

PLAN APPROVAL STAMP

SITE CONSTRUCTION PLAN
FOR
HOWARD HIGH SCHOOL
ARTIFICIAL TURF PRACTICE FIELD
701 EAST ELEVENTH STREET
BRANDYWINE HUNDRED CITY OF WILMINGTON
DELAWARE
BRANDYWINE CREEK

SEDIMENT AND STORMWATER CONSTRUCTION NOTES:

- a. THE NEW CASTLE COUNTY DEPARTMENT OF LAND USE MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
- b. REVIEW AND OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
- c. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE DELEGATED AGENCY.
- d. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.
- e. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- f. AT ANY TIME A DEWATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON-EROSIVE POINT OF DISCHARGE, AND A DEWATERING PERMIT SHALL BE APPROVED BY DNREC WELL PERMITTING BRANCH.
- g. APPROVED PLANS REMAIN VALID FOR 5 YEARS FROM THE DATE OF APPROVAL.
- h. N/A
- i. APPROVAL OF A SEDIMENT AND STORMWATER MANAGEMENT PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.
- j. THE NOTICE OF INTENT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER A NPDES GENERAL PERMIT FOR THIS PROJECT IS No. _____ AT ANY TIME THE OWNERSHIP FOR THIS PROJECT CHANGES, A TRANSFER OF AUTHORIZATION OR CO-PERMITTEE APPLICATION MUST BE SUBMITTED TO DNREC. THE PERMITTEE OF RECORD SHALL NOT BE RELIEVED OF THEIR RESPONSIBILITIES UNTIL A NOTICE OF TERMINATION HAS BEEN PROCESSED BY DNREC.
- k. THE OWNER SHALL BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT.
- l. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OF DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY SITE REVIEWER.
- m. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.
- n. BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7. Del C. Ch 60 AND THE CURRENT DELAWARE CONSTRUCTION GENERAL PERMIT (CGP)
- o. DOCUMENTATION OF SOIL TESTING AND MATERIALS USED FOR TEMPORARY OR PERMANENT STABILIZATION AND MATERIALS USED FOR TEMPORARY OR PERMANENT STABILIZATION INCLUDING BUT NOT LIMITED TO SOIL TEST RESULTS, SEED TAGS, SOIL AMENDMENT TAGS, ECT. SHALL BE PROVIDED TO THE DEPARTMENT OR DELEGATED AGENCY TO VERIFY THAT THE PERMANENT OR TEMPORARY STABILIZATION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN.
- p. THE DEPARTMENT OR DELEGATED AGENCY MAY REQUIRE ADDITIONAL SOIL TESTING AND REAPPLICATION OF PERMANENT OR TEMPORARY STABILIZATION IN ACCORDANCE WITH THE SPECIFICATIONS IN THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, OR ALTERNATIVE MEASURE THAT PROVIDE FUNCTIONAL EQUIVALENCE.

ADDITIONAL SEDIMENT CONTROL NOTES:

1. ACREAGE OF DISTURBED AREA: **1.6 ±** ACRE LIMIT OF DISTURBANCE MUST BE DELINEATED IN THE FIELD.
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN AND REPAIR ALL EROSION AND SEDIMENT CONTROL PRACTICES DURING CONSTRUCTION AND UTILITY INSTALLATION.
3. IMPLEMENT DUST CONTROL PRACTICES PER THE DETAIL ON THIS PLAN IF DUST BECOMES A PROBLEM OR IF DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
4. STOCKPILES MUST BE SURROUNDED WITH COMPOST FILTER LOG OR A STABILIZED EARTHEN BERM. STOCKPILE HEIGHTS SHALL NOT EXCEED 20.0' AND SLOPES SHALL BE NO STEEPER THAN 3H:1V.
5. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

GENERAL NOTES

1. THERE SHALL BE NO DEBRIS BURIED ON THIS SITE.
2. DRAINAGE, STORMWATER MANAGEMENT, AND EROSION AND SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND NEW CASTLE COUNTY DRAINAGE CODE.

PROFESSIONAL ENGINEER CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER WITH A BACKGROUND IN CIVIL ENGINEERING IN THE STATE OF DELAWARE AND THAT ALL OF THE INFORMATION ON THIS PLAN IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED SURVEYING STANDARDS AND PRACTICES AND BY THE NEW CASTLE COUNTY UNIFIED DEVELOPMENT CODE. IN ADDITION, I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLIES WITH THE APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES.

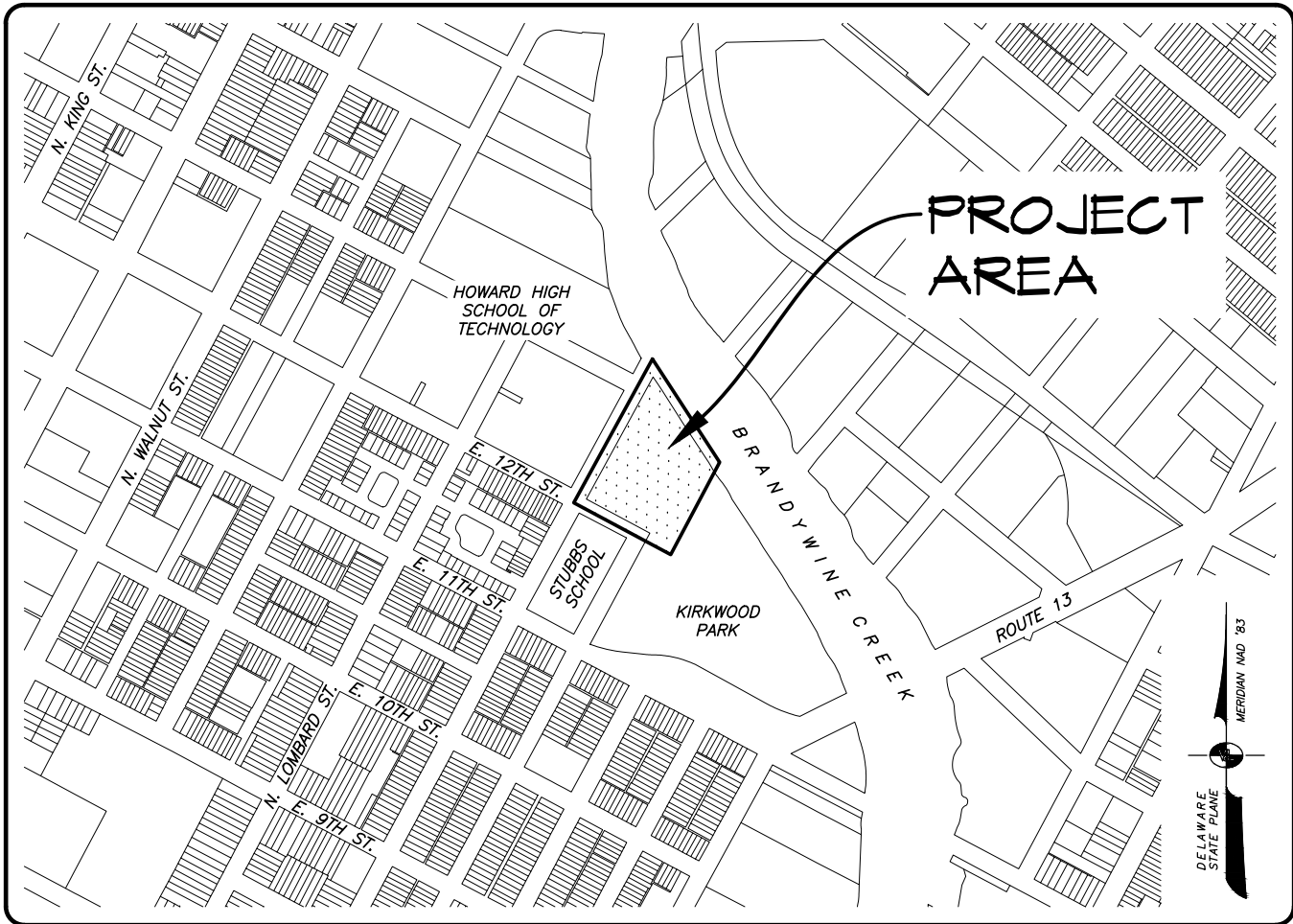
PROFESSIONAL ENGINEER _____ DATE _____
DOUGLAS M. EITELMAN, P.E. (DE#15860)
PRINTED NAME

OWNERS CERTIFICATION

I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL (I.E. BLUE CARD HOLDERS) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR RELEVANT DELEGATED AGENCY THE RIGHT TO CONDUCT ON-SITE REVIEWS, AND I UNDERSTAND MY RESPONSIBILITIES UNDER THE NPDES CONSTRUCTION GENERAL PERMIT, AS REFERENCED ON THIS COVER SHEET.

OWNER _____ DATE _____
PRINTED NAME

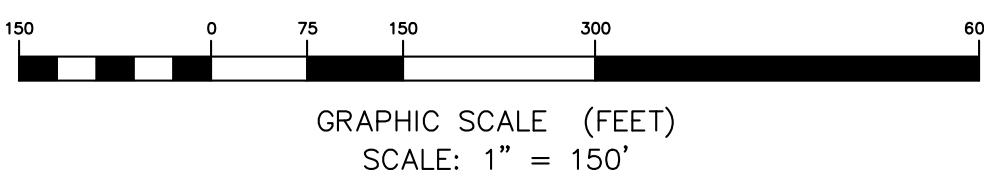
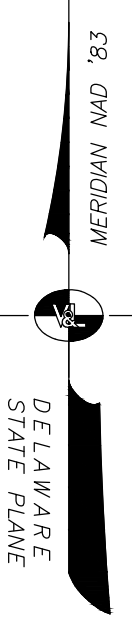
THE TOTAL LAND DISTURBANCE PROPOSED BY THIS PLAN IS **1.6 ±** ACRES



NCC TAX MAP LOCATION PLAN SCALE: 1" = 500'

NOTES

1. ENGINEER: VANDEMARK & LYNCH, INC.
4305 MILLER ROAD
WILMINGTON, DE 19802
(302) 764-7635
2. OWNER: CITY OF WILMINGTON
1100 KING STREET
WILMINGTON, DE 19801
3. PROPERTIES: 701 EAST ELEVENTH STREET
WILMINGTON, DE 19801
4. TAX PARCEL NO'S: 26-036.10-416
5. SITE AREA: 7.592± AC
6. SOURCE OF TITLE: D.R. E. VOL. 20, PAGE 439
D.R. W. VOL. 20, PAGE 211
D.R. L. VOL. 39, PAGE 445
D.R. M. VOL. 39, PAGE 500
D.R. S. VOL. 14, PAGE 278
7. MODIFIED GRID: 110/358
8. ZONING: 0 - OPEN SPACE
9. DATE OF FIELD SURVEY: JANUARY 16-19, 2018
10. DATUM: HORIZONTAL: DELAWARE STATE PLAN NAD 83'
VERTICAL: NAVD 88'
- SITE BENCHMARK: SET MARK IN NORTHEAST CORNER LANDING OF CONCRETE ACCESS RAMP (ELEV. 12.81)
NAD 83
LAT N39°44'43.17"
LONG W75°32'24.32"
11. DISCHARGE LOCATION: BRANDYWINE CREEK
12. FLOODPLAIN: AS SCALED FROM THE NATIONAL FLOOD INSURANCE PROGRAM INSURANCE RATE MAP NO. 1000SC0156K, WITH A MAP REVISION DATE OF FEBRUARY 4th, 2015, THE SUBJECT PROPERTIES LIE PARTIALLY WITHIN ZONE AE, BASE FLOOD ELEVATIONS DETERMINED.
13. WATER: CITY OF WILMINGTON
14. SEWER: CITY OF WILMINGTON
15. CRITICAL NATURAL AREAS: ACCORDING TO THE STATE OF DELAWARE INVENTORY OF NATURAL AREAS, THIS SITE DOES NOT LIE WITHIN A CRITICAL NATURAL AREA.



PURPOSE NOTE:

THE PURPOSE OF THIS PLAN IS TO SHOW EROSION & SEDIMENT CONTROLS, GRADING AND DETAILS FOR THE CONSTRUCTION OF AN ARTIFICIAL TURF PRACTICE FIELD

SHEET INDEX:

- SHEET C-101: COVER SHEET AND GENERAL NOTES
SHEET C-102: PRE-CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN
SHEET C-103: CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN GRADING AND UTILITIES
SHEET C-104: CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN FIELD SECTIONS AND SPECIFICATIONS
SHEET L-101: LANDSCAPE PLAN
SHEET C-501: CONSTRUCTION SITE DETAILS AND NOTES
SHEET C-502: CONSTRUCTION SITE DETAILS AND NOTES
SHEET C-503: CONSTRUCTION SITE DETAILS AND NOTES
SHEET C-504: CONSTRUCTION SITE DETAILS AND NOTES
SHEET C-505: CONSTRUCTION SITE DETAILS AND NOTES

PROJECT NAME: HOWARD HIGH SCHOOL - ARTIFICIAL TURF PRACTICE FIELD
PLAN SET: SITE CONSTRUCTION & SEDIMENT AND STORMWATER PLAN
PROJECT LOCATION: 701 EAST ELEVENTH STREET, WILMINGTON, DE 19801
WATERSHED: BRANDYWINE CREEK
TAX PARCEL: 26-036.10-416
DELEGATED AGENCY: CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS



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Wilmington, DE 19806

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302.764.7635
WWW.VANDEMARK-AND-LYNCH.COM



PROJECT

HOWARD HIGH SCHOOL
ARTIFICIAL TURF
PRACTICE FIELD

OWNER

CITY OF WILMINGTON

D	04.08.19	ISSUED FOR BID / PERMIT
A	03.25.19	ISSUED FOR REVIEW
MARK	DATE	DESCRIPTION

PROJECT NO: 24009.02
FILE NAME: 24009.02-CONST-01.DWG
DRAWN BY: S. DEISHER
CHECKED BY: D. EITELMAN

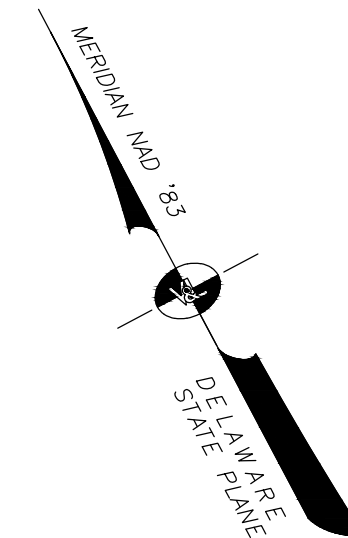
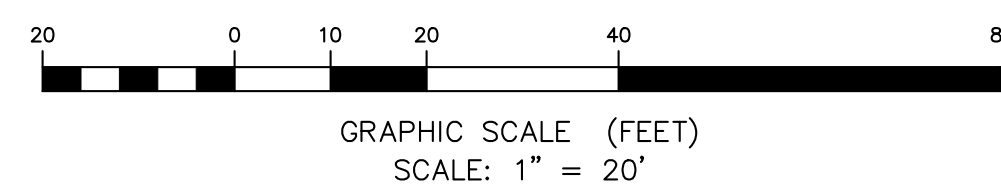
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SHEET TITLE

SITE CONSTRUCTION PLAN
INDEX AND COVERSHEET

C-101

SEE SHEETS C-503
THROUGH C-505 FOR
EROSION AND SEDIMENT
CONTROL STANDARD DETAIL



PROJECT NAME:	HOWARD HIGH SCHOOL – ARTIFICIAL TURF PRACTICE FIELD
PLAN SET:	SITE CONSTRUCTION & SEDIMENT AND STORMWATER PLAN
PROJECT LOCATION:	701 EAST ELEVENTH STREET, WILMINGTON, DE 19801
WATERSHED:	BRANDYWINE CREEK
TAX PARCEL:	26-036.10-416
DELEGATED AGENCY:	CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS

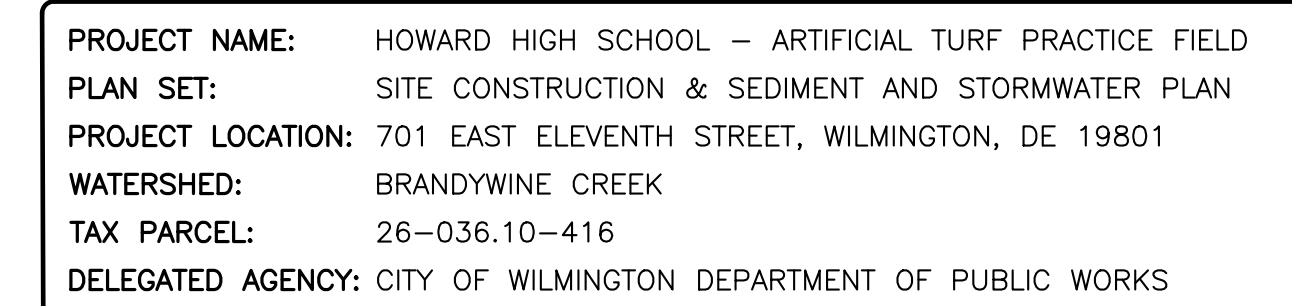


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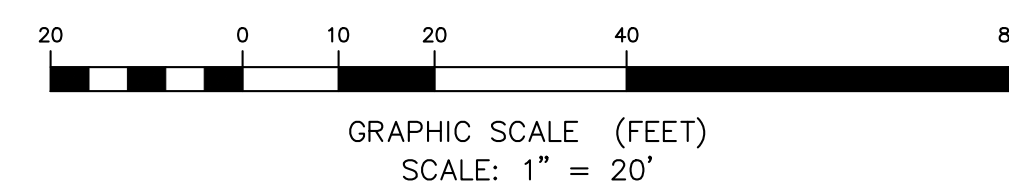
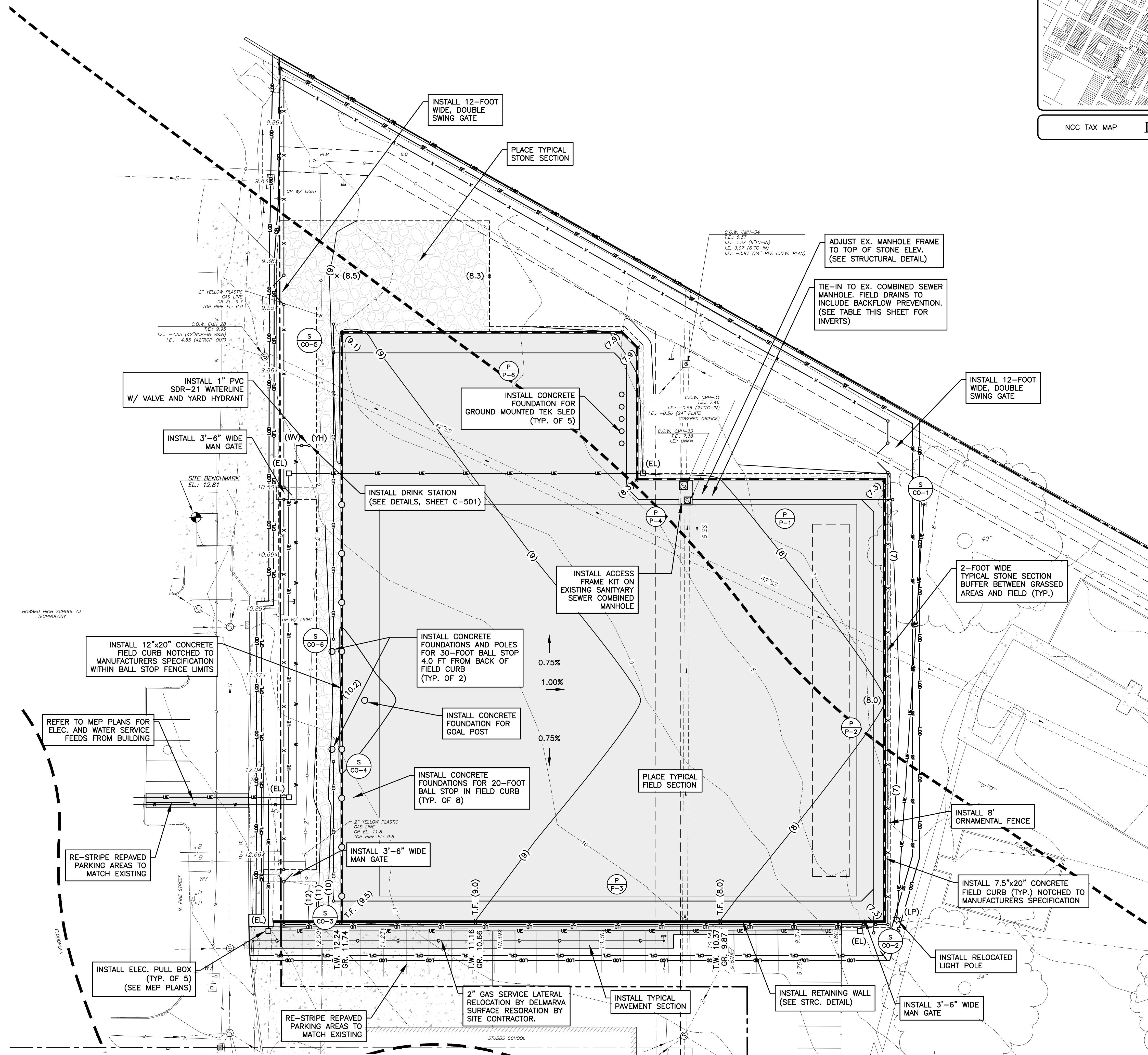
C-102



C-103



STORM STRUCTURE SCHEDULE				
NO.	TYPE/SIZE	T.E.	I.E. IN	I.E. OUT
CO-1	12" NYOPLAST	(7.00)	P-2 (3.70)	P-2 (3.70)
CO-2	12" NYOPLAST	(7.80)	P-3 (4.40)	P-3 (4.40)
CO-3	12" NYOPLAST	(9.46)	UD-1 (7.85)	UD-1 (7.85)
CO-4	12" NYOPLAST	(9.52)	UD-1 (8.25)	UD-1 (8.25)
CO-5	12" NYOPLAST	(8.91)	UD-2 (7.25)	UD-2 (7.25)
CO-6	12" NYOPLAST	(9.51)	UD-2 (8.25)	UD-2 (8.25)



PLAN APPROVAL STAMP

STORM PIPE SCHEDULE				
NO.	SIZE/TYPE	LENGTH	SLOPE	INV.
P-1	12" PERF. HDPE	74 L.F.	0.005 FT/FT	UP (3.70) DN (3.35)
P-2	12" PERF. HDPE	164 L.F.	0.004 FT/FT	UP (4.40) DN (3.70)
P-3	12" PERF. HDPE	221 L.F.	0.010 FT/FT	UP (6.60) DN (4.40)
P-4	12" PERF. HDPE	21 L.F.	0.005 FT/FT	UP (4.80) DN (4.70)
P-5	12" PERF. HDPE	60 L.F.	0.007 FT/FT	UP (5.20) DN (4.80)
P-6	12" PERF. HDPE	120 L.F.	0.005 FT/FT	UP (5.80) DN (5.20)
UD-1	6" PERF. PVC	57 L.F.	0.007 FT/FT	UP (8.25) DN (7.85)
UD-2	6" PERF. PVC	117 L.F.	0.009 FT/FT	UP (8.25) DN (7.25)

STORM STRUCTURE SCHEDULE				
NO.	TYPE/SIZE	T.E.	I.E. IN	I.E. OUT
CO-1	12" NYOPLAST	(7.00)	P-2 (3.70)	P-2 (3.70)
CO-2	12" NYOPLAST	(7.80)	P-3 (4.40)	P-3 (4.40)
CO-3	12" NYOPLAST	(9.46)	UD-1 (7.85)	UD-1 (7.85)
CO-4	12" NYOPLAST	(9.52)	UD-1 (8.25)	UD-1 (8.25)
CO-5	12" NYOPLAST	(8.91)	UD-2 (7.25)	UD-2 (7.25)
CO-6	12" NYOPLAST	(9.51)	UD-2 (8.25)	UD-2 (8.25)

OPERATION AND MAINTENANCE PLAN REQUIREMENTS

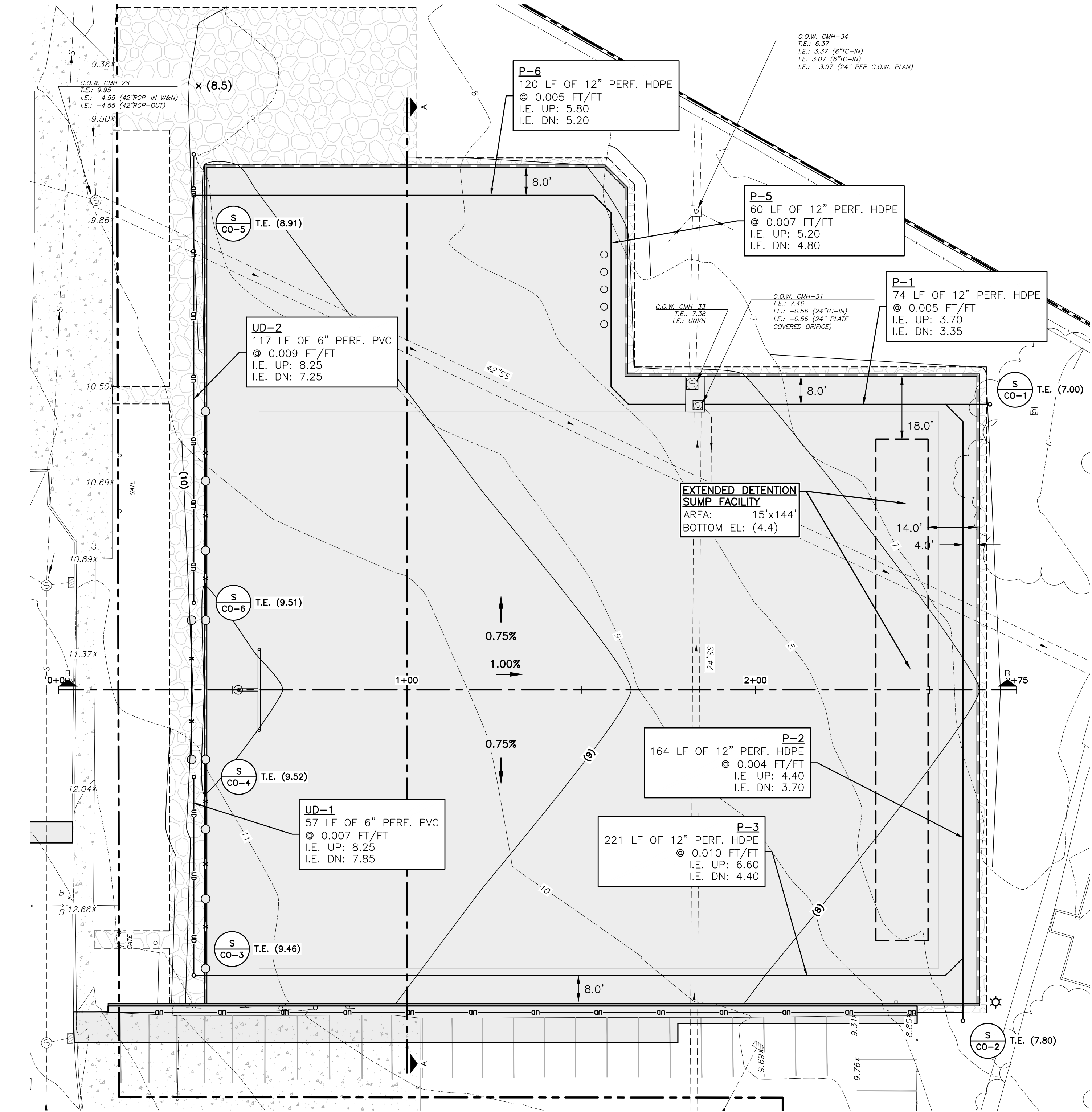
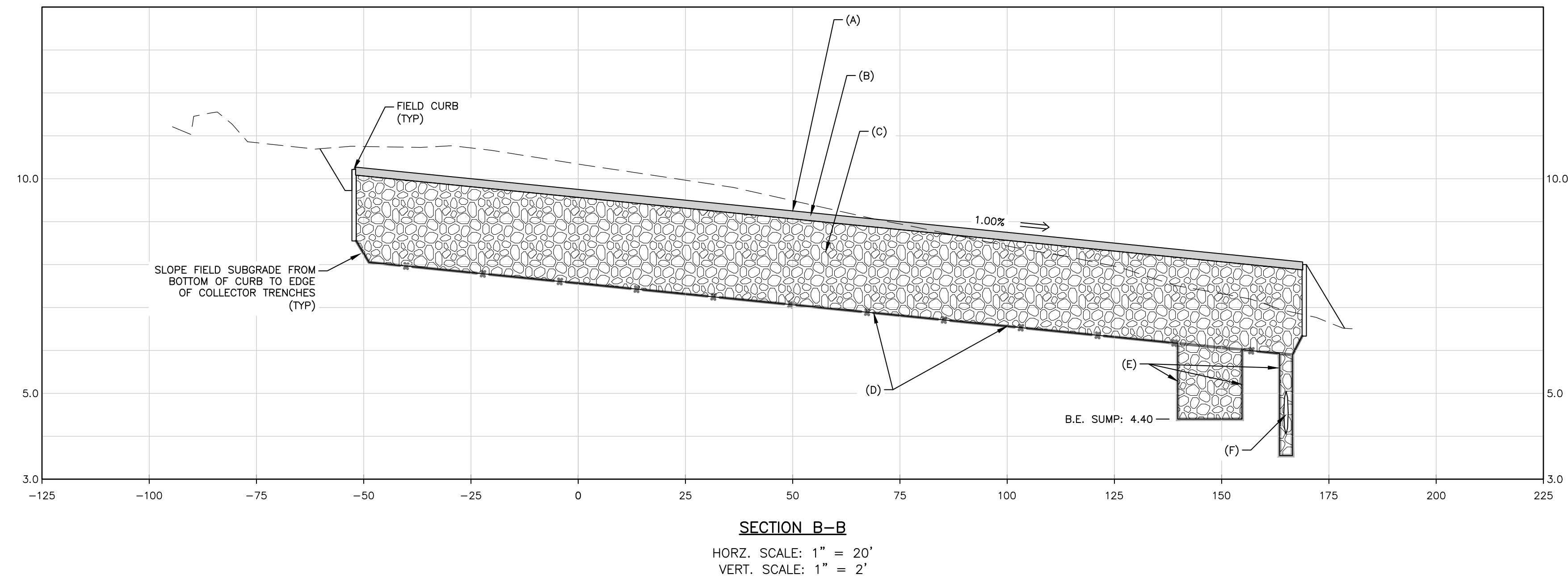
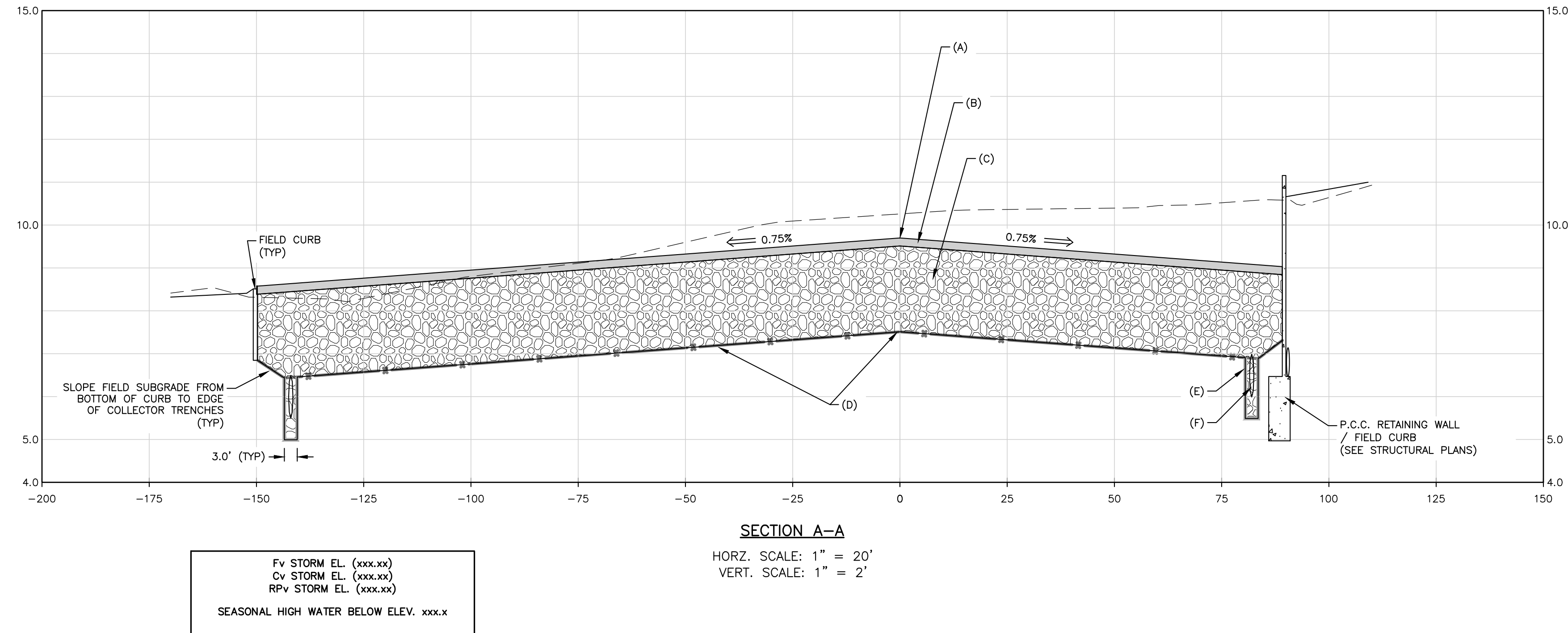
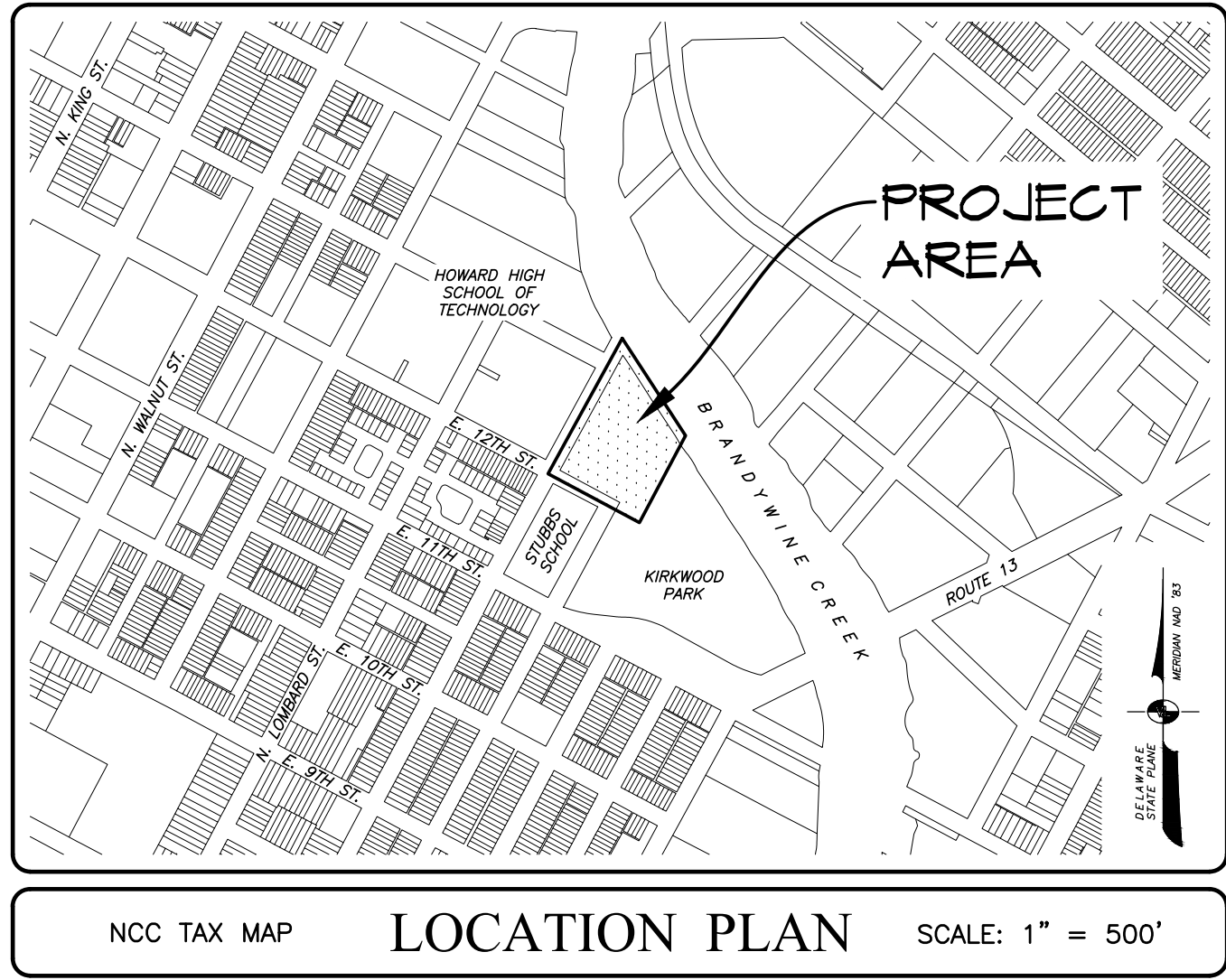
- CITY OF WILMINGTON PUBLIC WORKS RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE REVIEWS.
- CITY OF WILMINGTON PUBLIC WORKS SHALL BE NOTIFIED WITHIN 30 BUSINESS DAYS IF THE PROPERTY OWNERSHIP IS TRANSFERRED TO A NEW PERSON OR ENTITY.
- CITY OF WILMINGTON PUBLIC WORKS MAY SEEK ENFORCEMENT ACTION AGAINST ANY OWNER DEEMED NEGLIGENT IN FULFILLING THE OPERATION AND MAINTENANCE REQUIREMENTS OF THE "DELAWARE SEDIMENT AND STORMWATER REGULATIONS."
- CITY OF WILMINGTON PUBLIC WORKS SHALL BE CONTACTED IF A CONCERN ARISES REGARDING A STORMWATER MANAGEMENT FACILITY, BEFORE ANY NON-ROUTINE MAINTENANCE, OR IF MODIFICATIONS TO THE FACILITY ARE DESIRED.
- ANY DESIGN MODIFICATIONS MADE TO THE STORMWATER SYSTEM SHALL REQUIRE THE CREATION OF A NEW POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AND/OR OPERATIONS MAINTENANCE PLAN, WITH APPROVAL OF THE PLAN(S) BY NEW CASTLE COUNTY.
- FOR ALL STORMWATER EASEMENT AREAS (I.E., ACCESS, MAINTENANCE, OR OFFSITE) AND THE MINIMUM 10-FOOT WIDE ACCESSWAYS TO ALL STORMWATER FACILITIES AND THEIR STRUCTURAL COMPONENTS, REGULAR MOWING SHALL BE PERFORMED TO KEEP THE GRASS 6" OR LESS; NO TREES OR SHRUBS SHALL BE PLANTED, AND ANY FOUND GROWING SHALL BE REMOVED, AND NO PERMANENT STRUCTURES, SUCH AS FENCES OR SHEDS, SHALL BE LOCATED WITHIN THE EASEMENT OR ACCESSWAY.
- TREES SHALL NOT BE PLANTED, AND SHALL BE REMOVED IF FOUND GROWING, ON AND WITHIN 15 FEET OF ALL POND EMBANKMENTS, ON POND SLOPES OR SAFETY BENCHES, AND WITHIN 10 FEET OF STRUCTURAL COMPONENTS, SUCH AS PIPE INLETS.
- N/A
- BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.

EXTENDED DETENTION SUMP AND TURF FIELD SEQUENCE OF CONSTRUCTION

- STRIP TOPSOIL WITHIN PROPOSED FIELD LIMITS AND DELINEATE LIMITS OF DETENTION SUMP WITH ORANGE CONSTRUCTION FENCING OR ORANGE PAINTED STAKES AT 50-FOOT ON CENTER.
- ENSURE THAT THE CONTRIBUTING DRAINAGE AREA TO THE DETENTION PRACTICE IS LIMITED TO THE PROPOSED ARTIFICIAL TURF FIELD AREA. DRAINAGE FROM UNSTABILIZED AREAS SHALL BE DIVERTED. THE CERTIFIED CONSTRUCTION REVIEWER (CCR) SHALL INSPECT THE SITE PRIOR TO THE DETENTION FACILITIES INSTALLATION.
- EXCAVATE TURF FIELD LIMITS TO SUBGRADE AND INSTALL RETAINING WALL. A CERTIFIED GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE, DUE TO THE PRESENCE OF FILL, AREAS OF ADDITIONAL UNDERCUTTING MAY BE REQUIRED.
- EXCAVATE DETENTION SUMPS AND COLLECTOR TRENCHES TO THE SPECIFIED ELEVATIONS. SCARIFY THE EXISTING SOIL SURFACE, TAKING CARE NOT TO COMPACT THE IN-SITU MATERIALS. IF DETENTION SUMP SOILS ARE INADVERTENTLY COMPACTED, THEY SHOULD BE LOOSENEED BY DISC HARROWING OR OTHER METHOD APPROVED BY A CERTIFIED GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL ALSO VERIFY MARGINAL INFILTRATION CAPACITY OF THE FACILITY (1/8 INCH PER HOUR).
- THE EXCAVATION OF THE DETENTION SUMPS SHALL BE CONDUCTED BY EQUIPMENT OPERATING FROM BEYOND THE FOOTPRINT OF THE FACILITY OR WITH LOW GROUND PRESSURE EQUIPMENT THAT WILL NOT DECREASE THE INFILTRATION CAPACITY OF THE UNDERLYING SOILS.
- CCR INSPECTION AND AS-BUILT REQUIRED PRIOR TO EACH BACKFILL.
- BACKFILL DETENTION SUMP WITH DOUBLE WASHED NO. 57 STONE, INSTALL COLLECTOR DRAIN SYSTEM, AND CONNECT TO EXISTING OUTFALL STRUCTURE.
- PROOF ROLL SUB-GRADE, IF REQUIRED BY THE GEOTECHNICAL ENGINEER. PLACE GEOGRID AND GEOTEXTILE, INSTALL FENCE AND FIELD EQUIPMENT FOUNDATIONS, AND PERIMETER CURB.
- BACKFILL AND GRADE FIELD SECTION WITH NO. 57 STONE DRAINAGE BASE AND NO. 8 STONE FINISH STONE.
- CONDUCT AN AS-BUILT SURVEY OF STONE BASE PRIOR TO TURF INSTALLATION. SURFACE PLANARITY SHALL NOT EXCEED 1/4" OVER 10-FOOT OR 1/8" FROM DESIGN GRADE.
- INSTALL ARTIFICIAL TURF FIELD.
- AN AS-BUILT SHALL BE PROVIDED WITHIN 45 DAYS OF COMPLETING THE FACILITY.

EXTENDED DETENTION SUMP MAINTENANCE ITEMS AND FREQUENCY REQUIREMENTS	
FREQUENCY	MAINTENANCE ITEMS
DURING ESTABLISHMENT, AS NEEDED (FIRST YEAR)	<ul style="list-style-type: none"> INSPECT THE PRACTICE FIELD TWICE MONTHLY AND AFTER STORM EVENTS THAT EXCEED 1/2 INCH OF RAINFALL. THE ONLY STORMWATER ENTERING THE DETENTION PRACTICE SHALL BE LIMITED TO THE EXTENTS OF THE ARTIFICIAL TURF FIELD. VERIFY THAT NO ADDITIONAL SURFACE RUNOFF MAKES ITS WAY ONTO THE FIELD.
AS NEEDED	<ul style="list-style-type: none"> INSPECT CLEANOUTS, CONTROL STRUCTURES & BACKFLOW PREVENTERS AND VERIFY THAT THERE IS NO STANDING WATER, DEBRIS OR BLOCKAGES LOCATED IN THE PIPES AND DRAINAGE ORIFICE. DEBRIS AND BLOCKAGES SHOULD BE REMOVED IMMEDIATELY. THE ARTIFICIAL TURF AREA SHALL BE KEPT FREE OF DEBRIS AND FOLIAGE, TRASH AND LEAVES SHALL BE REMOVED FROM THE FIELD AS NEEDED.
ANNUALLY	<ul style="list-style-type: none"> CONDUCT A MAINTENANCE INSPECTION

ARTIFICIAL TURF FIELD SPECIFICATIONS AND NOTES			
MATERIAL	SPECIFICATION	SIZE	NOTES
(A) SYNTHETIC TURF	2.25" SUT FILM 42 OZ. MIN W/ 3 LBS OF SAND / 3 LBS OF RUBBER	N/A	REFER TO MANUFACTURERS SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS AND GRADE TOLERANCES (CLOW RATE: 15 IN/HR)
(B) BEDDING LAYER	2 INCH MIN. DEPTH OF ASTM D448 NO. 8 STONE	3/8 TO 3/16	REFER TO MANUFACTURERS SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS AND GRADE TOLERANCES (CLOW RATE: 15 IN/HR)
(C) DRAINAGE BASE / UNDERDRAIN TRENCH	22 INCH MIN. DEPTH OF ASTM D448 NO. 57 STONE	1 1/2 TO 1/2	STONE SHALL BE DOUBLE WASHED AND FREE OF ALL FINES.
(D) GEOGRID	TENSAR BX1200 OR EQUAL POLYPROPYLENE INTEGRALLY FORMED BIALX	N/A	PLACE ALONG TOP OF SUBGRADE PRIOR TO STONE BEDDING.
(E) GEOTEXTILE	MIRAFI 140N OR EQUAL NON-WOVEN, POLYPROPYLENE GEOTEXTILE WITH A FLOW RATE GREATER THAN 120 CM/GP/FT ASTM D4491 AND AN APPARENT OPENING SIZE EQUIVALENT TO A US No. 75 OR 80 SIEVE ASTM D4751	N/A	PLACE ALONG SIDES OF DETENTION SUMP AND ALONG THE COLLECTOR TRENCHES. MIN. 12" OVERLAP.
(F) COLLECTOR DRAIN	12 INCH PERFORATED DUAL WALL HDPE PIPE PIPE - ADS N-12 57 IN. OR EQUAL (ASTM F2648) FITTINGS - ADS N-12 OR EQUAL (ASTM F2306) PERFORATIONS - AASHTO CLASS II	12"	PIPE WITHIN COLLECTOR TRENCH SHALL BE PERFORATED. ALL FITTINGS AND PIPE OUTSIDE OF COLLECTOR TRENCH SHALL BE SOLID PIPE.



PROJECT NAME: HOWARD HIGH SCHOOL - ARTIFICIAL TURF PRACTICE FIELD
 PLAN SET: SEDIMENT AND STORMWATER MANAGEMENT PLAN
 PROJECT LOCATION: 701 EAST ELEVENTH STREET, WILMINGTON, DE 19801
 WATERSHED: BRANDYWINE CREEK
 TAX PARCEL: 26-036.10-416
 DELEGATED AGENCY: CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS



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 WILMINGTON, DE 19804-7605
 WWW.VANDEMARK-AND-LYNCH.COM



PROJECT
**HOWARD HIGH SCHOOL
 ARTIFICIAL TURF
 PRACTICE FIELD**

OWNER
CITY OF WILMINGTON

DATE	DESCRIPTION
04.08.19	ISSUED FOR BID / PERMIT
03.25.19	ISSUED FOR REVIEW

PROJECT NO: 24009.02
 FILE NAME: 24009.02-CONST-04.DWG
 DRAWN BY: S. DEISHER
 CHECKED BY: D. EITELMAN

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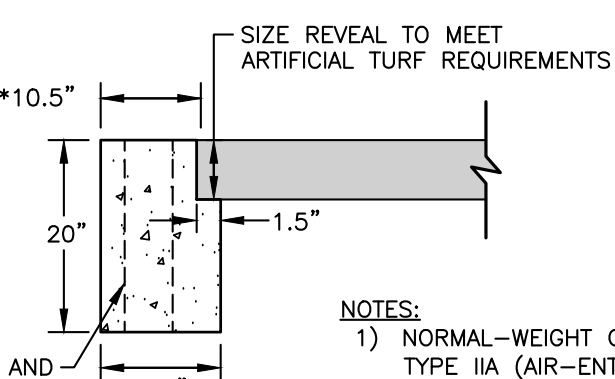
SHEET TITLE
**SEDIMENT & SWM PLAN
 CONSTRUCTION SITE
 SWM PLAN
 FIELD SECTIONS AND SPECS**

C-104

PLAN APPROVAL STAMP

GENERAL CONSTRUCTION NOTES:

- THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL EXISTING CONDITIONS, LAYOUT DIMENSIONS, AND CLEARANCES SHOWN ON THE DRAWINGS. ANY DISCREPANCIES WITHIN THE DRAWINGS, EXISTING FIELD CONDITIONS, SPECIFICATIONS, CODES OR REGULATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF WORK. FIELD REVISIONS REQUIRE PRIOR ENGINEERING REVIEW AND WRITTEN CONFIRMATION FROM THE OWNER.
- PRIOR TO SUBMITTING BIDS, ALL CONTRACTORS SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO DETERMINE THE SCOPE OF SERVICES PROVIDED BY THE UTILITY. ALL WORK AND MATERIALS NOT MAINTAINED BY THE UTILITY SHALL BE PROVIDED AND COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COSTS.
- EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND ALLOW FOR THEIR LOCATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE DONE TO UTILITIES DUE TO NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL PROTECT ALL ADJOINING AND NEARBY BUILDINGS, EQUIPMENT, UTILITIES, STRUCTURES, FENCES, TREES AND SHRUBBERY, ETC. FROM DAMAGE DUE TO EXCAVATION, DEMOLITION AND CONSTRUCTION DURING THE ENTIRE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED DIRECTLY OR INDIRECTLY WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE DELDOT STANDARD SPECIFICATIONS AND DETAILS, OR THE NEW CASTLE COUNTY SPECIFICATIONS AND DETAILS, EXCEPT AS NOTED ON THIS PLAN.
- PLAN LOCATIONS AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- THE CONTRACTOR SHALL ERECT SUFFICIENT BARRICADES AND TAKE NECESSARY PRECAUTIONS TO PROTECT WORK AREAS. THE CONTRACTOR SHALL NOT DISRUPT DAILY OPERATIONS OF THE FACILITY, TRAFFIC FLOW IN THE SITE, OR EMERGENCY ACCESS TO THE SITE EXCEPT WITH THE CONCUERANCE OF THE OWNER. A DETAILED TRAFFIC MAINTENANCE PLAN SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL 14 DAYS PRIOR TO BEGINNING CONSTRUCTION. MAINTENANCE OF TRAFFIC WITHIN PUBLIC RIGHTS-OF-WAY SHALL BE COORDINATED WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL DELDOT PERMITS.
- ALL TREES, TIMBER, STUMPS, BRUSH, RUBBISH OR OTHER MATERIAL NOT TO REMAIN SHALL BE REMOVED FROM THE SITE. NO DEBRIS OR TREE STUMPS SHALL BE BURIED ON SITE. OPEN BURNING SHALL NOT BE PERMITTED.
- ALL EXCAVATION, EXCEPT ROCK, SHALL BE UNCLASSIFIED. EXCAVATION OF ROCK SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS 205 AND 206 OF THE DELDOT STANDARD SPECIFICATIONS.
- IN ALL AREAS WHERE ROCK OR OTHER UNSUITABLE MATERIALS ARE ENCOUNTERED, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL SAID MATERIAL AND PROVIDE AND PLACE SUITABLE MATERIAL TO PROVIDE ADEQUATE FOUNDATION FOR ALL PAVING OR OTHER STRUCTURES.
- ALL EXCESS EXCAVATION AND ALL OLD PAVEMENT, BASE COURSE, BROKEN CONCRETE, ETC. SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HAULED AWAY FROM THE SITE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ANY SHEETING, SHORING, OR SIMILAR TRENCH BRACING THAT MAY BE NECESSARY FOR THE CONSTRUCTION OF THIS CONTRACT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE ITEM BEING CONSTRUCTED.
- ALL MATERIAL STORAGE SHALL BE WITHIN THE PROPERTY BOUNDARIES AND NOT ON ADJOINING PROPERTIES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL INSTALLED PIPING UNTIL THE COMPLETION OF CONSTRUCTION OF THE PROJECT. PIPES WITH SHALLOW COVER SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION MACHINERY WITH ADEQUATE TEMPORARY COVER.
- UNLESS OTHERWISE NOTED, ALL MANHOLES SHALL BE PRECAST CONCRETE, TYPE A-2 OR A-3, WITH A-LOK OR APPROVED EQUAL PIPE TO MANHOLE GASKET.
- MANHOLES SHALL BE EQUIPPED WITH A HEAVY TRAFFIC MANHOLE FRAME AND COVER, UNLESS OTHERWISE NOTED.
- TOP OF MANHOLE ELEVATIONS ARE AT TOP OF MANHOLE FRAME AND COVER.
- ALL PIPE JOINTS SHALL BE MECHANICAL JOINTS AND SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. ALL PIPE FITTINGS (BENDS, TEES, WYES, ETC.) SHALL BE RESTRAINED WITH THRUST BLOCKS IN ACCORDANCE WITH THE DETAILS ON THIS PLAN. PIPE SHALL NOT BE BACKFILLED UNTIL IT HAS BEEN TESTED AND APPROVED.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE AND CLOSE ALL VALVES FOR ISOLATION OF THE EXISTING WATER MAINS RUNNING THROUGH THE PROJECT AREA DURING ALL NEW PIPE CONNECTIONS.
- THE PROPOSED WATER LINES SHALL HAVE A MINIMUM OF 42 INCHES OF COVER. WHERE EXISTING UTILITIES CONFLICT WITH A PROPOSED WATER LINE, THE WATER LINES SHALL BE DROPPED BELOW THE CONFLICTING UTILITY. EXISTING WATER LINES MAY BE DEEPER THAN 42". DETERMINE WATER LINE DEPTH PRIOR TO PRECASTING STRUCTURES.
- ALL PLUGS AND CAPS AND THE METHOD OF THEIR INSTALLATION SHALL BE SUBJECT TO APPROVAL BY THE DESIGN ENGINEER. FOR CONSTRUCTION DETAILS REFER TO STANDARD SPECIFICATION FOR CONSTRUCTION, N.C.C. DEPARTMENT OF SPECIAL SERVICES.
- THE CONTRACTOR SHALL CONFORM TO ALL APPLICABLE AWWA STANDARDS.
- IF, IN THE OPINION OF THE ENGINEER OR INSPECTOR, IT BECOMES NECESSARY TO REMOVE ANY UNACCEPTABLE FOUNDATION MATERIAL IN ORDER TO PLACE STONE BEDDING FOR PIPES OR MANHOLES, THE COST OF THAT UNCLASSIFIED EXCAVATION SHALL BE INCIDENTAL TO THE COST OF THE CUBIC YARDAGE OF STONE BEDDING.
- ALL PORTLAND CEMENT CONCRETE FOR DRAINAGE AND OTHER STRUCTURES SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI AFTER 28 DAYS UNLESS OTHERWISE NOTED.
- ALL PAVING SHALL BE TIED INTO EXISTING PAVEMENTS, AS SHOWN ON THE DETAILS. NO FEATHERING OF PAVING WILL BE ALLOWED.
- ALL DISTURBED AREAS OUTSIDE OF PAVEMENT SHALL BE TOPSOILED WITH 6" TOPSOIL, SEEDED, AND MULCHED, OR STABILIZED WITH EROSION CONTROL MATTING.



FIELD CURB DETAIL
NOT TO SCALE

GENERAL

- ALL DESIGN MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC 2012) AS ADOPTED AND AMENDED BY THE NEW CASTLE COUNTY, DELAWARE, CODE.
- THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF WORK.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING AND VERIFYING THE EXISTENCE AND LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING AND VERIFYING ALL SITE CONDITIONS AND FIELD VERIFYING DIMENSIONS BEFORE THE COMMENCEMENT OF WORK. THE STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCIES OR DEVIATIONS FROM THE DRAWINGS.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF OSHA.
- THE STRUCTURE HAS BEEN DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER COMPLETION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR BUILDING STABILITY DURING ERECTION. CONTRACTOR SHALL DETERMINE ERECTION PROCEDURES AND CONSTRUCTION SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION INCLUDING TEMPORARY BRACING, GUTS OR TIE DOWNS, AND SHORING.
- CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, AND TEMPORARY SYSTEMS REQUIRED TO STABILIZE AND PROTECT EXISTING STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION.
- THESE DRAWINGS WERE DEVELOPED USING SPORTSFIELD SPECIALTIES CUT SHEETS AND SPECIFICATIONS AS A DESIGN BASIS. ATTENTION MUST BE BROUGHT TO THE ENGINEER IF ANY OTHER MANUFACTURER IS USED TO REVEAL ANY NECESSARY CHANGES TO THE DESIGN AND/OR DETAILS.

FOUNDATIONS

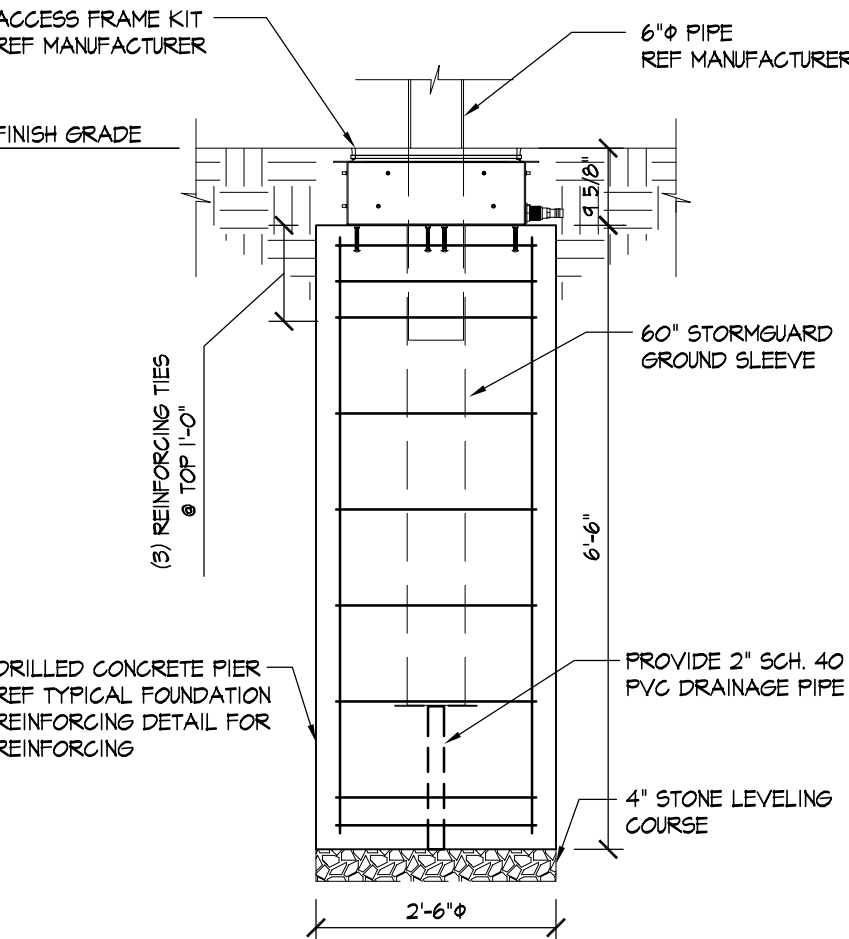
- ALL FOUNDATIONS HAVE BEEN DESIGNED WITHOUT THE BENEFIT OF A GEOLOGICAL EVALUATION AND HAVE BEEN DESIGNED TO BEAR ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 2000 PSF. SOIL BEARING CAPACITY SHALL BE FIELD VERIFIED BY A REGISTERED GEOLOGICAL ENGINEER. FOUNDATIONS INDICATED MUST BE MODIFIED IF THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN THE ASSUMED BEARING CAPACITY.
- ALL EXTERIOR FOOTINGS SHALL BE FOUNDED AT A MINIMUM DEPTH OF 32 INCHES BELOW FINISHED EXTERIOR GRADE AND ALL FOOTINGS SHALL BE PLACED ONLY ON A FIRM, DRY, NON-FROZEN SUBGRADE.
- PLACE LIGHT TO MEDIUM DUTY NON-WOVEN GEOTEXTILE FABRIC EQUIVALENT TO AMOCO 4551 OR 4555 WHERE NOTED.
- STRUCTURAL AND NON STRUCTURAL FILL SHALL CONFORM TO DELAWARE SELECT TYPE 6, GRADING V OR VI AND SHALL BE PLACED IN MAXIMUM 18" LIFT AND BE COMPACTED TO 95% FOR STRUCTURAL FILL AND 90% FOR NON-STRUCTURAL FILL OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST, ASTM D 1557 OR AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
- ALL EXCAVATED MATERIALS SHALL BE COMPLETELY REMOVED FROM THE SITE BY THE CONTRACTOR AND FINAL CLEARANCE PERFORMED TO THE SATISFACTION OF THE OWNER.
- STONE STABILIZATION WORK MAY OF DELAWARE NO. 51 STONE SHALL BE PLACED WHERE INDICATED AND HAVE AN EVEN SURFACE AT THE SPECIFIED LEVEL. CONSTRUCTION OF WORK MAT SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING REINFORCING STEEL AND CONCRETE.
- INSUITABLE SOILS BENEATH PROPOSED FOUNDATION AND SLAB ON GRADE SHALL BE EXCAVATED AND REPLACED WITH STRUCTURAL FILL "SOIL EXCHANGE" AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION.
- CONTRACTOR SHALL PROTECT EXPOSED SOILS AT THE BASES OF FOUNDATION EXCAVATIONS FROM RAINFALL, FREEZING CONDITIONS, AND ANY OTHER ENVIRONMENTAL CHANGE IN CONDITION. SURFACE RUNOFF SHOULD BE DRAINED AWAY FROM THE EXCAVATIONS AND NOT BE ALLOWED TO POND. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND. SLOPE FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY OR PROVIDE SHEETING OR SHORING IN ACCORDANCE WITH OSHA REQUIREMENTS.

CONCRETE

- ALL REINFORCED CONCRETE SHALL BE DESIGNED, DETAILED AND PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318-11 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-66, AND WITH ACI 318, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
- NORMAL-WEIGHT CONCRETE WITH PORTLAND CEMENT, TYPE I, OR TYPE I/A (AIR-ENTRAINING), OR TYPE II WITH THE ADDITION OF AIR-ENTRAINING ADMIXTURE, MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI FOR FOOTINGS AND PILES & 4000 PSI FOR RETAINING WALL CONCRETE.
- AGGREGATE SHALL CONFORM TO ASTM C29.
- AIR ENTRAINMENT SHALL BE WITHIN THE RANGE OF 5% TO 6% FOR EXPOSED CONCRETE.
- TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED IN SECTION 1.6 QUALITY ASSURANCE OF ACI 301.
- THE RECOMMENDATIONS CONTAINED IN ACI COMMITTEE REPORT 306R, COLD WEATHER CONCRETING, SHALL BE OBSERVED.
- THE RECOMMENDATIONS CONTAINED IN ACI COMMITTEE REPORT 306R, HOT WEATHER CONCRETING, SHALL BE OBSERVED.
- ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 615, GRADE 60.
- ALL SPLICES OF REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS FOR ACI CLASS "B" SPLICES OR 48 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
- REINFORCING STEEL DIMENSIONS ARE TO THE CENTERLINE OF THE BAR UNLESS NOTED OTHERWISE. CLEAR DISTANCES ARE TO THE OUTSIDE FACE OF THE BAR.
- MINIMUM CONCRETE COVER OF 3" SHALL BE PROVIDED FOR REINFORCEMENT OF CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NO. 5 BARS AND SMALLER (1/2") CLEARANCE MINIMUM. ALL OTHER CLEAR DISTANCES SHALL BE 2 INCHES MINIMUM, UNLESS NOTED OTHERWISE.
- THE PLACEMENT OF THE STEEL REINFORCEMENT SHALL BE REVIEWED BY AN ENGINEER A MINIMUM OF 24 HOURS PRIOR TO THE PLACEMENT OF CONCRETE. ADDITIONALLY, THE CONTRACTOR SHALL ALLOW A 24 HOUR NOTICE FOR THE REVIEW PERIOD.
- PLACING OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE OWNER'S REPRESENTATIVE.
- SUPPORTS, SPACERS AND CHAIRS SHALL MEET THE REQUIREMENTS OF ACI 301 AND CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE, LATEST EDITION.
- FORM MATERIALS SHALL BE OF SUFFICIENT STRENGTH AND STABILITY TO WITHSTAND PRESSURE OF PLACED CONCRETE WITHOUT BOW OR DEFLECTION. FORMS FOR EXPOSED FINISH CONCRETE SHALL BE PLYWOOD, METAL, METAL-FRAMED PLYWOOD FACED, OR OTHER ACCEPTABLE PANEL-TYPE MATERIALS TO PROVIDE CONTINUOUS, STRAIGHT, SMOOTH EXPOSED SURFACES. FINISH IN LARGEST PRACTICABLE SIZES TO MINIMIZE NUMBER OF JOINTS AND TO CONFORM TO JOINT SYSTEM SHOWN ON DRAWINGS.
- PROVIDE COMMERCIAL FORMULATION FORM-COATING COMPOUNDS THAT WILL NOT BOND WITH STAIN, NOR ADVERSELY AFFECT CONCRETE SURFACES AND WILL NOT IMPAIR SUBSEQUENT TREATMENTS OF CONCRETE SURFACES.
- FORM TIES OR SPREADERS SHALL LEAVE NO METAL WITHIN 1/2" (ONE AND ONE HALF INCHES) OF EXPOSED CONCRETE SURFACE. PLUG ROD HOLES SOLID.
- CONCRETE SHALL NOT BE DEPOSITED UNTIL ALL WATER AND DEBRIS HAVE BEEN COMPLETELY REMOVED AND APPROVAL HAS BEEN GIVEN BY THE ENGINEER.
- PRIOR TO PLACING NEW CONCRETE OVER EXISTING CONCRETE, CONTRACTOR SHALL INTENTIONALLY ROUGHEN THE EXISTING SURFACES WHERE CONCRETE IS TO BE PLACED. APPLY SIKADUR 32 H-MOD BONDING AGENT TO EXISTING CONCRETE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- CONCRETE SHALL BE DEPOSITED AS NEARLY AS PRACTICABLE IN ITS FINAL POSITION TO AVOID SEGREGATION DUE TO REHANDLING. IMMEDIATELY AFTER DEPOSITING, CONCRETE SHALL BE COMPACTED BY MEANS OF MECHANICAL AGITATION TO PREVENT THE FORMATION OF VOIDS. EXTERNAL VIBRATION WILL NOT BE PERMITTED. THE PLACING OF CONCRETE SHALL BE CARRIED ON AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY INTO SPACES BETWEEN BARS. CONCRETE SHALL NOT BE PLACED ON CONCRETE WHICH HAS ACQUIRED ITS INITIAL SET. CONCRETE WHICH HAS CONTAINED ITS MIXING WATER MORE THAN 1 1/2 HOURS SHALL NOT BE DEPOSITED IN THE WORK. (ONE HOUR WHEN AIR TEMPERATURE IS ABOVE 75 F.)
- FINISHING CONCRETE: ALL CONCRETE SURFACES SHALL BE TRUE AND EVEN, FREE FROM HONEYCOMBS, STONE POCKETS AND EXCESSIVE DEPRESSIONS, PROJECTIONS, AND AIR POCKETS. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 1" X 1".
- CURING OF CONCRETE: PROVIDE MOISTURE CURING FOR SEVEN (7) DAYS BY KEEPING CONCRETE SURFACE CONTINUOUSLY WET BY COVERING WITH WATER, CONTINUOUS WATER-FOG SPRAY OR ABSORPTIVE COVER, KEPT CONTINUOUSLY SATURATED.
- HORIZONTAL SURFACES SHALL BE CAREFULLY FINISHED TO THE REQUIRED ELEVATIONS AND SHALL BE THOROUGHLY WORKED AND FLOATED BY HAND WITH A WOOD FLOAT TO LEAVE A FINE, CLEAN SMOOTH SANDED TEXTURE.
- UNHARDENED CONCRETE SHALL BE PROTECTED FROM HEAVY RAINS OR FLOWING WATER. ALL CONCRETE SHALL BE ADEQUATELY PROTECTED FROM MECHANICAL INJURY. THE CONTRACTOR SHALL SUBMIT HIS CONSTRUCTION PROCEDURES FOR ENGINEER'S REVIEW.

BREAK-AWAY BALL SAFETY NETTING FOUNDATION

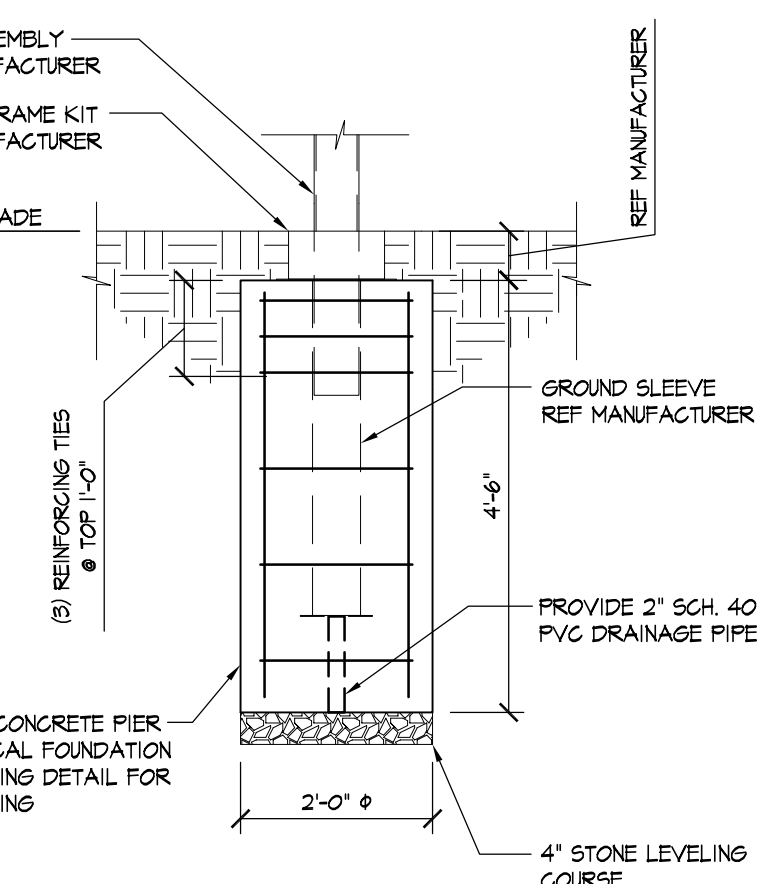
SCALE: 1/2" = 1'-0"



FOOTBALL GOAL POST FOUNDATION

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

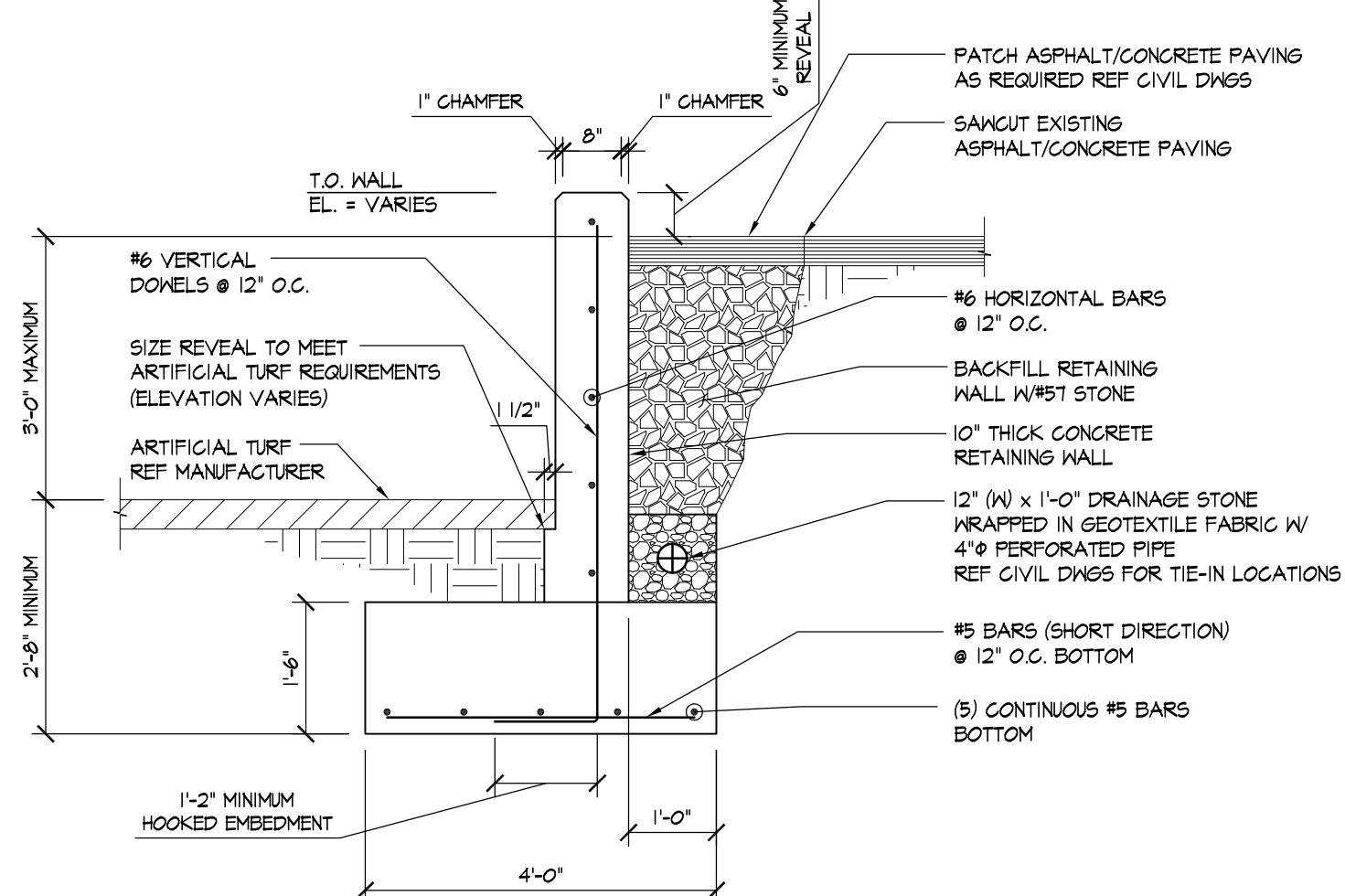
- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
- REF CIVIL DWGS FOR FOUNDATION LOCATIONS



GROUND MOUNT TEK FOUNDATION

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

- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
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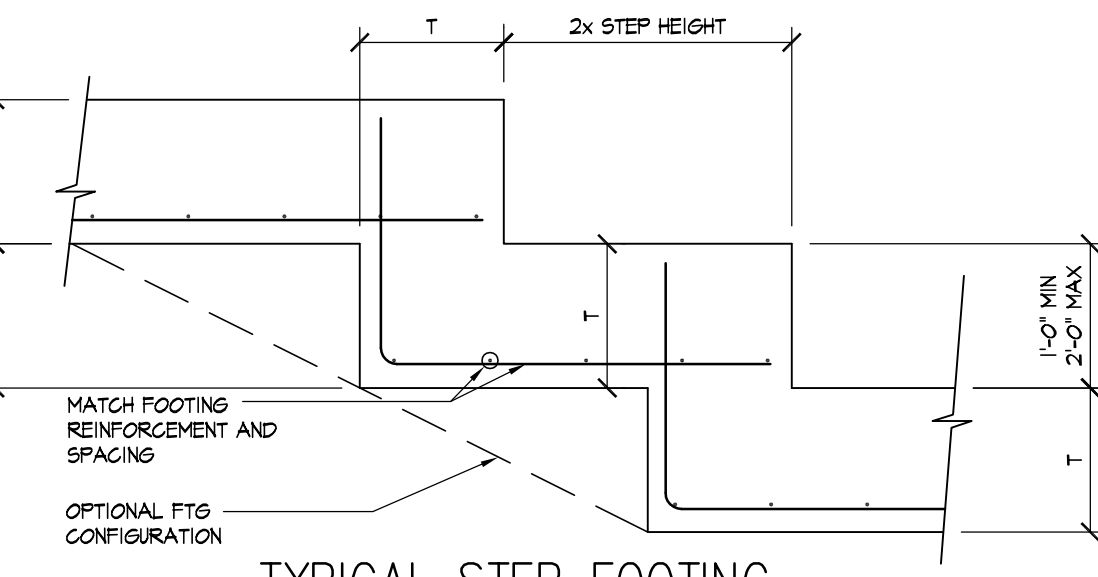


TYPICAL RETAINING WALL SECTION

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

- VERTICAL CONTROL JOINTS ARE TO BE SPACED NOT GREATER THAN 20'-0" O.C. REF TYPICAL DETAIL THIS SHEET
- REF CIVIL DWGS FOR WALL LOCATION

LATERAL LOADS	
WIND	
V =	115 mph
Exposure Category	B
SEISMIC	
Seismic Use Group	1 (IE = 1.0)
S DS	0.208g
S D1	0.044g
S 5	0.145g
S 1	0.098g
Seismic Design Cat.	B
Site Class	D
Analysis Procedure	Components & Cladding per ASCE 7-10 chapter 30.



TYPICAL STEP FOOTING

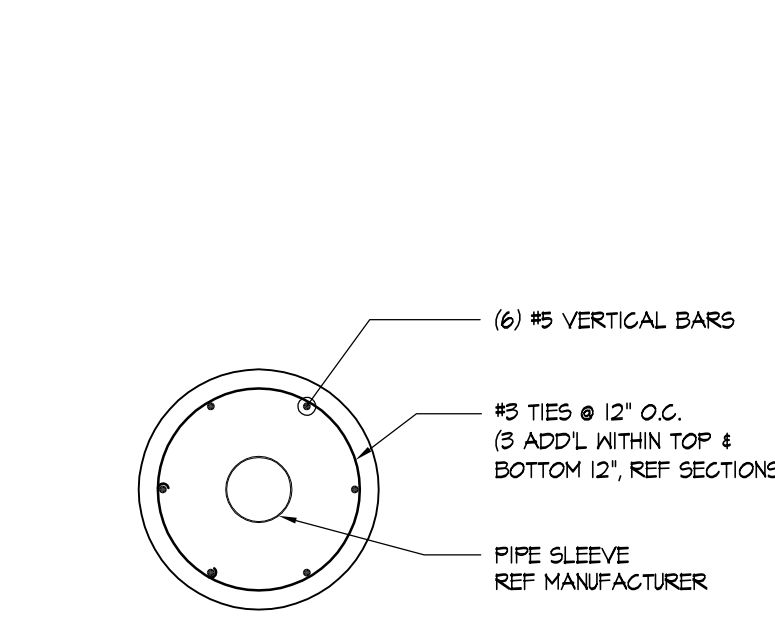
SCALE: 1/2" = 1'-0"

T = FTG DEPTH
NOTE: SLOPE OF STEPPED FOOTING SHALL NOT EXCEED THE RATIO OF TWO HORIZONTAL TO ONE VERTICAL

FOOTBALL SAFETY NETTING SYSTEM FOUNDATION SECTION

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

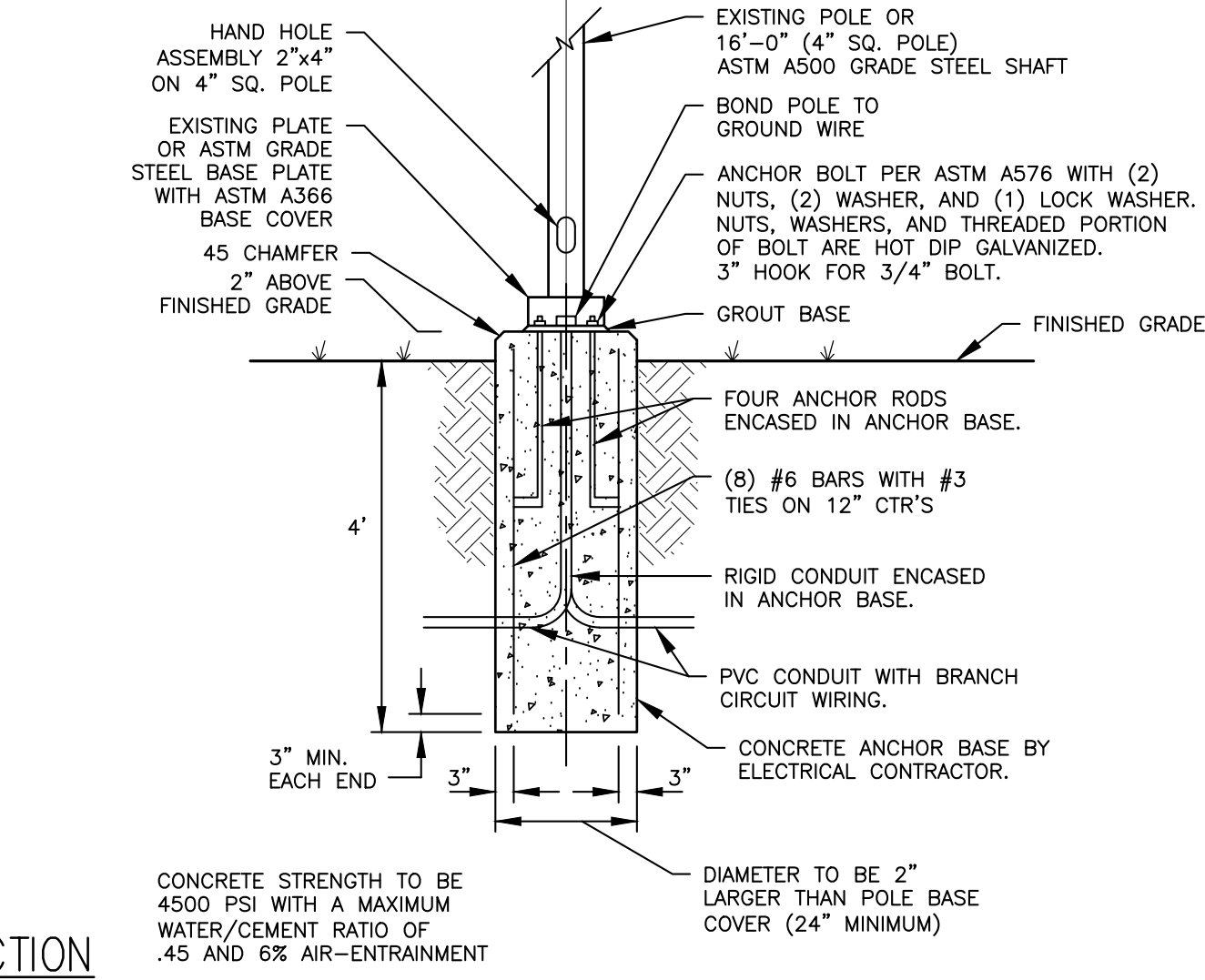
- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
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TYPICAL FOUNDATION REINFORCING DETAIL

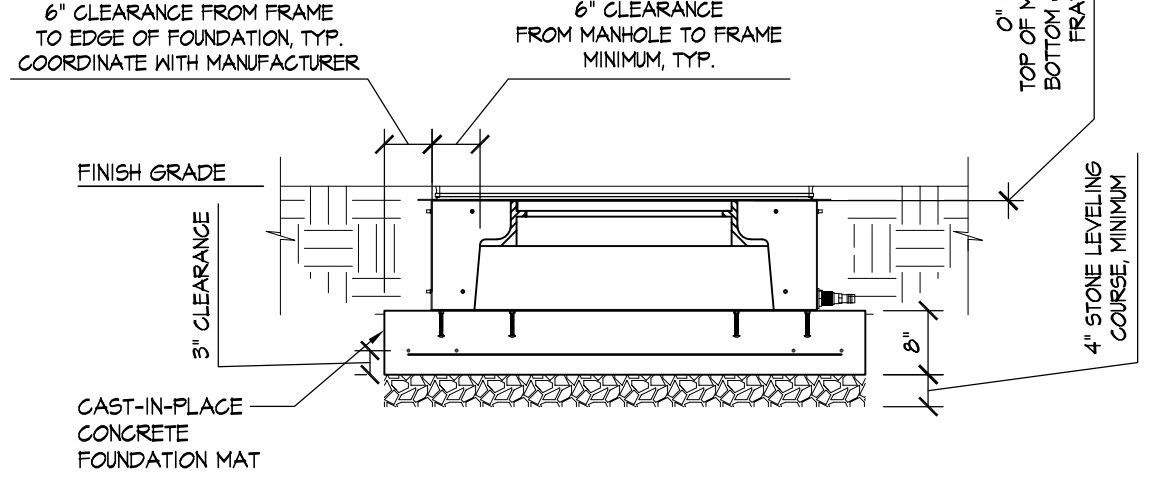
SCALE: 1/2" = 1'-0"

- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
- REF CIVIL DWGS FOR FOUNDATION LOCATIONS



REINFORCED ANCHOR BASE FOR POLE IN GRASS AREAS

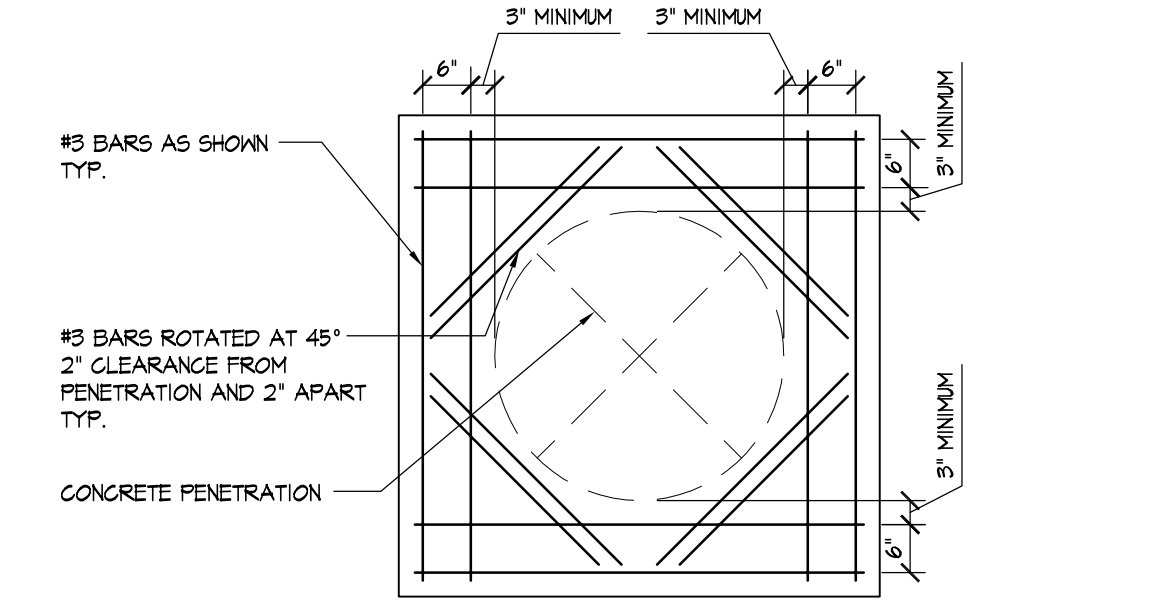
NOT TO SCALE



MANHOLE ACCESS FRAME KIT DETAIL

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

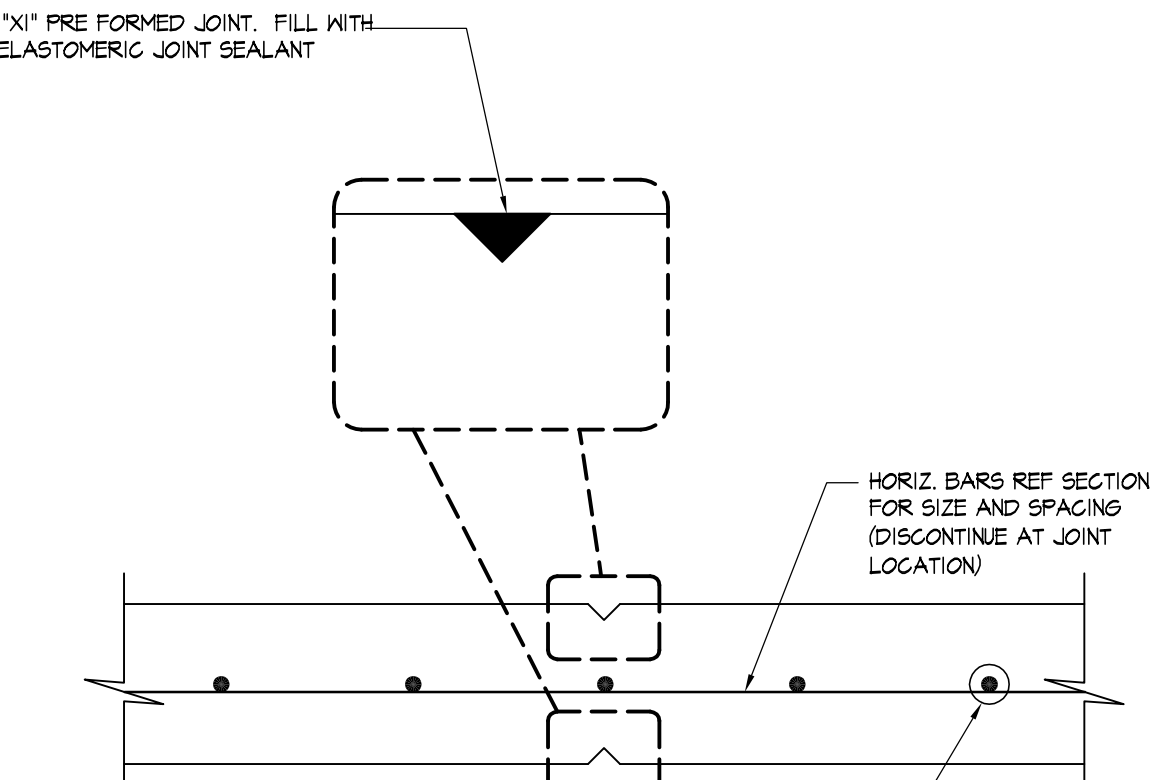
- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
- REF CIVIL DWGS FOR FOUNDATION LOCATIONS
- MANHOLE SHALL BE ADJUSTED AS REQUIRED USING PER-CAST CONCRETE GRADE RING (GINDER BLOCK SHALL NOT BE USED)
- CONCRETE MUST BE SIZED TO MEET MINIMUM CLEARANCES & DIMENSIONS AS SHOWN. COORDINATE WITH MANHOLE IN FIELD & WITH ACCESS FRAME KIT MANUFACTURER.



MANHOLE ACCESS FRAME KIT REINFORCING PLAN

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

- CONCRETE MUST BE SIZED TO MEET MINIMUM CLEARANCES & DIMENSIONS AS SHOWN. COORDINATE WITH MANHOLE IN FIELD & WITH ACCESS FRAME KIT MANUFACTURER.



TYPICAL WALL CONSTRUCTION/CONTROL JOINT

SCALE: 1" = 1'-0"

- COORDINATE MANUFACTURER INSTALLATION INSTRUCTIONS WITH FOUNDATION DETAILS
- REF CIVIL DWGS FOR FOUNDATION LOCATIONS

PROJECT NAME: HOWARD HIGH SCHOOL - ARTIFICIAL TURF PRACTICE FIELD
PLAN SET: SITE CONSTRUCTION & SEDIMENT AND STORMWATER PLAN
PROJECT LOCATION: 701 EAST ELEVENTH STREET, WILMINGTON, DE 19801
WATERSHED: BRANDYWINE CREEK
TAX PARCEL: 26-036.10-416
DELEGATED AGENCY: CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS



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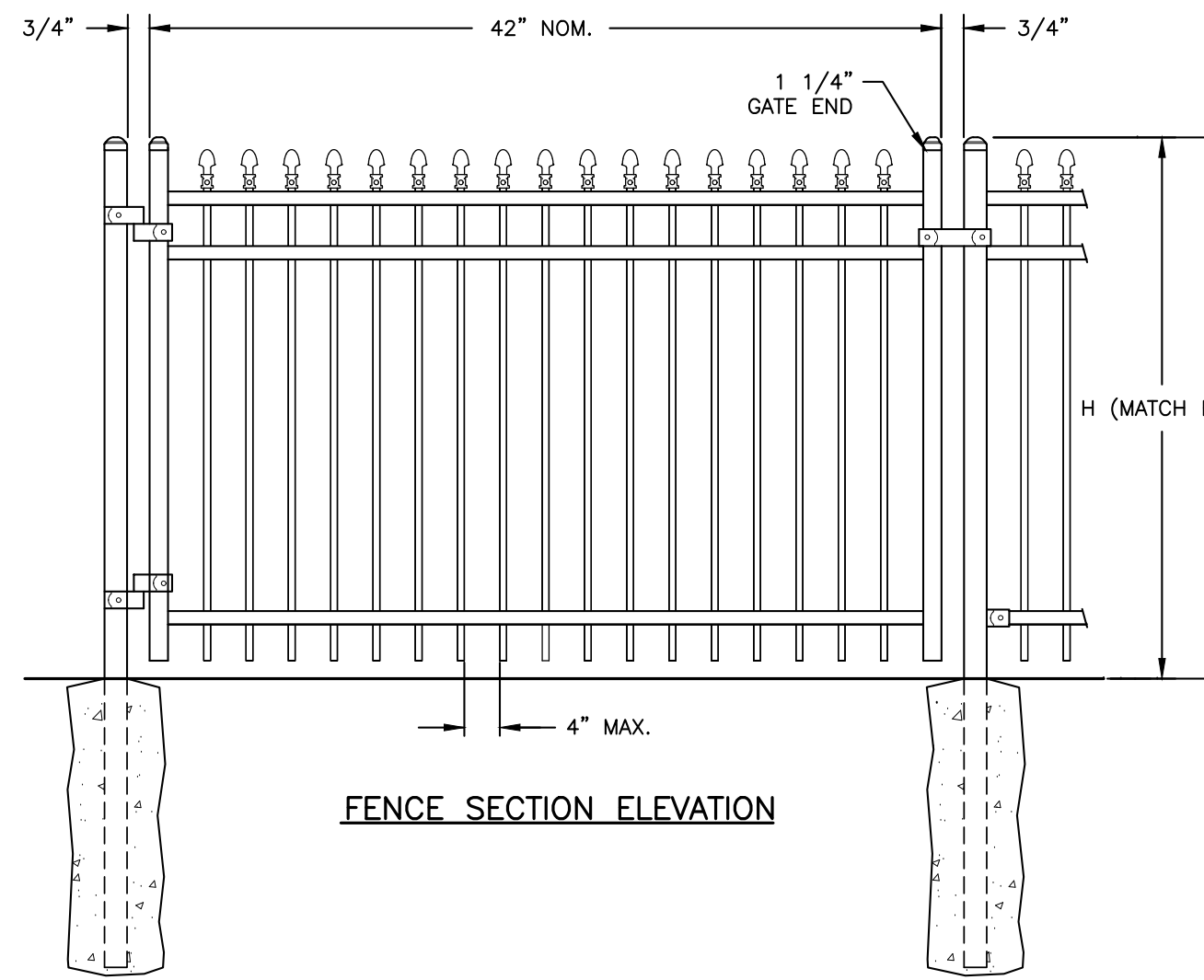
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SHEET TITLE

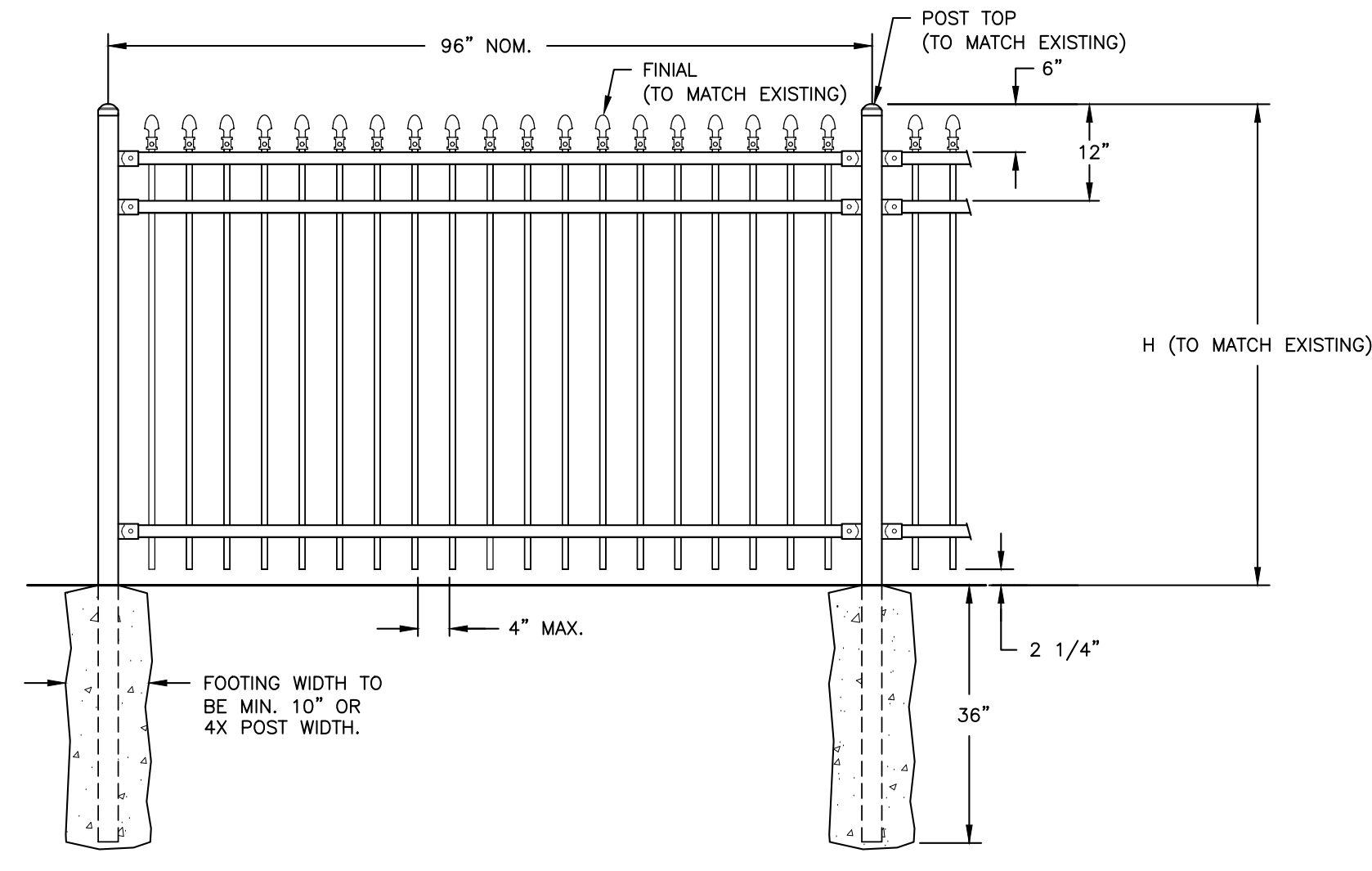
SITE CONSTRUCTION PLAN
CONSTRUCTION SITE
DETAILS AND NOTES

C-502

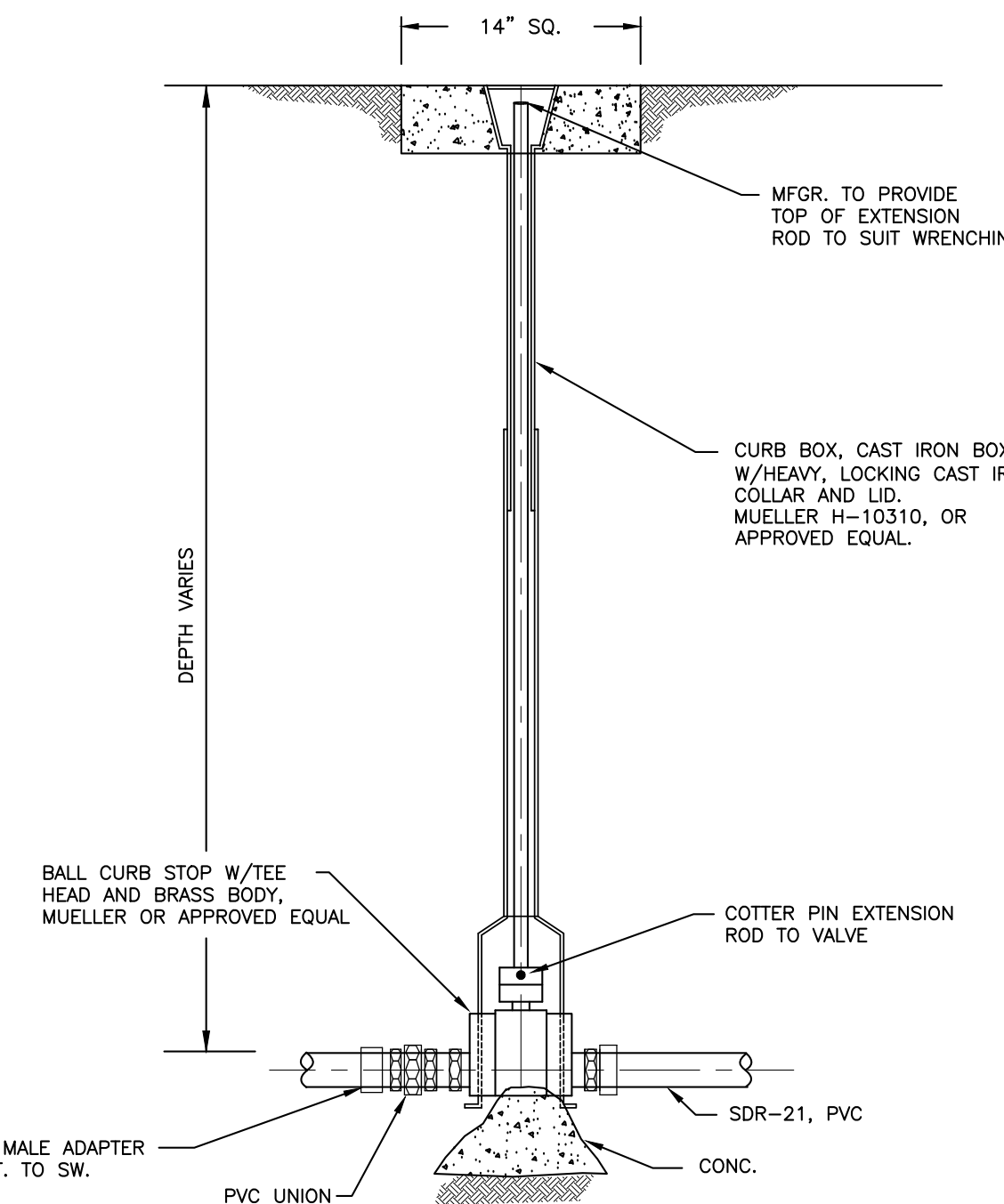
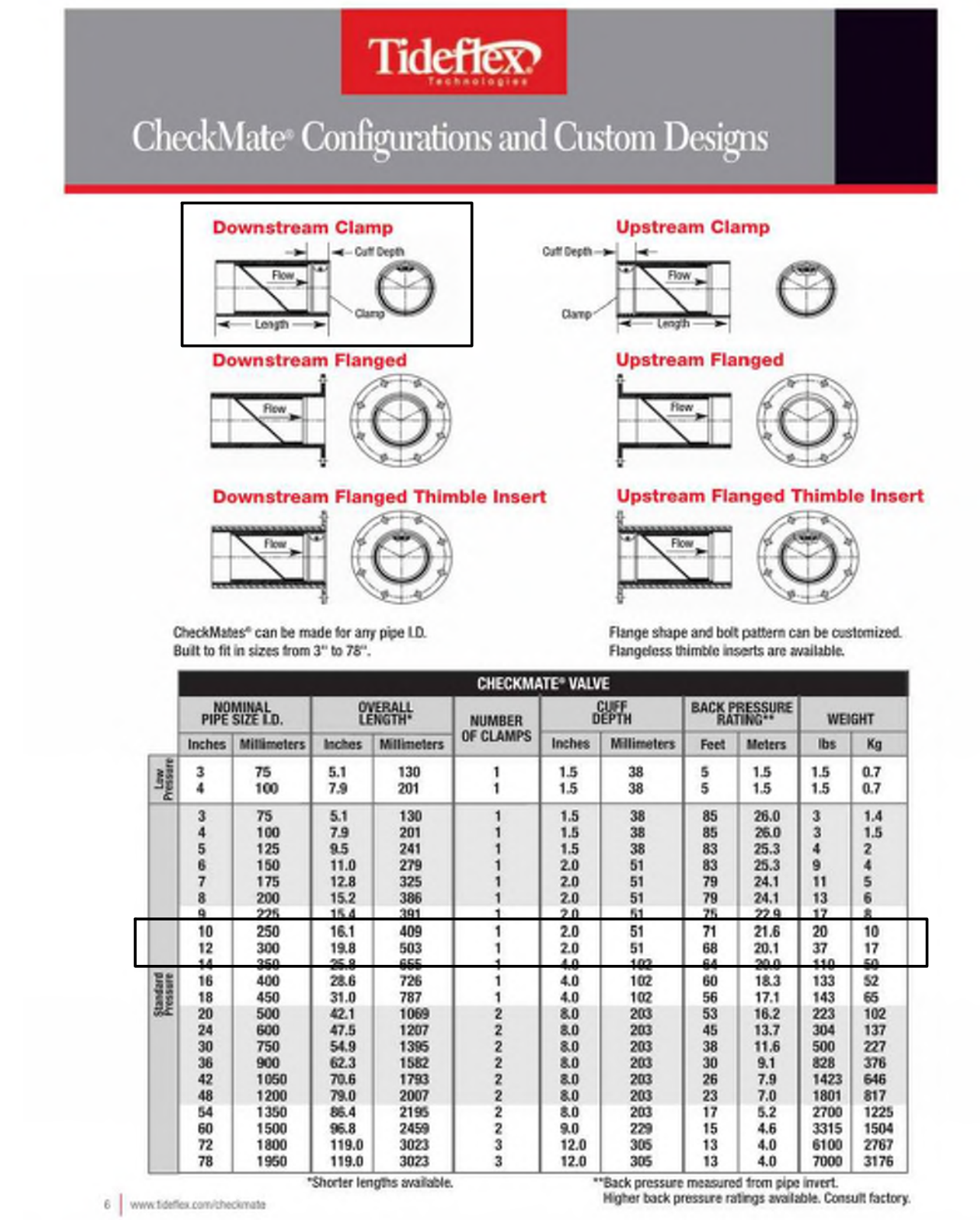
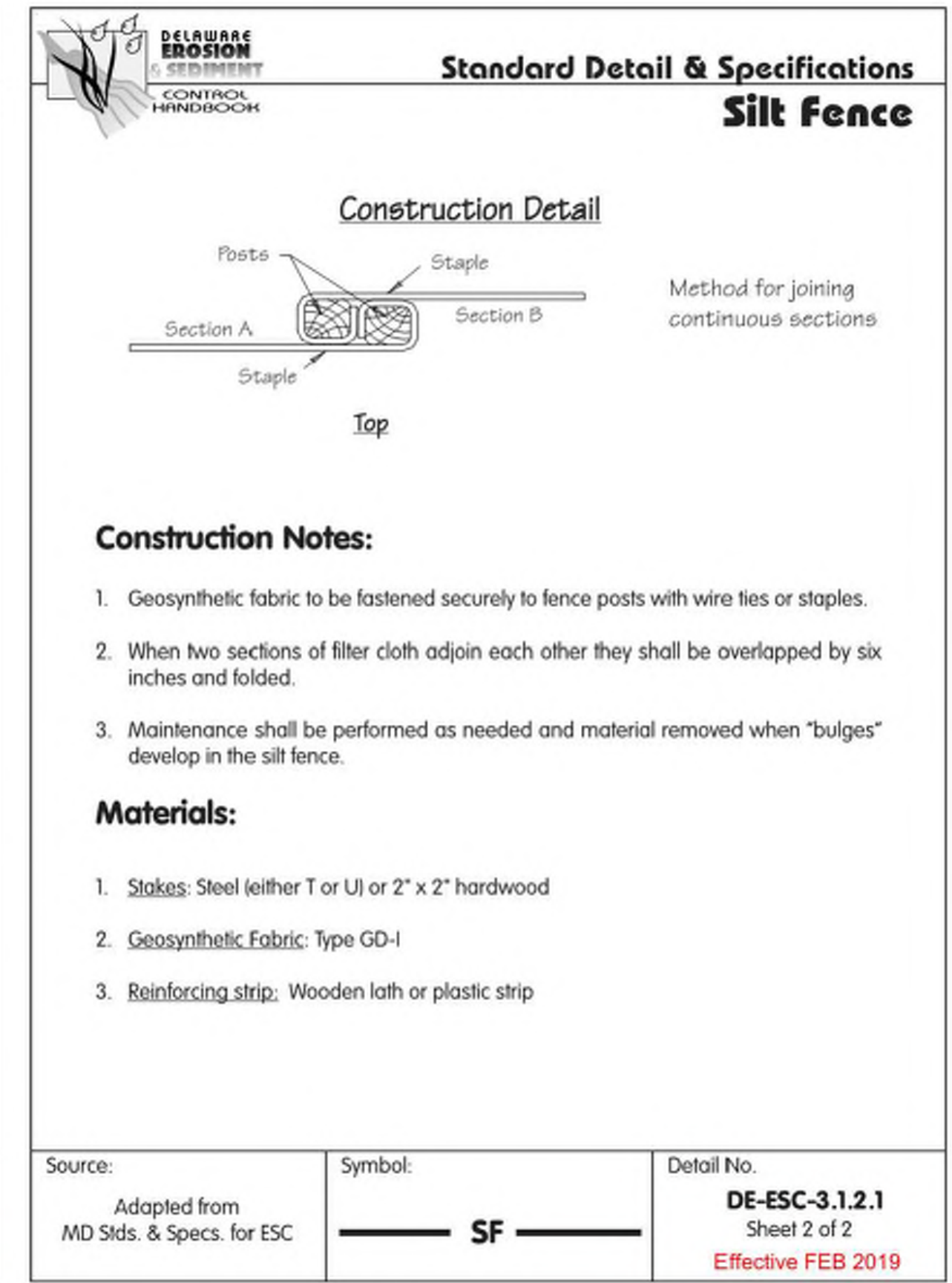
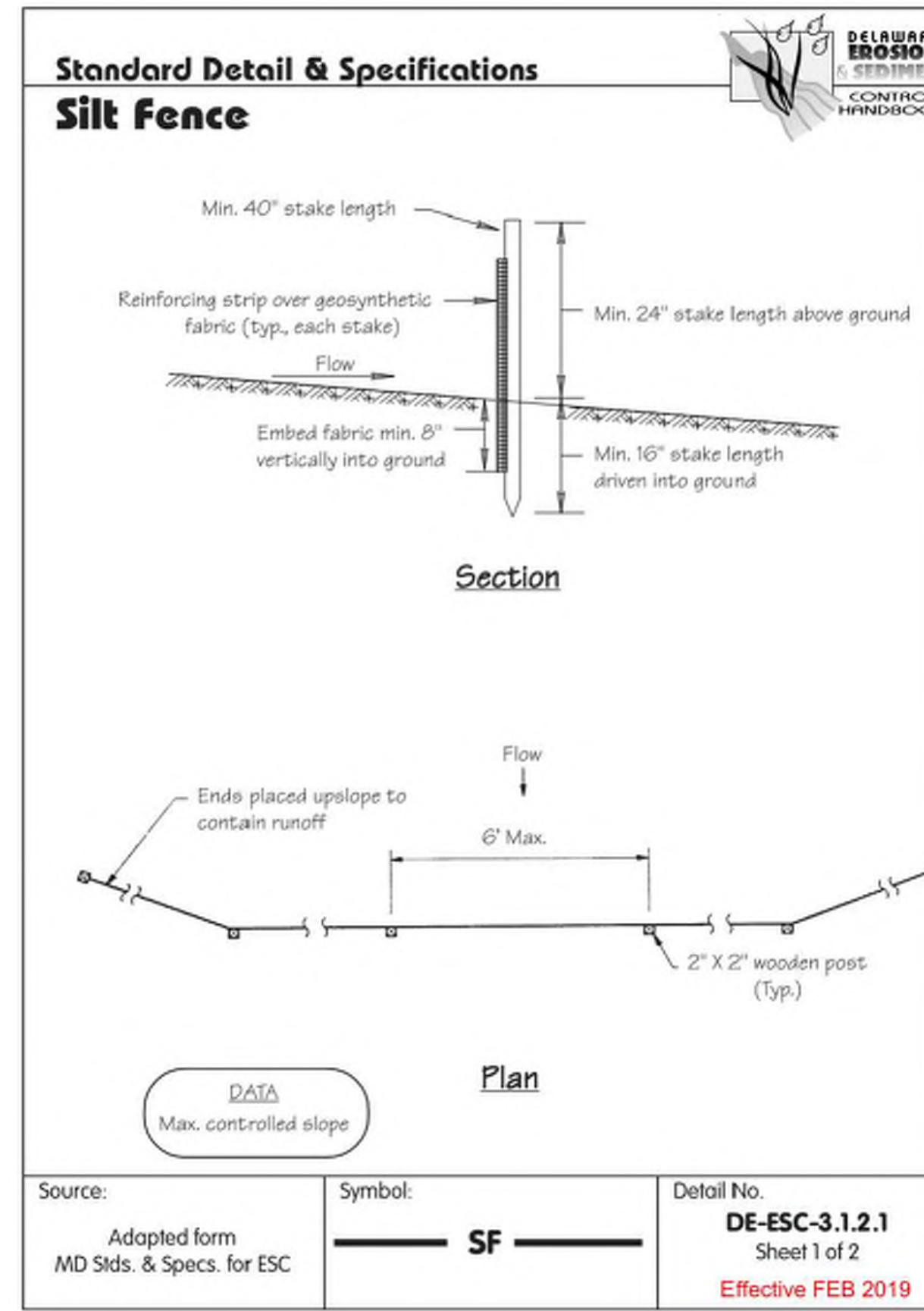
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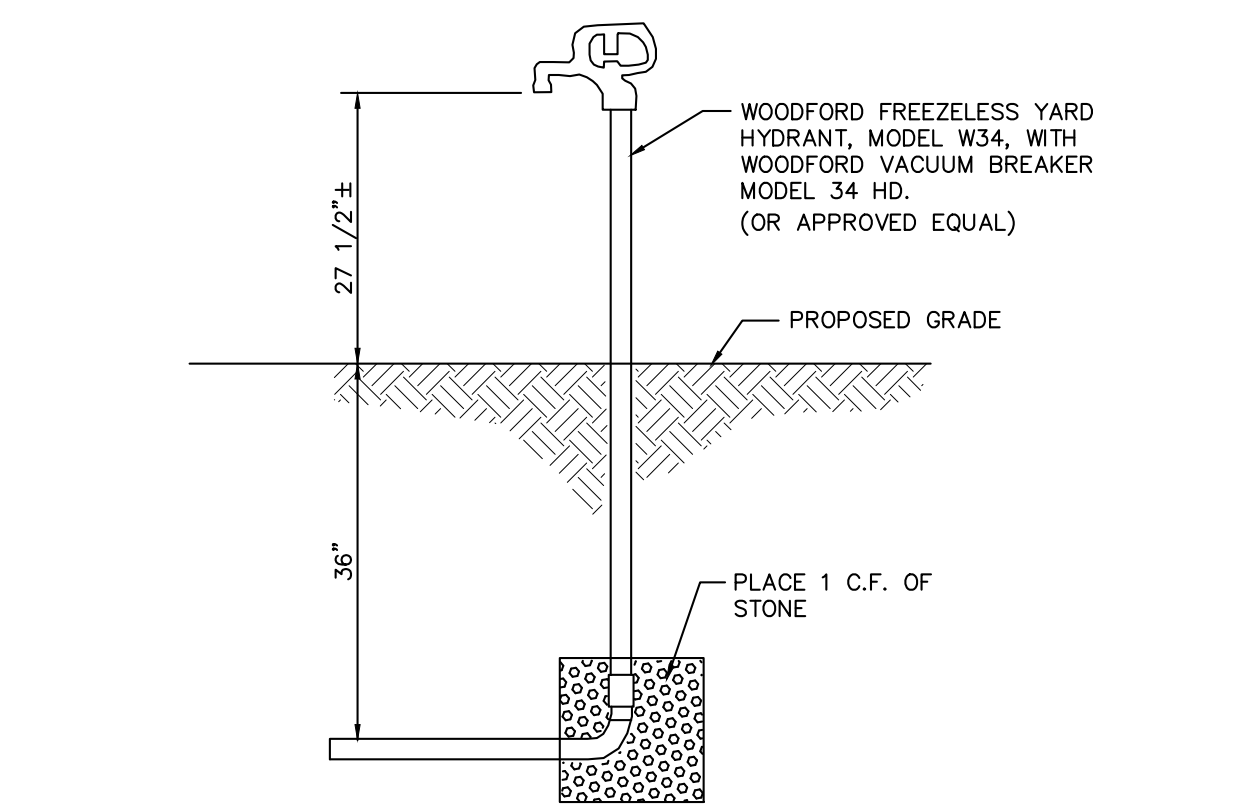
ORNAMENTAL FENCE
SINGLE SWING GATE DETAIL
NOT TO SCALE



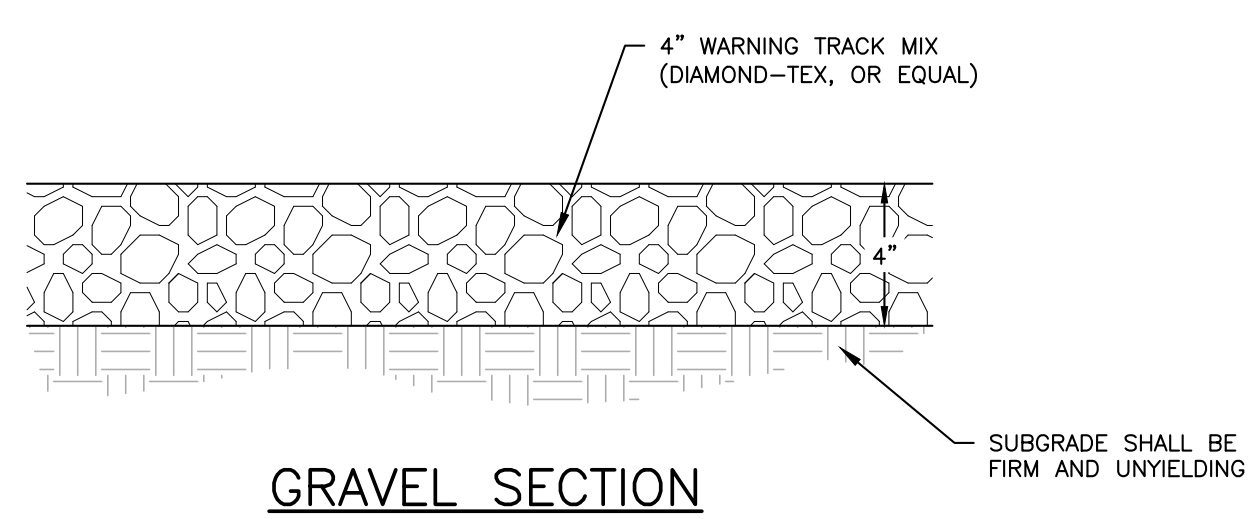
ORNAMENTAL FENCE DETAIL
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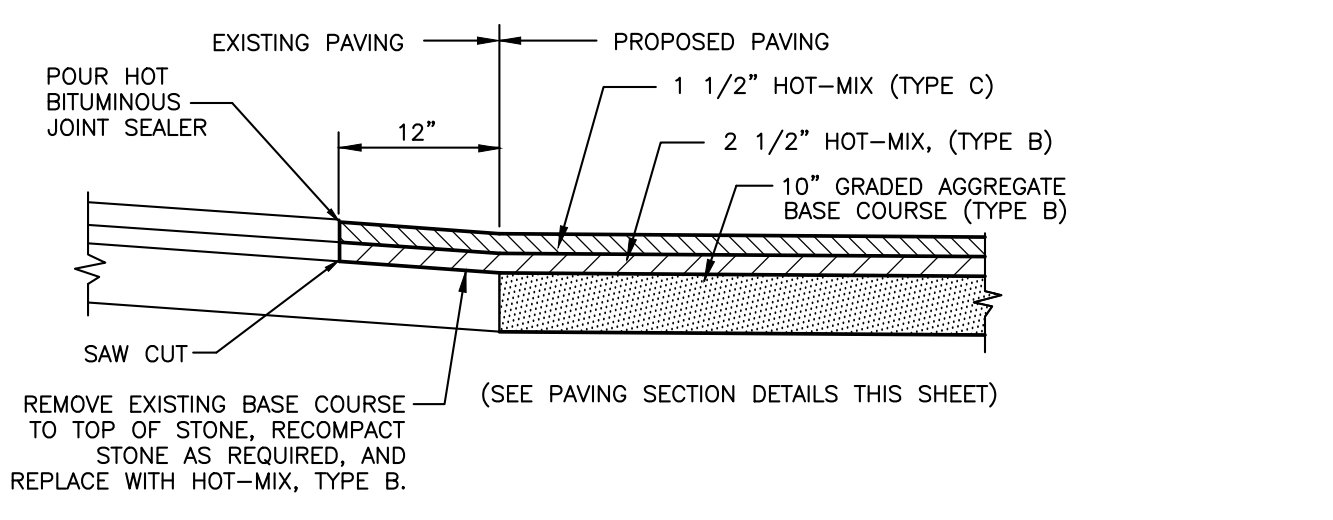
WATER VALVE & VALVE BOX DETAIL
NOT TO SCALE



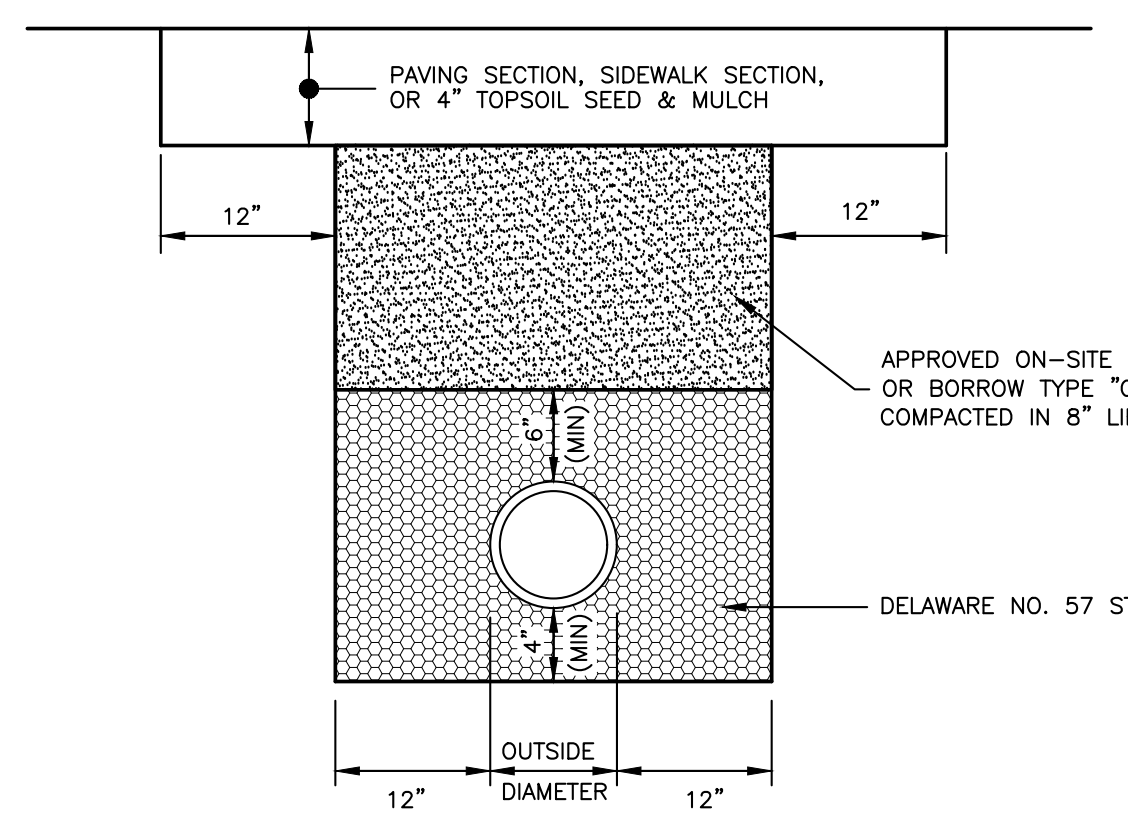
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NOT TO SCALE



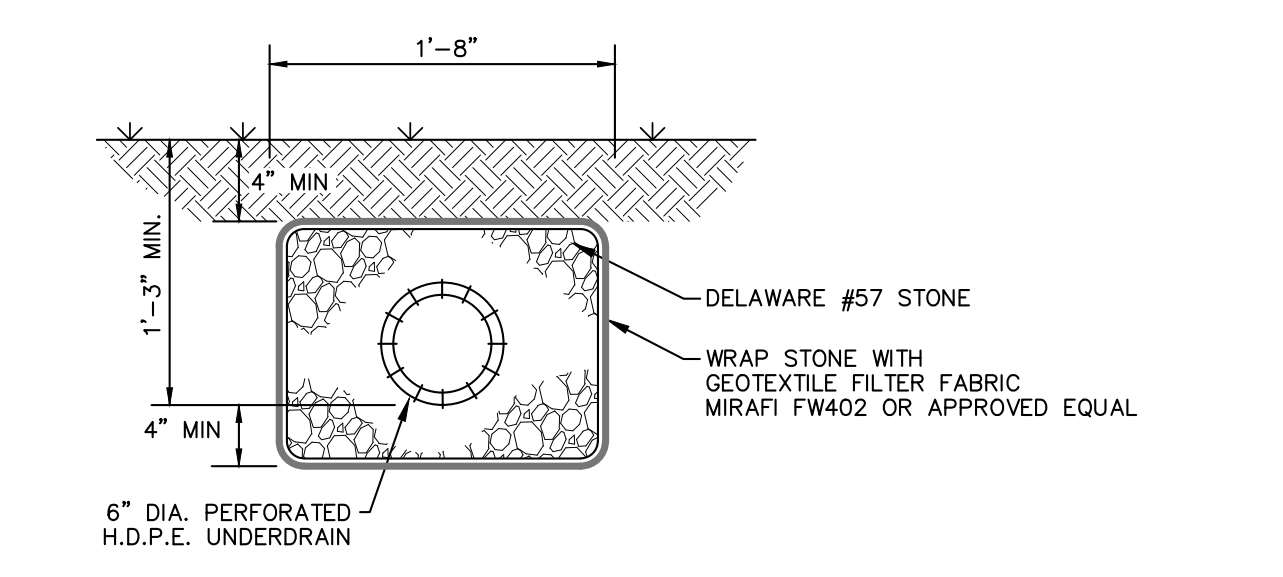
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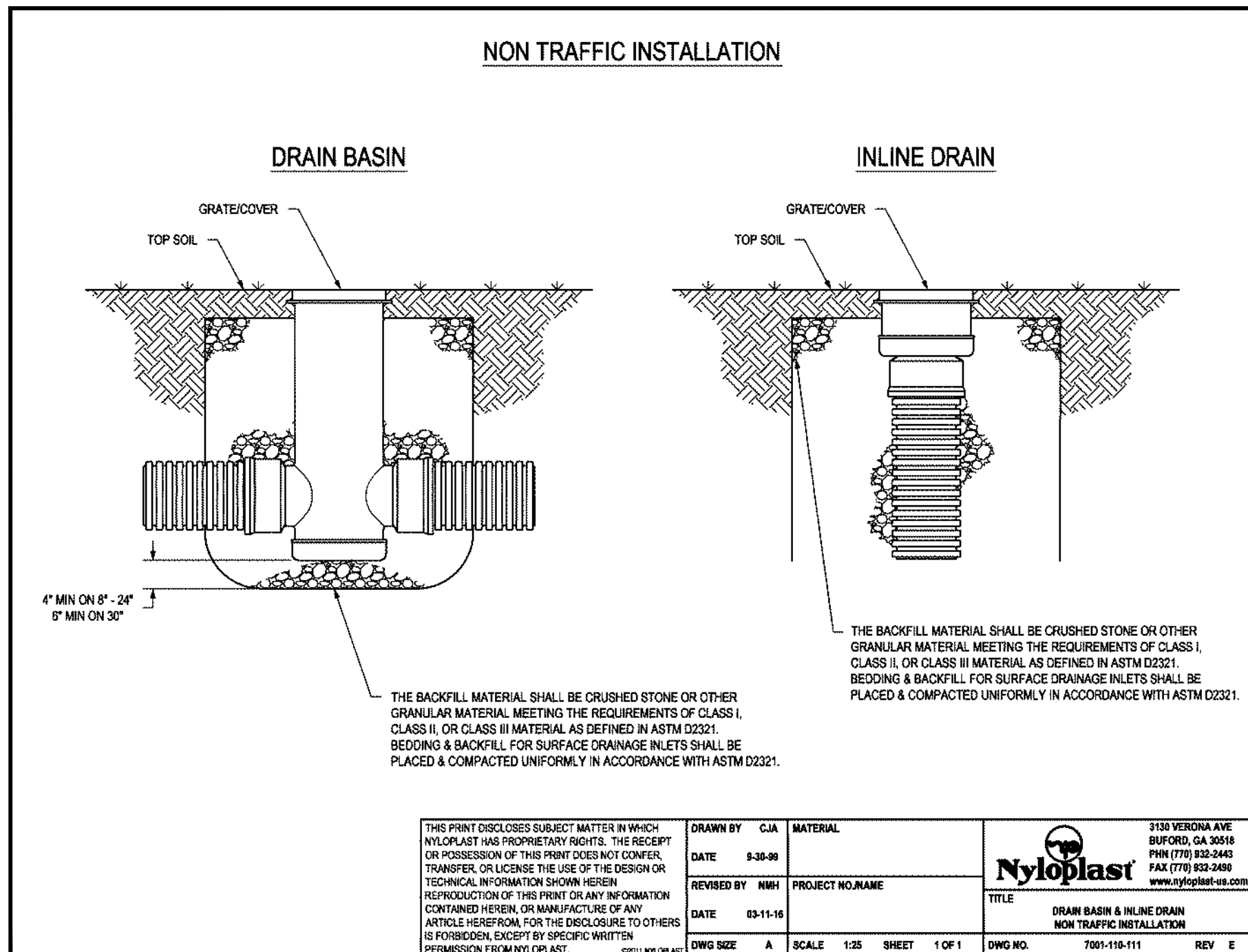
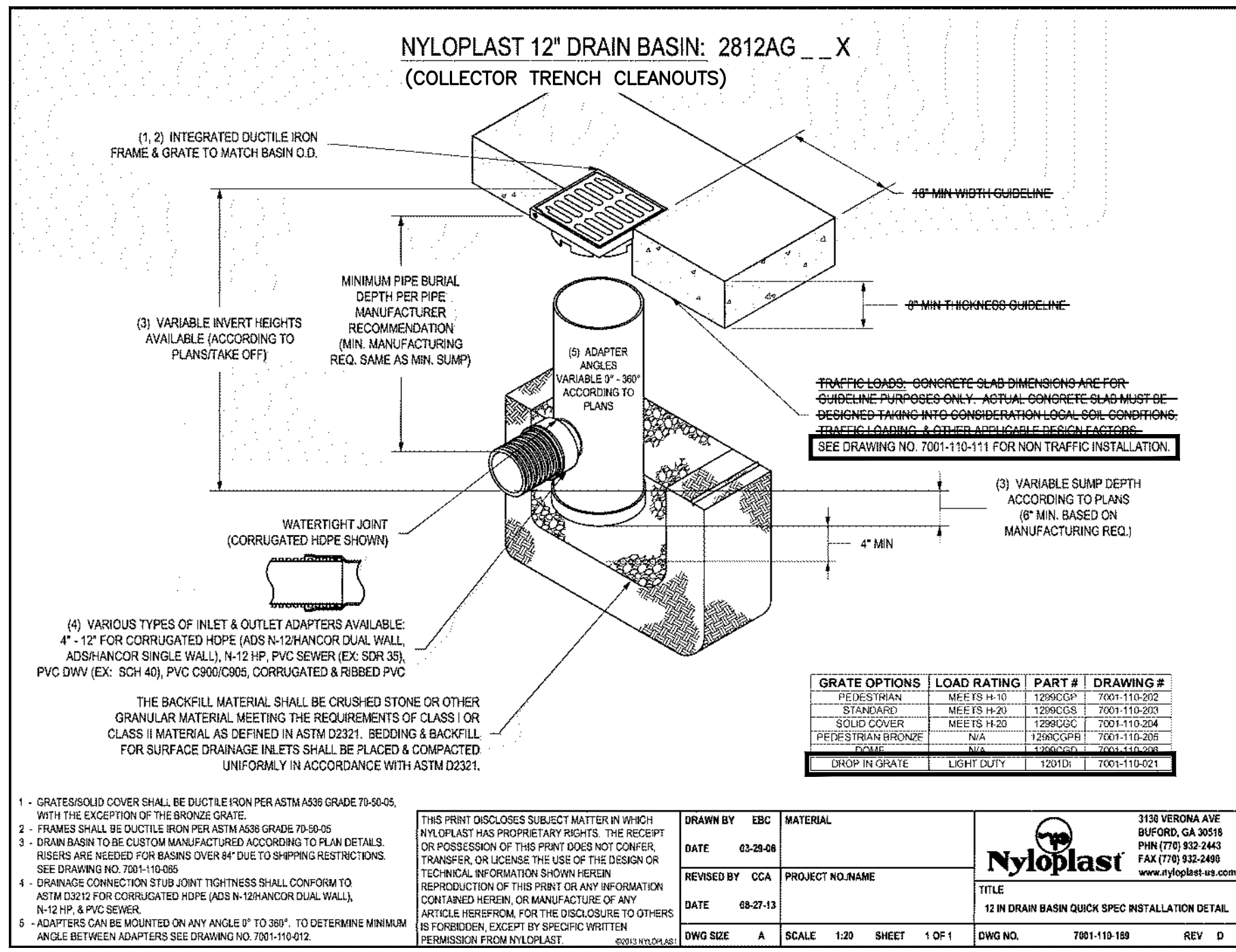
TYPICAL PAVING TIE-IN
NOT TO SCALE



TYPICAL TRENCH DETAIL
(PLASTIC PIPE)
NOT TO SCALE



6" HDPE PERFORATED UNDERDRAIN
NOT TO SCALE



NON TRAFFIC INSTALLATION
NOT TO SCALE

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PROJECT

HOWARD HIGH SCHOOL
ARTIFICIAL TURF
PRACTICE FIELD

OWNER

CITY OF WILMINGTON

PROJECT NO: 24009.02

FILE NAME: 24009.02-CONST-05.DWG

DRAWN BY: S. DEISHER

CHECKED BY: D. EITELMAN

DATE: 04.08.19

DATE: 03.25.19

DESCRIPTION: ISSUED FOR BID / PERMIT

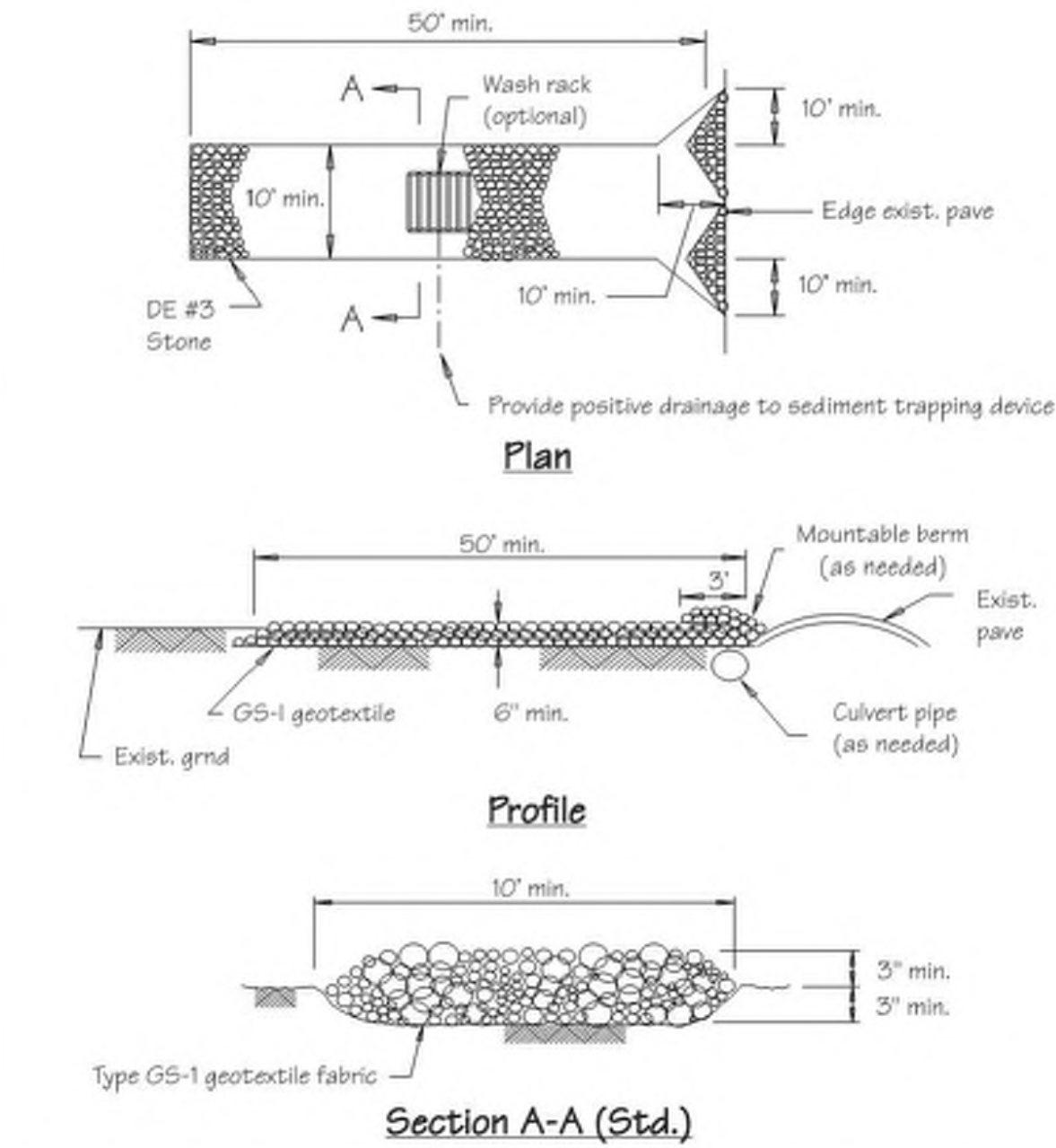
DESCRIPTION: ISSUED FOR REVIEW

SHEET TITLE

SITE CONSTRUCTION PLAN
CONSTRUCTION SITE
DETAILS AND NOTES

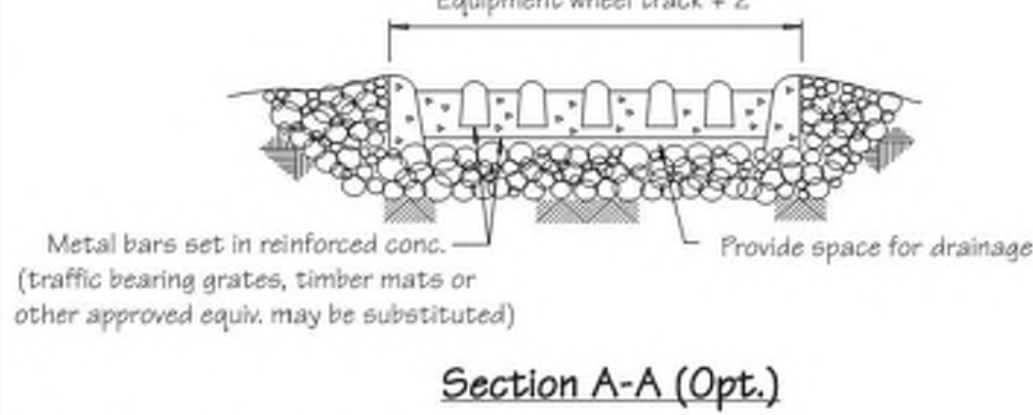
C-503

Standard Detail & Specifications
Stabilized Construct. Entrance



Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance



- Construction Notes:**
1. Stone size - Use DE #3 stone.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than size (6) inches.
 4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 5. Geotextile - Type GS-1, placed over the entire area prior to placing of stone.
 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 9. Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Dust Control

Temporary Methods:

1. Mulches - See DE-ESC-3.4.5, Standard Detail and Specifications for Mulching.
2. Vegetative cover - See DE-ESC-3.4.3, Std. Detail and Specifications for Vegetative Stabilization.
3. Adhesives - Use on mineral soils only (not effective on muck soils). Keep traffic off these areas. The following table may be used for general guidance.

Type of Emulsion	Water Dilution	Type of Nozzle	Apply Gal/Ac.
Latex emulsion	12.5:1	Fine spray	235
Resin-in-water emulsion	4:1	Fine spray	300
Acrylic emulsion (non-traffic)	7:1	Coarse spray	450
Acrylic emulsion (traffic)	3.5:1	Coarse spray	350

4. Tillage - For emergency temporary treatment, scarify the soil surface to prevent or reduce the amount of blowing dust until a more appropriate solution can be implemented. Begin the tillage operation on the windward side of the site using a chisel-type plow for best results.
5. Sprinkling - Sprinkle site with water until the surface is moist. Repeat as needed.
6. Calcium Chloride - Apply as flakes or granular material with a spreader at a rate that will keep the soil surface moist. Re-apply as necessary.
7. Barriers - Place barriers such as solid board fences, snow fences, hay bales, etc. at right angles to the prevailing air currents at intervals of approx. 10X their height.

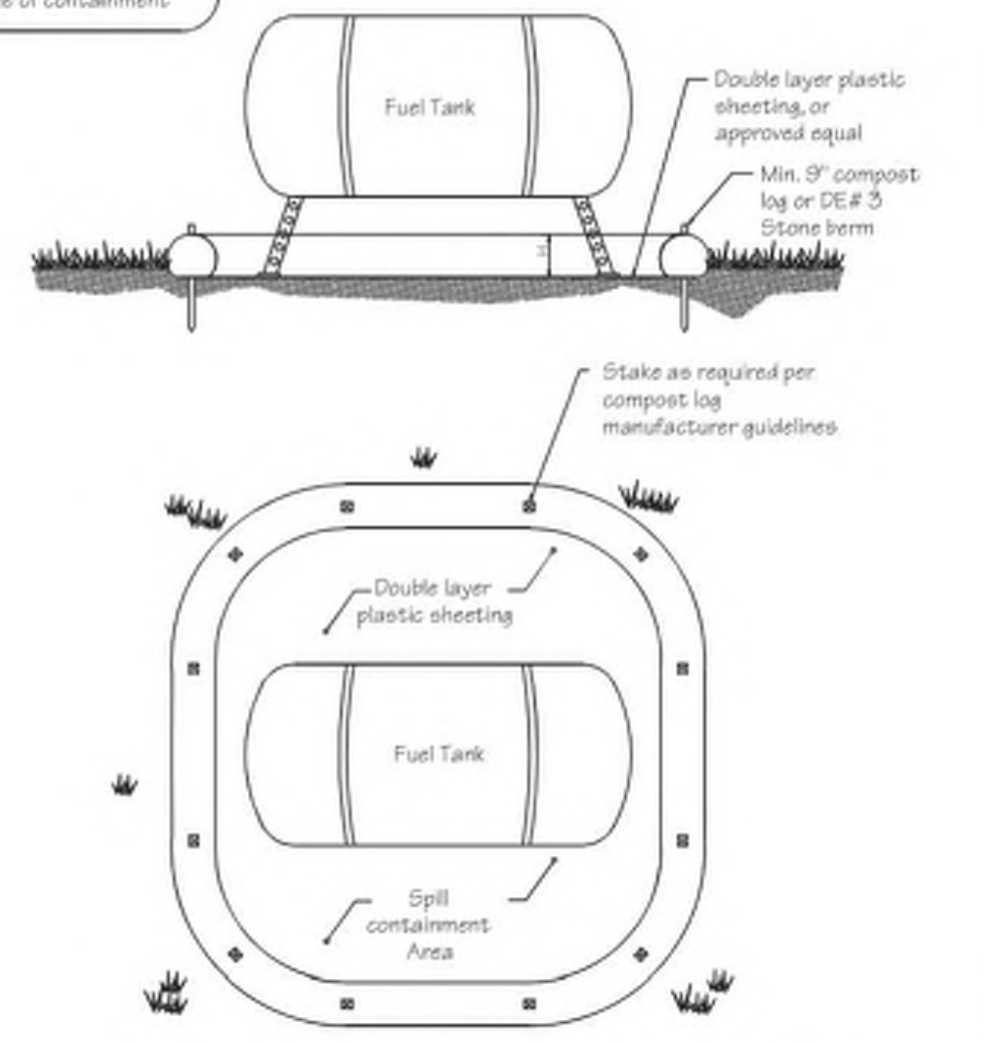
Permanent Methods:

1. Vegetative cover - See DE-ESC-3.4.3, Std. Detail and Specifications for Vegetative Stabilization.
2. Stone - Apply layer of crushed stone or coarse gravel to protect soil surface.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook		DE-ESC-3.4.8 Sheet 1 of 1 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

DATA TO BE PROVIDED:
Volume of Potential Pollution
Height of containment
Area of containment
Volume of containment



Source:	Symbol:	Detail No.
Delaware ESC Handbook		DE-ESC-3.6.1 Sheet 1 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Pollution Prevention - Spill Prevention

1. Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
2. Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
3. Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
4. Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
5. Place a "Fueling Area" sign next to each fueling area.
6. Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
7. Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
8. Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
9. If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
10. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

1. If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
2. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
3. Do not bury spills or wash them down with water.

LEAKS AND DRIPS

1. Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
2. Do not allow oil, grease, fuel or chemicals to drip onto the ground.
3. Have spill kits and clean up material on-site.
4. Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
5. Store contaminated waste in sealed containers constructed of suitable material. Label these containers properly.
6. Clean up all spills and leaks. Promptly dispose of waste and spent clean up materials.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		DE-ESC-3.6.1 Sheet 2 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. Material Inventory

Document the storage and use of the following materials:

- a. Concrete
- b. Detergents
- c. Paints (enamel and latex)
- d. Cleaning solvents
- e. Pesticides
- f. Wood scraps
- g. Fertilizers
- h. Petroleum based products

2. Good housekeeping practices

- a. Store only enough product required to do the job.
- b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
- c. Substances shall not be mixed.
- d. When possible, all of a product shall be used up prior to disposal of the container.
- e. Manufacturers' instructions for disposal shall be strictly adhered to.
- f. The site foreman shall designate someone to inspect all BMPs daily.

3. Waste management practices

- a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
- b. Waste materials shall be salvaged and/or recycled whenever possible.
- c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 3 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

- d. Trash shall be disposed of in accordance with all applicable Delaware laws.
- e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
- f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.

4. Equipment maintenance practices

- a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
- b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
- c. Drip pans shall be used for all equipment maintenance.
- d. Equipment shall be inspected for leaks on a daily basis.
- e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
- f. Fuel nozzles shall be equipped with automatic shut-off valves.
- g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.

5. Spill prevention practices

- a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
- b. Warning signs shall be posted in hazardous material storage areas.
- c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
- d. Low or non-toxic substances shall be prioritized for use.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 4 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

- e. Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.

6. Education

- a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
- b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

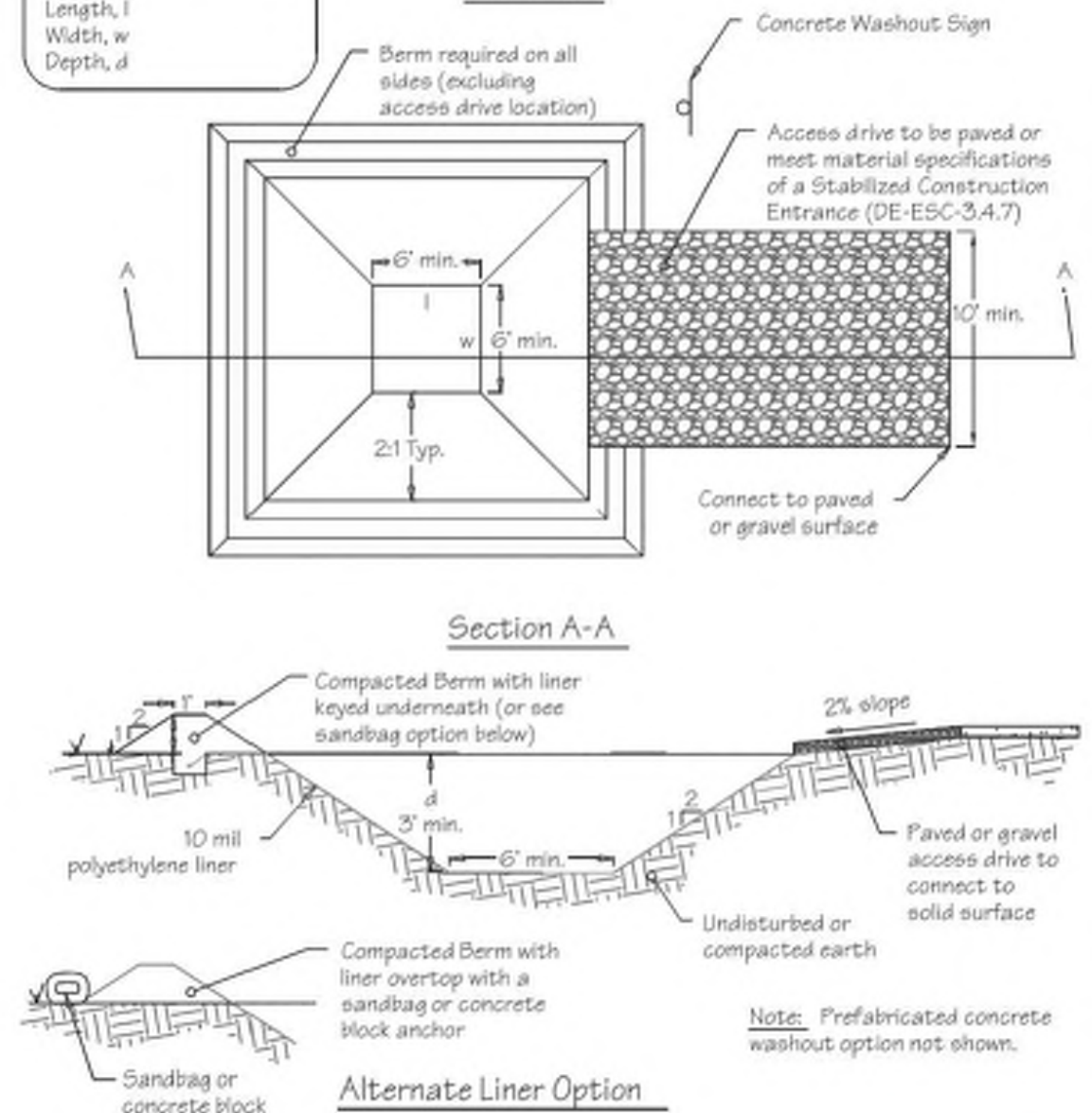
CONTACT INFORMATION

DNREC 24-hour Toll Free Number	800-662-8802
DNREC Solid & Hazardous Waste Management Section	302-739-9403

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 5 of 5 Effective FEB 2019

Standard Detail & Specifications
Concrete Washout

DATA TO BE PROVIDED:
Length, l
Width, w
Depth, d



Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	CW	DE-ESC-3.6.2 Sheet 1 of 2 Effective FEB 2019

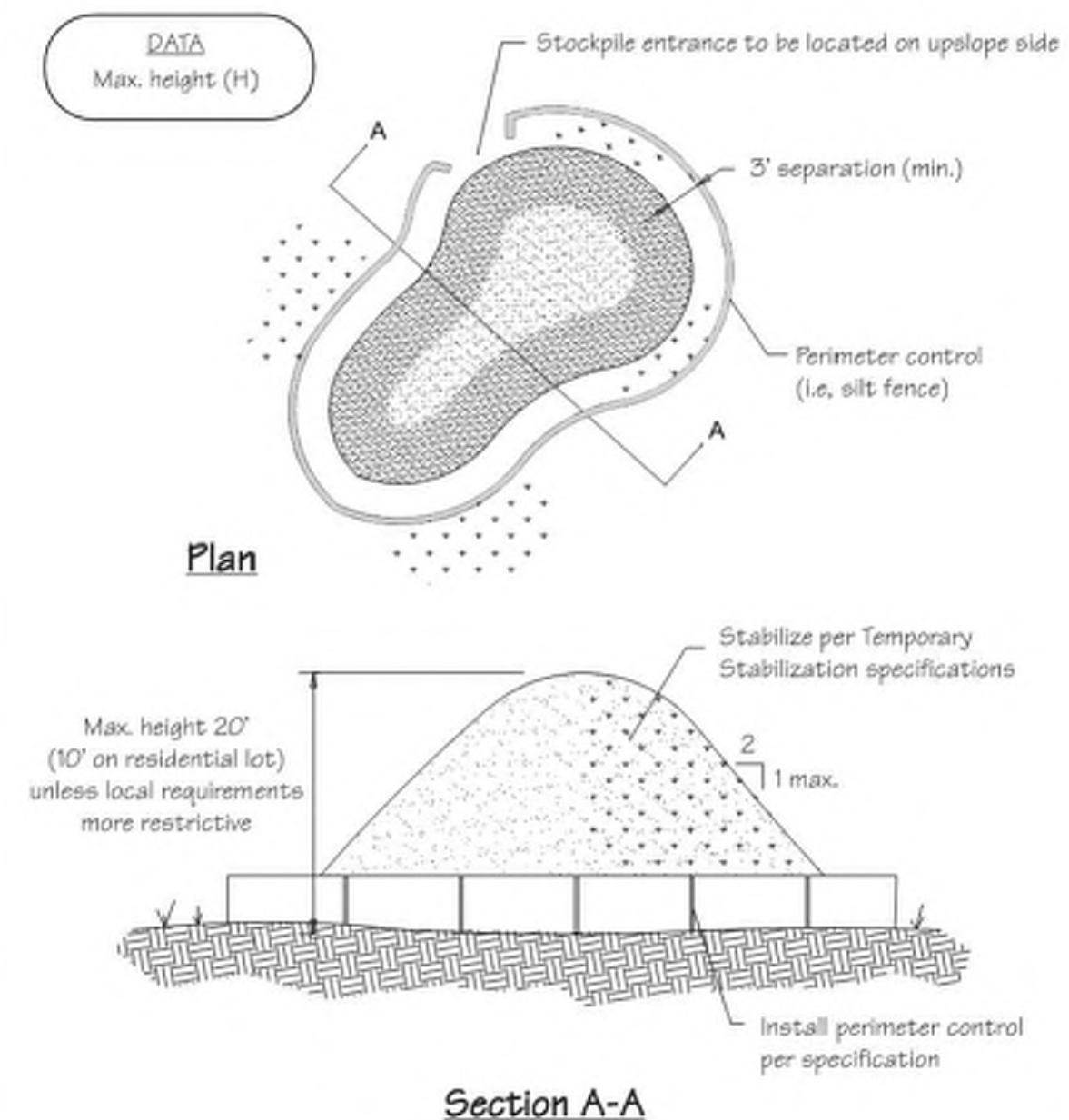
Standard Detail & Specifications
Concrete Washout

Construction Notes:

1. Locate washout area a minimum of 50 feet from open channels, stormdrain inlets, wetlands or waterbodies.
2. Locate washout area so that it is accessible to concrete equipment (service with a minimum 10 foot wide gravel accessway), but so it is not in a highly active construction area causing accidental damage.
3. Minimum dimensions for prefabricated units are 4 feet by 4 feet by 1 foot deep with a minimum 4mil polyethylene plastic liner. Minimum dimensions for constructed concrete washout areas are 6 feet by 6 feet by 3 feet deep, with a minimum 10mil polyethylene liner, 2:1 side slopes, and a 1 foot high by 1 foot wide compacted fill berm.
4. The liner must be free of tears or holes and placed over smooth surfaces to prevent puncturing. For excavated washouts, anchor the liner underneath the berm or overlap with sandbags or concrete blocks to hold in place.
5. Provide a sign designating the washout area, and for large construction sites, provide signs throughout directing traffic to its location.
6. Allow washed out concrete mixture to harden through evaporation of the wastewater. Once the facility has reached 75 percent of its capacity, remove the hardened concrete by reusing the broken aggregate onsite, recycling, or disposing of offsite. The hardened material can be buried on site with minimum of 1 foot of clean, compacted fill.
7. Apply a new liner before reusing the station for additional washouts after maintenance has occurred.

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	CW	DE-ESC-3.6.2 Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Soil Stockpile



Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	SP	DE-ESC-3.7.3 Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Soil Stockpile

Construction Notes:

1. Locate stockpiles so that they are 50 feet from any storm drain inlet, open channel, wetland or waterbody. Redirect any concentrated flow around the stockpile using an approved erosion and sediment control measure.
2. Secure the perimeter of the stockpile with an approved erosion and sediment control perimeter device.
3. If stockpile is to remain inactive for more than 14 calendar days, the stockpile must be vegetated. Follow the temporary vegetation specifications. The vegetation chosen shall last the duration of the stockpile; the stockpile shall be restabilized if the temporary vegetation dies or erosion results.

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	SP	DE-ESC-3.7.3 Sheet 2 of 2 Effective FEB 2019

PROJECT NAME: HOWARD HIGH SCHOOL - ARTIFICIAL TURF PRACTICE FIELD
PLAN SET: SITE CONSTRUCTION & SEDIMENT AND STORMWATER PLAN
PROJECT LOCATION: 701 EAST ELEVENTH STREET, WILMINGTON, DE 19801
WATERSHED: BRANDYWINE CREEK
TAX PARCEL: 26-036.10-416
DELEGATED AGENCY: CITY OF WILMINGTON DEPARTMENT OF PUBLIC WORKS



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Wilmington, DE 19806

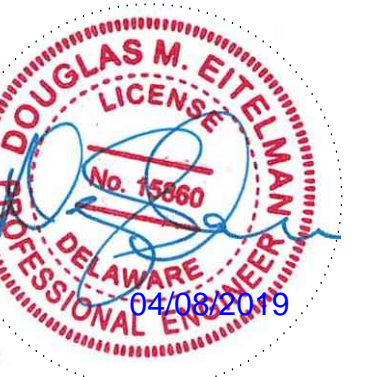
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PROJECT

HOWARD HIGH SCHOOL
ARTIFICIAL TURF
PRACTICE FIELD

OWNER

CITY OF WILMINGTON

D	04.08.19	ISSUED FOR BID / PERMIT
A	03.25.19	ISSUED FOR REVIEW

PROJECT NO: 24009.02
FILE NAME: 24009.02-CONST-05.DWG
DRAWN BY: S. DEISHER
CHECKED BY: D. EITELMAN

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SHEET TITLE

SITE CONSTRUCTION PLAN
CONSTRUCTION SITE
DETAILS AND NOTES

C-505