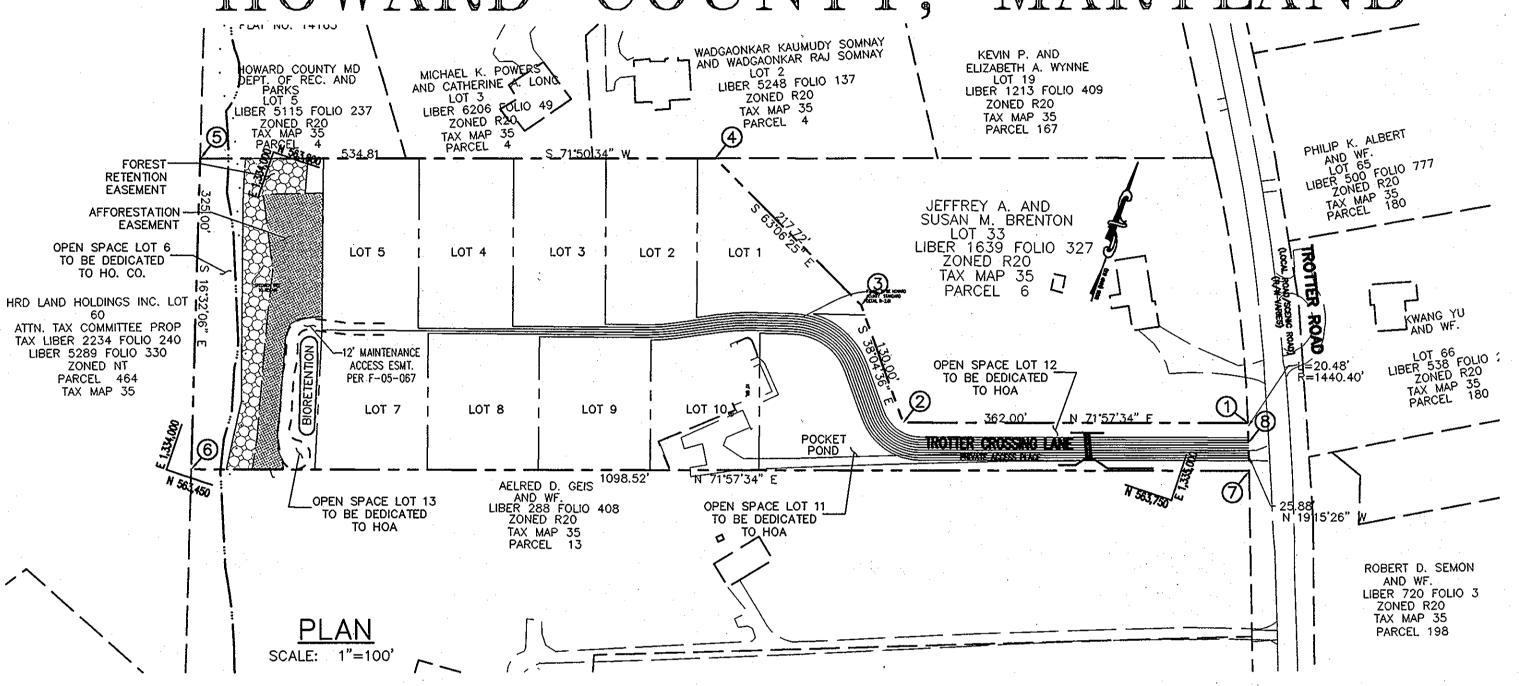
### SHEET INDEX DESCRIPTION 1 TITLE SHEET 2 OVERALL SITE DEVELOPMENT PLAN AND SOILS MAP 3 SITE DEVELOPMENT PLAN 4 SITE DEVELOPMENT PLAN 5 GRADING AND SEDIMENT CONTROL PLAN 6 GRADING AND SEDIMENT CONTROL PLAN SEDIMENT CONTROL NOTES 8 SEDIMENT CONTROL DETAILS

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" 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
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD STUDY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES IN DECEMBER, 2002.
- 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. 29GB AND 29G5.
- PUBLIC WATER WILL BE EXTENDED TO THE SITE FROM PUBLIC WATER LOCATED APPROXIMATELY 1400' SOUTH OF THE SITE IN TROTTER ROAD. PUBLIC WATER WILL CONNECT TO WATER BEING CONSTRUCTED UNDER HOWARD COUNTY CAPITAL PROJECT # S-6239. THE EXISTING PRIVATE WELL AND SEPTIC FACILITIES WILL BE ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT GUIDELINES. THE CONTRACT NUMBER FOR THE PUBLIC WATER LINE SERVING THIS DEVELOPMENT IS
- SEWER DRAINAGE AREA: LITTLE PATUXENT. PUBLIC SEWER WILL BE EXTENDED TO THE SITE FROM PUBLIC SEWER LOCATED APPROXIMATELY 1100' SOUTH OF THE SITE IN TROTTER ROAD. PUBLIC SEWER WILL CONNECT TO SEWER BEING CONSTRUCTED UNDER HOWARD COUNTY CAPITAL PROJECT # S-6239. THE CONTRACT NUMBER FOR THE PUBLIC SEWER SERVING THIS DEVELOPMENT IS 34-4170-D.
- 10. THE PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED BY A BIORETENTION FACILITY AND A POCKET POND PER F-05-067.
- 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 ATTN. TAX COMMITTEE PROP
- 12. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES, DATED DECEMBER 2002 PER F-05-067.
- 13. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP AND APPROVED DATED MAY 15, 2003 PER
- 14. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- 15. THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED MARCH 2003.
- 16. SUBJECT PROPERTY ZONED R-20 PER 02-02-04 COMPREHENSIVE ZONING PLAN AND THE "COMP LITE" ZONING AMENDMENTS EFFECTIVE 07-28-06.
- 17. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- 18. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S .: F-84-12. (FOREST HILLS LOT 32), SP-03-15, WP-03-123,
- 19. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 21. 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.
- 22. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- 23. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- 24. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 25. STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, i.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST
- 26. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- 27. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 40' RIGHT OF WAYS 20 a) WIDTH- 12'(16' SERVING MORE THAN ONE RESIDENCE);
- 28. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF
- 29. ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
- 30. SEE F-05-067 FOR STREET TREE REQUIREMENTS.
- 31. THERE ARE NO EXISTING PERMANENT STRUCTURES ON-SITE
- 32. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE STREAM, WETLANDS, THEIR BUFFERS, FLOODPLAIN OR FOREST CONSERVATION EASEMENTS.
- 33. WETLANDS, 100 YEAR FLOODPLAIN, AND +15% SLOPES HAVE BEEN SHOWN.
- 34. BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- 35. WP-03-123 A REQUEST TO WAIVE SECTION 16.121(e)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS - OPEN SPACE LOTS SHALL HAVE A MINIMUM OF 40 FEET OF FRONTAGE ON A PUBLIC ROAD WHICH IS SUITABLE FOR ACCESS BY PEDESTRIANS AND MAINTENANCE VEHICLES; OPEN SPACE FRONTAGE MAY BE REDUCED TO 20 FEET IF THE ADJACENT SIDE YARD SETBACK OF ABUTTING LOTS IS INCREASED BY 10 FEET, AND 16.120(b)(4)(iv) - RESIDENTIAL LOTS SHALL NOT BE ENCUMBERED BY ACCESS EASEMENTS FOR STORMWATER MANAGEMENT FACILITIES OR OPEN SPACE HAS BEEN APPROVED BY LETTER DATED JUNE 2, 2003 AND SUBJECT TO THE FOLLOWING CONDITIONS: (1) THE DEVELOPER SHALL TRANSFER, IN ACCORDANCE WITH COMMENTS FROM THE DEPARTMENT OF RECREATION AND PARKS, OPEN SPACE LOT 6 TO HOWARD COUNTY, IN ADDITION THE DEVELOPER SHALL PROVIDE A 12' WIDE (MINIMUM) ACCESS EASEMENT FOR PEDESTRIAN AND VEHICULAR ACCESS TO OPEN SPACE LOT 6 WHICH SHALL EXTEND FROM TROTTER ROAD TO OPEN SPACE LOT 6. THIS EASEMENT SHALL BE WITHIN THE PROPOSED USE IN COMMON DRIVEWAY EASEMENT SERVING RESIDENTIAL LOTS TO THE WESTERN TERMINUS OF THAT SHARED DRIVEWAY EASEMENT AND BEYOND TO THE BOUNDARY OF OPEN SPACE LOT 6. (2) A MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY WITHIN A 24 FOOT WIDE EASEMENT SHALL BE RECORDED WITH THE CORRESPONDING SUBDIVISION PLAT. THIS DOCUMENT SHALL PROVIDE FOR ACCESS TO OPEN SPACE LOT 6 BUT SHALL EXCLUDE THE DEPARTMENT OF RECREATION AND PARKS FROM ALL MAINTENANCE OBLIGATIONS. (3) ON ALL PLANS AND PLATS, THE 24 FOOT WIDE USE-IN-COMMON ACCESS EASEMENT SERVING RESIDENTIAL LOTS SHALL ALSO BE LABELED AS SERVING OPEN SPACE LOT 6. (4) OPEN SPACE LOTS 11 AND 12 SHALL BE OWNED BY THE HOMEOWNER'S ASSOCIATION FOR THIS SITE. ON ALL PLANS, LABEL ACCESS PROVIDED TO OPEN SPACE LOTS 11 AND 12 FROM THE USE—IN—COMMON DRIVEWAY. MAKE THAT STIPULATION A PART OF THE MAINTENANCE AGREEMENT.
- 36. THE FOREST CONSERVATION OBLIGATIONS FOR THIS SITE IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE MET BY THE PLACEMENT OF .22 ACRES OF EXISTING FOREST INTO A RETENTION EASEMENT, PLACEMENT OF .25 ACRES OF AFFORESTATION INTO AN EASEMENT AND PAYMENT OF A FEE-IN-LIEU FOR THE BALANCE OF REQUIRED AFFORESTATION OF .29 ACRES IN THE AMOUNT OF \$9,474.30 (12,632 SQ.FT. X .75 CENTS) TO THE FOREST CONSERVATION FUND. SURETY FOR THE .22 ACRES OF RETENTION IN THE AMOUNT OF \$1,916.64 AND FOR THE .25 ACRES OF AFFORESTATION IN THE AMOUNT OF \$10,890.00 FOR A TOTAL OF \$12,806.64 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THE FINAL PLAN F-05-67.
- 37. FINANCIAL SURETY FOR THE REQUIRED PERIMETER, STORM WATER MANAGEMENT LANDSCAPING AND STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT PER F-05-067.
- 38. TROTTER ROAD IS CLASSIFIED AS A HOWARD COUNTY SCENIC ROAD. THE SCENIC ROAD IMPACT ANALYSIS WAS APPROVED ON MAY 30, 2003 UNDER SP-03-15.
- 39. THIS PROJECT IS SUBJECT TO THE 5th EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS BECAUSE IT WAS SUBMITTED ON APRIL 16, 2003 PRIOR TO MAY 22, 2003. THE GRANDFATHERING FOR ZONING REGULATIONS: 1993 ZONING REGULATIONS AS AMENDED BY CB 50-2001.
- 40. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3 FEET LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH

# SITE DEVELOPMENT PLAN

LOTS 1 THRU 5, 7 THRU SPACE LOTS 6,



- 41. IN OCTOBER 2003, DEVELOPMENT ENGINEERING DIVISION APPROVED A DESIGN MANUAL WAIVER (VOLUME I, SECTIONS 5.2.6.D.1, 5.2.6.E.1, & 5.2.4.I) TO RELAX STORMWATER MANAGEMENT POND #1 DESIGN STANDARDS.
- 42. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- 43. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.

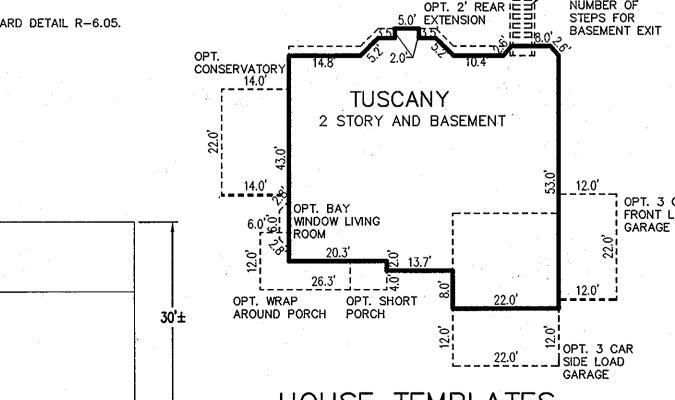
44. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:

- ) SURFACE- 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.):
- ) GEOMETRY- MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS; d) STRUCTURES (CULVERTS/BRIDGES)— CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
- ) DRAINAGE ELEMENTS— CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE; f) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- 45. THE SIX FEET BY EIGHT FEET (6' X 8') CONCRETE PAD WITHIN THE PUBLIC RIGHT-OF-WAY WILL BE MAINTAINED BY THE OWNERS OF LOTS 1 THRU 5 AND LOTS 7 THRU 10 PURSUANT TO THE DECLARATION OF RIGHT OF ACCESS AND MAINTENANCE OBLIGATIONS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.
- THE HOMEOWNERS', DOCUMENTS OF INCORPORATION HAVE BEEN RECORDED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON/AS NUMBER 11-07-07, #1000361995537391
- 47. BUILDER TO DETERMINE FINAL NUMBER OF STEPS FOR BASEMENT EXIT IN THE FIELD.
- 48. THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS THEREOF, CONTRACT NO. WS 34-4170-D. A DEVELOPER'S AGREEMENT WILL BE FILED AND ACCEPTED PRIOR TO THE RECORD PLAT BEING RECORDED.
- 49. DEVELOPER SHALL MAINTAIN POSITIVE DRAINAGE TO ALL STORM DRAIN AND STORMWATER MANAGEMENT STRUCTURES ON SITE AT ALL TIMES. MINIMUM SLOPE FOR GRASSED AREAS SHALL BE 2%.
- 50. THE PRIVATE ACCESS PLACE MAINTENANCE AGREEMENT AND 12' WIDE PUBLIC ACCESS MAINTENANCE AGREEMENT FOR OPEN SPACE LOTS 6 AND 13 HAVE BEEN RECORDED AS LIBER 1/319/Folio 500 00 8.07-08

**DEVONSHIRE** 

- . ANY DAMAGE TO THE COUNTY'S RIGHT—OF—WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 52. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
- 53. FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.05.
- 54. ALL WATER METERS ARE INTERNAL TO HOMES.

TUSCANY



BUILDER TO-

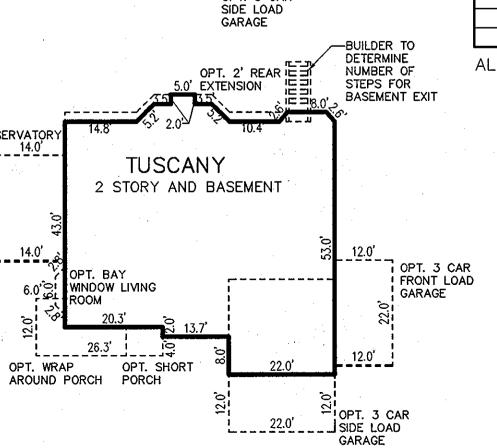
DETERMINE NUMBER OF

STEPS FOR

BASEMENT EXIT

WINDOWS ?

LIBRARY



OPT. 3 CAR

SUNROOM\_12.0

EXTENSION<sub>5 0'</sub>

MINDOW LIVING

ROOM

DEVONSHIRE

2 STORY AND BASEMENT

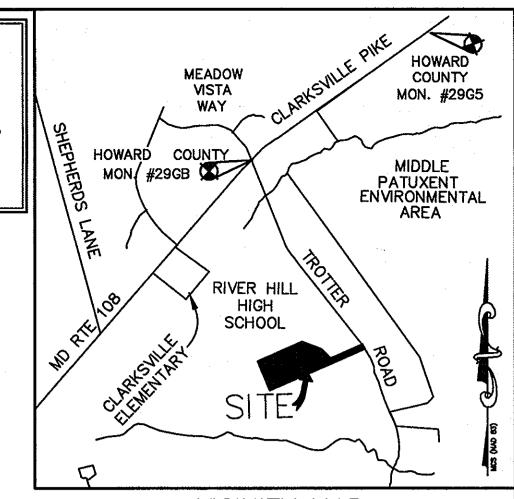
ALL AREAS SHOWN ABOVE ARE IN SQUARE FEET SUBDIVISION NAME PLAT # OR L/F PLAT 5795, 20080-20081 WATER CODE

BEFORE BEGINNING CONSTRUCTION CONTACT

# BENCH MARK

HOWARD COUNTY CONTROL STATION 29GB N 566,826.1675 E 1,333,265.8589 ELEV. 455.959

HOWARD COUNTY CONTROL STATION 29G5 N 568,341.2144 E 1.335,392,3911 ELEV. 387.350



VICINITY MAP SCALE: 1"=1000'
COPYRIGHT ADC THE MAP PEOPLE
PERMITTED USE NO. 20711188
HOWARD COUNTY ADC MAP 4934: C6

O ACRES

R-20

O ACRES

3.85 AC

16,000 SF

TOTAL PROVIDED 1.57 ACRES (68,544 SF ±)

9 LOTS

RESIDENTIAL

9 LOTS

5.42 AC (236,136 SF)

0.35 AC (15,246 SF)

5.16 AC (224,761 SF)

20% OF NET AREA OF DEVELOPMENT

1.29 ACRES (56,176 SF ±) 0.28 ACRES (12,368 SF ±)

### SITE ANALYSIS DATA CHART

EXISTING ZONING: GROSS AREA OF SITE:

AREA IN 100 YEAR FLOODPLAIN:

AREA OF STEEP SLOPES:

NET TRACT AREA: AREA OF RIGHT-OF-WAY DEDICATION:

AREA OF PROPOSED BUILDABLE LOTS:

MINIMUM LOT SIZE: AREA OF REQUIRED OPEN SPACE:

0.20 X 5.16 ACRES = 1.03 AC (44,952 SF) ACRES REQUIRED

AREA OF PROPOSED OPEN SPACE: CREDITED NON-CREDITED

LIMIT OF DISTURBED AREA: 4.54 ACRES (197,966 SF)

NUMBER OF BUILDABLE LOTS:

NUMBER OF OPEN SPACE LOTS:

PROPOSED WATER AND SEWER: EXISTING USES:

PROPOSED USES:

APPLICABLE DPZ FILE

COORDINATE LIST

SIZE TABULATION

E 1,334,710.25

E 1,334,629.89

E 1.334,437.39

E 1,333,930.08

E 1,334,024.22

E 1,335,066.93

E 1,335,057.04

REMAINING AREA/

MIN LOT SIZE

16,862

17,406

17.92

16,421

16.137

N 563,738.76

N 563,841.30

N 563.939.00

N 563,769.69

N 563,458.62

N 563,804.34

N 563,832.17

LESS

1.394

1.972

2,228

2.489

2,462

2,154

1.845

1.542

R-20

35

SEWER CODE

ADDRESS CHART

STREET ADDRESS

11720 TROTTER CROSSING LANE

11724 TROTTER CROSSING LANE

11728 TROTTER CROSSING LANE

11732 TROTTER CROSSING LANE

11736 TROTTER CROSSING LANE

11735 TROTTER CROSSING LANE

11731 TROTTER CROSSING LANE

11727 TROTTER CROSSING LANE

11723 TROTTER CROSSING LANE

ECT. DIST. CENSUS TRACT

6700000

6055.01

PIPESTEM

GROSS

AREA

17,464

18.834

19,634

20,416

OT/ PARCEL NUMBER

NO.

IOPT. 3 CAR

GARAGE

FRONT LOAD

F-84-12, (FOREST HILLS LOT 32)

SP-03-15 WP-03-123 F-05-067

PUBLIC WATER AND SEWER

WP-09-080

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

DEVELOPMENT ENGINEERING DIVISION DATE

REVISION DATE NO.

> TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723 (410) 792-2565

TROTTER CROSSING OPEN SPACE LOTS 6, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILLS LOT 32

AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE

TITLE SHEET

Patton Harris Rust & Associates, pc

NO. 33954, EXPIRATION DATE: 01-24-11"

OWNER/DEVELOPER

Engineers. Surveyors. Planners. Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 **T** 410.997.8900 **F** 410.997.9282

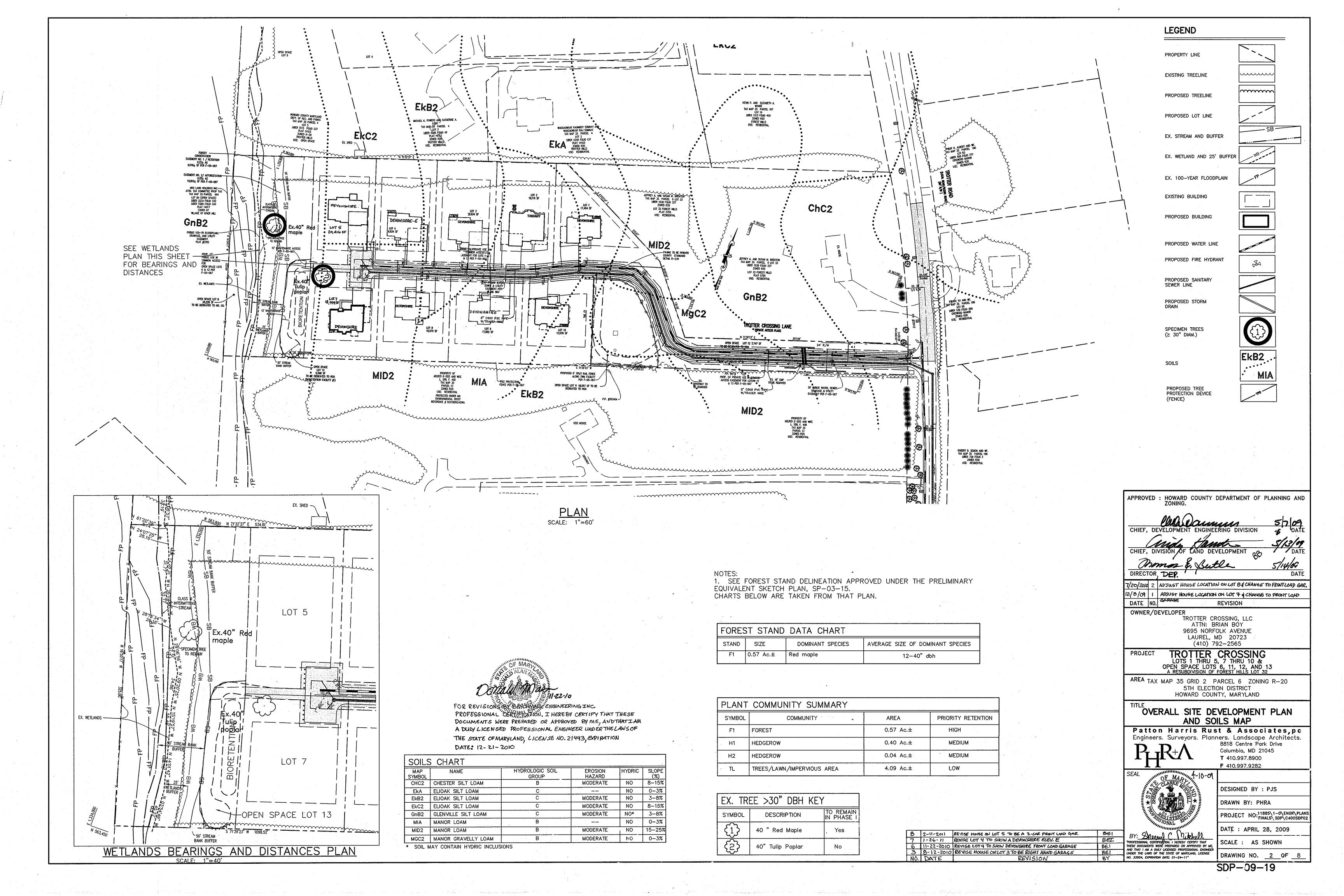
DESIGNED BY : PJS

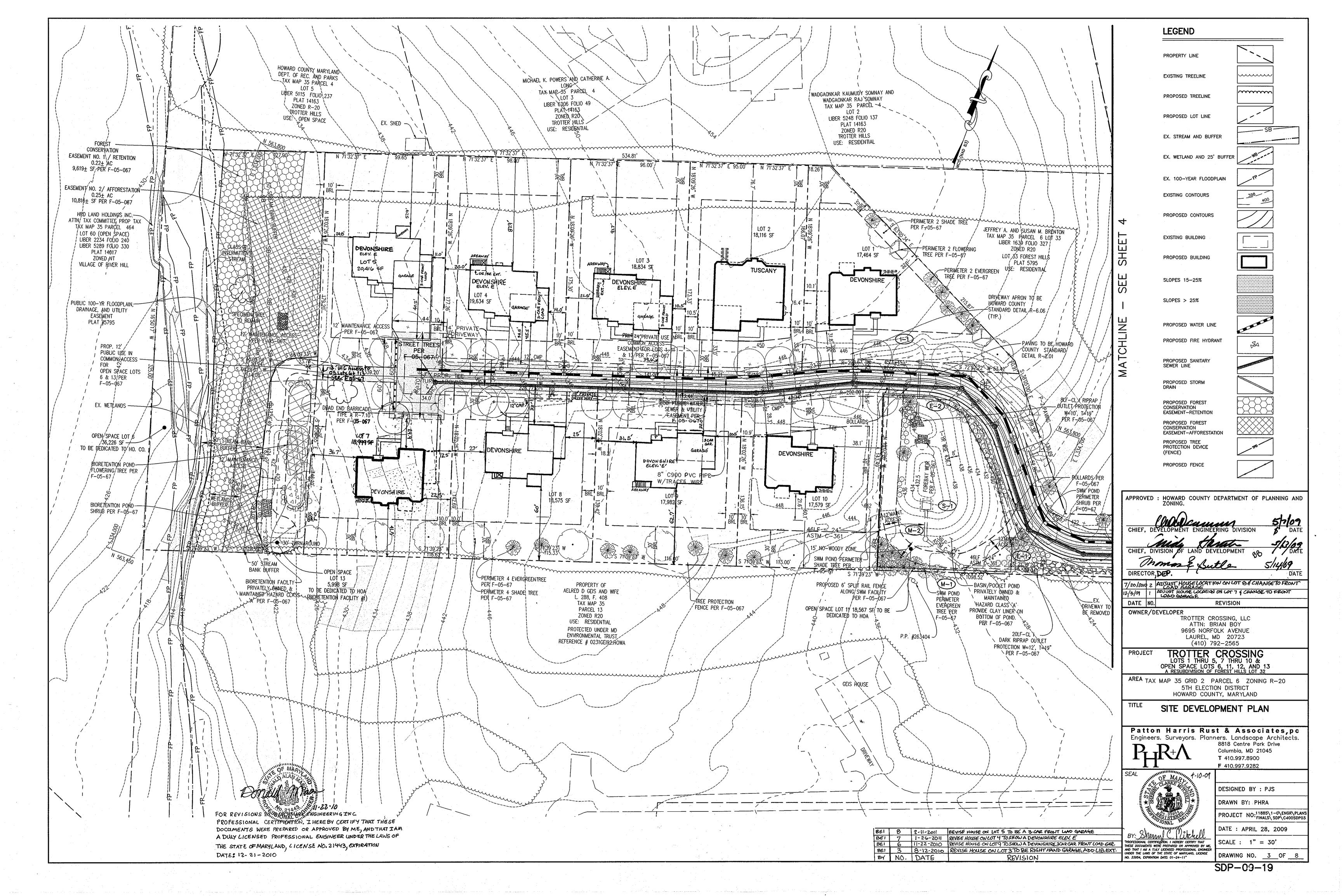


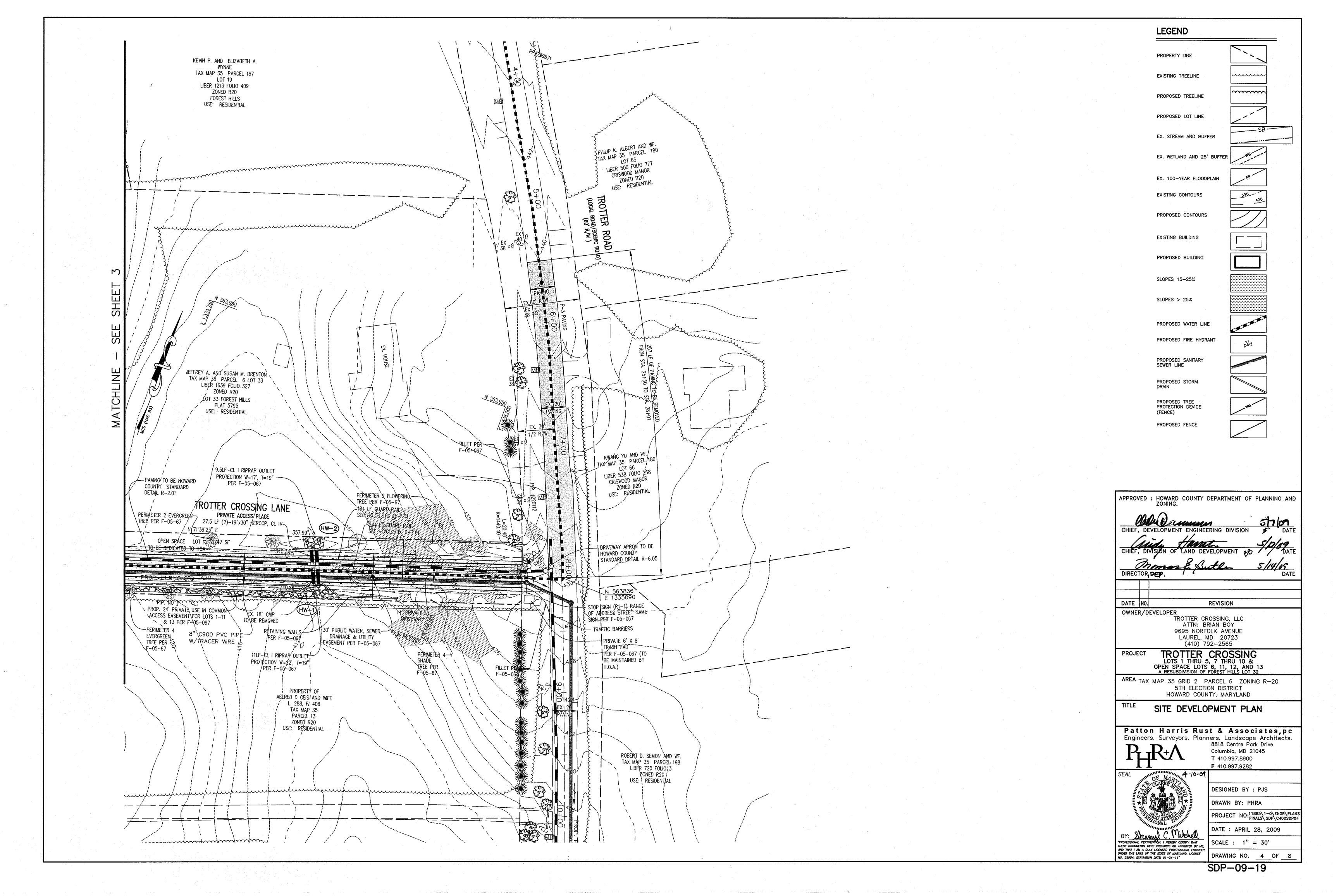
DRAWN BY: PHRA PROJECT NO:11885\1-0\ENGR\PLANS FINALS\SDP\C000SDP01

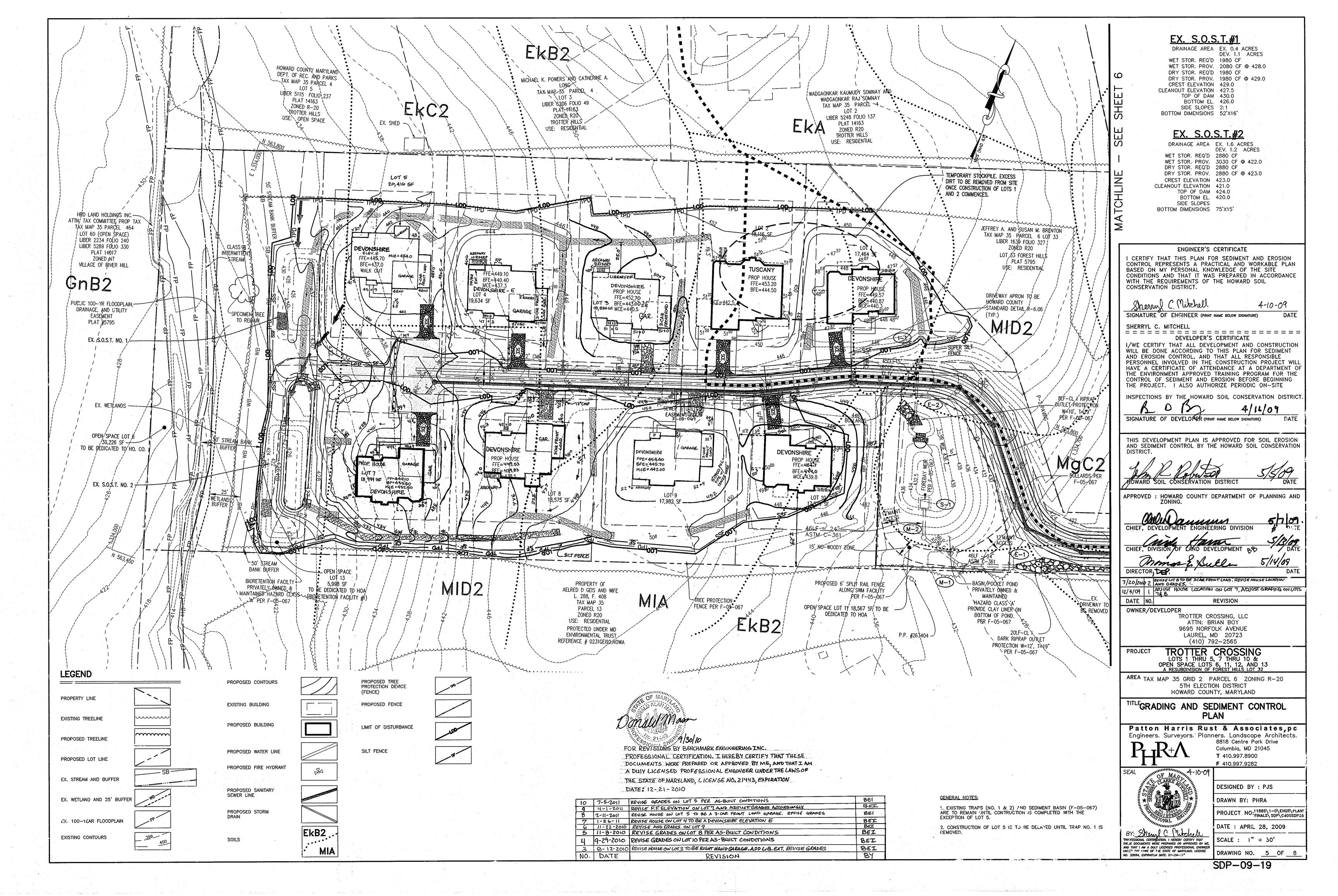
DATE: APRIL 28, 2009 "PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEE SCALE : AS SHOWN UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE

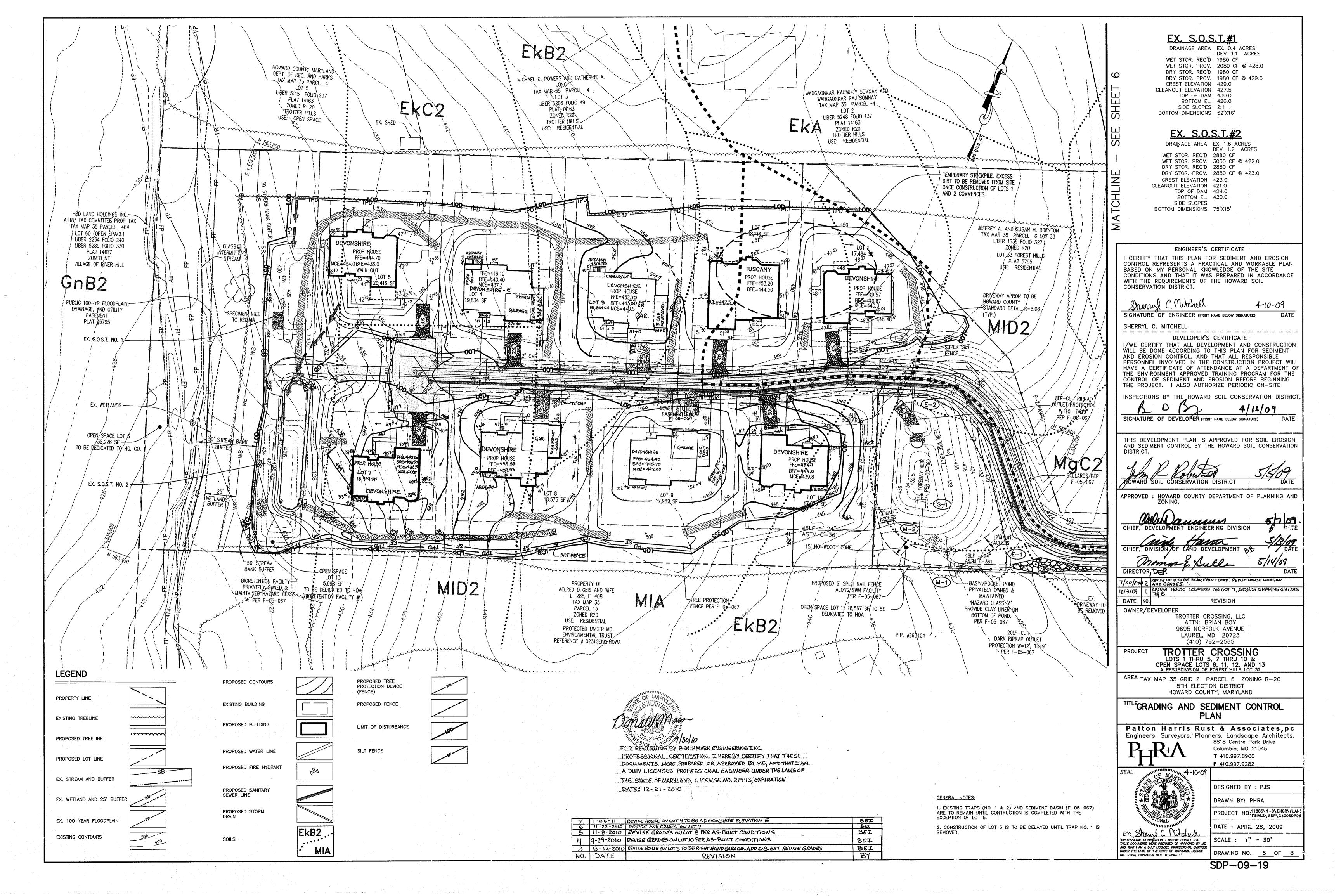
DRAWING NO. \_<u>1</u>\_\_OF\_











MD-378 STANDARDS AND SPECIFICATIONS

### 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.

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

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.

ground surface. For dry stormmater management ponds, a minimum of a 25 foot

radius around the inlet structure shall be cleared.

### 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 6C, 5C, CH, or CL and must have at least 30% passing the #200 sleve. Consideration may be given to the use of other materials in the embankment if designed by a geötechnical engineer. Such special designs must have construction süpervised by a geotechnical engineer.

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 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 the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire 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 mimimum required density shall not be ess 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).

Cutoff 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 compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum

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 mater 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.

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 néeds 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

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 2000 ohm-cm. Material shall be placed such that a minimum of 6° (measured perpendicular to 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 flowability of the material. Adequate measures shall be taken (sand bags, 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 inched in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all volds 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 (florable 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 Metai Pipe - All of the following criteria shall apply for corrugated

Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 Inch (10mil) 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 Specifications 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

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to to the requirements of AASHTO Specifications 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 the need 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 mat be used for connections, the pH of the surrounding soils shall be between 4

- Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coted as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at 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 band width. The following type connections are acceptable for pipes less than 24' in diameter; flanges on both ends of the pipe with a circular 3/0 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandmiched 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 ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch 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 melded seams or have lock seams with internal caulking or a neoprene bead.

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 coliars, valves, etc.) shall be as shown on the

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

Materials - Reinforced concrete pipe shall have bell and spigot joints with

rubber gaskets and shall equal or exceed ASTM Designation C-36 Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradie for their entire length. This bedding/cradie shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 50% of its outside digmeter 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 stanard. 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 origina line and grade of the pipe. The first joint must be located within 4 feet
- 4. Backfilling shall conform to "Structure Backfill."
- 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the

### Plastic Pipe - The following criteria shall apply for pipe:

- Materials PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4 - 10 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M294 Type 5.
- Joints and connections to anti-seep collars shall be completely matertight 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

# Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and

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 the various parts of the work and for maintaining the excavations, foundation, and other parts of the mork 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 may 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 of 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 to sumps from which the water shall be pumped.

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillnay, spoil and borrow areas, and berms shall be stabilized by seeding, ilming, 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 detali erosion and sediment control measures

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

### TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

<u>Seedbed Preparation: Loosen upper three Inches of soil by raking</u> discing or other acceptable means before seeding. If not previously

Soli Amendments , Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).

Seeding: For periods March I thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May I thru August 14, seed with 3 lbs. per acre of meeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of mell anchored straw mulch and seed as soon as cossible in the spring on the sed possible in the spring, or use sod.

Mulching Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

# PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seedbed Preparation: Loosen upper three inches of soil by raking discing or other acceptable means before seeding, if not previously

### <u>Soli Amendments : In lieu of soll test recommendations, use one of</u> the following schedules :

- 1) Preferred Apply 2 tons per acre dolomitic limestone (92 ibs. per 1000 sq.ft.) and 600 ibs. per acre 10-10-10 fertilizer (14 ibs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 ibs. per acre 30-0-0 ureaform fertilizer (9 ibs. per 1000 sq.ft.).
- 2) Acceptable Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into

Seeding: For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tail Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tail Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of meeping lovegrass. During the period october 16 thru February 20, protect site by one of the following actions.

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon
- 3) Seed with 60 lbs. per acre Kentucky 31 Tail Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 ibs. per 1000 eq.ft.) of unrotted email grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 eq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 eq.ft.) for anchoring.

Maintenance : inspect all seeded areas and make needed repairs.

### OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ONCE ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATION FOR PONDS" (MD378). THE POND OWNER AND ANY HEIRS. SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEPAGE, TURBID SEPAGE, SLIDING OR SLUMPING.

# 21.0 STANDARD AND SPECIFICATIONS

### FOR TOPSOIL <u>Definition</u>

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation. <u>Purpose</u>

## 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.

- <u>Conditions Where Practice Applies</u> I. This practice 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
- II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.
- Construction and Material Specifications I. Topsoil salvaged from the existing site may be used provided that 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-SCS in cooperation with Maryland Agricultural Experimentation Station.
- II. Topsoil Specifications Soil to be used as topsoil must meet the following:
- i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Régardiéss, topsoil shall not be a mixture of contrasting textured subsolls and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ in diameter.
- ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
- iii. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- II. For sites having disturbed areas under 5 acres: I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- III. For sites having disturbed areas over 5 acres:
- i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

  a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
- b. Organic content of topsoil shall be not less than 1.5 percent by weight. . Topsoil having soluble sait content greater than 500 parts per millión shall not be used. d. No sod or seed shall 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 phuto-toxic materials.

Note: Topsoil substitutes to 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.

- Place topsoil (if required) and apply soil amendments as specified in <u>20.0 Vegetative</u> <u>Stabilization</u> Section 1 Vegetative Stabilization Methods and Materials.
- V. Topsoil Application
  - i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilizátion Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - il. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
  - iii. Topsoil shall be uniformly distributed in a 4" 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall 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 shall be corrected in order to prevent the formation of depressions or water pockets.
  - iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- VI. Alternative for Permanent Seeding instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
- I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements: a. Composted sludge shall be supplied by, or originate from, a person or persons that are
- permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06. b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2
- percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use. c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet. d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and i/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY EXTENDED DETENTION POND

ROUTINE MAINTENANCE

1. FACILITY SHALL BE INSPECTED ANUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE

2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPÈS, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE

3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED. 4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.

2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

### STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855)
- 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 1994 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 SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE
- 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES
- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

5.4 ACRES

4.7 ACRES

- 7. SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED
- AREA TO BE ROOFED OR PAVED 0.5 ACRES AREA TO BE VEGETATIVELY STABILIZED 4.2 ACRES TOTAL CUT 11278 CY
- TOTAL FILL 4119 CY OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT \*QUANTITIES ARE FOR COUNTY FEE PURPOSES ONLY. CONTRACTOR IS
- RESPONSIBLE FOR VERIFICATION OF ACTUAL QUANTITIES. 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF
- 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER
- 12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- 13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- 14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL. NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

### SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. ALL SEDIMENT CONTROL DEVICES FROM PLAN F-05-067 ARE TO REMAIN IN PLACE FOR THE DURATION OF THIS PROJECT. . INSTALL STABILIZED CONSTRUCTION ENTRANCE AT EACH BUILDING LOT A

HOUSE CONSTRUCTION BEGINS. INSTALL SILT FENCE AND SUPER SILT FENCE. (3

- 3. PROCEED WITH ROUGH GRADING OF HOUSE SITES. (12 MONTHS) CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY AND AS DIRECTED BY THE INSPECTOR. CONTRACTOR TO INSPECT, REPAIR OR REPLACE EARTH DIKES DAILY
- WHILE MAINTAINING POSITIVE DRAINAGE TO EXISTING BASIN AND TRAPS. 4. BEGIN CONSTRUCTION OF THE INDIVIDUAL HOUSES. DELAY CONSTRUCTION OF LOT 5 UNTIL TRAP NO. 1 IS REMOVED. TEMPORARY STOCKPILE IS TO BE REMOVED FROM LOTS 1 AND 2 WHEN CONSTRUCTION ON THESE LOTS
- 5. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS) 6. ONCE SITE IS STABILIZED CONSTRUCT BIORETENTION FACILITY AND

COMMENCES AND MOVED TO LOT 5 OR REMOVED FROM SITE. (12 MONTHS)

- LANDSCAPE. BIORETENTION FACILITY IS TO BE CONSTRUCTED FROM PLAN F-05-067. (1 WEEK) 7. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASIN TO
- PERMANENT STORMWATER MANAGEMENT FACILITY, CONVERT FACILITY IN THE FOLLOWING STEPS: A. PUMP OUT STANDING WATER IN BASIN USING PUMPING STATION. (2 DAYS) B. REMOVE ACCUMULATED SEDIMENT. (2 DAYS) C. REMOVE TEMPORARY DRAW DOWN DEVICE AND PLYWOOD. (1 DAY)

E. STABILIZE ANY REMAINING DISTURBED AREAS IN ACCORDANCE WITH

D. INSTALL ORIFICE PLATE. (1 DAY)

PERMANENT SEEDING NOTES. (1 DAY).

MONTH AND AFTER HEAVY STORMS.

# BIORETENTION AREAS (F-6) OPERATION AND MAINTENANCE SCHEDULE

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT, ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.

2. SCHEDULE OF PLANTING INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASE VEGETATION CONSIDERED TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT DEFICIENT STAKES AND WIRES.

3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS. 4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE A

### ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

SHERRYL C. MITCHELL

DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE)

INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRIC

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION

HOWARD COUNTY DEPARTMENT OF PLANNING AND

CHIEF, DIVISION OF LAND DEVELOPMENT DIRECTOR, DEP.

DATE NO. OWNER/DEVELOPER

TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723

(410) 792-2565

REVISION

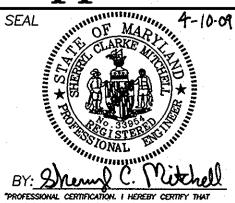
TROTTER CROSSING
LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 6, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILLS LOT 32

AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL NOTES

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



THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME

DESIGNED BY : PJS DRAWN BY: PHRA

DATE: APRIL 28, 2009

PROJECT NO: 11885\1-0\ENGR\PLAN
FINALS\SDP\C400SDP0

DRAWING NO. \_\_7\_OF \_\_8

SDP-09-19

10. 33954, EXPIRATION DATE: 01-24--11"

SCALE : AS SHOWN

