

NO	DESCRIPTION
1	TITLE SHEET
2	SITE & GRADING PLAN
3	POND CONSTRUCTION DETAILS
4	MD-378 CONSTRUCTION SPECIFICATIONS
5	GRADING AND SEDIMENT CONTROL PLAN
6	EROSION & SEDIMENT CONTROL NOTES & DETAILS
7	EROSION & SEDIMENT CONTROL DETAILS
8	
9	
10	

45. TU CASE NO. 08-004 WAS APPROVED ON 6/17/08. THE BARN AND OTHER OUTBUILDINGS CURRENTLY SHOWN WITHIN THE 75' FRONT SETBACK MAY REMAIN UNTIL DECEMBER 31, 2008.

46. THE PURPOSE OF REVISION IS TO SHOW LOT 5 CREATED BY RESUBDIVISION OF LOTS 1 TO 4 AND NON-BUILDABLE PARCEL A AS PER F-07-187 AND RECORDED AS PLATS 22544, 22547; AND SHOW FARM POND CONSTRUCTED UNDER GP-17-21.

47. GRADING PLAN FOR FARM POND WAS APPROVED UNDER GP-17-21 ON DECEMBER 8, 2014.

48. LOTS 1 IS SUBJECT TO A MARYLAND ENVIRONMENTAL TRUST DEED OF CONSERVATION EASEMENT DATED 12/21/2011 BETWEEN GARY B. SMITH AND STACIA K. SMITH AND BOTH THE MARYLAND ENVIRONMENTAL TRUST AND THE HOWARD COUNTY CONSERVANCY AND RECORDED IN L13618 AT F. 272.

49. THE MET EASEMENT (L 13618, F. 272) PROHIBITS FUTURE SUBDIVISION OF LOTS 1 IS RESTRICTED TO 3 NEW LOTS DUE TO ITS LOCATION WITH TIER IV AREA (PER SB-20C).

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL PLAN DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED JUNE 2006. AND HOWARD COUNTY GIS TOPOGRAPHY.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED JUNE 2006.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 291A AND 291D WERE USED FOR THIS PROJECT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE 100-YEAR FLOODPLAIN HAS BEEN SHOWN HEREON BASED ON FIRM MAP # 24044, PANEL 0027.
- THE SUBJECT PROPERTY IS ZONED RC-DEO AS PER 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE ON 07-28-06.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1.5" MIN.);
 - GEOMETRY - MAX. 14% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND THE ROAD RIGHT-OF-WAY LINE ONLY AND NOT ON THE FLAG OR PIPE STEM LOT DRIVEWAY. THRASH & RECYCLABLES COLLECTION WILL BE AT HOMEWOOD ROAD WITHIN FIVE FEET (5') OF THE COUNTRY ROADWAY.
- THERE IS NO ROAD DEDICATION ASSOCIATED WITH THIS FINAL PLAN. ALL ROAD DEDICATION FOR THIS PROJECT IS DONE UNDER F-07-187.
- BOTH WATER AND SEWER ARE PRIVATE FOR THIS PROJECT.
- THERE IS ONE EXISTING PERMANENT STRUCTURE AND THREE BARN ON-SITE. THE EXISTING BARN (GIRGA 1973) WILL BE REMOVED AS PART OF F-07-187. THE HOUSE (BUILT IN 1973) WILL REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING(S) ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.
- THE FOREST CONSERVATION AND LANDSCAPE PLAN OBLIGATION FOR THIS SITE HAS BEEN MET BY THE FINAL PLAN FOR HOMEWOOD FARM LOTS 1 & 2 (F-07-187).
- THE STORMWATER MANAGEMENT REQUIREMENTS FOR THIS SITE WILL BE PROVIDED BY THE USE OF FOUR-BY-RETENTION DEVICES.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- LOTS 3 & 4 WILL BE REQUIRED TO PAY A FEE IN LIEU OF \$1,500.00 EACH (\$3,000.00 TOTAL) FOR OPEN SPACE.
- BY RECORD PLAT, THE DEVELOPER SHALL CREATE A 24' WIDE SHARED ACCESS EASEMENT FOR LOTS 3 AND 4 WITHIN THIS SHARED ACCESS. A 16' USE-IN-COMMON DRIVEWAY (MEETING DESIGN MANUAL STANDARDS) SHALL BE CONSTRUCTED. THE USE-IN-COMMON CREATED FOR LOTS 3 AND 4 WILL JOIN WITH THE IMPROVED 18' DRIVEWAY LOCATED WITHIN THE CONFINES OF THE 40' RIGHT-OF-WAY.
- VEHICULAR EGRESS AND INGRESS (VIER) IS RESTRICTED ALONG HOMEWOOD ROAD WEST OF THE EXISTING USE IN COMMON DRIVEWAY.
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
- PERC HOLES SHOWN HEREON HAVE BEEN FIELD LOCATED BY PHRA IN JANUARY 30TH, 2007.
- 8 DENOTES PASSING PERC TEST.
- 37 DENOTES FAILED PERC TEST.
- WELLS AND SEPTIC SYSTEMS WITHIN 100 FEET OF THE PROPERTY BOUNDARY HAVE BEEN SHOWN TO THE BEST OF OUR KNOWLEDGE AND INFORMATION FROM AVAILABLE COUNTY RECORDS.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND HOWARD COUNTY.
- DENOTES WELL (NOT TO SCALE)
- NO PERENNIAL STREAMS, WETLANDS, OR WETLAND BUFFERS ARE LOCATED ON THIS SITE. HOWEVER THERE IS A PERENNIAL STREAM AND ASSOCIATED 100' STREAM BUFFER LOCATED ON THE ADJACENT NON-BUILDABLE PARCEL A. STEEP SLOPES (25% OR GREATER) ARE LOCATED ON SITE AS SHOWN ON THE PLAN. HOWEVER THOSE LOCATED ON SITE DO NOT MEET THE HOWARD COUNTY ZONING ORDINANCE DEFINITION OF STEEP SLOPES, SO NO 35' SETBACK HAS BEEN PROVIDED. THERE ARE STEEP SLOPES LOCATED ON THE ADJACENT PARCEL 117 AND THE 35' SETBACK IS SHOWN ON LOT 3.
- ALL WELLS TO BE DRILLED PRIOR TO FINAL PLAT RECORDATION.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE ADDRESSED WITH THE REQUIRED GRADING PERMIT/BUILDINGS PERMIT IN THE AMOUNT OF \$1,000.00 FOR 2 SHARP TREES, 1 ORNAMENTAL TREE, 8 EVERGREEN TREES, AND 10 SHRUBS.

FINAL PLAN

HOMEWOOD FARM

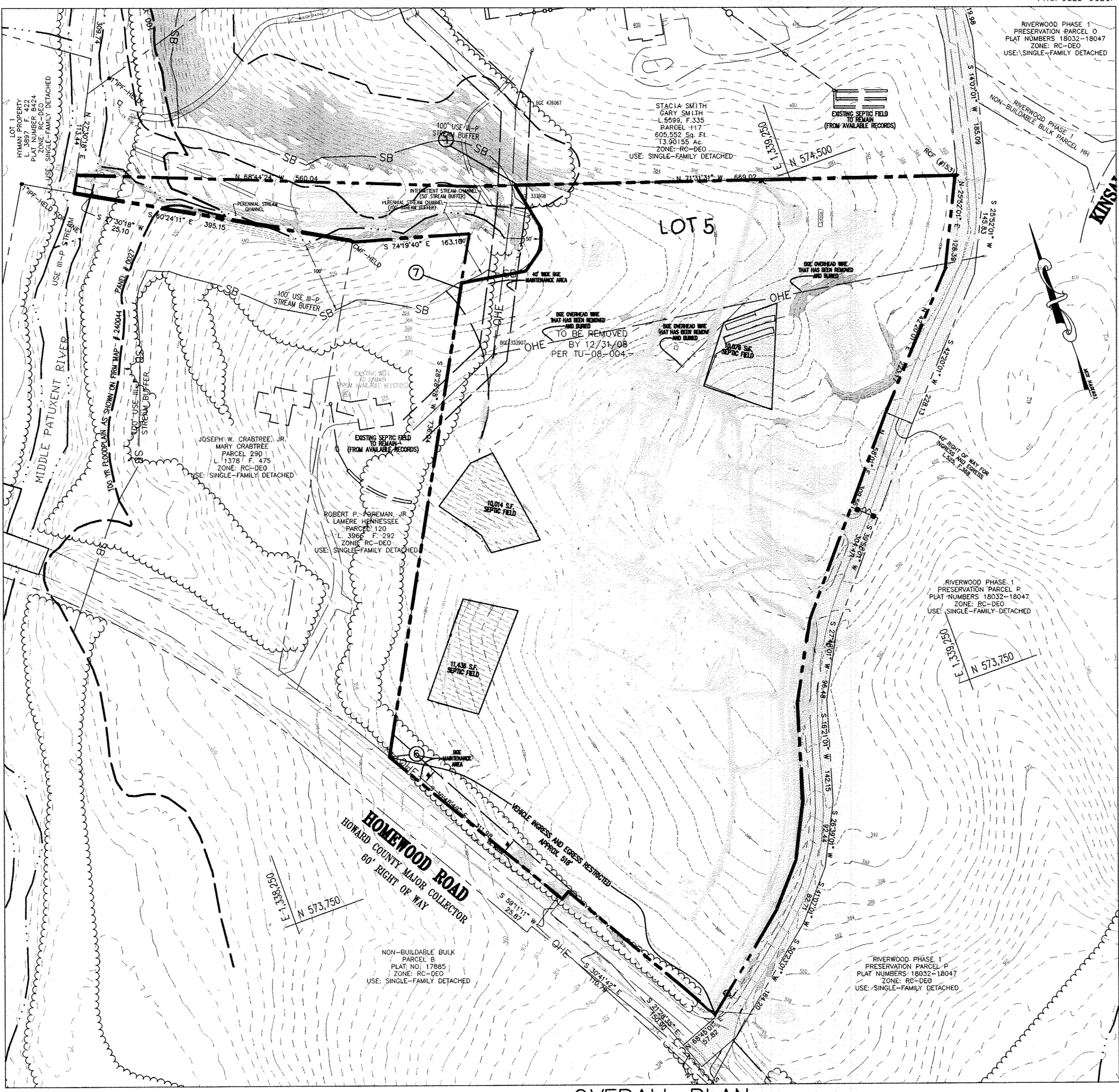
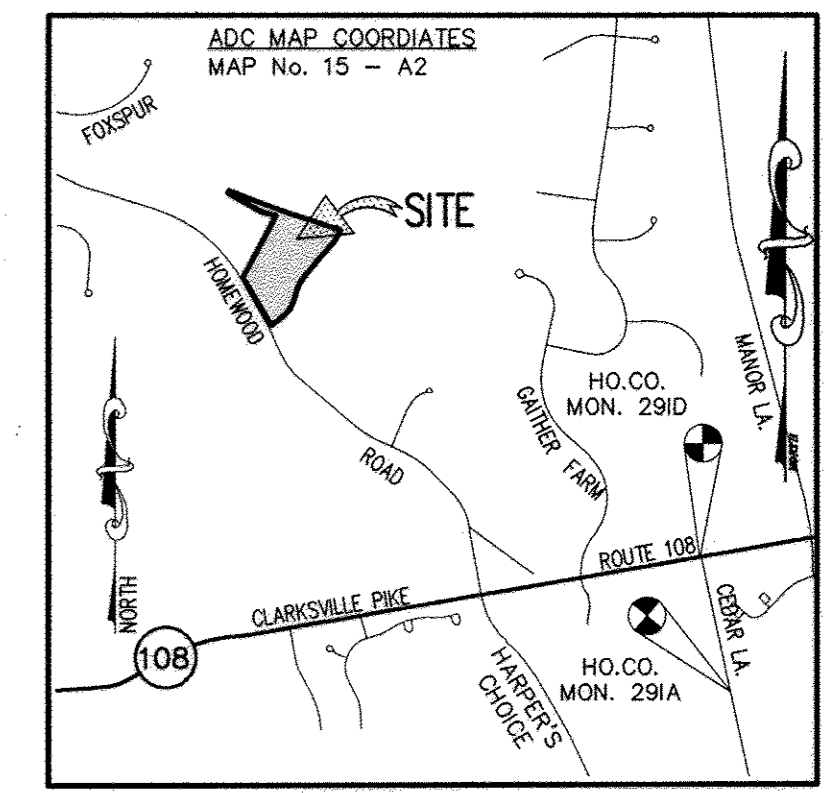
LOT 5

3RD ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

AREA TABULATION CHART

EXISTING ZONING:	RC-DEO
GROSS AREA OF SITE:	14.557 AC.
AREA IN 100 YEAR FLOODPLAIN:	0 ACRES
AREA OF STEEP SLOPES:	0.05 ACRES (2,131 SF)
NET TRACT AREA:	14.51 ACRES
AREA OF RIGHT-OF-WAY DEDICATION:	0 ACRES
AREA OF PROPOSED BUILDABLE LOTS:	9.63 ACRES
AREA OF REQUIRED OPEN SPACE:	0 SF
LIMIT OF DISTURBED AREA:	3.6 ACRES
NUMBER OF BUILDABLE LOTS:	1 LOTS
NUMBER OF BUILDABLE PRESERVATION PARCELS:	0
NUMBER OF NON-BUILDABLE LOTS/PARCELS:	0
NUMBER OF OPEN SPACE LOTS:	0
PROPOSED WATER AND SEWER:	PRIVATE WELL AND SEPTIC
EXISTING USES:	EXISTING HORSEFARM AND WOODS
PROPOSED USES:	1 LOTS



WP-07-079 CONDITIONS OF APPROVAL:

- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PREPARATION OF A USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENT FOR THE EXISTING 40' WIDE RIGHT-OF-WAY SERVING PARCEL 117, PARCEL 291, AND NEW LOTS 1, 3, & 4. THIS MAINTENANCE DOCUMENT MAY BE RECORDED PRIOR TO, OR CONCURRENTLY WITH THE RECORDATION OF THE PLATS CREATING LOTS 1, 3, & 4 FROM PARCEL 303. IN ADDITION, A SEPARATE MAINTENANCE AGREEMENT WILL BE REQUIRED FOR THE 24' WIDE SHARED ACCESS EASEMENT (DESIGNED TO SERVE LOTS 3 AND 4 ONLY) WHICH WILL BE CREATED ON THE FORTHCOMING PLAT CREATING LOTS 1 & 2. THIS MAINTENANCE AGREEMENT WILL BE RECORDED WITH THE PLAT CREATING LOTS 3 & 4. (4/13/07)
- BY RECORD PLAT, THE DEVELOPER SHALL CREATE A 24' WIDE SHARED ACCESS EASEMENT FOR LOTS 3 AND 4. WITHIN THIS SHARED ACCESS, A 16' USE-IN-COMMON DRIVEWAY (MEETING DESIGN MANUAL STANDARDS) SHALL BE CONSTRUCTED. THE USE-IN-COMMON CREATED FOR LOTS 3 AND 4 WILL JOIN WITH THE IMPROVED 18' DRIVEWAY LOCATED WITHIN THE CONFINES OF THE 40' RIGHT-OF-WAY. (4/13/07)
- THE DEVELOPER SHALL IMPROVE THE EXISTING DRIVEWAY (CONTAINED WITHIN THE EXISTING 40' RIGHT-OF-WAY) TO 18' FROM HOMEWOOD ROAD TO THE LAST ACCESS POINT FOR PROPOSED LOT 1. (4/13/07)
- PLAN DETAILS FOR THE PROPOSED GATE SHOWING PROVISIONS FOR EMERGENCY ACCESS SHALL BE PROVIDED TO DEPARTMENT OF FIRE AND RESCUE SERVICES AND APPROVED BY THAT DEPARTMENT PRIOR TO THE RECORDATION OF THE PLAT CREATING LOTS 1 & 2. (4/13/07)
- THE DEVELOPER SHALL COMPLY WITH THE PREVIOUSLY FORWARDED COMMENTS FROM THE DEPARTMENT OF FIRE AND RESCUE SERVICES (DATED 2/14/07) REGARDING ADDRESS SIGNAGE AND DRIVEWAY TURNING RADI. (4/13/07)
- ON THE FORTHCOMING PLAT WHICH WILL CREATE LOTS 1 AND 2, NOTE ALL OF THE FRONTAGE ALONG HOMEWOOD ROAD AS "VEHICULAR INGRESS AND EGRESS RESTRICTED." CLEARLY NOTE THAT ALL ACCESS IS TO BE DERIVED VIA PARCEL 117. (4/13/07)
- BULK PARCEL A SHALL BE DESIGNATED AS NON-BUILDABLE PARCEL A WITH F-07-187. (6/22/07)
- NON-BUILDABLE PARCEL A WILL BE ENCUMBERED BY A FOREST CONSERVATION EASEMENT IN ITS ENTIRETY, ENCOMPASSING EXISTING FOREST AND FLOODPLAIN. (6/22/07)
- NON-BUILDABLE PARCEL A SHALL BE CONVEYED TO THE OWNERS OF ADJOINING PARCEL 117 IMMEDIATELY FOLLOWING THE RECORDATION OF THE PENDING PLAT (F-07-187). BE ADVISED THAT THIS NON-BUILDABLE 1.0191-ACRE PARCEL WILL BE A SEPARATE ENTITY FROM PARCEL 117 AND MAY ONLY BE MERGED WITH THAT PARCEL THROUGH THE RECORDATION OF A SUBDIVISION PLAT. (6/22/07)
- BULK PARCEL A SHALL BE DESIGNATED AS NON-BUILDABLE PARCEL A WITH F-07-187 AND F-07-213. (9/10/07)
- A PLAT OF EASEMENT FOR THE PARCELS PROVIDING FOR OFF-SITE FOREST CONSERVATION (INCLUDING PARCEL 291, PARCELS/LOTS 1 & 2) WILL NEED TO BE SUBMITTED. THIS PLAT MUST BE RECORDED PRIOR TO OR CONCURRENTLY WITH F-07-187. (9/10/07)

LEGEND

PROPERTY LINE	
EXISTING TREELINE	
PROPOSED LOT LINE	
EXISTING SOILS	
EX. STREAM AND BUFFER	
EX. 100-YEAR FLOODPLAIN	
EXISTING CONTOURS	
EXISTING BUILDING	
PROPOSED BUILDING	
EXISTING WELL	
PROPOSED WELL	
OVERHEAD ELECTRIC LINE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John D. ... 7/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

... 7/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

6-9-17 1 Replace sheets 2 to 10 with new sheets 2 to 7
DATE NO. REVISION

OWNER:
HOMEWOOD L.L.C.
C/O GARY B. SMITH
11362 HOMEWOOD ROAD
ELLICOTT CITY
MARYLAND 21042
410-964-0260

DEVELOPER:
PAUL H. DYMOND
14631 RED LION DRIVE
WOODBINE MD 21797

PROJECT
HOMEWOOD FARM LOT 5
FORMERLY (MURPHY PROPERTY)

AREA TAX MAP 29 PARCELS 303, 117, 291
3RD ELECTION DISTRICT ZONED RC-DEO
HOWARD COUNTY, MARYLAND

TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DESIGNED BY: PHRA
DRAWN BY: JML
PROJECT NO.: 14520-1-0
DATE: 03/31/08
SCALE: AS SHOWN
DRAWING NO. 1 OF 7

ASSOCIATED PLANS	NUMBER	APPROVAL DATE
WAIVER PETITION	WP-07-079	4/13/07, 6/22/07 & 9/10/07
FINAL PLAN (PHASE I)	F-07-187	PENDING

THIS FINAL PLAN IS THE SECOND PHASE OF THE FINAL PLANS FOR HOMEWOOD FARM. THE FIRST PHASE WAS SUBMITTED AS F-07-187 AND IS CURRENTLY UNDER REVIEW. THERE IS ALSO AN APPROVED WAIVER PETITION (WP-07-079) FOR THIS PROJECT. THE INTENT OF THIS PHASE IS TO SUBDIVIDE LOT 2 THAT WAS CREATED UNDER PHASE ONE INTO LOTS 3 & 4. FOREST CONSERVATION AND PERIMETER LANDSCAPING WAS ADDRESSED BY F-07-187.

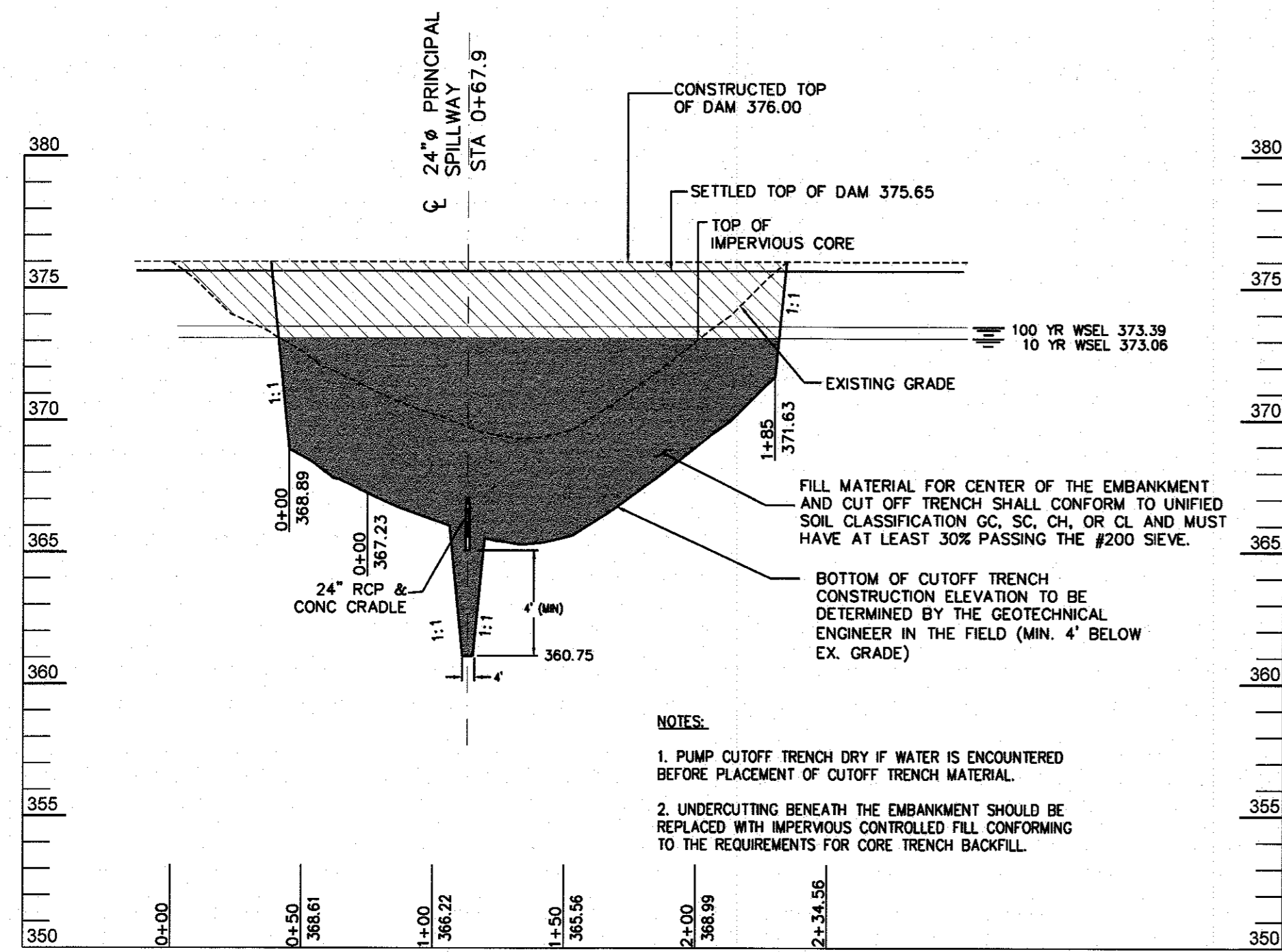
BENCH MARK

HOWARD COUNTY CONTROL
STATION 0506
N 609,143.487
E 1,270,776.502
ELEV. 855.46

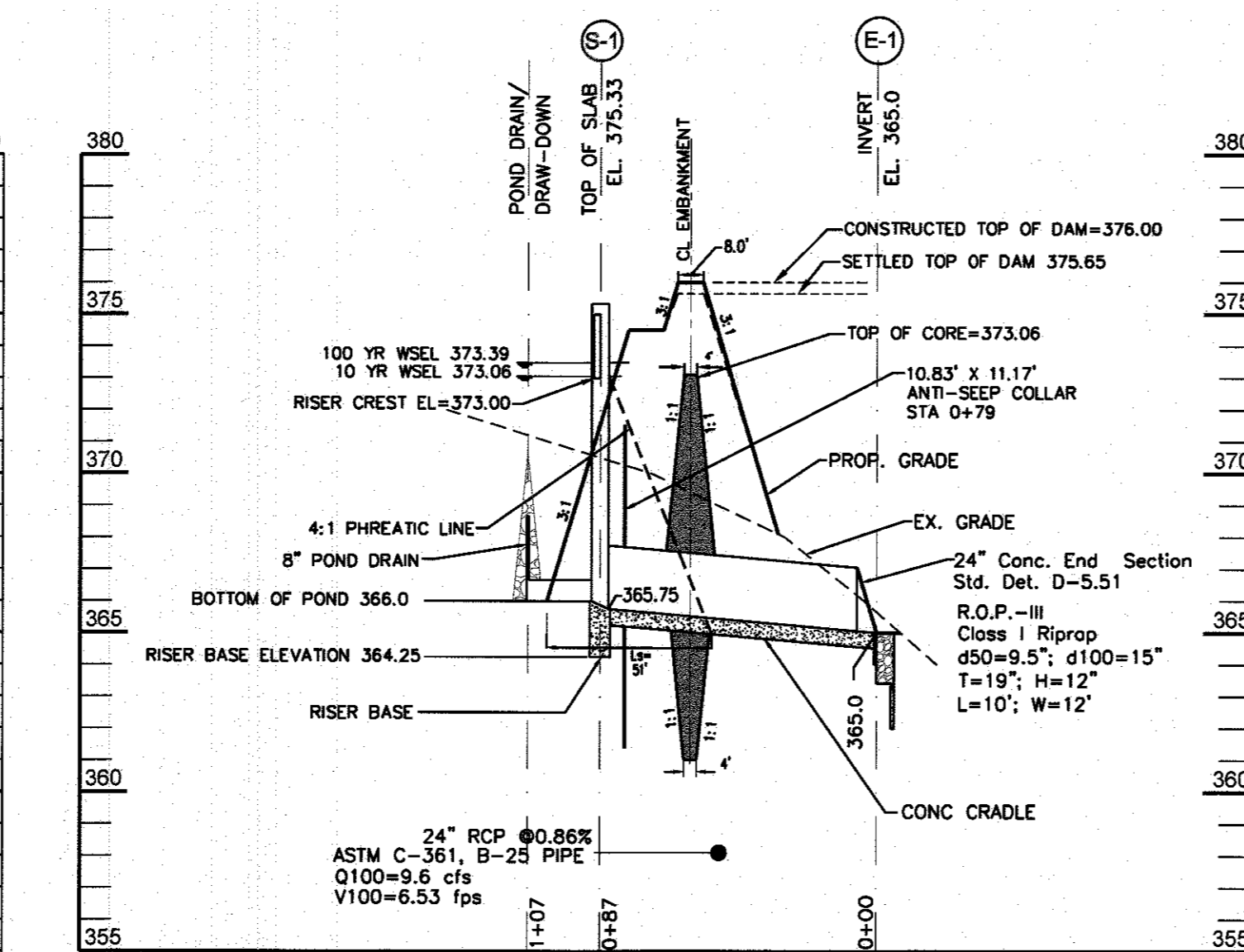
HOWARD COUNTY CONTROL
STATION 06CA
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ELEV. 815.20

COORDINATE LIST

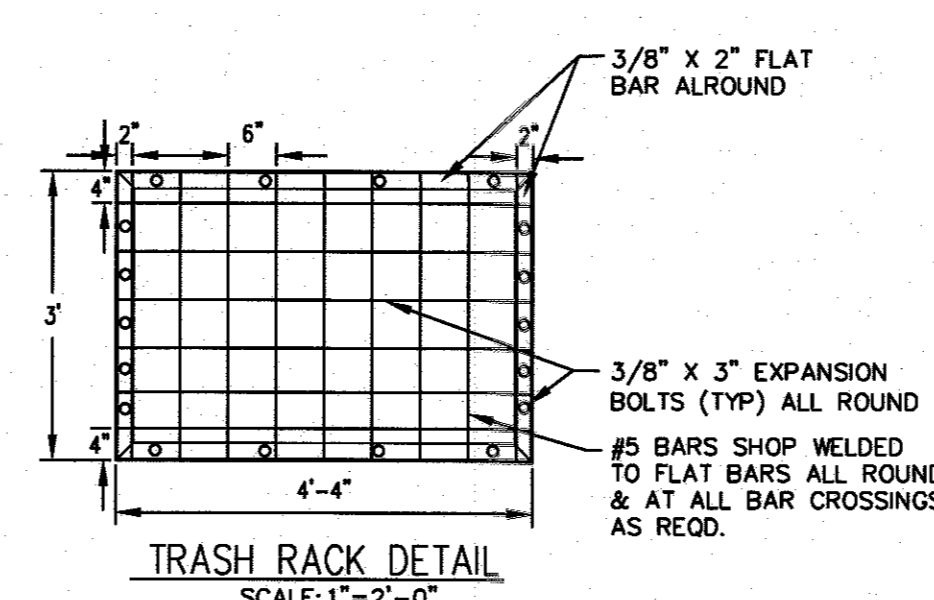
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2	N 574,629.01	E 1,338,313.72
3	N 574,417.00	E 1,339,470.26
4	N 573,427.66	E 1,338,755.20
5	N 573,923.59	E 1,338,451.91
6	N 574,570.59	E 1,338,802.83
7	N 574,502.17	E 1,338,765.72



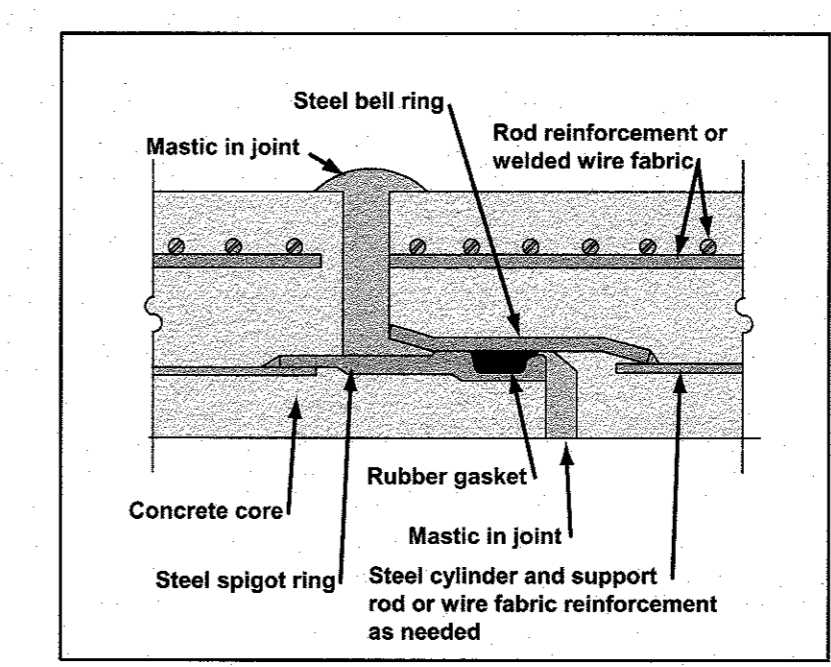
PROFILE - EMBANKMENT CENTER LINE
SCALE 1"=50' (H) & 1"=5' (V)



PRINCIPAL SPILLWAY PROFILE
SCALE 1"=50' H, 1"=5' V



TRASH RACK DETAIL
SCALE: 1"=2'-0"



GROUTED JOINT DETAIL FOR CONCRETE BARREL
NOT TO SCALE

DETAIL G-2-9 PROJECTION COLLAR STANDARD SYMBOL

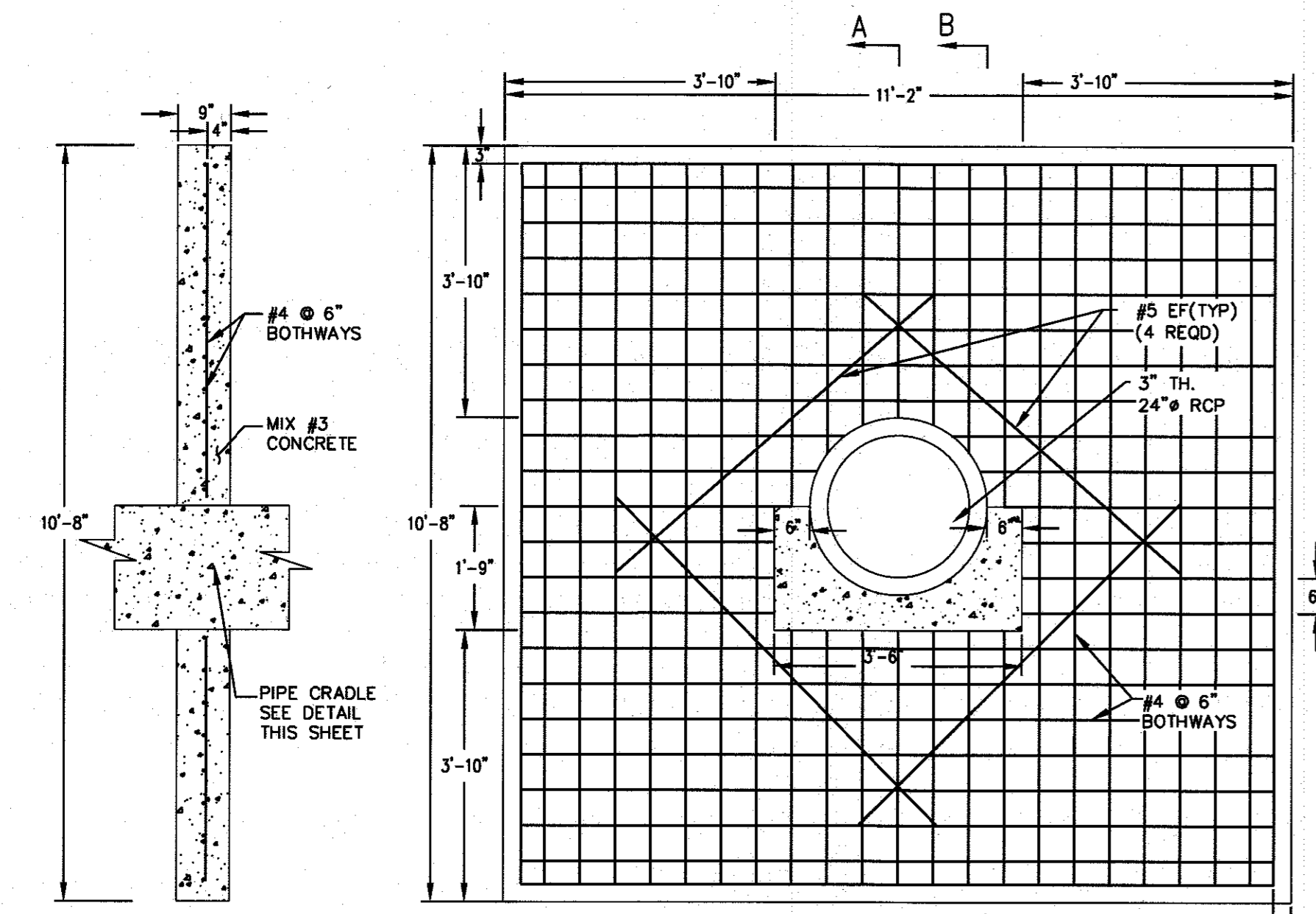
CONCRETE COLLAR DETAIL

ELEVATION

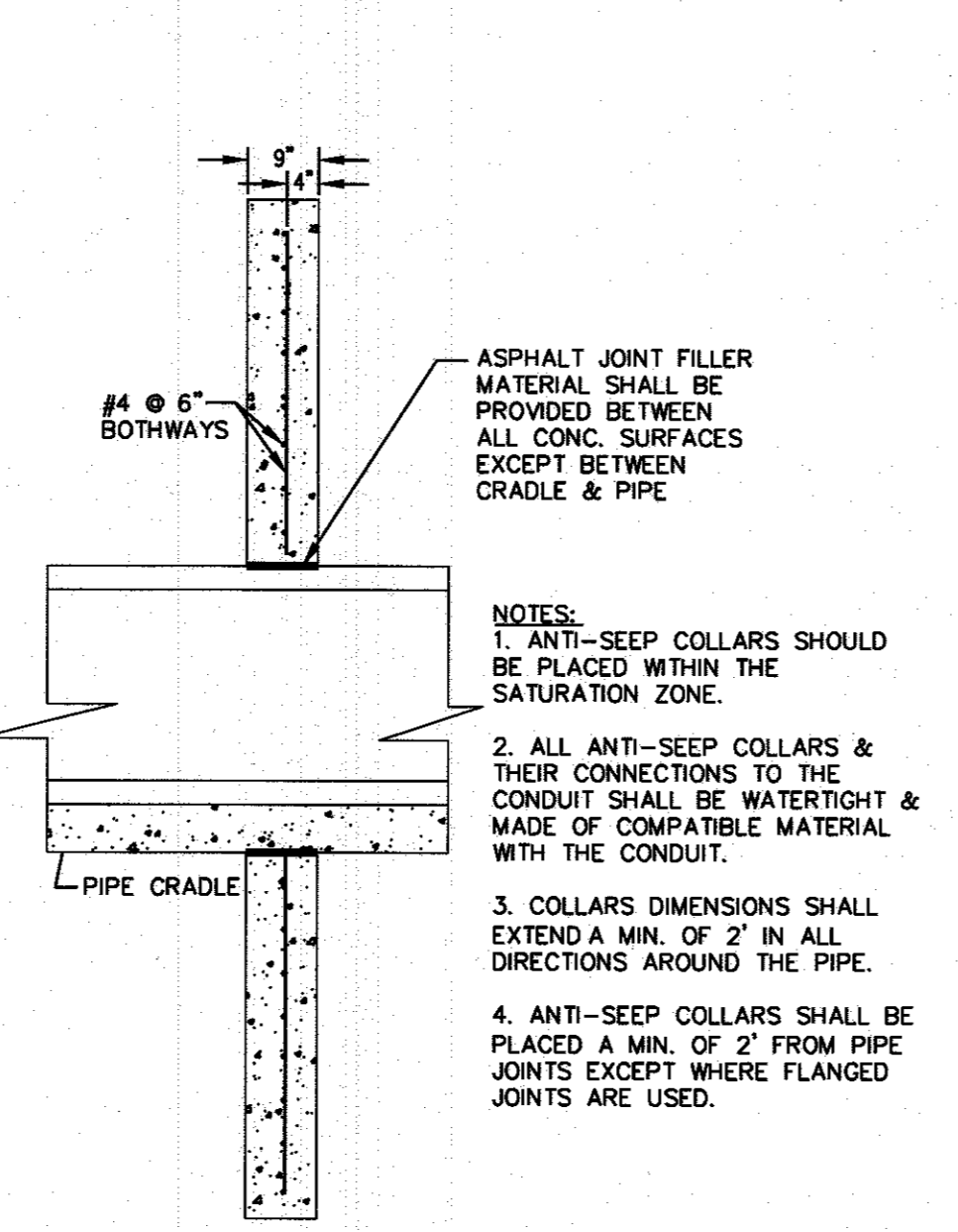
CONSTRUCTION SPECIFICATIONS

- CAST 1 FOOT THICK CONCRETE COLLAR TO OUTLET STRUCTURE WITH FOUR #4 U-SHAPED REBARS.

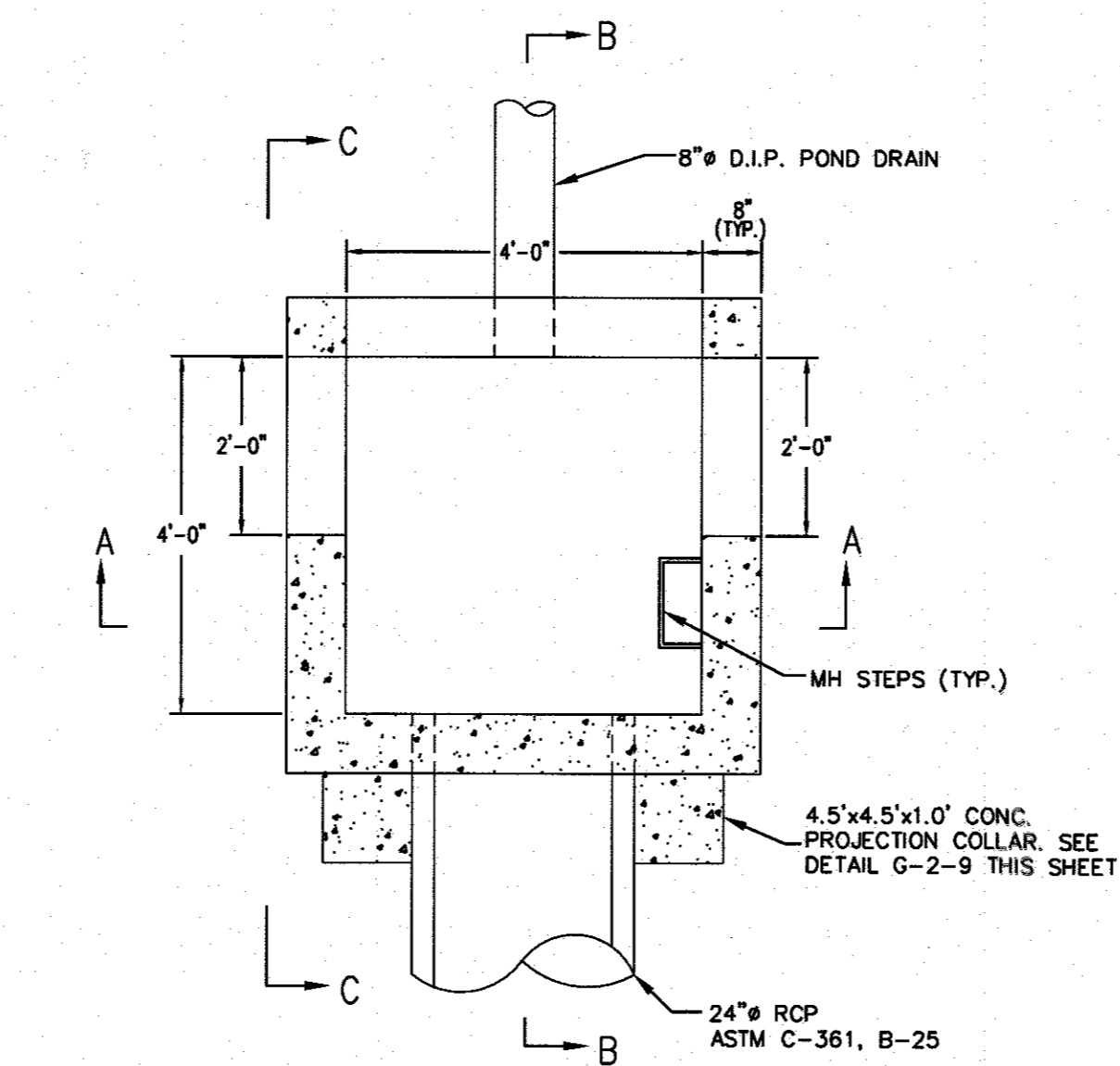
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION



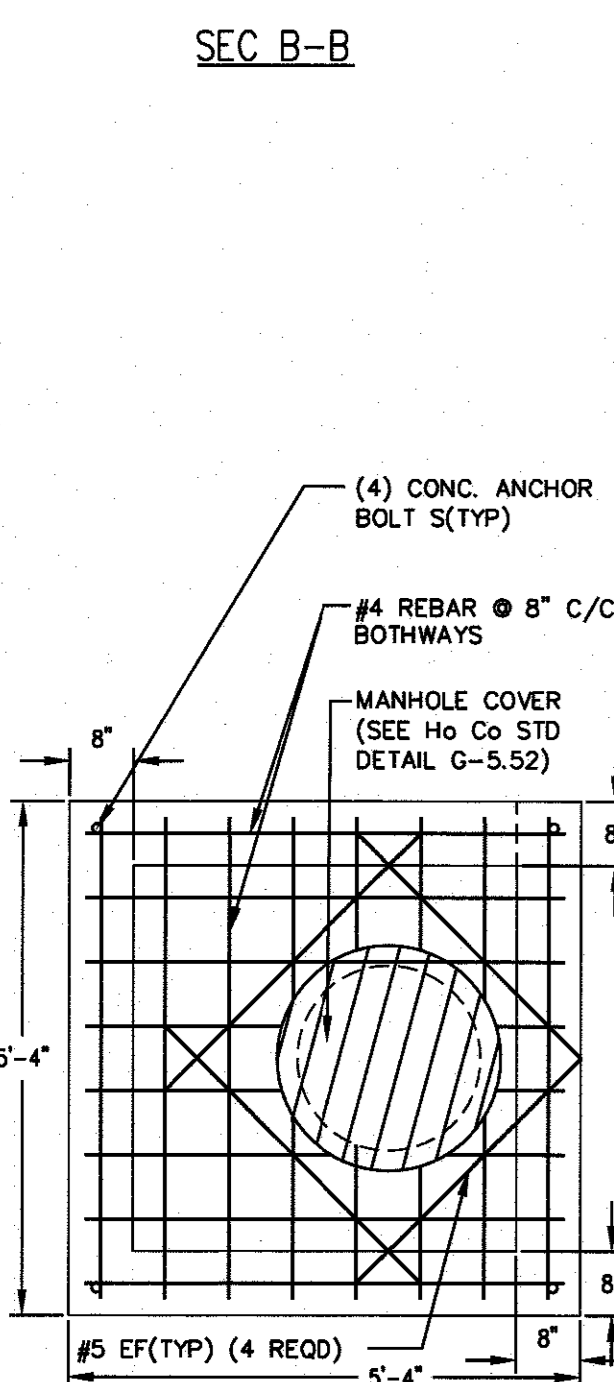
CONC ANTI-SEEP COLLAR DETAIL
SCALE: 1"=2'-0"



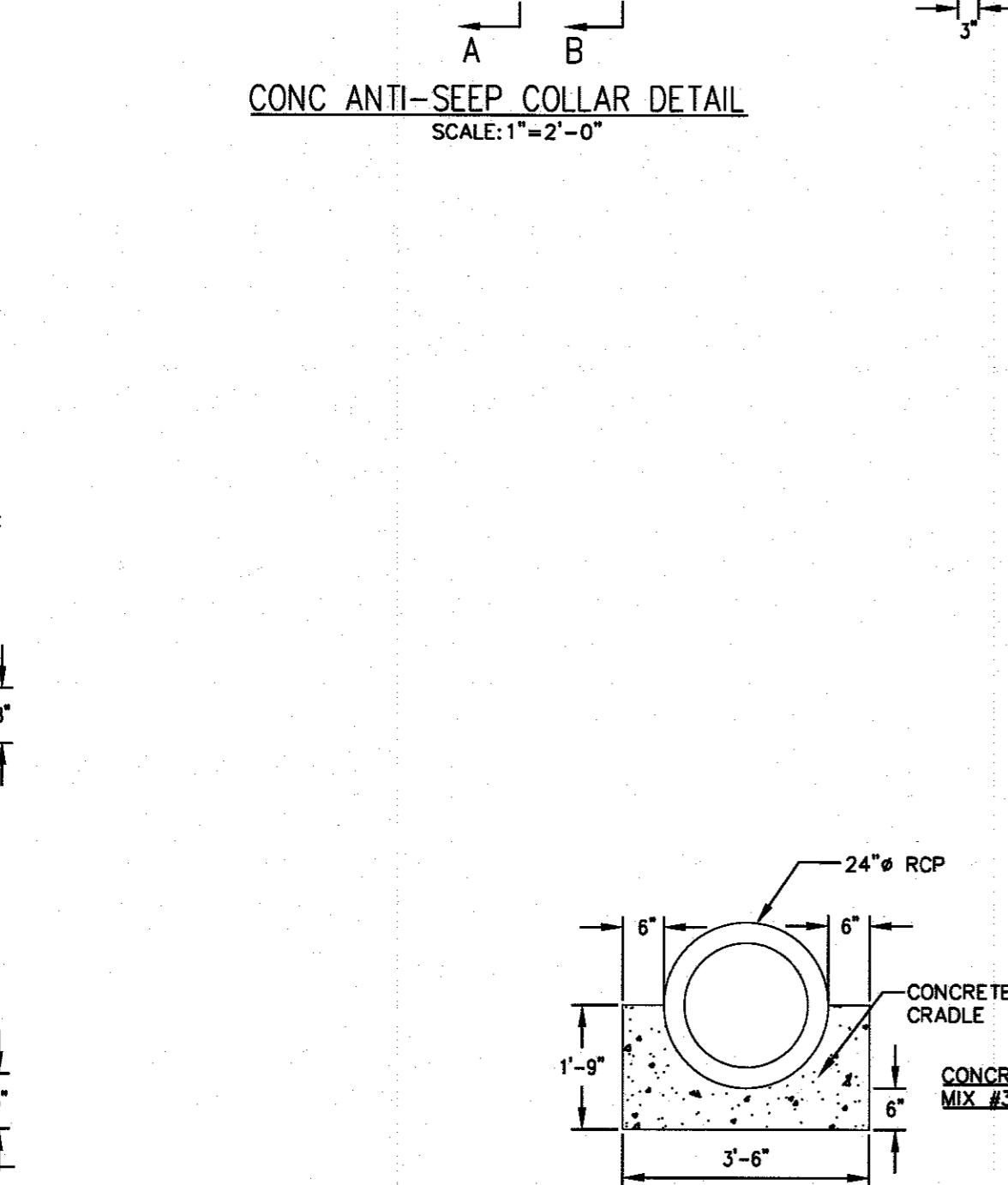
SEC A-A



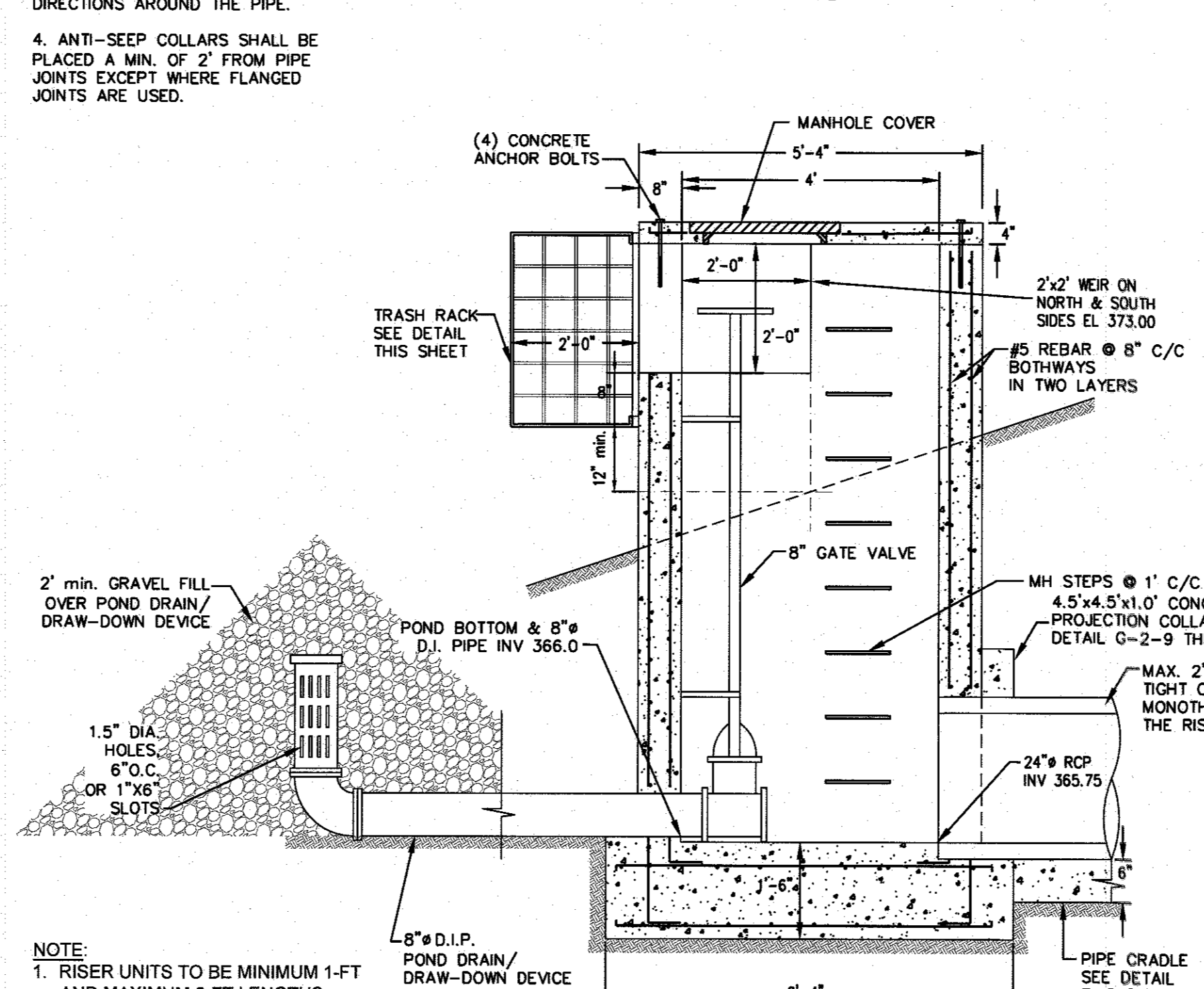
ELEVATION C-C
SCALE: 1"=2'-0"



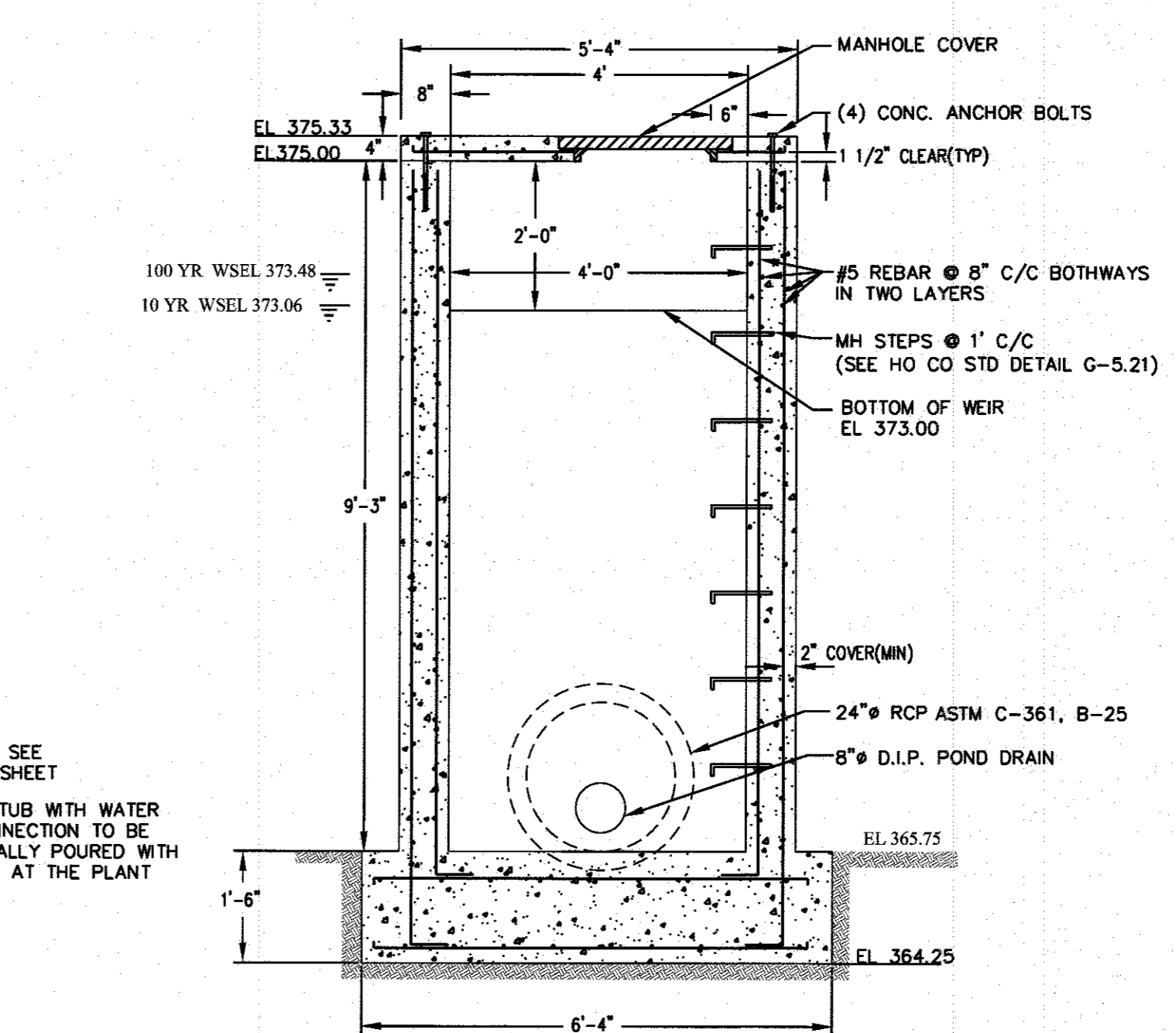
PLAN OF 4" THK TOP SLAB
SCALE: 1"=2'-0"



PIPE CRADLE DETAIL
SCALE: 1"=2'-0"



RISER STRUCTURE (S-1) DETAILS
SCALE: 1"=2'-0"



SECTION A-A
SCALE: 1"=2'-0"

- NOTE:
- RISER UNITS TO BE MINIMUM 1-FT AND MAXIMUM 8-FT LENGTHS.
 - USE NOT MORE THAN ONE 1-FT LENGTH RISER UNIT IN THE STRUCTURE.
 - JOINTS SHALL BE MADE WATER TIGHT USING MANUFACTURER'S RECOMMENDED ASTM OR AASHTO-APPROVED SEALANT.

	10-YEAR	100-YEAR
FLOW INTO POND	2.0 cfs	13.7 cfs
FLOW OUT OF POND	1.5 cfs	9.6 cfs
W. S. ELEVATION	373.06	373.39
STORAGE VOLUME (FROM POND BOT.)	2.44 Ac. Ft.	2.60 Ac. Ft.

SEE GP-17-21 FOR POND DESIGN
Howard SCD Signature Block #see GP-17-21

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District 6/21/17 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul H. Dymond 6/23/17 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION JP

Kristle Lane 6-26-17 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE	NO.	REVISION
JUNE 2017	1	FARM POND - LOT 5

MOBIUS TECHNOLOGIES, INC.
6030 MARSHALLEE DRIVE, #577
ELKRIDGE, MD 21075
Phone: (410) 988-2061

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
6/21/17

PROFESSIONAL CERTIFICATION I HEREBY 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. LICENSE # 8918 EXPIRATION DATE: 10/17/2018

OWNER
Gary and Stacia Smith
11362 Homewood Road
Ellicott City, MD 21042

DEVELOPER
Paul H. Dymond
14831 Red Lion Drive
Woodbine, MD 21797

POND CONSTRUCTION DETAILS
AS APPROVED UNDER GP-17-21
HOMWOOD FARM
LOT 5
REVISED FINAL ROAD CONSTRUCTION PLAN

PLAT 22566 LIBER 13644, FOLIO 335
ZONING RC-DEO 3RD ELECTION DIST. HOWARD COUNTY
TAX MAP - 29 GRID - 3 PARCEL - 303

SCALE: AS SHOWN DATE: 6/5/2017 SHEET: 3 OF 7

MARYLAND 378 - POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

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.

Site 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. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

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. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

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. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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 or heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

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. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

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. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structural 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. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

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. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flow ability of the material. Adequate measures shall be taken (sandbags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil 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. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 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. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

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. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

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. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

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. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

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. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

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. The following pipe connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

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. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

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. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

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 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. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water surps from which the water shall be pumped.

Stabilization

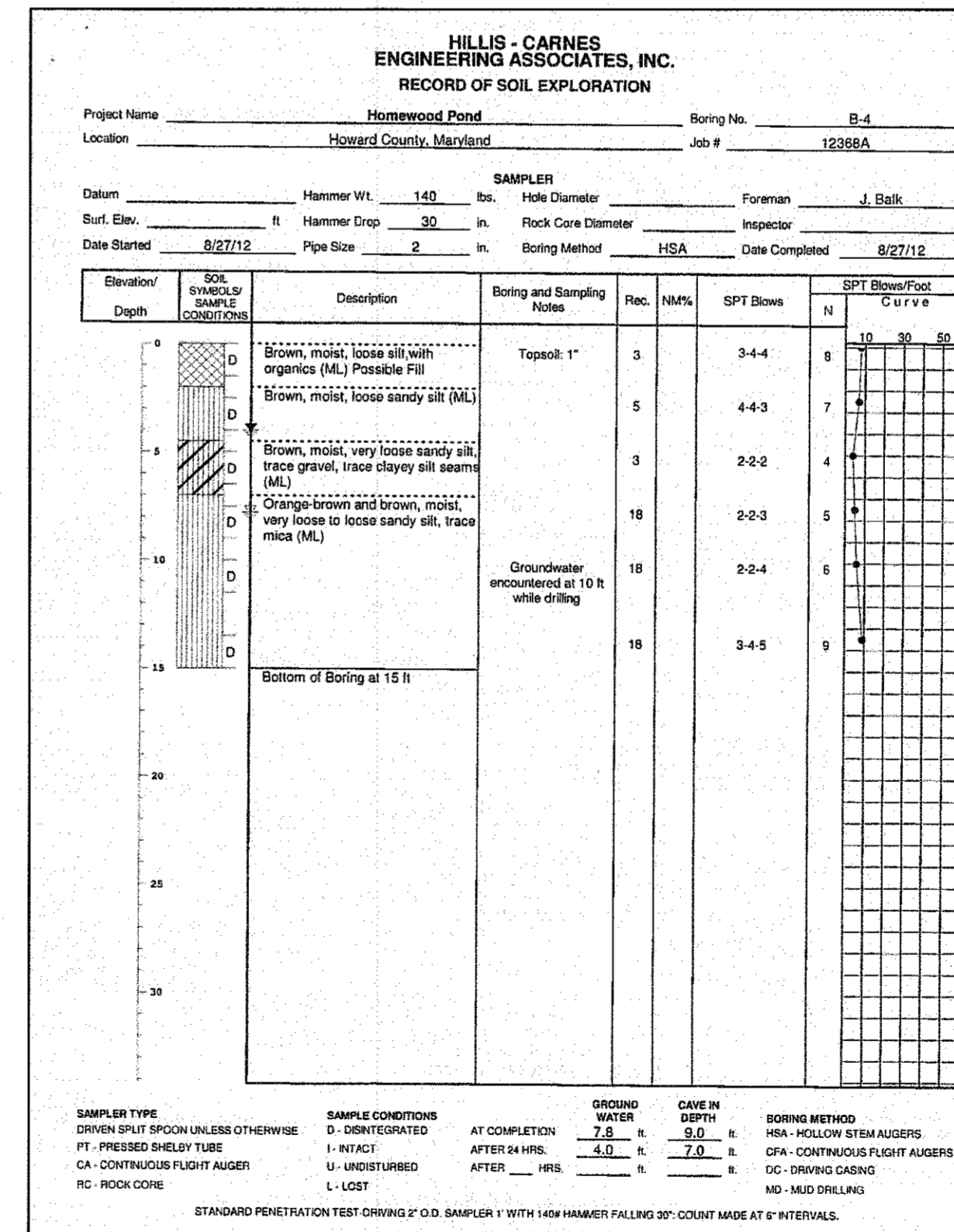
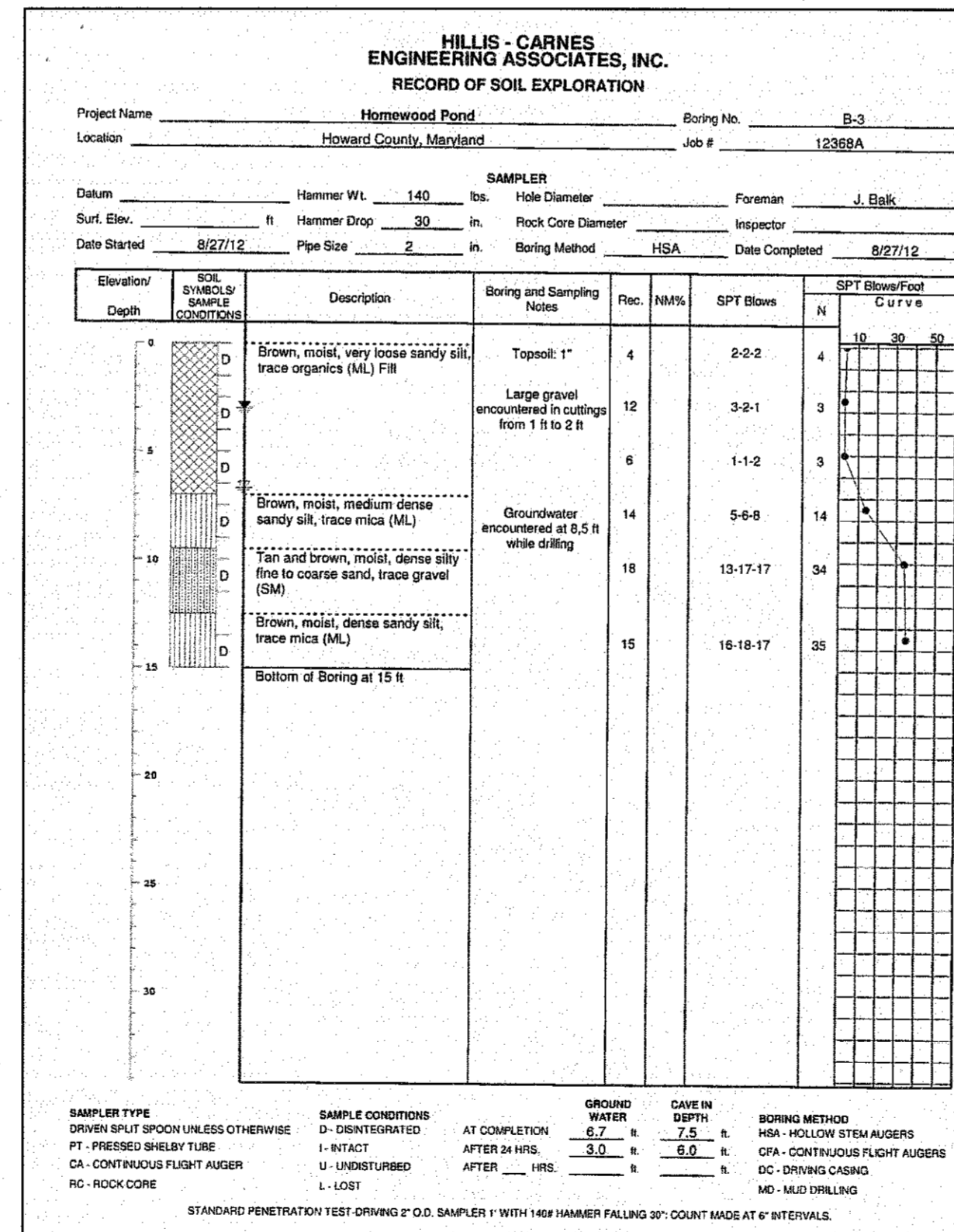
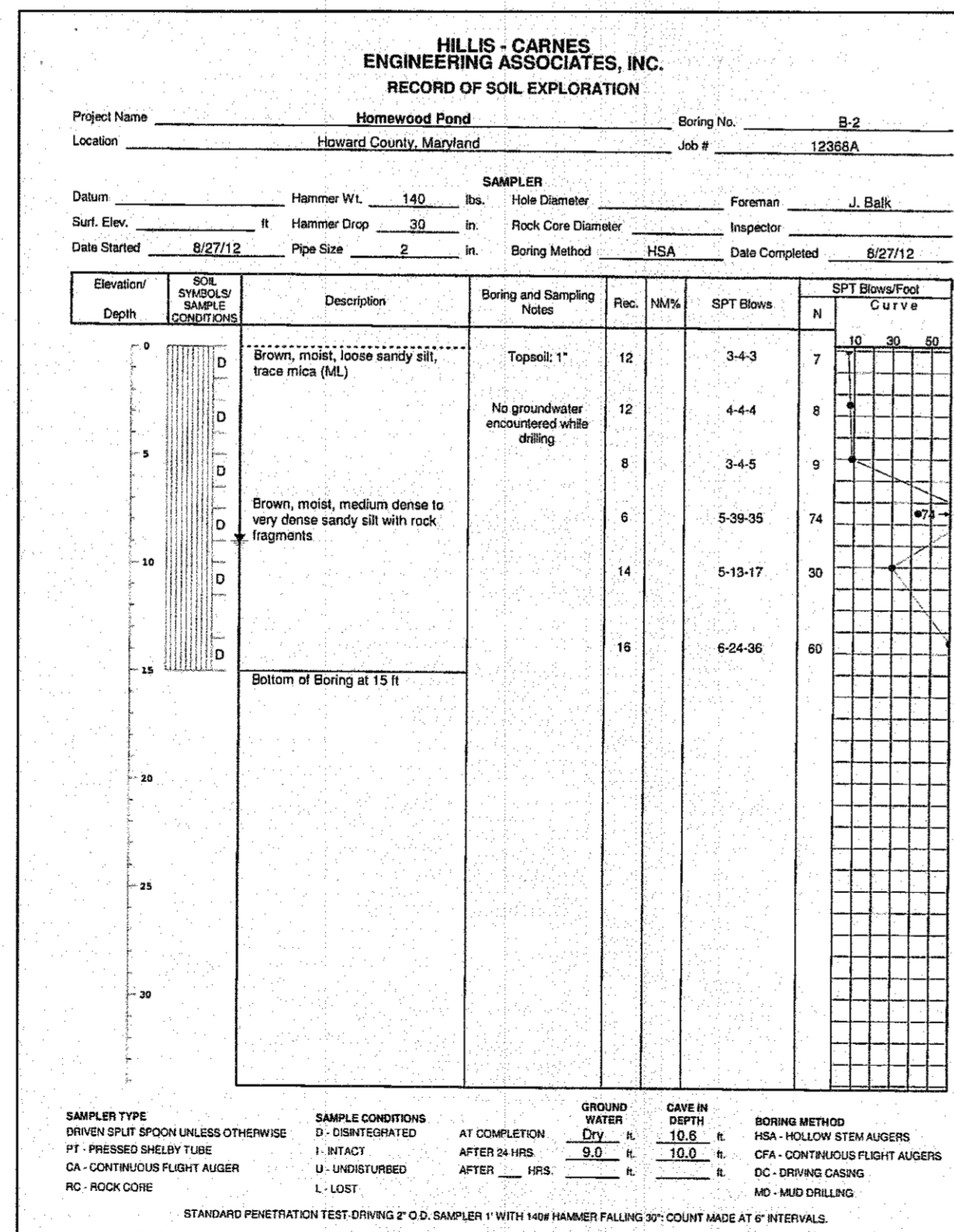
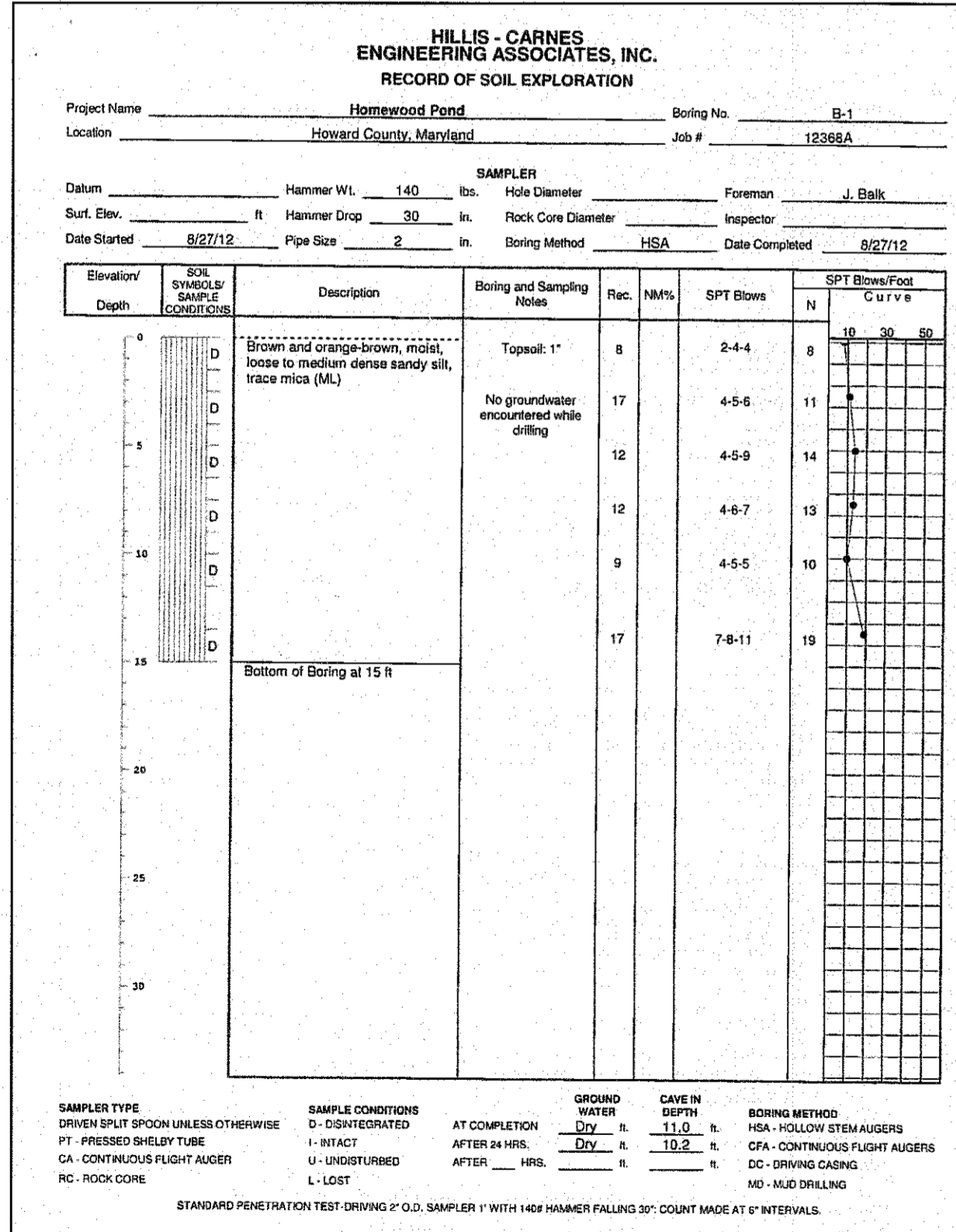
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service 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.

Construction Inspection by Designated Engineers

The construction of the stormwater management facility and declaration that the facility has been built in accordance with the drawings and specifications shall be under the supervision of a State of Maryland Geotechnical Registered Professional Engineer. The Contractor shall provide the Engineer with a minimum of two weeks advance notice of the date that he expects to start construction. At this same time, the Contractor shall also provide the Engineer, in writing, a list of all materials to be incorporated into the work, along with their sources of supply. The Engineer shall be given sufficient notice of all upcoming activities, prior to and during the process of the work, in order that arrangements can be made for 1) inspection of all materials and their associated certifications prior to their installation/ placement in the proposed work; 2) inspection and related testing of the construction of the cutoff/core trenches, and pond embankment; installation of the principal spillway, anti-seep collars and riser assembly; construction of the emergency spillway and other critical flow channels; 3) inspection of all other significant construction/installation items for the proposed facility and related piping, including backfilling and soil compaction. The engineer shall also direct the integrity of the dam in order to compensate for unusual soil conditions, and the removal and replacement of defective fill.



HOWARD SCD signature Block #300 GP-17-21
 This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
 [Signature] 6/21/12
 Howard Soil Conservation District Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 6/21/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 [Signature] 6-26-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
2017	1	FARM POND - LOT 5

OPERATION & MAINTENANCE SCHEDULE FOR MD-378 POND

- ROUTINE MAINTENANCE**
- FACILITY WILL BE INSPECTED ANNUALLY & AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WEATHER TO CHECK PROPER FUNCTIONALITY.
 - TOP & SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO TIMES A YEAR, ONCE IN JUNE & OTHER IN SEPTEMBER. ALL OTHER SIDE SLOPES & MAINTENANCE ACCESSES SHOULD BE MOWED AS NEEDED.
 - DEBRIS & LITTER NEXT TO OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS & AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
 - FENCES AND GATES SHALL BE KEPT IN GOOD REPAIR.

- NON-ROUTINE MAINTENANCE**
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, & THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS.

OPERATION, MAINTENANCE AND INSPECTION

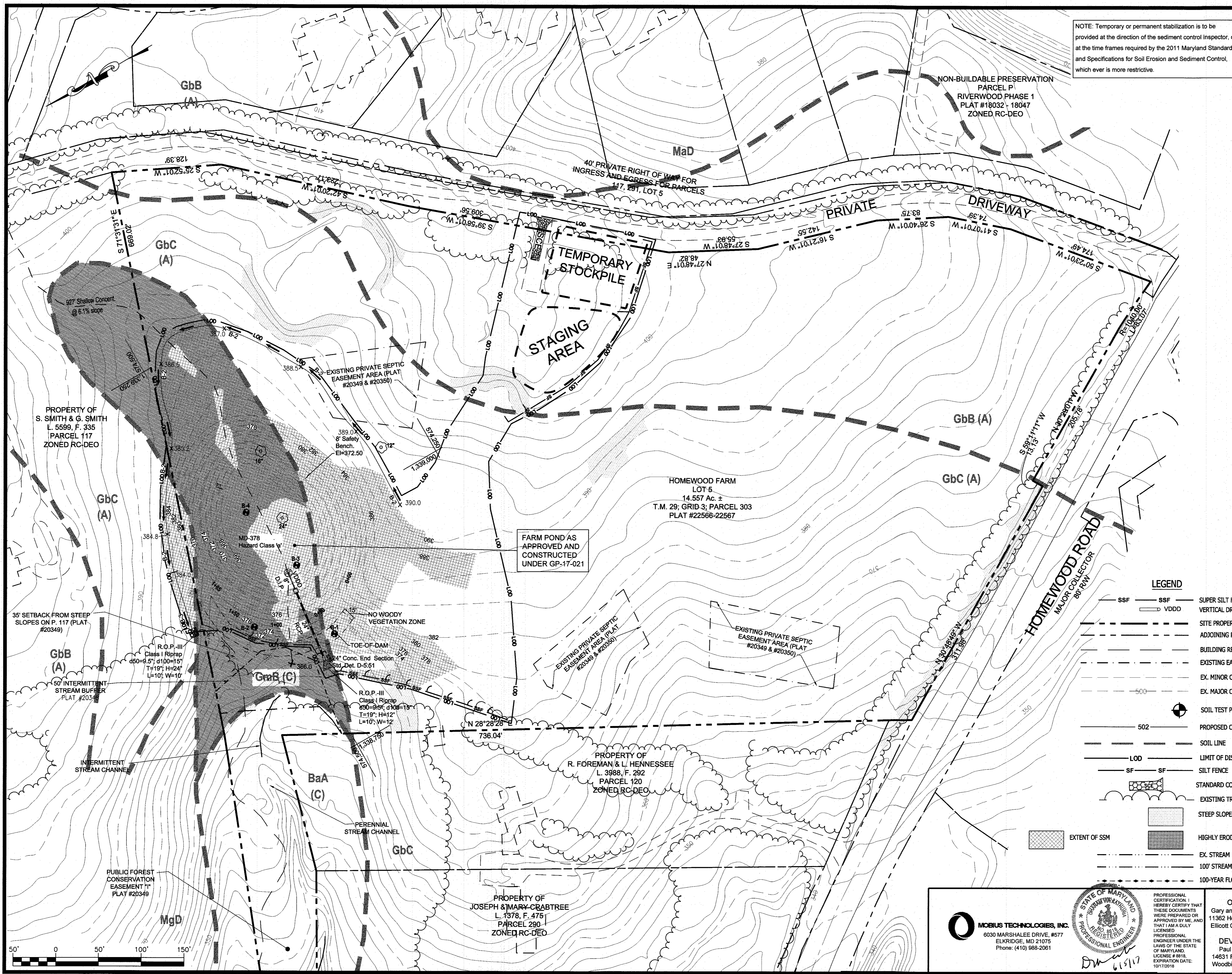
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST & REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS & SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) & ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND & THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, & MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBIDITY, SLIDING OR SLUMPING. ALL REQUIRED MAINTENANCE SHALL BE PERFORMED BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE OWNER'S EXPENSE.

MOBIS TECHNOLOGIES, INC.
 6030 MARSHALEE DRIVE, #577
 ELKRIDGE, MD 21075
 Phone: (410) 988-2061

OWNER
 Gary and Stacia Smith
 11362 Homewood Road
 Elicott City, MD 21042

DEVELOPER
 Paul H. Dymond
 14631 Red Lion Drive
 Woodbine, MD 21797

MD-378 POND CONSTRUCTION NOTES #AS
 BORING LOGS
 HOMWOOD FARM
 LOT 5
 REVISED FINAL ROAD CONSTRUCTION PLAN
 PLAT 22566 LIBER 13644, FOLIO 335
 ZONING RC-DEO 3rd ELECTION DIST. HOWARD COUNTY
 TAX MAP - 29 GRID - 3 PARCEL - 303
 SCALE: AS SHOWN DATE: 8/5/2017 SHEET: 4 OF 7



NOTE: Temporary or permanent stabilization is to be provided at the direction of the sediment control inspector, or at the time frames required by the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, which ever is more restrictive.

- SEQUENCE OF CONSTRUCTION**
1. Obtain a Grading Permit. Obtain MDE NPDES permit (NOI for Stormwater Associated with Construction Activity)
 2. Notify "Miss Utility" at 410-792-2401 or 1-800257-7777 at least 48 hours before beginning the construction
 3. Install Standard Construction Entrance - 1 day
 4. Install the sediment control measures as shown on plan - 1 day
 5. Construct the diversion dike and stabilize with soil stabilization matting & seed - 14 days
 6. After receiving permission from Howard County Sediment Control Inspector, excavate the pond and perform necessary grading. Install permanent riser (with valve closed). Construct temporary vertical draw-down device for dewatering and keep in place until all disturbed area is stabilized.
 7. All disturbed highly erodible areas and steep slopes, and newly created steep slopes shown within LOD shall receive same day soil stabilization matting - 8 weeks
 8. Stabilize the remaining disturbed area with topsoil & seeding - 15 days
 9. After the site is permanently stabilized and permission is granted from the Howard County Sediment Control Inspector, remove sediment controls and stabilize any remaining disturbed areas - 2 days
 10. Remove dewatering device and install permanent pond drain. - 1 day
 11. Provide the Inspector, a copy of HSCD as-built approval letter - 1 day

SOIL TABLE				
SYMBOL	NAME/DESCRIPTION	HYDRIC	TYPE	Kw
BaA	Baile silt loam, 0 to 3 % slopes	YES	C/D	0.32
Co	Codorus and Hatboro silt loams, 0 to 3 % slopes	NO	C	0.37
GbB	Gladstone loam, 3 to 8 % slopes	NO	A	0.20
GbC	Gladstone loam, 8 to 15 % slopes	NO	A	0.20
GmB	Glenville silt loam, 3 to 8 % slopes	YES	C	0.37

Howard County Soil Map Grid No. 163

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/23/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/26/17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

HOWARD SCD Signature Block: *[Signature]* 6/17/17
 This development plan is approved for small-pond construction and soil erosion and sediment control by the Howard Soil Conservation District.
 HOWARD SOIL CONSERVATION DISTRICT Date

DESIGN CERTIFICATION

"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "As-built" plan of the pond within 30 days of completion."

[Signature] 6/5/2017
 Designer's Signature Date

D. VIR KATHURIA MD Registration No. 8818
 Printed Name (Circle one)

OWNER/DEVELOPER'S CERTIFICATE

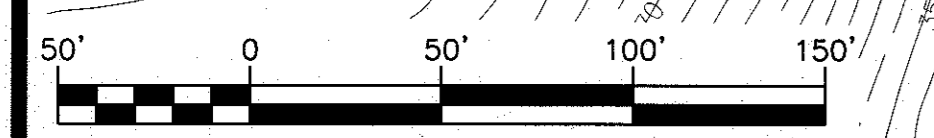
"We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I shall engage a Maryland registered professional engineer to supervise pond construction, and provide the Howard Soil Conservation District with an "As-built" plan of the pond within 30 days of completion. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

[Signature] 6/7/17
 Signature of Owner/Developer Date

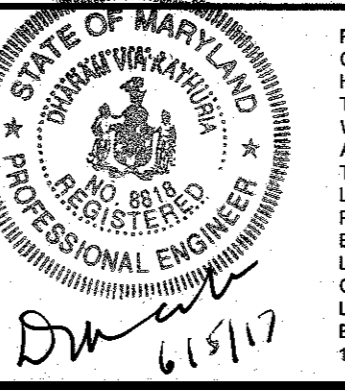
PAUL H. DYMOND JR. PRES.
 Printed name & Title

DATE	NO.	REVISION
JUNE 2017	1	SHOW FARM POND - LOTS 5. UPDATE LOT LINES PER EC-14-036

- LEGEND**
- SSF SSF SUPER SILT FENCE
 - VDDD VERTICAL DRAW-DOWN DEVICE
 - SITE PROPERTY LINE
 - ADJOINING PROPERTY LINE
 - BUILDING RESTRICTION LINE (BRL)
 - EXISTING EASEMENT LINE
 - EX. MINOR CONTOURS
 - EX. MAJOR CONTOURS
 - SOIL TEST PITS
 - 502 PROPOSED CONTOURS
 - SOIL LINE
 - LOD LIMIT OF DISTURBANCE
 - SF SF SILT FENCE
 - STANDARD CONSTRUCTION ENTRANCE
 - EXISTING TREELINE
 - EXTENT OF SSM
 - STEEP SLOPES (>15%)
 - HIGHLY ERODIBLE SOILS
 - EX. STREAM
 - 100' STREAM BUFFER
 - 100-YEAR FLOODPLAIN



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 Woodbine, MD 21797

EROSION & SEDIMENT CONTROL PLAN
HOMEWOOD FARM
LOT 5
REVISED FINAL ROAD CONSTRUCTION PLAN
 PLAT 22566 LIBER 13644, FOLIO 335
 ZONING RC-DEO 3RD ELECTION DIST. HOWARD COUNTY
 TAX MAP - 29 GRID - 3 PARCEL - 303

SCALE: 1" = 50' DATE: 6/5/2017 SHEET: 5 OF 7

B-4-2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

- B. 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...

- C. 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...

- 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...

- 3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference) depending upon the size of the area and erosion hazard...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT

B-4-3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project...

- B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dyed...

- 2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at a rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed...

- 3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference) depending upon the size of the area and erosion hazard...

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...

- 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...

Table with 4 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths. Includes rows for Tall Fescue, Deer Tongue, Creeping Red Fescue, and Conodo Wild Rye.

- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.

B-4 STANDARDS AND SPECIFICATIONS

FOR

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseeding within the planting season.

- 1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for time, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

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.

- 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.

Table with 5 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths. Includes rows for Cereal Rye, Oats, Foxtail Millet, and Pearl Millet.

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.

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. 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. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. 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. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. 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.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

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.

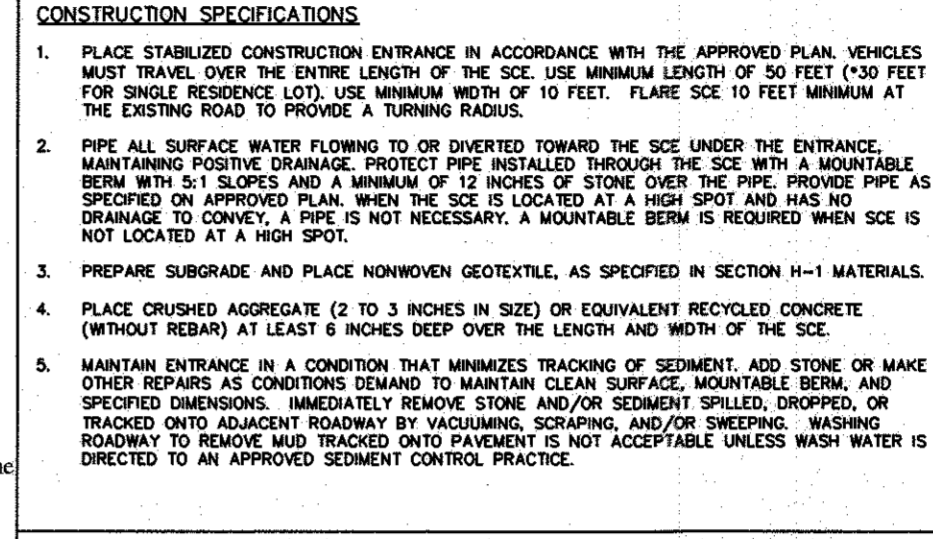
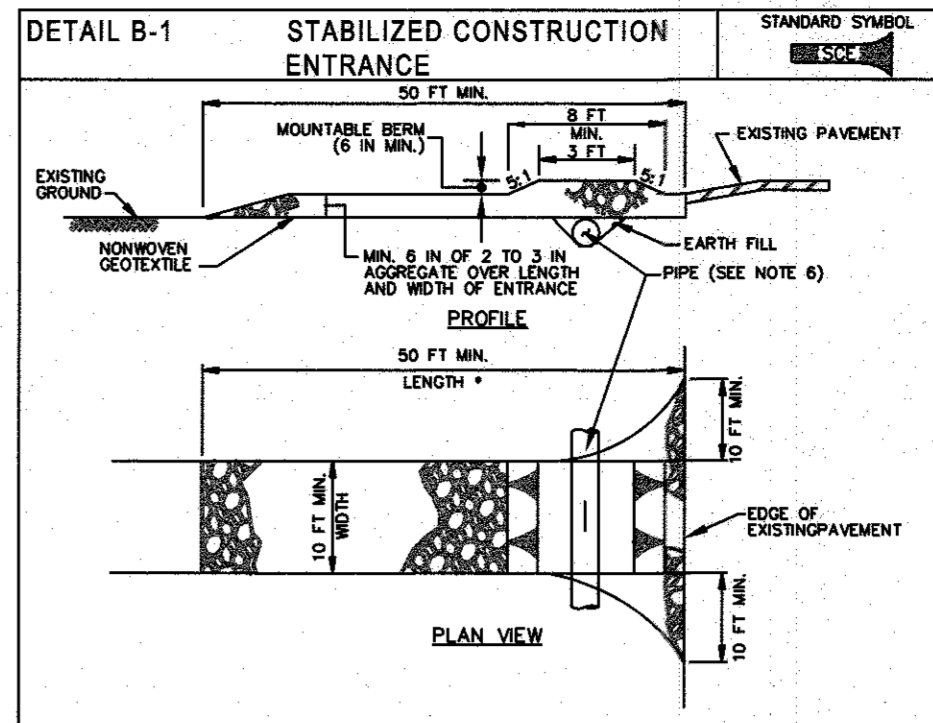


Table with 2 columns: U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011. Includes Maryland Standards and Specifications for Soil Erosion and Sediment Control.

HOWARD COUNTY CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- 1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
a. Prior to the start of earth disturbance.
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
c. Prior to the start of another phase of construction or opening of another grading unit.
d. Prior to the removal or modification of sediment control practices.

Total Area of Site: 14,557 Acres
Area Disturbed: 3.6 Acres
Area to be roofed or paved: 0.0 Acres
Area to be vegetatively stabilized: 3.6 Acres
Total Cut: 6,800 Cu. Yds.
Total Fill: 6,200 Cu. Yds.

- 7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
• Inspection date
• Inspection type (routine, pre-storm event, during rain event)
• Name and title of inspector
• Weather information (current conditions as well as time and amount of last recorded precipitation)
• Brief description of project's status (e.g., percent complete) and/or current activities
• Evidence of sediment discharges
• Identification of plan deficiencies
• Identification of sediment controls that require maintenance
• Identification of missing or improperly installed sediment controls
• Compliance status regarding the sequence of construction and stabilization requirements
• Photographs
• Monitoring/sampling
• Maintenance and/or corrective action performed
• Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

OWNER: Gary and Stacia Smith, 11362 Homewood Road, Ellicott City, MD 21042
DEVELOPER: Paul H. Dymond, 14631 Red Lion Drive, Woodbine, MD 21797

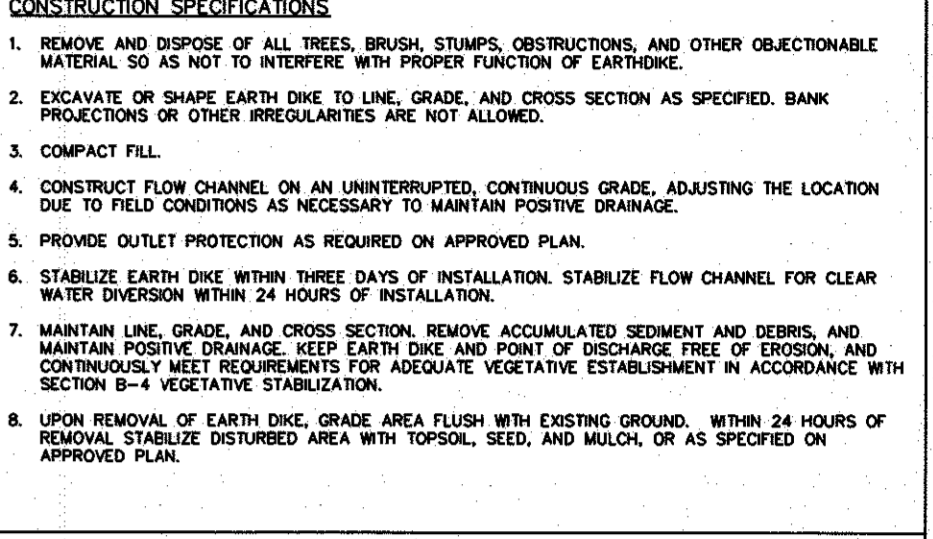
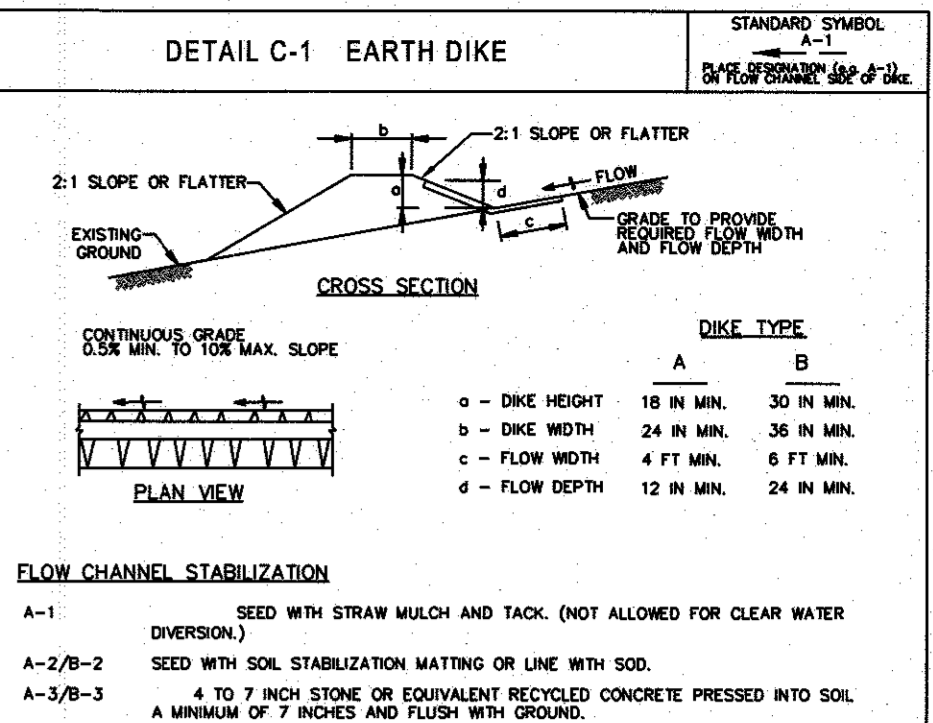


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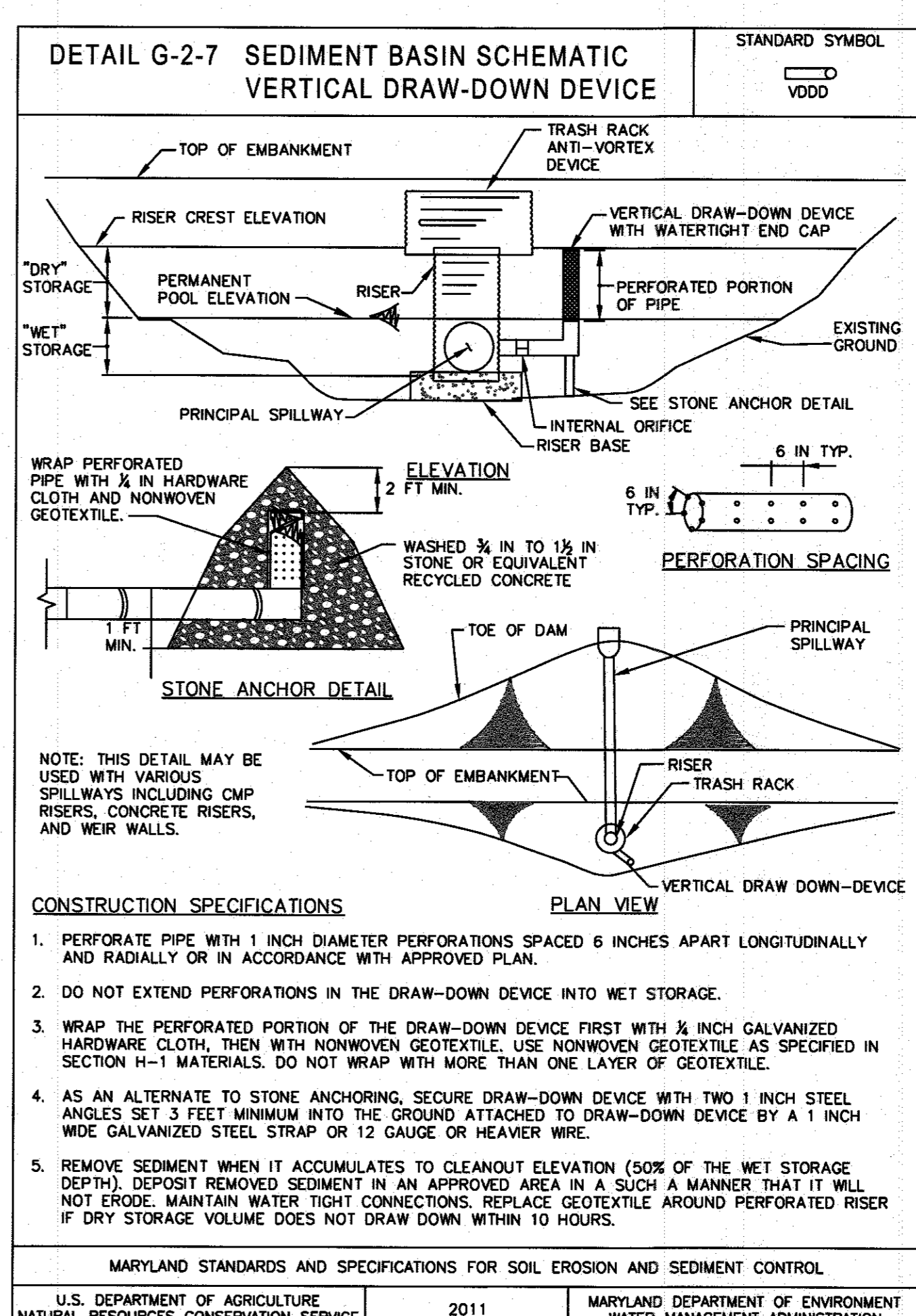
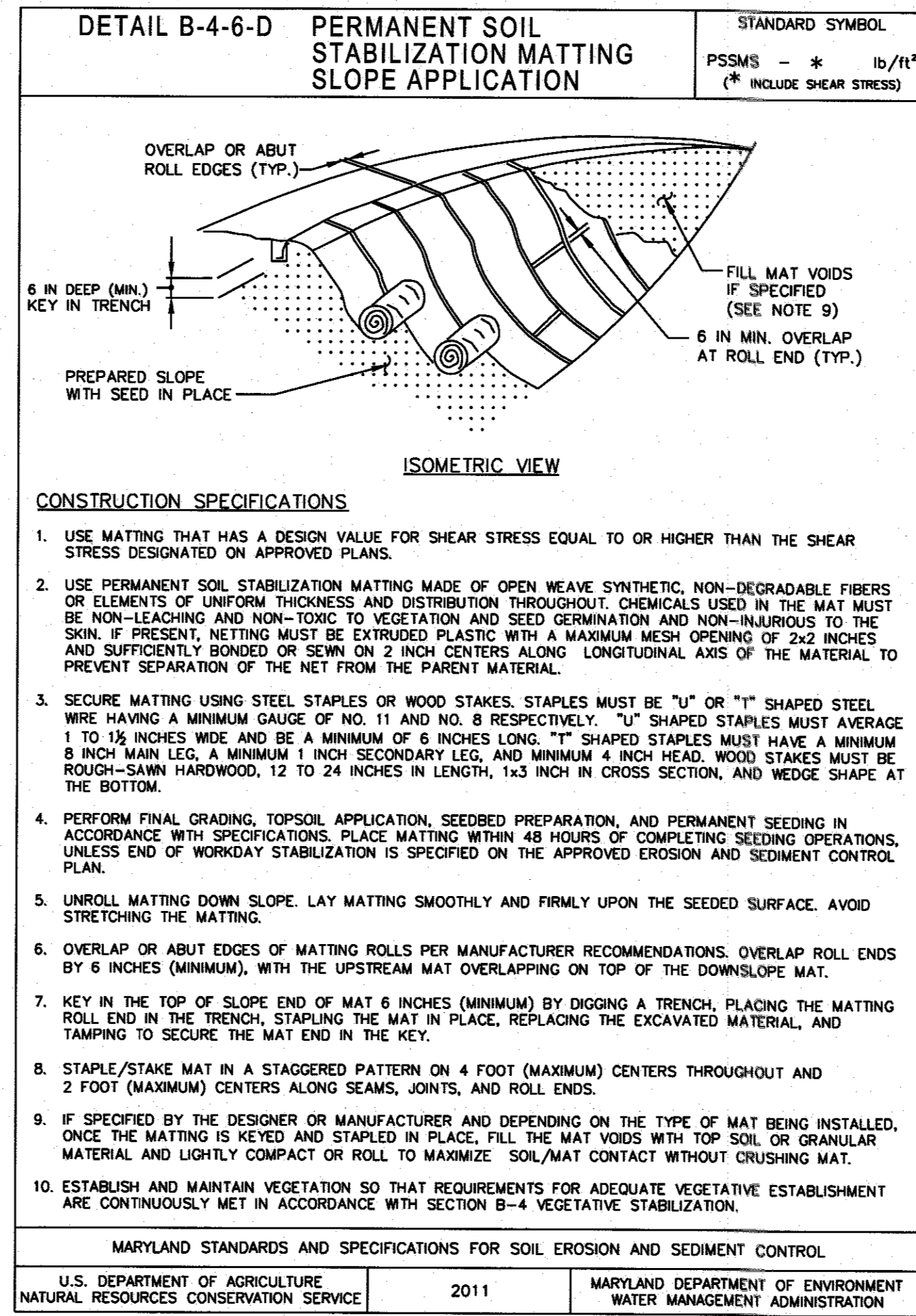
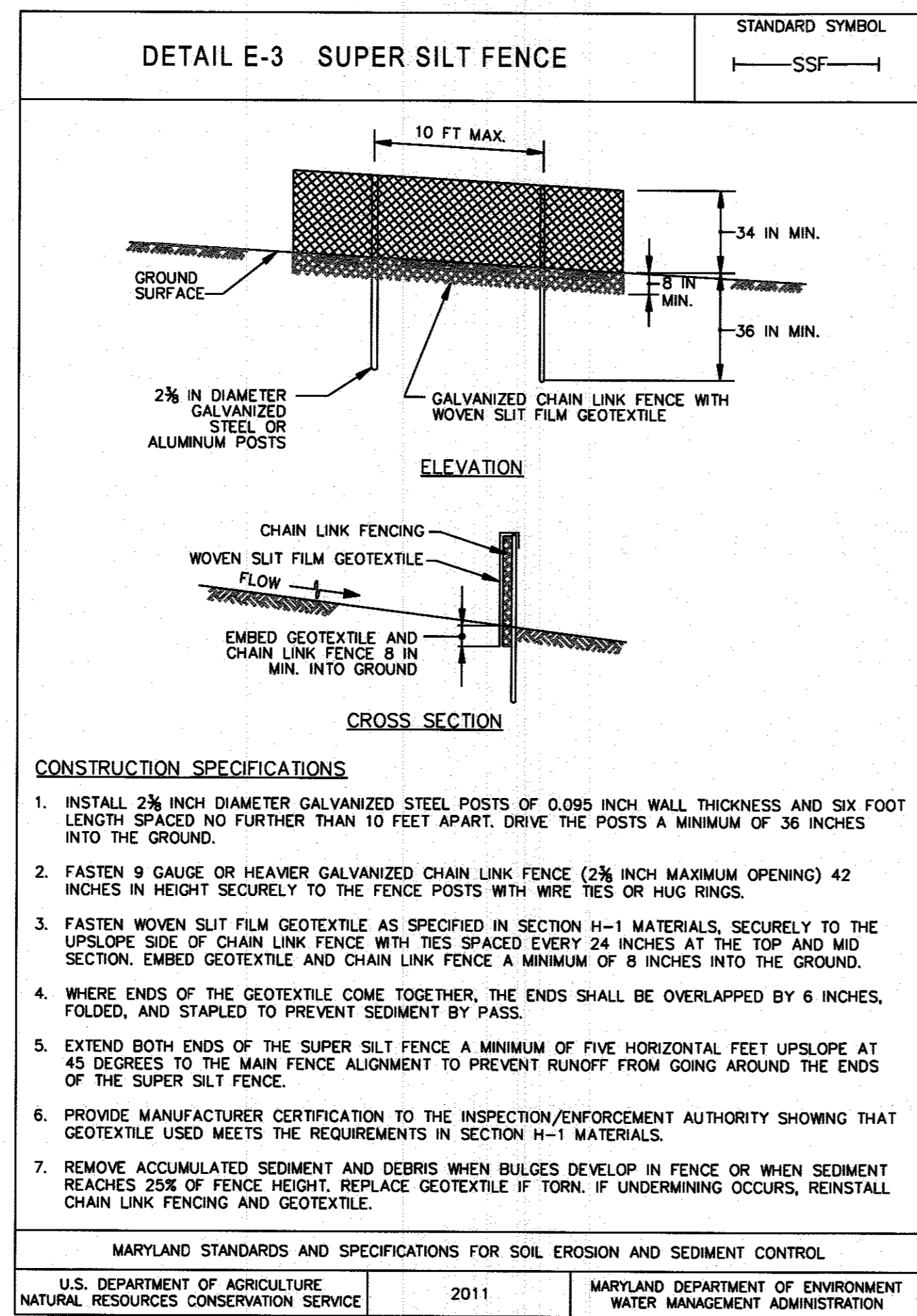
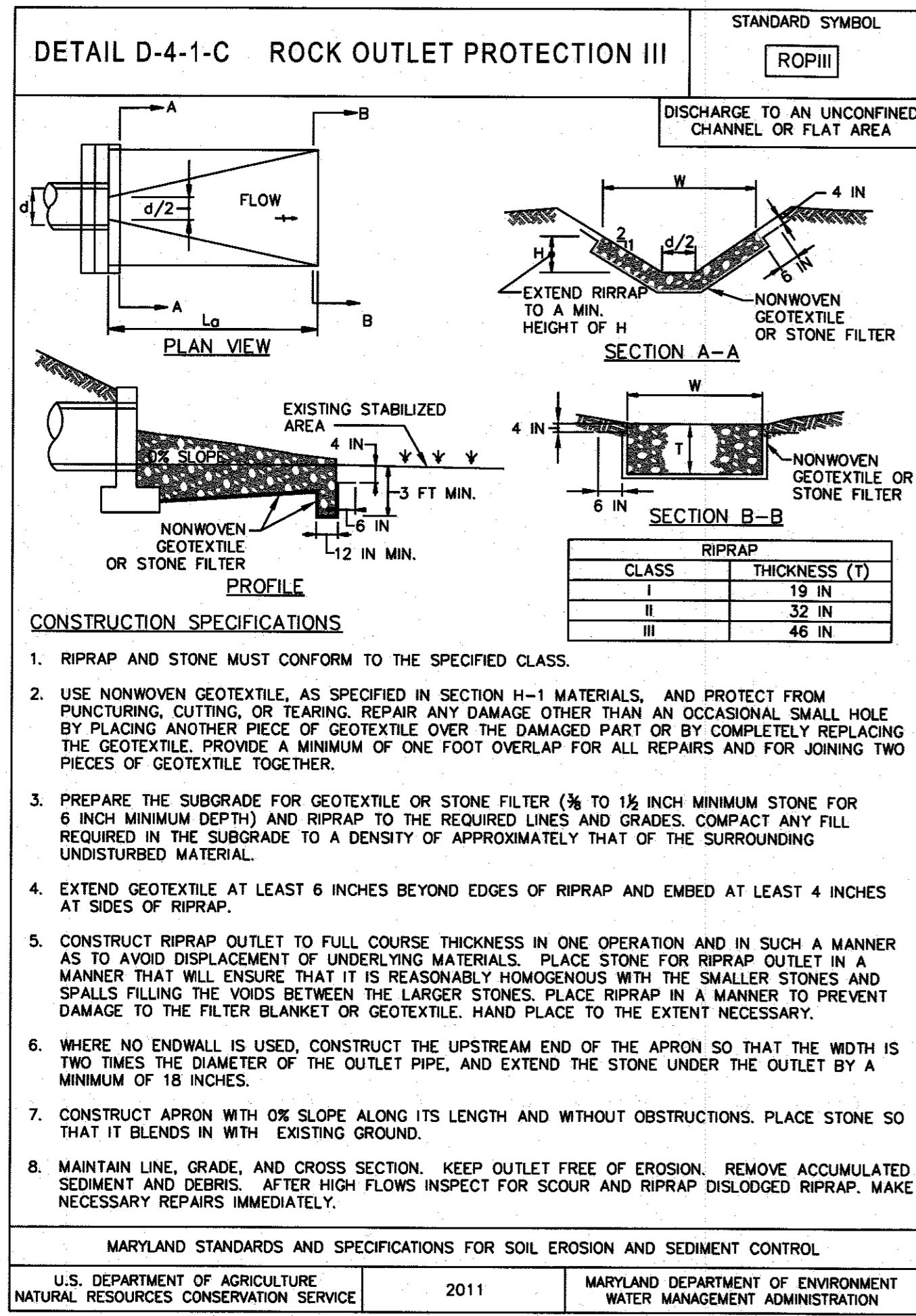
OWNER: Gary and Stacia Smith, 11362 Homewood Road, Ellicott City, MD 21042
DEVELOPER: Paul H. Dymond, 14631 Red Lion Drive, Woodbine, MD 21797



MOBIUS TECHNOLOGIES, INC.
6030 MARSHALEE DRIVE, #577
ELK RIDGE, MD 21075
Phone: (410) 988-2061

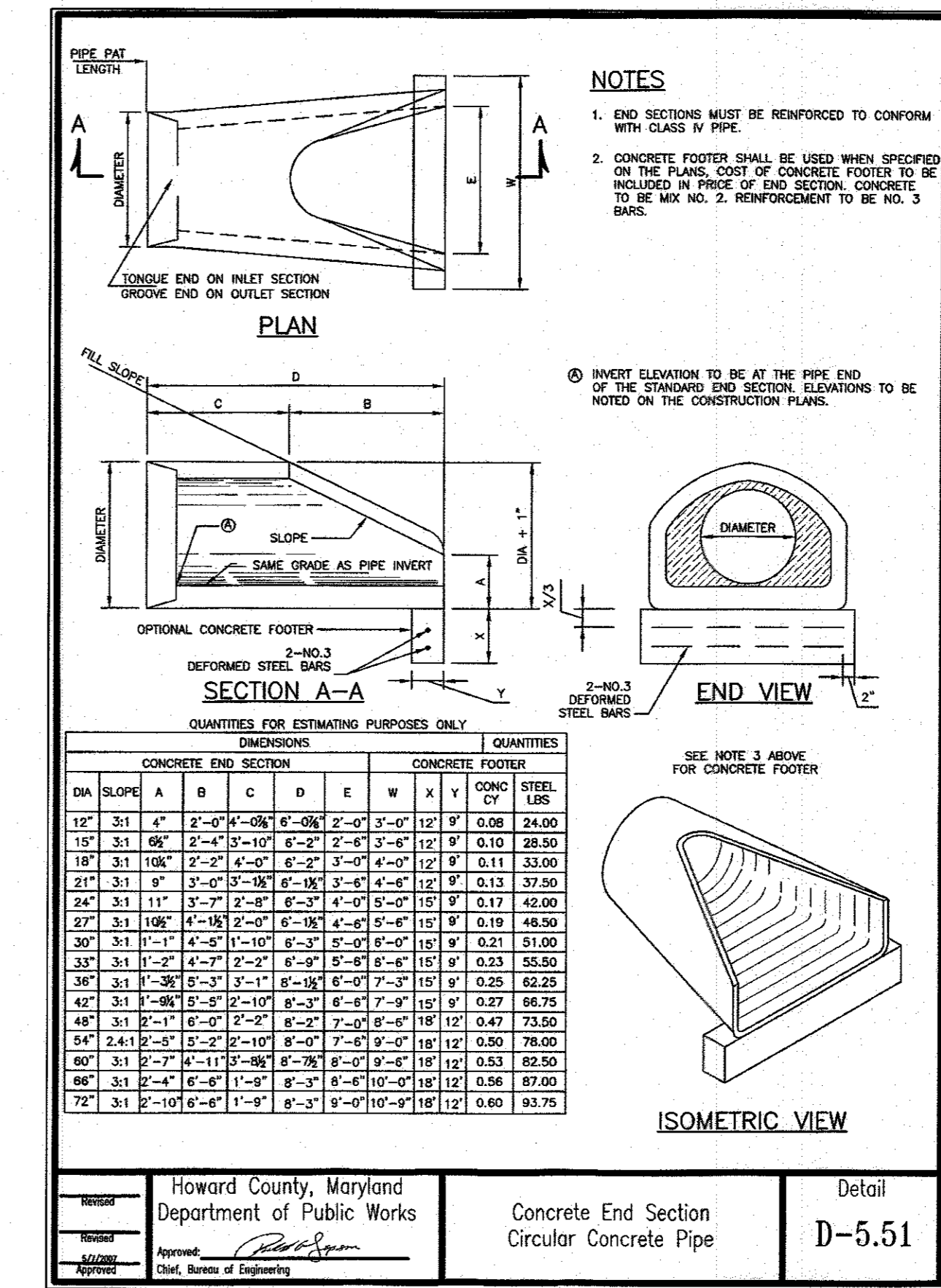
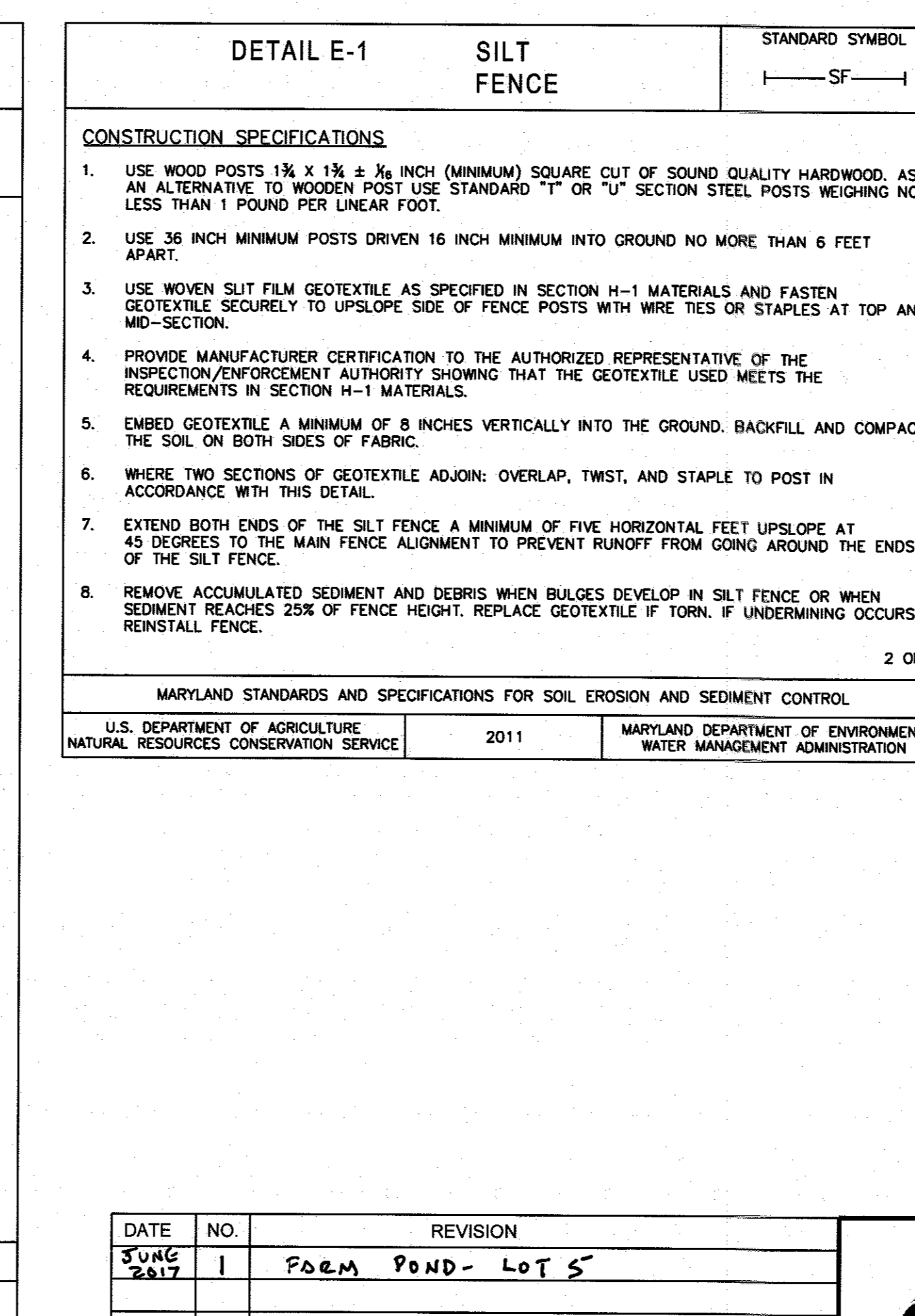
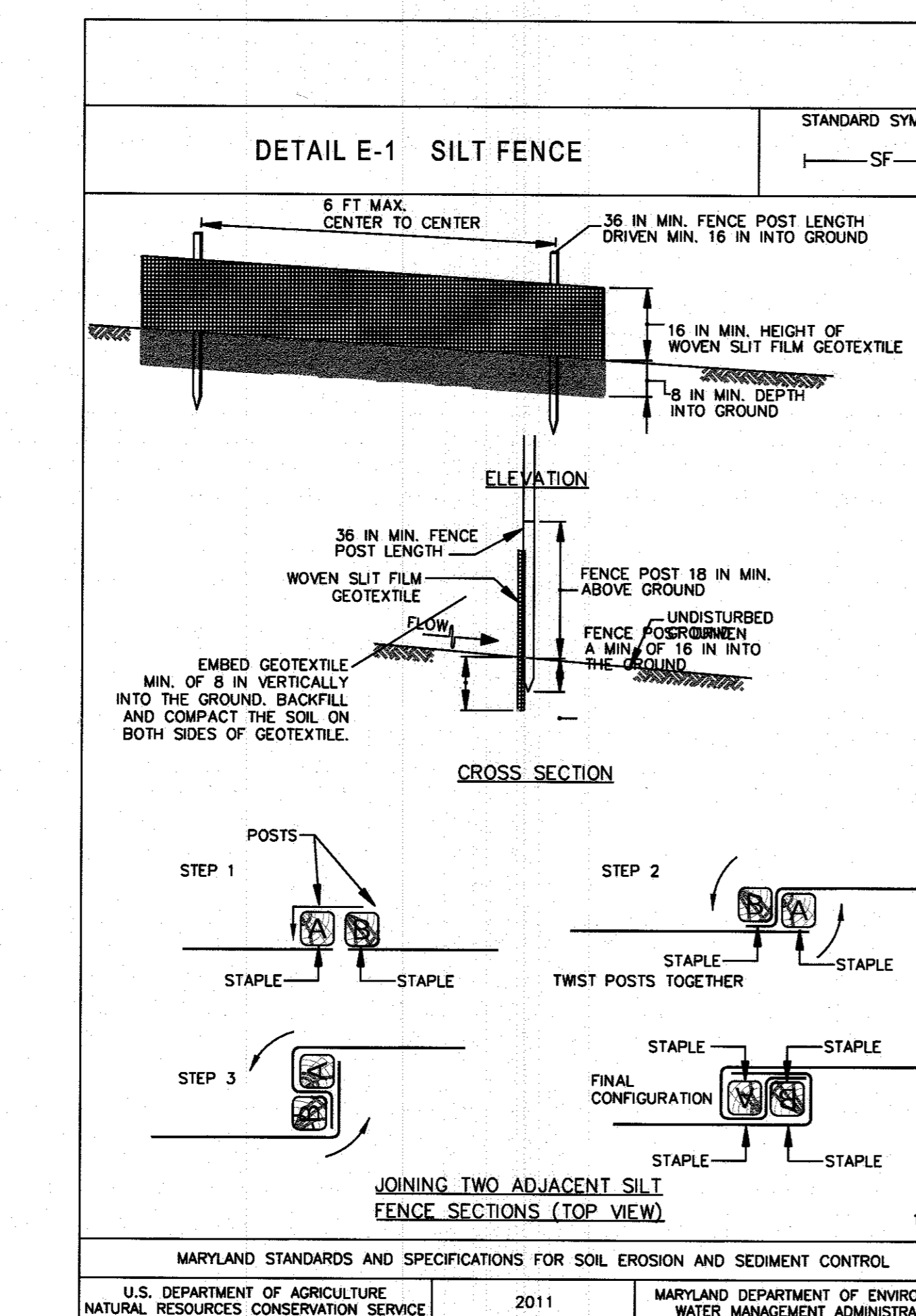
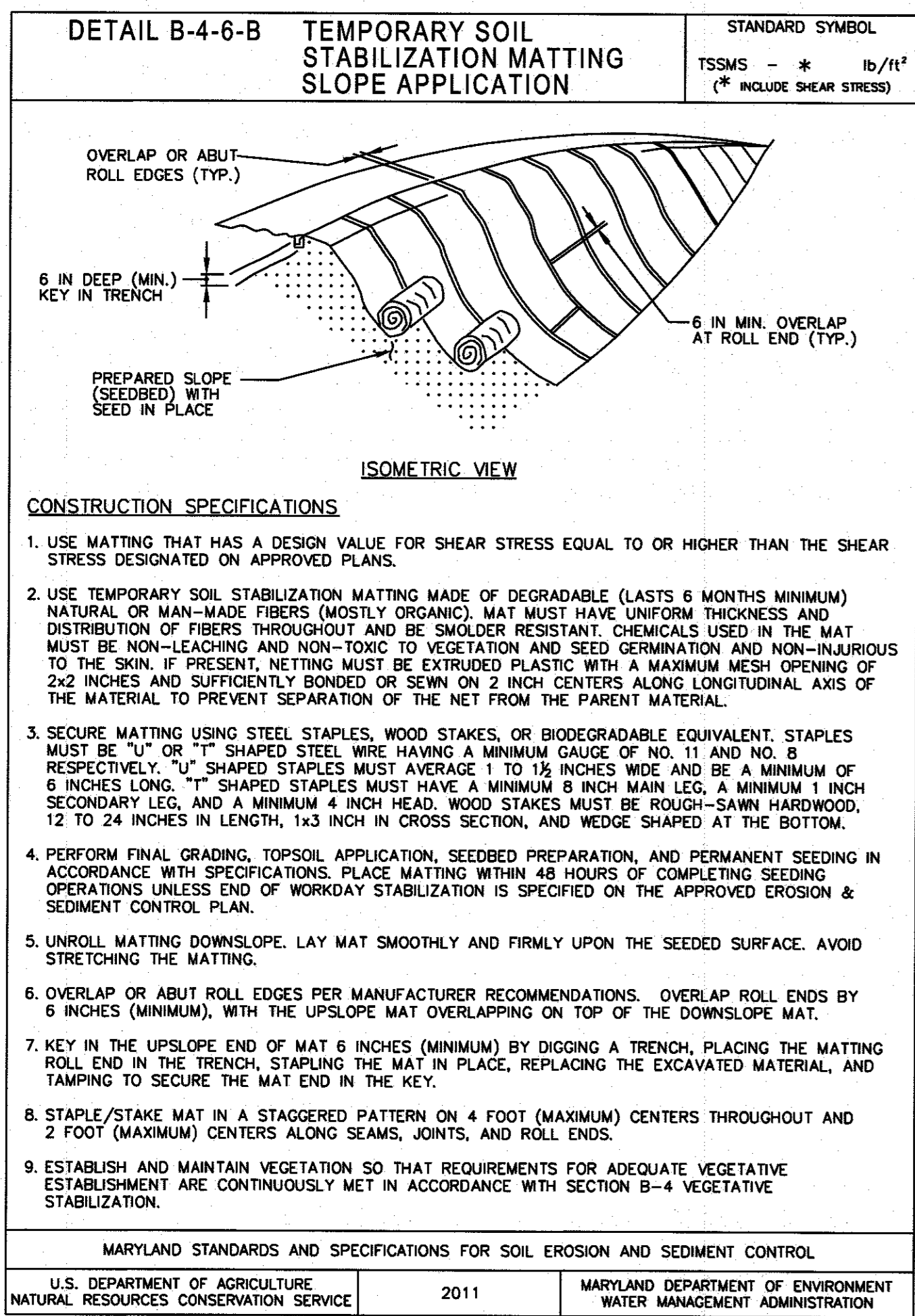
EROSION & SEDIMENT CONTROL NOTES & DETAILS

HOMEWOOD FARM LOT 5
REVISED FINAL ROAD CONSTRUCTION PLAN
PLAT 22566 LIBER 13644, FOLIO 335
ZONING RC-DEO 3rd ELECTION DIST. HOWARD COUNTY
TAX MAP - 29 GRID - 3 PARCEL - 303
SCALE: AS SHOWN DATE: 6/5/2017 SHEET: 6 OF 7



DRAW-DOWN DEVICE ORIFICE SIZING (FROM TABLE G.10)

DRAINAGE AREA = 9.43 ACRES
 MAX. INTERNAL ORIFICE DIAMETER (d_i) = 4 INCHES
 MAX. INTERNAL ORIFICE AREA (A_o) = 0.087 SQ. FT.
 MIN. DRAW-DOWN PIPE DIAMETER = 6 INCHES
 NO. OF LONGITUDINAL ROWS OF PERFORATIONS = 3



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/23/17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP DATE

[Signature] 6/26/17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

HOWARD SCD Signature Block: *See GA-17-21

This development plan is approved for small ponds, construction and soil erosion and sediment control by the Howard Soil Conservation District.

[Signature] 6/14/17
 Howard Soil Conservation District Date

DESIGN CERTIFICATION

"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "As-Built" plan of the pond within 30 days of completion."

Designer's Signature: *[Signature]* 6/5/2017 Date

D. VIR KATHURIA MD Registration No. 8818
 Printed Name: P.E. R.L.S., or R.L.A. (circle one)

OWNER/DEVELOPER'S CERTIFICATE

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I shall engage a Maryland registered professional engineer to supervise pond construction, and provide the Howard Soil Conservation District with an "As-Built" plan of the pond within 30 days of completion. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

[Signature] 6-7-17 Date
 Signature of Owner/Developer
 Paul H. Dymond Jr. P.E. Printed name & Title

DATE	NO.	REVISION
JUNE 2017	1	FORM POND-LOT 5

MOBIUS TECHNOLOGIES, INC.
 6030 MARSHALEE DRIVE, #577
 ELK RIDGE, MD 21075
 Phone: (410) 988-2061

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A P.E. LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE # 8818 EXPIRATION DATE: 10/17/2018

[Signature] 6/5/17

OWNER
 Gary and Stacia Smith
 11362 Homewood Road
 Ellicott City, MD 21042

DEVELOPER
 Paul H. Dymond
 14631 Red Lion Drive
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EROSION & SEDIMENT CONTROL DETAILS

HOMWOOD FARM LOT 5

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