10	DESCRIPTION	46. THE PURPOSE OF REPLINE REVISION IS TO SHOW LOT 5 CREATED BY
1	TITLE SHEET	RESUBDIVISION OF LOTS I TO 4 AND NON BUILDABLE PARCEL A AS PER F-14-034
2	SITE K-GRADING PLAN	AND RECORDED AS PLATS 22566, 22567; AND SHOW FARM POND CONSTRUCTED UNDER GP-17-21.
3	POND CONSTRUCTION DETAILS	47. GRADING PLAN FOR FARM POND WAS APPROVED UNDER GP-17-21
4	MD-3T8 CONSTRUCTION SPECIFICATIONS	ON DECEMBER 8, 2016.
5	GRADING AND SEDIMENT CONTROL PLAN	48. LOT 5 IS SUBJECT TO A MARY LAND ENVIRONMENTAL TRUST DEED OF
6	EROSION & SEDIMENT CONTROL NOTES & DETAILS	CONSERVATION EASEMENT PATED 12/21/2011 BETWEEN GARY B.SMITH MID STACIAK SMITH AND BOTH THE MARYLAND ENVIRONMENTAL TRUST AND THE
7	EROSION & SEDIMENT CONTROL DETAILS	HOWARD COUNTY CONSERVANCY AND RECORDED IN LIBBIB AT F. 272.
8	ara da alaman da araban ar	49. THE MET EASEMENT (L. 13818, F.272) PROHIBITS FUTURE SUBDIVISION OF LOTS
9		IN THE EVENT THAT THE EASEMENT CHANGES OR EXPIRES ANY RESUBDIVISION
10		OF LOT 5 IS RESTRICTED TO 3 NEW LOTS DUE TO ITS LOCATION WITH TIER IN

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.

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

4. ALL PLAN DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SHEET INDEX

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.

S. 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.

10. 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.

2. 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:

A. WIDTH- 12' (16' SERVING MORE THAN ONE RESIDENCE);

B. SURFACE- 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1.5" MIN.); C. GEOMETRY- MAX. 14% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;

D. DRAINAGE ELEMENTS- CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN I FOOT DEPTH OVER DRIVEWAY SURFACE;

E. MAINTENANCE- SUFFICIENT TO INSURE ALL WEATHER USE.

3. 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.

4. 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 ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY. THRASH & RECYCLABLES COLLECTION WILL BE AT HOMEWOOD ROAD WITHIN FIVE FEET (5') OF THE COUNTRY ROADWAY.

15, THERE IS NO ROAD DEDICATION ASSOCIATED WITH THIS FINAL PLAN. ALL ROAD DEDICATION FOR THIS PROJECT IS DONE UNDER F-07-187.

6. BOTH WATER AND SEWER ARE PRIVATE FOR THIS PROJECT.

17. THERE IS ONE EXISTING PERMANENT STRUCTURE AND THREE BARNS ON-SITE. THE EXISTING BARNS (CIRCA 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.

18. THE FOREST CONSERVATION AND LANDSCAPE PLAN OBLIGATION FOR THIS SITE HAS BEEN MET BY THE FINAL PLAN FOR HOMEWOOD FARM LOTS | & 2 (F-07-187).

). THE STORMWATER MANAGEMENT REQUIREMENTS FOR THIS SITE WILL BE PROVIDED BY THE USE OF FOUR BIORETENTION DEVICES.

20. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

21. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

22. 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.

23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE

24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

25. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.

26. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO

27. BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.

28. LOTS 3 & 4 WILL BE REQUIRED TO PAY A FEE. IN LIEU OF \$1,500.00 EACH (\$3,000.00 TOTAL) FOR OPEN SPACE.

20. BY RECORD PLAT, THE DEVELOPER SHALL CREATE A 24' WIDE SHARED ACCESS EASEMENT FOR LOTS 3 AND 4: WITHIN THI CHARED ACCESS, A 16' USE, IN COMMON DRIVEWAY (MEETING DESIGN MANUAL STANDARDS) SHALL BE CONSTRUCTED. THE JSE IN COMMON CREATED FOR LOTS 3 AND 4 WILL JOIN WITH THE IMPROVED 18' DRIVEWAY LOCATED WITHIN THE CONFINES OF

30. VEHICULAR EGRESS AND INGRESS (VIER) IS RESTRICTED ALONG HOMEWOOD ROAD WEST OF THE EXISTING USE IN COMMON DRIVEWAY.

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 SEWERAGE 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.

32. PERC HOLES SHOWN HEREON HAVE BEEN FIELD LOCATED BY PHRA IN JANUARY 30TH, 2007.

DENOTES PASSING PERC TEST

DENOTES FAILED PERC TEST.

35. 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.

36. 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.

37. DENOTES WELL (NOT TO SCALE)

W 100'

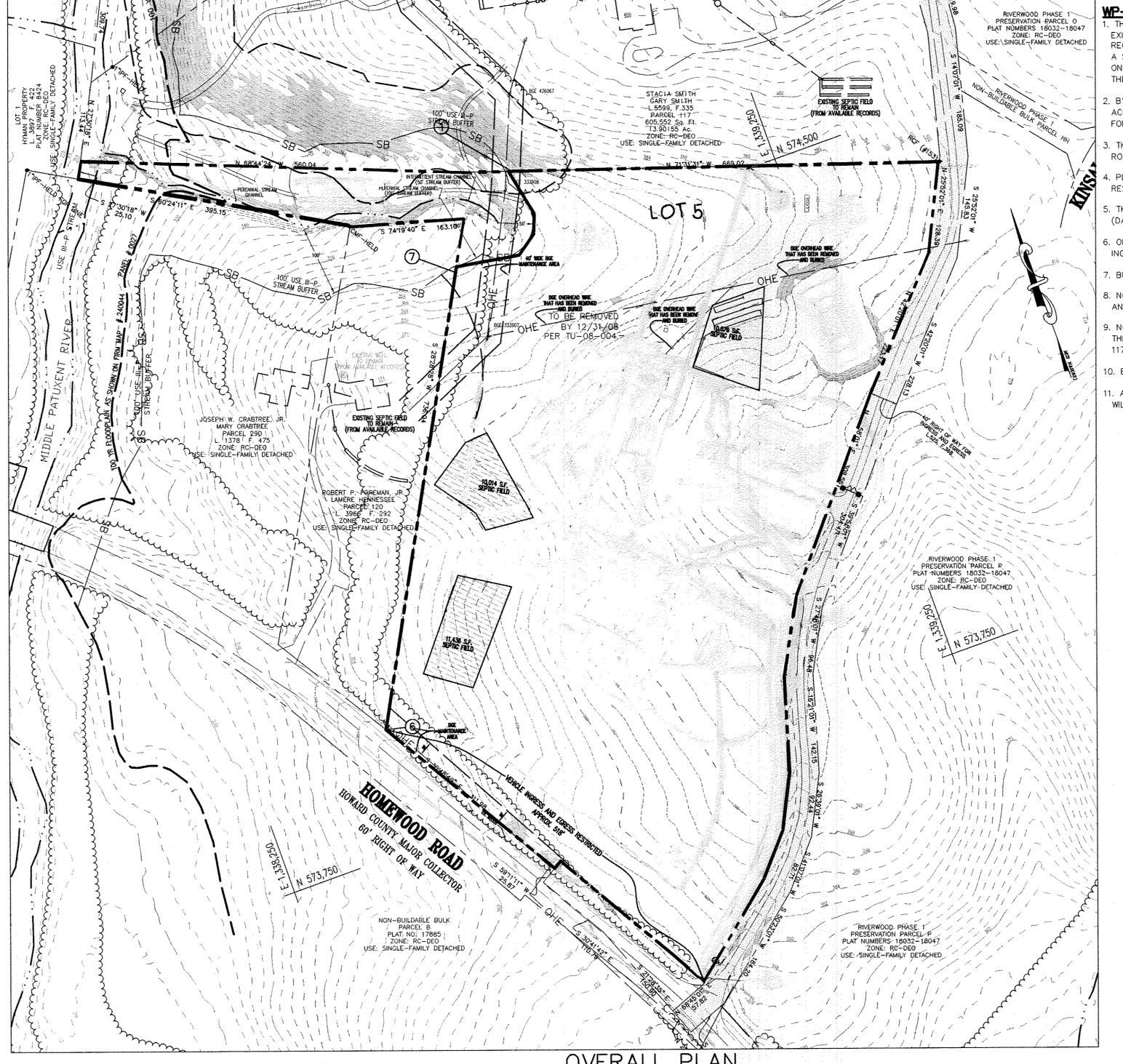
NO PERENNIAL STREAMS, WETLANDS, OR WETLAND BUFFERS ARE LOCATED ON THIS SITE, HOWEVER THERE IS A PERENNIAL STREAM AND ASSOCIATED 100' STREAM BUFFER LOCATED ON THE ADJACENT NON-BUILDABLE PARCEL A. STEEP SLOPES (25% OR GREATER) ARE LOCATED ON SITE AS SHOWN ON THE PLAN, HOWEVER THOSE LOCATED ON SITE DO NOT MEET THE HOWARD COUNTY ZONING ORD NANCE 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.

39. ALL WELLS TO BE DRILLED PRIOR TO FINAL PLAT RECORDATION.

40. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE ADDRESSED WITH THE REQUIRED GRADING PERMIT/DUILDING PERMIT IN THE AMOUNT OF \$ 1.050.00 FOR 2 SHADE TREES, I ORNAMENTAL TREES, <u>0</u> EVERGREEN TREES, AND 1<u>0</u> SHRUBS.

FINAL PLAN AREA IN 100 YEAR FLOODPLAIN: AREA OF STEEP SLOPES: NET TRACT AREA: LOT5

3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



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.

NUMBER

F-07-187

APPROVAL DATE

& 9/10/07

ASSOCIATED PLANS

WAIVER PETITION

FINAL PLAN (PHASE I

BENCH MARK HOWARD COUNTY CONTROL

STATION 06C6 N 609,143.487 E 1,270,776.502 ELEV. 855.46

HOWARD COUNTY CONTROL STATION O6CA N 610,135.318 E 1,272,833.911 ELEV. 815.20

AREA TABULATION CHART

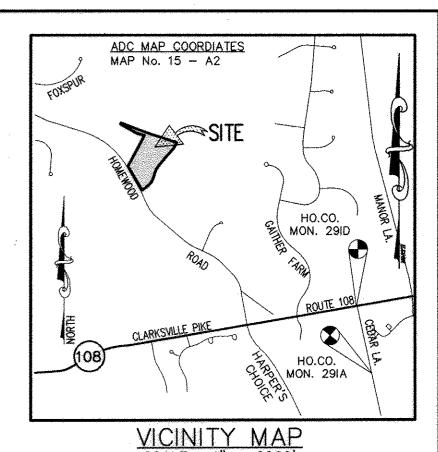
EXISTING ZONING: RC-DEO GROSS AREA OF SITE: 14.557 AC. 0 ACRES 0.05 ACRES (2,131 SF) 14.51 ACRES 0 ACRES 9.63 ACRES AREA OF PROPOSED BUILDABLE LOTS:

0 SF AREA OF REQUIRED OPEN SPACE: LIMIT OF DISTURBED AREA: 3.6 ACRES NUMBER OF BUILDABLE LOTS: LOTS

NUMBER OF BUILDABLE PRESERVATION PARCELS: NUMBER OF NON-BUILDABLE LOTS/PARCELS: NUMBER OF OPEN SPACE LOTS:

PROPOSED WATER AND SEWER: PRIVATE WELL AND SEPTIC PROPOSED USES:

EXISTING HORSEFARM AND WOODS 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 RADII. (4/13/07)

5. 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)

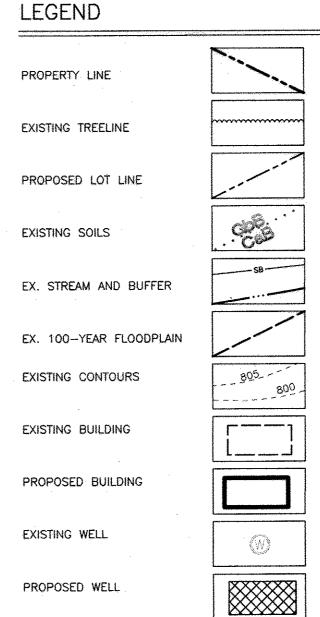
'. BULK PARCEL A SHALL BE DESIGNATED AS NON-BUILDABLE PARCEL A WITH F-07-187. (6/22/07)

B. 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)

10. BULK PARCEL A SHALL BE DESIGNATED AS NON-BUILDABLE PARCEL A WITH F-07-187 AND F-07-213. (9/10/07)

1. 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)



OVERHEAD ELECTRIC LINE

COORDINATE LIST

N 574,610.86 | E 1,338,893.03

N 574.629.01 | E 1.338.313.72

N 574 417 00 | E 1.339.470.26

N 573 923 59 E 1 338 451 91

N 574,502.17 | E 1,338,765.72

E 1,338,802.83

4 N 573 427 66 E 1.338 755 20

N 574,570.59

Replace sheets 2 to 10 with new sheets 2 to 7 **REVISION** DATE NO. OWNER: HOMEWOOD L.L.C. 11362 HOMEWOOD ROAD ELLICOTT CITY MARYLAND 21042

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND

DEVELOPER:

PAUL H. DY MOND 14631 RED LION DRIVE WOODBINE MD 21797

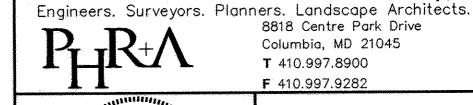
HOMEWOOD FARM LOT 5 FORMERLY (MURPHY PROPERTY)

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

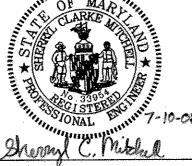
410-964-0260

TITLE TITLE SHEET

Patton Harris Rust & Associates,pc



8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282



DESIGNED BY : PHRA DRAWN BY: JML

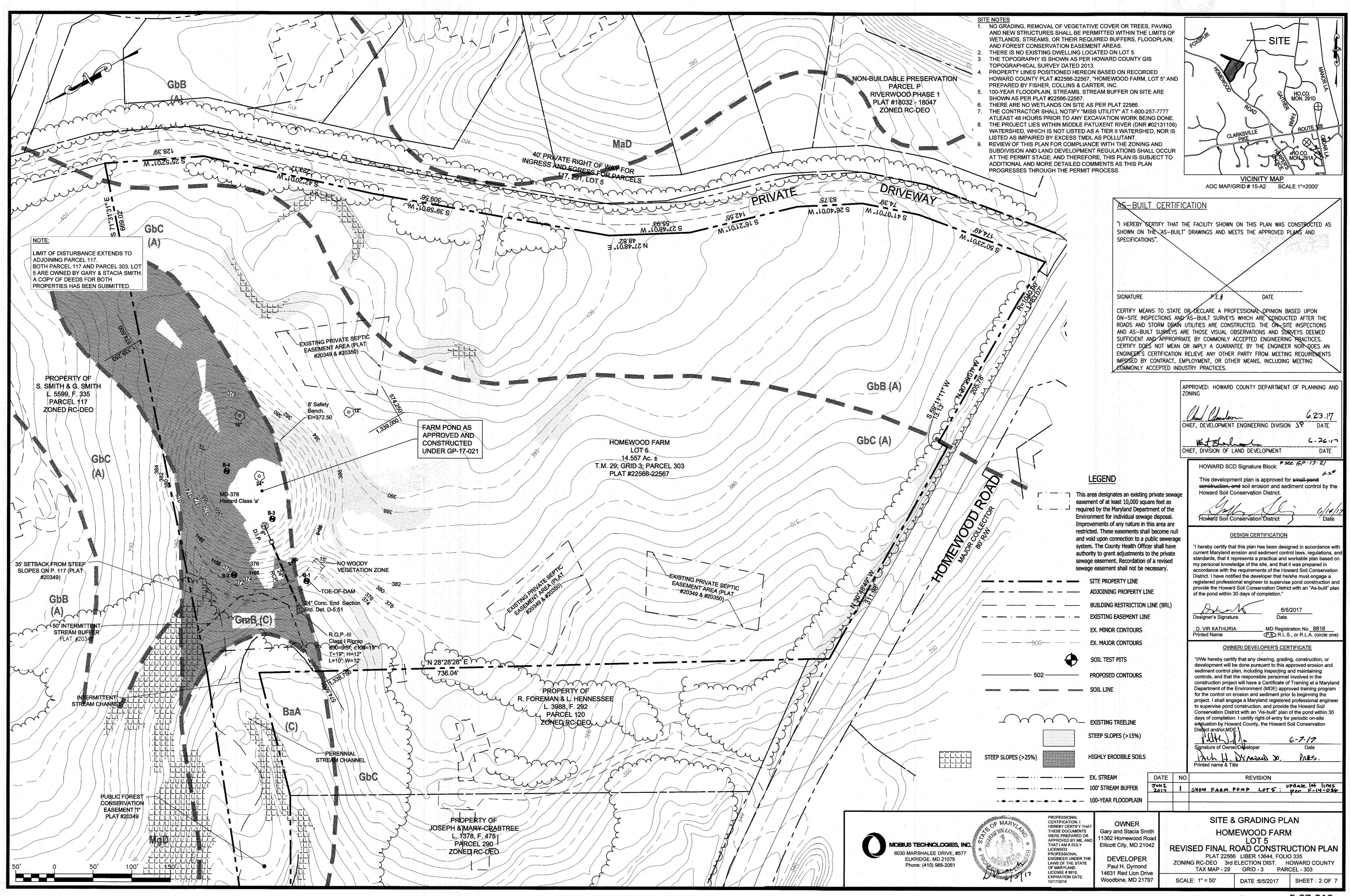
14520-1-0

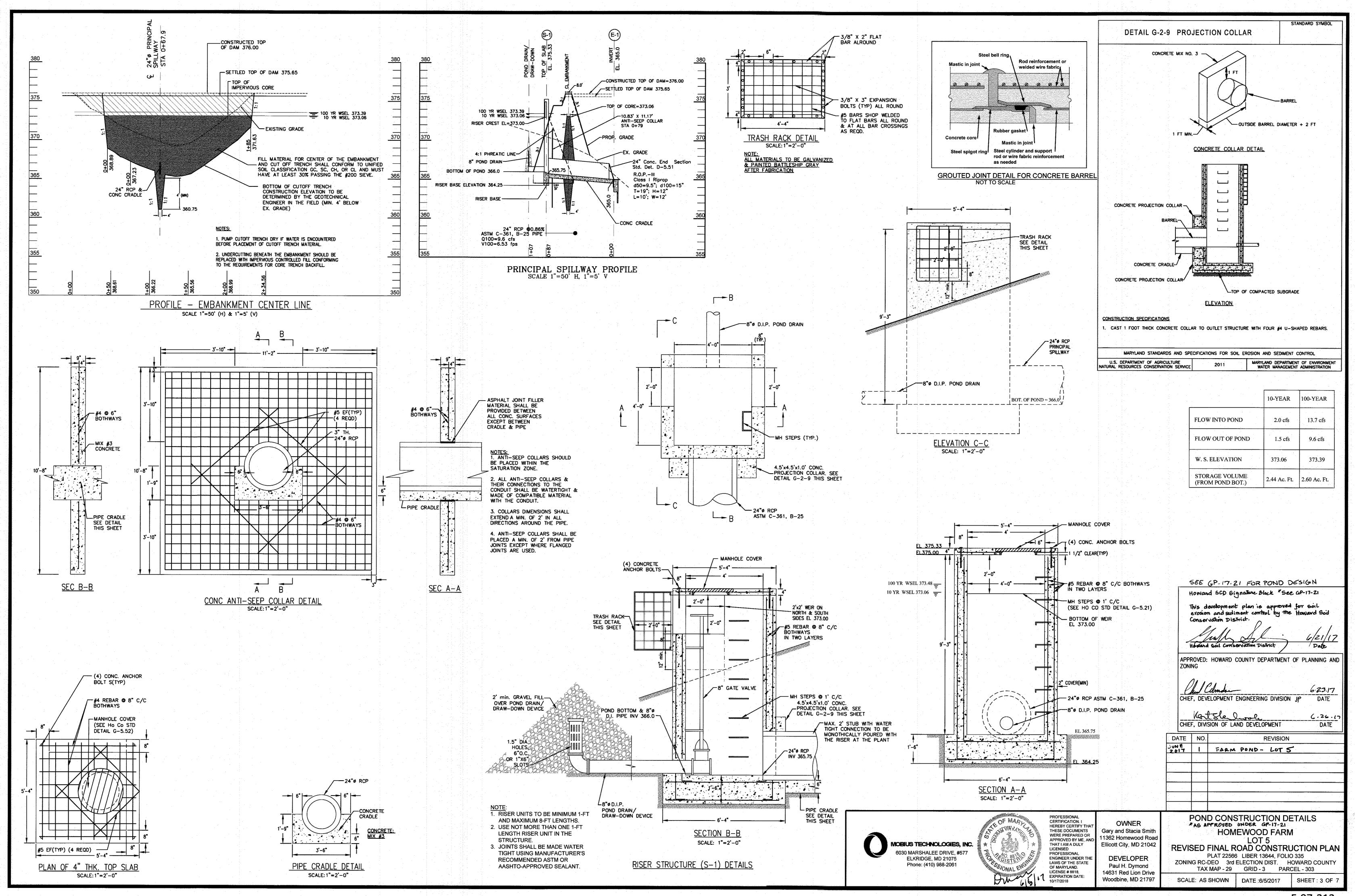
PROJECT NO DATE: 03/31/08 SCALE : AS SHOWN OFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY MI

DRAWING NO. 1 OF _______

-07-213

AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEES UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33954, EXPIRATION DATE: 1-24-09."





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.

OPERA

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 of 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 flow able 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.

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 type 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.

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

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding I 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 Dor 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.

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.

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 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 sumps from which the water shall be pumped.

Stabilization

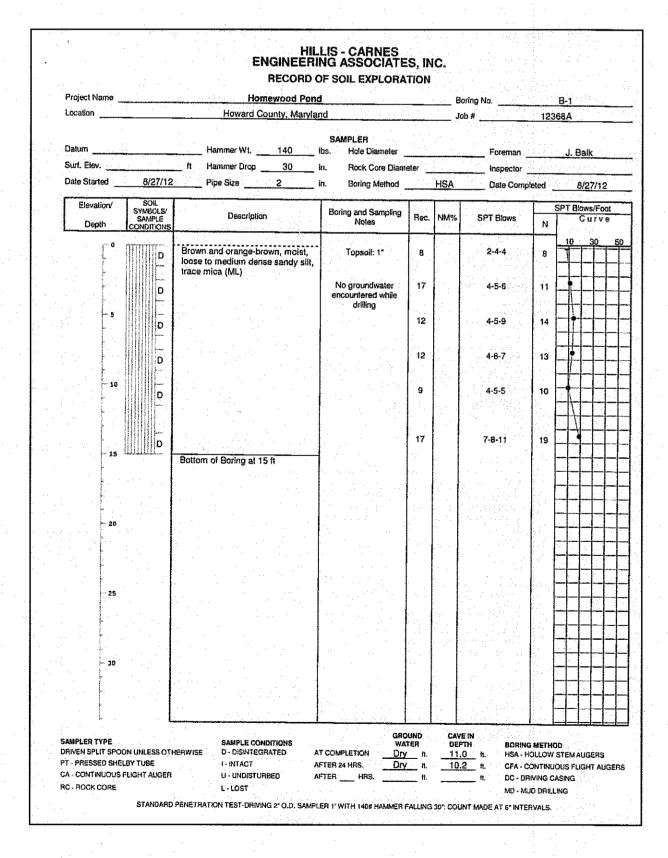
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service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



SLOPES & MAINTENANCE ACCESSES SHOULD BE MOWED AS NEEDED.

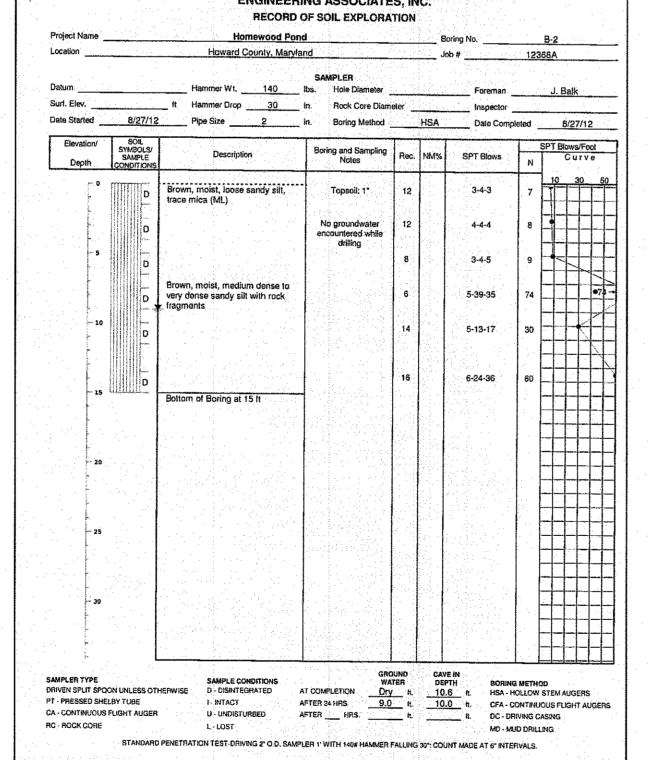
REGULAR MOWING OPERATIONS & AS NEEDED.

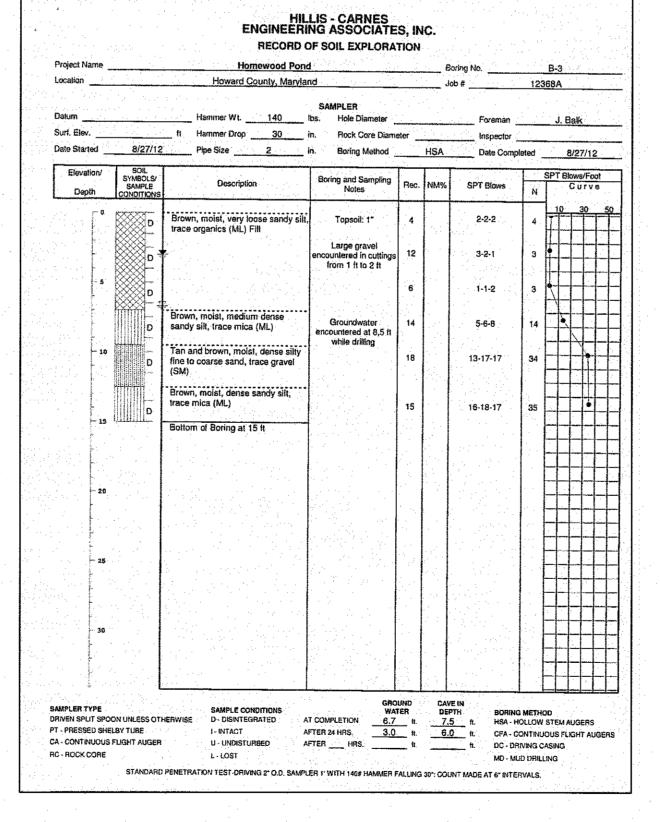
SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

5. FENCES AND GATES SHALL BE KEPT IN GOOD REPAIR

3. DEBRIS & LITTER NEXT TO OUTLET STRUCTURE SHALL BE REMOVED DURING

4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS





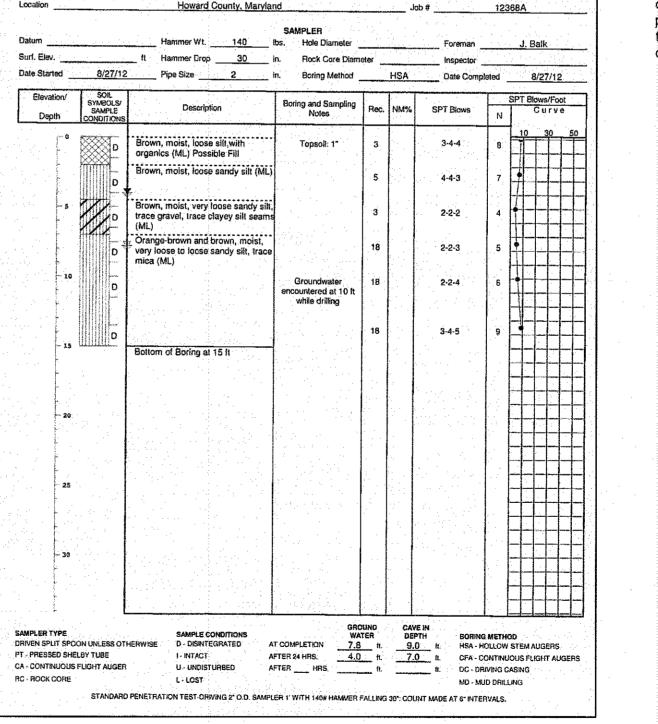
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TION & MAINTENANCE SCHEDULE FOR MD-378 POND			事。 赞《昔书》 對 光。 3
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- FACILITY WILL BE INSPECTED ANNUALLY & AFTER MAJOR STORMS INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO CHECK STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM. THE RISER. & PROPER FUNCTIONALITY. THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE TOP & SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE TWO TIMES A YEAR, ONCE IN JUNE & OTHER IN SEPTEMBER. ALL OTHER SIDE
 - 2. 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. TURBID SEEPAGE SLIDING OR SLUMPING ALL REQUIRED MAINTENANCE SHALL BE PERFORMED BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE OWNER'S EXPENSE.



		CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/8 DATE
		CHIEF, DIVISION OF LAND DEVELOPMENT DATE
DATE	NO.	REVISION
JUNE 2017		FARM POND - LOT 5
ER		MD-378 POND CONSTRUCTION NOTES *AS BORING LOGS APPROVED



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PROFESSIONAL CERTIFICATION. HEREBY CERTIFY TI THESE DOCUMENTS WERE PREPARED OF APPROVED BY ME: AN THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE Paul H. Dymond OF MARYLAND.

LICENSE # 8818.

10/17/2018

EXPIRATION DATE:

DEVELOPER

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

14631 Red Lion Drive

Woodbine, MD 21797

HOMEWOOD FARM GP-17-21 LOT 5

HOWARD SCD Signature Block # See GP- 17-21

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

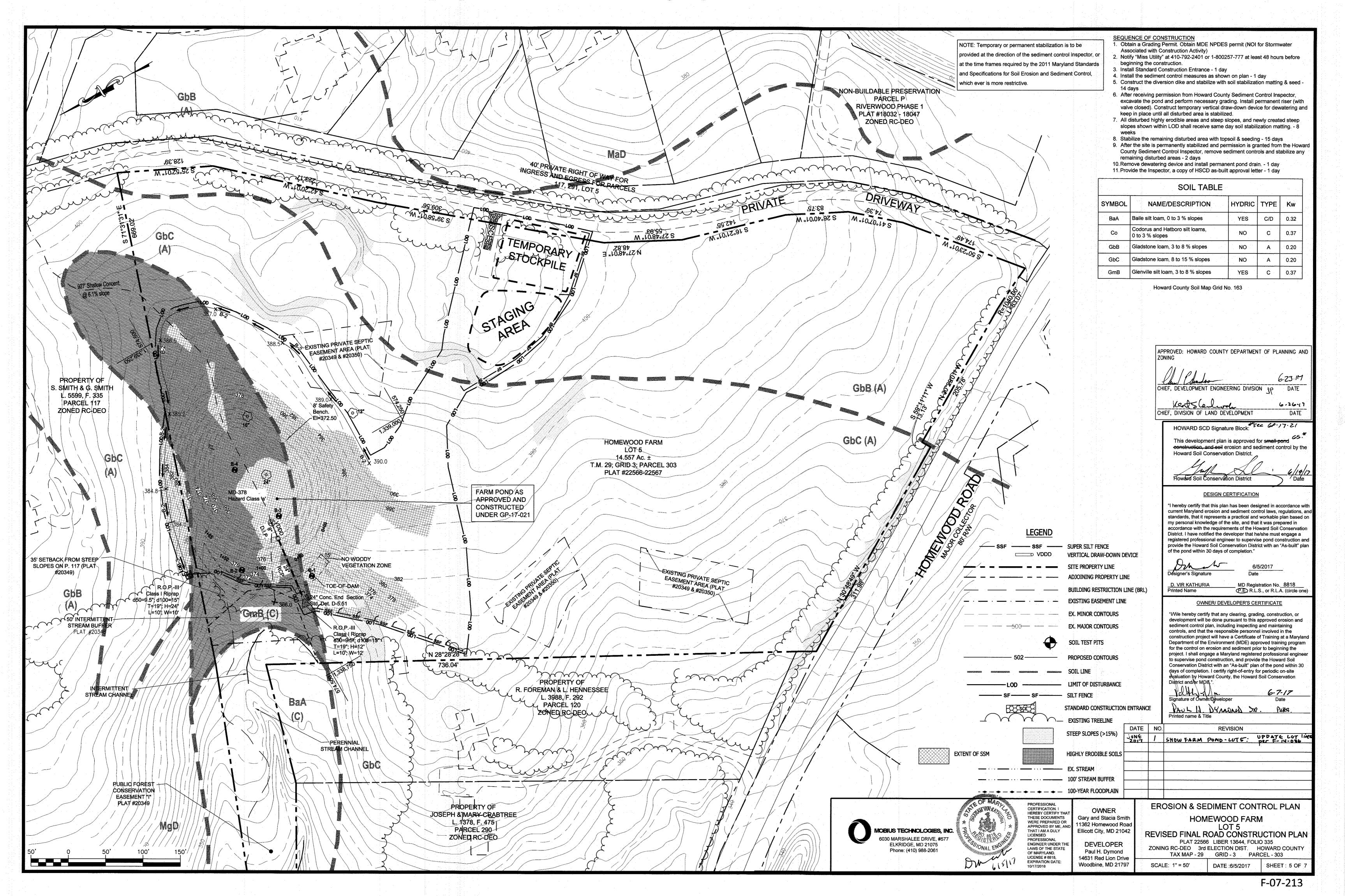
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

Conservation District.

Howard Son Consowation District

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 SHEET: 4 OF 7 SCALE: AS SHOWN DATE:6/5/2017

F-07-213



B-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION. TOPSOILING, AND SOIL AMENDMENTS

Purpose

To provide a suitable soil medium for vegetative growth.

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

Conditions Where Practice Applies

Where vegetative stabilization is to be established

<u>Criteria</u>

Soil Preparation

1. 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 loosened, 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
- 2. 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
- c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened 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
- 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.

- 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 11/2 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

Soil Amendments (Fertilizer and Lime Specifications)

- 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
- 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.

6.26.17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

HIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

B-4-3 STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

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

Seeding

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. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
- b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
- c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
- d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

- a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
- i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
- ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil
- b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
- i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
- ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
- c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer) i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorous), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
- ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
- iii. Mix seed and fertilizer on site and seed immediately and without interruption.
- iv. When hydroseeding do not incorporate seed into the soil.

- 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 dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
- b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
- i. WCFM is to be dyed green or contain a green dye in the package that will provide an
- appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
- iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- iv. WCFM material must not contain elements or compounds at concentration levels that will
- v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

Application

- Apply mulch to all seeded areas immediately after seeding.
- b. When straw mulch is used, spread it over all seeded areas at the 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. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

- 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:
- i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
- ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation

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

Conditions Where Practice Applies

Criteria

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

A. Seed Mixtures

- 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 ½ 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: 1½ to 3 pounds per 1000 square feet.
- 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
- Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
- Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
- d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 11/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will
- e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot

Permanent Seeding Summary

	Hardiness Z Seed Mixture	one (from Figu e (from Table B	re B.3): <u>6b</u> 3.3): See below	Fertilizer Rate (10-20-20)			Lime Rat	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ 0	Lime Kau
8	Tall Fescue	100	Mar.1-May 15 Aug 1-Oct 15	1/4- 1/2 in	45 pounds	90 lb/ac	90 lb/ac	2 tons/ac
	Deer Tongue	15		1/4- 1/2 in	per acre (1.0 lb/	(2 lb/	(2 lb/	(90 lb/
4	Creeping Red	Fescue 20	Mar.1-May 15 May 16-June 15	1/4- 1/2 in	1000 sf)	1000 sf)	1000 sf)	1000 sf)
	Canada Wild	Rye 5		1/4- 1/2 in				

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

c. Ideal Times of Seeding for Turf Grass Mixtures

- 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. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival. e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its

installation. 2. Sod Installation

- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
- d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

B-4 STANDARDS AND SPECIFICATIONS

DETAIL B-1

STABILIZED CONSTRUCTION

PROFILE

PLAN VIEW

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE, PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE, PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY, A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS

MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKI OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND

SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR

TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE

HOWARD SOIL CONSERVATION DISTRICT (HSCD)

U.S. DEPARTMENT OF AGRICULTURE
IATURAL RESOURCES CONSERVATION SERVICE

obtained from the CID.

requirements

(inclusive):

MOBIUS TECHNOLOGIES, INC.

6030 MARSHALEE DRIVE, #577

ELKRIDGE, MD 21075

Phone: (410) 988-2061

50 FT MIN.

ENTRANCE

SCE

-PIPE (SEE NOTE 6)

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

<u>Purpose</u>

To promote the establishment of vegetation on exposed soil.

and vegetative establishment.

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.

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is

Effects on Water Quality and Quantity

stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby CONSTRUCTION SPECIFICATIONS reducing sediment loads and runoff to downstream areas. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT), USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

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.

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.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to

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

Adequate Vegetative Establishment

- 1. Adequate vegetative stabilization requires 95 percent groundcover.
- 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, 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

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

FOR

TEMPORARY STABILIZATION

B-4-4 STANDARDS AND SPECIFICATIONS

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

<u>Purpose</u>

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.

<u>Criteria</u>

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below alo 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 Zo Seed Mixture	Fertilizer Rate	Time Pete				
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	(10-20-20)	Lime Rate	
	Cereal Rye	112	Mar.1-May 15 Aug.1-Nov.15	1"			
	Oats	72	Mar.1-May 15 Aug.1-Oct. 15	1"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)	
	Foxtail Millet	30	May 16-Jul. 31	0.5"			
	Pearl Millet	20	May 16-Jul. 31	0.5"		No.	

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

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

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.

REVISION

FARM POND - LOT S

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.

> LICENSED **EXPIRATION DATE:**

WERE PREPARED OR APPROVED BY ME. AN THAT I AM A DULY **PROFESSIONAL** ENGINEER UNDER TH LAWS OF THE STATE OF MARYLAND. LICENSE # 8818.

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

c - FLOW WIDTH 4 FT MIN. 6 FT MIN. d - FLOW DEPTH 12 IN MIN. 24 IN MIN. PLAN VIEW FLOW CHANNEL STABILIZATION SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD. 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND. A-3/B-3 CONSTRUCTION SPECIFICATIONS

-2:1 SLOPE OR FLATTER

a - DIKE HEIGHT 18 IN MIN. 30 IN MIN.

b - DIKE WIDTH 24 IN MIN. 36 IN MIN.

STANDARD SYMBOL

A-1

PLACE DESCRIATION (SO A-1)

ON FLOW CHANGE SOF OF DIKE

REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.

DETAIL C-1 EARTH DIKE

CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

CROSS SECTION

- COMPACT FILL. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
- PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.

STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

HOWARD SCD Signature Block:

Howard Soil Conservation District.

of the pond within 30 days of completion."

Designer's Signature

D. VIR KATHURIA

This development plan is approved for small pend

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

accordance with the requirements of the Howard Soil Conservation

registered professional engineer to supervise pond construction and

provide the Howard Soil Conservation District with an "As-built" plan

my personal knowledge of the site, and that it was prepared in

District. I have notified the developer that he/she must engage a

construction, and soil erosion and sediment control by the

UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN

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

- 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

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state

- and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan. 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of
- all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading. 4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the

ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in

- excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). 5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been
- Site Analysis: 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. Offsite waste/borrow area location: Excess cut to be houled to site with active grading permit 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
- 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
- Photographs Monitoring/sampling Maintenance and/or corrective action performed · Other inspection items as required by the General Permit for Stormwater Associated

Compliance status regarding the sequence of construction and stabilization

- with Construction Activities (NPDES, MDE). 9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is
- 10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes. 11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50
- more than 30 acres cumulatively may be disturbed at a given time. 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources mus be treated in a sediment basin or other approved washout structure.

percent of the disturbed area in the preceding grading unit has been stabilized and

approved by the HSCD. Unless otherwise specified and approved by the HSCD, no

- 13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation. 15. Stream channels must not be disturbed during the following restricted time periods
- Use I and IP March 1 June 15 • Use III and IIIP October 1 - April 30 • Use IV March 1 - May 31 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR

SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site

and available when the site is active. PROFESSIONAL CERTIFICATION. HEREBY CERTIFY T THESE DOCUMENTS

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

HOMEWOOD FARM LOT 5

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

F-07-213

MD Registration No. 8818 (P.E.) R.L.S., or R.L.A. (circle one) OWNER/ DEVELOPER'S CERTIFICATE

6/5/2017

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

construction project will have a Certificate of Training at a Maryland

Department of the Environment (MDE) approved training program

PAUL H. BYMOND ST.

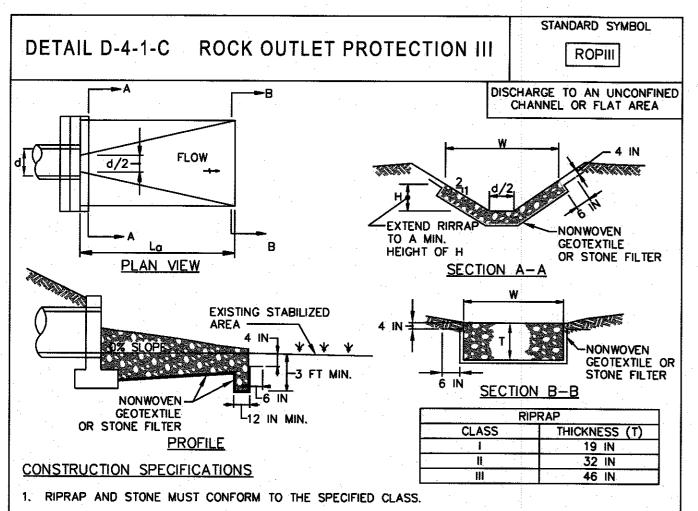
REVISED FINAL ROAD CONSTRUCTION PLAN PLAT 22566 LIBER 13644. FOLIO 335

"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

District and or MDE. Valh of

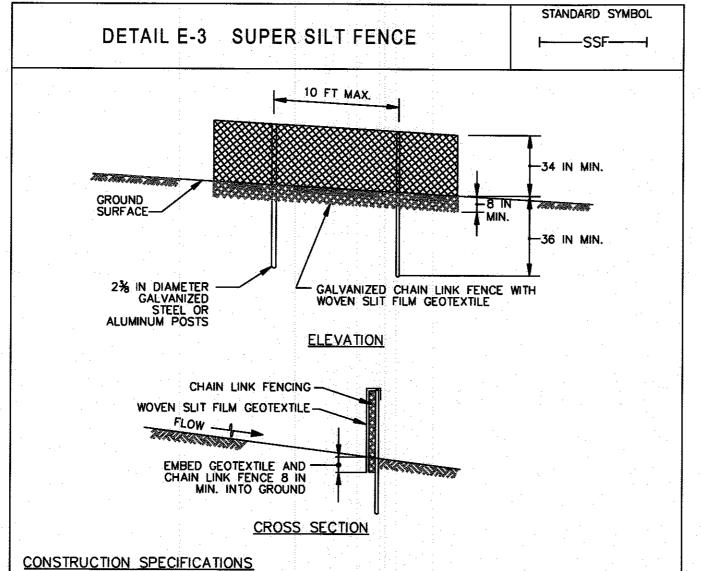
Printed name & Title **EROSION & SEDIMENT CONTROL NOTES & DETAILS**

6-7-17



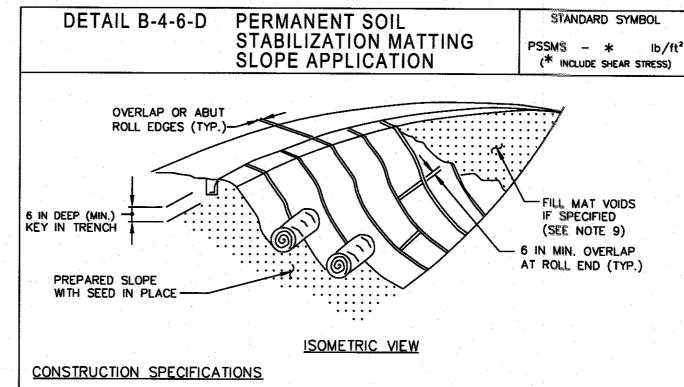
- USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1/2 INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- . EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
- . CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE, HAND PLACE TO THE EXTENT NECESSARY,
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP, MAKE NECESSARY REPAIRS IMMEDIATELY.

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



- INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART, DRIVE THE POSTS A MINIMUM OF 36 INCHES
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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



- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS R ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS. UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL
- UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- . STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED. ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- O. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION,

NATURAL RESOURCES CONSERVATION SERVICE

DETAIL E-1

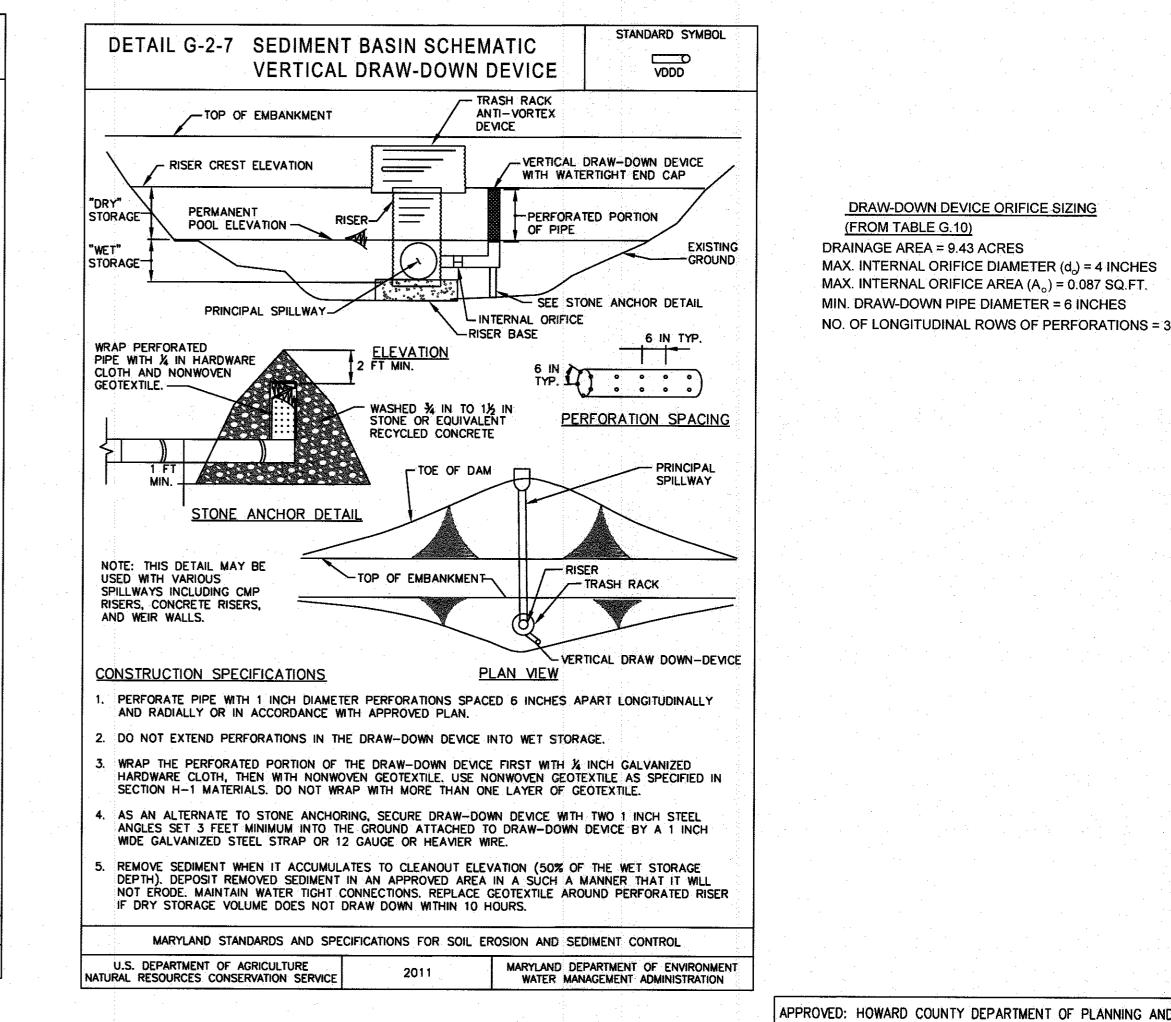
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT

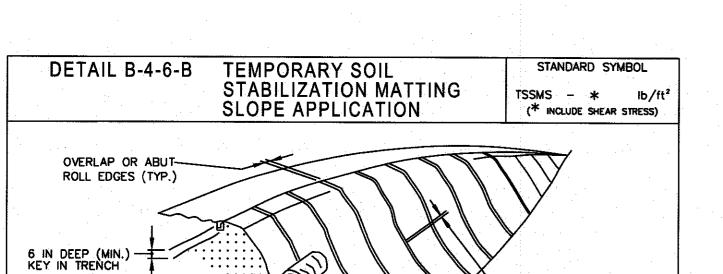
FENCE

WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

⊢—--SF------





T ROLL END (TYP.)

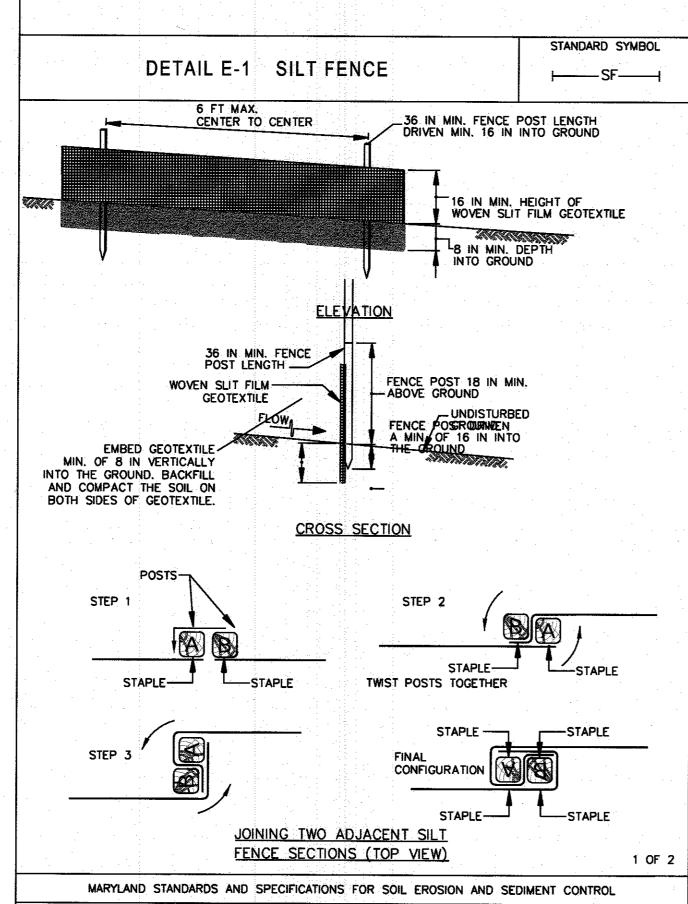
ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

(SEEDBED) WITH SEED IN PLACE

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- 2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- . SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT, STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 15 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD. 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION &
- S. UNROLL MATTING DOWNSLOPE, LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE, AVOID STRETCHING THE MATTING.
- 5. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- 9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE

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

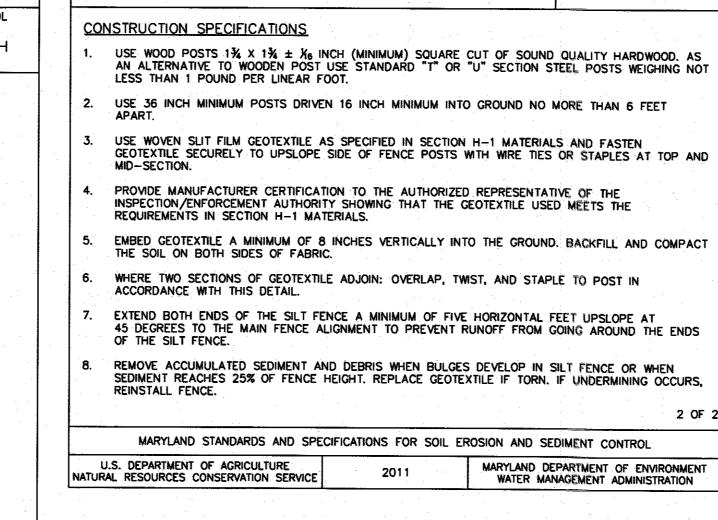


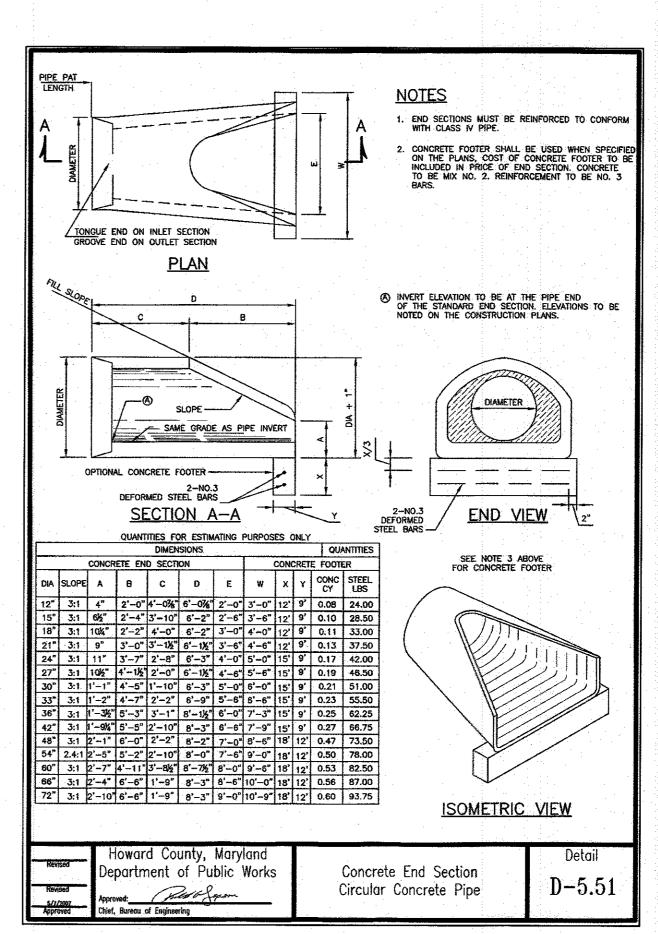
MARYLAND DEPARTMENT OF ENVIRONMENT

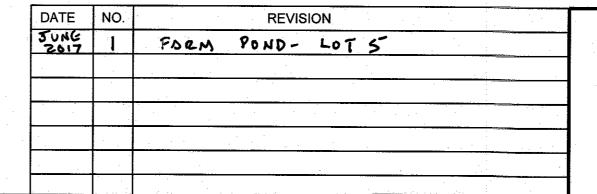
WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE









PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY TH THESE DOCUMENTS WERE PREPARED O APPROVED BY ME. AI THAT I AM A DULY LICENSED **PROFESSIONAL ENGINEER UNDER TH** LAWS OF THE STATE OF MARYLAND. LICENSE # 8818 EXPIRATION DATE:

OWNER Gary and Stacia Smith 11362 Homewood Road Ellicott City, MD 21042 DEVELOPER Paul H. Dymond

14631 Red Lion Drive

Woodbine, MD 21797

Printed name & Title **EROSION & SEDIMENT CONTROL DETAILS HOMEWOOD FARM**

SCALE: AS SHOWN

District and/or MDEc.".

Palter Alla

Signature of Owner/Developer

PAUL H. DYMOUD DR.

CHIEF, DIVISION OF LAND DEVELOPMENT

Howard Soil Conservation District

of the pond within 30 days of completion."

Designer's Signature

D. VIR KATHURIA

HOWARD SCD Signature Block: SCE GP-17-21

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

accordance with the requirements of the Howard Soil Conservation

registered professional engineer to supervise pond construction and

OWNER/ DEVELOPER'S CERTIFICATE

"I/We hereby certify that any clearing, grading, construction, or

sediment control plan, including inspecting and maintaining

controls, and that the responsible personnel involved in the

development will be done pursuant to this approved erosion and

construction project will have a Certificate of Training at a Maryland

Department of the Environment (MDE) approved training program

Conservation District with an "As-built" plan of the pond within 30

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

days of completion. I certify right-of-entry for periodic on-site

evaluation by Howard County, the Howard Soil Conservation

6/5/2017

MD Registration No. 8818

P.E. R.L.S., or R.L.A. (circle one)

provide the Howard Soil Conservation District with an "As-built" plan

District. I have notified the developer that he/she must engage a

my personal knowledge of the site, and that it was prepared in

This development plan is approved for small pend

construction, and soil erosion and sediment control by the

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

DATE:6/5/2017

DRAW-DOWN DEVICE ORIFICE SIZING

MAX. INTERNAL ORIFICE DIAMETER (d.) = 4 INCHES

NO. OF LONGITUDINAL ROWS OF PERFORATIONS = 3

MAX. INTERNAL ORIFICE AREA $(A_o) = 0.087$ SQ.FT.

MIN. DRAW-DOWN PIPE DIAMETER = 6 INCHES

(FROM TABLE G.10)

DRAINAGE AREA = 9.43 ACRES

SHEET: 7 OF 7

6.23.17

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DATE

F-07-213