

| SHEET INDEX | |
|-------------|--|
| NO | DESCRIPTION |
| 1 | TITLE SHEET |
| 2 | PLAN & PROFILE OF TROTTER CROSSING LANE AND STREET TREES |
| 3 | GRADING, SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP |
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| 14 | FOREST CONSERVATION NOTES & DETAILS |

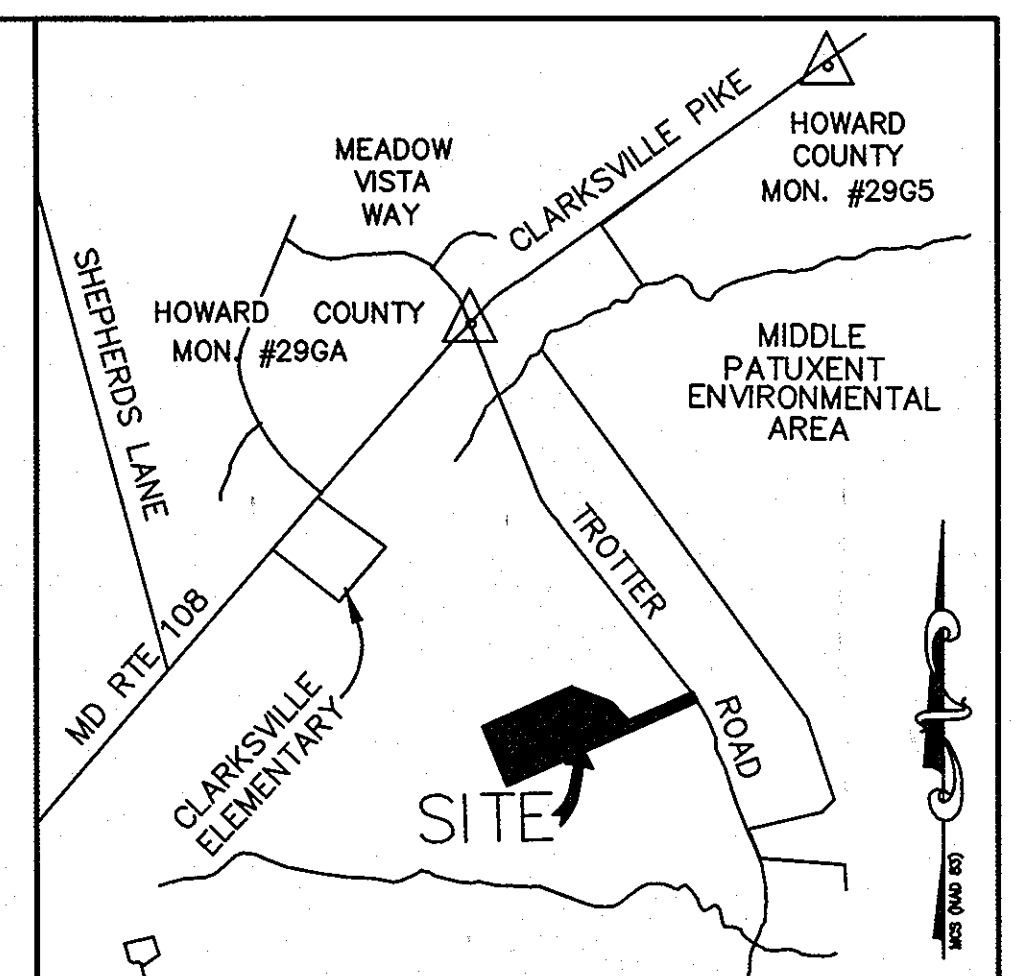
GENERAL NOTES

- 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 BEING DONE.
- 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 PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) 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. SEE SHEET 2 FOR DETAILS.
- 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. 421A AND 421B.
- 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 34-4170-D.
- 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.
- THE PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED BY A BIORETENTION FACILITY AND A POCKET POND.
- 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 IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES, DATED DECEMBER 2002.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP AND APPROVED DATED MAY 15, 2003.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED MARCH 2003.
- SUBJECT PROPERTY ZONED R-20 PER 02-02-04 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: F-84-12. (FOREST HILLS LOT 32), SP-03-15, WP-03-123
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 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 AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 40' RIGHT OF WAYS 20 M.P.H.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
- STREETLIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS" (JUNE 1993). THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- TYPE AND NUMBER OF STREET TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- THERE ARE THREE EXISTING PERMANENT STRUCTURES ON-SITE. ALL EXISTING STRUCTURES WILL BE REMOVED.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE STREAM, WETLANDS, THEIR BUFFERS, FLOODPLAIN OR FOREST CONSERVATION EASEMENTS.
- WETLANDS, 100 YEAR FLOODPLAIN, AND +15% SLOPES HAVE BEEN SHOWN.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- WP-03-123 - A REQUEST TO WAIVE SECTION 16.121(a)(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 ADJUTING LOTS IS INCREASED BY 10 FEET, AND 16.120(b)(4)(v) - 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 PLAN. 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 UTILIZATION A PART OF THE MAINTENANCE AGREEMENT.
- 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 \$5,445.00 FOR A TOTAL OF \$7,361.64 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-05-07.

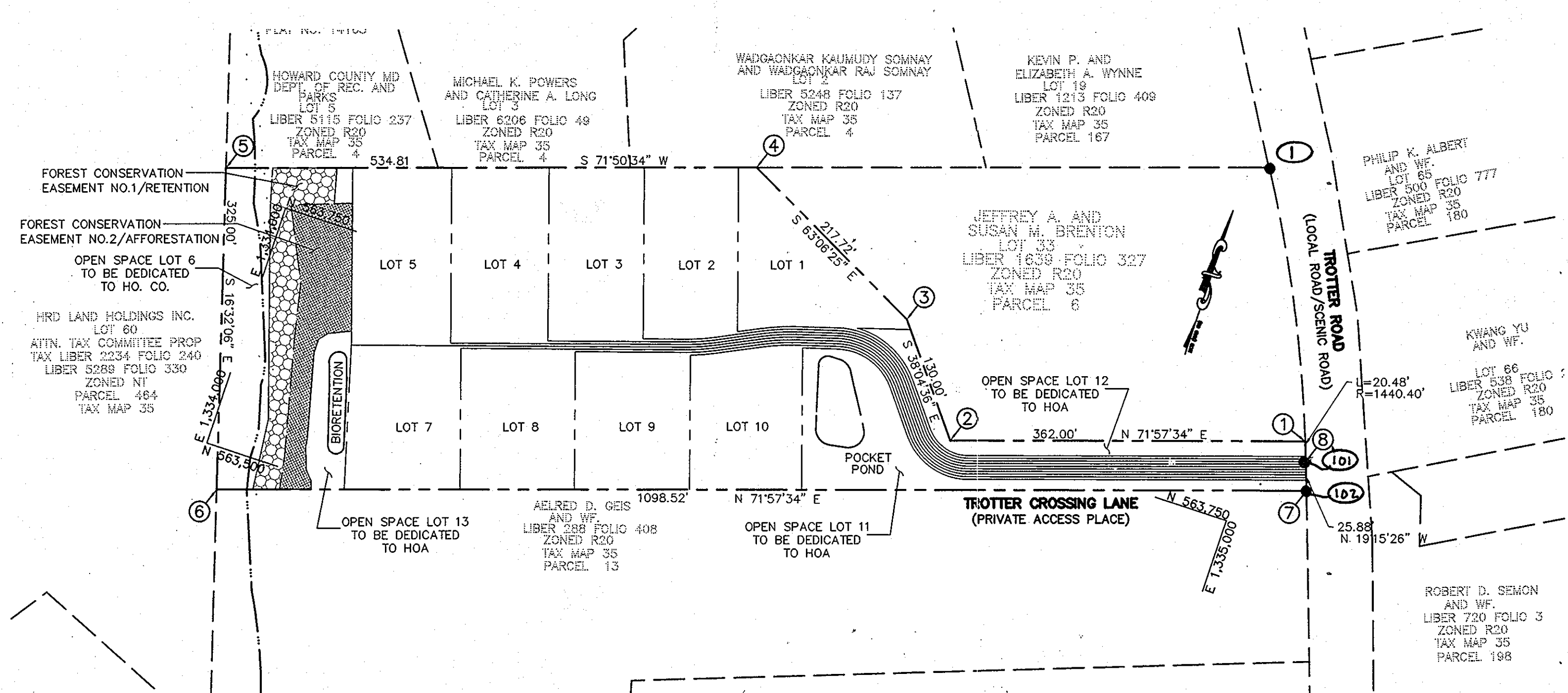
ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT TROTTER CROSSING

LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 6, 11, 12, AND 13

5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=1000'



PLAN
SCALE: 1"=100'

- FINANCIAL SURETY FOR REQUIRED PERIMETER, STORM WATER MANAGEMENT LANDSCAPING AND STREET TREES IN THE AMOUNT OF \$27,150.00 FOR 48 PRIVATE ACCESS STREET TREES, 36 PERIMETER SHADE TREES AND 13 EVERGREENS SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-05-087.
- 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.
- 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 GRANDPATHERING FOR ZONING REGULATIONS: 1993 ZONING REGULATIONS AS AMENDED BY CB 50-2001.
- 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 POST.
- IN OCTOBER 2003, DEVELOPMENT ENGINEERING DIVISION APPROVED A DESIGN MANUAL WAIVER (VOLUME I, SECTIONS 5.2.6.D.1, 5.2.6.E.1, & 5.2.4.1) TO RELAX STORMWATER MANAGEMENT POND #1 DESIGN STANDARDS.
- 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. W-534-HIT-D. A DEVELOPER'S AGREEMENT WILL BE FILED AND ACCEPTED PRIOR TO THE RECORD PLAT BEING RECORDED.
- THE SIX FEET BY EIGHT FEET (6' X 8') CONCRETE TRASH 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.
- A DESIGN MANUAL WAIVER WAS REQUESTED TO ALLOW THE USE OF STOPPING SIGHT DISTANCE FOR THE PROPOSED ENTRANCE ONTO TROTTER ROAD. BASED ON CORRESPONDENCE FROM HOWARD COUNTY DATED APRIL 27, 2003, A DESIGN MANUAL WAIVER IS NOT REQUIRED DUE TO TROTTER ROAD'S CLASSIFICATION AS A LOCAL ROAD. BASED ON THE CORRESPONDENCE, THE PLANS HAVE BEEN REVISED TO REMOVE THE ROAD IMPROVEMENTS PREVIOUSLY PROPOSED.

| RIGHT OF WAY ELEVATION CHART NAD.83 | | |
|-------------------------------------|-------------------------------------|-----------|
| R/W PT. NO. | DESCRIPTION | ELEVATION |
| R/W PT. NO. 1 | PLAT N.O. 21450 TROTTER CROSSING II | |
| | REBAR 4 CAP | 438.60' |
| R/W PT. NO. 101 | MAG NAIL | 429.57' |
| 102 | REBAR 4 CAP | 429.83' |



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 5-30-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Walter J. M... 5-9-08
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Christy... 5/15/08
CHIEF, DIVISION OF LAND USE DEVELOPMENT DATE

John... 5/13/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| 7/1/09 | ADD GENERAL NOTE 95 | |
|--------|---------------------|----------|
| DATE | NO. | REVISION |

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

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

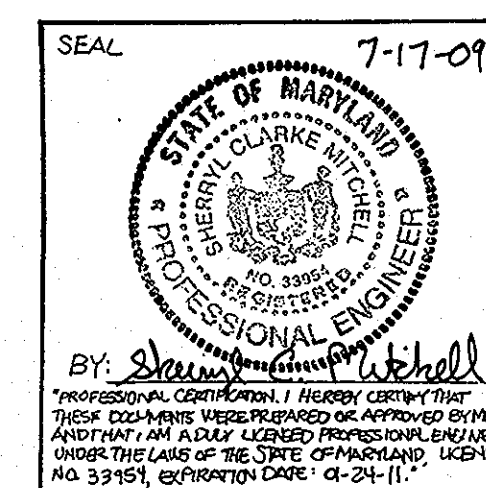
AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

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

PHRA

DESIGNED BY: ACR
DRAWN BY: MAD/ACR
PROJECT NO: 11885-1-0-ENGR_PLANS_FINALS_CD00COV.DWG
DATE: MARCH 10, 2008
SCALE: AS SHOWN
DRAWING NO. 1 OF 14



7-17-09
4/15/08
DATE
BY: *Domenick W. Colangelo*
DOMENICK W. COLANGELO #27200

| STREET TREE PLANT LIST | | | | |
|------------------------|------|-------------------------------|--------------|--------------------|
| KEY | QTY. | SCIENTIFIC COMMON NAME | SIZE | ROOT SPACING |
| QP | 48 | Quercus phellos Willow Oak | 2.5"-3" cal. | B&B Plant as shown |

| STREET TREE CALCULATIONS TROTTER CROSSING LANE* | | |
|--|-----------|----------------|
| LENGTH= 1,918' | 1918'/40' | 48 SHADE TREES |
| TOTAL TREES REQUIRED | 48 | SHADE TREES |
| TOTAL TREES PROVIDED | 48 | SHADE TREES |

* LANDSCAPE TREES ALONG PRIVATE ACCESS PLACE.

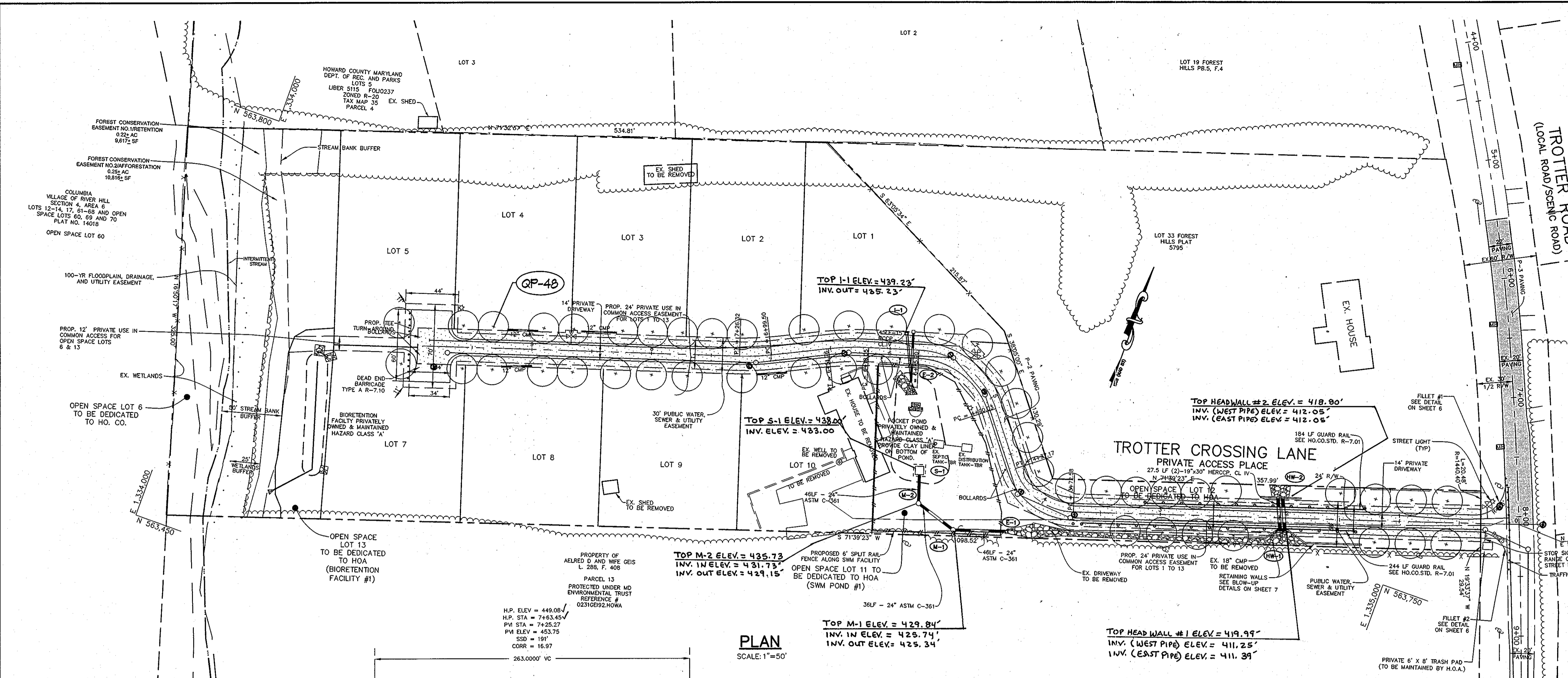
- NOTE:**
- SEE GENERAL NOTE #2 ON SHEET 11 FOR TOTAL SURETY AMOUNT FOR LANDSCAPING.
 - TRASH PAD AT ENTRANCE SHALL BE OWNED AND MAINTAINED BY HOA.

| STREET LIGHT CHART | | |
|--------------------|---|--|
| SYMBOL | LOCATION | DESCRIPTION |
| ☀ | 18' RT. CL STA. 0+22 TROTTER CROSSING LANE | 150 WATT HPS VAPOR "PREMIER" POST TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE |
| ☀ | 21' LT. CL STA. 5+00 TROTTER CROSSING LANE | 100 WATT HPS VAPOR "PREMIER" POST TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE |
| ☀ | 33' RT. CL STA. 9+85 TROTTER CROSSING LANE | 100 WATT HPS VAPOR "PREMIER" POST TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE |

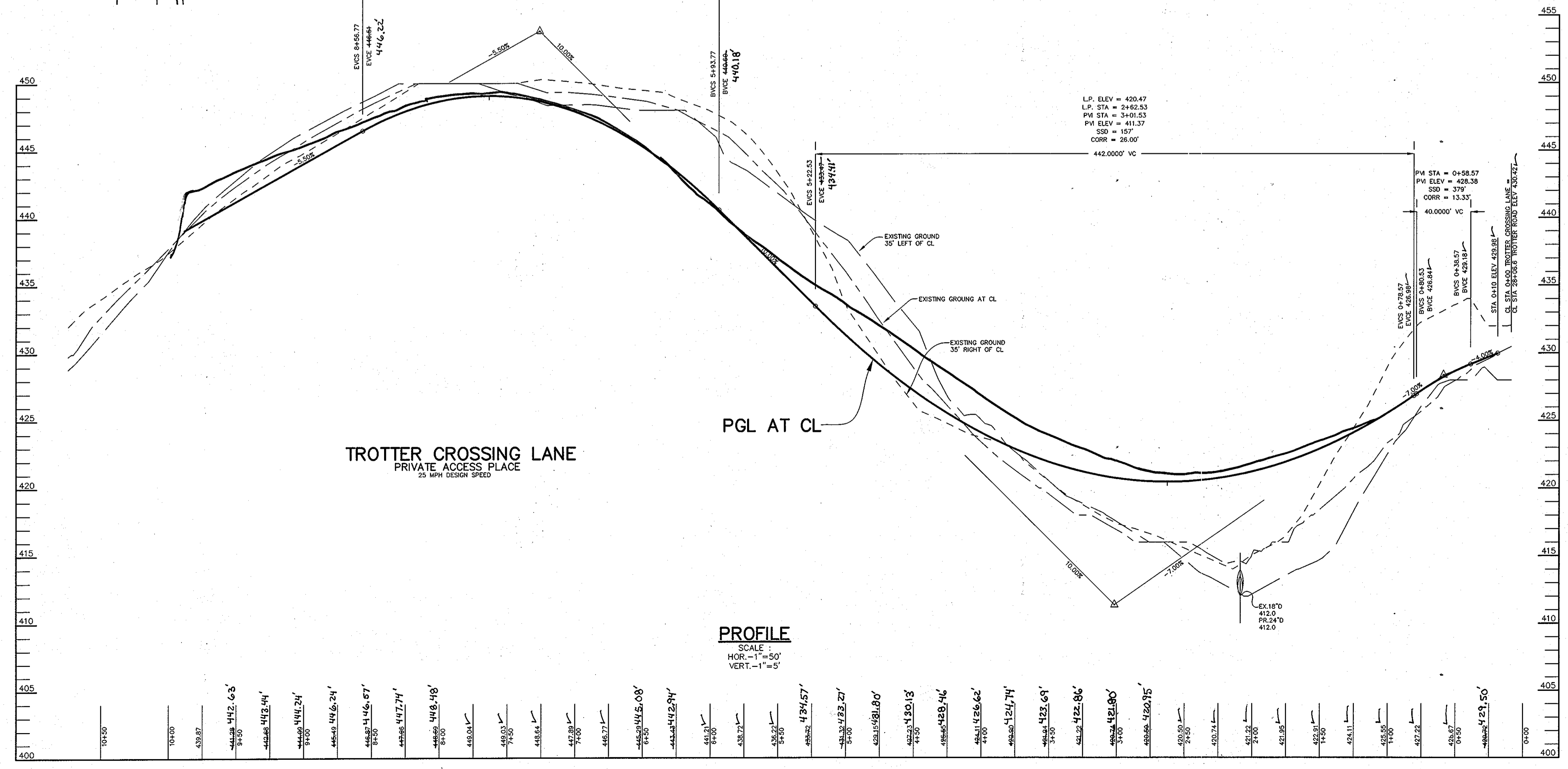
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the information shown on this plan was constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 5-30-12



PLAN
SCALE: 1"=50'



PROFILE
SCALE:
HOR. - 1"=50'
VERT. - 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Walter J. Mada 5-5-08
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Cindy Harris 5/15/08
CHIEF, DIVISION OF LAND & DEVELOPMENT DATE

John D. ... 5/13/08
CHIEF, ENGINEERING DIVISION DATE

| DATE | NO. | REVISION |
|--------|-----|----------------------------------|
| 7/1/09 | 1 | REMOVE TROTTER ROAD IMPROVEMENTS |

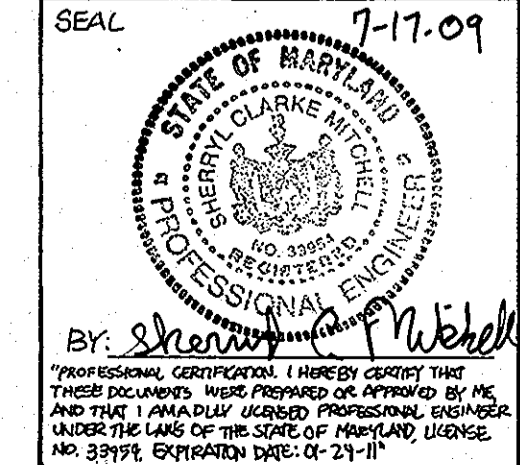
OWNER/DEVELOPER
TROTTER CROSSING, LLC
ATTN: BRIAN BOY
9695 NORFOLK AVENUE
LAUREL, MD 20723
(410) 792-2565

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

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

TITLE **PLAN & PROFILE OF TROTTER CROSSING LANE AND STREET TREES**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9262



DESIGNED BY: ACR
DRAWN BY: MAD/ACR
PROJECT NO.: 11885-1-01-ENGR/PLANS
DATE: MARCH 10, 2008
SCALE: AS SHOWN
DRAWING NO. 2 OF 14

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 Donald W. Colangelo, P.E. No. 21443 Date 5-30-12

S.O.S.T.#1
 DRAINAGE AREA EX. 0.4 ACRES DEV. 1.1 ACRES
 WET STOR. REQ'D 1980 CF
 WET STOR. PROV. 2080 CF @ 428.0
 DRY STOR. REQ'D 1980 CF
 DRY STOR. PROV. 1980 CF @ 429.0
 CREST ELEVATION 429.0
 CLEANOUT ELEVATION 427.5
 TOP OF DAM 430.0
 BOTTOM EL. 426.0
 SIDE SLOPES 2:1
 BOTTOM DIMENSIONS 52'X16'

S.O.S.T.#2
 DRAINAGE AREA EX. 1.6 ACRES DEV. 1.2 ACRES
 WET STOR. REQ'D 2880 CF
 WET STOR. PROV. 3030 CF @ 422.0
 DRY STOR. REQ'D 2880 CF
 DRY STOR. PROV. 2880 CF @ 423.0
 CREST ELEVATION 423.0
 CLEANOUT ELEVATION 421.0
 TOP OF DAM 424.0
 BOTTOM EL. 420.0
 SIDE SLOPES 2:1
 BOTTOM DIMENSIONS 75'X15'

GnB2
 100-YR FLOODPLAIN, DRAINAGE, AND UTILITY EASEMENT

SOILS CHART

| MAP SYMBOL | NAME | STRUCTURAL LIMITATIONS | EROSION HAZARD | HYDRIC | SLOPE (%) |
|------------|---------------------|------------------------|----------------|--------|-----------|
| ChC2 | CHESTER SILT LOAM | MODERATE | MODERATE | NO | 8-15% |
| EKA | ELIOAK SILT LOAM | SLIGHT | MODERATE | NO | 0-3% |
| EKB2 | ELIOAK SILT LOAM | SLIGHT | MODERATE | NO | 3-8% |
| EKC2 | ELIOAK SILT LOAM | MODERATE | MODERATE | NO | 8-15% |
| GnB2 | GLENVILLE SILT LOAM | MODERATE | MODERATE | NO* | 3-8% |
| MIA | MANOR LOAM | SLIGHT | --- | NO | 0-3% |
| MID2 | MANOR LOAM | MODERATE/SEVERE | MODERATE | NO | 15-25% |
| MGC2 | MANOR GRAVELLY LOAM | MODERATE | MODERATE | NO | 0-3% |

* SOIL MAY CONTAIN HYDRIC INCLUSIONS

DRIVEWAY CULVERT CHART

| LOT | SIZE/TYPE | LENGTH |
|-----|-----------|--------|
| 3 | 12" CMP | 29 |
| 4 | 12" CMP | 25 |
| 8 | 12" CMP | 25 |
| 10 | 12" CMP | 25 |

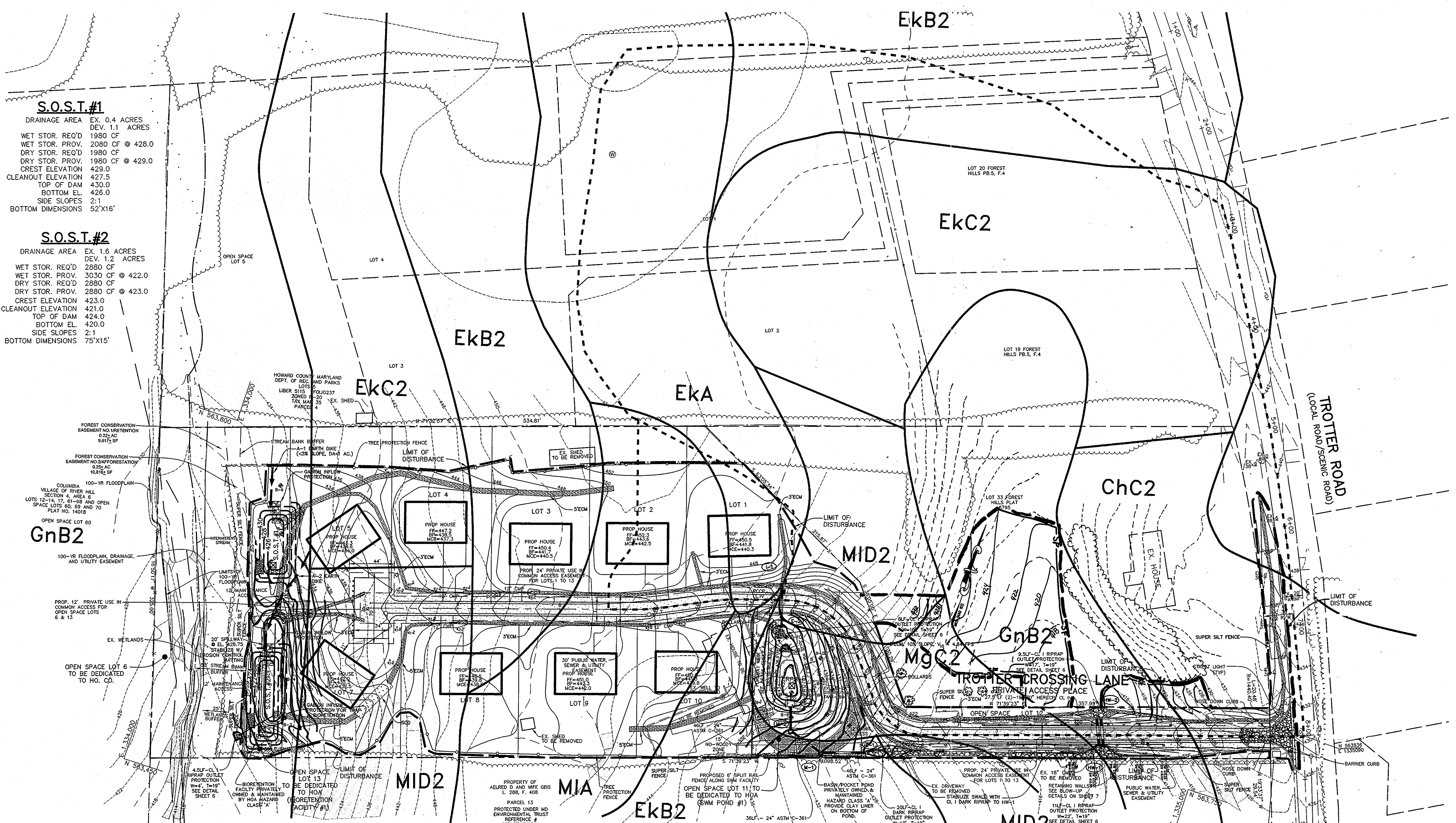
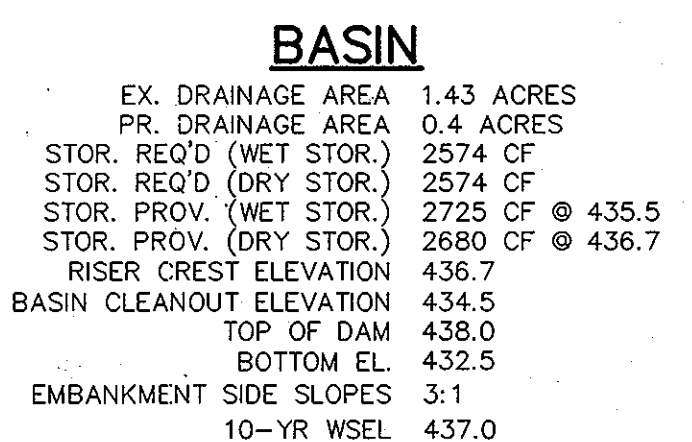
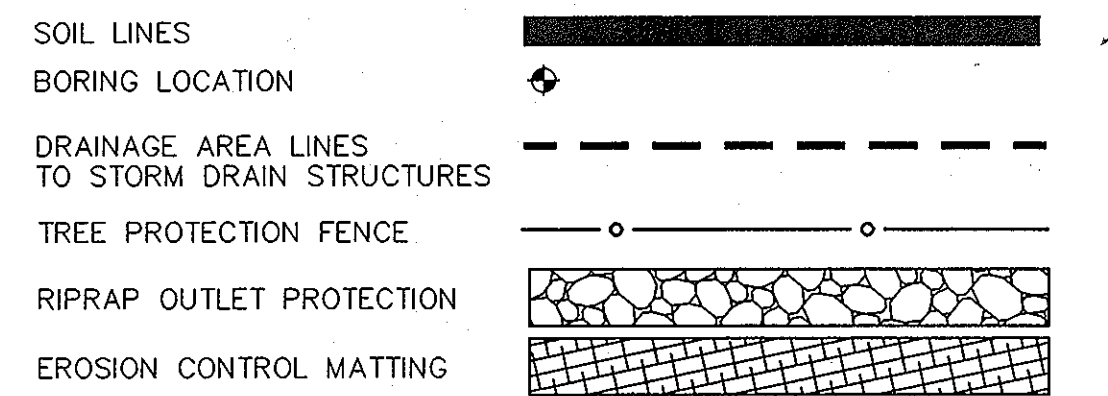
DRAINAGE AREA CHART

| INLET NO. | AREA (AC.) | C | % IMP |
|-----------|------------|------|-------|
| HW-2 | 8.95 | - | 17 |
| I-1 | 0.63 | 0.23 | 24 |

STORMWATER MANAGEMENT SUMMARY TABLE

| | DRAINAGE AREA (AC) | WQv (CF) | Rev (CF) | Cpv (AC-FT) | Qp 1 (CFS) | Qp 10 (CFS) | Qp 100 (CFS) | COMMENTS |
|----------------------|--------------------|----------|----------|-------------|------------|-------------|--------------|---|
| DA 1 (STUDY POINT 1) | 2.10 | 2570 | 496 | N/A | 1.97 | 6.85 | - | NON-ROOFTOP DISCONNECT CREDIT AND BIORETENTION FACILITY |
| POCKET POND | 1.43 | - | - | - | 0.03 | 4.82 | 7.36 | |
| DA 2A & 2C | 2.12 | 2672 | 608 | 0.058 | 0.68 | 5.85 | 10.79 | NON-ROOFTOP DISCONNECT CREDIT AND POCKET POND |
| DA 2B | 7.69 | N/A | N/A | N/A | 6.67 | 23.97 | 40.33 | OFFSITE AREA |
| STUDY POINT 2 | 9.81 | N/A | N/A | N/A | 7.15 | 29.30 | 51.02 | |

FOR DRAINAGE AREA #1 THE NON-ROOFTOP DISCONNECT CREDIT AND THE BIORETENTION FACILITY WILL PROVIDE FOR THE REQUIRED WQv AND Rev. THE 1-YEAR PEAK DISCHARGE AT STUDY POINT 1 IS LESS THAN 2 CFS; THEREFORE, Cpv IS NOT REQUIRED. FROM DRAINAGE AREA 2A & 2C THE NON-ROOFTOP RUNOFF DISCONNECT CREDIT WILL PROVIDE THE REQUIRED Rev AND A POCKET POND WILL PROVIDE THE REQUIRED WQv AND Cpv. AT STUDY POINT 2 THE 1-YEAR PEAK DISCHARGE IS LESS THAN THE EXISTING CONDITIONS.



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

B.O.B. 4/15/08
 DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

D.W.C. 4/16/08
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[Signature] 4/16/08
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature] 5-9-08
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 5/15/08
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 5/13/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7/11/09 1 REMOVE TROTTER ROAD IMPROVEMENTS, ADD REPAIRS TO DISTURBANCE
 DATE NO. REVISION

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

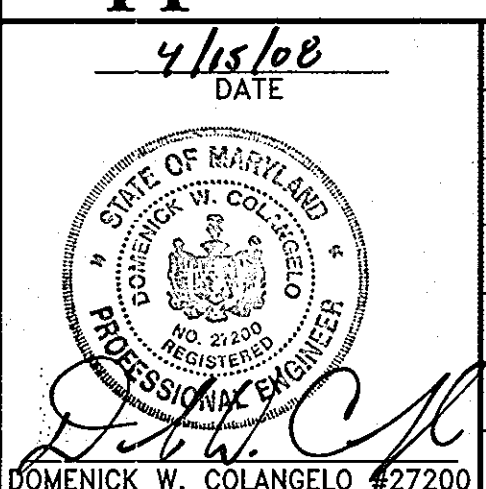
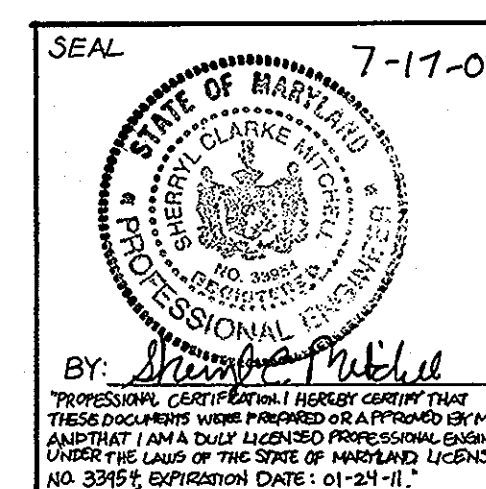
PROJECT
TROTTER CROSSING
 LOTS 1 THRU 5, 7 THRU 10 &
 OPEN SPACE LOTS 6, 11, 12, AND 13
 A RESUBDIVISION OF FOREST HILL LOT 32

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

TITLE
GRADING, SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 8815 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DESIGNED BY : ACR
 DRAWN BY: MAD/ACR
 PROJECT NO: 11885-1-09-ENGR/PLANS/FINALS_C200ESC.DWG
 DATE : MARCH 10, 2008
 SCALE : 1" = 50'
 DRAWING NO. 3 OF 14



AS-BUILT F-05-067

MD-370 STANDARDS AND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-370. All references to ASTM and ASHTO 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.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise specified on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the engineer or his representative.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6 inches or other objectionable material.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber-tired or vibratory roller.

When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density with a moisture content within +/- 2% of the optimum.

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.

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.

Structure Backfill - Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material.

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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.

Backfilling shall conform to "Structure Backfill".

Material - PVC pipe shall be PVC-1120 or PVC-1200 conforming to ASTM D-1785 or ASTM D-2241.

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".

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.

Case of Water During Construction - All work on permanent structures shall be carried out in areas free from water.

Stabilization - All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spill 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 (10-942) 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.

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

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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 HERED, SUCCESSORS, SHALL BE RESPONSIBLE FOR THE SAFETY OF THE FUND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF.

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).

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21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soil may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority.

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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 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY SEDIMENT CONTROL STRUCTURES SHALL BE CALLED FOR WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, BY 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. 1, 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 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOIL, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT 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.

7. SITE ANALYSIS: TOTAL AREA OF SITE 5.4 ACRES; AREA DISTURBED 4.9 ACRES; AREA TO BE ROOFED OR PAVED 0.5 ACRES; AREA TO BE VEGETATIVELY STABILIZED 4.2 ACRES; TOTAL CUT 12,202 CY; TOTAL FILL 2,716 CY.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

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.

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 BLDG 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.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. 2. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY) 3. UPON ACCEPTANCE BY THE COUNTY INSPECTOR, CONTRACTOR TO CONSTRUCT ROAD CULVERT (HW-1 TO HW-2) AND SWALE ALONG TROTTER CROSSING LANE BETWEEN TROTTER ROAD AND THE POND.

4. INSTALL SILT FENCE, REMAINING SUPER SILT FENCE, SEDIMENT TRAPS #1 & 2 AND SEDIMENT BASIN. (4 WEEKS). 5. INSTALL EARTH DIKES ONCE SEDIMENT TRAPS AND BASIN ARE FUNCTIONING. (2 WEEKS) 6. PROCEED WITH ROUGH GRADING OF ENTIRE SITE. (12 MONTHS) CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY AND AS DIRECTED BY THE INSPECTOR.

7. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, WATER AND SEWER. (2 WEEKS) 8. CLOSE ONE LANE OF TROTTER ROAD WITH HERSEY WALLS. REMOVE EXISTING PAVING. GRADE THEN REPAVE. ONCE COMPLETED, REMOVE AND REPLACE PAVING TO OTHER LANE. ONE LANE OF TRAFFIC MUST REMAIN OPEN AT ALL TIMES. 9. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)

10. ONCE SITE IS STABILIZED CONSTRUCT BIORETENTION FACILITY AND LANDSCAPE. (1 WEEK) 11. 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 DRAIN DOWN DEVICE AND PLYWOOD. (1 DAY) D. STABILIZE ANY REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

12. SCHEDULE OF PLANTING INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASE VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES. 13. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS. 14. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE A MONTH AND, AFTER HEAVY STORMS.

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

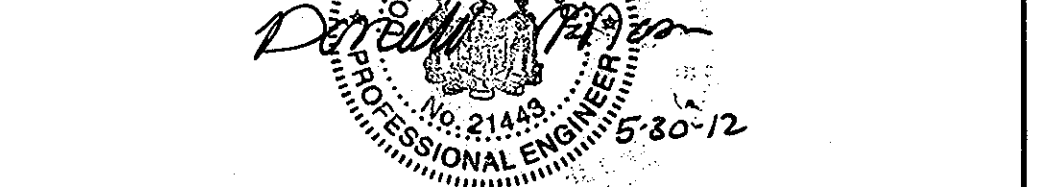
ROUTINE MAINTENANCE 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTION SHALL BE CONDUCTED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY. 2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWICE (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.

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.

NON-ROUTINE MAINTENANCE 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON 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 DEPARTMENT OF PUBLIC WORKS.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443. Expiration Date: 12-21-12



No As-Built information is required on this sheet

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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.

DEVELOPER: [Signature] DATE: 5/15/08

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ENGINEER: [Signature] DATE: 5/15/08

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NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 5/17/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

WILLIAM J. WALKER, CHIEF, BUREAU OF HIGHWAYS DATE: 5-9-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 5/15/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 5/13/08

7/1/09 REVISE SEDIMENT CONTROL NOTES & SEQUENCE OF CONSTRUCTION

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

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

AREA TAX MAP 35 GR12 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

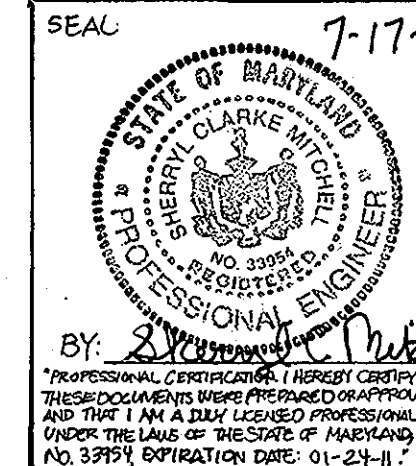
SEDIMENT CONTROL NOTES

Patton Harris Rust & Associates, p.c. Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9200

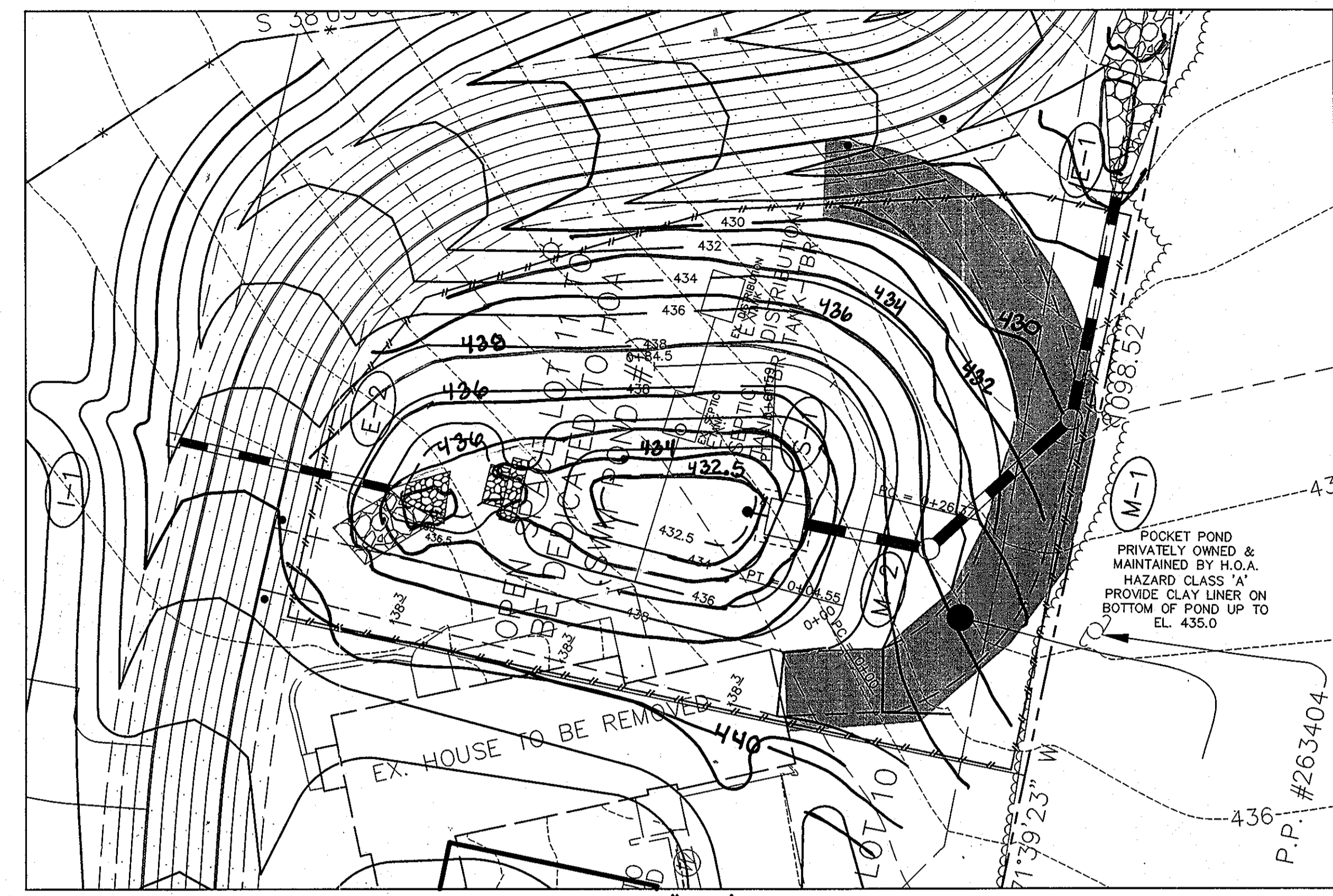
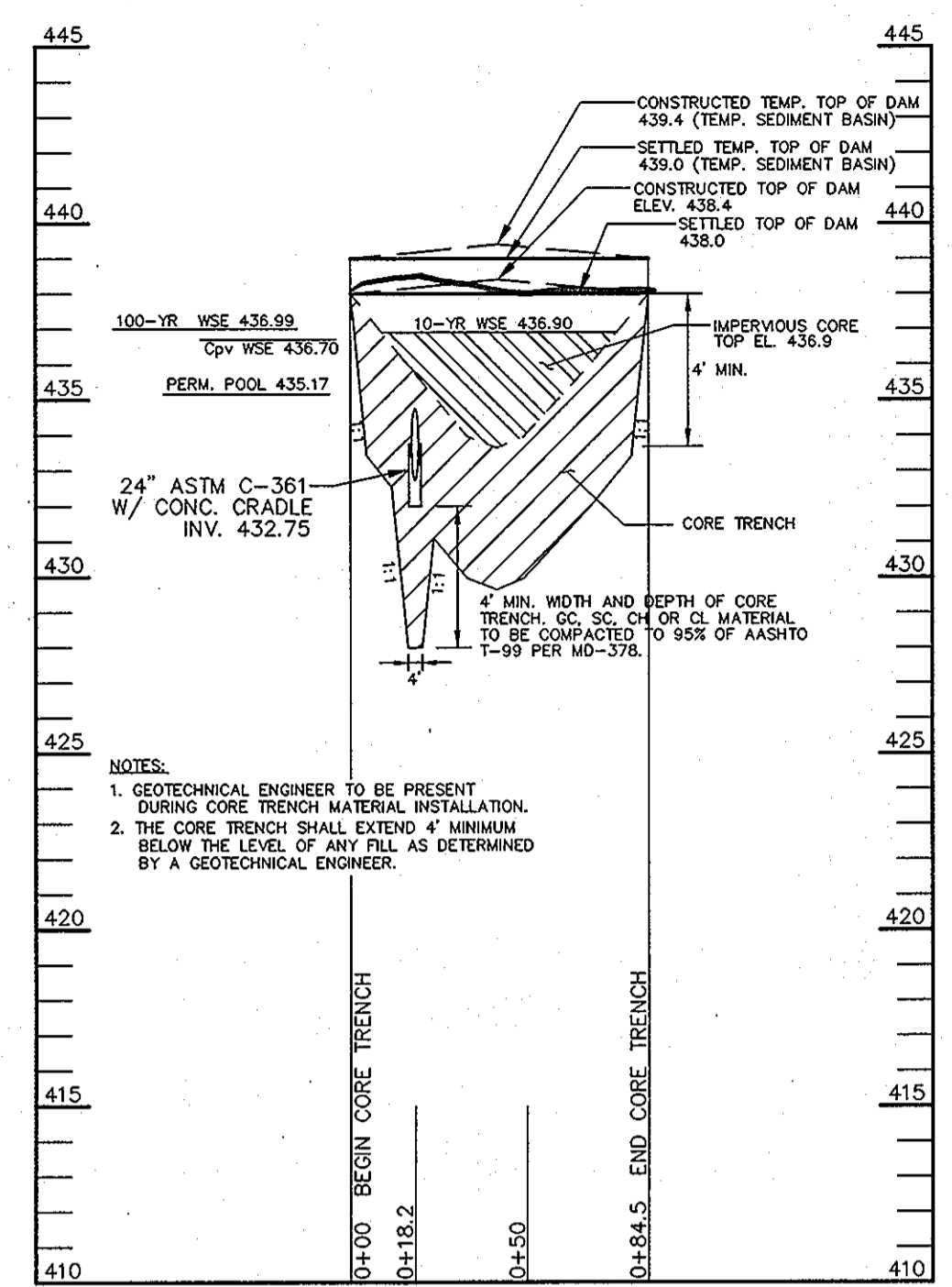
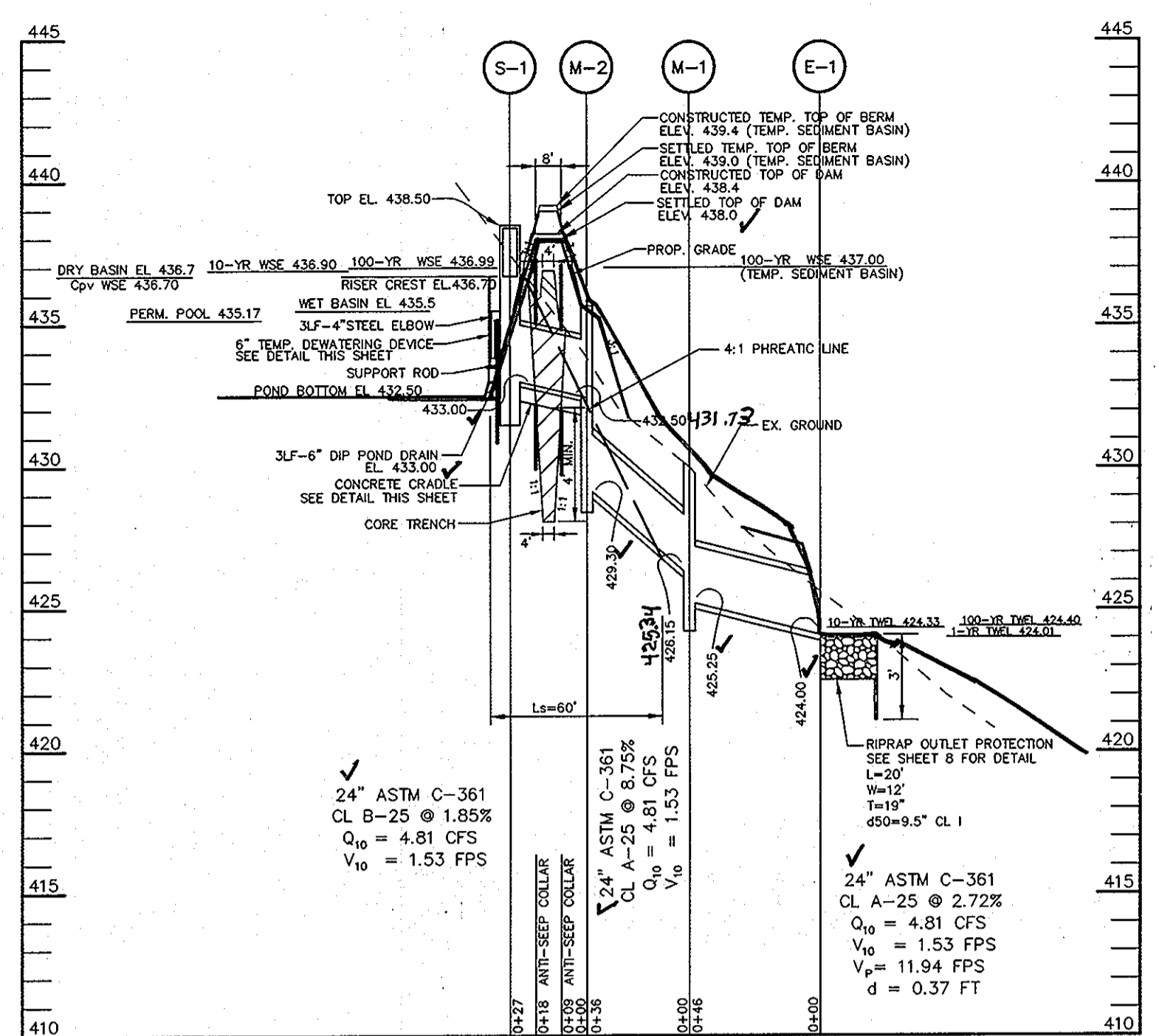
DESIGNED BY: ACR DRAWN BY: MAD/ACR DATE: MARCH 10, 2008 SCALE: AS SHOWN DRAWING NO. 4 OF 14

Professional Engineer Seal for Domenick W. Colangelo, No. 21443, State of Maryland, expires 12-21-12.

AS-BUILT F-05-067



DOMENICK W. COLANGELO #27200



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald W. Colangelo, P.E. No. 21443 Date 5-20-12

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *B. D. Boy* DATE: 5/16/08

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

ENGINEER: *Donald W. Colangelo* DATE: 5/15/08

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE: *5/15/08*

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 5/15/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS DATE: 5-9-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 5/15/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 5/13/08

| DATE | NO. | REVISION |
|------|-----|----------|
| | | |

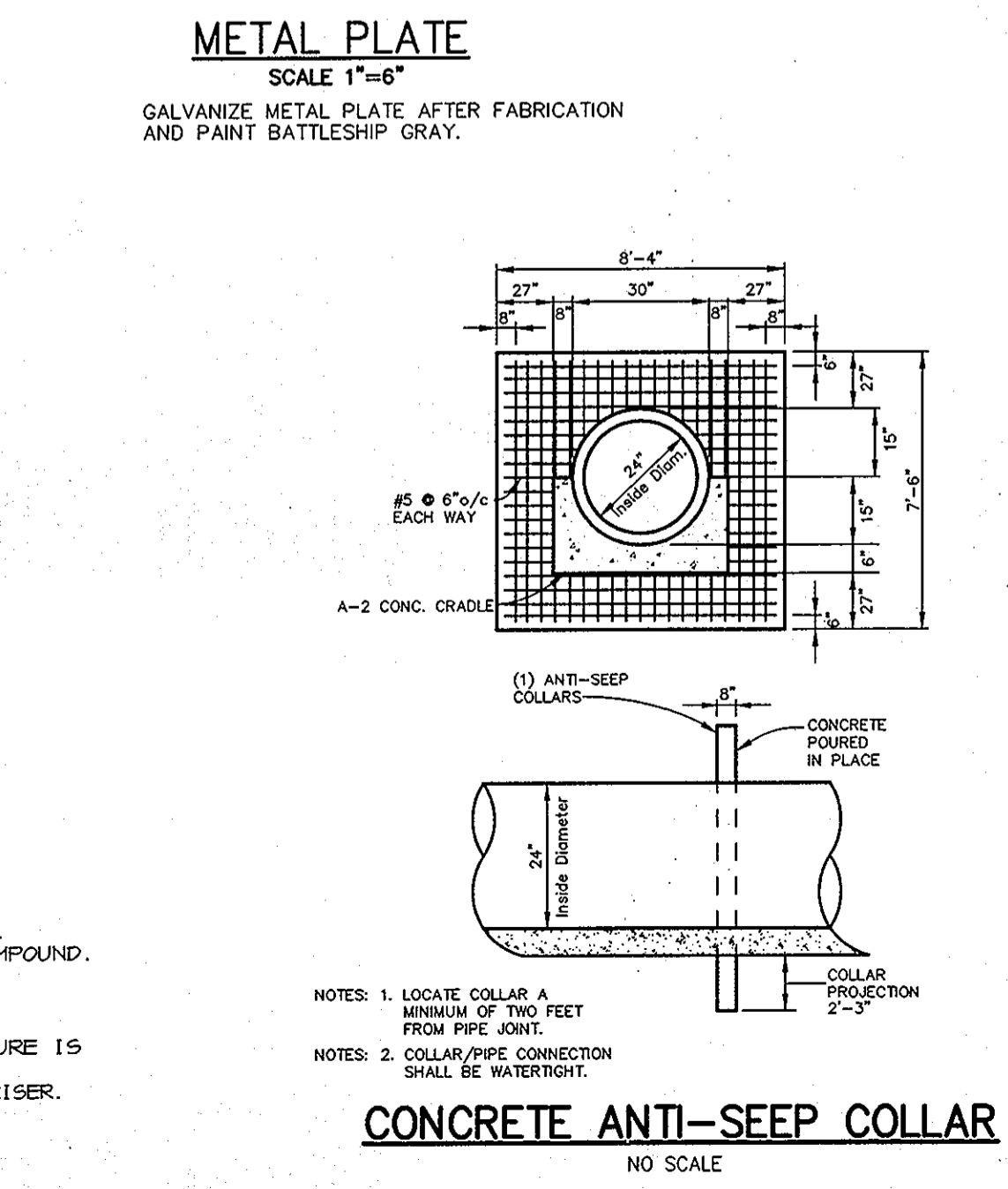
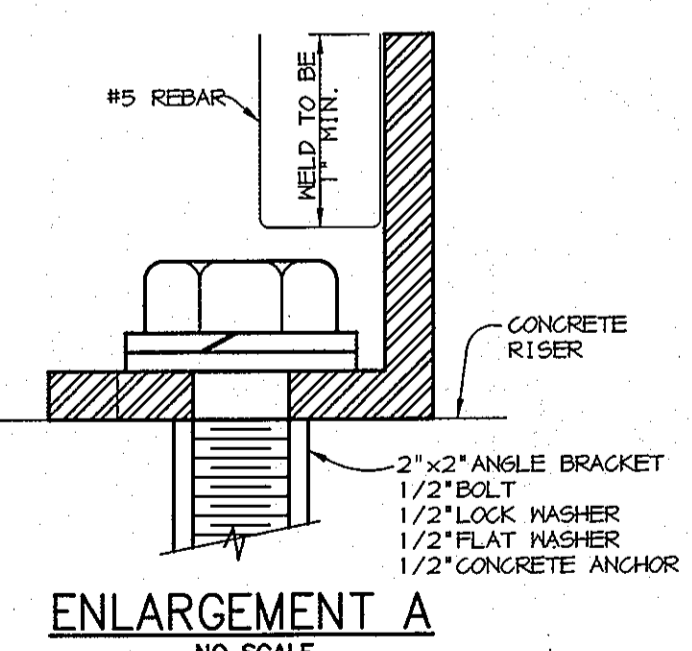
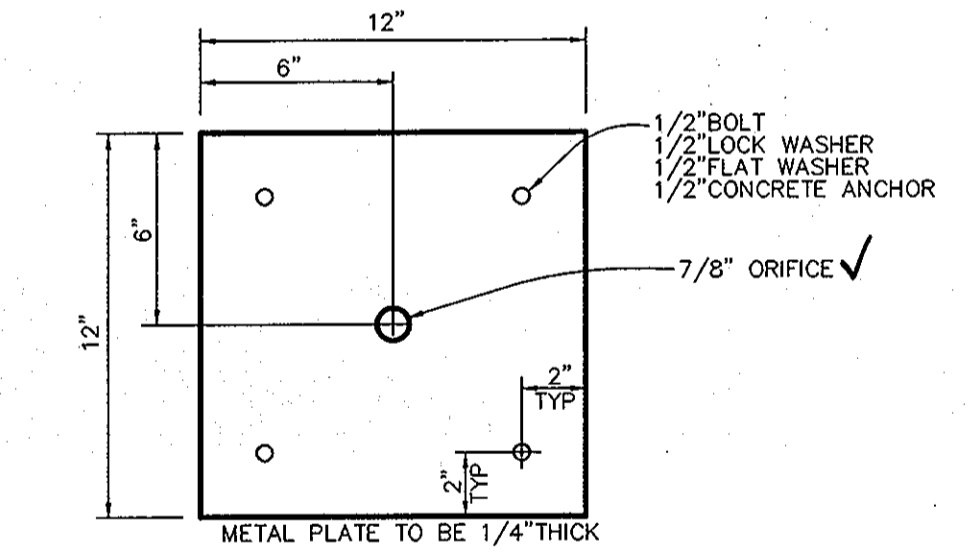
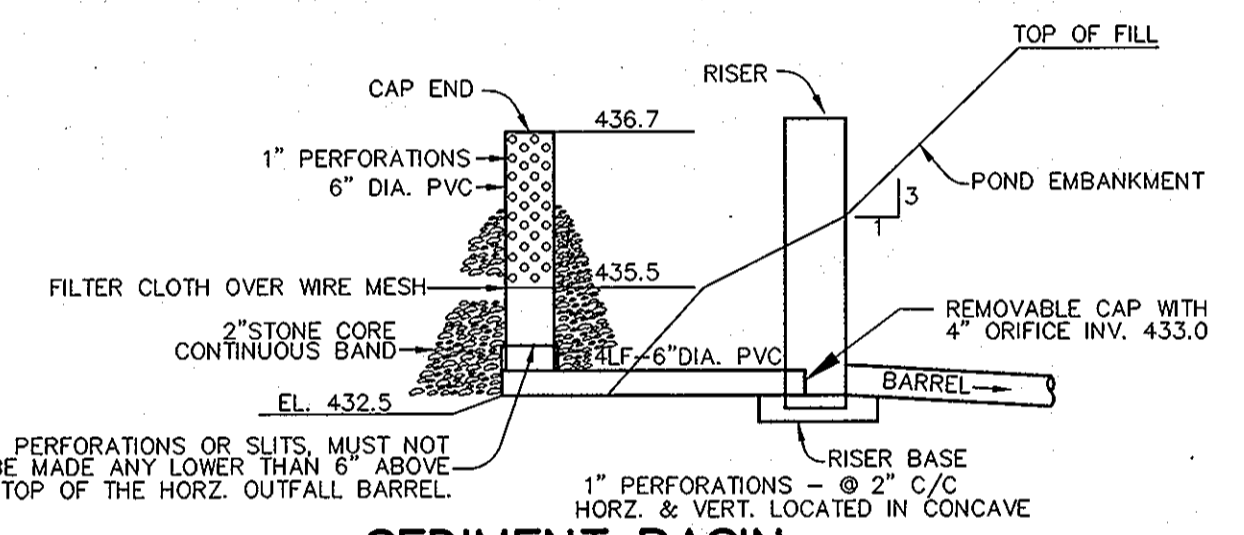
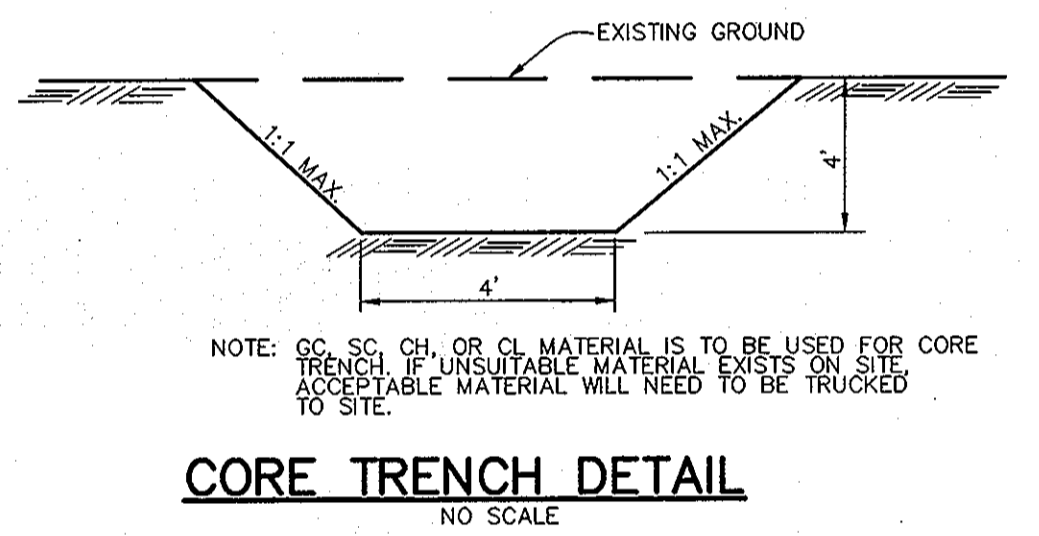
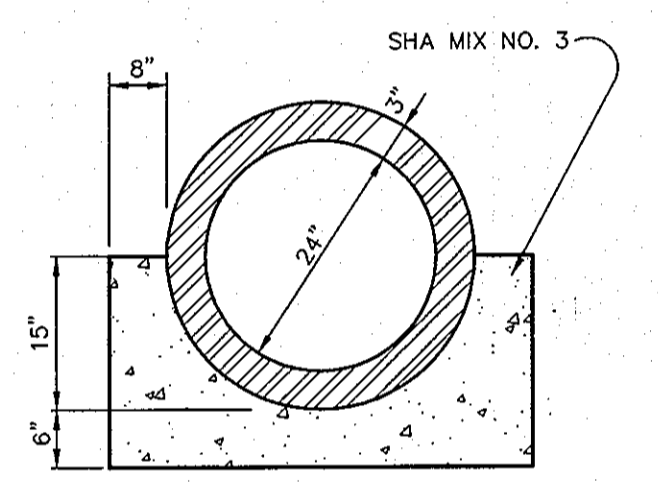
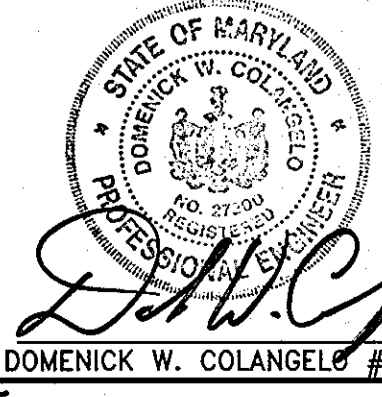
OWNER/DEVELOPER
TROTTER CROSSING, LLC
ATTN: BRIAN BOY
9695 NORFOLK AVENUE
LAUREL, MD 20723
(410) 792-2565

PROJECT
TROTTER CROSSING
LOTS 1 THRU 5, 7 THRU 10 &
OPEN SPACE LOTS 6, 11, 12, AND 13
A RESUBDIVISION OF FOREST HILL LOT 32
AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT
PROFILES AND DETAILS

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

DESIGNED BY: ACR
DRAWN BY: MAD/ACR
PROJECT NO: 11885-1-0-ENGR PLANS
DATE: MARCH 10, 2008
SCALE: AS SHOWN
DRAWING NO. 5 OF 14

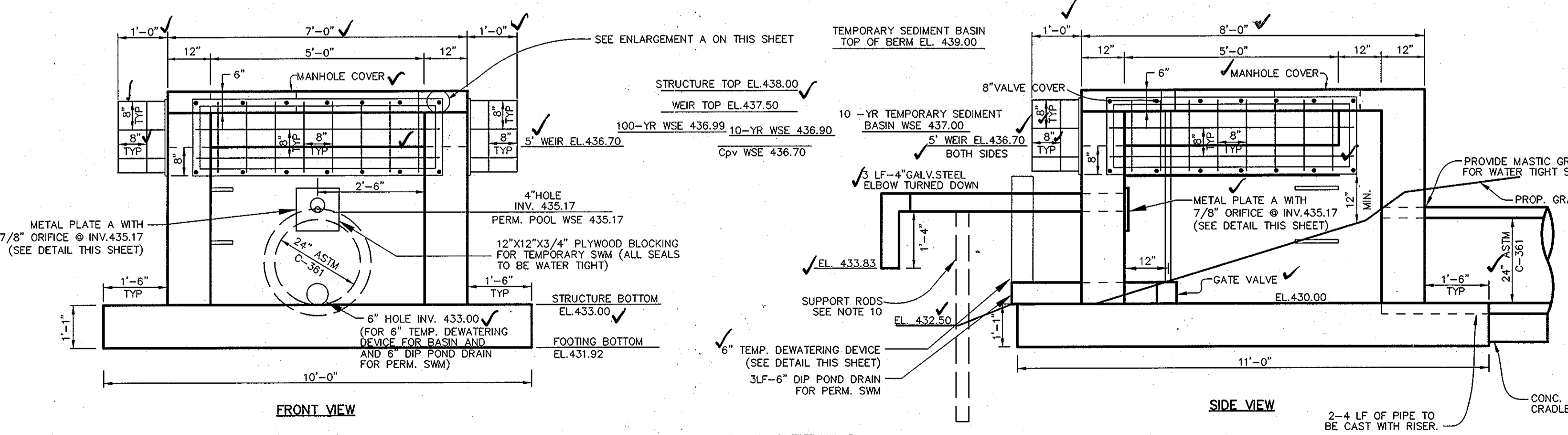
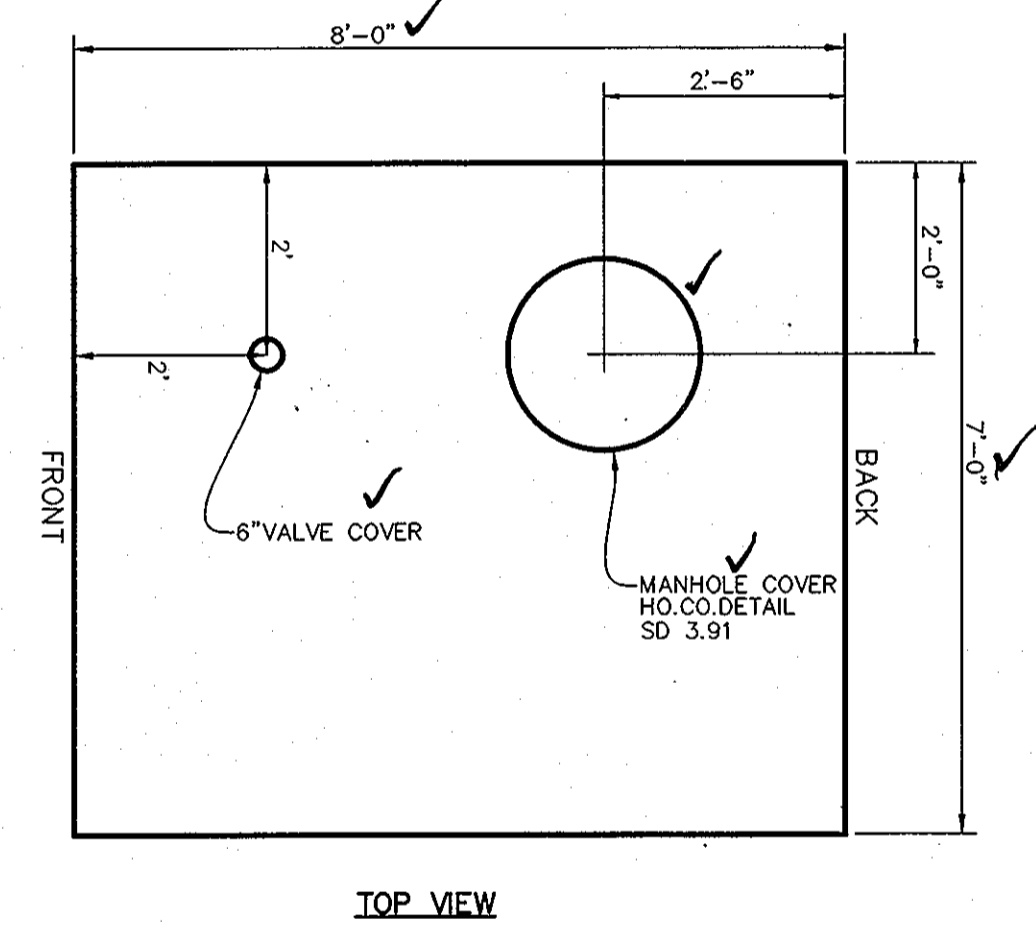


RISER STRUCTURE NOTES

- RISERS TO BE PRECAST. SHOP DRAWINGS FOR ALL CONCRETE STRUCTURES SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST-IN-PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
- CONCRETE SHALL BE MSHA MIX NO. 3 (F_{CR}=3,500 PSI MINIMUM)
- REFER TO HOWARD COUNTY STD. 6-5.21 FOR MANHOLE STEP DETAILS.
- RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
- ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
- RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
- ALL BUTTERFLY VALVES SHALL BE CONNECTED TO THE RISER MALL WITH ALL-THREADED ROD AND A FLANGE JOINT.
- PROVIDE SUPPORT OF GALV. STEEL ELBOWS TO PREVENT SAGGING. AN ACCEPTABLE METHOD IS TO STAKE OUT BOTH SIDES OF STEEL ELBOW WITH 1" STEEL ANGLE OR 1" BY 4" SQUARE OR 2" ROUND STEEL POSTS SET 3 FEET MIN. INTO GROUND THEN JOINING THEM TO THE ELBOW BY WRAPPING WITH 12 GAUGE MIN. WIRE.

REMOVABLE TRASH RACK NOTES:

- STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
- ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
- ALL BENDS TO BE 2" RADIUS. 2"x2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
- GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT 2-COATS BATTLESHIP GRAY.

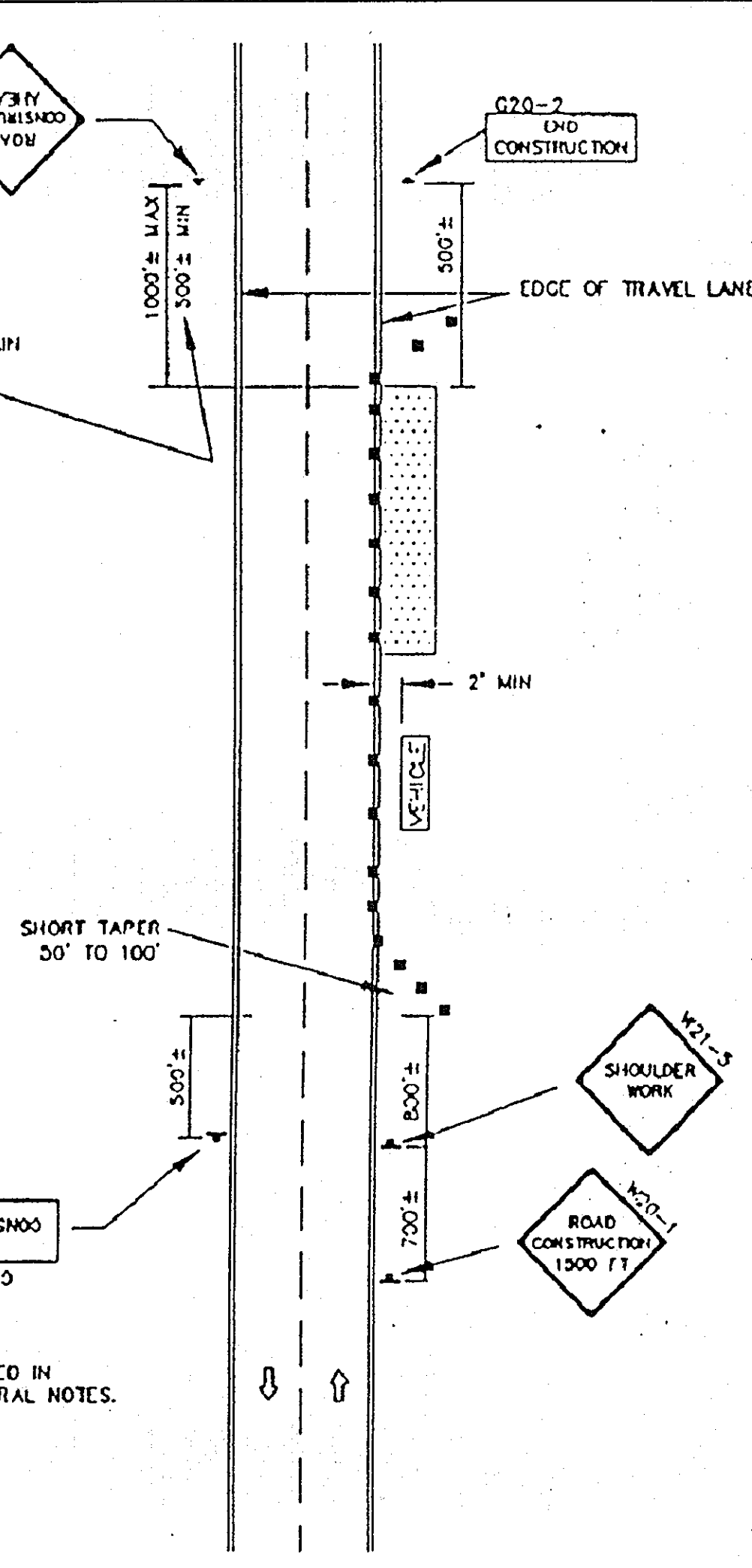


AS-BUILT

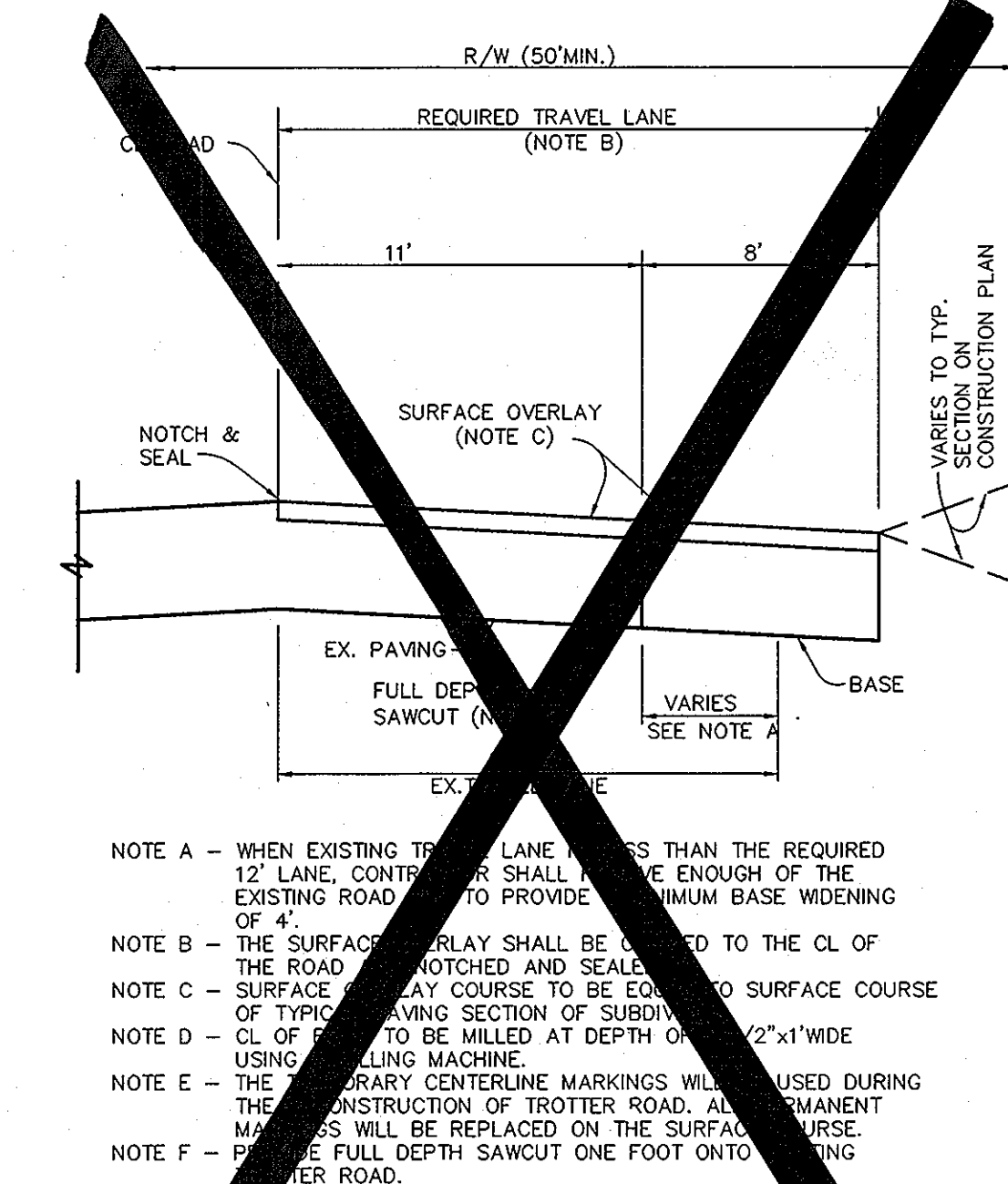
F-05-067

500'± SHOULD BE USED IF WORK SITE IS STATIONARY. 1000'± IS ALLOWED IF WORK SITE IS CONTINUALLY MOVING. SIGNS SHALL BE MOVED IN ORDER TO MAINTAIN THE MINIMUM 500'± AS NECESSARY.

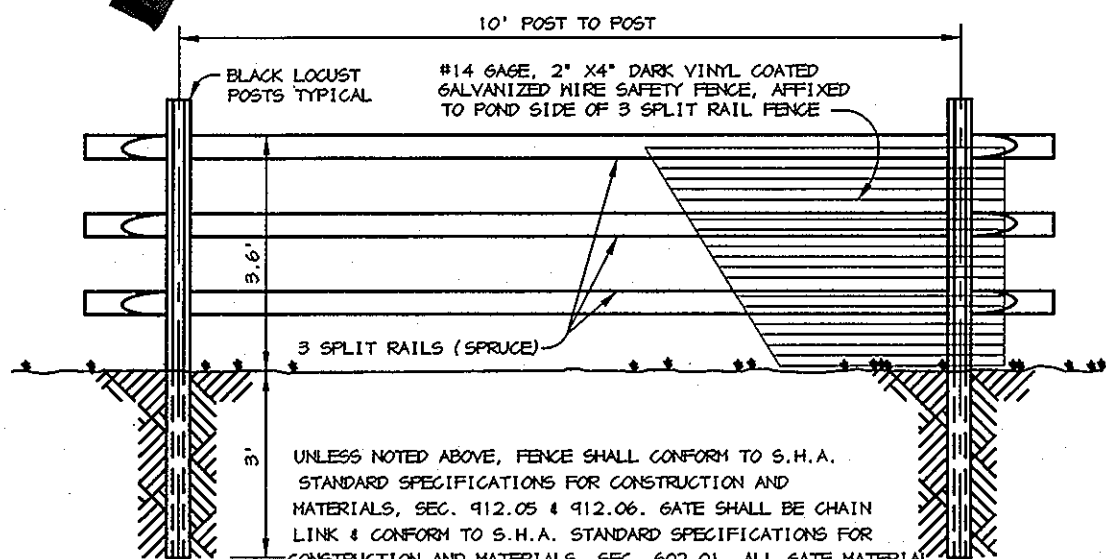
- KEY:**
- CHANNELIZING DEVICES
 - ↑ SIGN SUPPORT FACE OF SIGN
 - ↑ DIRECTION OF TRAFFIC
 - ▨ WORK SITE
 - ⚠ FLAG (OPTIONAL)



IMPORTANT - THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES.

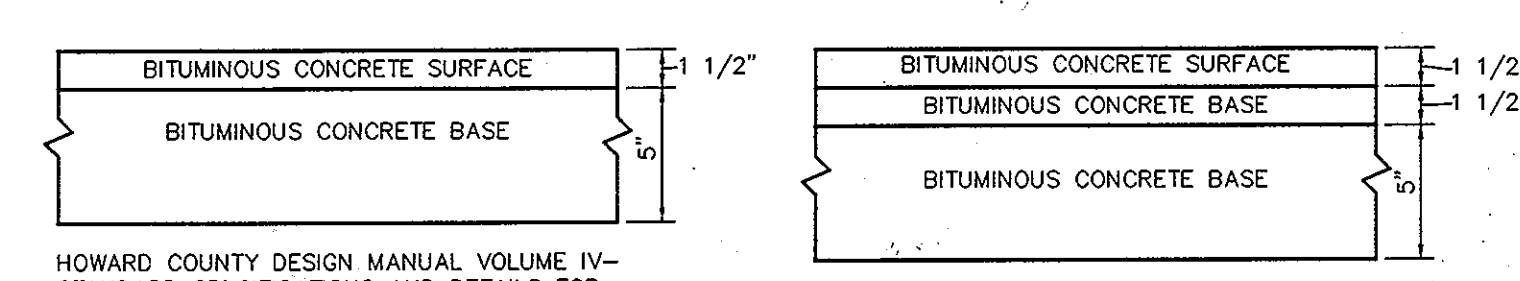
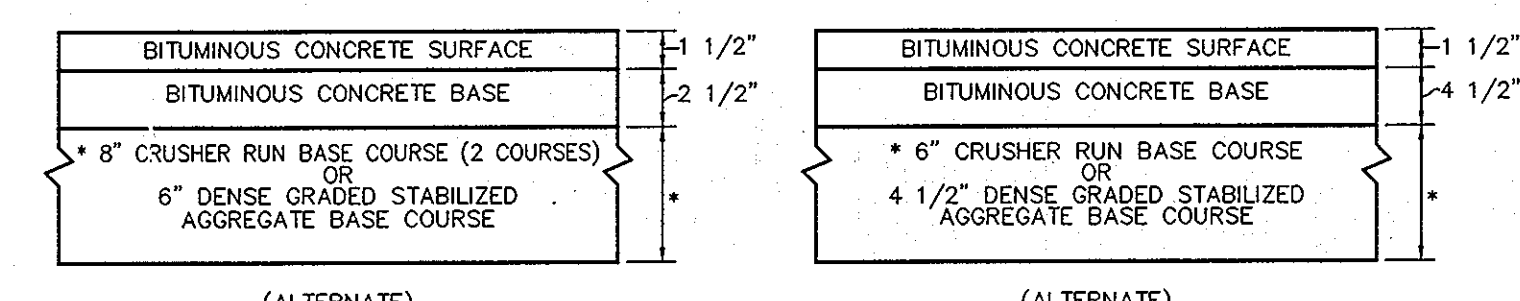


WIDENING STRIPS ALONG EXISTING ROADWAYS
 PER DMV IV STD DETAIL R-10.01
 NO SCALE



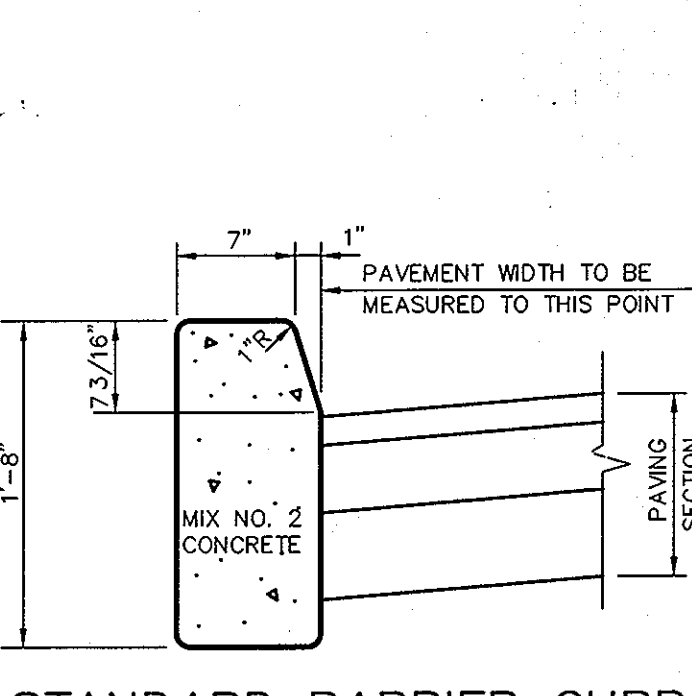
3 SPLIT RAIL (WOOD) FENCE WITH SAFETY WIRE
 NO SCALE

- CONSTRUCTION SPECIFICATIONS**
- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
 - THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
 - GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED AREA. WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
 - STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC AND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
 - THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

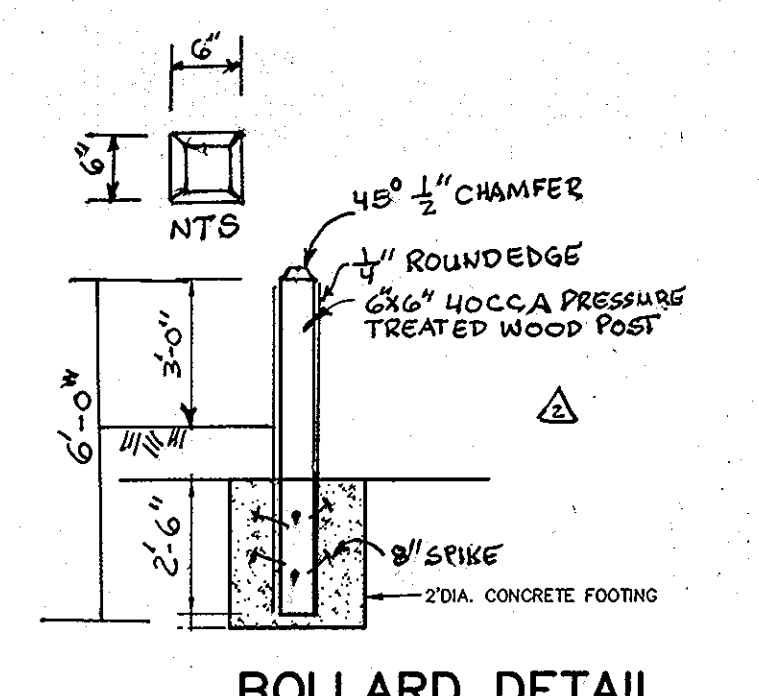


P-2 PAVING
 NO SCALE

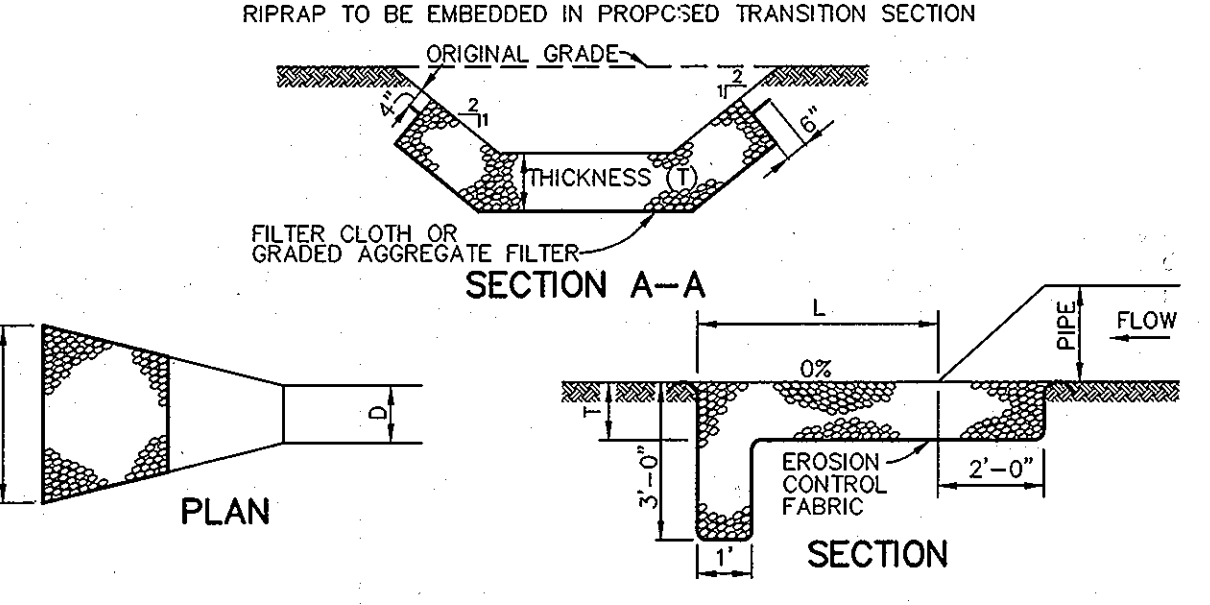
P-3 PAVING
 NO SCALE



STANDARD BARRIER CURB
 NO SCALE



BOLLARD DETAIL
 NO SCALE



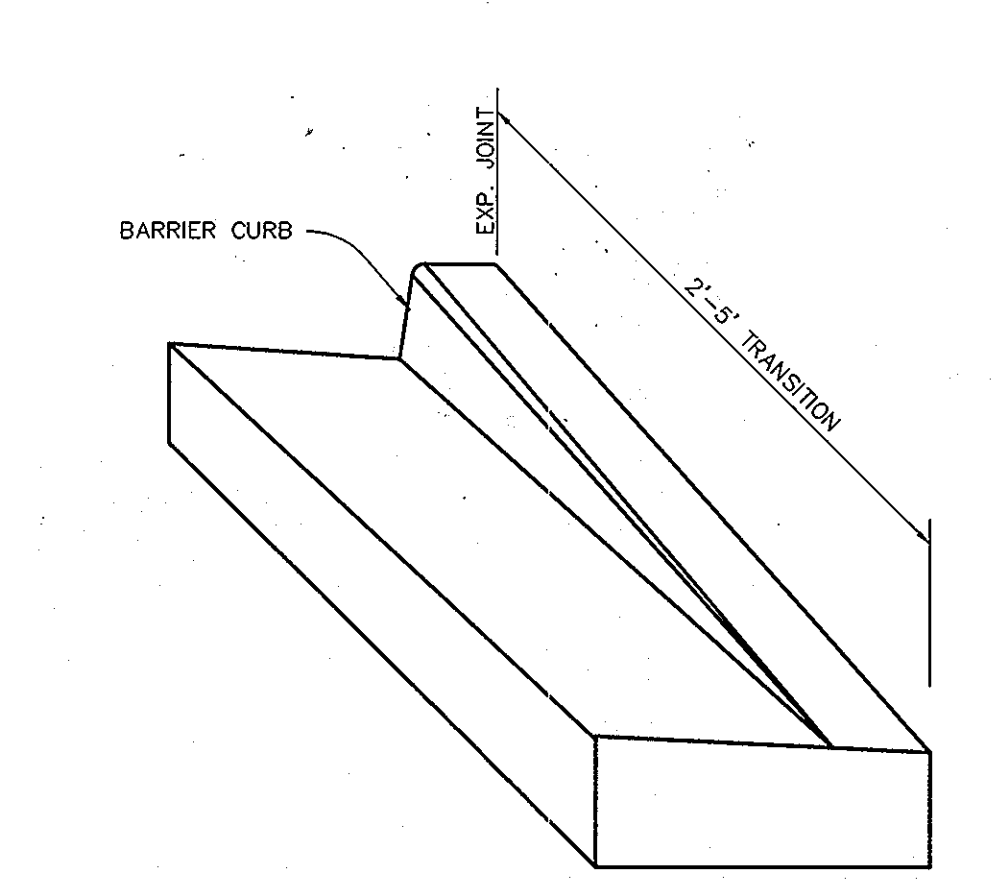
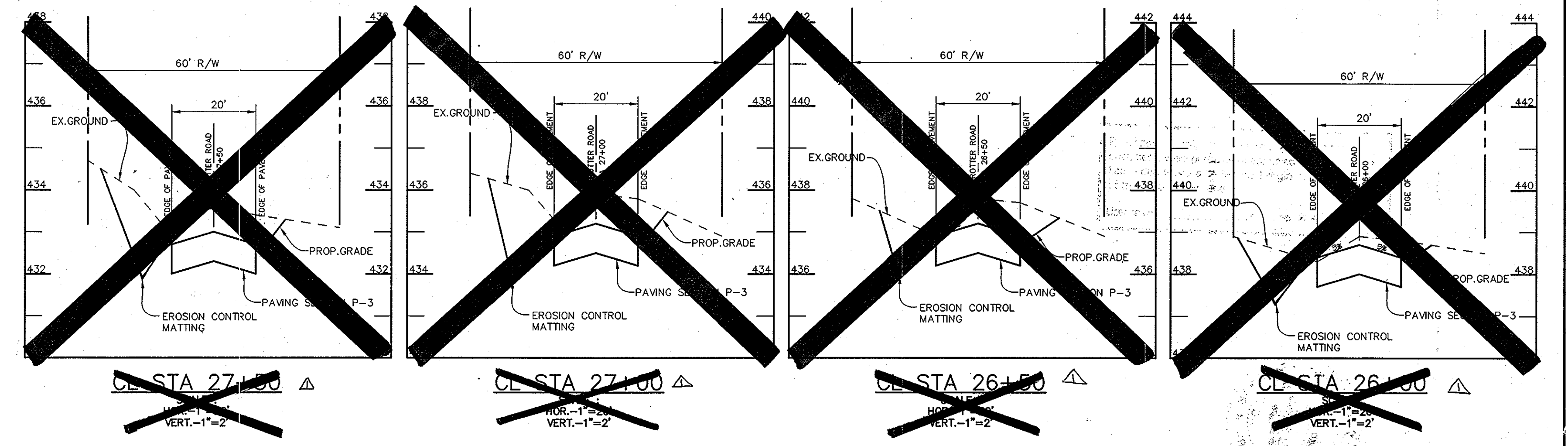
NOTE: Q_{10} , V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

| STRUCTURE | STONE DIA. | LENGTH (L) | WIDTH (W) | THICKNESS (T) | Q_{10} | Vp | DEPTH |
|-----------|------------|------------|-----------|---------------|----------|-------|-------|
| E-1 | 9.5" | 20' | 12' | 19" | 4.81 | 11.94 | 0.34 |
| E-2 | 9.5" | 8' | 10' | 19" | 1.23 | 3.16 | 0.45 |
| HW-1 | 9.5" | 11' | 20' | 19" | 26.95 | 9.55 | 1.26 |
| * HW-2 | 9.5" | 9.5' | 16' | 19" | - | - | - |

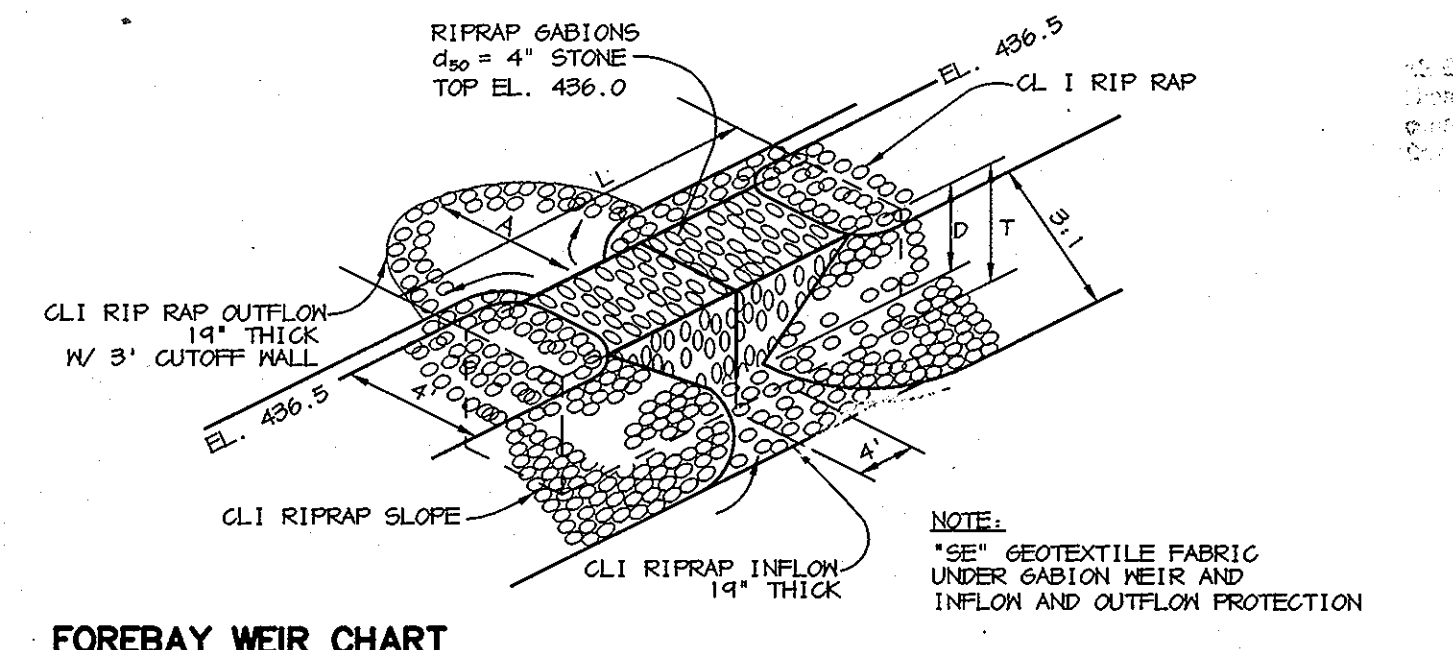
RIPRAP OUTLET PROTECTION DETAIL
 NO SCALE

* CLASS II RIPRAP, GROUT UPSTREAM CUTOFF WALL.

TYPICAL SECTION PRIVATE ACCESS PLACE
 NO SCALE



NOSE DOWN CURB DETAIL
 NO SCALE



FOREBAY WEIR CHART

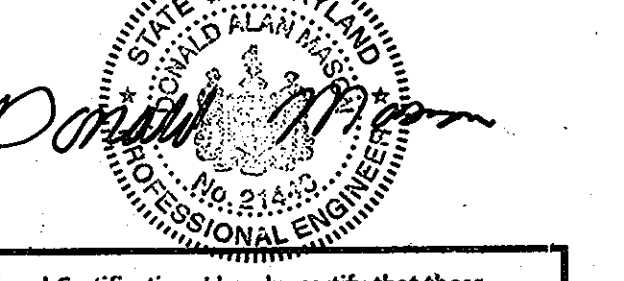
| POND | GABIONS | TOP EL. | D | L | T | A |
|------|-------------|---------|------|-----|------|----|
| J | 1-12'X3'X3' | 436.0 | 1.0' | 12' | 3.0' | 5' |

FOREBAY WEIR DETAIL
 NO SCALE

PIPE SCHEDULE

| PIPE LENGTH | SIZE | TYPE |
|-------------|------|------------------|
| 45 | 15" | RCCP, CL IV |
| 109 | 24" | RCCP, ASTM C-361 |
| 25 | 36" | RCCP, CL IV |
| 90 | 4" | PERF PVC |
| 38 | 4" | PVC |
| 105 | 12" | CMP |

FOR REVISIONS BY BENCHMARK ENGINEERING INC. ONLY
 DATED 5/13/08

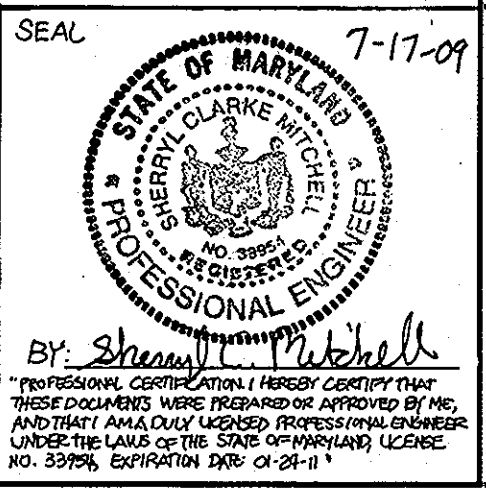


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443, Expiration Date: 12-21-12

STRUCTURE SCHEDULE

| STRUCTURE | TYPE | LOCATION | INV. IN | INV. OUT | TOP | REMARKS |
|-----------|---------------------|--------------------|--------------------|--------------------|-------------|--------------------------|
| I-1 | TYPE K 3' WIDE | N 563815 E 1334559 | - | 435.23 (15") | 436.048257 | HOCO STD. DETAIL SD-4.12 |
| M-1 | 4'-0" DIA. | N 563661 E 1334619 | 425.5742619 (24") | 425.25 (24") | 429.8 | HOCO STD. DETAIL G-5.01 |
| M-2 | 4'-0" DIA. | N 563661 E 1334619 | 431.7343250 (24") | 429.30 (24") | 435.5432576 | HOCO STD. DETAIL G-5.01 |
| E-1 | 24" RCP END SECTION | N 563684 E 1334690 | 424.00 (24") | - | - | HOCO STD. DETAIL SD-5.51 |
| E-2 | 15" RCP END SECTION | N 563772 E 1334572 | 435.00 (15") | - | - | HOCO STD. DETAIL SD-5.51 |
| HW-1 | MODIFIED HEADWALL | N 563763 E 1334906 | 411.50 (2-19'X30") | - | 420.1 | SEE DETAILS ON SHEET 7 |
| HW-2 | MODIFIED HEADWALL | N 563786 E 1334896 | - | 412.00 (2-19'X30") | 419.0 | SEE DETAILS ON SHEET 7 |
| S-1 | MODIFIED STRUCTURE | N 563707 E 1334603 | 433.00 (6") | 433.00 (24") | 438.00 | SEE SHEET 5 |

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
 Date 12-30-12
 Donald Mason, P.E. No. 21443



DESIGNED BY: ACR
 DRAWN BY: MAD/ACR
 PROJECT NO. 11885-1-0-ENGR PLANS
 DATE: MARCH 10, 2008
 SCALE: AS SHOWN
 DRAWING NO. 6 OF 14

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Willie R. Wall, CHIEF, BUREAU OF HIGHWAYS, 5-9-08 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Cindy Harris, CHIEF, DIVISION OF LAND USE DEVELOPMENT, 5/15/08 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF ENGINEERING DIVISION.
 Donald M. Mason, CHIEF, ENGINEERING DIVISION, 5/13/08 DATE

| DATE | NO. | REVISION | BY |
|--------|-----|--|-----|
| 5/9/12 | 1 | REVISE STEEL BOLLARD DETAIL TO BE WOOD | BEI |
| 7/1/09 | 1 | REMOVE TROTTER ROAD IMPROVEMENTS | |

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

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

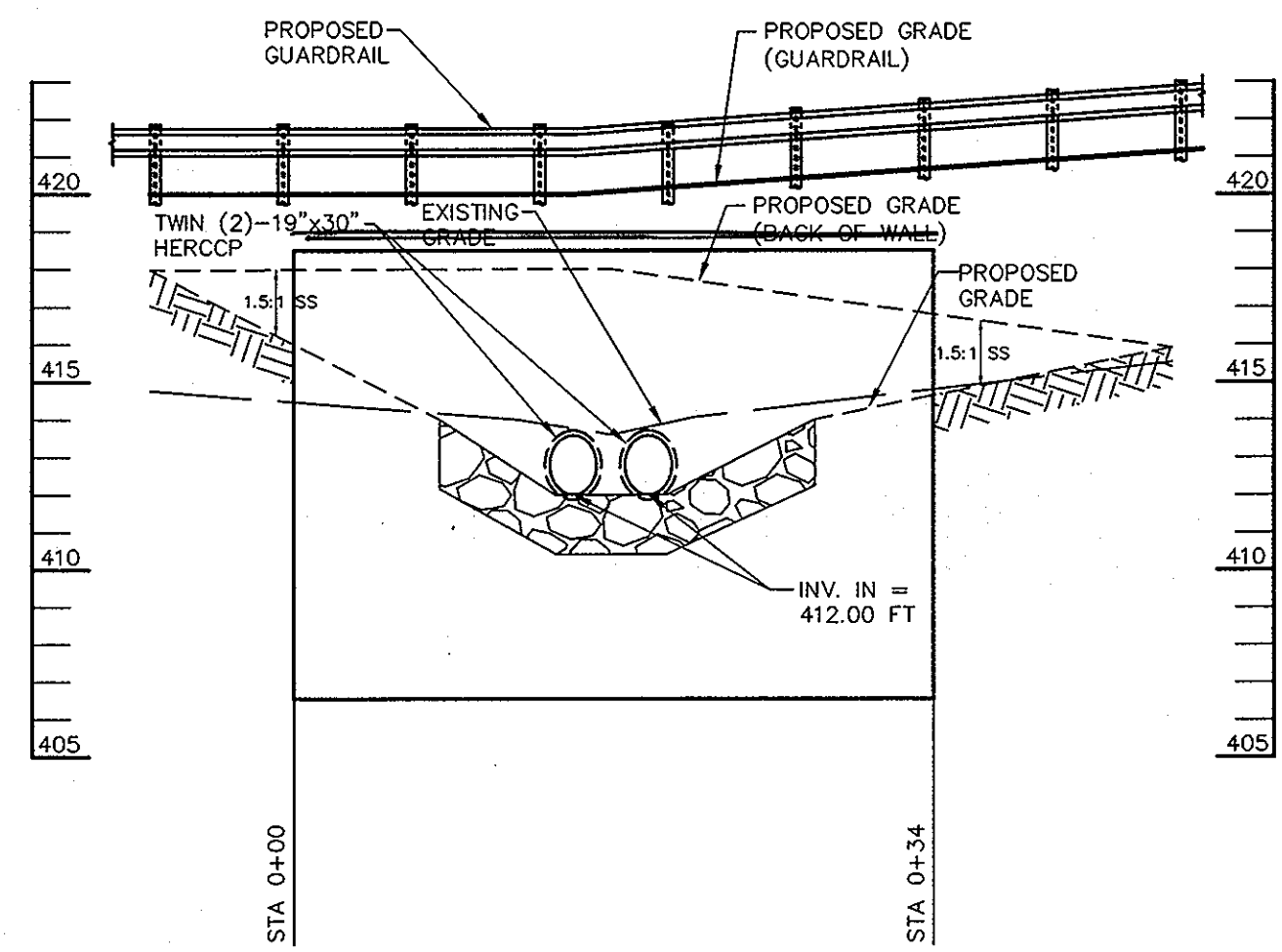
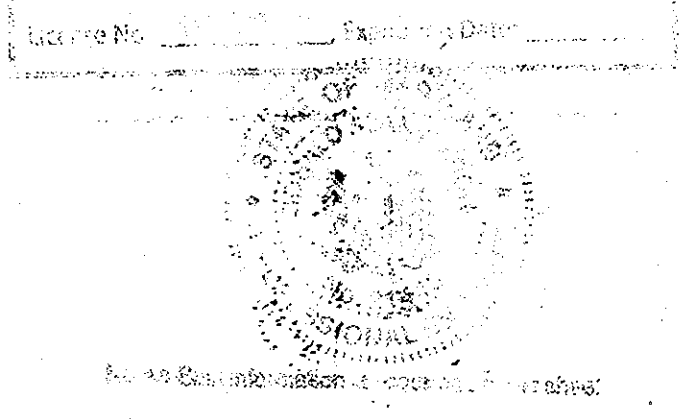
AREA TAX MAP 35 GRID 2 PARCEL 6. ZONING R-20
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: PROFILES AND DETAILS

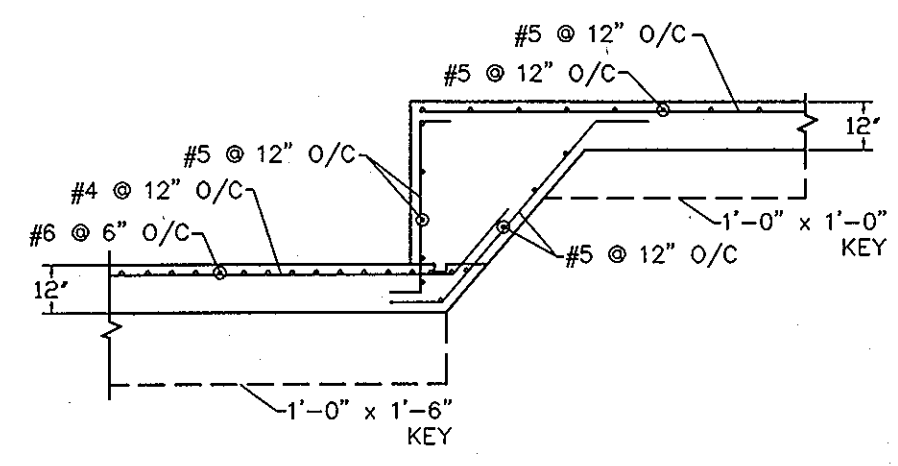
Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DESIGNED BY: ACR
 DRAWN BY: MAD/ACR
 PROJECT NO. 11885-1-0-ENGR PLANS
 DATE: MARCH 10, 2008
 SCALE: AS SHOWN
 DRAWING NO. 6 OF 14

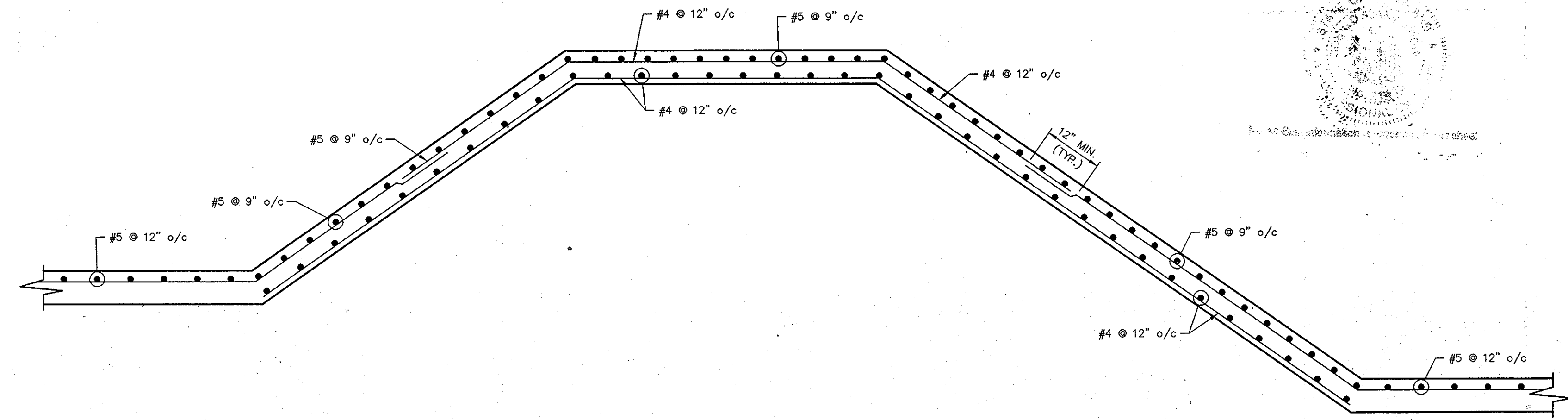
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.



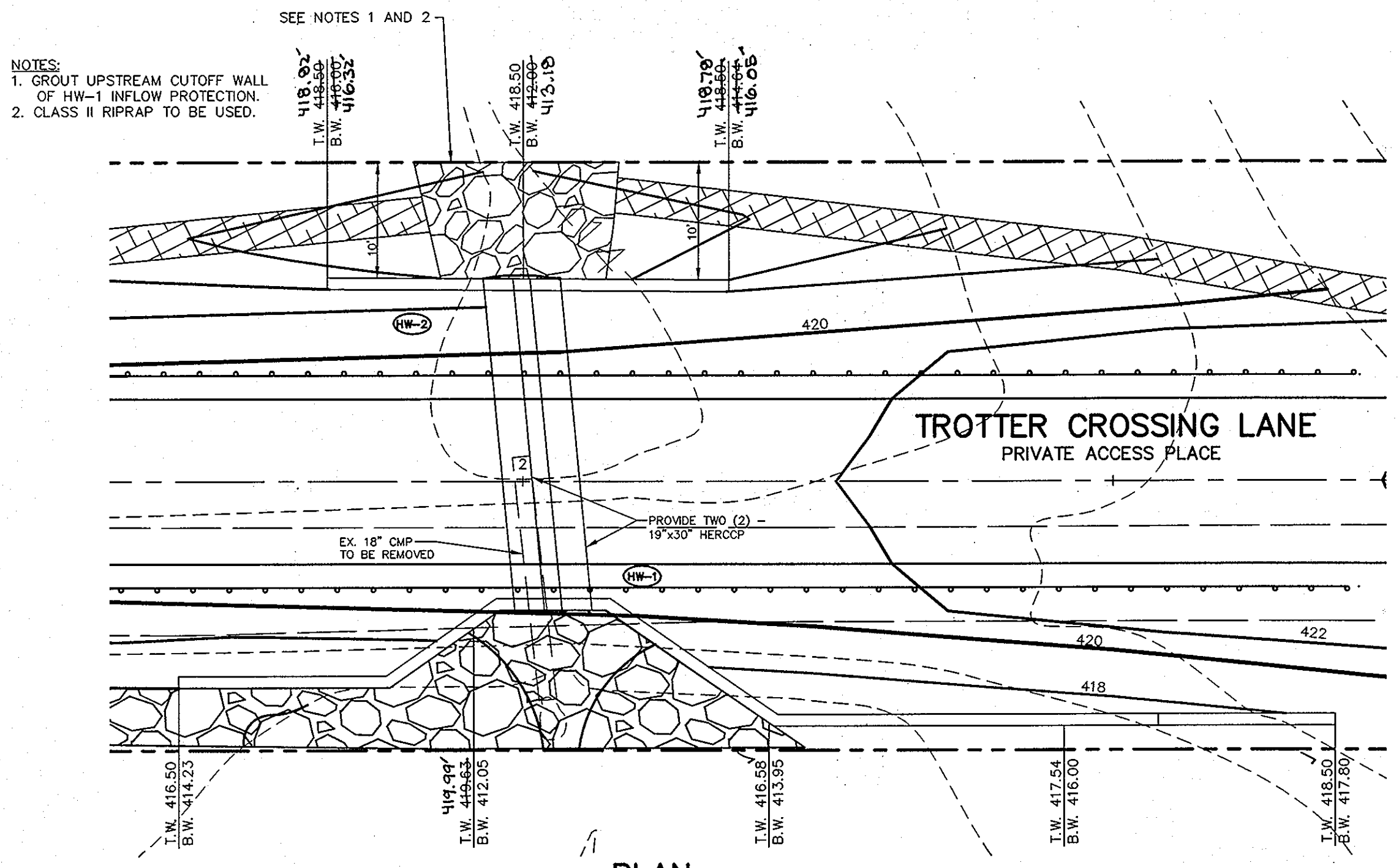
ELEVATION - HW-2
SCALE: 1"=10' HORIZ.
1"=5' VERT.



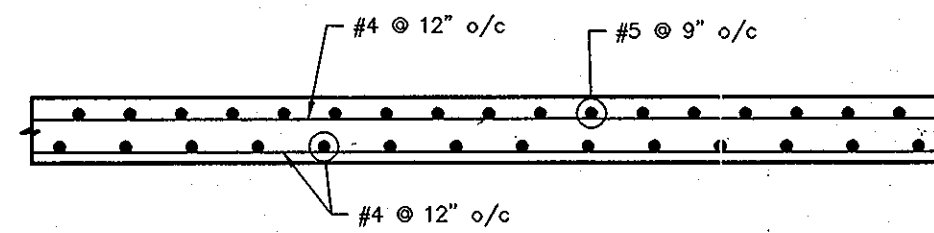
STEP FOOTING DETAIL (HW-1)
1/4" = 1'-0"



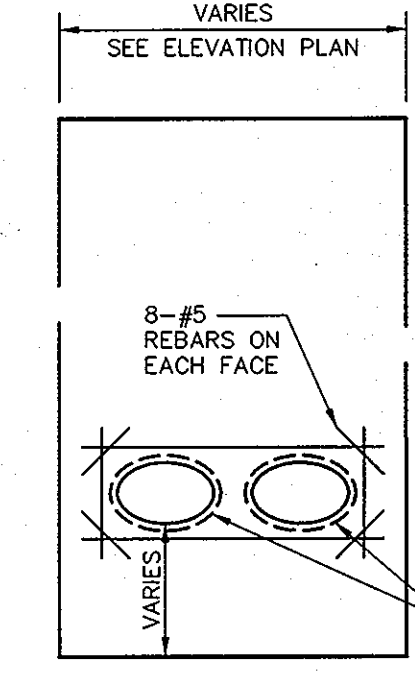
REBAR PLAN - HW-1
SCALE: 3/8" = 1'-0"



PLAN
SCALE: 1"=10'



REBAR PLAN - HW-1
SCALE: 3/8" = 1'-0"



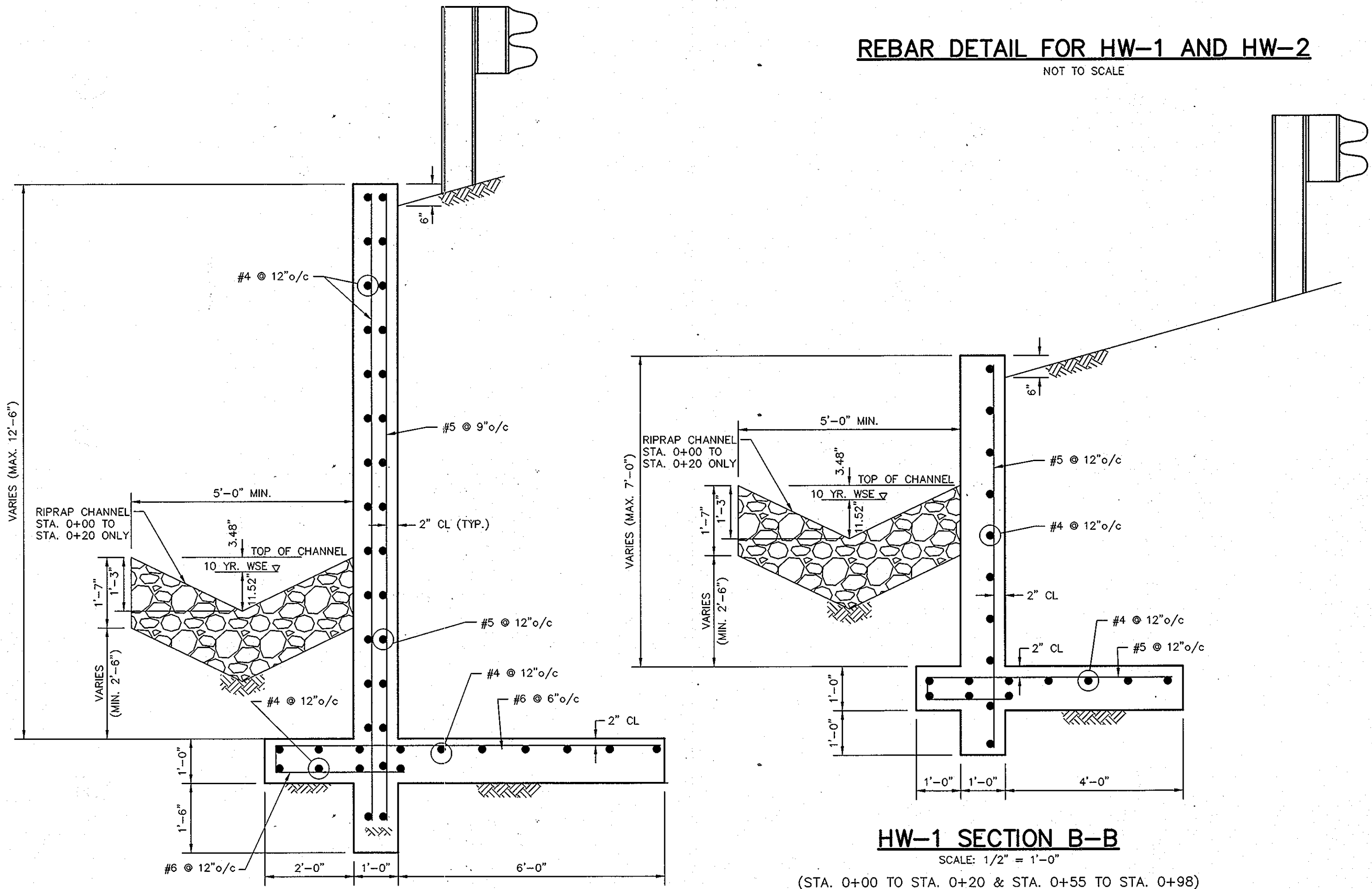
REBAR DETAIL FOR HW-1 AND HW-2
NOT TO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12

- NOTE:**
- FOUNDATION SOILS MUST BE EXAMINED BY THE SOILS ENGINEER TO ASSURE THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS ASSUMED DESIGN STRENGTHS.
 - THE PROPOSED CONSTRUCTION OF THE RETAINING WALL SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.

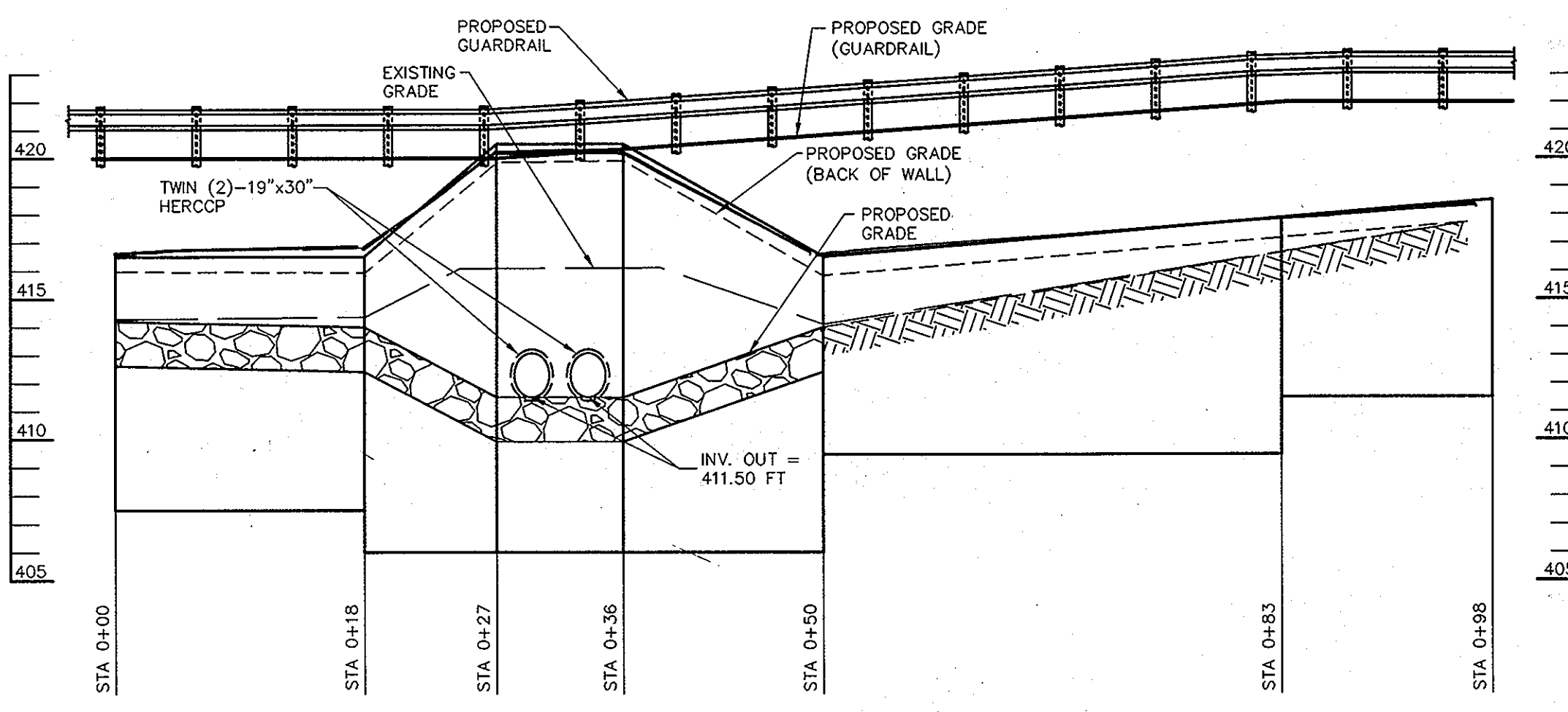


AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the retaining wall shown on this plan was constructed as shown on this AS-BUILT plan.
Date 5-30-12
Donald W. Colangelo, P.E. No. 21443



HW-1 SECTION A-A
SCALE: 1/2" = 1'-0"
(STA. 0+20 TO STA. 0+55)

HW-1 SECTION B-B
SCALE: 1/2" = 1'-0"
(STA. 0+00 TO STA. 0+20 & STA. 0+55 TO STA. 0+98)



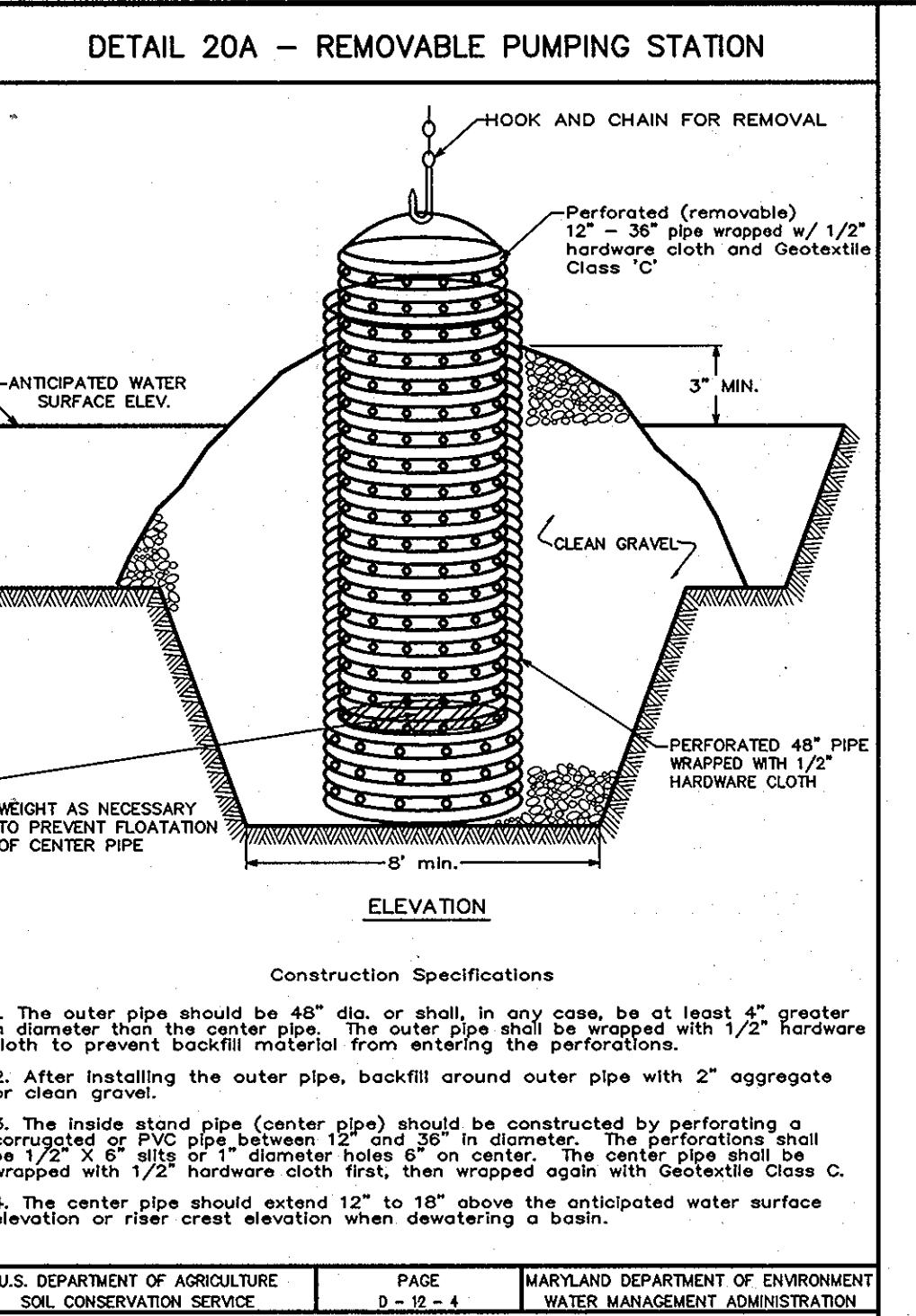
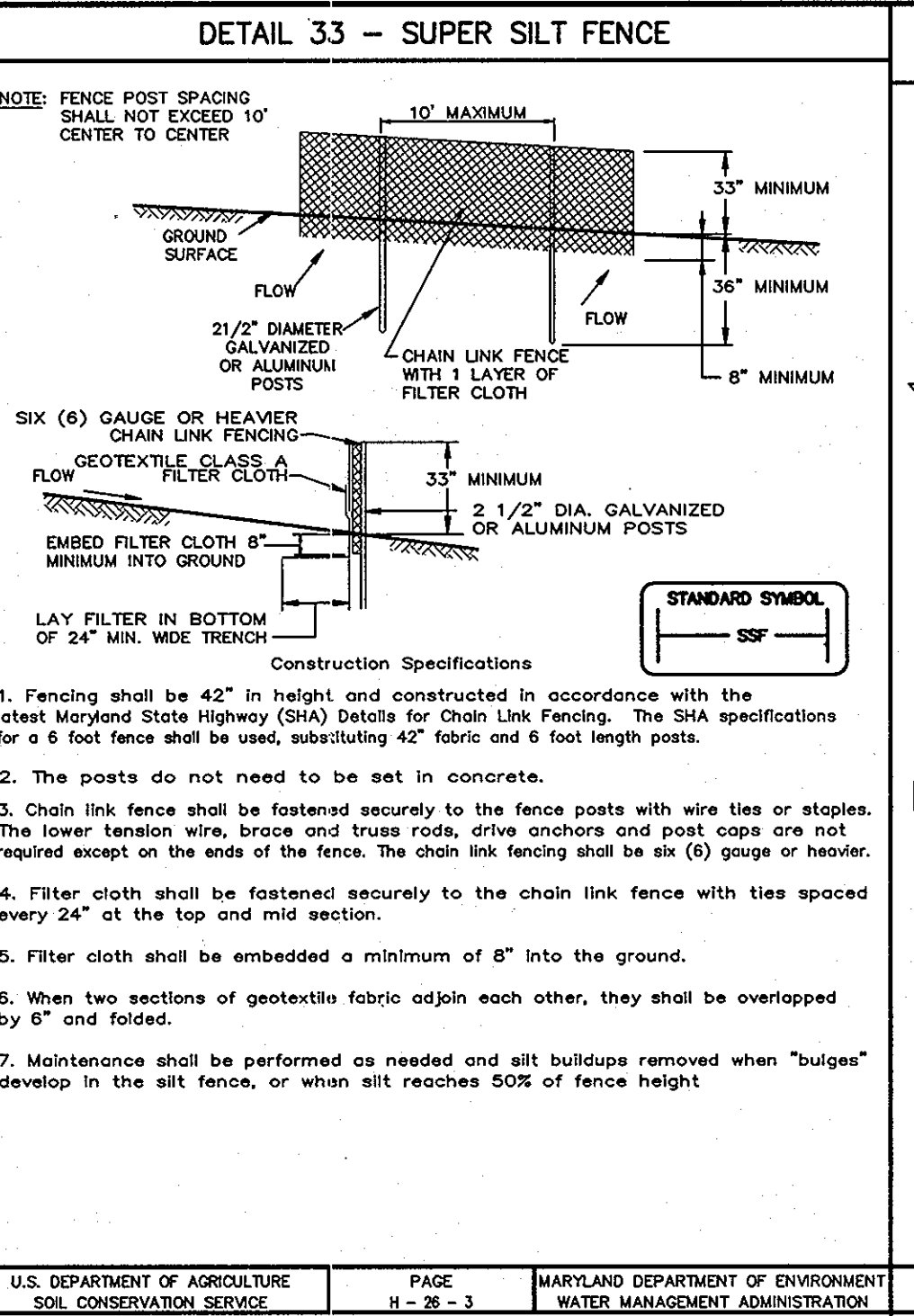
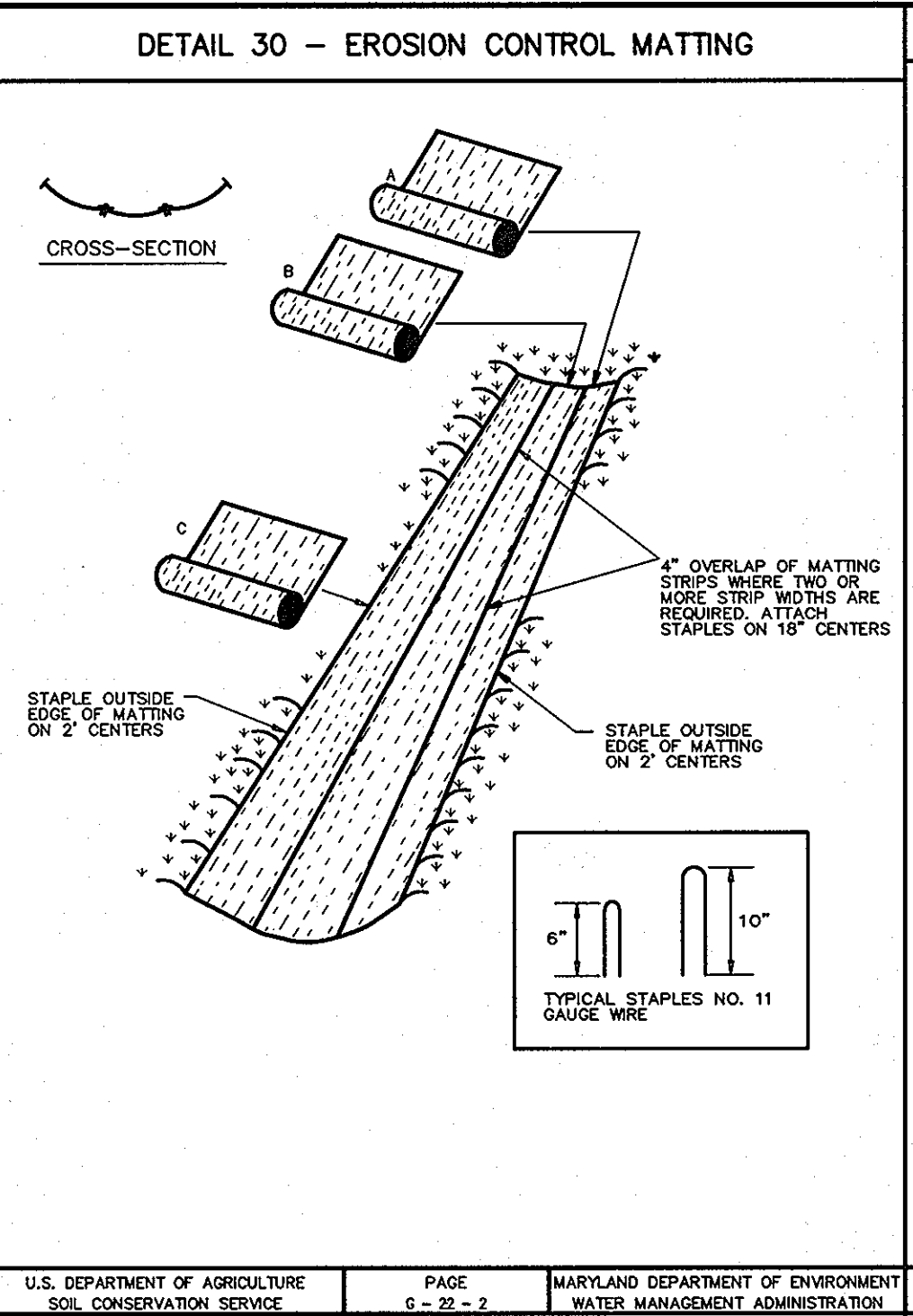
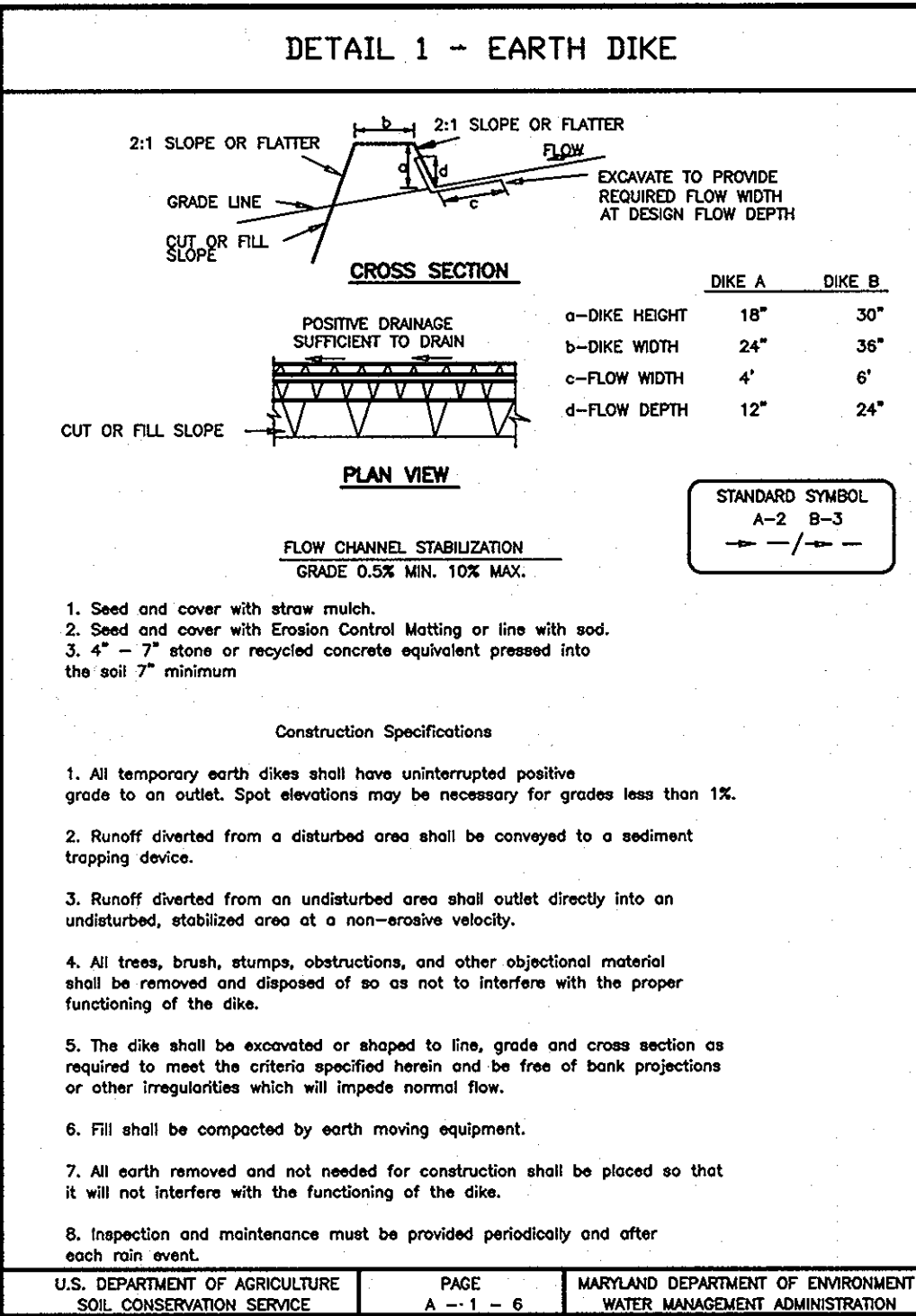
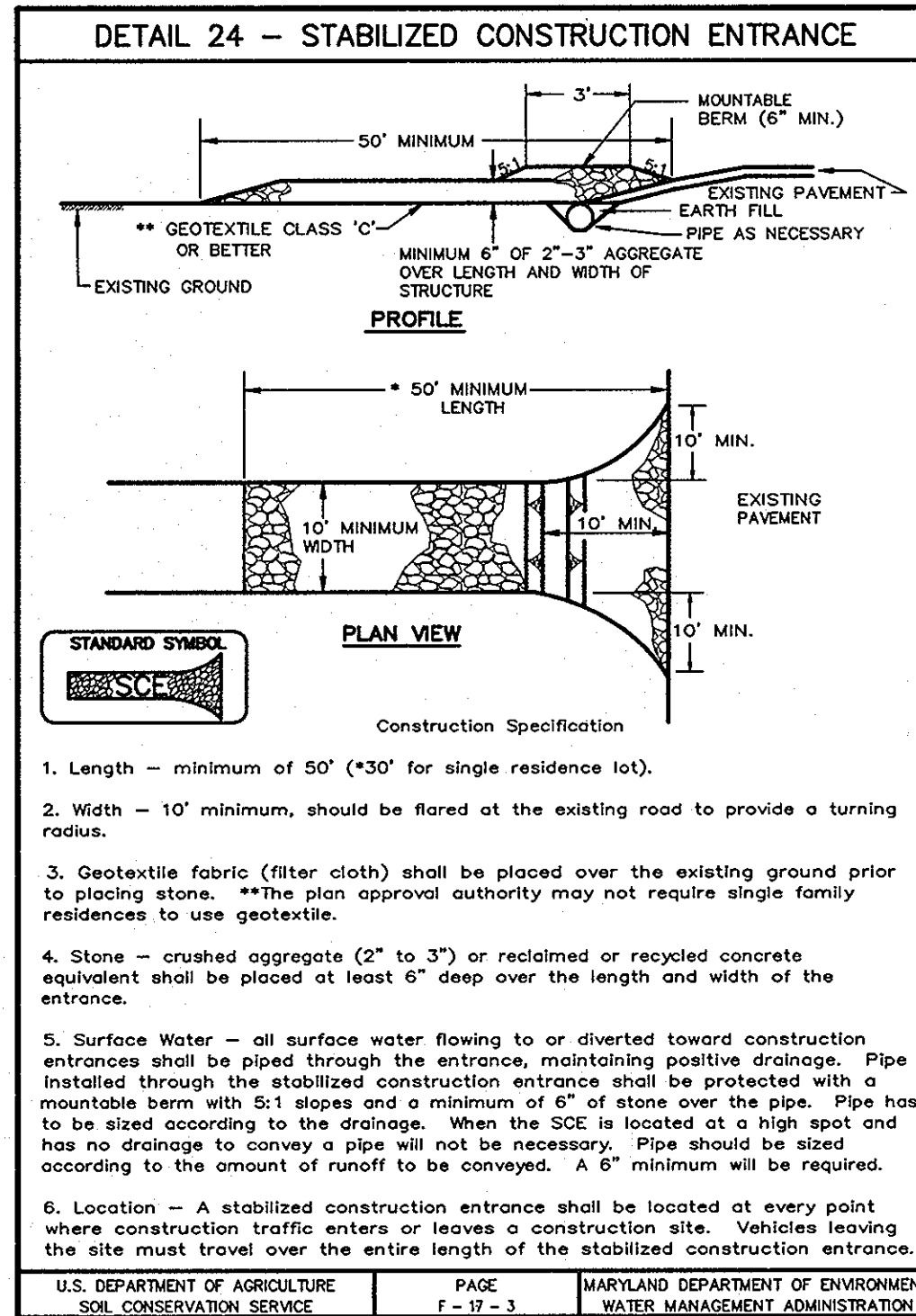
ELEVATION - HW-1
SCALE: 1"=10' HORIZ.
1"=5' VERT.

| | |
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| APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | <i>With 2 small</i> 5-9-08 CHIEF, BUREAU OF HIGHWAYS DATE |
| APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | <i>Andy Harris</i> 5/15/08 CHIEF, DIVISION OF LAND DEVELOPMENT DATE |
| | <i>John Dammann</i> 5/13/08 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE |
| DATE NO. | REVISION |
| OWNER/DEVELOPER | TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723 (410) 792-2565 |
| PROJECT | TROTTER CROSSING LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 6, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILL LOT 32 |
| AREA TAX MAP | 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE | STRUCTURAL RETAINING WALL DETAILS |
| | 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 |
| | <i>PHRA</i> |
| | 5/5/08 DATE |
| | DESIGNED BY : ACR |
| | DRAWN BY: MAD/ACR |
| | PROJECT NO.: 18851-01-ENGR/PLANS FINALS_WALL_PLAN.DWG |
| | DATE : MARCH 10, 2008 |
| | SCALE : AS SHOWN |
| | DRAWING NO. 7 OF 14 |
| | <i>Domenick W. Colangelo</i> 2/27/2008 DOMENICK W. COLANGELO #27200 |

AS-BUILT

F-05-067

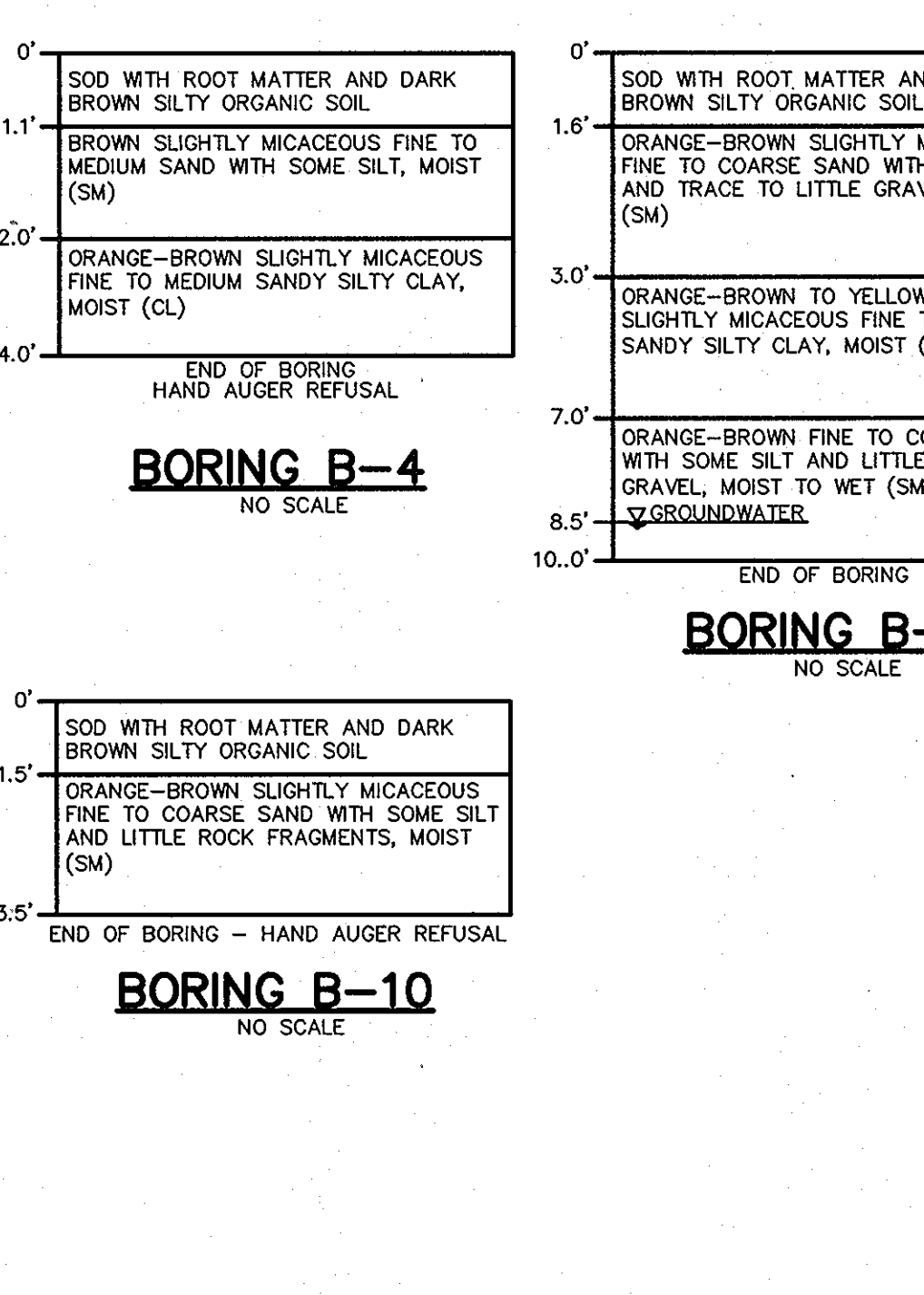
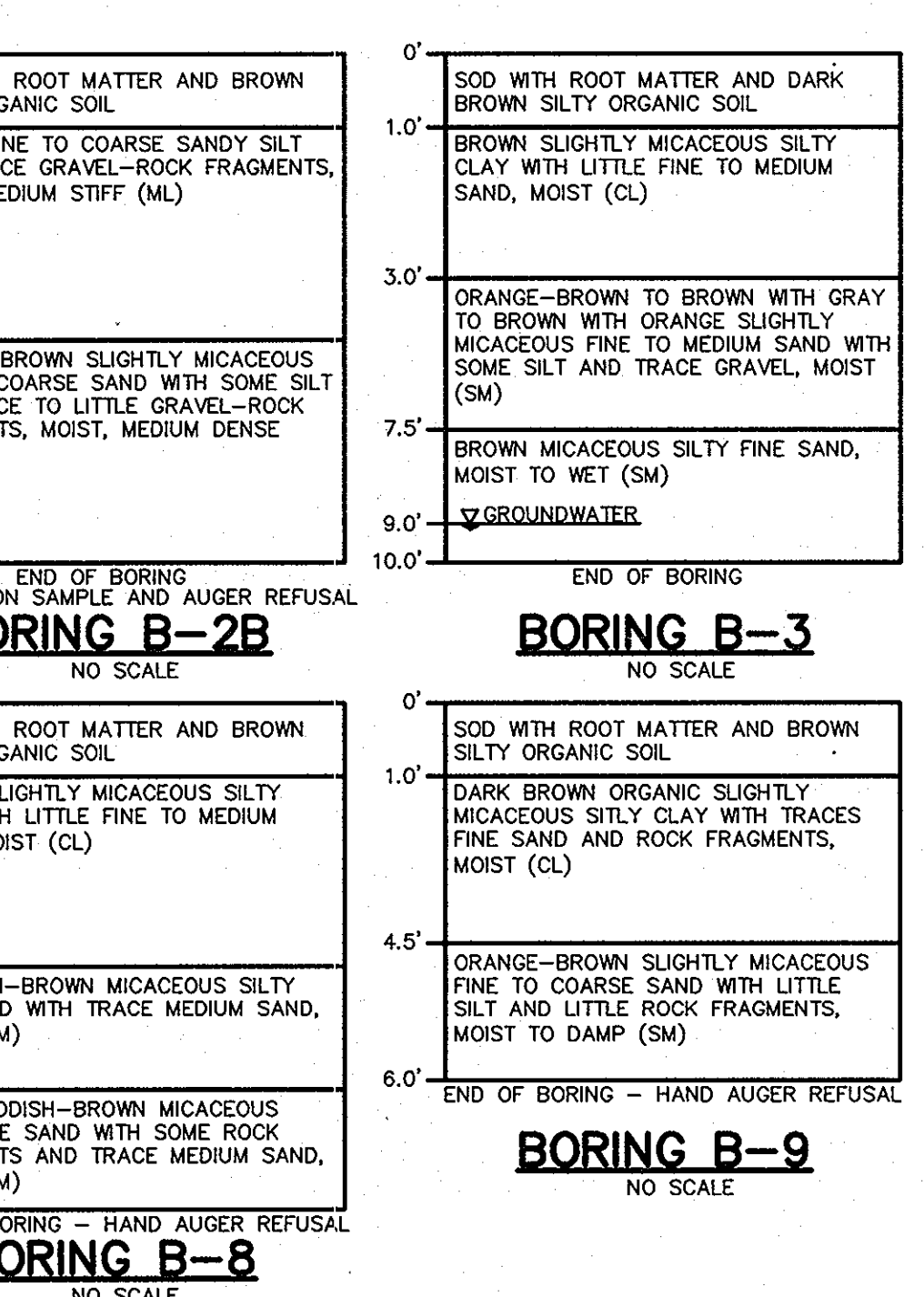
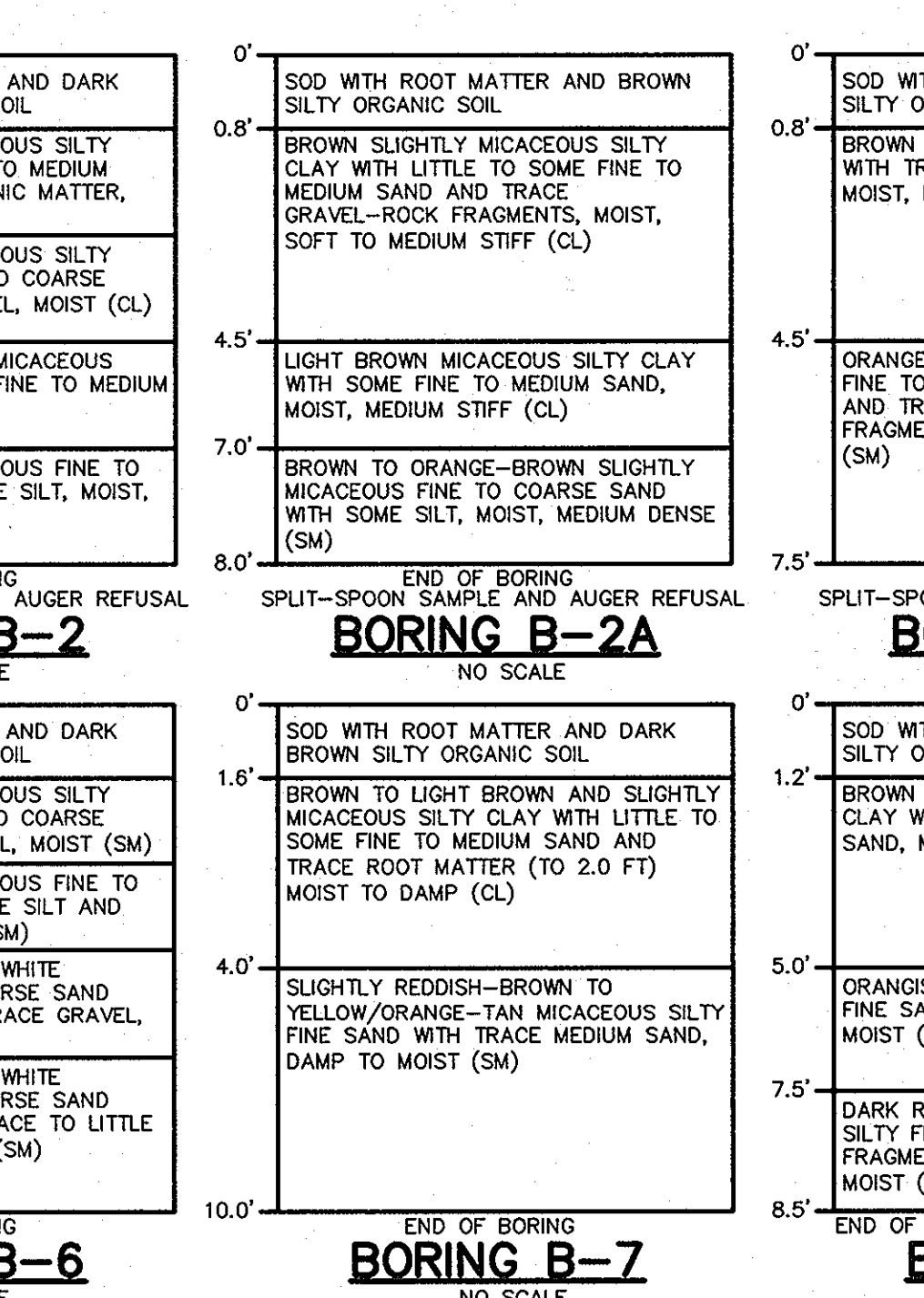
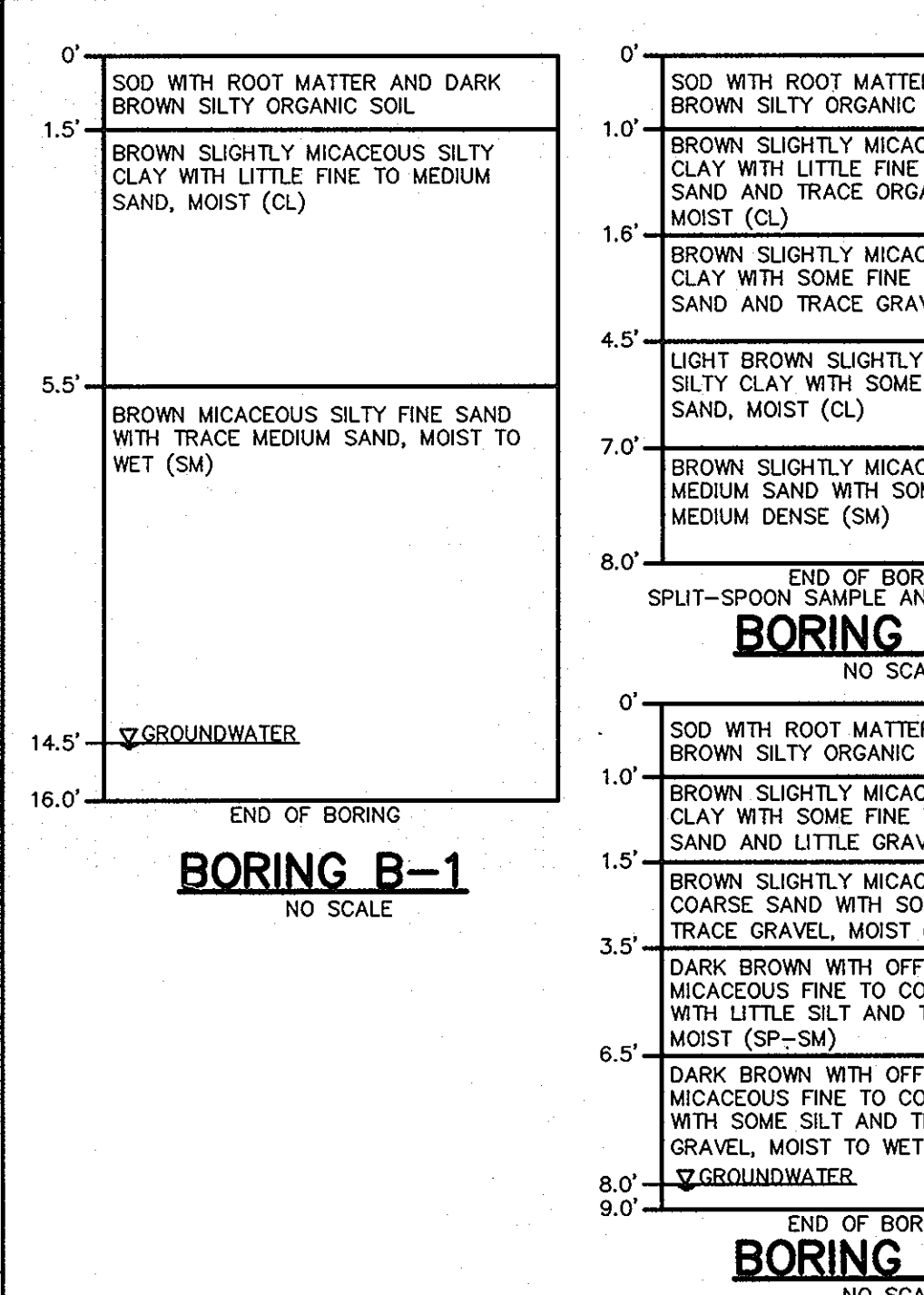
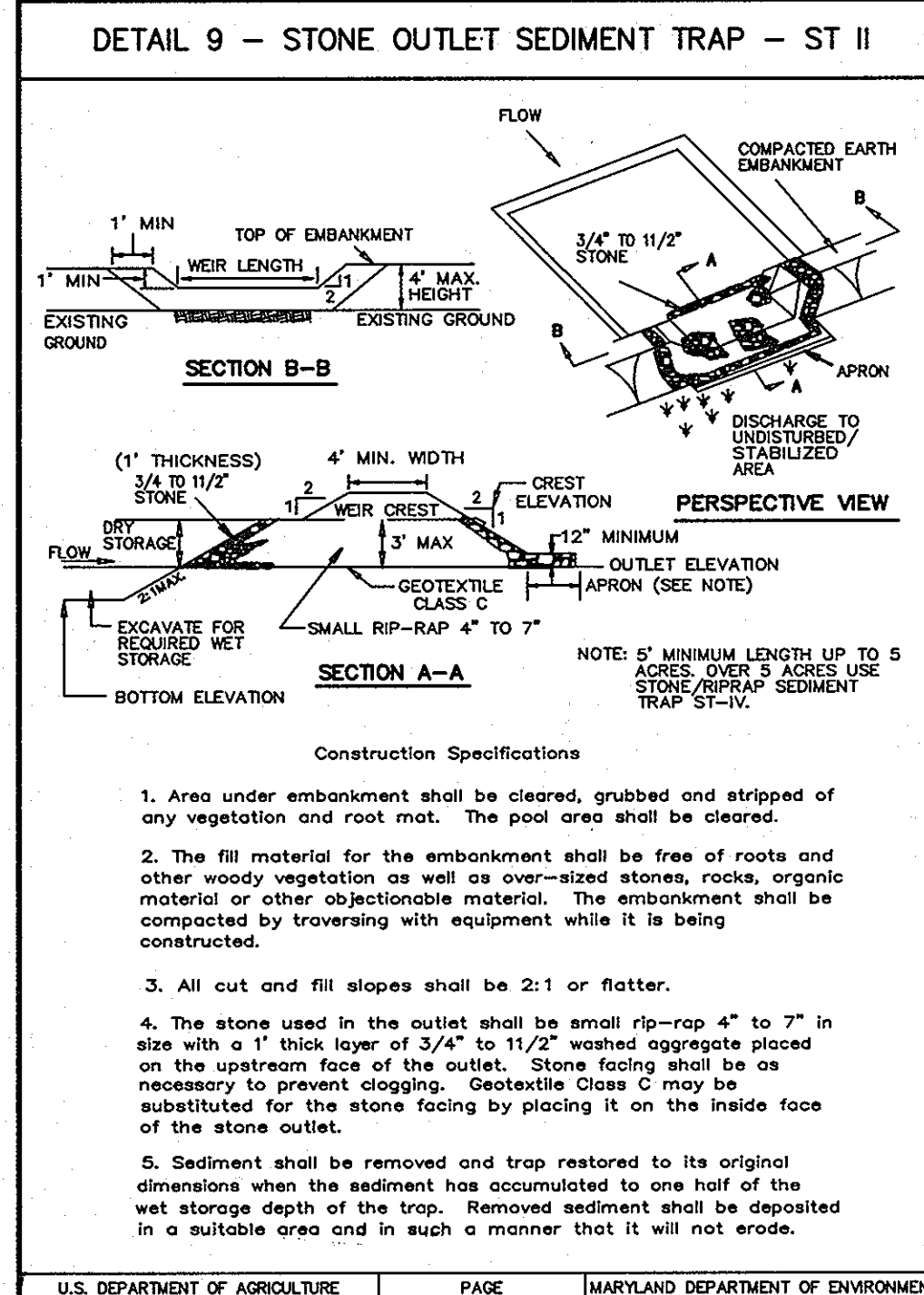
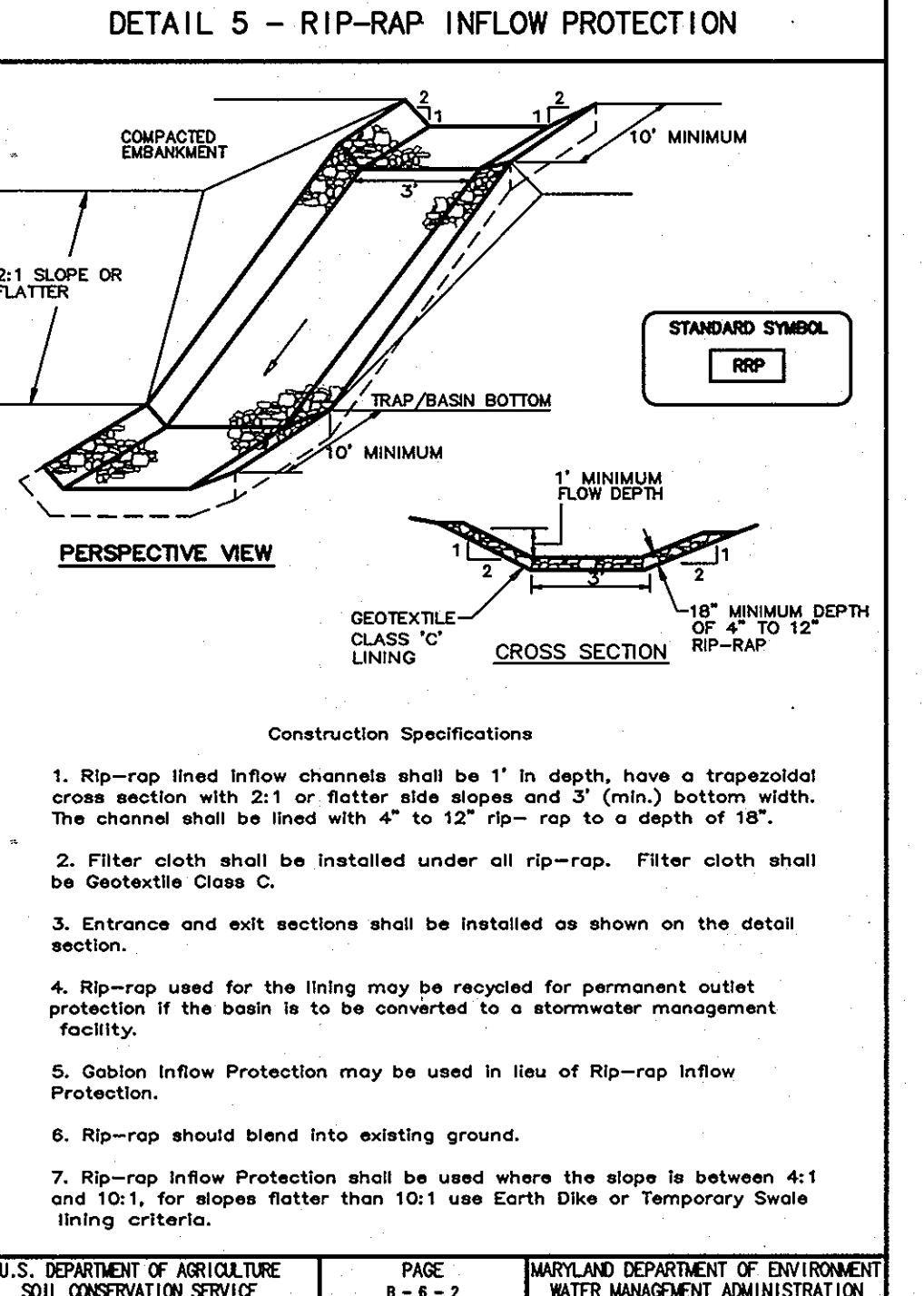
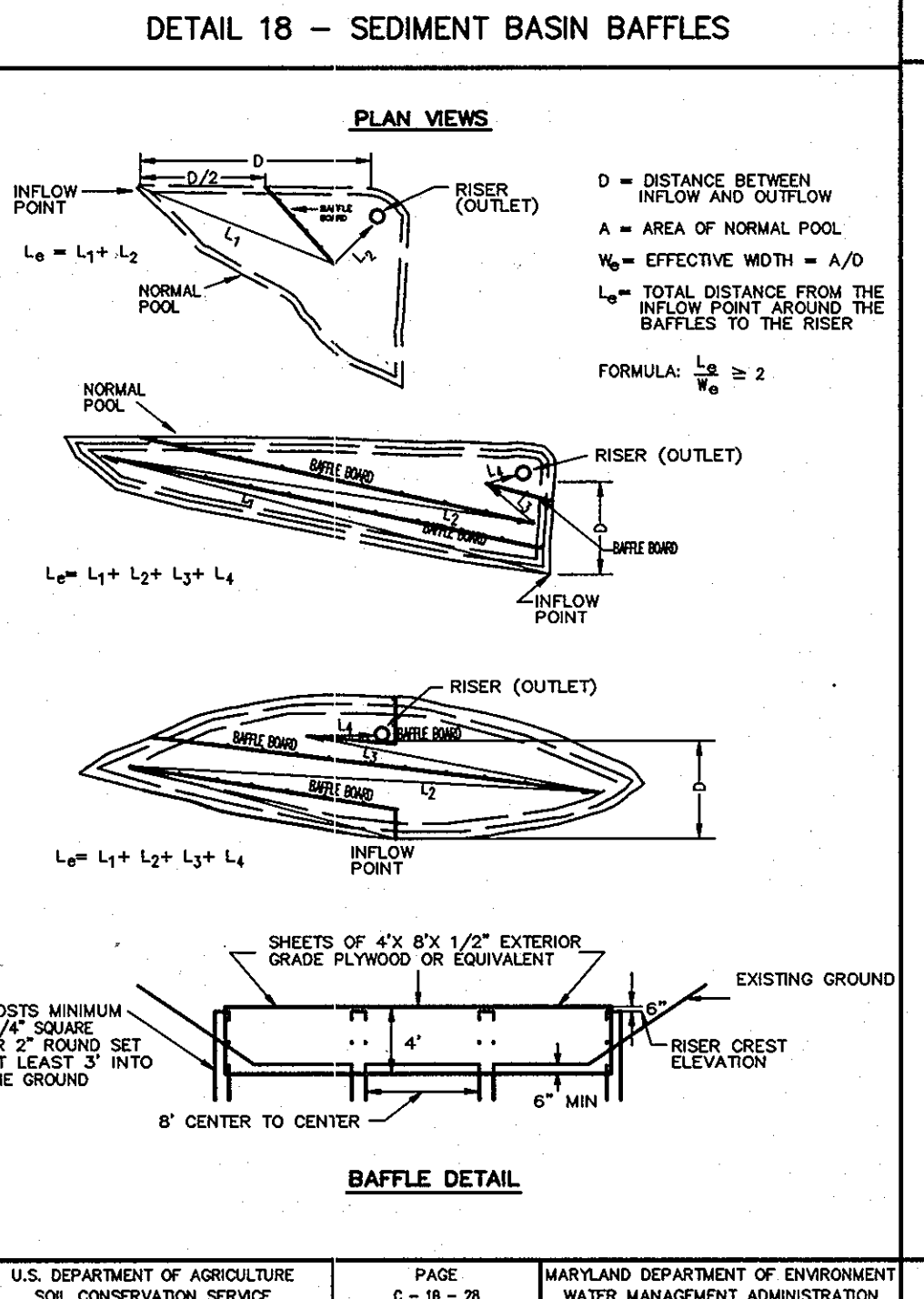
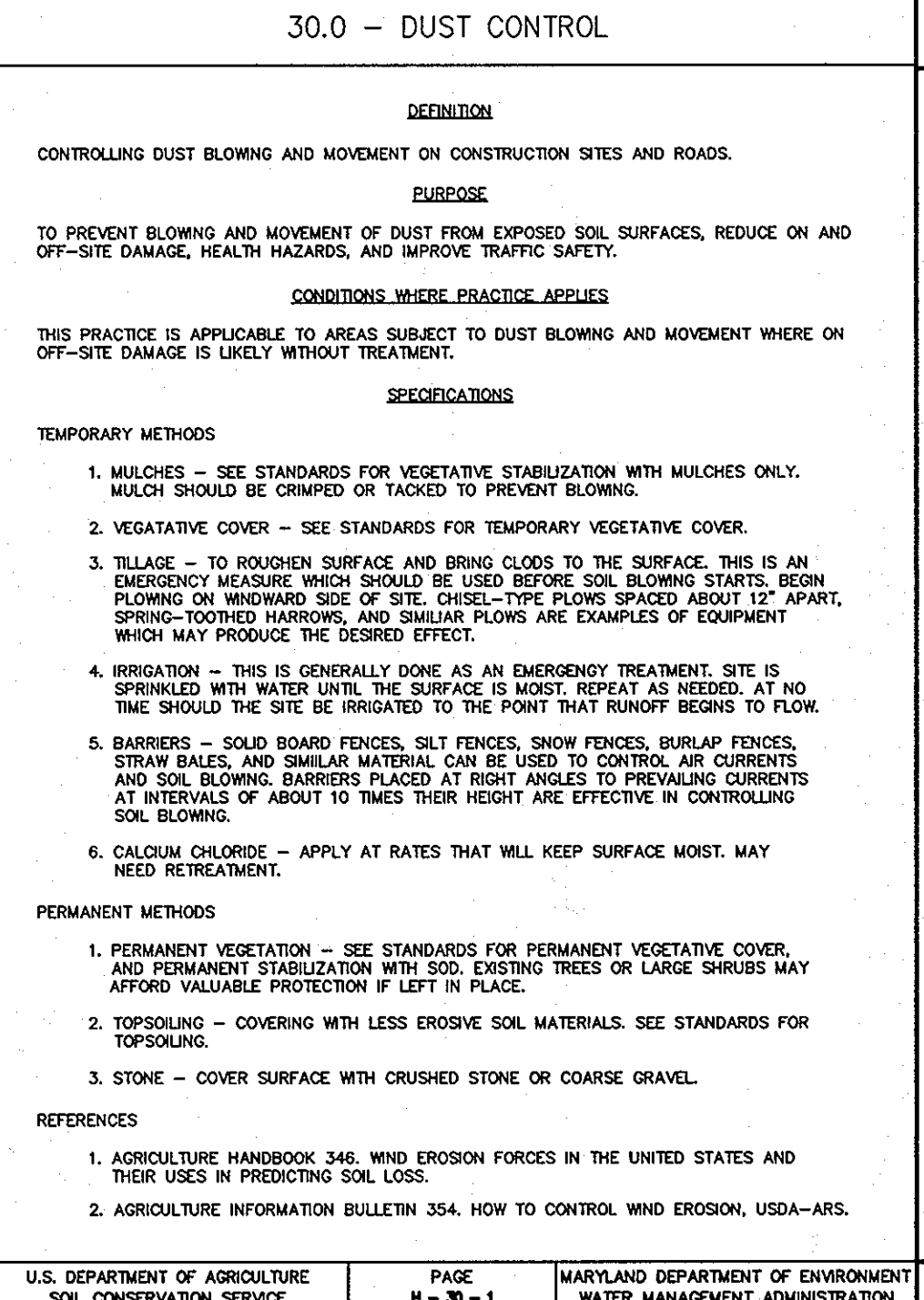
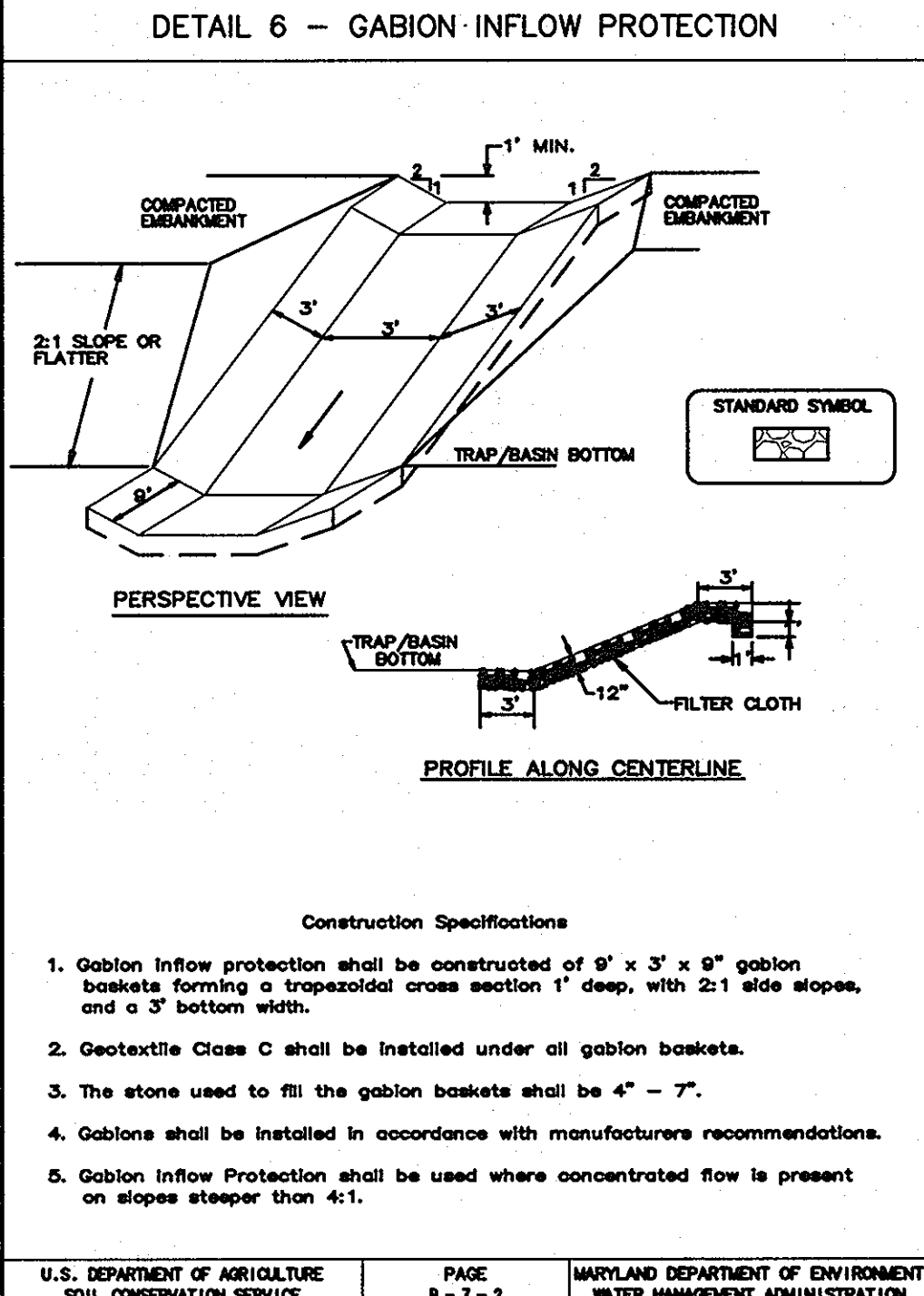
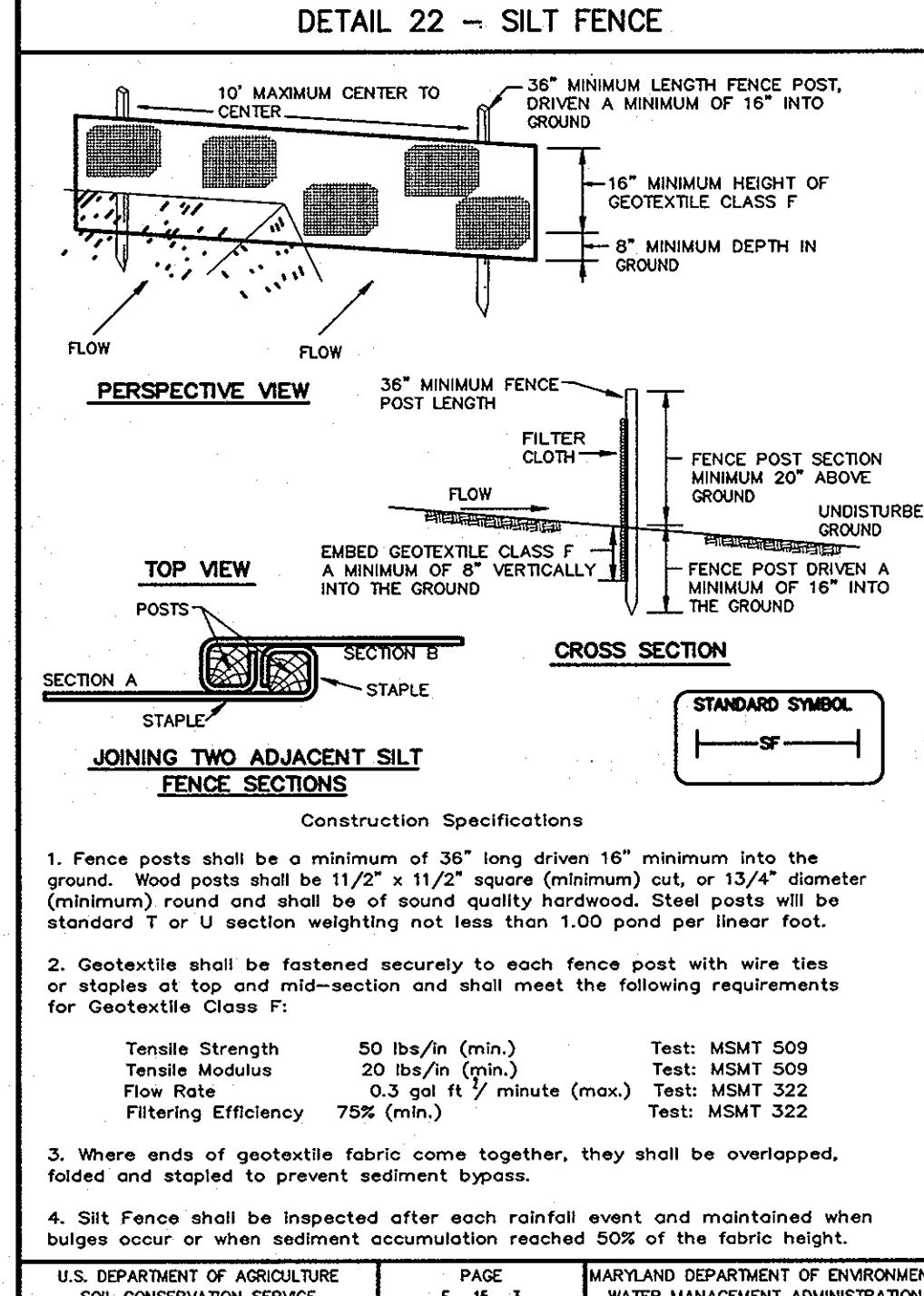
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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. **21443** Expiration Date: **12-21-12**

DOMENICK W. COLANGELO
 PROFESSIONAL ENGINEER
 No. 21443
 5-30-12

No As-Built information is required on this sheet.



BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

B. O. By 3/11/08
 DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

D. W. C. M. 3/10/08
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Howard Soil Conservation District 5/7/08
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Walter J. Gaddell 5-9-08
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Wanda Hantz 5/15/08
 CHIEF, DIVISION OF LAND & DEVELOPMENT DATE

Domencik W. Colangelo 5/12/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

| DATE | NO. | REVISION |
|------|-----|----------|
| | | |

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

PROJECT
TROTTER CROSSING
 LOTS 1 THRU 5, 7 THRU 10 &
 OPEN SPACE LOTS 6, 11, 12, AND 13
 A RESUBDIVISION OF FOREST HILL LOT 32
 AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

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

3/10/08
 DATE

DESIGNED BY: ACR
 DRAWN BY: MAD/ACR
 PROJECT NO. 118851-1-0 ENGR. PLANS
 'FINALS' 900DET1.DWG
 DATE: MARCH 10, 2008
 SCALE: AS SHOWN
 DRAWING NO. 8 OF 14

DOMENICK W. COLANGELO #27200
 PROFESSIONAL ENGINEER

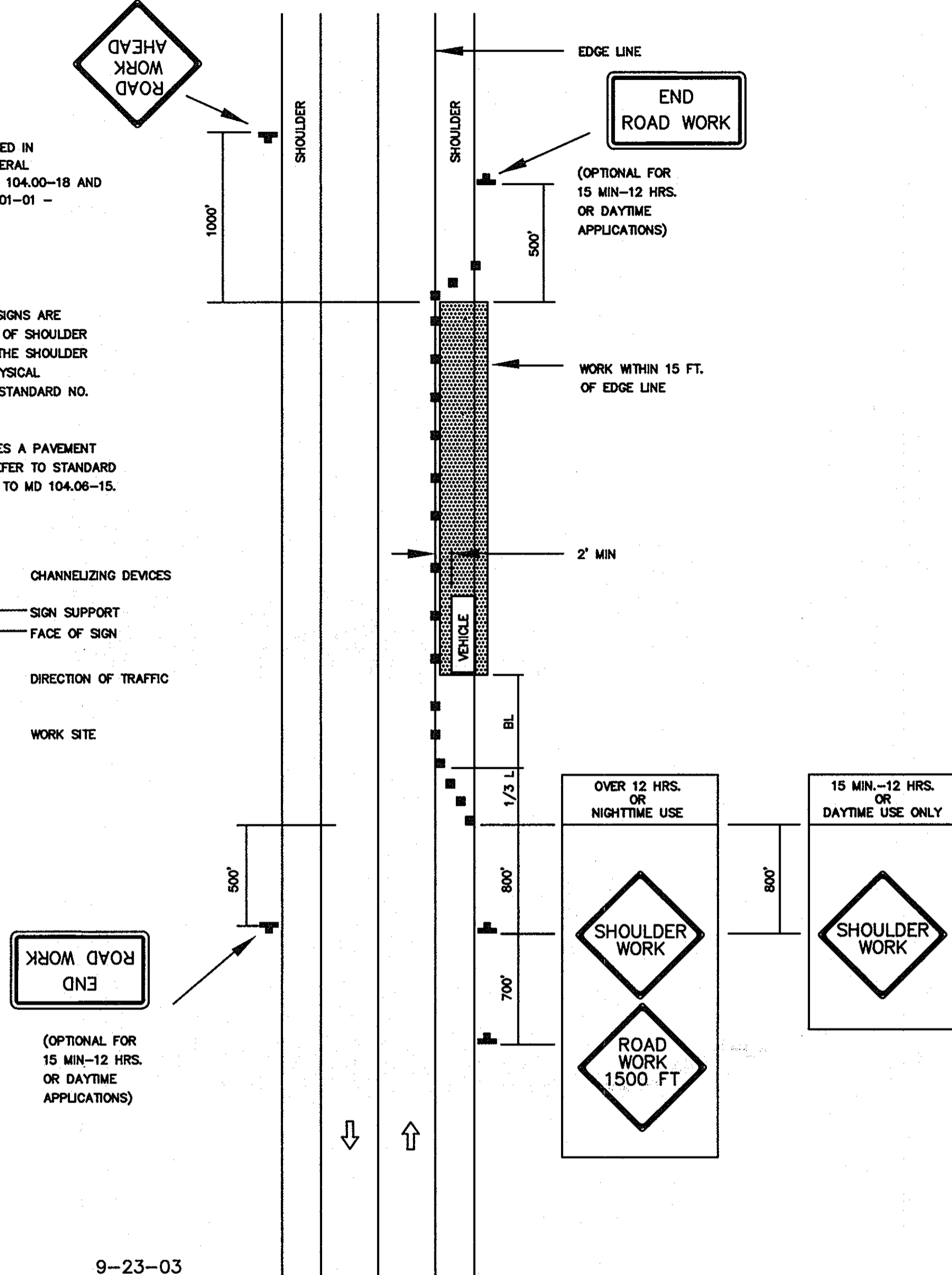
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT:
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-82

NOTES:
SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY A PHYSICAL BARRIER REFER TO STANDARD NO. MD 104.06-14.

WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-11 TO MD 104.06-15.

KEY:
 CHANNELIZING DEVICES
 SIGN SUPPORT
 FACE OF SIGN
 DIRECTION OF TRAFFIC
 WORK SITE



8-20-03 9-23-03

MD. 104.02-02
SHOULDER WORK, 2 LANE, 2-WAY TRAFFIC, ≤ 40MPH

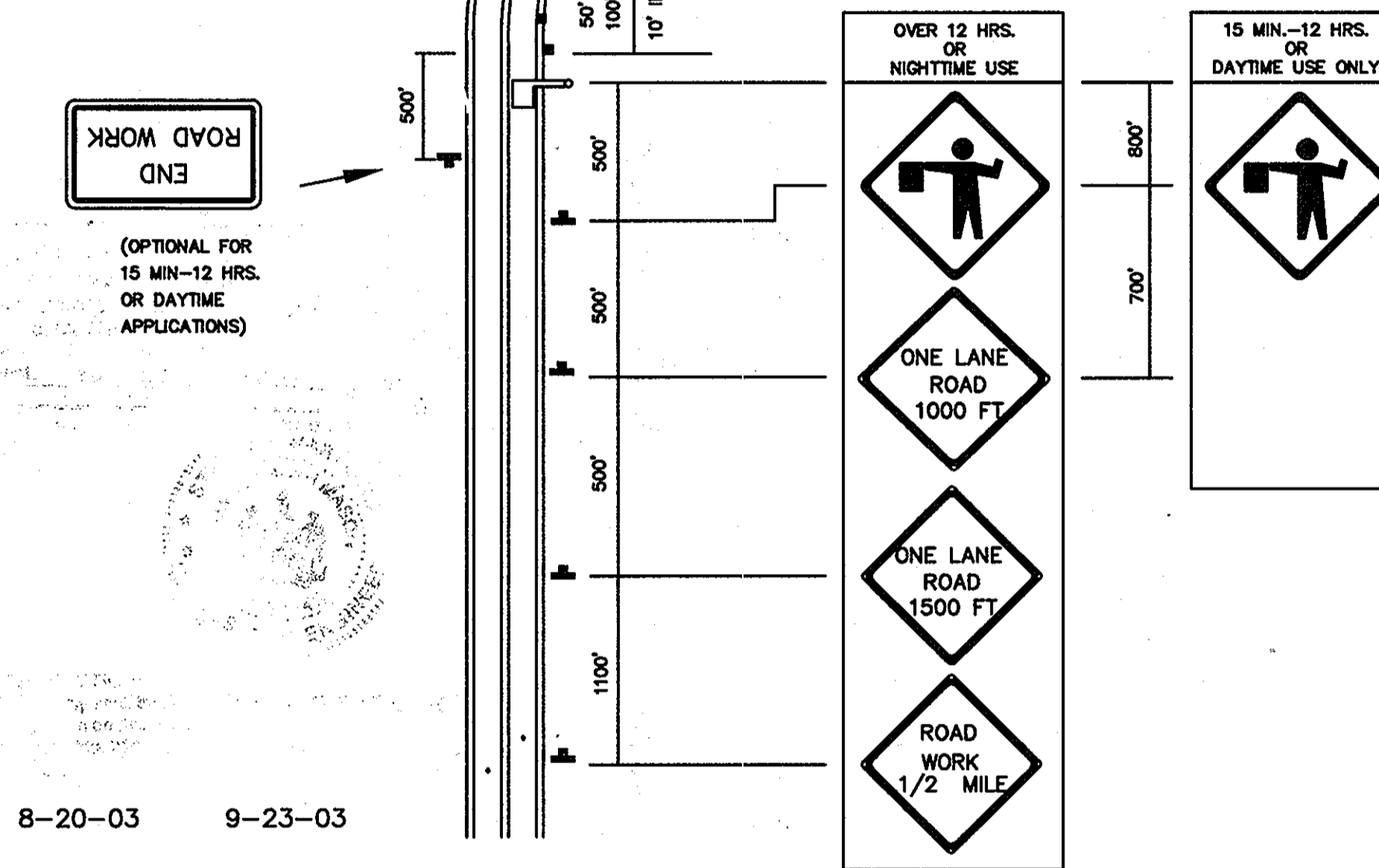
NO SCALE

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT:
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-82

NOTE:
FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

KEY:
 CHANNELIZING DEVICES
 SIGN SUPPORT
 FACE OF SIGN
 DIRECTION OF TRAFFIC
 WORK SITE
 FLAGGER



8-20-03 9-23-03

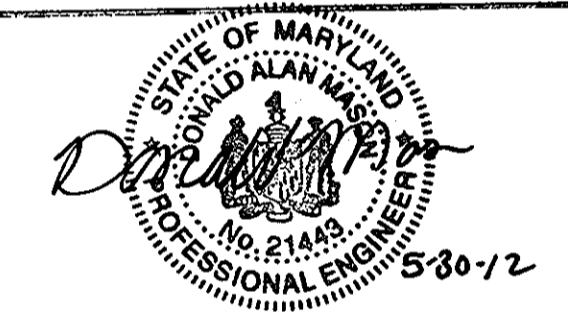
MD. 104.02-10
FLAGGING OPERATION, 2 LANE, 2-WAY TRAFFIC, ≤ 40MPH

NO SCALE

NOTES

- TROTTER ROAD IS AN EXISTING 2 LANE, 2-WAY ROAD. THE POSTED SPEED LIMIT FOR THE ROAD IS 30 MPH. REFER TO MDSHA STANDARDS MD 104.01-80 AND MD 104.01-81 FOR BUFFER LENGTHS AND TAPER LENGTHS. FOR GENERAL NOTES FOR CHANNELIZATION DEVICES, REFER TO MDSHA STANDARD MD 104.00-10.
- REFER TO MDSHA STANDARD MD 104.00-12 FOR GENERAL NOTES FOR FLAGGING OPERATION.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-31-12



No As-Built information is required on this sheet

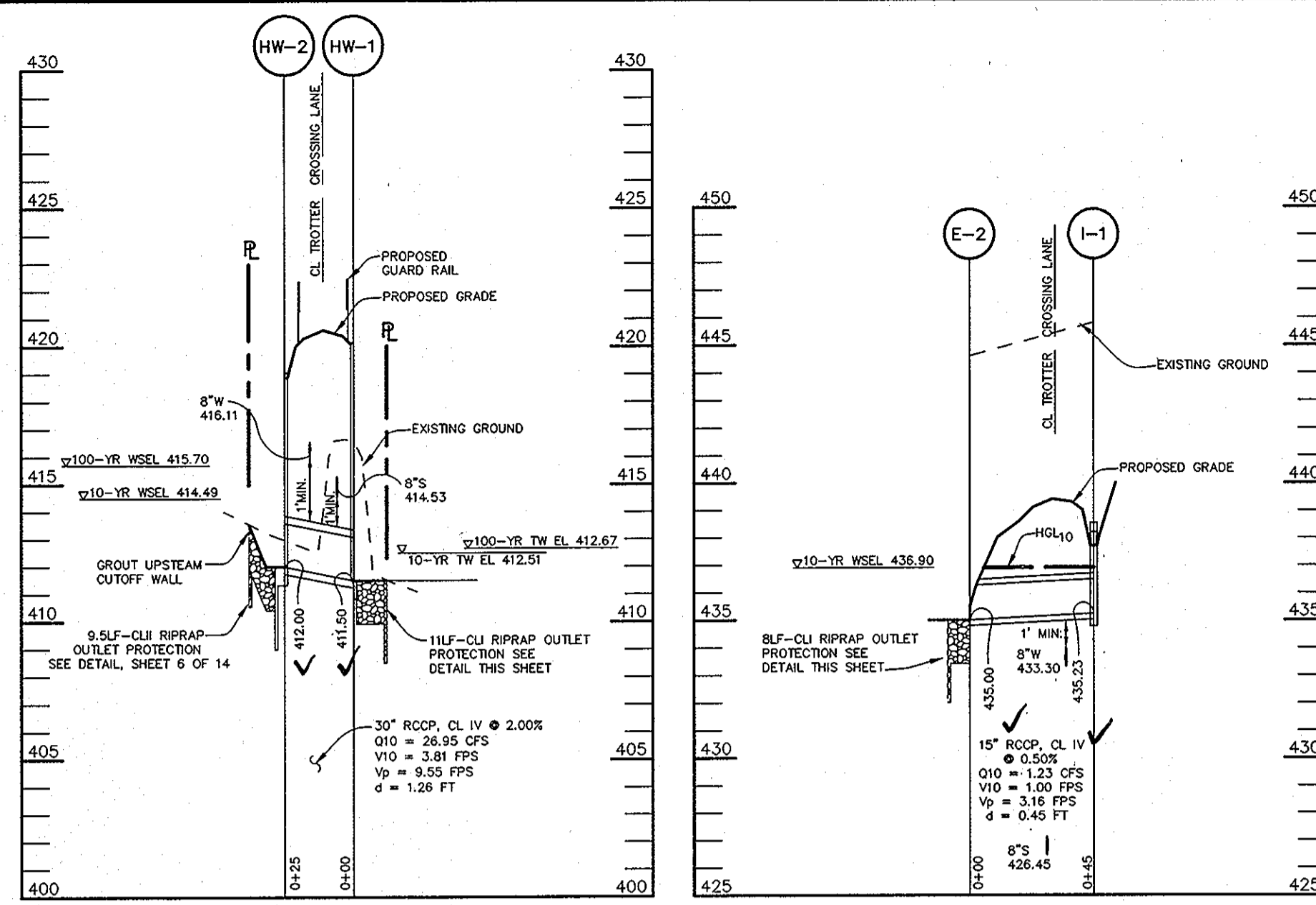
| | | |
|---|-----------------------|---------|
| APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | <i>Walter Z. M...</i> | 5-9-08 |
| CHIEF, BUREAU OF HIGHWAYS | | DATE |
| APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | <i>W. Harris</i> | 5/15/08 |
| CHIEF, DIVISION OF LAND DEVELOPMENT | | DATE |
| <i>W. Harris</i> | | 5/13/08 |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION | | DATE |

| DATE | NO. | REVISION |
|--|-----|----------|
| OWNER/DEVELOPER | | |
| TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723 (410) 792-2565 | | |
| PROJECT | | |
| TROTTER CROSSING LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 6, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILL LOT 32 | | |
| AREA TAX MAP 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND | | |
| TITLE | | |
| MOT PLAN | | |
| 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 | | |

| | |
|-----------------|--|
| 3/10/08 DATE | DESIGNED BY : ACR |
| | DRAWN BY: BCL |
| | PROJECT NO. 118851-1-01-ENGR-PLANS FINALS C9020ET |
| | DATE : MARCH 10, 2008 |
| | SCALE : NO SCALE |
| | DRAWING NO. 9 OF 14 |

AS-BUILT

F-05-067

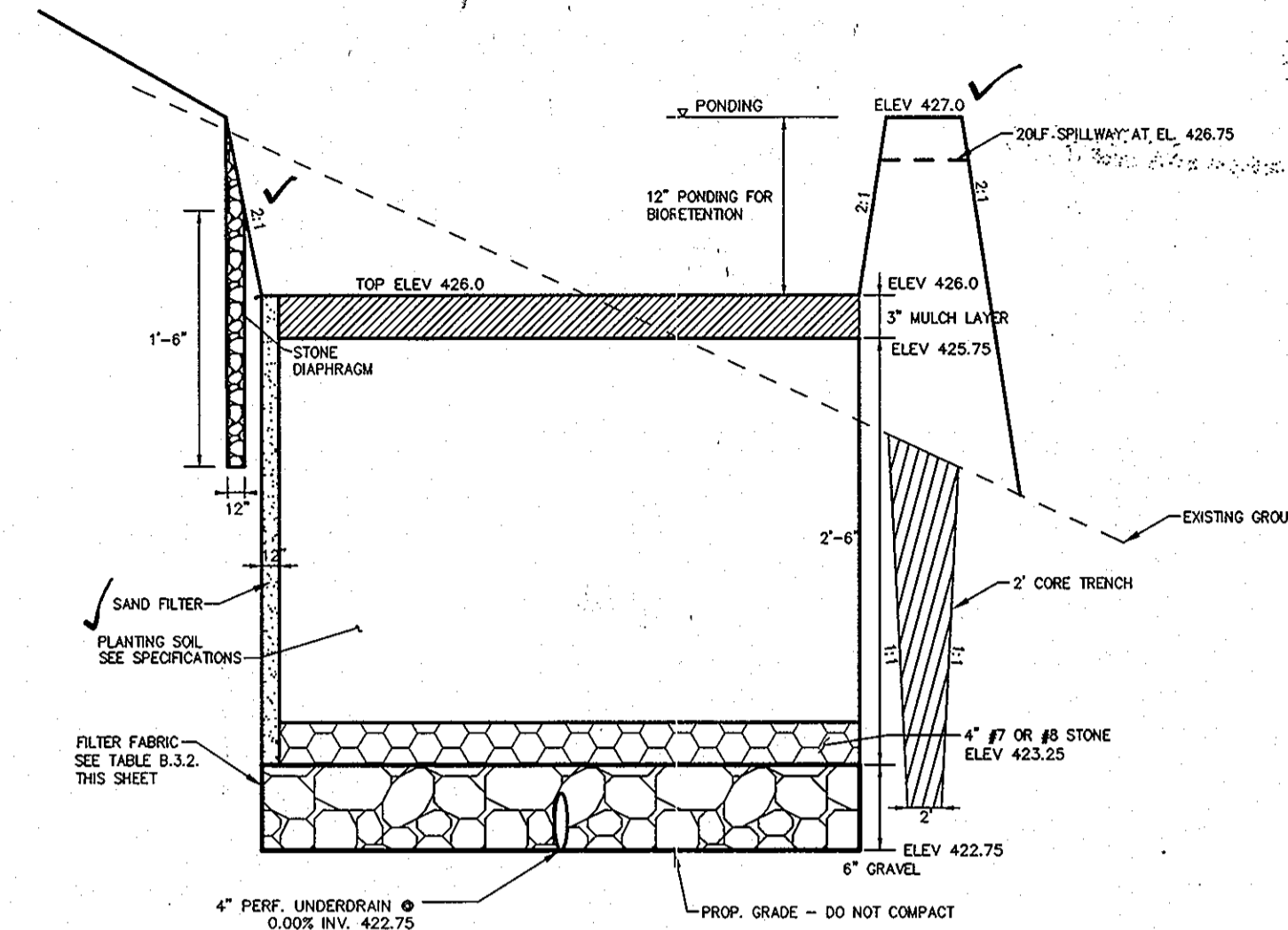


STORM DRAIN PROFILE

SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'

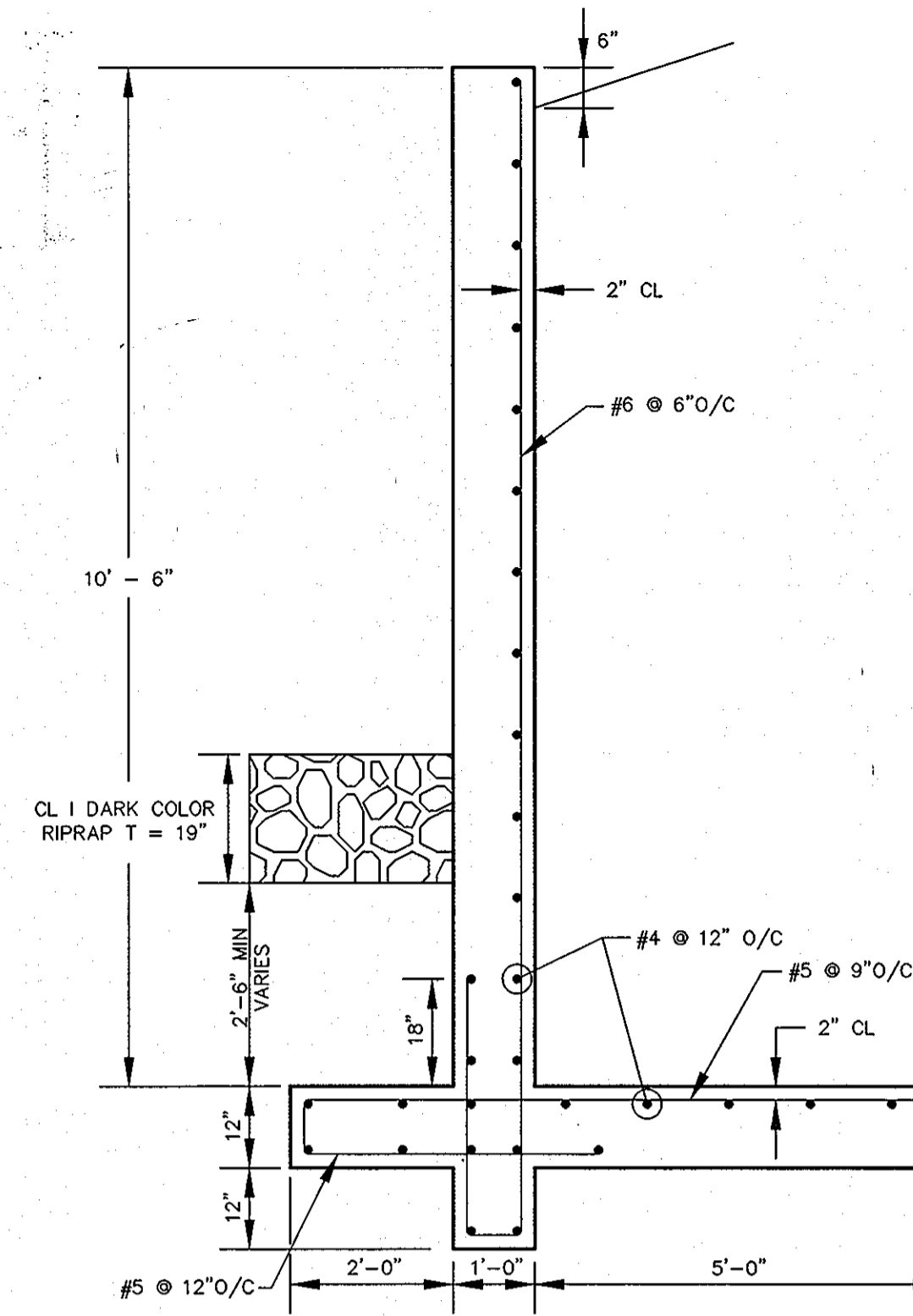
STORM DRAIN PROFILE

SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'



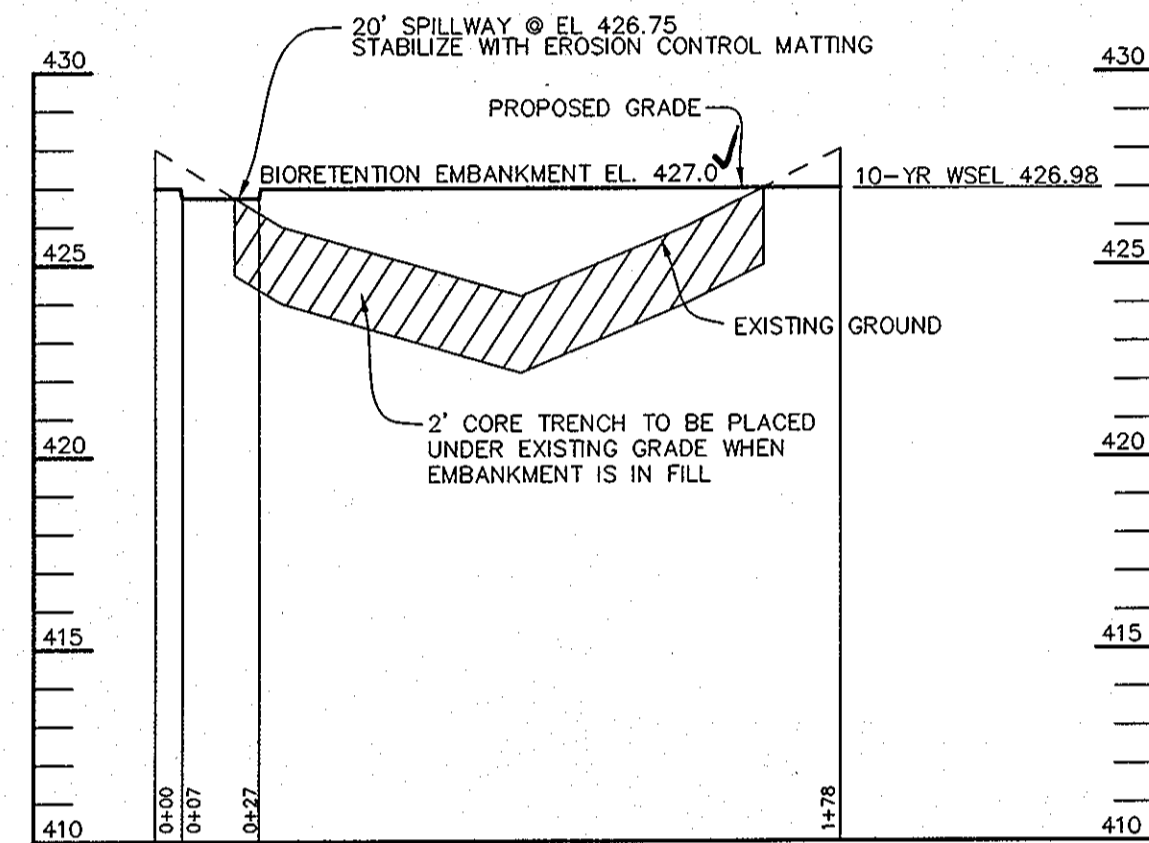
BIORETENTION SECTION A-A

SCALE: 1" = 1'



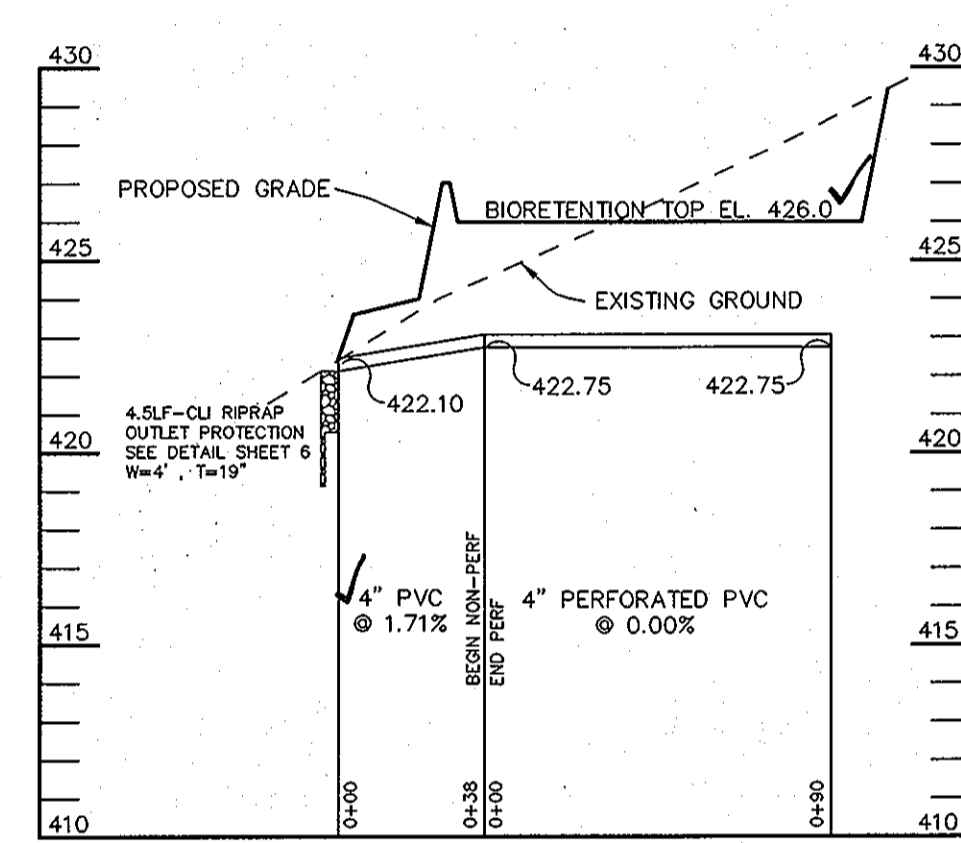
HW-2 RETAINING WALL SECTION

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



CENTERLINE OF BIORETENTION DAM PROFILE

SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'



PROFILE BIORETENTION UNDERDRAIN

SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 5-30-12

SPECIFICATIONS FOR BIORETENTION

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2. THIS SHEET
- PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMOUD GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
- THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:**
pH RANGE 5.2-7
ORGANIC MATTER 1.5-4% (BY WEIGHT)
MAGNESIUM 35 lb./ac
PHOSPHORUS (PHOSPHATE-P₂ O₅) 75 lb./ac
POTASSIUM (POTASH-K₂ O) 85 lb./ac
SOLUBLE SALTS NOT TO EXCEED 500 ppm

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR pH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.

SHOULD THE pH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE. COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACATURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOLS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL
SEE SHEETS 10 TO 11 FOR PLANTING DETAILS
BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.

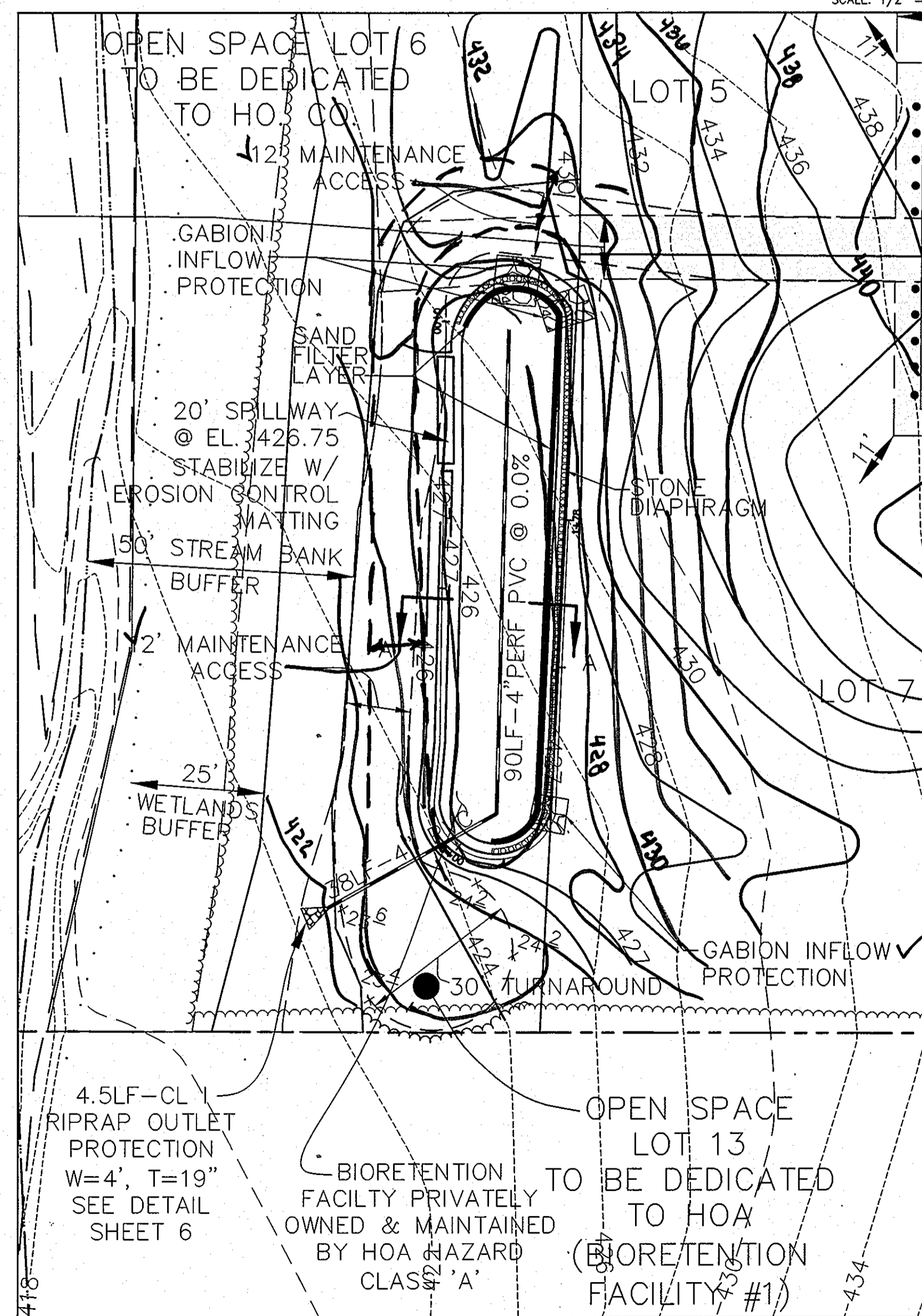
- PLANT INSTALLATION**
MULCH SHOULD BE PLACED TO UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AN DMOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND

| Table B.3.2: Materials Specifications for Bioretention | | | |
|--|--|--------------------------|--|
| MATERIAL | SPECIFICATIONS | SIZE | NOTES |
| PLANTINGS | SEE LANDSCAPE PLAN SHEET | N/A | |
| PLANTING SOIL (2.5' DEEP) | SAND 35 - 60 % SILT 30 - 55 % CLAY 10 - 25 % | N/A | USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM |
| MULCH | SHREDDED HARDWOOD | N/A | AGED 6 MONTHS, MINIMUM |
| STONE DIAPHRAGM | PEA GRAVEL: ASTM-D-448 | PEA GRAVEL: No. 7 | |
| GEOTEXTILE | PE TYPE 1, NON-WOVEN | N/A | FOR USE ENCLosing UNDER DRAIN FACILITY ONLY. |
| UNDERDRAIN GRAVEL | AASHTO M-43 | #57 STONE | |
| UNDERDRAIN PIPE | F 758, TYPE PS 28 OR AASHTO M-278 | 4" RIGID SCHEDULE 40 PVC | SLOTTED PIPE OR 3/8" PERF. - 6"/O.C. 4 HOLES PER ROW; AND WRAP PERF. PIPE WITH 1/4" GALVANIZED HARDWARE CLOTH. MIN. 2" OF GRAVEL OVER PIPES |
| SAND | AASHTO M-6 or ASTM C-33 | 0.02" to 0.04" | SAND SUBSTITUTIONS SUCH AS DIABASE AND GRASTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND. |



BIORETENTION FACILITY

SCALE: 1" = 20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Walter Z. Wall 5-9-08
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Cinda Harve 5/15/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Donald Mason 5/13/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

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

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

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

TITLE **DETAILS AND PROFILES**

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

5/13/08 DATE

DESIGNED BY: ACR
DRAWN BY: MAD/ACR
PROJECT NO: 11885-1-0-ENGR-PLANS
FINAL/PROFILE1.DWG
DATE: MARCH 10, 2008
SCALE: AS SHOWN
DRAWING NO. 10 OF 14

Domenick W. Colangelo #27200
DOMENICK W. COLANGELO #27200

AS-BUILT

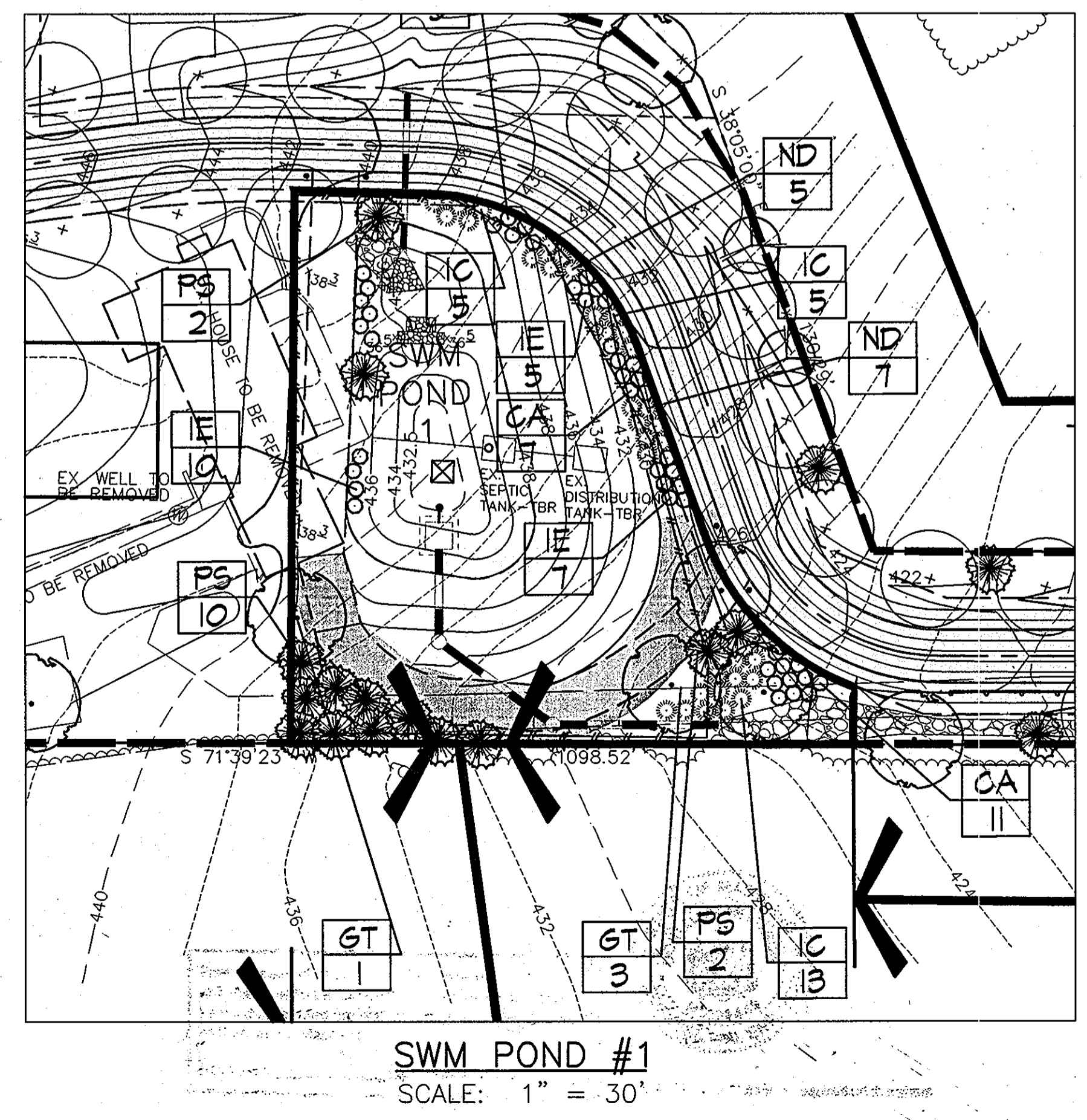
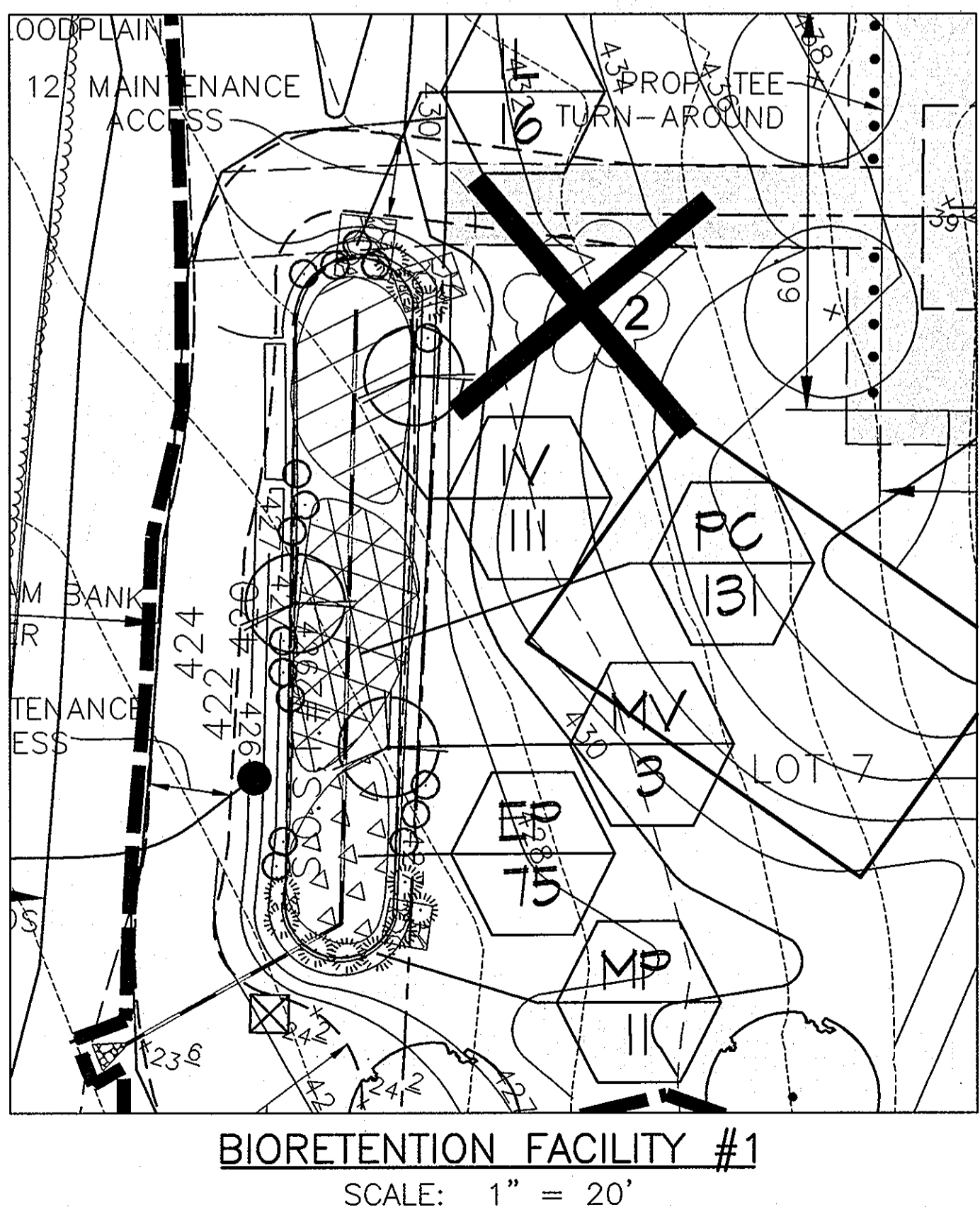
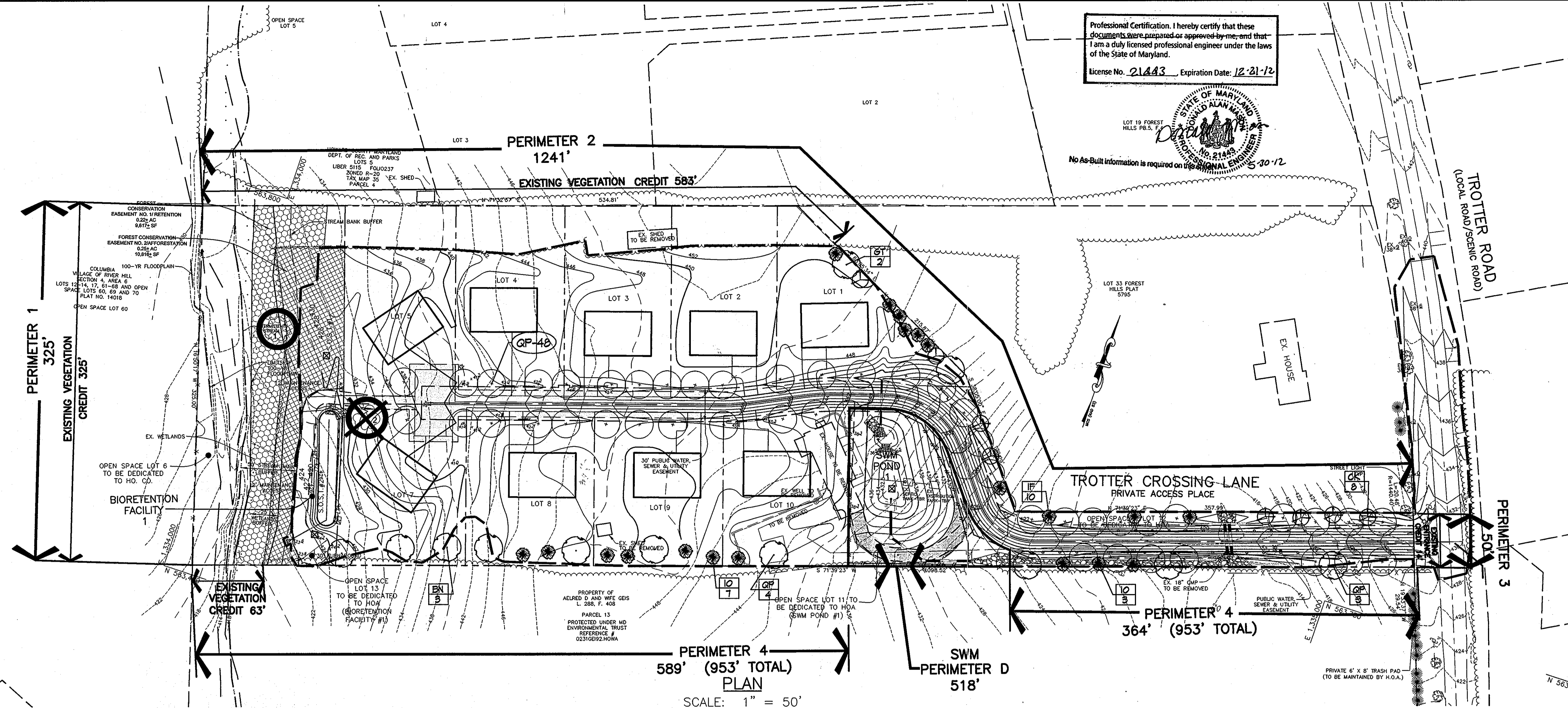
F-05-067

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-12



| LEGEND | |
|---------------------------------|--|
| PROPOSED SHADE TREE | |
| PROPOSED ORNAMENTAL TREE | |
| PROPOSED EVERGREEN TREE | |
| PROPOSED SHRUBS | |
| PROPOSED STREET TREE | |
| PERIMETER LANDSCAPE LABEL | |
| BIORETENTION PLANTINGS LABEL | |
| STREET TREES LABEL | |
| PERIMETER LANDSCAPE EDGE LIMITS | |
| EX. SPECIMEN TREE TO REMAIN | |
| EX. SPECIMEN TREE TO BE REMOVED | |



- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - FINANCIAL SURETY FOR REQUIRED PERIMETER, STORM WATER MANAGEMENT LANDSCAPING AND STREET TREES IN THE AMOUNT OF \$27,150.00 FOR 48 PRIVATE ACCESS STREET TREES, 38 PERIMETER SHADE TREES AND 13 EVERGREENS SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN.

| | |
|--------------------------------------|------------|
| 84 SHADE TREES @ \$300 | = \$25,200 |
| 0 ORNAMENTAL TREES @ \$150 = \$0 | |
| 13 EVERGREEN TREES @ \$150 = \$1,950 | |
| 0 SHRUBS @ \$30 = \$0 | |
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
 - ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
 - AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
 - NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE LANDSCAPE PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

DEVELOPER'S/BUILDER'S CERTIFICATE:
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

B. D. By 4/16/08
 SIGNATURE DATE

| | |
|--|--|
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | <i>Walter R. ...</i> 5-9-08 DATE CHIEF, BUREAU OF HIGHWAYS |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | <i>Cindy ...</i> 5/15/08 DATE CHIEF, DIVISION OF LAND DEVELOPMENT |
| | <i>John ...</i> 5/15/08 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 |
| DATE NO. | REVISION |
| OWNER/DEVELOPER | TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723 (410) 792-2565 |
| PROJECT | TROTTER CROSSING LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 8, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILL LOT 32 |
| AREA TAX MAP | 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE | FINAL LANDSCAPE PLAN |
| 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 | |
| DATE | 4.16.08 |
| DESIGNED BY: | PJS |
| DRAWN BY: | PJS/KLS |
| PROJECT NO. | 11885-1-0 ENGR PLANS FINALS L2001D01.DWG |
| DATE: | MARCH 10, 2008 |
| SCALE: | AS SHOWN |
| DRAWING NO. | 11 OF 14 |
| PETER J. STONE #3068 | |

AS-BUILT

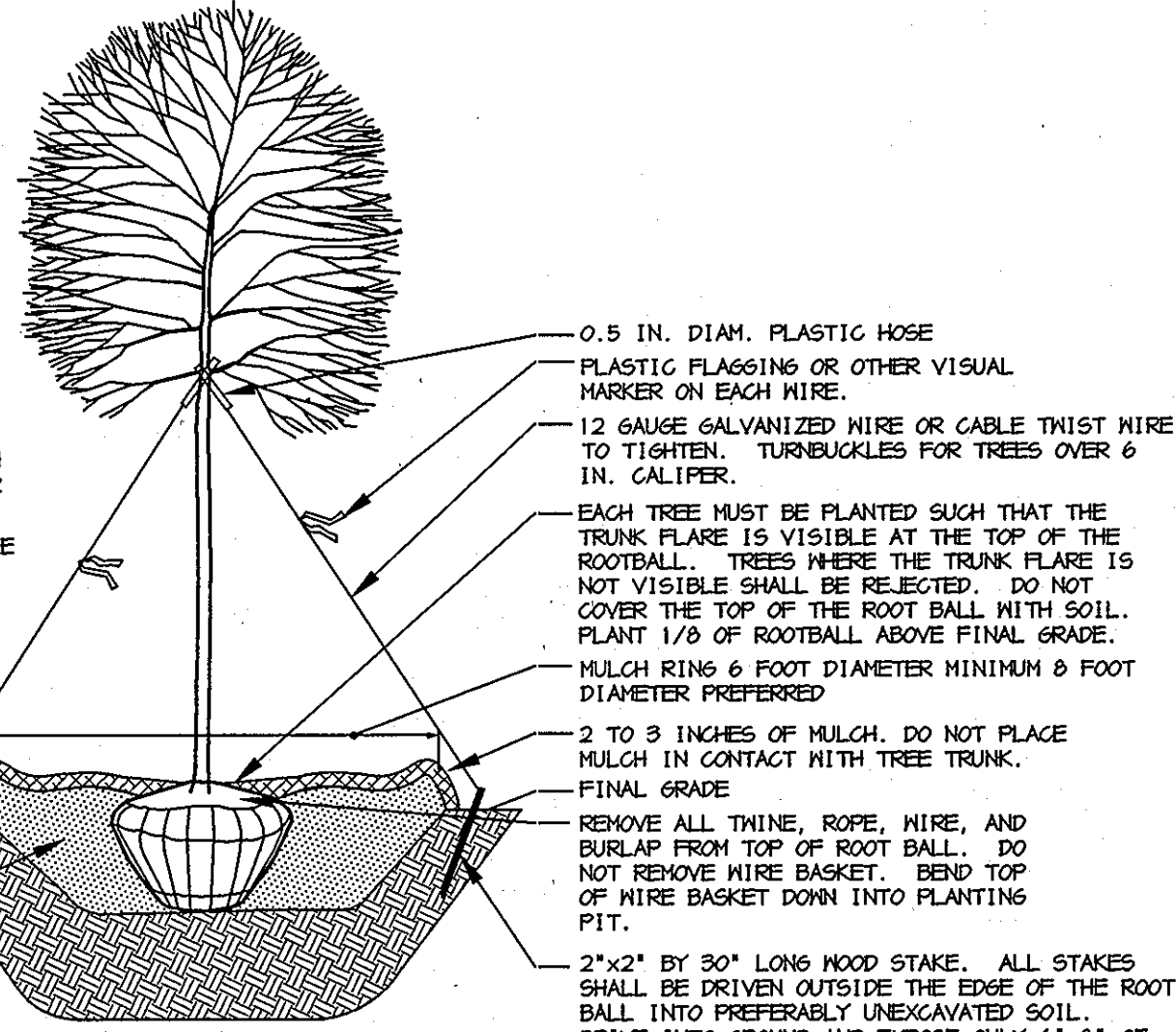
F-05-067

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.): top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yews): Top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Weed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

NOTES:

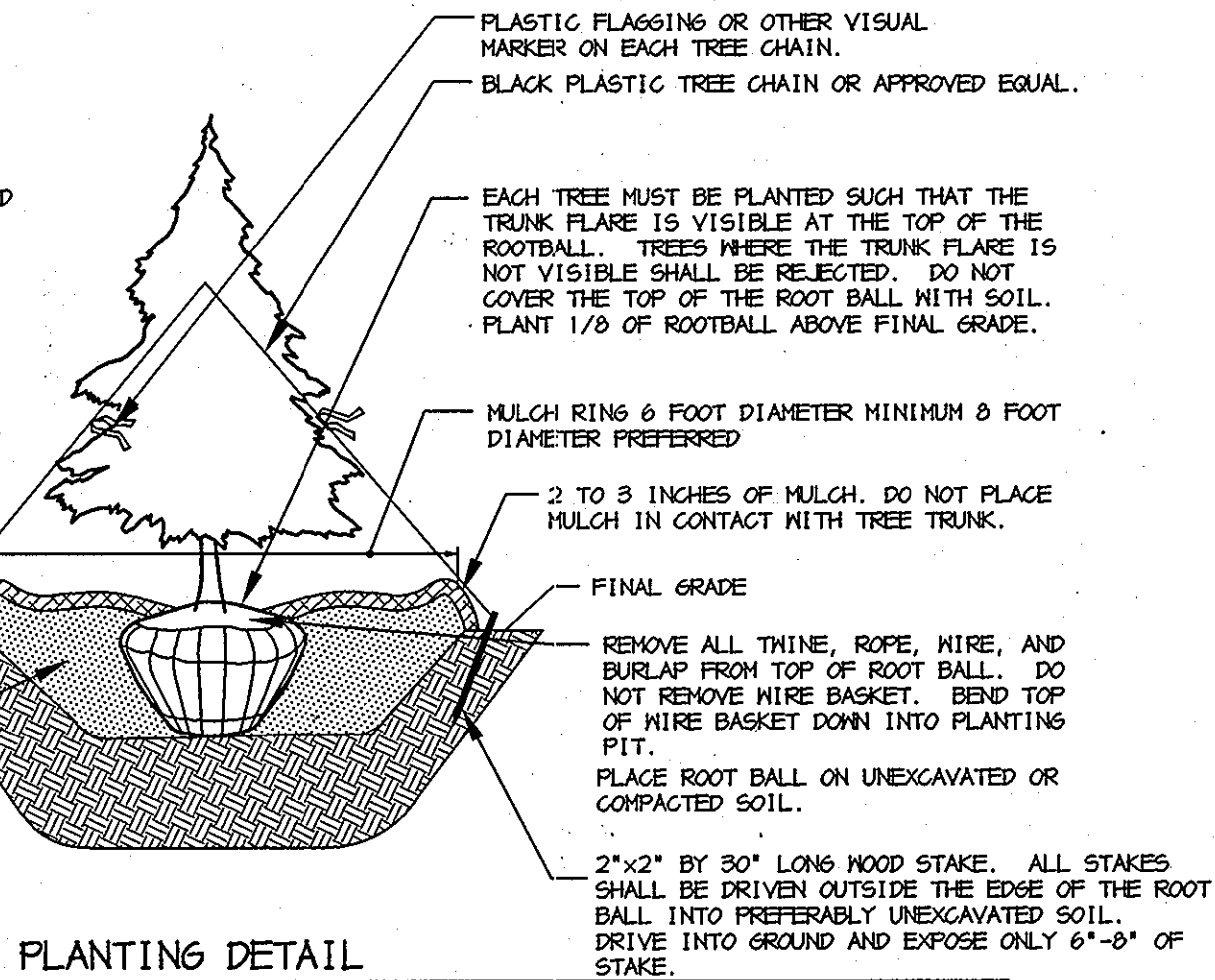
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
- TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
- TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
- INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.
- ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 IN. REMOVE STAKES AFTER ONE YEAR.



DECIDUOUS B&B TREE PLANTING DETAIL (TREES 3" CAL. OR LARGER)
NOT TO SCALE

NOTES:

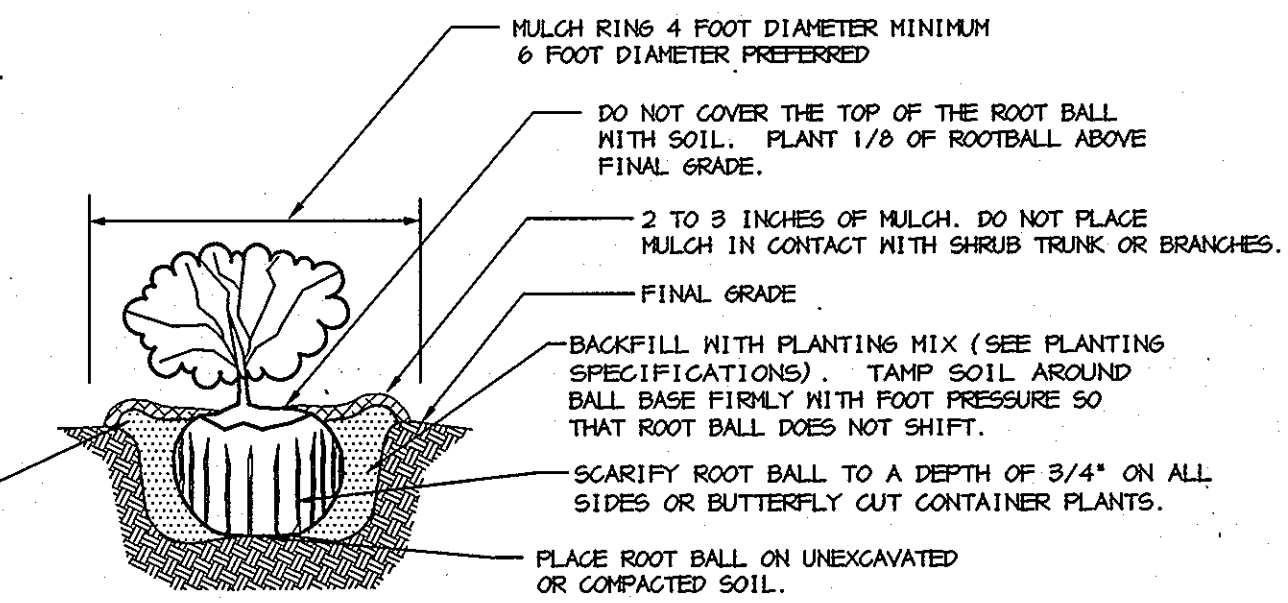
- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".



EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

- DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
- DIG PLANTING PIT 24" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 36".
- FOR B&B SHRUBS: REMOVE ALL THINE, ROPE, AND BURLAP FROM TOP OF ROOT BALL.
- ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.



INDIVIDUAL SHRUB PLANTING DETAIL - B&B AND CONTAINER SHRUBS
NOT TO SCALE

| PLANT LIST | | | | | |
|------------|------|---|-------------|-------|---|
| SYMBOL | QTY. | SCIENTIFIC/COMMON NAME | SIZE | ROOT | REMARKS |
| BN | 3 | BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH | 10-12' HT. | B&B | MULTI-STEM |
| GT | 6 | GLEDITSIA TRIACANTHOS 'IMPERIAL' IMPERIAL THORNLESS HONEYLOCUST | 2.5- 3' CAL | B&B | PLANT AS SHOWN |
| QP | 7 | QUERCUS PALUSTRIS PIN OAK | 2.5- 3' CAL | B&B | PLANT AS SHOWN |
| CK | 8 | CORNUS KOUSA CHINESE DOGWOOD | 8'-10' HT. | B&B | PLANT AS SHOWN |
| IF | 10 | ILEX 'FESTIVE' FESTIVE RED HOLLY | 5-6' HT. | B&B | PLANT AS SHOWN |
| IO | 10 | ILEX OPACA AMERICAN HOLLY | 5-6' HT. | B&B | PLANT AS SHOWN |
| PS | 14 | PINUS STROBUS WHITE PINE | 6-8' HT. | B&B | PLANT AS SHOWN |
| CA | 23 | CLETHRA ALNIFOLIA 'HUMMINGBIRD' HUMMINGBIRD SUMMERSWEET | 2.5-3' HT. | CONT. | PLANT AS SHOWN |
| IC | 23 | ILEX CORNUTA 'DWARF BURFORD' DWARF BURFORD CHINESE HOLLY | 2.5- 3' HT. | CONT. | PLANT AS SHOWN |
| IE | 22 | ILEX VERTICILLATA 'WINTER RED' AND 'SOUTHERN GENTLEMAN' WINTER RED AND SOUTHERN GENTLEMAN WINTERBERRY | 2.5- 3' HT. | CONT. | PLANT 1 SOUTHERN GENTLEMAN FOR EVERY 5 WINTER RED |
| ND | 12 | NANDINA DOMESTICA HEAVENLY BAMBOO | 2.5- 3' HT. | CONT. | PLANT AS SHOWN |

PLANT LIST NOTES:

SEE GENERAL NOTE #2 ON SHEET 11 FOR SURETY TOTAL.

| BIORETENTION PLANT LIST | | | | | | |
|-------------------------|------|---|---------|-------|----------------|----------|
| SYMBOL | QTY. | SCIENTIFIC/COMMON NAME | SIZE | ROOT | SPACING | ZONE |
| MV | 3 | MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA | 6-8' | B&B | PLANT AS SHOWN | * |
| IL | 16 | ILEX VERTICILLATA 'RED SPRITE' RED SPRITE WINTERBERRY | 18-24" | CONT. | PLANT AS SHOWN | 1, (2,3) |
| MP | 11 | MYRICA PENNSYLVANICA NORTHERN BAYBERRY | 24-30" | CONT. | PLANT AS SHOWN | (3,4), 5 |
| EP | 75 | EUPATORIUM PURPUREA JOE PYE WEED | 1 GAL. | CONT. | PLANT 24" O.C. | ** |
| IV | 111 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 GAL. | CONT. | PLANT 24" O.C. | (1,2), 3 |
| PC | 131 | PONTEDERIA CORDATA PICKERELWEED | 1 QUART | CONT. | PLANT 24" O.C. | 2,3 |

BIORETENTION PLANT LIST NOTES:

* KNOWN TO TOLERATE INUNDATION AS WELL AS DRY AREAS ACCORDING TO DIRR, MICHAEL A., **MANUAL OF WOODY LANDSCAPE PLANTS**

** COMMONLY USED BIORETENTION SPECIES ACCORDING TO TABLE A.4 IN APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.

| SCHEDULE A - PERIMETER LANDSCAPE EDGE | | | | |
|--|----------------------|----------------------------------|------------|-----------|
| | ADJACENT TO ROADWAYS | ADJACENT TO PERIMETER PROPERTIES | | |
| PERIMETER | 3 | 1 | 2 | 4 |
| LANDSCAPE TYPE | NONE | A | A | A |
| LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER | 50' ± | 325' ± | 1241' ± | 453' ± |
| CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | NO | YES 325' ± | YES 583' ± | YES 63' ± |
| CREDIT FOR DRIVE ENTRANCES (YES, NO, LINEAR FEET) | YES 14' | NO | NO | NO |
| LINEAR FEET REMAINING | 36' ± | 0' ± | 658' ± | 890' ± |
| CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET) | NO | NO | NO | NO |
| NUMBER OF PLANTS REQUIRED | | | | |
| SHADE TREES | 0 | 0 | 11 | 15 |
| EVERGREEN TREES | 0 | 0 | 0 | 0 |
| SHRUBS | 0 | 0 | 0 | 0 |
| NUMBER OF PLANTS PROVIDED | | | | |
| SHADE TREES | - | - | 2 | 10 |
| EVERGREEN TREES | - | - | 10 | 10 |
| SMALL FLOWERING TREES | - | - | 8 | - |
| SHRUBS | - | - | - | - |

SCHEDULE 'A' NOTES:

- REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. (PAGE 17 OF THE HO. CO. LANDSCAPE MANUAL)

SUBSTITUTION NOTES:

- PERIMETER 2: 10 EVERGREENS WERE SUBSTITUTED FOR 5 SHADE TREES; 8 FLOWERING TREES WERE SUBSTITUTED FOR 4 SHADE TREES.
- PERIMETER 4: 10 EVERGREENS WERE SUBSTITUTED FOR 5 SHADE TREES.

| SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING | |
|---|-------|
| S.W.M. POND PERIMETER | 1 |
| LANDSCAPE TYPE | B |
| LINEAR FEET OF TOTAL PERIMETER | ±510' |
| CREDIT FOR EX. VEGETATION (NO OR YES & %) | NO |
| CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %) | NO |
| LINEAR FEET OF REMAINING PERIMETER | ±510' |
| NUMBER OF TREES REQUIRED: | |
| SHADE TREES | 10 |
| EVERGREEN TREES | 13 |
| NUMBER OF PLANTS PROVIDED | |
| SHADE TREES | 4 |
| EVERGREEN TREES | 14 |
| OTHER TREES (2:1 SUBSTITUTION, 50% MAX.) | - |
| SHRUBS (10:1 SUBSTITUTION, 25% MAX.) | 80 |

SUBSTITUTION NOTES SCHEDULE D:

SHADE TREE REQUIREMENTS ARE MET BY 4 SHADE TREES, 6 EVERGREEN TREES (EQUIVALENT OF 3 SHADE TREES), AND 60 SHRUBS (EQUIVALENT OF 3 SHADE TREES).

EVERGREEN TREE REQUIREMENTS ARE MET BY 8 EVERGREEN TREES AND 50 SHRUBS (EQUIVALENT OF 5 EVERGREEN TREES).

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443, Expiration Date: 12-21-12



No As-Built information is required on this sheet

| STREET TREE CALCULATIONS | |
|--------------------------|-----------------------------|
| TROTTER CROSSING LANE* | |
| LENGTH= 1,918' ± | 1918' / 40 = 48 SHADE TREES |
| TOTAL TREES REQUIRED | 48 SHADE TREES |
| TOTAL TREES PROVIDED | 48 SHADE TREES |

* LANDSCAPE TREES ALONG PRIVATE ACCESS PLACE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter Z. ... 5-9-08
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chris ... 5/15/08
CHIEF, DIVISION OF LAND & DEVELOPMENT DATE

W.D. ... 5/13/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

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

PROJECT
TROTTER CROSSING
LOTS 1 THRU 5, 7 THRU 10 &
OPEN SPACE LOTS 8, 11, 12, AND 13
A RESUBDIVISION OF FOREST HILL LOT 32

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

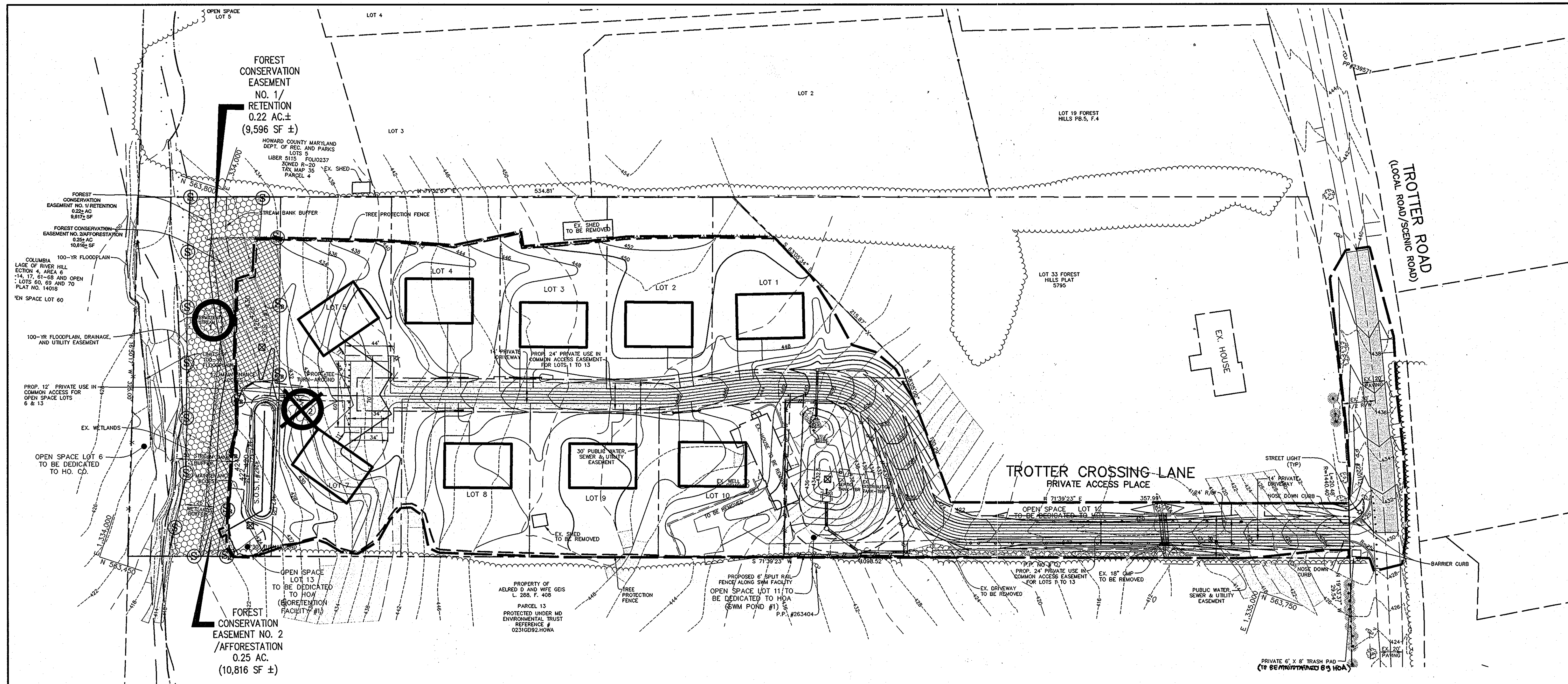
TITLE
LANDSCAPE NOTES & DETAILS

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

DATE
4.16.08

DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO. 11885-1-0-ENGR-PLANS
FINAL-12061002.DWG
DATE: MARCH 10, 2008
SCALE: 1" = 50'
DRAWING NO. 12 OF 14

PETER J. STONE #3068



LEGEND

- EX. TOPOGRAPHY
- PROP. CONTOURS
- EX. TREELINE
- PROP. TREELINE
- PROPERTY LINE
- WETLANDS AND 25' BUFFER
- 100-YEAR FLOODPLAIN
- PROP. BUILDING
- TREE PROTECTION DEVICE (TPD) BLAZE ORANGE PLASTIC MESH
- FOREST CONSERVATION SIGNAGE
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION AREA
- AFFORESTATION AREA
- AFFORESTATION SIGNAGE
- 25% SLOPES
- 15-25% SLOPES
- EX. SPECIMEN TREE TO REMAIN
- EX. SPECIMEN TREE TO BE REMOVED

Howard County Forest Conservation Worksheet

GENERAL NOTES:

1. THIS PLAN HAS BEEN PREPARED USING FIELD RUN TOPOGRAPHY. PORTIONS OF THE EXISTING TREELINE AND SPECIMEN TREE LOCATIONS WERE FIELD APPROXIMATED.
2. NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
3. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
4. THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
5. THREE EXISTING STRUCTURES ARE PRESENT ON THE SITE AS SHOWN.
6. THIS SITE CONTAINS NO HYDRIC SOILS AND ONE SOIL WITH POSSIBLE HYDRIC INCLUSIONS, GLENVILLE SILT LOAM (GnB2), CHESTER SILT LOAM (CHC2), ELIOAK SILT LOAM (EKA), ELIOAK SILT LOAM (EKb2), ELIOAK SILT LOAM (EKc2), MANOR LOAM (MIA), MANOR LOAM (MID2), AND MANOR GRAVELLY LOAM (MGC2) ARE ALSO PRESENT ON THE SITE.
7. THE PSD, DATED NOVEMBER 20, 2002, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THIS PROJECT.
8. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
9. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
10. 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 \$4,545.00 FOR A TOTAL OF \$7,361.64 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-05-67.

Project Name: Trotter Crossing
 County File #: F-05-67
 Date: November 4, 2004

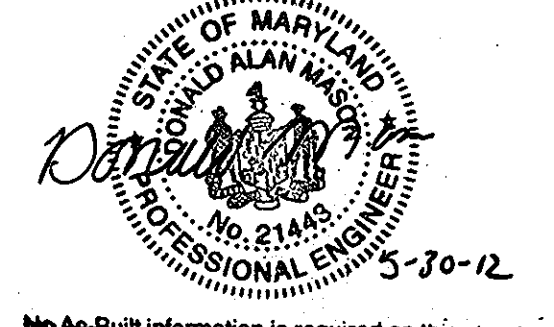
| | |
|--|--------------|
| Net Tract Area | Acres |
| A. Total Tract Area | A = 5.42 |
| B. 100 year Floodplain | B = 0.35 |
| C. Net Tract Area - Net Tract Area = (A-B-C) | C = 5.07 |
| Land Use Category: Residential - Suburban | |
| D. Afforestation Threshold (Net Tract Area X .15%) | D = 0.76 |
| E. Conservation Threshold (Net Tract Area X .20%) | E = 1.01 |
| Existing Forest Cover | |
| F. Existing Forest Cover within the Net Tract Area | F = 0.22 |
| G. Area of Forest Above Conservation Threshold | G = 0.00 |
| Break Even Point | |
| H. Break Even (Amount of forest that must be retained so that no mitigation is required) | H = FALSE |
| Forest Clearing Permitted Without Mitigation | |
| I. Forest Clearing Permitted Without Mitigation | I = FALSE |
| Proposed Forest Clearing | |
| J. Total Area of Forest to be Cleared | J = 0.00 |
| K. Existing Forest Cover (F) - forest to be cleared (J) | K = 0.22 |
| Planting Requirements | |
| L. Total Area of Forest to be Cleared (K) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0); If not, calculate the planting requirement below: | L = 0.00 |
| M. Reforestation for Clearing Above the Conservation Threshold | M = 0.00 |
| N. Reforestation for Clearing Below the Conservation Threshold | N = 0.00 |
| P. Credit for Retention Above the Conservation Threshold | P = 0.00 |
| Q. Total Reforestation Required P = L + M - N | Q = 0.54 |
| R. Total Planting Requirement R = P + Q | R = 0.54 |

| REFORESTATION PLANT LIST | | | | |
|--------------------------|--|---------|-------|--|
| QTY. | SCIENTIFIC/COMMON NAME | SIZE | ROOT | REMARKS |
| 5 | LIRIODENDRON TULIPIFERA / TULIP TREE | | | |
| 5 | ACER RUBRUM / RED MAPLE | | | |
| 7 | QUERCUS RUBRA / RED OAK | 1" CAL. | B&B | FULL CROWN PLANT 15' O.C. RANDOM PATTERN |
| 6 | QUERCUS PALUSTRIS / PIN OAK | | | |
| 7 | NYSSA SYLVATICA / BLACK GUM | | | |
| 9 | JUNIPERUS VIRGINIANA / EASTERN RED CEDAR | 3' HT. | CONT. | PLANT 11' O.C. RANDOM PATTERN |
| 8 | AMELANCHIER CANADENSIS / SHADBLOW SERVICEBERRY | 3' HT. | CONT. | PLANT 11' O.C. RANDOM PATTERN |
| 9 | CERCIS CANADENSIS / EASTERN REDBUD | | | |

SEE DETAIL ON SHEET 12 FOR RANDOM PLANTING LAYOUT

| EX. TREE >30" DBH KEY | | |
|-----------------------|------------------|---------------|
| SYMBOL | DESCRIPTION | REMAIN/REMOVE |
| | 40" Red Maple | Remain |
| | 40" Tulip Poplar | Remove |

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-12



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature] 5-9-07
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 [Signature] 5/15/08
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 5/13/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

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

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

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

TITLE
FINAL FOREST CONSERVATION PLAN

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

DATE 4-16-08
 DESIGNED BY: PJS
 DRAWN BY: PJS/KLS
 PROJECT NO. 11885-1-0 ENGR. PLANS
 FINALS/L400FCP01.DWG
 DATE: MARCH 10, 2008
 SCALE: 1" = 50'
 DRAWING NO. 13 OF 14

TREE PROTECTION SIGNAGE & FENCING

SEQUENCE OF OPERATIONS

PRE-CONSTRUCTION SITE PREPARATION

1. FIELD STAKE LIMITS OF DISTURBANCE (L.O.D.) AT 25' INTERVALS.
2. REVIEW L.O.D. IN FIELD AND ADJUST IF PRACTICAL.
3. INSTALL TREE PROTECTION FENCE AT THE L.O.D. AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
4. CLEAR AND GRUB AS NECESSARY TO FACILITATE ROOT PRUNING TO A DEPTH OF 2-3 FEET WITHIN THE LIMITS OF THE PROPOSED REFORESTATION AREA. CLEAR REMAINING TREES IN A WAY THAT "SAVE TREES" ARE NOT DISTURBED. GRIND STUMPS 12" IN DIAMETER AND LARGER THAT ARE WITHIN 25' OF THE L.O.D.
5. DO NOT ATTEMPT TO SAVE TREES WITHIN 25' FROM THE L.O.D. UNLESS, IN THE OPINION OF THE CONSULTING ARBORIST, THEY HAVE A 75% CHANCE OR BETTER OF SURVIVAL.
6. PRUNE AND FERTILIZE DESIRABLE 'EDGE TREES' AS PER CONSULTING ARBORIST'S RECOMMENDATIONS.
7. THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS WITHIN THE NONTIDAL WETLANDS OR 25' NONTIDAL WETLANDS BUFFER.
8. REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARTHUMB, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.
9. INSTALL TREE PROTECTION SIGNAGE.
10. STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

1. Prior to beginning any grading operations on this site or on a respective lot, there shall be a preconstruction meeting held at the site which is to include the Contractor and representatives from Patton Harris Rust & Associates, Inc. (PHRA), The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).
2. The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICE" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.
3. All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.
4. Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.
5. After site grading, utility access road, and driveway construction have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines vehicular access ways or parked vehicles.
6. Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be examined within a period of two (2) days from the date of observation by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.
7. Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access and egress drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.
8. All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc. regrading and reseeding of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

AFFORESTATION/REFORESTATION PLANTING SEQUENCE OF OPERATIONS

1. The Contractor(s) shall inform the Howard County Department of Planning and Zoning (DPZ) when planting operations are to begin.
2. Determine storage areas for materials and equipment. Obtain approval of location from Owner and the DPZ.
3. Prior to beginning any planting, the soils within the area(s) designated for Afforestation or Reforestation shall be analyzed regarding the following features: nutrient content, organic matter, structure, pH and cation exchange capacity. Soils that have been actively farmed may require evaluation for pesticide or herbicide contamination. Such analysis may be performed by the local Soil Conservation Service or Agricultural Extension Service. A minimum of three random samples should be collected for the analysis. An assessment of soil moisture should also be made at this time. Corrective measures shall be made in accordance with analysis results and recommendations.
4. The Contractor, assisted by a Representative of Patton Harris Rust & Associates, shall stake (or wire-flag) planting area limits and plant locations in accordance with the plan and details.
5. Provide and plant all trees of the species and sizes specified and in accordance with the detail(s) shown on the Forest Conservation Plans, unless otherwise directed by the DPZ.
6. At the completion of planting, remove all excess materials and miscellaneous debris from the respective area(s) of work.
7. Protection Devices - to prevent damage within planted areas, all reforestation and/or afforestation sites must be posted with appropriate signs and the area(s) delineated with appropriate protective fencing. No construction equipment nor storage of materials shall be permitted within the planted areas. Details are shown on the Forest Conservation Plans regarding typical sign size and wording. No pedestrian traffic shall be allowed within the protected areas.
8. Attachment of signs or any other objects to trees within the protected areas is prohibited.

NOTES:

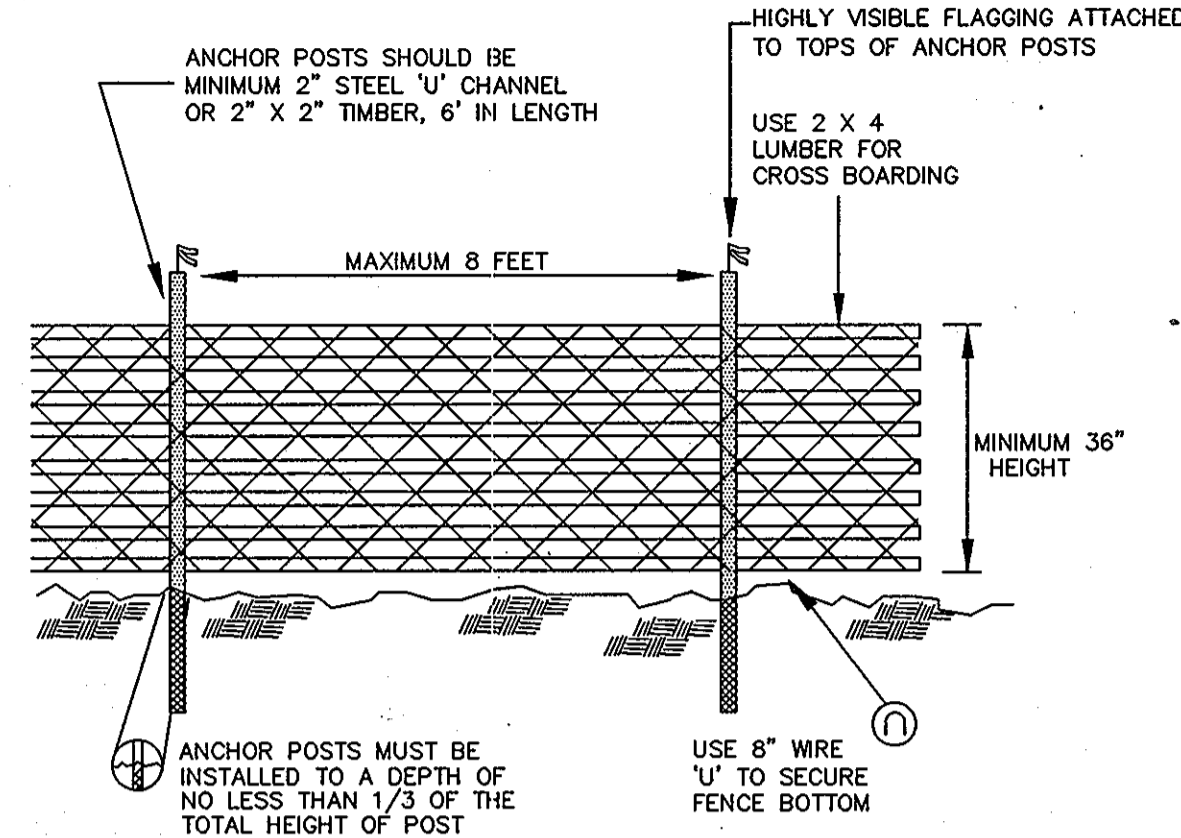
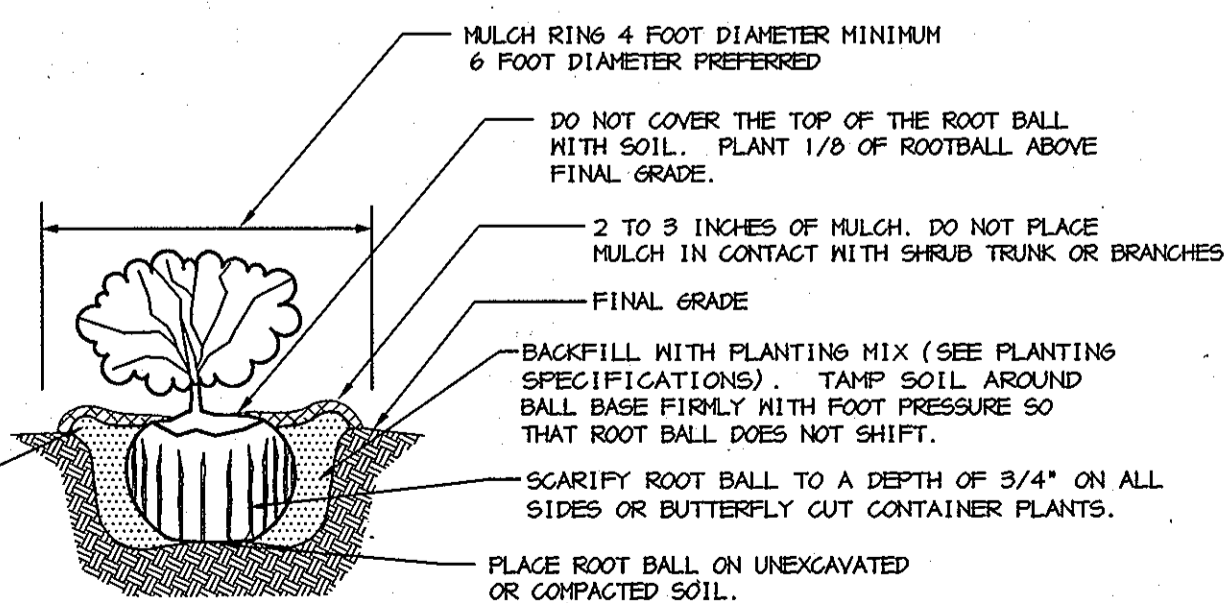
1. DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
 2. DIG PLANTING PIT 24" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 36".
 3. FOR B&B SHRUBS: REMOVE ALL TWINE, ROPE, NIRE, AND BURLAP FROM TOP OF ROOT BALL.
 4. ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.
- CONSTRUCT 3" SAUCER RIM ALL AROUND. FLOOD WITH WATER TWICE WITHIN THE 24 HOURS AFTER PLANTING.

INDIVIDUAL SHRUB PLANTING DETAIL - B&B AND CONTAINER SHRUBS
NOT TO SCALE

NOTES:

1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
2. STAKE TREES AS SHOWN.
3. DIG PLANTING PIT THREE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.
4. TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
5. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

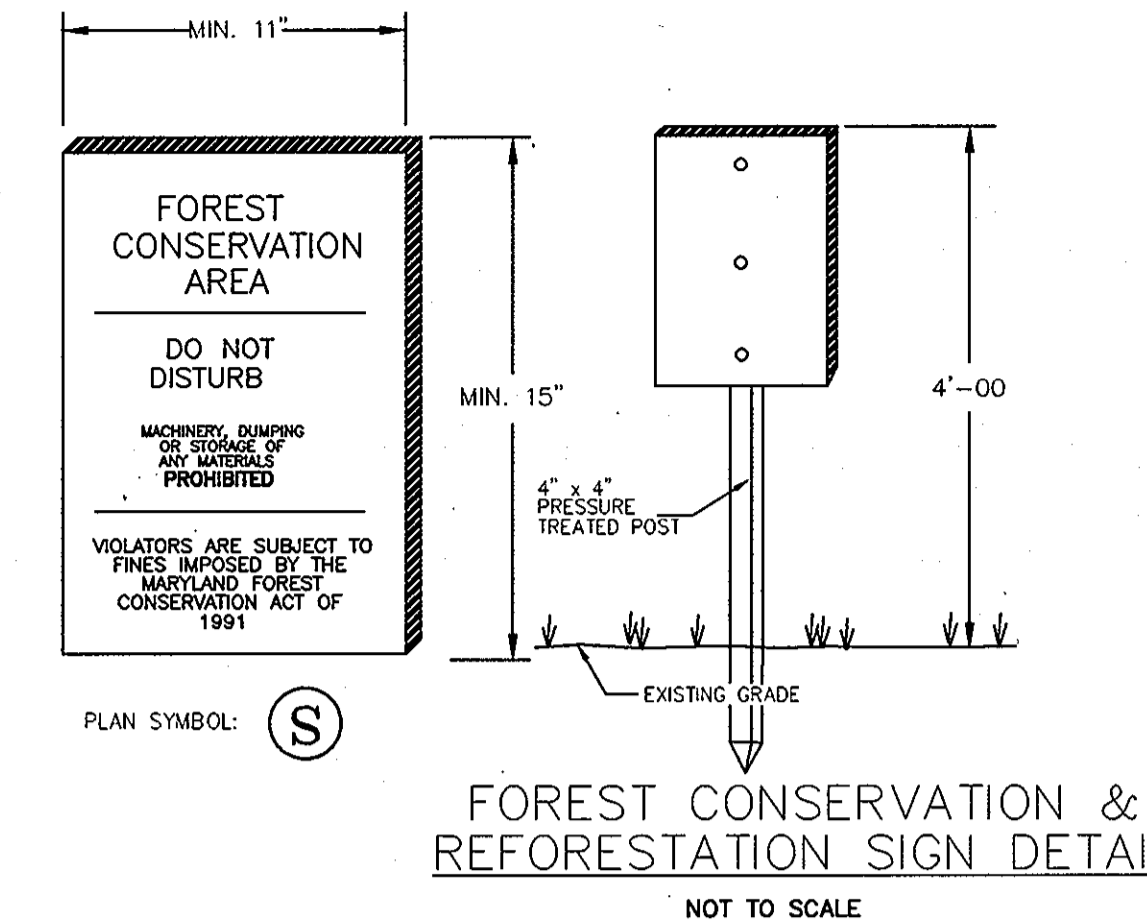
DECIDUOUS B&B TREE PLANTING DETAIL (TREES 3" CAL. OR SMALLER)
NOT TO SCALE



NOTES:

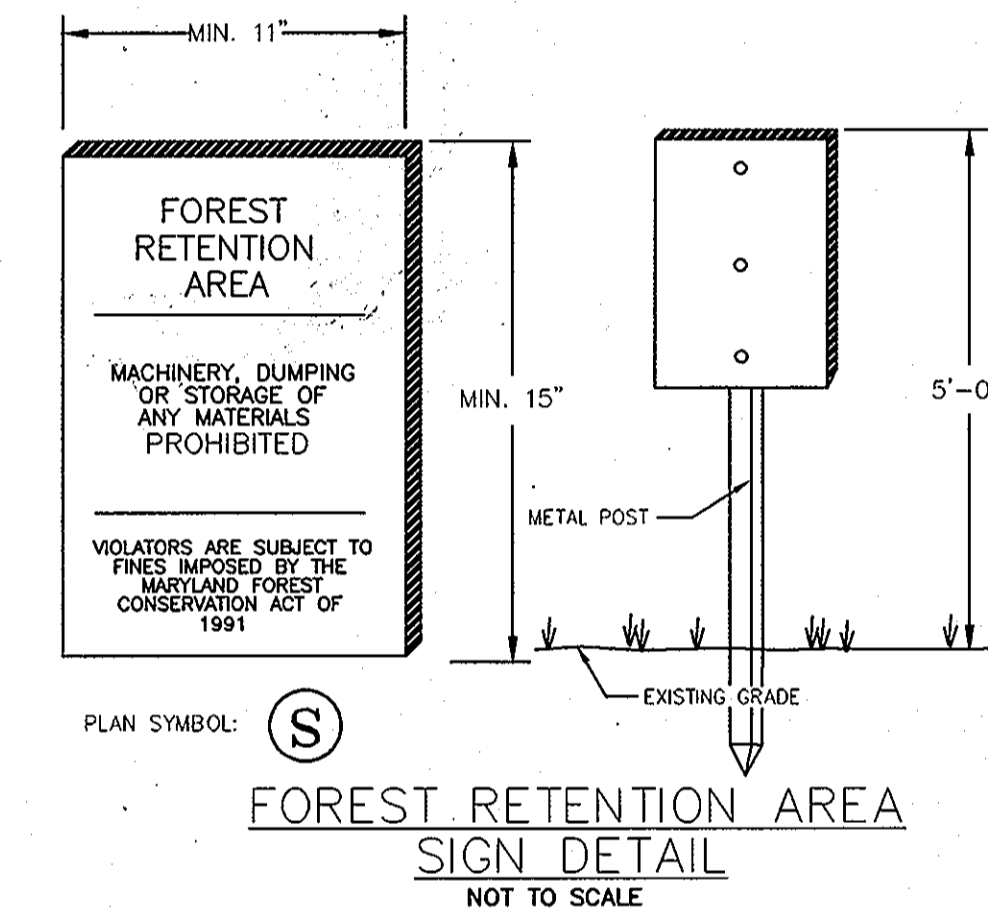
1. BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
2. SUPER SILT FENCE MAY BE SUBSTITUTED FOR TREE PROTECTION FENCING.
3. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
4. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
5. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
6. PROTECTION SIGNS ARE REQUIRED, SEE SIGN DETAIL.
7. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCING
NOT TO SCALE



NOTES:

1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.



NOTES:

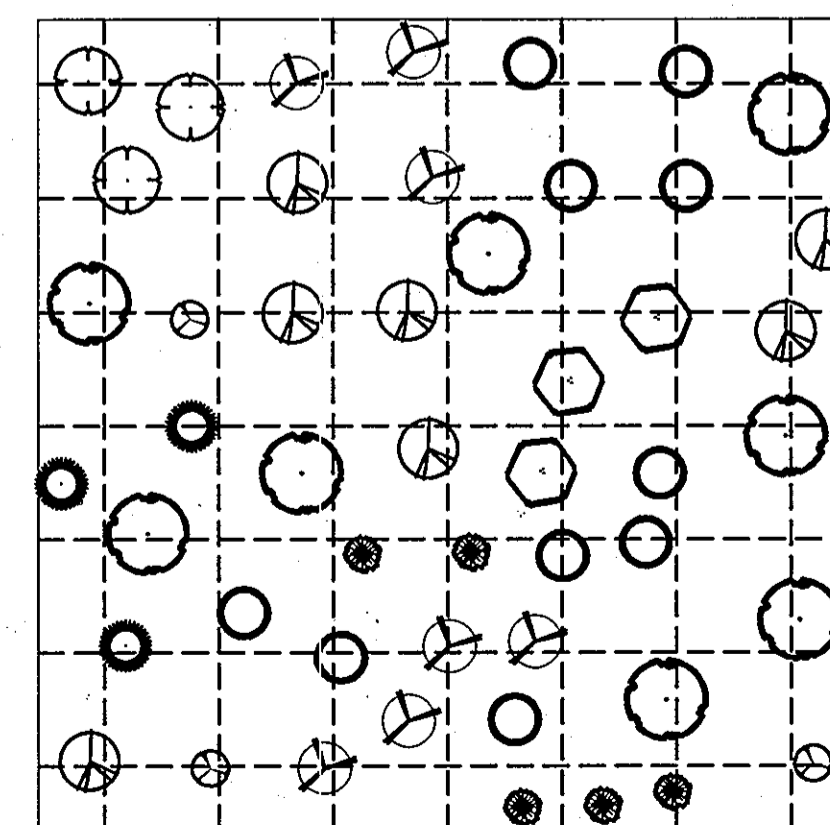
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.
3. SIGNS TO BE PLACED ON METAL POSTS 5' +/- ABOVE FINISH GRADE. PLACE SIGNS EVERY 100' AROUND PERIMETER OF FOREST RETENTION AREA.

KEY

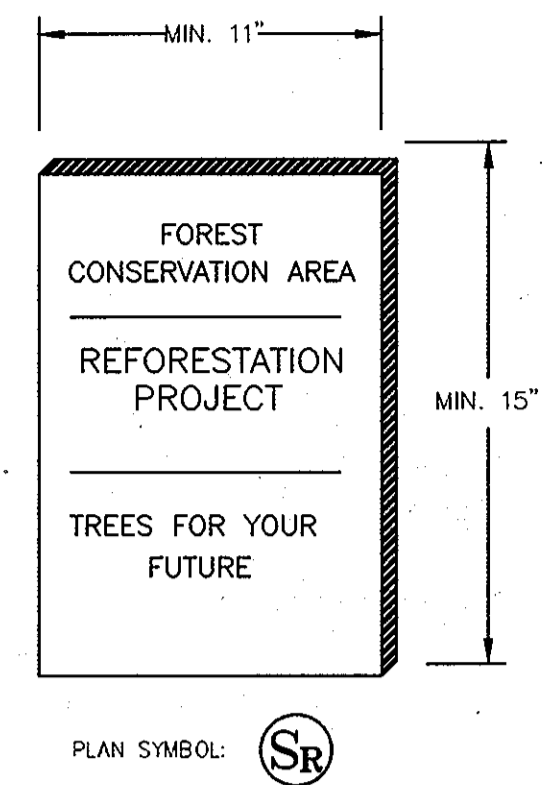
- TREES
- TREE SPECIES 'A'
 - TREE SPECIES 'B'
 - TREE SPECIES 'C'
 - TREE SPECIES 'D'
 - TREE SPECIES 'E'
 - TREE SPECIES 'F'
 - TREE SPECIES 'G'
 - TREE SPECIES 'H'
 - TREE SPECIES 'I'
 - TREE SPECIES 'E'

NOTES

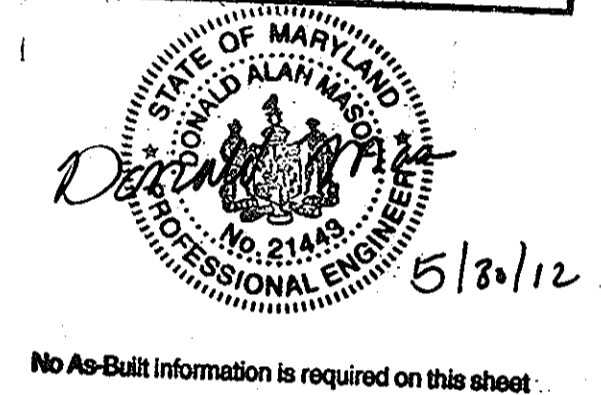
1. RANDOMLY LOCATE GROUPS OF PLANT SPECIES, TAKING CARE NOT TO PLANT IN SUCCESSION MORE THAN 4 OF THE SAME SPECIES.
2. THIS DETAIL PROVIDES A HYPOTHETICAL, GRAPHIC DEPICTION OF A PROPOSED LAYOUT FOR NINE DIFFERENT TREE SPECIES (A-I). IT IS NOT MEANT TO BE FOLLOWED EXACTLY. THE PURPOSE IS TO ACHIEVE THE APPEARANCE OF RANDOM SPACING. SEE PLANT LIST FOR ACTUAL NUMBER OF PLANT SPECIES.
3. SEE PLANT LIST FOR ON-CENTER SPACING REQUIREMENTS.



RANDOM PLANTING LAYOUT DETAIL
NOT TO SCALE



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12



No As-Built information is required on this sheet.

| | |
|--|--|
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | W. R. M. H. 5-9-08 CHIEF, BUREAU OF HIGHWAYS DATE |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | C. H. H. 5/15/08 CHIEF, DIVISION OF LAND DEVELOPMENT DATE |
| | M. J. S. 5/13/08 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE |
| DATE NO. | REVISION |
| OWNER/DEVELOPER | TROTTER CROSSING, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MD 20723 (410) 792-2565 |
| PROJECT | TROTTER CROSSING LOTS 1 THRU 5, 7 THRU 10 & OPEN SPACE LOTS 8, 11, 12, AND 13 A RESUBDIVISION OF FOREST HILL LOT 32 |
| AREA TAX MAP | 35 GRID 2 PARCEL 6 ZONING R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| TITLE | FOREST CONSERVATION NOTES & DETAILS |
| | 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 |
| DATE | 4-16-08 |
| DESIGNED BY: | PJS |
| DRAWN BY: | ALC |
| PROJECT NO. | 11885A-1-0 ENGR PLANS FINALS\400FCP02.DWG |
| DATE: | MARCH 10, 2008 |
| SCALE: | 1" = 50' |
| DRAWING NO. | 14 OF 14 |
| | PETER J. STONE #3068 |

AS-BUILT

F-05-067