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**STANDARD RESPONSIBILITY NOTES**

- I (We) certify that:
  - All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundel Soil Conservation District (AASCD) Board of Supervisors or their authorized agents.
  - Any responsible personnel involved in the construction project will have a certificate of attendance from the Maryland Department of the Environment's approved training program for the control of sediment and erosion before beginning the project.  
  
Responsible personnel on site: TBD
  - If applicable, the appropriate enclosure will be constructed and maintained on sediment basin(s) included in this plan. Such structure(s) will be in compliance with the Anne Arundel County Code.
- The developer is responsible for the acquisition of all easements, right, and/or rights-of-way that may be required for the sediment and erosion control practices, storm water management practices and the discharge of storm water onto or across adjacent or downstream properties included in the plan.
- For initial soil disturbance or re-disturbance, permanent and/or temporary stabilization per the AASCD Vegetative Establishment shall be completed within three calendar days for the surface of all controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3:1); and seven days for all other disturbed or graded areas on the project site.
- The grading and sediment control approval on this plan extends only to those areas within the limits of disturbance.
- The approval of this plan for sediment and erosion control does not relieve the developer/consultant from complying with Federal, State or County requirements pertaining to environmental issues.
- The developer must request that the sediment and erosion control inspector approve work completed in accordance with the approved erosion and sediment control plan, the grading or building permit, and the ordinance.
- All material shall be taken to a site with an approved sediment and erosion control plan.
- First phase inspection and approval of the sediment and erosion control inspector shall be required upon completion of the installation of erosion and sediment controls prior to proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until the initial approval by the sediment and erosion control inspector is given. Inspection and Permits may also require that an inspection and certification of the installation of sediment control also be performed by a design professional prior to construction commencing.
- Approval from the inspector must be requested on final stabilization of all sites prior to removal of sediment and erosion controls.
- Existing topography must be field verified by responsible personnel to the satisfaction of the sediment control inspector prior to commencing work.

Signature of Developer/Owner: David C. Braum Date: 11/3/22  
 Print: Name: DAVID BRAUN  
 Title: ENGINEER ADMINISTRATOR  
 Affiliation: ANNE ARUNDEL COUNTY DPW  
 Address: 2662 RIVA ROAD, ANNAPOLIS, MD 21401  
 Telephone Number: (410) 222-7544  
 Email Address: pwbrau78@aacounty.org

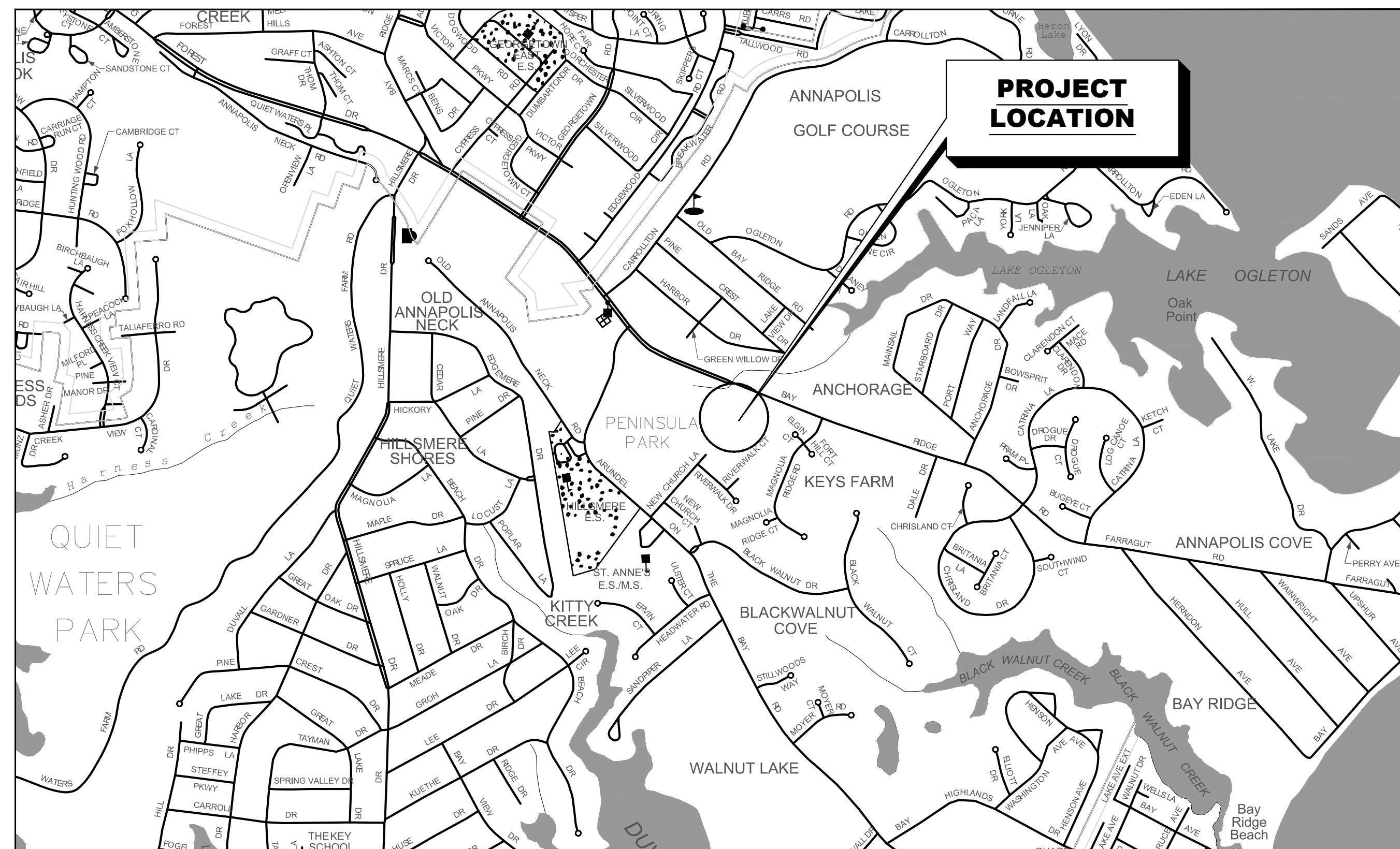
# ANNE ARUNDEL COUNTY

## DEPARTMENT OF PUBLIC WORKS

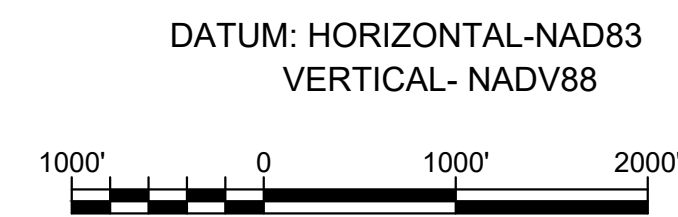
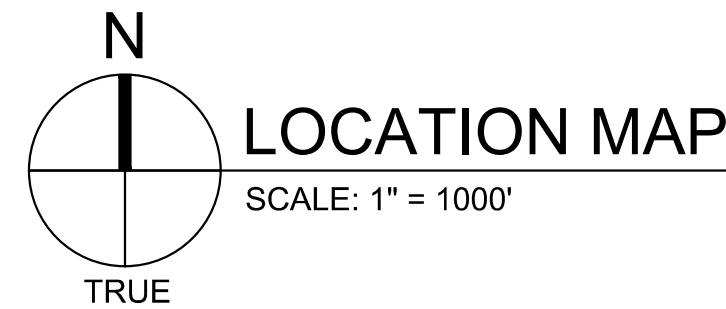
### PENINSULA PARK EXPANSION

#### PROJECT NO. P509000

#### CONTRACT NO. P509006



**ENGINEER / LANDSCAPE ARCHITECT:**  
 AECOM  
 4 NORTH PARK DRIVE  
 HUNT VALLEY, MD 21030  
 (410) 785-7220  
**PROJECT LOCATION:**  
 PENINSULA PARK  
 1061 BAY RIDGE ROAD  
 ANNAPOLIS, MD 21401  
**OWNER/ DEVELOPER:**  
 ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
 2662 RIVA ROAD, ANNAPOLIS, MD 21401  
 410-222-7500



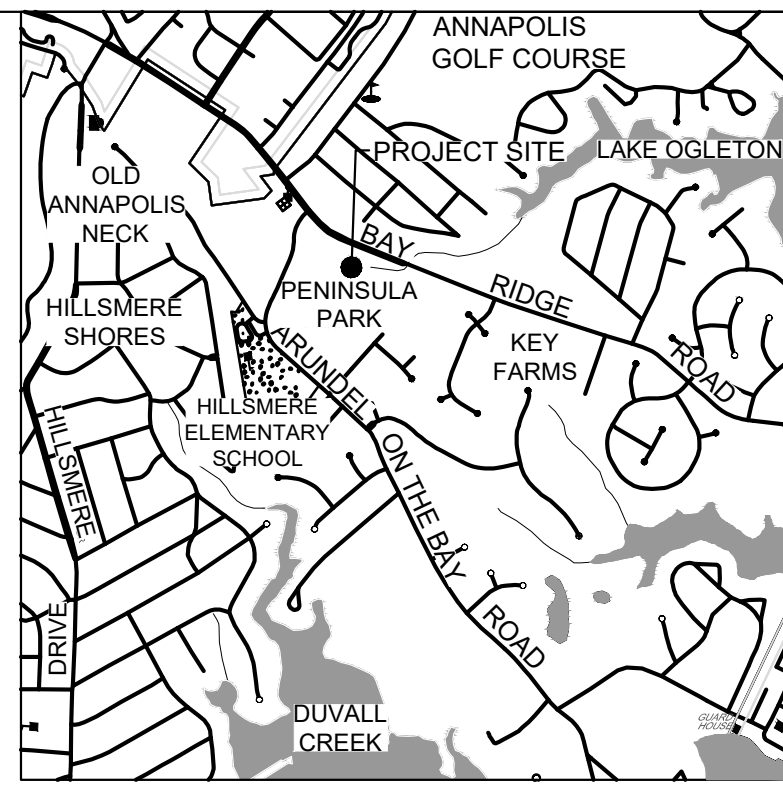
**ENVIRONMENTAL INFORMATION**

AASCD # 2021-0633  
 GRADING PERMIT #G02019203  
 WATER QUALITY: PROJECT REQUIRES 1.82 AC. OF IMPERVIOUS AREA TO BE TREATED. WATER QUALITY WILL BE PROVIDED IMPLEMENTATION OF ENVIRONMENTAL SENSITIVE DESIGN (ESD) TO THE MAXIMUM EXTENT PRACTICABLE (MEP) VIA ONE BIORETENTION FACILITY.

WATER QUANTITY: REQUIRED CHANNEL PROTECTION VOLUME WILL BE PROVIDED VIA ESDs TO THE MEP.

THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS.

VERIFICATION OF THE LOCATION, TYPE AND SIZE OF UTILITY LINES (BOTH EXISTING AND THOSE TO BE RELOCATED) SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.



**GENERAL NOTES:**

- CONDUCT A PRE-CONSTRUCTION MEETING. NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS AT LEAST 48 HOURS BEFORE COMMENCING WORK AT (410)-222-7780. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS, CONTAINED HEREIN.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS FOR CONSTRUCTION OF STORM DRAINS, ROADS AND STORMWATER MANAGEMENT.
- NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS. ANY DAMAGE TO EXISTING SERVICES AND MAINS DUE TO THEIR NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE OWNER NOR ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION GIVEN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO SPECIFICALLY MENTION ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 5 DAYS PRIOR TO STARTING CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL NOTIFY MISS UTILITY@ 1-800-257-7777 FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- ALL UTILITY POLES SHALL BE BRACED AS NECESSARY AT CONTRACTOR'S EXPENSE. UTILITY POLES SHALL BE RELOCATED AT THE OWNER'S EXPENSE IN CASES WHERE THEY WILL INTERFERE WITH CONSTRUCTION.
- GRID COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83/91. VERTICAL ELEVATIONS ARE BASED UPON NAVD 88.
- SEE SHEET MP-01 (SHEET 2) FOR GENERAL NOTES CONTINUED.

**SITE INFORMATION:**

	*(NOT FOR BIDDING PURPOSES)
TOTAL AREA OF SITE	29.52 AC
AREA DISTURBED	8.03 AC
AREA TO BE ROOFED OR PAVED	1.82 AC
TOTAL CUT	27,700 CY
TOTAL FILL	17,200 CY
OFFSITE WASTE/BORROW	EXCESS CUT WILL BE USED ON SITE AS APPROVED BY COUNTY
AREA LOCATION (IF KNOWN)	

**SEQUENCE OF CONSTRUCTION**

SEE ES-06, SHEET 28

**OUTFALL STATEMENT**

SEE ES-04, SHEET 2

Anne Arundel Soil Conservation District  
 Sediment and Erosion Control Approval

*John S. Zehewali*  
 District Manager

AASCD #	2021-0633	Date	2/28/2023
GP#	2021-0633		
Pond #	2532		

**AS-BUILT CERTIFICATION**

"I HEREBY CERTIFY THAT THE STORMWATER BEST MANAGEMENT PRACTICES SHOWN ON THE PLANS AND INDIVIDUALLY IDENTIFIED BELOW HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS INCLUDED UNDER ANNE ARUNDEL DEPARTMENT OF PUBLIC WORKS APPROVAL NUMBER P504102 EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS"

NAME (PRINTED) \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

MARYLAND REGISTRATION # \_\_\_\_\_ DATE \_\_\_\_\_

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON ADEQUATE AND APPROPRIATE ON-SITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION

**AS-BUILT STATEMENT**

"ALL GRADING, DRAINAGE, STRUCTURES AND EROSION AND SEDIMENT CONTROL PRACTICES INCLUDING FACILITIES AND VEGETATIVE MEASURES HAVE BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AS REQUIRED BY COMAR."

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NAME \_\_\_\_\_

**UTILITY CERTIFICATION**

I HEREBY CERTIFY TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THAT THE EXISTING UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN HEREON HAS BEEN CORRECTLY DUPLICATED FROM UTILITY COMPANY RECORDS. FURTHER THAT THIS PROJECT HAS BEEN CAREFULLY COORDINATED WITH EACH INVOLVED UTILITY COMPANY AND ALL AVAILABLE UNDERGROUND UTILITY INFORMATION RELATIVE TO THIS PLAN HAS BEEN SOLICITED FROM THEM.

SIGNATURE \_\_\_\_\_ P.E. No. \_\_\_\_\_ DATE \_\_\_\_\_

PRINT NAME \_\_\_\_\_

**POST DEVELOPMENT OWNER / DEVELOPER'S STABILIZATION CERTIFICATION**

"ALL GRADING, DRAINAGE, STRUCTURES AND EROSION AND SEDIMENT CONTROL PRACTICES INCLUDING FACILITIES AND VEGETATIVE MEASURES HAVE BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."

OWNER/ DEVELOPER \_\_\_\_\_ DATE \_\_\_\_\_

**DRAINAGE CERTIFICATION**

I CERTIFY THAT I HAVE INSPECTED THIS SITE AND THAT DRAINAGE INTO THIS SITE FROM UPGRADE PROPERTIES AND FROM THIS SITE ONTO OTHER DOWNGRADE PROPERTIES HAS BEEN ADDRESSED IN SUBSTANTIAL ACCORDANCE WITH APPLICABLE CODE.

SIGNATURE \_\_\_\_\_ P.E. No. \_\_\_\_\_ DATE \_\_\_\_\_

PRINT NAME \_\_\_\_\_

**PROFESSIONAL CERTIFICATION**

"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

MD LICENSE NUMBER: 53587  
 EXPIRATION DATE: 12-09-2022

**AECOM**  
 4 NORTH PARK DRIVE  
 SUITE 300  
 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7220  
 FAX: 410-785-6818

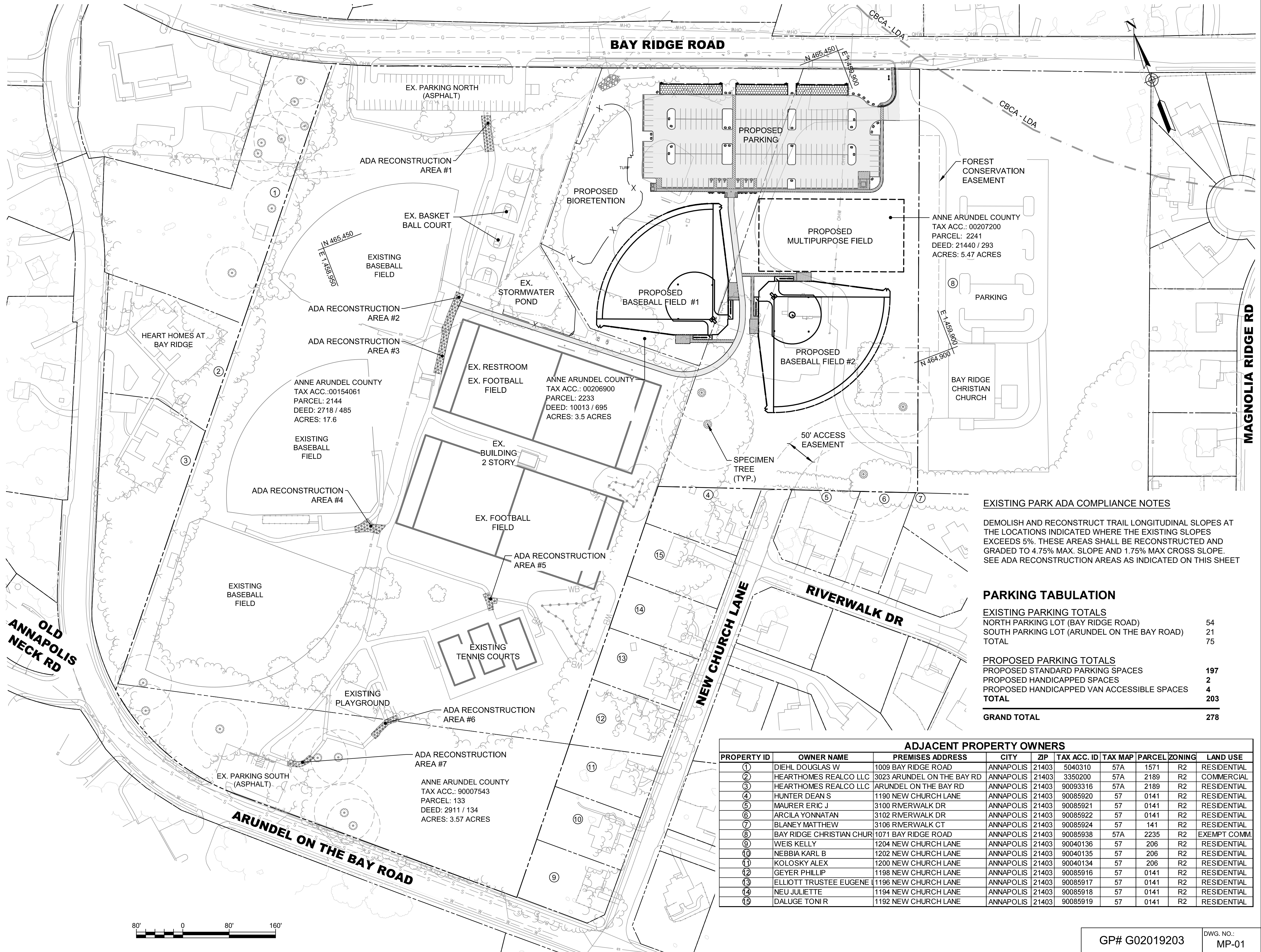
**STATE OF MARYLAND**  
 DOMINIC TAGLIONE  
 PROFESSIONAL ENGINEER  
 10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 1 OF 42	TITLE SHEET
				PROJECT NO. P509000	
				CONTRACT NO. P509006	

**GENERAL NOTES (CONTINUED):**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE START OF ANY WORK.
- UTILITY RELOCATION WILL BE PERFORMED BY OTHERS UNLESS NOTED OTHERWISE IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS CONSTRUCTION WITH THE CONSTRUCTION OF OTHER CONTRACTORS (INCLUDING BUT NOT LIMITED TO BG&E, VERIZON, AND CABLE TV UTILITY).
- THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS (410) 222-4126, AT LEAST FOURTEEN (14) DAYS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL ADJUST MANHOLES, WATER METERS, WATER VALVES, HAND BOXES, AND OTHER APPURTENANCES TO FINAL GRADE. THE COST OF PERFORMING THESE ACTIVITIES SHALL BE INCIDENTAL TO THE CONTRACT PRICE PAID FOR VARIOUS PAVEMENT ITEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY EXISTING LIGHT POLES, TRAFFIC BARRIER, SIGNS, ETC., DAMAGED BY HIM DURING CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION TO THIS PLAN PRIOR TO ANY FIELD CHANGES BEING MADE. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY FIELD CHANGES OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER.
- ALL WORK SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ISSUED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND AMENDMENTS BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT, CONTAINED HEREIN AND THE 2008 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS ISSUED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- THE DESIGN FOR THIS PROJECT INCORPORATES FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.
- WHERE CURB AND GUTTER ENDS ARE EXPOSED, PROVIDE A NOSE DOWN SECTION AT 3:1 SLOPE.
- MATERIAL REMOVED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
- ALL FILL AREAS SHALL BE CLEANED OF ALL VEGETATION AND DEBRIS PRIOR TO PLACEMENT OF FILL. FILL MATERIAL SHALL BE PLACED IN CONTROLLED LIFTS WITH A MAXIMUM THICKNESS OF 8" PRIOR TO COMPACTION THAT IS CONTINUOUS OVER THE ENTIRE AREA OF FILL. EACH LAYER OF FILL SHALL BE COMPACTED WITH THE MINIMUM NUMBER OF PASSES NECESSARY TO PRODUCE A FULL ASYMPTOTIC COMPACTION.
- ANY EXCAVATION THAT MEETS SAND FILL REQUIREMENTS MAY BE REUSED. OTHERWISE, UNSUITABLE MATERIAL IS TO BE DISPOSED OF AT AN APPROVED LOCATION ON AND/OR OFFSITE.
- ALL DISTURBED AREAS WITH SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH TEMPORARY SOIL STABILIZATION MATING THAT HAS A SUFFICIENT DESIGN SHEAR STRESS FOR THE APPLICATION OR AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLANS.
- SUBGRADE DRAINS SHALL BE PLACED WHEN WET SUBGRADE IS ENCOUNTERED AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL USE CIRCULAR PIPE UNDERDRAIN OUTLET TO CONNECT ALL EXISTING AND PROPOSED SUBGRADE DRAIN AND PERFORATED CIRCULAR PIPE UNDERDRAIN TO PROPOSED INLETS.
- ALL INVERT ELEVATIONS ARE APPROXIMATE. INVERT ELEVATIONS OF INLETS AND PIPES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER TO MEET CONDITIONS ENCOUNTERED DURING INSTALLATION OF DRAINAGE STRUCTURES. ALL PIPES AND DITCHES SHALL BE CONSTRUCTED ON A UNIFORM GRADE BETWEEN INVERT ELEVATIONS NOTED ON THE PLANS, UNLESS INDICATED OTHERWISE ON THE PLANS OR DETAILS OR AS DIRECTED BY THE ENGINEER. THE LOCATION AND LENGTH OF PIPE SHALL BE VERIFIED BY THE CONTRACTOR BEFORE ORDERING.
- PIPE ELEVATIONS REFER TO INVERTS UNLESS OTHERWISE NOTED.
- ALL STORM DRAIN PIPES ARE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF MDOT-SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION OF ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, CONTAINED HEREIN UNLESS OTHERWISE NOTED.
- CONTRACTOR MUST HAND DIG NEAR EXISTING UNDERGROUND UTILITIES WITH LESS THAN OR EQUAL TO 3.0 FEET CLEAR DISTANCE.
- EXISTING OVERHEAD AND UNDERGROUND POWER LINES ARE IN THE VICINITY OF THE PROJECT. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL COMPLY ABSOLUTELY WITH THE MARYLAND HIGH VOLTAGE ACT. IT IS THE CONTRACTOR'S OBLIGATION TO VERIFY THE EXISTING LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS SPECIFIED IN THE ACT.
- THE CONTRACTOR SHALL CORRECT, REPAIR, OR REMOVE AND REPLACE WITH PROPER WORK AT NO COST TO THE COUNTY, OR ANY WORK FOUND NOT BE AS PER THE CONTRACT. THE CONTRACTOR SHALL ALSO MAKE GOOD ALL DAMAGE CAUSED TO OTHER WORK OR MATERIALS IN THE PROCESS OF FULFILLING THE CONTRACT.
- ALL STAKING, RE-STAKING, AND CUT SHEETS SHALL BE PERFORMED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER AT THE CONTRACTOR'S EXPENSE.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



**EXISTING PARK ADA COMPLIANCE NOTES**

DEMOLISH AND RECONSTRUCT TRAIL LONGITUDINAL SLOPES AT THE LOCATIONS INDICATED WHERE THE EXISTING SLOPES EXCEEDS 5%. THESE AREAS SHALL BE RECONSTRUCTED AND GRADED TO 4.75% MAX. SLOPE AND 1.75% MAX CROSS SLOPE. SEE ADA RECONSTRUCTION AREAS AS INDICATED ON THIS SHEET

**PARKING TABULATION**

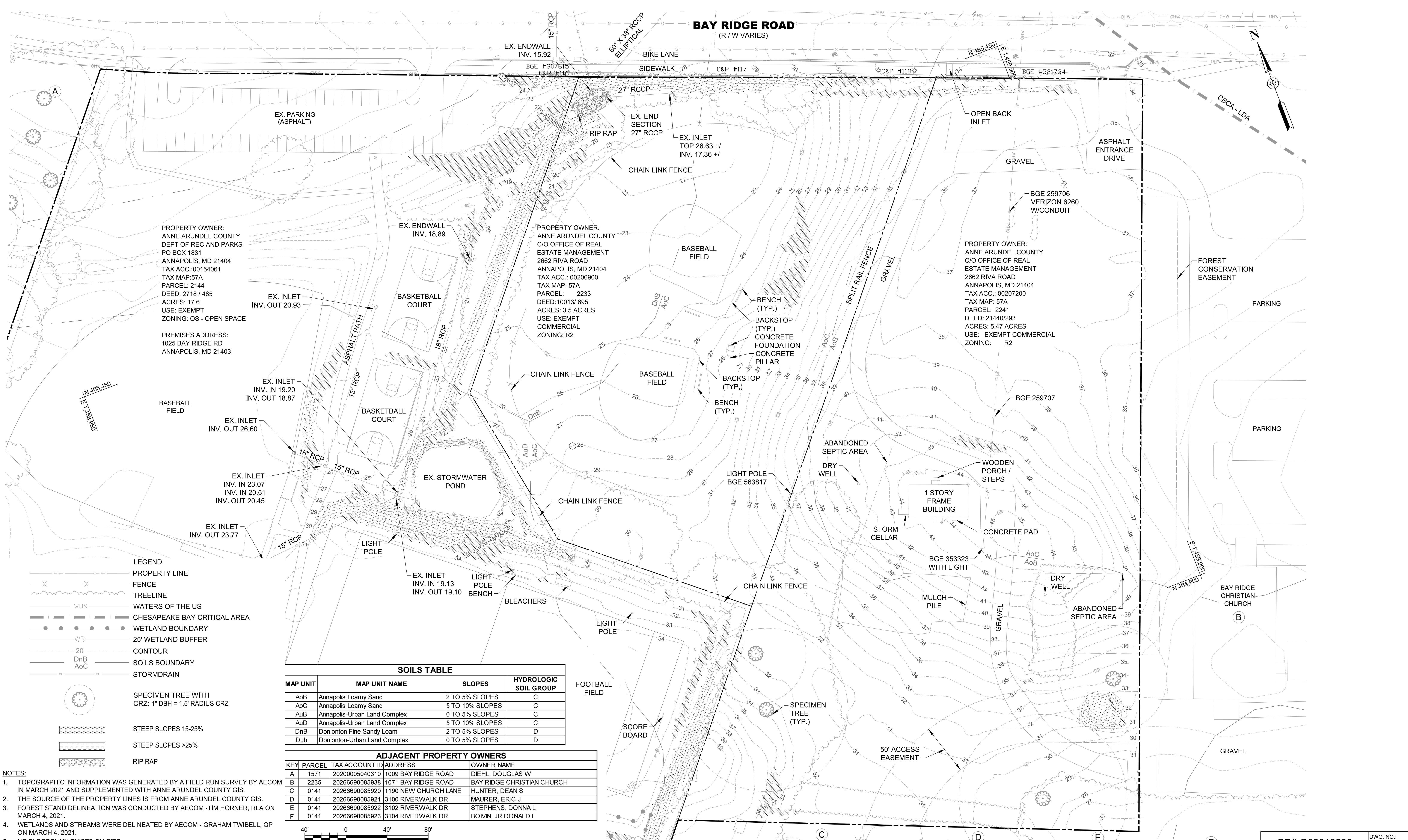
EXISTING PARKING TOTALS		
NORTH PARKING LOT (BAY RIDGE ROAD)		54
SOUTH PARKING LOT (ARUNDEL ON THE BAY ROAD)		21
<b>TOTAL</b>		<b>75</b>
PROPOSED PARKING TOTALS		
PROPOSED STANDARD PARKING SPACES		197
PROPOSED HANDICAPPED SPACES		2
PROPOSED HANDICAPPED VAN ACCESSIBLE SPACES		4
<b>TOTAL</b>		<b>203</b>
<b>GRAND TOTAL</b>		<b>278</b>

**ADJACENT PROPERTY OWNERS**

PROPERTY ID	OWNER NAME	PREMISES ADDRESS	CITY	ZIP	TAX ACC. ID	TAX MAP	PARCEL	ZONING	LAND USE
1	DIEHL DOUGLAS W	1009 BAY RIDGE ROAD	ANNAPOLIS	21403	5040310	57A	1571	R2	RESIDENTIAL
2	HEARTHOMES REALCO LLC	3023 ARUNDEL ON THE BAY RD	ANNAPOLIS	21403	3350200	57A	2189	R2	COMMERCIAL
3	HEARTHOMES REALCO LLC	ARUNDEL ON THE BAY RD	ANNAPOLIS	21403	90093316	57A	2189	R2	RESIDENTIAL
4	HUNTER DEAN S	1190 NEW CHURCH LANE	ANNAPOLIS	21403	90085920	57	0141	R2	RESIDENTIAL
5	MAURER ERIC J	3100 RIVERWALK DR	ANNAPOLIS	21403	90085921	57	0141	R2	RESIDENTIAL
6	ARCILA YONNATAN	3102 RIVERWALK DR	ANNAPOLIS	21403	90085922	57	0141	R2	RESIDENTIAL
7	BLANEY MATTHEW	3106 RIVERWALK CT	ANNAPOLIS	21403	90085924	57	141	R2	RESIDENTIAL
8	BAY RIDGE CHRISTIAN CHUR	1071 BAY RIDGE ROAD	ANNAPOLIS	21403	90085938	57A	2235	R2	EXEMPT COMM
9	WEIS KELLY	1204 NEW CHURCH LANE	ANNAPOLIS	21403	90040136	57	206	R2	RESIDENTIAL
10	NEBBIA KARL B	1202 NEW CHURCH LANE	ANNAPOLIS	21403	90040135	57	206	R2	RESIDENTIAL
11	KOLOSKY ALEX	1200 NEW CHURCH LANE	ANNAPOLIS	21403	90040134	57	206	R2	RESIDENTIAL
12	GEYER PHILLIP	1198 NEW CHURCH LANE	ANNAPOLIS	21403	90085916	57	0141	R2	RESIDENTIAL
13	ELLIOTT TRUSTEE EUGENE	1196 NEW CHURCH LANE	ANNAPOLIS	21403	90085917	57	0141	R2	RESIDENTIAL
14	NEU JULIETTE	1194 NEW CHURCH LANE	ANNAPOLIS	21403	90085918	57	0141	R2	RESIDENTIAL
15	DALUGE TONI R	1192 NEW CHURCH LANE	ANNAPOLIS	21403	90085919	57	0141	R2	RESIDENTIAL

GP# G02019203 DWG. NO.: MP-01

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 53587 EXPIRATION DATE: 12-09-2022</p>	<p>10/26/2022</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> <th></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				NO.	DESCRIPTION	BY	DATE																	<p>ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS</p> <table border="1"> <thead> <tr> <th>APPROVED</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> <th>SCALE: AS NOTED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>CHIEF ENGINEER</td> <td> </td> <td>PROJECT MANAGER</td> <td> </td> <td>DRAWN BY: DT</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CHECKED BY: RK</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>SHEET NO. 2 OF 42</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>PROJECT NO. P509000</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CONTRACT NO. P509006</td> </tr> </tbody> </table>				APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED						CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT					CHECKED BY: RK					SHEET NO. 2 OF 42					PROJECT NO. P509000					CONTRACT NO. P509006
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PROPERTY OWNER:  
ANNE ARUNDEL COUNTY  
DEPT OF REC AND PARKS  
PO BOX 1831  
ANNAPOLIS, MD 21404  
TAX ACC.: 00154061  
TAX MAP: 57A  
PARCEL: 2144  
DEED: 2718 / 485  
ACRES: 17.6  
USE: EXEMPT  
ZONING: OS - OPEN SPACE

PREMISES ADDRESS:  
1025 BAY RIDGE RD  
ANNAPOLIS, MD 21403

PROPERTY OWNER:  
ANNE ARUNDEL COUNTY  
C/O OFFICE OF REAL  
ESTATE MANAGEMENT  
2662 RIVA ROAD  
ANNAPOLIS, MD 21404  
TAX ACC.: 00206900  
TAX MAP: 57A  
PARCEL: 2233  
DEED: 10013 / 695  
ACRES: 3.5 ACRES  
USE: EXEMPT  
COMMERCIAL  
ZONING: R2

PROPERTY OWNER:  
ANNE ARUNDEL COUNTY  
C/O OFFICE OF REAL  
ESTATE MANAGEMENT  
2662 RIVA ROAD  
ANNAPOLIS, MD 21404  
TAX ACC.: 00207200  
TAX MAP: 57A  
PARCEL: 2241  
DEED: 21440 / 293  
ACRES: 5.47 ACRES  
USE: EXEMPT COMMERCIAL  
ZONING: R2

- LEGEND**
- PROPERTY LINE
  - X-X- FENCE
  - - - TREELINE
  - WUS WATERS OF THE US
  - CHESAPEAKE BAY CRITICAL AREA
  - WETLAND BOUNDARY
  - WB 25' WETLAND BUFFER
  - CONTOUR
  - DnB SOILS BOUNDARY
  - AoC STORMDRAIN
  - SPECIMEN TREE WITH CRZ: 1" DBH = 1.5' RADIUS CRZ
  - STEEP SLOPES 15-25%
  - STEEP SLOPES >25%
  - RIP RAP

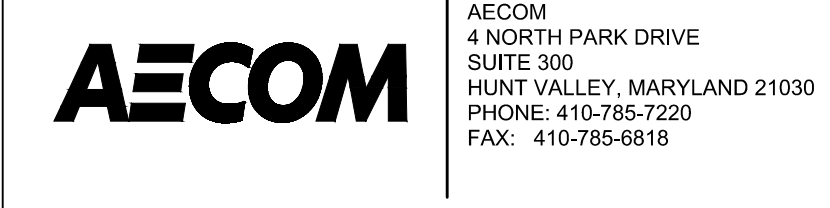
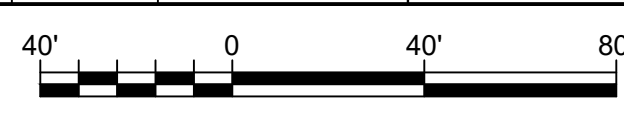
**SOILS TABLE**

MAP UNIT	MAP UNIT NAME	SLOPES	HYDROLOGIC SOIL GROUP
AoB	Annapolis Loamy Sand	2 TO 5% SLOPES	C
AoC	Annapolis Loamy Sand	5 TO 10% SLOPES	C
AuB	Annapolis-Urban Land Complex	0 TO 5% SLOPES	C
AuD	Annapolis-Urban Land Complex	5 TO 10% SLOPES	C
DnB	Donlonton Fine Sandy Loam	2 TO 5% SLOPES	D
DuB	Donlonton-Urban Land Complex	0 TO 5% SLOPES	D

**ADJACENT PROPERTY OWNERS**

KEY PARCEL	TAX ACCOUNT ID	ADDRESS	OWNER NAME
A	1571	2020005040310	1009 BAY RIDGE ROAD DIEHL, DOUGLAS W
B	2235	20266690085938	1071 BAY RIDGE ROAD BAY RIDGE CHRISTIAN CHURCH
C	0141	20266690085920	1190 NEW CHURCH LANE HUNTER, DEAN S
D	0141	20266690085921	3100 RIVERWALK DR MAURER, ERIC J
E	0141	20266690085922	3102 RIVERWALK DR STEPHENS, DONNA L
F	0141	20266690085923	3104 RIVERWALK DR BOVIN, JR DONALD L

- NOTES:**
- TOPOGRAPHIC INFORMATION WAS GENERATED BY A FIELD RUN SURVEY BY AECOM IN MARCH 2021 AND SUPPLEMENTED WITH ANNE ARUNDEL COUNTY GIS.
  - THE SOURCE OF THE PROPERTY LINES IS FROM ANNE ARUNDEL COUNTY GIS.
  - FOREST STAND DELINEATION WAS CONDUCTED BY AECOM - TIM HORNER, RLA ON MARCH 4, 2021.
  - WETLANDS AND STREAMS WERE DELINEATED BY AECOM - GRAHAM TWIBELL, QP ON MARCH 4, 2021.
  - NO FLOODPLAIN EXISTS ON-SITE.
  - THE SITE IS NOT WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
  - THE SITE IS LOCATED WITHIN THE SEVERN RIVER AND SOUTH RIVER WATERSHED.
  - THE PROJECT SITE DOES NOT CONTAIN ANY HISTORICAL OR CULTURAL RESOURCES OF SIGNIFICANCE.
  - A DIAMETER TAPE WAS USED TO MEASURE THE DIAMETER AT BREAST HEIGHT (DBH) OF INDIVIDUAL TREES.
  - THERE ARE SLOPES 25% AND GREATER WITHIN THE PROJECT SITE.
  - THERE ARE HIGHLY ERODIBLE SOILS WITHIN THE PROJECT SITE.
  - THERE ARE SPECIMEN TREES LOCATED ADJACENT TO THE PROJECT SITE.
  - SOIL DATA WAS OBTAINED FROM USDA'S WEB SOIL SURVEY APRIL 2021.



PROFESSIONAL CERTIFICATION  
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



**REVISIONS**

NO.	DESCRIPTION	BY	DATE

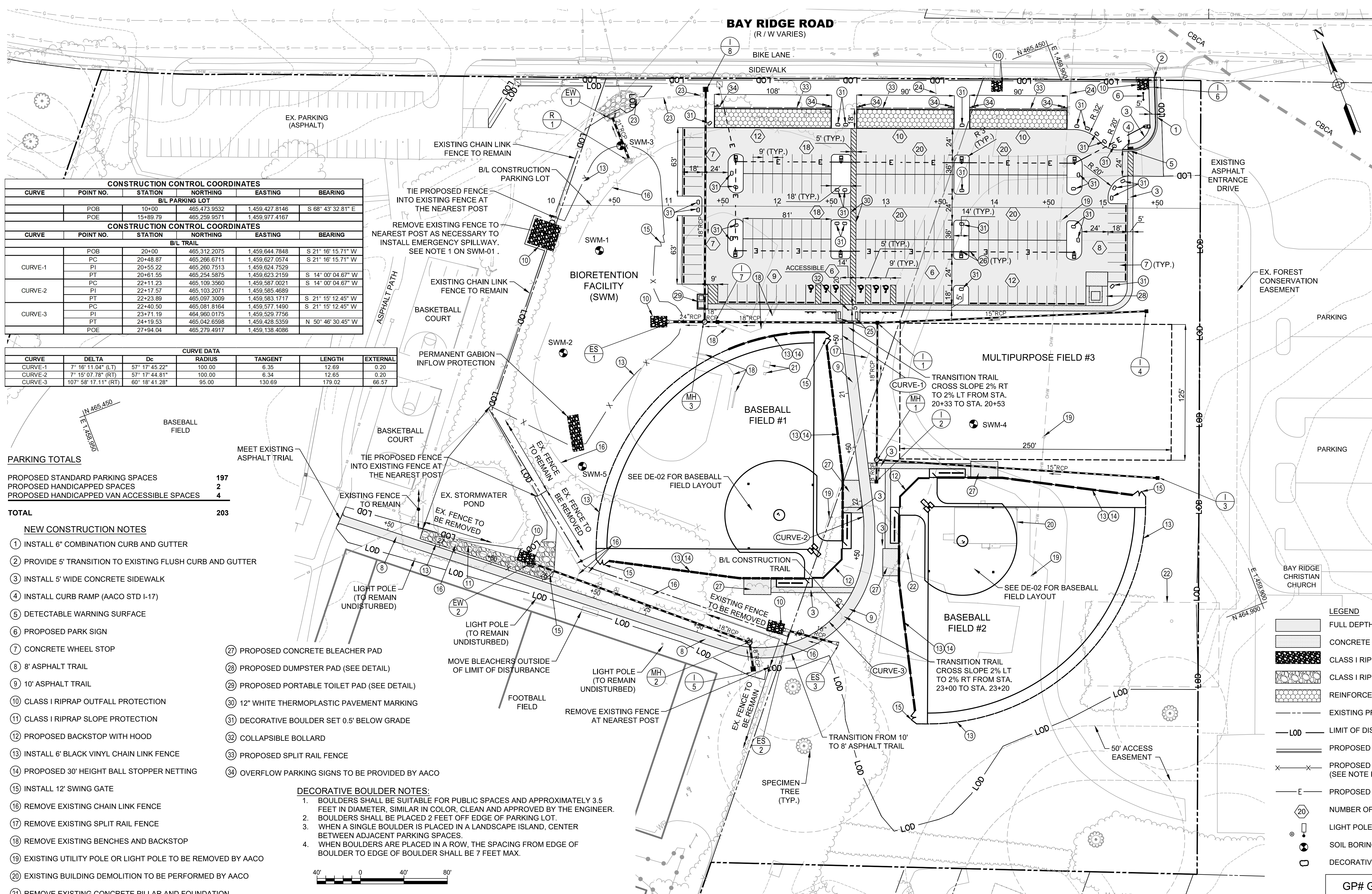
**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

APPROVED	DATE	APPROVED	DATE

GP# G02019203      DWG. NO.: EP-01

SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 3 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION  
**EXISTING CONDITIONS PLAN**



CONSTRUCTION CONTROL COORDINATES					
CURVE	POINT NO.	STATION	NORTHING	EASTING	BEARING
B/L PARKING LOT					
	POB	10+00	465.473.9532	1,459.427.8146	S 68° 43' 32.81" E
	POE	15+89.79	465.259.9571	1,459.977.4167	
CONSTRUCTION CONTROL COORDINATES					
CURVE	POINT NO.	STATION	NORTHING	EASTING	BEARING
B/L TRAIL					
	POB	20+00	465.312.2075	1,459.644.7848	S 21° 16' 15.71" W
	PC	20+48.87	465.286.6711	1,459.627.0574	S 21° 16' 15.71" W
	PT	20+55.22	465.280.7513	1,459.624.7529	
	PI	20+61.55	465.254.5875	1,459.623.2159	S 14° 00' 04.67" W
	PC	22+11.23	465.109.3560	1,459.587.0021	S 14° 00' 04.67" W
	PI	22+17.57	465.103.2071	1,459.585.4689	
	PT	22+23.89	465.097.3009	1,459.583.1717	S 21° 15' 12.45" W
	PC	22+40.50	465.081.8164	1,459.577.1490	S 21° 15' 12.45" W
	PI	23+71.19	464.960.0175	1,459.529.7756	
	PT	24+19.53	465.042.6598	1,459.428.5359	N 50° 46' 30.45" W
	POE	27+94.04	465.279.4917	1,459.138.4086	

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CURVE-1	7° 16' 11.04" (LT)	57' 17" 45.22"	100.00	6.35	12.69	0.20
CURVE-2	7° 15' 07.78" (RT)	57' 17" 44.81"	100.00	6.34	12.65	0.20
CURVE-3	107° 58' 17.11" (RT)	80' 18' 41.28"	95.00	130.69	179.02	66.57

**PARKING TOTALS**

PROPOSED STANDARD PARKING SPACES	197
PROPOSED HANDICAPPED SPACES	2
PROPOSED HANDICAPPED VAN ACCESSIBLE SPACES	4
<b>TOTAL</b>	<b>203</b>

**NEW CONSTRUCTION NOTES**

- INSTALL 6" COMBINATION CURB AND GUTTER
- PROVIDE 5' TRANSITION TO EXISTING FLUSH CURB AND GUTTER
- INSTALL 5' WIDE CONCRETE SIDEWALK
- INSTALL CURB RAMP (AAO STD I-17)
- DETECTABLE WARNING SURFACE
- PROPOSED PARK SIGN
- CONCRETE WHEEL STOP
- 8' ASPHALT TRAIL
- 10' ASPHALT TRAIL
- CLASS I RIPRAP OUTFALL PROTECTION
- CLASS I RIPRAP SLOPE PROTECTION
- PROPOSED BACKSTOP WITH HOOD
- INSTALL 6" BLACK VINYL CHAIN LINK FENCE
- PROPOSED 30' HEIGHT BALL STOPPER NETTING
- INSTALL 12" SWING GATE
- REMOVE EXISTING CHAIN LINK FENCE
- REMOVE EXISTING SPLIT RAIL FENCE
- REMOVE EXISTING BENCHES AND BACKSTOP
- EXISTING UTILITY POLE OR LIGHT POLE TO BE REMOVED BY AACO
- EXISTING BUILDING DEMOLITION TO BE PERFORMED BY AACO
- REMOVE EXISTING CONCRETE PILLAR AND FOUNDATION
- REMOVE ABANDONED SEPTIC FIELD
- REMOVE EXISTING INLET, PIPE, AND END SECTION
- EXISTING BGE GUY WIRE TO REMAIN UNDISTURBED
- PROPOSED PARK BENCH
- INSTALL LIGHT POLE AND 2" CONDUIT

- PROPOSED CONCRETE BLEACHER PAD
- PROPOSED DUMPSTER PAD (SEE DETAIL)
- PROPOSED PORTABLE TOILET PAD (SEE DETAIL)
- 12" WHITE THERMOPLASTIC PAVEMENT MARKING
- DECORATIVE BOULDER SET 0.5' BELOW GRADE
- COLLAPSIBLE BOLLARD
- PROPOSED SPLIT RAIL FENCE
- OVERFLOW PARKING SIGNS TO BE PROVIDED BY AACO

**DECORATIVE BOULDER NOTES:**

- BOULDERS SHALL BE SUITABLE FOR PUBLIC SPACES AND APPROXIMATELY 3.5 FEET IN DIAMETER, SIMILAR IN COLOR, CLEAN AND APPROVED BY THE ENGINEER.
- BOULDERS SHALL BE PLACED 2 FEET OFF EDGE OF PARKING LOT.
- WHEN A SINGLE BOULDER IS PLACED IN A LANDSCAPE ISLAND, CENTER BETWEEN ADJACENT PARKING SPACES.
- WHEN BOULDERS ARE PLACED IN A ROW, THE SPACING FROM EDGE OF BOULDER TO EDGE OF BOULDER SHALL BE 7 FEET MAX.



AECOM  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7200  
FAX: 410-785-6818

**PROFESSIONAL CERTIFICATION**

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MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



10/26/2022

**REVISIONS**

NO.	DESCRIPTION	BY	DATE

**ANNE ARUNDEL COUNTY**

**DEPARTMENT OF PUBLIC WORKS**

APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

**LEGEND**

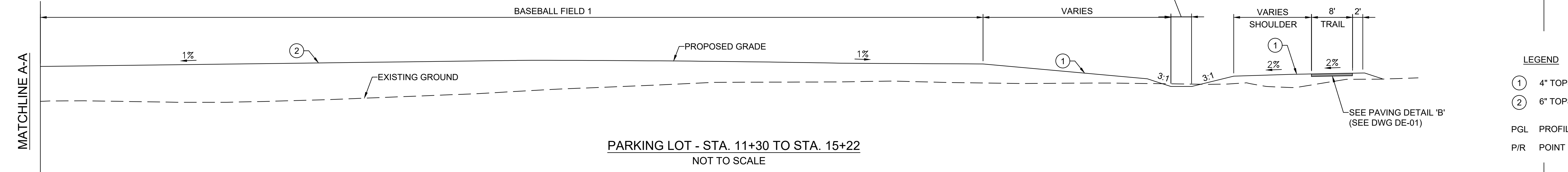
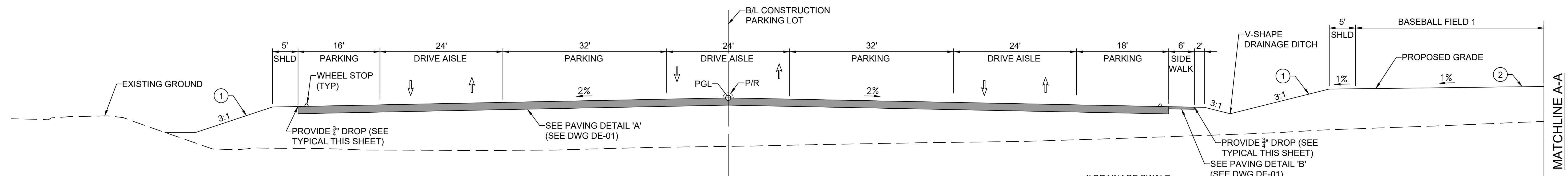
- FULL DEPTH HOT MIX ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- CLASS I RIPRAP OUTFALL PROTECTION
- CLASS I RIPRAP SLOPE PROTECTION
- REINFORCED TURF
- EXISTING PROPERTY LINE
- LIMIT OF DISTURBANCE
- PROPOSED CURB AND GUTTER
- PROPOSED CHAIN LINK FENCE (SEE NOTE FOR HEIGHT)
- PROPOSED UNDERGROUND ELECTRIC
- NUMBER OF PARKING SPACES
- LIGHT POLES
- SOIL BORING
- DECORATIVE BOULDER

GP# G02019203

DWG. NO.: PS-01

PENINSULA PARK EXPANSION

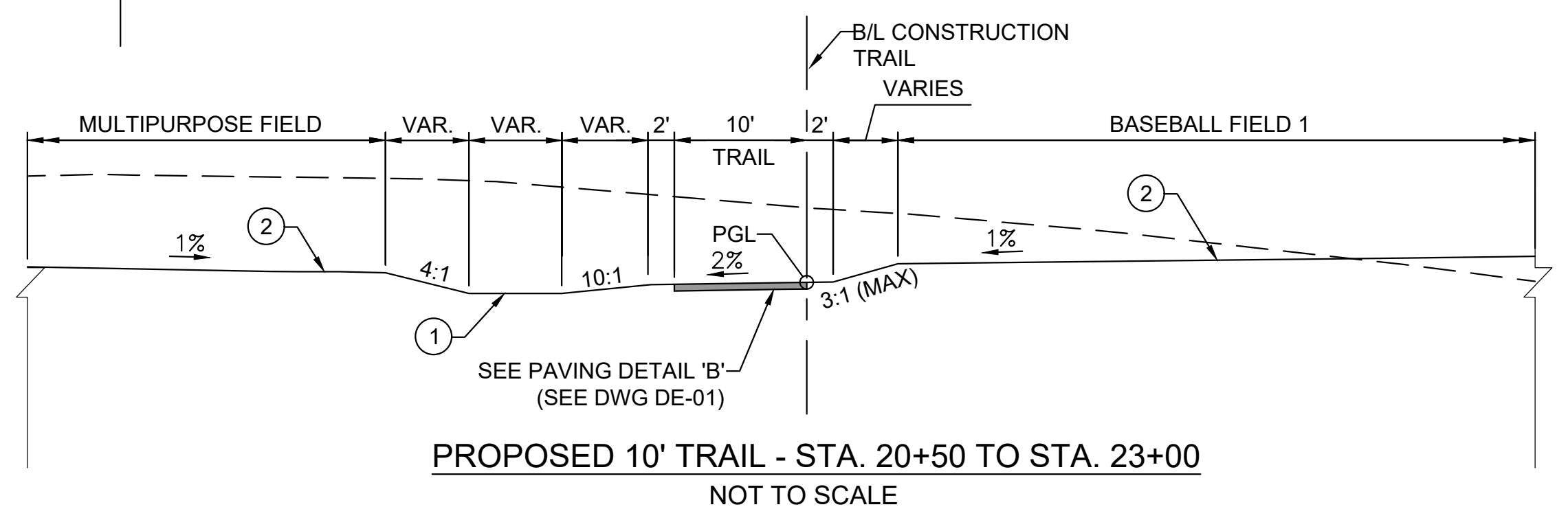
**PROPOSED SITE PLAN**



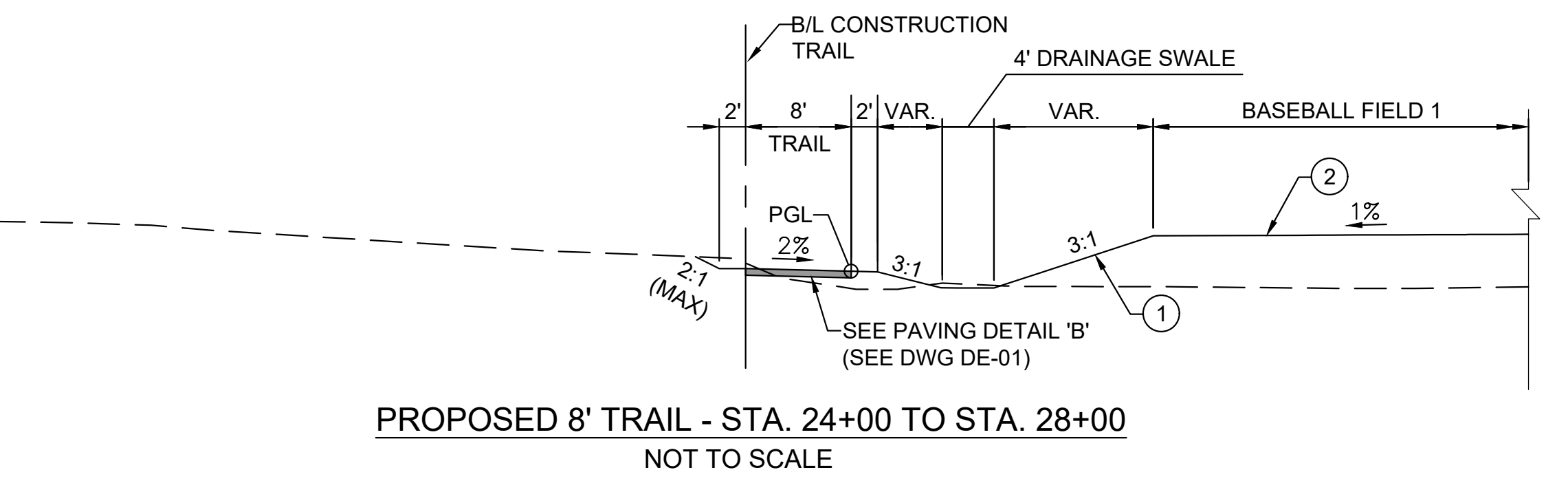
- LEGEND**
- ① 4" TOPSOIL, SEED & MULCH
  - ② 6" TOPSOIL, SEED & MULCH
  - PGL PROFILE GRADE LINE
  - P/R POINT OF ROTATION

**PARKING LOT - STA. 11+30 TO STA. 15+22**  
NOT TO SCALE

**PARKING LOT - STA. 13+25 TO STA. 15+50**  
NOT TO SCALE



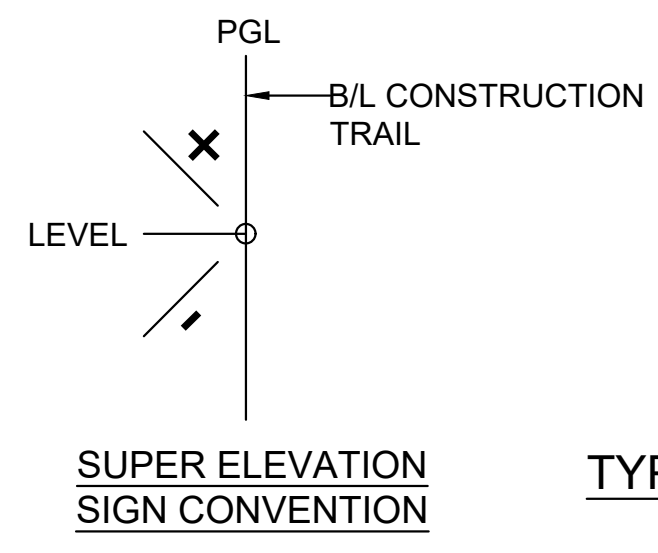
**PROPOSED 10' TRAIL - STA. 20+50 TO STA. 23+00**  
NOT TO SCALE



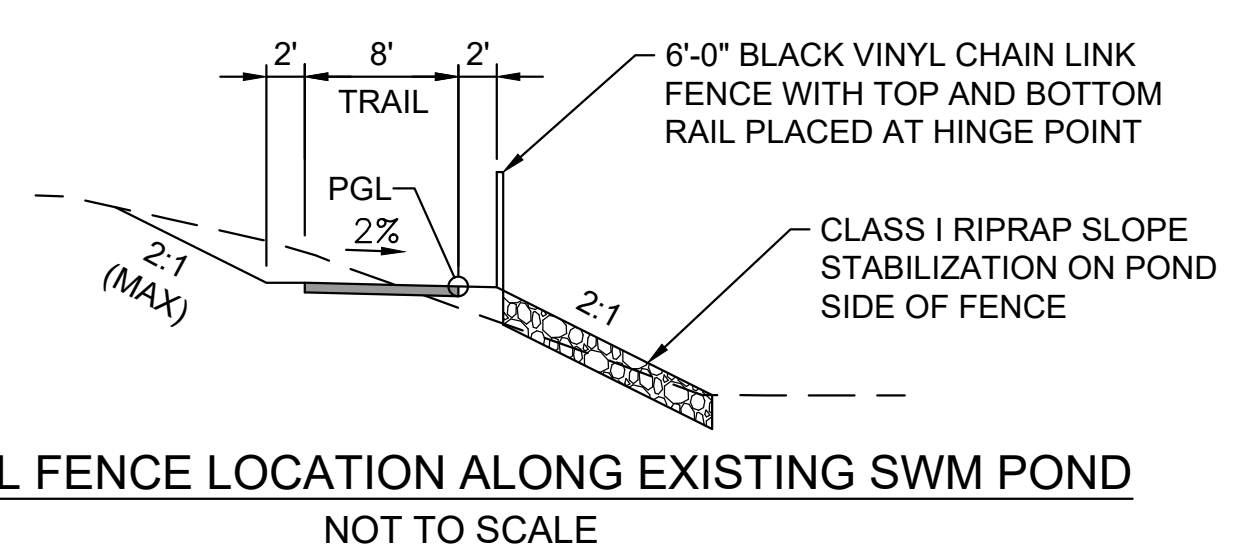
**PROPOSED 8' TRAIL - STA. 24+00 TO STA. 28+00**  
NOT TO SCALE

TRAIL CROSS SLOPE TABLE			
BASELINE	STATION	S/E	COMMENTS
TRAIL	20+33	+2.00%	BEGIN TRANSITION
	20+53	-2.00%	END TRANSITION
	23+00	-2.00%	BEGIN TRANSITION
	23+20	+2.00%	END TRANSITION
	28+00	+2.00%	

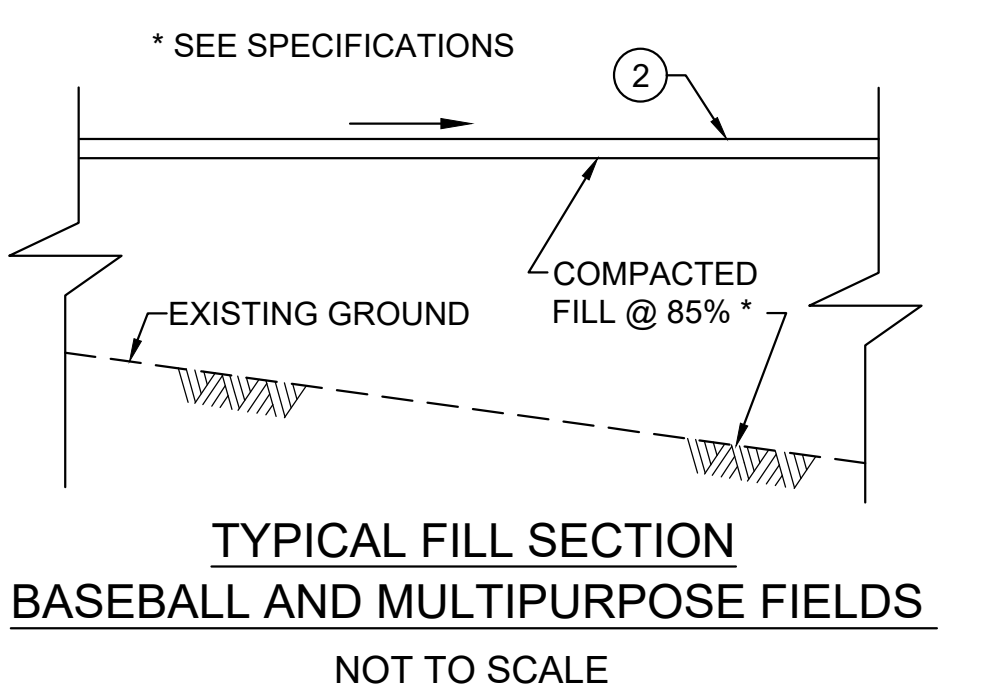
- TRAIL CROSS SLOPE NOTES:**
- UNDER NO CIRCUMSTANCES SHALL THE TRAIL CROSS SLOPE EXCEED 2.0%, AS SPECIFIED BY AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE MARYLAND STATE HIGHWAY ADMINISTRATION'S (MDSHA) "ACCESSIBILITY POLICY AND GUIDELINES FOR PEDESTRIAN FACILITIES ALONG STATE HIGHWAYS (2010)."
  - TRAIL CROSS SLOPE TRANSITION SHALL BE A MINIMUM TRANSITION OF 5FT FOR EACH 1 PERCENT CHANGE IN CROSS SLOPE.



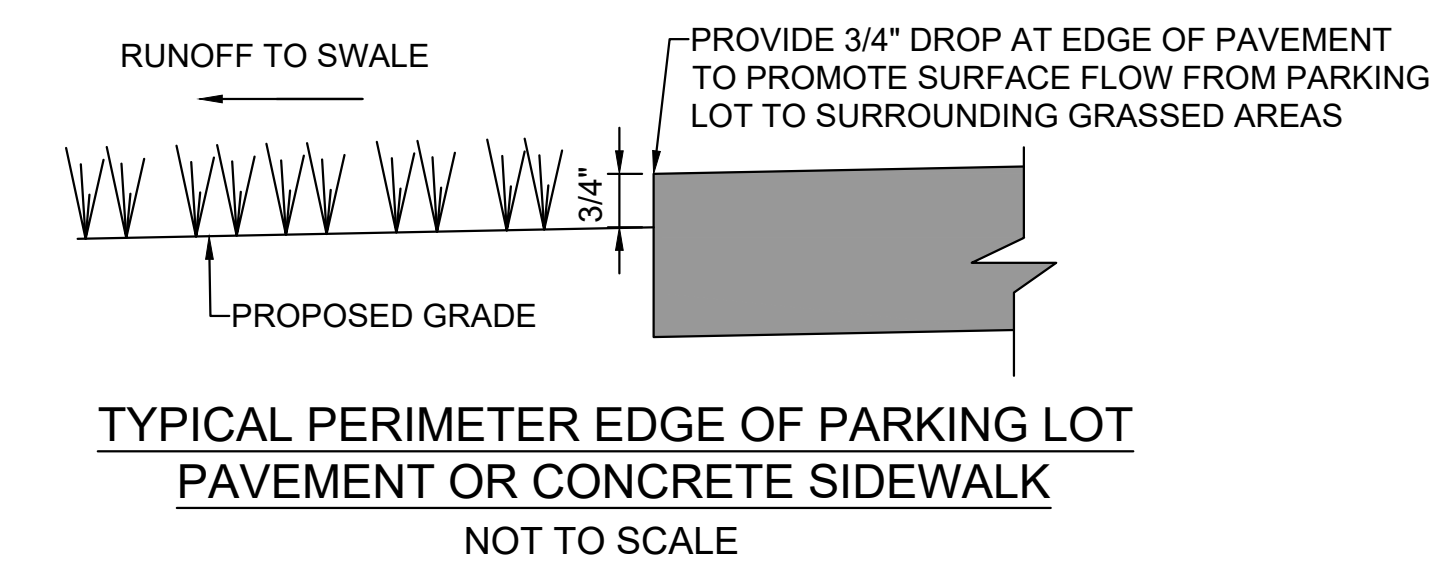
**SUPER ELEVATION SIGN CONVENTION**



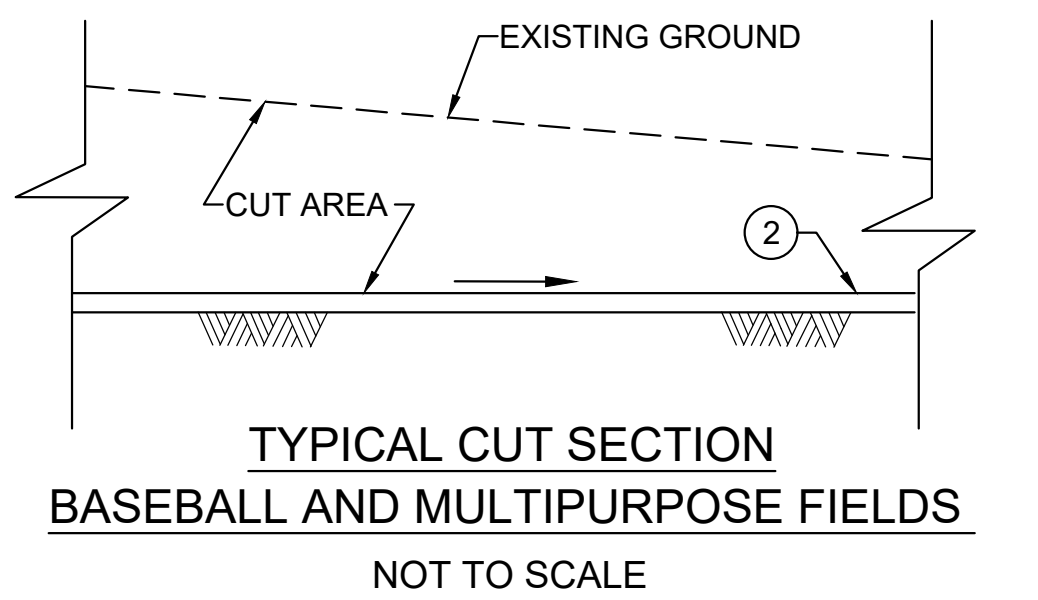
**TYPICAL FENCE LOCATION ALONG EXISTING SWM POND**  
NOT TO SCALE



**TYPICAL FILL SECTION BASEBALL AND MULTIPURPOSE FIELDS**  
NOT TO SCALE



**TYPICAL PERIMETER EDGE OF PARKING LOT PAVEMENT OR CONCRETE SIDEWALK**  
NOT TO SCALE



**TYPICAL CUT SECTION BASEBALL AND MULTIPURPOSE FIELDS**  
NOT TO SCALE

**AECOM**

4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

**PROFESSIONAL CERTIFICATION**

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



REVISIONS			
NO.	DESCRIPTION	BY	DATE

**ANNE ARUNDEL COUNTY**  
DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT
APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 5 OF 42
				PROJECT NO. P509000
				CONTRACT NO. P509006

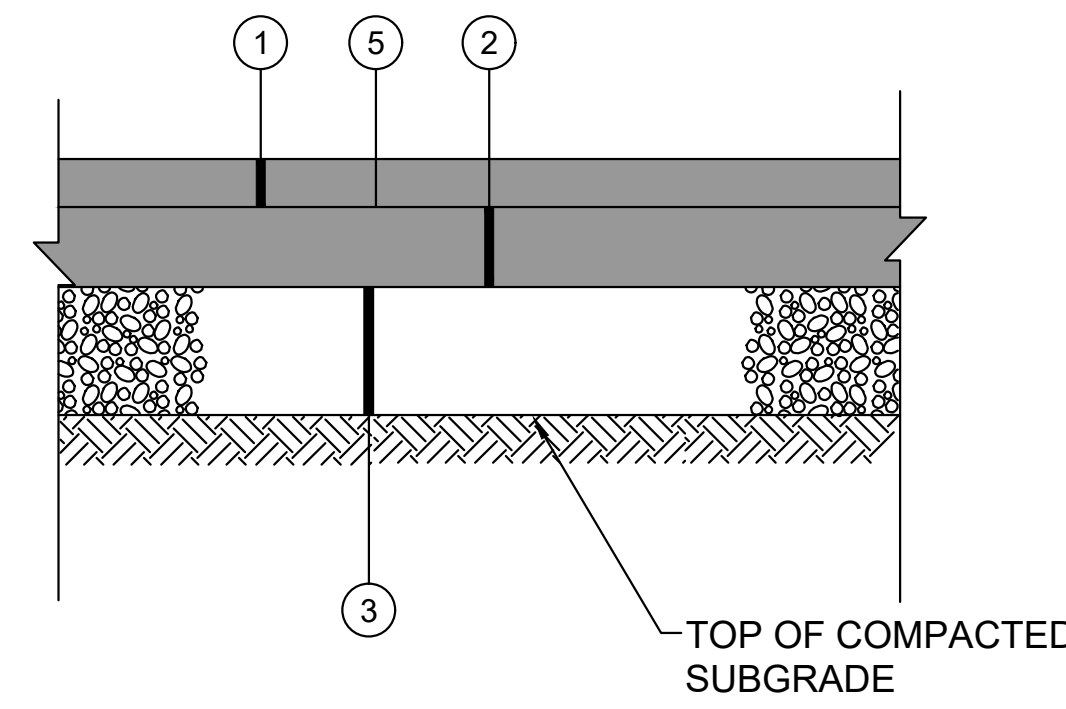
**PENINSULA PARK EXPANSION**

**TYPICAL SECTIONS**

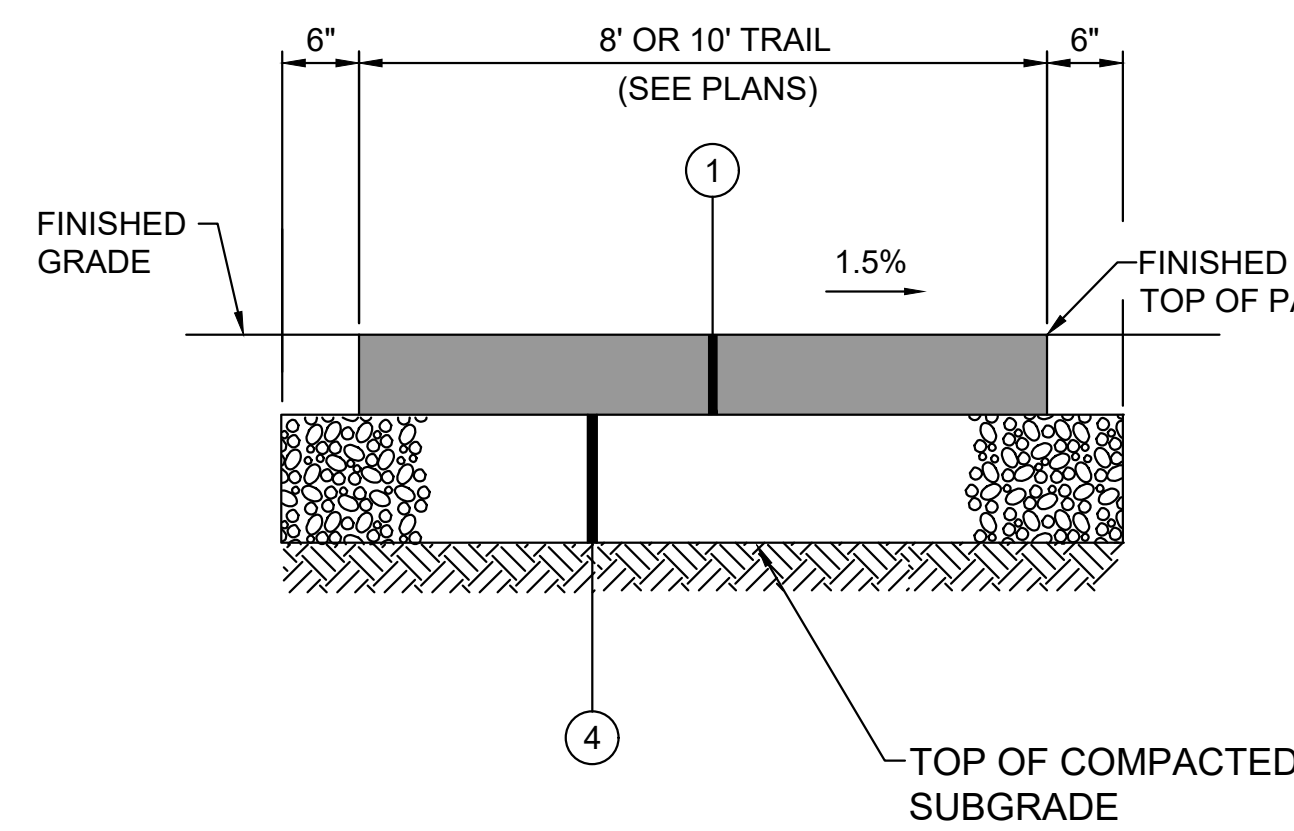
GP# G02019203 DWG. NO.: TS-01

**LEGEND**

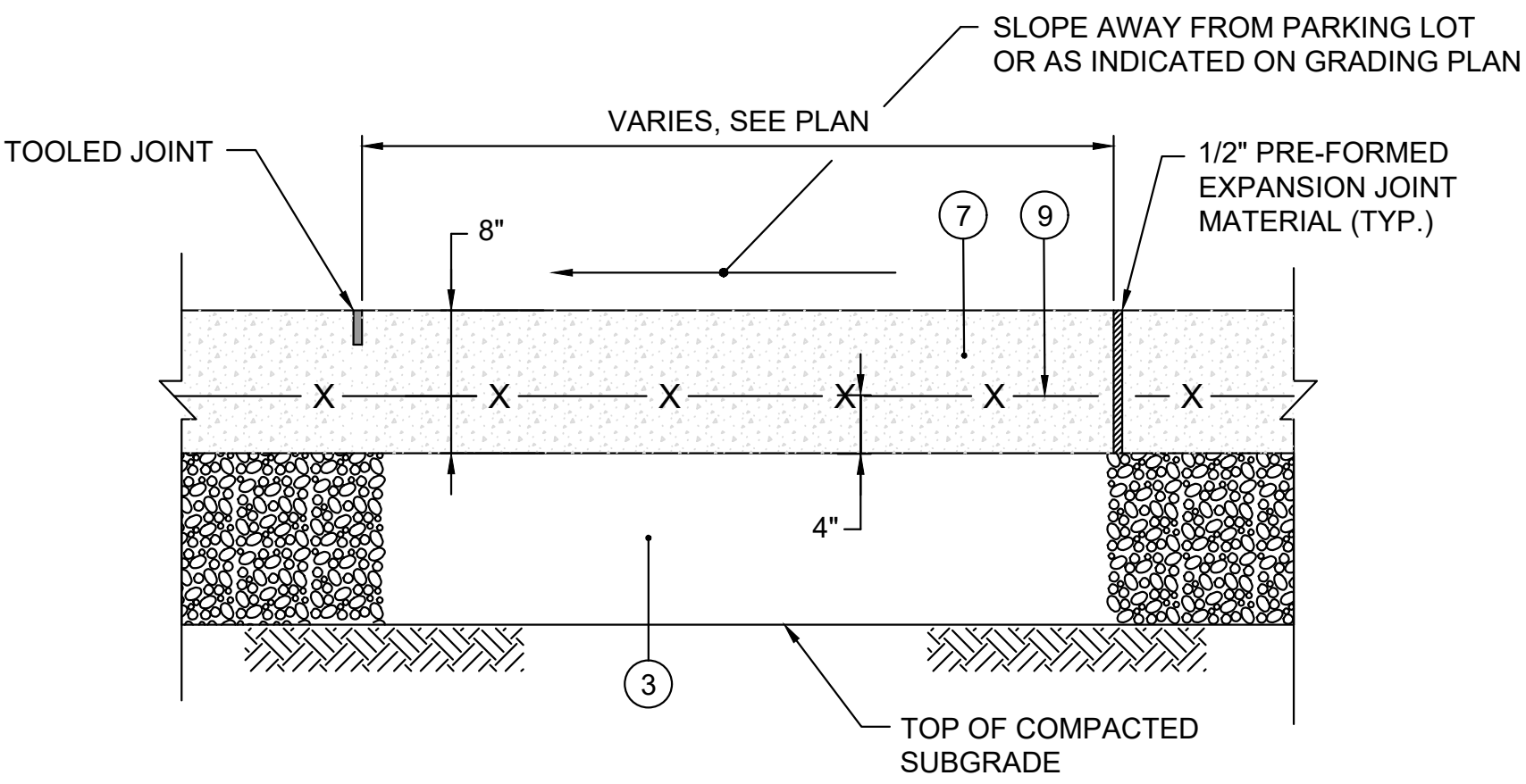
- ① 2" HMA SURFACE, 9.5mm, LEVEL 2 PG64-22
- ② 3" HMA BASE, 19.0mm, LEVEL 2 PG64-22
- ③ 6" GRADED AGGREGATE BASE
- ④ 4" GRADED AGGREGATE BASE
- ⑤ TACK COAT
- ⑥ COMBINATION CURB AND GUTTER (AACO STD I-24)
- ⑦ MIX NO. 3 CONCRETE (3500 PSI)
- ⑧ MIX NO. 2 CONCRETE
- ⑨ 6X6-W1.4xW1.4 WWF
- ⑩ 6X6-W2.0xW2.0 WWF



**PAVING DETAIL 'A' - PARKING**  
NOT TO SCALE

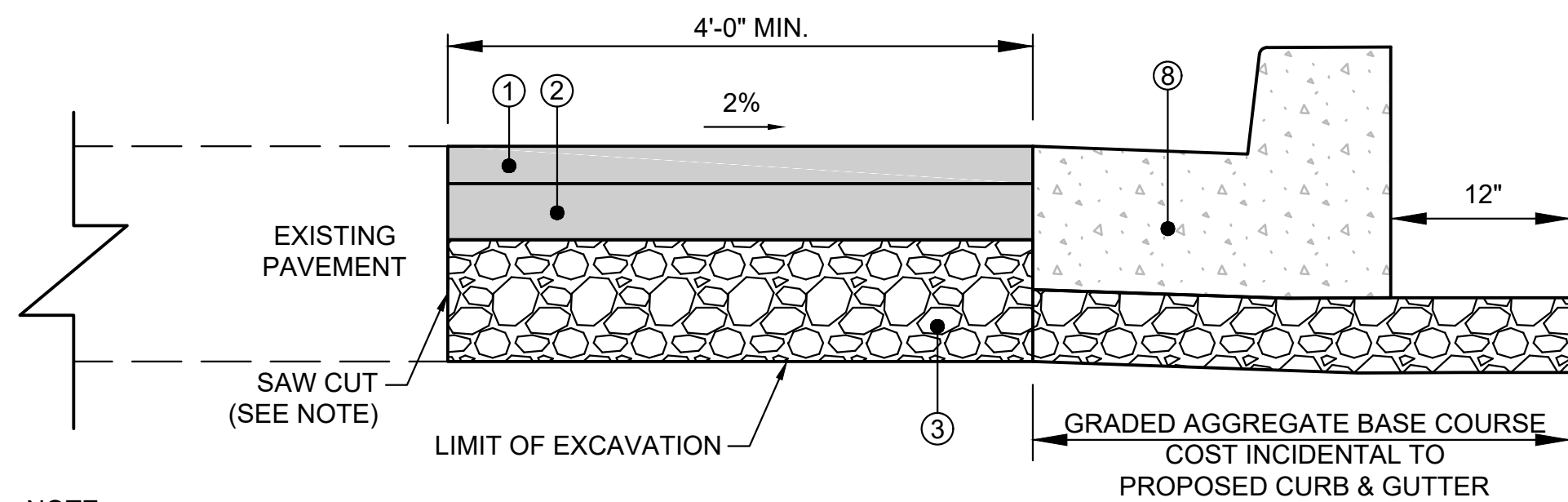


**PAVING DETAIL 'B' - TRAIL**  
NOT TO SCALE



- 1/2" PREMOLDED EXPANSION JOINT MATERIAL TO BE PLACED WHERE WALKS ABUT BUILDINGS, OTHER WALKS ETC. AND AT MAXIMUM OF 20' INTERVALS ALONG THE PAD.
- TOOLED JOINTS SHALL BE PROVIDED DOWN THE CENTER, IN 10' SECTIONS

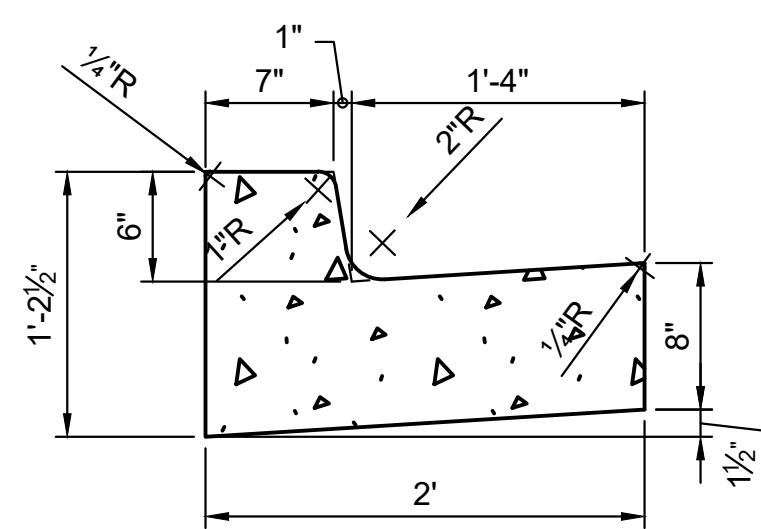
**PAVING DETAIL 'C' - CONCRETE DUMPSTER PAD**  
NOT TO SCALE



NOTE: THE CONTRACTOR SHALL PROVIDE A FULL DEPTH SAWCUT AT ALL LOCATIONS WHERE CURB AND GUTTER IS INSTALLED. SAWCUTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE APPROPRIATE CLASS OF EXCAVATION.

**PROPOSED CURB & GUTTER AT PARKING LOT ENTRANCE**

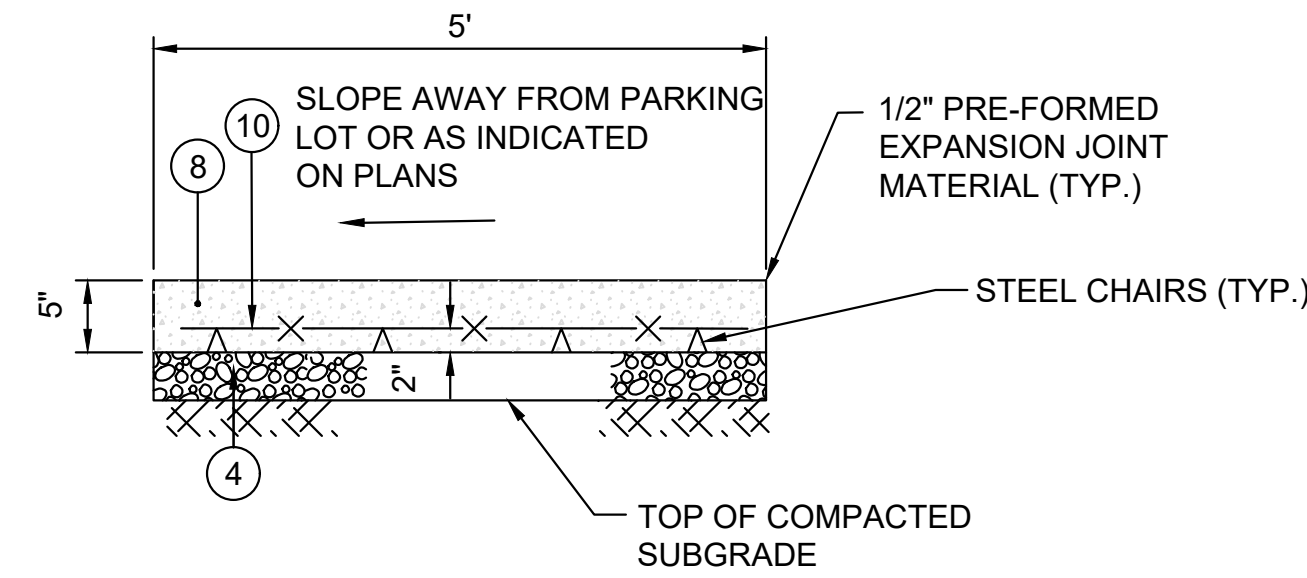
NOT TO SCALE



**COMBINATION CURB AND GUTTER 6-IN CURB / 16 IN- GUTTER PAN DETAIL**

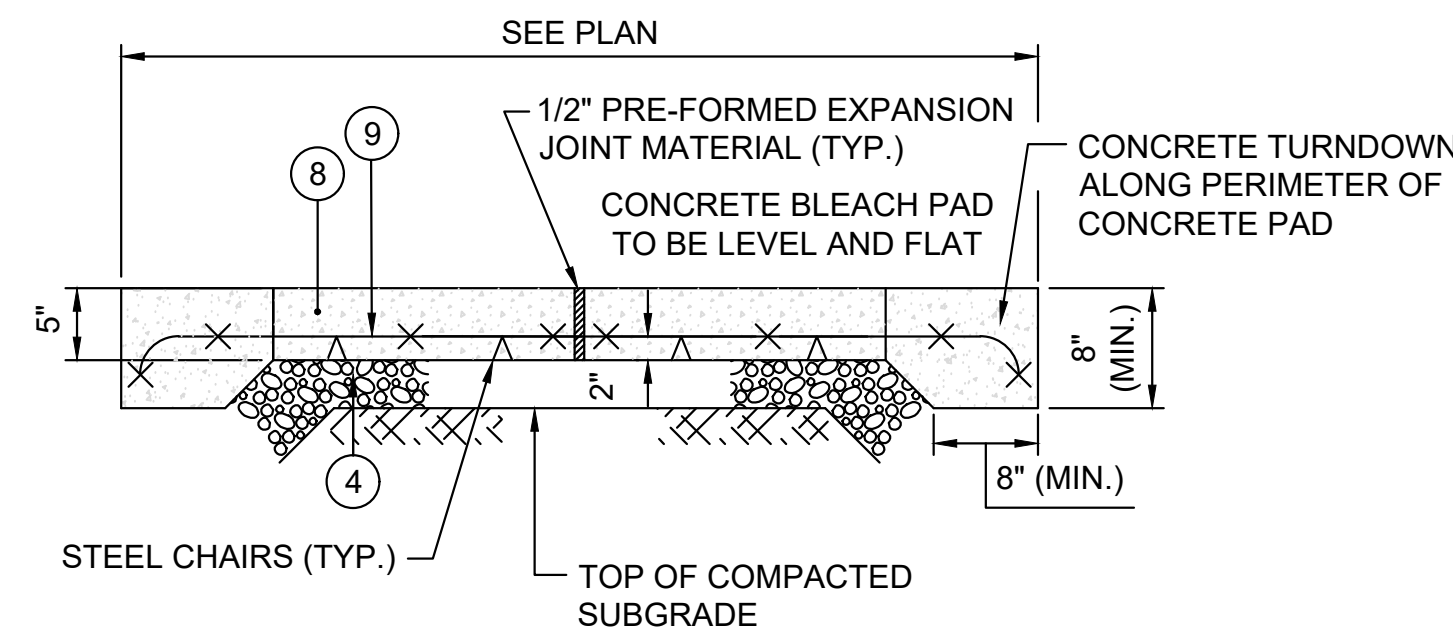
NOT TO SCALE

- NOTES:
- SEE AACO STANDARD I-24
  - PROVIDE 5' TRANSITION TO EXISTING FLUSH CURB AND GUTTER AT ENTRANCE.



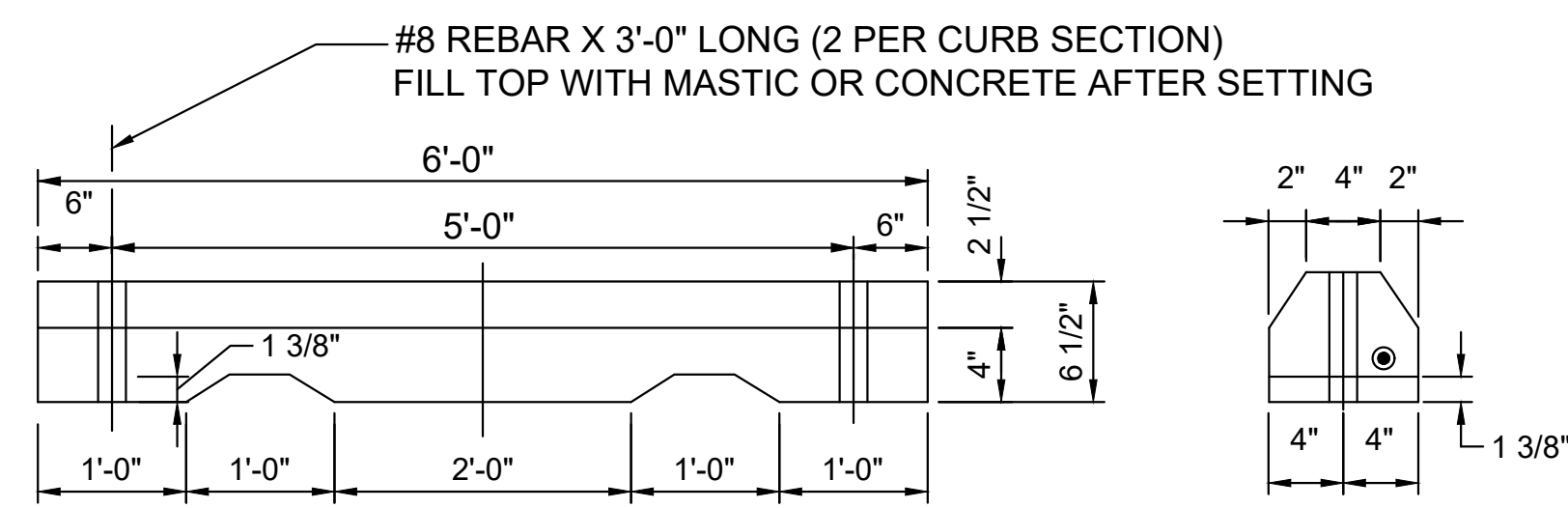
- 1/2" PREMOLDED EXPANSION JOINT MATERIAL TO BE PLACED WHERE WALKS ABUT CURBS, STEPS, BUILDINGS, OTHER WALKS ETC. AND AT MAXIMUM OF 20' INTERVALS ALONG THE WALK.
- TOOLED JOINTS SHALL BE PROVIDED AT 4' ON CENTER FOR 4' & 8' WALKS, 5' ON CENTER FOR 5' & 10' WALKS, AND 6' ON CENTER FOR 6' WALKS AND LARGER NOT PREVIOUSLY MENTIONED.

**PAVING DETAIL 'D' - CONCRETE WALK**  
NOT TO SCALE

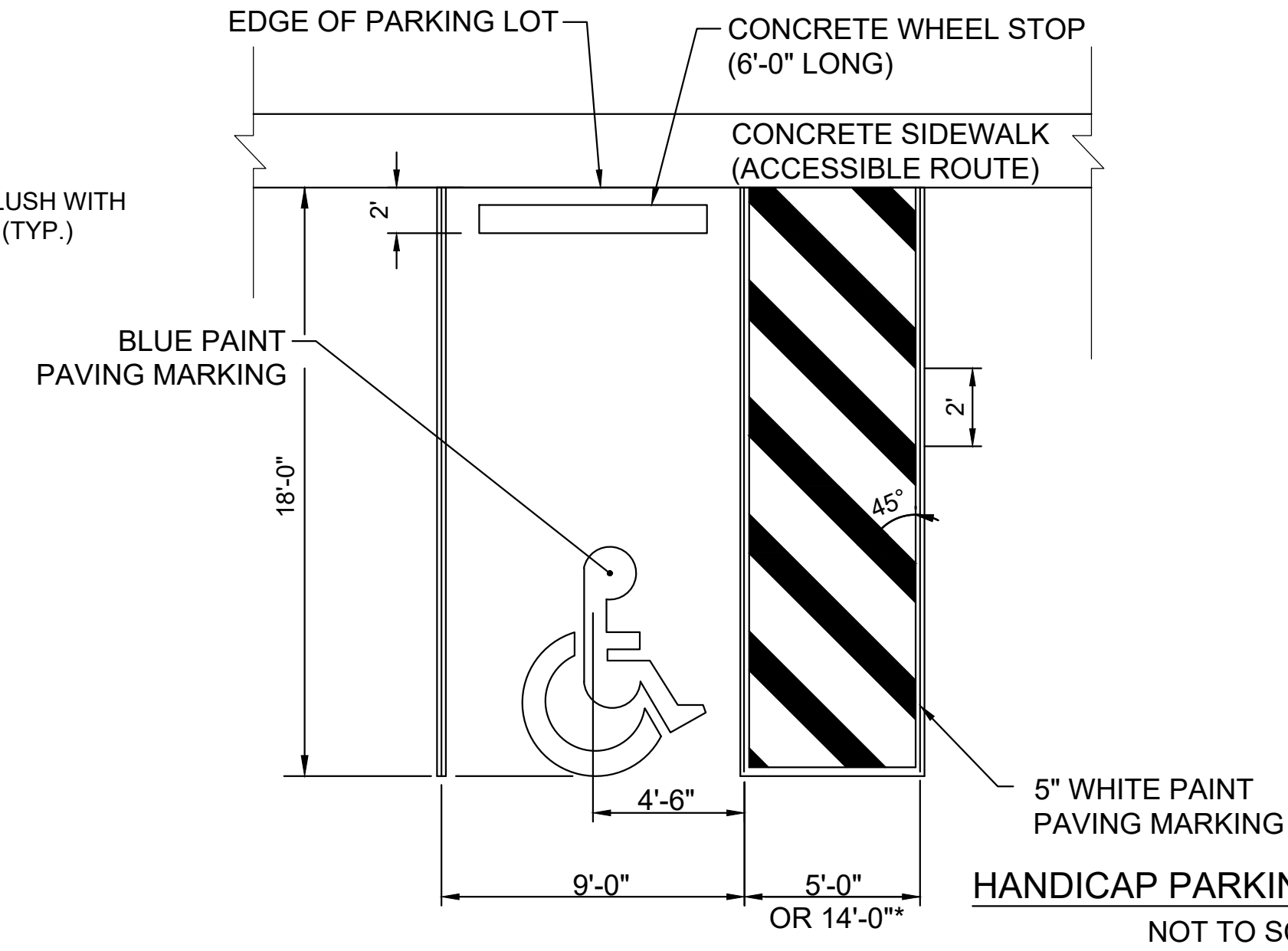


- 1/2" PREMOLDED EXPANSION JOINT MATERIAL TO BE PLACED WHERE PAD ABUTS CONCRETE SIDEWALK AND AT THE CENTER OF THE CONCRETE PAD PERPENDICULAR TO FENCE LINE.

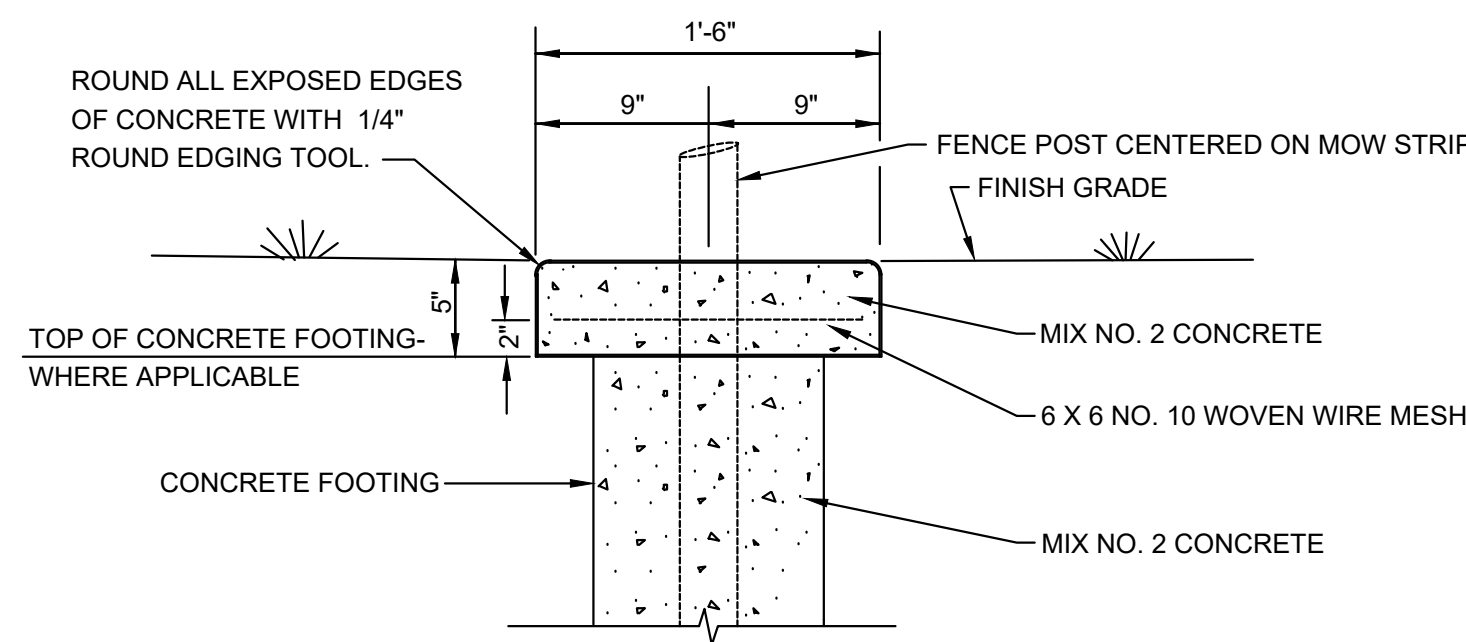
**PAVING DETAIL 'E' - CONCRETE BLEACHER PAD**  
NOT TO SCALE



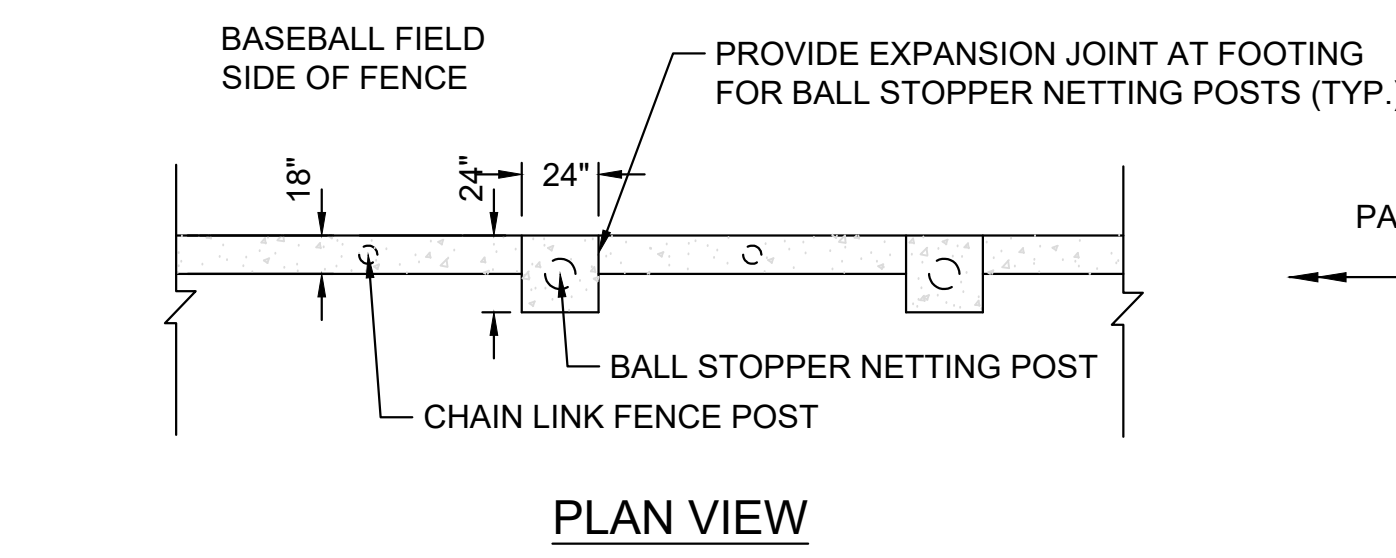
**CONCRETE WHEEL STOP**  
NOT TO SCALE



\*NOTE: 14' WIDE STALL TO BE INSTALLED FOR VAN ACCESSIBLE SPACE AT PARK ENTRANCE (SEE PLANS)



**SECTION VIEW**



**PLAN VIEW**

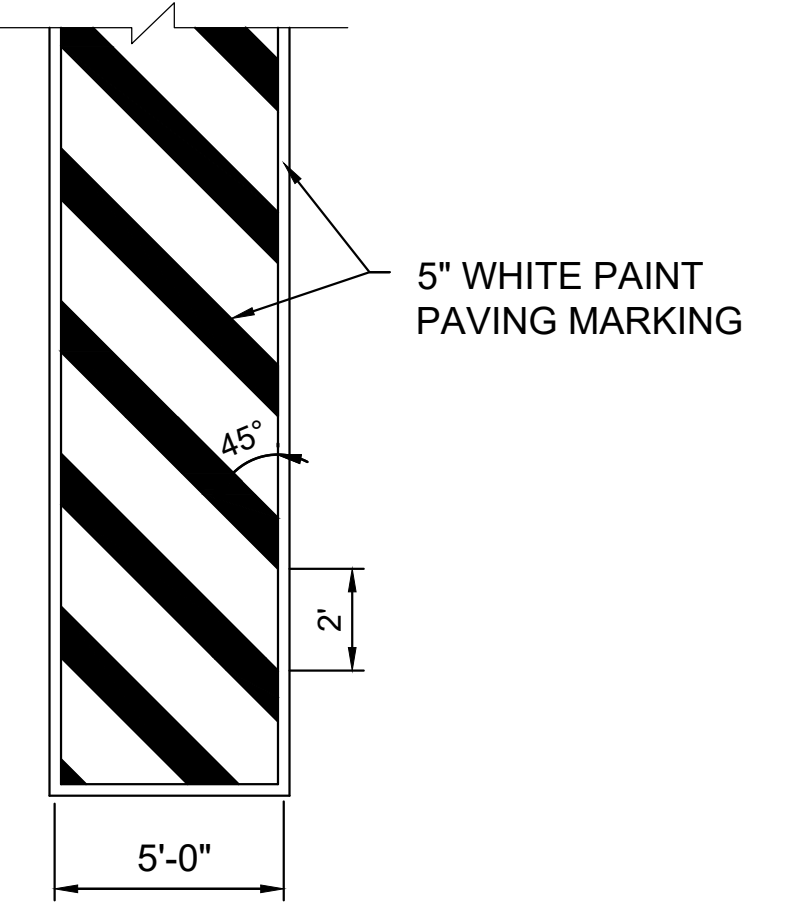
**NOTES**

- FENCE POST IN CONCRETE FOOTING SHALL BE INSTALLED BEFORE MOW STRIP IS PLACED.
- SUBGRADE SHALL BE DRY, FIRM AND WELL-TAMPED.
- CONCRETE MOW STRIP SHALL BE FORMED WITH NO LESS THAN 2" X 6" (NOM.) LUMBER. STEEL FORMS MAY BE USED.
- CONCRETE SURFACE SHALL BE TROWELED SMOOTH AND ALL EXPOSED EDGES BE GIVEN A 2" WIDE BORDER WITH A ROUNDED EDGING TOOL.
- 1/2" ES @ EVERY 3RD POST OR 20' MAX. O.C. AS DIRECTED BY THE ENGINEER.

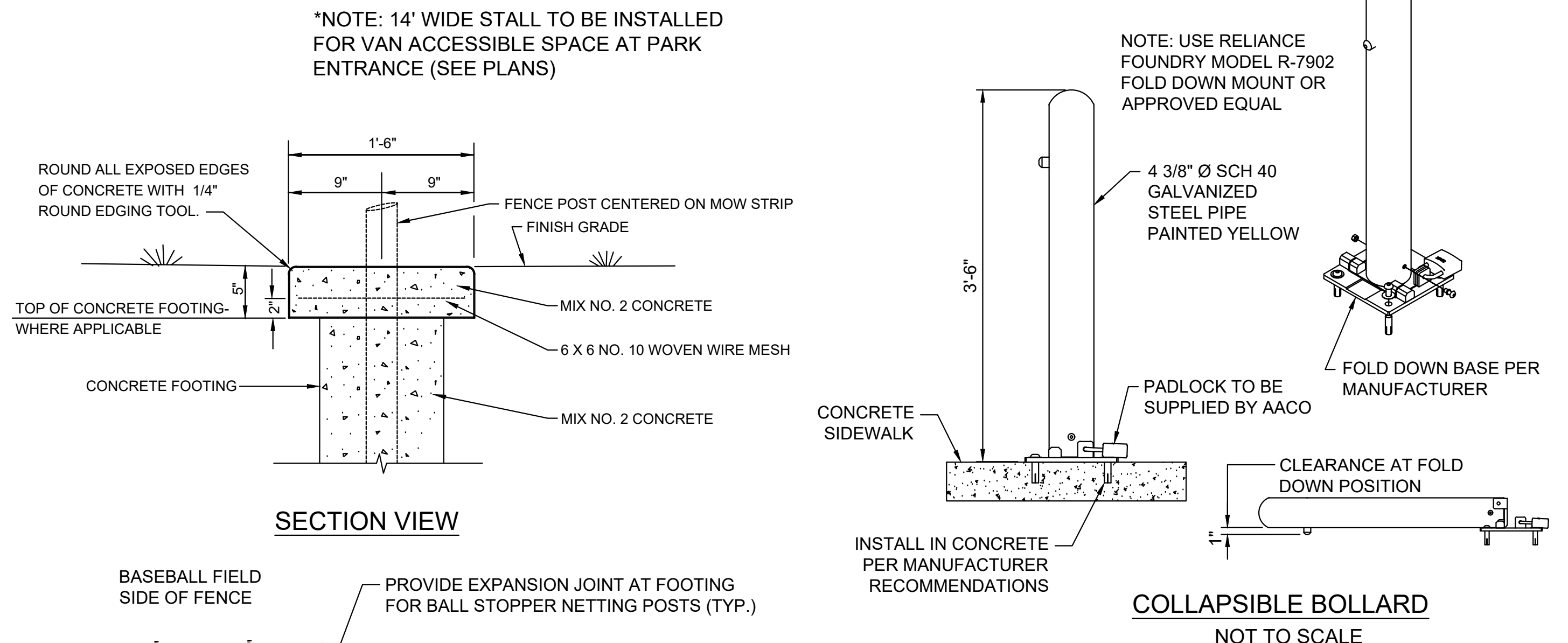
**CONCRETE MOW STRIP**

NOT TO SCALE

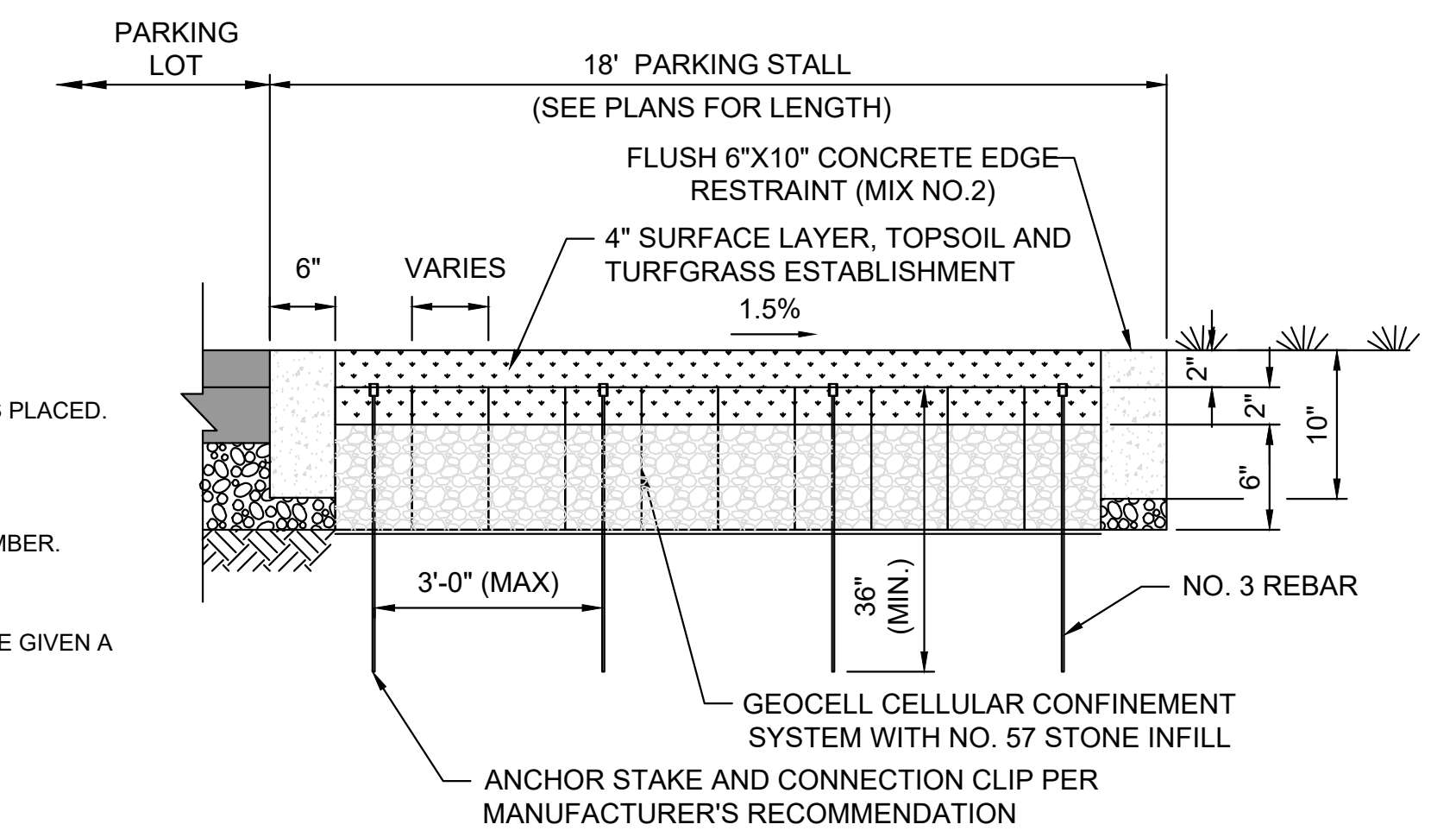
**CROSSWALK STRIPING**  
NOT TO SCALE



**HANDICAP PARKING STRIPING**  
NOT TO SCALE



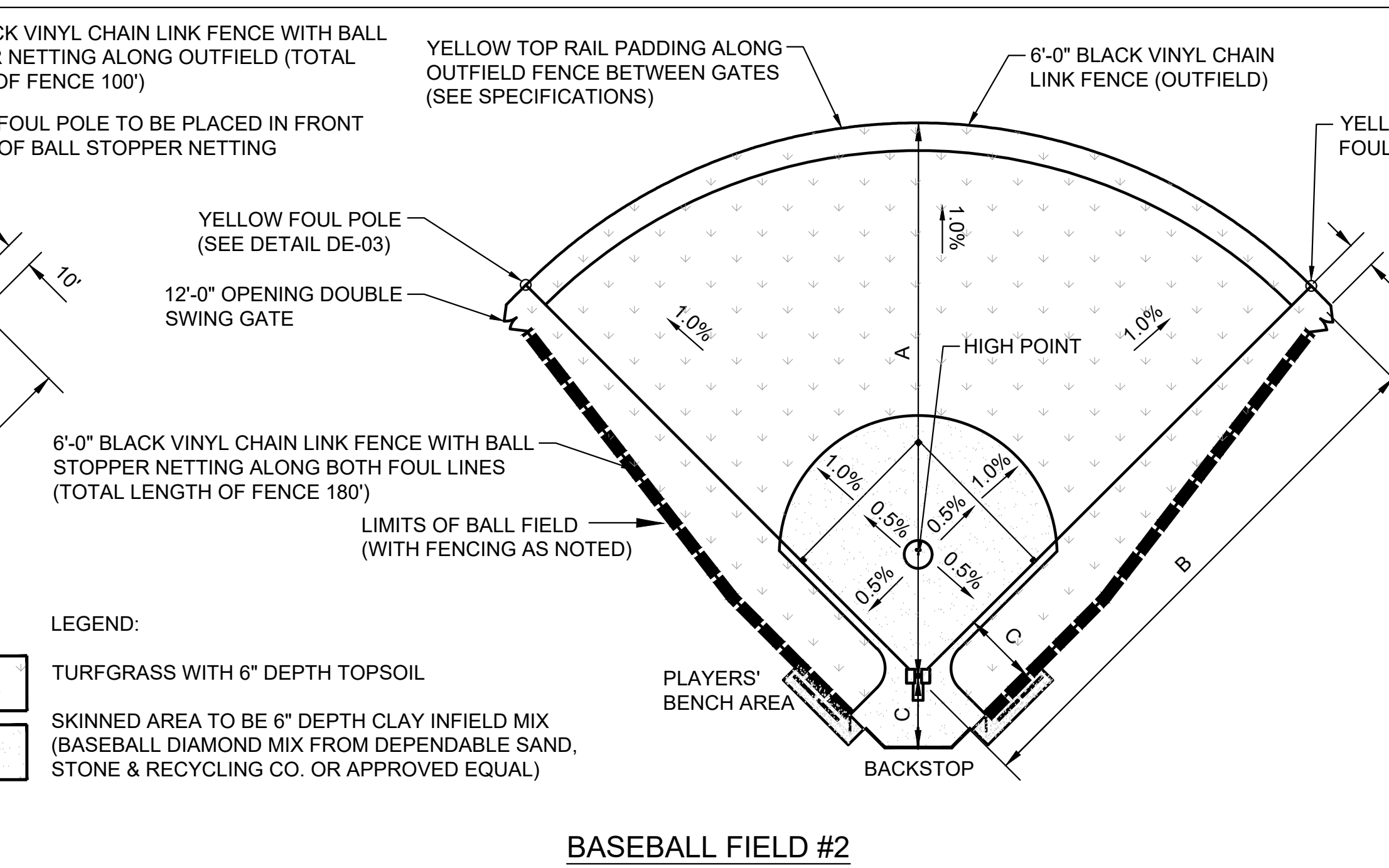
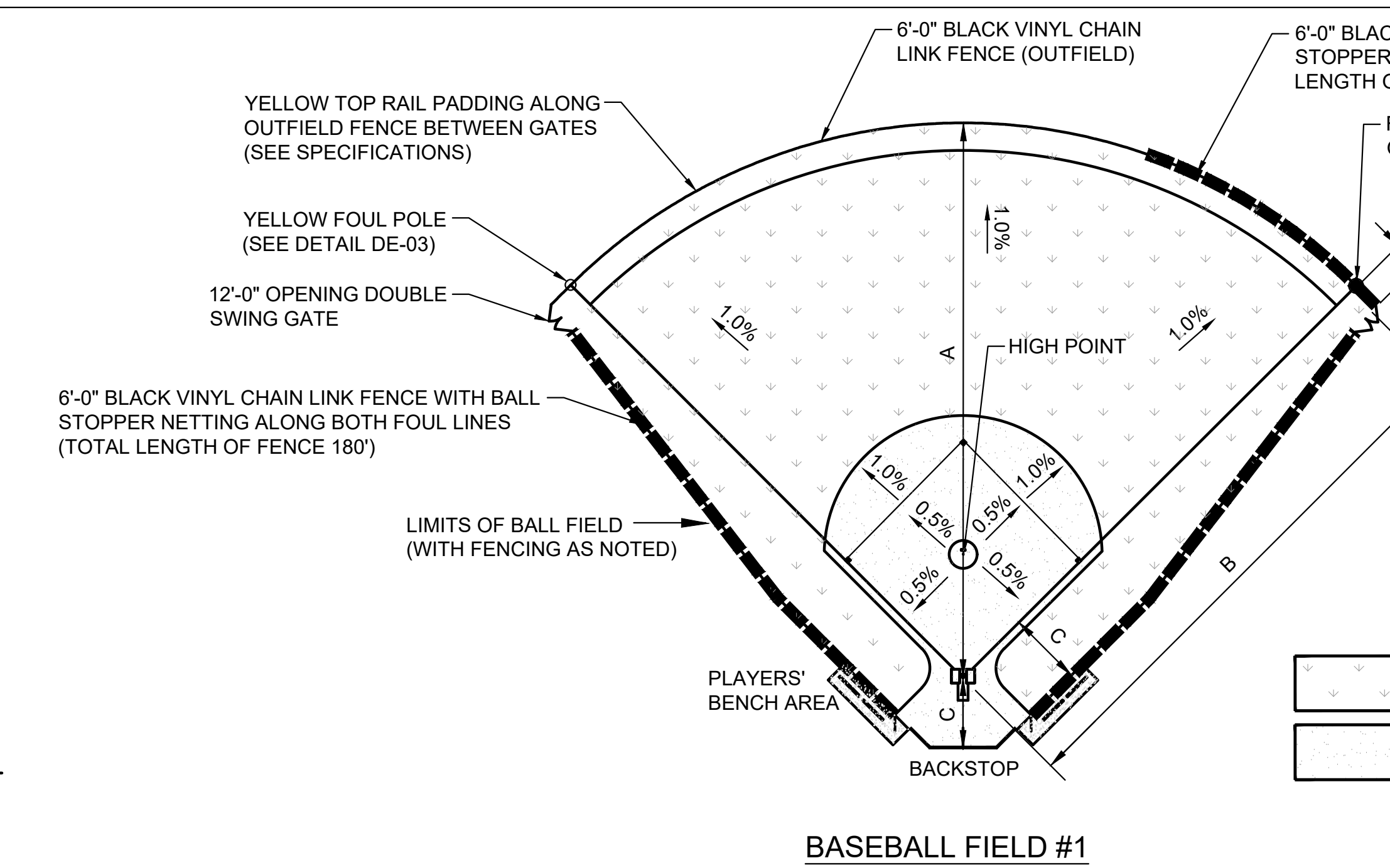
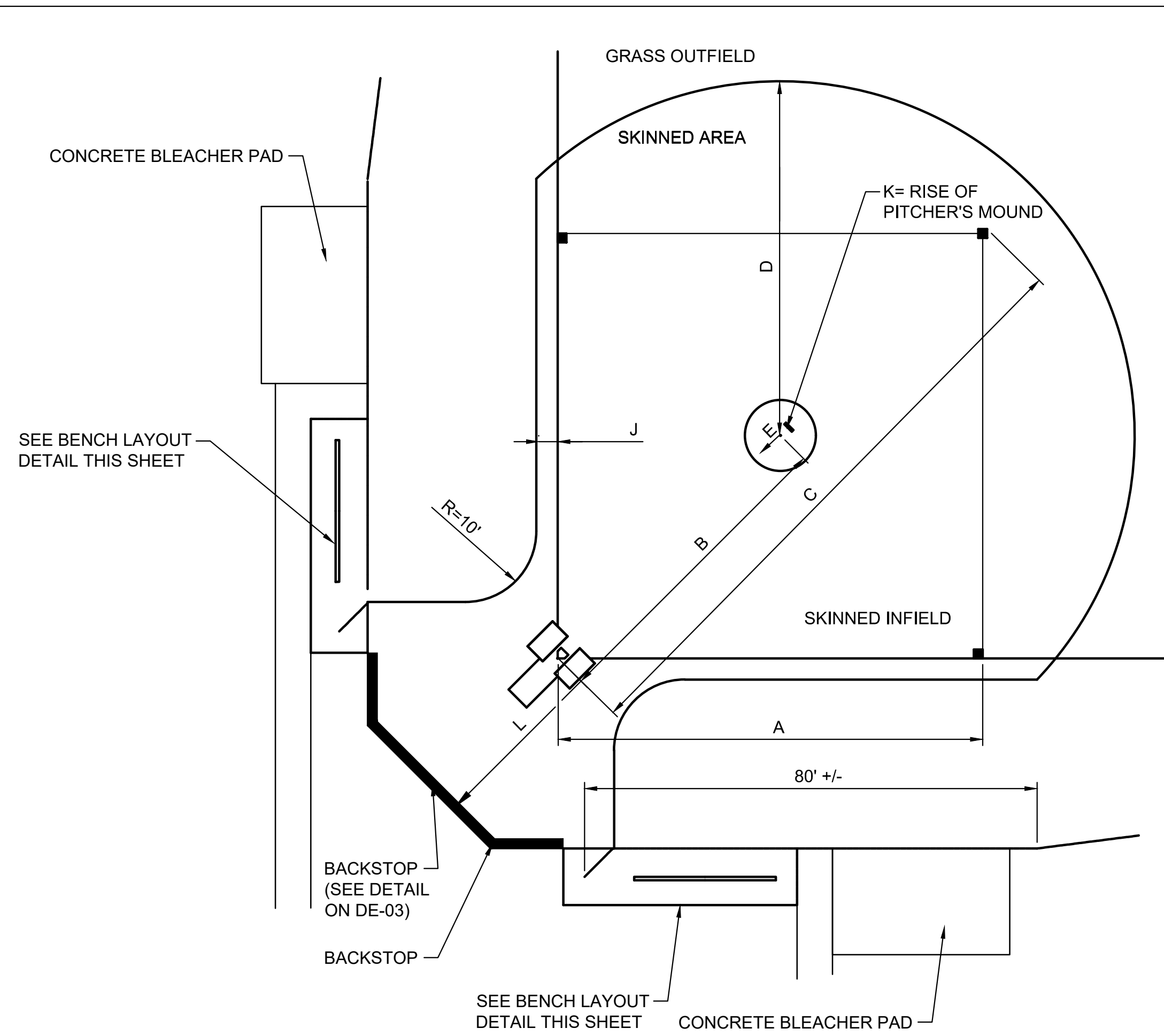
**COLLAPSIBLE BOLLARD**  
NOT TO SCALE



**REINFORCED TURF PAVING SECTION**  
NOT TO SCALE

- NOTES:
- REINFORCED TURF GEOWEB PERFORATED GW30V WITH A CELL DEPTH OF 9 INCHES AS MANUFACTURED BY PRESTO PRODUCTS, INC. OR APPROVED EQUAL
  - 1/2" PREMOLDED EXPANSION JOINT MATERIAL TO BE PLACED AT MAXIMUM OF 20' INTERVALS ALONG THE CONCRETE EDGE.

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 53587 EXPIRATION DATE: 12-09-2022</p> <p>10/26/2022</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				NO.	DESCRIPTION	BY	DATE																	<p>ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS</p> <table border="1"> <thead> <tr> <th>APPROVED</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> <th>SCALE: AS NOTED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>CHIEF ENGINEER</td> <td> </td> <td>PROJECT MANAGER</td> <td> </td> <td>DRAWN BY: DT</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CHECKED BY: RK</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>SHEET NO. 6 OF 42</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>PROJECT NO. P509000</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CONTRACT NO. P509006</td> </tr> </tbody> </table>				APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED						CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT					CHECKED BY: RK					SHEET NO. 6 OF 42					PROJECT NO. P509000					CONTRACT NO. P509006
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<p>FILE NAME: L:\DCS\Projects\TRN\60650788_AACO_Park_Park\900_CAD_GS\910_CAD\SHEETS\DE-01_Details.dwg LAYOUT NAME: DE-01 PLOTTED: Wednesday, October 26, 2022 - 8:10am USER: dominic.taglione</p>																																																																

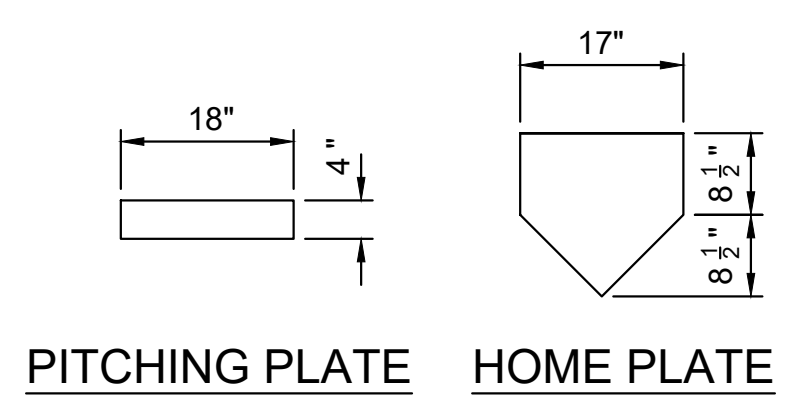


LEGEND:  
 TURFGRASS WITH 6" DEPTH TOPSOIL  
 SKINNED AREA TO BE 6" DEPTH CLAY INFIELD MIX (BASEBALL DIAMOND MIX FROM DEPENDABLE SAND, STONE & RECYCLING CO. OR APPROVED EQUAL)

USE	AGE GROUP	A	B	C	D
LITTLE LEAGUE	9 - 12	200'	200'	25'	30'

BASEBALL FIELD PLAN  
NOT TO SCALE

- BASEBALL FIELD NOTES:
1. OUTFIELD SURFACE SHALL BE TURFGRASS.
  2. ALL INFIELD SURFACE SHALL BE SKINNED AREA USING 6" DEPTH INFIELD MIX FROM DEPENDABLE SAND, STONE AND RECYCLING CO. OR APPROVED EQUAL.
  3. GRADE INFIELD SLOPES AWAY FROM THE PITCHER'S MOUND AND THE BASES AND HOME PLATE ARE LEVEL.
  4. NO AREA SHALL DRAIN ONTO THE SKINNED INFIELD.
  5. SEE PLAN FOR PROPOSED FIELD SLOPES.
  6. SLOPES ON BALL FIELD SHALL RANGE BETWEEN 0.5% MIN. AND 2.0% MAX. TO PROVIDE GOOD DRAINAGE AND MINIMIZE GRADE DIFFERENCES IN ELEVATION BETWEEN ANY TWO POINTS ON PLAYING SURFACE

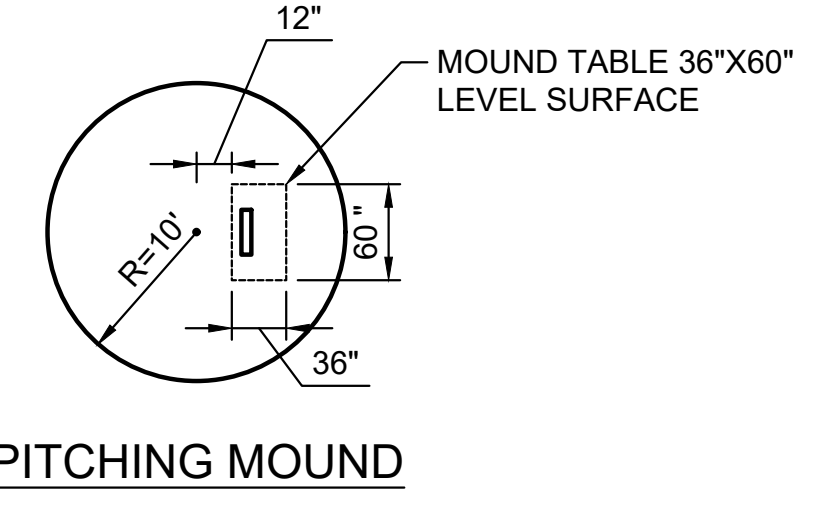


PITCHING PLATE HOME PLATE

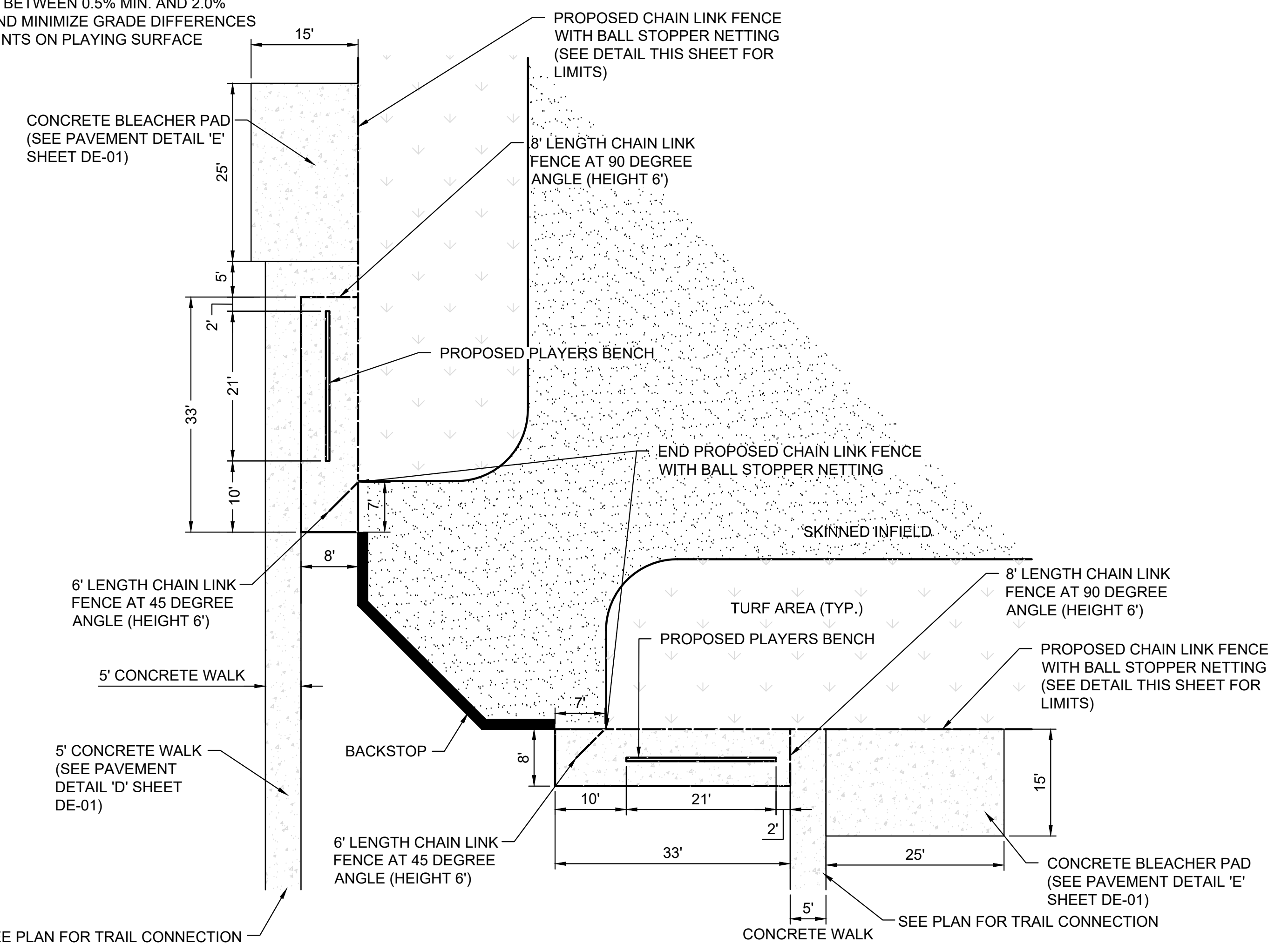
TYPE	USE	A	B	C	D	E*	F*	G*	H*	J	K	L
BASEBALL	LITTLE LEAGUE	60'	46'	84' 10-1/4"	50'	10'	18'	9'	6'	3'	6"	25'

INFIELD LAYOUT PLAN  
NOT TO SCALE

- PITCHING MOUND NOTES:
1. LOCATE FRONT EDGE OF PITCHING PLATE 18" BEHIND CENTER OF MOUND.
  2. FRONT EDGE OF PITCHING PLATE TO BACK POINT OF HOME PLATE IS 46'-0".
  3. LEVEL AREA AROUND PITCHING PLATE SHOULD BE 6" IN FRONT OF PLATE, 18" TO EACH SIDE, AND 22" TO BACK OF THE PLATE.
  4. MOUND SLOPES 6" IN FRONT OF PITCHING PLATE.
  5. THE SLOPE BEGINNING 6" IN FRONT OF PITCHING PLATE TO A POINT 6" TOWARD HOME PLATE SHALL BE 1" TO 1'-0" AND UNIFORM.



PITCHING MOUND - PROFILE



BENCH LAYOUT PLAN  
NOT TO SCALE

PLEASE READ THROUGH INSTRUCTIONS ONCE BEFORE ASSEMBLING

- (1) SLIP ON CHANNEL END CAPS (ONE ON EACH END OF PLANK), IF NECESSARY, TAP LIGHTLY WITH A WOOD BLOCK OR RUBBER Mallet, TAP ONLY ON THE CORNERS OF THE CHANNEL END CAPS. LONG LEG OF CHANNEL END CAPS SHOULD BE PLACED ON THE UNDERSIDE OF PLANK. DRILL 5/32" HOLES THROUGH CHANNEL END CAPS AND PLANK AS SHOWN ON DRAWING AND ATTACH WITH POP RIVETS. REPEAT ON OTHER END.
- (2) PLACE THE PLANK UP-SIDE-DOWN ON THE GROUND. PLACE THE PTGL FRAMES APPROXIMATELY SIX FEET APART AGAINST THE BOTTOM SIDE OF THE PLANK. POSITION THE FRAMES SO THAT THE PLANK WILL NOT OVERHANG THE END MOST FRAMES MORE THAN 1'-6" (3" MIN. TO 1'-6" MAX.). SEE DRAWING FOR FURTHER CLARIFICATION.
- (3) ATTACH PTGL FRAMES TO BOTTOM SIDE OF THE PLANK USING (2) BOLT CLIPS, 5/16" X 1 1/4" CARRIAGE BOLTS, LOCK WASHERS, AND HEX NUTS. MAKE SURE THAT FRAMES ARE PERPENDICULAR TO THE PLANK. SEE BOLT CLIP DETAIL.
- (4) TIGHTEN ALL BOLTS.
- (5) MEASURE THE EXACT DISTANCE BETWEEN FRAMES OF THE ASSEMBLED BENCH. MEASURE AND TRANSFER THESE DISTANCES ON THE GROUND.
- (7) DIG HOLES AT DESIGNATED LOCATIONS AND POUR READY-MIX CONCRETE INTO THE HOLES.
- (8) TURN THE BENCH UP RIGHT AND PLACE THE LEGS IN THE PREPARED CONCRETE. POSITION THE HEIGHT OF THE BENCH SO THAT THE PLANK SURFACE IS 17" TO 18" ABOVE GROUND LEVEL. SHORE ASSEMBLED UNIT AS REQUIRED UNTIL CONCRETE HAS ADEQUATELY CURED, TO ALLOW BENCH TO STAND ON ITS OWN.

**BOLT CLIP DETAIL**  
1 1/2" x 1'-0"

**INSTALLATION DETAIL**

Outdoor Aluminum  
P.O. BOX 118  
GENLA, ALABAMA 36040  
205-684-2296

DATE	BY	REVISION
11/20/00	REDRWN	
02/13/02	WHW	

PTGL BENCH 300-E29

**AECOM**  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

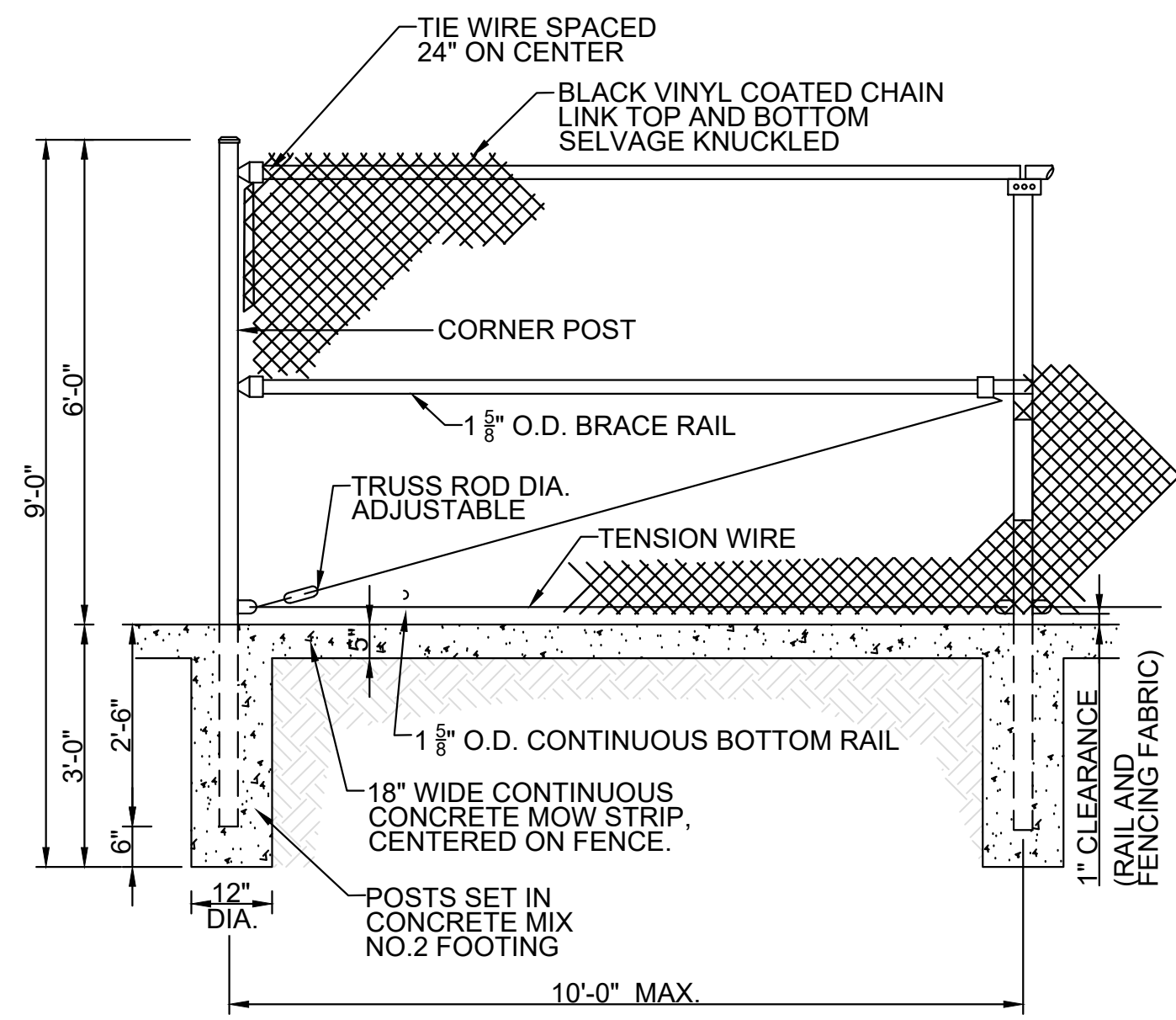
PROFESSIONAL CERTIFICATION  
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
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10/26/2022

REVISIONS				ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
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SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 7 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION  
**SITE DETAILS**

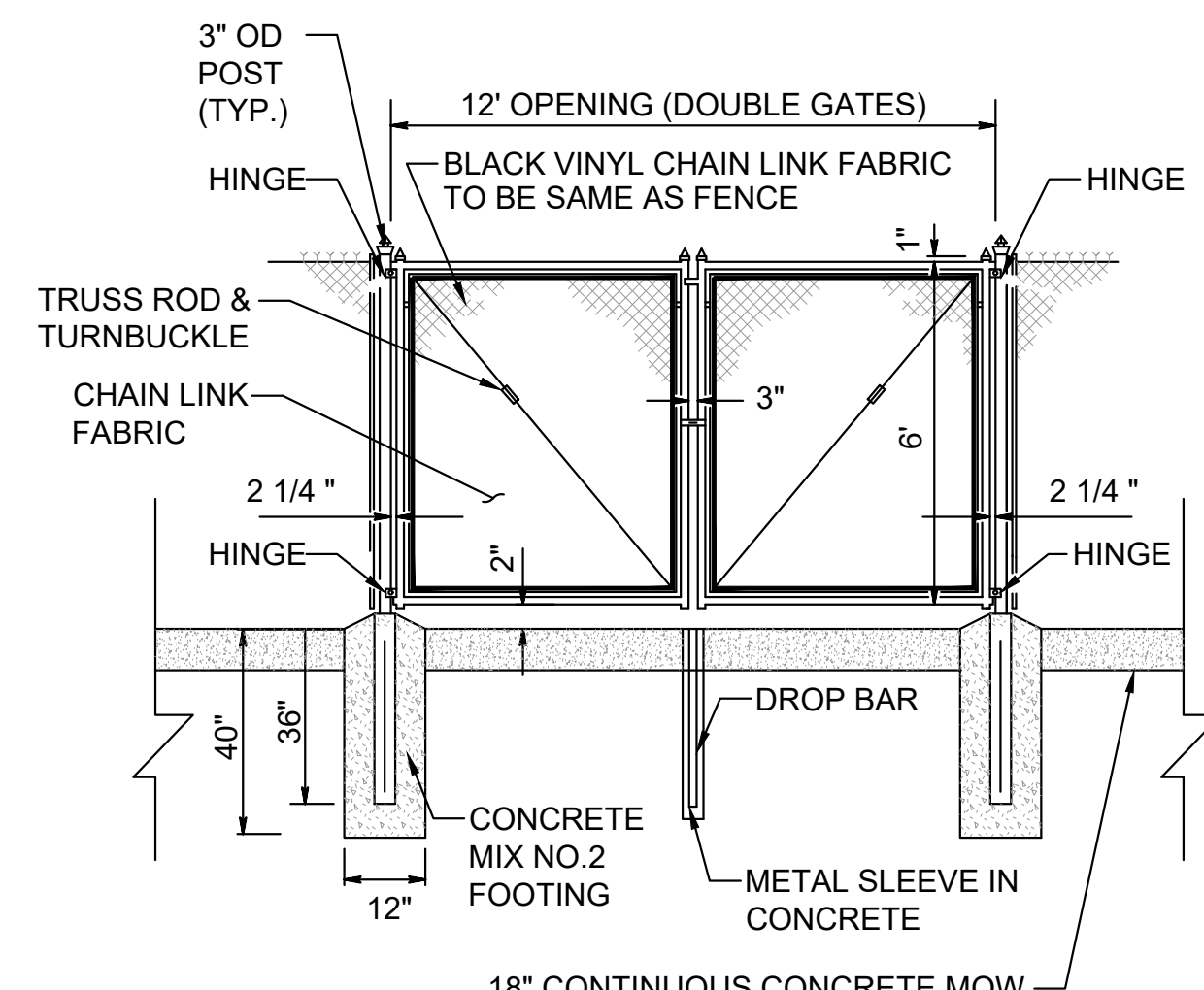


NOTE:

1. ALL FENCING COMPONENTS INCLUDING FRAMES, GATES, POST, RAILS, TENSION WIRE, AND FABRIC SHALL BE POLYMER VINYL COATED, COLOR BLACK.

**6'-0" HIGH CHAIN LINK FENCE**

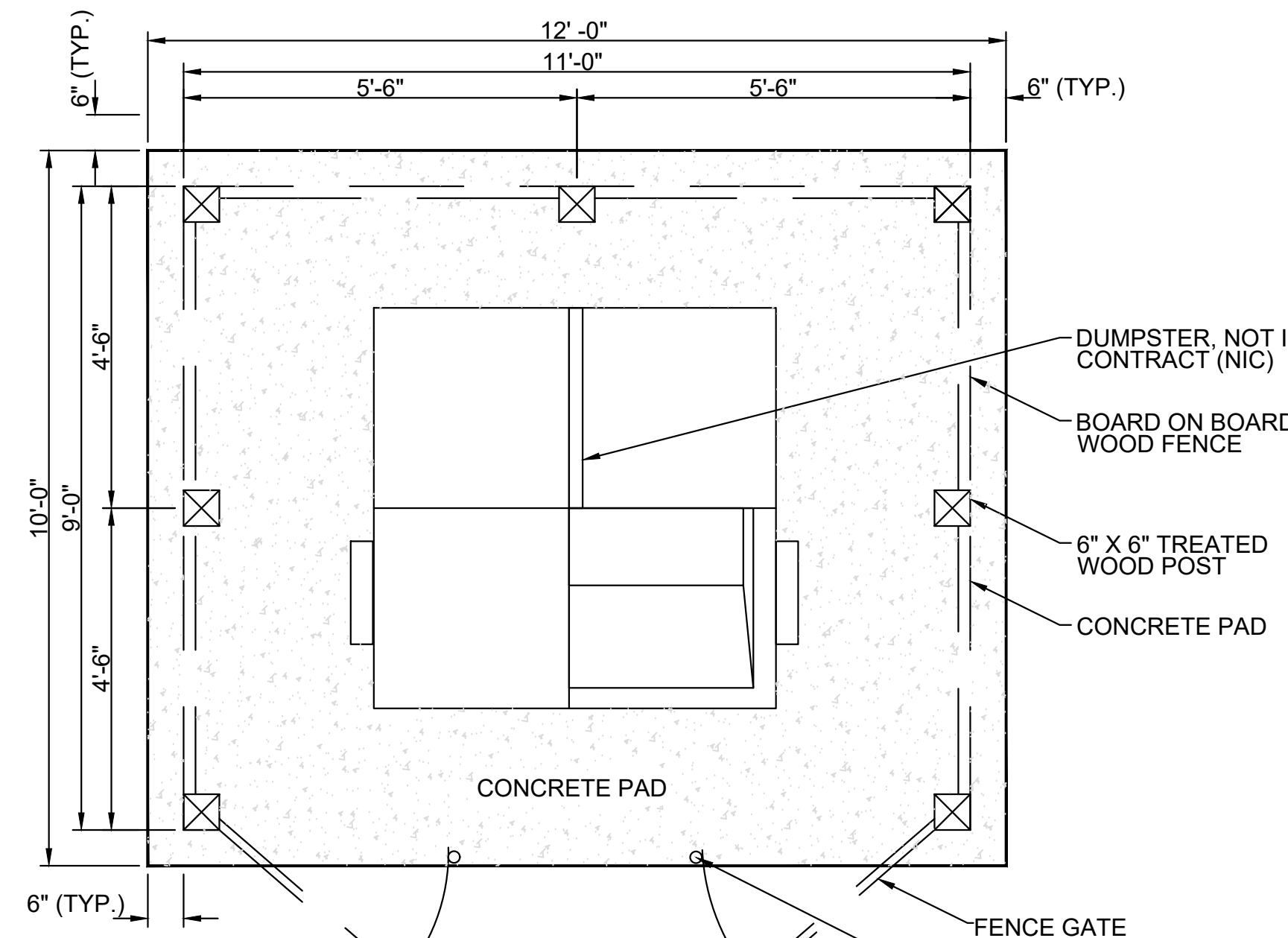
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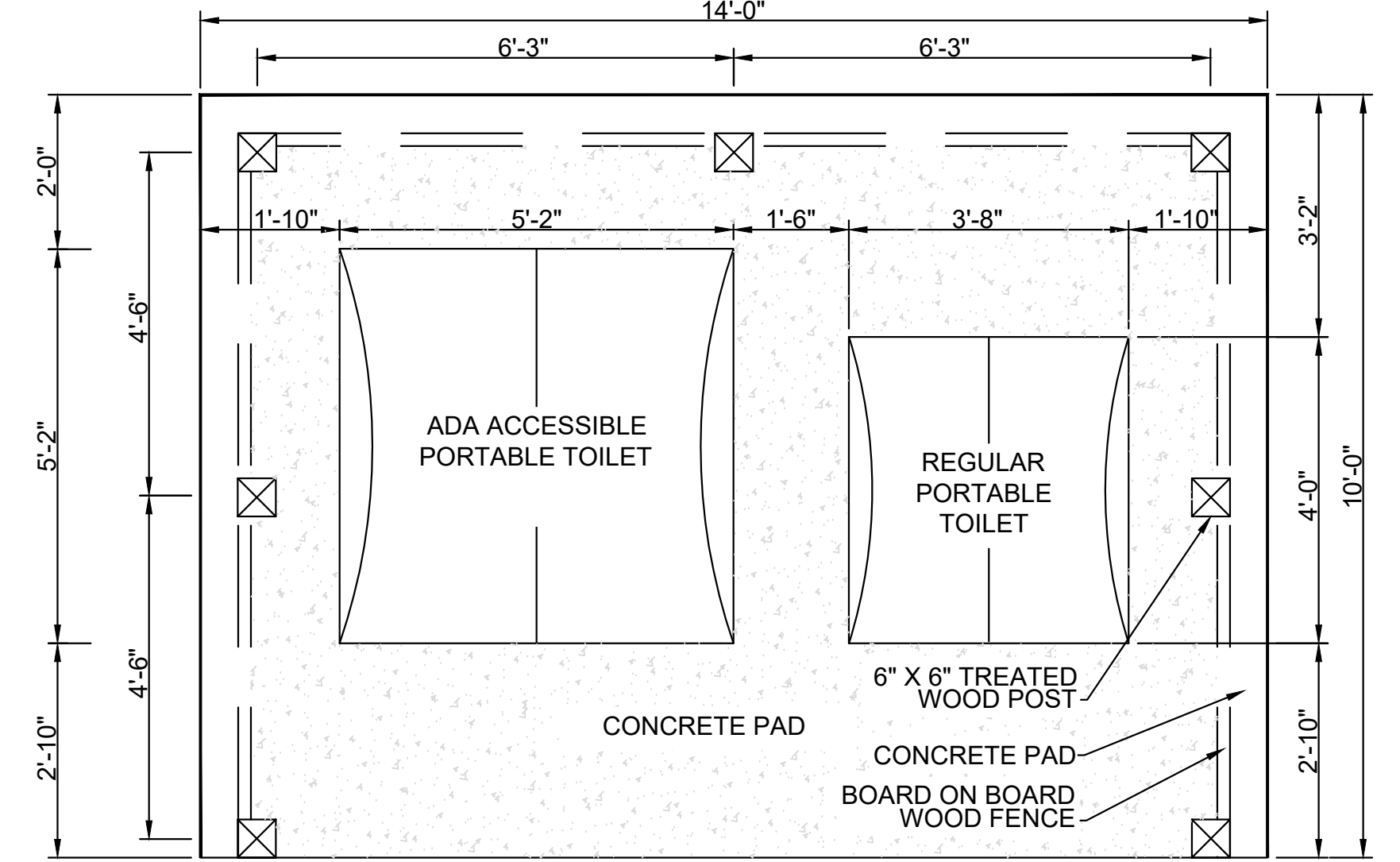
- NOTE: ALL FENCING COMPONENTS INCLUDING FRAMES, GATES, POSTS, RAILS, TENSION WIRE, AND FABRIC SHALL BE POLYMER COATED BLACK (VINYL)

**DOUBLE CHAIN LINK SWING GATE**

NOT TO SCALE



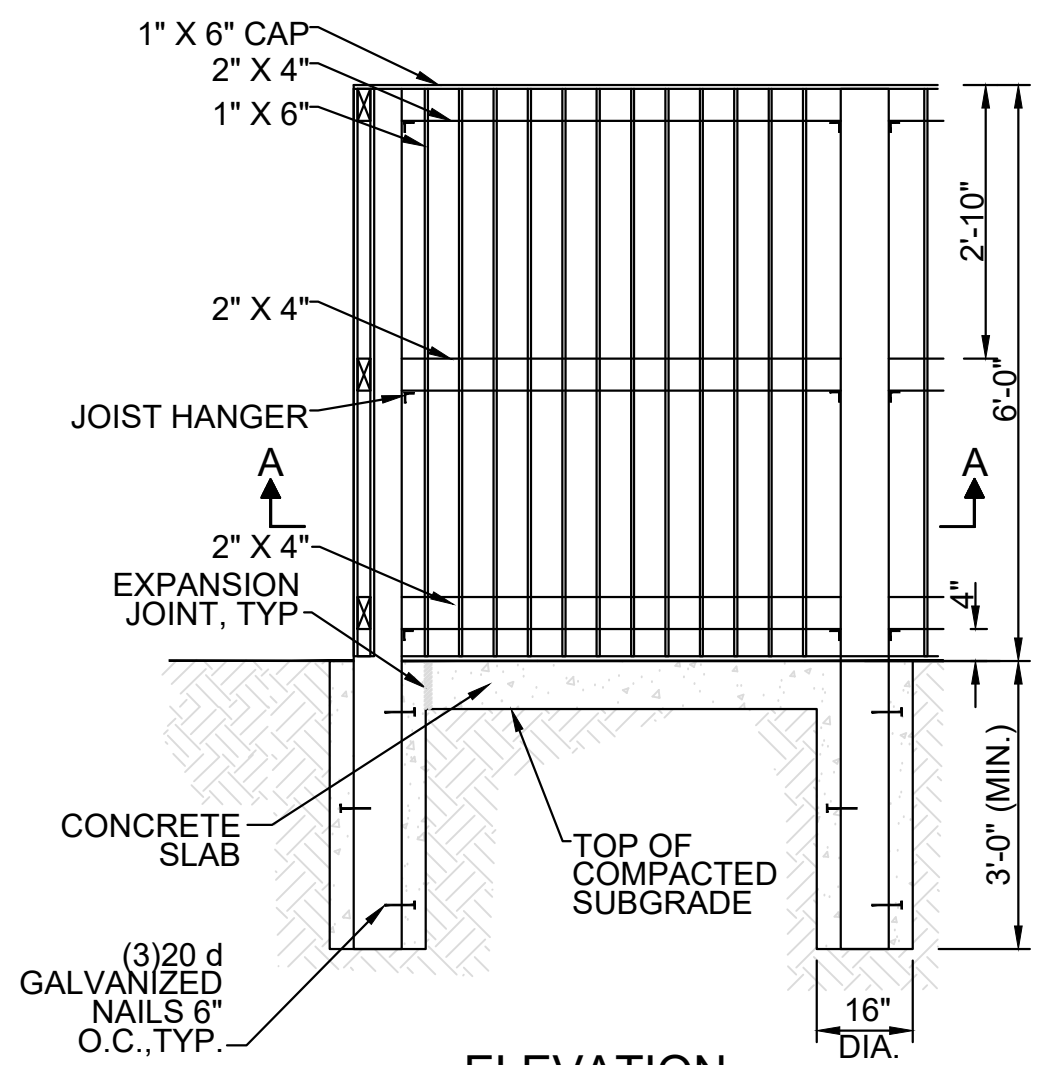
**DUMPSTER PLAN**



NOTE:

PORTABLE TOILETS ARE TO BE PROVIDED BY OWNER.

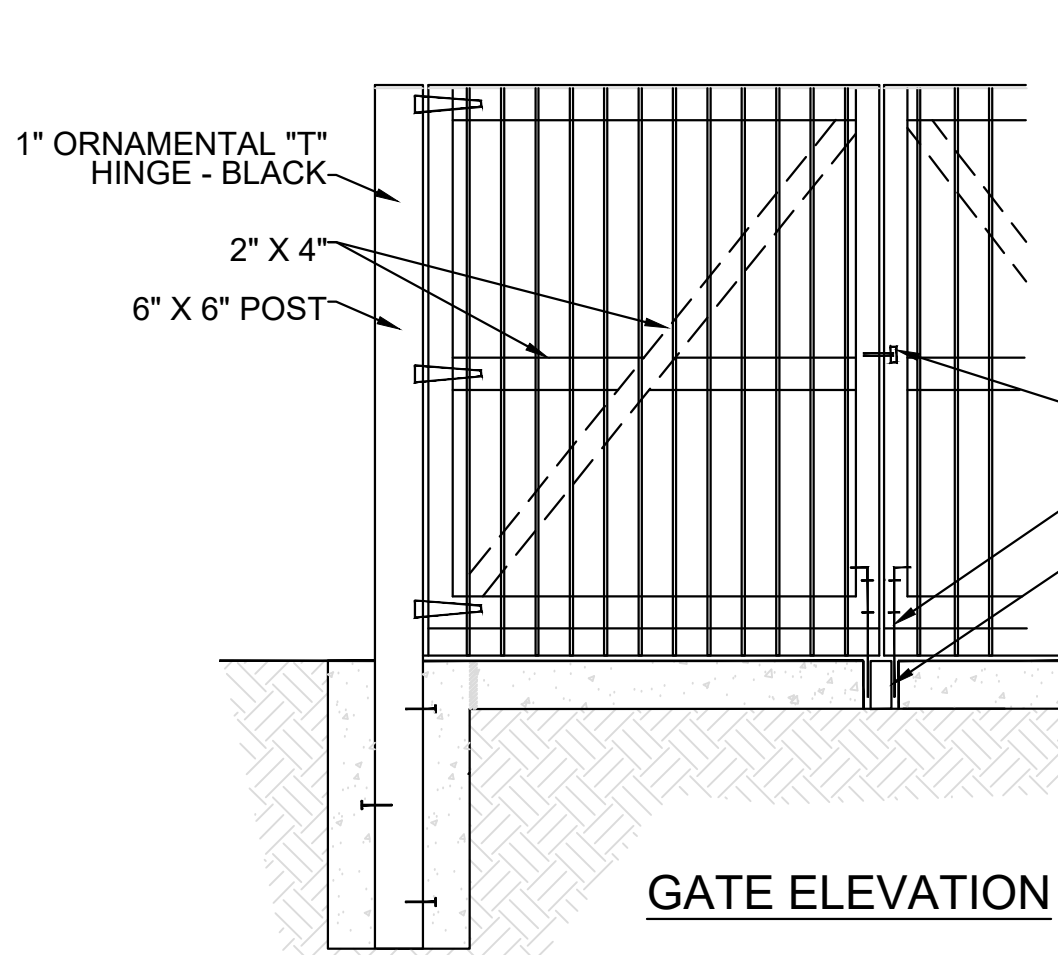
**PORTABLE TOILETS**



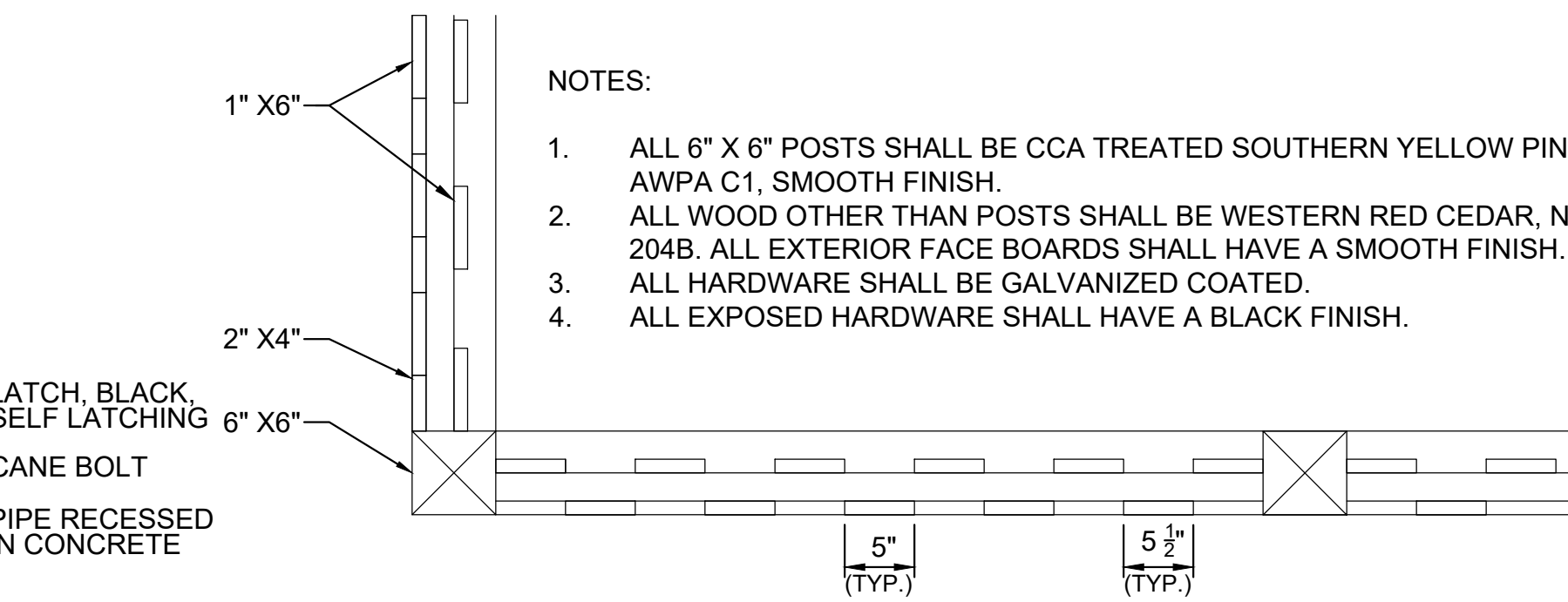
**ELEVATION**

**WOODEN ENCLOSURE**

NOT TO SCALE



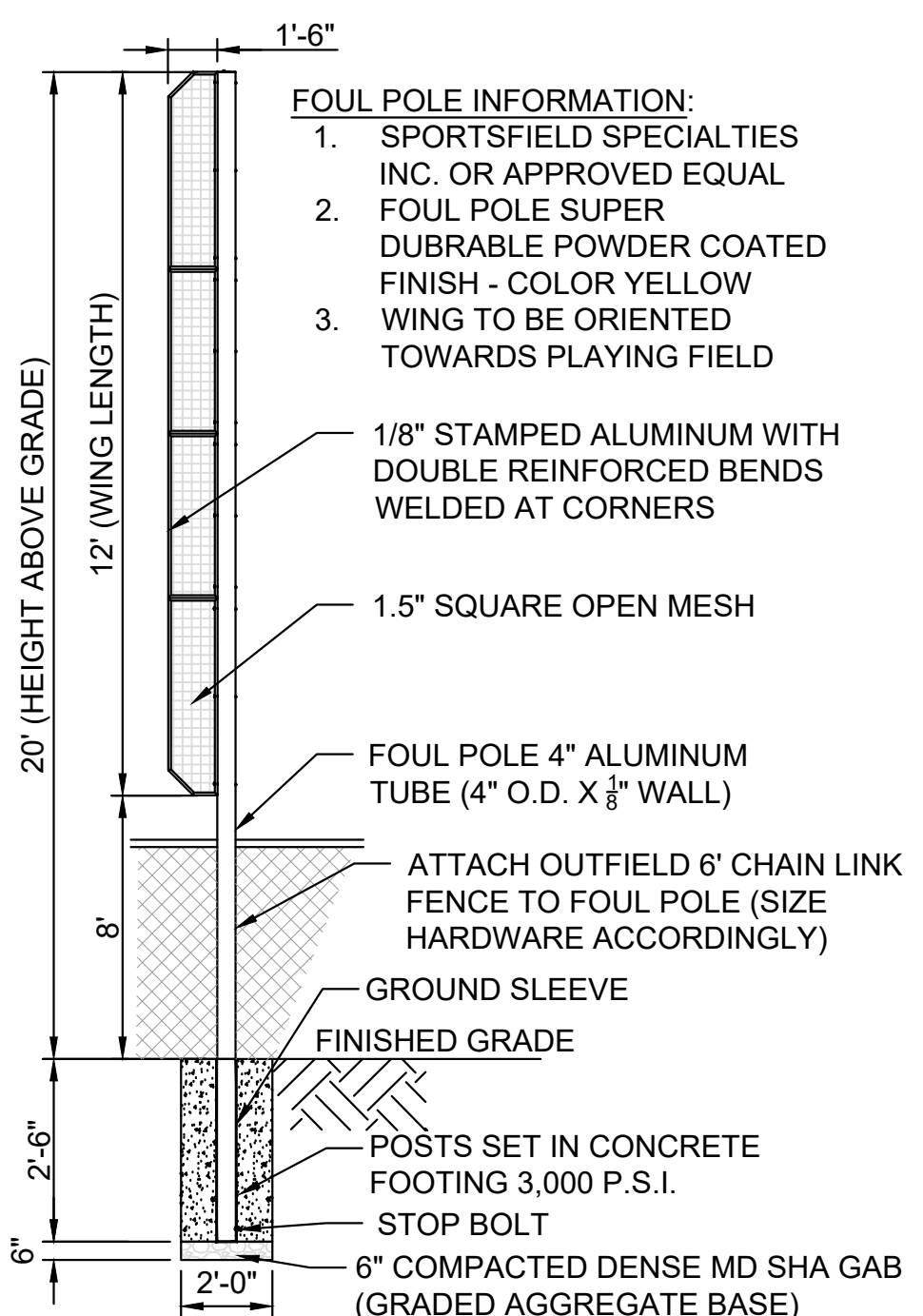
**GATE ELEVATION**



**SECTION A-A**

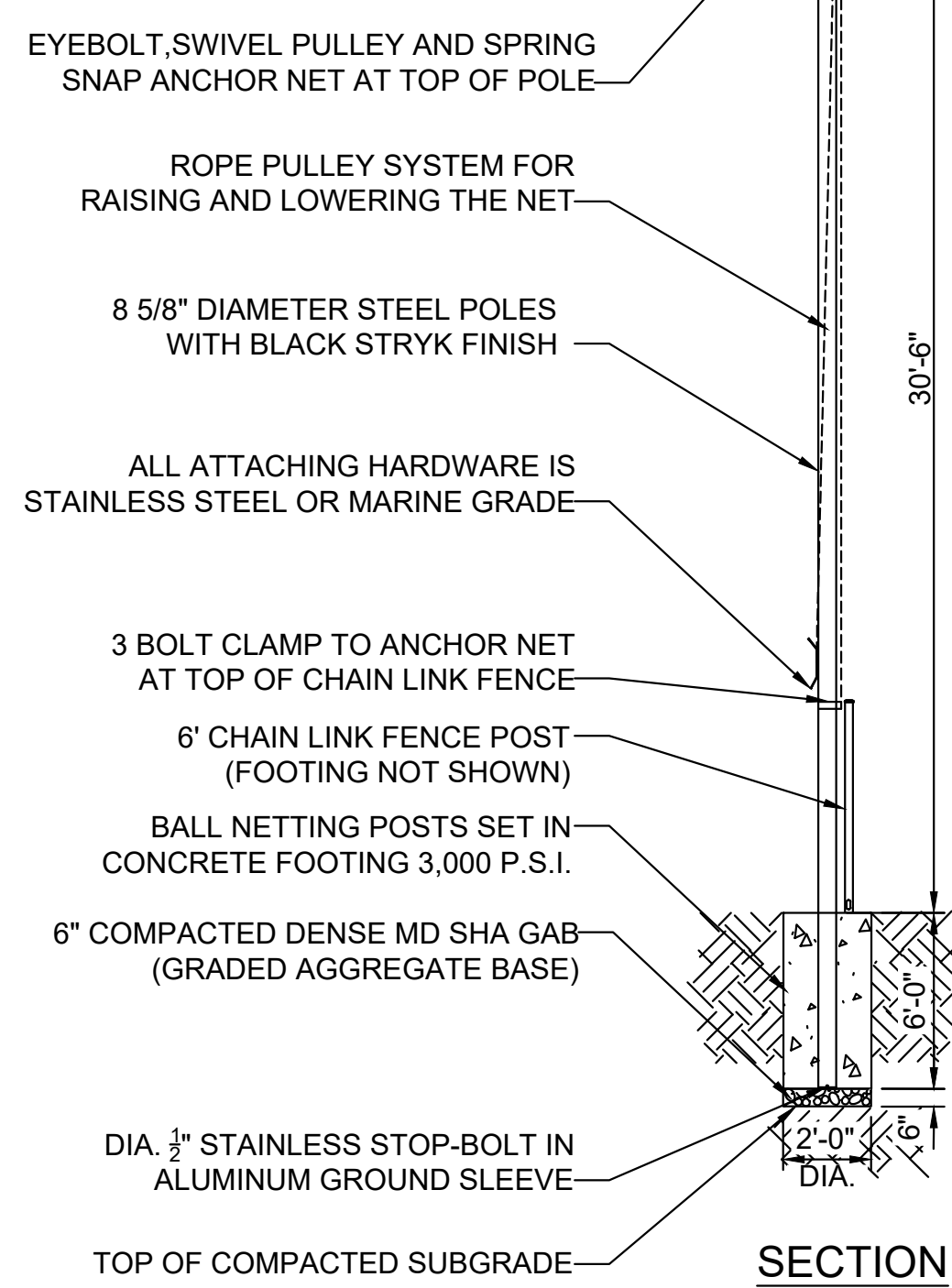
NOTES:

1. ALL 6" X 6" POSTS SHALL BE CCA TREATED SOUTHERN YELLOW PINE, AWPA C1, SMOOTH FINISH.
2. ALL WOOD OTHER THAN POSTS SHALL BE WESTERN RED CEDAR, NLGA 204B. ALL EXTERIOR FACE BOARDS SHALL HAVE A SMOOTH FINISH.
3. ALL HARDWARE SHALL BE GALVANIZED COATED.
4. ALL EXPOSED HARDWARE SHALL HAVE A BLACK FINISH.

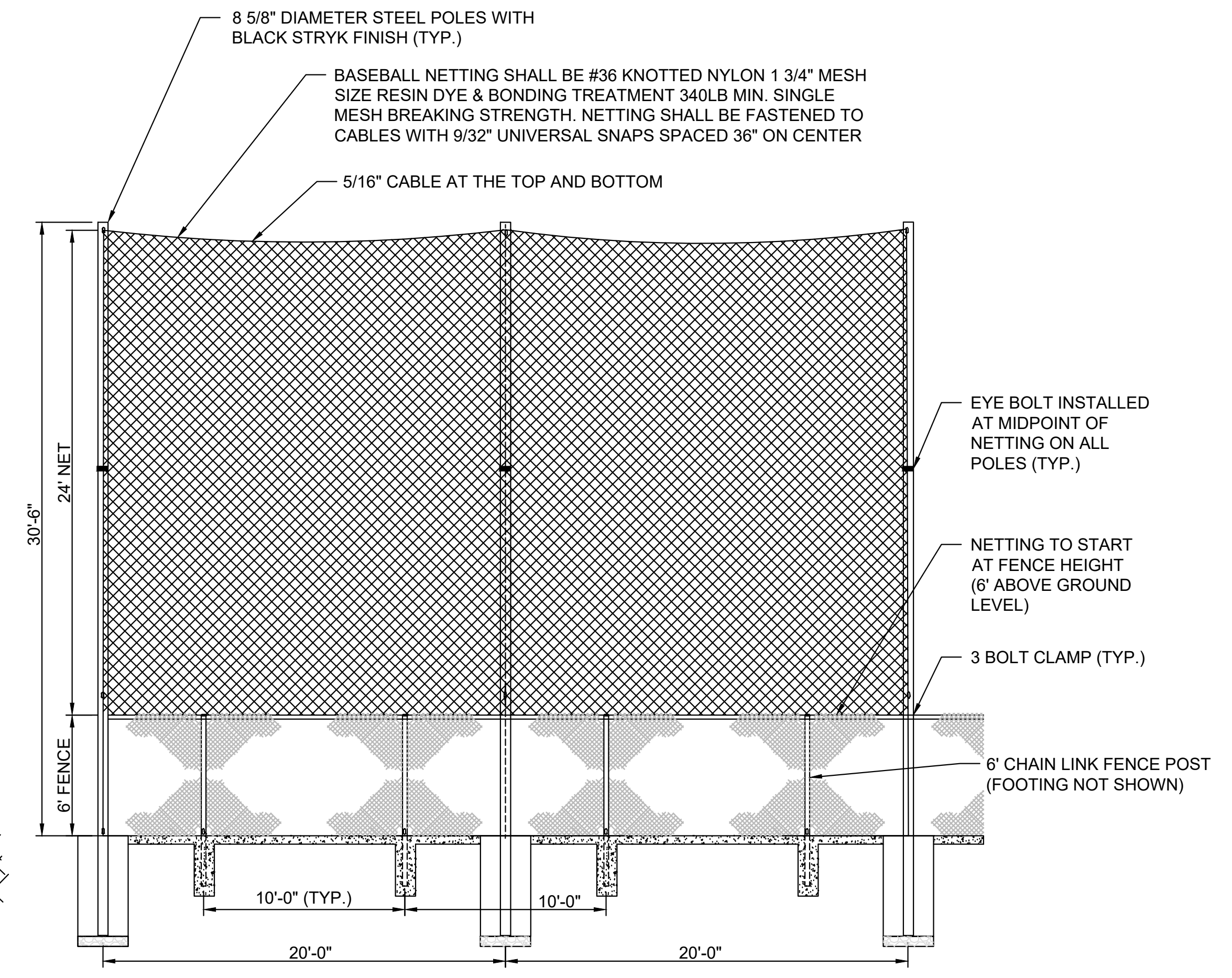


**FOUL POLE - GROUND SLEEVE WITH WING**

NOT TO SCALE



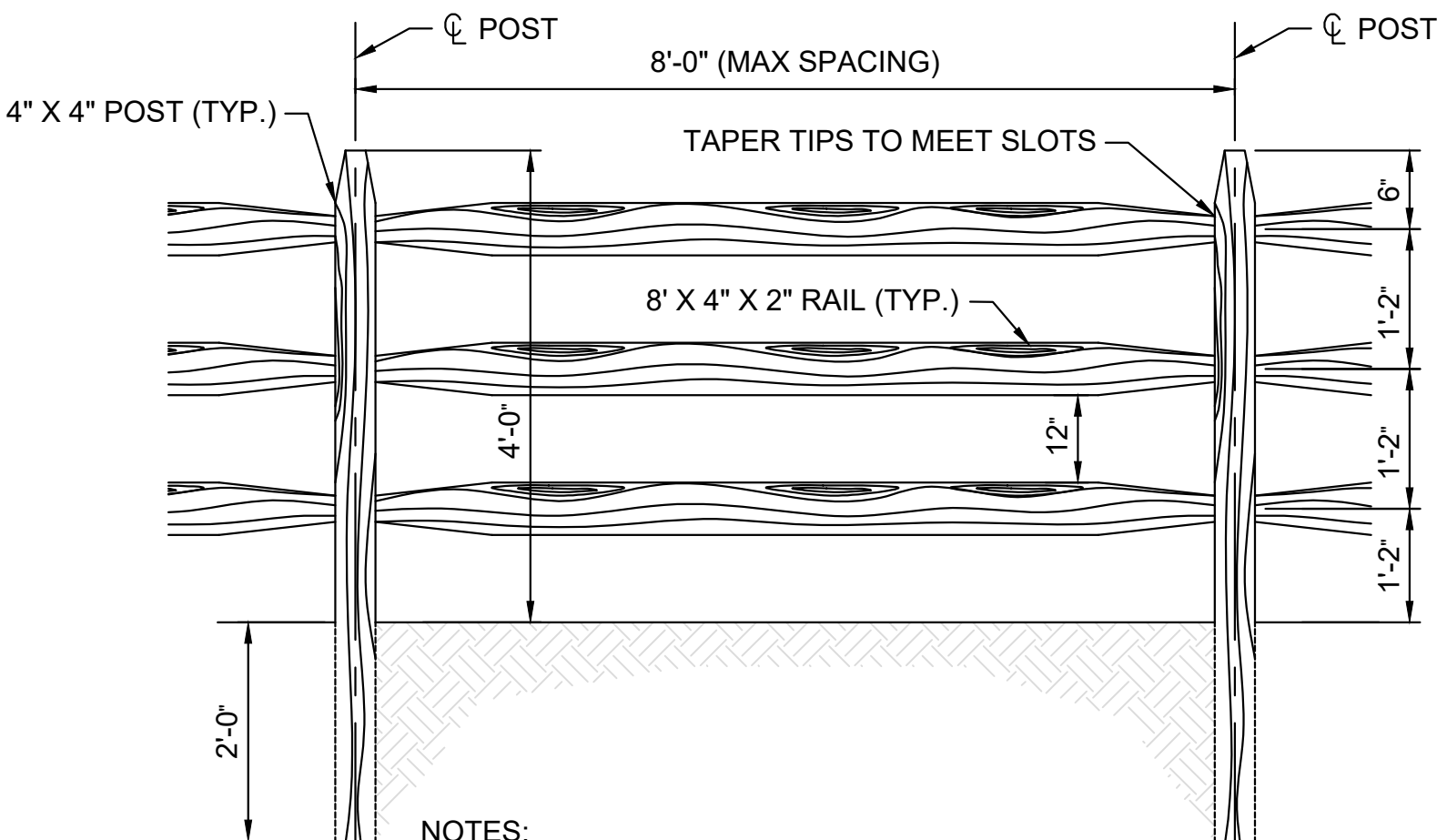
**SECTION**



**ELEVATION**

**BALL NETTING FENCE**

NOT TO SCALE



**SPLIT RAIL FENCE**

NOT TO SCALE

- NOTES:
1. ALL WOOD SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE.
  2. TOP OF POSTS TO BE CONSISTENT HEIGHT ABOVE GRADE.
  3. INSTALL POST TO MIN. 24" DEPTH WITHOUT CONCRETE. TAMP EXCAVATED EARTH TO BACKFILL POST HOLES.
  4. SUBMIT MANUFACTURER CUT SHEETS FOR REVIEW AND APPROVAL.



AECOM  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

**PROFESSIONAL CERTIFICATION**

"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

MD LICENSE NUMBER: 53587

EXPIRATION DATE: 12-09-2022

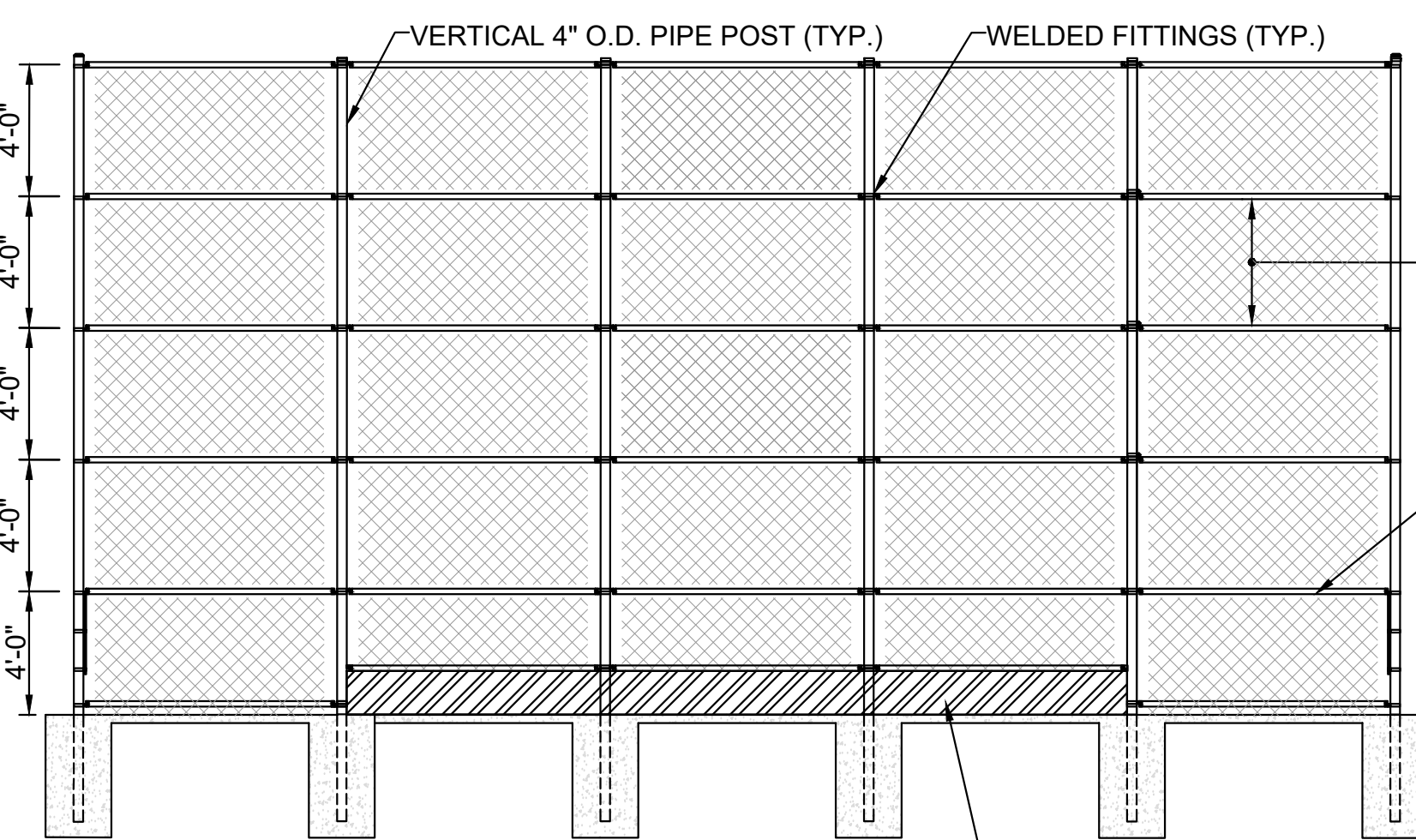
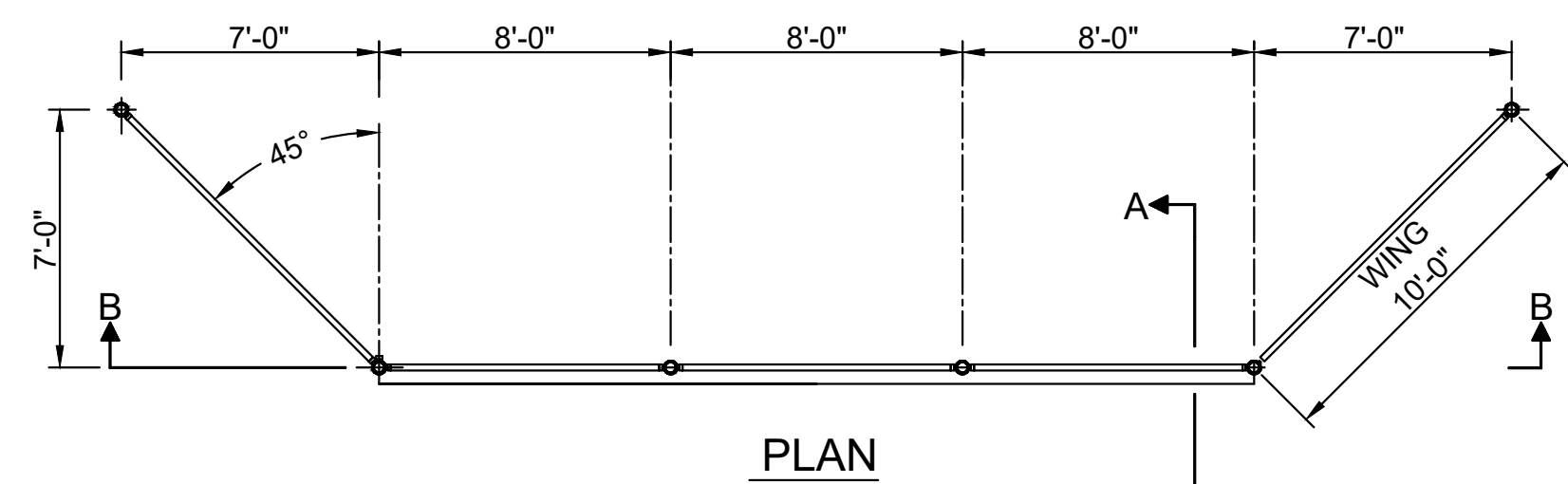


10/26/2022

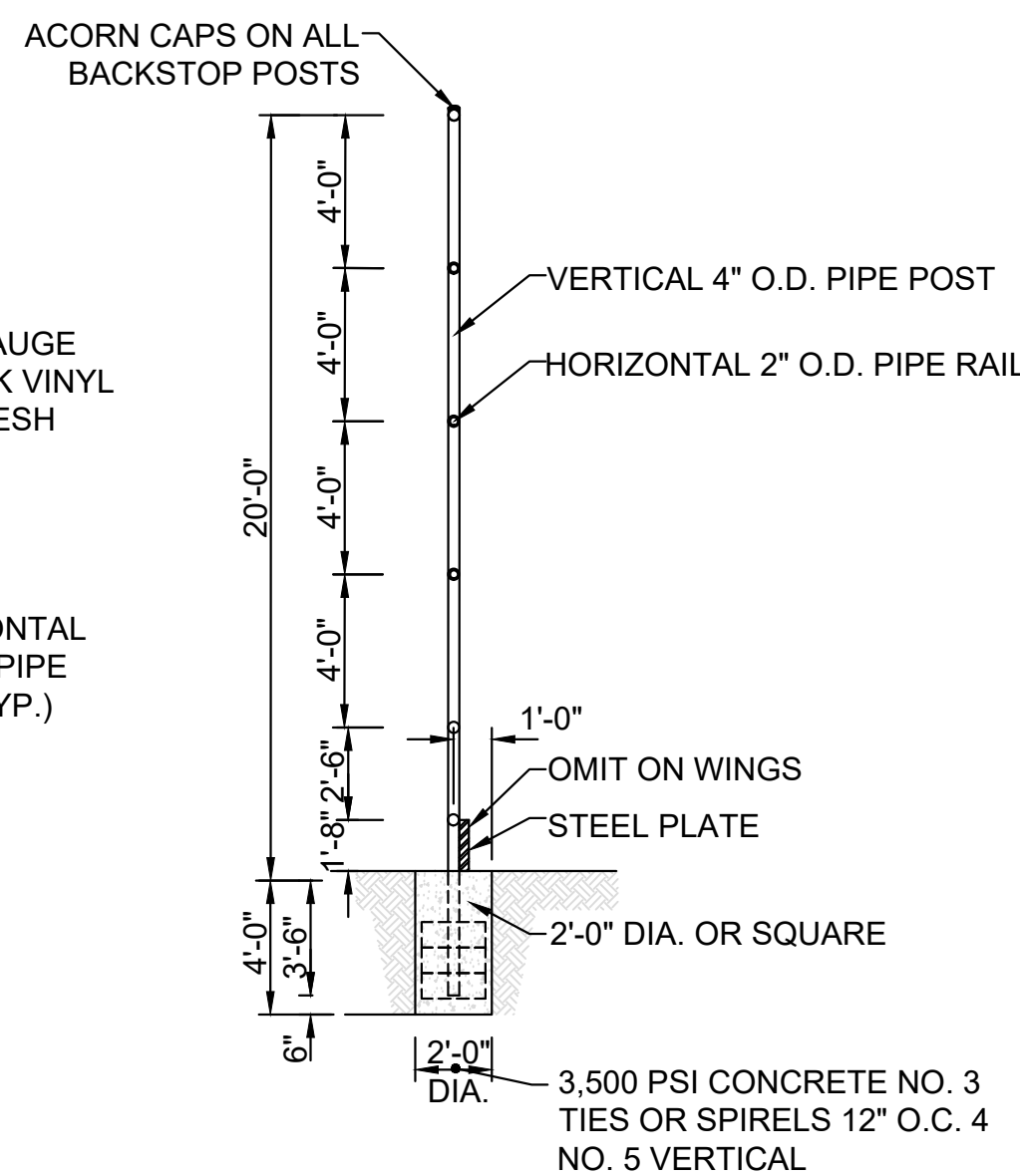
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APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 8 OF 42	TYPICAL SECTIONS AND DETAILS
				PROJECT NO. P509000	
				CONTRACT NO. P509006	





SECTION B-B



SECTION A-A

NOTES:

1. ALL FENCING COMPONENTS INCLUDING: FRAMES, GATES, POSTS, RAILS, TENSION WIRE, AND FABRIC SHALL BE POLYMER (VINYL) COATED, COLOR BLACK.
2. STEEL PLATES TO BE WELDED TO 18" RAIL IN BACK SECTION
3. RETENTION RODS TO BE BOLTED TO PLATES TO SECURE WIRE

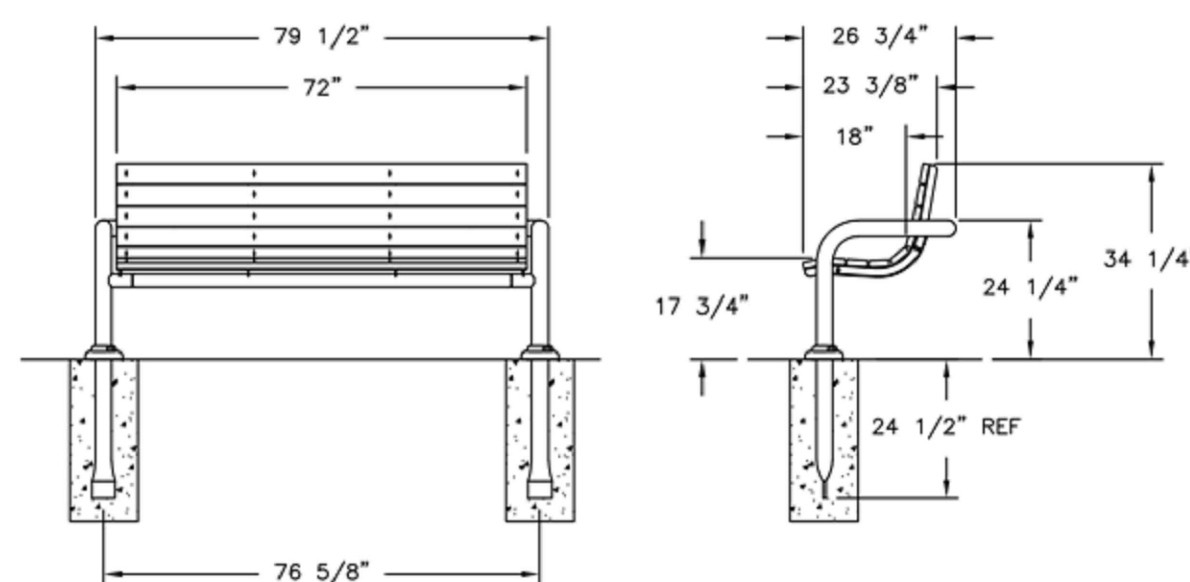
BACKSTOP DETAIL  
NOT TO SCALE

GREEN VALLEY

BENCH W/ BACK SERIES MODEL NO: GV430G

6' BENCH IN GROUND

POLYTUF (C) PLASTIC LUNBRE  
CUSTOM EXTRUDED - CEDAR AND  
TUDOR



PARK BENCH DETAIL  
NOT TO SCALE

SPECIFICATIONS:

FRAME WORK ASSEMBLIES ARE FINISHED WITH POWDER COATING; ELECTROSTATICALLY APPLIED AND OVEN CURED ACCORDING TO POWDER MANUFACTURE'S SPECIFICATIONS. FASTENERS ARE STAINLESS STEEL TO RESIST CORROSION.

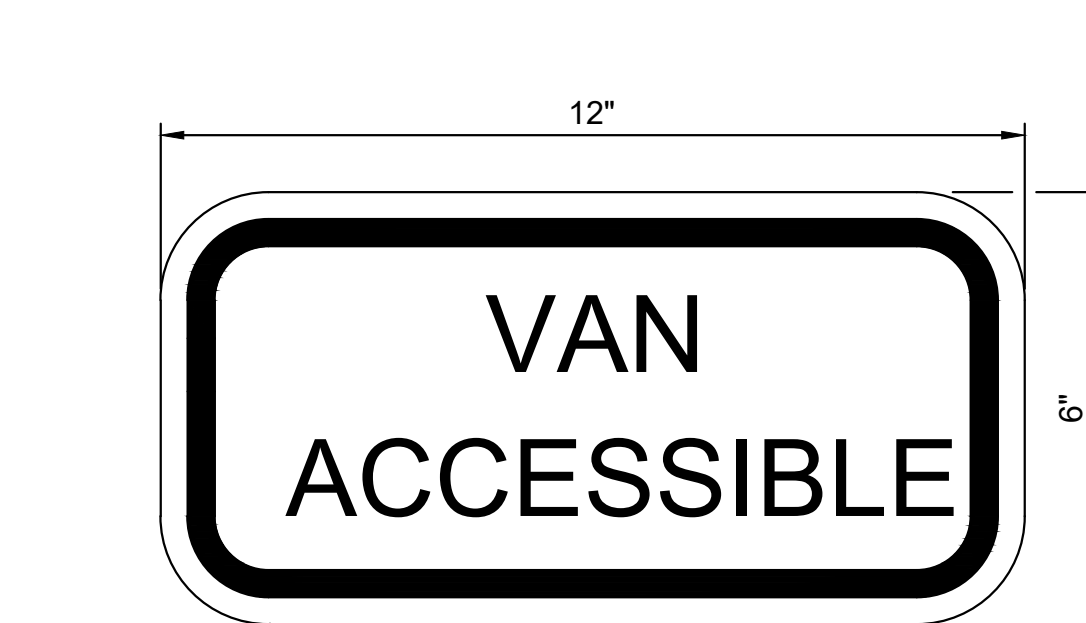
BENCH: THE BENCH'S FRAME PANEL IS CONSTRUCTED OF 10 GAGE FORMED SHEET STEEL AND MOUNTING BRACKETS OF 10 GAGE SHEET STEEL. THE PLANKS ARE MADE POLYTUF (C) PLASTIC LUMBER CONSISTING OF RECYCLED PLASTIC.

BENCH LEGS: MAIN SUPPORTS ARE CONSTRUCTED OF 2 1/2" OD X 12 GAGE STRUCTURAL STEEL TUBING. ATTACH TUBES ARE CONSTRUCTED OF 2 3/8" OD X 12 GAGE AND 2 1/2" OD X 12 GAGE STRUCTURAL STEEL TUBING. MOUNTING BRACKETS ON LEGS ARE 10 GAGE SHEET STEEL. THE MOUNTING PLATE COVERS ARE 2 PIECE CAST ALUMINUM.

GENERAL: 6' BENCH GROUND SPACE REQUIREMENTS ARE 26 3/4" X 79 1/2". THE SEAT IS 72" LONG X 23 3/8" WIDE AND 17 3/4" TO THE TOP OF THE SEAT.



HANDICAP PARKING SIGN - R7-8  
NOT TO SCALE



VAN ACCESSIBLE SIGN - R7-8b  
NOT TO SCALE

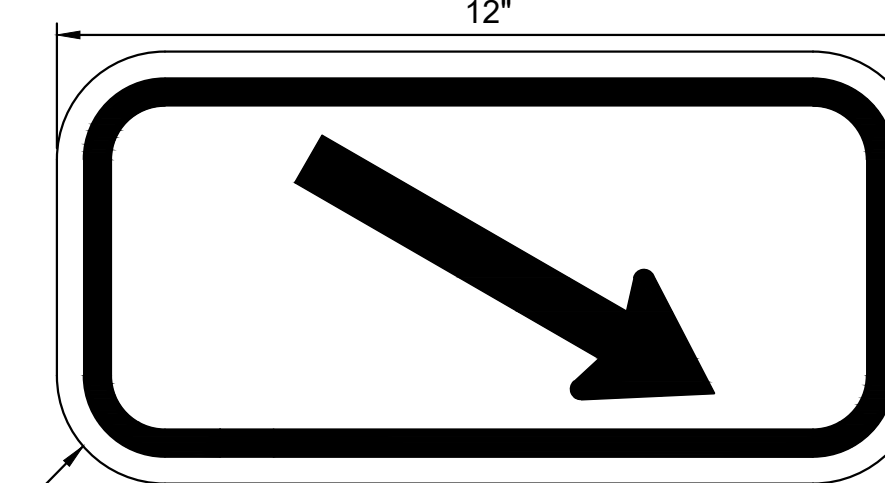


MAXIMUM FINE SIGN - R7-8(3)  
NOT TO SCALE

COLORS  
LEGEND AND BORDER - GREEN  
WHITE SYMBOL ON BLUE BACKGROUND  
BACKGROUND - WHITE

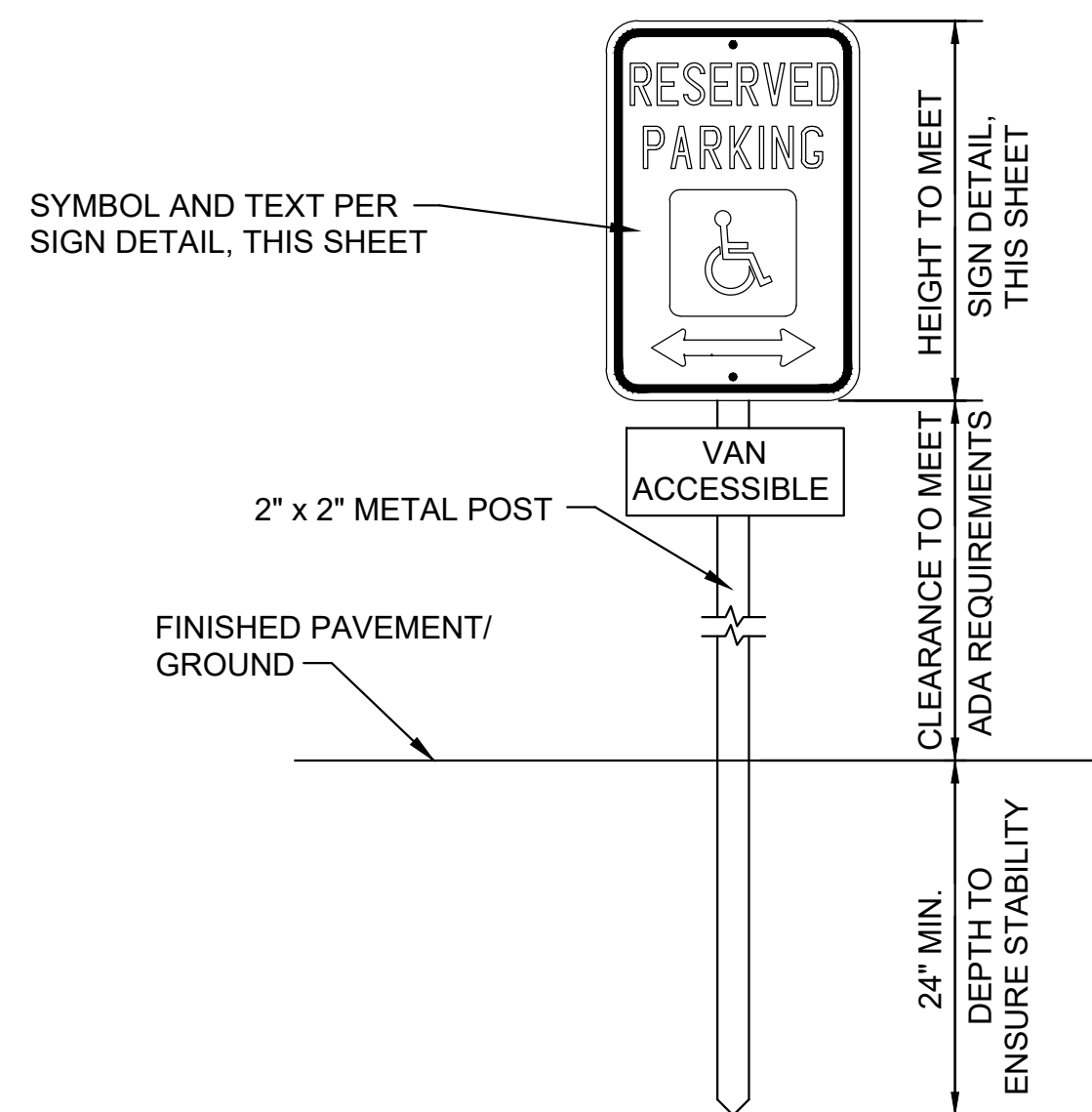


COLORS  
LEGEND AND BORDER - RED  
BACKGROUND - WHITE



NOTE: ARROW PLATE OPTIONAL, USE WHEN NECESSARY TO OFFSET SIGN LOCATION DUE TO ACCESS RAMP.

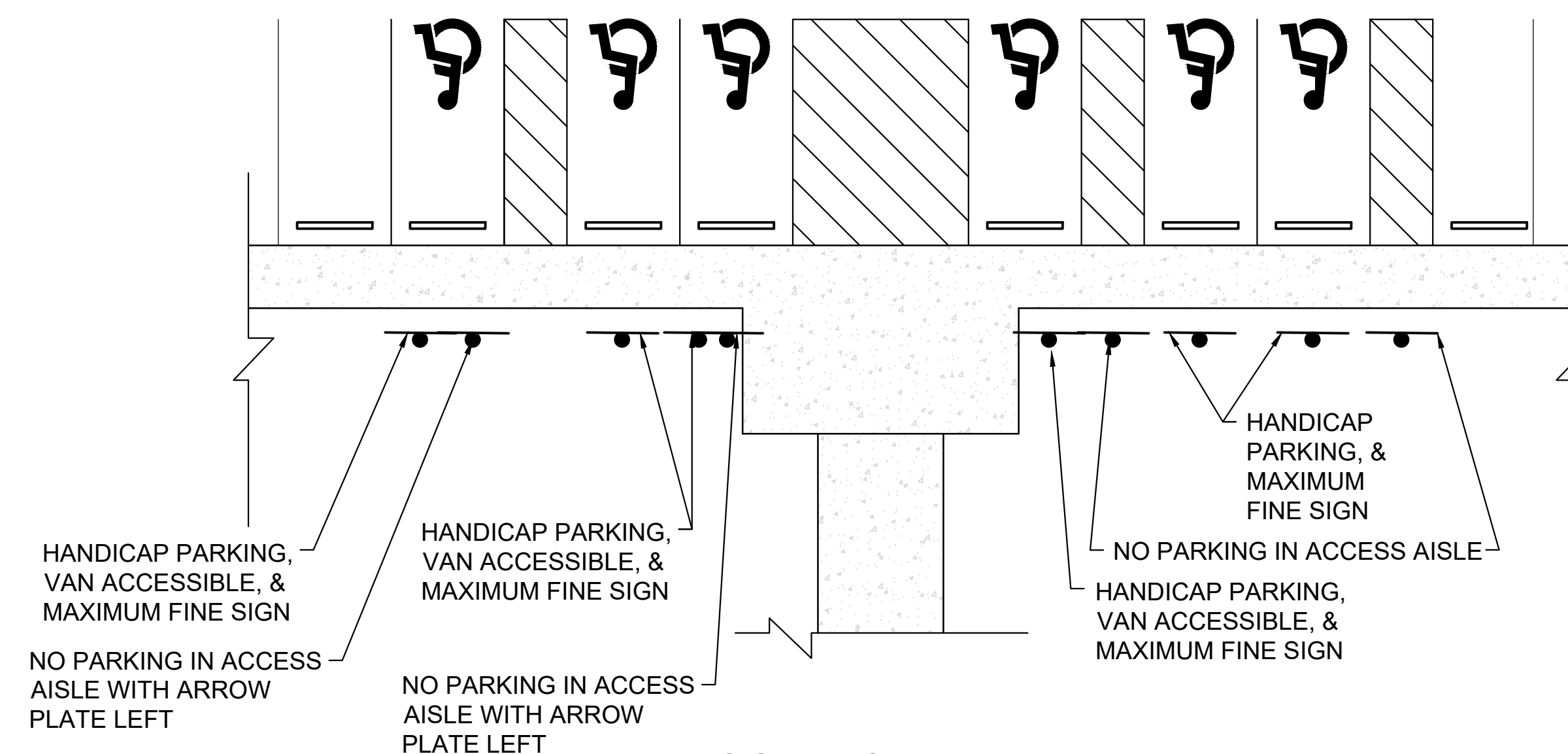
NO PARKING IN ACCESS AISLE SIGN - R8-1(2)  
NOT TO SCALE



NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ADA REGULATIONS.
2. PLACE SIGN 12" BEHIND FACE OF CURB/TIMBER/EDGE OF PAVEMENT (TYP.)
3. SECURE SIGN TO POST USING TWO (2) GALVANIZED BOLTS, NUTS, AND WASHERS.
4. VAN ACCESSIBLE SIGN FOR VAN ACCESSIBLE SPACE ONLY.

TYPICAL SIGN MOUNTING DETAIL  
NOT TO SCALE



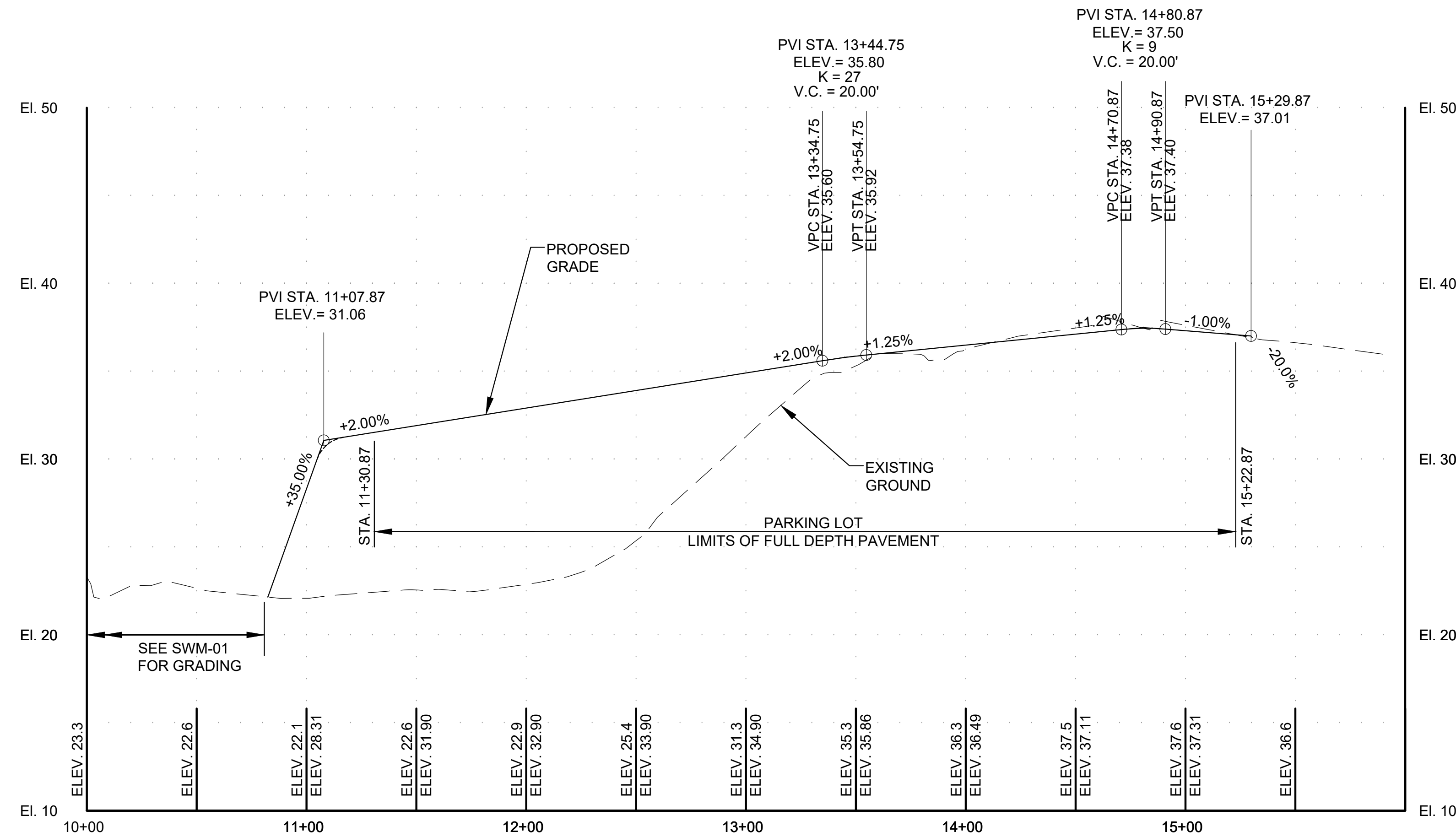
SIGN LAYOUT PLAN  
NOT TO SCALE

GP# G02019203

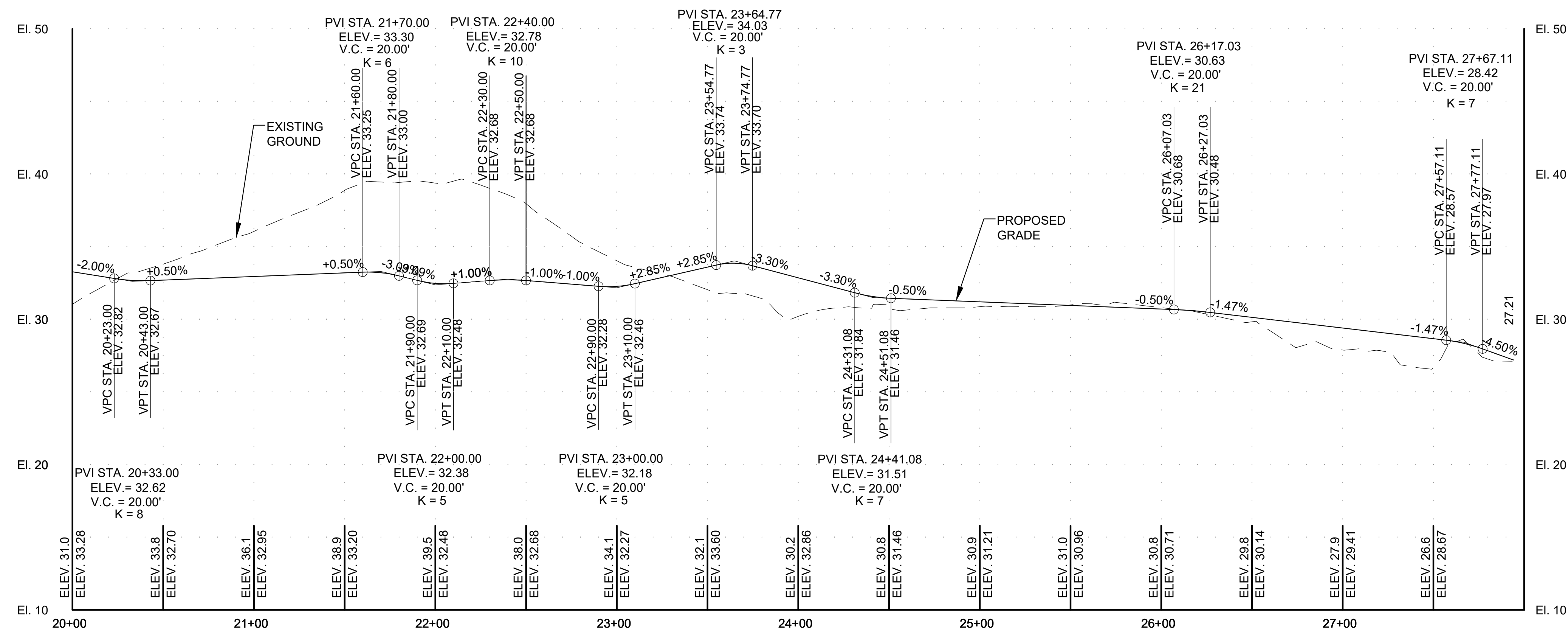
DWG. NO.:  
DE-04

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 53587 EXPIRATION DATE: 12-09-2022</p> <p>10/26/2022</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DESCRIPTION	BY	DATE													<p>ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS</p> <table border="1"> <thead> <tr> <th>APPROVED</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> <th>SCALE: AS NOTED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>CHIEF ENGINEER</td> <td> </td> <td>PROJECT MANAGER</td> <td> </td> <td>DRAWN BY: DT</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CHECKED BY: RK</td> </tr> <tr> <td>APPROVED</td> <td>DATE</td> <td>APPROVED</td> <td>DATE</td> <td>SHEET NO. 9 OF 42</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>PROJECT NO. P509000</td> </tr> <tr> <td>ASSISTANT CHIEF ENGINEER</td> <td> </td> <td>CHIEF, RIGHT OF WAY</td> <td> </td> <td>CONTRACT NO. P509006</td> </tr> </tbody> </table>				APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED						CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT					CHECKED BY: RK	APPROVED	DATE	APPROVED	DATE	SHEET NO. 9 OF 42					PROJECT NO. P509000	ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P509006
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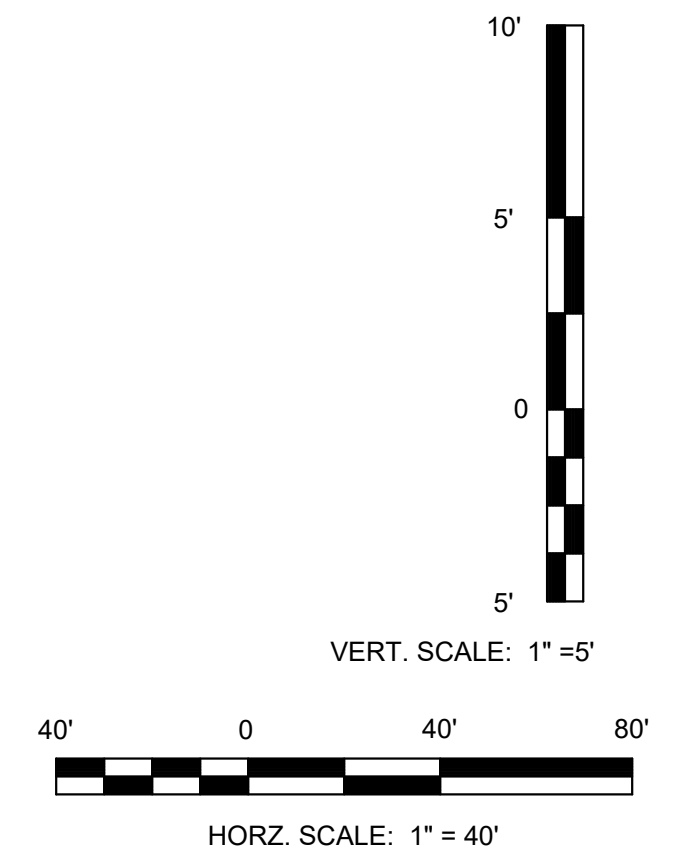




**PARKING LOT - ROADWAY PROFILE**  
 HORZ. SCALE: 1"=30' VERT. SCALE: 1"=6'



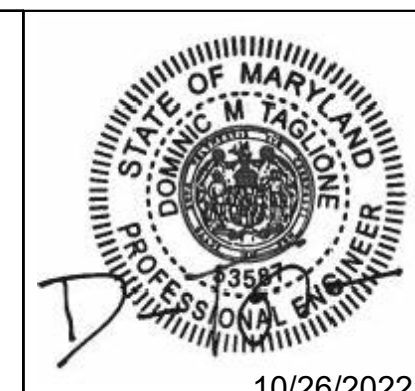
**TRAIL - ROADWAY PROFILE**  
 HORZ. SCALE: 1"=30' VERT. SCALE: 1"=6'



GP# G02019203 DWG. NO.: PR-01

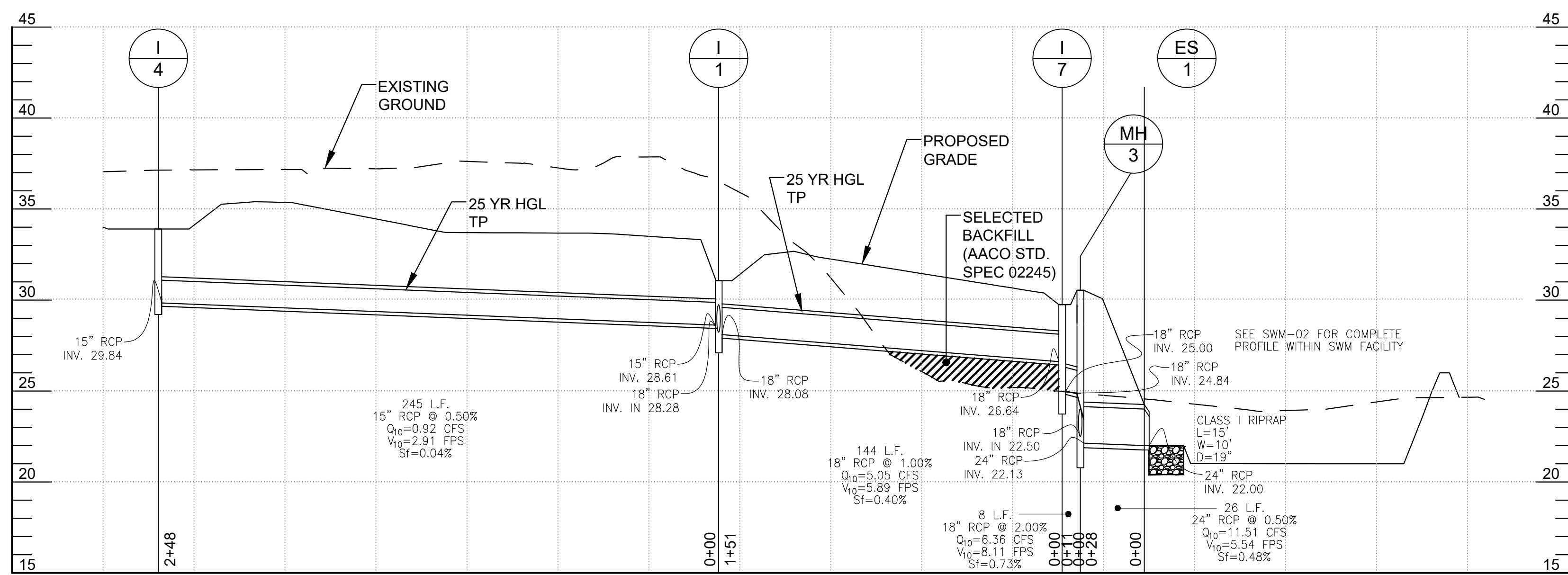
**AECOM**  
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 I CERTIFY THAT THESE DOCUMENTS  
 WERE PREPARED OR APPROVED BY  
 ME, AND THAT I AM A DULY LICENSED  
 PROFESSIONAL ENGINEER UNDER  
 THE LAWS OF THE STATE OF  
 MARYLAND.  
 MD LICENSE NUMBER: 53587  
 EXPIRATION DATE: 12-09-2022

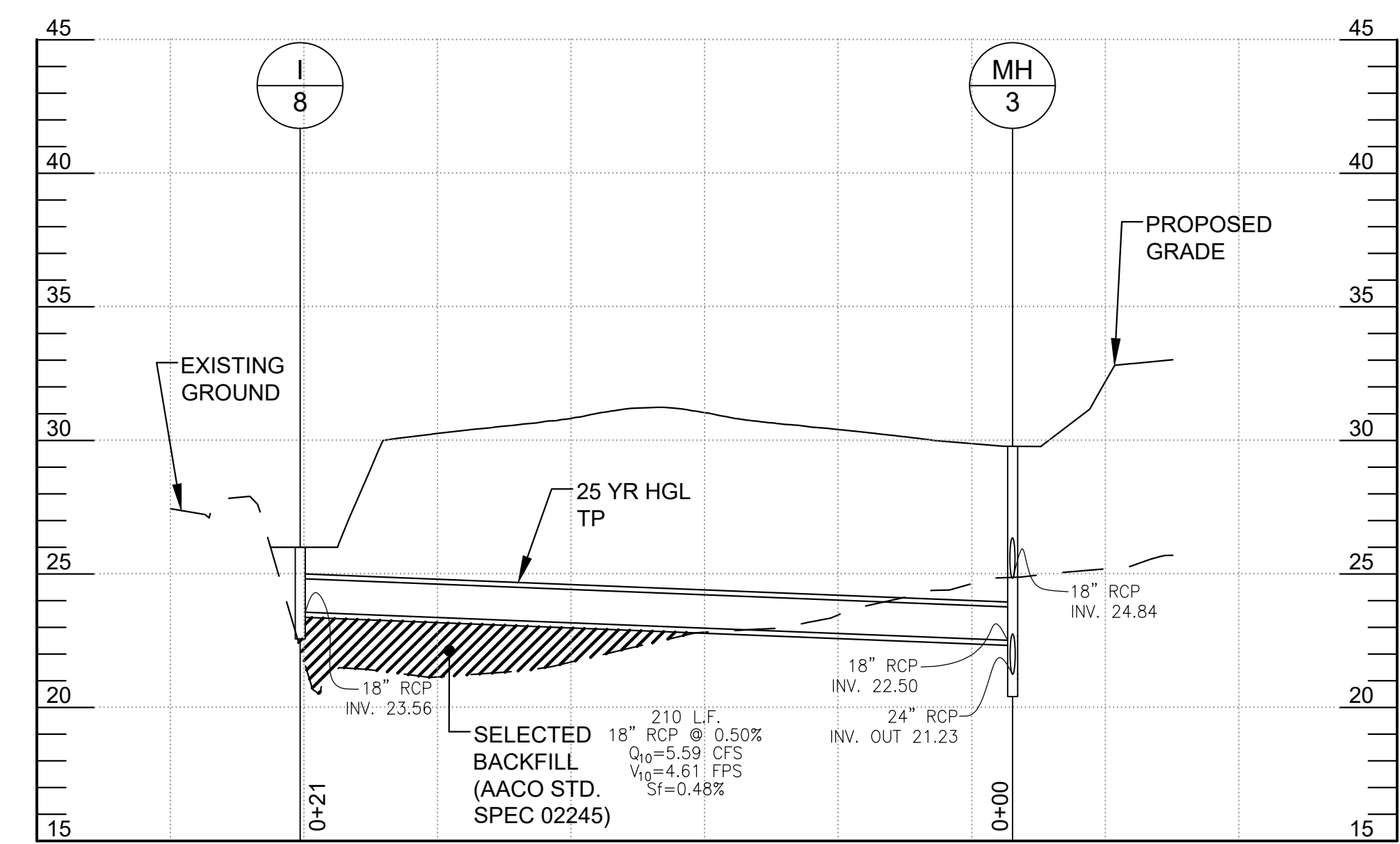


REVISIONS			
NO.	DESCRIPTION	BY	DATE

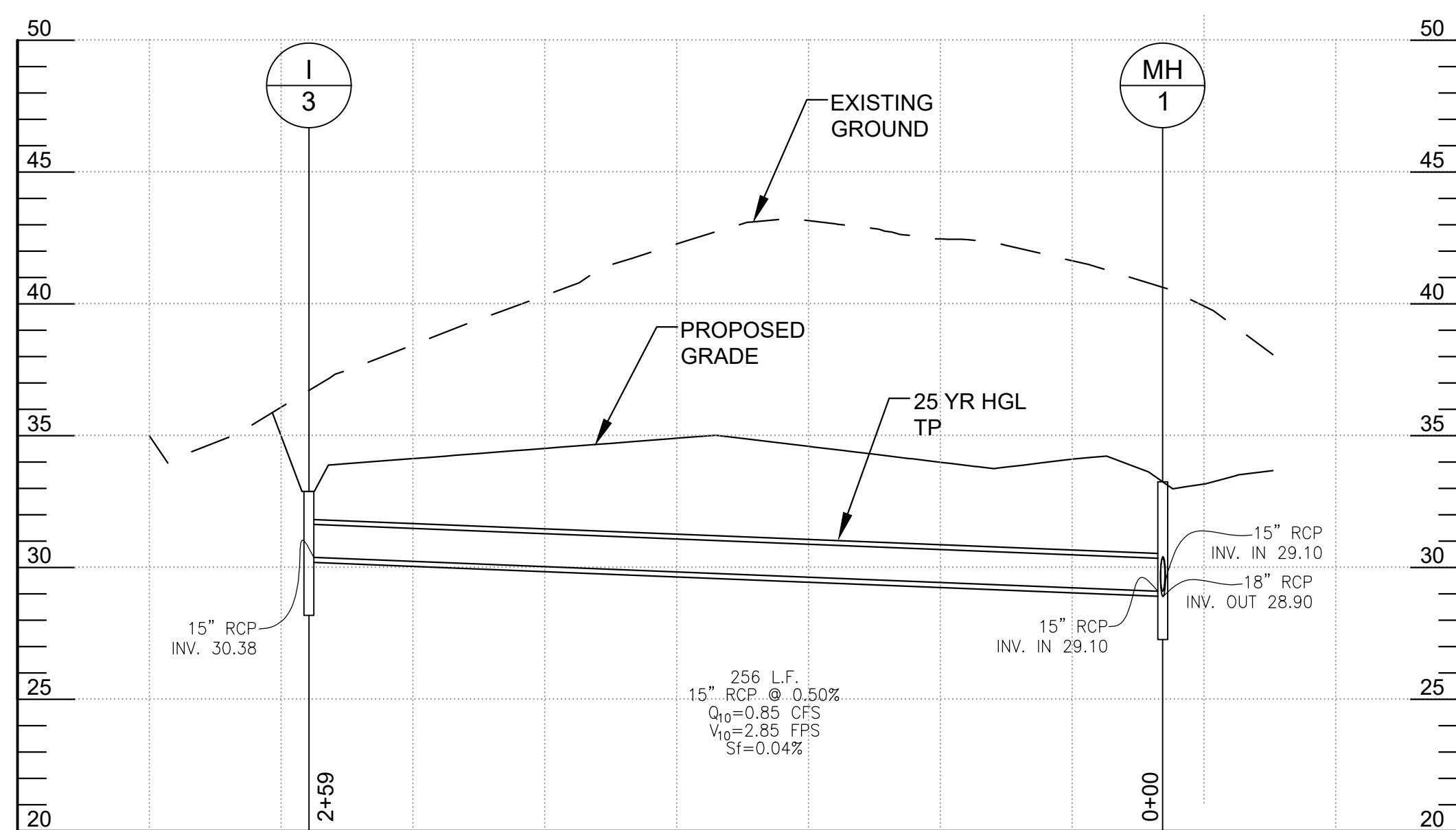
ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 11 OF 42	<b>ROADWAY PROFILES</b>
				PROJECT NO. P509000	
				CONTRACT NO. P509006	



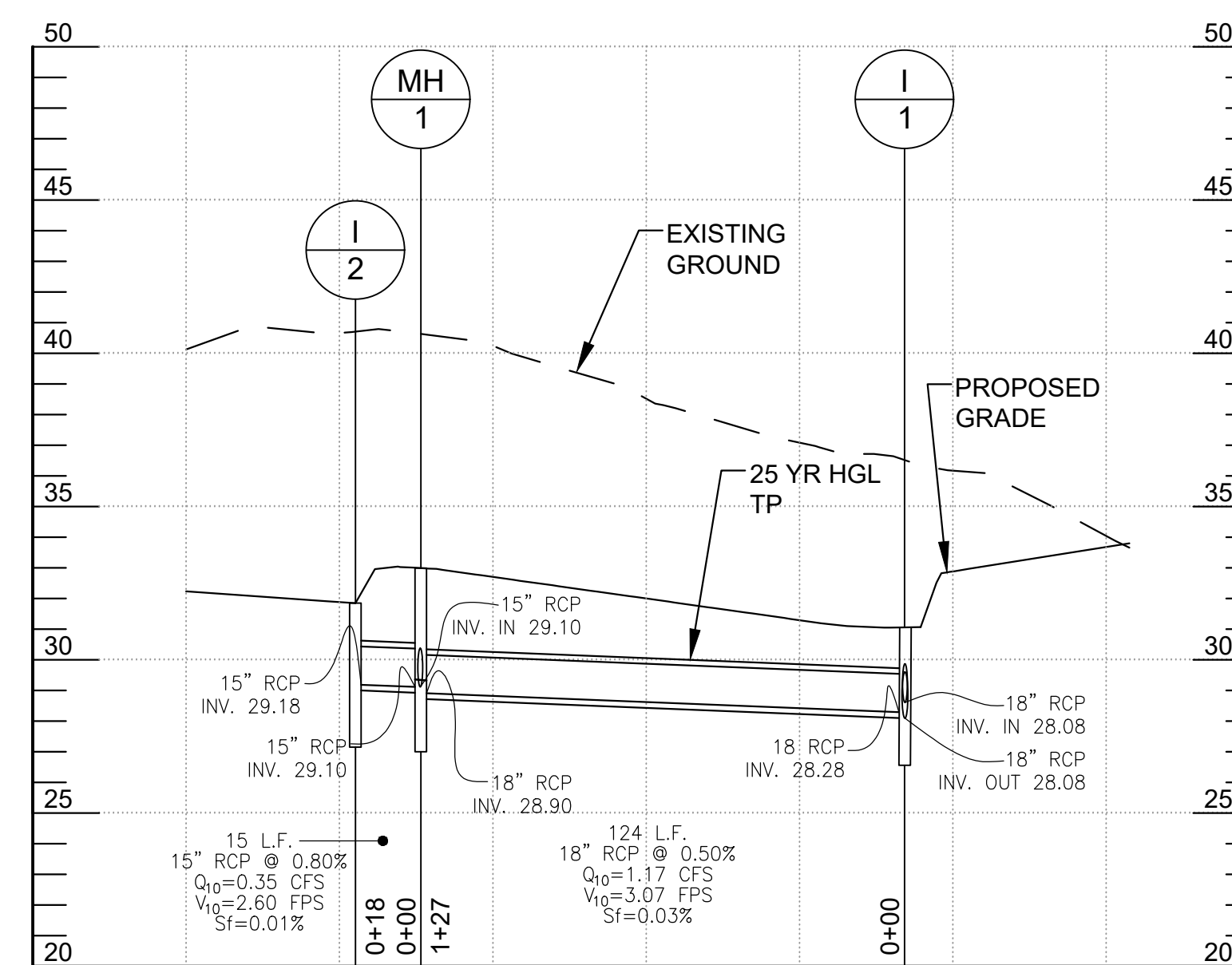
I-4 TO ES-1



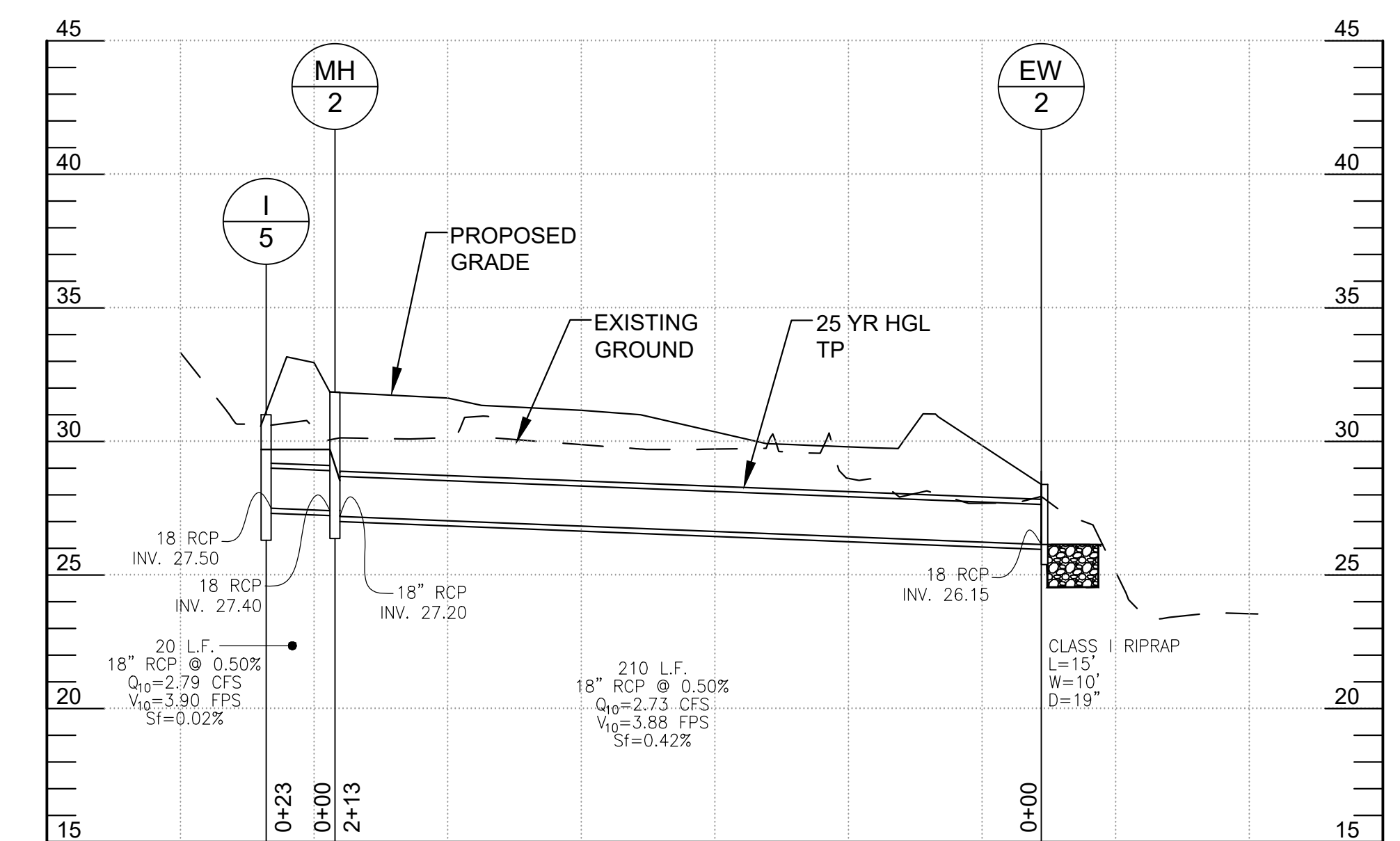
I-8 TO MH-3



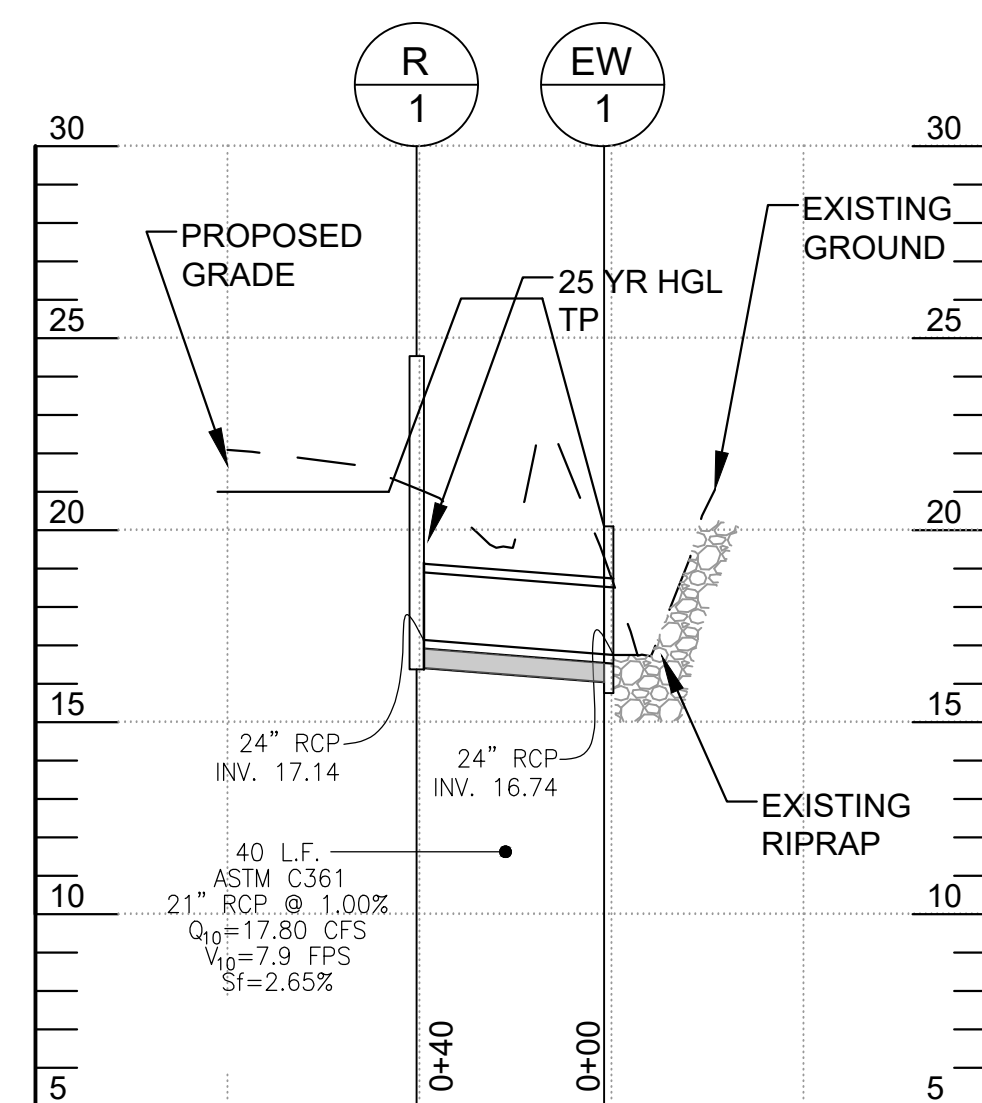
I-3 TO MH-1



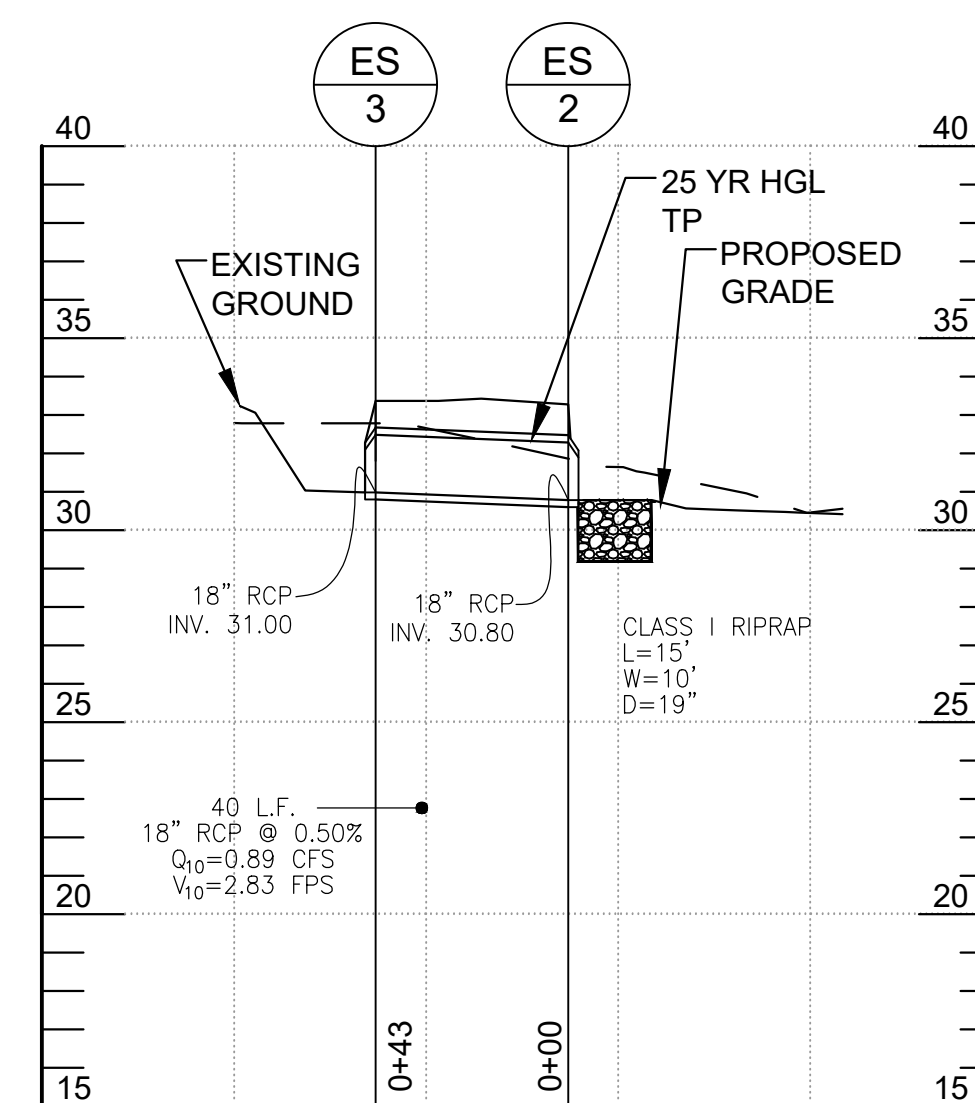
I-2 TO I-1



I-5 TO EW-2



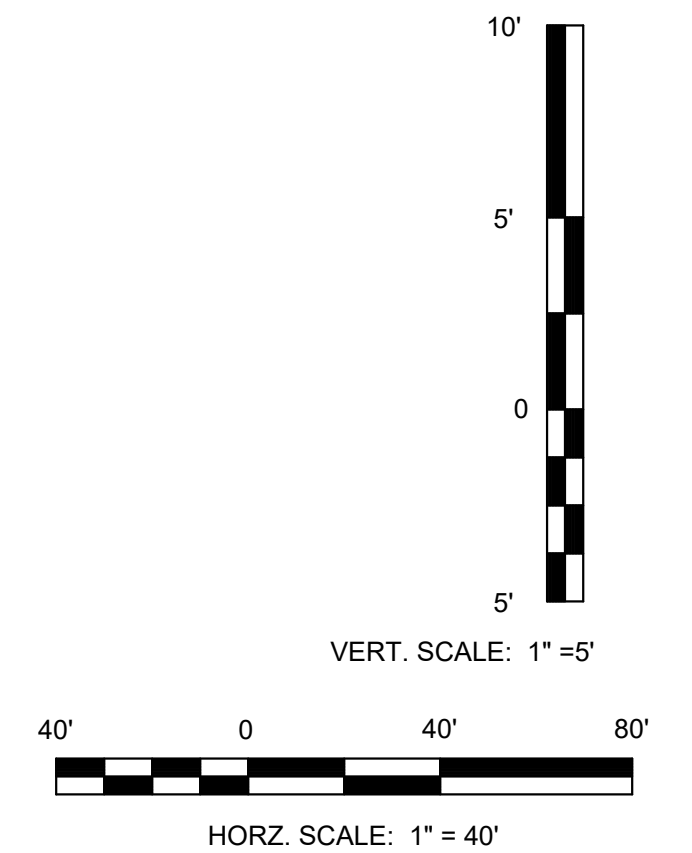
R-1 TO EW-1



ES-2 TO ES-3

NOTES:

1. TP = TOP OF PIPE
2. WHERE 25 YR HGL TP IS INDICATED, 25 YR HGL CONTAINED WITHIN THE PIPE SECTION (HGL WILL NOT BE SHOWN LOWER THAN CROWN OF PIPE).



**AECOM**  
 4 NORTH PARK DRIVE  
 SUITE 300  
 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7220  
 FAX: 410-785-6818

PROFESSIONAL CERTIFICATION  
 I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 MD LICENSE NUMBER: 63587  
 EXPIRATION DATE: 12-09-2022

10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

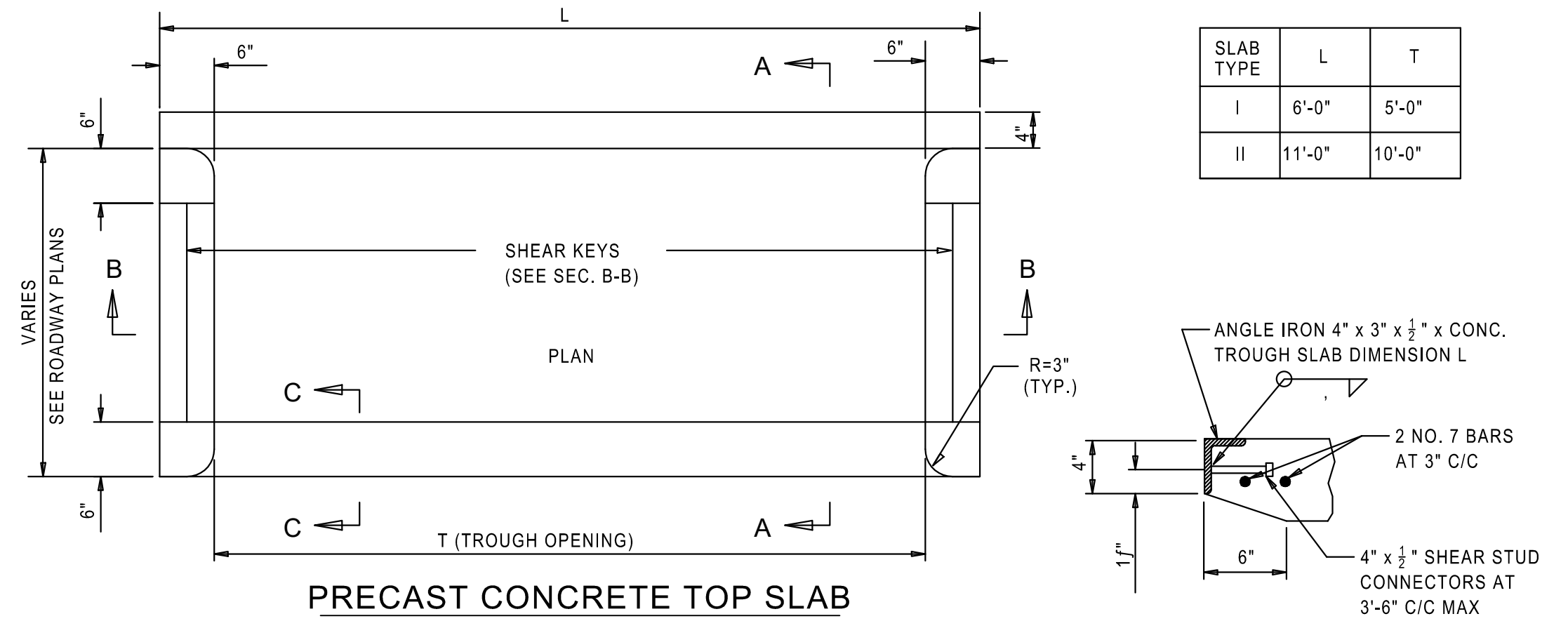
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 CHIEF ENGINEER PROJECT MANAGER  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY

SCALE: AS NOTED  
 DRAWN BY: DT  
 CHECKED BY: RK  
 SHEET NO. 12 OF 42  
 PROJECT NO. P509000  
 CONTRACT NO. P509006

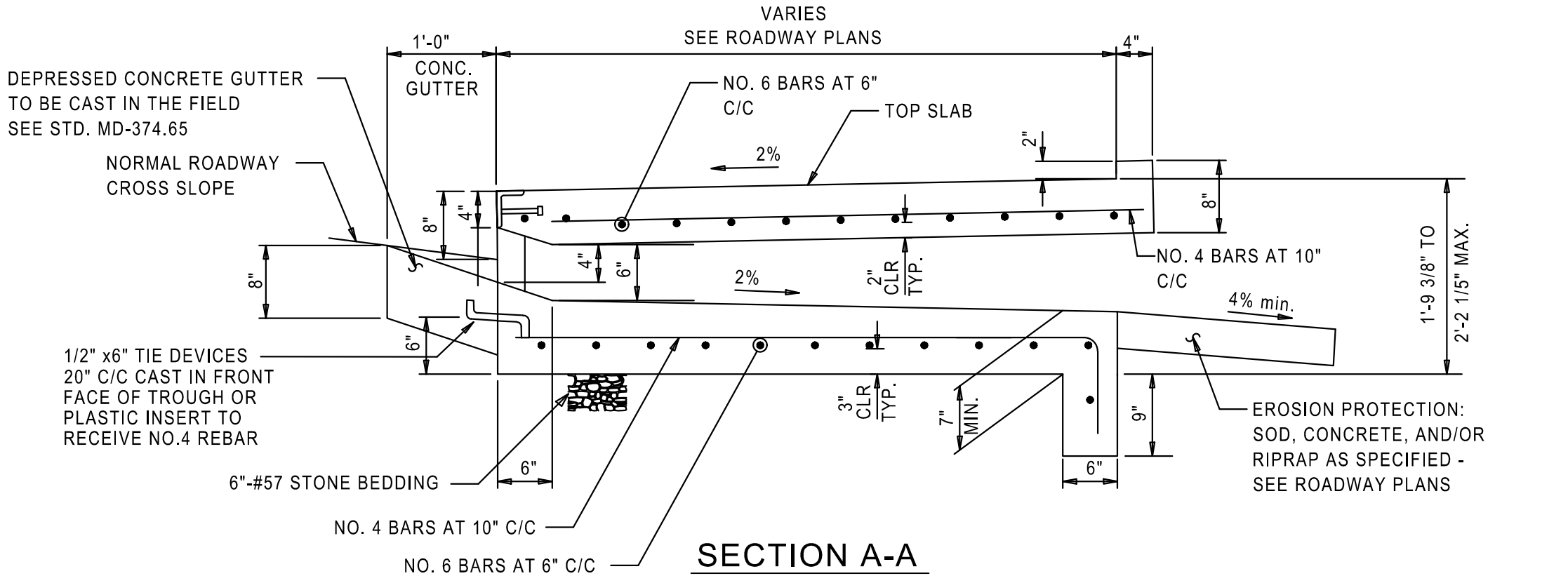
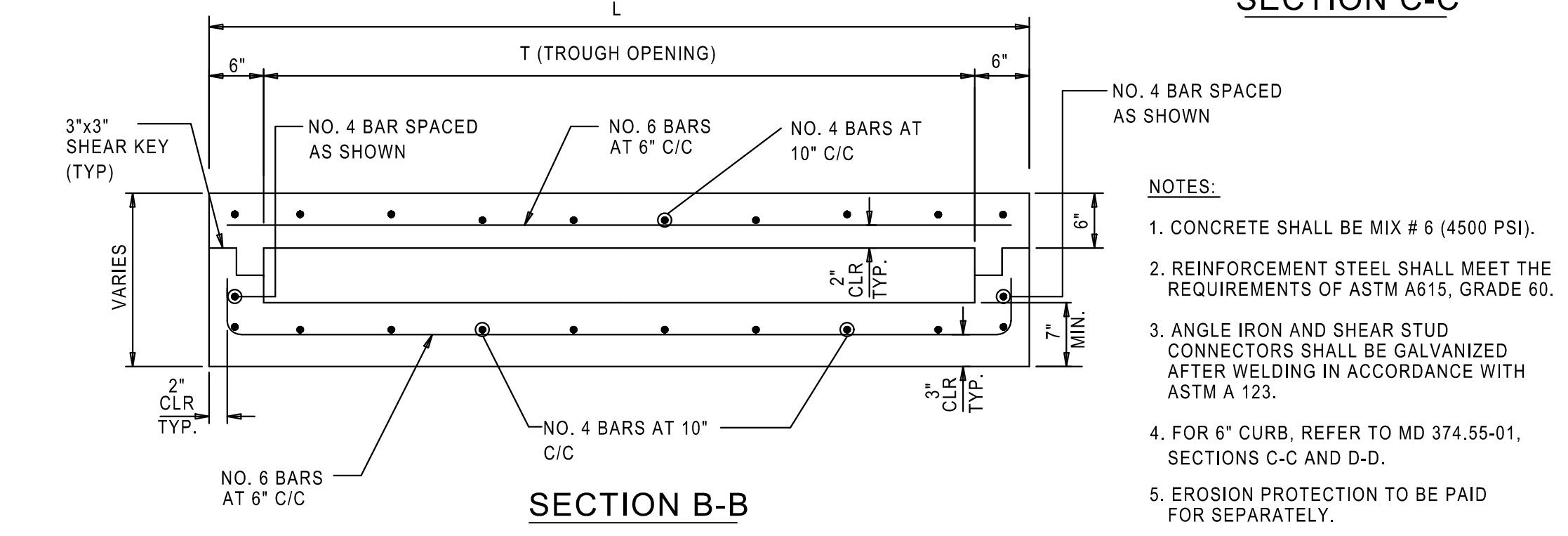
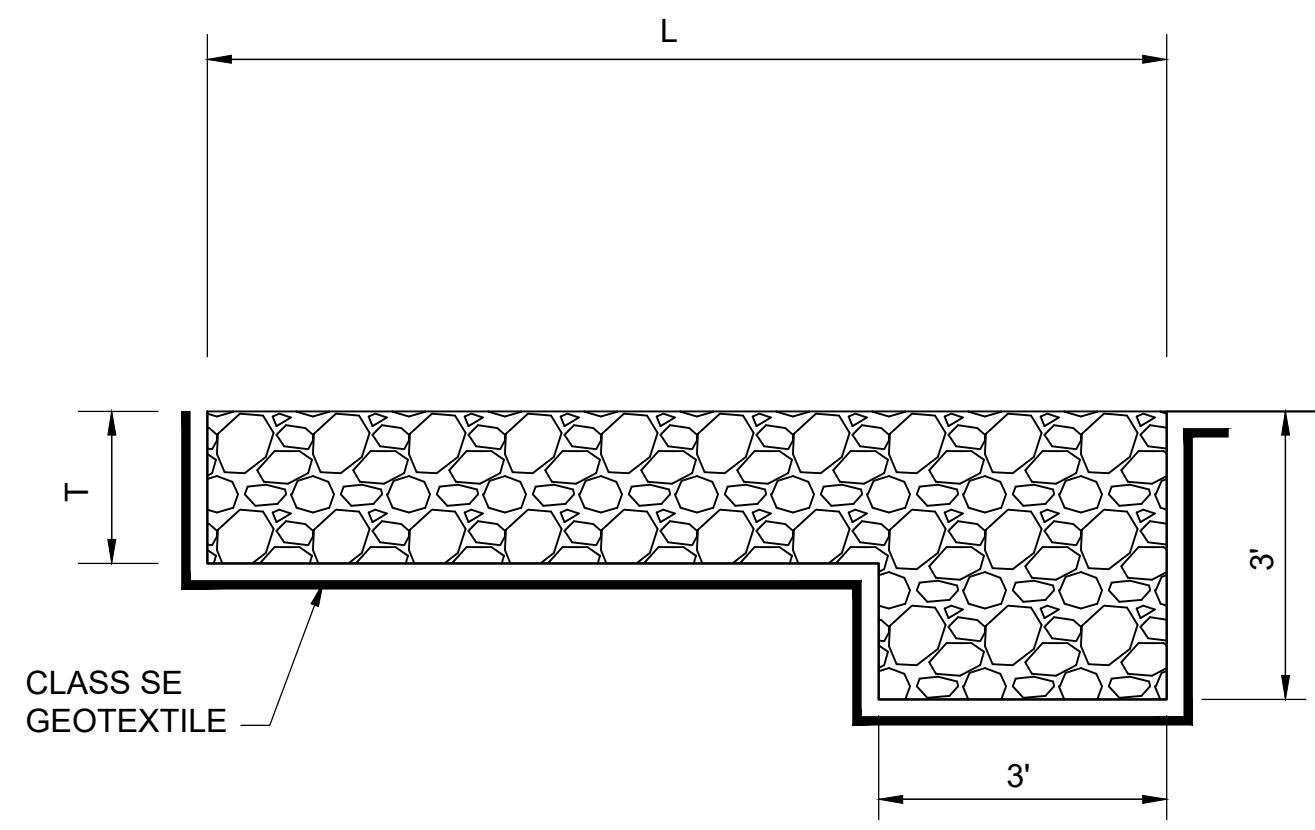
PENINSULA PARK EXPANSION  
**STORM DRAIN PROFILES**

GP# G02019203 DWG. NO.: SDP-01

STORM DRAIN STRUCTURE SCHEDULE									
STRUCTURE NO.	STRUCTURE TYPE	BASELINE	* WORK POINT (WP)		T.G./ T.S./ T.C.	INVERT IN	INVERT OUT	STANDARD NUMBER	REMARKS
			STATION	OFFSET					
I-1	STANDARD TYPE S INLET	TRAIL	20+34.65	32.10 LT	31.63	28.90	28.08	AACO STD. D-40	
I-2	STANDARD TYPE S INLET	TRAIL	21+83.87	15.68 LT	31.80	-	29.18	AACO STD. D-40	
I-3	STANDARD TYPE S INLET	PARKING LOT	15+51.61	248.35 RT	32.90	-	30.38	AACO STD. D-40	
I-4	STANDARD TYPE S INLET	PARKING LOT	15+40.63	94.75 RT	33.90	-	29.84	AACO STD. D-40	
I-5	STANDARD TYPE S INLET	TRAIL	23+94.96	19.75 LT	31.00	-	27.50	AACO STD. D-40	
I-6	MODIFIED OPEN BACK COG	PARKING LOT	15+47.46	144.33 LT	34.40	-	-	SEE DETAIL THIS SHEET	TOP OF CURB ELEVATION IS NOTED
I-7	STANDARD TYPE S INLET	PARKING LOT	11+45.86	106.68 RT	29.75	26.64	25.00	AACO STD. D-40	
I-8	STANDARD TYPE S INLET	PARKING LOT	11+33.83	107.37 LT	25.80	-	23.56	AACO STD. D-40	
MH-1	TYPE A-2 PRECAST MANHOLE	TRAIL	21+64.06	18.52 LT	33.00	29.10	28.90	AACO STD. D-12	
MH-2	TYPE A-2 PRECAST MANHOLE	TRAIL	23+99.92	4.18 RT	32.00	27.40	27.20	AACO STD. D-12	
MH-3	TYPE A-2 PRECAST MANHOLE	PARKING LOT	11+34.00	106.68 RT	30.50	22.5 / 24.84	22.13	AACO STD. D-12	
ES-1	STANDARD CONCRETE END SECTION	PARKING LOT	11+05.38	106.70 RT	-	-	22.00	AACO STD. D-74	
ES-2	STANDARD CONCRETE END SECTION	TRAIL	23+58.34	10.79 RT	-	-	30.80	AACO STD. D-74	
ES-3	STANDARD CONCRETE END SECTION	TRAIL	23+29.35	16.46 LT	-	-	31.00	AACO STD. D-74	
EW-1	STANDARD TYPE A ENDWALL	PARKING LOT	10+48.29	80.84 LT	-	-	16.74	AACO STD. D-55	
EW-2	STANDARD TYPE H ENDWALL	TRAIL	26.12.85	12.88 RT	-	-	26.15	AACO STD. D-68	
R-1	RISER STRUCTURE	PARKING LOT	10+63.03	41.82 LT	24.75	23.00	17.14	SEE DETAIL SWM-04	



SLAB TYPE	L	T
I	6'-0"	5'-0"
II	11'-0"	10'-0"



MODIFIED CURB OPENING (PRECAST OR CAST-IN-PLACE)  
COG / COS OPENING

**PRECAST CONCRETE INLET SLAB FOR CIRCULAR COG & COS INLETS**  
SECTION D-D  
SEE STDS. MD 374.51, MD 374.61, MD 374.62 OR MD 374.63

**PRECAST CONCRETE INLET SLAB FOR SQUARE & RECTANGULAR COG & COS INLETS**  
SECTION C-C  
SEE STDS. MD 374.51, MD 374.61, MD 374.62 OR MD 374.63

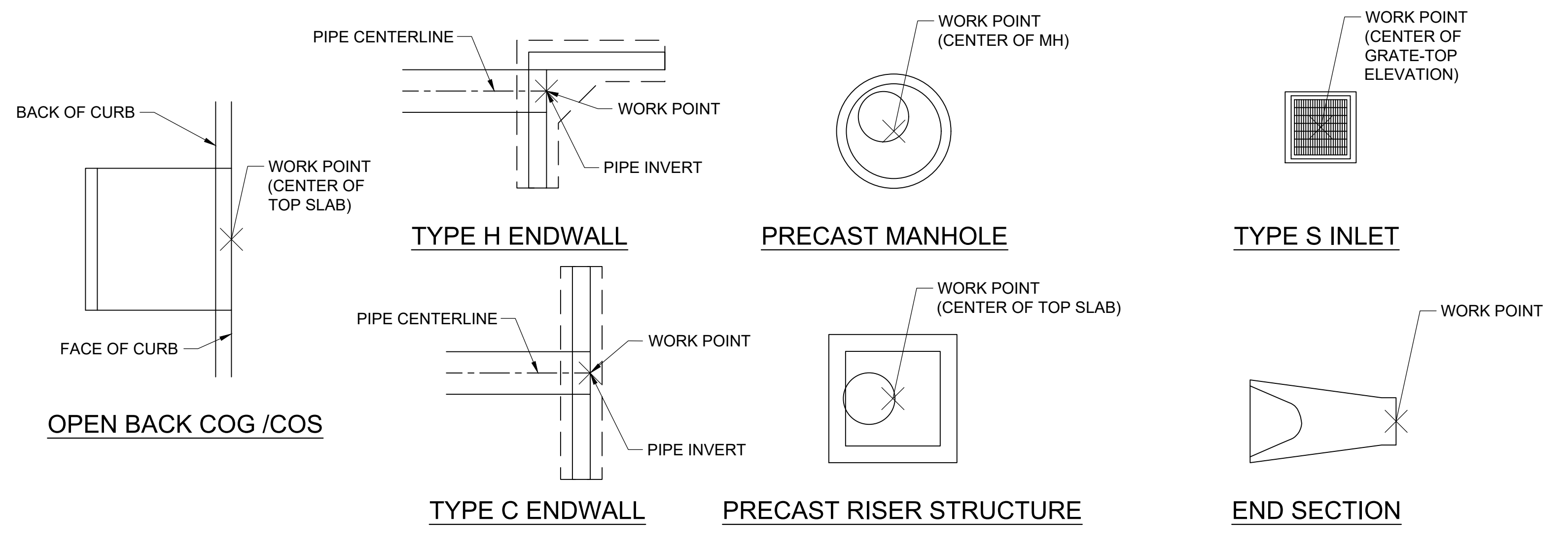
**PRECAST CONCRETE ADJUSTMENT COLLAR FOR SQUARE, RECTANGULAR AND CIRCULAR INLETS**  
AND CIRCULAR INLETS  
(CAST IN 3", 6", & 9" THICKNESS)  
SEE STD. MD 374.51 OR MD 374.61

**NOTES**  
1. CONCRETE SHALL BE MIX NO. 6 (4500 PSI).  
2. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123.

**PRECISION** 305  
**CATEGORY CODE ITEMS**  
APPROVED: *Kalig M...*  
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT  
APPROVAL - STATE HIGHWAY ADMINISTRATION  
APPROVAL - FEDERAL HIGHWAY ADMINISTRATION  
REVISIONS: 3-25-03, 5-8-03

**Maryland Department of Transportation**  
**STATE HIGHWAY ADMINISTRATION**  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**PRECAST CONCRETE**  
**INLET SLABS AND ADJUSTMENT COLLARS FOR**  
**COG/COS INLETS TO ACCOMMODATE 6" CURB**  
**STANDARD NO. MD 374.55-01**

RIPRAP CUT OFF DETAIL  
NOT TO SCALE

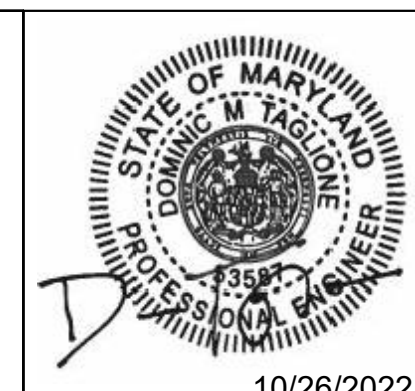


NOTE: WORK POINT LOCATIONS FOR STRUCTURES ARE SHOWN IN THE DIAGRAMS ABOVE. THE TOP ELEVATIONS OF THE STRUCTURES ARE GIVEN AT THESE WORK POINTS. SEE TABLE FOR STATION AND OFFSET FOR THE LOCATIONS OF EACH STRUCTURE.

WORK POINT LOCATIONS  
NOT TO SCALE

**AECOM**  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

**PROFESSIONAL CERTIFICATION**  
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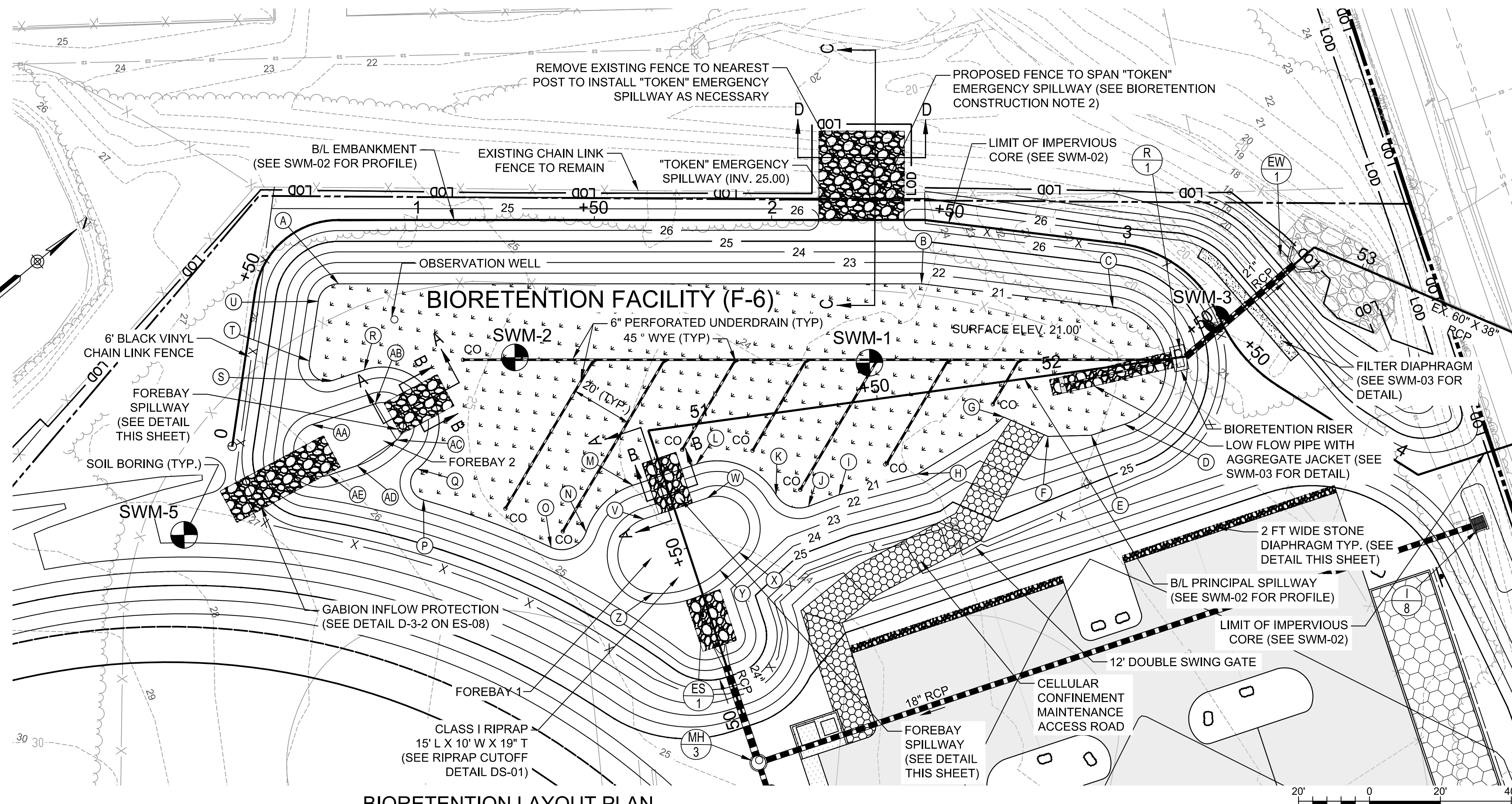


REVISIONS			
NO.	DESCRIPTION	BY	DATE

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**

APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT
APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 13 OF 42
				PROJECT NO. P509000
				CONTRACT NO. P509006

**PENINSULA PARK EXPANSION**  
**DRAINAGE SCHEDULES AND DETAILS**



**BIORETENTION LAYOUT PLAN**  
SCALE: 1" = 20'

- BIORETENTION CONSTRUCTION NOTES:**
1. COMPLETE CLEANUP OF SEDIMENT TRAP SHALL BE PERFORMED PRIOR TO BIORETENTION INSTALLATION. TILLING/ SCARIFYING THE UNDERLYING SOIL SHALL BE DONE AS NECESSARY.
  2. PLACE NEW POSTS WITHIN RIPRAP TO MAINTAIN LEVEL TOP OF FENCE ACROSS THE EMERGENCY SPILLWAY. EXTEND FABRIC TO WITHIN 2" (4" MAXIMUM) OF TOP OF RIPRAP AND REINFORCE WITH TENSION WIRE FOR CLEAN FINAL APPEARANCE.

**BIORETENTION LAYOUT COORDINATES**

POINT	NORTHING	EASTING
A	465,320.82	1,459,334.43
B	465,447.44	1,459,439.24
C	465,484.80	1,459,478.72
D	465,466.28	1,459,506.25
E	465,457.09	1,459,502.67
F	465,447.46	1,459,495.10
G	465,441.34	1,459,482.97
H	465,412.33	1,459,479.85
I	465,391.57	1,459,470.24
J	465,382.86	1,459,467.23
K	465,377.92	1,459,458.89
L	465,366.03	1,459,437.91
M	465,348.52	1,459,431.10
N	465,329.95	1,459,432.86
O	465,319.61	1,459,429.86
P	465,300.44	1,459,396.62
Q	465,304.68	1,459,388.80
R	465,310.89	1,459,357.73
S	465,302.14	1,459,354.32
T	465,300.61	1,459,345.94
U	465,313.27	1,459,334.58

**LEGEND**

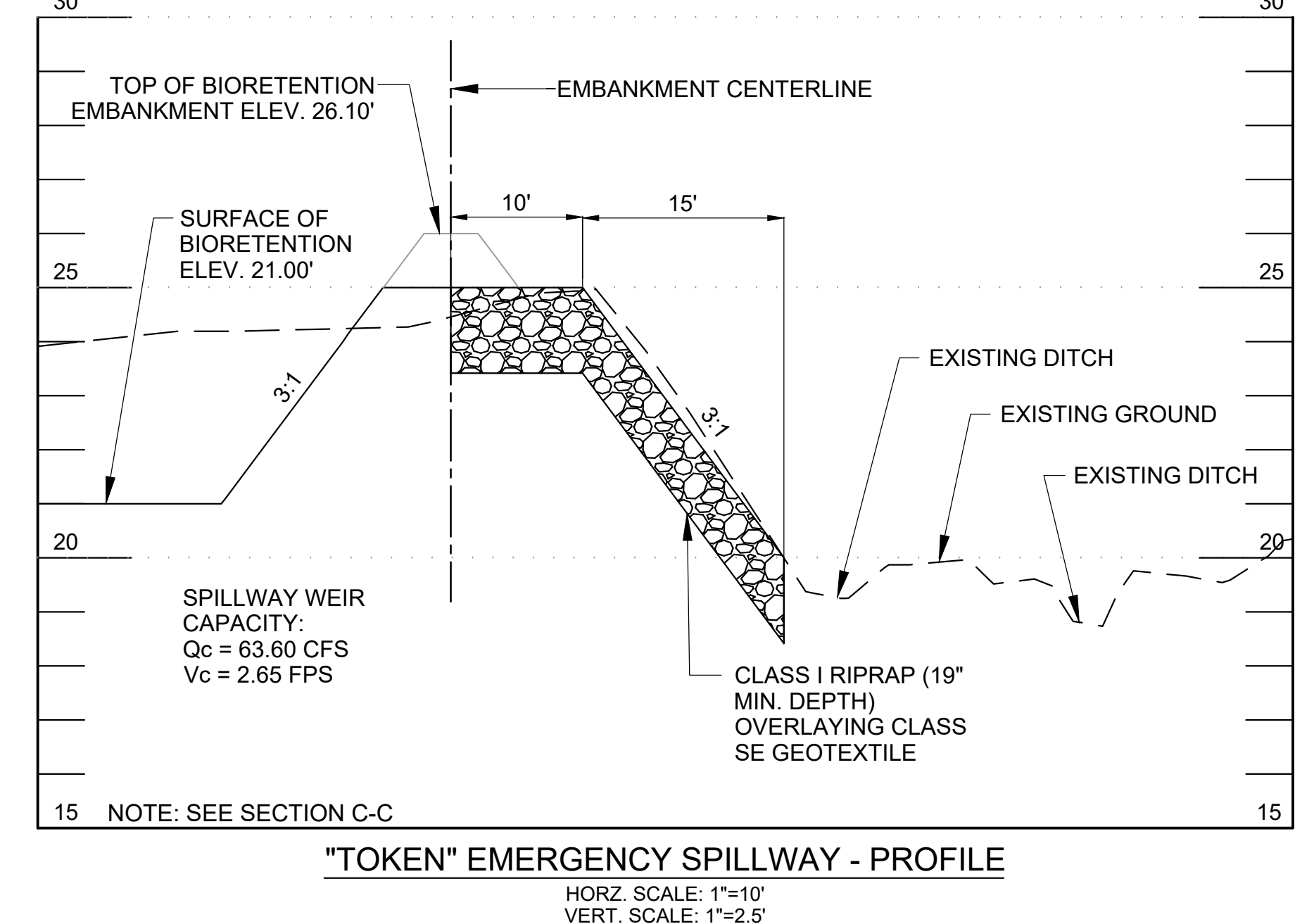
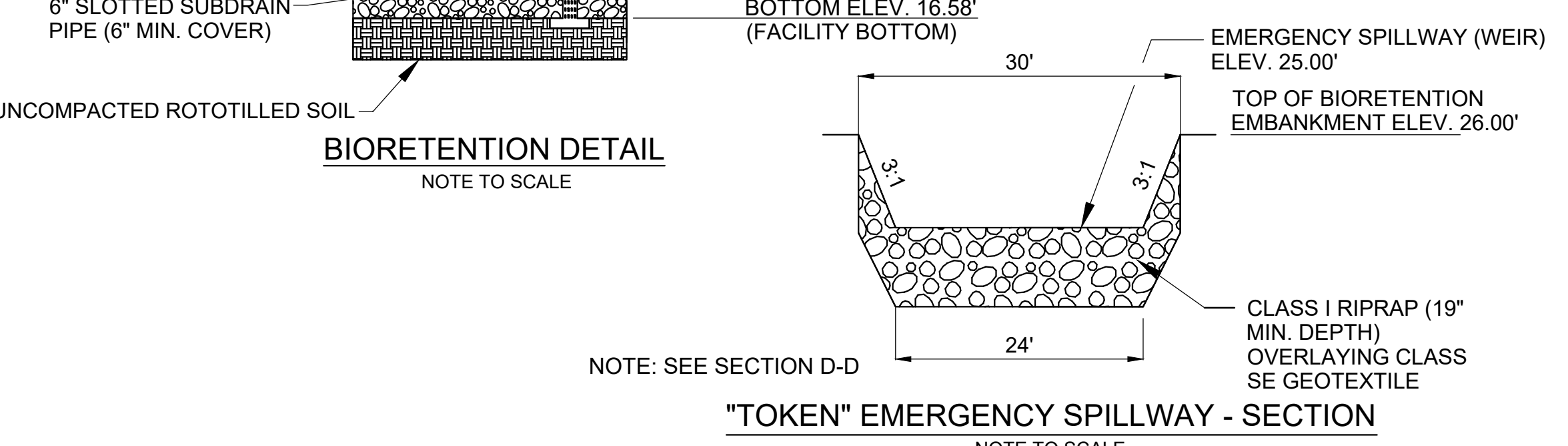
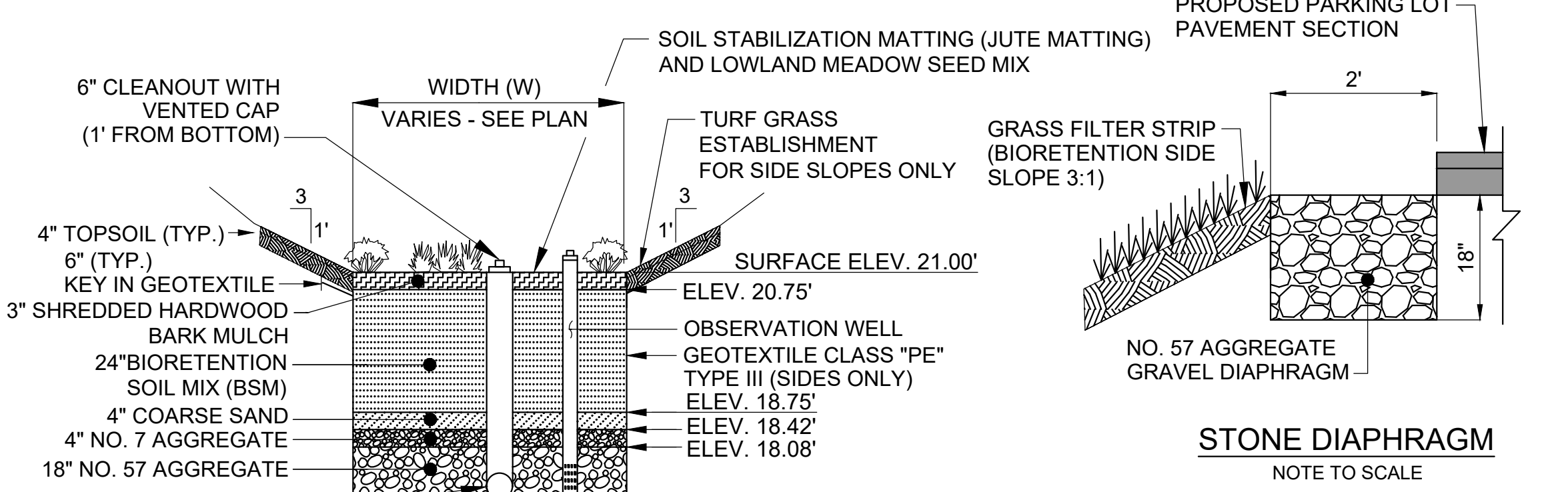
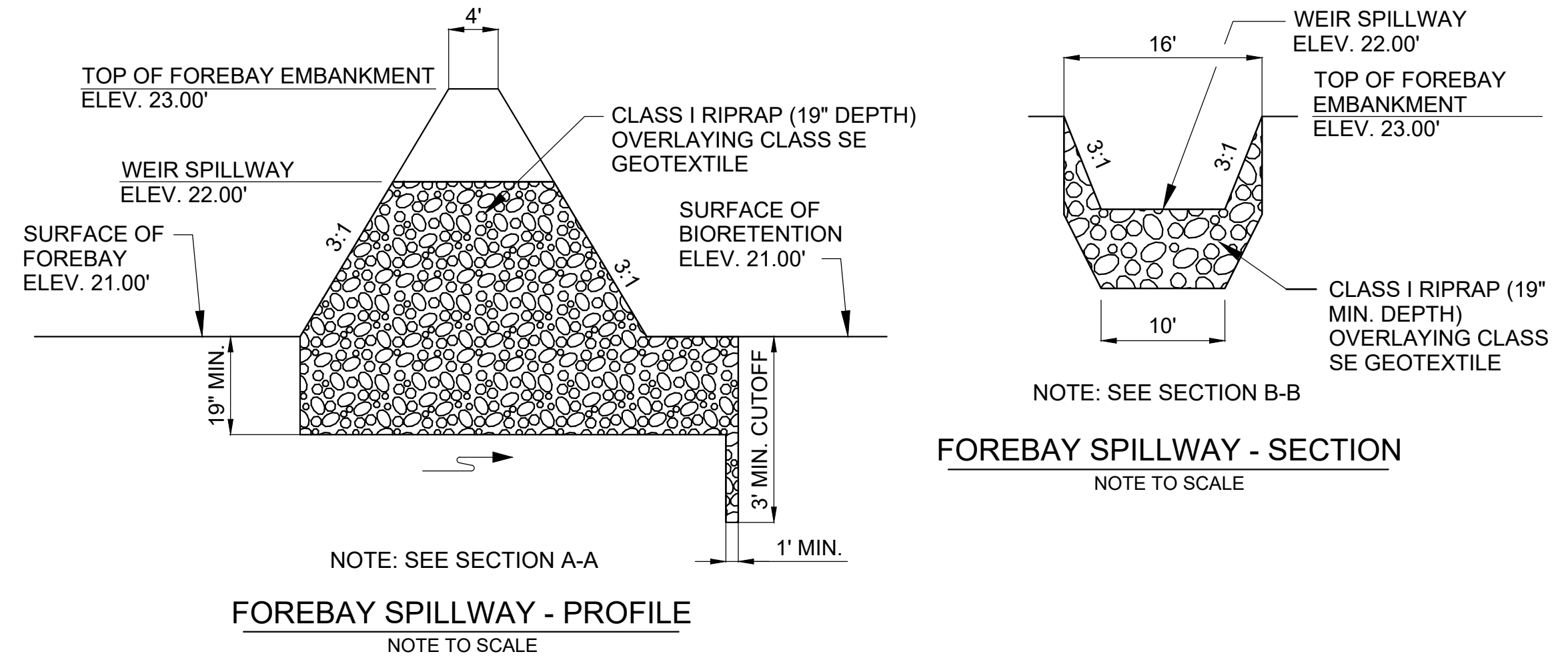
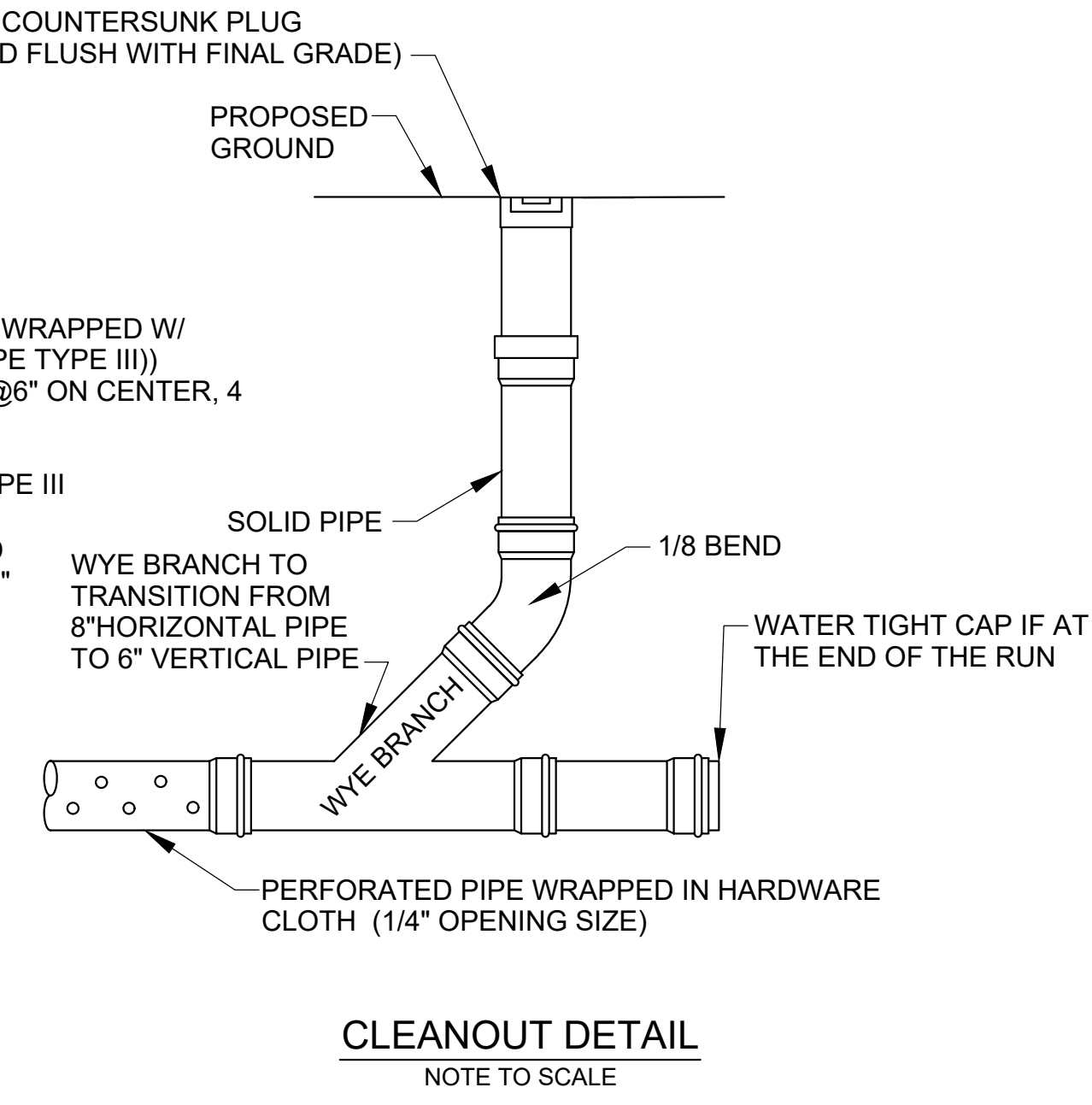
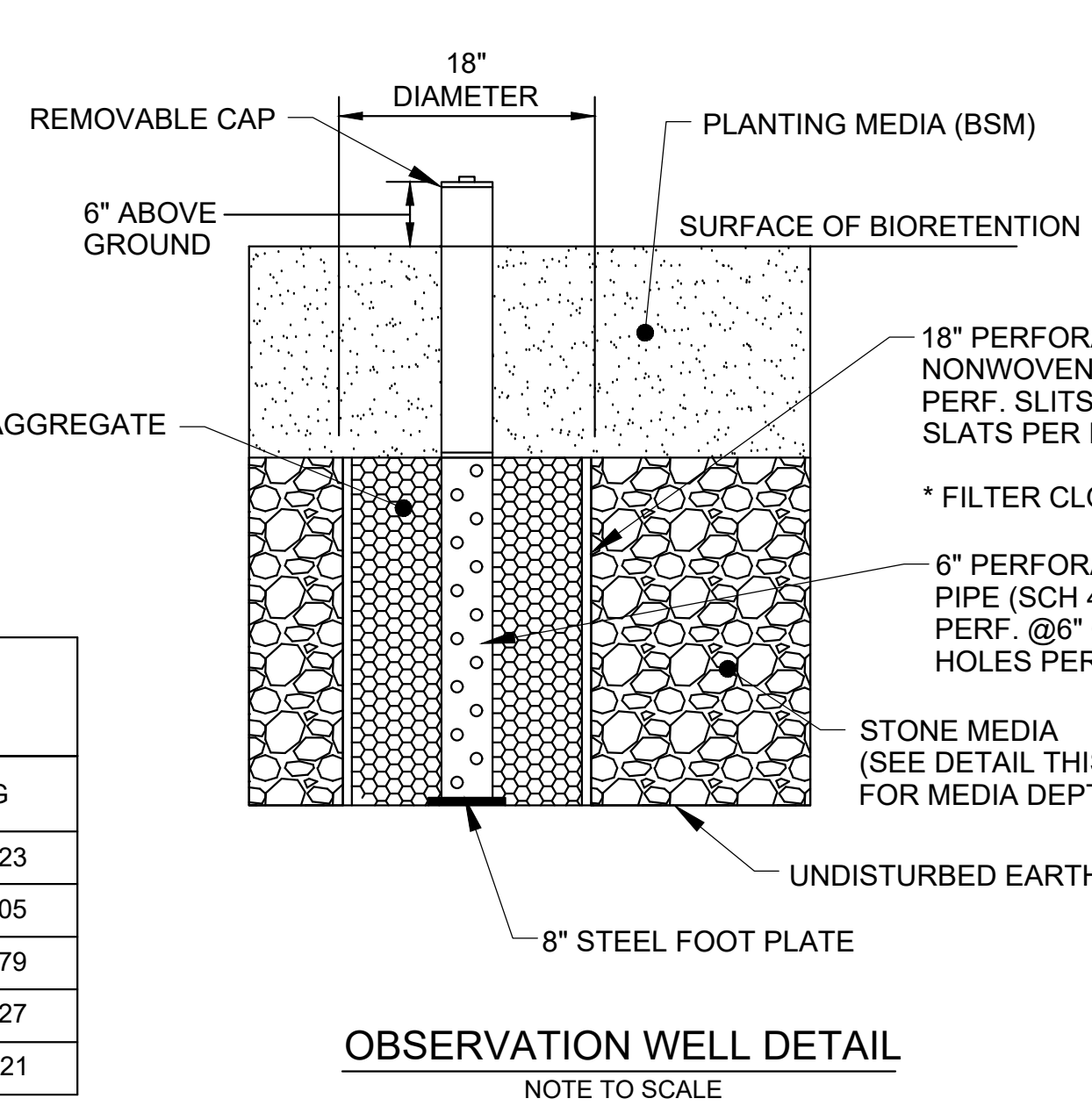
BIORETENTION FACILITY SURFACE (SEE BIORETENTION DETAIL THIS SHEET)

**FOREBAY 2 LAYOUT COORDINATES**

POINT	NORTHING	EASTING
AA	465,289.75	1,459,360.23
AB	465,307.26	1,459,367.05
AC	465,305.38	1,459,378.79
AD	465,292.18	1,459,377.27
AE	465,284.31	1,459,374.21

**FOREBAY 1 LAYOUT COORDINATES**

POINT	NORTHING	EASTING
V	465,344.89	1,459,440.41
W	465,362.40	1,459,447.23
X	465,359.58	1,459,464.77
Y	465,352.19	1,459,465.16
Z	465,333.52	1,459,458.18



**AECOM**

4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7200  
FAX: 410-785-6818

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MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022

10/26/2022

**REVISIONS**

NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
CHIEF ENGINEER

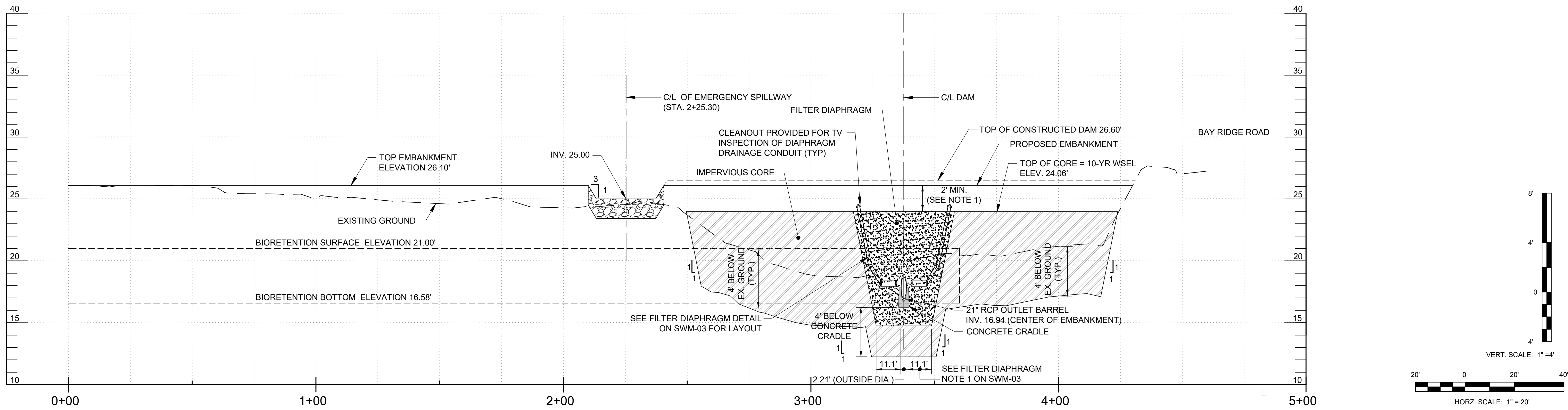
APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
PROJECT MANAGER

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
ASSISTANT CHIEF ENGINEER

SCALE: 1"=40'  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 14 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

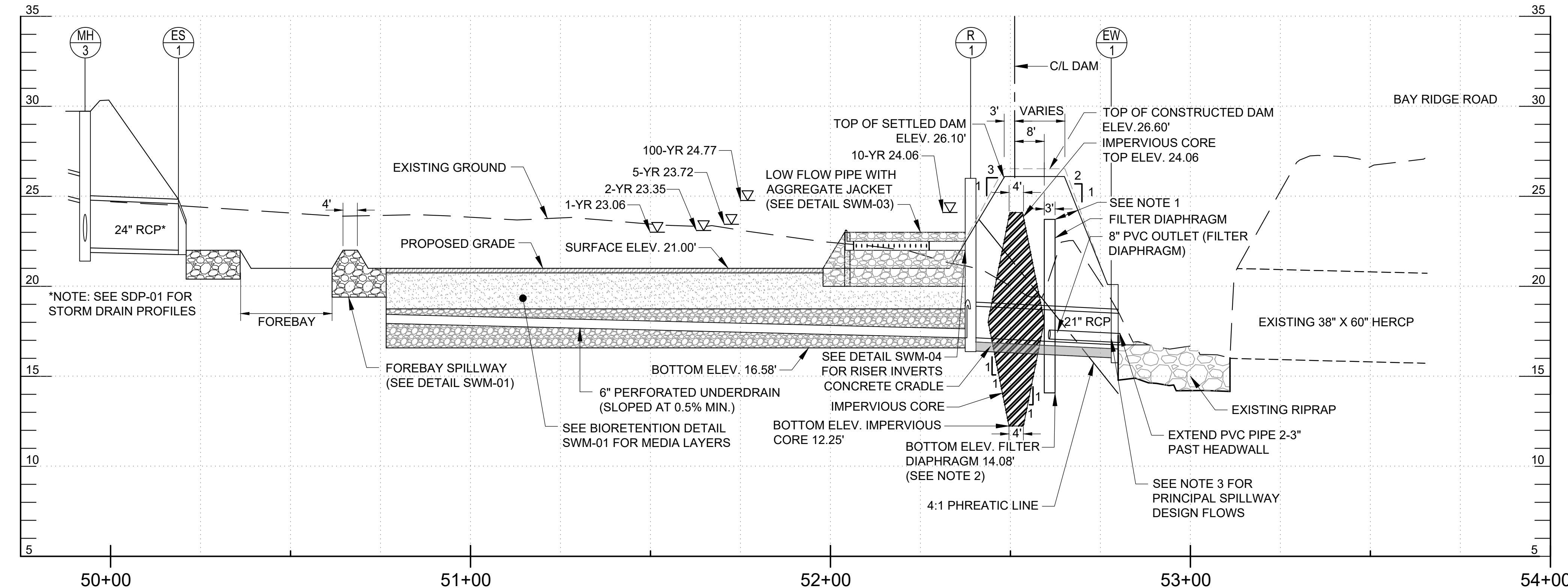
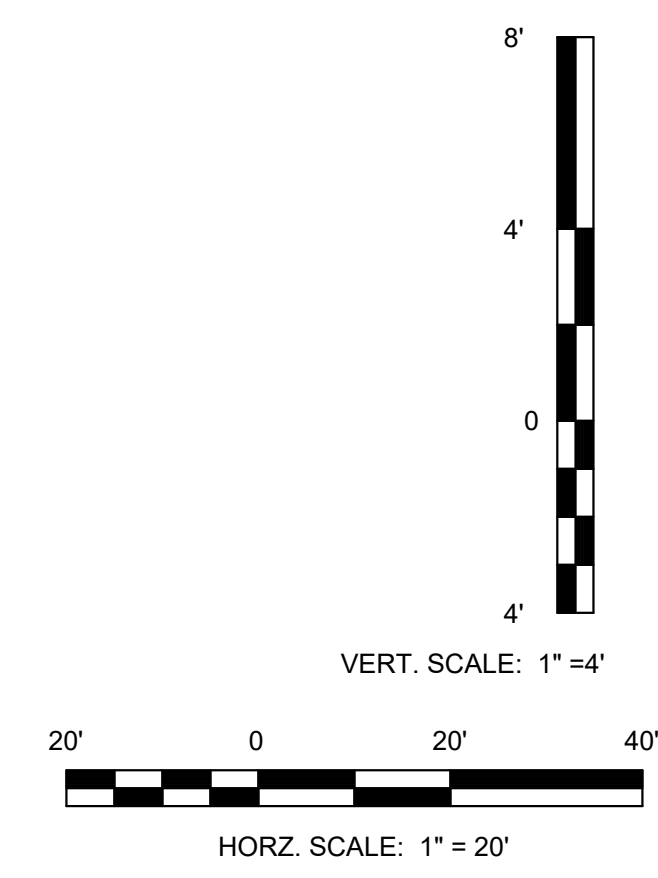
PENINSULA PARK EXPANSION  
**STORMWATER MANAGEMENT PLAN**

GP# G02019203 DWG. NO.: SWM-01



**EMBankment Profile**

HORZ. SCALE: 1" = 20'  
VERT. SCALE: 1" = 4'



**Spillway Profile**

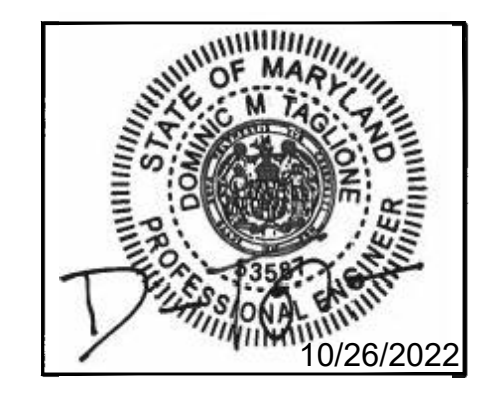
HORZ. SCALE: 1" = 20'  
VERT. SCALE: 1" = 4'

- NOTES:
1. THE MINIMUM SOIL COVER OVER ANY PORTION OF THE FILTER DIAPHRAGM MEASURED NORMAL TO THE NEAREST EMBANKMENT SURFACE SHALL BE 2 FEET.
  2. FILTER DIAPHRAGM SHALL EXTEND A MINIMUM OF 2 FEET BELOW BOTTOM OF CONCRETE CRADLE.
  3. DESIGN FLOWS:  
Q10=17.80 CFS  
V10=8.0 FPS  
Q100=30.2 CFS  
V100=12.7 FPS

**POND DESIGN CERTIFICATION FOR SMALL POND NUMBER (S)**

I CERTIFY THAT THIS DESIGN PLAN FOR THE CONSTRUCTION OF THE EMBANKMENT AND/OR EXCAVATED POND(S) REPRESENTS A HAZARD CLASS "A" POND(S) AND WAS DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE USDA, NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS, (MD-378). I HAVE REVIEWED THIS PLAN WITH THE OWNER/DEVELOPER.

SIGNATURE: *[Signature]* PHONE # 410-891-9227  
NAME (PRINTED): Dominic Taglorie AECOM  
ADDRESS: 4 North Park Drive Suite 300 Hunt Valley, MD 21030  
MD LICENSE # 53587



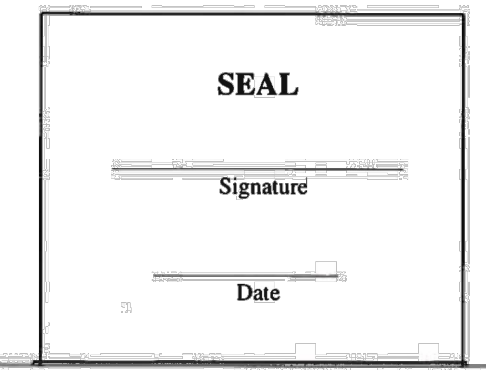
**NOTE: DO NOT EXECUTE AS-BUILT UNTIL POND HAS BEEN CONSTRUCTED:**

Interim  Final

**AS-BUILT CERTIFICATION FOR SMALL POND NUMBER (S)**

I CERTIFY THAT THIS AS-BUILT IS ACCURATE AND COMPLETE AND THE POND(S) AS CONSTRUCTED MEETS THE REQUIREMENTS OF THE USDA, NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378). ANY POND DESIGN COMPONENTS NOT IDENTIFIED WITH AS-BUILT NOTATIONS WERE CONSTRUCTED AS PER THE APPROVED POND DESIGN.

SIGNATURE: \_\_\_\_\_ PHONE # \_\_\_\_\_  
NAME (PRINTED): \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
MD LICENSE # \_\_\_\_\_



NOTE: MINIMUM REQUIREMENTS OF AN ACCEPTABLE AS-BUILT ARE OUTLINED IN THE SMALL POND AS-BUILT CHECKLIST FROM AACO SCD.

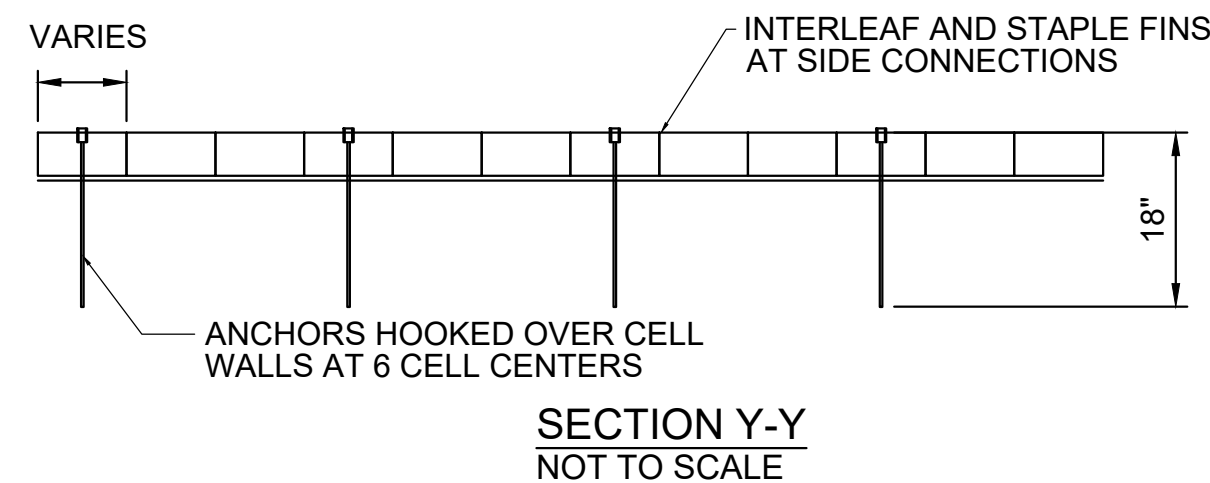
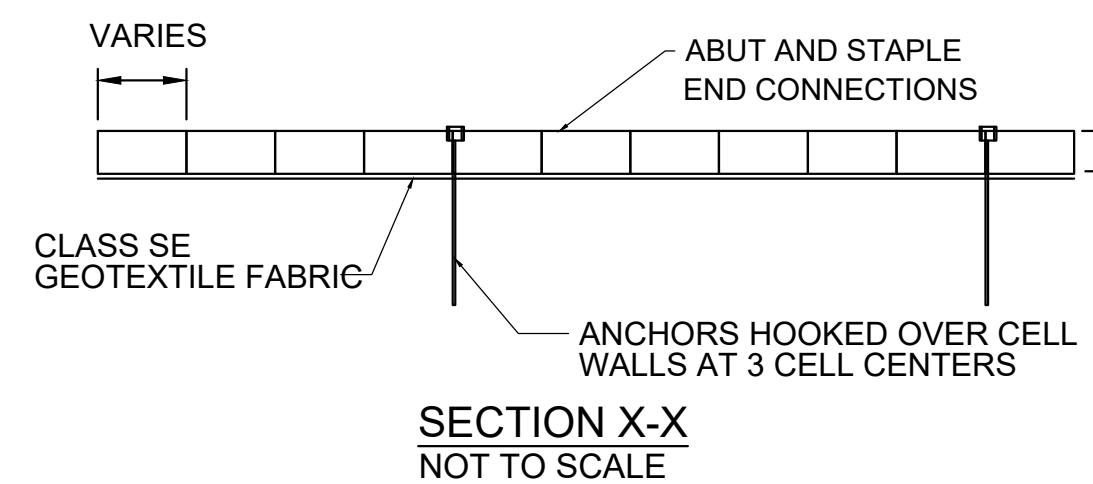
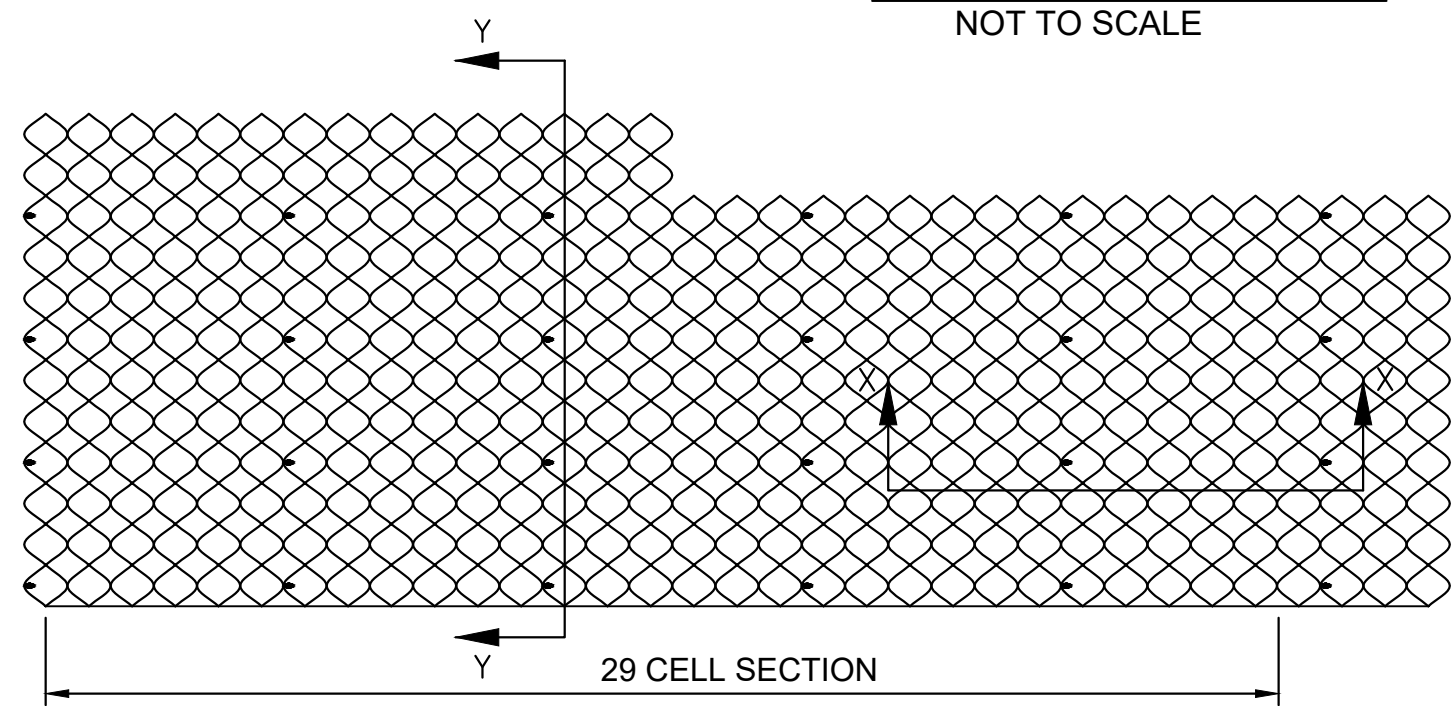
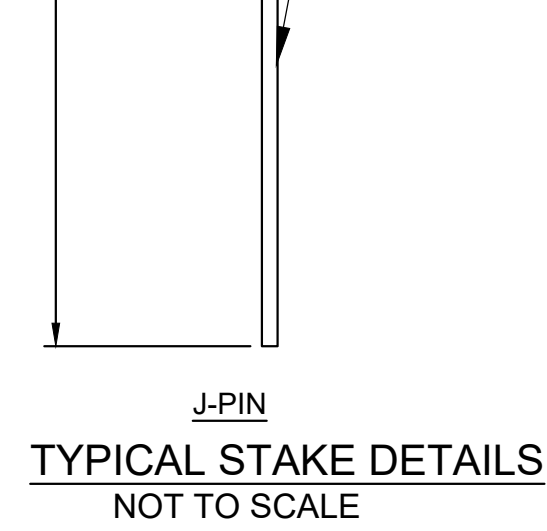
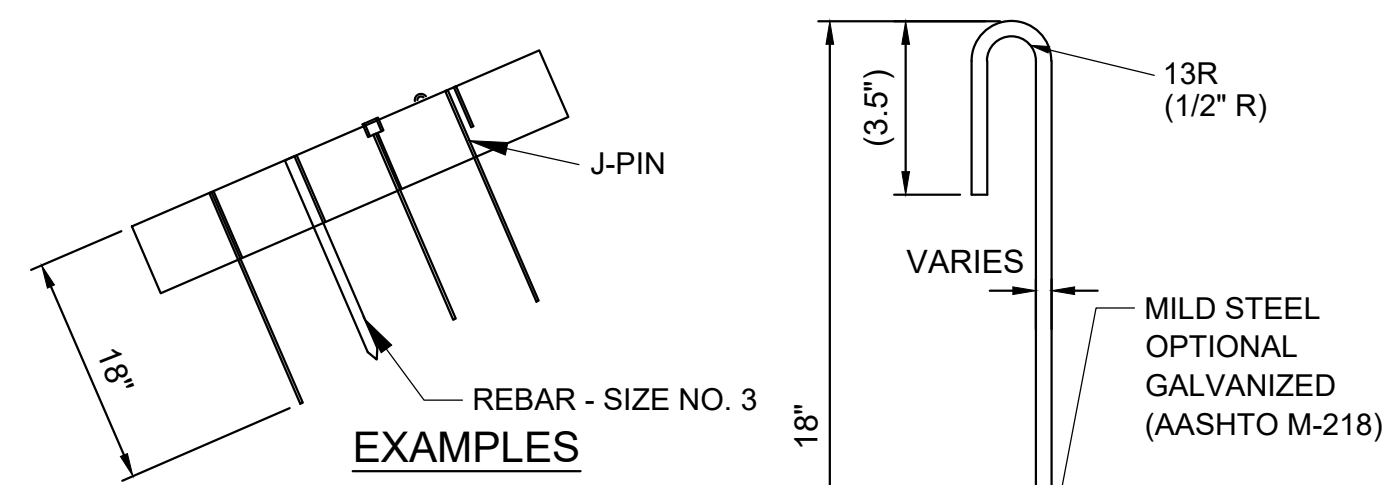
**AECOM**  
4 NORTH PARK DRIVE  
SUITE 300  
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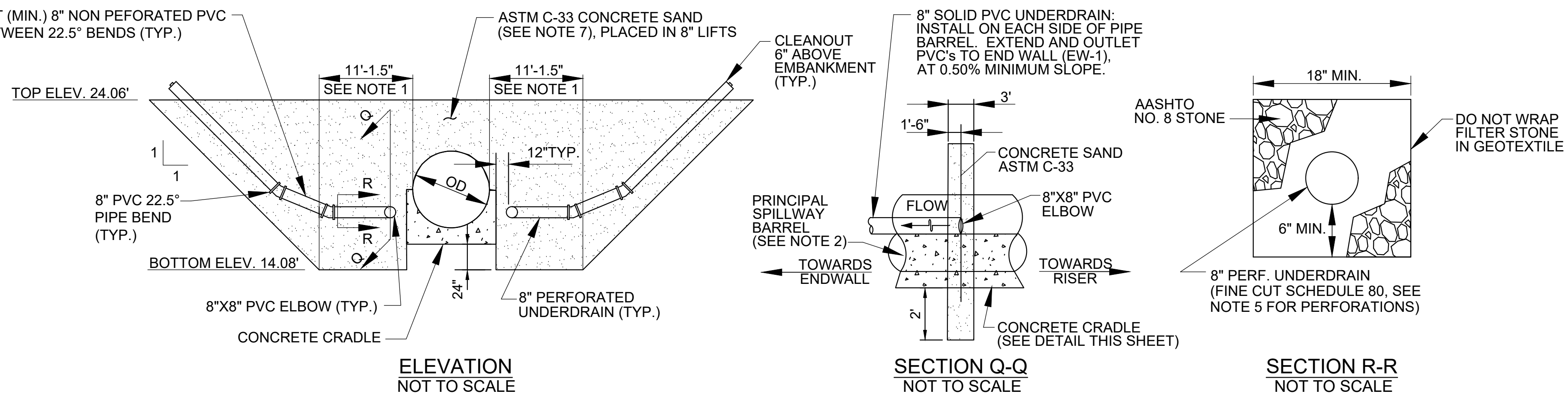
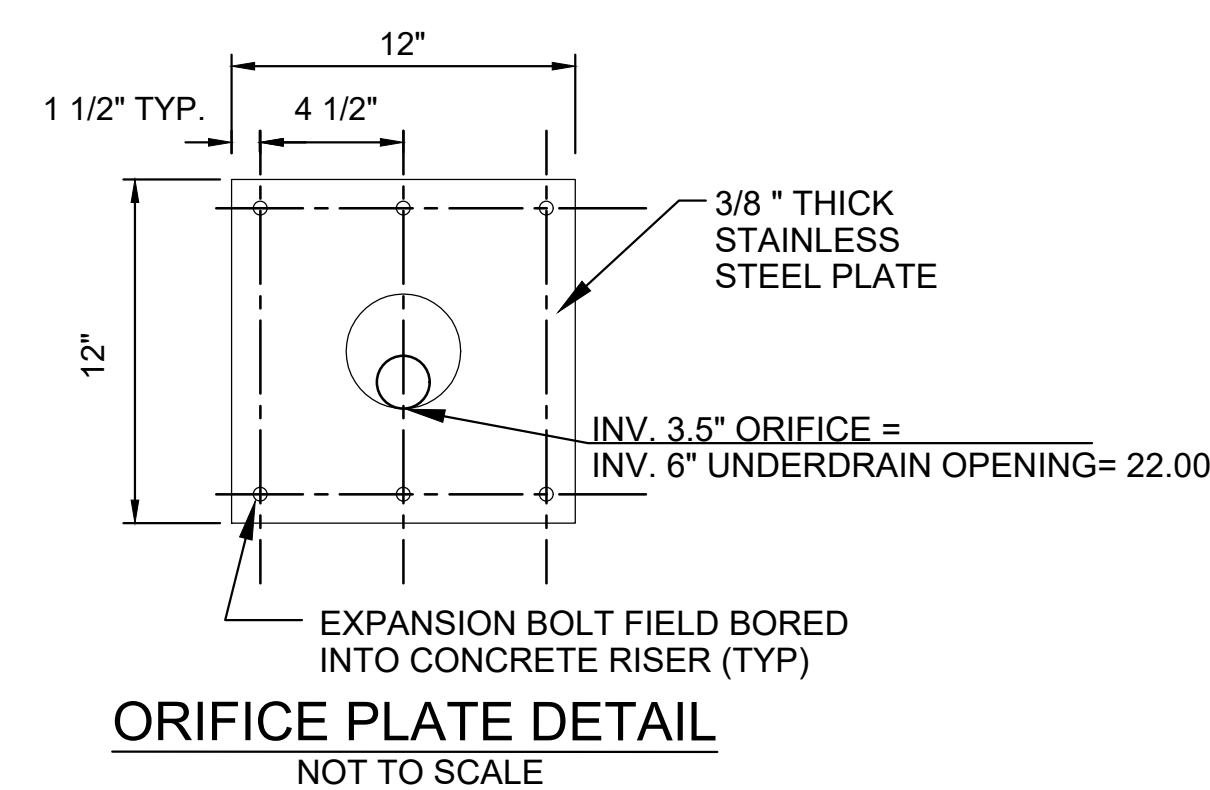
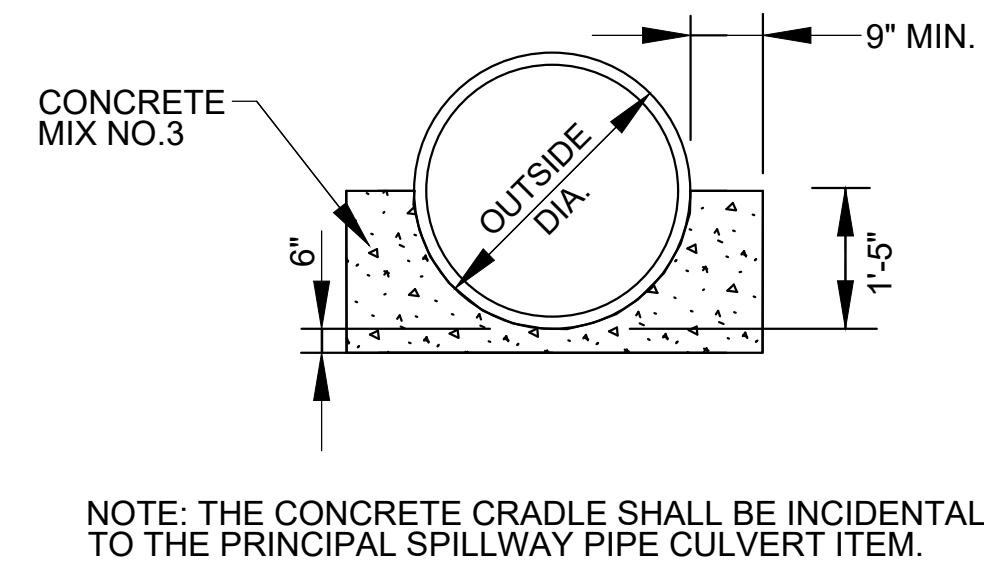
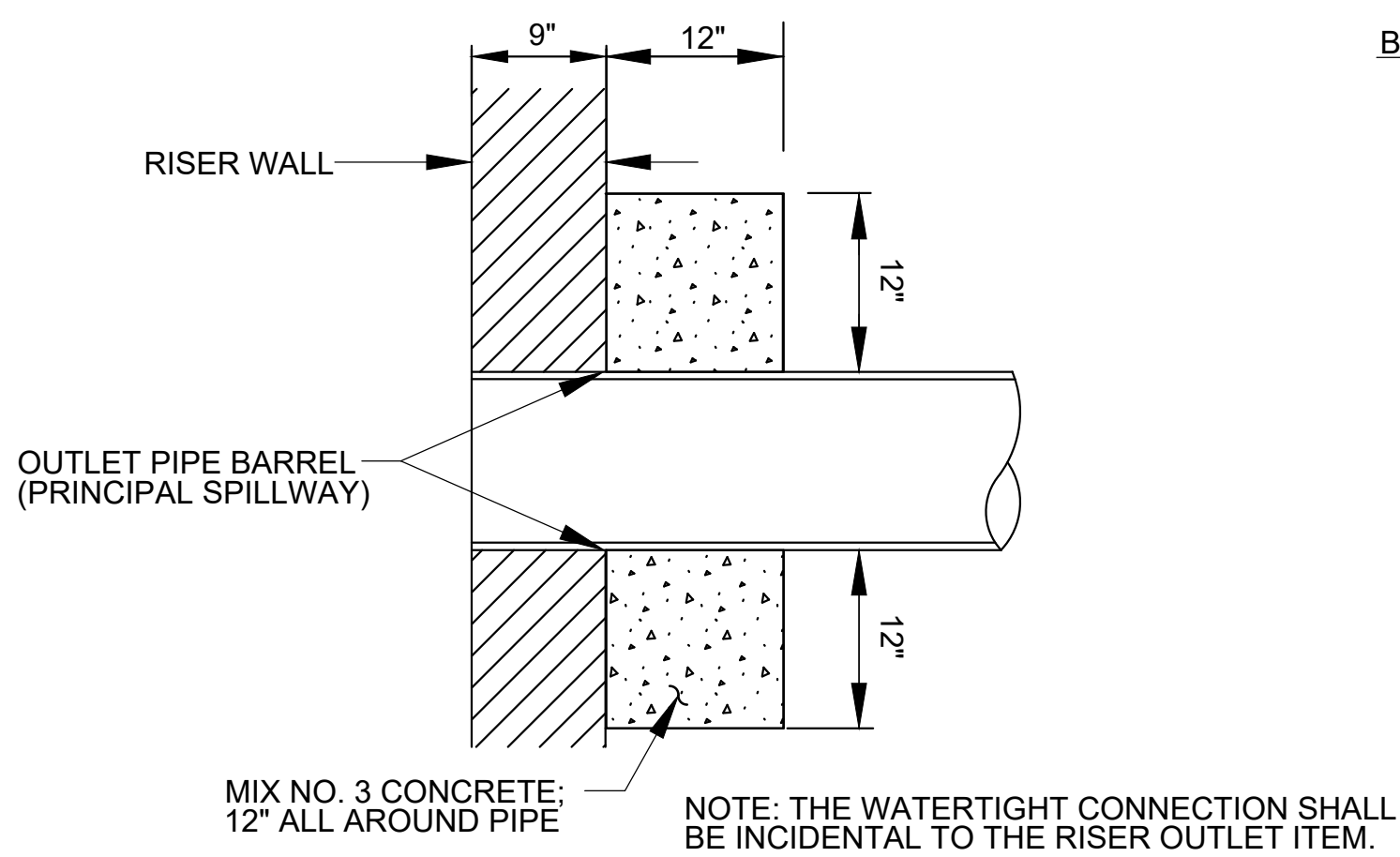
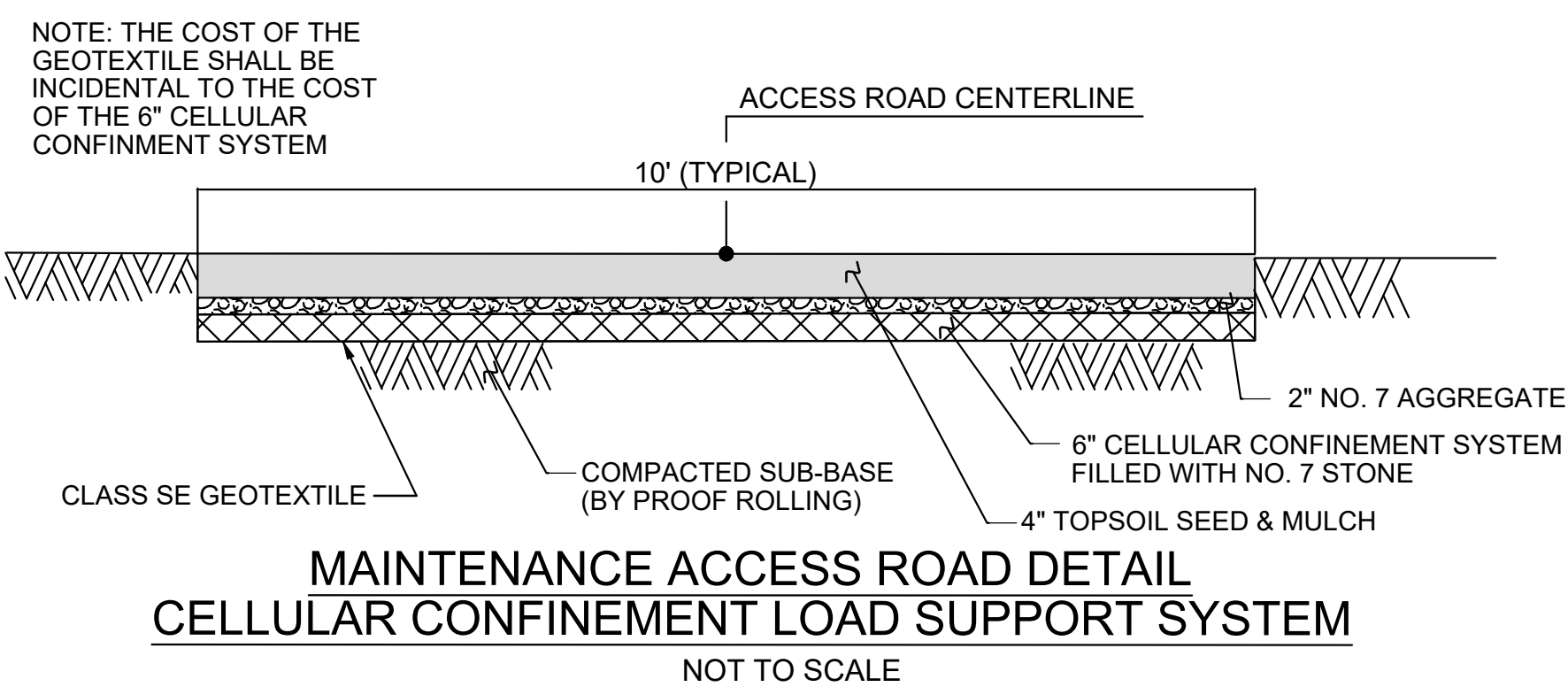


REVISIONS			
NO.	DESCRIPTION	BY	DATE

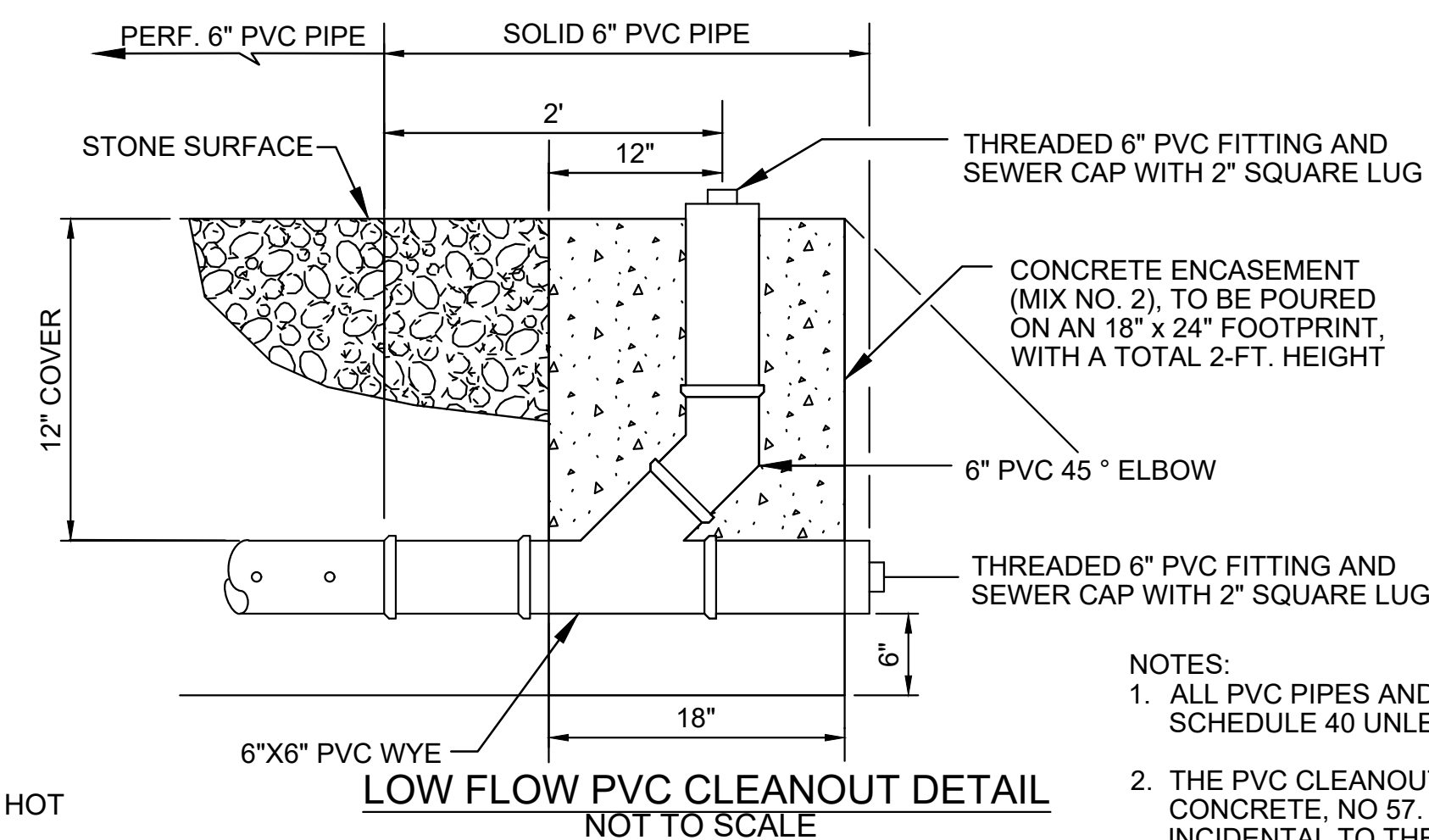
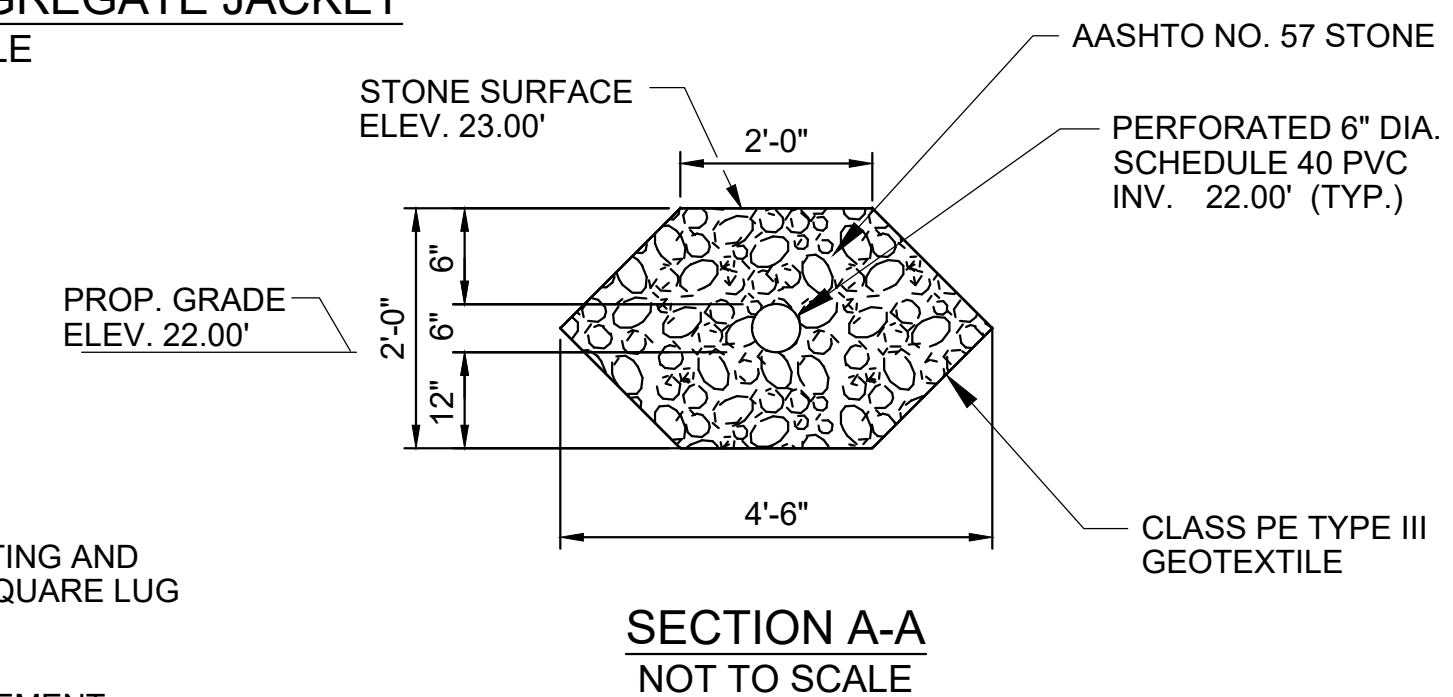
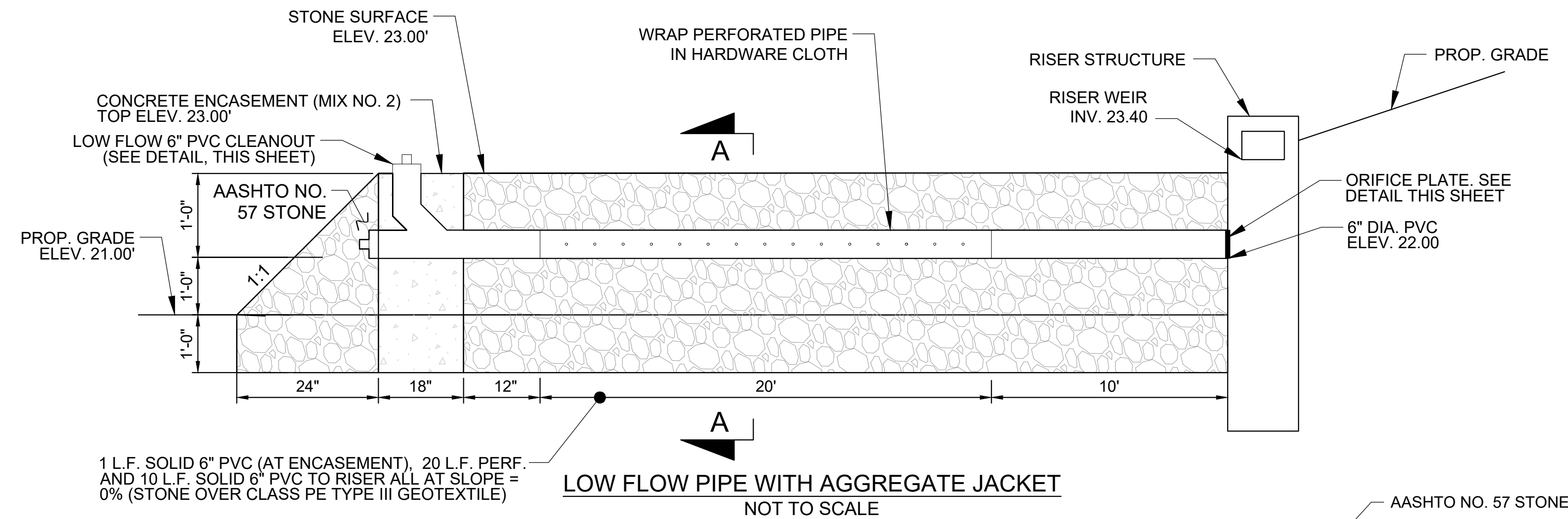
ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION
				DRAWN BY: DT	
				CHECKED BY: RK	
				SHEET NO. 15 OF 42	
				PROJECT NO. P509000	<b>STORMWATER MANAGEMENT NOTES &amp; DETAILS</b>
				CONTRACT NO. P509006	



**TYPICAL CELLULAR CONFINEMENT ANCHOR SYSTEM**  
NOT TO SCALE

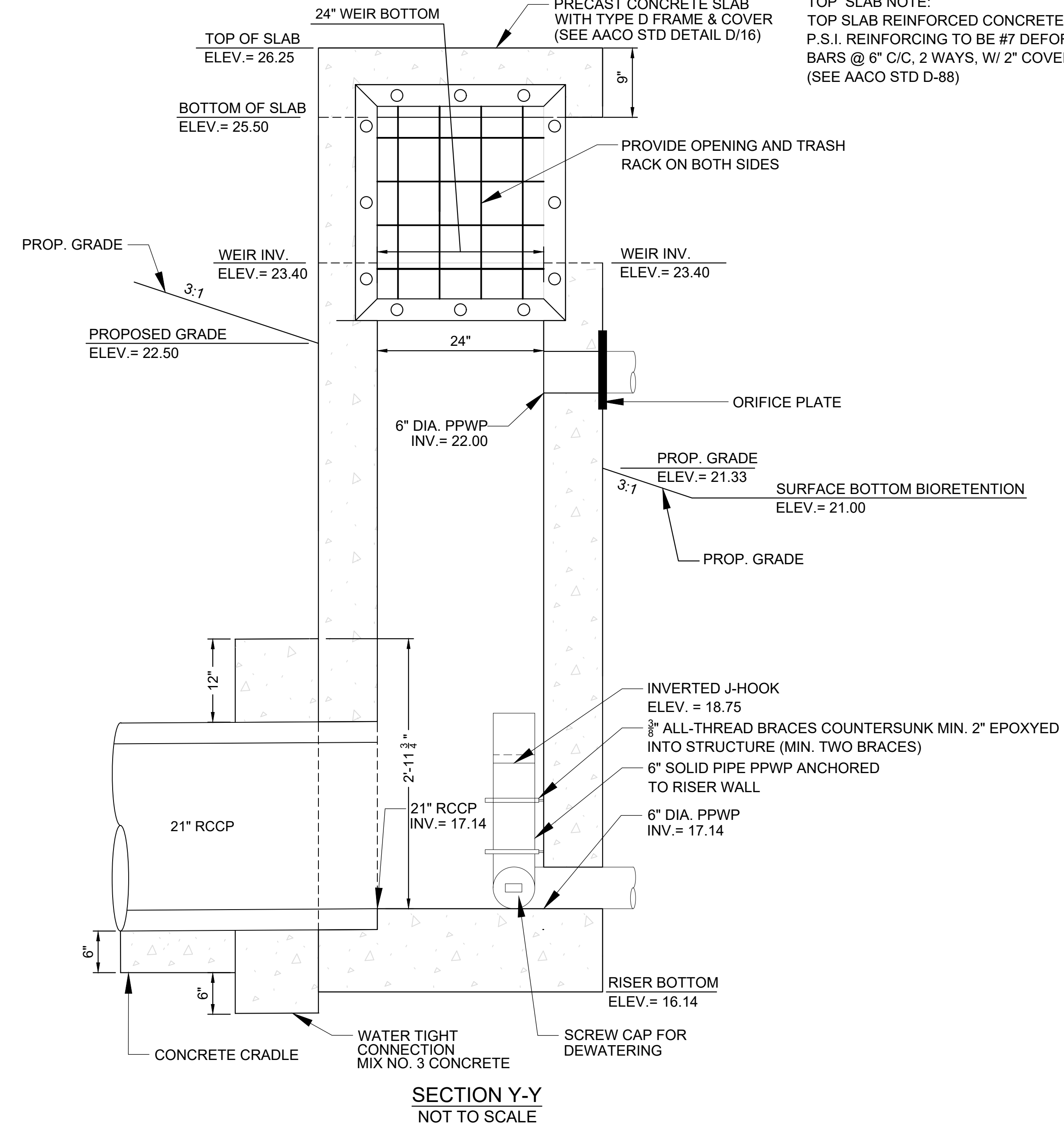
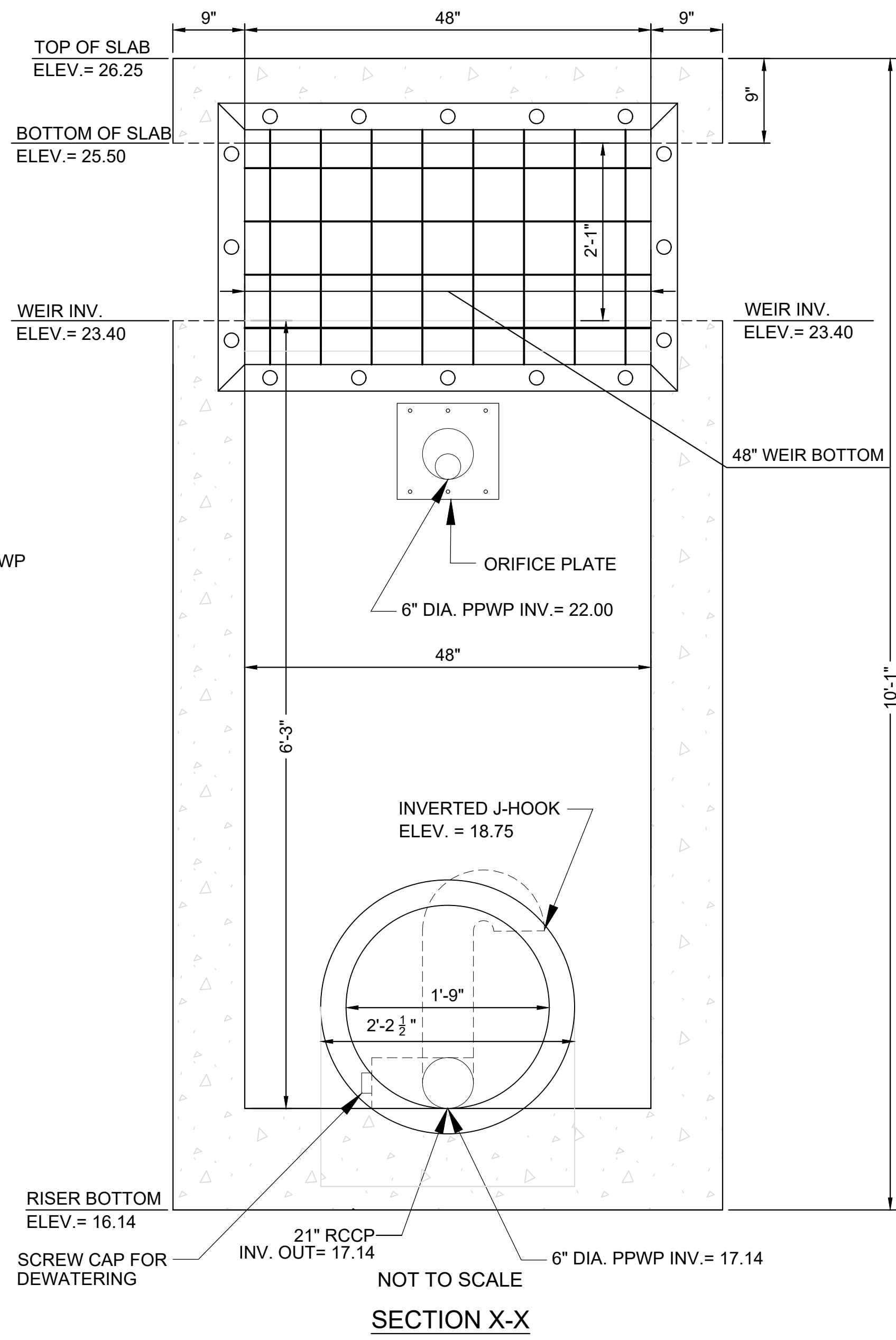
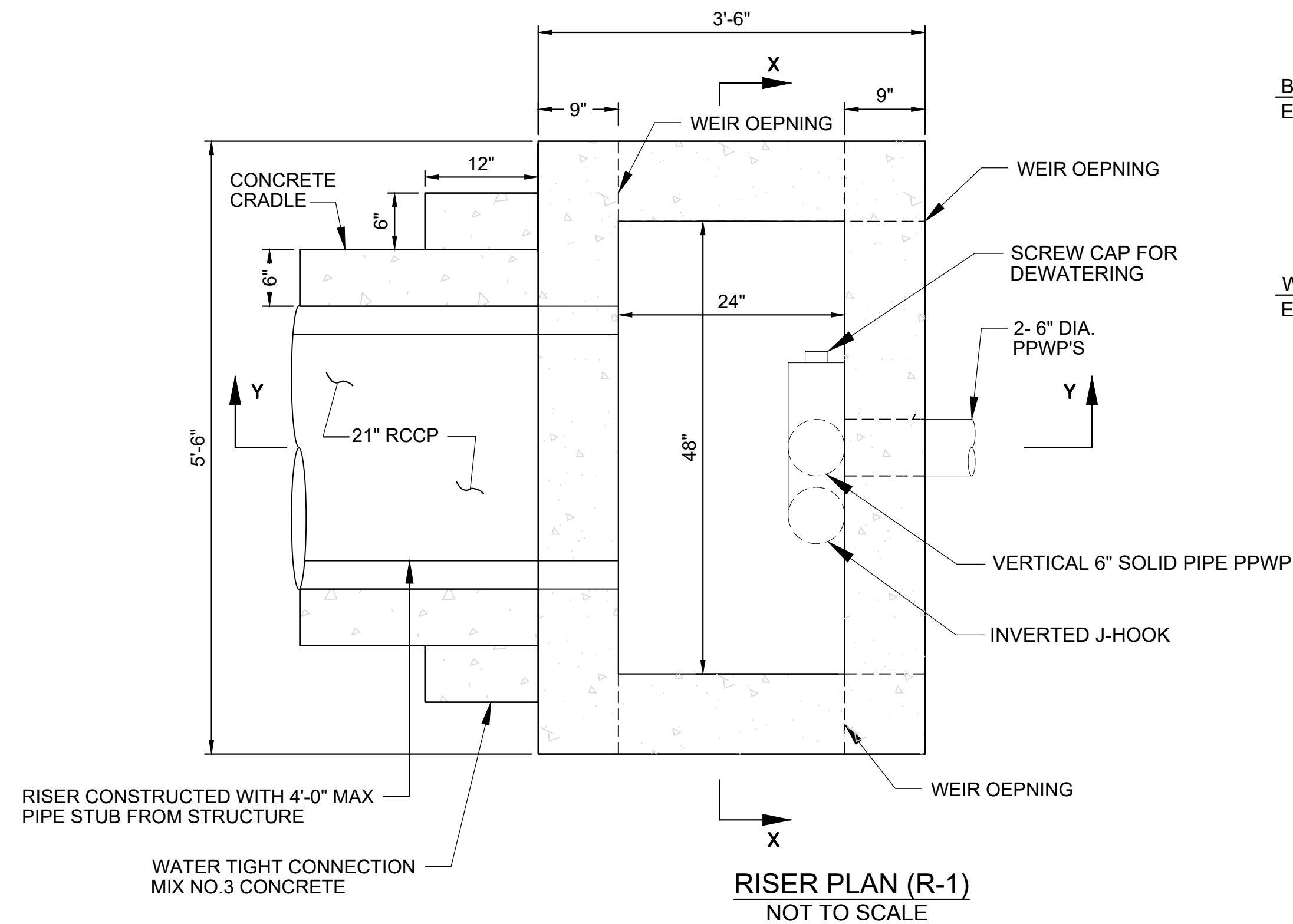


- FILTER DIAPHRAGM NOTES**
- (SEE ELEVATION VIEW) DISTANCE SHALL BE THE GREATER OF THE FOLLOWING: THREE TIMES OUTSIDE DIAMETER (6'-7.5") OR THREE TIMES THE WIDTH OF THE CONCRETE CRADLE (11'-1.5").
  - SEE PRINCIPAL SPILLWAY PROFILE FOR THE FILTER DIAPHRAGM LOCATION ALONG THE PIPE BARREL.
  - THE FILTER DIAPHRAGM AND UNDERDRAIN PIPES & CONNECTIONS SHALL BE INCIDENTAL TO R-1
  - ALL PVC PIPE SHALL BE SCHEDULE 80.
  - PERFORATIONS SHALL HAVE A DIAMETER OR SLOT WIDTH SMALLER THAN D50 SIZE OF GRAVEL.
  - PVC PIPE OUTLET INTO EW-1.
  - PRIOR TO CONSTRUCTION ADDITIONAL MATERIAL TESTING IS REQUIRED FOR THE SAND DIAPHRAGM. THE C-33 SANDS AND THE IN-SITU FILL MATERIALS SHALL BE TESTED TO DEMONSTRATE COMPATIBILITY USING PART 633 OF THE NATIONAL ENGINEERING MANUAL CHAPTER 26 GRADATION DESIGN OF SAND AND GRAVEL FILTERS.



<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 53587 EXPIRATION DATE: 12-09-2022</p> <p>10/26/2022</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				NO.	DESCRIPTION	BY	DATE																	<p>ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS</p> <table border="1"> <thead> <tr> <th>APPROVED</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> <th>SCALE: AS NOTED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>CHIEF ENGINEER</td> <td> </td> <td>PROJECT MANAGER</td> <td> </td> <td>DRAWN BY: DT</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CHECKED BY: RK</td> </tr> <tr> <td>APPROVED</td> <td> </td> <td>APPROVED</td> <td> </td> <td>SHEET NO. 16 OF 42</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>PROJECT NO. P509000</td> </tr> <tr> <td>ASSISTANT CHIEF ENGINEER</td> <td> </td> <td>CHIEF, RIGHT OF WAY</td> <td> </td> <td>CONTRACT NO. P509006</td> </tr> </tbody> </table>				APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED						CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT					CHECKED BY: RK	APPROVED		APPROVED		SHEET NO. 16 OF 42					PROJECT NO. P509000	ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P509006
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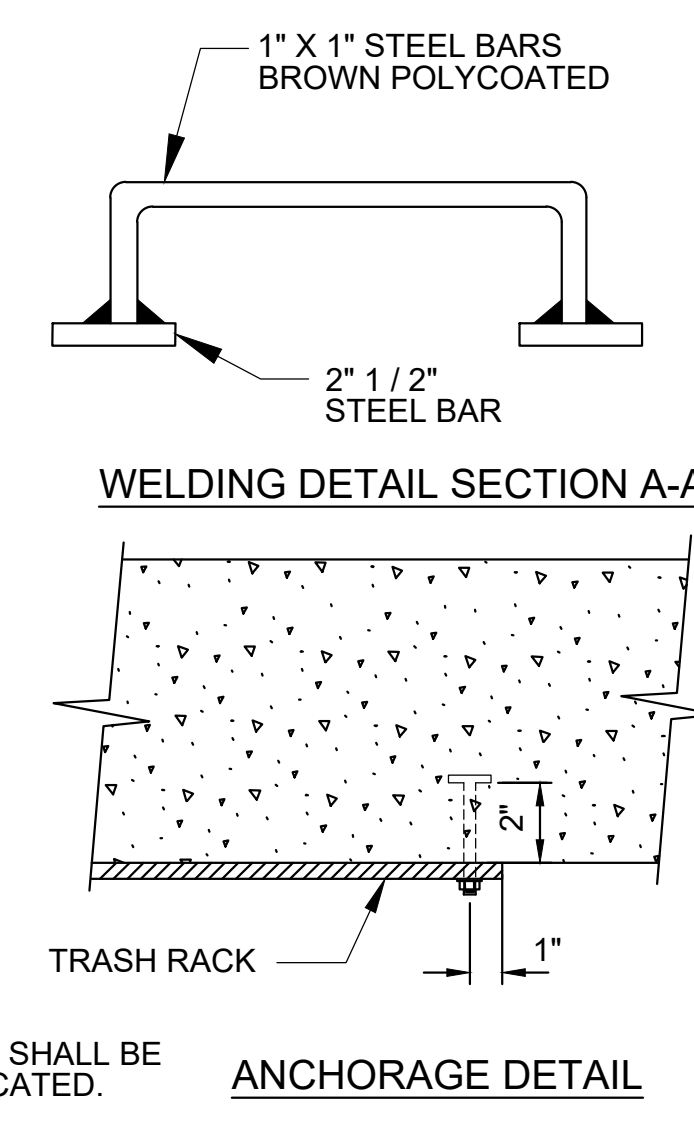
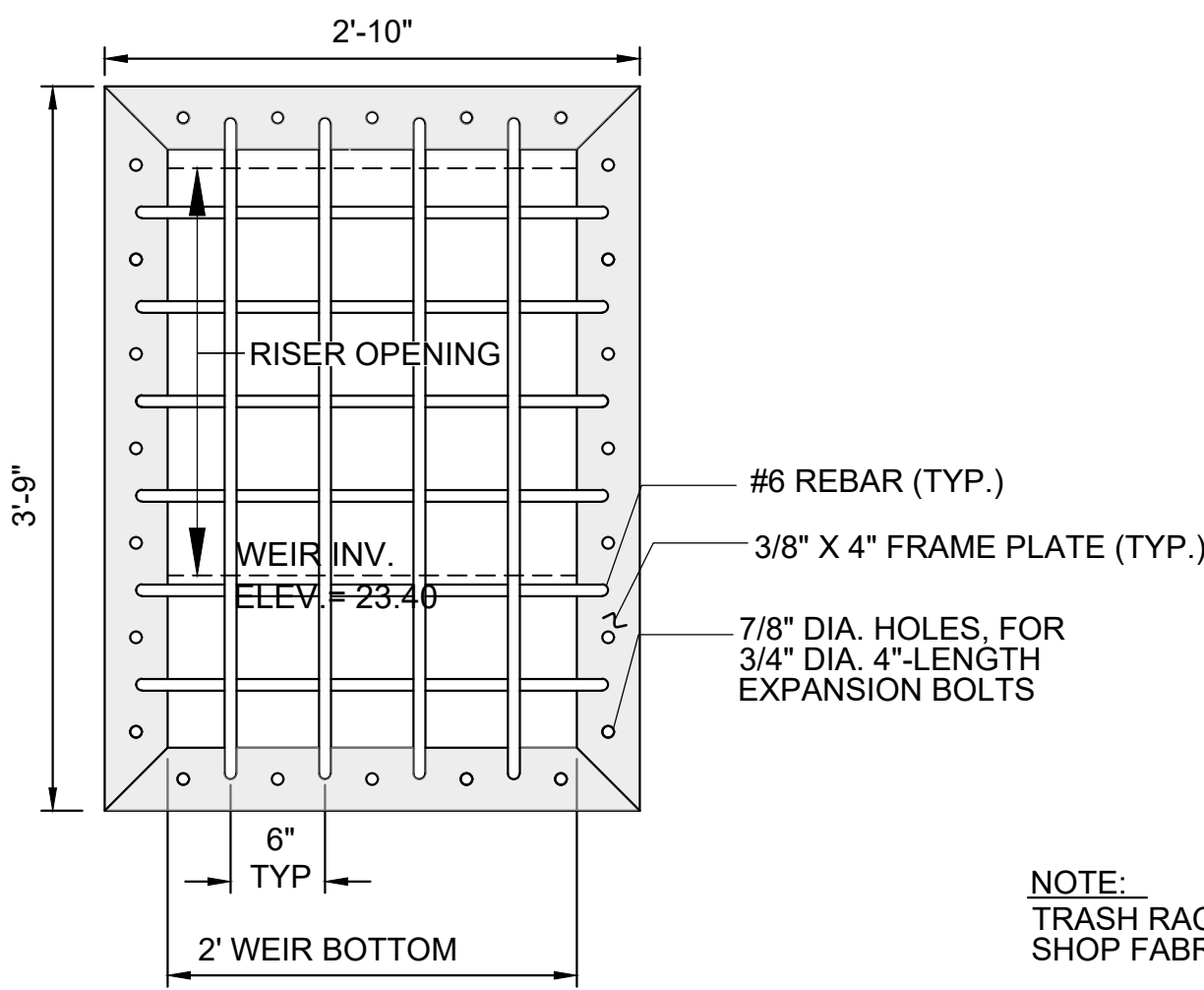
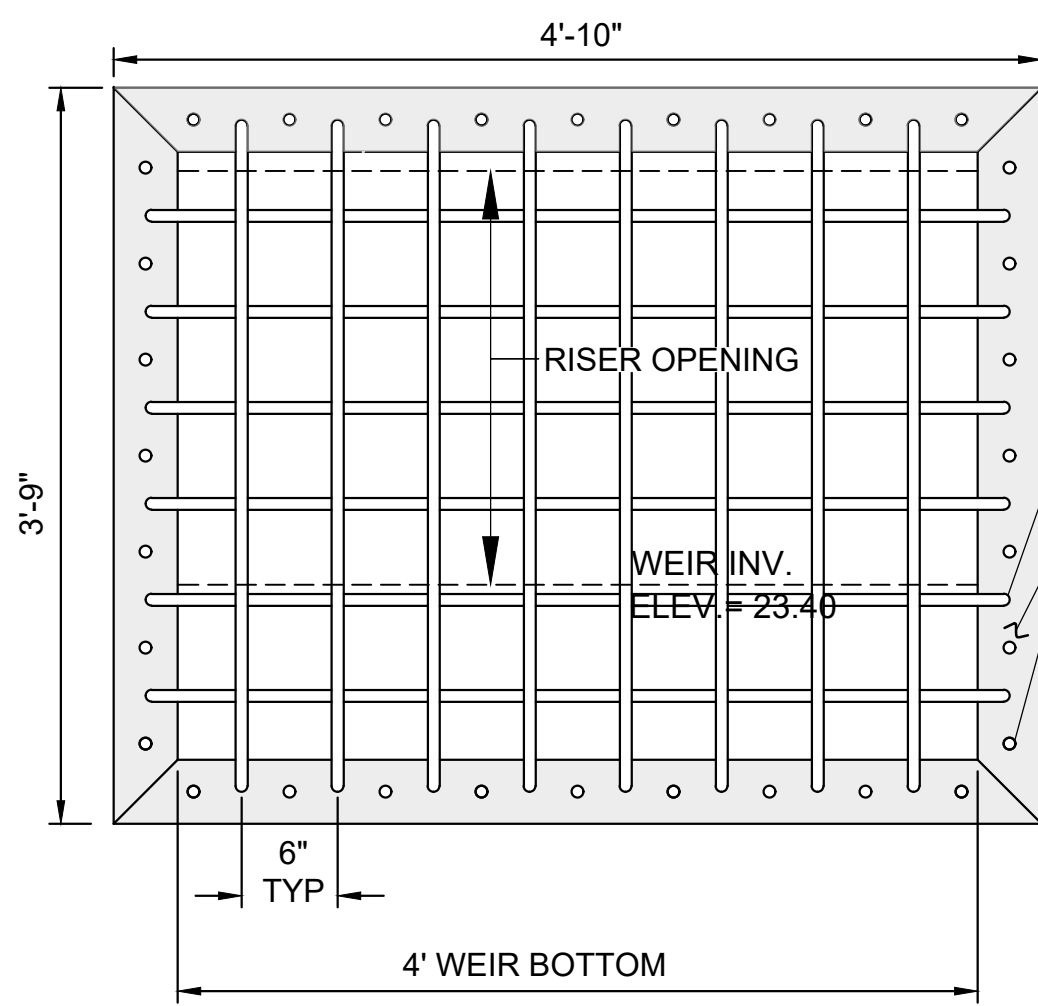
**TOP SLAB NOTE:**  
TOP SLAB REINFORCED CONCRETE 4,000 P.S.I. REINFORCING TO BE #7 DEFORMED BARS @ 6" C/C, 2 WAYS, W/ 2" COVER (SEE AACO STD D-88)

**RISER STRUCTURE GENERAL NOTES:**

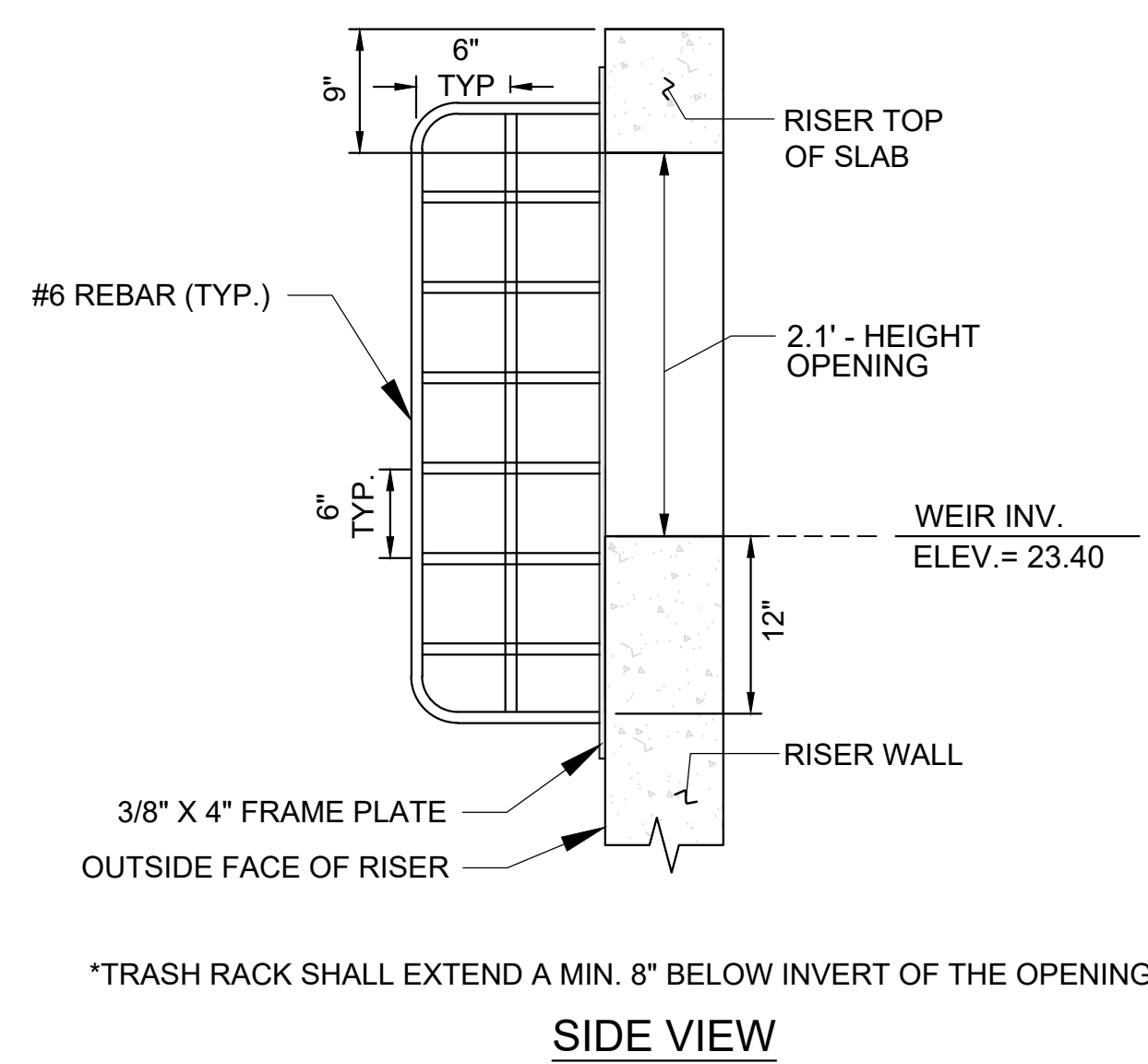
- RISER STRUCTURE MAY BE CAST-IN-PLACE OR PRECAST. AS A FIRST ORDER OF WORK, THE CONTRACTOR SHALL PROVIDE REINFORCING DESIGN CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY A MARYLAND LICENSED PROFESSIONAL ENGINEER TO THE ENGINEER FOR REVIEW AND APPROVAL. A MINIMUM OF 2" CLEAR COVER SHALL BE PROVIDED FOR ALL REINFORCEMENT. ALL CALCULATIONS AND SHOP DRAWINGS MUST BE APPROVED BY THE ENGINEER AND ACCEPTED BY THE OWNER PRIOR TO FABRICATION.
- CONCRETE FOR RISER STRUCTURES SHALL CONFORM TO MD SHA MIX NO. 6 EXCEPT FOR  $f_c=5,000$  psi @ 28 DAYS. RISER STRUCTURES SHALL BE DESIGNED BY SERVICE LOAD DESIGN STRESS METHOD,  $f_c=2,000$  PSI.
- REINFORCEMENT SHALL BE ASTM A-615, GRADE 60 REBAR,  $f_s=24,000$ .
- LAP SPLICE REINFORCEMENT SHALL MEET ACI - 318 REQUIREMENTS AND SHA STANDARD BAR LAP CHARTS.
- SHA MIX NO. 3 MISCELLANEOUS CONCRETE SHALL BE PLACED IN THE FIELD AND SHALL SLOPE TOWARD THE OUTLET.
- FOR PRECAST STRUCTURES, LIFT HOLES OR LIFT EYES SHALL BE PROVIDED FOR EACH RISER SECTION.
- STEPS TO BE COPOLYMER POLYPROPYLENE STEEL REINFORCED MEETING REQUIREMENTS OF ASTM D4101 ASTM C-478, AASHTO M-199 AND OSHA INSTRUCTION STD. 1-1.9. STEPS TO BE ALIGNED VERTICALLY AT A MAXIMUM DESIGN SPACING OF 12" C.C.
- PRECAST RISER JOINT-THE MANUFACTURER SHALL FORM TONGUE AND GROOVE ENDS OF JOINTS USING THEIR DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED SEALANT IN CONFORMANCE WITH APPROPRIATE ASTM & AASHTO SPECIFICATIONS.
- IF ANY DIMENSIONS ARE CHANGED OR REDUCED, REVISED ANTI-FLOTATION COMPUTATIONS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS TO THE ENGINEER AND THE OWNER FOR APPROVAL.
- THE ANNULAR SPACE BETWEEN THE RISER AND THE PIPES SHALL BE FILLED WITH NON-SHRINK GROUT.
- FOR ANY OTHER DETAILS, REFER TO SECTION 02530 (STORM DRAINAGE STRUCTURES) OF THE STANDARD SPECIFICATIONS, EXCEPT FOR MEASUREMENT AND PAYMENT, WHICH IS MODIFIED IN THE PAYMENT NOTE ON THIS SHEET.
- THE RISER STRUCTURES SHALL BE COLORED USING INTEGRAL COLORING AGENTS.
- THE COLOR SHALL BE DARK BROWN OR GRAY TO MATCH FEDERAL STANDARD 595B COLORS 30277, 31219, 30145 OR VERY SIMILAR.
- IF THE RISER IS CONSTRUCTED AS STACKING SEGMENTS, A GALVANIZED STRAP BOLTED TO THE TOP AND BOTTOM SECTION OF THE RISER SHALL BE USED ON OPPOSITE WALLS TO PREVENT SEPARATION. THE JOINTS SHALL BE SEALED BY CONTRACTOR AND MADE WATERTIGHT USING MANUFACTURER'S RECOMMENDED SEALANT IN CONFORMANCE WITH APPROPRIATE ASTM & AASHTO SPECIFICATIONS DETAIL SHALL BE PROVIDED IN SHOP DRAWINGS.
- TRASH RACKS SHALL BE ATTACHED TO RISER WITH GALVANIZED 4" X 1/2" DIA. EXPANSION ANCHORS WHICH MEET A510.

**PAYMENT NOTE:**  
COST OF ALL CONCRETE, REINFORCEMENT, JOINT MATERIAL, 6" PPWP PIPE, #57 STONE, COLLARS, TRASH RACK, VALVE, LADDER RUNGS, EXCAVATION, BACKFILL, COMPACTION, LABOR, TOOLS, EQUIPMENT, AND ALL INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR THE PERTINENT RISER STRUCTURE ITEM.

- NOTES:**
- ALL TRASH RACKS SHALL BE HOT DIPPED GALVANIZED.
  - ALL MATERIALS AND PRINCIPAL COMPONENTS FOR THE POND MUST BE ON SITE PRIOR TO WORK COMMENCING.



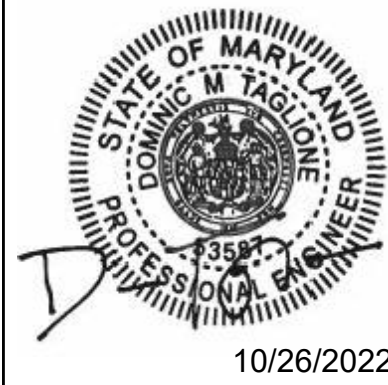
**NOTE:**  
TRASH RACK SHALL BE SHOP FABRICATED.



\*TRASH RACK SHALL EXTEND A MIN. 8" BELOW INVERT OF THE OPENING

**AECOM**  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

**PROFESSIONAL CERTIFICATION**  
"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."  
MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY				DEPARTMENT OF PUBLIC WORKS	
APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT	
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ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 17 OF 42	<b>STORMWATER MANAGEMENT NOTES &amp; DETAILS</b>
				PROJECT NO. P509000	
				CONTRACT NO. P509006	

MD-378 CONSTRUCTION SPECIFICATIONS (BIORETENTION FACILITY)

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

STIE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER.

WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.

NOTE: PERMEABLE SOIL AND THE BOTTOM OF THE BIORETENTION STRUCTURE ARE EXCLUDED FROM COMPACTION SPECIFICATION.

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS.

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED.

FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- 1. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE.

MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

- 2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE.

- 3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH.

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

- 4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

- 5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- 6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

- 1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
- 2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING / CRADLE FOR THEIR ENTIRE LENGTH.
- 3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL.
- 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

- 1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.
- 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
- 3. BEDDING -THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
- 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

DRAINAGE DIAPHRAGMS - WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

CONCRETE - CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP - ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS.

STABILIZATION ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

Note: This form is to be used for NRCS Class "a" ponds only. Other ponds require a permit from Maryland Department of the Environment, Dam Safety Division.

PROJECT INFORMATION Peninsula Park Expansion MARYLAND COORDINATES (to nearest 1000 feet) East 1,459,426 North 465,392 County Anne Arundel County ADC Map/Grid 26 / A3

OWNER INFORMATION Anne Arundel County Department of Recreation and Parks Address: 1 Harry S Truman Parkway Annapolis, MD 21401 TYPE OF POND: Excavated, Embankment, Both

PURPOSE OF POND (Check all that apply) Stormwater Management-Wet, Stormwater Management-Dry, Infiltration/Water Quality, Water Supply/Irrigation, Sand & Gravel Wash Pond, Sediment Control, Livestock, Flood Control, Recreation, Borrow Material, Wetland Mitigation, Wildlife/Fish, Fire Control, Other (Specify below): Bioretention

Table with 2 columns: EMBANKMENT (Top Elevation, Normal Pool Elevation, DHW Water Elevation) and Maximum Fill Height (Top Width, Side Slopes, D.S.).

Will embankment serve as public roadway? Yes, No

PRINCIPAL SPILLWAY Barrel Size: 21 Inches, Design Capacity at DHW: 30.1 cfs, EMBANKMENT EMERGENCY SPILLWAY ("Token") Velocity: 0.0 Ft/sec, Design Capacity at DHW: 0.0 cfs

DISTANCES BELOW POND TO Property Line: 65 Feet, Public Road: 85 Feet

SMALL POND APPROVAL LETTER

As authorized by the Annotated Code of Maryland, Environment, Article 5-503, the Anne Arundel Soil Conservation (AASCD) hereby approves the plans and specifications for SMALL POND NUMBER To Be Assigned located at Maryland Coordinates 465,392 feet north and 1,459,426 feet east.

A. This approval is issued under the following conditions. Failure to comply with these conditions will constitute grounds for withdrawal of our approval and notification to MDE Dam Safety.

- 1. The approval is valid only for use by the developer/owner and may not be transferred to another unless written permission for such transfer is obtained from the AASCD.
- 2. The approval shall become null and void if the construction under the approval has not begun one year from the date of the approval and completed within eight (8) months after start of construction, except that these limits may be extended at the discretion of the AASCD.
- 3. Construction shall be in strict accordance with NRCS criteria for pond construction and the terms of this approval.
- 4. The pond shall be constructed under the supervision of a registered professional engineer.
- 5. The pond construction shall at all times be in full conformance with Anne Arundel County/City of Annapolis and MDE Code.

B. ACCEPTANCE

- 1. This approval and its conditions are accepted.
- 2. Permission is hereby granted to representatives of the AASCD to enter in or upon the subject premises at any reasonable time for the purpose of observing construction progress, reviewing the completed structure, and insuring adequate maintenance and repair of the completed structure.

Accepted by: (Developer/Owner's Signature) Engineer 3 12/7/2021 (Title) (Date)

Print/Type Name: Kyle Autry Firm: AAcO Department of Public Works Address: 2662 Riva Road, MS-7301 Annapolis, MD 21401

Approval stamp area including AECOM logo, PROFESSIONAL CERTIFICATION (Dominic Lagtane, 10/26/2022), REVISIONS table, ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, and PENINSULA PARK EXPANSION STORMWATER MANAGEMENT NOTES & DETAILS.

**B.3.B Specifications for Bioretention**

**1. Material Specifications**

The allowable materials to be used in bioretention area are detailed in Table B.3.2.

**2. Planting Soil**

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4% (by weight)
magnesium	35 lb./ac
phosphorus (phosphate - P <sub>2</sub> O <sub>5</sub> )	75 lb./ac
potassium (potash - K <sub>2</sub> O)	85 lb./ac
soluble salts	not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the top soil was excavated.

Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

**3. Compaction**

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention

B.3.4

Appendix B.3. Construction Specifications for Sand Filters, Bioretention and Open Channels

areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

**4. Plant Material**

Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.

**5. Plant Installation**

Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

B.3.5

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

**6. Underdrains**

Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

**7. Miscellaneous**

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

Table B.3.2 Materials Specifications for Bioretention

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
planting soil [2.5' to 4' deep]	sand 35 - 60% silt 30 - 55% clay 10 - 25%	n/a	USDA soil types loamy sand, sandy loam or loam
mulch	shredded hardwood		aged 6 months, minimum
pea gravel diaphragm and curtain drain	pea gravel: ASTM-D-448 ornamental stone: washed cobbles	pea gravel: No. 6 stone: 2" to 5"	
geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4259)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.375" to 0.75"	
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes
poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
sand [1' deep]	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

B.3.7

Appendix B.3. Construction Specifications for Sand Filters, Bioretention and Open Channels

**BIORETENTION STRUCTURE INSPECTION SCHEDULE**

1. THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF INSPECTION AND PERMITS AT (410)-222-7780, AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION OF THE STORMWATER MANAGEMENT STRUCTURES AND PRACTICES.
2. PRIOR NOTIFICATION SHALL BE GIVEN TO THE CERTIFYING ENGINEER SO THAT INSPECTIONS MAY BE MADE AT THE FOLLOWING STAGES
  - a. UPON COMPLETION OF EXCAVATION TO THE SUBFOUNDATION AND WHERE REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO: INLET/OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES, WATERTIGHT CONNECTORS ON PIPES; AND TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES
  - b. DURING PLACEMENT OF THE REINFORCING AND CONCRETE, STONE, FILTER FABRIC, FOOTPLATE, PERFORATED AND NONPERFORATED PIPE, AND PERMEABLE SOIL
  - c. DURING BACKFILL OF FOUNDATIONS AND TRENCHES
  - d. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION
3. A COPY OF ALL MATERIAL SUPPLY TICKETS MUST BE GIVEN TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILTS.

**BIORETENTION (F-6) OPERATION AND MAINTENANCE SCHEDULE**

1. THE TOP FEW INCHES OF FILTER MEDIA (MULCH LAYER) SHOULD BE INSPECTED EACH SPRING. ONCE EVERY 2 TO 3 YEARS, REMOVE PREVIOUS MULCH LAYER AND APPLY NEW 2 TO 3 INCH MULCH LAYER.
2. SILTS AND SEDIMENT SHOULD BE REMOVED FROM THE SURFACE OF THE FILTER BED WHEN ACCUMULATION EXCEEDS ONE (1) INCH. CHECK FOR DEWATERING WITHIN 48 HOURS..
3. PLANT INSPECTION SHALL BE SCHEDULED TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL AND REPLACEMENT OF DEAD, DISEASED AND EXCESSIVE VEGETATION CONSIDERED BEYOND TREATMENT. TREE STAKES AND WIRES SHALL BE REMOVED AFTER TREES HAVE BECOME ESTABLISHED. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.
4. SOIL EROSION AND FLOW BLOCKAGES TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORMS INSPECTIONS. INSPECT CLEAN OUTS AND OBSERVATION WELLS ALONG WITH OVERFLOW INLETS AND OUTFALL/EXIT PIPES AT LEAST ONCE A MONTH AND AFTER HEAVY STORMS.

**BIORETENTION LANDSCAPE GUIDELINES**

**SOIL BED CHARACTERISTICS**

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER CROP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUGWORT, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12' TO 18' LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN SECTION B.3.B THIS SHEET.

**MULCH LAYER**

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINER SEDIMENTS WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

**PLANTING GUIDANCE**

PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DIVERSE, DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE.

THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRYER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM WHICH RESEMBLES A RANDOM AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETA&B, 1993 OR CLAYTOR AND SCHUELER, 1997.

**ANNE ARUNDEL COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS**  
**BMP GROUP 4 - STORMWATER FILTERING SYSTEMS CONSTRUCTION INSPECTION CHECKLIST**

AASCD NAME: PENINSULA PARK EXPANSION LOCATION: ANNAPOLIS, MD  
 GP #: G02019203 AASCD #: 2021-0633 SWM #: TBA TYPE OF SYSTEM: BIORETENTION



PHASE	DATE*	INITIALS	REMARKS - Description of Actions Taken
1. EXCAVATION: A. Size and Location B. Side Slope Stability C. Soil Permeability D. Groundwater/Bedrock E. Setbacks Per Design Manual			
2. FILTER FABRIC: A. Fabric Specifications B. Sides & Top (Infiltration) C. Sides, Top, Bottom (Attenuation)			
3. AGGREGATE MATERIAL: A. Size B. Placement			
4. LEADERS & CLEANOUTS: A. Inlet Pipe B. Surcharge Pipe(s) C. Pipe Size and Type D. Outlet Pipe			
5. FILTER MEDIA SAND GRAVEL:			
6. OUTLET / INLET STRUCTURE: A. Inverts and Elevations B. Receives Designed Drainage Area C. Access Grates			
7. SURFACE LAYER: A. Shrubs B. Trees C. Grasses			

I HEREBY CERTIFY THAT I PERSONALLY REVIEWED OR A PERSON UNDER MY DIRECT SUPERVISION PROVIDED THE INFORMATION REPORTED ON THIS CHECKLIST AND TO THE BEST OF MY KNOWLEDGE DO HEREBY INSURE THAT THE SUBMITTAL IS COMPLETE AND ACCURATE.

\* DATE REFLECTS CONTRACTOR/ENGINEER PHOTO DATES OF SITE VISIT.

PROFESSIONAL ENGINEER SIGNATURE: \_\_\_\_\_ SEAL \_\_\_\_\_ DATE \_\_\_\_\_

GP# G02019203 DWG. NO.: SWM-06

 <p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>* I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.</p> <p>MD LICENSE NUMBER: 53587 EXPIRATION DATE: 12-09-2022</p>	 <p>10/26/2022</p>	<p style="text-align: center;">REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				NO.	DESCRIPTION	BY	DATE																																							<p>ANNE ARUNDEL COUNTY</p> <p>DEPARTMENT OF PUBLIC WORKS</p>			
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			APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION																																												
			CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT CHECKED BY: RK																																													
			APPROVED	DATE	APPROVED	DATE	SHEET NO. 19 OF 42	<b>STORMWATER MANAGEMENT NOTES &amp; DETAILS</b>																																												
			ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		PROJECT NO. P509000 CONTRACT NO. P509006																																													



POI	Existing Conditions		
	1-Year (cfs)	10-Year (cfs)	100-Year (cfs)
POI 1	1.16	3.38	5.54
POI 2	5.20	18.06	30.68
LOI 3	0.25	0.82	1.39
LOI 4	0.14	0.55	0.97
POI 5	3.23	11.87	20.53
POI 6	2.56	9.25	15.89
LOI 7	0.88	3.31	5.75
LOI 8	0.08	0.31	0.53

EXISTING CONDITIONS DRAINAGE AREA SUMMARY			
POI / LOI	DRAINAGE AREA (AC)	RCN	T <sub>c</sub> (HR)
1	0.77	81	0.16
2	4.49	76	0.12
3	0.20	77	0.12
4	0.15	73	0.10
5	3.44	74	0.18
6	2.30	75	0.10
7	0.85	74	0.10
8	0.08	74	0.13

**LEGEND**

- PROPERTY LINE
- - - FENCE
- TREELINE
- WUS WATERS OF THE US
- CHESAPEAKE BAY CRITICAL AREA
- WETLAND BOUNDARY
- WB 25' WETLAND BUFFER
- - - CONTOUR
- DnB SOILS BOUNDARY
- AoC STORMDRAIN

SPECIMEN TREE WITH CRZ: 1" DBH = 1.5' RADIUS CRZ

STEEP SLOPES 15-25%

STEEP SLOPES >25%

RIP RAP

DRAINAGE AREA DIVIDE

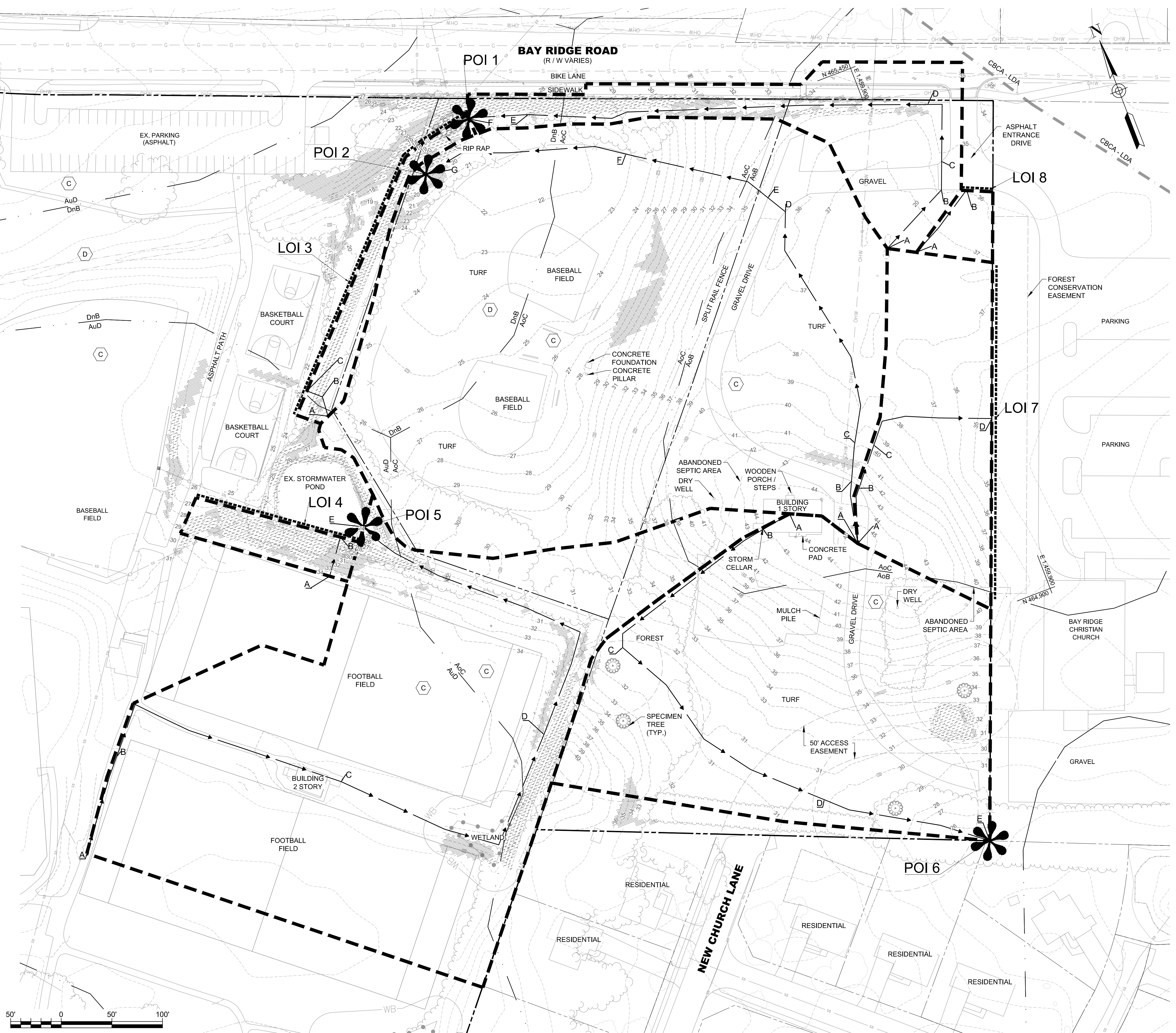
TIME OF CONCENTRATION (T<sub>c</sub>) PATH

POI POINT OF INVESTIGATION (POI)

LOI LINE OF INVESTIGATION (LOI)

C HYDROLOGIC SOIL GROUP

SOILS TABLE			
MAP UNIT	MAP UNIT NAME	SLOPES	HYDROLOGIC SOIL GROUP
AoB	Annapolis Loamy Sand	2 TO 5% SLOPES	C
AoC	Annapolis Loamy Sand	5 TO 10% SLOPES	C
AuB	Annapolis-Urban Land Complex	0 TO 5% SLOPES	C
AuD	Annapolis-Urban Land Complex	5 TO 10% SLOPES	C
DnB	Donlonton Fine Sandy Loam	2 TO 5% SLOPES	D
DuB	Donlonton-Urban Land Complex	0 TO 5% SLOPES	D



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4 NORTH PARK DRIVE  
SUITE 300  
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"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."  
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EXPIRATION DATE: 12-09-2022



10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE

GP# G02019203 DWG. NO.: DA-01

SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 21 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

**EXISTING DRAINAGE AREA**

POI	Proposed Conditions		
	1-Year (cfs)	10-Year (cfs)	100-Year (cfs)
POI 1	0.06	0.18	0.29
POI 2	0.60	17.80	30.20
LOI 3	0.29	0.93	1.55
LOI 4	0.22	0.67	1.11
POI 5	2.78	9.82	16.84
POI 6	1.30	4.90	8.51
LOI 7	0.09	0.35	0.61
LOI 8	0.01	0.15	0.26

\*NOTE POI 2 IS THE DESIGN DISCHARGE FROM TR-20 FOR THE BIORETENTION FACILITY 21" RCP

PROPOSED CONDITIONS DRAINAGE AREA SUMMARY			
POI / LOI	DRAINAGE AREA (AC)	RCN	T <sub>c</sub> (HR)
1	0.04	79	0.10
2	7.69	80	0.29
3	0.40	77	0.13
4	0.15	79	0.10
5	2.61	75	0.16
6	1.26	74	0.10
7	0.09	74	0.10
8	0.05	74	0.10

- LEGEND**
- PROPERTY LINE
  - - - FENCE
  - TREELINE
  - WUS WATERS OF THE US
  - CHESAPEAKE BAY CRITICAL AREA
  - WETLAND BOUNDARY
  - WB 25' WETLAND BUFFER
  - 20' CONTOUR
  - DnB SOILS BOUNDARY
  - AoC SOILS BOUNDARY
  - STORMDRAIN
  - SPECIMEN TREE WITH CRZ: 1" DBH = 1.5" RADIUS CRZ
  - STEEP SLOPES 15-25%
  - STEEP SLOPES >25%
  - RIP RAP
  - DRAINAGE AREA DIVIDE
  - TIME OF CONCENTRATION (T<sub>c</sub>) PATH
  - POI POINT OF INVESTIGATION (POI)
  - LOI LINE OF INVESTIGATION (LOI)
  - C HYDROLOGIC SOIL GROUP

SOILS TABLE			
MAP UNIT	MAP UNIT NAME	SLOPES	HYDROLOGIC SOIL GROUP
AoB	Annapolis Loamy Sand	2 TO 5% SLOPES	C
AoC	Annapolis Loamy Sand	5 TO 10% SLOPES	C
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AuD	Annapolis-Urban Land Complex	5 TO 10% SLOPES	C
DnB	Donlonton Fine Sandy Loam	2 TO 5% SLOPES	D
DuB	Donlonton-Urban Land Complex	0 TO 5% SLOPES	D



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APPROVED	DATE	APPROVED	DATE

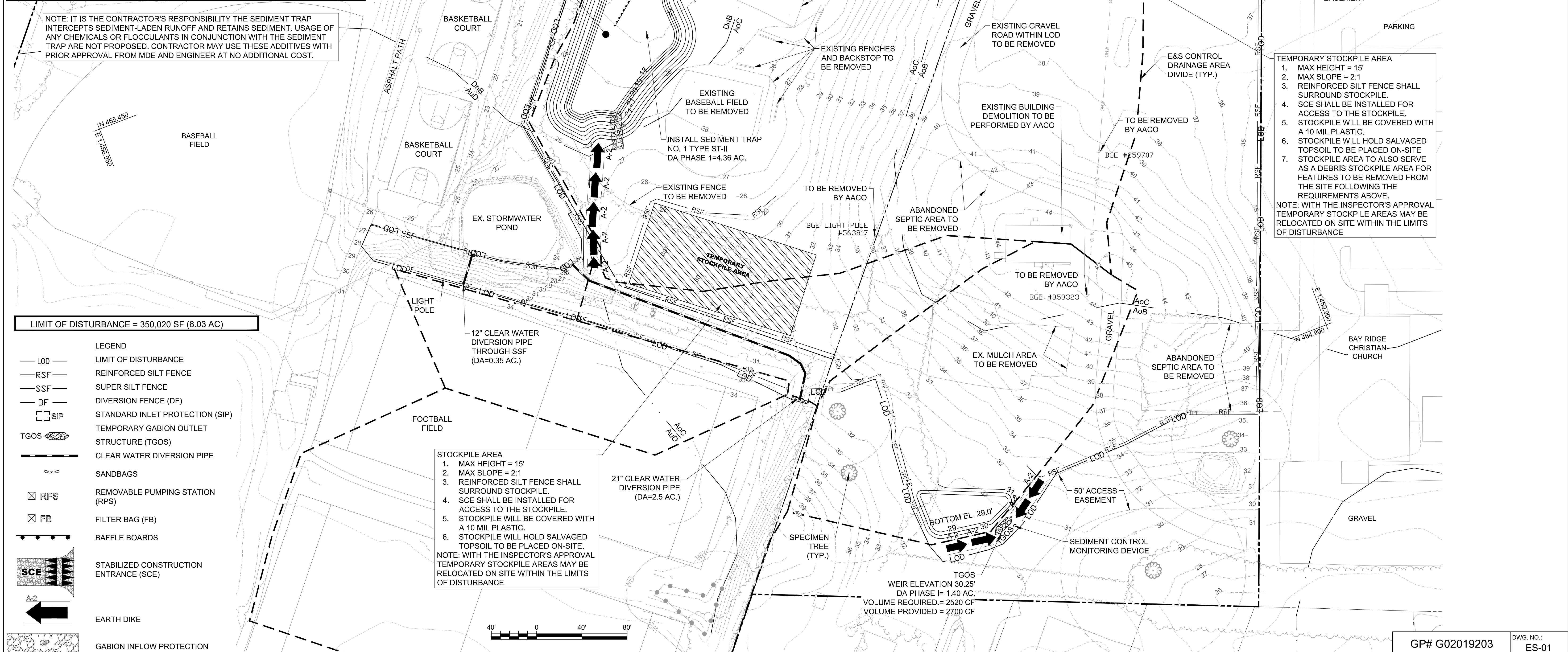
GP# G02019203 DWG. NO.: DA-02

SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 22 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

**PROPOSED DRAINAGE AREA**

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1		
Drainage Area - Initial	4.36	ACRES
Drainage Area - Iterim	-	ACRES
Drainage Area - Final	7.00	ACRES
Total Storage Required	25200	CF
Total Storage Provided	25649	CF
Wet Storage Required	12600	CF
Wet Storage Provided	12842	CF
Dry Storage Required	12600	CF
Dry Storage Provided	12806	CF
Existing Ground Elevation at Outlet (Wet Storage Elevation)	19.33	FT
Trap Bottom Elevation	18.00	FT
Trap Bottom Dimensions	Approx. 220 x 40	FT x FT
Weir Length	28.00	FT
Weir Crest (Dry Storage) Elevation	20.50	FT
Cleanout Elevation	18.67	FT
Top of Embankment Elevation	21.50	FT
Side Slope	2 : 1	H:V RATIO
Embankment Top Width	4	FT
Outlet Protection - Length	10	FT
Outlet Protection - Depth	19	IN

NOTE: IT IS THE CONTRACTOR'S RESPONSIBILITY THE SEDIMENT TRAP INTERCEPTS SEDIMENT-LADEN RUNOFF AND RETAINS SEDIMENT. USAGE OF ANY CHEMICALS OR FLOCCULANTS IN CONJUNCTION WITH THE SEDIMENT TRAP ARE NOT PROPOSED. CONTRACTOR MAY USE THESE ADDITIVES WITH PRIOR APPROVAL FROM MDE AND ENGINEER AT NO ADDITIONAL COST.



TEMPORARY STOCKPILE AREA  
 1. MAX HEIGHT = 15'  
 2. MAX SLOPE = 2:1  
 3. REINFORCED SILT FENCE SHALL SURROUND STOCKPILE.  
 4. SCE SHALL BE INSTALLED FOR ACCESS TO THE STOCKPILE.  
 5. STOCKPILE WILL BE COVERED WITH A 10 MIL PLASTIC.  
 6. STOCKPILE WILL HOLD SALVAGED TOPSOIL TO BE PLACED ON-SITE.  
 7. STOCKPILE AREA TO ALSO SERVE AS A DEBRIS STOCKPILE AREA FOR FEATURES TO BE REMOVED FROM THE SITE FOLLOWING THE REQUIREMENTS ABOVE.  
 NOTE: WITH THE INSPECTOR'S APPROVAL TEMPORARY STOCKPILE AREAS MAY BE RELOCATED ON SITE WITHIN THE LIMITS OF DISTURBANCE

STOCKPILE AREA  
 1. MAX HEIGHT = 15'  
 2. MAX SLOPE = 2:1  
 3. REINFORCED SILT FENCE SHALL SURROUND STOCKPILE.  
 4. SCE SHALL BE INSTALLED FOR ACCESS TO THE STOCKPILE.  
 5. STOCKPILE WILL BE COVERED WITH A 10 MIL PLASTIC.  
 6. STOCKPILE WILL HOLD SALVAGED TOPSOIL TO BE PLACED ON-SITE.  
 NOTE: WITH THE INSPECTOR'S APPROVAL TEMPORARY STOCKPILE AREAS MAY BE RELOCATED ON SITE WITHIN THE LIMITS OF DISTURBANCE



LIMIT OF DISTURBANCE = 350,020 SF (8.03 AC)

LEGEND	
	LIMIT OF DISTURBANCE
	REINFORCED SILT FENCE
	SUPER SILT FENCE
	DIVERSION FENCE (DF)
	STANDARD INLET PROTECTION (SIP)
	TEMPORARY GABION OUTLET STRUCTURE (TGOS)
	CLEAR WATER DIVERSION PIPE
	SANDBAGS
	REMOVABLE PUMPING STATION (RPS)
	FILTER BAG (FB)
	BAFFLE BOARDS
	STABILIZED CONSTRUCTION ENTRANCE (SCE)
	EARTH DIKE
	GABION INFLOW PROTECTION
	SAME DAY STABILIZATION
	TEMPORARY STOCKPILE AREA

**AECOM**  
 AECOM  
 4 NORTH PARK DRIVE  
 SUITE 300  
 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7200  
 FAX: 410-785-6818

PROFESSIONAL CERTIFICATION  
 "I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."  
 MD LICENSE NUMBER: 53587  
 EXPIRATION DATE: 12-09-2022



REVISIONS			
NO.	DESCRIPTION	BY	DATE

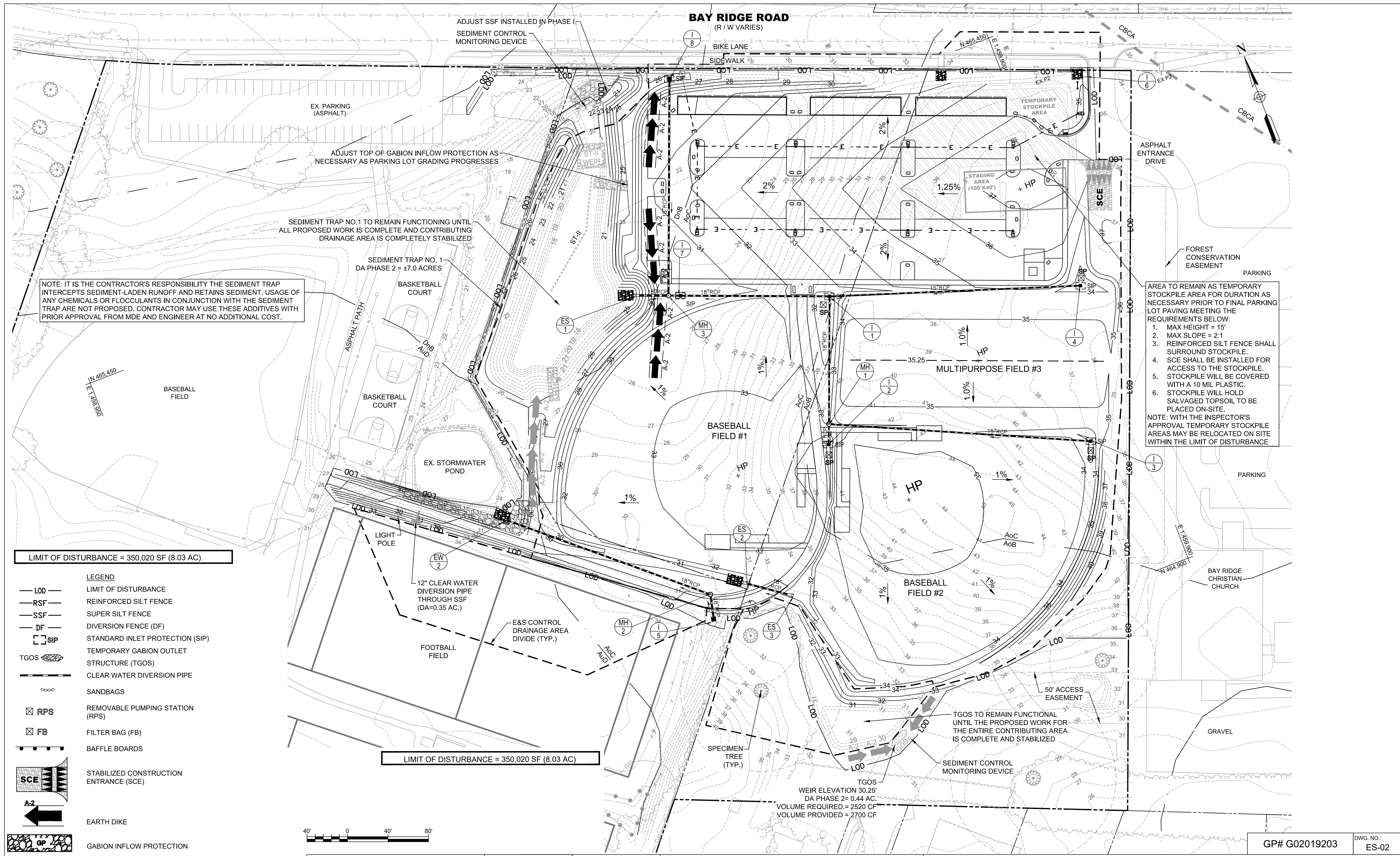
ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE

GP# G02019203      DWG. NO.: ES-01

SCALE: 1"=40'  
 DRAWN BY: DT  
 CHECKED BY: RK  
 SHEET NO. 23 OF 42  
 PROJECT NO. P509000  
 CONTRACT NO. P509006

PENINSULA PARK EXPANSION

**EROSION AND SEDIMENT CONTROL PLAN - PHASE I**



LIMIT OF DISTURBANCE = 350,020 SF (8.03 AC)

- LEGEND**
- LOD — LIMIT OF DISTURBANCE
  - RSF — REINFORCED SILT FENCE
  - SSF — SUPER SILT FENCE
  - DF — DIVERSION FENCE (DF)
  - SIP — STANDARD INLET PROTECTION (SIP)
  - TGO — TEMPORARY GABION OUTLET STRUCTURE (TGO)
  - CWD — CLEAR WATER DIVERSION PIPE
  - SB — SANDBAGS
  - ⊠ RPS — REMOVABLE PUMPING STATION (RPS)
  - ⊠ FB — FILTER BAG (FB)
  - BB — BAFFLE BOARDS
  - SCE — STABILIZED CONSTRUCTION ENTRANCE (SCE)
  - ← A-2 — EARTH DIKE
  - GP — GABION INFLOW PROTECTION
  - SD — SAME DAY STABILIZATION
  - TSA — TEMPORARY STOCKPILE AREA



LIMIT OF DISTURBANCE = 350,020 SF (8.03 AC)

TGOS WEIR ELEVATION 30.25'  
DA PHASE 2 = 0.44 AC.  
VOLUME REQUIRED = 2520 CF  
VOLUME PROVIDED = 2700 CF

AREA TO REMAIN AS TEMPORARY STOCKPILE AREA FOR DURATION AS NECESSARY PRIOR TO FINAL PARKING LOT PAVING MEETING THE REQUIREMENTS BELOW:

1. MAX HEIGHT = 15'
2. MAX SLOPE = 2:1
3. REINFORCED SILT FENCE SHALL SURROUND SILT STOCKPILE.
4. SCE SHALL BE INSTALLED FOR ACCESS TO THE STOCKPILE.
5. STOCKPILE WILL BE COVERED WITH A 10 MIL PLASTIC.
6. STOCKPILE WILL HOLD SALVAGED TOPSOIL TO BE PLACED ON-SITE.

NOTE: WITH THE INSPECTOR'S APPROVAL TEMPORARY STOCKPILE AREAS MAY BE RELOCATED ON SITE WITHIN THE LIMIT OF DISTURBANCE



PROFESSIONAL CERTIFICATION  
"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."  
MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE

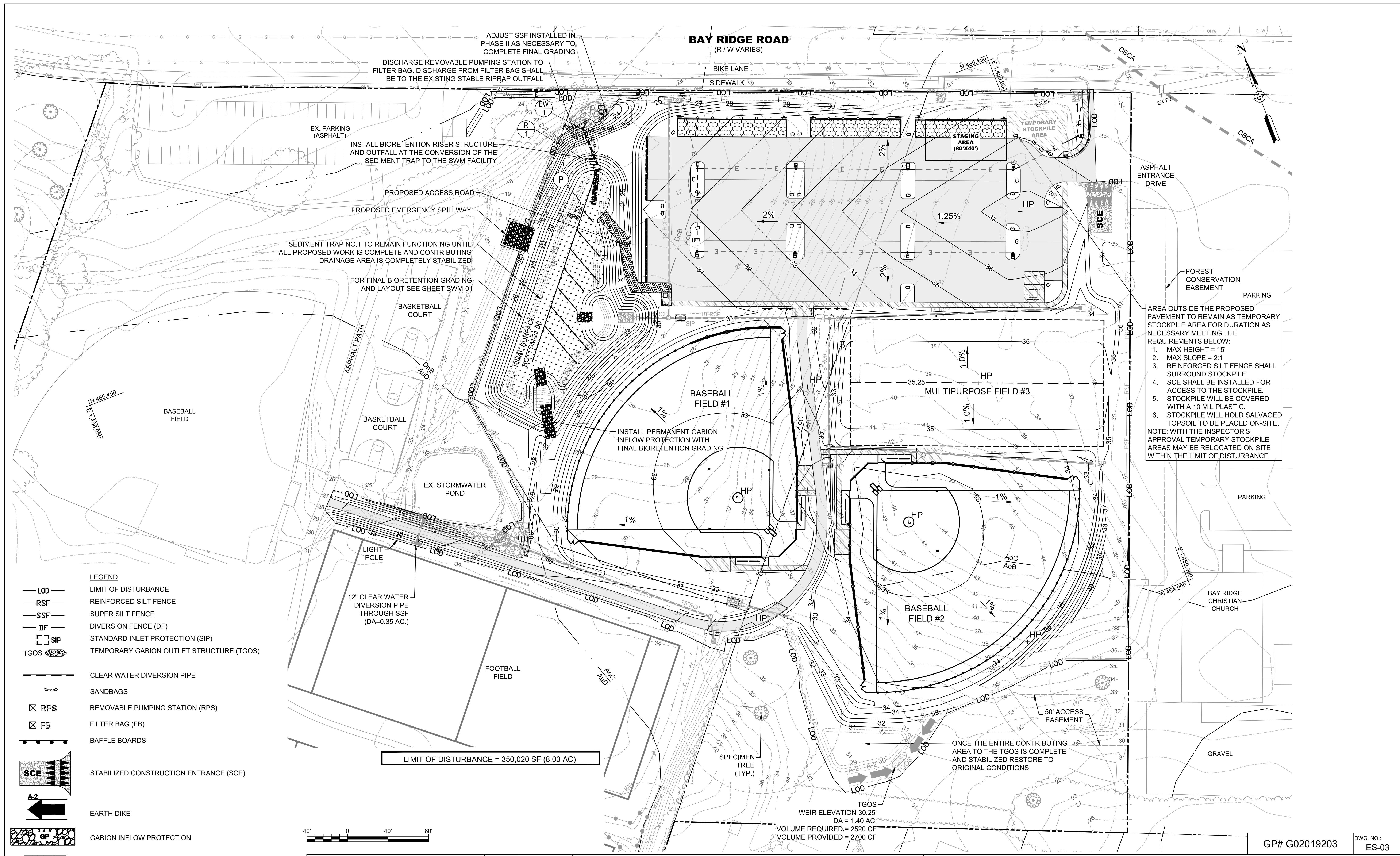
GP# G02019203      DWG. NO.: ES-02

SCALE: 1"=40'  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 24 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION

**EROSION AND SEDIMENT CONTROL PLAN - PHASE II**





ADJUST SSF INSTALLED IN PHASE II AS NECESSARY TO COMPLETE FINAL GRADING

DISCHARGE REMOVABLE PUMPING STATION TO FILTER BAG. DISCHARGE FROM FILTER BAG SHALL BE TO THE EXISTING STABLE RIPRAP OUTFALL

INSTALL BIORETENTION RISER STRUCTURE AND OUTFALL AT THE CONVERSION OF THE SEDIMENT TRAP TO THE SWM FACILITY

SEDIMENT TRAP NO. 1 TO REMAIN FUNCTIONING UNTIL ALL PROPOSED WORK IS COMPLETE AND CONTRIBUTING DRAINAGE AREA IS COMPLETELY STABILIZED

FOR FINAL BIORETENTION GRADING AND LAYOUT SEE SHEET SWM-01

INSTALL PERMANENT GABION INFLOW PROTECTION WITH FINAL BIORETENTION GRADING

LIMIT OF DISTURBANCE = 350,020 SF (8.03 AC)

AREA OUTSIDE THE PROPOSED PAVEMENT TO REMAIN AS TEMPORARY STOCKPILE AREA FOR DURATION AS NECESSARY MEETING THE REQUIREMENTS BELOW:

1. MAX HEIGHT = 15'
2. MAX SLOPE = 2:1
3. REINFORCED SILT FENCE SHALL SURROUND STOCKPILE.
4. SCE SHALL BE INSTALLED FOR ACCESS TO THE STOCKPILE.
5. STOCKPILE WILL BE COVERED WITH A 10 MIL PLASTIC.
6. STOCKPILE WILL HOLD SALVAGED TOPSOIL TO BE PLACED ON-SITE.

NOTE: WITH THE INSPECTOR'S APPROVAL TEMPORARY STOCKPILE AREAS MAY BE RELOCATED ON SITE WITHIN THE LIMIT OF DISTURBANCE

- LEGEND**
- LOD — LIMIT OF DISTURBANCE
  - RSF — REINFORCED SILT FENCE
  - SSF — SUPER SILT FENCE
  - DF — DIVERSION FENCE (DF)
  - SIP — STANDARD INLET PROTECTION (SIP)
  - TGOS — TEMPORARY GABION OUTLET STRUCTURE (TGOS)
  - CLEAR WATER DIVERSION PIPE
  - ∞ — SANDBAGS
  - ⊠ RPS — REMOVABLE PUMPING STATION (RPS)
  - ⊠ FB — FILTER BAG (FB)
  - — — — — BAFFLE BOARDS
  - ⊠ SCE — STABILIZED CONSTRUCTION ENTRANCE (SCE)
  - ← A-2 — EARTH DIKE
  - ⊠ GP — GABION INFLOW PROTECTION
  - ⊠ — SAME DAY STABILIZATION
  - ⊠ — TEMPORARY STOCKPILE AREA



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PROFESSIONAL CERTIFICATION

"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

GP# G02019203      DWG. NO.: ES-03

SCALE: 1"=40'  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 25 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION

**EROSION AND SEDIMENT CONTROL PLAN - PHASE III**

**2018 VEGETATIVE ESTABLISHMENT**

FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

- 1. **PERMANENT SEEDING:**
- A. **SOIL TESTS:** LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING OR AS RECOMMENDED BY THE SEDIMENT CONTROL INSPECTOR. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPIILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.

THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

- a. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
- b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
- c. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERCEIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (< 30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
- d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
- e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- f. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR AMENDMENTS MADE AS RECOMMENDED BY A CERTIFIED AGRONOMIST.

B. **SEEDBED PREPARATION:** AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3-5 INCHES. THE TOP LAYER SHALL BE LOOSENEED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3-5 INCHES ON SLOPES FLATTER THAN 3:1.

C. **SEEDING:** APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE ¼ INCH IN CLAYEY SOILS AND ½ INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXES ARE TO BE USED, SELECT FROM TABLE B3 AND B5 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

D. **MULCHING:** MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNROTTED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALES). APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH-ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.

E. **SECURING STRAW MULCH:** STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:

- i. USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH, HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
- ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- iii. LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.
- iv. LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

2. **TEMPORARY SEEDING:**

LIME: 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET.

FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET.

SEED: PERENNIAL RYE - 0.92 POUNDS PER 1,000 SQUARE FEET (FEBRUARY 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH OCTOBER 31).

MILLET - 0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15).

MULCH: SAME AS 1 D AND E ABOVE.

3. NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL IS TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL COMPACTION REQUIREMENTS ARE IN ACCORDANCE TO ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS THE AA COUNTY DESIGN MANUAL AND STANDARD DETAILS. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

4. **PERMANENT SOD:** INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL BE AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ESTABLISHMENT OF SOD.

5. **MINING OPERATIONS:**

SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:

FOR SEEDING DATES OF FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERICEA LESPEDEZA AT THE MINIMUM RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET.

6. TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

7. USE OF THESE VEGETATIVE ESTABLISHMENT SPECIFICATIONS DOES NOT PRECLUDE THE PERMITTEE OR CONTRACTOR FROM MEETING ALL OF THE REQUIREMENTS SET FORTH IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

**SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

- 1. **SOIL PREPARATION**
- TEMPORARY STABILIZATION**
- A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENEED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

- PERMANENT STABILIZATION**
- A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
  - i. SOIL PH BETWEEN 6.0 AND 7.0.
  - ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
  - iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
  - iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
  - v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
- C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
- D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
- E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

- 2. **TOPSOILING**
- 1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
- 2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
- 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
  - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- 4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
- 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN ½ INCHES IN DIAMETER.
  - B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
  - C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
- 6. TOPSOIL APPLICATION
  - A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
  - B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
  - C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

- 3. **SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
- 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
- 2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
- 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
- 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

**CONSULTANT'S CERTIFICATION**

"THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

MD P.E. LICENSE #: 53587

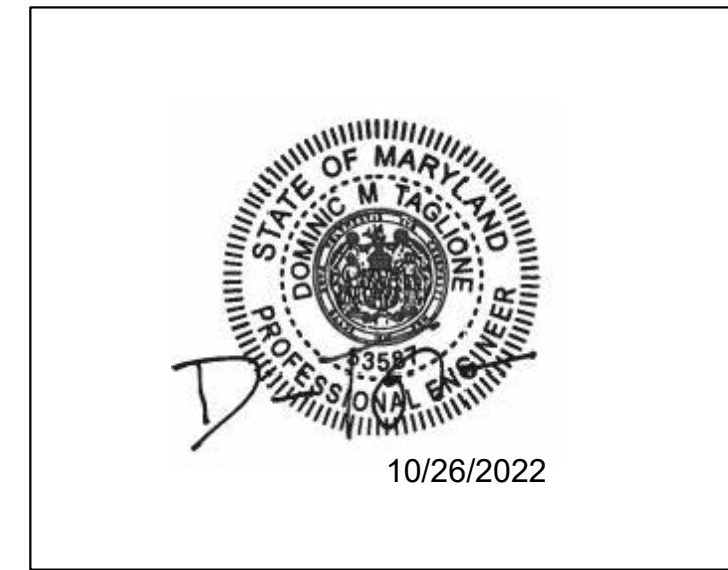
NAME: DOMINIC M. TAGLIONE

FIRM NAME: AECOM

STREET ADDRESS: 4 NORTH PARK DR., SUITE 300

HUNT VALLEY, MD 21030

(410) 785-7220



**OUTFALL STATEMENT**

A FIELD INVESTIGATION AND REVIEW OF RECORD DRAWINGS AND FIELD SURVEY CONCLUDED THAT MAJORITY OF RUNOFF FROM THE EXISTING SITE FLOWS NORTH TO AN EXISTING 38" X 60" RCP WHICH CONVEYS FLOWS UNDER BAY RIDGE ROAD TO AN UNNAMED TRIBUTARY THAT OUTLETS TO LAKE OGLETON APPROXIMATELY 1200' DOWNSTREAM OF THE CULVERT. THE EXISTING PAL PARK HAS A SERIES OF STORM DRAIN THAT CAPTURE RUNOFF AND DRAINS TO THE EXISTING CULVERT. A SEDIMENT BASIN CONSTRUCTED IN 1976 HAS BEEN LEFT IN PLACE AND FUNCTIONS AS A STORMWATER POND. LOCATED IN THE SOUTHWEST CORNER OF THE PARK EXPANSION, THE DRAINAGE PATTERN WILL BE MAINTAINED TO THE EXISTING POND. THE PROPOSED DRAINAGE OF THE PARK IMPROVEMENTS WILL UTILIZE A COMBINATION OF DITCHES AND STORM DRAIN TO DIVERT RUNOFF TO THE PROPOSED BIORETENTION FACILITY FOR TREATMENT. THE BIORETENTION FACILITY WILL TREAT RUNOFF FROM THE NEW IMPERVIOUS AREAS INCLUDING THE PARKING LOT, SIDEWALK, AND TRAIL. THE PROPOSED BIORETENTION FACILITY REDUCES THE 10-YEAR PEAK STORM AND WILL HAVE NO ADVERSE IMPACT DOWNSTREAM AT THE EXISTING CULVERT. ALL EXISTING SITE OUTFALLS ARE CURRENTLY STABLE WITH NO EVIDENCE OF EROSION OR SEDIMENTATION.

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 53587</p> <p>EXPIRATION DATE: 12-09-2022</p>	<p>10/26/2022</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				NO.	DESCRIPTION	BY	DATE																																	<p>ANNE ARUNDEL COUNTY</p> <p>DEPARTMENT OF PUBLIC WORKS</p>					
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<p>ASSISTANT CHIEF ENGINEER</p>				CHIEF, RIGHT OF WAY		SHEET NO. 26 OF 42	<p>EROSION AND SEDIMENT CONTROL NOTES</p>																																									
						PROJECT NO. P509000																																										
						CONTRACT NO. P509006																																										

**B-4-1 STANDARDS AND SPECIFICATIONS**

**FOR**

**INCREMENTAL STABILIZATION**

**Definition**

Establishment of vegetative cover on cut and fill slopes.

**Purpose**

To provide timely vegetative cover on cut and fill slopes as work progresses.

**Conditions Where Practice Applies**

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

**Criteria**

A. Incremental Stabilization - Cut Slopes

1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
2. Construction sequence example (Refer to Figure B.1):
  - a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
  - b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
  - c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Oversee Phase 1 areas as necessary.
  - d. Perform final phase excavation, prepare seedbed, and stabilize. Oversee previously seeded areas as necessary.

**Note:** Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

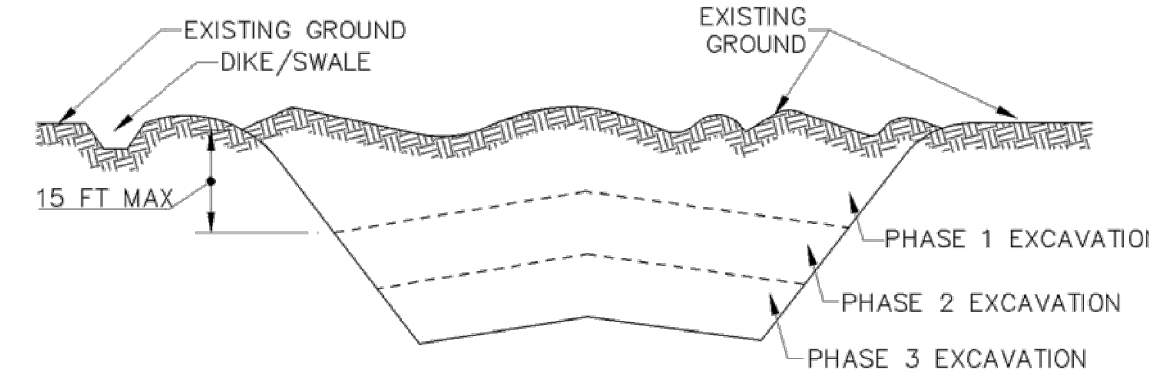


Figure B.1: Incremental Stabilization - Cut

B.10

B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
4. Construction sequence example (Refer to Figure B.2):
  - a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
  - b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
  - c. Place Phase 1 fill, prepare seedbed, and stabilize.
  - d. Place Phase 2 fill, prepare seedbed, and stabilize.
  - e. Place final phase fill, prepare seedbed, and stabilize. Oversee previously seeded areas as necessary.

**Note:** Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

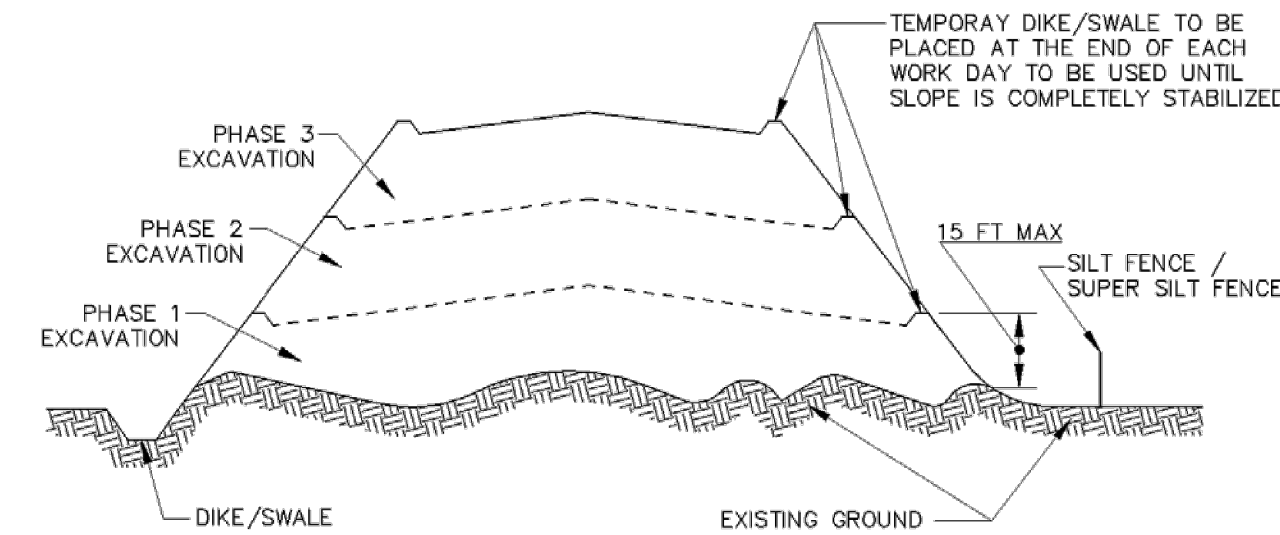


Figure B.2: Incremental Stabilization - Fill

B.11

**B-4-4 STANDARDS AND SPECIFICATIONS**

**FOR**

**TEMPORARY STABILIZATION**

**Definition**

To stabilize disturbed soils with vegetation for up to 6 months.

**Purpose**

To use fast growing vegetation that provides cover on disturbed soils.

**Conditions Where Practice Applies**

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

**Criteria**

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

**Temporary Seeding Summary**

Hardiness Zone (from Figure B.3): <u>7A</u>		Seed Mixture (from Table B.1):			Fertilizer Rate (10-20-20)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	ANNUAL RYEGRASS	40	2/15 TO 4/30 8/15 TO 11/30	0.5 IN.	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
	FOXTAIL MILLET	30	5/01 TO 8/14	0.5 IN.		

**B-4-5 STANDARDS AND SPECIFICATIONS**

**FOR**

**PERMANENT STABILIZATION**

**Definition**

To stabilize disturbed soils with permanent vegetation.

**Purpose**

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

**Conditions Where Practice Applies**

Exposed soils where ground cover is needed for 6 months or more.

**Criteria**

A. Seed Mixtures

1. General Use
  - a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
  - b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
  - c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
  - d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
  - a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
    - i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
    - iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

**Notes:**  
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line



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PROFESSIONAL CERTIFICATION

"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022



10/26/2022

REVISIONS

NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE:	PENINSULA PARK EXPANSION
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: DT	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK	EROSION AND SEDIMENT CONTROL NOTES
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. <u>27</u> OF 42	
PROJECT NO. P509000					CONTRACT NO. P509006

GP# G02019203

DWG. NO.: ES-05

GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL

- REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONING PRIOR TO CLEARING THE ENTIRE SITE.
WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO ENSURE THE CONTROL OF ANY SEDIMENT.
AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RESUBMISSION TO ANNE ARUNDEL COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS.
ANY VARIATIONS FROM THE SEQUENCE OF CONSTRUCTION STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR...
THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION...
PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED.
STORM DRAIN SYSTEMS SHALL ALWAYS BE CONSTRUCTED FROM THE DOWNSTREAM ENDS.
MAINTAIN ACCESS TO PRIVATE DRIVEWAYS AT ALL TIMES.
IT IS THE RESPONSIBILITY OF THE DEVELOPER TO SUBMIT AS-BUILT DRAWINGS TO ANNE ARUNDEL COUNTY...
AT THE BEGINNING AND END OF THE JOB, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO CLEAN ALL EXISTING AND PROPOSED DRAINAGE SYSTEMS OF SEDIMENT AND DEBRIS WITHIN THE PROJECT LIMIT'S.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND
SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT NOT UNDER ACTIVE GRADING.

MAINTENANCE NOTE

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

THE CONTRACTOR AT NO ADDITIONAL COST SHALL REPAIR AND MAINTAIN SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN THE LIMIT OF DISTURBANCE ARE STABILIZED.

INLET PROTECTION MUST BE INSPECTED EACH DAY AND AFTER EACH RAIN EVENT AND THE GEOTEXTILE REPLACED WHEN IT BECOMES CLOGGED.

UTILITY NOTE

- CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

(THE DISTRICT SHALL ALLOW CONTINUED USE OF THE STANDARD UTILITY NOTE FOR WORK OUTSIDE THE MAIN SITE IF THE LENGTH OF TRENCH IS OF SHORT, TO MODERATE LENGTH (UP TO DISCRETION OR REVIEWER). IF THE WORK IS DEEMED TO BE OF SIGNIFICANT EXTENT, THE DISTRICT WILL REQUIRE THE PLAN DESIGNER TO PROVIDE PHYSICAL SEDIMENT CONTROL MEASURES ON THE PLANS.)

INLET PROTECTION NOTE

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

- ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PAGE E-23 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

\*STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.

STANDARD NONDISTURBANCE NOTE

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS.

SEQUENCE OF CONSTRUCTION

PHASE I

- OBTAIN ALL NECESSARY PERMITS. CONDUCT A PRE-CONSTRUCTION MEETING; CONTRACTOR TO NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS AT (410) 222-7780 PRIOR TO THE START OF CONSTRUCTION. WORK MAY NOT COMMENCE UNTIL THE PERMITEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON-SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. (1 DAY)
NOTE: THE PERMITEE OR CONTRACTOR SHALL NOT COMMENCE WITH CLEARING OR ANY EARTH DISTURBANCE ACTIVITIES ON THE SITE DURING OR BEFORE PREDICTED WET WEATHER EVENTS. ONCE SITE WORK BEGINS, CLEARING AND GRUBING ACTIVITIES SHALL BE FOR THE INSTALLATION AND STABILIZATION OF THE PERIMETER EROSION CONTROL MEASURES ONLY.
CLEAR AND GRUB ONLY THE AREAS REQUIRED FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL PERIMETER CONTROLS, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, REINFORCED SILT FENCE, SUPER SILT FENCE, DIVERSION FENCE, AND CLEAR WATER DIVERSIONS.
WITH THE PERIMETER SEDIMENT CONTROLS INSTALLED AND THE INSPECTOR'S APPROVAL, INSTALL SEDIMENT TRAP NO. 1 (TYPE-II), THE TEMPORARY GABION OUTLET STRUCTURE (TGOS), SEDIMENT CONTROL MONITORING DEVICES, AND STABILIZE.
CONTACT THE A.A. COUNTY INSPECTOR FOR APPROVAL OF THE SEDIMENT TRAP AND TGOS INSTALLATION.
ONCE ALL E&S MEASURES ARE IN PLACE, CONTACT THE A.A. COUNTY INSPECTOR FOR APPROVAL OF SEDIMENT CONTROL INSTALLATION.
UPON APPROVAL FROM THE INSPECTOR, REMOVE ANY REMAINING EXISTING SITE FEATURES TO BE REMOVED PER THE PLANS, INCLUDING THE EXISTING INLET, END SECTION, AND CORRESPONDING PIPE, BASEBALL FIELD BENCHES, BACKSTOP, AND ASSOCIATED OUTFIELD FENCES, AND THE GRAVEL ROAD.

PHASE II

- INSTALL THE STORM DRAIN SYSTEM INCLUDING EW-2, MH-2, AND I-5 WORKING DOWNSTREAM TO UPSTREAM.
COMMENCE GRADING OPERATIONS BY CUTTING EARTHWORK FROM CUT AREAS AND PLACING IN AREAS WHICH REQUIRE FILL.
AS GRADING PROGRESSES, INSTALL STORM DRAIN PIPES AND STRUCTURES / INLETS AS SHOWN ON STRUCTURE SCHEDULE.
INSTALL DEWATERING PRACTICES AS NECESSARY, INCLUDING SUMP PITS TO DEWATER LOW POINTS CREATED DURING EXCAVATION.
GRADE PARKING LOT AREA TO FINISHED SUBGRADE ELEVATION AND PLACE GRADED AGGREGATE BASE (GAB) PER THE PAVEMENT SECTION.
GRADE TRAIL, SIDEWALK, AND CONCRETE PAD AREAS TO FINISHED SUBGRADE ELEVATION AND PLACE GRADED AGGREGATE BASE (GAB) PER THE RESPECTIVE PAVEMENT SECTION.
COMPLETE ALL PROPOSED SITE WORK, INCLUDING CURB AND GUTTER, SIDEWALKS, BASE PAVEMENT, AND ALL LIGHTING CONDUITS AND POLE FOUNDATIONS.
INSTALL CONCRETE SIDEWALK, CONCRETE BLEACHER PADS, AND THE CONCRETE DUMPSTER AND PORTABLE TOILET PADS INCLUDING THE WOODEN ENCLOSURES.
PLACE THE HOT MIX ASPHALT BASE COURSE AT THE NEW PARKING LOT AS WELL AS THE EXISTING PAVEMENT AREAS DESIGNATED FOR FULL DEPTH RECONSTRUCTION.
COMPLETE ADA RECONSTRUCTION WITHIN EXISTING PARK PALS AS INDICATED ON THE MASTER PARK PLAN.
GRADE THE TWO (2) BASEBALL FIELDS AND ONE (1) MULTIPURPOSE FIELD TO FINAL FINISH GRADE.
STABILIZE ANY REMAINING NON-PAVED AREAS WITH 4-INCHES OF TOPSOIL AND SOD.
COMPLETE LANDSCAPING. ALL DISTURBED AREAS NOT CALLED TO BE LANDSCAPED OR OTHERWISE NOTED SHALL BE STABILIZED WITH 4-INCH TOPSOIL, SEED AND MULCH.
ONCE ENTIRE SITE IS STABILIZED WITH ESTABLISHED VEGETATION AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, FLUSH ALL CONTRIBUTING STORM DRAINS.
DURING A NOAA 3 DAY DRY WEATHER FORECAST, CONSTRUCT THE CUT-OFF TRENCH, CLAY CORE, FILTER DIAPHRAGM, R-1, EW-1, CORRESPONDING 21" RCP PIPE, AND THE EMBANKMENT.
COMPLETE THE BIORETENTION FACILITY, INCLUDING THE INSTALLATION OF FILTER MEDIA, UNDERDRAIN SYSTEM, FOREBAY, INFLOW PROTECTION, EMERGENCY SPILLWAY, TRASH RACK, AND OBSERVATION WELL.
UPON COMPLETION AND STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

NOTE: EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED

B-4-8 STANDARDS AND SPECIFICATIONS

FOR

STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1.
Runoff from the stockpile area must drain to a suitable sediment control practice.
Access the stockpile area from the upgrade side.
Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence.
Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B.43

TEMPORARY STOCKPILES

ALL TEMPORARY STOCKPILES SHALL BE :

- LOCATED WITHIN THE LIMITS OF DISTURBANCE (LOD).
DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
POSITIONED TO NOT IMPEDE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
POSITIONED TO NOT ALTER DRAINAGE DIVIDES.

SAME DAY STABILIZATION NOTE:

THIS NOTE SHOULD BE USED FOR MINIMAL AREAS WITHIN THE LIMIT OF DISTURBANCE THAT DO NOT DRAIN TO SEDIMENT CONTROL MEASURE AND/OR WHERE THE INSTALLATION OF CONTROLS IS NOT FEASIBLE (ROADWAY WIDENING, SIDEWALK INSTALLATION, ETC.)

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORK DAY. STABILIZATION SHALL BE AS FOLLOWS:

- FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
FOR AREAS TO BE VEGETATIVELY STABILIZED:
PERMANENT SEED AND SOIL STABILIZATION MATTING (JUTE MATTING) OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALE
PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

SITE ANALYSIS

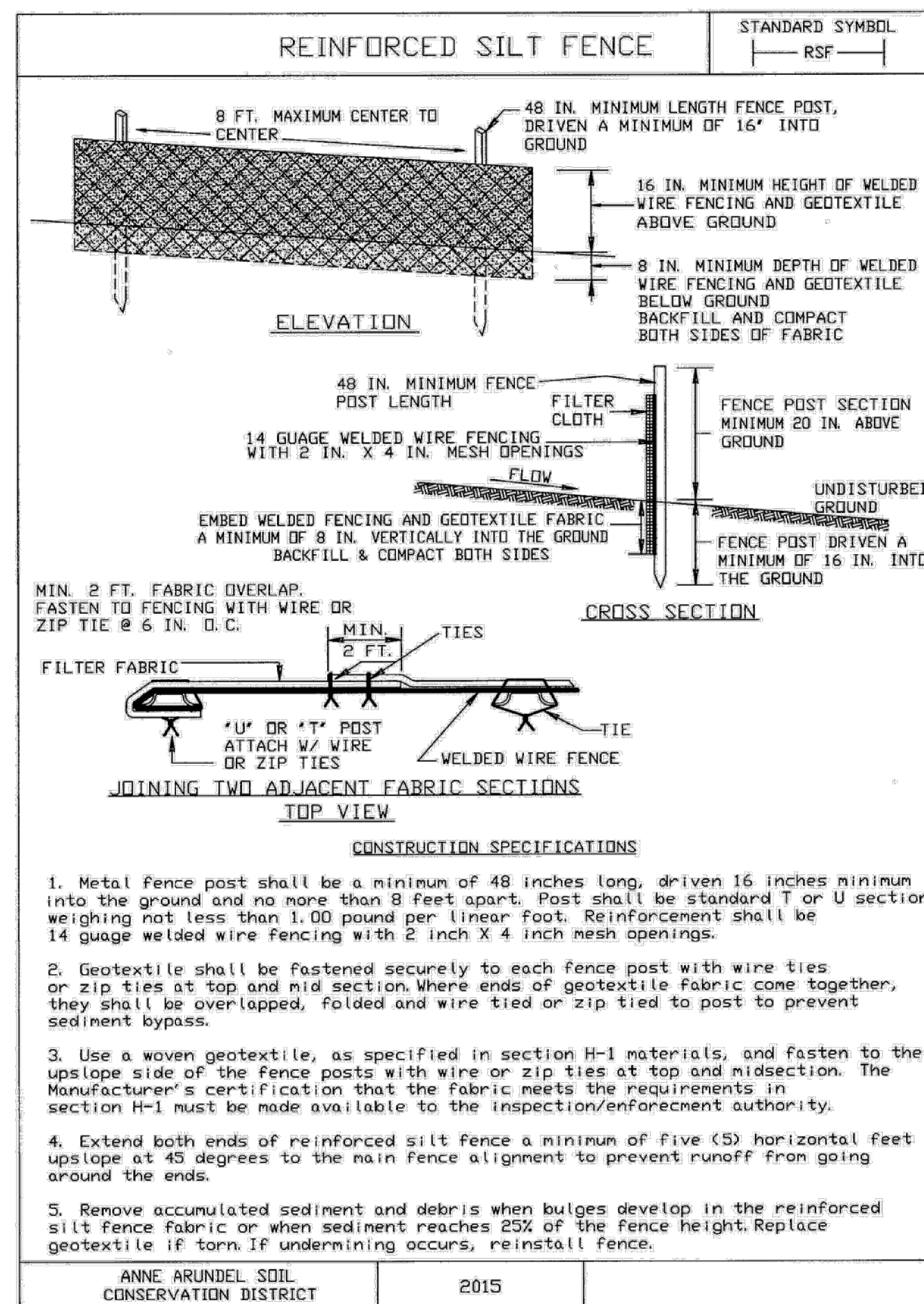
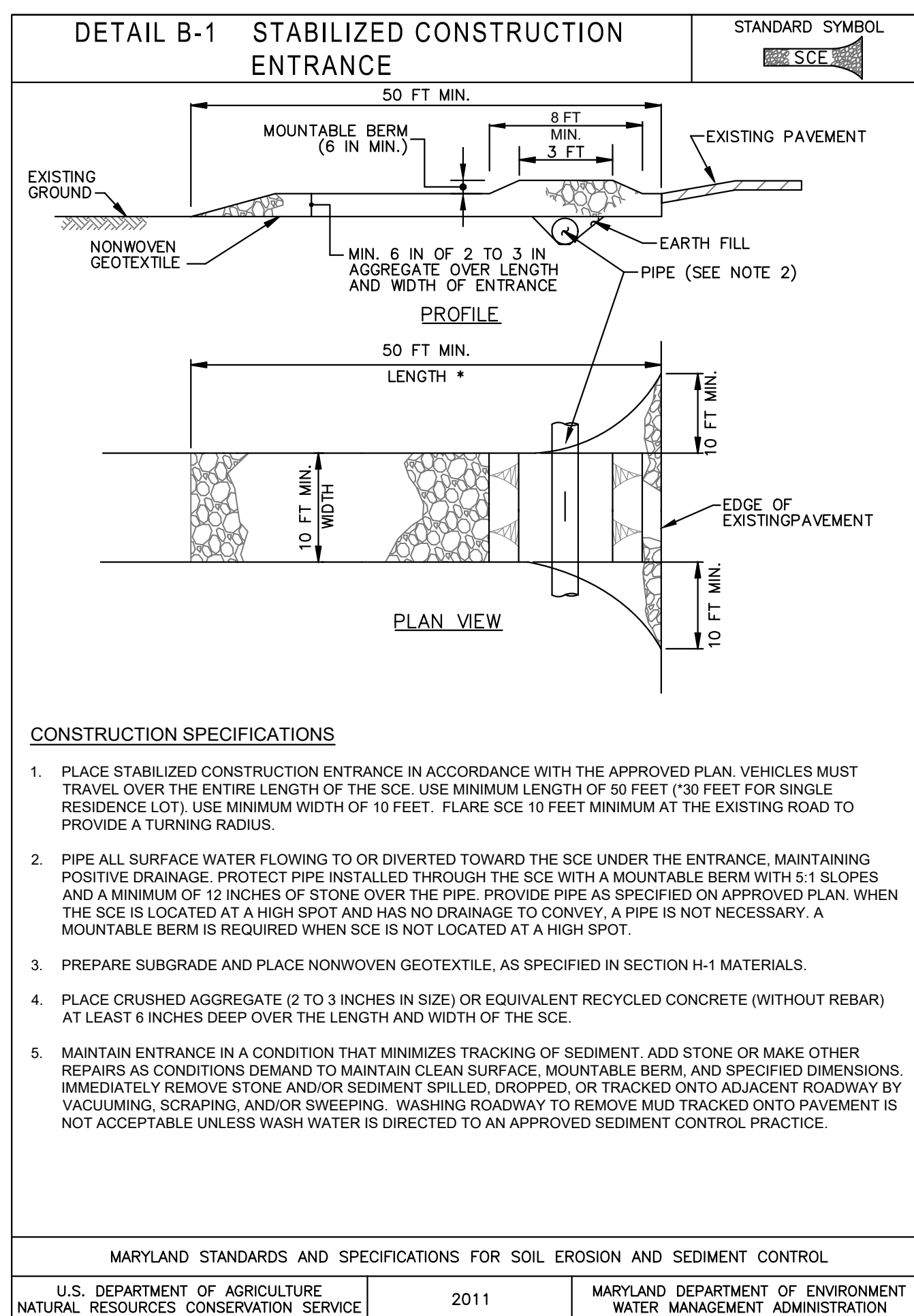
\*(NOT FOR BIDDING PURPOSES)

Table with 2 columns: Category and Value. Includes items like TOTAL AREA OF SITE (29.52 AC), AREA DISTURBED (8.03 AC), AREA TO BE ROOFED OR PAVED (1.82 AC), etc.

EARTHWORK NOTES:

- THE EARTHWORK CALCULATIONS DO NOT TAKE INTO CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL.
EARTHWORK QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.
AECOM MAKES NO GUARANTEE OF ACCURACY OF QUANTITIES OR BALANCE OF SITE.

Professional Certification for AECOM, Project Details for ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, PENINSULA PARK EXPANSION, EROSION AND SEDIMENT CONTROL NOTES. Includes revision table and project metadata.



### REINFORCED SILT FENCE

**Design Criteria**

Reinforced Silt Fence Design Constraints

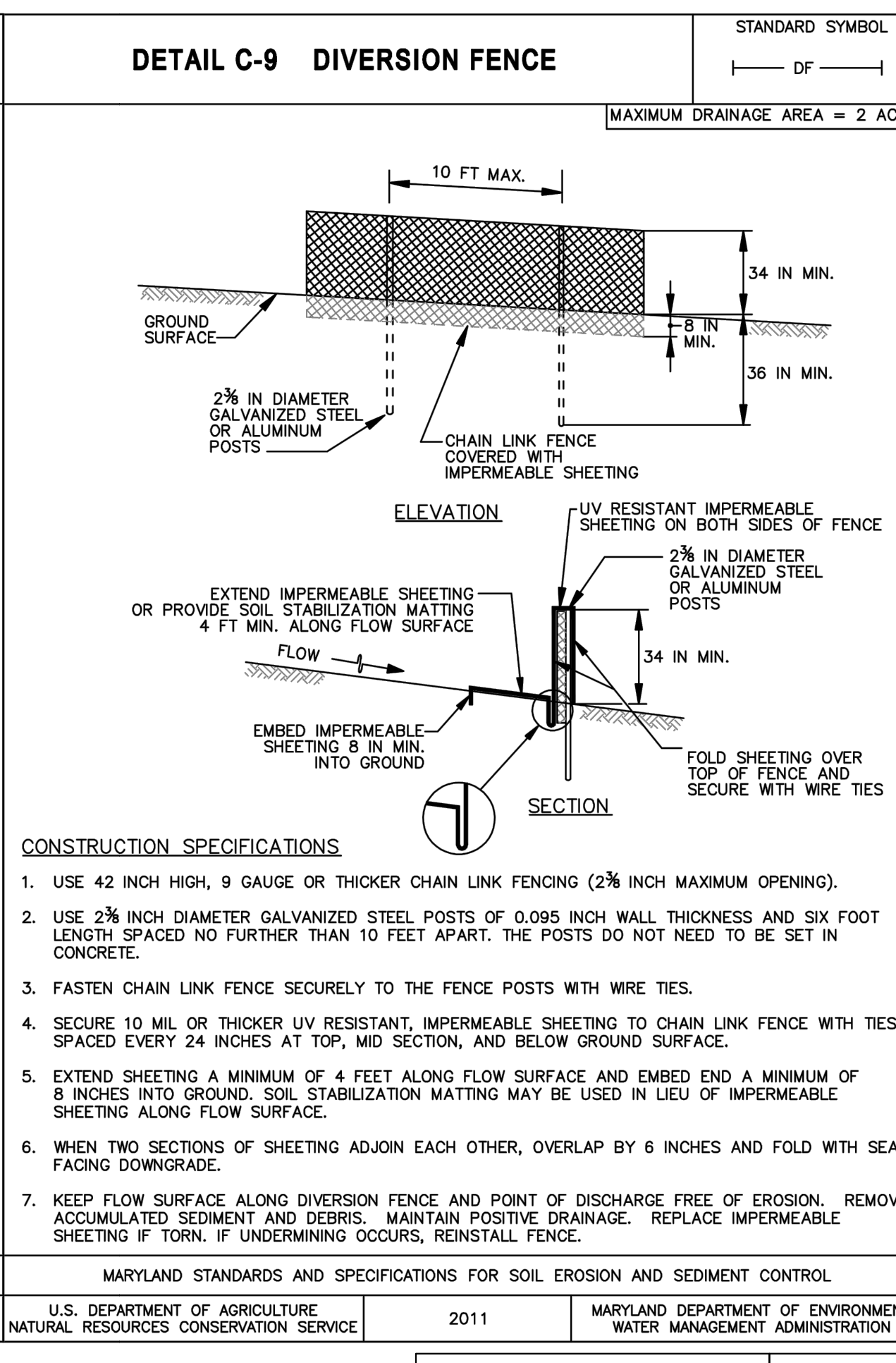
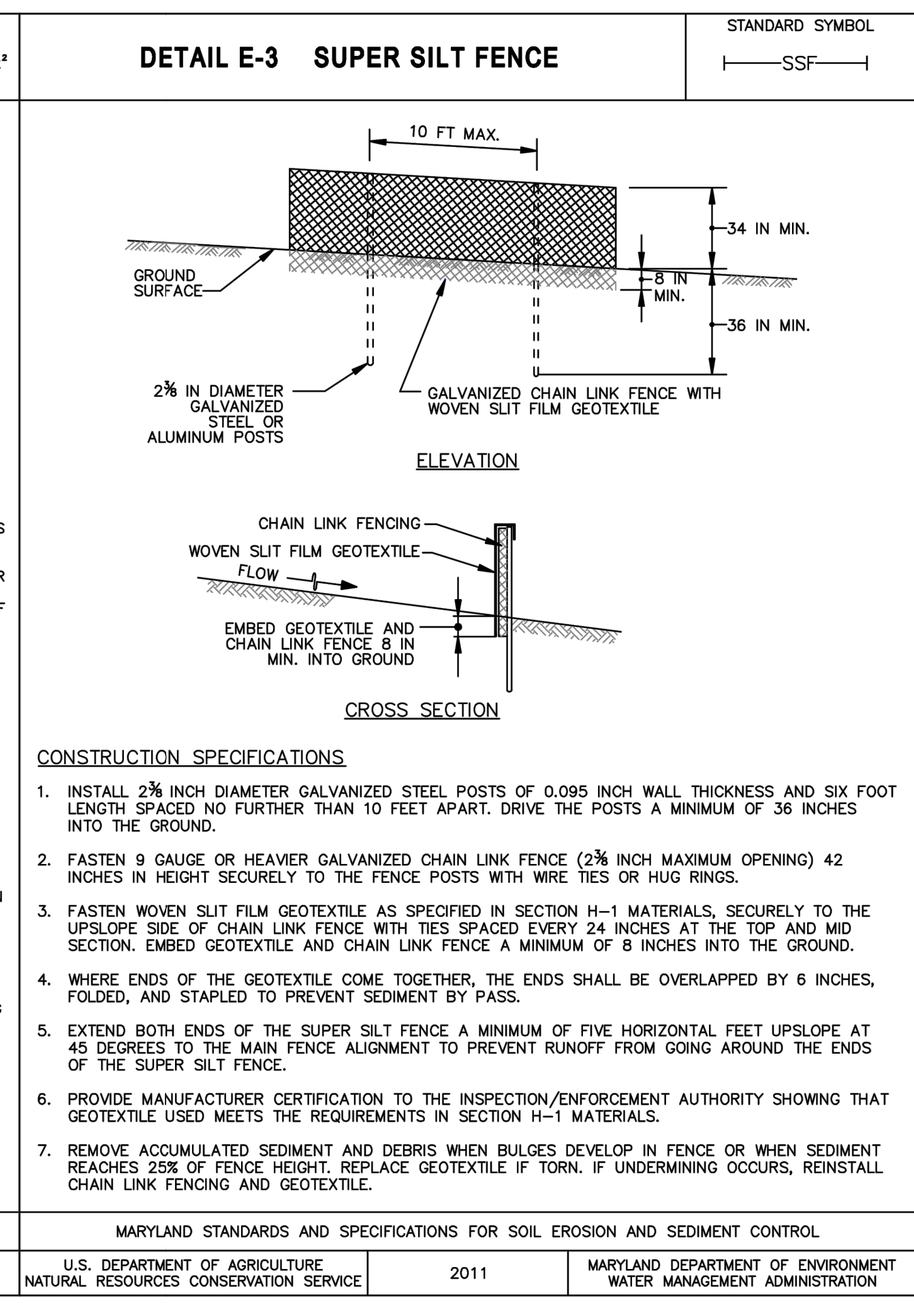
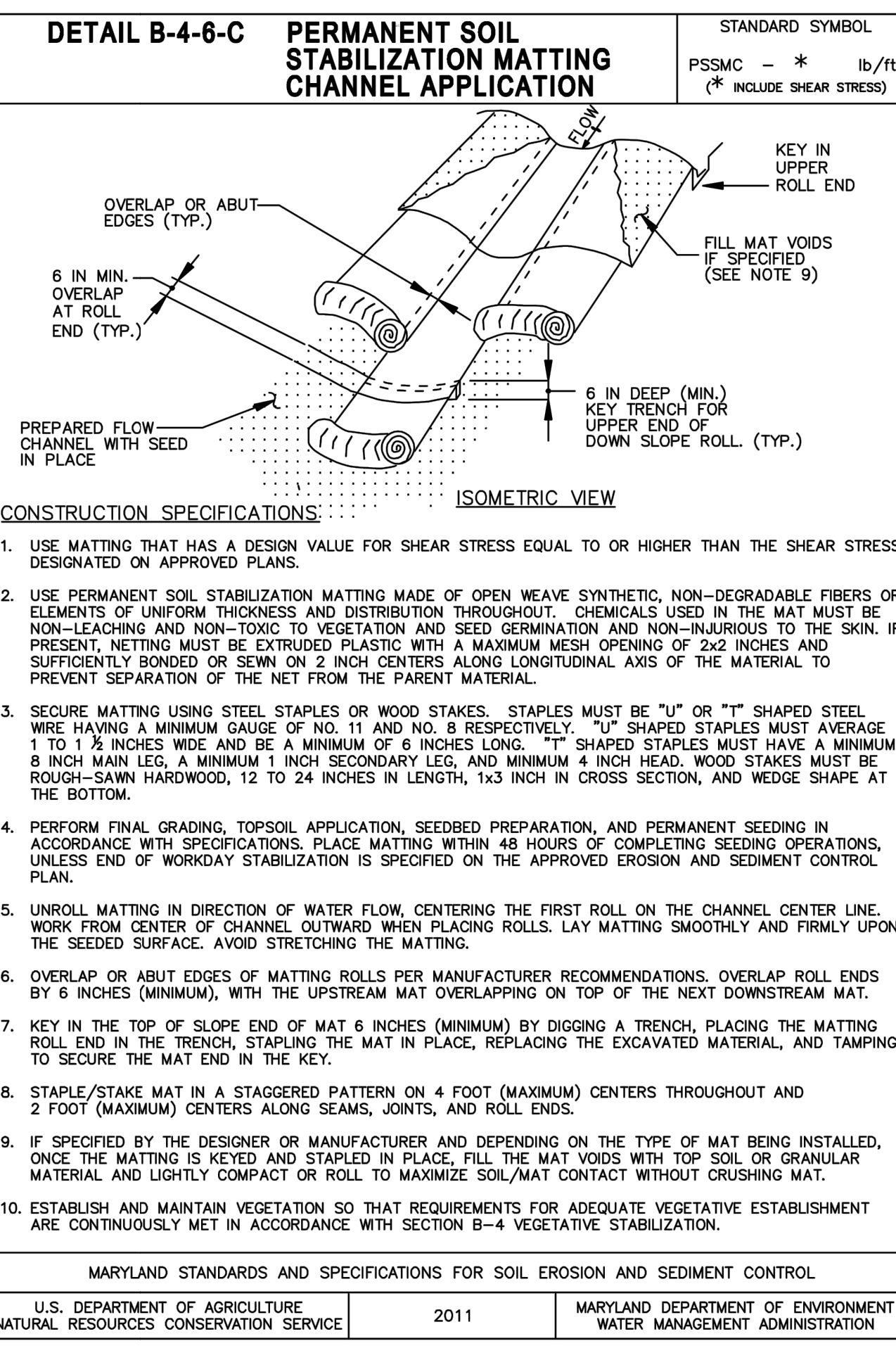
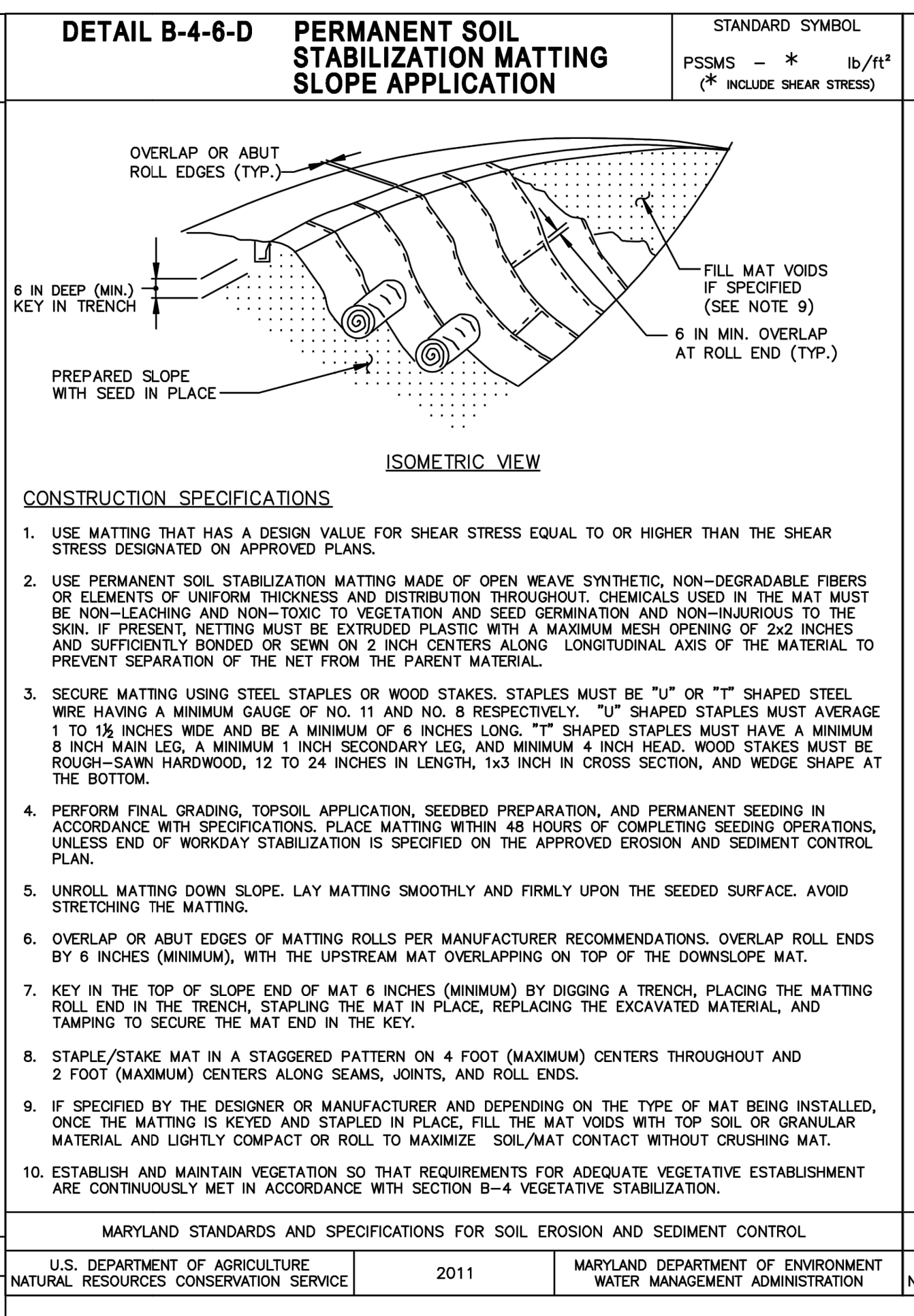
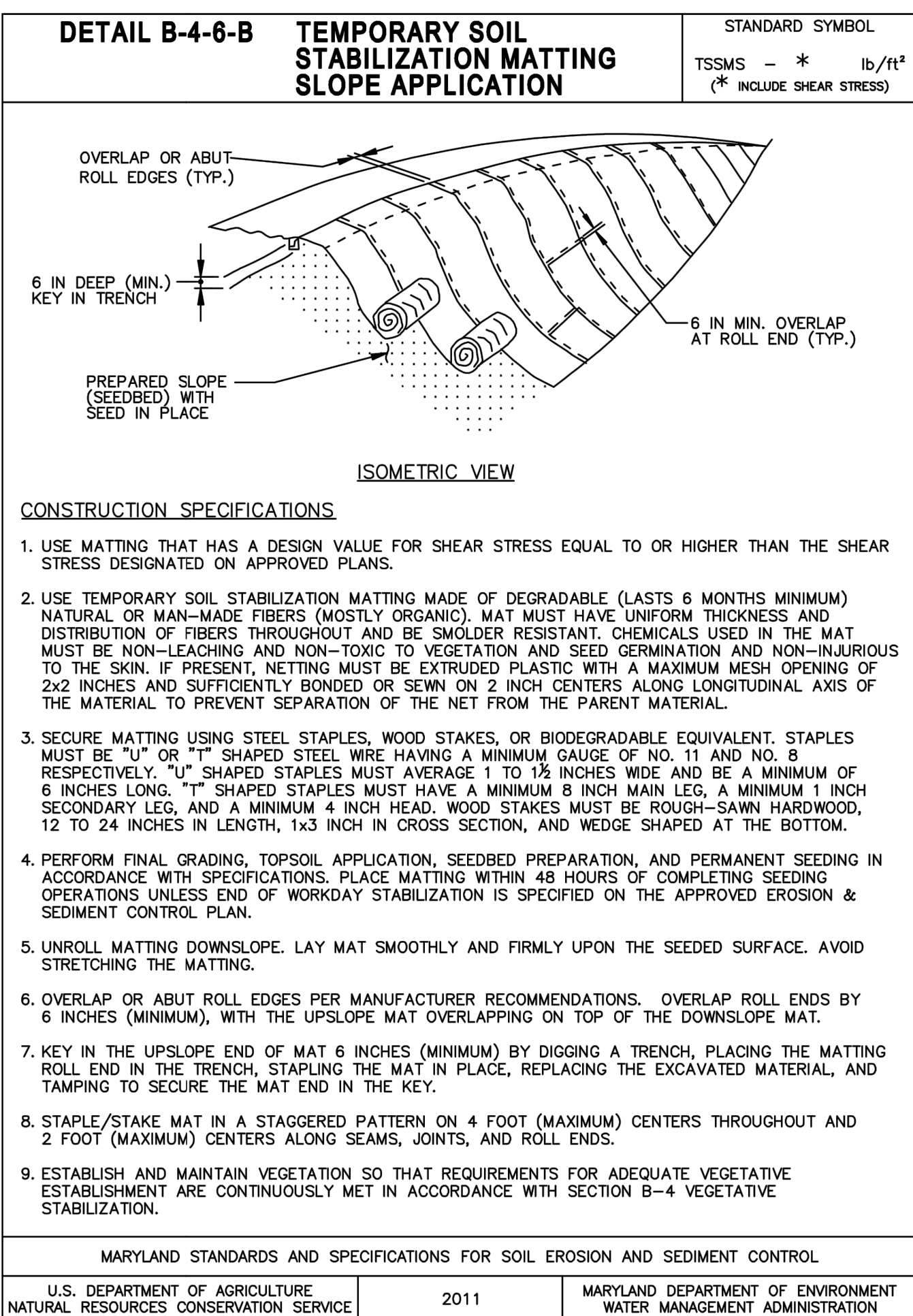
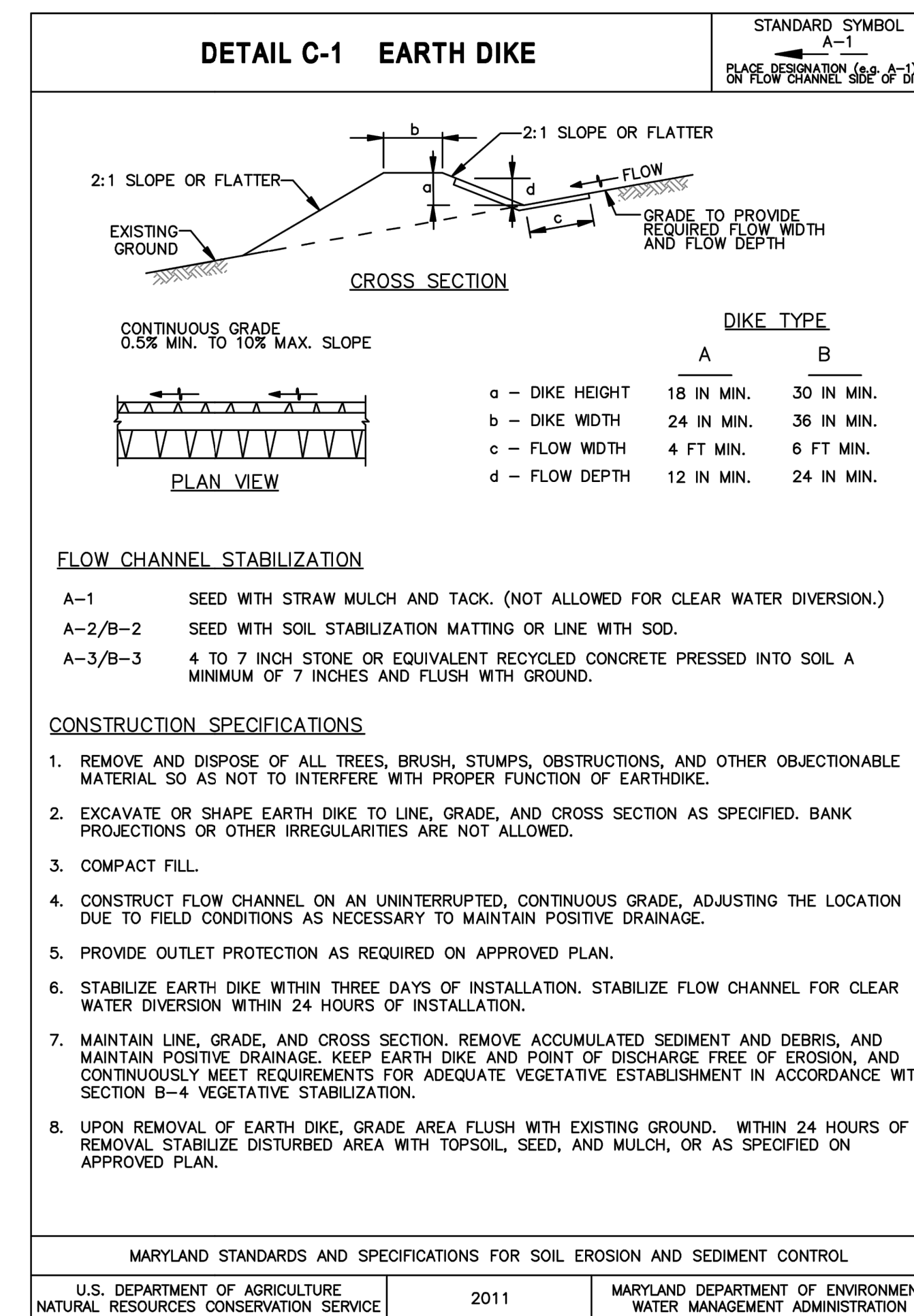
Average Slope Steepness	Maximum Slope Length	Maximum Silt Fence Length
Flatter than 50:1 (<2%)	300 feet*	Unlimited
50:1 to 10:1 (2-10%)	125 feet	1,000 feet
10:1 to 5:1 (10-20%)	100 feet	750 feet
5:1 (>20%)	40 feet	250 feet

\*Maximum slope length is unlimited on the Hydrologic Soil Group (HSG) "A" soils

**Design Criteria**

- The use of Reinforced Silt Fence must conform to the design constraints listed above.
- The area downgrade of the Reinforced Silt Fence must be undisturbed ground.
- Reinforced Silt Fence must be placed along the contour.
- Reinforced Silt Fence should be used with caution in areas where rocky soils may prevent trenching.
- Extend both ends of reinforced silt fence a minimum of five (5) horizontal feet upslope and 45 degrees to the main fence alignment to prevent runoff from going around the edges.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2015 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



FILE NAME: L:\DCS\Projects\TRN\60650788\_Acco\_Pan\_Park\000\_CAD\_QS\010\_CAD\SHEETS\ES-07 E&S Details.dwg LAYOUT NAME: ES-07 PLOTTED: Wednesday, October 26, 2022 - 8:20am USER: dominic.togione

**AECOM**  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

PROFESSIONAL CERTIFICATION  
"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."  
MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022

10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 29 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

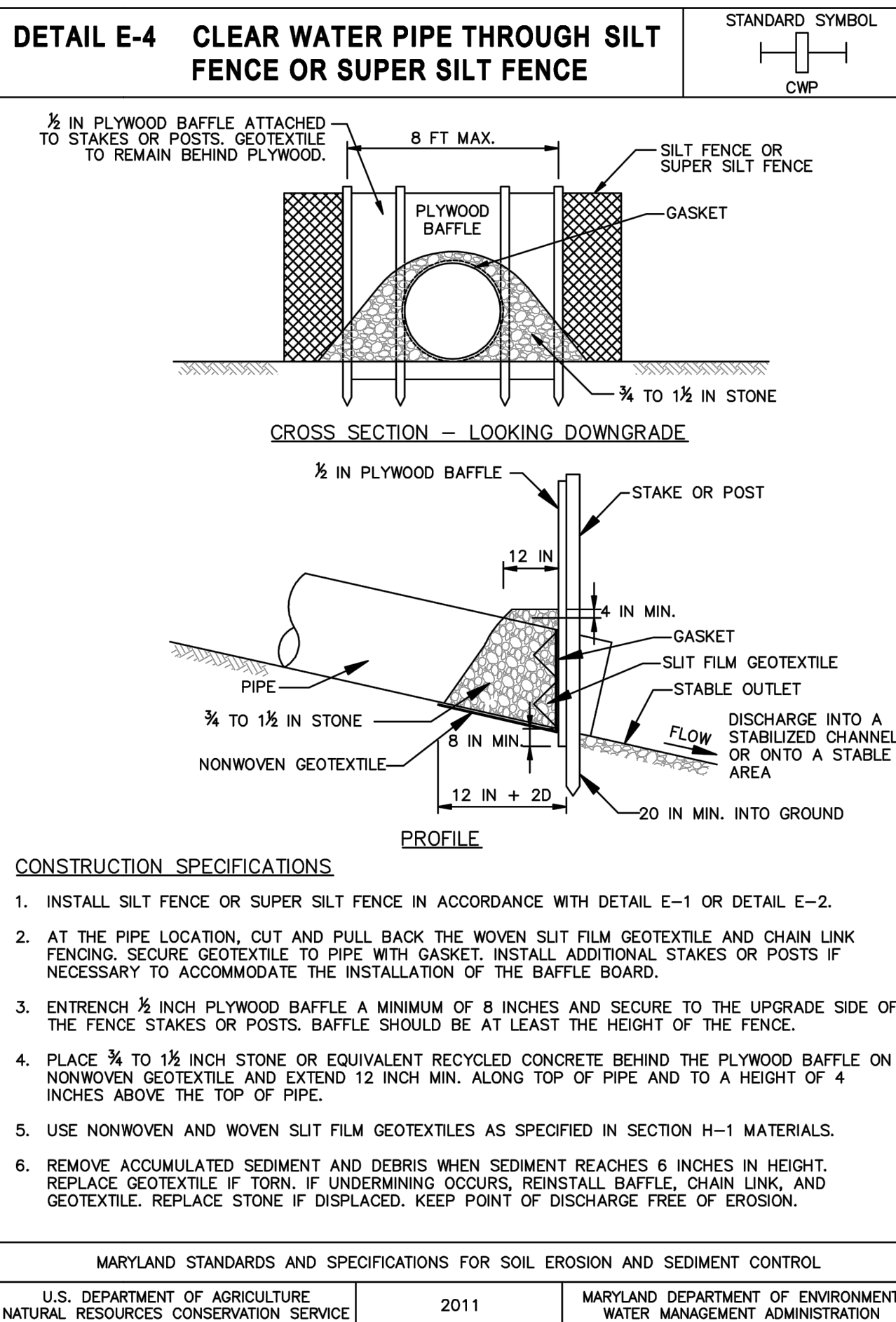
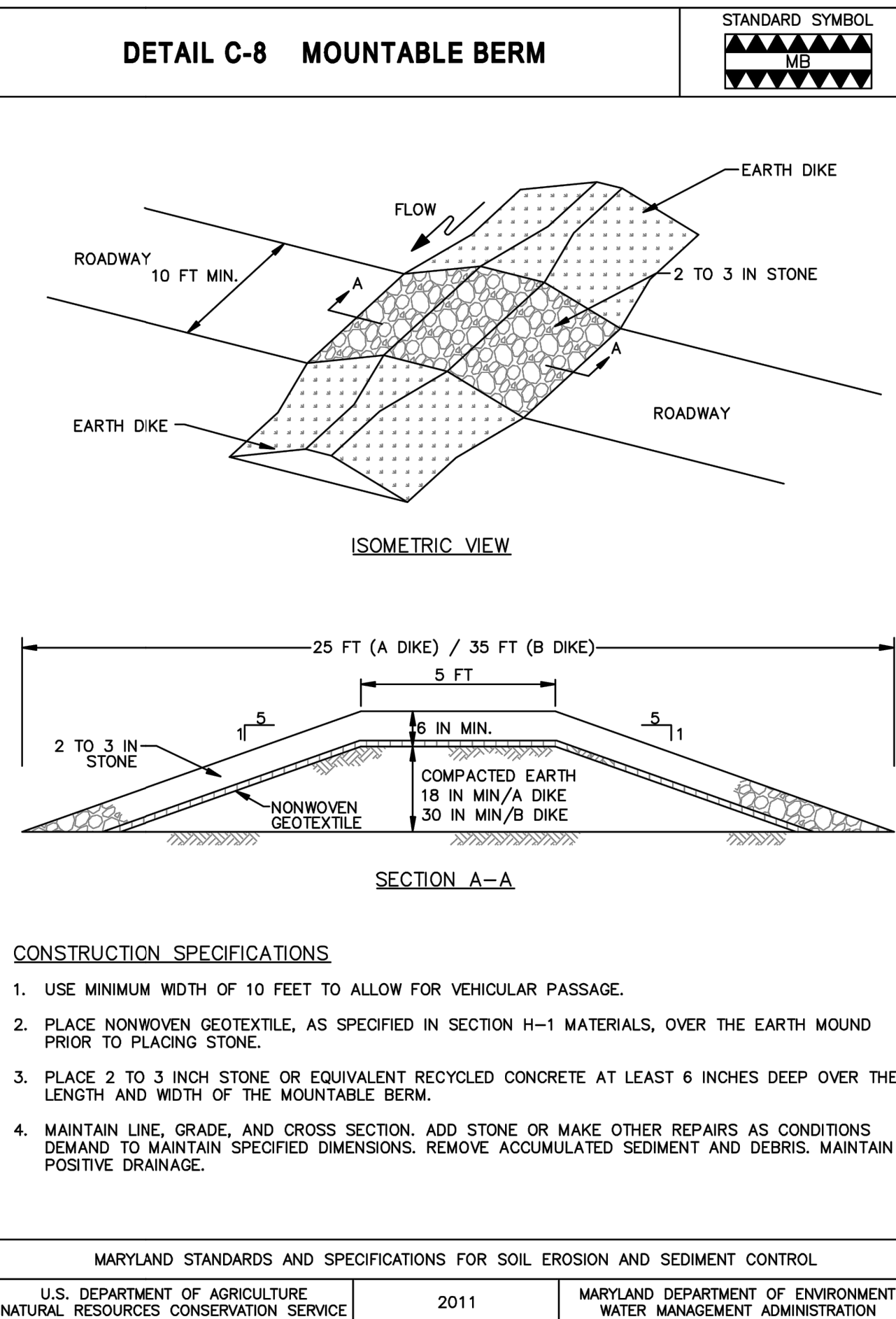
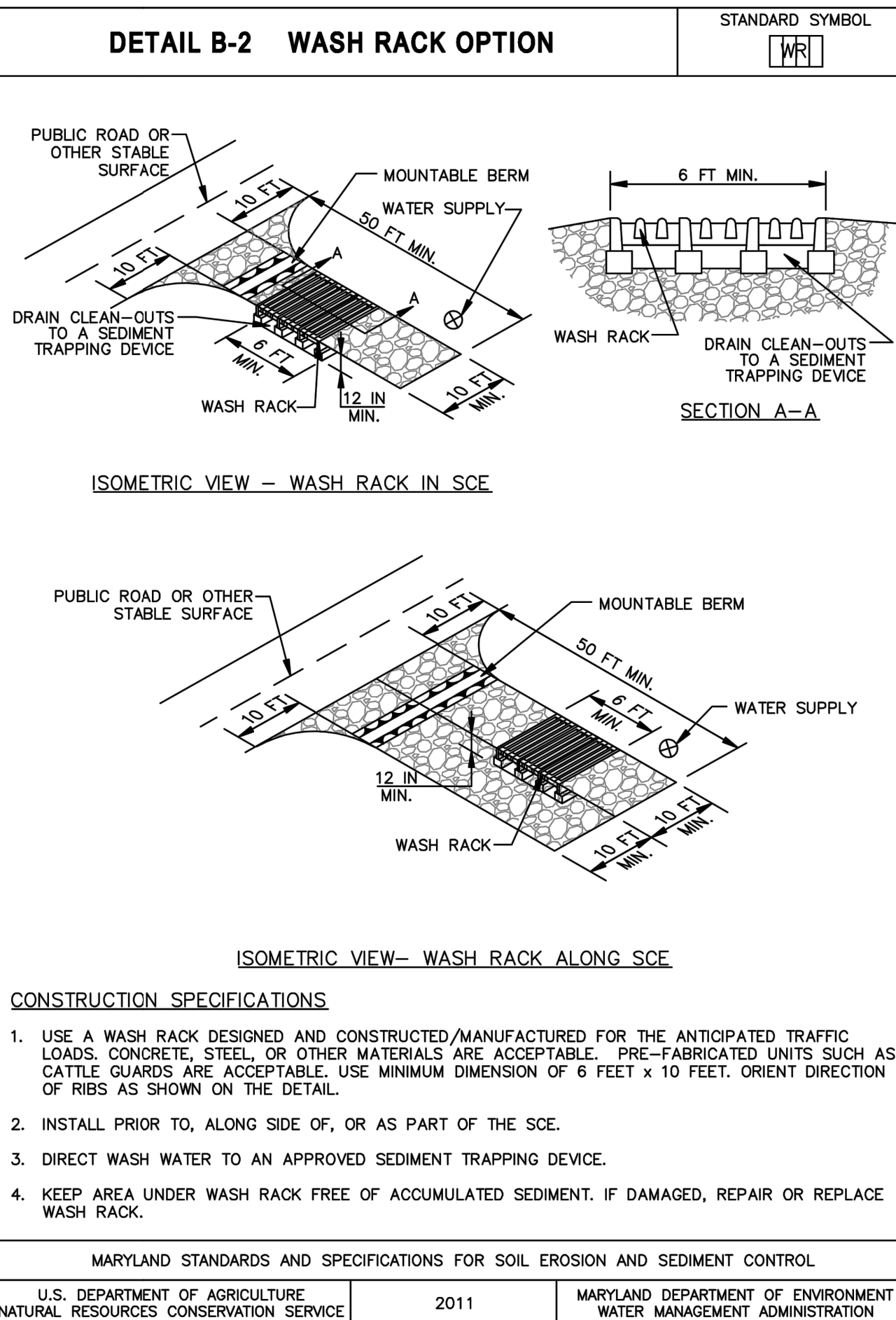
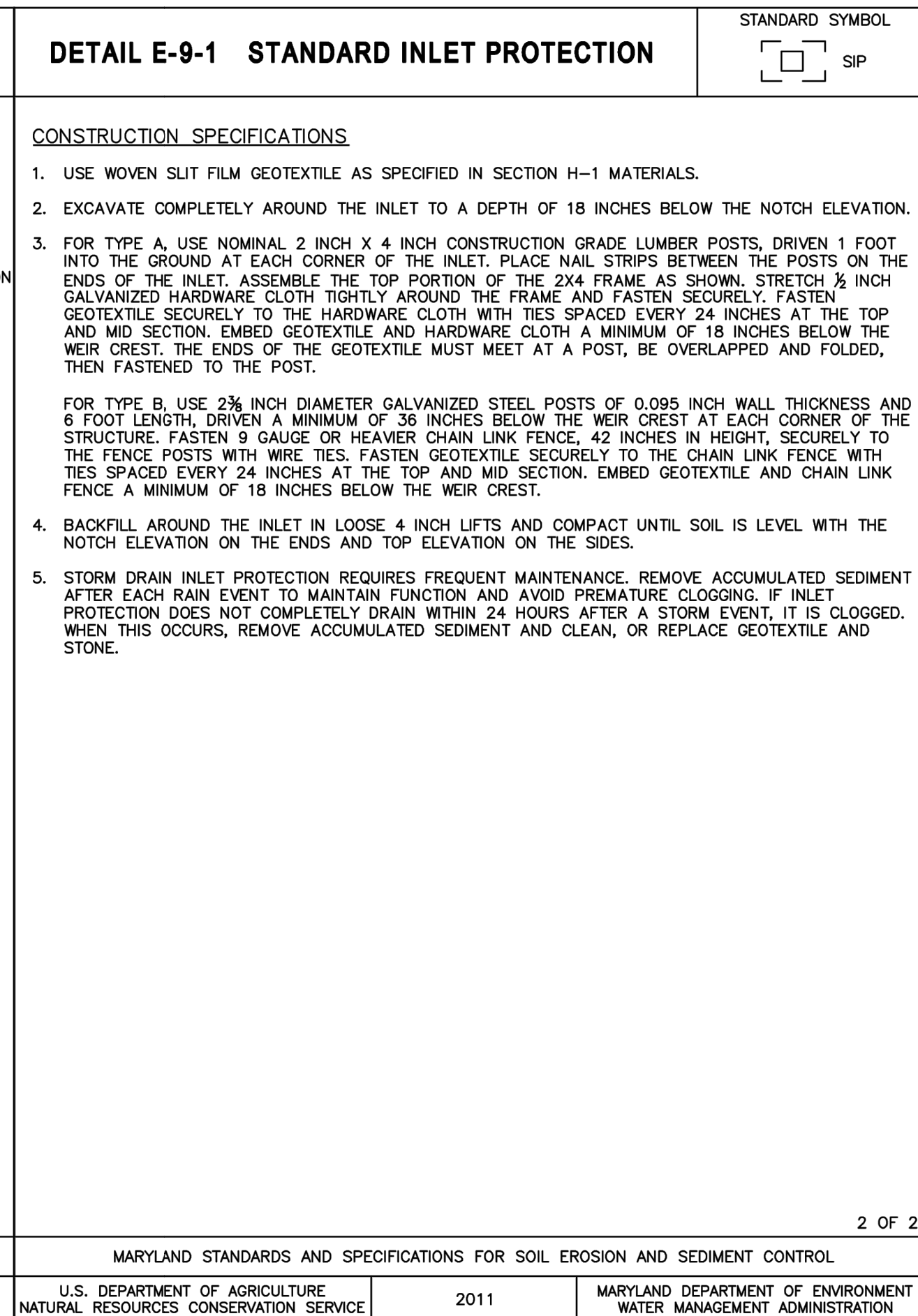
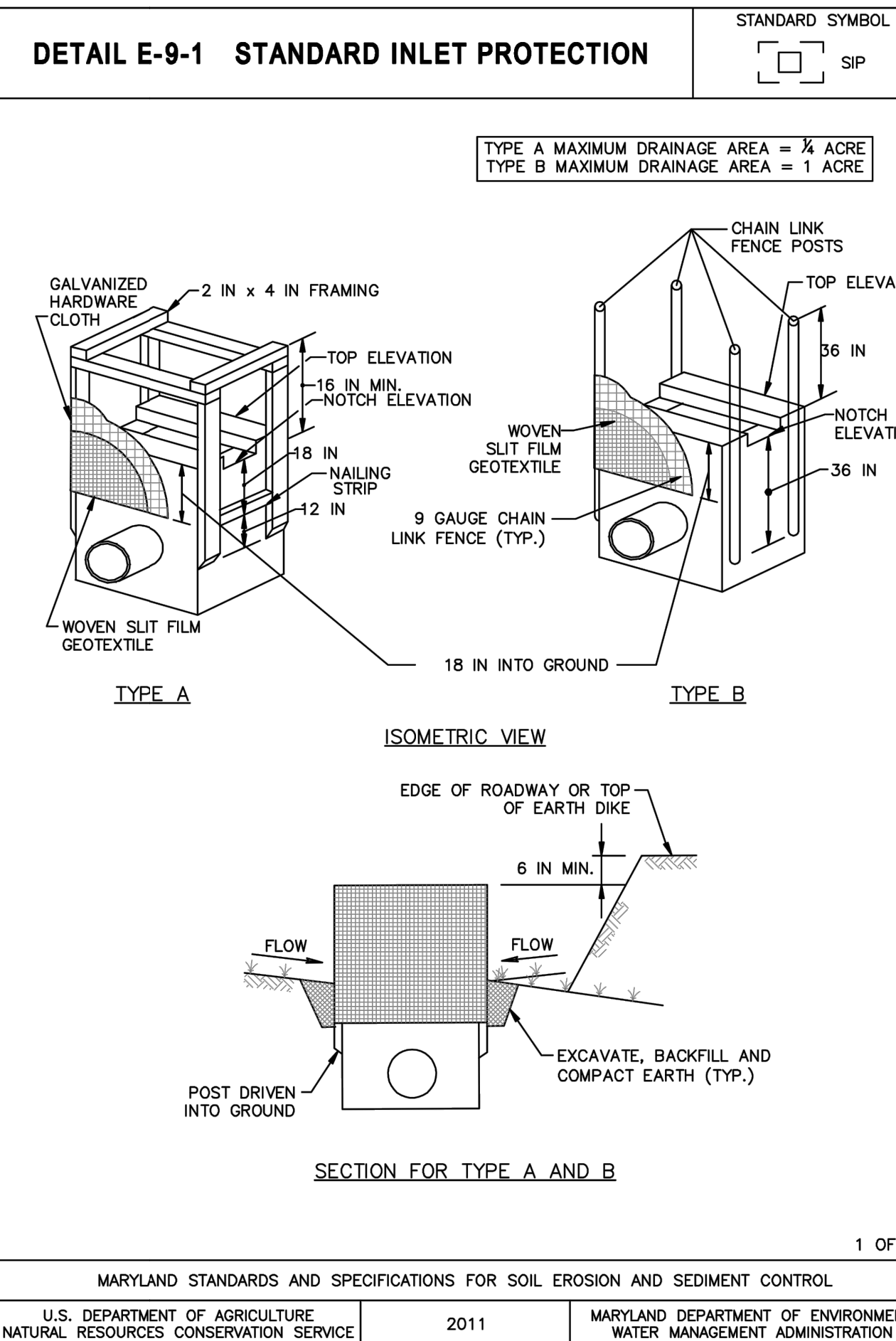
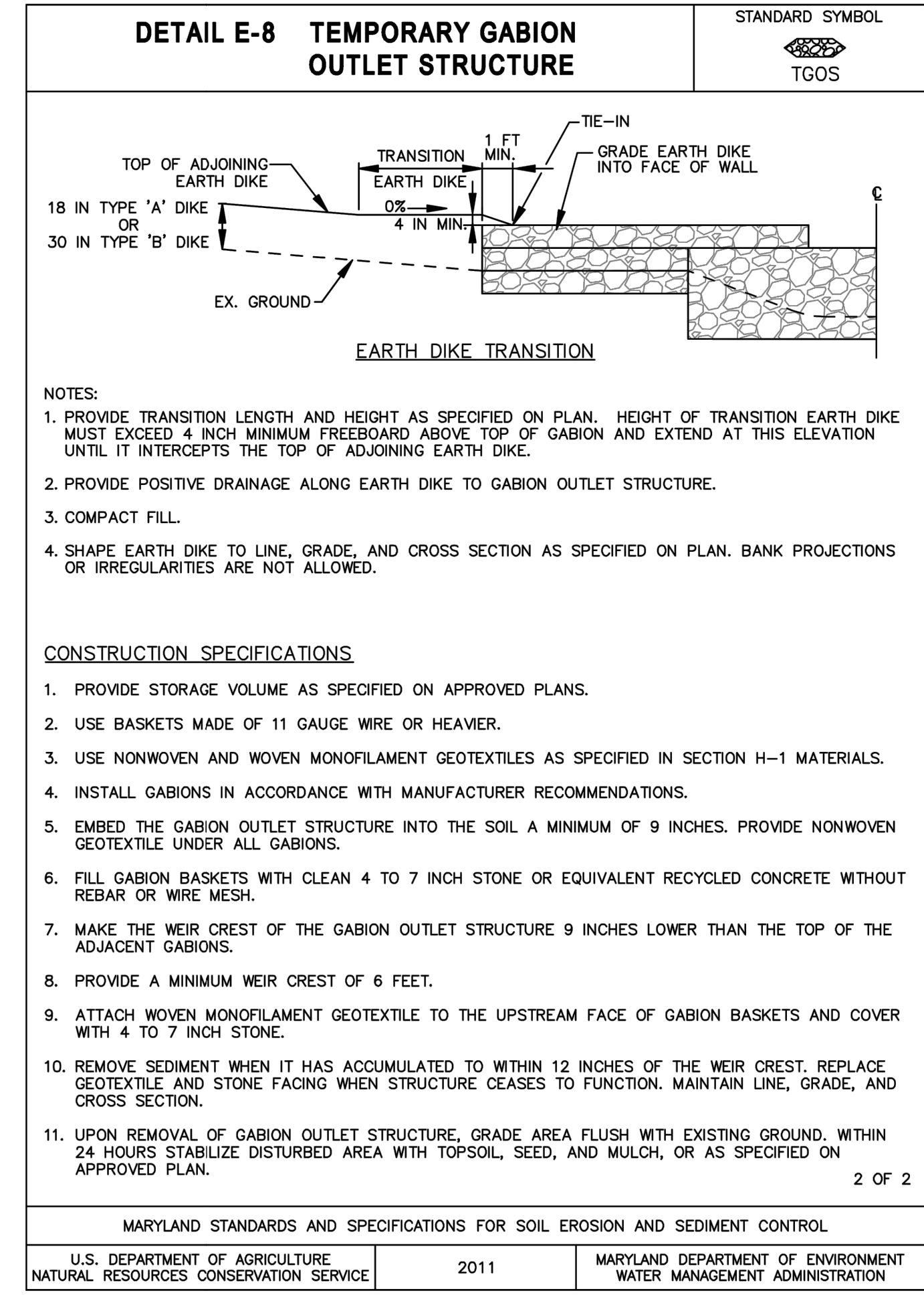
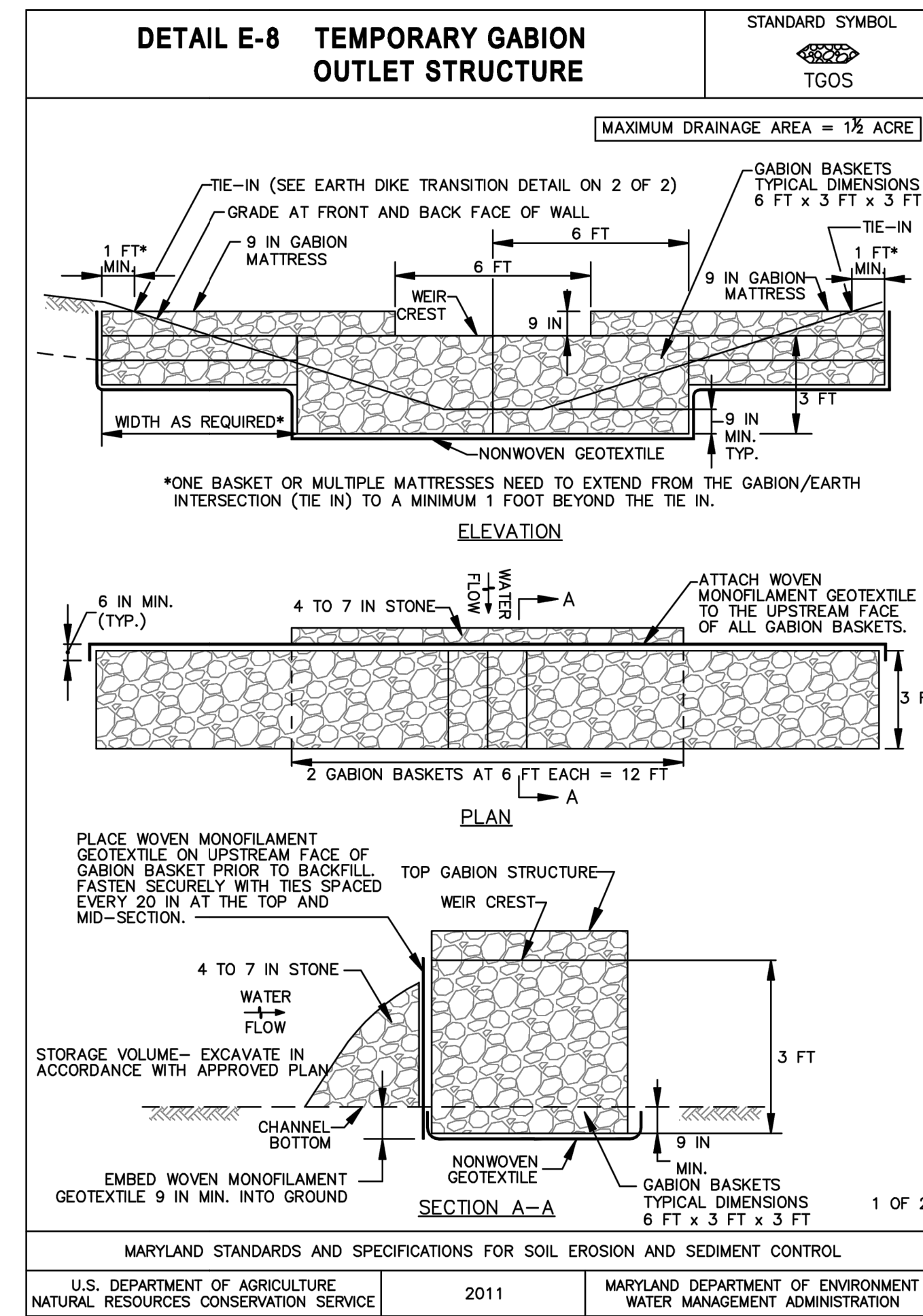
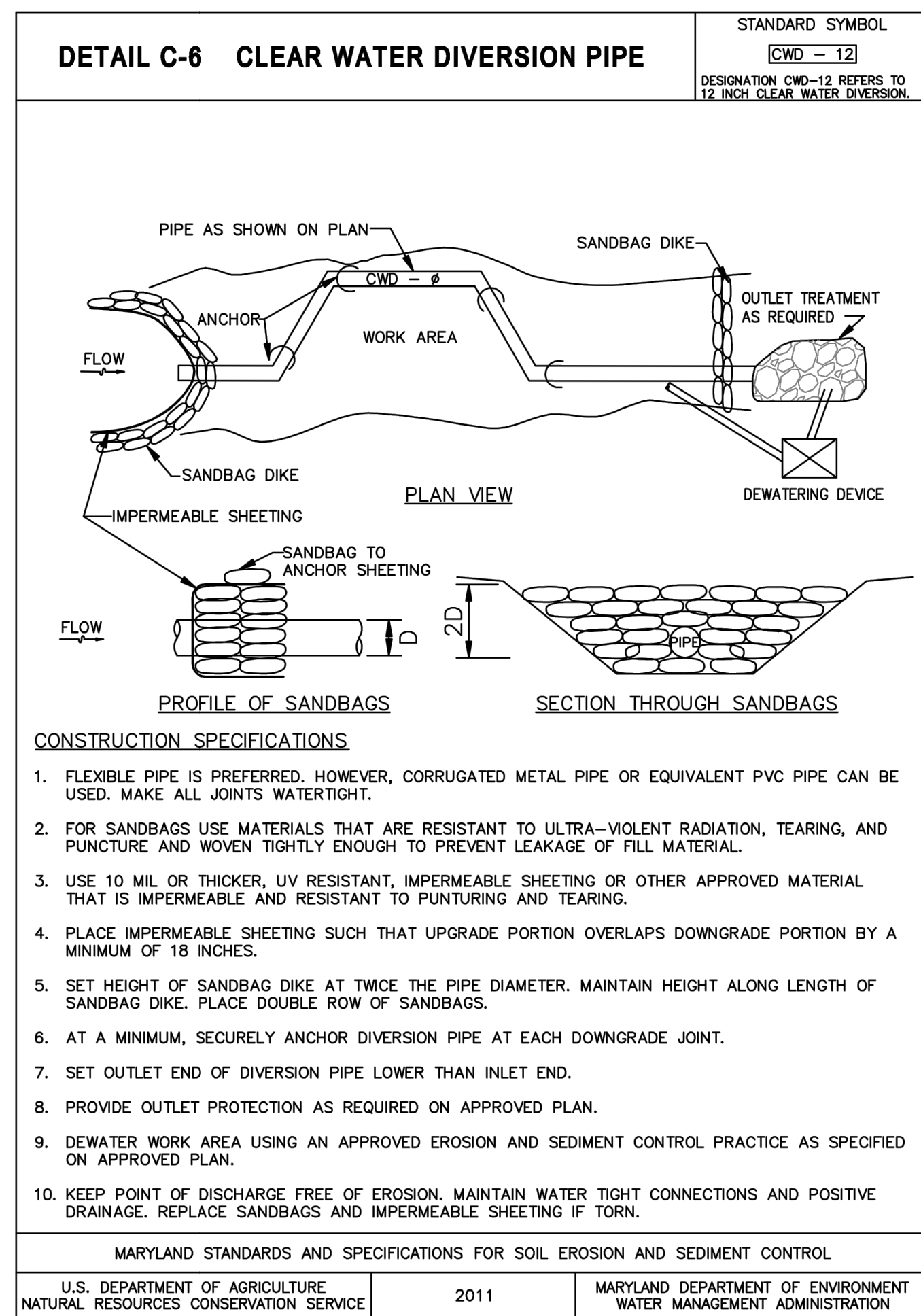
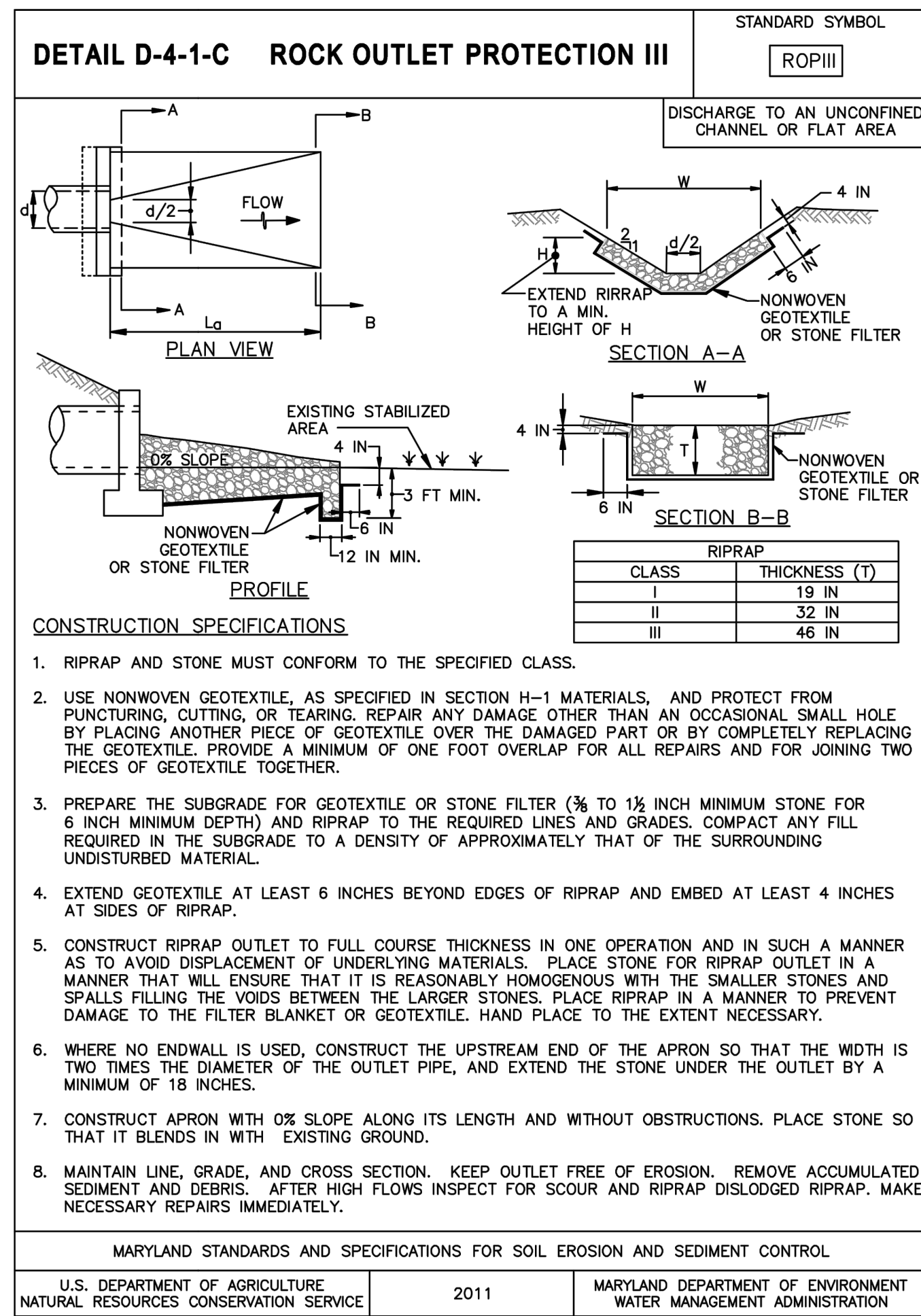
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CHIEF ENGINEER PROJECT MANAGER  
APPROVED DATE APPROVED DATE APPROVED DATE APPROVED DATE

ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY

PENINSULA PARK EXPANSION  
**EROSION AND SEDIMENT CONTROL DETAILS**

GW# G02019203 DWG. NO.: ES-07



**AECOM**

4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

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MD LICENSE NUMBER: 53587  
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NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

CHIEF ENGINEER: \_\_\_\_\_ PROJECT MANAGER: \_\_\_\_\_

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

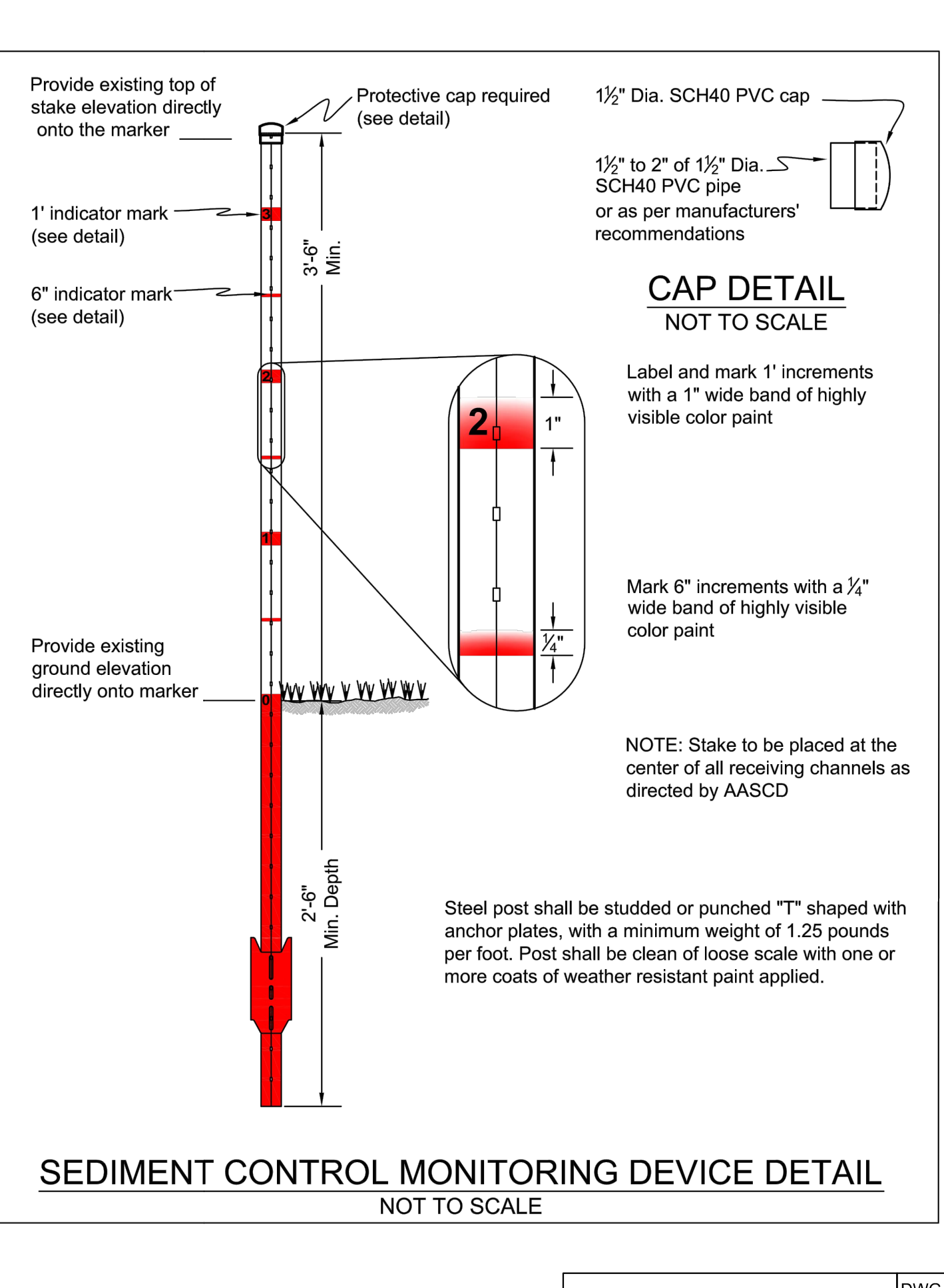
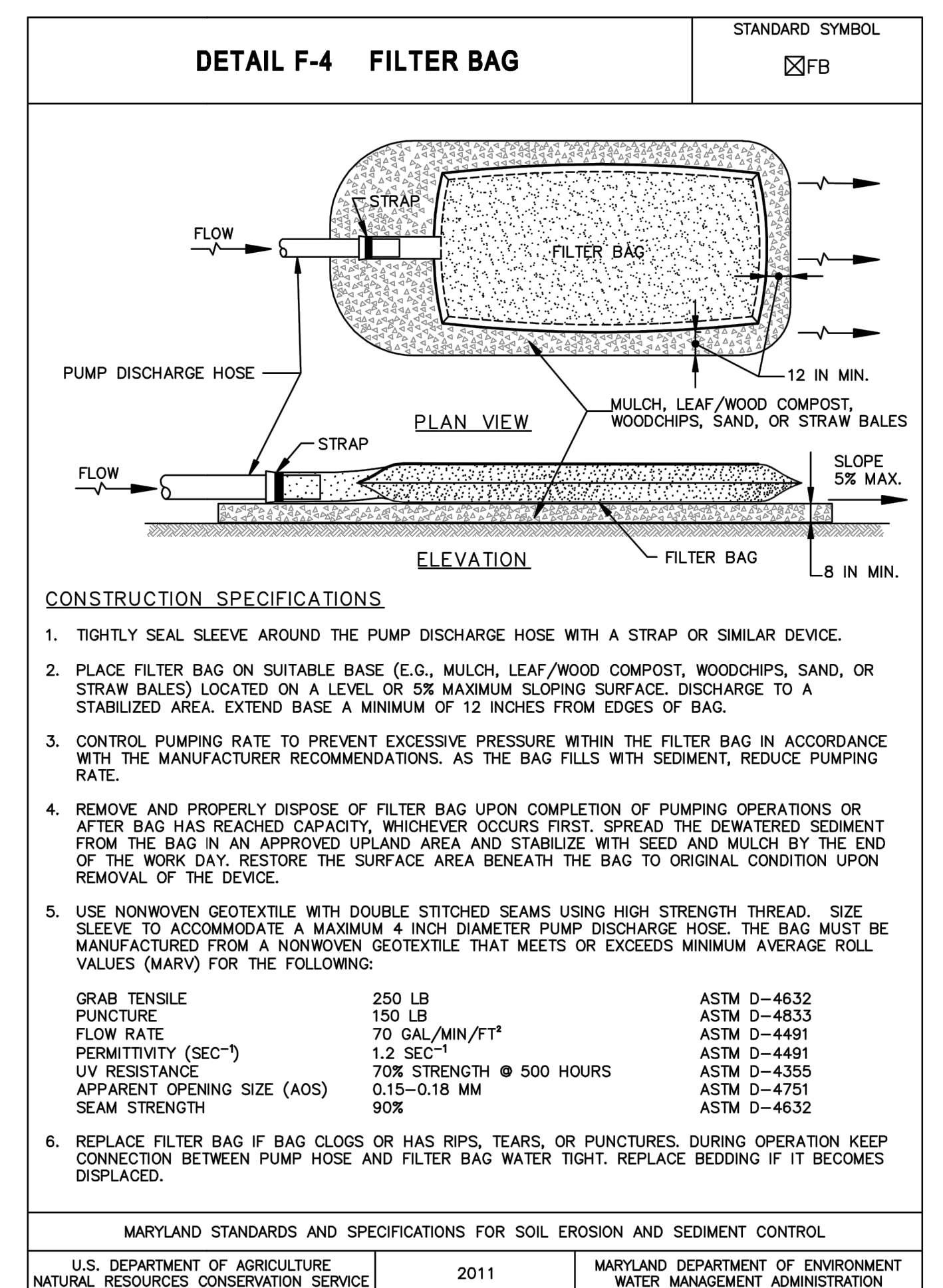
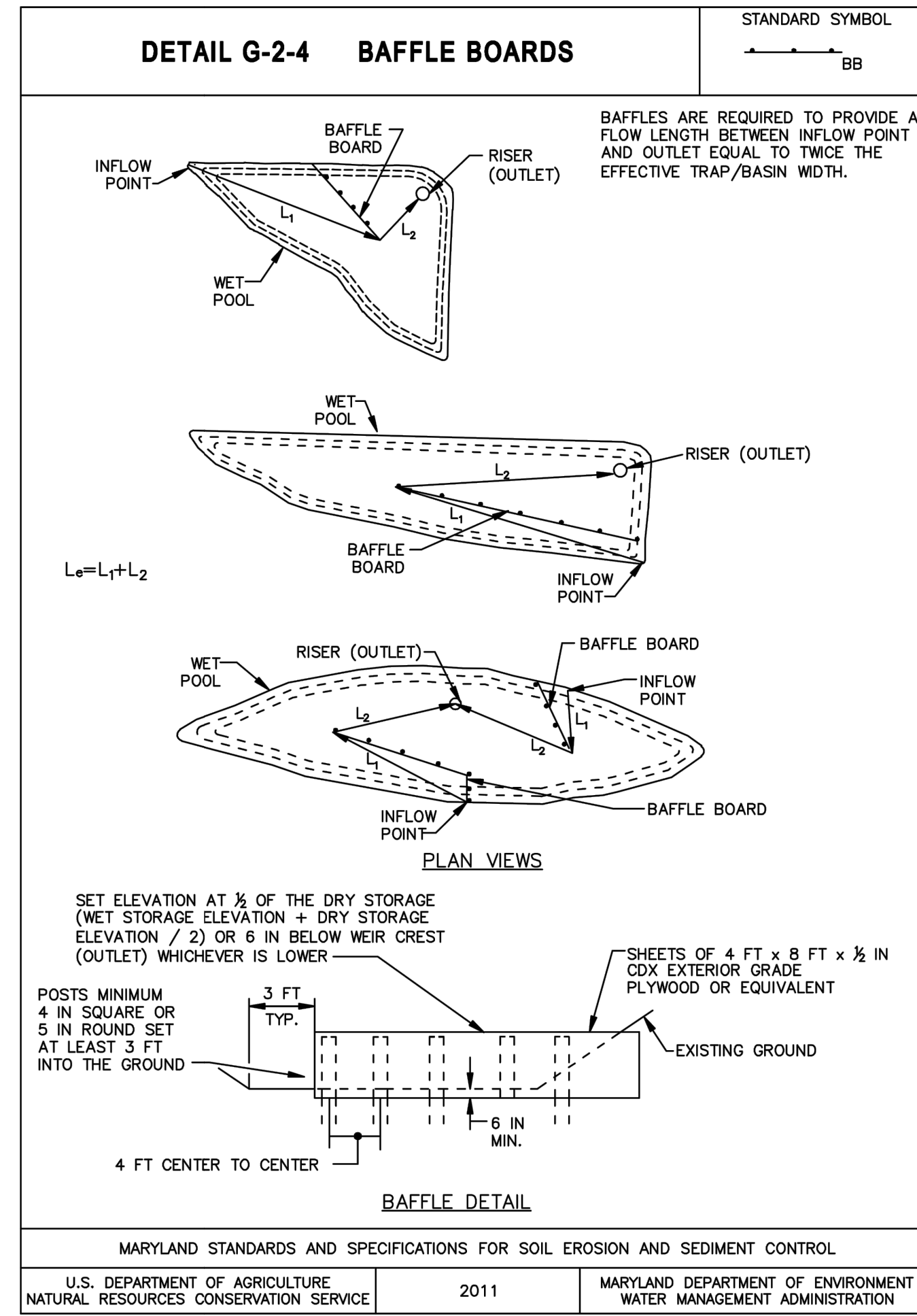
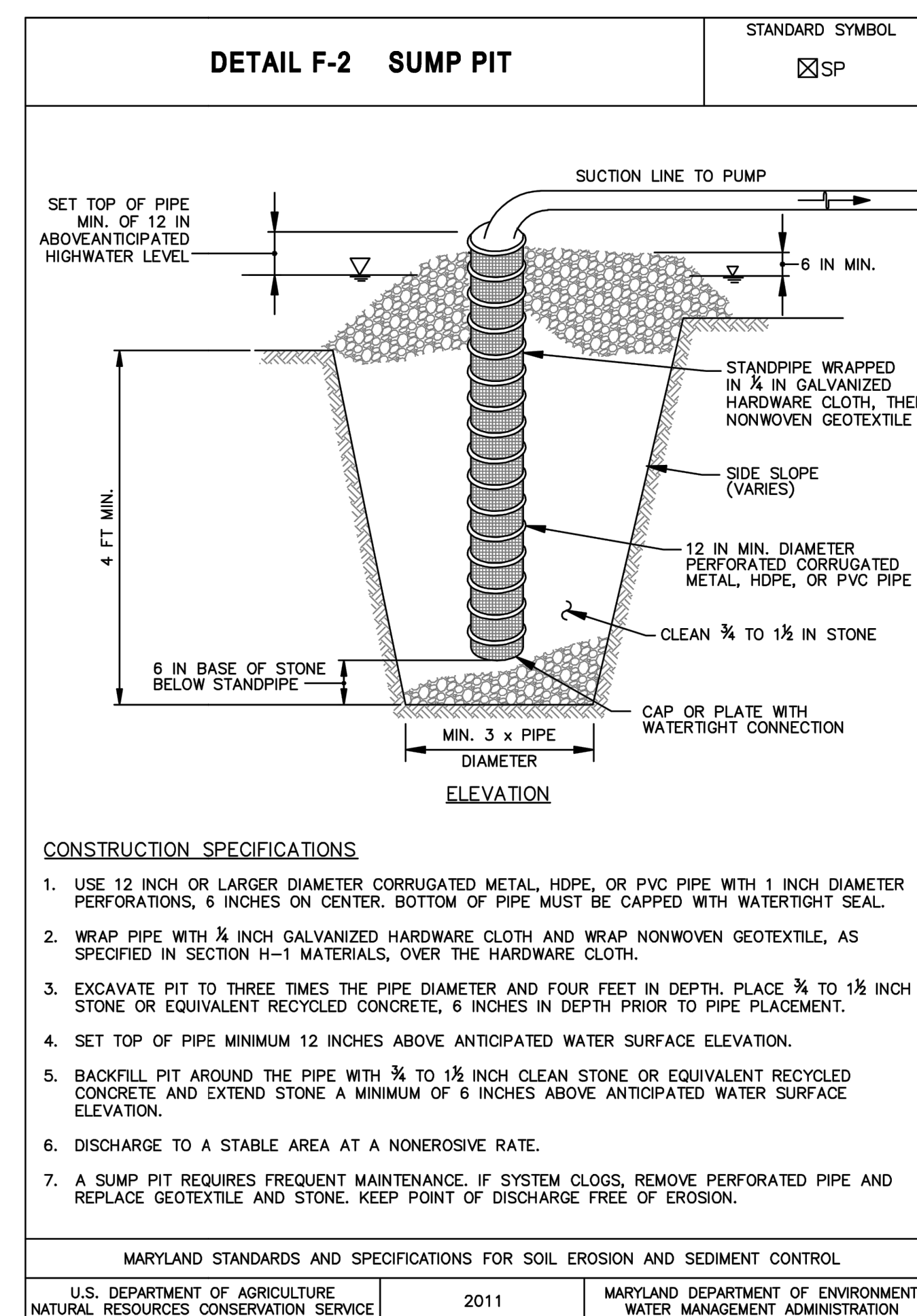
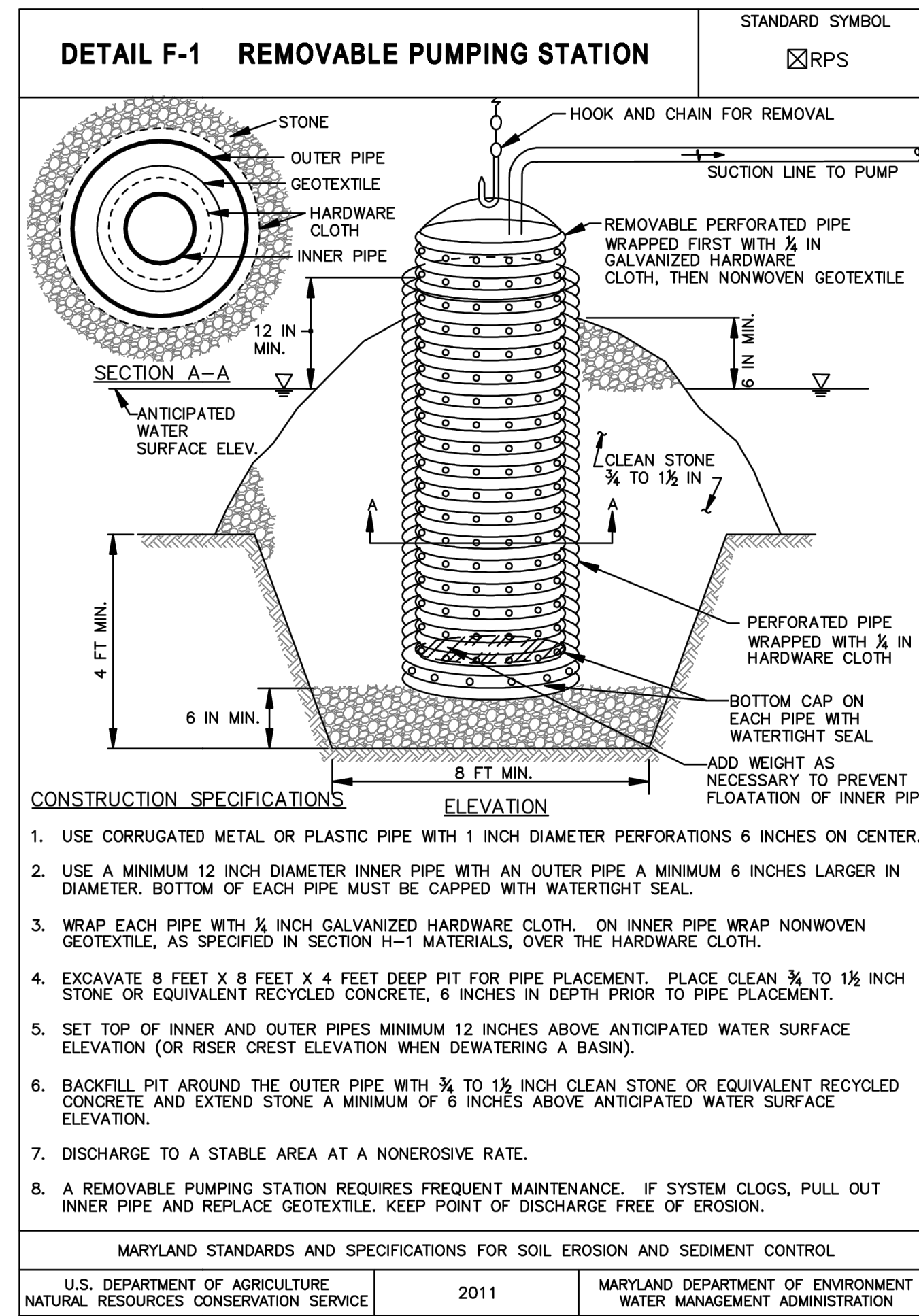
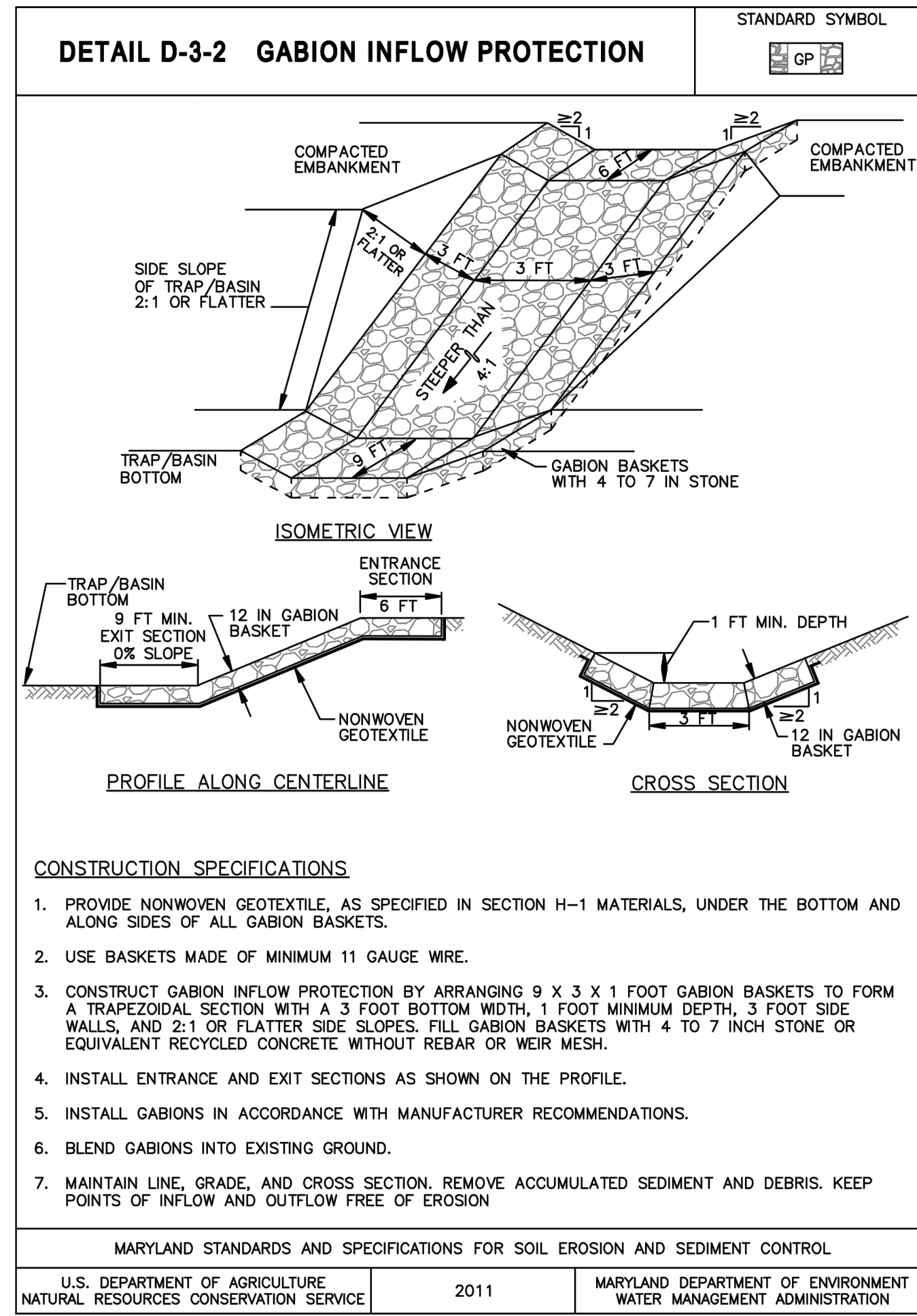
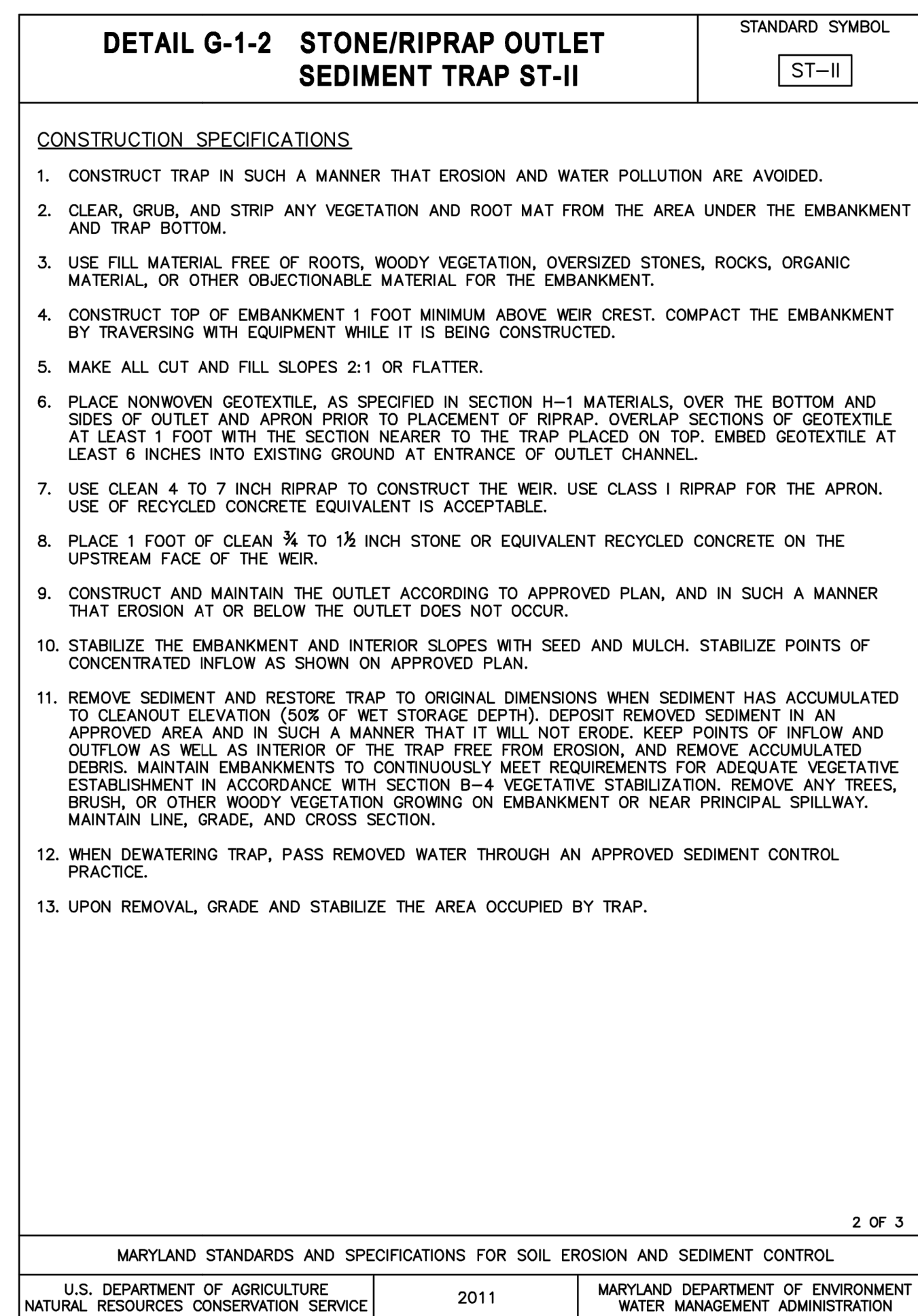
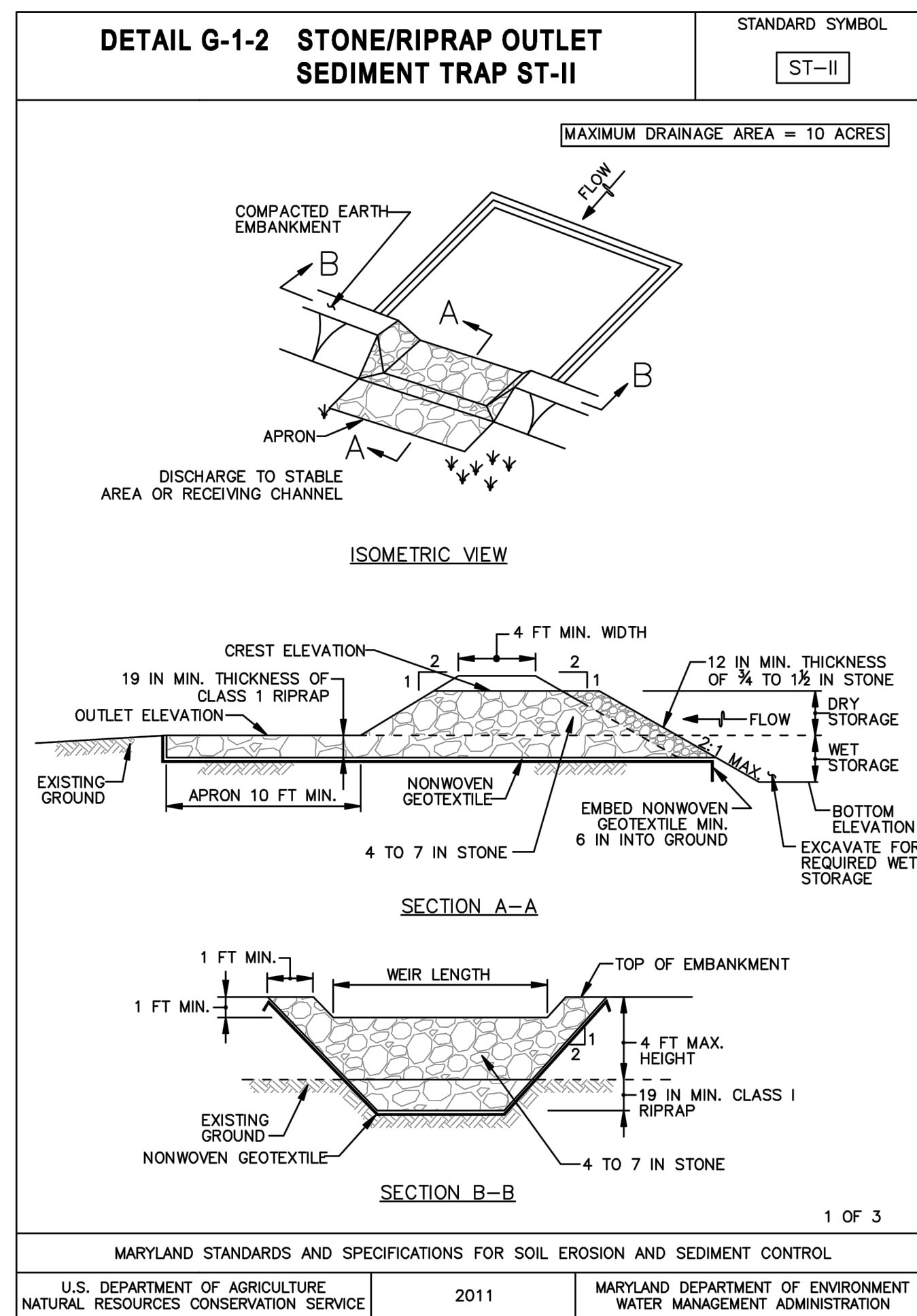
ASSISTANT CHIEF ENGINEER: \_\_\_\_\_ CHIEF, RIGHT OF WAY: \_\_\_\_\_

SCALE: AS NOTED  
DRAWN BY: DT  
CHECKED BY: RK  
SHEET NO. 30 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION

**EROSION AND SEDIMENT CONTROL DETAILS**

GP# G02019203 DWG. NO.: ES-08



**AECOM**

AECOM  
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HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818

PROFESSIONAL CERTIFICATION

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MD LICENSE NUMBER: 53587  
EXPIRATION DATE: 12-09-2022

10/26/2022

NO.	DESCRIPTION	BY	DATE

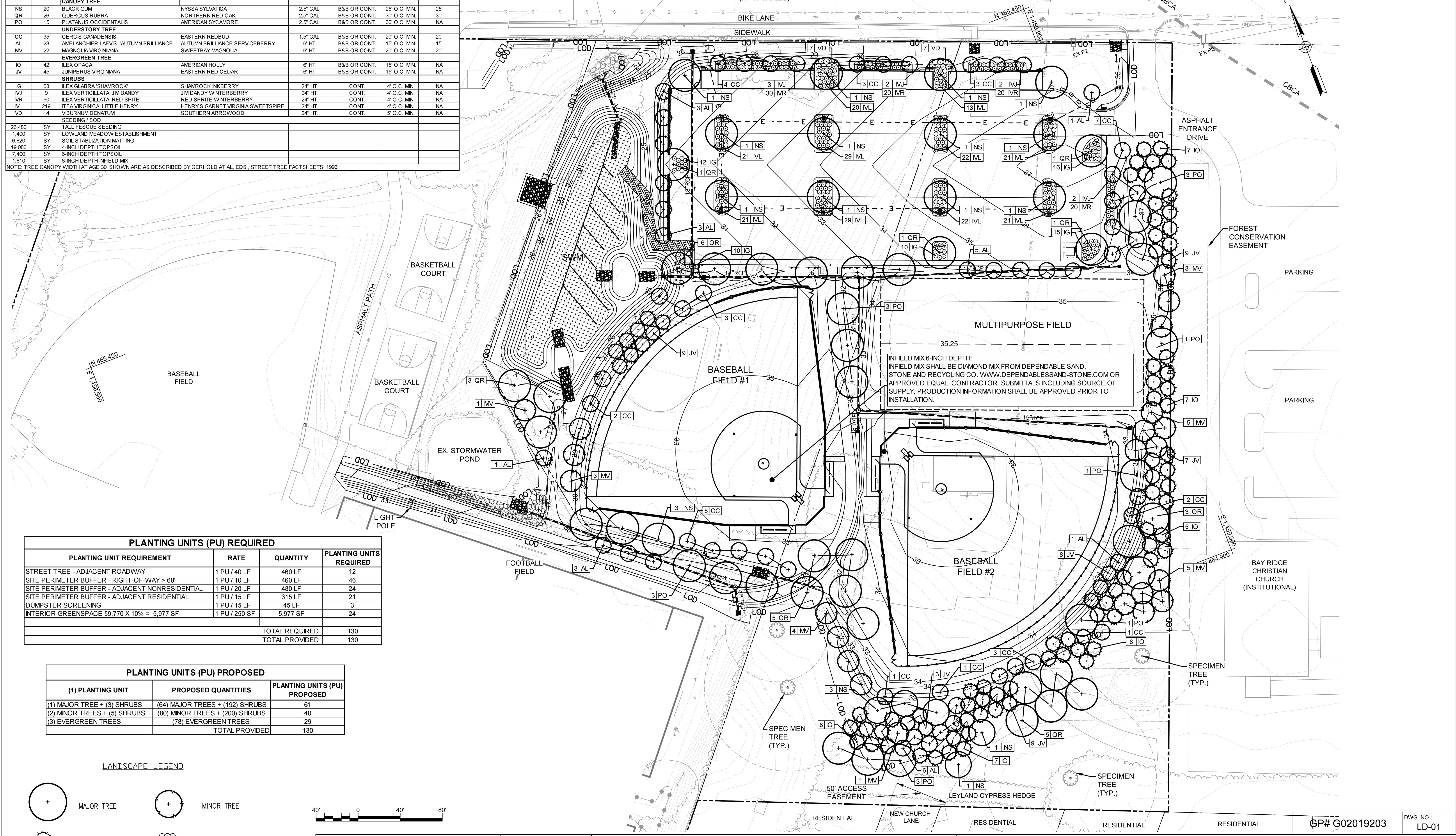
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED	PENINSULA PARK EXPANSION
				DRAWN BY: DT	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: RK	
APPROVED	DATE	APPROVED	DATE	SHEET NO. 31 OF 42	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		PROJECT NO. P509000	<b>EROSION AND SEDIMENT CONTROL DETAILS</b>
				CONTRACT NO. P509006	

**PLANT SCHEDULE**

KEY	TOTAL QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING	TREE CANOPY WIDTH AT AGE 30
<b>CANOPY TREE</b>							
NS	20	BLACK GUM	NYSSA SYLVATICA	2.5" CAL	B&B OR CONT.	25' O.C. MIN	25'
QR	26	QUERCUS RUBRA	NORTHERN RED OAK	2.5" CAL	B&B OR CONT.	30' O.C. MIN	30'
PO	15	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.5" CAL	B&B OR CONT.	30' O.C. MIN	NA
<b>UNDERSTORY TREE</b>							
CC	35	CERCIS CANADENSIS	EASTERN REDBUD	1.5" CAL	B&B OR CONT.	20' O.C. MIN	20'
AL	23	AMELANCHIER LAEVIS 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	6" HT.	B&B OR CONT.	15' O.C. MIN	15'
MV	22	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	6" HT.	B&B OR CONT.	20' O.C. MIN	20'
<b>EVERGREEN TREE</b>							
IO	42	ILEX OPACA	AMERICAN HOLLY	6" HT.	B&B OR CONT.	15' O.C. MIN	NA
JV	45	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6" HT.	B&B OR CONT.	15' O.C. MIN	NA
<b>SHRUBS</b>							
IG	63	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	24" HT.	CONT.	4' O.C. MIN	NA
NJ	9	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	24" HT.	CONT.	4' O.C. MIN	NA
NR	90	ILEX VERTICILLATA 'RED SPITE'	RED SPITE WINTERBERRY	24" HT.	CONT.	4' O.C. MIN	NA
ML	219	ITEA VIRGINICA 'LITTLE HENRY'	HENRY'S GARNET VIRGINIA SWEETSPIRE	24" HT.	CONT.	4' O.C. MIN	NA
VD	14	VIBURNUM DENATUM	SOUTHERN ARROWOOD	24" HT.	CONT.	5' O.C. MIN	NA
<b>SEEDING / SOIL</b>							
26,480	SY	TALL FESCUE SEEDING					
1,400	SY	LOWLAND MEADOW ESTABLISHMENT					
6,820	SY	SOIL STABILIZATION MATTING					
19,080	SY	4-INCH DEPTH TOPSOIL					
7,400	SY	6-INCH DEPTH TOPSOIL					
1,610	SY	6-INCH DEPTH INFIELD MIX					
NOTE: TREE CANOPY WIDTH AT AGE 30 SHOWN ARE AS DESCRIBED BY GERHOLD AT AL. EDS. STREET TREE FACTSHEETS, 1993							

**BAY RIDGE ROAD**  
(R / W VARIES)



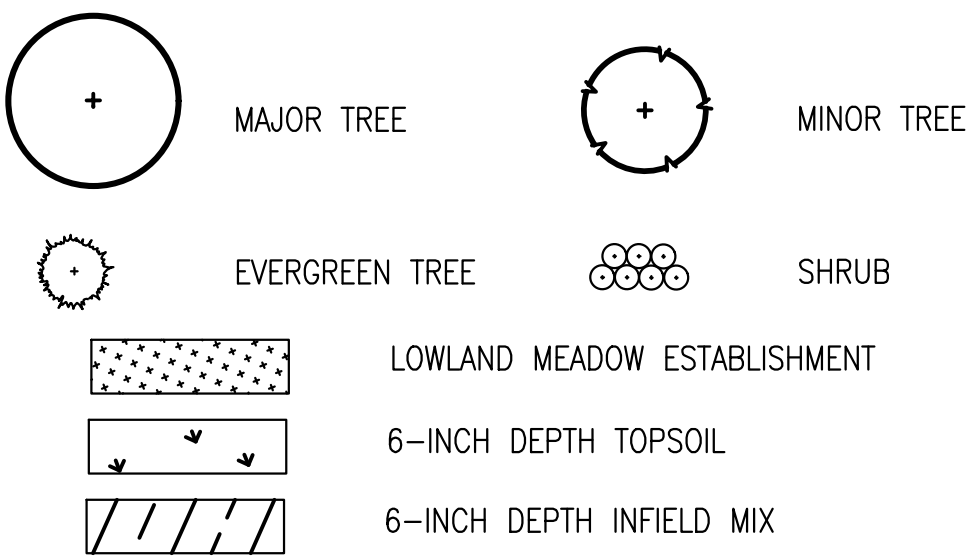
**PLANTING UNITS (PU) REQUIRED**

PLANTING UNIT REQUIREMENT	RATE	QUANTITY	PLANTING UNITS REQUIRED
STREET TREE - ADJACENT ROADWAY	1 PU / 40 LF	460 LF	12
SITE PERIMETER BUFFER - RIGHT-OF-WAY > 60'	1 PU / 10 LF	460 LF	46
SITE PERIMETER BUFFER - ADJACENT NONRESIDENTIAL	1 PU / 20 LF	480 LF	24
SITE PERIMETER BUFFER - ADJACENT RESIDENTIAL	1 PU / 15 LF	315 LF	21
DUMPSTER SCREENING	1 PU / 15 LF	45 LF	3
INTERIOR GREENSPACE 59,770 X 10% = 5,977 SF	1 PU / 250 SF	5,977 SF	24
<b>TOTAL REQUIRED</b>			<b>130</b>
<b>TOTAL PROVIDED</b>			<b>130</b>

**PLANTING UNITS (PU) PROPOSED**

(1) PLANTING UNIT	PROPOSED QUANTITIES	PLANTING UNITS (PU) PROPOSED
(1) MAJOR TREE + (3) SHRUBS	(64) MAJOR TREES + (192) SHRUBS	61
(2) MINOR TREES + (5) SHRUBS	(80) MINOR TREES + (200) SHRUBS	40
(3) EVERGREEN TREES	(78) EVERGREEN TREES	29
<b>TOTAL PROVIDED</b>		<b>130</b>

**LANDSCAPE LEGEND**



NOTE: SEE LD-02 FOR LANDSCAPE NOTES.



**AECOM**

4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7220  
FAX: 410-785-6818



10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**

APPROVED: [Signature] DATE: [Date]

CHIEF ENGINEER

APPROVED: [Signature] DATE: [Date]

ASSISTANT CHIEF ENGINEER

APPROVED: [Signature] DATE: [Date]

PROJECT MANAGER

CHIEF, RIGHT OF WAY

SCALE: 1"=40'

DRAWN BY: DT

CHECKED BY: RK

SHEET NO. 32 OF 42

PROJECT NO. P509000

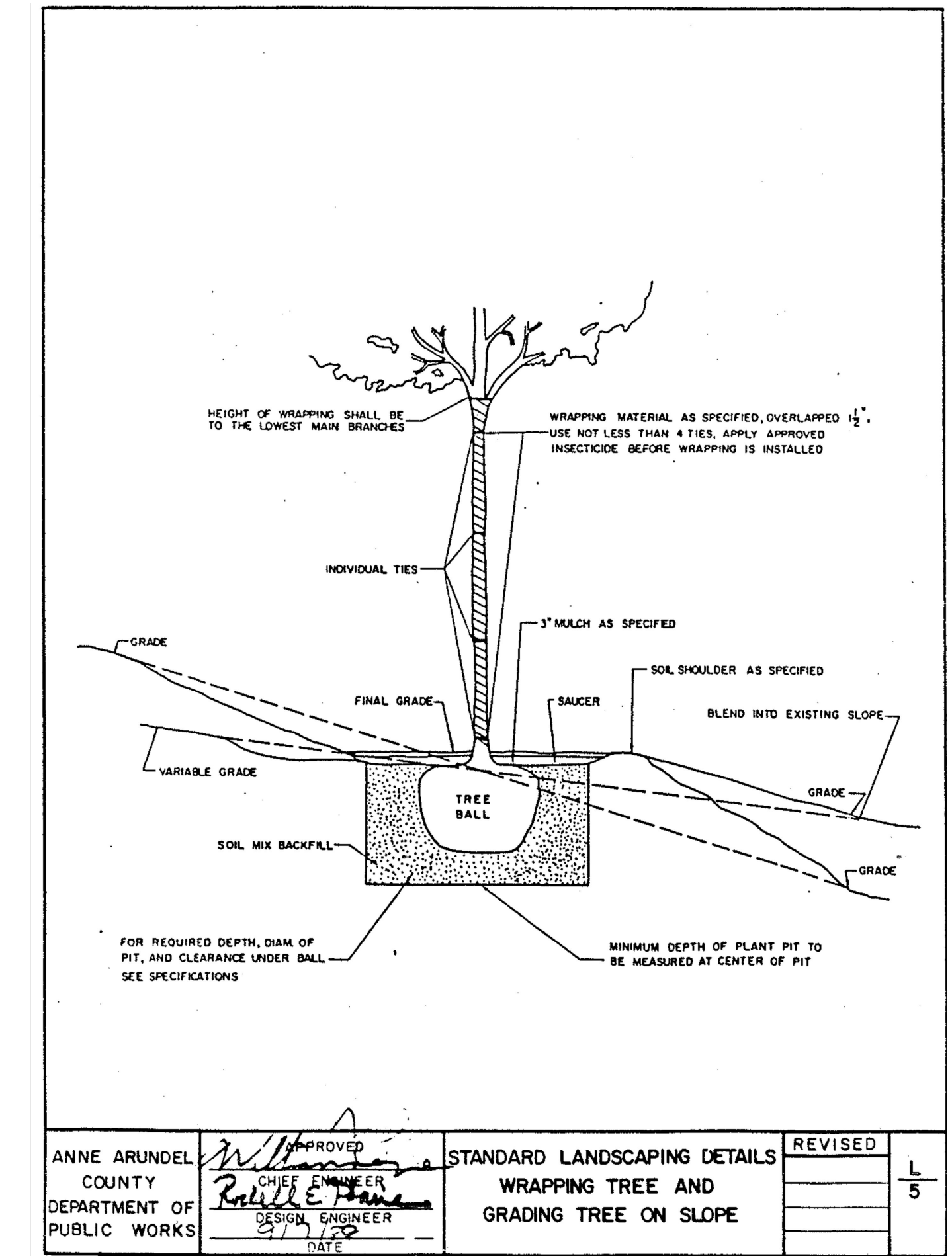
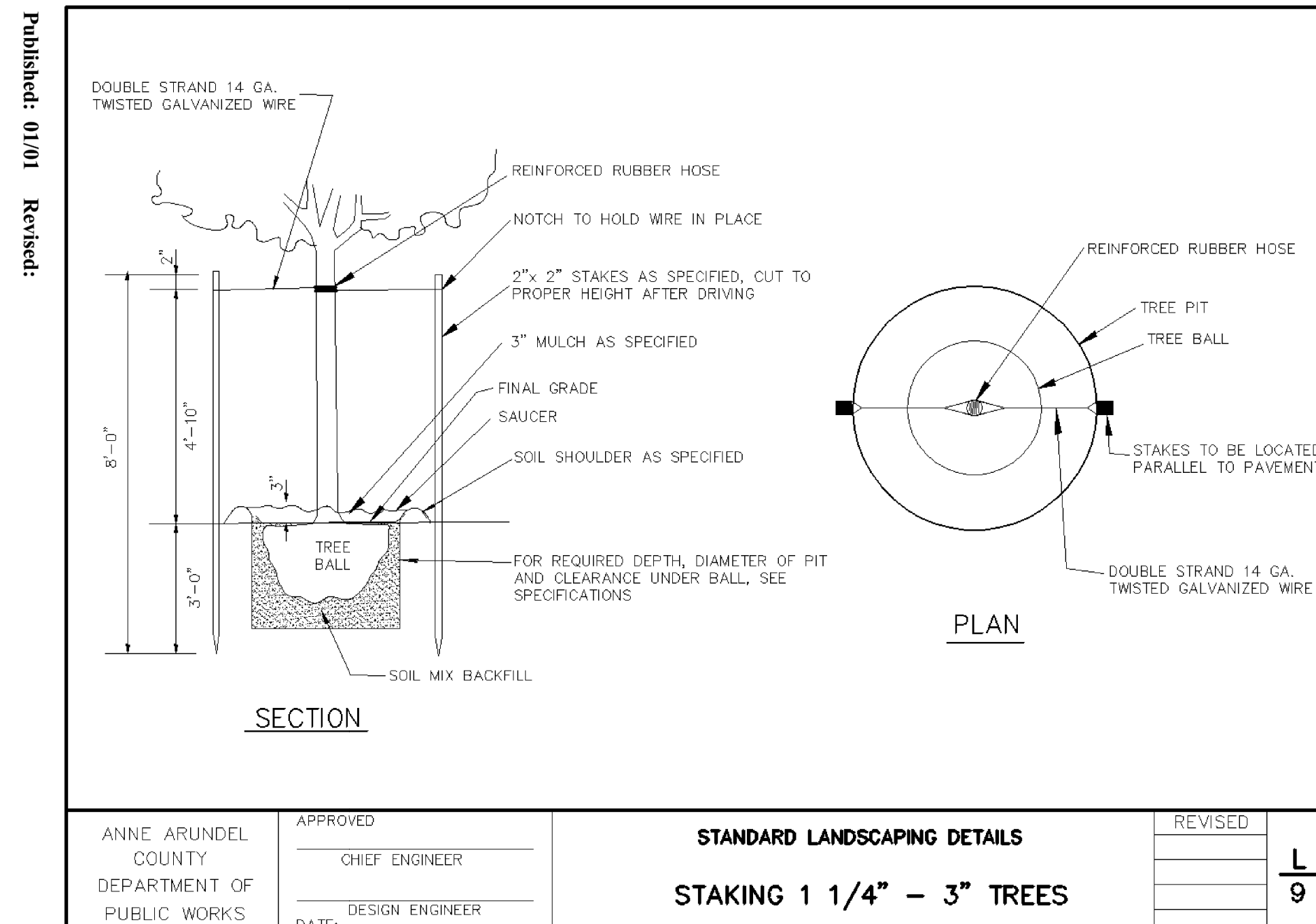
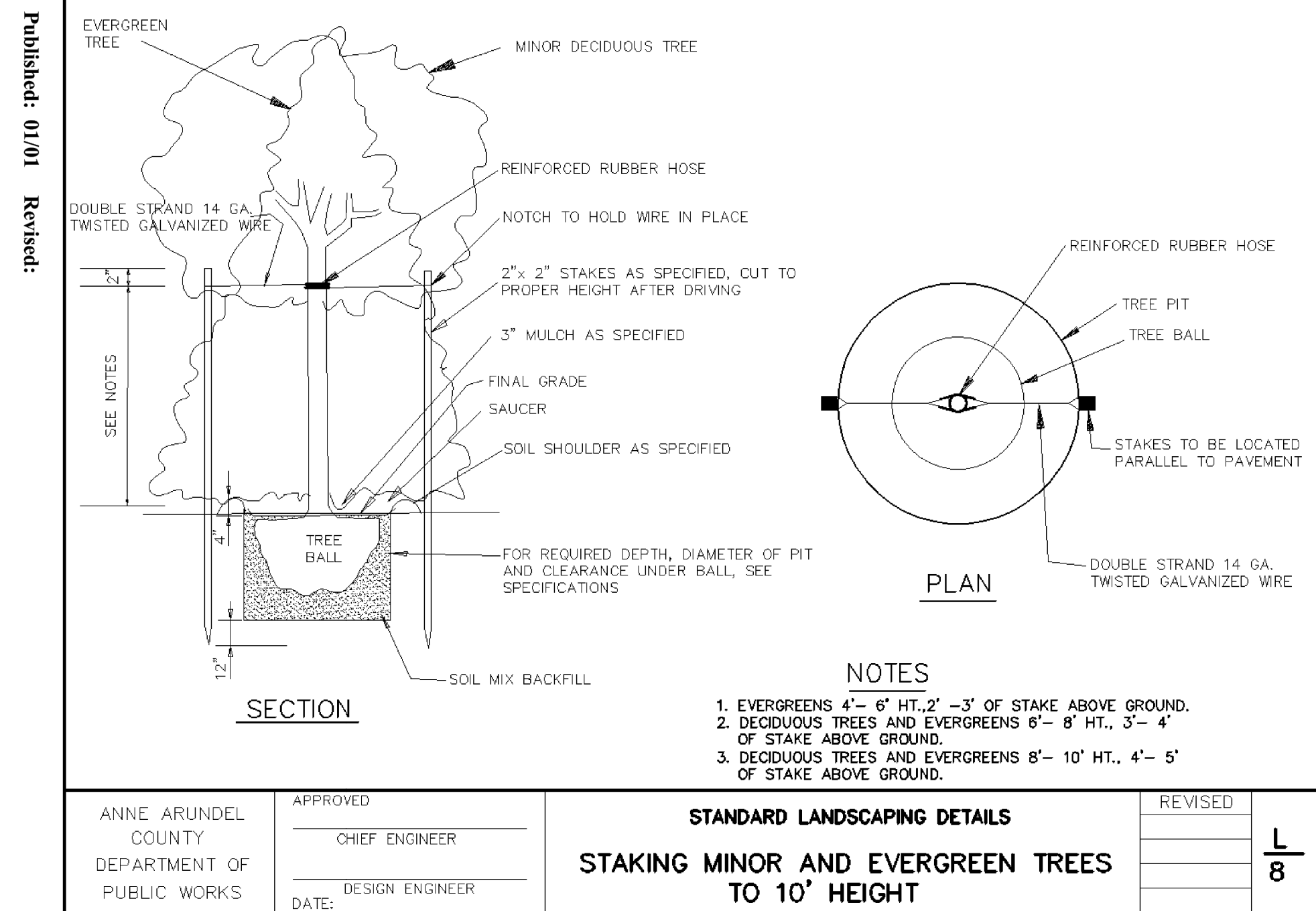
CONTRACT NO. P509006

**PENINSULA PARK EXPANSION**

**LANDSCAPE PLAN**

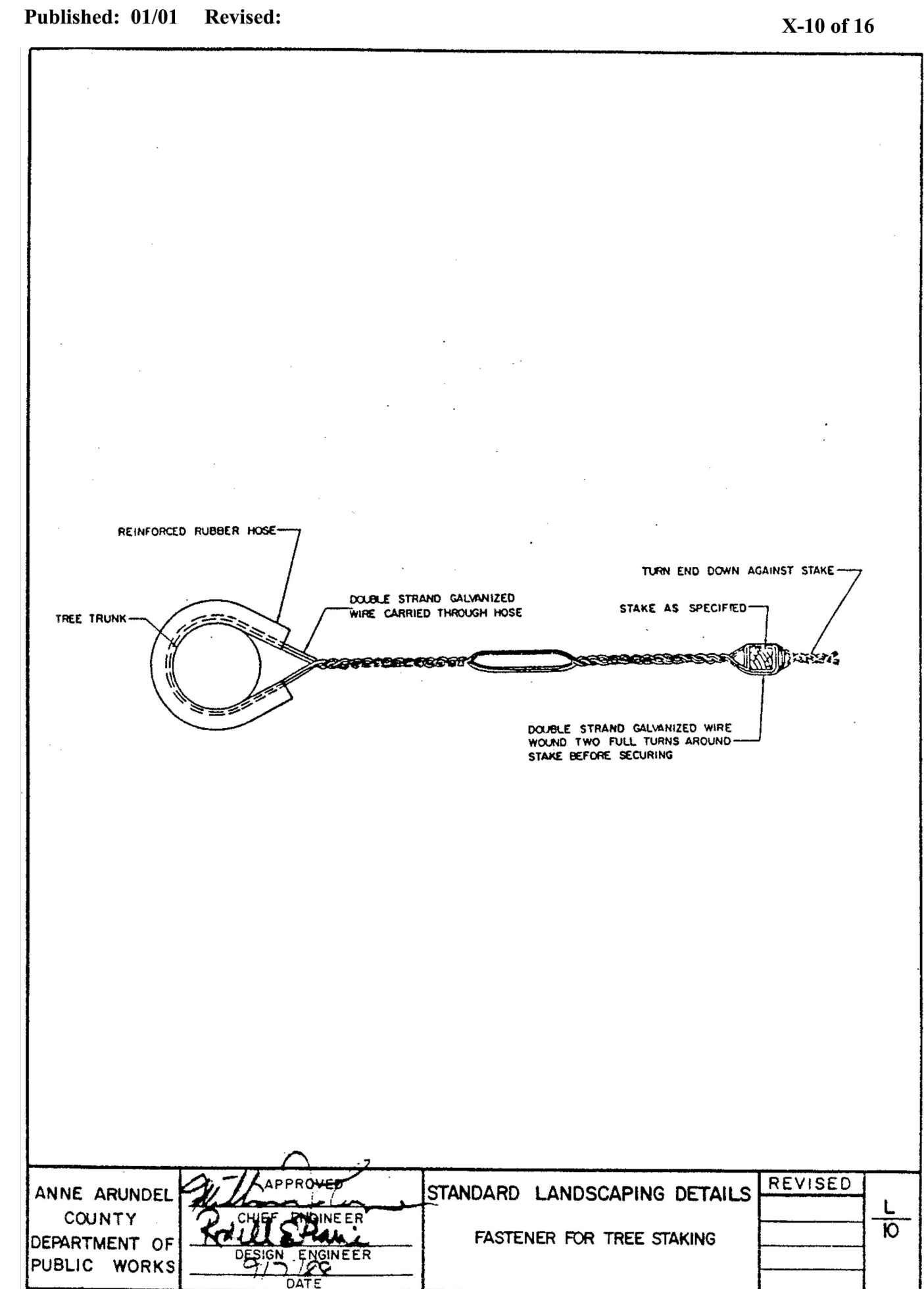
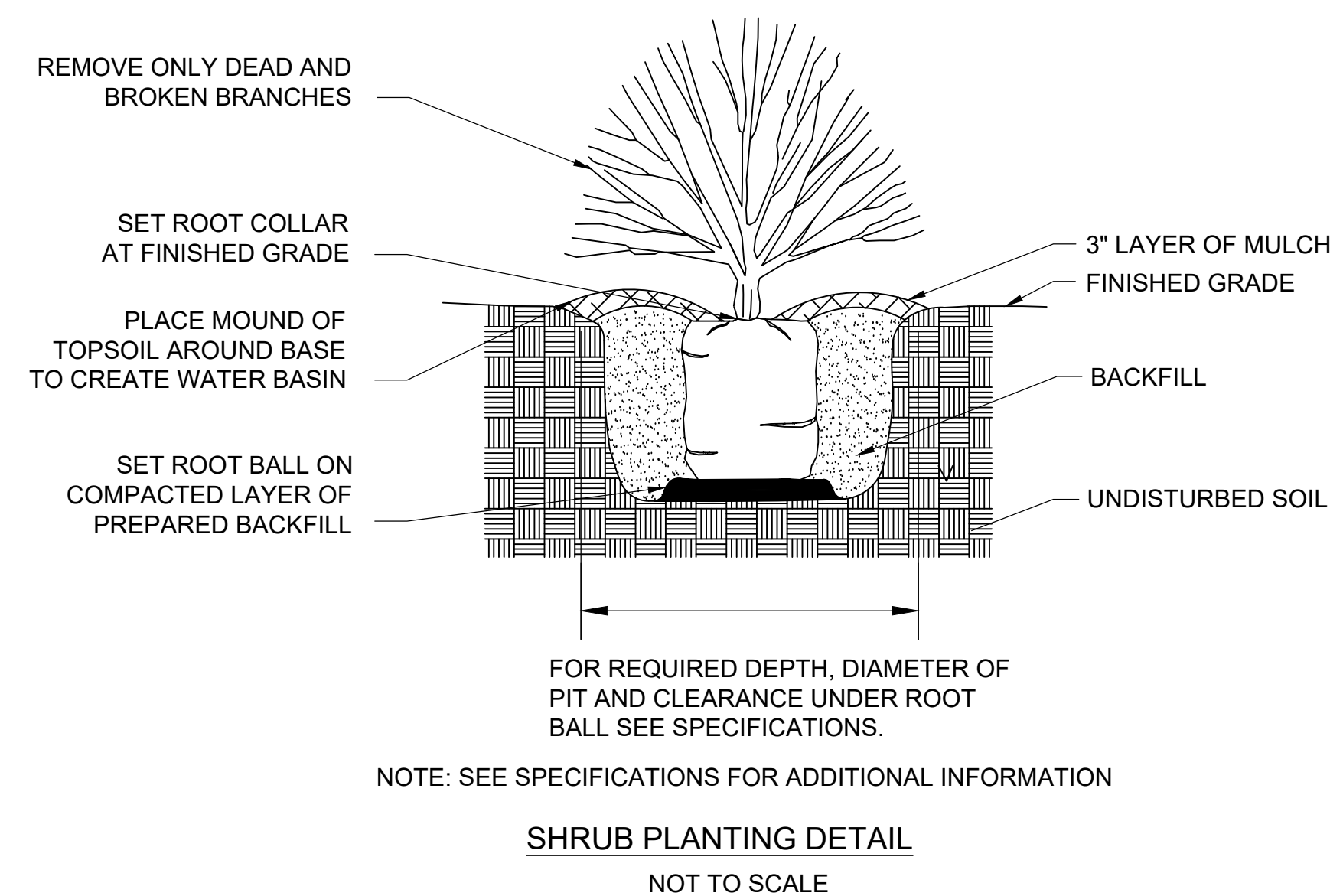
GP# G02019203      DWG. NO.: LD-01





LANDSCAPE NOTES:

- LANDSCAPE CONSTRUCTION SHALL CONFORM TO ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING STANDARD SPECIFICATIONS FOR CONSTRUCTION AND REFERENCED HEREIN.
- PLACE 6-INCH DEPTH TOPSOIL ON BASEBALL FIELDS #1 AND #2. PLACE 4-INCH DEPTH TOPSOIL ON ALL REMAINING DISTURBED AREAS, UNLESS OTHERWISE SPECIFIED.
- PLACE SALVAGED TOPSOIL IN CONFORMANCE WITH SPECIFICATION SECTIONS 02811 - SALVAGED TOPSOIL AND 02812 PLACING SALVAGED TOPSOIL.
- PLACE FURNISHED TOPSOIL IN CONFORMANCE WITH SPECIFICATION SECTION 02813 - FURNISHED TOPSOIL.
- PERFORM TALL FESCUE SEEDING ON ALL DISTURBED AREAS, UNLESS OTHERWISE SPECIFIED, IN CONFORMANCE WITH SECTION 02820 TURF ESTABLISHMENT.
- INSTALL JUTE MATTING (SOIL STABILIZATION MATTING) ON SLOPES 6:1 AND STEEPER IN CONFORMANCE WITH SECTION 02840 - JUTE MATTING OVER SOD SECTION 02850 - SOIL STABILIZATION MATTING.
- INSTALL TREES AND SHRUBS AS INDICATED ON THE PLAN AND IN CONFORMANCE WITH SECTION 02860 - FURNISH AND PLANT TREES, SHRUBS, VINES, GROUNDCOVERS AND SEEDLING STOCK.
- PERFORM LOWLAND MEADOW ESTABLISHMENT ON BOTTOM OF STORMWATER MANAGEMENT FACILITY IN CONFORMANCE WITH MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT) STATE HIGHWAY ADMINISTRATION (SHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTIONS 707 - MEADOW ESTABLISHMENT.



**AECOM**  
 AECOM  
 4 NORTH PARK DRIVE  
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 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7220  
 FAX: 410-785-8818



10/26/2022

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: NTS		PENINSULA PARK EXPANSION	
DRAWN BY: DT		LANDSCAPE NOTES AND DETAIL	
CHECKED BY: RK			
SHEET NO. 33 OF 42			
PROJECT NO. P509000			
CONTRACT NO. P509006			

ENGINEER / LANDSCAPE ARCHITECT:

AECOM  
4 NORTH PARK DRIVE  
HUNT VALLEY, MD 21030  
(410) 785-7220

OWNER:

ANNE ARUNDEL COUNTY  
DEPARTMENT OF RECREATION AND PARKS  
PO BOX 1831  
ANNAPOLIS, MD 21404

APPLICANT:

BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS  
ANNE ARUNDEL COUNTY  
2662 RIVA ROAD  
ANNAPOLIS, MD 21401

NOTES:

- ADDRESS: PAL PARK  
1025 BAY RIDGE RD  
ANNAPOLIS, MD 21403
- TOPOGRAPHIC INFORMATION WAS GENERATED BY A FIELD RUN SURVEY BY AECOM IN MARCH 2021 FOR THE AREA OF LOD AND SUPPLEMENTED WITH ANNE ARUNDEL COUNTY GIS.
- THE SOURCE OF THE PROPERTY LINES IS FROM ANNE ARUNDEL COUNTY GIS. PROPERTY INFORMATION: TAX MAP 57A, GRID 7.
- PROPERTY PARCEL / ACREAGE:
 

PARCEL 2144	17.6	AC
PARCEL 2233	3.5	AC
PARCEL 2241	5.47	AC
PARCEL 133	3.57	AC
30.14 TOTAL PARK ACREAGE		
- PROJECT LIMIT OF DISTURBANCE (LOD): 8.03 ACRES LOD
- ZONING: PARCEL 2144 - OS, PARCEL 2233 - R2, PARCEL 2241 - R2 AND PARCEL 133 - OS.
- FOREST STAND DELINEATION WAS CONDUCTED BY AECOM -TIM HORNER, RLA ON MARCH 4, 2021.
- WETLANDS AND STREAMS WERE INVESTIGATED BY AECOM - GRAHAM TWIBELL, QP ON MARCH 4, 2021. SUBSEQUENTLY, A PRE-APPLICATION MEETING WAS HELD WITH MDE ON MAY 3, 2021 WITH A REVIEW OF THE POTENTIAL RESOURCES AND WETLAND DELINEATION WAS REVIEWED. THE EXISTING STORMWATER MANAGEMENT FACILITY IS NOT A REGULATED NONTIDAL WETLAND. ANY WORK TO THIS STRUCTURE WILL NOT REQUIRE AUTHORIZATION BY THE STATE. THIS PROJECT WILL NOT AFFECT ANY NONTIDAL WETLANDS. NO AUTHORIZATION IS NEEDED FROM MDE BECAUSE THERE ARE NO REGULATED NONTIDAL RESOURCES ON THE SITE THAT WILL BE IMPACTED.
- NO FLOODPLAIN EXISTS ON-SITE.
- THE SITE IS NOT WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
- THE SITE IS LOCATED WITHIN THE SEVERN RIVER AND SOUTH RIVER WATERSHED.
- THE PROJECT SITE DOES NOT CONTAIN ANY HISTORICAL OR CULTURAL RESOURCES OF SIGNIFICANCE.
- A DIAMETER TAPE WAS USED TO MEASURE THE DIAMETER AT BREAST HEIGHT (DBH) OF INDIVIDUAL TREES.
- THERE ARE SLOPES 25% AND GREATER WITHIN THE PROJECT SITE.
- THERE ARE NO HIGHLY ERODIBLE SOILS WITHIN THE PROJECT SITE.
- THERE ARE SPECIMEN TREES LOCATED WITHIN AND ADJACENT TO THE PROJECT SITE.
- SOIL DATA WAS OBTAINED FROM USDA'S WEB SOIL SURVEY DATED APRIL 2021.
- NO RARE THREATENED OR ENDANGERED SPECIES ARE KNOWN TO EXIST WITHIN THE PROJECT SITE.
- THIS SITE DOES NOT CONTAIN ANY NATIONAL, STATE OR COUNTY CHAMPION TREES OR TREES THAT ARE AT LEAST 75 PERCENT OF THE CURRENT STATE CHAMPION.

FOREST STAND NARRATIVE

STAND A

THE FOREST STAND IS A MID SUCCESSIONAL FOREST THAT IS DOMINATED BY SOUTHERN RED OAK (QUERCUS FALCATA), TULIP POPLAR (LIRIODENDRON TULIPIFERA), RED MAPLE (ACER RUBRUM) AND WHITE OAK OF THE 10 ->30" DBH SIZE CLASS. CO-DOMINATE SPECIES INCLUDE SWEET GUM (LIQUIDAMBAR STYRACIFLUA), WHITE OAK (QUERCUS ALBA) AND PIGNUT HICKORY (CARYA GLABRA) OF THE 6-17.9" DBH SIZE CLASS. OTHER SPECIES OBSERVED INCLUDE ILEX OPACA (AMERICAN HOLLY), MUSCLEWOOD (CARPINUS CAROLINIANA) AND FLOWERING DOGWOOD (CORNUS FLORIDA) IN THE 3-20' SIZE RANGE. INVASIVE SPECIES OBSERVED INCLUDE JAPANESE HONEYSUCKLE (LONICERA JAPONICA), ENGLISH IVY (HEDERA HELIX) AND MULTIFLORA ROSE (ROSA MULTIFLORA) IN THE 0-3' HERBACEOUS LAYER. SEVERAL SPECIMENS WERE OBSERVED IN THE STUDY AREA (SEE SPECIMEN TREE TABLE FOR ADDITIONAL INFORMATION). NO CHAMPION OR HISTORIC TREES WERE PRESENT. THE FOREST STAND HAS A CANOPY COVERAGE OF 55-85% AND APPEARS TO BE HEALTHY WITH A HIGH PRIORITY FOR RETENTION. THE SOIL CLASSIFICATION IN THE STAND VARIES (SEE SOIL SUMMARY TABLE FOR CHARACTERISTICS).

STAND B

THE FOREST STAND IS A EARLY SUCCESSIONAL FOREST THAT IS DOMINATED BY RIVER BIRCH (BETULA NIGRA), SWEET GUM (LIQUIDAMBAR STYRACIFLUA), BLACK WILLOW (SALIX NIGRA) OF THE 6 -17.9" DBH SIZE CLASS. CO-DOMINATE SPECIES INCLUDE AMERICAN SYCAMORE (PLATANUS OCCIDENTALIS), TULIP POPLAR (LIRIODENDRON TULIPIFERA), SOUTHERN RED OAK (QUERCUS FALCATA), WHITE OAK (QUERCUS ALBA) AND RED MAPLE (ACER RUBRUM) OF THE 6 -17.9" DBH SIZE CLASS. OTHER SPECIES OBSERVED INCLUDE BLACK CHERRY (PRUNUS SEROTINA), ILEX OPACA (AMERICAN HOLLY), EASTERN RED CEDAR (JUNIPERUS VIRGINIA), AND BLACK LOCUST (ROBIN PSEUDOACACIA) IN THE 3-20' SIZE RANGE. INVASIVE SPECIES OBSERVED INCLUDE JAPANESE KNOT WEED (POLYGONUM CUSPIDATUM), JAPANESE HONEYSUCKLE (LONICERA JAPONICA), ENGLISH IVY (HEDERA HELIX) AND GRAPE VINE (VITIS) IN THE 0-3' HERBACEOUS LAYER. SEVERAL SPECIMENS WERE OBSERVED IN THE STUDY AREA (SEE SPECIMEN TREE TABLE FOR ADDITIONAL INFORMATION). NO CHAMPION OR HISTORIC TREES WERE PRESENT. THE FOREST STAND HAS A CANOPY COVERAGE OF 55-70% AND APPEARS TO BE HEALTHY WITH A HIGH PRIORITY FOR RETENTION. THE SOIL CLASSIFICATION IN THE STAND VARIES (SEE SOIL SUMMARY TABLE FOR CHARACTERISTICS).

ADJACENT PROPERTY OWNERS									
PROPERTY ID	OWNER NAME	PREMISES ADDRESS	CITY	ZIP	TAX ACC. ID	TAX MAP	PARCEL	ZONING	LAND USE
①	DIEHL DOUGLAS W	1009 BAY RIDGE ROAD	ANNAPOLIS	21403	5040310	57A	1571	R2	RESIDENTIAL
②	HEARTHOMES REALCO LLC	3023 ARUNDEL ON THE BAY RD	ANNAPOLIS	21403	3350200	57A	2189	R2	COMMERCIAL
③	HEARTHOMES REALCO LLC	ARUNDEL ON THE BAY RD	ANNAPOLIS	21403	90093316	57A	2189	R2	RESIDENTIAL
④	HUNTER DEAN S	1190 NEW CHURCH LANE	ANNAPOLIS	21403	90085920	57	0141	R2	RESIDENTIAL
⑤	MAURER ERIC J	3100 RIVERWALK DR	ANNAPOLIS	21403	90085921	57	0141	R2	RESIDENTIAL
⑥	ARCLA YONNATAN	3102 RIVERWALK DR	ANNAPOLIS	21403	90085922	57	0141	R2	RESIDENTIAL
⑦	BLANEY MATTHEW	3106 RIVERWALK CT	ANNAPOLIS	21403	90085924	57	141	R2	RESIDENTIAL
⑧	BAY RIDGE CHRISTIAN CHUR	1071 BAY RIDGE ROAD	ANNAPOLIS	21403	90085938	57A	2235	R2	EXEMPT COMM
⑨	WEIS KELLY	1204 NEW CHURCH LANE	ANNAPOLIS	21403	90040136	57	206	R2	RESIDENTIAL
⑩	NEBBIA KARL B	1202 NEW CHURCH LANE	ANNAPOLIS	21403	90040135	57	206	R2	RESIDENTIAL
⑪	KOLOSKY ALEX	1200 NEW CHURCH LANE	ANNAPOLIS	21403	90040134	57	206	R2	RESIDENTIAL
⑫	GEYER PHILIP	1198 NEW CHURCH LANE	ANNAPOLIS	21403	90085916	57	0141	R2	RESIDENTIAL
⑬	ELLIOTT TRUSTEE EUGENE	1196 NEW CHURCH LANE	ANNAPOLIS	21403	90085917	57	0141	R2	RESIDENTIAL
⑭	NEU JULIETTE	1194 NEW CHURCH LANE	ANNAPOLIS	21403	90085918	57	0141	R2	RESIDENTIAL
⑮	DALUGE TONI R	1192 NEW CHURCH LANE	ANNAPOLIS	21403	90085919	57	0141	R2	RESIDENTIAL

SOIL SUMMARY						
Map Unit Symbol	Map Unit Name	SLOPES	K Factor	Highly Erodible	Hydric Rating	Hydrologic Soil Group
AoB	ANNAPOLIS LOAMY SAND	2 TO 5% SLOPES	0.17	NO	UNRANKED	C
AoC	ANNAPOLIS LOAMY SAND	5 TO 10% SLOPES	0.17	NO	UNRANKED	C
AuB	ANNAPOLIS-URBAN LAND COMPLEX	0 TO 5% SLOPES	0.24	NO	UNRANKED	C
AuD	ANNAPOLIS-URBAN LAND COMPLEX	5 TO 15% SLOPES	0.24	NO	UNRANKED	C
CnB	COLEMANTOWN-URBAN LAND COMPLEX	0 TO 5% SLOPES	NO RATING	NO RATING	YES	C/D
DnB	DONLONTON FINE SANDY LOAM	2 TO 5% SLOPES	0.24	NO	NO	D
DuB	DONLONTON-URBAN LAND COMPLEX	0 TO 5% SLOPES	0.24	NO	NO	D

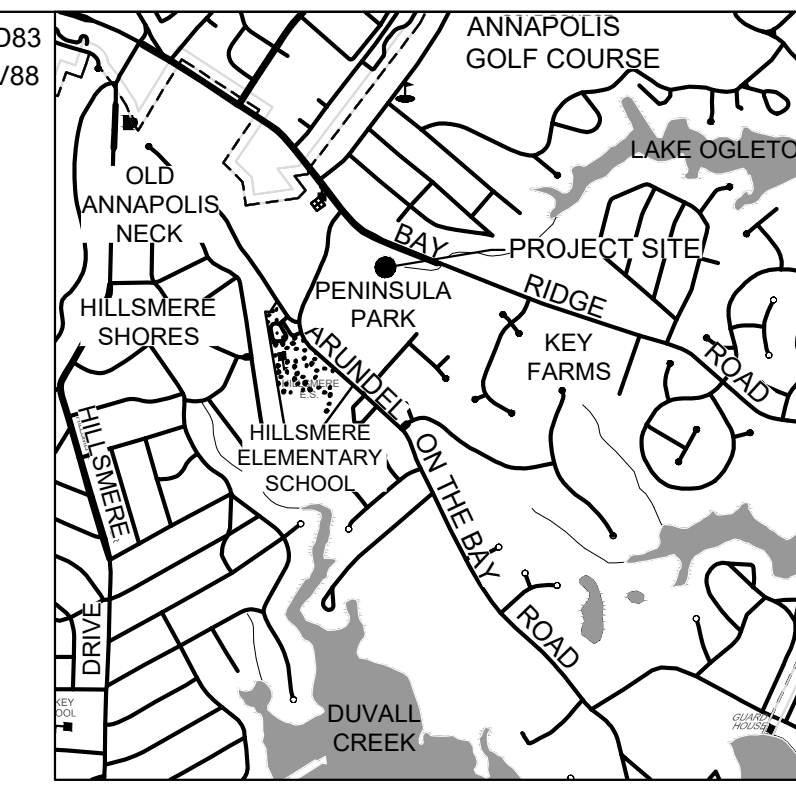
# ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

## PENINSULA PARK EXPANSION

PROJECT NO. P509000  
CONTRACT NO. P509006

## FOREST STAND DELINEATION

DATUM: HORIZONTAL-NAD83  
VERTICAL- NADV88



VICINITY MAP  
SCALE: 1" = 200'

### INDEX OF DRAWINGS

SHEET NO.	DWG NO.	TITLE SHEET
1	FSD-01	TITLE SHEET
2	FSD-02	FOREST STAND DELINEATION
3	FSD-03	FOREST STAND DELINEATION

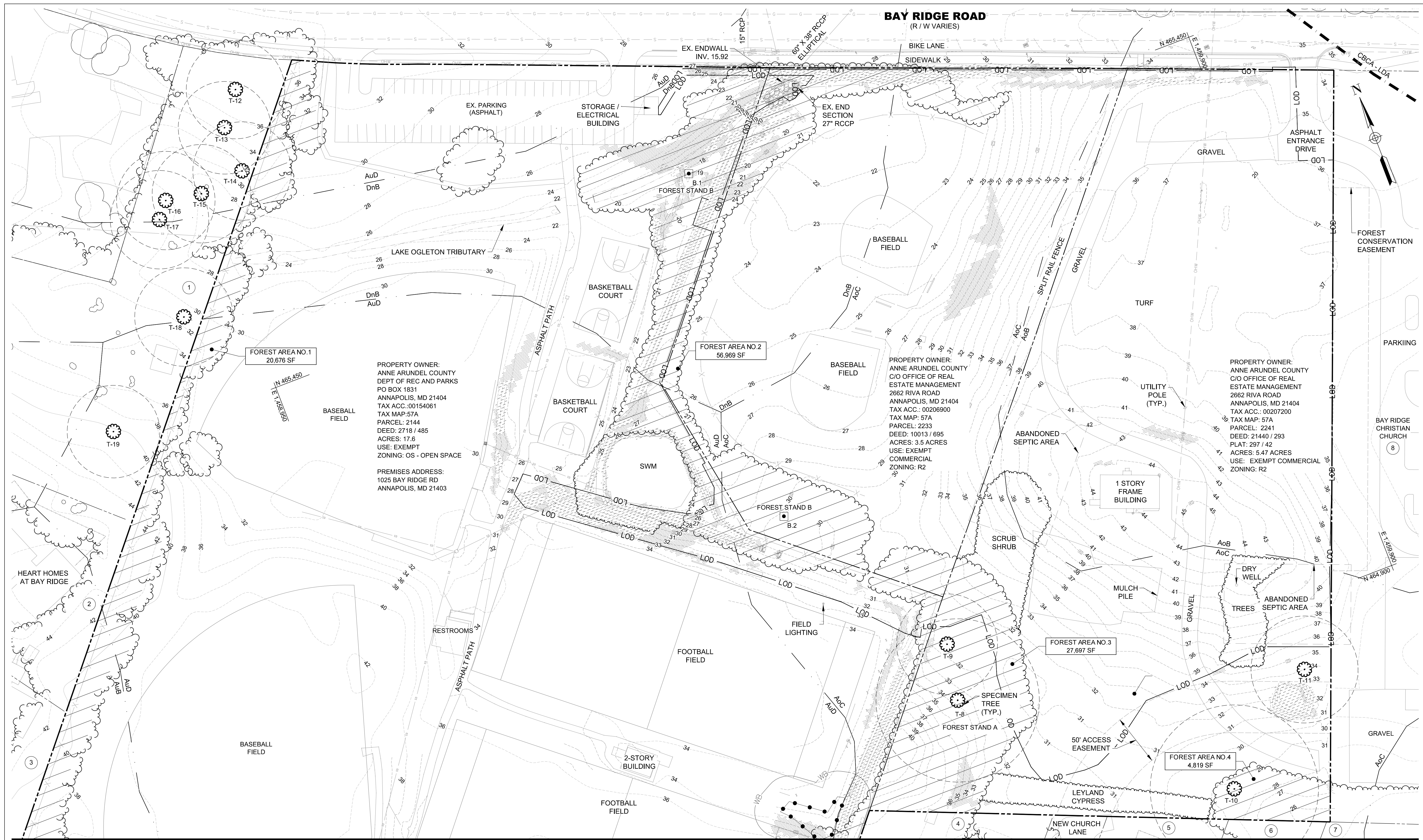
### LEGEND

- PROPERTY LINE
- LOD
- LIMIT OF DISTURBANCE
- X-X- FENCE
- [Hatched] FOREST
- [Wavy] SCRUB / SHRUB
- WUS --- WATERS OF THE US
- [Dashed] CHESAPEAKE BAY CRITICAL AREA
- [Dotted] WETLAND BOUNDARY
- WB --- 25' WETLAND BUFFER
- -20 --- CONTOUR
- DnB --- SOILS BOUNDARY
- AoC --- 100' STREAM BUFFER
- SB ---
- SD --- STORMDRAIN
- W --- WATER
- G --- GAS
- S --- SANITARY
- OHW --- OVERHEAD WIRE
- UTILITY POLE
- SPECIMEN TREE WITH CRZ: 1" DBH = 1.5' RADIUS CRZ
- [Stippled] STEEP SLOPES 15-25%
- [Cross-hatched] STEEP SLOPES >25%
- [Wavy] RIP RAP
- A FOREST STAND SAMPLE PLOT

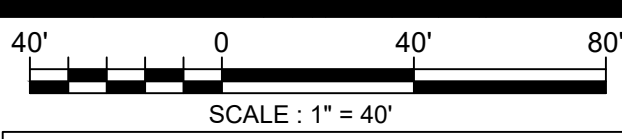
SPECIMEN TREE INVENTORY				
≥ 30" DBH				
Tree No.	Common Name	Scientific Name	DBH (inches)	Condition Rating
T-1	TULIP POPLAR	LIRIODENDRON TULIPIFERA	33	GOOD
T-2	SOUTHERN RED OAK	QUERCUS FALCATA	31	GOOD
T-3	RED OAK	QUERCUS RUBRA	32	GOOD
T-4	RED OAK	QUERCUS RUBRA	35	VERY GOOD
T-5	RED MAPLE	ACER RUBRUM	32	GOOD
T-6	RED OAK	QUERCUS RUBRA	34	EXCELLENT
T-7	RED OAK	QUERCUS RUBRA	31	GOOD
T-8	RED OAK	QUERCUS RUBRA	53	EXCELLENT
T-9	RED OAK	QUERCUS RUBRA	33	GOOD
T-10	RED MAPLE	ACER RUBRUM	54	VERY GOOD
T-11	SWEET GUM	LIQUIDAMBAR STYRACIFLUA	35	EXCELLENT
T-12	WHITE OAK	QUERCUS ALBA	35	GOOD
T-13	WHITE OAK	QUERCUS ALBA	34	GOOD
T-14	WHITE OAK	QUERCUS ALBA	33	GOOD
T-15	AMERICAN SYCAMORE	PLATANUS OCCIDENTALIS	33	GOOD
T-16	TULIP POPLAR	LIRIODENDRON TULIPIFERA	33	GOOD
T-17	WHITE OAK	QUERCUS RUBRA	34	GOOD
T-18	WHITE OAK	QUERCUS RUBRA	33	GOOD
T-19	WHITE OAK	QUERCUS RUBRA	35	GOOD

GP# G02019203 DWG. NO.: FSD-01

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-6818</p>	<p>10/26/2022</p>	REVISIONS		ANNE ARUNDEL COUNTY			
		DEPARTMENT OF PUBLIC WORKS		PENINSULA PARK EXPANSION			
		FOREST STAND DELINEATION TITLE SHEET		APPROVED _____ DATE _____ CHIEF ENGINEER _____ PROJECT MANAGER _____ APPROVED _____ DATE _____ ASSISTANT CHIEF ENGINEER _____ CHIEF, RIGHT OF WAY _____		SCALE: AS NOTED DRAWN BY: TH CHECKED BY: RK SHEET NO. 34 OF 42 PROJECT NO. P509000 CONTRACT NO. P509006	



**FOREST STAND DELINEATION PLAN NOTES:**  
1. PREMISES ADDRESS: PAL PARK  
1025 BAY RIDGE RD  
ANNAPOLIS, MD 21403



MATCHLINE FSD-03

GP# G02019203 DWG. NO.: FSD-02

2. PROPERTY  
3. PARCEL / ACREAGE:  
PARCEL 2144 17.6 AC  
PARCEL 2233 3.5 AC  
PARCEL 2241 5.47 AC  
PARCEL 133 3.57 AC  
TOTAL 30.14 AC  
4. SEE FSD-02 FOR MASTER EXISTING FOREST SUMMARY

FSD-02 EXISTING FOREST SUMMARY	
FOREST AREA NO.	SQUARE FEET
FOREST AREA NO.1	20,676
FOREST AREA NO.2	56,969
FOREST AREA NO.3	27,697
FOREST AREA NO.4	4,819
<b>TOTAL FOREST AREA</b>	<b>110,161</b>



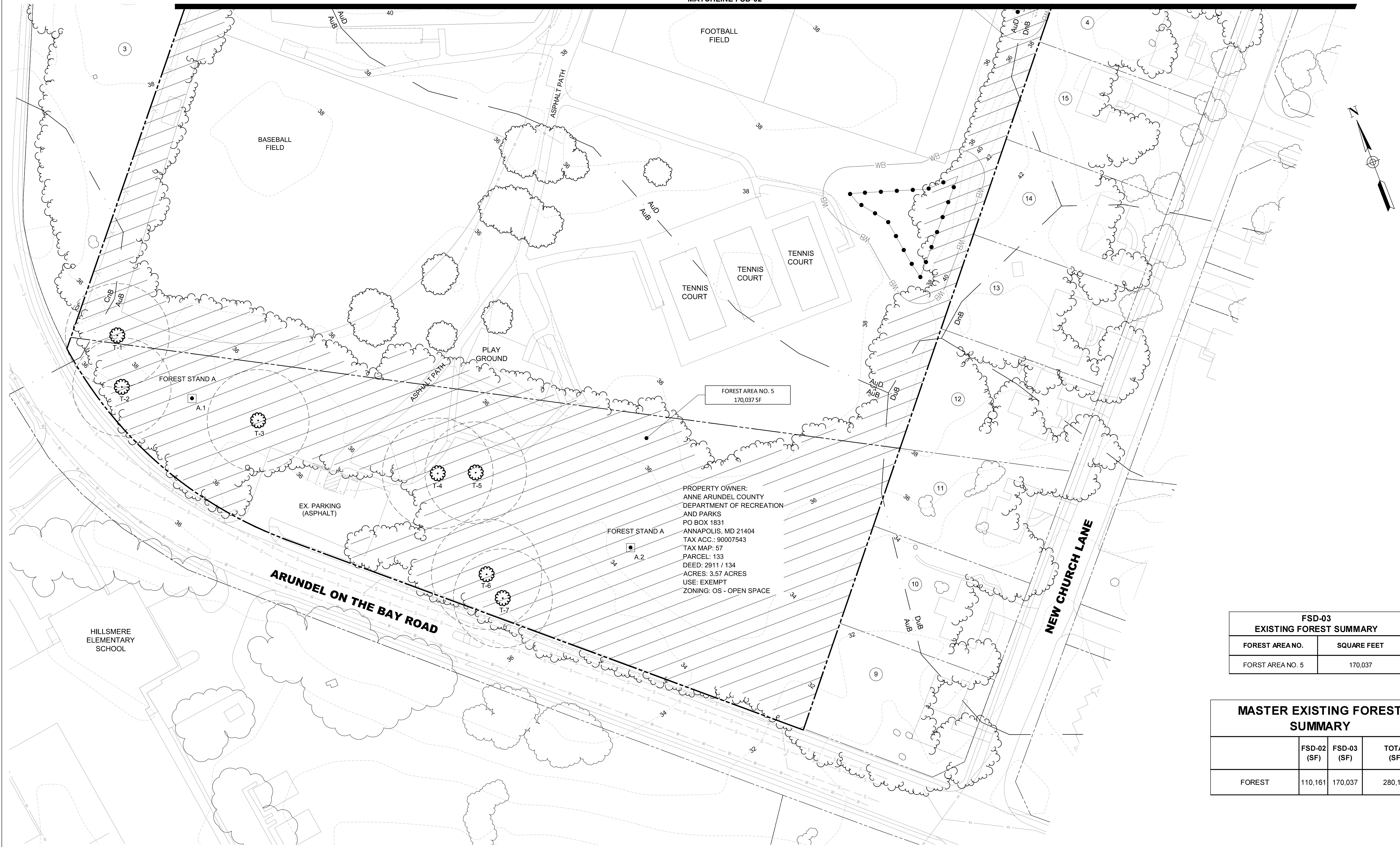
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED		APPROVED	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

SCALE: AS NOTED  
DRAWN BY: TH  
CHECKED BY: RK  
SHEET NO. 35 OF 42  
PROJECT NO. P509000  
CONTRACT NO. P509006

PENINSULA PARK EXPANSION

**FOREST STAND DELINEATION**



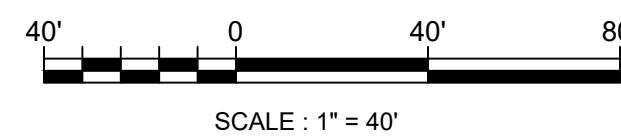
FOREST AREA NO. 5  
170,037 SF

PROPERTY OWNER:  
ANNE ARUNDEL COUNTY  
DEPARTMENT OF RECREATION  
AND PARKS  
PO BOX 1831  
ANNAPOLIS, MD 21404  
TAX ACC.: 90007543  
TAX MAP: 57  
PARCEL: 133  
DEED: 2911 / 134  
ACRES: 3.57 ACRES  
USE: EXEMPT  
ZONING: OS - OPEN SPACE

FSD-03 EXISTING FOREST SUMMARY	
FOREST AREA NO.	SQUARE FEET
FORST AREA NO. 5	170,037

MASTER EXISTING FOREST SUMMARY			
	FSD-02 (SF)	FSD-03 (SF)	TOTAL (SF)
FOREST	110,161	170,037	280,198

GP# G02019203 DWG. NO.: FSD-03



**AECOM**  
AECOM  
4 NORTH PARK DRIVE  
SUITE 300  
HUNT VALLEY, MARYLAND 21030  
PHONE: 410-785-7200  
FAX: 410-785-6818



REVISIONS			
NO.	DESCRIPTION	BY	DATE

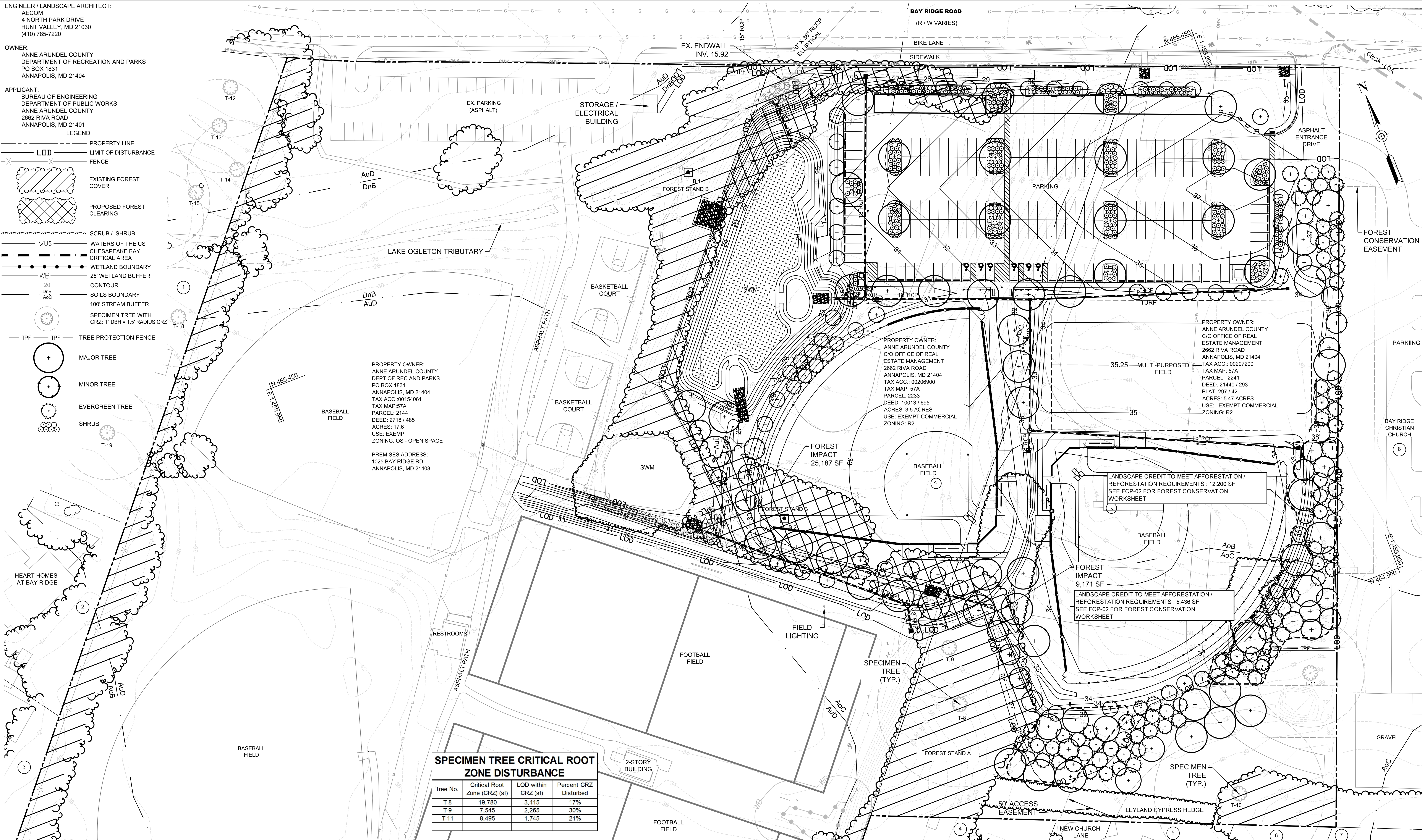
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 38 OF 42	
PROJECT NO. P509000		CONTRACT NO. P509006	
<b>PENINSULA PARK EXPANSION</b>			
<b>FOREST STAND DELINEATION</b>			

ENGINEER / LANDSCAPE ARCHITECT:  
 AECOM  
 4 NORTH PARK DRIVE  
 HUNT VALLEY, MD 21030  
 (410) 785-7220

OWNER:  
 ANNE ARUNDEL COUNTY  
 DEPARTMENT OF RECREATION AND PARKS  
 PO BOX 1831  
 ANNAPOLIS, MD 21404

APPLICANT:  
 BUREAU OF ENGINEERING  
 DEPARTMENT OF PUBLIC WORKS  
 ANNE ARUNDEL COUNTY  
 2662 RIVA ROAD  
 ANNAPOLIS, MD 21401

- LEGEND
- PROPERTY LINE
  - - - LIMIT OF DISTURBANCE
  - - - FENCE
  - [Hatched Box] EXISTING FOREST COVER
  - [Cross-hatched Box] PROPOSED FOREST CLEARING
  - SCRUB / SHRUB
  - WUS WATERS OF THE US
  - CHESAPEAKE BAY CRITICAL AREA
  - WETLAND BOUNDARY
  - 25' WETLAND BUFFER
  - CONTOUR
  - DnB Soils Boundary
  - AOC 100' STREAM BUFFER
  - [Circle with cross] SPECIMEN TREE WITH CRZ: 1' DBH = 1.5' RADIUS CRZ
  - TPF TREE PROTECTION FENCE
  - [Large Circle] MAJOR TREE
  - [Small Circle] MINOR TREE
  - [Star-shaped Circle] EVERGREEN TREE
  - [Small Circle with dots] SHRUB



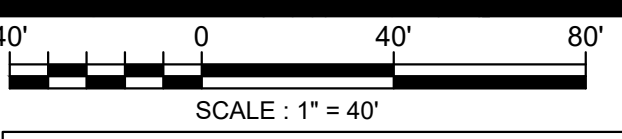
PROPERTY OWNER:  
 ANNE ARUNDEL COUNTY  
 DEPT OF REC AND PARKS  
 PO BOX 1831  
 ANNAPOLIS, MD 21404  
 TAX ACC.: 00154061  
 TAX MAP: 57A  
 PARCEL: 2144  
 DEED: 2719 / 485  
 ACRES: 17.6  
 USE: EXEMPT  
 ZONING: OS - OPEN SPACE  
 PREMISES ADDRESS:  
 1025 BAY RIDGE RD  
 ANNAPOLIS, MD 21403

PROPERTY OWNER:  
 ANNE ARUNDEL COUNTY  
 C/O OFFICE OF REAL  
 ESTATE MANAGEMENT  
 2662 RIVA ROAD  
 ANNAPOLIS, MD 21404  
 TAX ACC.: 00206900  
 TAX MAP: 57A  
 PARCEL: 2233  
 DEED: 10013 / 695  
 ACRES: 3.5 ACRES  
 USE: EXEMPT COMMERCIAL  
 ZONING: R2

PROPERTY OWNER:  
 ANNE ARUNDEL COUNTY  
 C/O OFFICE OF REAL  
 ESTATE MANAGEMENT  
 2662 RIVA ROAD  
 ANNAPOLIS, MD 21404  
 TAX ACC.: 00207200  
 TAX MAP: 57A  
 PARCEL: 2241  
 DEED: 21440 / 293  
 PLAT: 297 / 42  
 ACRES: 5.47 ACRES  
 USE: EXEMPT COMMERCIAL  
 ZONING: R2

SPECIMEN TREE CRITICAL ROOT ZONE DISTURBANCE			
Tree No.	Critical Root Zone (CRZ) (sf)	LOD within CRZ (sf)	Percent CRZ Disturbed
T-8	19,780	3,415	17%
T-9	7,545	2,265	30%
T-11	8,495	1,745	21%

- FOREST CONSERVATION PLAN NOTES:
- PREMISES ADDRESS: PAL PARK, 1025 BAY RIDGE RD, ANNAPOLIS, MD 21403. PROPERTY PARCEL 2144, 17.6 AC.
  - PROPERTY PARCEL / ACREAGE: PARCEL 2233, 3.5 AC; PARCEL 2241, 5.47 AC; PARCEL 133, 3.57 AC. 30.14 TOTAL PARK ACREAGE.
  - PROJECT LIMIT OF DISTURBANCE (LOD): 8.0 ACRES.
  - SEE FCP-02 FOR FOREST CONSERVATION WORKSHEET.
  - SEE FSD-01 FOR ADDITIONAL SITE INFORMATION.
  - SEE LD-01 FOR ADDITIONAL LANDSCAPE INFORMATION.



MATCHLINE FCP-02

REVISIONS			
NO.	DESCRIPTION	BY	DATE

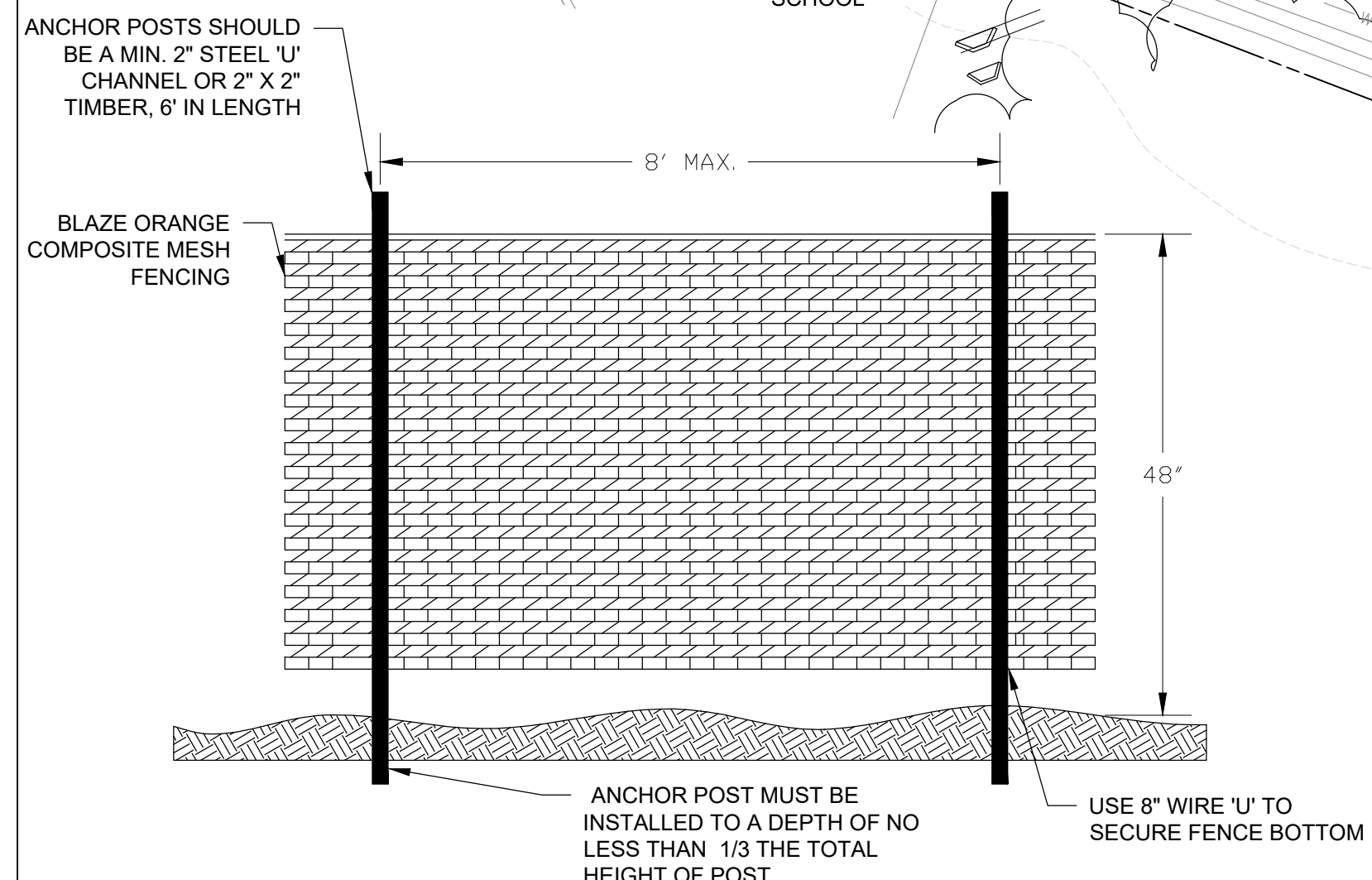
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

SCALE: AS NOTED	PENINSULA PARK EXPANSION
DRAWN BY: TH	
CHECKED BY: RK	
SHEET NO. 37 OF 42	
PROJECT NO. P509000	FOREST CONSERVATION PLAN
CONTRACT NO. P509006	



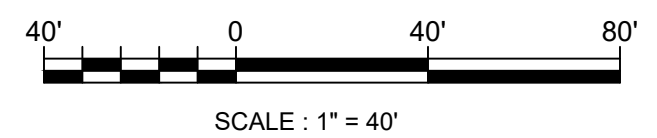
FOREST CONSERVATION WORKSHEET

Variables	Unique Tract 1
<b>Site Information</b>	
A. Growth Management Area	Priority Funding Area
B. Land Use Type	Institutional
C. Unique Tract Area	1,312,898
D. Universal Deductions (Critical Area or 100-Yr Floodplain)	0
E. Impervious Surface Deductions for Targeted Growth and Priority Funding Areas	106,819
F. Existing Forest Cover within Unique Net Tract Area	280,198
G. Proposed Forest Clearing within Unique Net Tract Area	34,358
H. Unique Net Tract Area = (C)-(D)-(E)	1,206,079
I. Is Total Net Tract Area less than or equal to 5 Acres?	No
Key for lookup table	
	Priority Funding Area Institutional No
I. Conservation Threshold	20%
J. Afforestation Threshold	15%
<b>Forest Conservation</b>	
K. Conservation Threshold Area = (H) X (I)	241,216
L. Area of Forest Above Conservation Threshold = (F) - (K)	38,982
M. Breakeven Point (Amount of forest that must be retained so that no mitigation is required.)	254,209
If the Area of Forest Above Conservation Threshold (L) is greater than 0, then M = ((0.3333) X (L)) + (K). If the Area of Forest Above Conservation Threshold is equal to 0, then M = (F).	
N. Forest Clearing Permitted without Mitigation = (F) - (M)	25,989
O. Proposed Forest Retention = (F) - (G)	245,840
P. Reforestation for Retention Above the Threshold	17,179
If Proposed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), then (P) = (L) X (0.5). If not, then (P) = (G) X (0.5).	
Q. Credit for Retention Above the Threshold	4,624
If Proposed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), then (R) = 0. If not, then (R) = (L) - (G).	
R. Reforestation for Retention Below the Threshold	0
If Proposed Forest Clearing (G) < Area of Forest Above Conservation Threshold (L), then (R) = 0. If not, then (R) = ((G) - (L)) X 2	
S. Total Reforestation Required = (P) + (R) - (Q)	12,555
T. Afforestation Threshold Area = (H) X (J)	180,912
U. Total Afforestation Required	0
If Existing Forest Cover (F) < Afforestation Threshold Area (T), then (U) = (T) - (F). If not, then (U) = 0.	
V. Total Mitigation Required By Tract = (S) + (U)	12,555

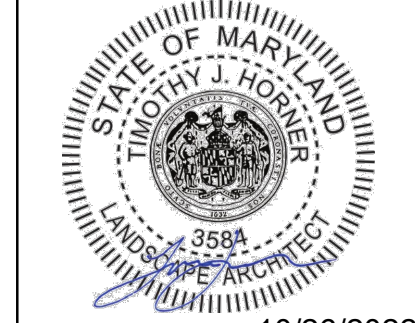


- NOTES:
- AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
  - DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
  - LOCATION OF THE BLAZE ORANGE FENCING SHALL BE STAKED AND FLAGGED PRIOR TO INSTALLATION.

TREE PROTECTION FENCE  
(NOT TO SCALE)



**AECOM**  
 4 NORTH PARK DRIVE  
 SUITE 300  
 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7220  
 FAX: 410-785-6818



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

SCALE: AS NOTED  
 DRAWN BY: TH  
 CHECKED BY: RK  
 SHEET NO. 38 OF 42  
 PROJECT NO. P509000  
 CONTRACT NO. P509006

PENINSULA PARK EXPANSION  
**FOREST CONSERVATION PLAN**

GP# G02019203 DWG. NO.: FCP-02

**ELECTRICAL GENERAL NOTES:**

- THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT A COMPLETED PROJECT. MINOR MODIFICATIONS OF WORK SHALL BE PROVIDED BY THE CONTRACTOR TO COMPLY WITH PROJECT REQUIREMENTS, AS PART OF THE BASE BID. LOCATIONS OF DEVICES AND EQUIPMENT SHOW A GENERAL ARRANGEMENT AND INTENDED FUNCTION. BEFORE INSTALLATION OF ANY EQUIPMENT, CHECK ALL REQUIRED CLEARANCES, TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH ALL CONTRACT DOCUMENTS, SHOP DRAWINGS, EQUIPMENT DRAWINGS, SITE, CONTRACT SPECIFICATIONS, AND OWNER'S MATERIALS OR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONTRACT DRAWINGS.
- CONSTRUCTION AND MAINTENANCE BY OTHERS MAY OCCUR CONCURRENTLY AND IN THE VICINITY OF CONSTRUCTION ASSOCIATED WITH THIS PROJECT. COORDINATE OPERATIONS WITH OTHER CONTRACTORS AND COOPERATE WITH THE MAINTENANCE CREWS WHEN WORKING ON THE PROJECT.
- PROVIDE NYLON PULL ROPE IN ALL NEW EMPTY CONDUITS.
- THE CONTRACTOR IS RESPONSIBLE FOR PATCHING OR REPAIRING EXISTING AREA DAMAGED BY CONSTRUCTION OR PAVEMENT AFFECTED BY DUCT SYSTEM OR CONDUIT INSTALLATION.
- WIRE SIZES ARE 75 DEG C. THW/THHN/THWN COPPER. MINIMUM WIRE SIZE SHALL BE #12 AWG. ALUMINUM SHALL NOT BE USED. CONDUCTORS SHALL BE SOLID UP THROUGH #10 AWG.
- IN THE EVENT ANY OBSTRUCTIONS AND/OR UTILITIES NOT SHOWN ON THE PLANS ARE ENCOUNTERED DURING CONSTRUCTION, STOP WORK AND NOTIFY ENGINEER PRIOR TO PROCEEDING WITH WORK. BE PREPARED TO SUBMIT TO THE ENGINEER, IN WRITING, CONSTRUCTION ALTERNATIVES TO SUPPORT A REMEDY TO OBSTRUCTIONS OR CONFLICTS.
- LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATIONS.
- LOCATE, SUPPORT, AND PROTECT EXISTING UTILITIES WITH NECESSARY COORDINATION. DAMAGE TO EXISTING FACILITIES PIPING, CONDUIT, DUCT, ELECTRICAL EQUIPMENT AND RELATED ITEMS SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- DRAWINGS AND LOCATION OF EQUIPMENT MAY NOT BE TO SCALE. THE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND REQUIRE COORDINATION WITH ALL OTHER TRADES AND FIELD VERIFICATION OF EXISTING CONDITIONS. VERIFICATION WILL INCLUDE, BUT NOT BE LIMITED TO, OPENING ENCLOSURES TO VERIFY CONTENTS, COORDINATION WITH ON SITE ELECTRICAL MAINTENANCE PERSONNEL AND ALL OTHER MEANS AND METHODS NECESSARY.
- ROUTING OF CONDUIT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO SHOW ALL REQUIRED OFFSETS AND DETAILS.
- BRING TO THE ATTENTION OF THE ENGINEER AND THE AACO ALL CONFLICTS PRIOR TO PERFORMING EXCAVATION AND INSTALLATION OPTIONS.
- GROUNDING: PROVIDE GROUNDING IN ACCORDANCE WITH NEC 250. CONDUCTORS SHALL BE COPPER, BRANCH CIRCUITS, CABLE ASSEMBLIES, AND OTHER WIRING SYSTEMS SHALL HAVE A GREEN INSULATED GROUND WIRE.
- PERFORM LOCKOUT/TAGOUT PROCEDURES IN ACCORDANCE WITH OSHA STANDARD 29 CFR 1910.147 PRIOR TO PERFORMING WORK ON ELECTRICAL CIRCUITS.
- ELECTRICAL WORK SHOWN IN THESE DRAWINGS MUST CONFORM TO THE NEC, NESC (LATEST EDITION) AND ANY FEDERAL AND LOCAL STANDARD PRACTICES. IN THE CASE OF OVER LAP, THE MOST STRINGENT WILL APPLY.
- MAINTAIN EXISTING LIGHTING CIRCUITS DURING OPERATIONAL PERIODS, CONTRACTOR SHALL PROVIDE TEMPORARY JUMPERS AS REQUIRED.
- VERIFY AND ADJUST FIXTURES, AND EQUIPMENT QUOTED IN THESE DOCUMENTS TO AVOID UNFORESEEN OBSTRUCTION AND TO COMPLY WITH ALL REQUIREMENTS OF THE OWNER.
- REMOVE AND DISPOSE OF ABANDONED AND TO BE ABANDONED CABLES THAT HAVE BEEN UNEARTHED BY EXCAVATION. DISPOSE OF OFF SITE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS.
- INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CONDITIONS FOR WARRANTY AND GUARANTY. PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE AND SATISFACTORY INSTALLATION READY FOR CONTINUOUS USE.

**ELECTRICAL SCOPE OF WORK:**

- PROVIDE NEW DUCTBANK, HOMERUNS, BREAKERS, AND HANDHOLES AS INDICATED.
- PROVIDE NEW LIGHT POLES WITH LUMINARIES, CONDUIT, ASSOCIATED CONDUCTORS AND CONTROLS AS INDICATED.

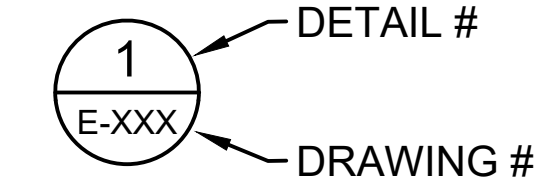
**ABBREVIATIONS:**

ABAN	ABANDONED	MAX	MAXIMUM
AC	ALTERNATING CURRENT	MH	MANHOLE
AACO	ANNE ARUNDEL COUNTY	MIN	MINIMUM
AGG	AGGREGATE	MISC	MISCELLANEOUS
ALT	ALTERNATE	N	NORTH
AMP	AMPERE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
ANCH	ANCHOR	NO	NUMBER
ANOD	ANODIZE	NTS	NOT TO SCALE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	OC	ON CENTER
APPROX	APPROXIMATE	OD	OUTSIDE DIAMETER
ASPH	ASPHALT	OH	OVERHEAD
AWG	AMERICAN WIRE GAUGE	ORIG	ORIGINAL
BITUM	BITUMINOUS	PCC	PORTLAND CEMENT CONCRETE
BLDG	BUILDING	PE	POLYETHYLENE
BLK	BLOCK	PLYWD	PLYWOOD
BLW	BELOW	PVC	POLYVINYL CHLORIDE
C	CONTROL, CONDUIT	PVMT	PAVEMENT
CHK	CHECK	QTY	QUANTITY
CIP	CAST-IN-PLACE	R	REMOVE
CKT	CIRCUIT	RE	RELOCATE
CLR	CLEAR	REINF	REINFORCE
CONC	CONCRETE	REQD	REQUIRED
CONN	CONNECT	RGS	RIGID GALVANIZED STEEL
CONST	CONSTRUCTION	RT	RIGHT
CTR	CENTER	S	SOUTH
CU	COPPER	SD	STORM DRAIN
DEG	DEGREE	SPD	SURGE PROTECTION DEVICE
DEMO	DEMOLISH, DEMOLITION	SPEC	SPECIFICATIONS
DET	DETAIL	SQ	SQUARE
DIA	DIAMETER	SS	STAINLESS STEEL
DIM	DIMENSION	STA	STATION
DIV	DIVISION	STD	STANDARD
DN	DOWN	STL	STEEL
DWG	DRAWING	T	THICKNESS
E	EXISTING TO REMAIN	T&B	TOP AND BOTTOM
EA	EACH	TBD	TO BE DETERMINED
EES	EARTH ELECTRODE SYSTEM	TBR	TO BE REMOVED
ELEC.	ELECTRICAL	TEMP	TEMPORARY
EMH	ELECTRIC MANHOLE	TYP	TYPICAL
EQ	EQUAL	UE	UNDERGROUND ELECTRICAL
EQUIP	EQUIPMENT	UIP	USE IN-PLACE
EX	EXISTING	UON	UNLESS OTHERWISE NOTED
FH	FIRE HYDRANT	UTIL	UTILITY
FT	FEET	V	VOLT
G	GAS	VIF	VERIFY IN FIELD
GALV	GALVANIZED	VERT	VERTICAL
GEN	GENERAL	W	WEST
GFE	GOVERNMENT FURNISHED EQUIPMENT	W/	WITH
GND	GROUND	W/O	WITHOUT
GOVT	GOVERNMENT	WV	WATER VALVE
GR	GRADE		
GVL	GRAVEL		
HORIZ	HORIZONTAL		
HR	HOMERUN		
HZ	HERTZ		
I.D.	INSIDE DIAMETER		
INV	INVERT		
KV	KILOVOLTS		
KVA	KILOVOLT AMPERES		
KW	KILOWATT		
L	LENGTH		
LED	LIGHT EMITTING DIODE		
LF	LINEAR FOOT		
LV	LOW VOLTAGE		

**NEW WORK ELECTRICAL LEGEND**

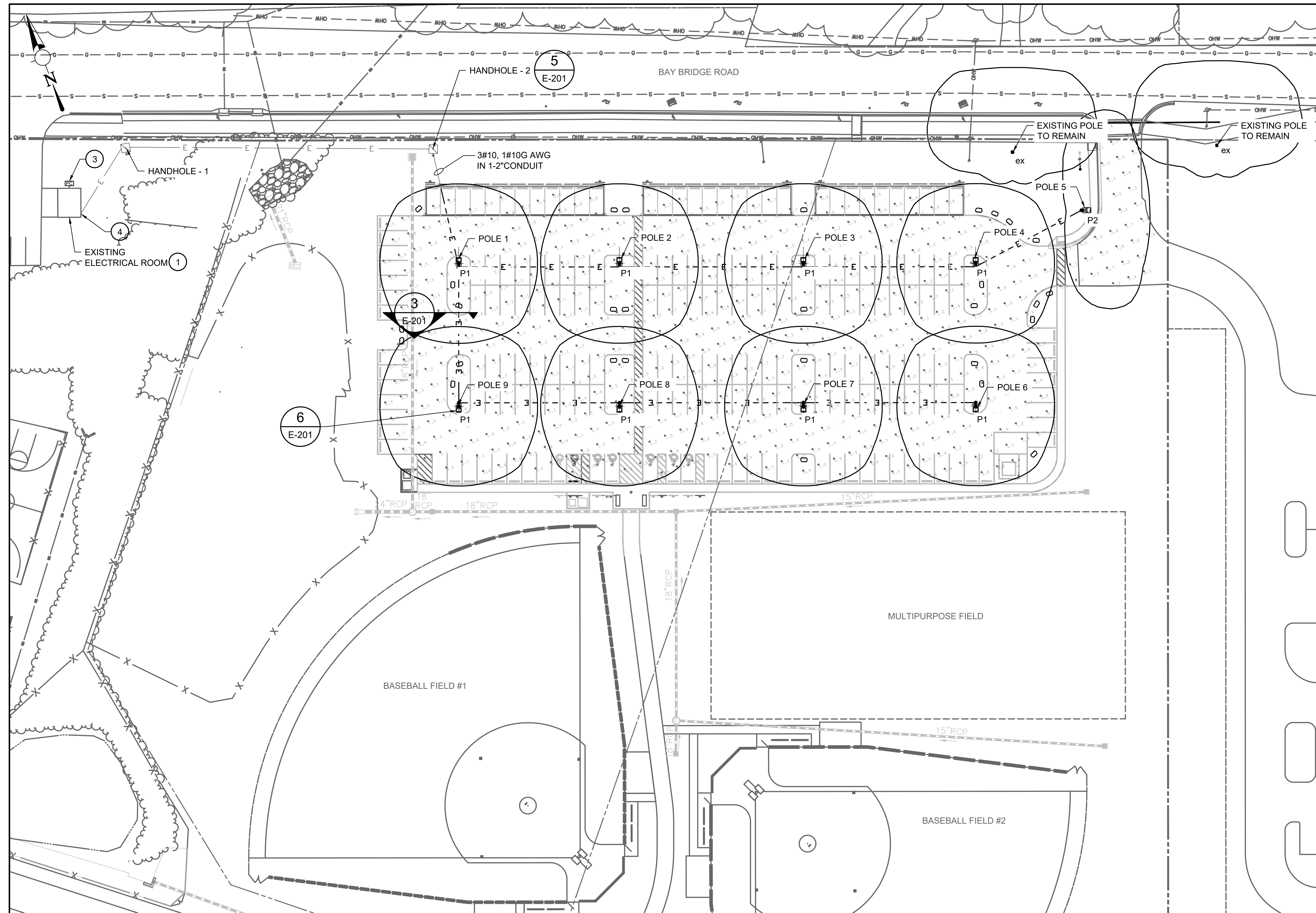
SYMBOL	DESCRIPTION
— E //	2-INCH SCH 40-PVC CONDUIT (UON) DIRECT BURIAL CONDUIT IN GRASS AREA.
-- E //	2-INCH SCH 40-PVC CONCRETE ENCASED CONDUIT UNDER PAVEMENT.
	2' X 2' X 2' HANDHOLE
	FLOODLIGHT POLE WITH FLOODLIGHT LUMINAIRES (1 LUMINAIRE SHOWN) - SUBSCRIPT INDICATED LUMINAIRE TAG

**DRAWING DETAIL # CONVENTION:**



GP# G02019203 DWG. NO.: E-001

<p>AECOM 4 NORTH PARK DRIVE SUITE 300 HUNT VALLEY, MARYLAND 21030 PHONE: 410-785-7220 FAX: 410-785-8818</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."</p> <p>MD LICENSE NUMBER: 57184</p> <p>EXPIRATION DATE: 02-14-2023</p>	<p>08/18/2022</p>	REVISIONS			ANNE ARUNDEL COUNTY																												
			<table border="1"> <thead> <tr> <th>NO.</th><th>DESCRIPTION</th><th>BY</th><th>DATE</th></tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			NO.	DESCRIPTION	BY	DATE																									DEPARTMENT OF PUBLIC WORKS
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			CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: PE																											
			APPROVED	DATE	APPROVED	DATE	CHECKED BY: RK	ELECTRICAL GENERAL NOTE, LEGEND AND ABBREVIATIONS																										
			ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 39 OF 42																											
							PROJECT NO. P509000																											
							CONTRACT NO. P509006																											



**GENERAL NOTES:**

1. REFER TO SHEET E-001 FOR ELECTRICAL GENERAL NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO THE SHEET E-301 FOR ONE-LINE DIAGRAM AND POLE LOCATION SCHEDULES.
3. ROUTING SHOWN SCHEMATICALLY. CONTRACTOR SHALL COORDINATE CONDUIT ROUTING WITH UNDERGROUND UTILITIES.
4. REFER TO SHEET E-201 FOR LIGHT POLE AND HANDHOLE INSTALLATION DETAILS.
5. PERFORM NECESSARY TAG-OUT / LOCK-OUT PROCEDURES PRIOR TO PERFORMING WORK ON EXISTING PANEL.

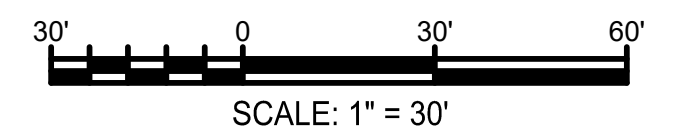
**DRAWING NOTES:**

- ① PROVIDE 3#10, 1#10G AWG IN 1-2" CONDUIT FROM EXISTING ELECTRICAL ROOM TO THE LIGHT POLE LOCATIONS. REFER TO SINGLE-LINE DIAGRAM E-301 FOR PHASE CONNECTION AT EACH POLE.
- ② PROVIDE 30A/3P BREAKER IN EXISTING PANEL LP1 FOR PARKING AREA LIGHTING. PROVIDE NECESSARY CONDUIT LB FITTINGS.
- ③ PROVIDE PHOTOCELL, NECESSARY HARDWARE & LB CONDUIT FITTINGS TO SUPPORT PHOTOCELLS ON NORTH SIDE OF THE BUILDING OUTSIDE WALL.
- ④ TRANSITION FROM PVC CONDUIT TO RGS CONDUIT 10" BELOW GRADE. PENETRATE CONDUIT IN EXISTING WALL ABOVE GRADE. LOCATION SHALL BE FIELD VERIFIED AND ADJUSTED.

1 NEW WORK SITE PLAN - LIGHTING PLAN  
E-101 NOT TO SCALE

**CALCULATION SUMMARY:**

LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
PARKING EXIT	ILLUMINANCE	Fc	1.57	3.5	0.5	3.14	7.00
PARKING LOT	ILLUMINANCE	Fc	1.14	1.7	0.5	2.28	3.40

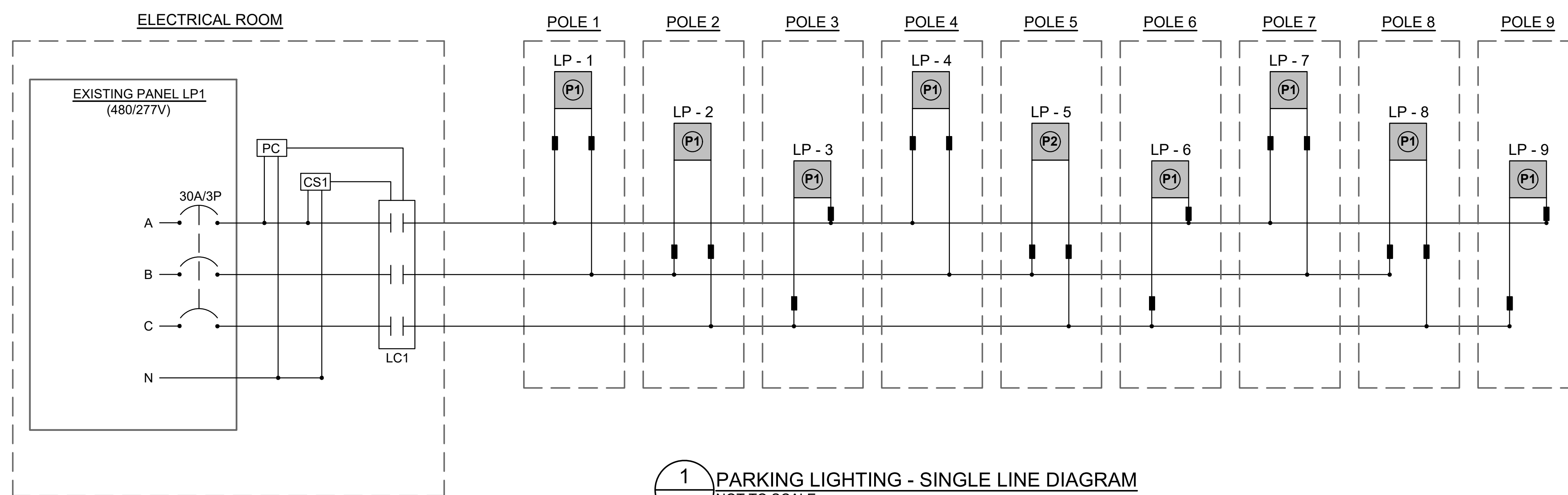


GP# G02019203 DWG. NO.: E-101

	<p><small>PROFESSIONAL CERTIFICATION</small></p> <p>* I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.*</p> <p>MD LICENSE NUMBER: 57184 EXPIRATION DATE: 02-14-2023</p>		REVISIONS				ANNE ARUNDEL COUNTY																
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			CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: PE																
			APPROVED _____ DATE _____		APPROVED _____ DATE _____		CHECKED BY: RK																
			ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		SHEET NO. 40 OF 42																
			PROJECT NO. P509000		CONTRACT NO. P509006																		

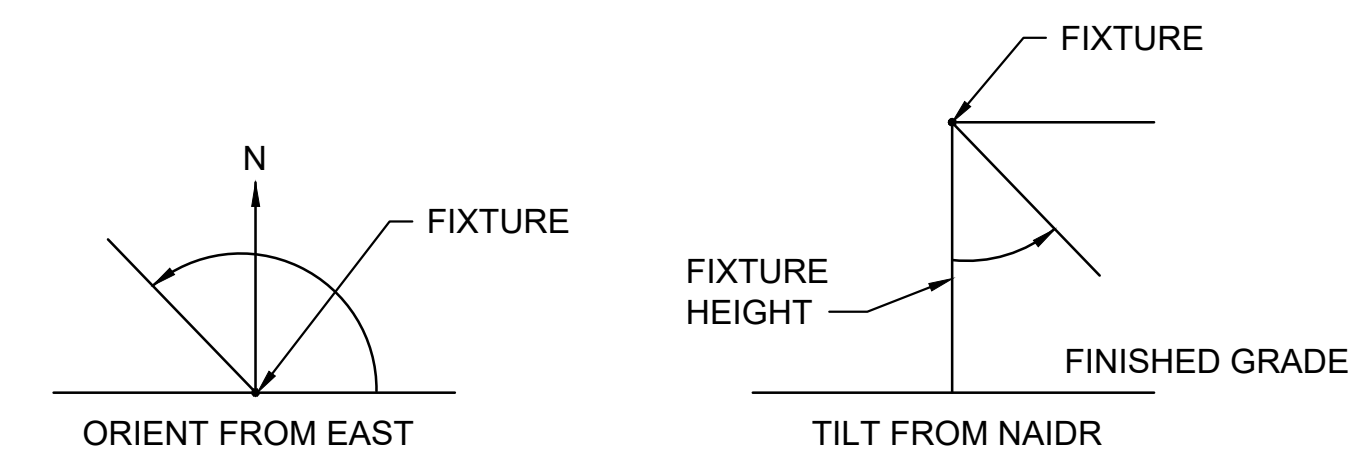






- LEGEND**
- AF - 18  
 SINGLE FLOOD LIGHTING FIXTURE  
 - 'P1/P2' REFERENCE INDICATES FIXTURE TAG
  - CS  
 CONTROL STATION INCLUDING DOOR MOUNTED HOA SWITCH AND 'ON' 'OFF' INDICATOR LIGHTS
  - INLINE FUSE AND HOLDER IN LIGHT POLE HANDHOLE
  - PC  
 PHOTOELECTRIC CONTROL UNIT
  - LC X  
 LIGHTING CONTACTOR

**1** PARKING LIGHTING - SINGLE LINE DIAGRAM  
 E-301 NOT TO SCALE



**2** DETAIL - FLOODLIGHT AIMING ANGLES  
 E-301 NOT TO SCALE

PENINSULA PARK - PARKING AREA LIGHTING LUMINAIRE AIMING SCHEDULE								POLE LOCATION	
LIGHT POLE	LUMINAIRE TAG	FOUNDATION HEIGHT (ft)	POLE HEIGHT (ft)	TOTAL HEIGHT (ft)	MOUNTING	ORIENTATION	TILT	NORTHING	EASTING
LP-1	P1	3	17	20	POLE MOUNT	69.0	0	1459594.017	465454.678
LP-2	P1	3	17	20	POLE MOUNT	69.0	0	1459684.407	465419.484
LP-3	P1	3	17	20	POLE MOUNT	69.0	0	1459787.843	465379.209
LP-4	P1	3	17	20	POLE MOUNT	69.0	0	1459884.726	465341.486
LP-5	P2	3	17	20	POLE MOUNT	320.0	0	1459951.031	465344.268
LP-6	P1	3	17	20	POLE MOUNT	248.5	0	1459854	465262.572
LP-7	P1	3	17	20	POLE MOUNT	248.5	0	1459757.116	465300.295
LP-8	P1	3	17	20	POLE MOUNT	248.5	0	1459653.68	465340.57
LP-9	P1	3	17	20	POLE MOUNT	248.5	0	1459563.291	465375.765

LUMINAIRE FIXTURE SCHEDULE											
FIXTURE I.D TAG	FIXTURE TYPE	MOUNTING	LAMP				EFFICACY (LPW)	VOLTAGE (V)	CATALOG NUMBER	REMARKS	
			TYPE	WATTS	LUMENS	CRI					CCT (K)
P1	AREA / SITE LUMINAIRE	POLE MOUNTED ARM	LED	96	14,045	70	4000	148	480	LUMARK - PRV-C25-D-480-T5-SA-AP OR APPROVED EQUAL	RECTANGULAR SLIM-FORM SINGLE-PIECE DIE-CAST ALUMINUM HOUSING TETHERED DIE-CAST ALUMINUM DOOR STANDARD MOUNTING ARM OF 4-15/16" LENGTH OPERATING TEMPERATURE: -40°C - 40°C TYPE V DISTRIBUTION PRECISION MOLDED POLYCARBONATE OPTICS IP66 RATED
P2	AREA / SITE LUMINAIRE	POLE MOUNTED ARM	LED	96	13,183	70	4000	148	480	LUMARK - PRV-C25-D-480-T3-SA-AP-HSS OR APPROVED EQUAL	RECTANGULAR SLIM-FORM SINGLE-PIECE DIE-CAST ALUMINUM HOUSING TETHERED DIE-CAST ALUMINUM DOOR STANDARD MOUNTING ARM OF 4-15/16" LENGTH OPERATING TEMPERATURE: -40°C - 40°C TYPE III DISTRIBUTION PRECISION MOLDED POLYCARBONATE OPTICS IP66 RATED

**LIGHTING FIXTURE SCHEDULE NOTES:**

- REFER TO THE ELECTRICAL NEW WORK PLAN, SHEET E-101 FOR LOCATIONS OF LUMINAIRES.
- PROVIDE LUMINAIRES AS INDICATED, UNLESS APPROVED EQUAL FIXTURE CAN BE INSTALLED, ARRANGE AND AIMED IN A MANNER TO MEET ALL NECESSARY PHOTOMETRIC REQUIREMENTS PER IES RP-20-14, UNCOVERED PARKING AND SPECIFIC TO SUBURBAN AREA. IF ALTERNATE FIXTURE IS SELECTED, SUBMIT DETAILED PHOTOMETRIC CALCULATIONS FOR PARKING AREA. CONTRACTOR SHALL USE LIGHT LOSS FACTOR AS INDICATED.
- UPON COMPLETION OF INSTALLATION OF LIGHTING, THE CONTRACTOR SHALL PARTICIPATE IN A VERIFICATION PROCESS TO DEMONSTRATE THAT THE DESIGN LEVELS WITH AIMING ANGLES HAVE BEEN ACHIEVED. THE CONTRACTOR SHALL FURNISH A CALIBRATED LIGHT METER WITH ACCURACY TO 2 DECIMALS FOR FIELD MEASUREMENTS AND MAKE ADJUSTMENTS TO LUMINAIRES. MEASUREMENTS WILL BE MADE DURING HOURS OF 2AM TO 4AM BY THE CONTRACTOR IN THE PRESENCE OF THE RESIDENT PROJECT REPRESENTATIVE ON AT 100-FOOT SPACING IN THE APRON AREA. EACH MEASUREMENT POINT LOCATION SHALL HAVE A HORIZONTAL AND A VERTICAL READING. THE CONTRACTOR SHALL ESTABLISH A STARTING REFERENCE POINT IN THE AREA AND MARK THE 100-FOOT SPACING GRID ACCORDINGLY.  
  
HORIZONTAL MEASUREMENTS SHALL BE MADE AT FINISHED GRADE, WITH THE LIGHT SENSOR FACING UP AND PERPENDICULAR TO GRADE.

GP# G02019203 DWG. NO.: E-301



AECOM  
 4 NORTH PARK DRIVE  
 SUITE 300  
 HUNT VALLEY, MARYLAND 21030  
 PHONE: 410-785-7220  
 FAX: 410-785-8818

**PROFESSIONAL CERTIFICATION**

"I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

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SCALE: AS NOTED		PENINSULA PARK EXPANSION	
DRAWN BY: PE		CHECKED BY: RK	
SHEET NO. 42 OF 42		ELECTRICAL ONE-LINE AND LUMINAIRE SCHEDULES	
PROJECT NO. P509000		CONTRACT NO. P509006	