INDIVIDUAL LOT OWNER, HIS/HERS, ASSIGNS OR SUCCESSORS SHALL BE RESPONSIBLE FOR THE PERPETUAL MAINTENANCE OF THE SAID FACILITIES."
 - "THE OWNER HEREBY GRANTS PERMISSION TO THE TOWNSHIP, ITS AUTHORIZED AGENTS AND EMPLOYEES, TO ENTER UPON THE PROPERTY, AT REASONABLE TIMES AND UPON PRESENTATION OF PROPER IDENTIFICATION, TO INSPECT THE BMPs WHENEVER IT DEEMS NECESSARY, WHENEVER POSSIBLE, THE TOWNSHIP SHALL NOTIFY THE OWNER PRIOR TO ENTERING THE PROPERTY."
 - IN ACCORDANCE WITH THE U.S. FISH AND WILDLIFE SERVICE AVOIDANCE MEASURE SPECIFIED IN THE PND FOR THIS PROJECT, DO NOT CONDUCT TREE REMOVAL FROM MAY 15 TO AUGUST 15.



TEST PIT INVESTIGATION TABLE

TEST PIT NUMBER	SURFACE ELEVATION	TEST PIT BOTTOM DEPTH (ELEVATION)	LIMITING ZONE DEPTH (ELEVATION)	INFILTRATION TEST DEPTH (ELEVATION)	INFILTRATION RATE (INHR)
TP-1	520.00	9' (511.00)	NE (514.00)	6' (514.00)	0.38
TP-2	519.00	8' (511.00)	7' (512.00)	6' (514.00)	0.45
TP-3	523.00	7' (516.00)	NE (518.00)	5' (518.00)	8.63
TP-4	520.00	4' (516.00)	NE (518.00)	2' (518.00)	0.35
TP-5A	514.00	13' (501.00)	NE (510.00)	4' (510.00)	0.22
TP-6A	516.00	7.5' (508.50)	7.5' (508.50)	5.5' (510.50)	6.56
TP-7	529.00	6' (523.00)	NE (525.00)	4' (525.00)	0.15
TP-8	531.00	8' (523.00)	NE (525.00)	6' (525.00)	0.20

SOILS SUMMARY CHART:

NRCS WEB SOIL SURVEY, CHESTER COUNTY, PENNSYLVANIA, APRIL 8, 2019

SYMBOL	NAME	GROUP	SLOPES (%)	DEPTH TO		LIMITATIONS			RESOLUTION
				WATER TABLE (FT)	BEDROCK (IN)	FROST	PIPES	BUILDING	
GgC	GLENELG SILT LOAM	B	8-15	-	72-120	MODERATE	LOW	HIGH	SEE RESOLUTION NOTES
GgB	GLENELG SILT LOAM	B	3-8	-	72-120	MODERATE	LOW	HIGH	SEE RESOLUTION NOTES
UmB	URBAN LAND - GLENELG COMPLEX	B	0-8	-	60-120	MODERATE	LOW	HIGH	SEE RESOLUTION NOTES
UmD	URBAN LAND - GLENELG COMPLEX	B	8-25	-	60-120	MODERATE	LOW	HIGH	SEE RESOLUTION NOTES
UgB	URBAN LAND - LIGHTWEIGHT SCHIST AND GNEISS COMPLEX	B	0-8	5	60-120	MODERATE	MODERATE	MODERATE	SEE RESOLUTION NOTES

RESOLUTION NOTES:

- HIGH WATER TABLE: IF SITE IS TO BE USED FOR CONSTRUCTION, DEWATER EXCAVATIONS THROUGH A PUMPED WATER FILTER BAG AS NECESSARY, AVOID PONDING DURING CONSTRUCTION. CLOSE ALL EXCAVATIONS AS SOON AS PRACTICAL. ENSURE ALL INSTALLED PIPE IS WATER-TIGHT.
- EROSION HAZARD: THE CONTRACTOR SHALL FOLLOW THE EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION AND PLANS. THE EROSION CONTROL MEASURES SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND ON A WEEKLY BASIS. IMMEDIATELY AFTER EVERY RAINFALL EVENT THE EROSION AND SEDIMENTATION FACILITIES AND MEASURES WILL BE CLEANED, REPAIRED, AND REPLACED AS NEEDED. WASHED-OUT AREAS WILL BE RE-GRADED AND RE-SEED. SILT FENCES WILL BE INSPECTED AND RESTORED TO AN UPRIGHT AND EFFECTIVE POSITION AFTER EVERY RAINFALL EVENT OR WHEN THEY ARE OBSERVED TO BE IN NEED OF MAINTENANCE.
- PIPING HAZARD: SUITABLE FILL MATERIAL FOR ALL PIPING SHALL BE USED PER RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER. ANTI-SEEP COLLARS SHALL BE INSTALLED AT THE DETENTION BASIN LEGS.

GEOLOGY CHART

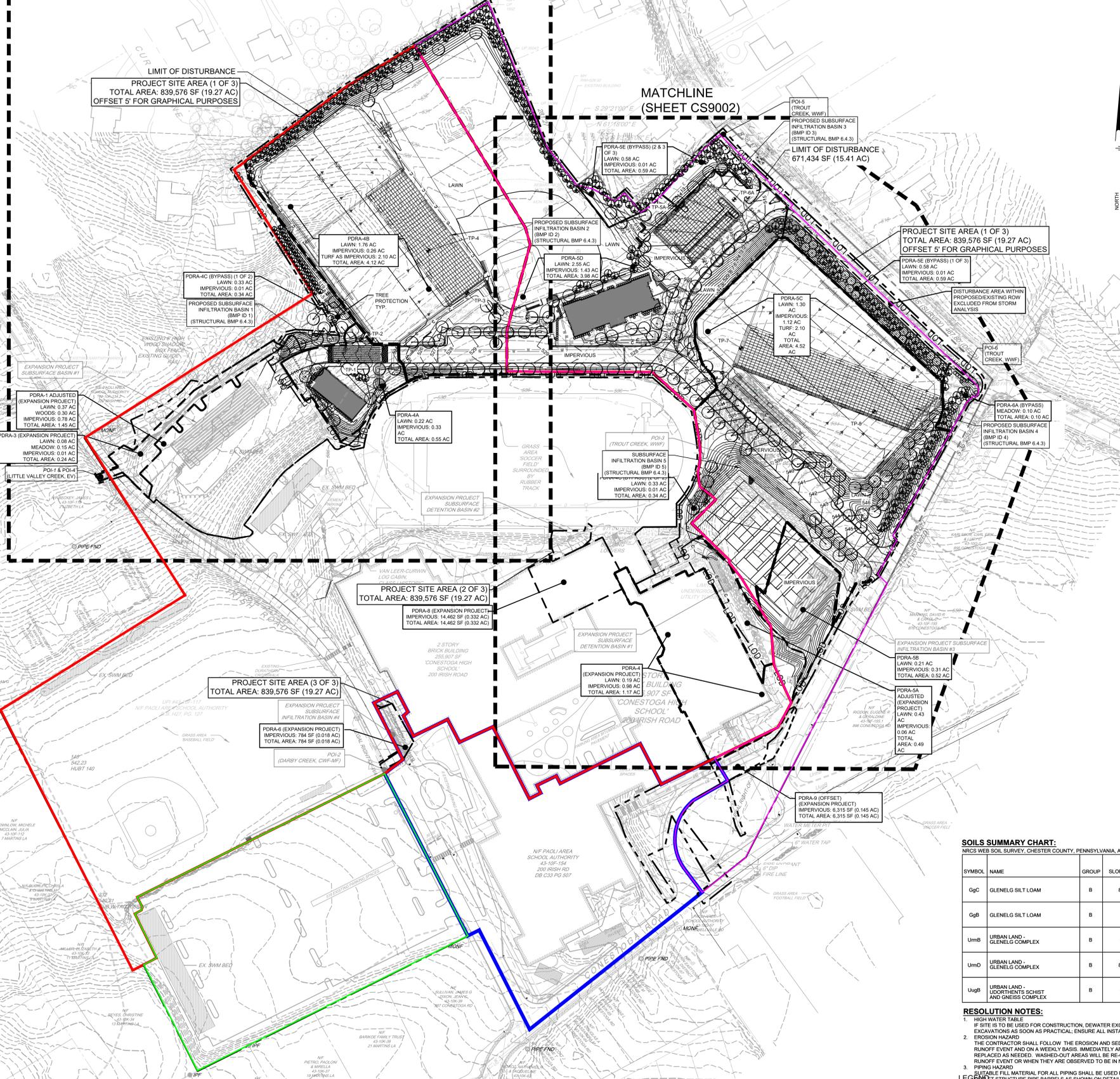
OCTORARO FORMATION
ALBITE-CHLORITE SCHIST, PHYLLITE, SOME HORNBLENDE GNEISS, AND GRANITIZED MEMBERS.

STATE PENNSYLVANIA

NAME: OCTORARO FORMATION
GEOLOGIC AGE: LOWER PALEOZOIC
ORIGINAL MAP LABEL: 90
PRIMARY ROCK TYPE: ALBITE-CHLORITE SCHIST
SECONDARY ROCK TYPE: PHYLLITE
OTHER ROCK TYPES: HORNBLENDE GNEISS

MATCHLINE (SHEET CS9001)

MATCHLINE (SHEET CS9002)



LIMIT OF DISTURBANCE
PROJECT SITE AREA (1 OF 3)
TOTAL AREA: 839,576 SF (19.27 AC)
OFFSET 5' FOR GRAPHICAL PURPOSES

LIMIT OF DISTURBANCE
671,434 SF (15.41 AC)

PROJECT SITE AREA (1 OF 3)
TOTAL AREA: 839,576 SF (19.27 AC)
OFFSET 5' FOR GRAPHICAL PURPOSES

PROJECT SITE AREA (2 OF 3)
TOTAL AREA: 839,576 SF (19.27 AC)

PROJECT SITE AREA (3 OF 3)
TOTAL AREA: 839,576 SF (19.27 AC)



CALL BEFORE YOU DIG
BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA
CALL 1-800-242-1776
PA ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR BLAST PENNSYLVANIA ONE-CALL SYSTEM, INC.
SERIAL NUMBER(S): 20223192994

PROJECT TEAM

CLIENT
Tredyffrin/Easttown School District
940 West Valley Road, Suite 1700
Wayne, PA 19087
(610) 240-1900

ARCHITECTURAL
Heckendorn Shiles Architects
347 East Conestoga Road
Wayne, PA 19087
610-994-3500

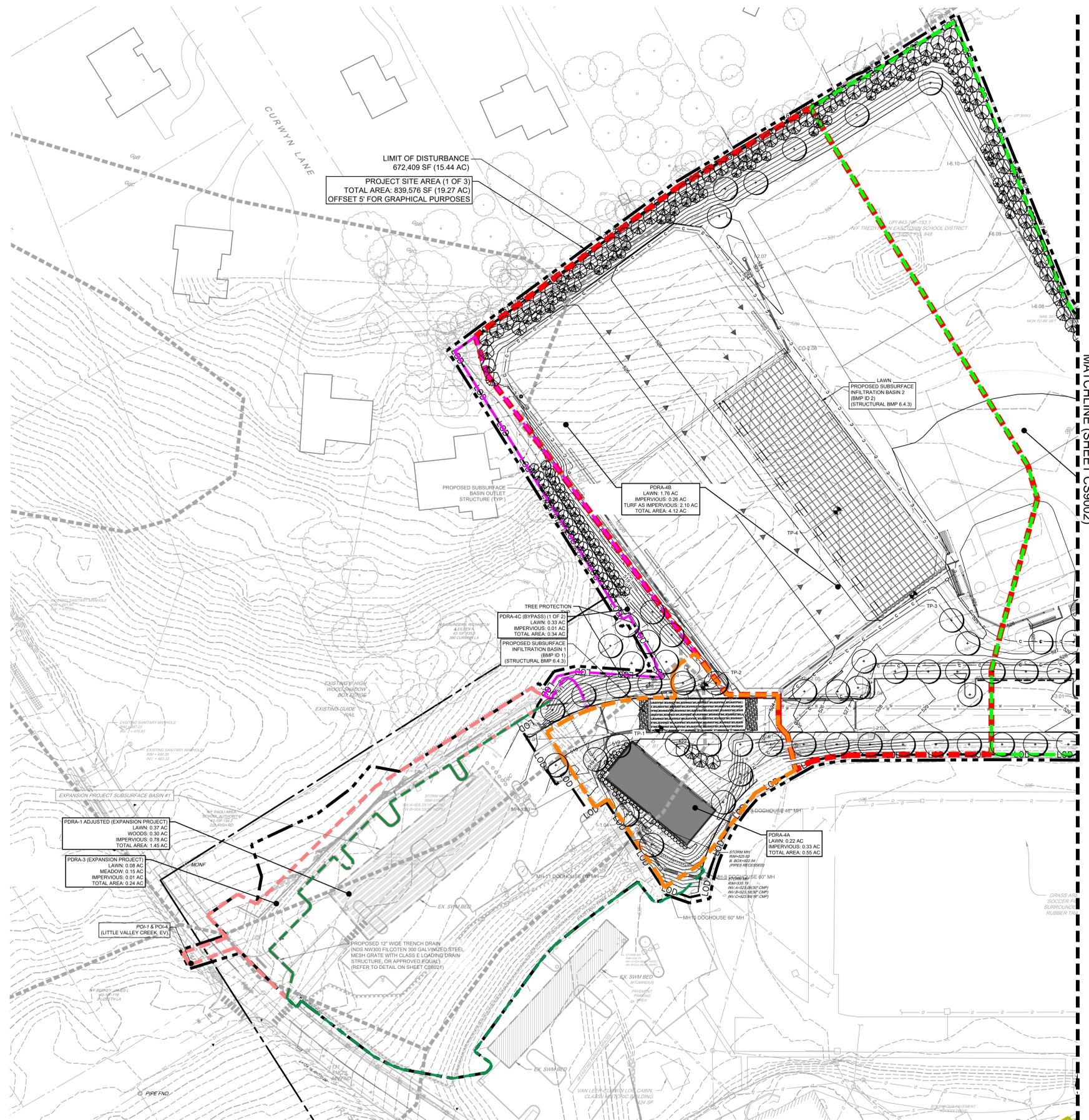
STRUCTURAL ENGINEER
N/A

MEPFP ENGINEER
Schiller and Hersh Associates, Inc.
636 Skippack Pike, Suite 200
Blue Bell, PA 19422
(215) 886-8947

SITE / CIVIL
Pennoni Associates, Inc
158 W Gay Street, Suite 300
West Chester, PA 19380
(610) 429-8907

MISC DISCIPLINE
N/A

NOT FOR CONSTRUCTION



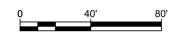
PCSM LEGEND

LOD	PROPOSED LIMIT OF DISTURBANCE
---	PROJECT SITE BOUNDARY
TP	PROPOSED TEST PIT
PDRA-4A	PDRA-4A
PDRA-4B	PDRA-4B
PDRA-4C	PDRA-4C
PDRA-4D	PDRA-4D
PDRA-4E	PDRA-4E
PDRA-4F	PDRA-4F
PDRA-4G	PDRA-4G
PDRA-4H	PDRA-4H
PDRA-4I	PDRA-4I
PDRA-4J	PDRA-4J
PDRA-4K	PDRA-4K
PDRA-4L	PDRA-4L
PDRA-4M	PDRA-4M
PDRA-4N	PDRA-4N
PDRA-4O	PDRA-4O
PDRA-4P	PDRA-4P
PDRA-4Q	PDRA-4Q
PDRA-4R	PDRA-4R
PDRA-4S	PDRA-4S
PDRA-4T	PDRA-4T
PDRA-4U	PDRA-4U
PDRA-4V	PDRA-4V
PDRA-4W	PDRA-4W
PDRA-4X	PDRA-4X
PDRA-4Y	PDRA-4Y
PDRA-4Z	PDRA-4Z
---	PROPOSED FLOW PATH

NOTE: PDRA STANDS FOR "POST-CONSTRUCTION DRAINAGE AREA"

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES, INC. ARE INSTRUMENTS OF SERVICE IN CONNECTION WITH THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OTHERS OR FOR THE EXTENSION OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN PERMISSION OR ADAPTATION BY PENNONI ASSOCIATES, INC. FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL RESPONSIBILITY TO PENNONI ASSOCIATES, INC. AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES, INC. FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

Δ	DATE	ISSUED FOR
	03/16/2023	LAND DEVELOPMENT SUBMISSION
1	05/18/2023	REVISED PER TWP COMMENTS
2	06/14/2023	REVISED PER CCDC COMMENTS
3	07/20/2023	REVISED PER TWP REVIEW
4	09/26/2023	REV. PER TWP & NPOES REVIEW
5	09/29/2023	REVISED PER SSM REVIEW
6	01/17/2024	ISSUED FOR FINAL SUBMISSION
7	03/16/2024	BD ISSUE



SHEET TITLE
PCSM PLAN

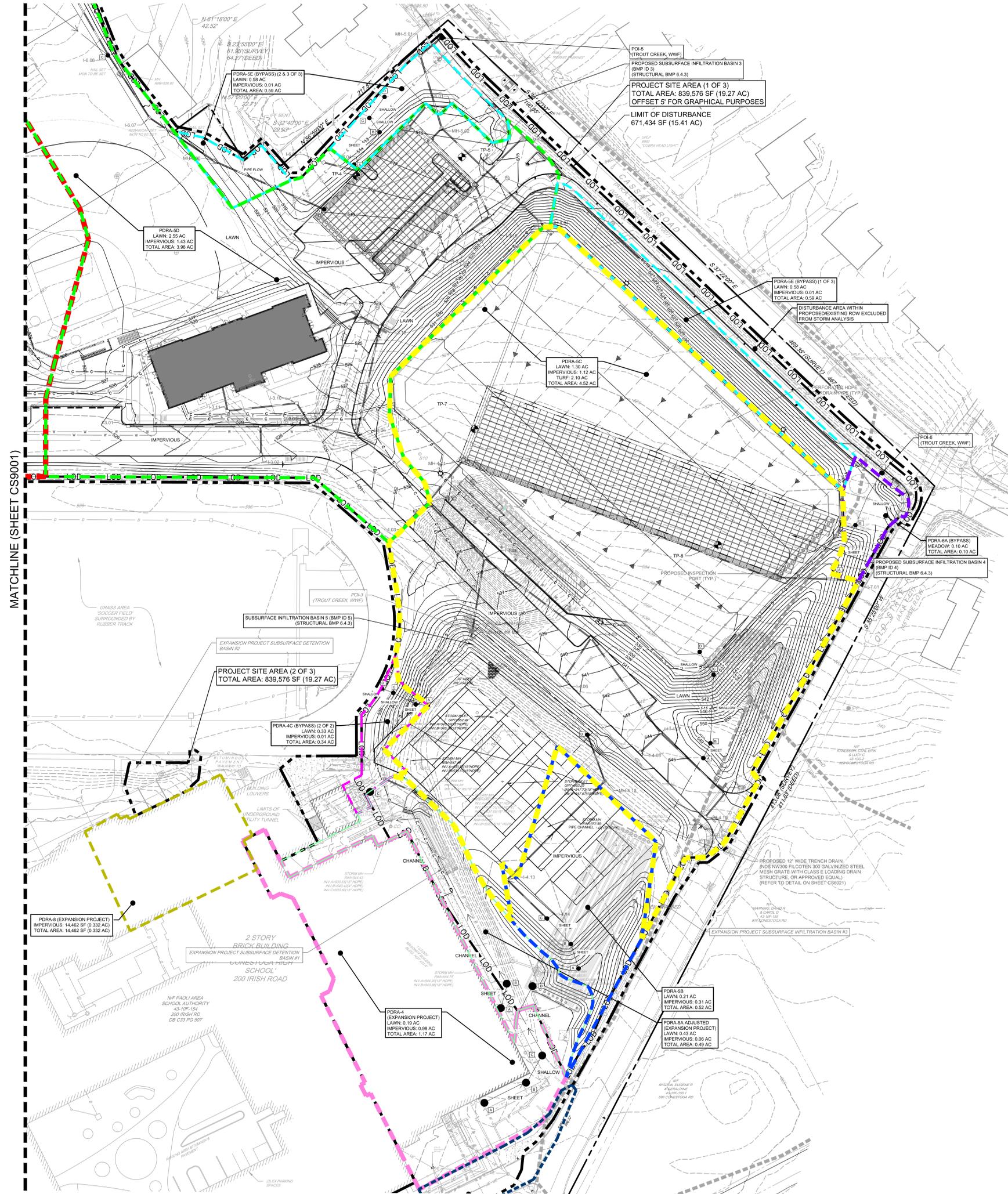
DRAWING NUMBER
CS9001



CALL BEFORE YOU DIG
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CALL 1-800-242-1776
PA. ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR BLAST PENNSYLVANIA ONE-CALL SYSTEM, INC. SERIAL NUMBER(S): 20223192994

PLOTTER: 3/16/2024 5:59 PM BY: [Name] PROJECT STATUS: [Name] PROJECT: [Name]

**NOT FOR
CONSTRUCTION**



MATCHLINE (SHEET CS9001)

PCSM LEGEND

	LOD	PROPOSED LIMIT OF DISTURBANCE
	PROJECT SITE BOUNDARY	PROJECT SITE BOUNDARY
	PROPOSED TEST PIT	PROPOSED TEST PIT
	PDRA-4A	PDRA-4A
	PDRA-4B	PDRA-4B
	PDRA-4C	PDRA-4C
	PDRA-5B	PDRA-5B
	PDRA-5D	PDRA-5D
	PDRA-5C	PDRA-5C
	PDRA-5E	PDRA-5E
	PDRA-6A	PDRA-6A
	PDRA-1 (EXPANSION PROJECT)	PDRA-1 (EXPANSION PROJECT)
	PDRA-3 (EXPANSION PROJECT)	PDRA-3 (EXPANSION PROJECT)
	PDRA-4 (EXPANSION PROJECT)	PDRA-4 (EXPANSION PROJECT)
	PDRA-5A (EXPANSION PROJECT)	PDRA-5A (EXPANSION PROJECT)
	PDRA-8 (EXPANSION PROJECT)	PDRA-8 (EXPANSION PROJECT)
	PDRA-9 (EXPANSION PROJECT)	PDRA-9 (EXPANSION PROJECT)
	PROPOSED FLOW PATH	PROPOSED FLOW PATH

NOTE: PDRA STANDS FOR "POST-CONSTRUCTION DRAINAGE AREA"

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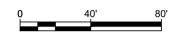
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SHEET TITLE

PCSM PLAN

DRAWING NUMBER

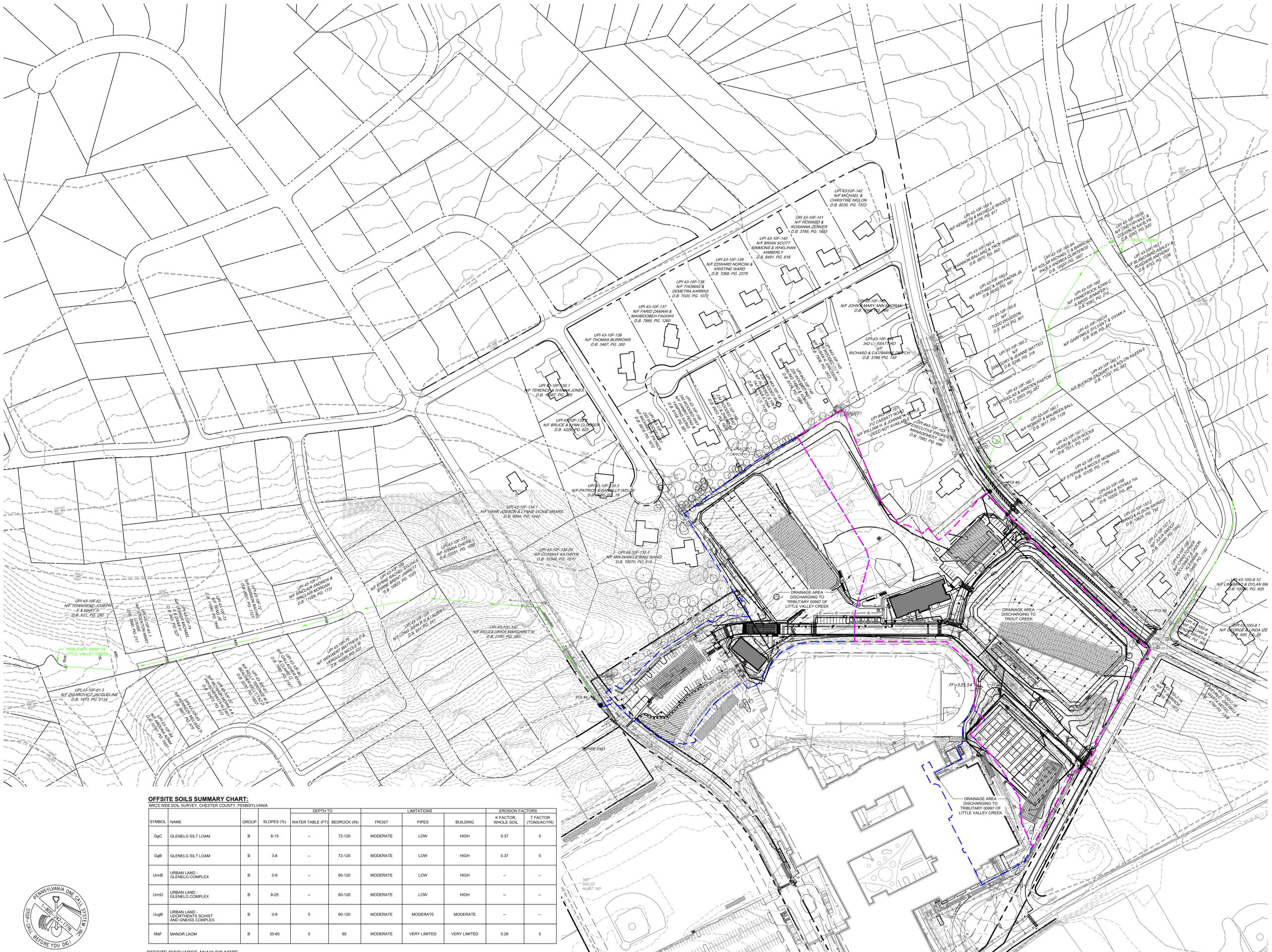
CS9002



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PA ACT 287 OF 1974 REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL OR
BLAST PENNSYLVANIA ONE-CALL SYSTEM, INC.
SERIAL NUMBER(S): 30223192994

P:\2023\21019\21019_019_Plan_Site\21019_Plan_Site.dwg, PLOT DATE: 03/18/2024, PLOT TIME: 10:00:00 AM, PLOT BY: HSA, PROJECT STATUS: ...

NOT FOR CONSTRUCTION



OFFSITE SOILS SUMMARY CHART:

NRCS WEB SOIL SURVEY, CHESTER COUNTY, PENNSYLVANIA

SYMBOL	NAME	GROUP	SLOPES (%)	DEPTH TO		LIMITATIONS			EROSION FACTORS	
				WATER TABLE (FT)	BEDROCK (IN)	FROST	PIPES	BUILDING	K FACTOR, WHOLE SOIL	T FACTOR (TONS/AC/YR)
GgC	GLENELG SILT LOAM	B	8-15	--	72-120	MODERATE	LOW	HIGH	0.37	5
GgB	GLENELG SILT LOAM	B	3-8	--	72-120	MODERATE	LOW	HIGH	0.37	5
UmB	URBAN LAND - GLENELG COMPLEX	B	0-8	--	60-120	MODERATE	LOW	HIGH	--	--
UmD	URBAN LAND - GLENELG COMPLEX	B	8-25	--	60-120	MODERATE	LOW	HIGH	--	--
UgB	URBAN LAND - UDORNTHEIS SCHIET AND GNEISS COMPLEX	B	0-8	5	60-120	MODERATE	MODERATE	MODERATE	--	--
MaF	MANOR LAOM	B	35-60	5	85	MODERATE	VERY LIMITED	VERY LIMITED	0.28	5

OFFSITE DISCHARGE ANALYSIS NOTE:

AS REQUIRED BY THE TOWNSHIP AND THE PA DEP, A STORMWATER DESIGN HAS BEEN DEVELOPED TO MANAGE THE INCREASE IN STORMWATER RUNOFF ASSOCIATED WITH THE SITE IMPROVEMENTS. THE PROPOSED STORMWATER DESIGN ASSOCIATED WITH THIS PROJECT INCLUDES THE INSTALLATION OF 4 NEW SUBSURFACE INFILTRATION BASINS AND THE REVISION OF ONE EXISTING RAIN GARDEN. AS SHOWN IN THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) REPORT, THESE SYSTEMS HAVE BEEN DESIGNED TO DECREASE THE PEAK RUNOFF RATES AT EACH POINT OF INTEREST (POI 4, 5 & 6) FOR STORM EVENTS UP TO AND INCLUDING THE 100-YEAR 24-HOUR STORM EVENT. ADDITIONALLY, THESE SYSTEMS HAVE BEEN DESIGNED TO STORE THE NET INCREASE IN RUNOFF VOLUME ASSOCIATED WITH THE 2-YEAR 24-HOUR STORM EVENT (REFER TO THE PCSM REPORT). THEREFORE, SINCE THE PEAK RUNOFF RATES ARE REDUCED AND THE 2-YEAR VOLUME IS REDUCED THERE WILL BE NO ACCELERATION IN EROSION TO THE DOWNSTREAM FLOW PATH.



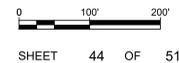
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7	03/16/2024	BD ISSUE

SHEET TITLE
E&S AND PCSM OFFSITE DISCHARGE MAP

DRAWING NUMBER
CS9201



CONSTRUCTION SEQUENCE

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE WILL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO ONLY THOSE AREAS DESCRIBED IN EACH STAGE.

CONSTRUCTION WILL BEGIN UPON RECEIPT OF ALL REQUIRED PERMITS FROM THE TOWNSHIP, PENNDOT, PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND THE CONSERVATION DISTRICT.

AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LAND OWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND "SENIOR" CONTRACTORS TO THE PROJECT. THE OPERATOR SHALL BE REPRESENTATIVE FROM THE CHESTER COUNTY CONSERVATION DISTRICT TO SCHEDULE A PRE-CONSTRUCTION MEETING.

AT LEAST 3 WORKING DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM, INC. AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS.

BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EROSION CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT.

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 2601.1 et seq. AND 287.1 et seq.

THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED SOIL/ROCK SLOPE, AND BORROW AREAS ON OR OFFSITE.

UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 30 DAYS, OR ANY OTHER DISTURBANCE ACTIVITY THAT WILL EXCEED 30 DAYS, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES, HOWEVER STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.)

AS SOON AS STABLES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

- PRIOR TO PROCEEDING WITH CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH ALL NOTES ON THE APPROVED EROSION & SEDIMENT POLLUTION CONTROL PLANS.
- PRIOR TO PROCEEDING WITH CONSTRUCTION, CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES, MAINTAIN AND PROTECT ALL EXISTING UTILITIES TO REMAIN AT ALL TIMES.
- INSTALL ROCK CONSTRUCTION ENTRANCES AT THE LOCATION SHOWN ON THE APPROVED PLAN. ALL CONSTRUCTION VEHICLES SHALL ENTER AND/OR EXIT THE SITE THROUGH THIS ENTRANCE DURING CONSTRUCTION.
- DELINEATE LIMIT OF DISTURBANCE AS SHOWN ON THE APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLANS AND PROTECT THE CONSTRUCTION SITE FROM UNAUTHORIZED PEDESTRIAN AND VEHICULAR ACCESS BY INSTALLING ORANGE CONSTRUCTION FENCE WHERE APPLICABLE.
- INSTALL COMPOST FILTER SOCKS AT LOCATIONS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALL SUPER SILT FENCE AROUND THE PERIMETER OF THIS PROJECT LIMIT OF DISTURBANCE AS SHOWN ON PLAN. THE COMPOST FILTER SOCKS AND SUPER SILT FENCE SHALL BE INSTALLED BY AN APPROVED CONTRACTOR FAMILIAR WITH THE INSTALLATION PROCEDURES. CONTRACTORS SHALL INSPECT THE COMPOST FILTER SOCKS ON A WEEKLY BASIS AND AFTER EVERY RUNOFF EVENT. NECESSARY REPAIRS SHALL BE PERFORMED IMMEDIATELY AND ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING HALF THE HEIGHT OF THE COMPOST FILTER SOCKS.
- INSTALL TREE PROTECTION AS INDICATED ON THE PLANS.
- CONCURRENTLY, CRITICAL STAGE: CONSTRUCTION OF SEDIMENT TRAP 1**
 - CLEAR AND GRUB AREA OF PROPOSED SEDIMENT TRAP. STOCKPILE TOPSOIL IN AREA INDICATED ON THE PLAN.
 - GRADE SEDIMENT TRAP
 - INSTALL SKIMMER WITH STONE LEAVING BERM AND TEMPORARY REINFORCING EXTENSION IN SEDIMENT TRAP
 - INSTALL PROPOSED BAFLES AND CLEAN OUT STAKES ACCORDING TO DETAILS ON PLANS.
 - E. INSTALL TEMPORARY OUTLET STRUCTURE
- INSTALL MH-501 TO EXISTING STORM SEWER ON CASSATT ROAD. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- INSTALL TEMPORARY PIPE TO CONVEY WATER FROM SEDIMENT TRAP 1 TO MH-501.
- INSTALL CHANNEL 1 TO ENSURE POSITIVE FLOW TO SEDIMENT TRAP 1.
- INSTALL THE TRENCH DRAIN LOCATED WITHIN THE EXISTING LOWEST PARKING LOT ADJACENT TO IRISH ROAD AND WEST OF THE PROPOSED GROUNDS AND FIELD BUILDING.

WEST SIDE STAGING

- CLEAR AND GRUB TURF FIELD 2, PRACTICE SOCCER AND SOFTBALL FIELD AREA.
- CONTRACTOR TO MOVE SOIL FROM EAST SIDE TO WEST SIDE.
- CONSTRUCT SUBSURFACE INFILTRATION BASIN 2 (BMP ID 2) ACCORDING TO THE SEQUENCE ON THIS SHEET.**
- CONTRACTOR TO STONE TURF FIELD AREA AND COVER IN MATTING.
- CONTRACTOR TO BUILD SOFT BALL FIELD.
- CONCURRENTLY, CONSTRUCT RETAINING WALL #1 AND #2
- CONCURRENTLY, BUILD DOWNSTREAM PIPE FOR SUBSURFACE INFILTRATION BASIN 1 AND SUBSURFACE INFILTRATION BASIN 2. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- CLEAR AND GRUB AREA FOR PROPOSED ROAD ON THE EAST SIDE. STRIP AND STORE TOPSOIL IN AREAS NOTED ON THE APPROVED PLANS.
- CONSTRUCT SUBSURFACE INFILTRATION BASIN 1 (BMP ID 1) ACCORDING TO THE SEQUENCE ON THIS SHEET.**
- CONCURRENTLY, CONSTRUCTION PROPOSED GROUNDS AND FIELDS BUILDING, AND PROPOSED ROAD.
- CONCURRENTLY, BEGIN INSTALLATION OF SITE UTILITIES ON THE WEST SIDE OF THE PROPERTY. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BUILD RETAINING WALLS #4 AND #5
- ONCE BUILDING AND PARKING AREA IS INSTALLED, BEGIN CONSTRUCTION OF STORMWATER PIPE, AND PROPOSED STORM SEWER ROOF DRAINS. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BEGIN INSTALLATION OF CONCRETE CURB, STONE SUBBASE AND BINDER COURSE.
- INSTALL SIDEWALKS, FINAL GRADING, AND LANDSCAPING.
- CRITICAL STAGE: ONCE AREA HAS ACHIEVED A MINIMUM OF 70% UNIFORM PERENNIAL VEGETATIVE PERMANENT NON-VEGETATIVE COVER SUFFICIENT TO RESIST ACCELERATED SURFACE TEMPORARY EROSION AND SEDIMENTATION BMPs, INCLUDING ALL COMPOST TRAPS, COMPOST FILTER SOCKS, AND INLET PROTECTION, ANY AREA DISTURBED DURING THE REMOVAL OF A TEMPORARY BMP SHALL BE IMMEDIATELY STABILIZED WITH SEEDING AND STRAW MULCH.**

TENNIS COURT -EAST SIDE STAGING

- CLEAR AND GRUB TENNIS COURT AREA.
- ROUGH GRADE TENNIS COURT AREA.
- CONCURRENTLY, BEGIN INSTALLATION OF SITE UTILITIES ON THE EAST SIDE OF THE PROPERTY. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BUILD RETAINING WALL #8
- CRITICAL STAGE: CONCURRENTLY, CONVERT EXISTING RAIN GARDEN TO SUBSURFACE INFILTRATION BASIN #6 (BMP ID 6). REFER TO EXISTING RAIN GARDEN MODIFICATION CONSTRUCTION SEQUENCE ON THIS SHEET.**
- ROUGH GRADE PROPOSED DRIVE AREA.
- ONCE ROAD AND PARKING AREA IS INSTALLED, BEGIN CONSTRUCTION OF STORMWATER PIPE, AND PROPOSED STORM SEWER ROOF DRAINS. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BEGIN INSTALLATION OF CONCRETE CURB, STONE SUBBASE AND BINDER COURSE.
- INSTALL SIDEWALKS, FINAL GRADING, AND LANDSCAPING.
- CRITICAL STAGE: ONCE AREA HAS ACHIEVED A MINIMUM OF 70% UNIFORM PERENNIAL VEGETATIVE PERMANENT NON-VEGETATIVE COVER SUFFICIENT TO RESIST ACCELERATED SURFACE TEMPORARY EROSION AND SEDIMENTATION BMPs, INCLUDING ALL COMPOST TRAPS, COMPOST FILTER SOCKS, AND INLET PROTECTION, ANY AREA DISTURBED DURING THE REMOVAL OF A TEMPORARY BMP SHALL BE IMMEDIATELY STABILIZED WITH SEEDING AND STRAW MULCH.**

TURF-EAST SIDE STAGING

- CRITICAL STAGE: REMOVE TEMPORARY CHANNEL 1**
- CONCURRENTLY CLEAR AND GRUB TURF FIELD 1.
- CONTRACTOR TO MOVE SOIL FROM WEST SIDE TO EAST SIDE.
- CONSTRUCT SUBSURFACE INFILTRATION BASIN 4 (BMP ID 4) ACCORDING TO THE SEQUENCE ON THIS SHEET.**
- CONTRACTOR TO STONE TURF FIELD AREA AND COVER IN MATTING.
- CONTRACTOR TO BUILD ROAD.
- CONCURRENTLY, CONSTRUCT RETAINING WALLS #6, #7 AND #9.
- CONCURRENTLY, BUILD DOWNSTREAM PIPE FOR SUBSURFACE INFILTRATION BASIN 3 AND SUBSURFACE INFILTRATION BASIN 4. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- CONSTRUCT SUBSURFACE INFILTRATION BASIN 3 (BMP ID 3) ACCORDING TO THE SEQUENCE ON THIS SHEET.**

CRITICAL STAGE: CONCURRENTLY REMOVE SEDIMENT TRAP 1

- CONCURRENTLY, CONSTRUCTION PROPOSED FIELDS HOUSE BUILDING, AND PROPOSED ROAD.
- CONCURRENTLY, BEGIN INSTALLATION OF SITE UTILITIES ON THE WEST SIDE OF THE PROPERTY. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BUILD RETAINING WALL #3
- ONCE BUILDING AND PARKING AREA IS INSTALLED, BEGIN CONSTRUCTION OF STORMWATER PIPE, AND PROPOSED STORM SEWER ROOF DRAINS. INSTALLATION SHOULD OCCUR FROM DOWNSTREAM TO UPSTREAM. THE CONTRACTOR SHALL ONLY EXCAVATE TRENCH FOR THE AMOUNT THAT CAN BE INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- CONCURRENTLY, BEGIN INSTALLATION OF CONCRETE CURB, STONE SUBBASE AND BINDER COURSE.
- INSTALL SIDEWALKS, FINAL GRADING, AND LANDSCAPING.
- CRITICAL STAGE: ONCE AREA HAS ACHIEVED A MINIMUM OF 70% UNIFORM PERENNIAL VEGETATIVE PERMANENT NON-VEGETATIVE COVER SUFFICIENT TO RESIST ACCELERATED SURFACE TEMPORARY EROSION AND SEDIMENTATION BMPs, INCLUDING ALL COMPOST TRAPS, COMPOST FILTER SOCKS, AND INLET PROTECTION, ANY AREA DISTURBED DURING THE REMOVAL OF A TEMPORARY BMP SHALL BE IMMEDIATELY STABILIZED WITH SEEDING AND STRAW MULCH.**
- ONCE THE CONSTRUCTION ACTIVITIES NO LONGER REQUIRE HEAVY EQUIPMENT FOR ITS CONSTRUCTION, THE CONTRACTOR SHALL SWEEP ALL PAVEMENT AREAS AND INSTALL THE FINAL WEARING COURSE. PERFORM PAVEMENT LINE STRIPING AS INDICATED ON THE APPROVED PLANS. REMOVE ALL REMAINING ACCESS BARRIERS.
- PRIOR TO NOT SUBMISSION, ALL PCSM FACILITIES SHALL BE INSPECTED FOR FUNCTIONALITY AS THEY WERE INSTALLED DURING ACTIVE CONSTRUCTION.
- UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMPs IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO-PERMITTEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART 8, SECTION 1.C, SIGNATORY REQUIREMENTS, OF THIS PERMIT. REFER TO "TERMINATION OF COVERAGE" AND "COMPLETION CERTIFICATION AND FINAL PLANS" NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.

CONSTRUCTION SEQUENCE - EXISTING RAIN GARDEN MODIFICATION

- CRITICAL STAGE: RAIN GARDEN MODIFICATION CONSTRUCTION SHALL PROCEED ACCORDING TO THE APPROVED PLANS AND DETAILS. AN AS-BUILT PLAN OF THE STORMWATER FACILITY IS REQUIRED TO CLOSE OUT THE PERMIT AT THE END OF CONSTRUCTION. A LICENSED SURVEYOR WILL NEED TO SIGNSEAL THIS PLAN. A SURVEY CREW SHOULD BE RETAINED TO FIELD SURVEY CRITICAL ASPECTS OF THE CONSTRUCTION (I.E. BASIN BOTTOM, PIPE INVERTS, ETC). A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER SHALL BE ON-SITE TO MONITOR THE FOLLOWING STAGES OF THE CONSTRUCTION OF THE RAIN GARDEN.**
- REMOVE EXISTING PLANT MATERIAL AND RAIN GARDEN SOIL. MIX MIX MAYBE USED ONSITE FOR TOPSOIL AS NEEDED.
- CONTRACTOR TO EXERCISE CAUTION TO NOT DISTURB EXISTING STONE INFILTRATION BED AND FILTER FABRIC. IF EXISTING STONE ENVELOPE AND FABRIC ARE COMPROMISED OR CONTAMINATED WITH SOIL, DURING CONSTRUCTION ACTIVITIES, THEN CONTRACTOR SHALL REMOVE AND REPLACE WITH CLEAN STONE AND NON-WOVEN GEOTEXTILE.
- REPLACE EXISTING DOME DRAIN WITH OUTLET STRUCTURE AS SHOWN ON DETAIL SHEET CSD565. EXTEND EXISTING DOME DRAIN TO FINISHED GRADE WITH CLEANOUT AS SPECIFIED ON DETAIL SHEET CSD565.
- THE IN PROPOSED STORM SEWER NETWORK WITH EXISTING 6" PERFORATED PIPE AS SHOWN ON DETAIL SHEET CSD565.
- PLACE SOIL ON TOP OF EXISTING STONE ENVELOPE TO FINISHED GRADE AS SHOWN ON GRADING PLAN.

CONSTRUCTION SEQUENCE - SUBSURFACE INFILTRATION BASIN (BMP ID 1, BMP ID 2, BMP ID 3, BMP ID 4)

- CRITICAL STAGE: SUBSURFACE INFILTRATION BASIN CONSTRUCTION SHALL PROCEED ACCORDING TO THE APPROVED PLANS AND DETAILS. THE SUBSURFACE INFILTRATION BASIN(S) SHALL BE STAKED OUT DURING CONSTRUCTION BY A REGISTERED PROFESSIONAL LAND SURVEYOR (PLS) CONTRACTED BY THE CONTRACTOR. THE PLS SHALL PERFORM ADDITIONAL SITE VISITS, AS NEEDED, DURING CONSTRUCTION TO VERIFY SUBGRADE AND PIPE INVERTS WITHIN THE INFILTRATION BASIN(S) ARE SET AT THE ELEVATIONS AS SHOWN ON THE PLANS. INVERTS OF ALL BMP OUTLET STRUCTURES INCLUDING ORIFICES AND WEIR WALLS SHALL BE COLLECTED AS WELL. SURVEY SPOTS SHOULD BE EVENLY SPACED THROUGHOUT THE BASIN FOOTPRINT IN A GRID TO PROVIDE SUFFICIENT EVIDENCE THAT THE BASIN SUBGRADE MATCHES THE DESIGN ELEVATION. AT THE END OF CONSTRUCTION, AN AS-BUILT PLAN, SIGNED/SEALED BY A PLS WILL BE REQUIRED AS PART OF THE CONTRACT CLOSEOUT. THIS PLAN WILL BE UTILIZED IN PREPARATION OF THE REQUIRED AS-BUILT PLANS FOR THE CLOSE OUT OF THE PROJECT FOR THE MUNICIPALITY AND THE NEEDS PERMIT. A LICENSED PROFESSIONAL KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER SHALL BE ON-SITE TO MONITOR THE FOLLOWING STAGES OF THE CONSTRUCTION OF THE SURFACE INFILTRATION BASIN.**
 - INSPECT BOTTOM OF BMP. BOTTOM SHALL BE UNCOMPACTED SUBGRADE.
 - INSPECT THE STONE PRIOR TO PLACEMENT TO ENSURE IT MEETS THE DESIGN REQUIREMENTS.
 - INSPECT GEOTEXTILE PRIOR TO PLACEMENT OF STONE.
 - INSPECT THE OUTLET STRUCTURE TO ENSURE CONSTRUCTION IS PER THE APPROVED PLANS AND DETAILS.
 - INSPECT TOP OF STONE PRIOR TO WRAPPING WITH GEOTEXTILE.
- EXCAVATE SOIL TO THE DEPTH SPECIFIED, PLACING SOIL IN STOCKPILE. SPECIAL CARE SHOULD BE TAKEN TO ENSURE THAT THE AREA WITHIN THE SUBSURFACE INFILTRATION TRENCH ARE NOT COMPACTED.
- SCAFFRY BOTTOM AND ALL SIDES OF EXCAVATION.
- PLACE GEOTEXTILE ON THE BOTTOM AND SIDES OF STONE TRENCH AS INDICATED ON THE CONSTRUCTION DETAIL, ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE TRENCH AREA.
- BEGIN PLACEMENT OF STONE IN A MAXIMUM LOOSE LIFT THICKNESS OF 12-INCHES (12") ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE STONE.
- CONCURRENTLY WITH PLACEMENT OF STONE, INSTALL PERFORATED PIPING AS SHOWN ON APPROVED PLANS AND DETAILS.
- ONCE STONE IS INSTALLED, WRAP TOP OF STONE TRENCH WITH GEOTEXTILE, ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE TRENCH AREA.

PCSM LONGTERM OPERATION & MAINTENANCE NOTES

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE DEPARTMENT OR CONSERVATION DISTRICT WILL CONDUCT A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION WITHIN 30 DAYS.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEE(S), AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER § 102.7(b)(5) (RELATING TO PERMIT TERMINATION).

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

INSPECTIONS SHALL BE PERFORMED AS NOTED FOR EACH BMP AND QUARTERLY. A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES SHALL BE PROVIDED QUARTERLY. PROPERTY OWNER IS RESPONSIBLE TO SUBMIT ANNUAL INSPECTION REPORTS TO TREDFYFRM TOWNSHIP FOR ALL STORMWATER FEATURES ON THE PROPERTY. THE FIRST ANNUAL INSPECTION REPORT IS DUE AT COMPLETION OF CONSTRUCTION AND SUBSEQUENTLY ON OR BEFORE 04/01 OF EACH AND EVERY CALENDAR YEAR AFTERWARDS.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

LONGTERM OPERATION AND MAINTENANCE RESPONSIBLE PARTY:

PAOLI AREA SCHOOL AUTHORITY
840 WEST VALLEY ROAD, SUITE 1700
WAYNE, PA, 19087

STORMWATER BMP FAILURE

A STORMWATER BMP FAILURE FOR THIS SITE IS DEFINED AS:

- THE SUBSURFACE DETENTION BASIN NOT DEWATERING WITHIN 72 HOURS. IN THE EVENT THAT THIS OCCURS, THE DESIGN ENGINEER SHOULD BE CONTACTED TO INVESTIGATE THE CAUSE OF THE FAILURE. IF THE BMP HAS NOT DEWATERED WITHIN 72 HOURS AND A PRECIPITATION EVENT IS FORECASTED THE FACILITY SHOULD BE DEWATERED PRIOR TO THE PRECIPITATION EVENT.
- THE BIO-RETENTION BASIN VEGETATION DIES OR FAILS TO ESTABLISH. IN THE EVENT THAT THIS OCCURS THE LANDSCAPING SHALL BE REPLACED IN KIND.

STRUCTURAL BMP - STORM SEWERS

A STORM SEWER SYSTEM HAS BEEN DESIGNED TO CONVEY RUNOFF FROM THE PAVED AREA TO THE SUBSURFACE BASIN. STORM SEWER PIPES ARE ALSO PROPOSED TO CONVEY WATER FROM THE SUBSURFACE DETENTION BASIN TO AN EXISTING STORM SEWER SYSTEM, THAT DISCHARGES OFF-SITE.

OPERATION & MAINTENANCE:

- THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE STORM SEWER SYSTEM AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
- THE STORM SEWER SYSTEM SHALL BE INSPECTED AT LEAST FOUR (4) TIMES A YEAR.
- REMOVE SEDIMENT FROM ALL STRUCTURES AT LEAST ONE YEAR.
- DISPOSE OF SEDIMENT, DEBRIS/TRASH, AND ANY OTHER WASTE MATERIAL REMOVED FROM THE STORM SEWER SYSTEM AT A SUITABLE DISPOSAL/RECYCLING SITE AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL WASTE REGULATIONS.

INSPECTION SCHEDULE:

STORM SEWER SYSTEM SHOULD BE INSPECTED AT LEAST FOUR (4) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1-INCH.

STRUCTURAL BMP 6.4.3 - SUBSURFACE INFILTRATION BASIN (BMP ID 1, BMP ID 2, BMP ID 3, BMP ID 4, BMP ID 5)

A SUBSURFACE INFILTRATION BASIN HAS BEEN SIZED TO TEMPORARILY STORE AND INFILTRATE RUNOFF ASSOCIATED WITH THE 2-YEAR DESIGN STORM FOR A PORTION OF THE PROPOSED SITE. STORAGE VOLUME IS PROVIDED WITHIN THE PERFORATED PIPING AS WELL AS THE STONE VOIDS FOR THE INFILTRATION BASIN.

OPERATION & MAINTENANCE:

- THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE SUBSURFACE INFILTRATION BASIN AND FOR PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
- MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (1" INCH RAINFALL DEPTH)
- ALL INLETS SHOULD BE INSPECTED AND CLEANED AT LEAST ONE (1) TIMES PER YEAR.
- THE INFILTRATION BASIN SHOULD BE INSPECTED ANNUALLY FOR SEDIMENT BUILDUP. EXCESSIVE SEDIMENT BUILD-UP SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY.
- THE BASIN OUTLET STRUCTURE SHOULD BE INSPECTED AT LEAST ONE (1) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1-INCH. THE INSPECTION SHOULD ACCESS CLOSURES AT INLETS AND OUTLETS, AND SEDIMENT/DEBRIS ACCUMULATION.
- MAINTENANCE ACTIVITIES AS NEEDED.
- EVALUATE THE DRAIN-DOWN TIME OF THE SUBSURFACE INFILTRATION BASIN TO ENSURE THAT THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF DRAIN-DOWN TIMES ARE EXCEEDING THE MAXIMUM TIME, DRAIN THE SUBSURFACE INFILTRATION BASIN VIA PUMPING AND CONTACT THE DESIGN ENGINEER TO DETERMINE THE PROPER REMEDIATION FOR THE SYSTEM.

UNFORSEEN EROSION CONDITIONS

IF SHOULD UNFORSEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR ACCUMULATION OF SEDIMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE, AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

CLEAN FILL & ENVIRONMENTAL DUE DILIGENCE

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FF-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING. IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND TESTING OF FILL MATERIALS SHALL REST WITH THE CONTRACTOR.
- CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECORDED AS SUCH. CLEAN FILL DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
- CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES PP-1A AND PP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
- ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM PP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM PP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE CLEAN FILL. A COPY OF FORM PP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
- ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRODE DATA BASE ASSESSMENTS, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
- FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT [WWW.PADCODE.COM](http://www.padcode.com).

RECYCLE & DISPOSAL OF MATERIALS

- POST CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO ANYTHING FROM GARAGE SUCH AS PLASTIC DRINK CUP, LUNCH LEFTOVERS, ANIMAL FECS, LEAVES AND ROAD DEBRIS, TYPICAL OFFICE TRASH, LITTER AND SEDIMENT.
- EXCESSIVE BUILD UP OF SEDIMENT SHALL BE REMOVED. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BERM IS EXCESSIVE. EXCESSIVE SEDIMENT SHOULD BE IMMEDIATELY STABILIZED AND COVERED. ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND VEGETATED.
- DISPOSE OF SEDIMENT, DEBRIS/TRASH AND OTHER WASTE MATERIAL REMOVED FROM THE STORM SEWER SYSTEM AT A SUITABLE DISPOSAL/RECYCLING SITE AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL WASTE REGULATIONS.

PCSM SEDIMENT REMOVAL

- SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- THE CONTRACTOR SHALL ENSURE THAT SEDIMENT IS NOT BEING TRACKED ONTO PUBLIC STREETS. SEDIMENT THAT IS TRACKED ONTO PUBLIC STREETS SHALL BE COLLECTED AND RETURNED TO THE SITE OR OTHERWISE PROPERLY REMOVED BY A STREET SWEEPER.

TEMPORARY SEEDING NOTE

TEMPORARY STABILIZATION OF EXPOSED EARTH SURFACES WHERE CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING TOPSOIL STOCKPILES SHALL BE STABILIZED IMMEDIATELY BY THE FOLLOWING METHODS AND MATERIALS.

- APPLY ONE (1) TON OF AGRICULTURAL GRADE LIMESTONE PER ACRE PLUS FERTILIZER (10-10-10) AT THE RATE OF 1000 LBS PER ACRE AND WORK INTO SOIL WHEREVER POSSIBLE.

- APPLY SPECIFIED SEED AND SEEDING RATE ACCORDING TO THE TEMPORARY SEEDINGS FOR CRITICAL AREAS TABLE THIS SHEET.

- AFTER SEEDING MULCH WITH HAY OR STRAW AT A RATE OF THREE (3) TONS PER ACRE.

PERMANENT SEEDING NOTE

- SPREAD AND FINE GRADE 12" TOPSOIL ON ALL AREAS TO BE PERMANENTLY SEEDED.
 - BEFORE SEEDING, APPLY APPROPRIATE SOIL MODIFICATIONS.
 - INSTALL EROSION-SEED BLANKET WHERE NEEDED.
 - WATER AND MAINTAIN ALL LAWN AREAS.
 - RESEED BARE OR THIN AREAS AS DIRECTED BY THE ENGINEER.
 - IF GRASS COVER IS NOT OTHERWISE SPECIFIED ON THE APPROVED LANDSCAPING PLANS, USE SEED MIXTURE 2, AS SHOWN IN TABLE 11.4.
 - APPLY STRAW MULCH AT 3.0 TON/ACRE IMMEDIATELY AFTER SEEDING.
 - APPLY STRAW AND MULCH DURING NON-GROWING SEASONS (NOVEMBER - MARCH).
- ### PERMANENT SEEDING SITE PREPARATION
- PERMANENT STABILIZATION OF THE ALL EXPOSED EARTH SURFACES AFTER THE COMPLETION OF THE SITE GRADING AND IMPROVEMENTS SHALL BE ACCOMPLISHED BY THE FOLLOWING METHODS AND MATERIALS.
- AFTER INSTALLATION OF THE NEEDED SURFACE WATER CONTROL MEASURES, PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
 - OBTAIN SOILS TESTING FROM AN INDEPENDENT LABORATORY TO DETERMINE NECESSARY SOILS MODIFICATIONS.
 - IN THE ABSENCE OF SOILS TESTING, APPLY AGRICULTURAL GRADE LIMESTONE AT THE MINIMUM RATE OF SIX TONS LIMESTONE PER ACRE (277 LBS. PER 1,000 SQUARE FEET).
 - IN THE ABSENCE OF SOILS TESTING, WORK IN FERTILIZER AT THE RATE OF 1000 LBS. OF 10-20-20 OR EQUIVALENT PER ACRE.
 - SMOOTH AND FIRM SEEDED AREAS WITH CULTIPACKER, OR OTHER SIMILAR EQUIPMENT, PRIOR TO SEEDING.
 - APPLY SPECIFIC SEED AND SEEDING RATES ACCORDING TO THE PERMANENT SEEDING RATES FOR CRITICAL AREAS TABLE THIS SHEET.
 - COVER GRASS SEEDS WITH 1/4 INCH OF TOPSOIL WITH SUITABLE EQUIPMENT.
 - APPLY STRAW MULCH AT A RATE OF 3.0 TON PER ACRE IMMEDIATELY AFTER SEEDING.
- USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER IN ORDER TO PREVENT GULLYING. USE SOD AT THE DIRECTION OF THE TOWNSHIP ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
- HYDROSEEDING SHALL BE AN ACCEPTABLE ALTERNATIVE TO THE ABOVE SEEDING WHEN PERFORMED IN ACCORDANCE WITH PENNDOT PUB. 408 SECTIONS 804 AND 905 AND APPROVED BY THE SITE ENGINEER.

RAIN GARDEN SEED MIX (ERNMX-180) OR APPROVED EQUAL

38%	RIVER OATS, PAVA ECOTYPE BLEND (CHASMANTHIUM LATIFOLIUM (UNOLA LATIFOLIA), PAVA ECOTYPE BLEND)
20%	VIRGINIA WILDRYE, PA ECOTYPE (ELYMUS VIRGINICUS, PA ECOTYPE)
10%	FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA, PA ECOTYPE)
4%	PURPLE CORNFLOWER (ECHECHIA PURPUREA)
3%	TALL WHITE BEARDTONGUE, PA ECOTYPE (PENSTEMON DIGITALIS, PA ECOTYPE)
3%	BLACKEYED SUSAN, COASTAL PLAIN NC ECOTYPE (RUDIBECKIA HIRTA, COASTAL PLAIN NC ECOTYPE)
3%	LANCELEAF CORNPOSS, COASTAL PLAIN NC ECOTYPE (COSEOPSIS LANCEOLATA, COASTAL PLAIN NC ECOTYPE)
2%	OHIO SPIDERWORT, PA ECOTYPE (TRADESCANTIA OHENSIS, PA ECOTYPE)
2%	OXEYE SUNFLOWER, PA ECOTYPE (HELIOPSIS HELIANTHOIDES, PA ECOTYPE)
2%	AUTUMN BENTGRASS, PA ECOTYPE (AGROSTIS PERENNANS, PA ECOTYPE)
2%	PARTBIRD PEA, PA ECOTYPE (CHAMAECRISTA FASCICULATA (GASSIA H.), PA ECOTYPE)
2%	MARSH (DENSE) BLAZING STAR (SPKED GAYFEATHER), PA ECOTYPE (LATRIS SPICATA, PA ECOTYPE)
1.5%	SMOOTH BLUE ASTER, NY ECOTYPE (ASTER LADIVIS (SYMPHYOTRICHUM LADIVIS), NY ECOTYPE)
1%	VILD SENNA, VA & NY ECOTYPE (SENNA HEBCACRA (GASSIA H.), VA & NY ECOTYPE)
1%	NEW ENGLAND ASTER, PA ECOTYPE (ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.), PA ECOTYPE)
1%	SWAMP MILKWORT, PA ECOTYPE (ASCLEPIAS INCARNATA, PA ECOTYPE)
1%	PATH RUSH, PA ECOTYPE (JUNCUS TENUIS, PA ECOTYPE)
1%	SOFT RUSH (JUNCUS EFFLUSUS)
0.8%	VILD BERGAMOT, FORT INDIAN/TOWN GAP PA ECOTYPE (MONARDA FISTULOSA, FORT INDIAN/TOWN GAP PA ECOTYPE)
0.5%	MISTFLOWER, VA ECOTYPE (EUPATORIUM COELESTINUM (CONDONIUM C.), VA ECOTYPE)
0.5%	BLUE PA-SE INDOOR, SOUTHERN WV ECOTYPE (BAPTISMA ALUTISALIS, SOUTHERN WV ECOTYPE)
0.5%	EARLY GOLDENROD, VA ECOTYPE (SOLIDAGO JUNCEA, VA ECOTYPE)
0.2%	SLENDER INCOURTAMINT (PYCNANTHEMUM TENUICOLLUM)
100%	TOTAL APPLIED 20 LB PER ACRE WITH A COVER CROP OF GRAIN RYE AT 30 LB PER ACRE

TESD CONESTOGA ATHLETIC FIELDS

TREDFYFRIN TOWNSHIP
CHESTER COUNTY, PA

HSA PROJECT #: 21-019

HSA
Heckendorn Shiles Architects

PROJECT TEAM

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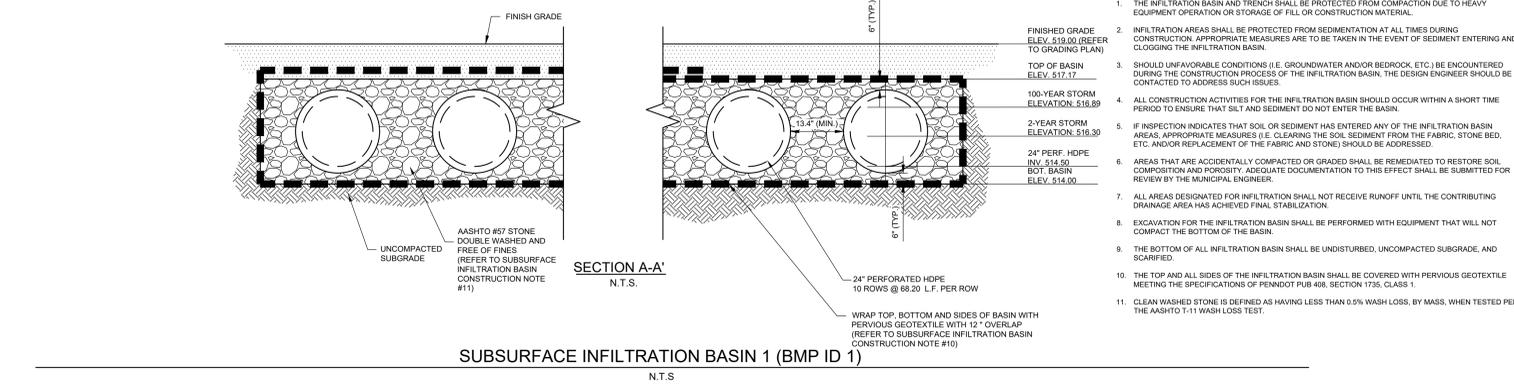
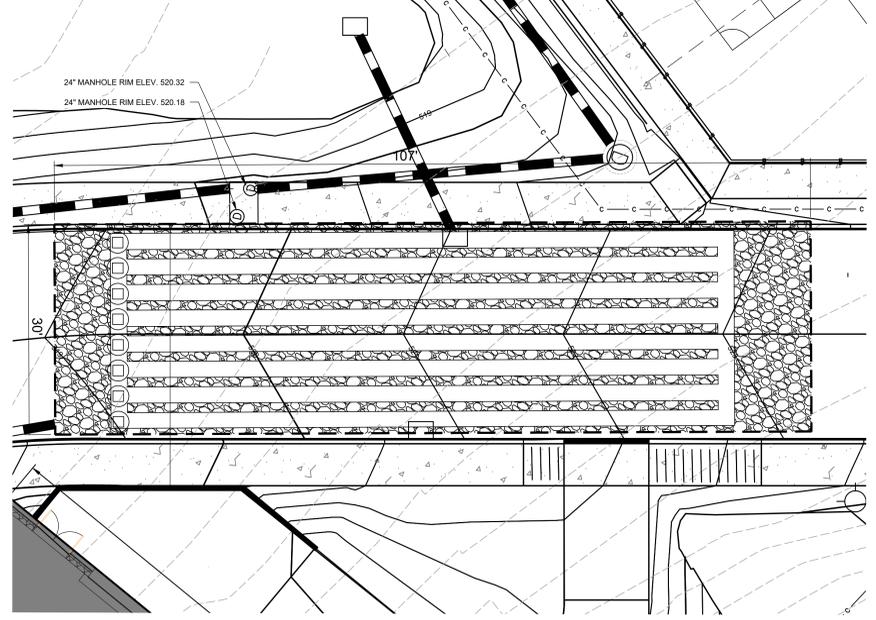
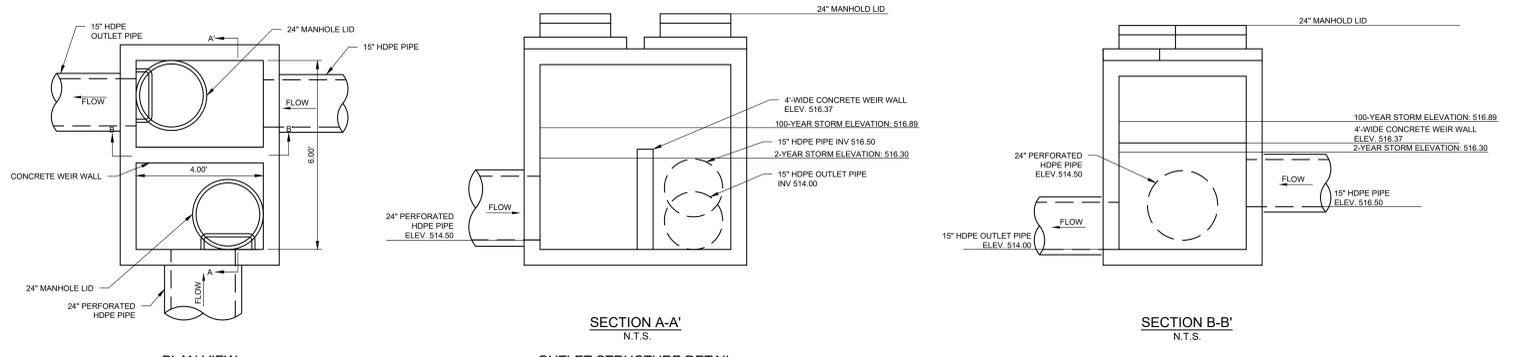
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NOT FOR CONSTRUCTION

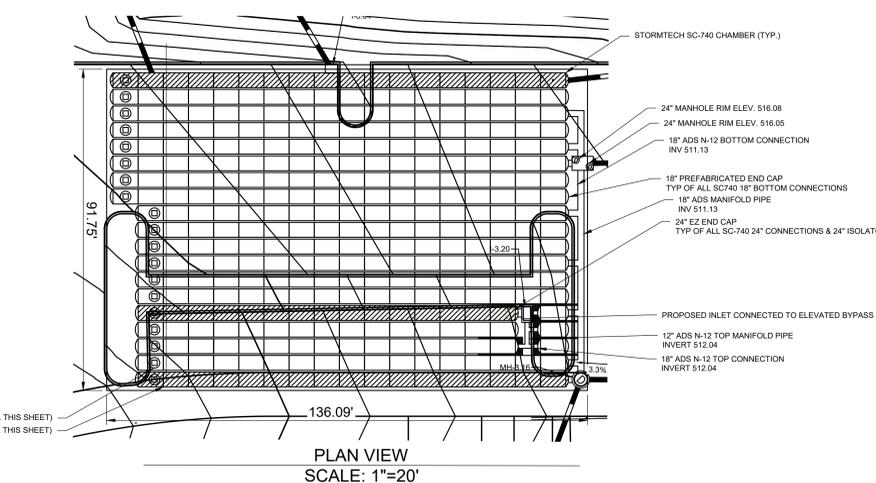
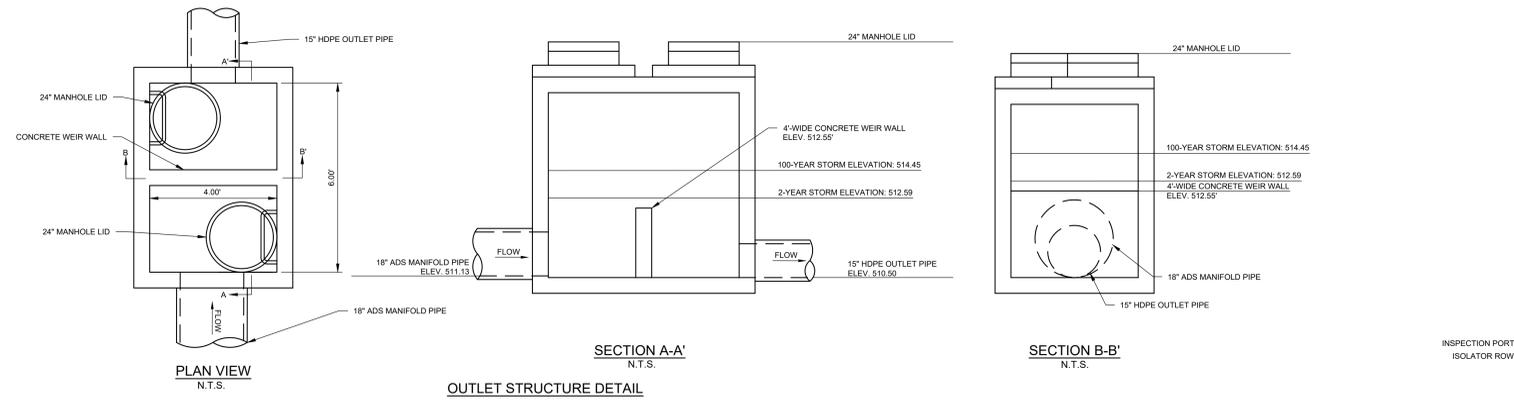
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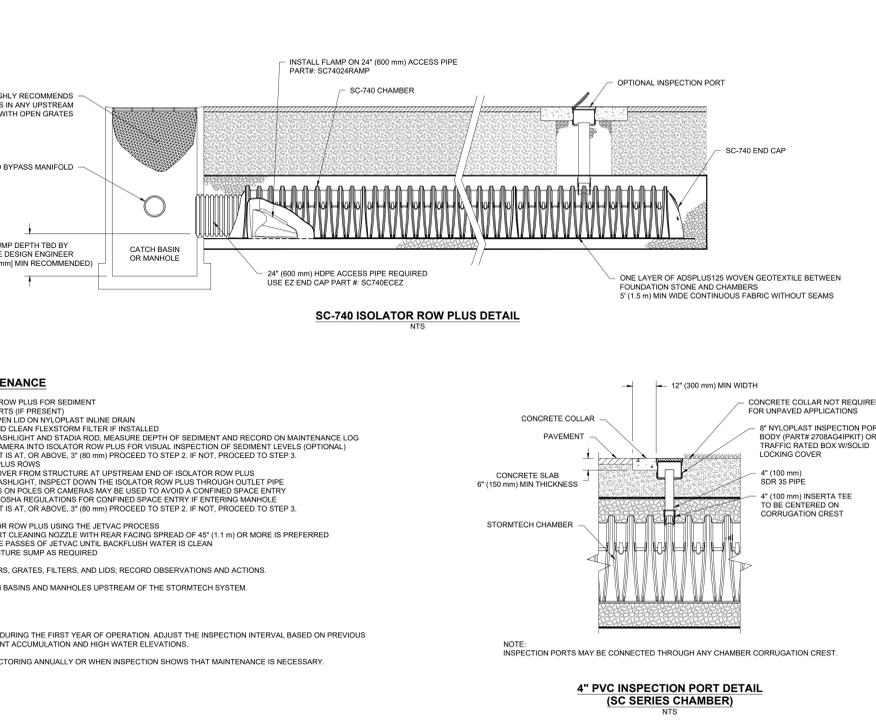
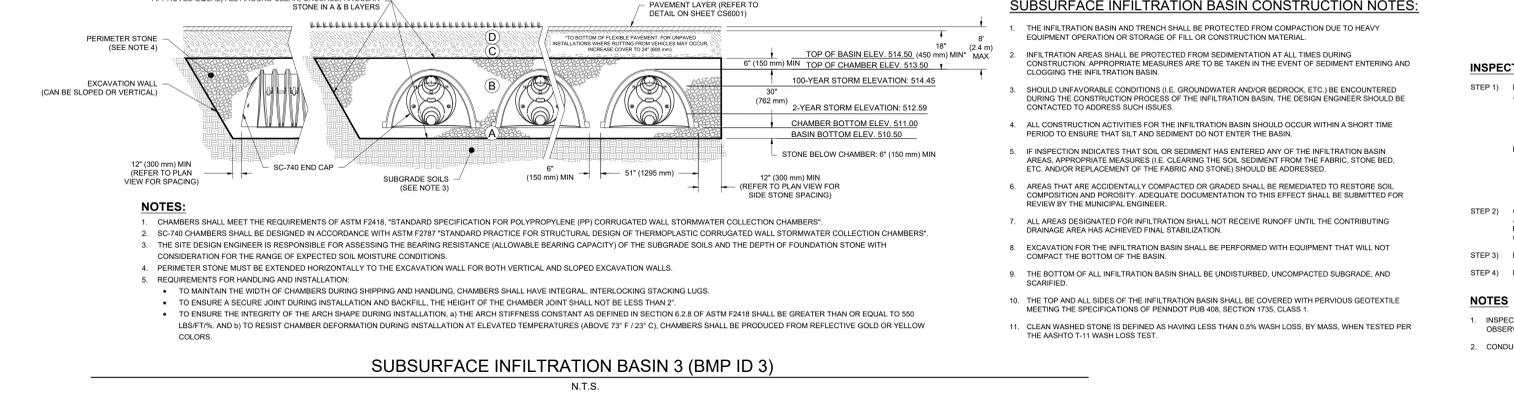
PLAN VIEW SCALE: 1"=10'



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2, A-3 OR AASHTO M43 ² 3, 357, 4, 487, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN) DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO 18" LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ² 3, 357, 4, 487, 5, 56, 57	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ² 3, 357, 4, 487, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDING DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAMPING OR DRAGGING WITHOUT COMPACTION EQUIPMENT FOR SPECIAL LOAD DESIGNS. CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



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2	05/14/2023	REVISED PER COCD COMMENTS
3	07/20/2023	REVISED PER TWP REVIEW
4	09/29/2023	REV. PER TWP & MDES REVIEW
5	09/29/2023	REVISED PER SSM REVIEW
6	01/17/2024	ISSUED FOR FINAL SUBMISSION
7	03/16/2024	BD ISSUE

PROJECT TEAM

CLIENT
Tredyffrin/Easttown School District
940 West Valley Road, Suite 1700
Wayne, PA 19087
(610) 240-1900

ARCHITECTURAL
Heckendorn Shiles Architects
347 East Conestoga Road
Wayne, PA 19087
610-994-3500

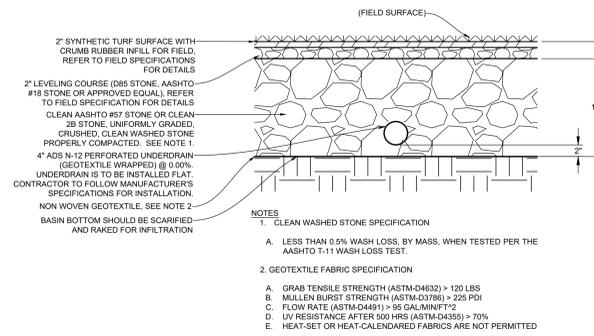
STRUCTURAL ENGINEER
N/A

MEPFP ENGINEER
Schiller and Hersh Associates, Inc.
636 Skippack Pike, Suite 200
Blue Bell, PA 19422
(215) 886-8947

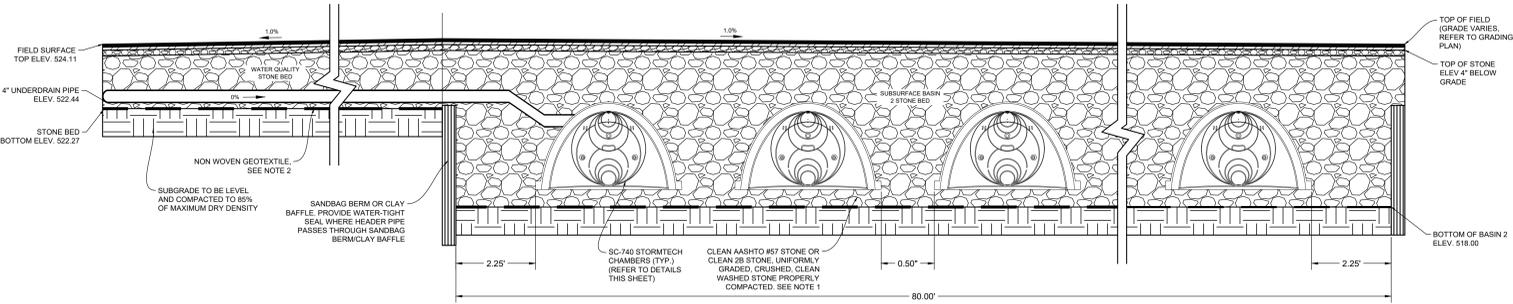
SITE / CIVIL
Pennoni Associates, Inc.
158 W Gay Street, Suite 300
West Chester, PA 19380
(610) 429-8907

MISC DISCIPLINE
N/A

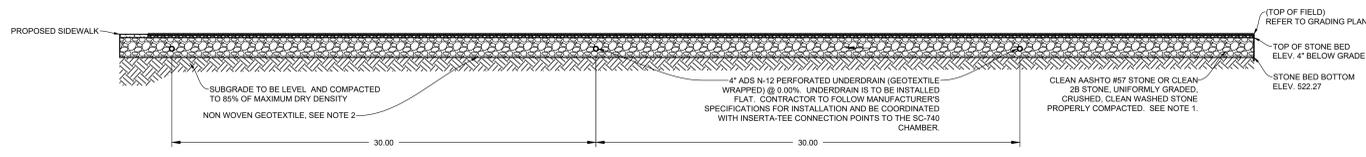
NOT FOR CONSTRUCTION



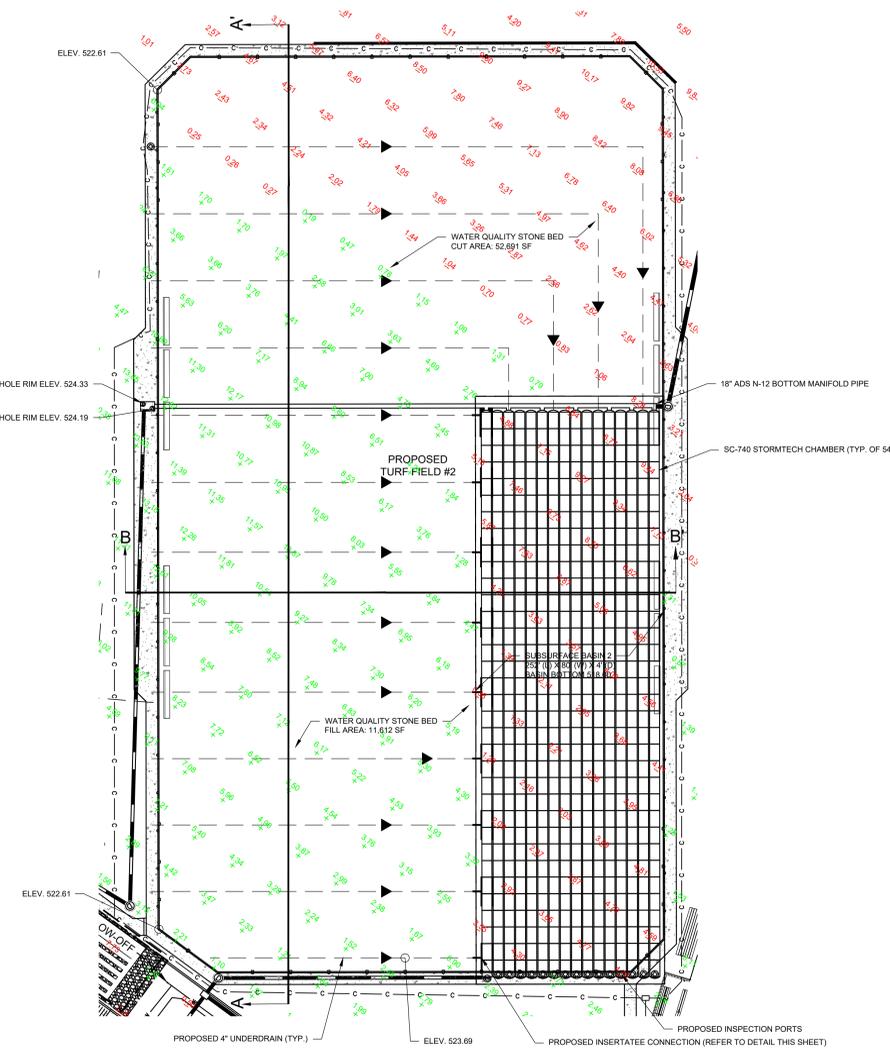
TURF SURFACE AND WATER QUALITY BED SECTION VIEW N.T.S.



BASIN SECTION VIEW B-B' N.T.S.



BASIN SECTION VIEW A-A' N.T.S.

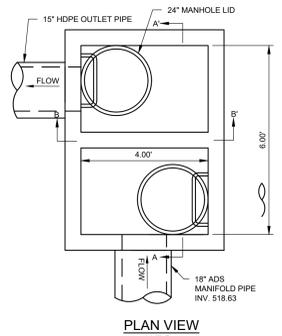


BASIN PLAN VIEW SCALE: 1" = 30'

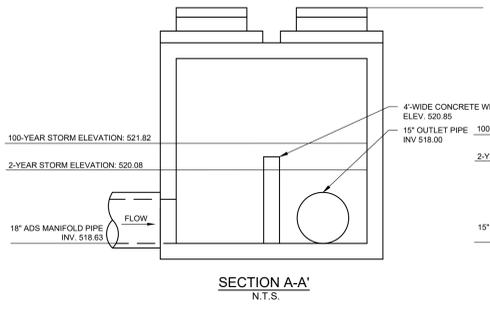
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRONGER MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE 'B' LAYER TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{1,2}

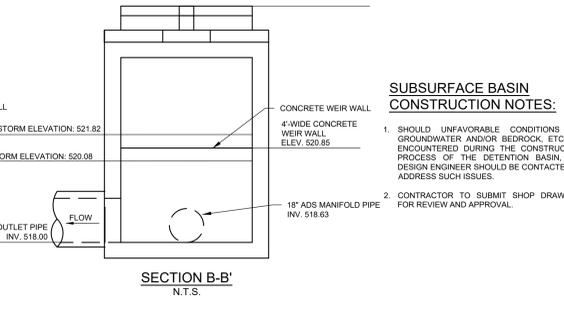
PLEASE NOTE:
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2. STORMTECH COMPACTOR REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



PLAN VIEW N.T.S.



SECTION A-A' N.T.S.



SECTION B-B' N.T.S.

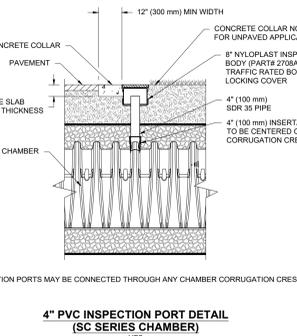
SUBSURFACE BASIN CONSTRUCTION NOTES:

- UNFAVORABLE CONDITIONS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE DETENTION BASIN, THE DESIGN ENGINEER SHOULD BE CONTACTED TO ADDRESS SUCH ISSUES.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL.

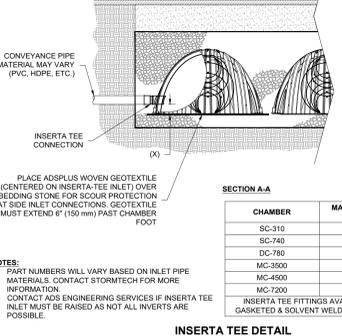
SUBSURFACE INFILTRATION BASIN CONSTRUCTION NOTES:

- THE INFILTRATION BASIN AND TRENCH SHALL BE PROTECTED FROM COMPACTION DUE TO HEAVY EQUIPMENT OPERATION OR STORAGE OF FILL OR CONSTRUCTION MATERIAL.
- INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION. APPROPRIATE MEASURES ARE TO BE TAKEN IN THE EVENT OF SEDIMENT ENTERING AND CLOGGING THE INFILTRATION BASIN.
- SHOULD UNFAVORABLE CONDITIONS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE INFILTRATION BASIN, THE DESIGN ENGINEER SHOULD BE CONTACTED TO ADDRESS SUCH ISSUES.
- ALL CONSTRUCTION ACTIVITIES FOR THE INFILTRATION BASIN SHOULD OCCUR WITHIN A SHORT TIME PERIOD TO ENSURE THAT SILT AND SEDIMENT DO NOT ENTER THE BASIN.
- IF INSPECTION INDICATES THAT SOIL OR SEDIMENT HAS ENTERED ANY OF THE INFILTRATION BASIN AREAS, APPROPRIATE MEASURES (I.E. CLEARING THE SOIL SEDIMENT FROM THE FABRIC, STONE BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
- AREAS THAT ARE ACCIDENTALLY COMPACTIONED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND POROSITY. ADEQUATE DOCUMENTATION TO THIS EFFECT SHALL BE SUBMITTED FOR REVIEW BY THE MUNICIPAL ENGINEER.
- ALL AREAS DESIGNATED FOR INFILTRATION SHALL NOT RECEIVE RUNOFF UNTIL THE CONTRIBUTING DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LB/FT². AND (b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- CLEAN WASHED STONE IS DEFINED AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER THE AASHTO T-11 WASH LOSS TEST.

SUBSURFACE BASIN 2 (BMP ID 2) N.T.S.



4\"/>



INSERTA TEE DETAIL N.T.S.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (H)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	8" (200 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
CONTACT AOS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

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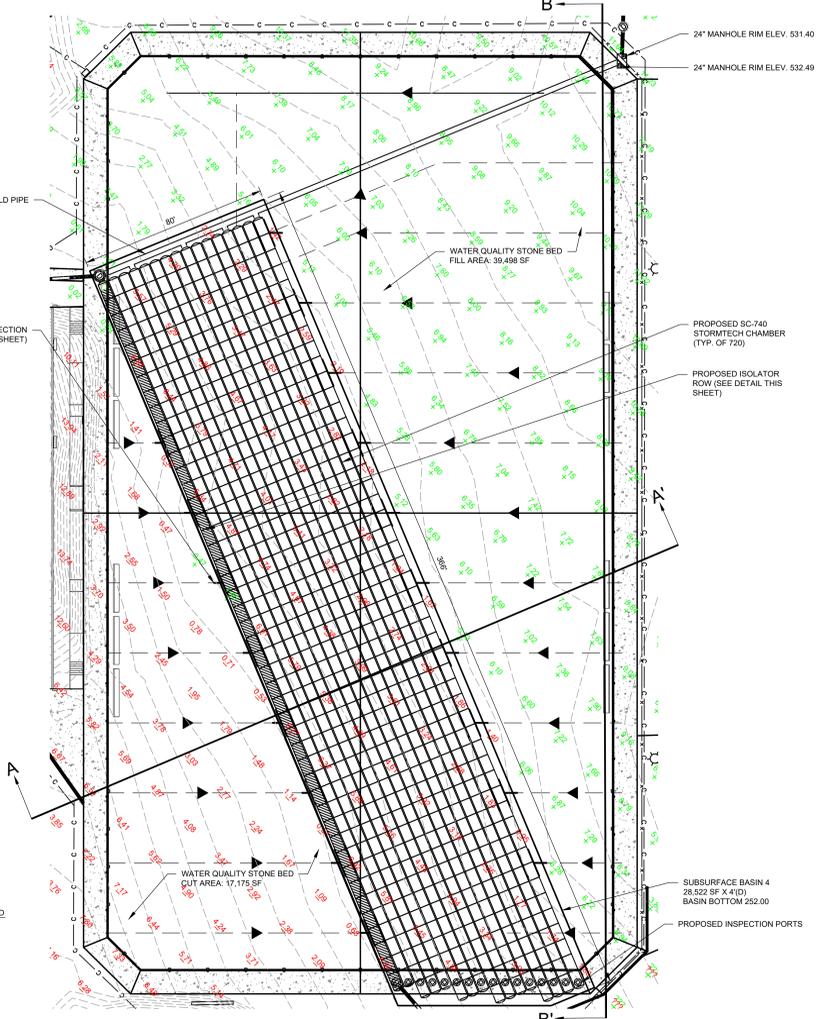
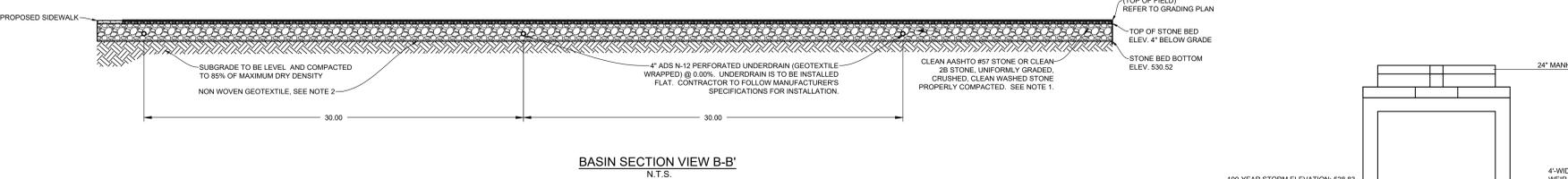
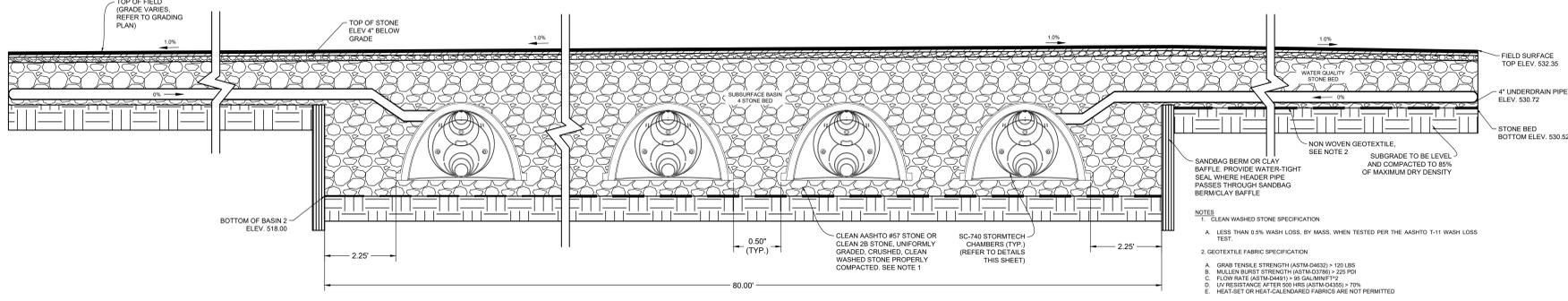
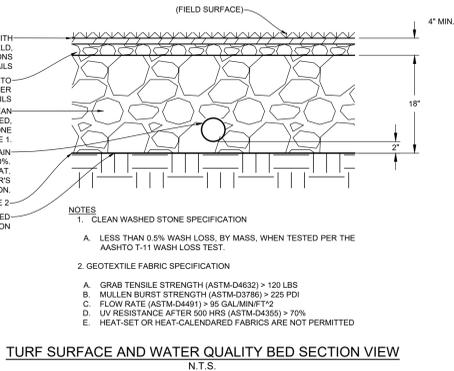
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6	01/17/2024	ISSUED FOR FINAL SUBMISSION
7	03/18/2024	BID ISSUE

SHEET TITLE

PCSM DETAILS

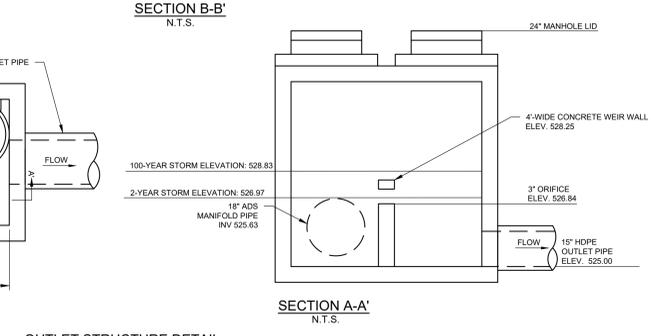
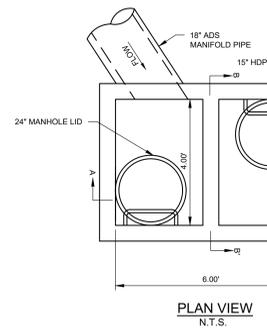
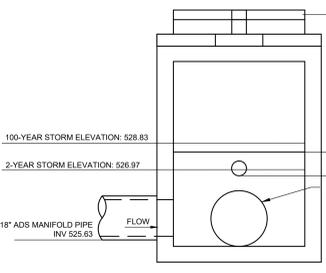
DRAWING NUMBER

CS9503



SUBSURFACE BASIN CONSTRUCTION NOTES:

1. SHOULD UNFAVORABLE CONDITIONS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE DETENTION BASIN, THE DESIGN ENGINEER SHOULD BE CONTACTED TO ADDRESS SUCH ISSUES.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL.



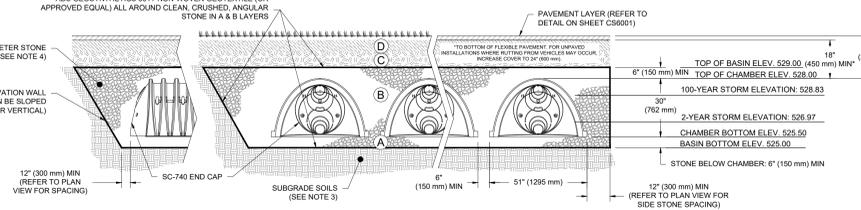
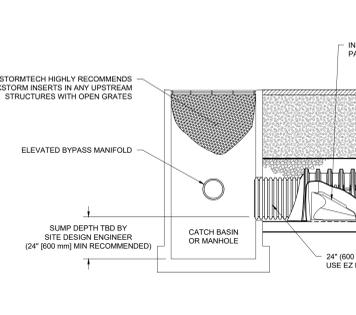
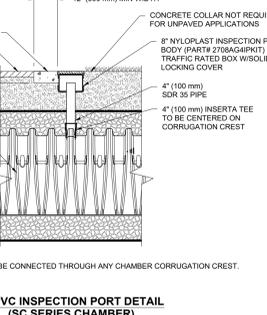
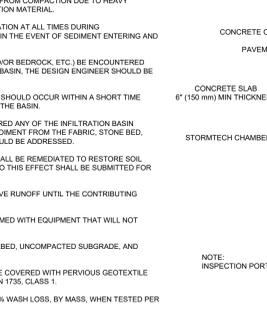
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
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C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18\"/>			

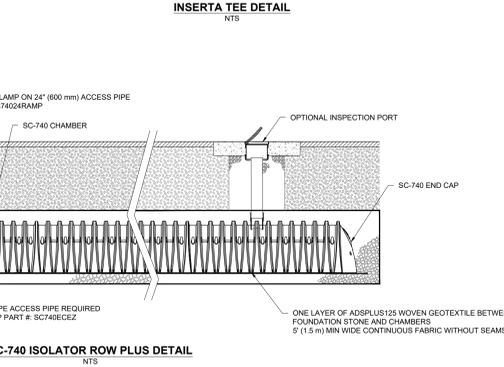
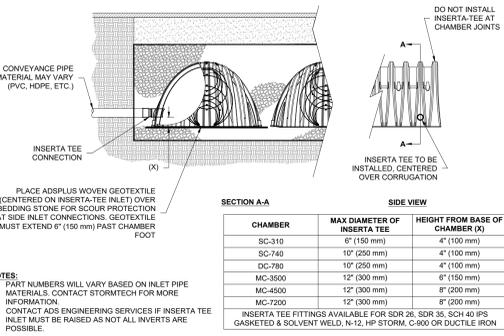
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 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6\"/>

SUBSURFACE INFILTRATION BASIN CONSTRUCTION NOTES:

1. THE INFILTRATION BASIN AND TRENCH SHALL BE PROTECTED FROM COMPACTION DUE TO HEAVY EQUIPMENT OPERATION OR STORAGE OF FILL OR CONSTRUCTION MATERIAL.
2. INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION. APPROPRIATE MEASURES ARE TO BE TAKEN IN THE EVENT OF SEDIMENT ENTERING AND CLOGGING THE INFILTRATION BASIN.
3. SHOULD UNFAVORABLE CONDITIONS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE INFILTRATION BASIN, THE DESIGN ENGINEER SHOULD BE CONTACTED TO ADDRESS SUCH ISSUES.
4. ALL CONSTRUCTION ACTIVITIES FOR THE INFILTRATION BASIN SHOULD OCCUR WITHIN A SHORT TIME PERIOD TO ENSURE THAT SILT AND SEDIMENT DO NOT ENTER THE BASIN.
5. IF INSPECTION INDICATES THAT SOIL OR SEDIMENT HAS ENTERED ANY OF THE INFILTRATION BASIN AREAS, APPROPRIATE MEASURES (I.E. CLEARING THE SOIL SEDIMENT FROM THE FABRIC, STONE BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
6. AREAS THAT ARE ACCIDENTALLY COMPACTED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND FERTILITY. ADEQUATE DOCUMENTATION TO THIS EFFECT SHALL BE SUBMITTED FOR REVIEW BY THE MUNICIPAL ENGINEER.
7. ALL AREAS DESIGNATED FOR INFILTRATION SHALL NOT RECEIVE RUNOFF UNTIL THE CONTRIBUTING DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION.
8. EXCAVATION FOR THE INFILTRATION BASIN SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE BASIN.
9. THE BOTTOM OF ALL INFILTRATION BASIN SHALL BE UNDISTURBED, UNCOMPACTED SUBGRADE, AND SCARIFIED.
10. THE TOP AND ALL SIDES OF THE INFILTRATION BASIN SHALL BE COVERED WITH PEROVIOUS GEOTEXTILE MEETING THE SPECIFICATIONS OF PENNODUT 408, SECTION 1735, CLASS 1.
11. CLEAN WASHED STONE IS DEFINED AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER THE AASHTO T-11 WASH LOSS TEST.



- NOTES:**
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 5. REQUIREMENTS FOR HANDLING AND INSTALLATION
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTERGAL, INTERLOCKING STACKING LOGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1/2\"/>
 6. TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, (a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT² AND (b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



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5	09/29/2023	REV. PER TWP & HDS REVIEW
6	09/29/2023	REVISED PER ISM REVIEW
7	01/17/2024	ISSUED FOR FINAL SUBMISSION
8	03/18/2024	BD ISSUE

PROJECT TEAM

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(610) 240-1900

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Wayne, PA 19087
610-994-3500

STRUCTURAL ENGINEER
N/A

MEPFP ENGINEER
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(215) 886-8947

SITE / CIVIL
Pennoni Associates, Inc.
158 W Gay Street, Suite 300
West Chester, PA 19380
(610) 429-8907

MISC DISCIPLINE
N/A

NOT FOR CONSTRUCTION

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Δ	DATE	ISSUED FOR
	03/16/2023	LAND DEVELOPMENT SUBMISSION
1	05/18/2023	REVISED PER TWP COMMENTS
2	06/14/2023	REVISED PER CDD COMMENTS
3	07/20/2023	REVISED PER TWP REVIEW
4	09/26/2023	REV. PER TWP & NPDES REVIEW
5	09/29/2023	REVISED PER SSM REVIEW
6	01/17/2024	ISSUED FOR FINAL SUBMISSION
7	03/18/2024	BD ISSUE

SHEET TITLE

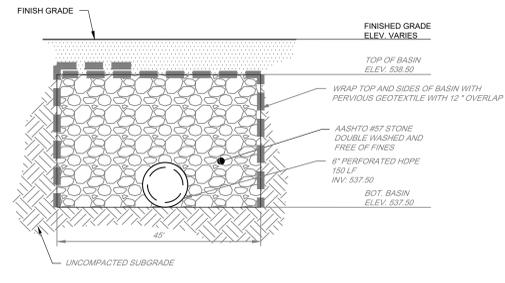
PCSM DETAILS

DRAWING NUMBER

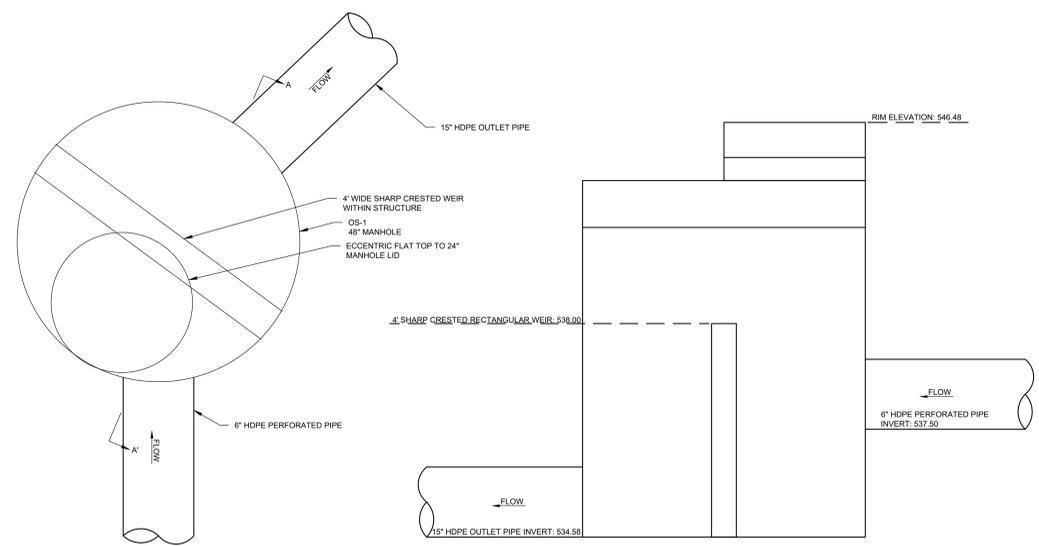
CS9505

SUBSURFACE INFILTRATION BASIN CONSTRUCTION NOTES:

1. THE INFILTRATION BASIN AND TRENCH SHALL BE PROTECTED FROM COMPACTION DUE TO HEAVY EQUIPMENT OPERATION OR STORAGE OF FILL OR CONSTRUCTION MATERIAL.
2. INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION. APPROPRIATE MEASURES ARE TO BE TAKEN IN THE EVENT OF SEDIMENT ENTERING AND CLOGGING THE INFILTRATION BASIN.
3. SHOULD UNFAVORABLE CONDITIONS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE INFILTRATION BASIN, THE DESIGN ENGINEER SHOULD BE CONTACTED TO ADDRESS SUCH ISSUES.
4. ALL CONSTRUCTION ACTIVITIES FOR THE INFILTRATION BASIN SHOULD OCCUR WITHIN A SHORT TIME PERIOD TO ENSURE THAT SILT AND SEDIMENT DO NOT ENTER THE BASIN.
5. IF INSPECTION INDICATES THAT SOIL OR SEDIMENT HAS ENTERED ANY OF THE INFILTRATION BASIN AREAS, APPROPRIATE MEASURES (I.E. CLEARING THE SOIL, SEDIMENT FROM THE FABRIC, STONE BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
6. AREAS THAT ARE ACCIDENTALLY COMPACTED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND POROSITY. ADEQUATE DOCUMENTATION TO THIS EFFECT SHALL BE SUBMITTED FOR REVIEW BY THE MUNICIPAL ENGINEER.
7. ALL AREAS DESIGNATED FOR INFILTRATION SHALL NOT RECEIVE RUNOFF UNTIL THE CONTRIBUTING DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION.
8. EXCAVATION FOR THE INFILTRATION BASIN SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE BASIN.
9. THE BOTTOM OF ALL INFILTRATION BASIN SHALL BE UNDISTURBED, UNCOMPACTED SUBGRADE, AND SCARIFIED.
10. THE TOP AND ALL SIDES OF THE INFILTRATION BASIN SHALL BE COVERED WITH PERVIOUS GEOTEXTILE MEETING THE SPECIFICATIONS OF PENNDOT PUB 406, SECTION 1735, CLASS 1.
11. CLEAN WASHED STONE IS DEFINED AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER THE AASHTO T-11 WASH LOSS TEST.
12. CONTRACTOR TO EXERCISE CAUTION TO NOT DISTURB EXISTING STONE INFILTRATION BED AND FILTER FABRIC. IF EXISTING STONE ENVELOPE AND FABRIC ARE COMPROMISED OR CONTAMINATED WITH SOIL DURING CONSTRUCTION ACTIVITIES, THEN CONTRACTOR SHALL REMOVE AND REPLACE WITH CLEAN STONE AND NON-WOVEN GEOTEXTILE.



SUBSURFACE INFILTRATION BASIN #5 (BMP ID 5)
N.T.S.



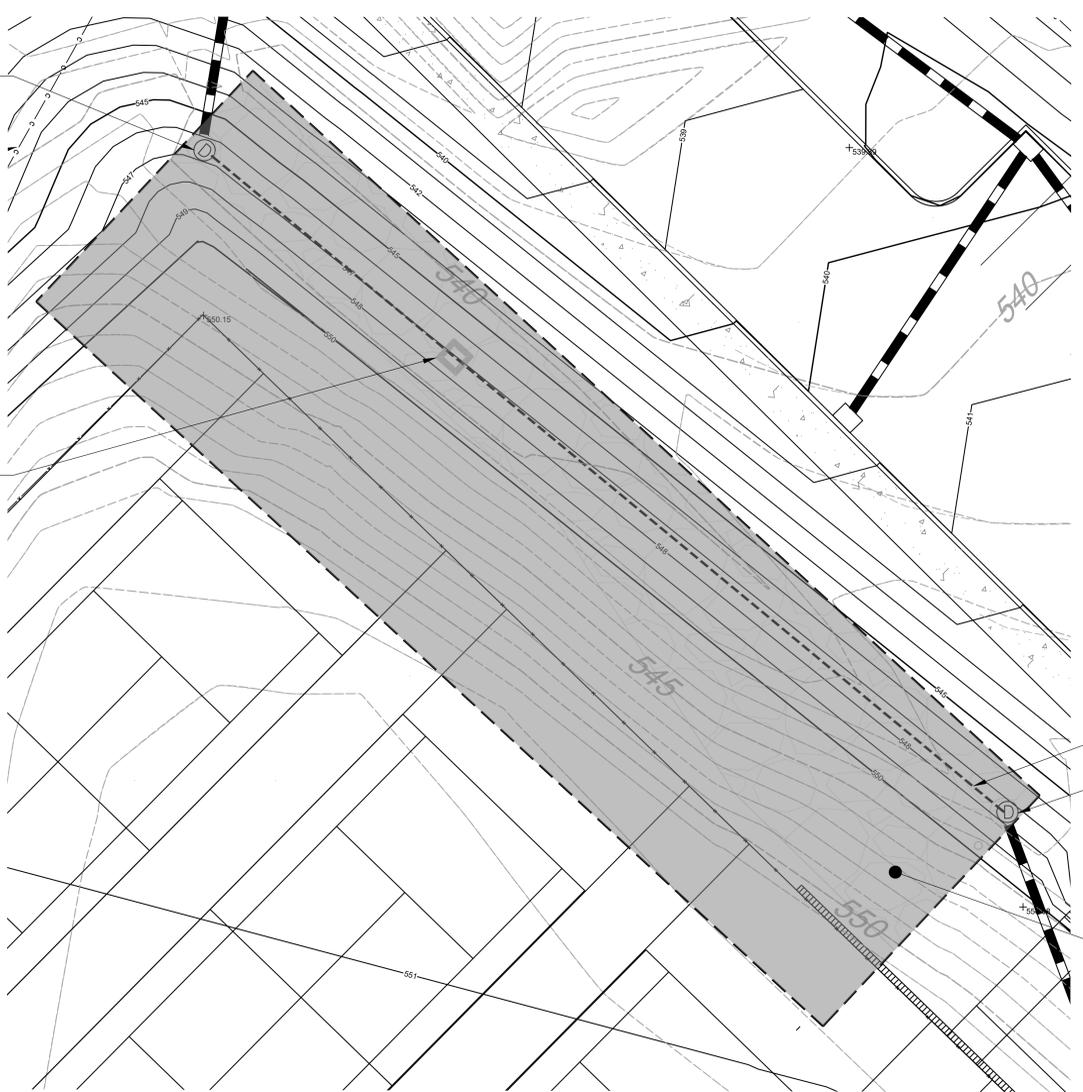
PLAN VIEW SCALE: N.T.S.
OUTLET STRUCTURE DETAIL SCALE: N.T.S.
SECTION A-A' SCALE: N.T.S.

EXISTING DOMED RISER TO BE REPLACED BY PROPOSED OUTLET STRUCTURE (SEE DETAIL THIS SHEET)

EXISTING DOMED RISER TO BE REMOVED. EXTEND RISER TO MATCH FINISHED GRADE. PROVIDE CLEANOUT

EXISTING 6\"/>

EXISTING STONE BED TO REMAIN



PLAN VIEW
SCALE: 1"=10'

**TESD CONESTOGA
ATHLETIC FIELDS**

TREDYFFRIN TOWNSHIP
CHESTER COUNTY, PA

HSA PROJECT # :21-019



PROJECT TEAM

CLIENT
Tredyffrin/Easttown School District
940 West Valley Road, Suite 1700
Wayne, PA 19087
(610) 240-1900

ARCHITECTURAL
Heckendorn Shiles Architects
347 East Conestoga Road
Wayne, PA 19087
610-994-3500

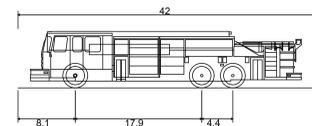
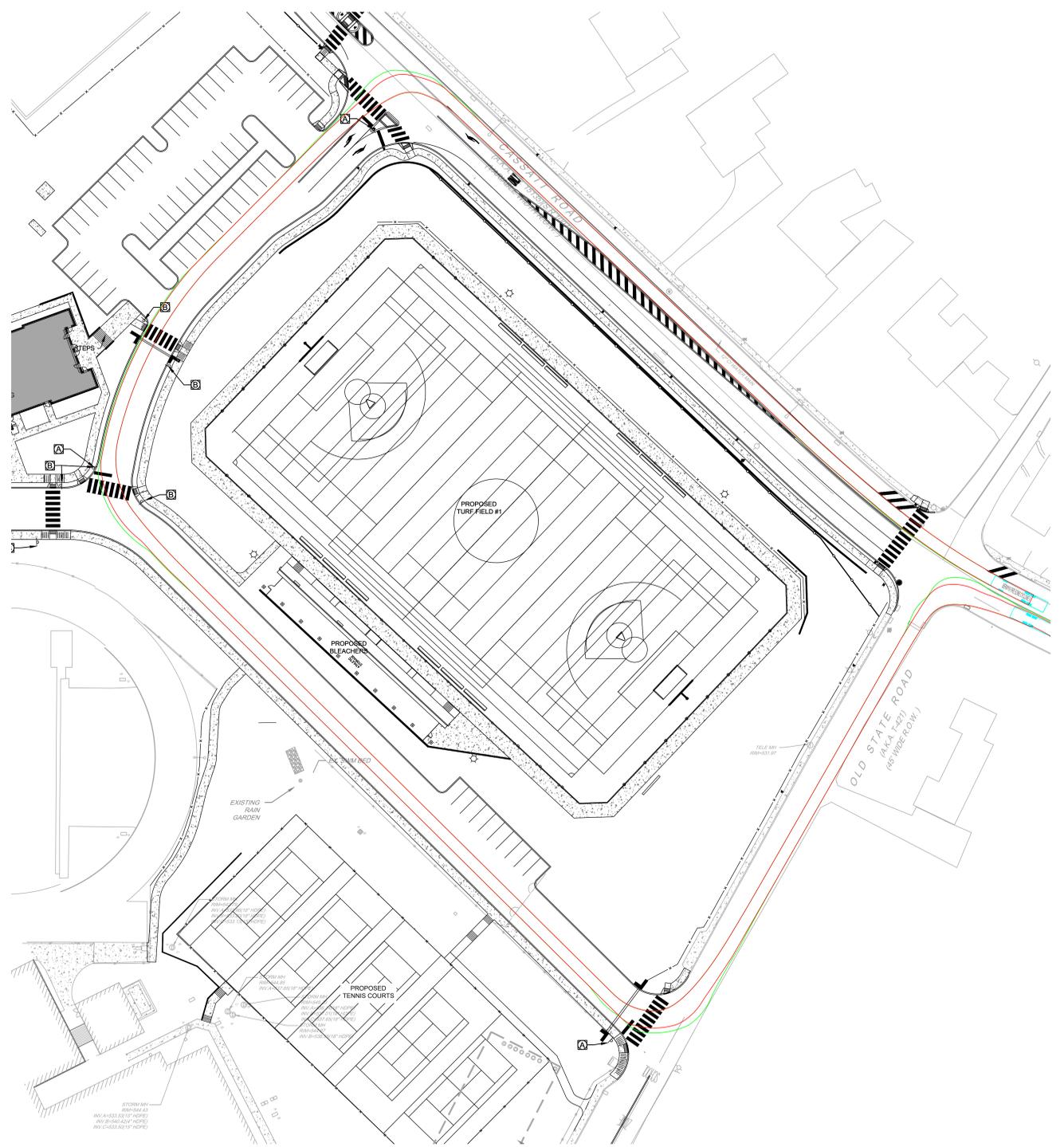
STRUCTURAL ENGINEER
N/A

MEPFP ENGINEER
Schiller and Hersh Associates, Inc.
636 Skippack Pike, Suite 200
Blue Bell, PA 19422
(215) 886-8947

SITE / CIVIL
Pennoni Associates, Inc
158 W Gay Street, Suite 300
West Chester, PA 19380
(610) 429-8907

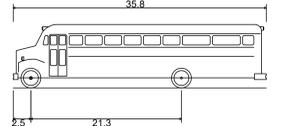
MISC DISCIPLINE
N/A

**NOT FOR
CONSTRUCTION**



BERWYN FIRE EONE CYCLONE II

Overall Length	42.000ft
Overall Width	8.167ft
Overall Body Height	8.065ft
Min Body Ground Clearance	0.977ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



S-BUS-36 - Conventional School Bus (65 pass.)

Overall Length	35.800ft
Overall Width	8.000ft
Overall Body Height	9.063ft
Min Body Ground Clearance	1.184ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	37.60°

- NOTES:**
- STANDARD SCHOOL BUSES ARE SMALLER THAN THE FIRE TRUCK MODEL USED AND WILL BE ABLE TO MANEUVER WITHIN THE SITE.
 - MAIL AND PACKAGE DELIVERY WILL CONTINUE TO GO TO THE DESIGNATED AREA IN FRONT OF THE SCHOOL ON THE EXISTING CAMPUS.



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 PROJECT STATUS:

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**TESD CONESTOGA
ATHLETIC FIELDS**

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HSA PROJECT # :21-019



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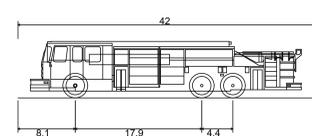
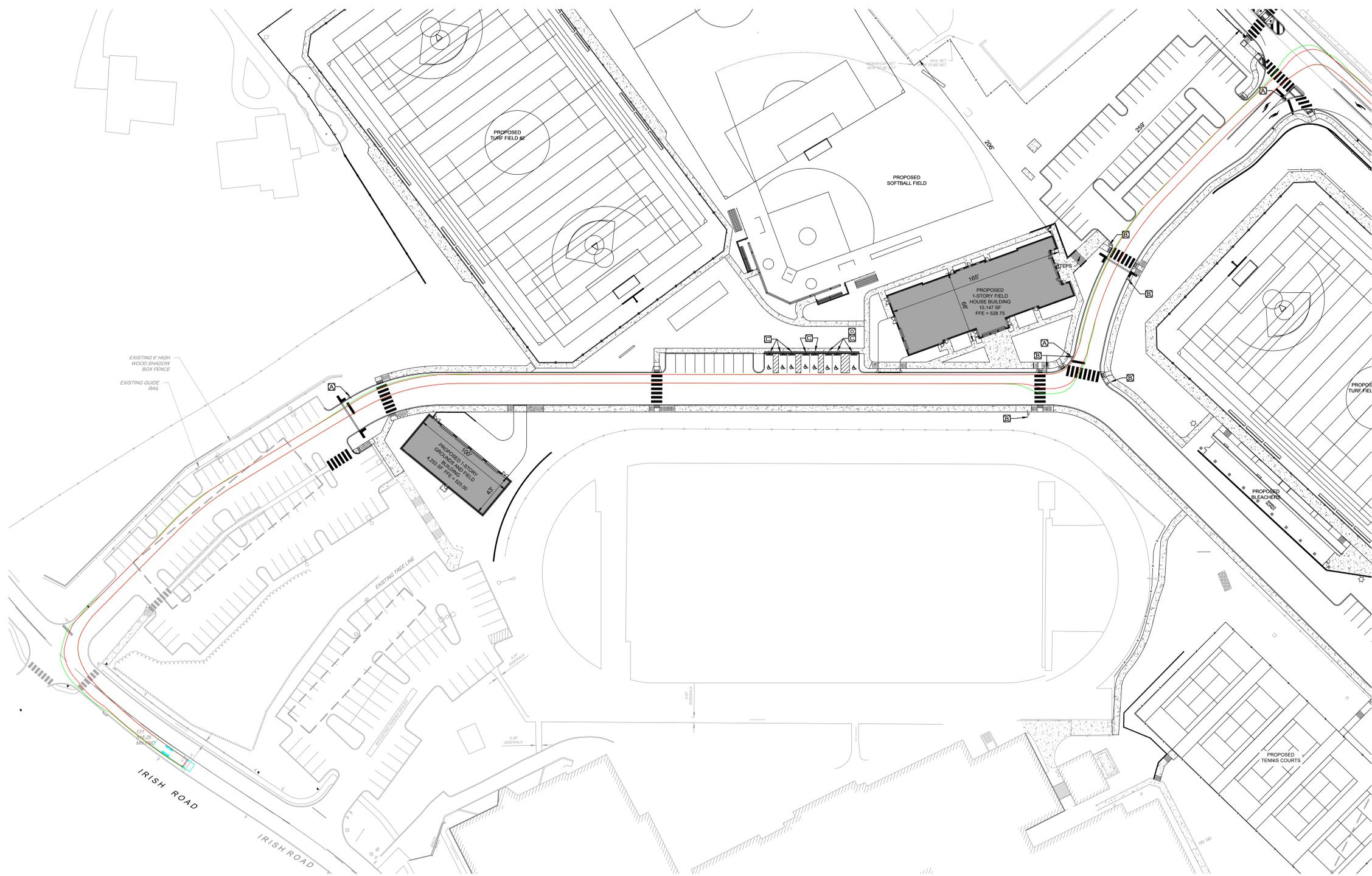
STRUCTURAL ENGINEER
N/A

MEPPF ENGINEER
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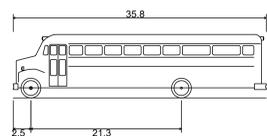
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MISC DISCIPLINE
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**NOT FOR
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BERWYN FIRE EONE CYCLONE II
Overall Length 42.000ft
Overall Width 8.167ft
Overall Body Height 8.065ft
Min Body Ground Clearance 0.977ft
Track Width 8.167ft
Lock-to-lock time 5.00s
Max Wheel Angle 45.00°



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 PROJECT STATUS: