

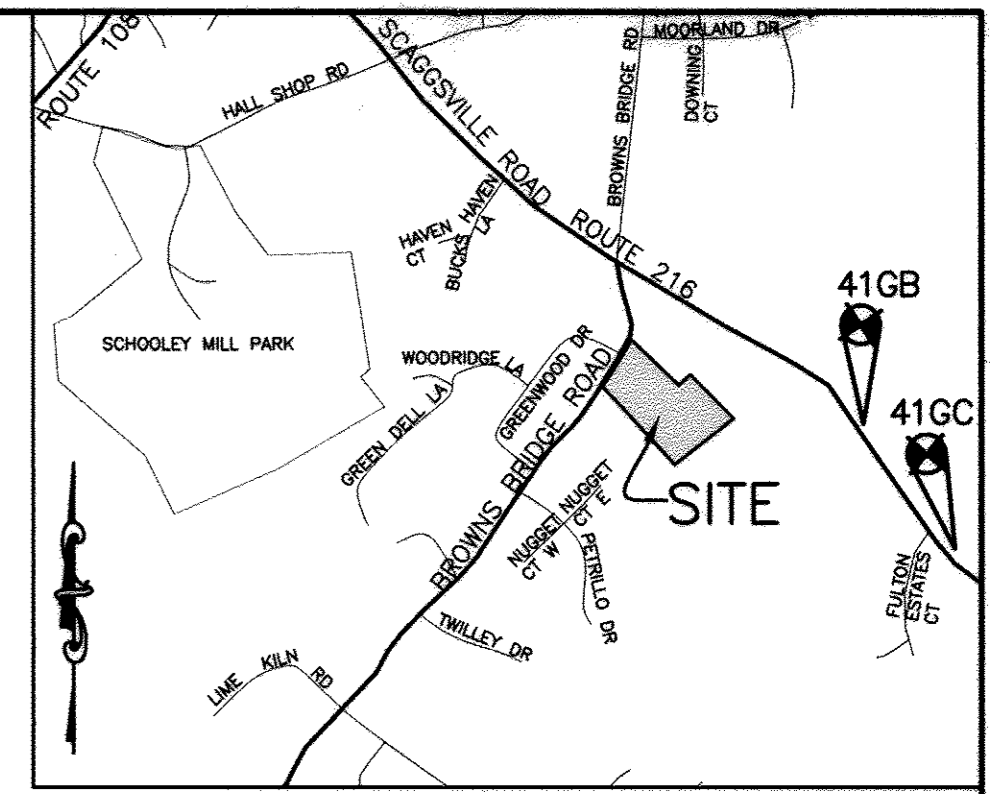
SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF ALL DAUGHTERS LANE
3	ROAD SECTIONS AND DETAILS
4	GRADING, SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP
5	CONSTRUCTION AND EROSION AND SEDIMENT CONTROL DETAILS
6	EROSION AND SEDIMENT CONTROL NOTES
7	SWM DETAILS
8	STORM SEWER AND POND PROFILES
9	SWM FACILITY DETAILS
10	SWM FACILITY AND SEDIMENT BASIN DETAILS
11	FINAL LANDSCAPE PLAN, NOTES AND SCHEDULES
12	FINAL SWM PLANTING, LANDSCAPE NOTES, DETAILS, AND SCHEDULES
13	FINAL FOREST CONSERVATION PLAN
14	FOREST CONSERVATION NOTES AND DETAILS
15	MOT PLAN
16	SOIL BORING LOGS
17	SOIL BORING LOGS
18	OFFSITE FOREST STAND DELINEATION PLAN
19	OFFSITE FOREST STAND DELINEATION PLAN
20	OFFSITE FINAL FOREST CONSERVATION PLAN
21	OFFSITE FINAL FOREST CONSERVATION PLAN

# ROADWAY AND STORM DRAIN PLANS

# ORCHARD ESTATES

## LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

### 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP  
SCALE: 1"=200'

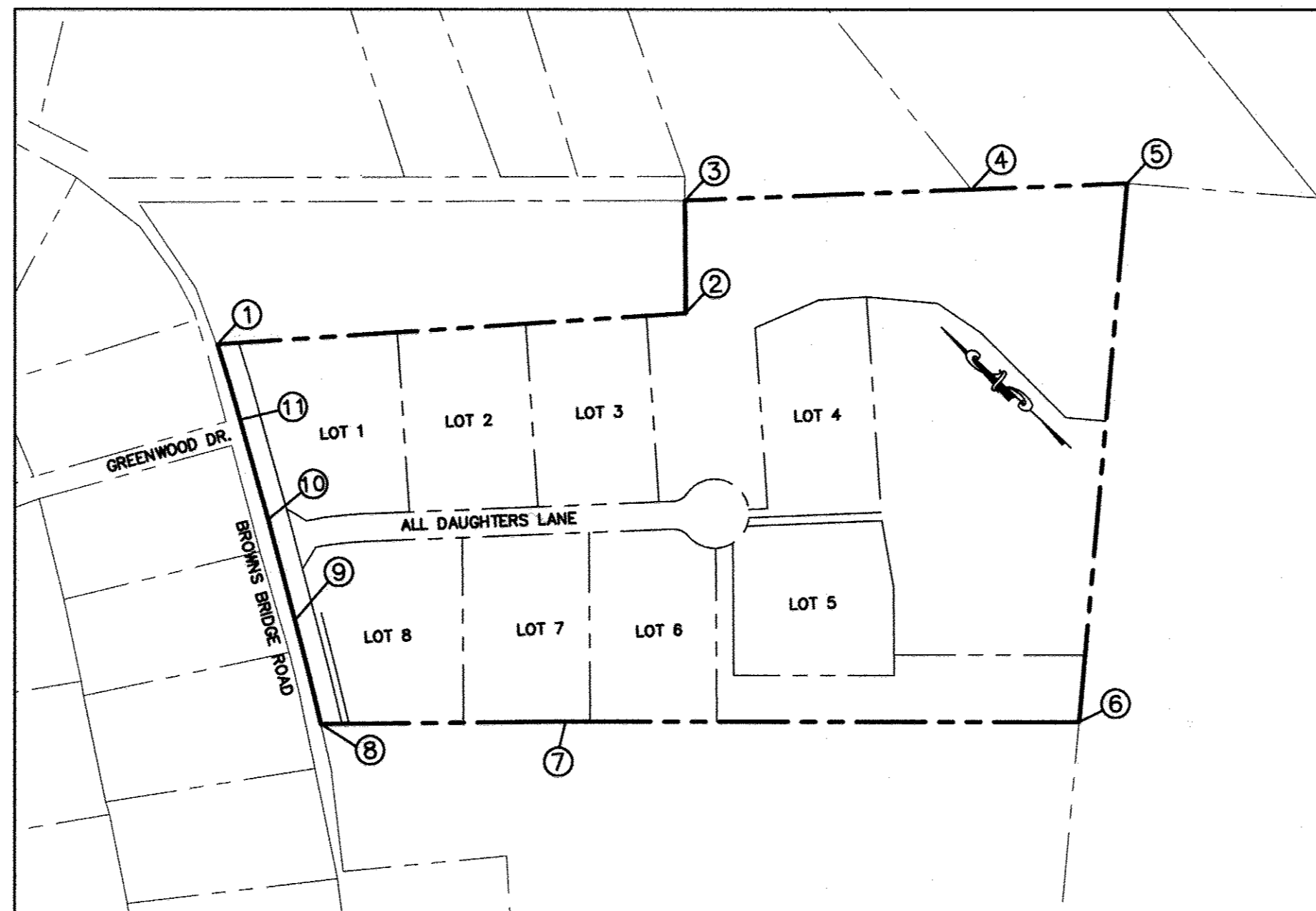
#### BENCH MARK

HOWARD COUNTY CONTROL  
STATION 41GC  
N 543290.6332  
E 1331697.8591  
ELEV. 468.374

HOWARD COUNTY CONTROL  
STATION 41GB  
N 544580.3747  
E 1330741.3820  
ELEV. 475.304

#### 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.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED SEPT. 2004.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE MARYLAND COORDINATE SYSTEM NAD 83 (MCS). HOWARD COUNTY MONUMENT NOS. 41CG AND 41GB.
- PRIVATE WELLS WILL BE USED TO SERVE THIS PROPERTY.
- PRIVATE INDIVIDUAL SEPTIC AREAS WILL BE USED TO SERVE THIS PROPERTY.
- STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED BY ONE DRY EXTENDED DETENTION POND AND TWO BIO-RETENTION FACILITIES. DRY EXTENDED DETENTION POND WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED BY HOWARD COUNTY AND HOA. BIO-RETENTION FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY HOA.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THERE ARE NO WETLANDS ON-SITE STUDY FOR THIS PROJECT AS DETERMINED BY PATTON HARRIS RUST AND ASSOCIATES FIELD WALKED, DATED DECEMBER 2004. DRY EXTENDED DETENTION POND WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED BY HOWARD COUNTY AND HOA. BIO-RETENTION FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY HOA.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC CONCEPTS INC. DATED DECEMBER 2004.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED SEPTEMBER 2004.
- SUBJECT PROPERTY ZONED RR-DEO PER 2-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE ZONING AMENDMENTS DATED 7/28/06.
- 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: SP 05-15, RE 06-007.
- 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.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 40' RIGHT OF WAYS 25 M.P.H.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE STREAM OR REQUIRED BUFFER, AND FOREST CONSERVATION EASEMENT AREAS.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT HAS BEEN MET BY PLACING 1.56± AC (67,953.60 SF±) OF FOREST IN AN ON-SITE FOREST RETENTION EASEMENT. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$13,590.72 (67,953.60 SF X \$0.20/SF) WILL BE POSTED.
- THE REMAINING OBLIGATION OF 2.15 AC (93,654 SF) WILL BE SATISFIED BY OFFSITE FOREST CONSERVATION EASEMENTS ON THE RUSSELL HOLLAND PROPERTY AT TAX MAP 7, PARCEL 101, AND TAX MAP 8, PARCEL 4 (F-07-130). A 4.3 ACRE (187,308 SF) OFFSITE RETENTION EASEMENT SATISFIES THE REMAINING OBLIGATION OF 2.15 ACRES (93,654 SF). OFFSITE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$37,461.60 (187,308 X \$0.20/SF) WILL BE POSTED.
- PRESERVATION PARCELS A, B & C HAVE NO FURTHER SUBDIVISION POTENTIAL.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ON THE PIPESTEM LOT DRIVEWAY.
- LAND DEDICATED TO HOWARD COUNTY, MARYLAND, FOR PURPOSES OF A PUBLIC ROAD IS 1.1071 ACRES.
- PARCELS A, B, & C WILL BE PRIVATELY OWNED. THE EASEMENT HOLDERS FOR PARCELS A, B, & C WILL BE THE HOMEOWNER'S ASSOCIATION AND HOWARD COUNTY.
- 95% COMPACTION IS REQUIRED IN FILL AREAS UNDER ROADS AND PROPOSED STORM DRAIN PIPES PER AASHTO T-180 STANDARDS.
- 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 GA.) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (12 GA.) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE AMENDED ZONING REGULATIONS PER COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS/PARCELS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING/GRADING PERMIT APPLICATIONS.
- 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 THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$26,550.00 FOR 74 SHADE TREES, 0 ORNAMENTAL TREES, 29 EVERGREEN TREES, AND 0 SHRUBS.



PLAN  
SCALE: 1" = 200'

COORDINATE LIST		
1	N 545,449.73	E 1,328,318.94
2	N 544,979.55	E 1,328,814.70
3	N 545,090.87	E 1,328,933.29
4	N 544,795.48	E 1,329,228.27
5	N 544,635.17	E 1,329,388.08
6	N 544,158.91	E 1,328,769.82
7	N 544,707.98	E 1,328,262.93
8	N 544,966.70	E 1,328,018.45
9	N 545,096.19	E 1,328,102.52
10	N 545,223.42	E 1,328,182.95
11	N 545,351.35	E 1,328,260.99

#### SITE TABULATION

EXISTING ZONING	RR-DEO
GROSS AREA OF PROPERTY	18.57 AC (809,079 SF)
AREA IN 100 YR. FLOODPLAIN	0 AC
AREA OF STEEP SLOPE	0.21 AC
NET TRACT AREA	18.36 AC
AREA OF RIGHT OF WAY	1.11 AC
AREA OF PROPOSED BUILDABLE LOTS	12.45 AC
AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS	5.01 AC
MINIMUM LOT SIZE SELECTED	47,000 SF
AREA OF REQUIRED OPEN SPACE	NONE
NUMBER OF BUILDABLE LOTS	8 *
NUMBER OF BUILDABLE PRESERVATION PARCELS	1
NUMBER OF NON-BUILDABLE PRESERVATION PARCELS	2
NUMBER OF OPEN SPACE LOTS	N/A
PROPOSED WATER AND SEWER	PRIVATE WELL AND SEPTIC
* DENSITY EXCHANGE OPTION WILL BE USED TO IMPORT DENSITY UNITS TO THIS PARCEL.	

BASE DENSITY = 18.57 AC/4.25 = 4.36 OR 4 UNITS  
DEO OPTION DENSITY = 18.36 AC/2 = 9 UNITS  
TOTAL DEO UNITS REQUIRED = 9-4=5 UNITS

#### WATER AND SEWER GENERAL NOTES:

- THIS AREA DESIGNATES A PRIVATE SEPTIC EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
- PERC HOLES SHOWN HEREON HAVE BEEN FIELD LOCATED BY PATTON HARRIS RUST AND ASSOCIATES, PC IN AUGUST 2004.
- DENOTES PASSING PERC TEST.
- DENOTES FAILED PERC TEST.
- WELLS AND SEPTIC SYSTEMS WITHIN 100 FEET OF THE PROPERTY BOUNDARY HAVE BEEN SHOWN TO THE BEST OF OUR KNOWLEDGE AND INFORMATION FROM AVAILABLE COUNTY RECORDS.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND HOWARD COUNTY.
- DENOTES WELL (NOT TO SCALE)

EXISTING STRUCTURE LIST			
LOCATION	AGE	USE FOR	REMOVE/RETAIN
N 544936 E 1328089	-	-	REMOVE
N 544612 E 1328374	-	-	REMOVE
N 544571 E 1328388 (EX. FENCE)	-	PROTECT PROPERTY LINE	RETAIN

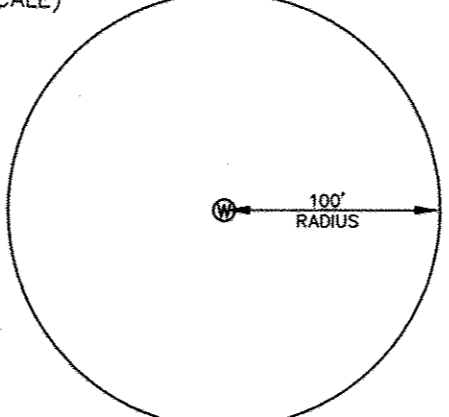
MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MIN LOT SIZE
1	52,439	-	52,439
2	49,245	-	49,245
3	47,077	-	47,077
4	49,747	327	49,420
5	49,938	-	49,938
6	49,896	-	49,896
7	49,677	-	49,677
8	54,347	-	54,347
A	140,111	2,332	137,779

ALL AREAS SHOWN ABOVE ARE IN SQUARE FEET

### AS-BUILT CERTIFICATION

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PRINTED NAME Sharon K. Guz 36896  
 MD. P.E. NO.  
 DATE 2/20/18



FINAL AS-BUILT PLANS  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHR+A

AS-BUILT DATE OF  
SURVEY: 11.08.17

8. ALL WELLS TO BE DRILLED PRIOR TO FINAL PLAT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP THE HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT.

PRESERVATION PARCEL A, B & C - JUSTIFICATION  
THREE PRESERVATION PARCELS HAVE BEEN CREATED IN THIS CLUSTER SUBDIVISION. THE NON-BUILDABLE PRESERVATION PARCEL B HAS BEEN CREATED TO PRESERVE THE ON-SITE FOREST RESOURCES. PRESERVATION PARCEL A HAS BEEN CREATED TO PROVIDE A BUILDABLE HOUSE SITE. IN ADDITION, ALL OF THE PROJECT'S WATER QUALITY AND QUANTITY MANAGEMENT FACILITIES WILL BE LOCATED ON THE NON-BUILDABLE PRESERVATION PARCELS B & C. THE EXISTING HEDGEROWS AND VEGETATION ALONG THE PROPERTY BOUNDARIES ARE BEING PRESERVED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

11/20/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

11/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER: CARLTON E HEYSER, JR  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

PROJECT: **AS-BUILT ORCHARD ESTATES**  
LOTS 1-8, PRESERVATION PARCEL A &  
NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: **TITLE SHEET**

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

10/22/07  
DATE

CHECKED BY: DWC

DESIGNED BY: NS

DRAWN BY: EMR/JMK

PROJECT NO: 13043/1-0/ENGR/PLANS  
/FINAL/COOCCOV.DWG

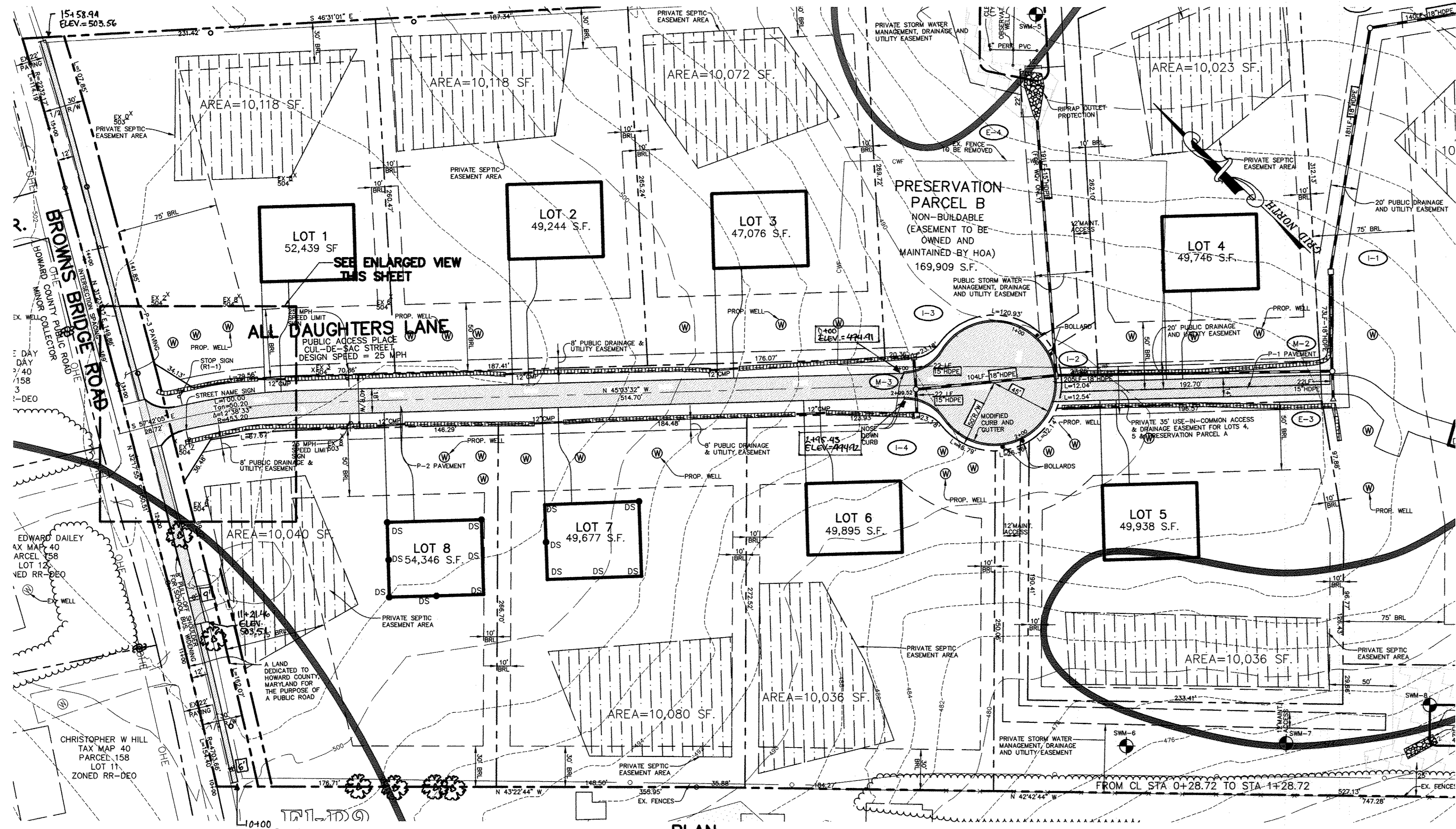
DATE: NOVEMBER 6, 2007

SCALE: AS SHOWN

DRAWING NO. 1 OF 21

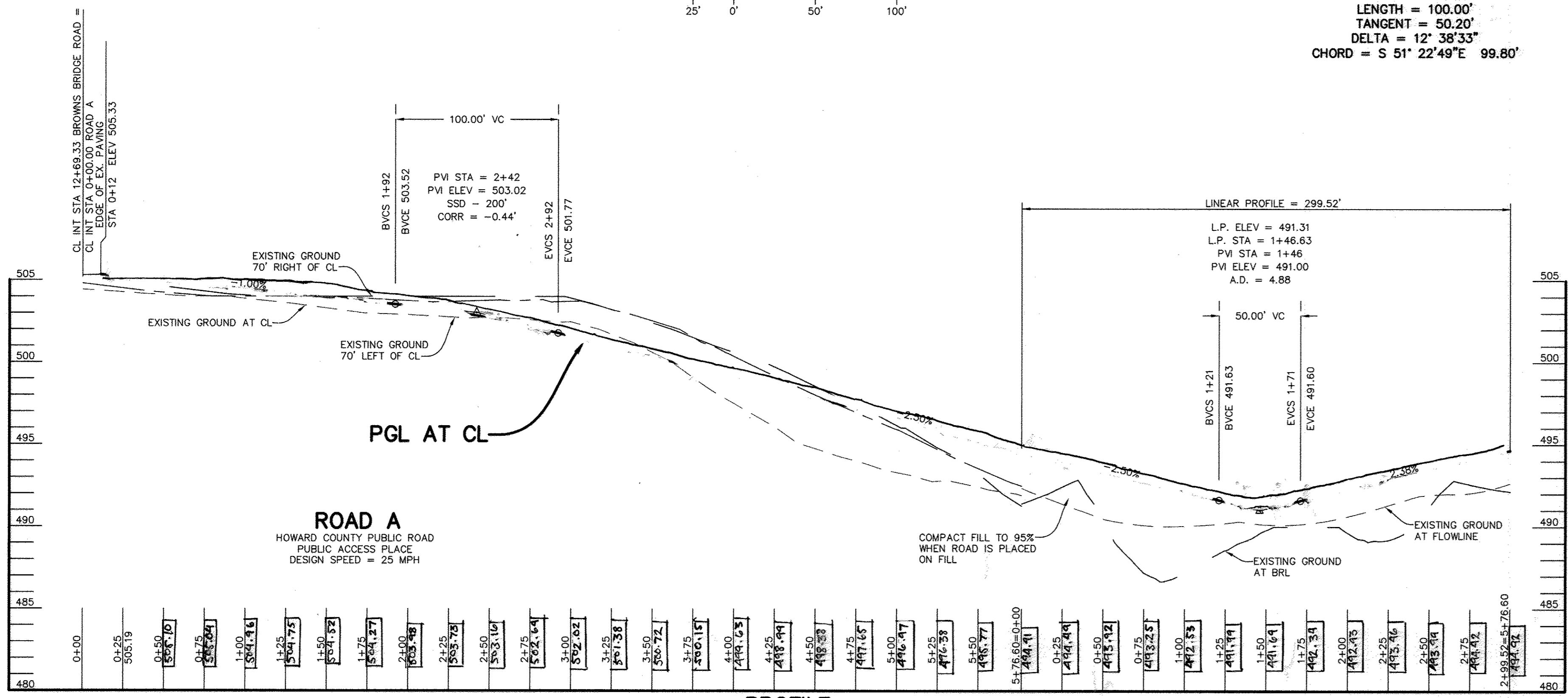
DOMENICK W. COLANGELO #27200  
F-07-005

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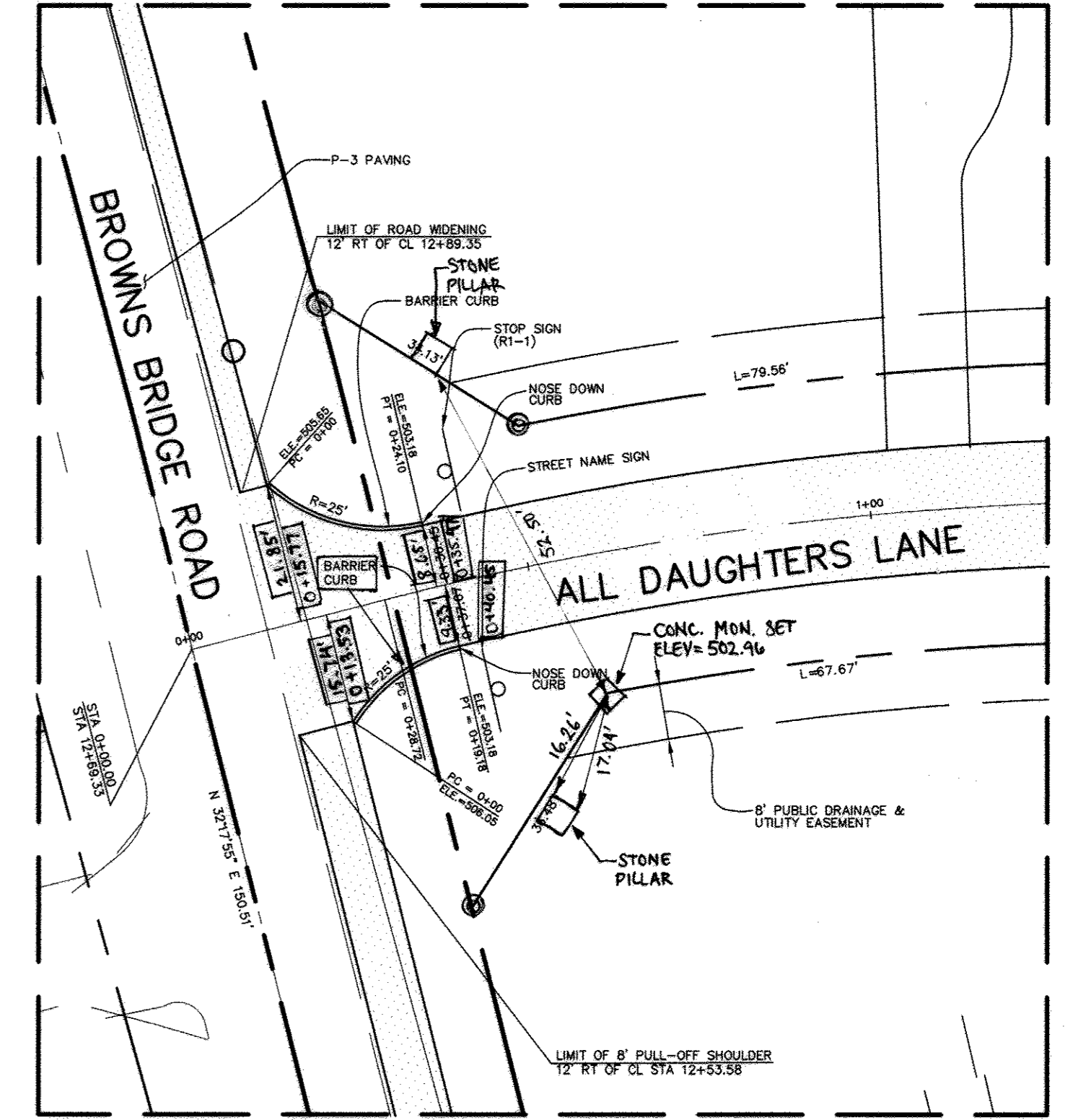


**PLAN**  
GRAPHIC SCALE 1"=50'

**CL CURVE DATA**  
RADIUS = 453.20'  
LENGTH = 100.00'  
TANGENT = 50.20'  
DELTA = 12° 38' 33"  
CHORD = S 51° 22' 49"E 99.80'



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



**ENLARGED VIEW**  
GRAPHIC SCALE 1"=20'

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

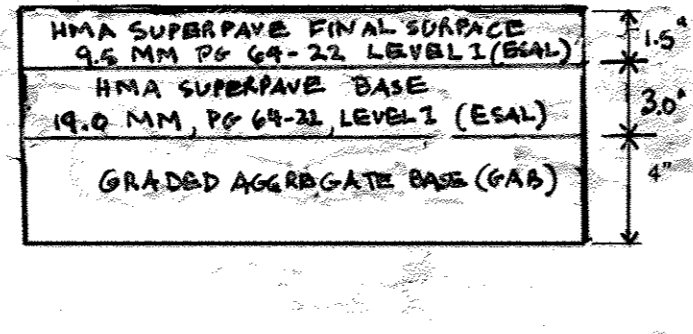
*Sharm K. Cruz* 36896  
PRINTED NAME MD. P.E. NO.  
*[Signature]* 2/20/18  
SIGNATURE DATE



**FINAL AS-BUILT PLANS**  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHRA

AS-BUILT DATE OF SURVEY: 11.08.17

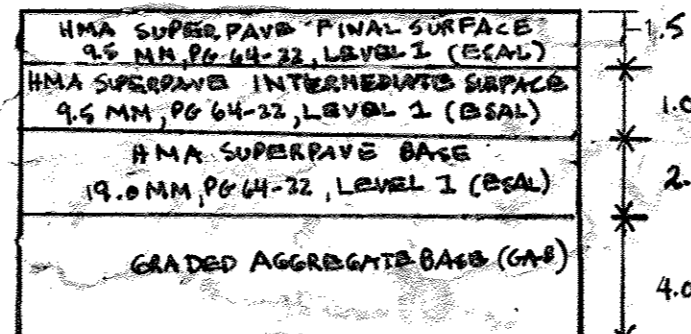
APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	<i>Walter J. ...</i> 11-20-07 CHIEF, BUREAU OF HIGHWAYS <i>ms</i> DATE
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	<i>Wanda ...</i> 11/20/07 CHIEF, DIVISION OF LAND <i>pc</i> DEVELOPMENT DATE
	<i>Wanda ...</i> 11/20/07 CHIEF, DEVELOPMENT <i>pc</i> ENGINEERING DIVISION DATE
DATE NO.	REVISION
OWNER	CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539
DEVELOPER	RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414
PROJECT	<b>AS-BUILT</b> <b>ORCHARD ESTATES</b> LOTS 1-B, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO	5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	<b>PLAN AND PROFILE OF</b> <b>ALL DAUGHTERS LANE</b>
	<b>Patton Harris Rust &amp; Associates, pc</b> Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282
	10/22/07 DATE
	CHECKED BY: DWC
	DESIGNED BY: NS
	DRAWN BY: EMR/JMK
	PROJECT NO: 13043/1-D/ENGR/PLANS /FINAL/C400ROAD.DWG
	DATE : NOVEMBER 6, 2007
	SCALE : AS SHOWN
	DRAWING NO. 2 OF 21
	DOMENICK W. COLANGELO #27200



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

THE PAVING SECTION SHOWN HAS NOT BEEN DESIGNED FOR ACTUAL SOIL CONDITIONS, IN PLACE COMPACTION RESULTS, OR TRAFFIC VOLUMES SPECIFIC TO THIS PROJECT. IT IS RECOMMENDED THAT THE USER CONSULT WITH A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER FOR A SPECIFIC PAVING DESIGN BASED ON THE APPROPRIATE PARAMETERS PRIOR TO INSTALLATION OF THIS PAVING SECTION.

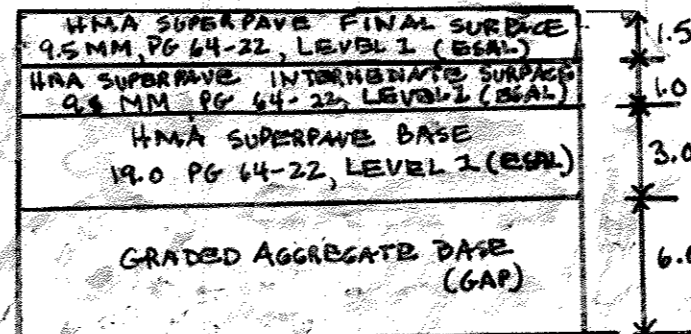
P-1 PAVING



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

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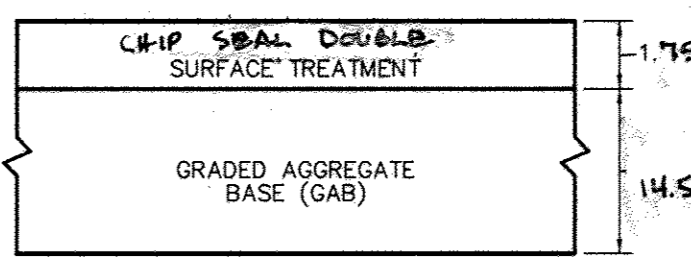
P-2 PAVING



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

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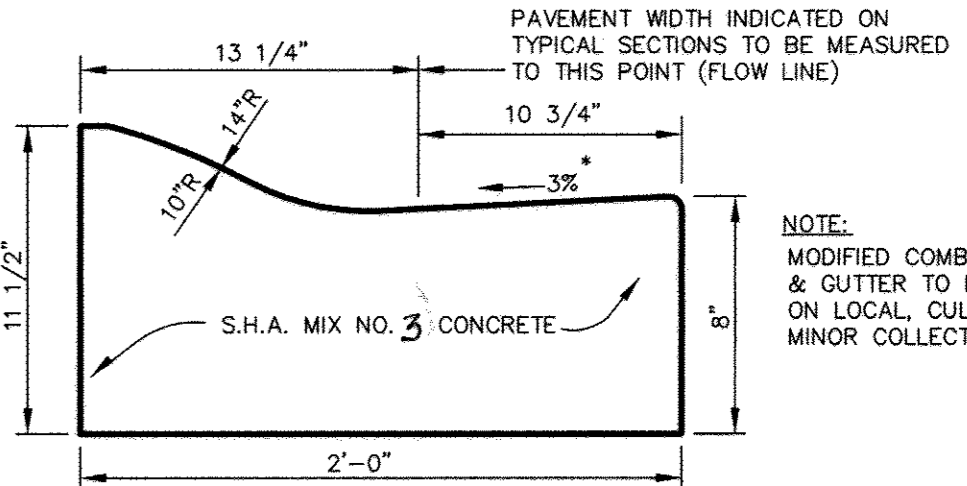
P-3 PAVING



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.02)

THE PAVING SECTION SHOWN HAS NOT BEEN DESIGNED FOR ACTUAL SOIL CONDITIONS, IN PLACE COMPACTION RESULTS, OR TRAFFIC VOLUMES SPECIFIC TO THIS PROJECT. IT IS RECOMMENDED THAT THE USER CONSULT WITH A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER FOR A SPECIFIC PAVING DESIGN BASED ON THE APPROPRIATE PARAMETERS PRIOR TO INSTALLATION OF THIS PAVING SECTION.

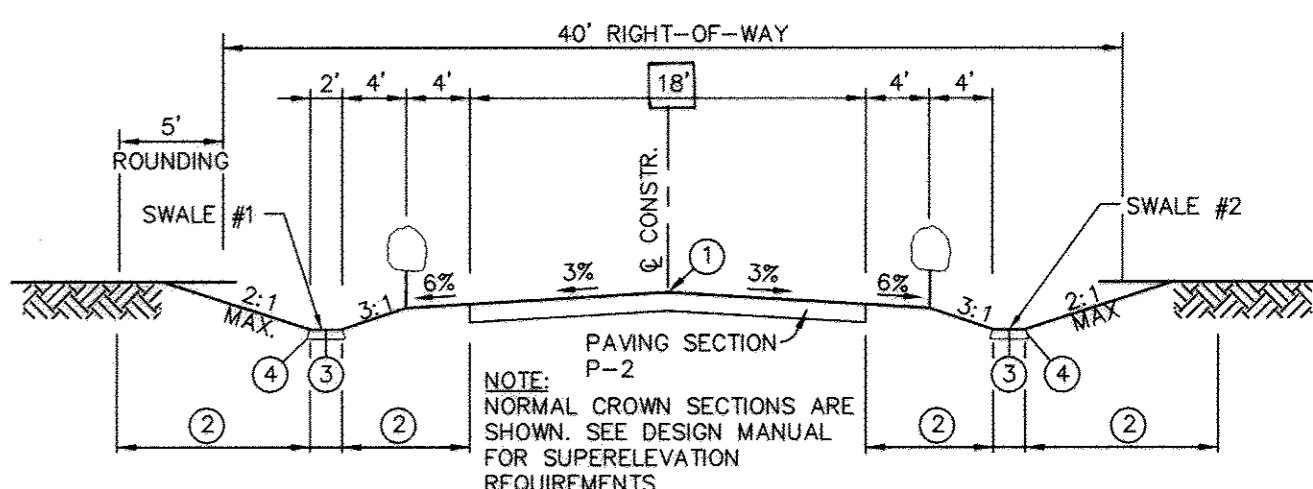
P-7 PAVING



MODIFIED COMBINATION CURB AND GUTTER

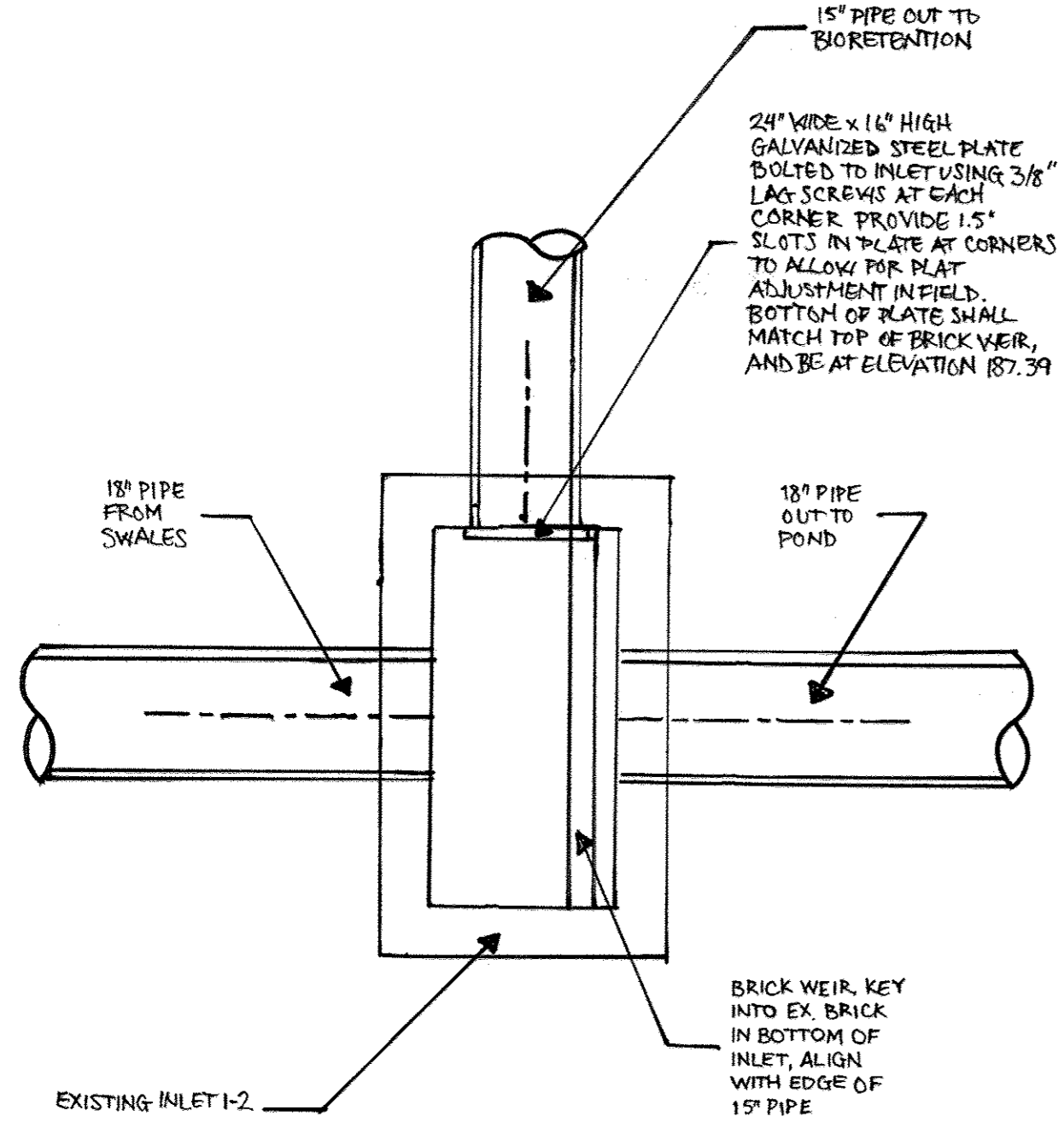
NOTE: MODIFIED COMBINATION CURB & GUTTER TO BE USED ONLY ON LOCAL, CUL-DE-SAC AND MINOR COLLECTOR ROADS.

\* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

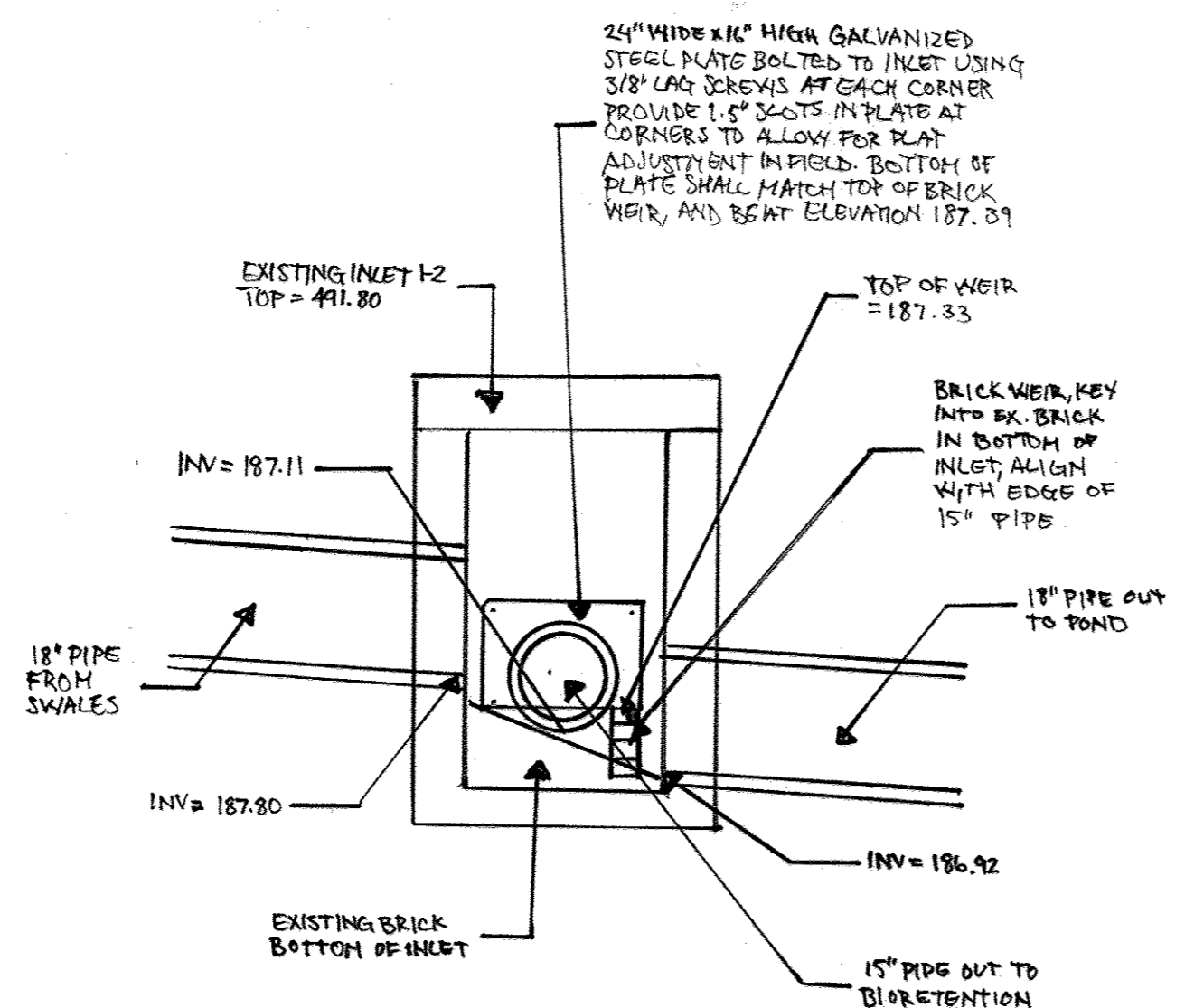


OPEN SECTION

① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.  
② INDICATES 2\"/>



I-2 MODIFICATIONS PLAN NOT TO SCALE



I-2 MODIFICATIONS SECTION NOT TO SCALE

INLET 1-2 OPERATION AND MAINTENANCE SCHEDULE

1. INSPECT INLET ON A SEMI-ANNUAL BASIS AND AFTER HEAVY RAIN EVENTS.
2. CLEAN INLET AS NEEDED WHEN INSPECTING.

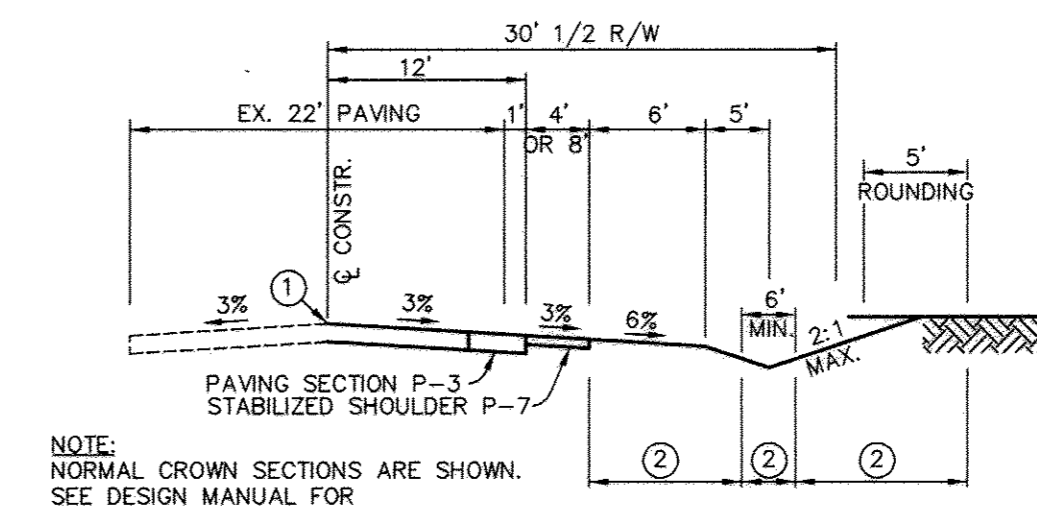


AS-BUILT CERTIFICATION

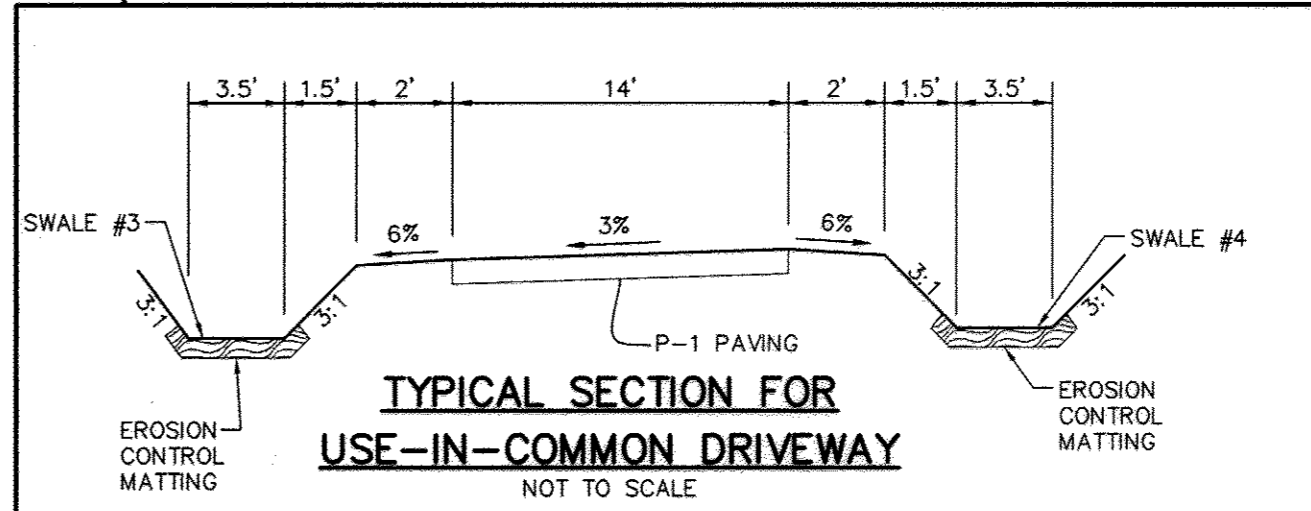
I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Sharon K. Cruz 36896  
PRINTED NAME MD. P.E. NO.  
SIGNATURE DATE 2/20/18

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. 36896, EXPIRATION DATE: 2-12-19



TYPICAL SECTION BROWNS BRIDGE ROAD NOT TO SCALE



TYPICAL SECTION FOR USE-IN-COMMON DRIVEWAY NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter J. ... 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chris ... 11/20/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 11/22/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1/24/18 1 MODIFY INLET 1-2  
DATE NO. REVISION

OWNER: CARLTON E HEYSER, JR  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

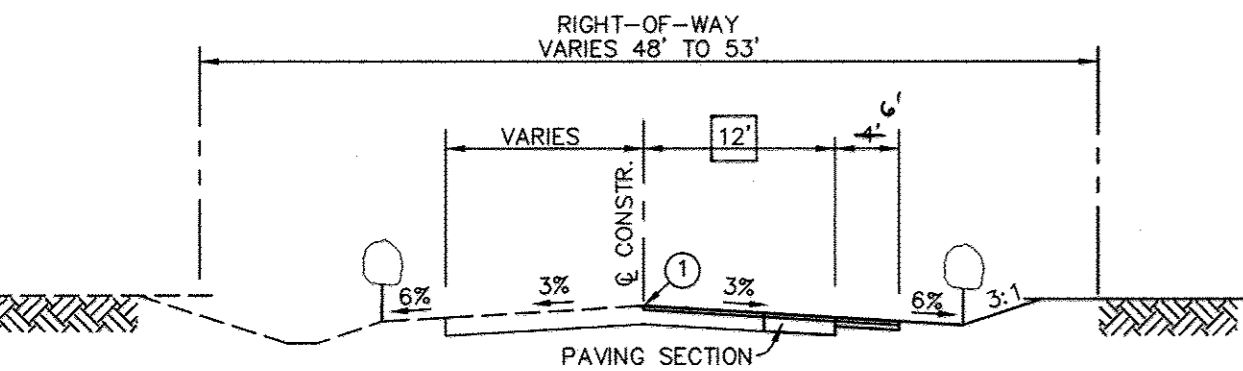
DEVELOPER: RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

PROJECT: AS-BUILT ORCHARD ESTATES  
LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C  
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

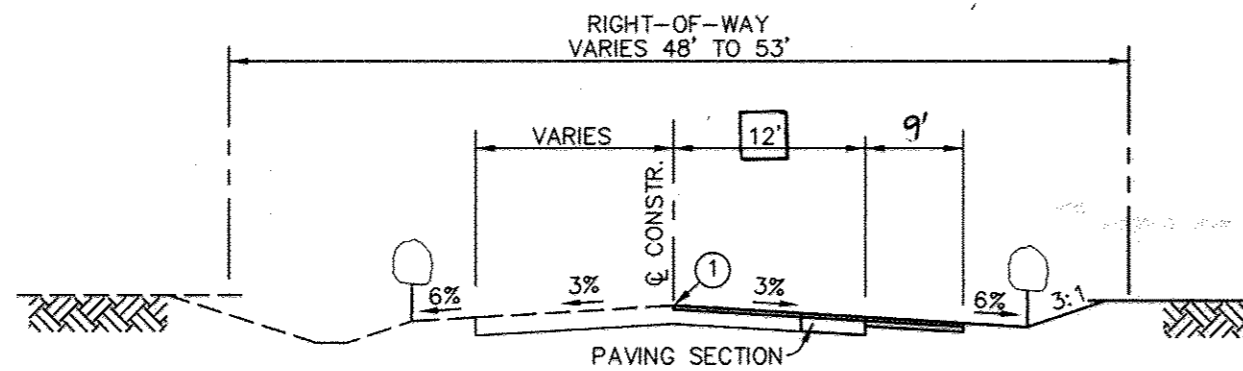
TITLE: ROAD SECTIONS AND DETAILS

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

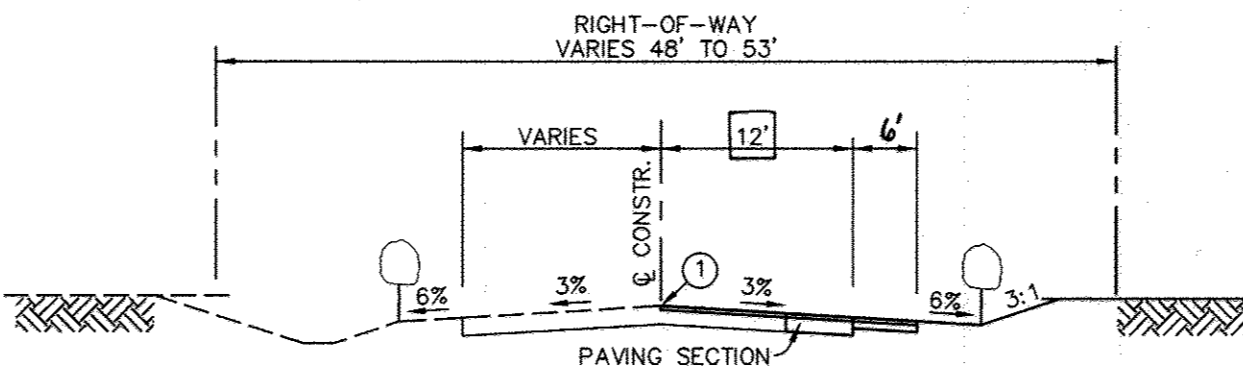
10/22/07 DATE  
CHECKED BY: DWC  
DESIGNED BY: NS  
DRAWN BY: EMR/JMK  
PROJECT NO: 13043/1-0/ENGR/PLANS  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 3 OF 21



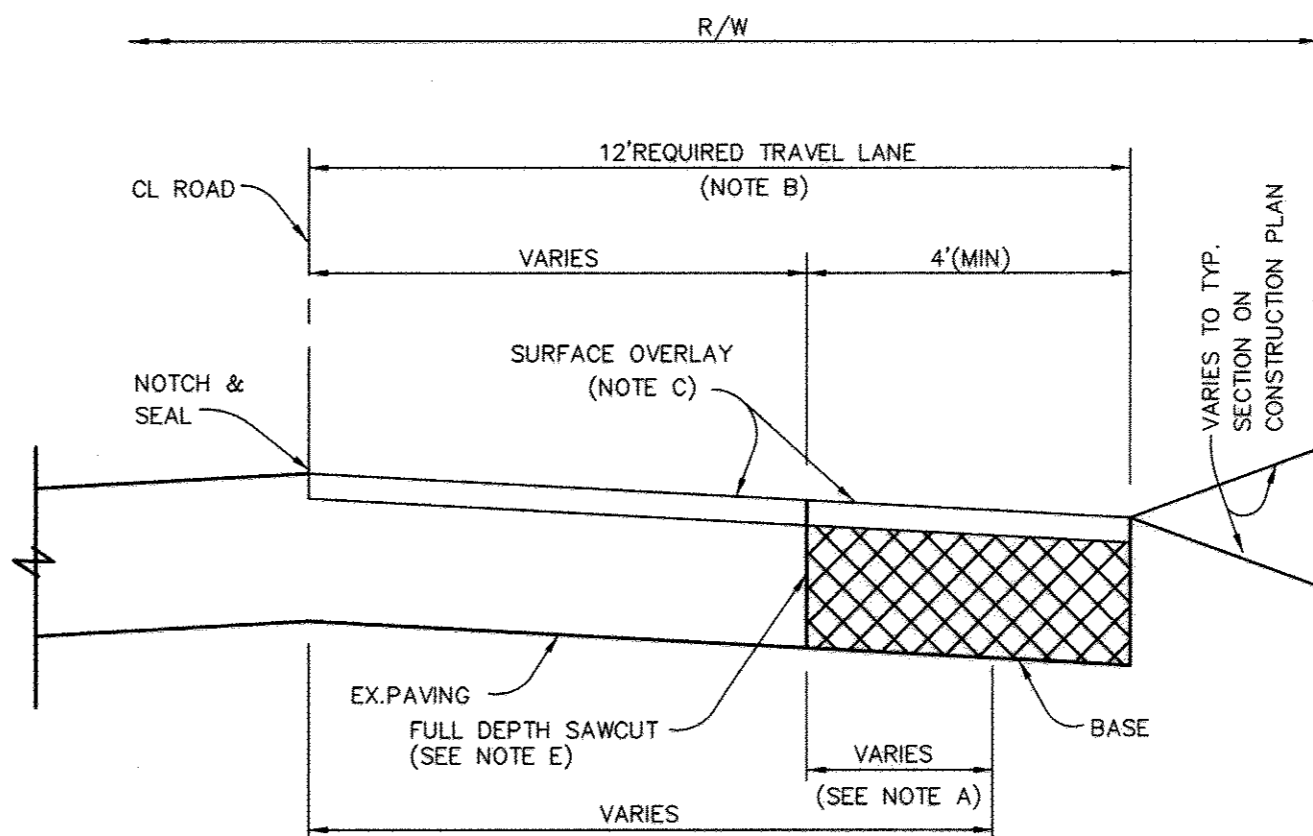
TYPICAL SECTION OF BROWNS BRIDGE ROAD STA. 10+00 TO STA. 11+19.37 NOT TO SCALE



TYPICAL SECTION OF BROWNS BRIDGE ROAD STA. 11+19.37 TO STA. 12+53.58 NOT TO SCALE



TYPICAL SECTION OF BROWNS BRIDGE ROAD STA. 12+89.35 TO STA. 15+63 NOT TO SCALE



NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE, CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.  
NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CL OF THE ROAD AND NOTCHED AND SEALED.  
NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.  
NOTE D - CL OF ROAD TO BE MILLED AT DEPTH OF 1 1/2"x1" WIDE USING A MILLING MACHINE.  
NOTE E - PROVIDE FULL DEPTH SAWCUT ONE FOOT MINIMUM ONTO EXISTING BROWNS BRIDGE ROAD.

WIDENING STRIPS ALONG BROWNS BRIDGE ROAD NOT TO SCALE

FINAL AS-BUILT PLANS PREPARED BY PENNONI ASSOCIATES, FORMERLY PHR+A

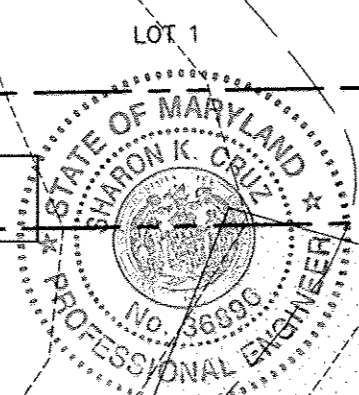
AS-BUILT DATE OF SURVEY: 11.08.17

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

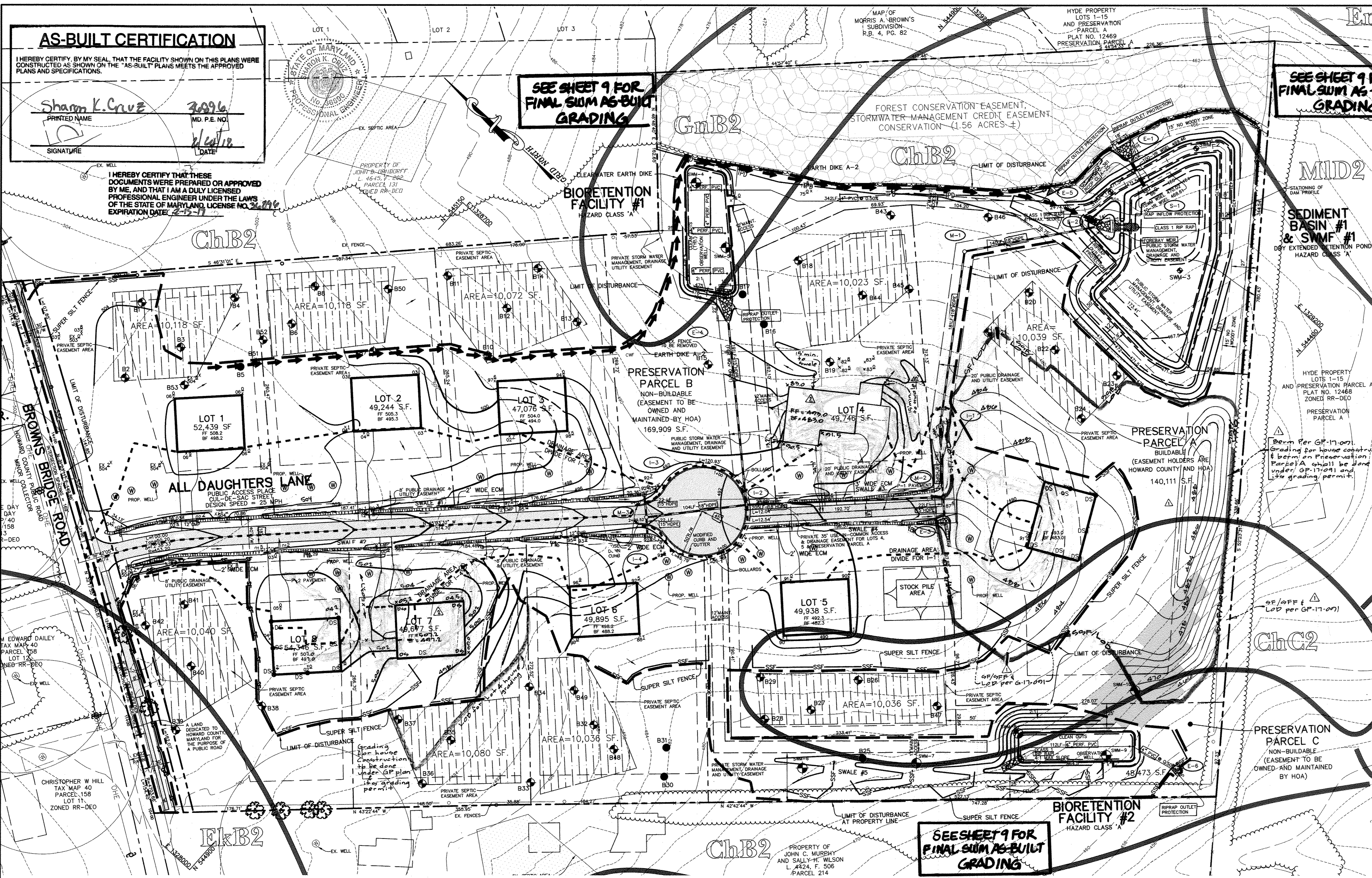
Sharon K. Cruz 3096  
 PRINTED NAME (MD. P.E. NO.)  
 SIGNATURE DATE

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. 24746 EXPIRATION DATE: 2-15-17



SEE SHEET 9 FOR FINAL SUM AS-BUILT GRADING

SEE SHEET 9 FOR FINAL SUM AS-BUILT GRADING



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.  
 Richard Demmitt 10/24/07  
 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.S. 10/22/07  
 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 11/5/07 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
 Chief, Bureau of Highways 11-20-07 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Chief, Division of Land & Development 11/21/07 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF ENGINEERING DIVISION.  
 Chief, Development Engineering Division 11/22/07 DATE

DATE NO.	REVISION
6/21/17	Revise grading on preservation parcel A includes berm GP-17-091

OWNER: CARLTON E HEYSER, JR  
 14526 NEW HAMPSHIRE AVENUE  
 SILVER SPRING, MD 20904  
 410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
 ATTN: RICHARD DEMMITT  
 HIGHLAND DEVELOPMENT CORP.  
 P.O. BOX 228  
 CLARKSVILLE, MARYLAND 21029  
 410-365-0414

PROJECT: AS-BUILT ORCHARD ESTATES  
 LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C  
 AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
 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.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

10/22/07 DATE  
 CHECKED BY: DWC  
 DESIGNED BY: NS  
 DRAWN BY: EMR/JMK  
 PROJECT NO: 13043/1-0/ENGR/PLANS  
 DATE: NOVEMBER 6, 2007  
 SCALE: 1" = 50'  
 DRAWING NO. 4 OF 21

FOR DRAINAGE AREA 1A, NON-ROOFTOP RUNOFF AND GRASS CHANNEL CREDITS WILL BE APPLIED TOWARDS THE WOV AND Rev REQUIREMENTS FOR THAT AREA THAT DOES NOT DRAIN TO BIORETENTION FACILITY #1. THE BIORETENTION FACILITY WILL PROVIDE FOR THE REMAINING WOV AND THE ROAD SIDE SWALES WILL PROVIDE Rev. Cpv WILL BE PROVIDED WITH A DRY EXTENDED DETENTION POND.

FOR DRAINAGE AREA 1B, THE NATURAL AREA CONSERVATION CREDIT WILL BE USED TO MEET THE REQUIRED WOV. Rev WILL BE PROVIDED FOR IN DRAINAGE AREA 1A. Cpv IS NOT REQUIRED BECAUSE THE 1-YEAR PEAK DISCHARGE IS LESS THAN 2 CFS.

FOR DRAINAGE AREA 2A, THE DISCONNECTION OF ROOFTOP RUNOFF CREDIT WAS APPLIED TOWARDS THE Rev REQUIREMENTS AND WAS USED TO REDUCE THE RCN FROM 67 TO 65. THE WOV WILL BE PROVIDED IN BIORETENTION FACILITY #2. THE REMAINING Rev WILL BE TREATED BY CREDITS IN DRAINAGE AREA 1A. Cpv IS NOT REQUIRED BECAUSE THE 1-YEAR PEAK DISCHARGE IS LESS THAN 2 CFS.

STORMWATER MANAGEMENT SUMMARY TABLE								
DRAINAGE AREA (AC)	Wov (CF)	Rev (CF)	Cpv (AC-FT)	Op 1 (CFS)	Op 100 (CFS)	COMMENTS		
DA 1A (POND)	10.0	7569	1904	0.267	0.11	9.92	29.0	CREDITS, BIORETENTION AND DRY POND
DA 1B	7.0	309	70	N/A	1.13	9.77	19.5	CREDITS Cov < 2 CFS
DA 2A	6.4	4559	1148	N/A	1.98	13.91	26.8	CREDITS, BIORETENTION Cpv < 2 CFS
SP #1	17.0	-	-	-	1.18	19.31	48.4	
SP #2	30.7	-	-	-	18.74	81.86	145.0	

Revision: Update house box for Lot 4 & show Lot 7 LOD for GP plan grading (by GLW on 1-2018)  
 Revision: add berm & grading per GP-17-091 on Pres. Parcel A  
 Gutchick, Little & Weber PA  
 9009 National Drive, Suite 250  
 Burtonsville, MD 20814  
 410-380-1920



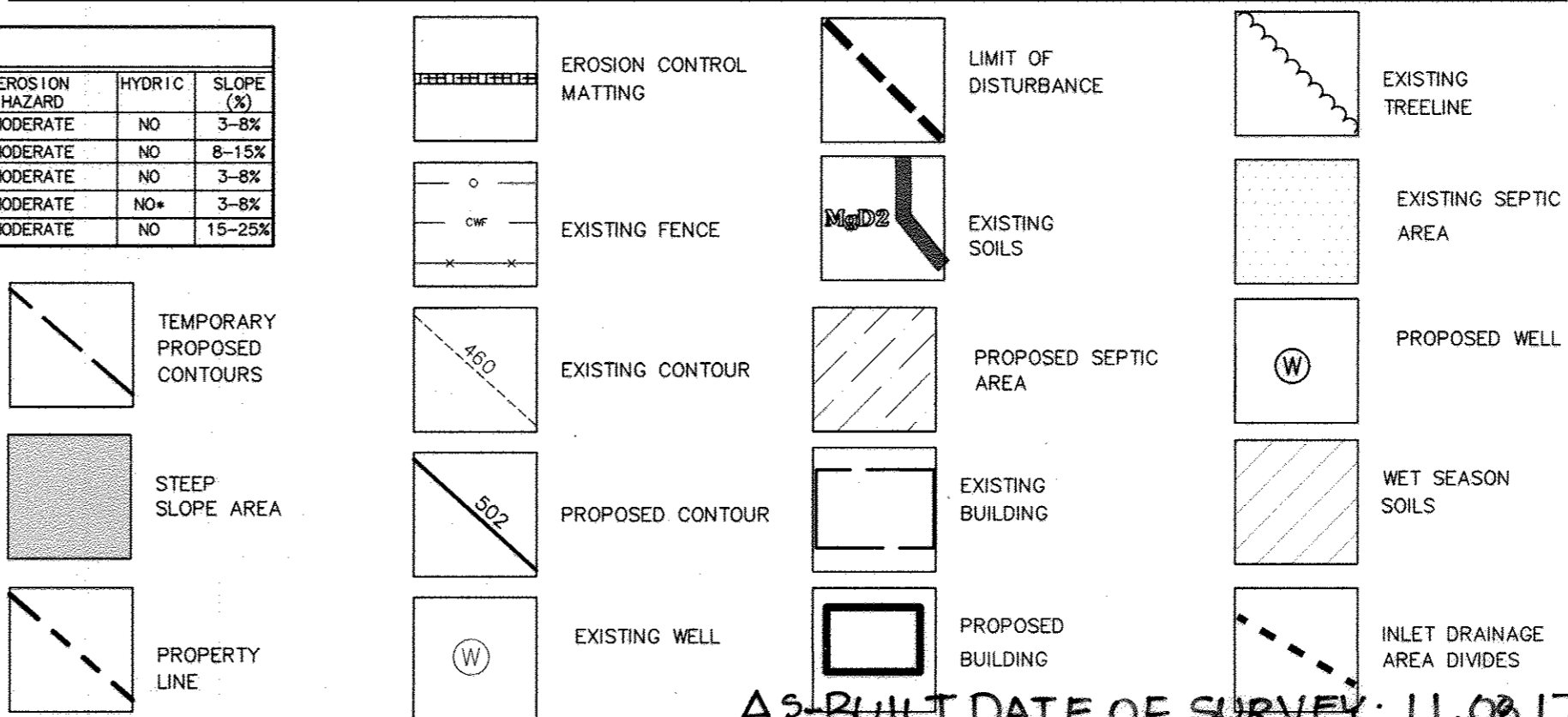
For Revision #1 (by GLW) 01/20/17  
 Professional Certification  
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.  
 License No. 27200  
 Expiration Date: May 20, 2018  
 01/20/17

SOILS CHART					
MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS	EROSION HAZARD	HYDRIC	SLOPE (%)
ChB2	CHESTER SILT LOAM	SLIGHT	MODERATE	NO	3-8%
ChC2	CHESTER SILT LOAM	MODERATE	NO	8-15%	
EkB2	ELIQUAK SILT LOAM	SLIGHT	MODERATE	NO	3-8%
ChB2	CLEVELL SILT LOAM	MODERATE	MODERATE	NO	3-8%
MID2	MANOR LOAM	MODERATE/SEVERE	MODERATE	NO	15-25%

\* SOIL MAY CONTAIN HYDRIC INCLUSIONS

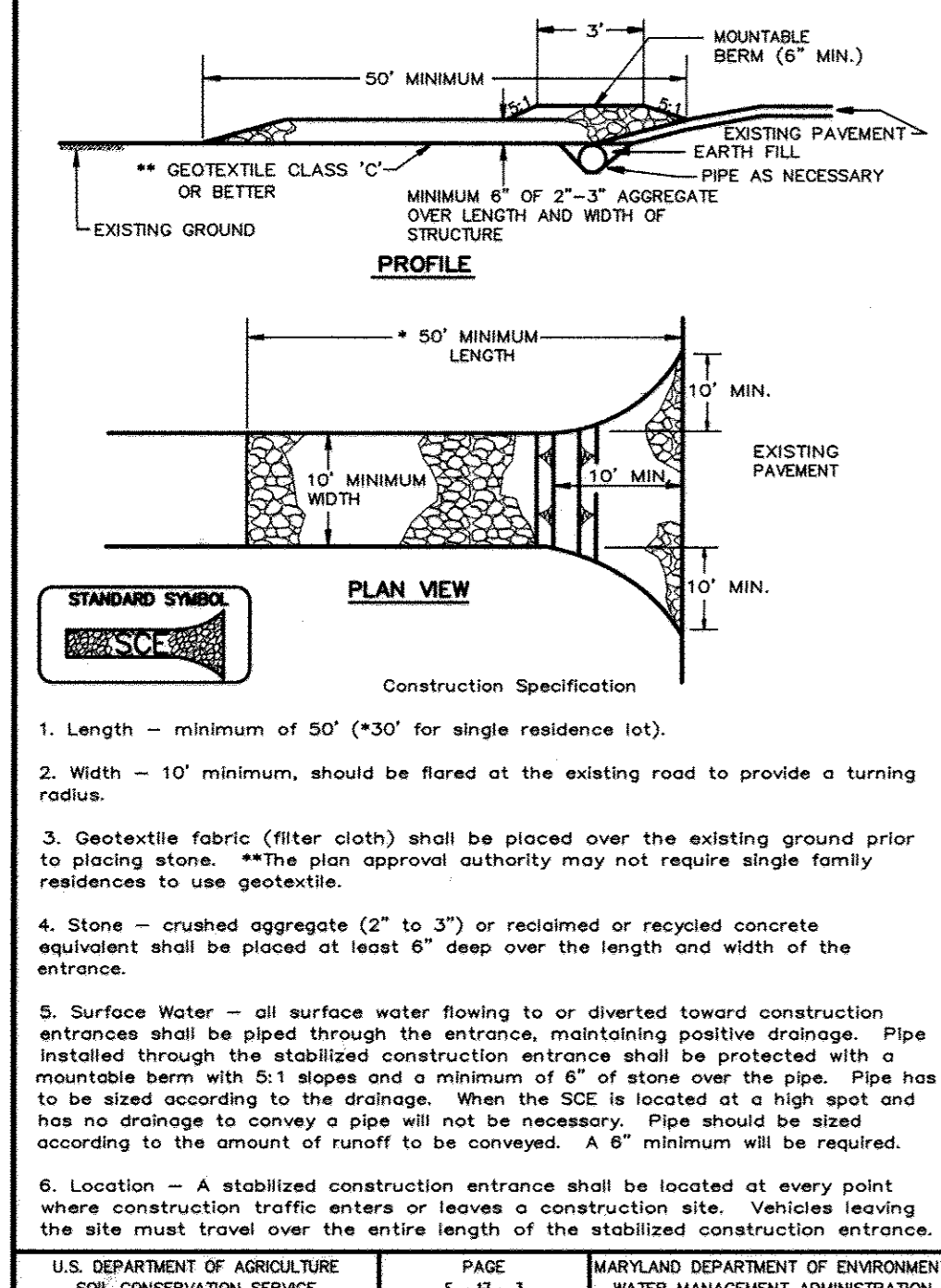
DRAINAGE AREA CHART			
INLET NO.	AREA (AC.)	C	% IMP
1-1	0.70	0.21	21
1-2	0.17	0.86	47
1-3	1.13	0.21	19
1-4	0.88	0.21	31

**LEGEND**



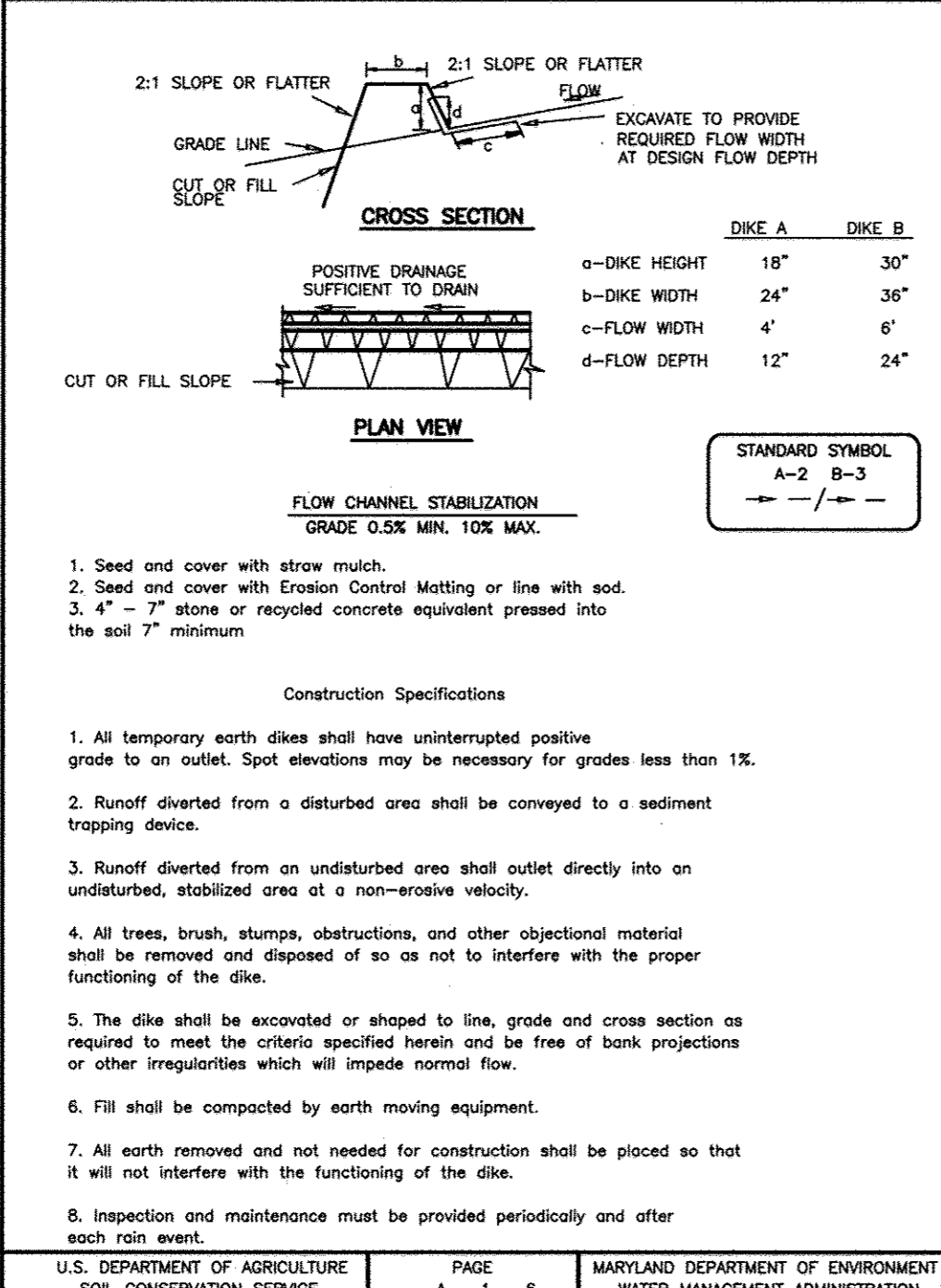
AS-BUILT DATE OF SURVEY: 11.08.17

**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



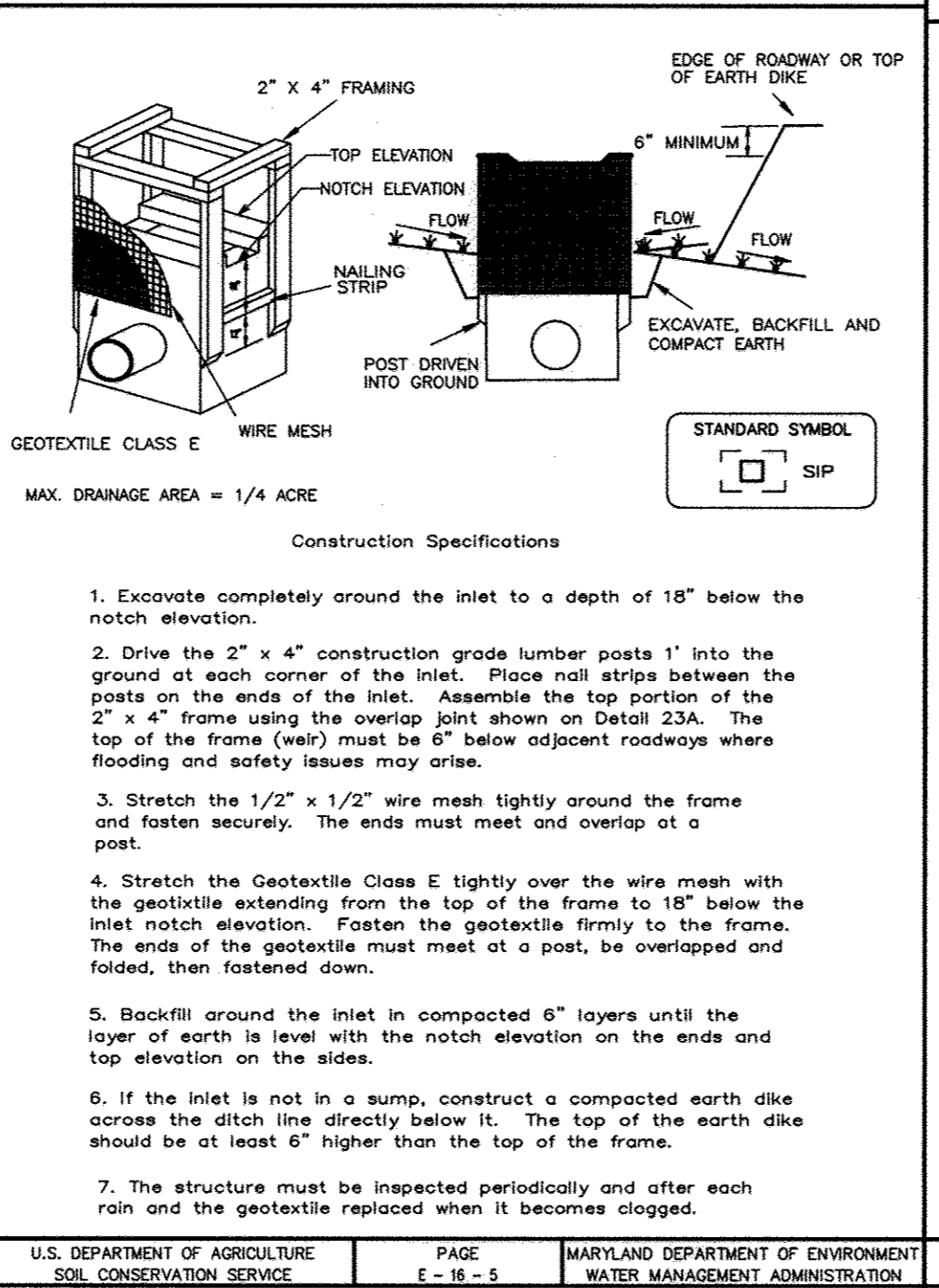
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 1 - EARTH DIKE**



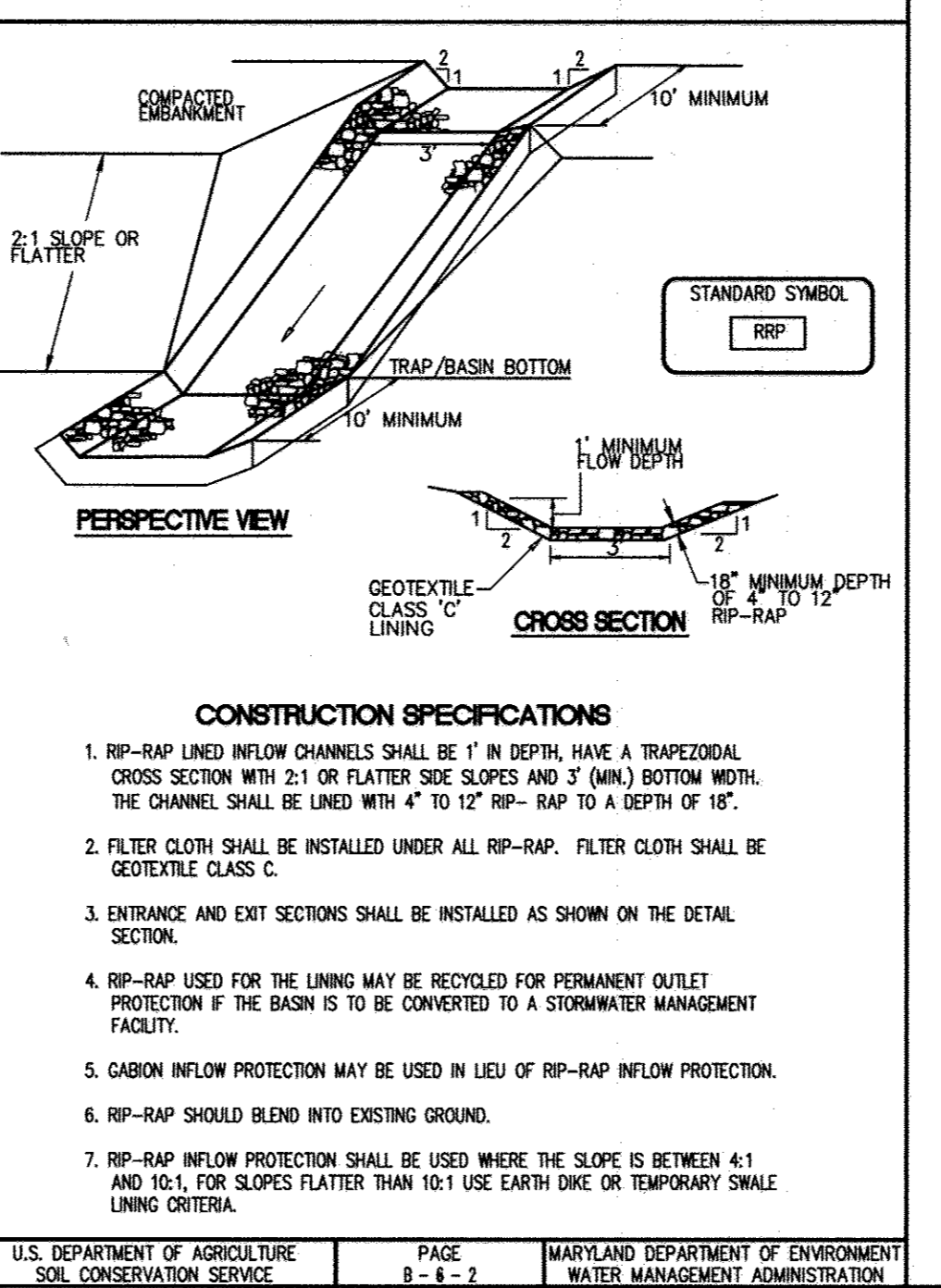
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 23A - STANDARD INLET PROTECTION**



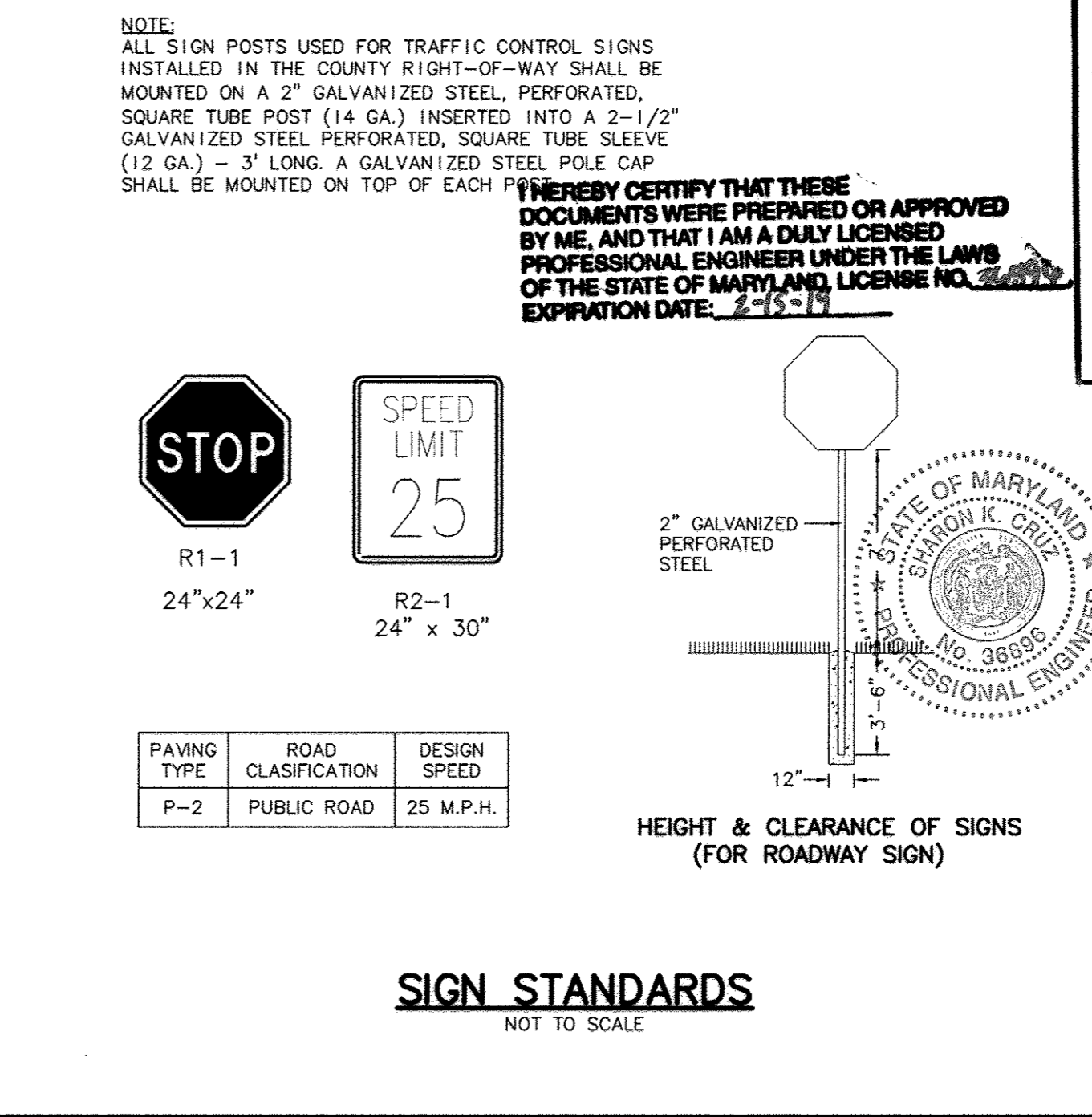
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 5 - RIP-RAP INFLOW PROTECTION**



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-6-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**NOTE: 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 GA.) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (12 GA.) - 3' LONG, A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.**



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8-6-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Sharon K. Cruz 36896  
PRINTED NAME MD. P.E. NO.  
DATE 2/20/12  
SIGNATURE

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.

Vincent Vennant 10/24/07  
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. H. Coffey 10/22/07  
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 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
W. J. Z. ... 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
C. ... 11/20/07  
CHIEF, DIVISION OF LAND USE DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
D. ... 11/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER: CARLTON E HEYSER, JR  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

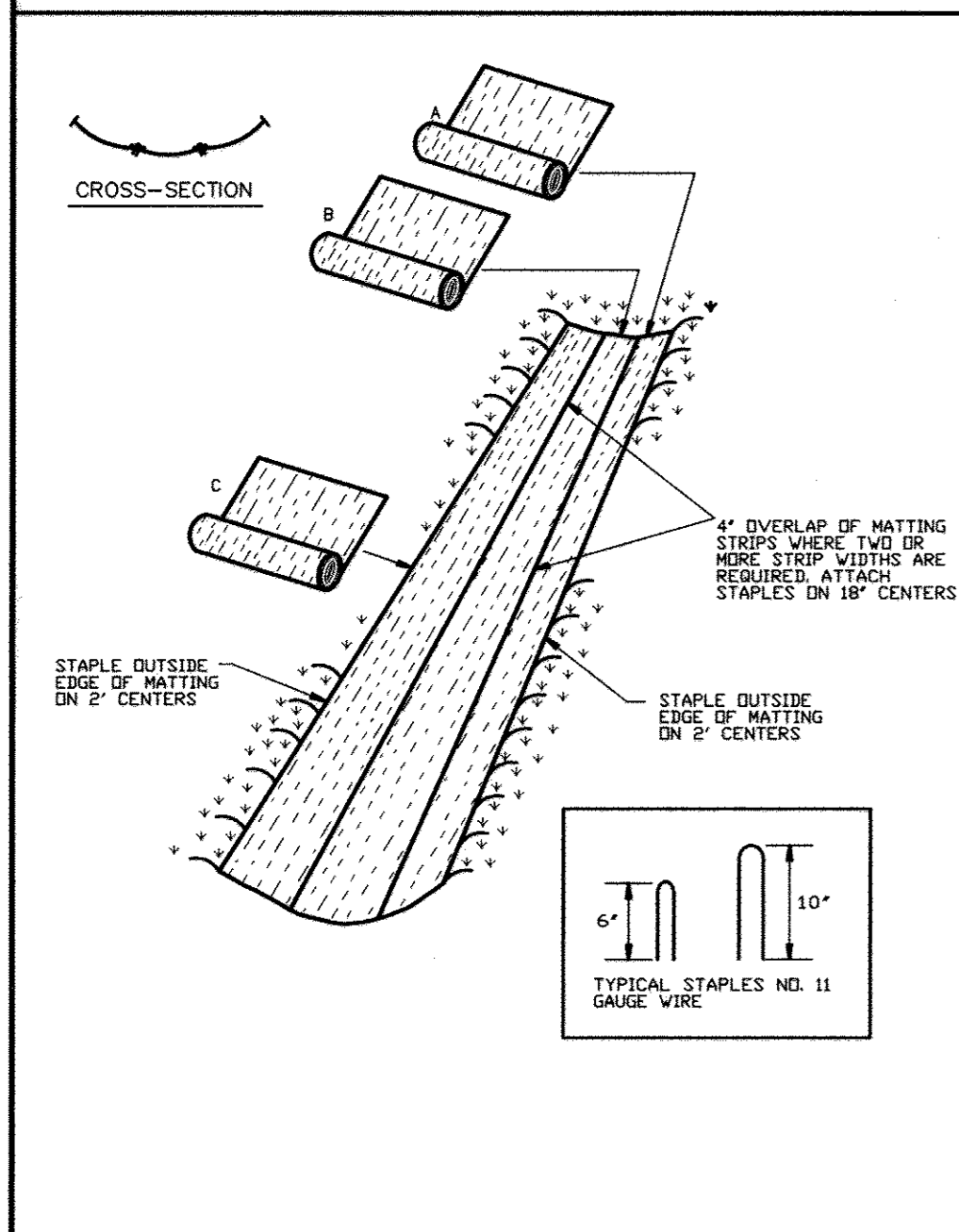
PROJECT: AS-BUILT ORCHARD ESTATES  
LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C  
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: CONSTRUCTION AND EROSION AND 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

10/22/07  
DATE  
CHECKED BY: DWC  
DESIGNED BY: NS  
DRAWN BY: EMR/JMK  
PROJECT NO: 13043/1-0/ENR/PLANS  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 5 OF 21

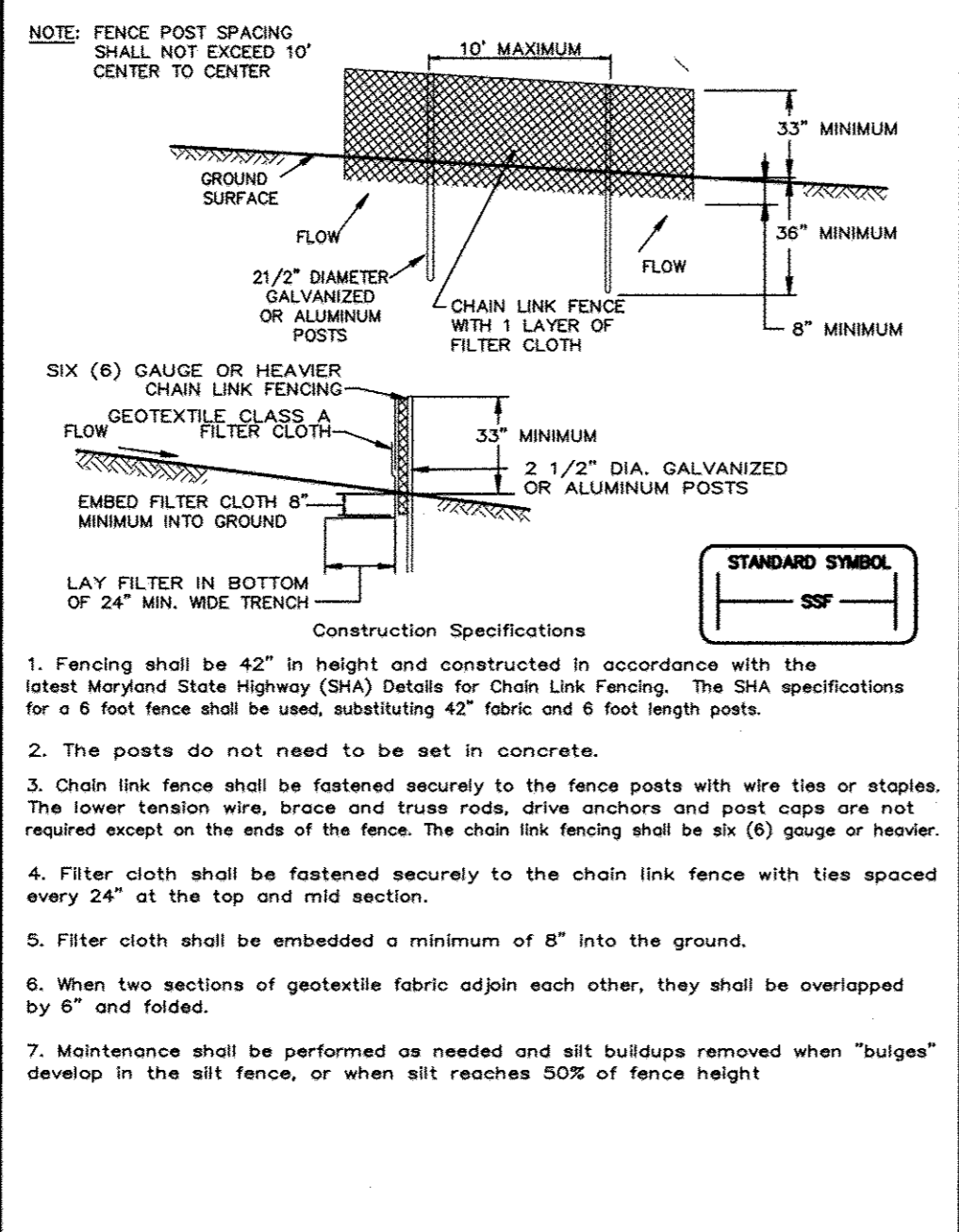
Domenick W. Colangelo #27200  
DATE 10/22/07

**DETAIL 30 - EROSION CONTROL MATTING**



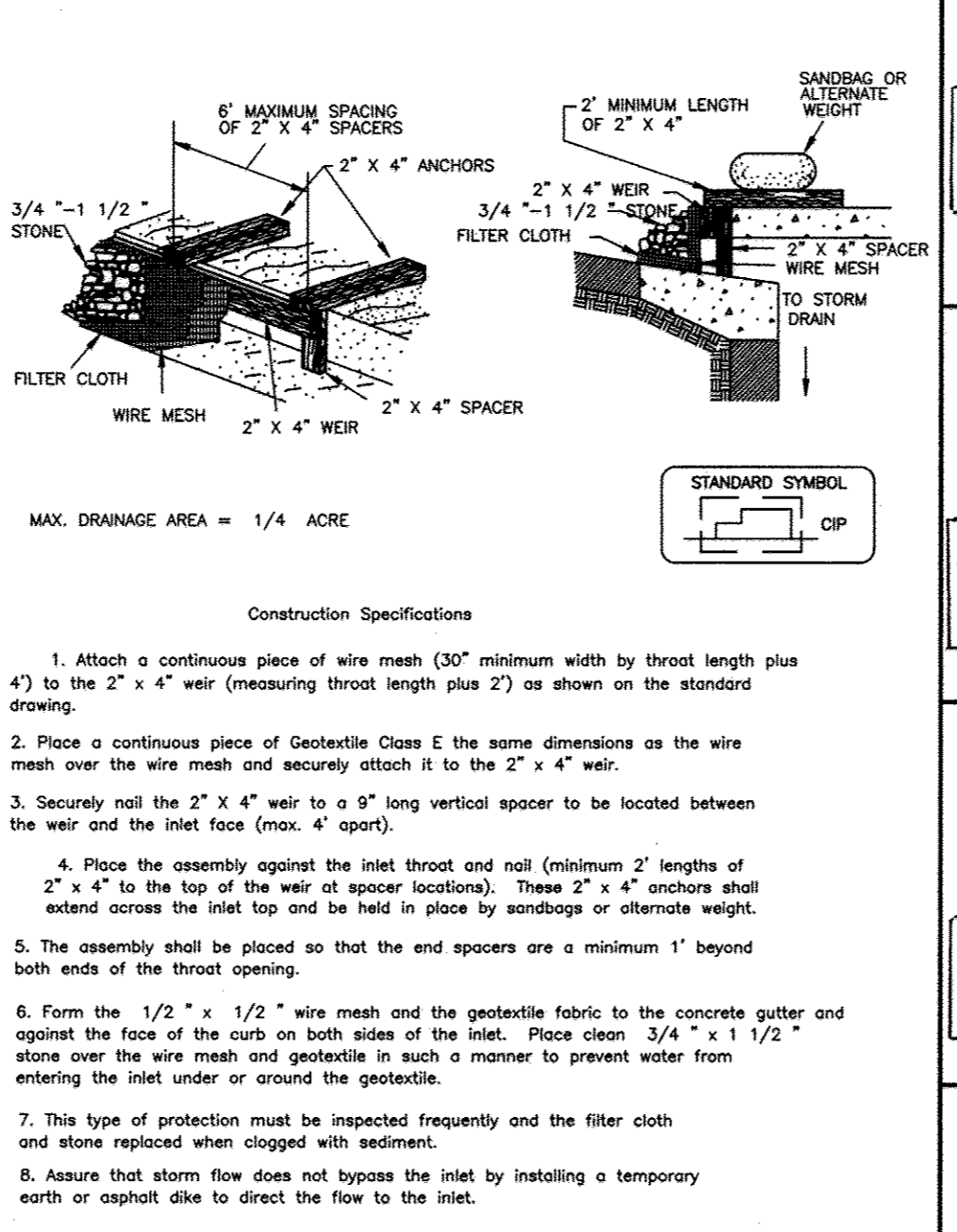
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6-22-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 33 - SUPER SILT FENCE**



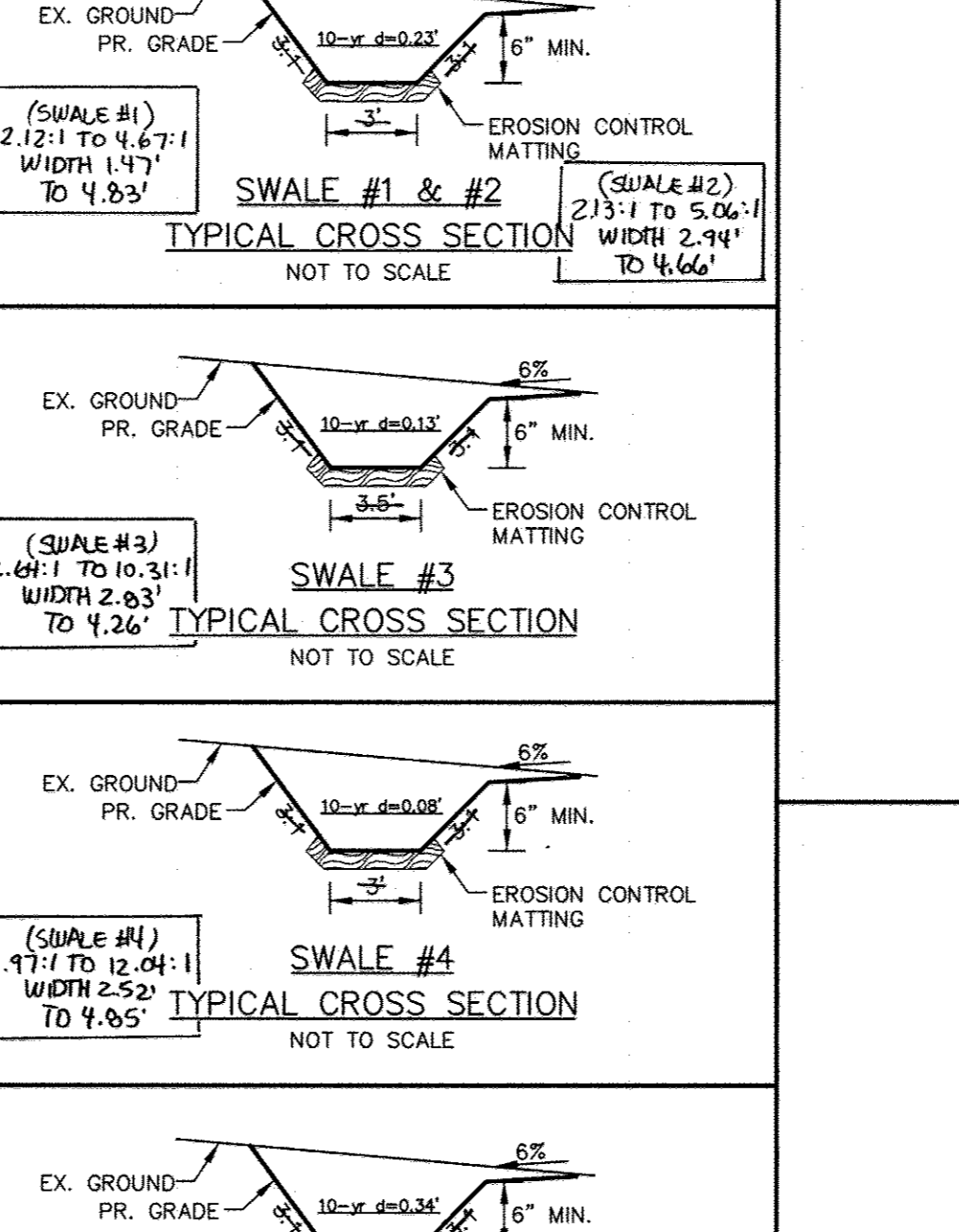
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-58 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 23C - CURB INLET PROTECTION**



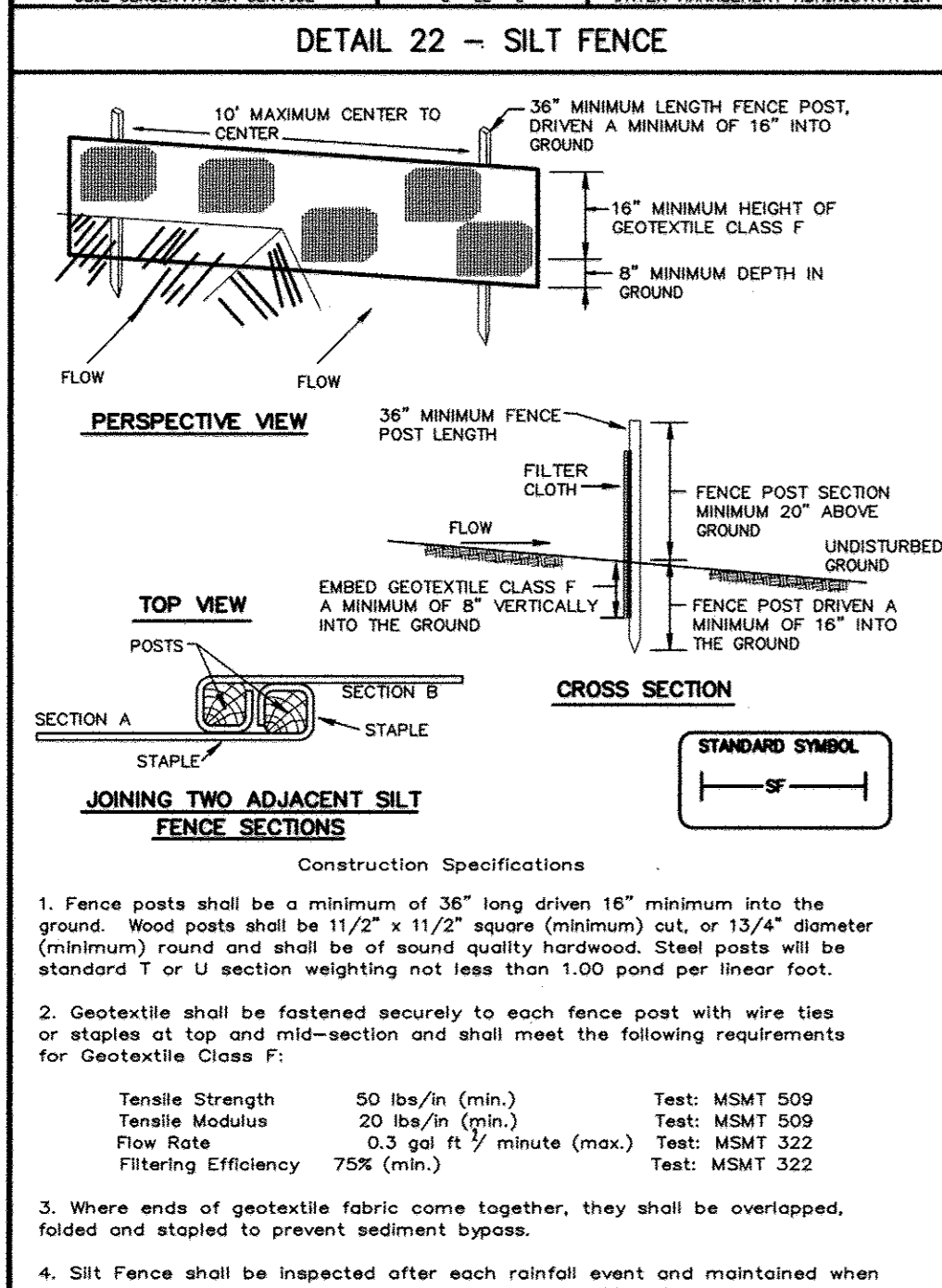
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-58 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**MOUNTABLE BERM**



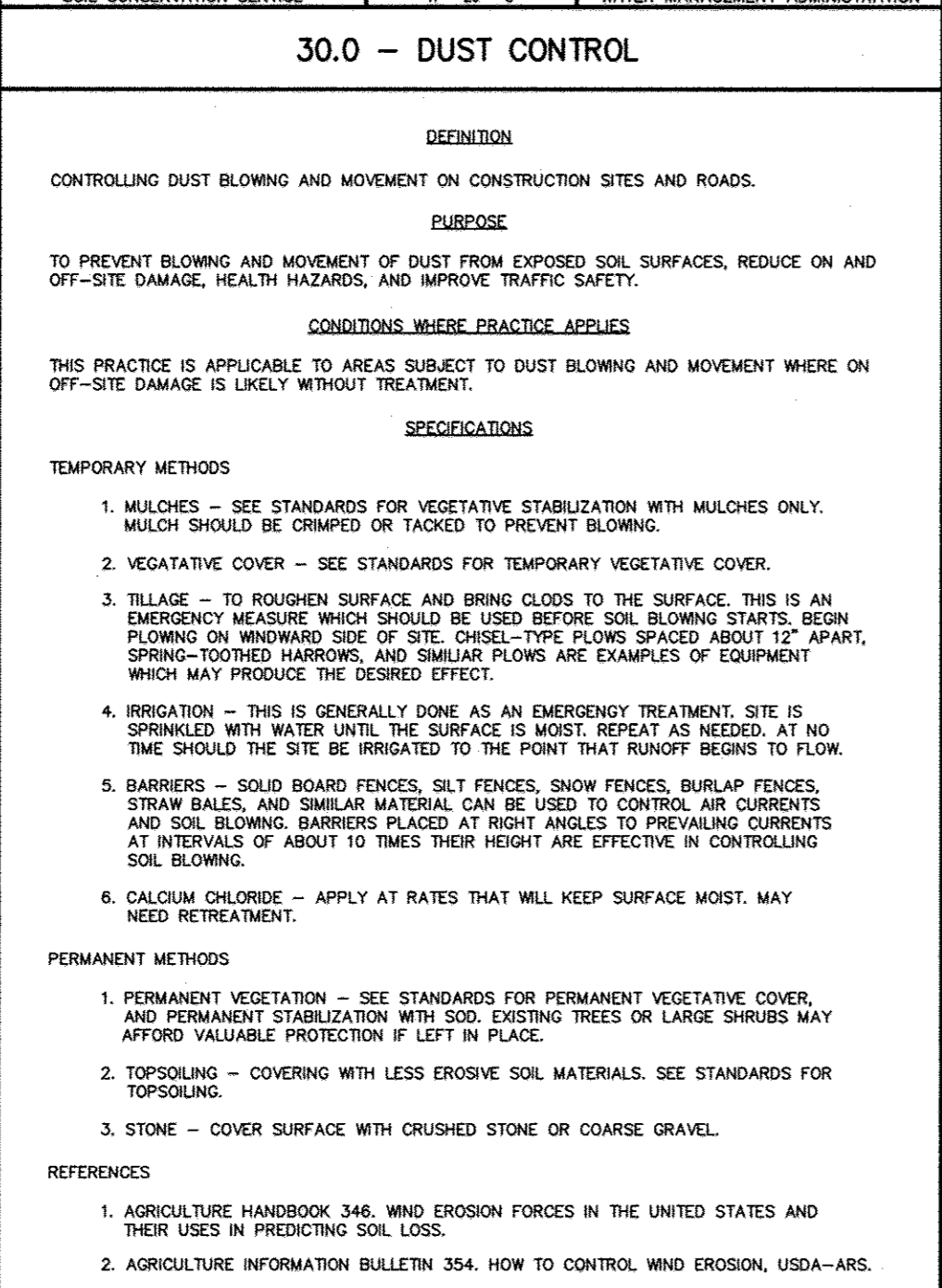
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-58 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 22 - SILT FENCE**



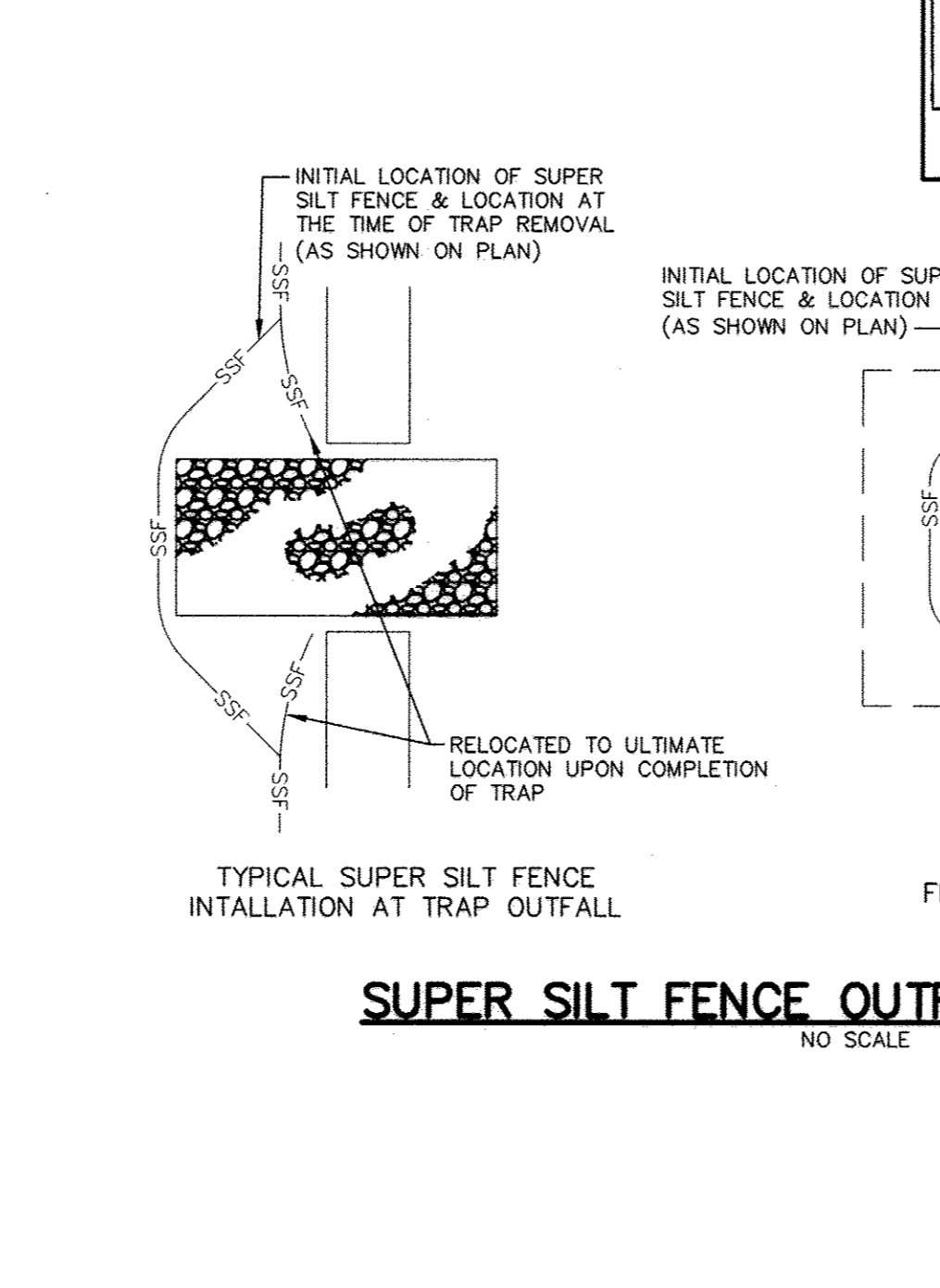
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**30.0 - DUST CONTROL**



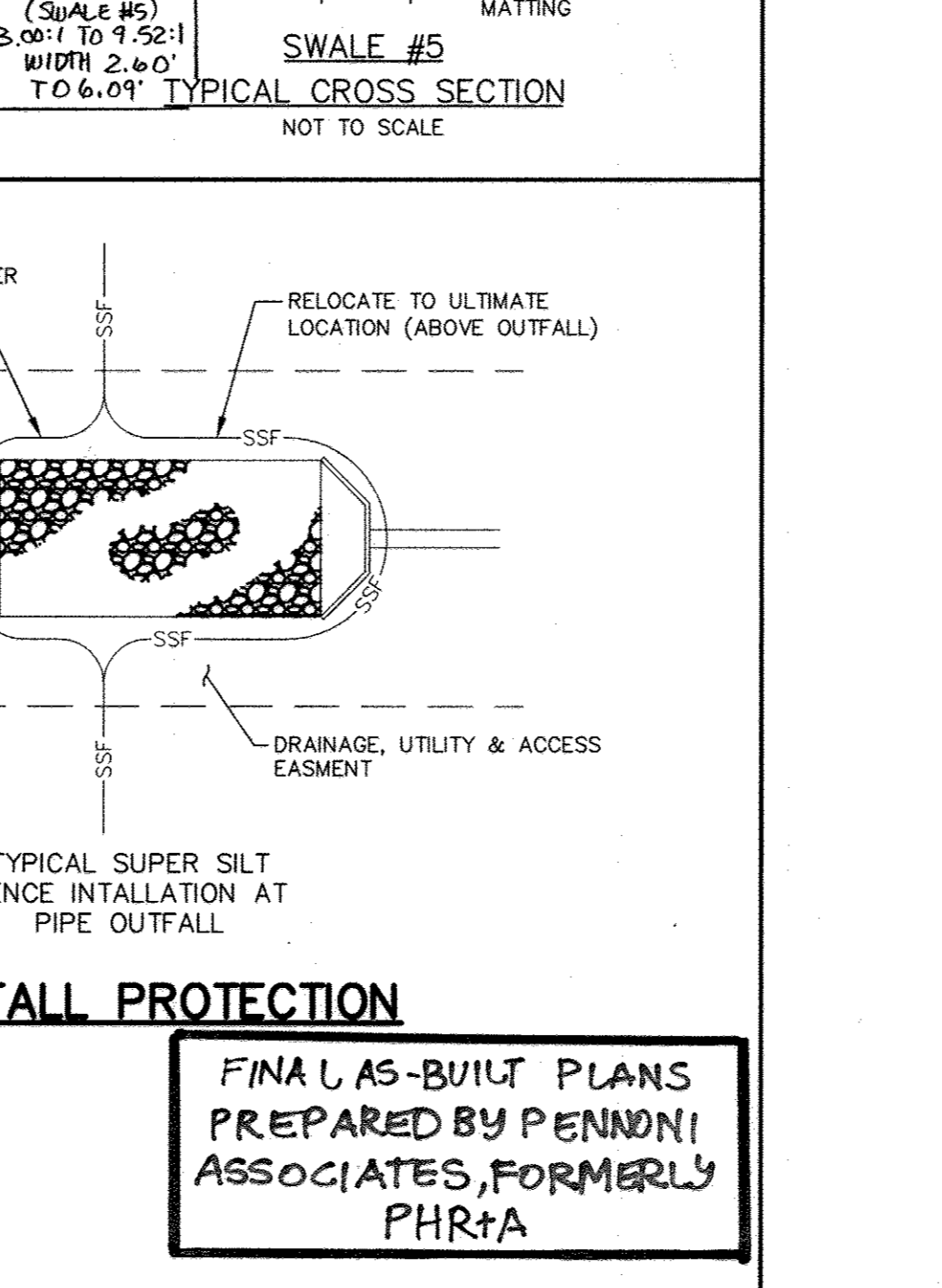
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**SUPER SILT FENCE OUTFALL PROTECTION**



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**RIPRAP OUTLET PROTECTION DETAIL**



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**AS-BUILT DATE OF SURVEY: 11.08.17**

NOTE: Q<sub>10</sub>, V<sub>10</sub> & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA. (L)	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q <sub>10</sub>	V <sub>10</sub>
E-2	6" CL 1	44'16"	48'13"	18"	5.15	2.91
E-4	6" CL 1	22'30"	22'16"	12"	2.79	1.58
E-5	6" CL 1	46'11.7"	46'7"	12"	22.49	-
E-6	6" CL 1	46'9"	46'9"	12"	13.91	-

STRUCTURE	MEDIAN STONE DIA. (L)	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q <sub>100</sub>	V <sub>100</sub>
E-1	6" CL 1	46'10.0"	46'10.0"	30"	28.99	9.53

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**AS-BUILT DATE OF SURVEY: 11.08.17**

AS-BUILT DATE OF SURVEY: 11.08.17

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

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 designated on the plans.

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

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of organic rubbish, stones greater than 6" frozen or other objectionable materials.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick layers.

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

When required by the reviewing agency the minimum required density shall be less than 95% 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. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) on both sides of the pipe.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-194 with watertight coupling bands or flanges.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-196 or 211 with watertight coupling bands or flanges.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coated as the pipe. Metals must be insulated from dissimilar materials with use of approved plastic insulating materials.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following:

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to Structure "Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage canals, and stream diversions to protect the project.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled, surface water and pollution minimized, State and local laws concerning pollution abatement will be followed.

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

TEMPORARY SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.).

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding.

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

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding.

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding.

Seeding: For the period March 1 thru April 30 and from August 1 thru October 31, seed with 60 lbs. per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.).

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

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).

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

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

PURPOSE

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

CONDITIONS WHERE PRACTICE APPLIES

I. This practice is limited to areas having 2:1 or flatter slopes where:

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. Topsoil salvaged from the existing site may be provided that it meets the standards as set forth in these specifications.

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

III. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

IV. For sites having disturbed areas under 5 acres: Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - bSection I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application: When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

VI. Alternative for Permanent Seeding - instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

1. OBTAIN GRADING PERMIT.

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND BYPASS SWALE. CONTRACTOR TO CONSTRUCT ONLY THE PORTION OF THE SWALE THAT DOES NOT DRAIN INTO THE BASIN AND IS TO STABILIZE BYPASS SWALE IMMEDIATELY.

3. INSTALL SEDIMENT BASIN. (3 WEEKS).

4. UPON ACCEPTANCE BY THE COUNTY INSPECTOR, CONTRACTOR TO PROCEED WITH ROUGH GRADING OF ENTIRE SITE. (1 WEEK) CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY AND AS DIRECTED BY THE INSPECTOR.

5. INSTALL WATER, SEWER AND STORM DRAINS AS SUBGRADE ELEVATIONS ARE REACHED. (3 WEEKS)

6. INSTALL CURB AND GUTTER AND PAVE. (1 WEEK)

7. PERFORM FINE GRADING, SIDEWALK, LIGHTING AND LANDSCAPING. (1 WEEK)

8. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)

9. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASINS TO PERMANENT STORM WATER MANAGEMENT FACILITIES. CONVERT FACILITY IN THE FOLLOWING STEPS:

A. PUMP OUT STANDING WATER IN BASIN USING PUMPING STATION. (2 DAYS)

B. REMOVE ACCUMULATED SEDIMENT AND FILL IN BOTTOM OF SEDIMENT BASIN TO MEET PROPOSED BOTTOM ELEVATION OF SWMF #1. (2 DAYS)

C. REMOVE TEMPORARY DRAIN DOWN DEVICE AND PLYWOOD COVERING OUTLET WEIR. (1 DAY)

D. LOWER TOP OF SEDIMENT BASIN EMBANKMENT TO MEET PROPOSED ELEVATIONS OF SWMF #1 EMBANKMENT. (2 DAYS)

E. INSTALL POND DRAIN AND ORIFICE METAL PLATE. (3 DAYS)

F. INSTALL FOREBAY AND CLAY LINER. (5 DAYS)

G. STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 DAYS)

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7(A) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. C.) TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS: TOTAL AREA OF SITE 18.57 ACRES

AREA DISTURBED 10.77 ACRES

AREA TO BE ROOFED OR PAVED 1.45 ACRES

AREA TO BE VEGETATIVELY STABILIZED 6.32 ACRES

OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT. \*QUANTITIES ARE FOR COUNTY FEE PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ACTUAL QUANTITIES.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF 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 INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

OPERATION AND MAINTENANCE SCHEDULE FOR HOMEOWNERS ASSOCIATION OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT POND

ROUTINE MAINTENANCE BY HOA:

1. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.

2. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

3. WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, AND UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS, SEDIMENT SHALL BE REMOVED FROM THE POND.

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 BY HOWARD COUNTY:

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 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, AND BYPASS SWALE. CONTRACTOR TO CONSTRUCT ONLY THE PORTION OF THE SWALE THAT DOES NOT DRAIN INTO THE BASIN AND IS TO STABILIZE BYPASS SWALE IMMEDIATELY.

3. INSTALL SEDIMENT BASIN. (3 WEEKS).

4. UPON ACCEPTANCE BY THE COUNTY INSPECTOR, CONTRACTOR TO PROCEED WITH ROUGH GRADING OF ENTIRE SITE. (1 WEEK) CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY AND AS DIRECTED BY THE INSPECTOR.

5. INSTALL WATER, SEWER AND STORM DRAINS AS SUBGRADE ELEVATIONS ARE REACHED. (3 WEEKS)

6. INSTALL CURB AND GUTTER AND PAVE. (1 WEEK)

7. PERFORM FINE GRADING, SIDEWALK, LIGHTING AND LANDSCAPING. (1 WEEK)

8. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)

9. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASINS TO PERMANENT STORM WATER MANAGEMENT FACILITIES. CONVERT FACILITY IN THE FOLLOWING STEPS:

A. PUMP OUT STANDING WATER IN BASIN USING PUMPING STATION. (2 DAYS)

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.

10/24/07 DATE

DEVELOPER

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.

10/23/07 DATE

ENGINEER

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.

11/5/07 DATE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

11-20-07 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

11/30/07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

11/2/07 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE NO. REVISION

OWNER CARLTON E HEYSER, JR. 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539

DEVELOPER RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414

PROJECT AS-BUILT ORCHARD ESTATES

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-C & NON-BUILDABLE PRESERVATION PARCELS B-D

TITLE EROSION AND SEDIMENT CONTROL NOTES

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

10/22/07 DATE

CHECKED BY: DMC

DESIGNED BY : NS

DRAWN BY: EMR/JMK

PROJECT NO. 130431-07/ENGR/PLANS PROJECT FILE: HPR/C890D02.DWG

DATE : NOVEMBER 6, 2007

SCALE : AS SHOWN DRAWING NO. 6 OF 21

F-07-005

AS-BUILT CERTIFICATION NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET. Sharon K. Cruz 3696 MD. P.E. NO. 126018 DATE



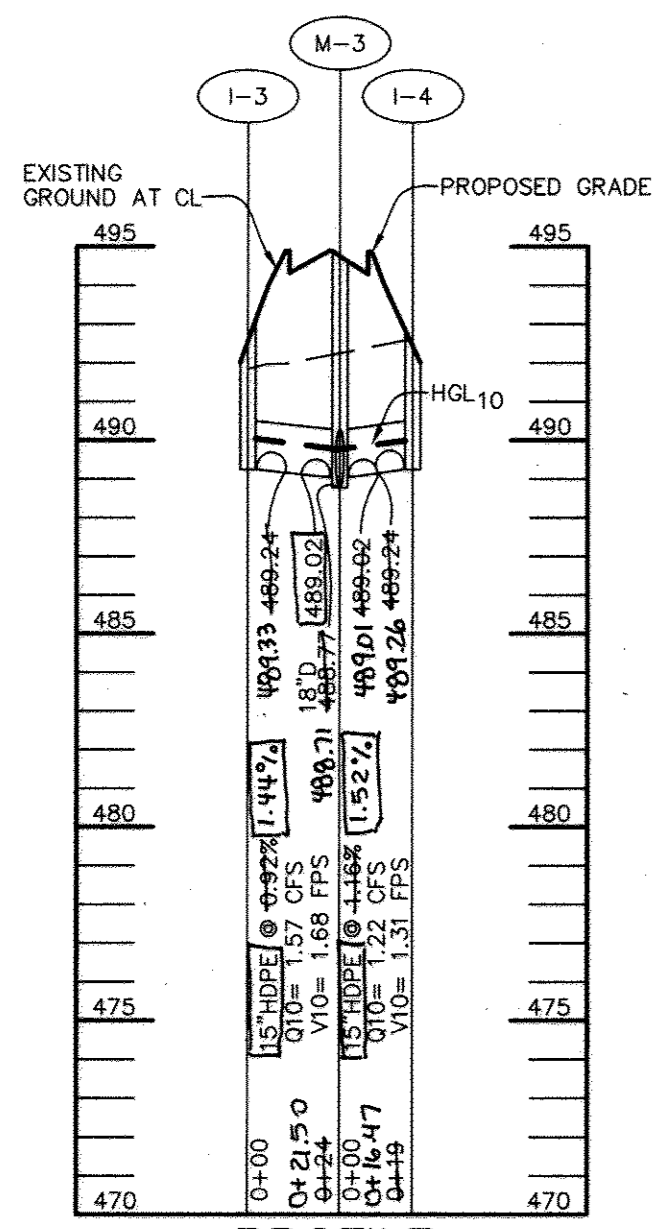
FINAL AS-BUILT PLANS PREPARED BY PENNINI ASSOCIATES, FORMERLY PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17

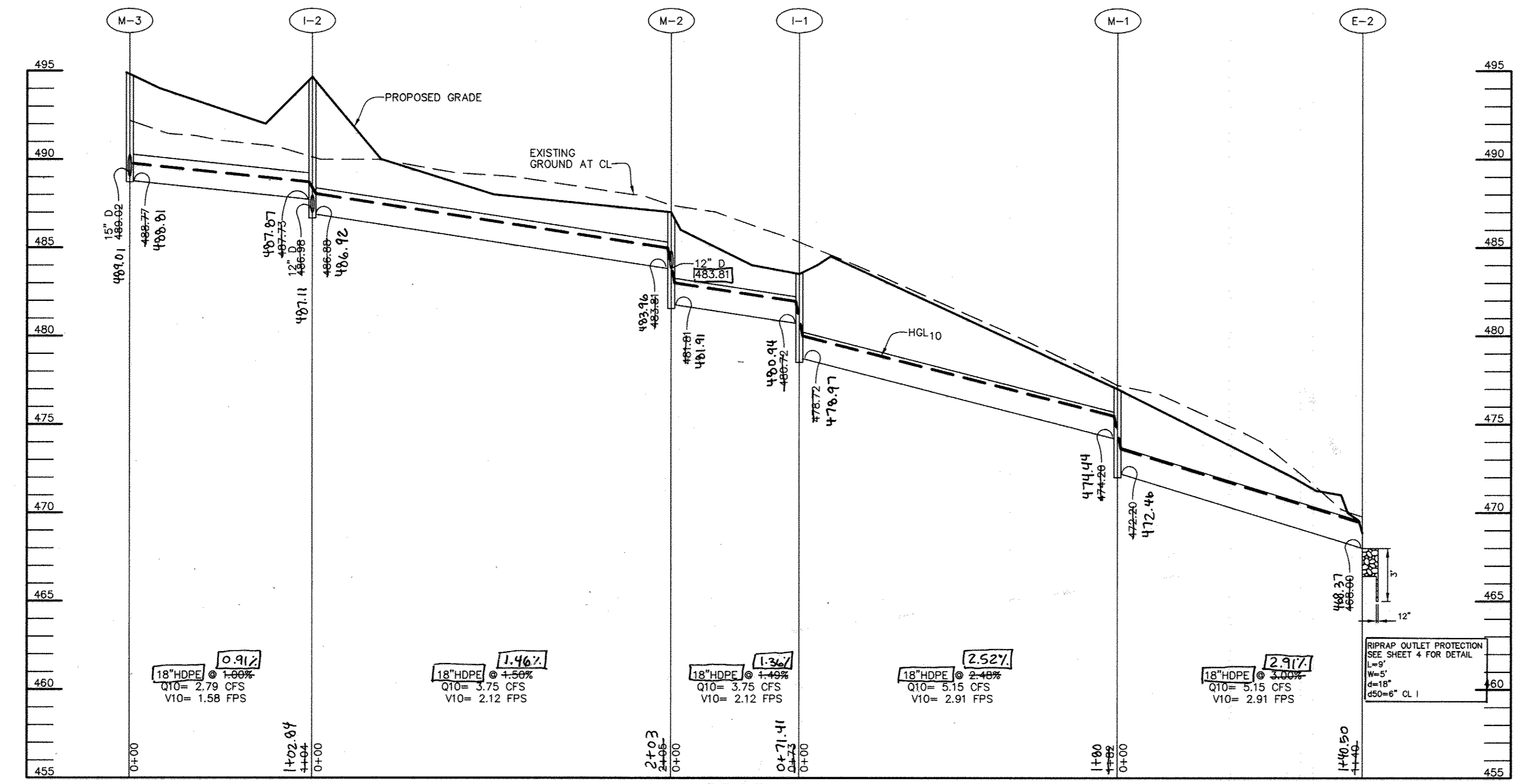


**PIPE SCHEDULE**

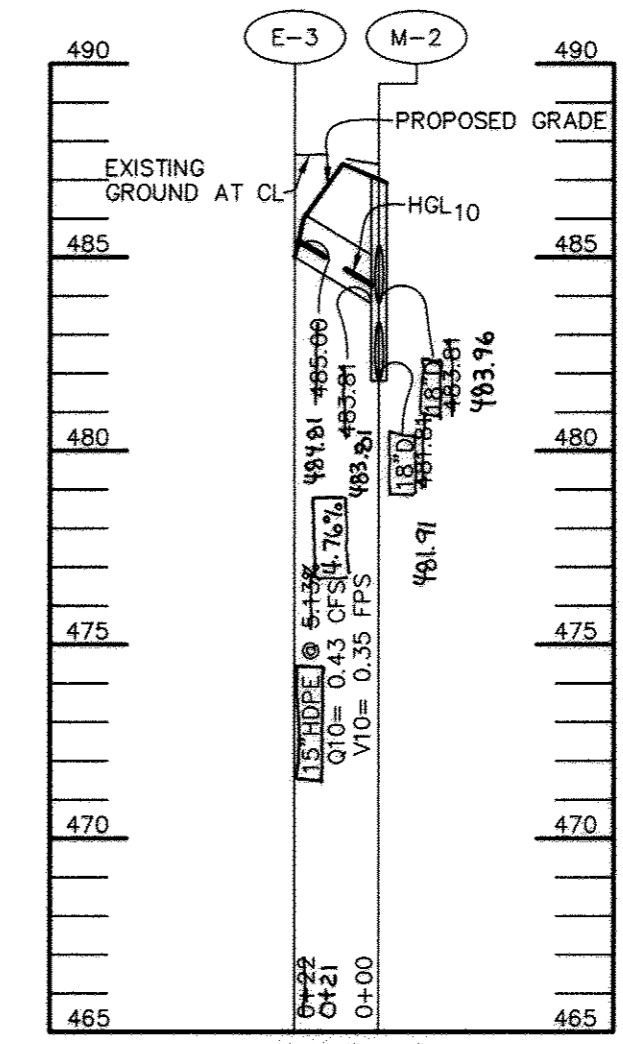
PIPE LENGTH	SIZE	TYPE
125'	12"	OMP
256'	15"	HDPE
703'	18"	HDPE
36'	36"	ASTM C-361 RCCP



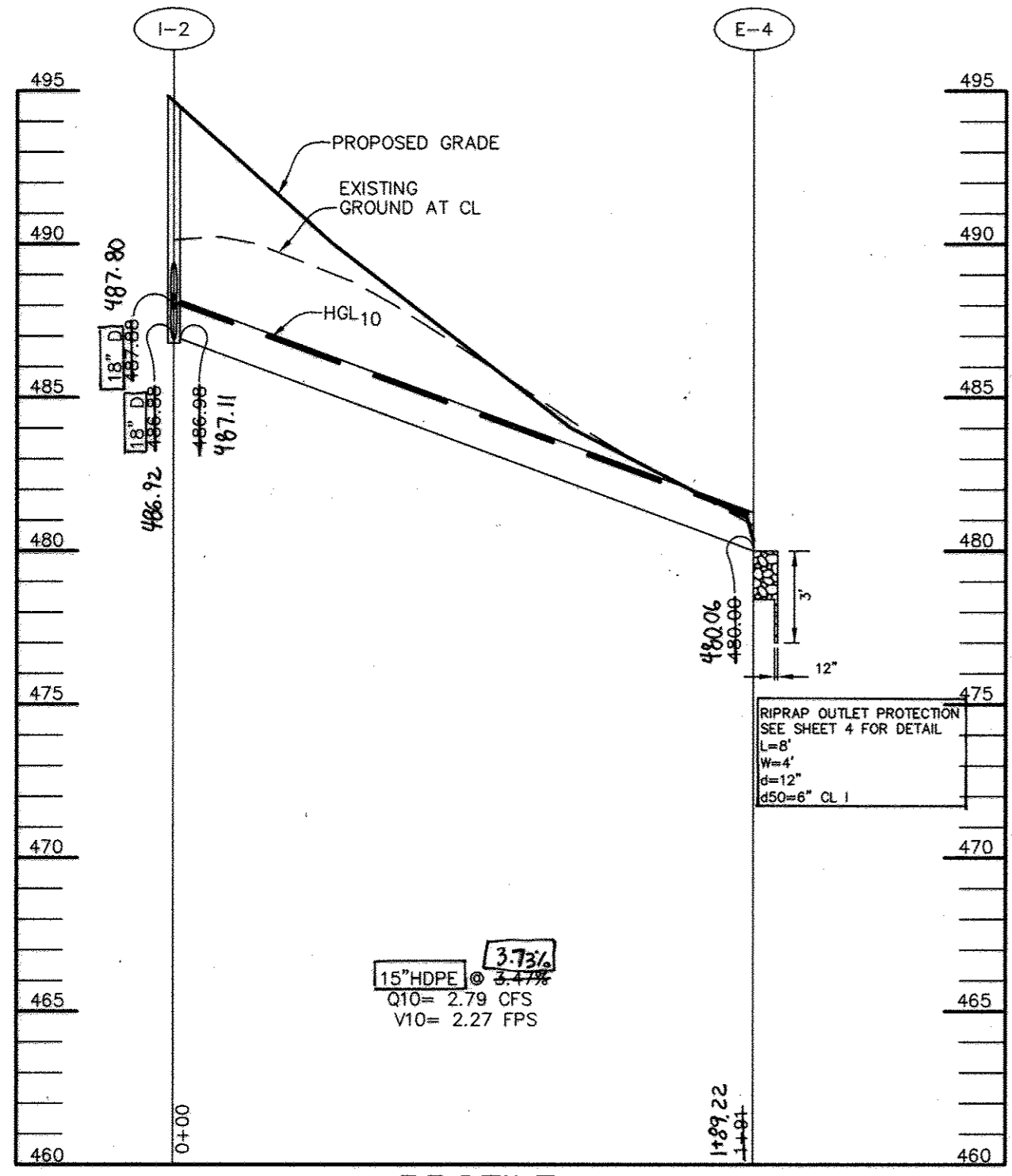
**PROFILE**  
SCALE: HOR. 1" = 50'  
VERT. 1" = 5'



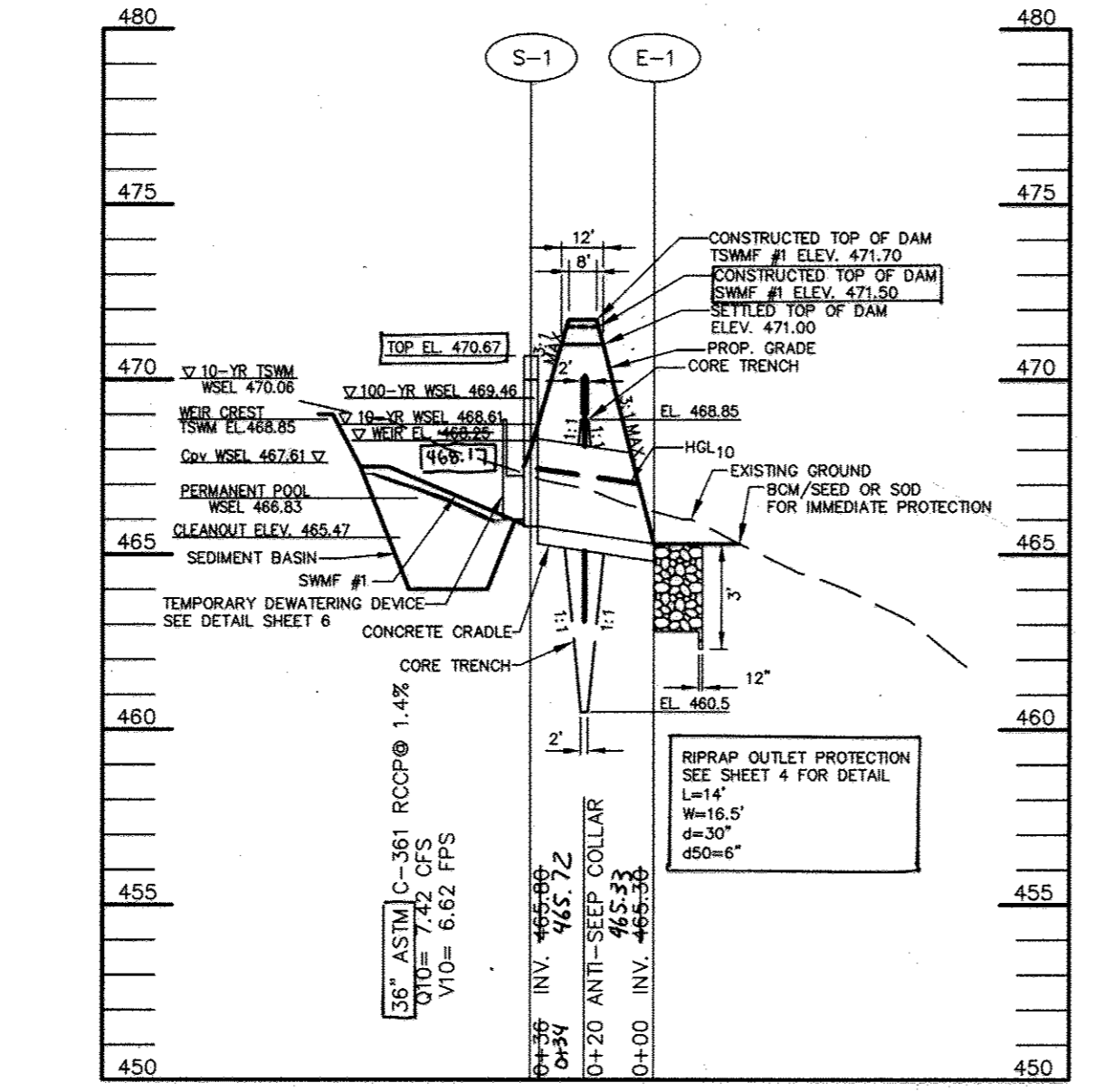
**PROFILE**  
SCALE: HOR. 1" = 50'  
VERT. 1" = 5'



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



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



**PROFILE THRU SPILLWAY - SWMF #1/SED. BASIN**  
SCALE: HOR. 1" = 50'  
VERT. 1" = 5'

STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	YARD INLET	N 544627 E 1328861	480.72	478.72	483.60	HOCO STD. DETAIL D-4.14
I-2	A-5 INLET	N 544723 E 1328665	487.80	486.98 (E-4)	494.65	HOCO STD. DETAIL D-4.01
I-3	TYPE S INLET	N 544808 E 1328603	-	489.24	492.00	HOCO STD. DETAIL D-4.22
I-4	TYPE S INLET	N 544777 E 1328573	-	489.24	492.00	HOCO STD. DETAIL D-4.22
M-1	4" DIA. MANHOLE	N 544729 E 1329011	474.20	472.20	478.00	HOCO STD. DETAIL G-5.12
M-2	4" DIA. MANHOLE	N 544576 E 1328809	483.30	481.04	487.00	HOCO STD. DETAIL G-5.12
M-3	4" DIA. MANHOLE	N 544791 E 1328588	489.92	488.77 (I-3) AND (I-4)	494.90	HOCO STD. DETAIL G-5.12
E-1	END SECTION	N 544636 E 1329263	-	-	-	HOCO STD. DETAIL D-5.51
E-2	END SECTION	N 544645 E 1329121	-	-	-	HOCO STD. DETAIL D-5.51
E-3	END SECTION	N 544561 E 1328794	485.00	483.81	-	HOCO STD. DETAIL D-5.51
E-4	END SECTION	N 544862 E 1328793	-	480.00	-	HOCO STD. DETAIL D-5.51
S-1	MODIFIED STRUCTURE	N 544610 E 1329241	465.00	465.00	470.67	SEE SHEET 6

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLANS WERE CONSTRUCTED AS SHOWN ON THE 'AS-BUILT' PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

*Shawn K. Cruz* 3096  
PRINTED NAME MD. P.E. NO.

*[Signature]* 11/20/07  
SIGNATURE DATE



FINAL AS-BUILT PLANS  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHRA

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. 36885. EXPIRATION DATE: 11-20-11

AS-BUILT DATE OF SURVEY: 11.08.17

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Walter Zambelli* 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Conrad Harwitz* 11/20/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John J. [Signature]* 11/22/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

**OWNER**  
CARLTON E HEYSER, JR  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

**DEVELOPER**  
RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

**PROJECT**  
**AS-BUILT ORCHARD ESTATES**  
LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

**AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND**

**TITLE**  
**STORM SEWER AND POND PROFILES**

**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

10/22/07 DATE  
CHECKED BY: DWC  
DESIGNED BY: NS  
DRAWN BY: BCL  
PROJECT NO: 13043/1-0/ENGR/PLANS/FINAL/CSOOPRO.DWG  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 8 OF 21

*[Signature]*  
DOMENICK W. COLANGELO #27200



**ELEVATION TABLE**

FACILITY	TOP OF EMBANKMENT	BOTTOM OF EMBANKMENT	WOV WEIR ELEVATION
1	460.0	475.0	476.0
2	466.0	463.0	464.0

**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETS THE APPROVED PLANS AND SPECIFICATIONS.

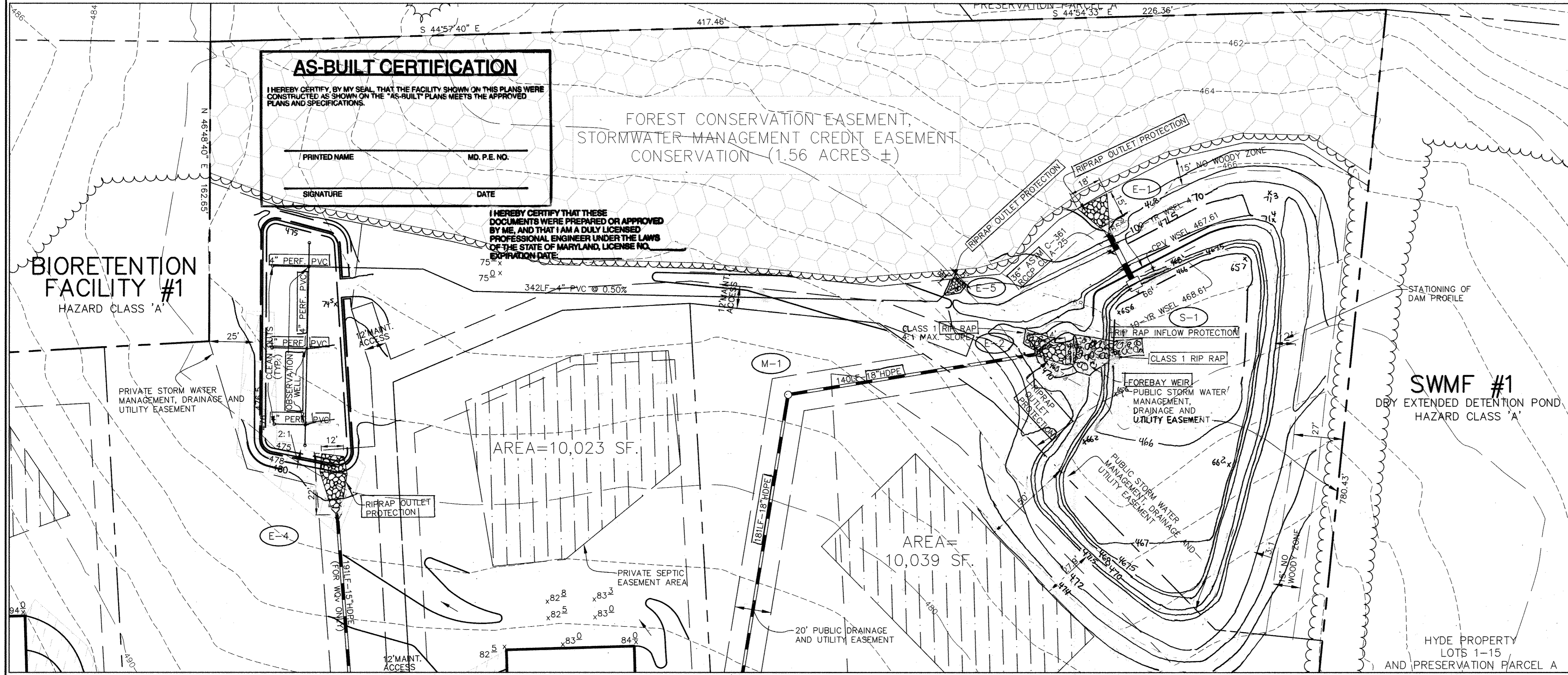
PRINTED NAME: \_\_\_\_\_ MD. P.E. NO.: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

FOREST CONSERVATION EASEMENT,  
 STORMWATER MANAGEMENT CREDIT EASEMENT  
 CONSERVATION (1.56 ACRES ±)

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. 36896, EXPIRATION DATE: 2-15-14

**BIORETENTION FACILITY #1**  
 HAZARD CLASS 'A'

**SWMF #1**  
 DRY EXTENDED DETENTION POND  
 HAZARD CLASS 'A'



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.

*Richard Demmitt* 10/24/07  
 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. Cruz* 10/22/07  
 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]* 11/15/09  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*Walter Z. Walsh* 11-20-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 11/20/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 11/27/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER: CARLTON E HEYSER, JR  
 14526 NEW HAMPSHIRE AVENUE  
 SILVER SPRING, MD 20904  
 410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
 ATTN: RICHARD DEMMITT  
 HIGHLAND DEVELOPMENT CORP.  
 P.O. BOX 228  
 CLARKSVILLE, MARYLAND 21029  
 410-365-0414

PROJECT: **AS-BUILT ORCHARD ESTATES**  
 LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C  
 AREA TAX MAP 40, GRID: 18, PARCEL 178, ZONED RR-DEO  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

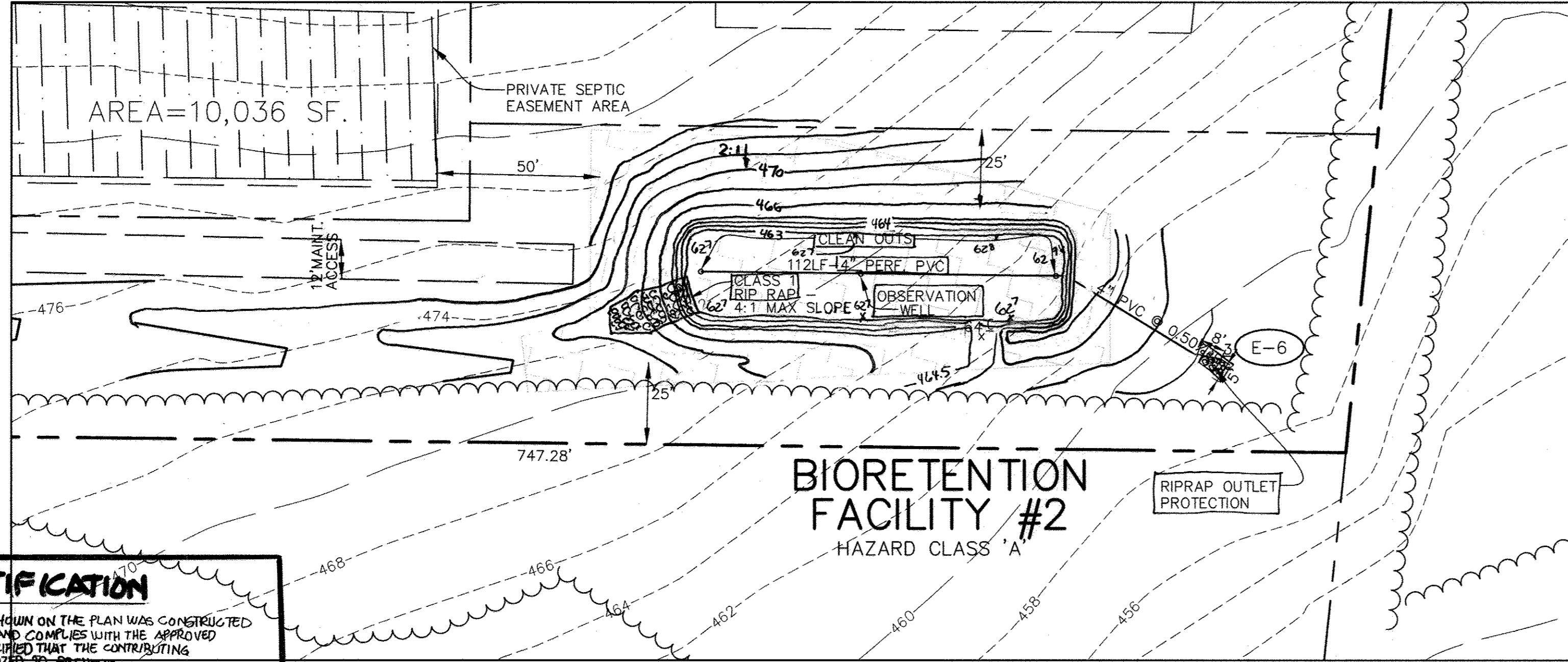
**SWM FACILITY DETAILS**

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

10/22/07 DATE  
 CHECKED BY: DWC  
 DESIGNED BY: NS  
 DRAWN BY: EMR/JMK  
 PROJECT NO.: 13043/1-0/ENGR/PLANS  
 DATE: NOVEMBER 6, 2007  
 SCALE: AS SHOWN  
 DRAWING NO.: 9 OF 21

**DETAIL BIORETENTION FACILITY #1 AND SWMF #1**

SCALE: 1" = 30'



**BIORETENTION FACILITY #2**  
 HAZARD CLASS 'A'

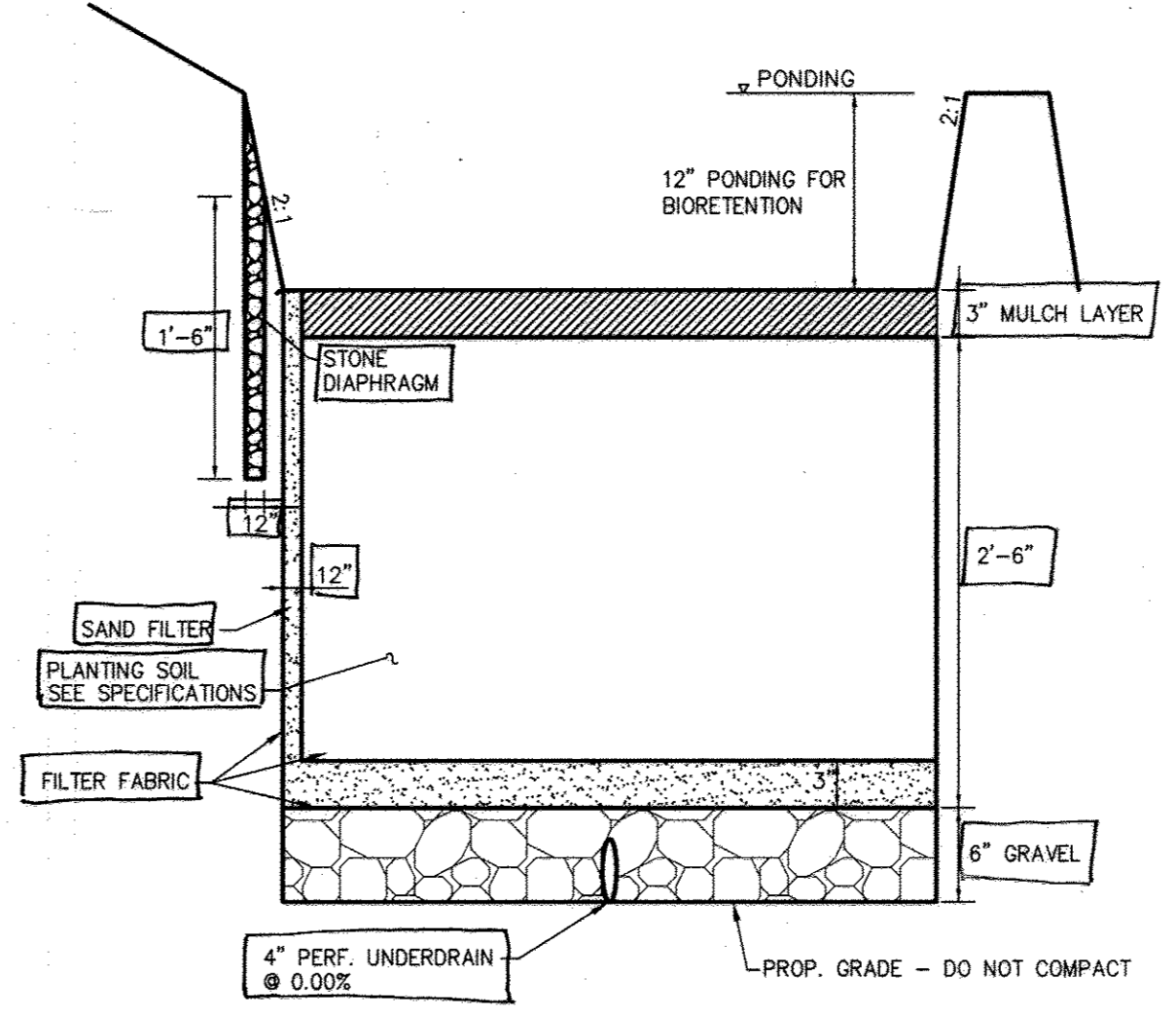
**BIORETENTION FACILITY #2**

SCALE: 1" = 30'

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. 36896, EXPIRATION DATE: 2-15-14

**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THE PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

*Sharon K. Cruz* 36896  
 PRINTED NAME MD. P.E. NO.  
 SIGNATURE DATE: 2/20/13

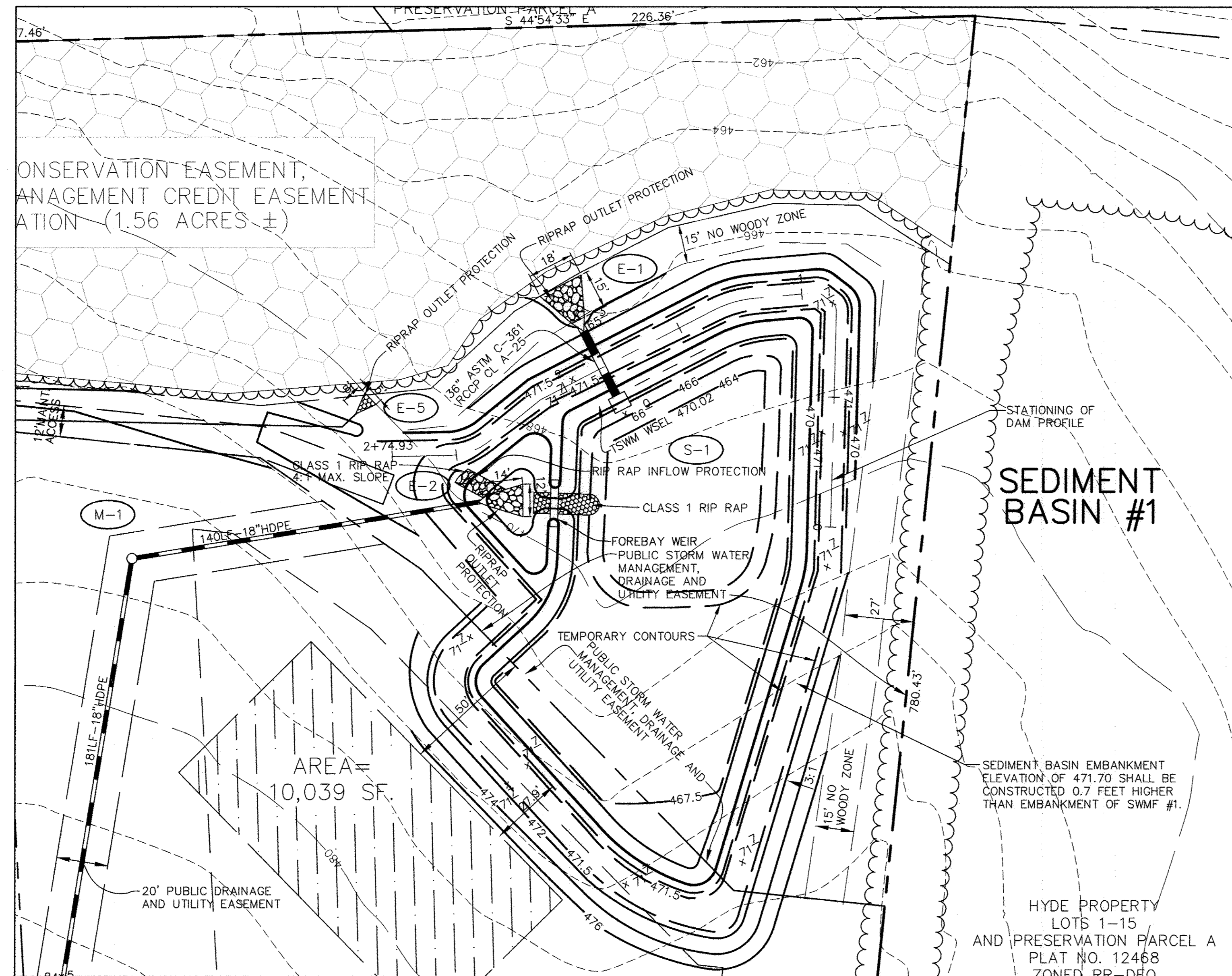


**TYPICAL BIORETENTION FACILITY #1 & #2 SECTION**

NOT TO SCALE

FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17



**DETAIL SEDIMENT BASIN #1**  
SCALE: 1" = 30'

**SEE SHEET 9 FOR FINAL SWM AS-BUILT GRADING**

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY BY MY SEAL THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS MEETING THE APPROVED PLANS AND SPECIFICATIONS.  
*Sharon K. Cruz* 36896  
PRINTED NAME MD. P.E. NO.  
SIGNATURE DATE 2/20/19

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. 36896, EXPIRATION DATE: 2-20-19



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.  
*Richard Demmitt* 10/24/07  
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. Cole* 10/22/07  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
G. [Signature]  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 4/15/07  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*Walter Z. Marshall* 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

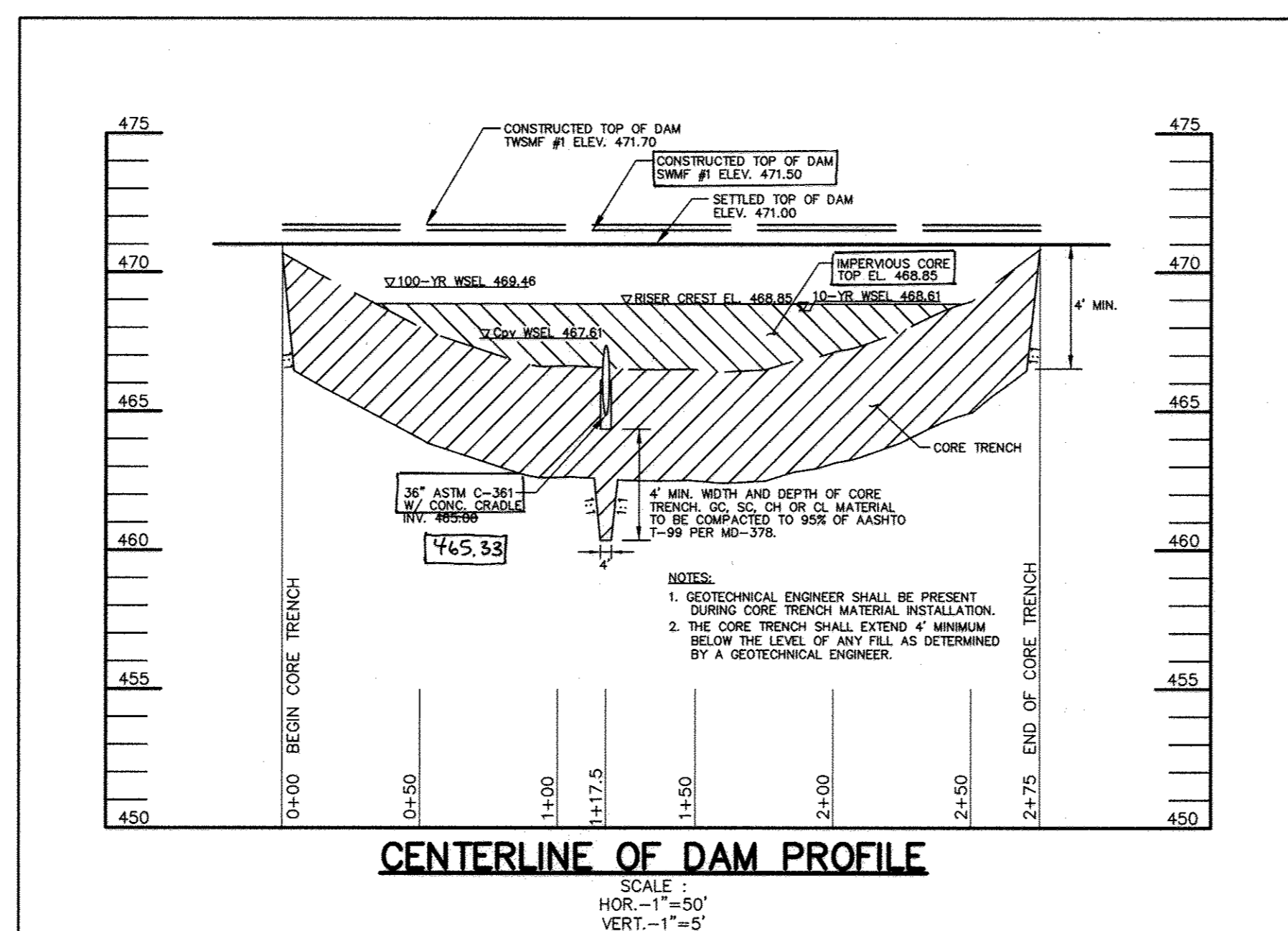
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Audrey Harvath* 11/13/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 11/27/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**TR-20 ELEVATION SUMMARY TABLE**

	TSWM Elev. (ft)	SWM WSEL Elev. (ft)
1-YR	468.83	467.61
10-YR	470.06	468.61
100-YR	N/A	469.46
Cleanout	465.47	N/A
Permanent Pool	466.83	N/A
Bottom of Basin	464.00	466.00 465.13
Weir Elev.	468.85	468.25 468.17



**CENTERLINE OF DAM PROFILE**  
SCALE: HOR.-1"=50' VERT.-1"=5'

**SEDIMENT BASIN SCHEDULE**

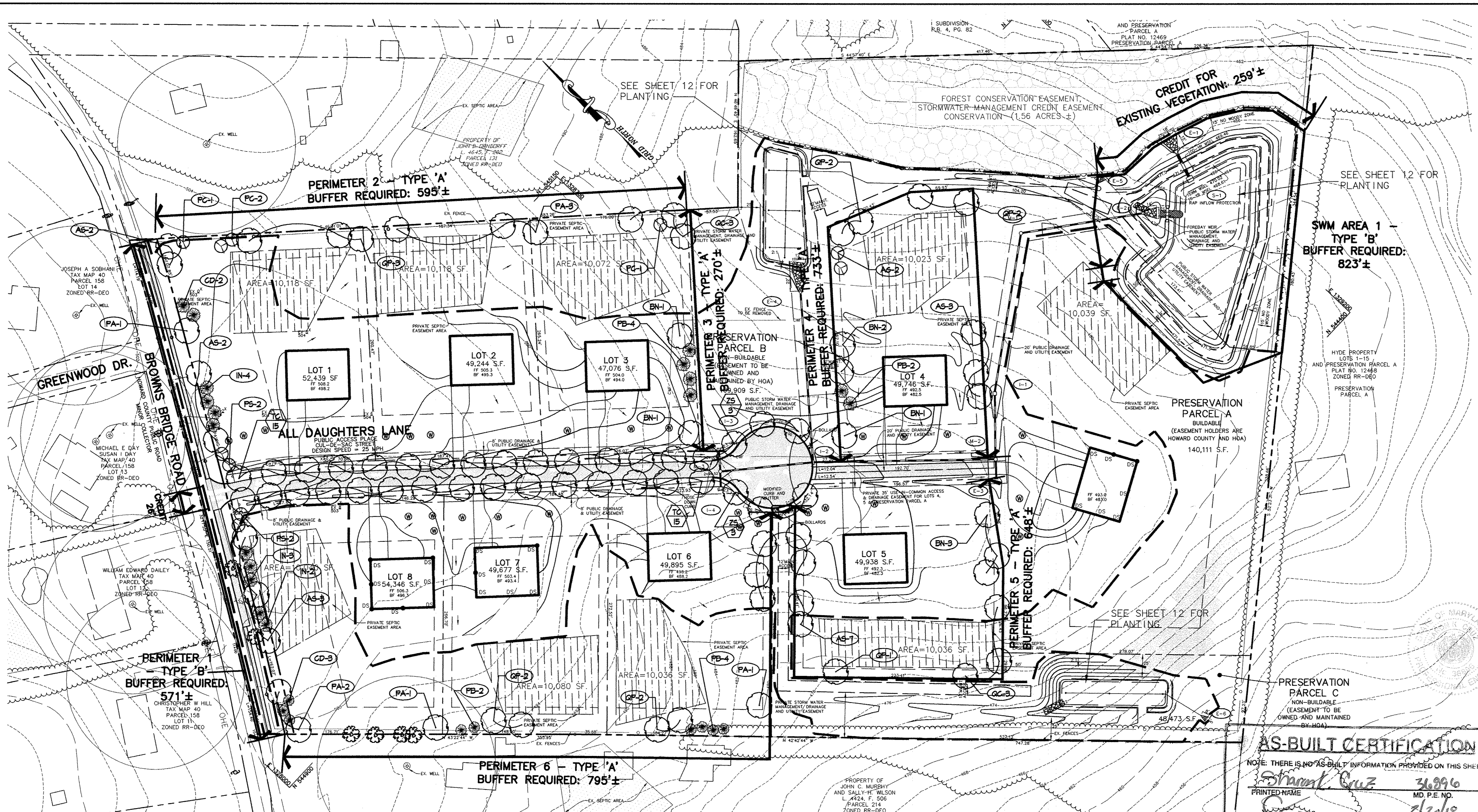
BASIN #1			
Drainage Area Exist (Ac.)	15.50	Weir Crest Elev. (ft)	468.85
Drainage Area Prop (Ac.)	8.20	TSWM Perm Pool Elev. (ft)	466.83
Storage Required (cf)	65,673	TSWM Perm Pool Vol. (cf)	14,442
Elev. @ Req. Storage (ft)	470.06	Cleanout Elev. (ft)	465.47
Storage Provided (cf)	85,939	Bottom Elev. (ft)	464.00
Elev. @ Prov. Storage (ft)	471.00	Q <sub>1</sub> Exist (cfs)	0.60
Weir Length #1 (ft.)	5.00	Q <sub>1</sub> Bare Soil (cfs)	0.60
Riser Size (in.)	N/A	Q <sub>1</sub> Post (cfs)	0.10
Depth Below Outlet Elev. (ft.)	1.80	Embankment Elev. (ft)	471.70

**FINAL AS-BUILT PLANS PREPARED BY PENNONI ASSOCIATES, FORMERLY PHRA**

AS-BUILT DATE OF SURVEY: 11.08.17

DATE	NO.	REVISION
OWNER CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539		
DEVELOPER RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414		
PROJECT <b>AS-BUILT ORCHARD ESTATES</b> LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C		
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE <b>SWM AND SEDIMENT BASIN FACILITY DETAILS</b>		
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		

10/22/07 DATE  
CHECKED BY: DWK  
DESIGNED BY: NS  
DRAWN BY: EMR/JMK  
PROJECT NO. 13043/1-0/ENGR/PLANS/FINAL/C900DET6.DWG  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 10 OF 21  
*D. W. Cole*  
DOMENICK W. COLANGELO #27200



LEGEND	
EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
LIMIT OF DISTURBANCE LINE	
PROPOSED SHADE TREE	
PROPOSED EVERGREEN TREE	
PROPOSED ORNAMENTAL TREE	
PROPOSED SHRUBS	
STREET TREE LANDSCAPE REQUIREMENT	
PERIMETER LANDSCAPE REQUIREMENT	
SWM PERIMETER LANDSCAPE REQUIREMENT AND BIORETENTION PLANTINGS	
PERIMETER LANDSCAPE EDGE LIMITS	

**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 LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*Richard W Demmitt*  
 SIGNATURE DATE 10/24/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Wade Z...*  
 CHIEF, BUREAU OF HIGHWAYS DATE 11-20-07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 11/20/07

*...*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 11/27/07

**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.  
*Stewart...*  
 PRINTED NAME DATE 11/27/07

SCHEDULE A - PERIMETER LANDSCAPE EDGE						
PERIMETER	ADJACENT TO PERIMETER PROPERTIES					ADJACENT TO ROADWAYS
	2	3	4	5	6	
LANDSCAPE TYPE	A	A	A	A	A	B
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	595±	270±	733±	648±	795±	571±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	-
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	NO	NO	NO	NO	NO	YES 26'
LINEAR FEET REMAINING	595±	270±	733±	648±	795±	545±
NUMBER OF PLANTS REQUIRED						
SHADE TREES	10	5	12	11	13	11
EVERGREEN TREES	0	0	0	0	0	14
ORNAMENTAL TREES	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED						
SHADE TREES	8	3	10	11	10	9
EVERGREEN TREES	0	0	2	0	6	14
ORNAMENTAL TREES	4	0	2	0	0	4

PERIMETER PLANT SCHEDULE						
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS	
<b>SHADE TREES</b>						
AS	17	ACER SACCHARUM 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	
QP	12	QUERCUS PHELLOD WILLOW OAK	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	
BN	8	BETULA NIGRA 'HERITAGE' HERITAGE CLUMP RIVER BIRCH	10"-12" HT.	B & B	MULTI-STEM	
OC	6	QUERCUS COCCINEA SCARLET OAK	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	
PA	8	PLATANUS x ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	
<b>ORNAMENTAL TREES</b>						
PC	4	PRUNUS CERASIFERA ATROPURPUREA 'HUNDERLOU' HUNDERLOU PURPLE LEAF PLUM	1 1/2"-2" CAL.	B & B	PLANT AS SHOWN	
PS	4	PRUNUS SEROTINA 'KAWANAN' KIWANAN CHERRY	1 1/2"-2" CAL.	B & B	PLANT AS SHOWN	
AG	2	ACER GRiseum PAPERBARK MAPLE	1 1/2"-2" CAL.	B & B	PLANT AS SHOWN	
<b>EVERGREEN TREES</b>						
IN	9	ILEX 'NELLIE B. STEVENS' NELLIE STEVENS HOLLY	5'-6" HT.	B & B	PLANT AS SHOWN	
CD	5	CEDRUS DEODARA DEODAR CEDAR	6'-8" HT.	B & B	PLANT AS SHOWN	
PB	12	PICEA ABIES NORWAY SPRUCE	6'-8" HT.	B & B	PLANT AS SHOWN	

STREET TREE PLANT SCHEDULE						
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS	
<b>SHADE TREES</b>						
TC	30	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	
ZS	6	ZELKOVA SERRATA 'WILAGE GREEN' WILAGE GREEN JAPANESE ZELKOVA	2 1/2"-3" CAL.	B & B	PLANT AS SHOWN	

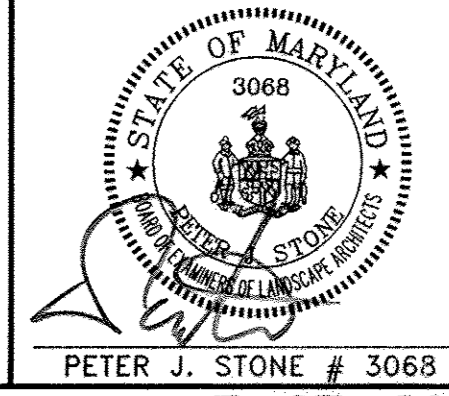
**GENERAL NOTES:**

- 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 THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$26,550.  
 74 SHADE TREES @ \$300 = \$22,200  
 0 ORNAMENTAL TREES @ \$150 = \$0  
 29 EVERGREEN TREES @ \$150 = \$4,350  
 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 SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- SEE SHEET 11, FINAL LANDSCAPE NOTES, DETAILS AND TABULATIONS FOR ENLARGED PLANS WITH STORMWATER MANAGEMENT PERIMETER PLANTINGS, BIORETENTION FACILITIES PLANTINGS, AND THEIR ASSOCIATED SCHEDULES.

STREET TREE CALCULATIONS		
ROAD A	1423/40	36 LARGE TREES
TOTAL TREES REQUIRED		36 LARGE TREES

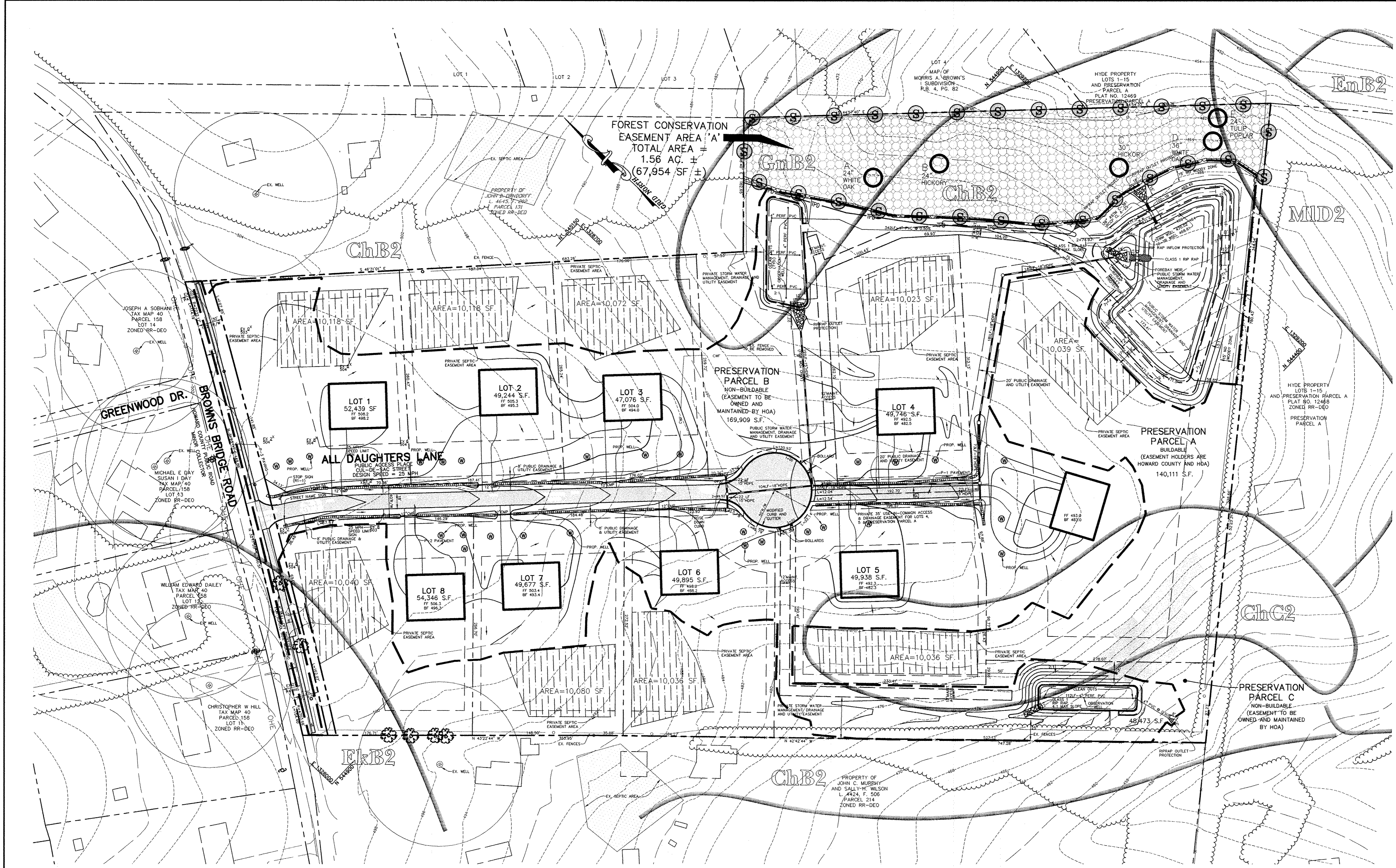
**FINAL AS-BUILT PLANS PREPARED BY PENNONI ASSOCIATES, FORMERLY PHRA**

DATE NO.	REVISION
OWNER	CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539
DEVELOPER	RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414
PROJECT	<b>AS-BUILT ORCHARD ESTATES</b> LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO	5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	<b>FINAL LANDSCAPE PLAN, NOTES AND SCHEDULES</b>
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	10-25-07
CHECKED BY:	DWC
DESIGNED BY:	NS
DRAWN BY:	BCL
PROJECT NO:	13043/1-0/ENGR/PLANS FINAL/L200LND.DWG
DATE:	NOVEMBER 6, 2007
SCALE:	1" = 60'
DRAWING NO.	11 OF 21



AS-BUILT DATE OF SURVEY: 11.08.17





LEGEND	
EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
PROPOSED BUILDING	
LIMIT OF DISTURBANCE LINE	
FOREST CONSERVATION AREA	
FOREST CONSERVATION SIGNAGE	
TREE PROTECTION DEVICE (BLAZE ORANGE PLASTIC MESH FENCING)	
SPECIMEN TREE	
SLOPES 15-25%	

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Walter F. White* 11-28-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Cynthia Hanger* 11/29/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Chris D. ...* 11/27/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO.	REVISION

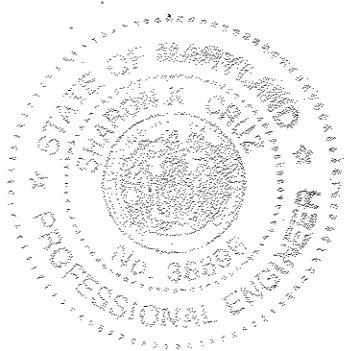
OWNER  
 CARLTON E HEYSER, JR  
 14526 NEW HAMPSHIRE AVENUE  
 SILVER SPRING, MD 20904  
 410-531-5539

DEVELOPER  
 RUPPERT PROPERTIES  
 ATTN: RICHARD DEMMITT  
 HIGHLAND DEVELOPMENT CORP.  
 P.O. BOX 228  
 CLARKSVILLE, MARYLAND 21029  
 410-365-0414

PROJECT  
**AS-BUILT ORCHARD ESTATES**  
 LOTS 1-8, PRESERVATION PARCELS A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO 'AS-BUILT' INFORMATION PROVIDED ON THIS SHEET.  
*Sharon L. Cruz* 30996  
 PRINTED NAME MD. P.E. NO.  
 DATE 2/20/08



FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI ASSOCIATES, FORMERLY PHRA

AS-BUILT DATE OF SURVEY: 11.08.17

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

**PHRA**

10-25-07  
 DATE

CHECKED BY: DWG  
 DESIGNED BY: NS  
 DRAWN BY: BCL  
 PROJECT NO. 13043/1-0/ENGR/PLANS  
 /FINAL/ C200FCP.DWG  
 DATE : NOVEMBER 6, 2007  
 SCALE : 1" = 60'  
 DRAWING NO. 13 OF 21

PETER J. STONE # 3068  
 F-07-005

**SEQUENCE OF OPERATIONS**

**PRE-CONSTRUCTION SITE PREPARATION**

- FIELD STAKE LIMITS OF DISTURBANCE (L.O.D.) AT 25' INTERVALS.
- REVIEW L.O.D. IN FIELD AND ADJUST IF PRACTICAL.
- INSTALL TREE PROTECTION FENCE AT THE L.O.D. AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
- 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.
- 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.
- PRUNE AND FERTILIZE DESIRABLE "EDGE TREES" AS PER CONSULTING ARBORIST'S RECOMMENDATIONS.
- THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS WITHIN THE NONTIDAL WETLANDS OR 25' NONTIDAL WETLANDS BUFFER.
- REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARthumb, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.
- INSTALL TREE PROTECTION SIGNAGE.
- STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

**FOREST CONSERVATION SEQUENCE OF OPERATIONS**

- 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. (PHR+A), 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).
- 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.
- 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.
- 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.
- 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.
- 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 OBSERVANCE 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.
- 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.
- 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.

**FOREST CONSERVATION PROGRAM**

- OBJECTIVE:**  
IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF ORCHARD ESTATES TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS.
- PRESERVATION:**  
FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- GENERAL CONSTRUCTION NOTE:**  
THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN THE LIMIT OF DISTURBANCE.
- POST CONSTRUCTION MANAGEMENT PRACTICE:**  
A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:  
1-MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO  
2-PREVENT UNWARRANTED INTRUSION AND DAMAGE.  
3-CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.  
4-ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

**Howard County Forest Conservation Worksheet**

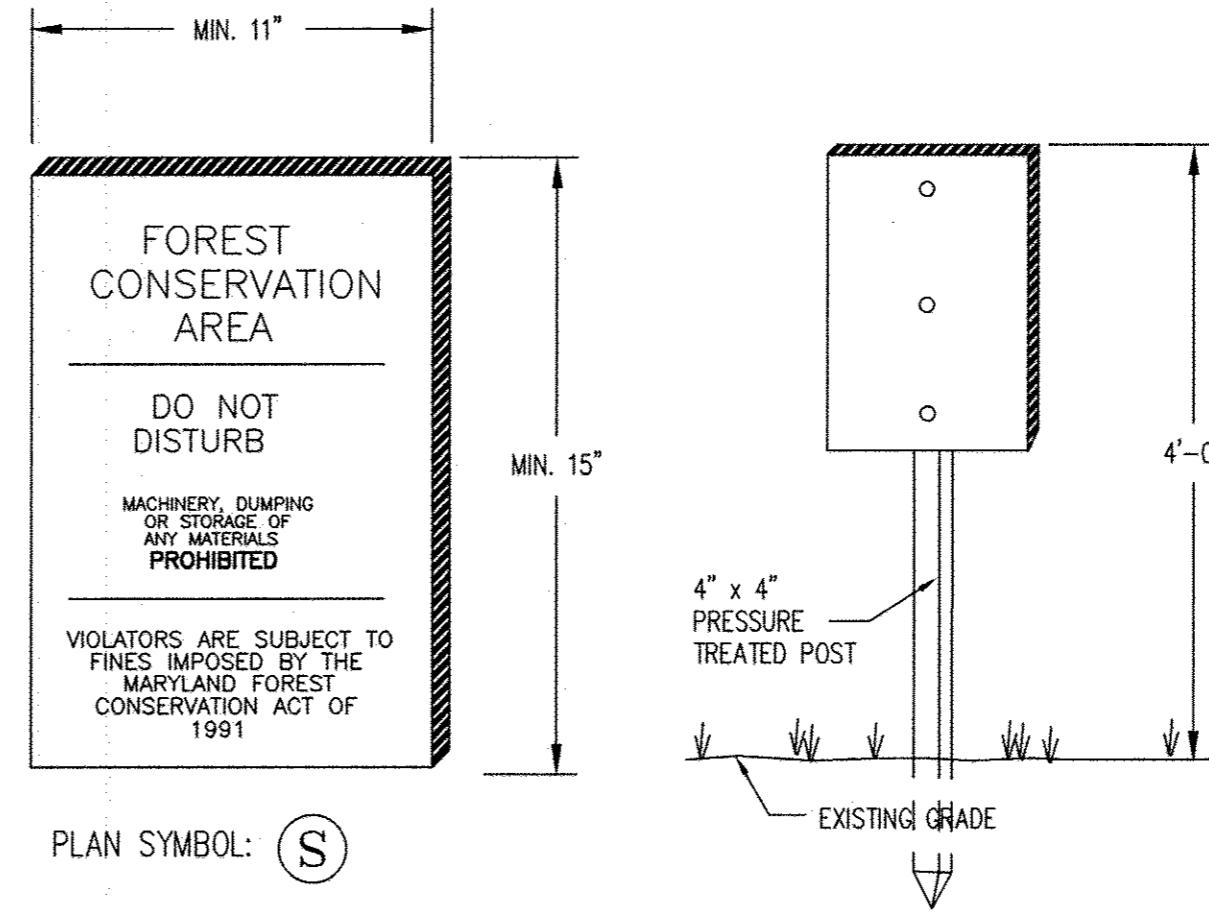
Project Name: Orchard Estates  
County File #: \_\_\_\_\_  
Date: October 29, 2004

<b>Net Tract Area</b>	<b>Acres</b>
A. Total Tract Area	A = 18.57
B. Other Deductions	B = _____
C. Net Tract Area (A-B-C)	C = 18.57
<b>Land Use Category:</b> Residential Rural Medium Density	
D. Afforestation Threshold (Net Tract Area X 20%)	D = 3.71
E. Conservation Threshold (Net Tract Area X 25%)	E = 4.64
<b>Existing Forest Cover</b>	
F. Existing Forest Cover within the Net Tract Area	F = 1.56
G. Area of Forest Above Conservation Threshold	G = 0.00
If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then H = Existing Forest Cover (F) - Conservation Threshold (G); Otherwise G = 0	
<b>Break Even Point</b>	
H. Break Even (Amount of forest that must be retained so that no mitigation is required)	H = 1.56
(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then H = (0.2 X the area of forest above Conservation Threshold (G)) + the Conservation Threshold (E)	
(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)	
<b>I. Forest Clearing Permitted Without Mitigation</b>	I = 0.00
I = Existing Forest Cover (F) - Break Even Point (H)	
<b>Proposed Forest Clearing</b>	
J. Total Area of Forest to be Cleared	J = 0.00
K. Total Area of Forest to be Retained	K = 1.56
K = Existing Forest Cover (F) - forest to be cleared (J)	
<b>Planting Requirements</b>	
If the Total Area of Forest to be Cleared (J) 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. Reforestation for Clearing Above the Conservation Threshold	L = 0.00
(1) if the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then L = the area of forest to be cleared (J) X 0.25; or (2) if the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then L = area of forest above Conservation Threshold (G) X 0.25	
M. Reforestation for Clearing Below the Conservation Threshold	M = 0.00
(1) if Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K)) (2) if Existing Forest (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 X Forest to be cleared (J)	
N. Credit for Retention Above the Conservation Threshold	N = 0.00
If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then N = K - E	
P. Total Reforestation Required P = L + M - N	P = 0.00
Q. Total Afforestation Required	Q = 2.15
(1) if Existing Forest Cover (F) is less than the Afforestation Threshold (D) then Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)	
R. Total Planting Requirement R = P + Q	R = 2.15

**GENERAL NOTES:**

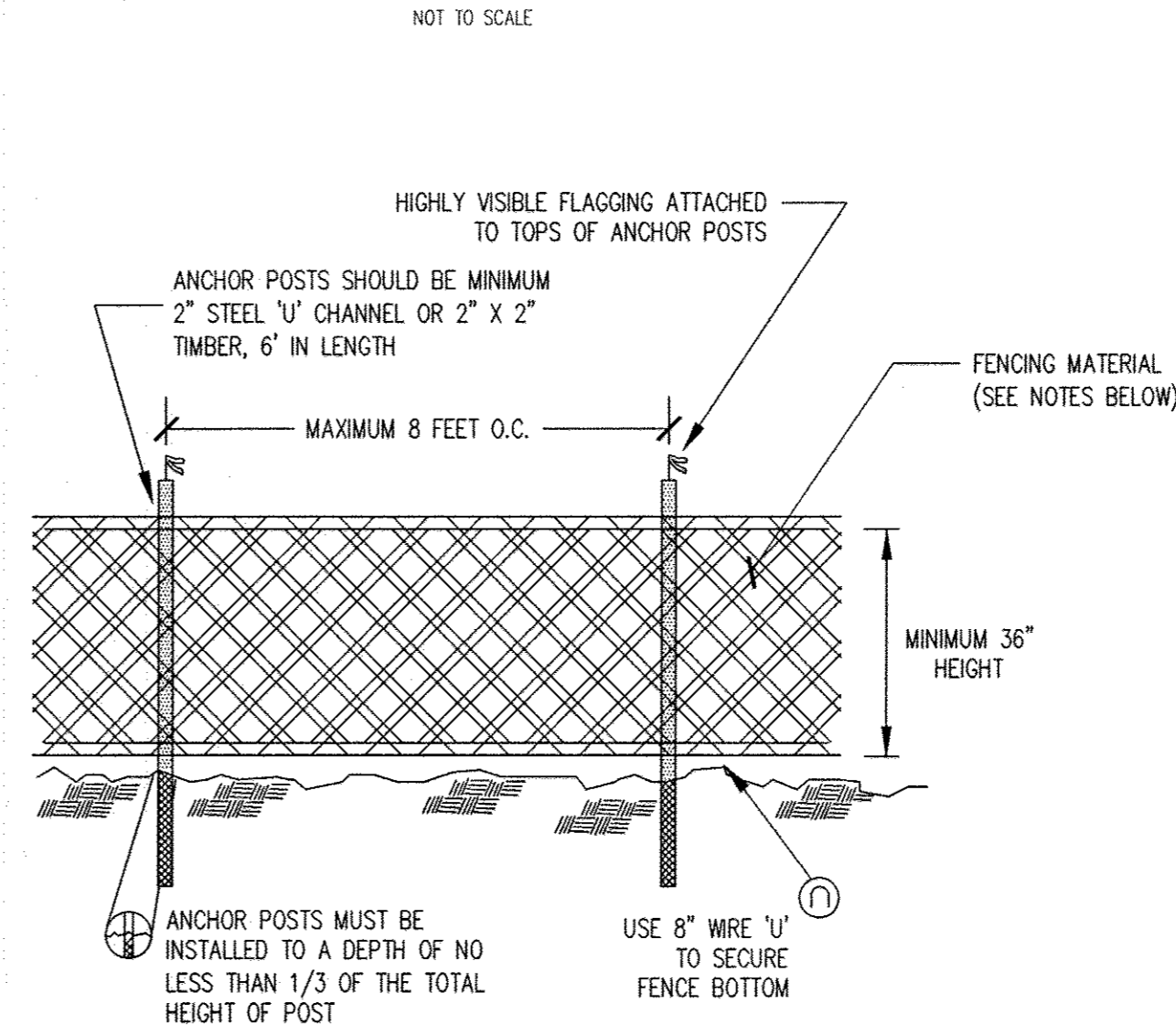
- THE MAJORITY OF THE PLAN HAS BEEN PREPARED USING PHR+A FIELD RUN TOPOGRAPHY. SPECIMEN TREE LOCATIONS WERE FIELD APPROXIMATED.
- NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
- THERE ARE TWO EXISTING STRUCTURES ON THE SITE AS SHOWN. STRUCTURES ARE PROPOSED AS SHOWN.
- THIS SITE CONTAINS ONE SOIL WITH POSSIBLE HYDRIC INCLUSIONS, GLENVILLE SILT LOAM (GnB2).
- THE FSD, DATED JULY 7, 2004, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THESE PLANS.
- THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- THE FOREST CONSERVATION OBLIGATION FOR THIS PLAN HAS BEEN SATISFIED BY THE CREATION OF A 1.56 ACRE (67,953.60 SF) ONSITE RETENTION EASEMENT. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$13,590.72 (67,953.60 x \$0.20/SF) WILL BE POSTED.
- THE REMAINING OBLIGATION OF 2.15 ACRES (93,654 SF) WILL BE SATISFIED BY OFFSITE FOREST CONSERVATION EASEMENTS LOCATED ON THE RUSSELL HOLLAND PROPERTY AT TAX MAP 7, PARCEL 101 AND TAX MAP 8, PARCEL 4 (COUNTY FILE F-07-130). A 4.3 ACRE (187,308 SF) OFFSITE RETENTION EASEMENT SATISFIES THE REMAINING OBLIGATION OF 2.15 ACRES (93,654 SF). OFFSITE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$37,461.60 (187,308 x \$0.20/SF) WILL BE POSTED.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- BEARINGS AND DISTANCES FOR FOREST CONSERVATION EASEMENTS ARE PROVIDED ON A SUBDIVISION PLAT.

FOREST CONSERVATION AREA	AREA (IN ACRES)
A	1.56 AC ±
TOTAL	1.56 AC ±



- PLAN SYMBOL: (S)
- NOTES:  
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION EASEMENT BORDER.  
2. SEE PLAN FOR SPACING.

**FOREST CONSERVATION SIGN DETAIL**



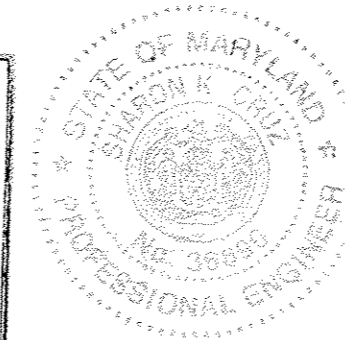
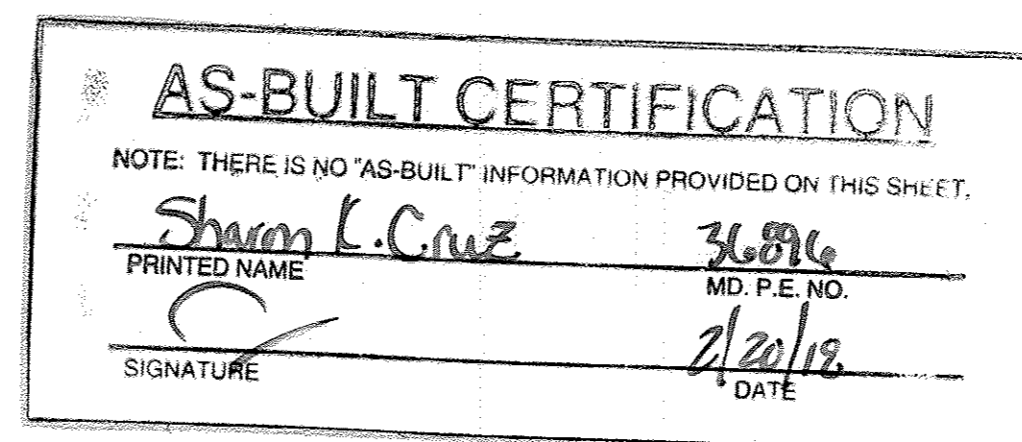
- NOTES:  
1. BLAZE ORANGE MESH OR SUPER SILT FENCE FOR TREE PROTECTION DEVICE, ONLY.  
2. BOUNDARIES OF PROTECTION AREA WILL BE ESTABLISHED PRIOR TO GRADING AND SEDIMENT CONTROL.  
3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVERE LARGE ROOTS WHEN INSTALLING POSTS.  
4. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

**TREE PROTECTION FENCING**

NOT TO SCALE

**SPECIMEN TREE CHART**

KEY	SPECIES	SIZE	CONDITION	REMAIN OR REMOVE
A	WHITE OAK ( <i>Quercus alba</i> )	24"	FAIR / GOOD	REMAIN
B	HICKORY	24"	FAIR / GOOD	REMAIN
C	HICKORY	30"	FAIR / GOOD	REMAIN
D	WHITE OAK ( <i>Quercus alba</i> )	36"	FAIR / GOOD	REMAIN
E	TULIP POPLAR ( <i>Liriodendron tulipifera</i> )	24"	FAIR / GOOD	REMAIN



FINAL AS-BUILT PLANS  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Walter J. Walsh* 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Cindy Hantz* 11/20/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John Demmitt* 11/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO.	REVISION

OWNER: CARLTON E HEYSER, JR.  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

PROJECT: AS-BUILT ORCHARD ESTATES  
LOTS 1-8, PRESERVATION PARCELS A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION NOTES 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






10-25-07 DATE  
CHECKED BY: DWG  
DESIGNED BY: RBR+A  
DRAWN BY: BCL  
PROJECT NO. 13043/1-0/ENGR/PLANS  
/FINAL/ C201FCP.DWG  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 14 OF 21  
PETER J. STONE # 3068

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

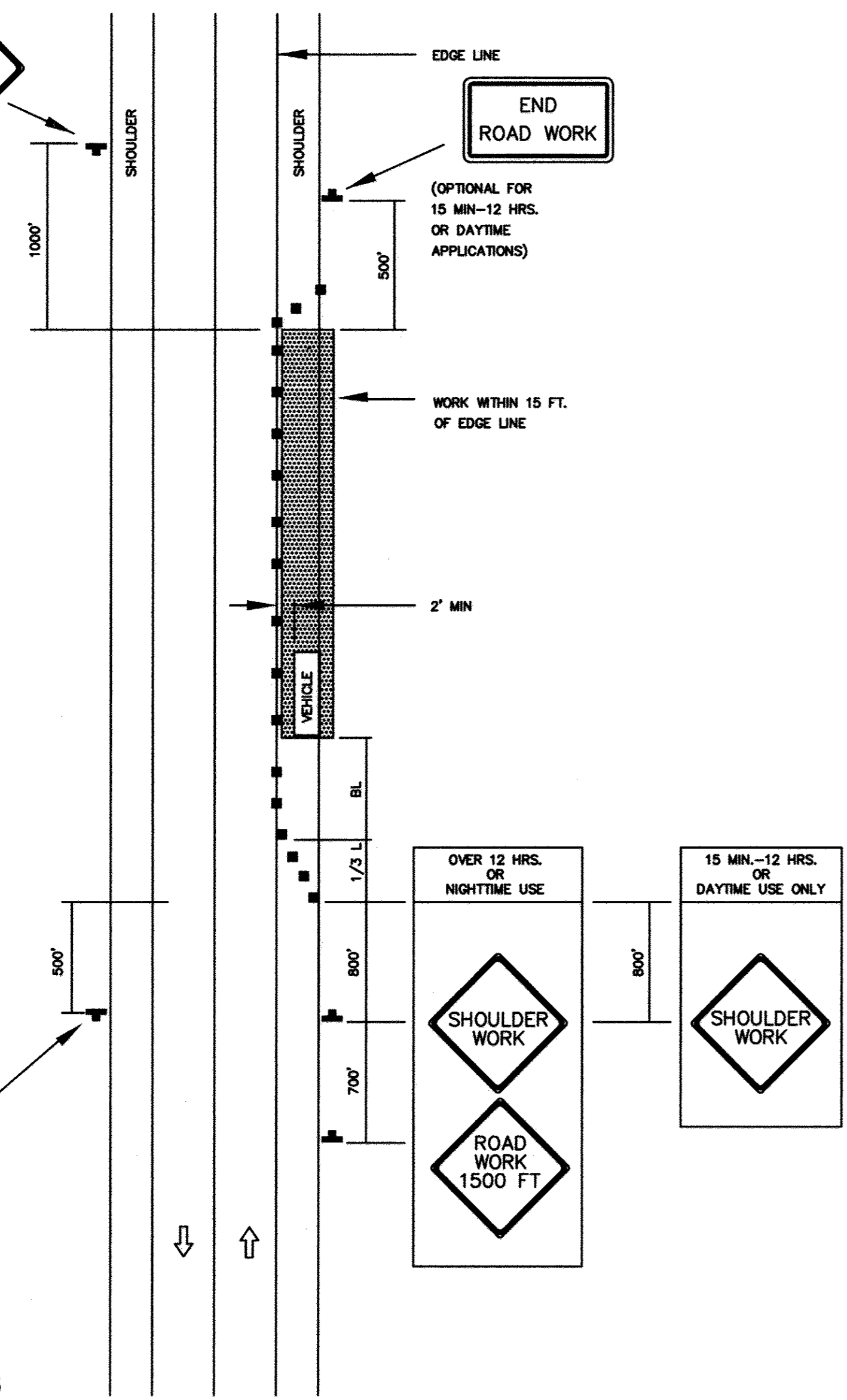
IMPORTANT:  
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-02

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

ROAD WORK  
END  
(OPTIONAL FOR 15 MIN-12 HRS. OR DAYTIME APPLICATIONS)









8-20-03 9-23-03

MD. 104.02-02  
SHOULDER WORK, 2 LANE, 2-WAY TRAFFIC, ≤ 40MPH  
NO SCALE

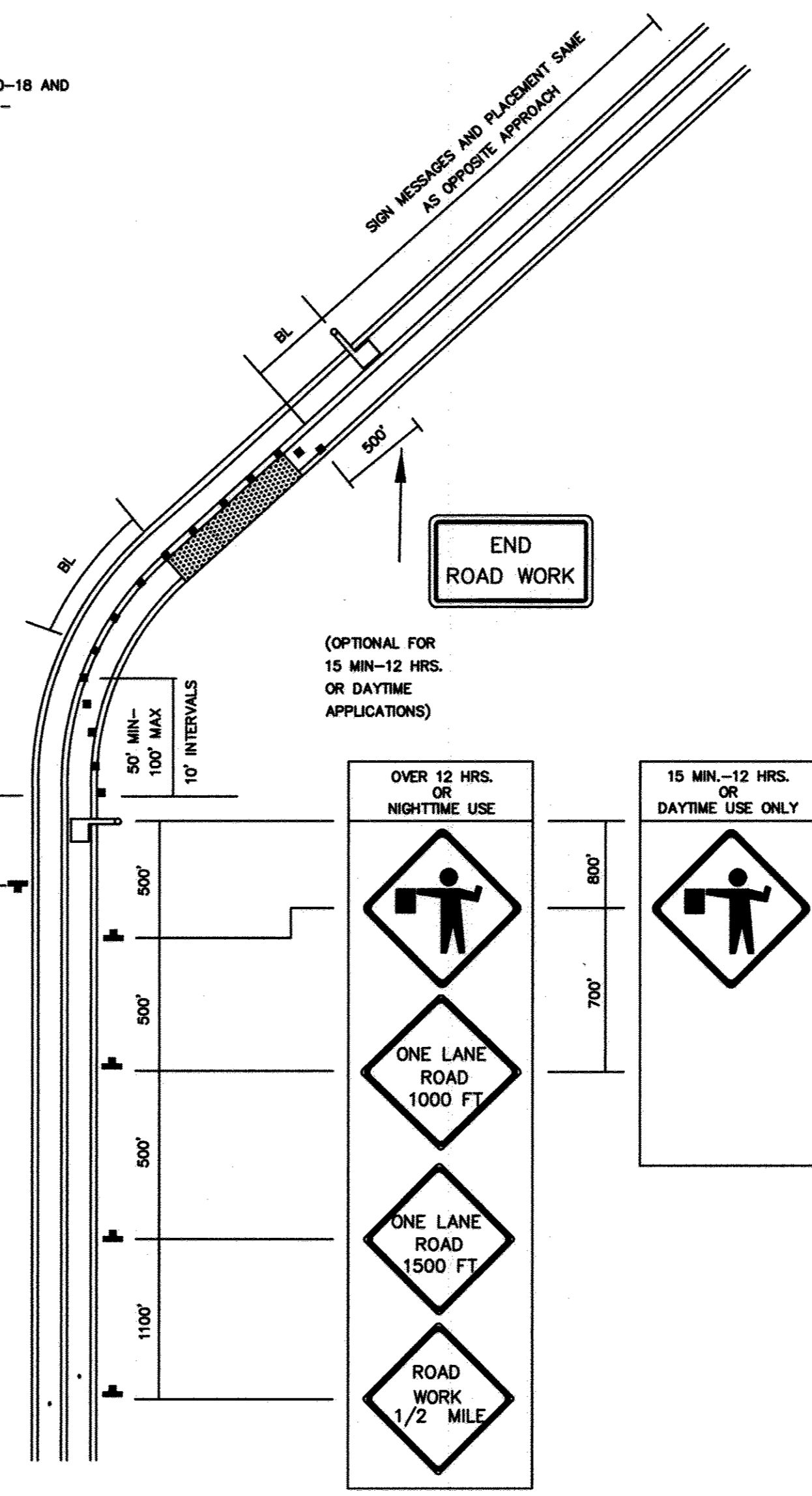
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

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 104.01-02

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

ROAD WORK  
END  
(OPTIONAL FOR 15 MIN-12 HRS. OR DAYTIME APPLICATIONS)



8-20-03 9-23-03

MD. 104.02-10  
FLAGGING OPERATION, 2 LANE, 2-WAY TRAFFIC, ≤ 40MPH  
NO SCALE

- NOTES
- BROWN'S BRIDGE ROAD IS AN EXISTING 2 LANE, 2-WAY ROAD.
  - REFER TO MDSA STANDARDS MD 104.01-80 AND MD 104.01-81 FOR BUFFER LENGTHS AND TAPER LENGTHS. FOR GENERAL NOTES FOR CHANNELIZATION DEVICES, REFER TO MDSA STANDARD MD 104.00-10.
  - REFER TO MDSA STANDARD MD 104.00-12 FOR GENERAL NOTES FOR FLAGGING OPERATION.

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William J. McCall* 11-20-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Conrad Hamilton* 11/20/07  
 CHIEF, DIVISION OF LANDSCAPE DEVELOPMENT DATE

*John J. Williams* 11/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
OWNER CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539		
DEVELOPER RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414		
PROJECT <b>AS-BUILT ORCHARD ESTATES</b> LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C		
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE <b>MOT PLAN</b>		

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

10/22/07  
 DATE

CHECKED BY: DWG  
 DESIGNED BY: NS  
 DRAWN BY: EMR/JMK  
 PROJECT NO: 13043/1-0/ENGR/PLANS  
 /FINAL/ C802DET  
 DATE: NOVEMBER 6, 2007  
 SCALE: NO SCALE  
 DRAWING NO. 15 OF 21

DOMENICK W. COLANGELO #27200

**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
*Sharon K. Cruz* 30896  
 PRINTED NAME MD. P.E. NO.  
*[Signature]* 7/20/12  
 SIGNATURE DATE



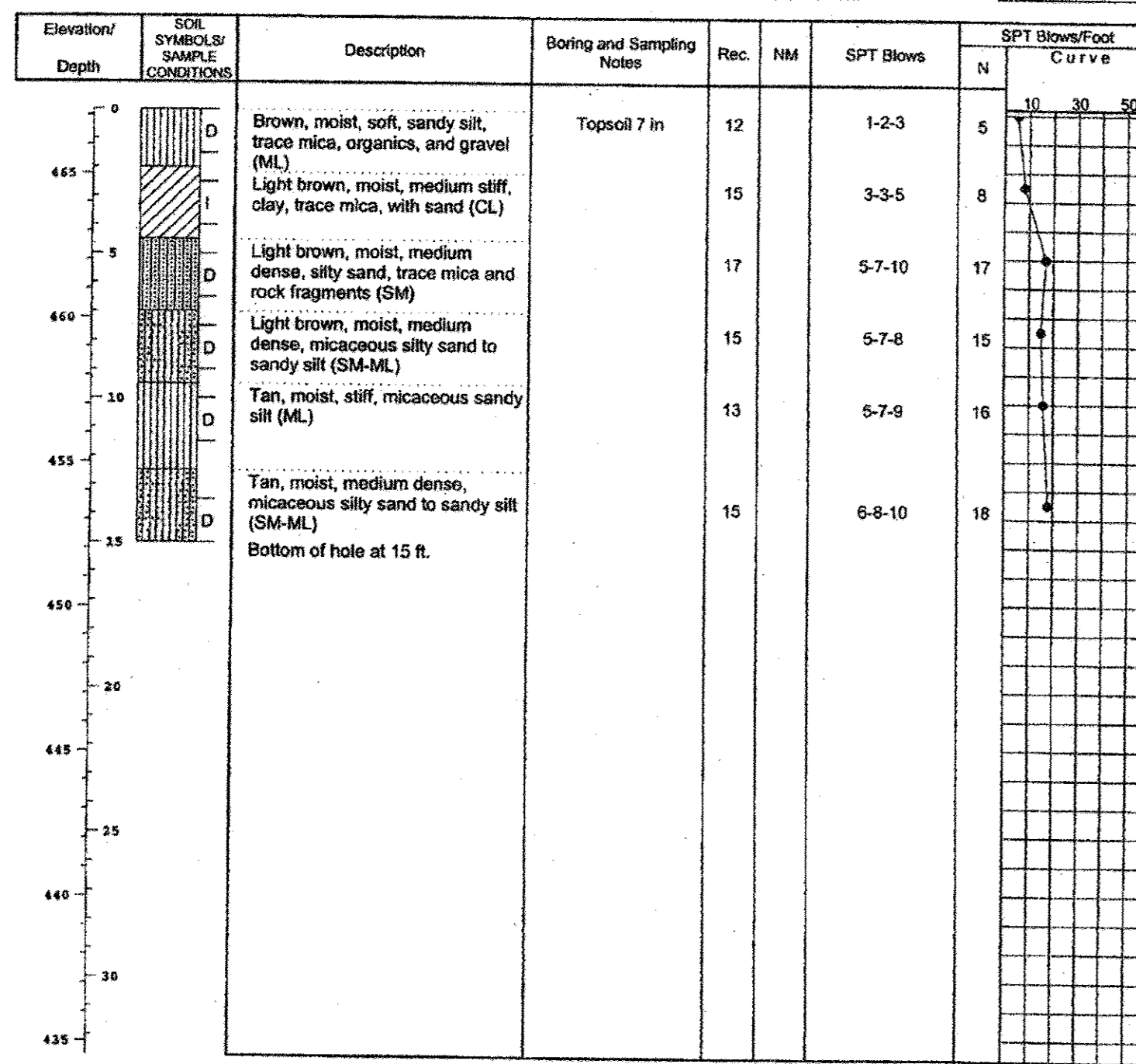
FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-1  
Location: Howard County, MD Job #: 04712A

Date: 1/24/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 467.21 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/24/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/24/05



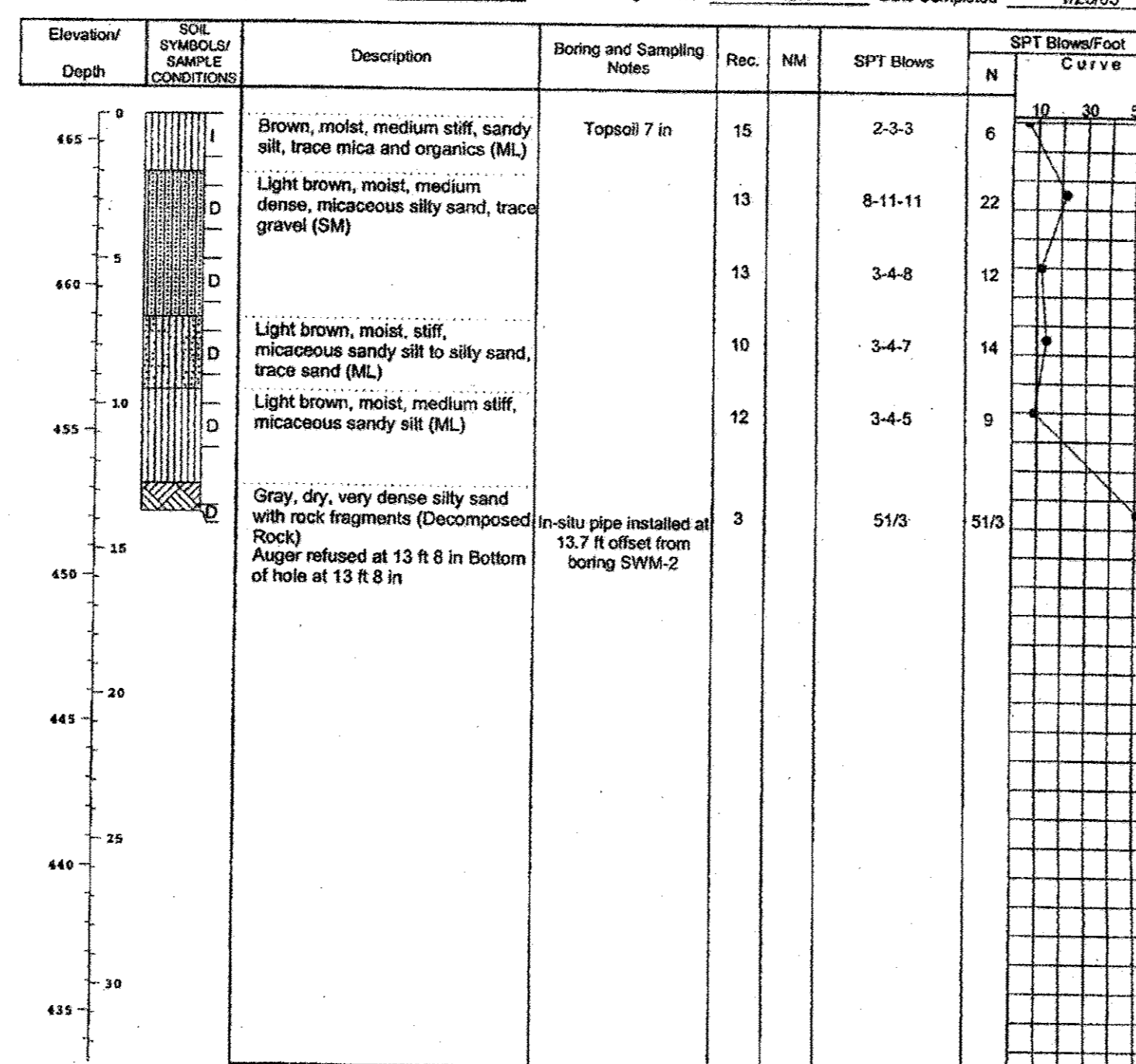
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 10.0 ft.  
CAVE IN DEPTH: 9.5 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-2  
Location: Howard County, MD Job #: 04712A

Date: 1/25/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 465.91 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/25/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/25/05



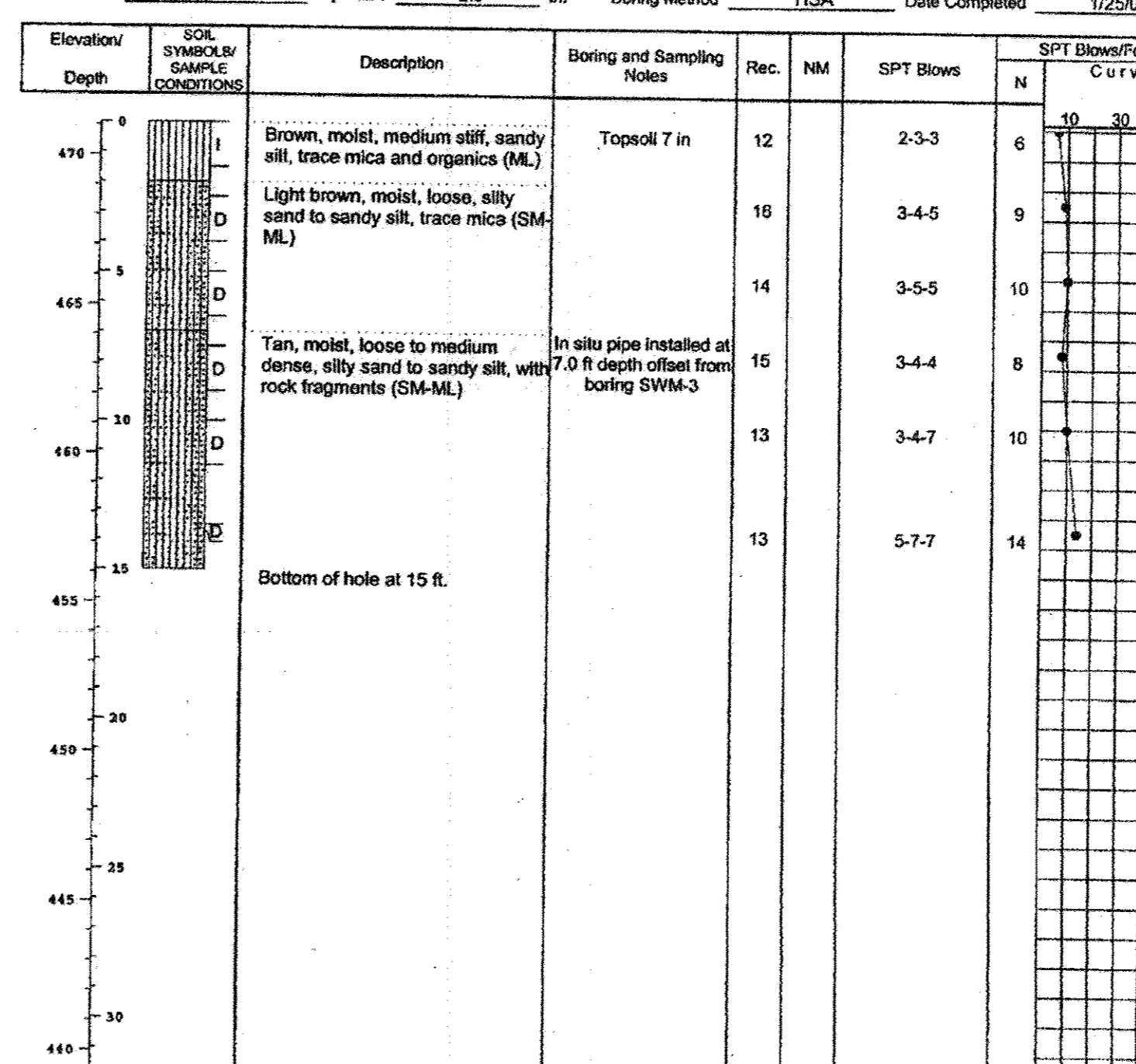
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 9.5 ft.  
CAVE IN DEPTH: 9.0 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-3  
Location: Howard County, MD Job #: 04712A

Date: 1/25/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 471.10 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/25/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/25/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 9.0 ft.  
CAVE IN DEPTH: 9.0 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

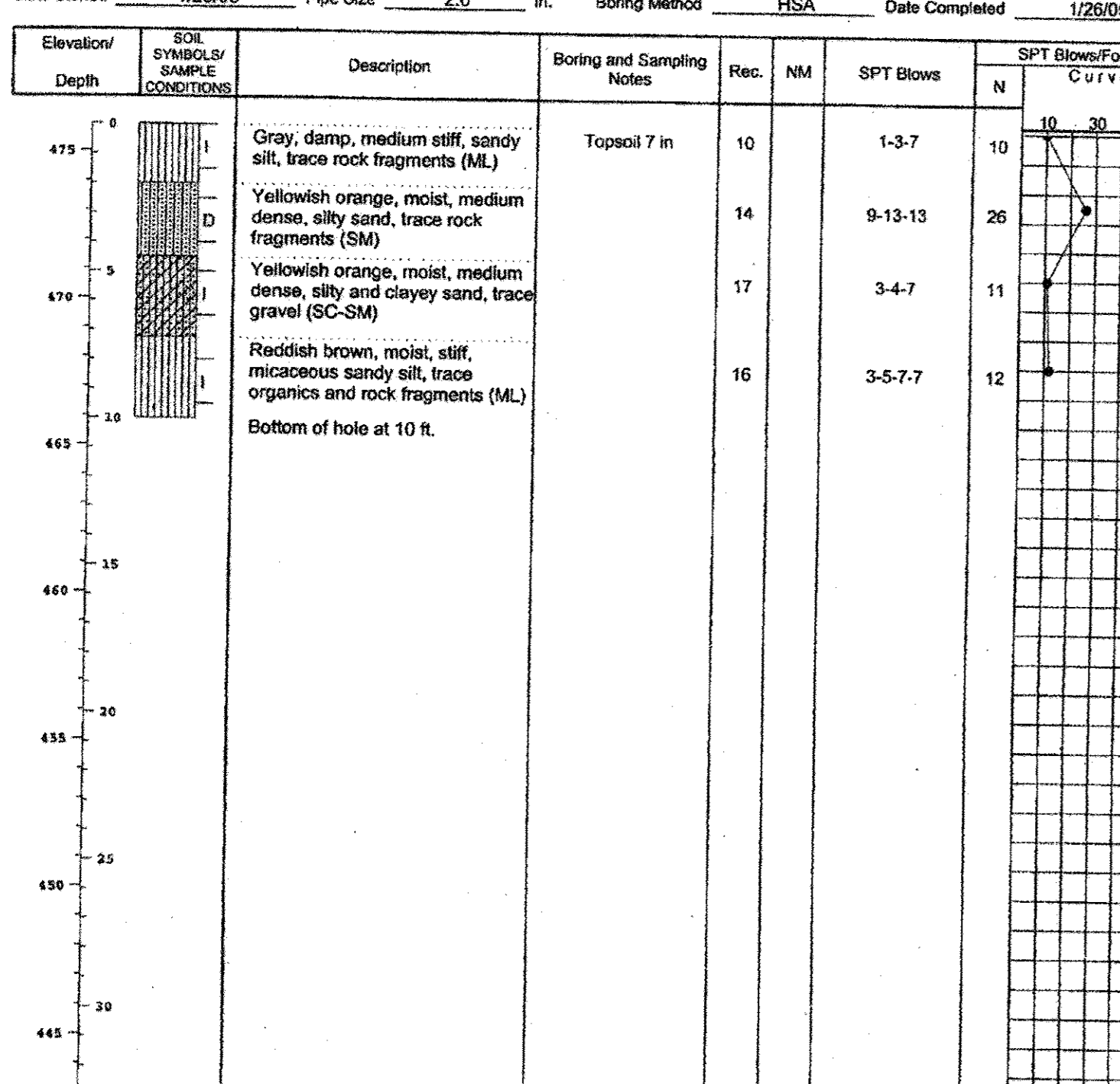


**AS-BUILT CERTIFICATION**  
NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
Printed Name: Sharon K. Cruz No. 38898  
Signature: \_\_\_\_\_ MD. P.E. NO. \_\_\_\_\_  
DATE: 1/20/18

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-4  
Location: Howard County, MD Job #: 04712A

Date: 1/26/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 475.91 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/26/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/26/05



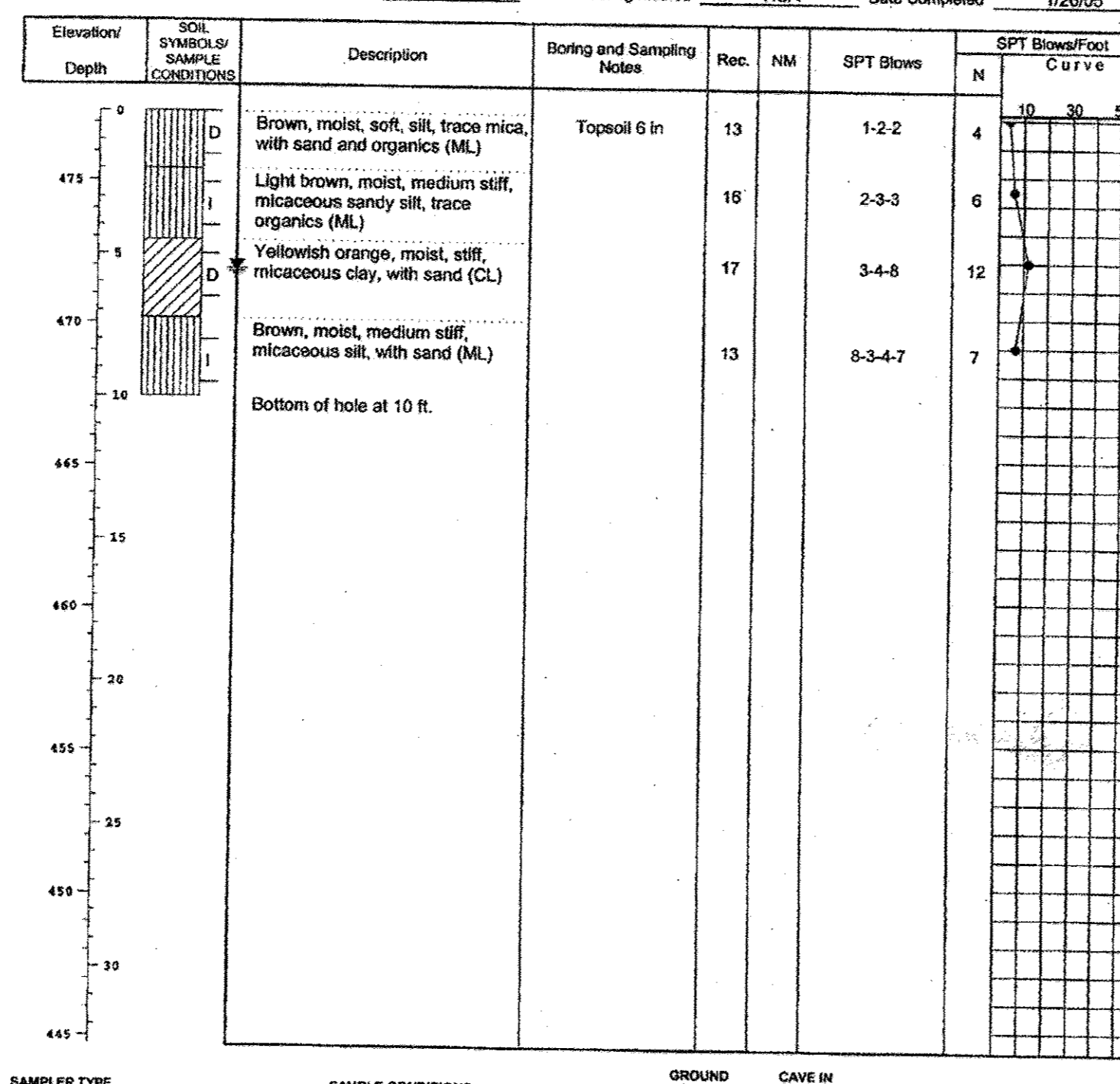
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 6.0 ft.  
CAVE IN DEPTH: 6.0 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-5  
Location: Howard County, MD Job #: 04712A

Date: 1/26/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 477.42 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/26/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/26/05



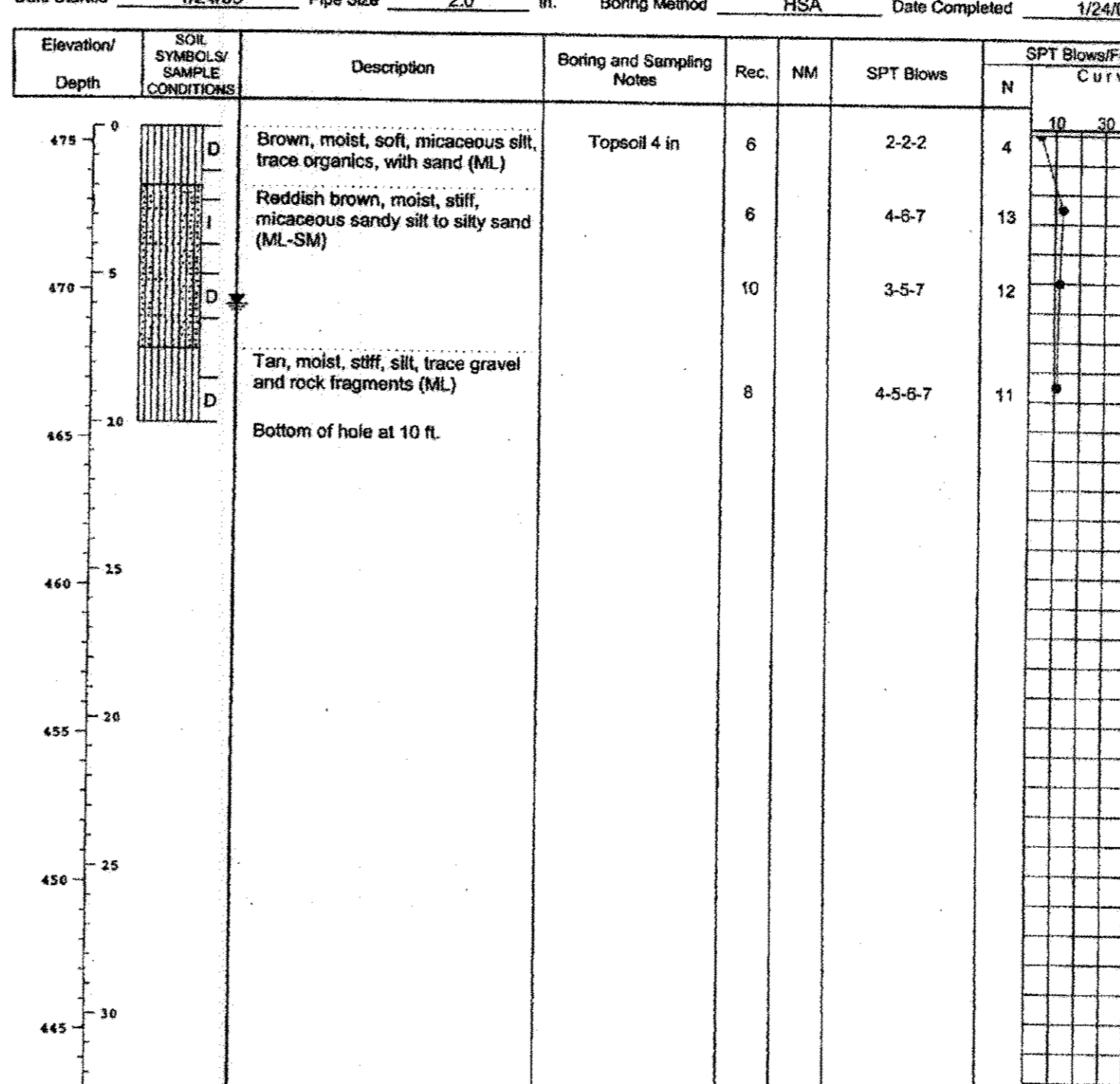
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 6.5 ft.  
CAVE IN DEPTH: 6.0 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Heyser SWM Boring No.: SWM-6  
Location: Howard County, MD Job #: 04712A

Date: 1/24/05 Hammer Wt. 140 lbs. Hole Diameter 6 in. Foreman Lamont Smith  
Surf. Elev. 475.51 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ in. Inspector \_\_\_\_\_  
Date Started 1/24/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/24/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE  
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST  
GROUND WATER: Dry ft. 6.0 ft.  
CAVE IN DEPTH: 6.0 ft.  
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

FINAL AS-BUILT PLANS  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter Z... 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cord... 11/30/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 11/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER: CARLTON E HEYSER, JR.  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-355-0414

PROJECT: AS-BUILT ORCHARD ESTATES  
LOTS 1-5, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 17B, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: SOIL BORING LOGS

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

10/22/07 DATE  
CHECKED BY: DWK  
DESIGNED BY: NS  
DRAWN BY: EMR/JMK  
PROJECT NO: 13045/1-0/ENGR/PLANS  
/FINAL/C9030DET.DWG  
DATE: NOVEMBER 6, 2007  
SCALE: AS SHOWN  
DRAWING NO. 16 OF 21

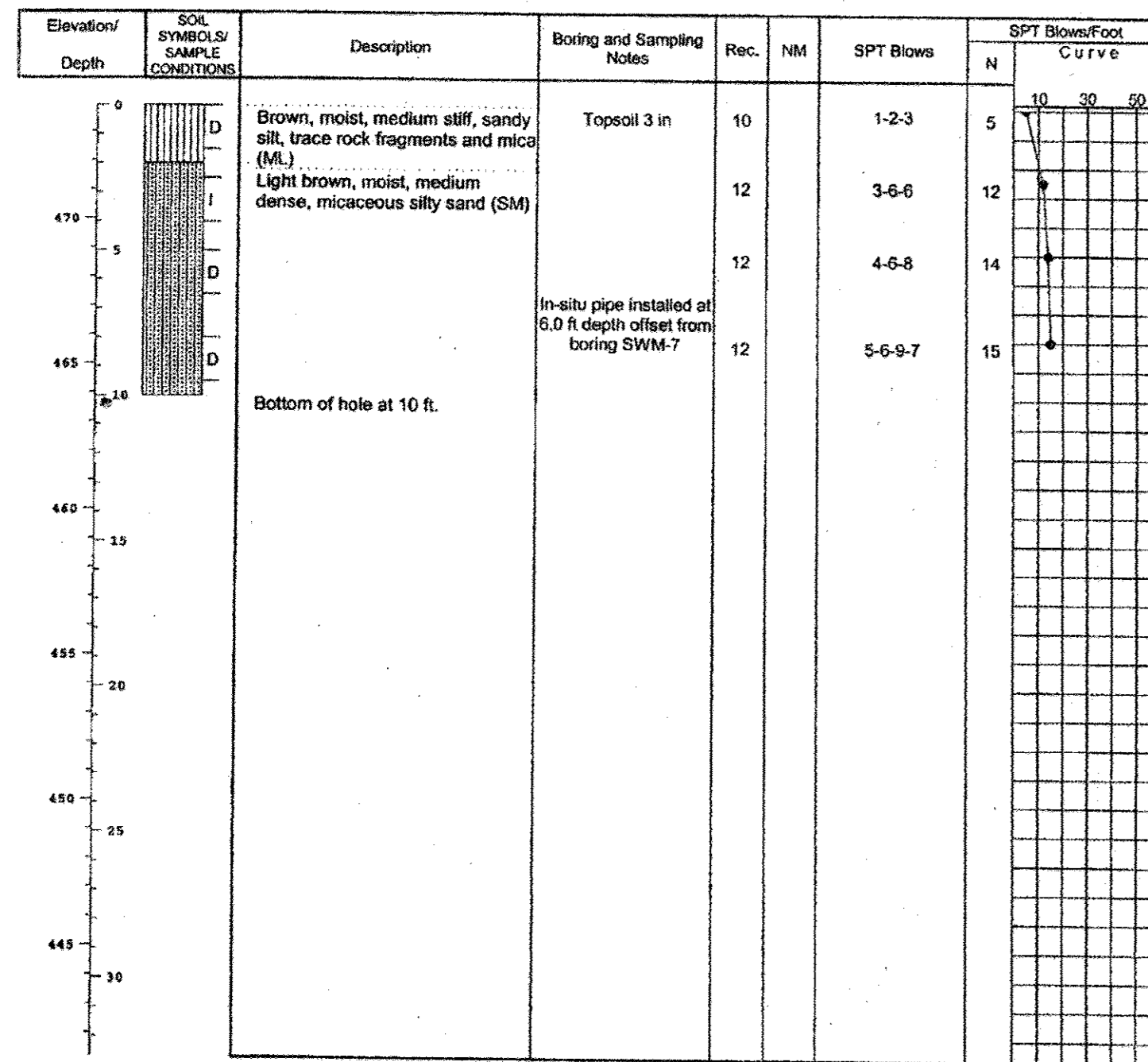
DOMENICK W. COLANGELO #27200 F-07-005



HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name Heysar SWM Boring No. SWM-7  
Location Howard County, MD Job # 04712A

SAMPLER  
Datum Hammer Wt. 140 lbs. Hole Diameter 6 Foreman Lamont Smith  
Surf. Elev. 473.89 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ Inspector \_\_\_\_\_  
Date Started 1/24/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/24/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED  
I - INTACT  
U - UNDISTURBED  
L - LOST

GROUND WATER: AT COMPLETION  
Dry ft. 5.5  
After 24 HRS. Dry ft. 6.0

CAVE IN DEPTH: Dry ft. 6.0

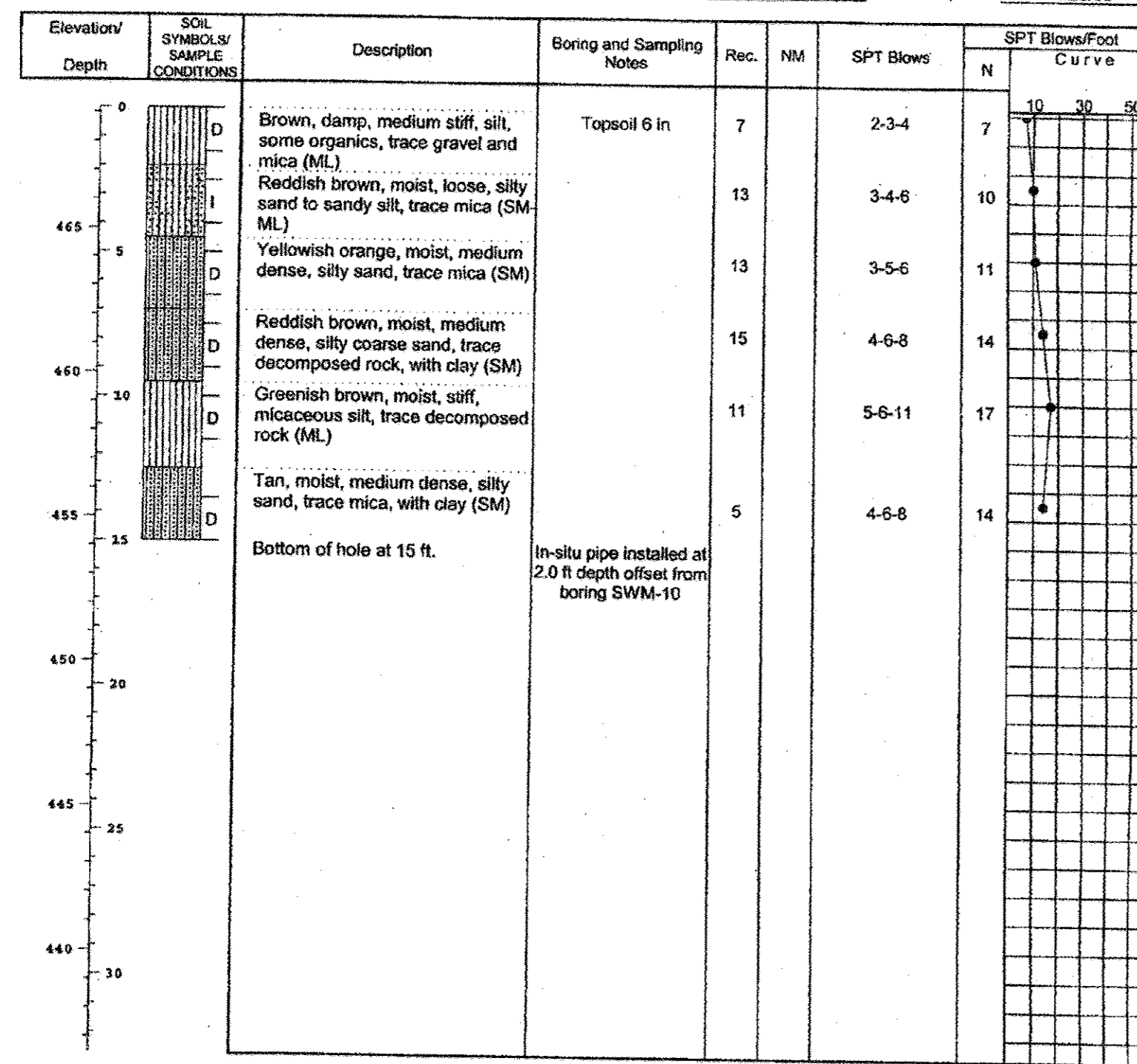
BORING METHOD: HSA - HOLLOW STEM AUGERS  
CFA - CONTINUOUS FLIGHT AUGER  
DC - DRIVING CASING  
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name Heysar SWM Boring No. SWM-10  
Location Howard County, MD Job # 04712A

SAMPLER  
Datum Hammer Wt. 140 lbs. Hole Diameter 6 Foreman Lamont Smith  
Surf. Elev. 469.17 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ Inspector \_\_\_\_\_  
Date Started 1/25/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/25/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED  
I - INTACT  
U - UNDISTURBED  
L - LOST

GROUND WATER: AT COMPLETION  
Dry ft. 11.0  
After 24 HRS. Dry ft. 11.0

CAVE IN DEPTH: Dry ft. 11.0

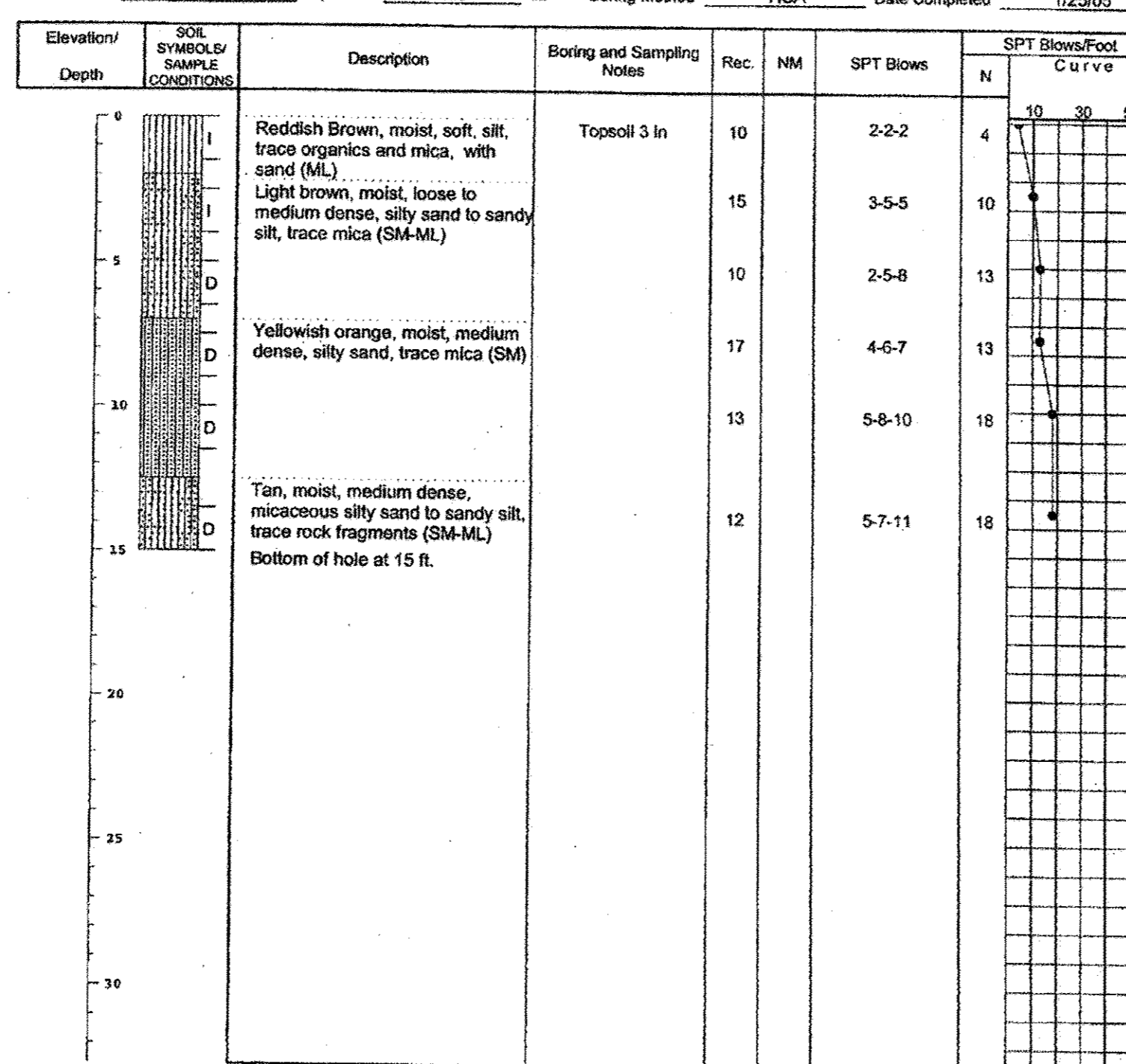
BORING METHOD: HSA - HOLLOW STEM AUGERS  
CFA - CONTINUOUS FLIGHT AUGER  
DC - DRIVING CASING  
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name Heysar SWM Boring No. SWM-8  
Location Howard County, MD Job # 04712A

SAMPLER  
Datum Hammer Wt. 140 lbs. Hole Diameter 6 Foreman Lamont Smith  
Surf. Elev. \_\_\_\_\_ Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ Inspector \_\_\_\_\_  
Date Started 1/25/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/25/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED  
I - INTACT  
U - UNDISTURBED  
L - LOST

GROUND WATER: AT COMPLETION  
Dry ft. 10.0  
After 24 HRS. Dry ft. 9.5

CAVE IN DEPTH: Dry ft. 10.0

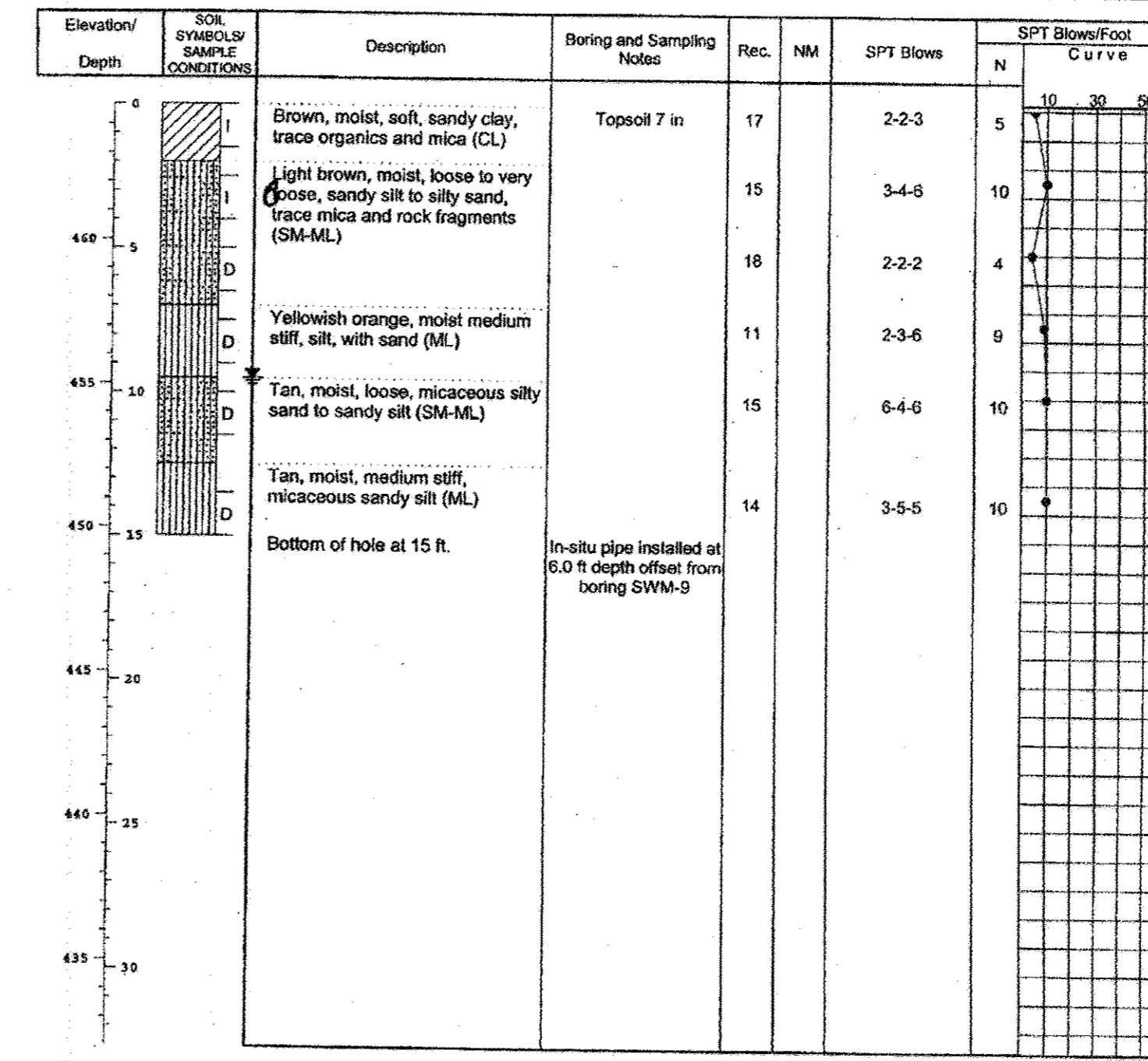
BORING METHOD: HSA - HOLLOW STEM AUGERS  
CFA - CONTINUOUS FLIGHT AUGER  
DC - DRIVING CASING  
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name Heysar SWM Boring No. SWM-9  
Location Howard County, MD Job # 04712A

SAMPLER  
Datum Hammer Wt. 140 lbs. Hole Diameter 6 Foreman Lamont Smith  
Surf. Elev. 464.89 Ft. Hammer Drop 30 in. Rock Core Diameter \_\_\_\_\_ Inspector \_\_\_\_\_  
Date Started 1/25/05 Pipe Size 2.0 in. Boring Method HSA Date Completed 1/25/05



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED  
PT - PRESSED SHELBY TUBE  
CA - CONTINUOUS FLIGHT AUGER  
RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED  
I - INTACT  
U - UNDISTURBED  
L - LOST

GROUND WATER: AT COMPLETION  
Dry ft. 10.5  
After 24 HRS. Dry ft. 9.5

CAVE IN DEPTH: Dry ft. 10.5

BORING METHOD: HSA - HOLLOW STEM AUGERS  
CFA - CONTINUOUS FLIGHT AUGER  
DC - DRIVING CASING  
MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter Z... 11-20-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Charles... 11/30/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William... 11/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER  
CARLTON E HEYSAR, JR  
14526 NEW HAMPSHIRE AVENUE  
SILVER SPRING, MD 20904  
410-531-5539

DEVELOPER  
RUPPERT PROPERTIES  
ATTN: RICHARD DEMMITT  
HIGHLAND DEVELOPMENT CORP.  
P.O. BOX 228  
CLARKSVILLE, MARYLAND 21029  
410-365-0414

PROJECT  
**AS-BUILT ORCHARD ESTATES**  
LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**SOIL BORING LOGS**

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

10/22/07  
DATE  
CHECKED BY: DWC

DESIGNED BY: NS

DRAWN BY: EMR/JMK

PROJECT NO. 13043/1-0/ENGR/PLANS  
/FINAL/C803DET.DWG

DATE: NOVEMBER 6, 2007

SCALE: AS SHOWN

DRAWING NO. 17 OF 21

DOMENICK W. COLANGELO #27200

F-07-005

**AS-BUILT CERTIFICATION**

NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.

Sharon L. Cruz 2/20/18  
PRINTED NAME DATE  
MD. P.E. NO. \_\_\_\_\_  
SIGNATURE DATE



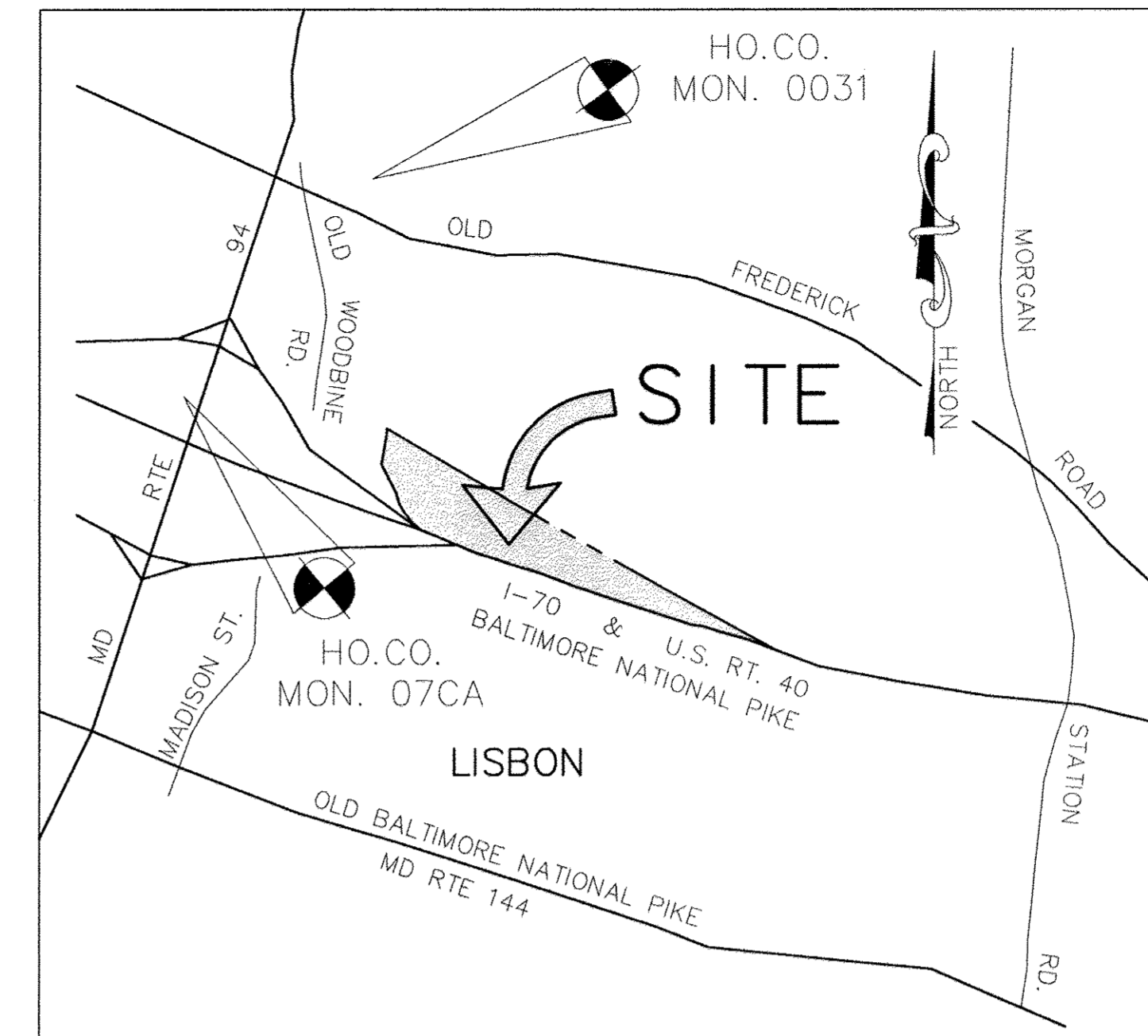
FINAL AS-BUILT PLANS  
PREPARED BY PENNONI  
ASSOCIATES, FORMERLY  
PHR+A

AS-BUILT DATE OF SURVEY: 11.08.17

P:\Project\13043\1-0\Engr\Plans\Final\C803DET.dwg, 10/19/2007 8:19:24 AM



MATCHLINE - SEE SHEET 19



LEGEND	
EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
SPECIMEN TREE	
STAND #	
STAND DIVISION LINE	
SLOPES 15 - 25%	
SLOPES >25%	

SOILS CHART					
MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS DWELLINGS	EROSION HAZARD	HYDRIC	SLOPE (%)
G1A	GLENELG LOAM	SLIGHT	SLIGHT	NO	0-3%
G1B2	GLENELG LOAM	SLIGHT	MODERATE	NO	3-8%
G1C2	GLENELG LOAM	MODERATE	MODERATE	NO	8-15%
G1C3	GLENELG LOAM	MODERATE	SEVERE	NO	8-15%
GnA	GLENVILLE SILT LOAM	MODERATE	SLIGHT	NO*	0-3%
GnB2	GLENVILLE SILT LOAM	MODERATE	MODERATE	NO*	3-8%
GnC2	GLENVILLE SILT LOAM	MODERATE	MODERATE	NO	8-15%
M1A	MANOR LOAM	SLIGHT	SLIGHT	NO	0-3%
M1B2	MANOR LOAM	SLIGHT	MODERATE	NO	8-15%
M1C2	MANOR LOAM	MODERATE	MODERATE	NO	8-15%
M1C3	MANOR LOAM	MODERATE	SEVERE	NO	8-15%
M1D3	MANOR LOAM	MODERATE	SEVERE	NO	15-25%

\* SOIL MAY CONTAIN HYDRIC INCLUSIONS  
THIS INFORMATION TAKEN FROM THE HOWARD COUNTY SOIL SURVEY DATE JULY 1968, MAP 2

**PURPOSE STATEMENT:**

THE PURPOSE OF THIS PLAN IS TO PREPARE A FOREST STAND DELINEATION FOR APPROXIMATELY 4.30 ACRES OF OFFSITE FOREST TO BE UTILIZED BY ORCHARD ESTATES (F-07-005). THERE ARE FOUR EXISTING FOREST STANDS LOCATED ON THE EASTERN END OF THE SITE, AS SHOWN IN THE PLAN. THEY ARE ALL HIGH PRIORITY FOREST STANDS. A FOREST STAND DELINEATION WAS NOT PREPARED FOR THE REMAINDER OF THE SITE AS THIS FOREST IS NOT BEING USED FOR OFFSITE FOREST RETENTION CREDITS.

PLANT COMMUNITY SUMMARY			
SYMBOL	COMMUNITY	AREA	RETENTION PRIORITY
F1	FOREST	0.24 Ac.±	HIGH
F2	FOREST	1.1 Ac.±	HIGH
F3	FOREST	2.23 Ac.±	HIGH
F4	FOREST	0.73 Ac.±	HIGH

AREA CHART	
AREA	ACRES
TOTAL TRACT AREA	34.94
EXISTING FOREST	24.23
LAND WITHIN STREAM BUFFERS	5.53
LAND WITHIN FLOODPLAIN	0
FOREST WITHIN STREAM BUFFERS	2.66
FOREST WITHIN FLOODPLAIN	0
ROAD DEDICATION	0

SPECIMEN TREE CHART			
KEY	SPECIES	SIZE	CONDITION
1	SCARLET OAK (QUERCUS COCCINEA)	37"	FAIR / GOOD
2	SCARLET OAK (QUERCUS COCCINEA)	33"	FAIR / GOOD
3	WHITE OAK (QUERCUS ALBA)	35"	GOOD
4	RED MAPLE (ACER RUBRUM)	30"	FAIR

**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.  
 Sherron L. Cruz 36896  
 M.D. P.E. REG. DATE: 1/2/02



**FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PARTA**

AS-BUILT DATE OF SURVEY: 11.08.17

**GENERAL NOTES:**

- THE SITE IS LOCATED ALONG THE NORTH SIDE OF ROUTE 70 IN WESTERN HOWARD COUNTY. THE SITE CONSISTS OF PARCEL 101 (TAX MAP 7) AND PARCEL 4 (TAX MAP 8), WHICH ARE 3.34-94 ACRES.
- TOPOGRAPHIC INFORMATION IS FROM HOWARD COUNTY GIS INFORMATION. BOUNDARY INFORMATION IS FROM A FIELD SURVEY PREPARED BY PATTON HARRIS RUST & ASSOCIATES.
- THE SOILS ON SITE ARE DESCRIBED IN THE CHART ON THIS PLAN, AND ARE IN ACCORDANCE WITH THE SOIL SURVEY FOR HOWARD COUNTY, MARYLAND. STEEP SLOPES ARE PRESENT ON THE SITE AS SHOWN.
- THE SITE IS ZONED RC-DEO (RURAL CONSERVATION WITH A DENSITY EXCHANGE OPTION OVERLAY).
- THE SITE IS LOCATED IN THE PATUXENT WATERSHED, BRIGHTON DAM SUBWATERSHED (#213108).
- THERE IS NO 100-YEAR FLOODPLAIN LOCATED ON SITE AS SHOWN. STREAMS AND WETLANDS ARE LOCATED ON SITE AS SHOWN.
- THERE ARE FOUR EXISTING FOREST STANDS LOCATED ON THE EASTERN END OF THE SITE, AS SHOWN IN THE PLAN. THEY ARE ALL HIGH PRIORITY FOREST STANDS. A FOREST STAND DELINEATION WAS NOT PREPARED FOR THE REMAINDER OF THE SITE AS THIS FOREST IS NOT BEING USED FOR OFFSITE FOREST RETENTION CREDITS.
- THERE ARE 4 SPECIMEN TREES (30"+) LOCATED ON SITE, AS SHOWN ON THE PLAN.
- FIELD WORK FOR THIS INVENTORY WAS CONDUCTED ON DECEMBER 11, 2006 BY BILL BOND OF PARKTON WOODLAND SERVICES. SEE FOREST STAND DELINEATION REPORT FOR FIELD INVESTIGATION NARRATIVE.
- THE SITE HAS A FOREST CONSERVATION THRESHOLD OF 25% AND AN AFFORESTATION THRESHOLD OF 20%.
- NO CEMETERIES OR HISTORIC STRUCTURES ARE LOCATED ON-SITE. NO EXISTING STRUCTURES ARE PRESENT ON THE SITE.
- THIS FOREST STAND DELINEATION (FSD) HAS BEEN PREPARED IN ACCORDANCE WITH HOWARD COUNTY REGULATIONS.
- THIS SITE CONTAINS SOILS WITH POSSIBLE HYDRIC INCLUSIONS, GLENVILLE SILT LOAM (GnB2 and GnA).

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William F. ...* 11-20-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Cindy ...* 11/20/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 11/20/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER: CARLTON E HEYSER, JR.  
 14526 NEW HAMPSHIRE AVENUE  
 SILVER SPRING, MD 20904  
 410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
 ATTN: RICHARD DENMITT  
 HIGHLAND DEVELOPMENT CORP.  
 P.O. BOX 228  
 CLARKSVILLE, MARYLAND 21029  
 410-365-0414

PROJECT: **AS-BUILT ORCHARD ESTATES**  
 LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **OFFSITE FOREST STAND DELINEATION 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

10-25-07  
 DATE

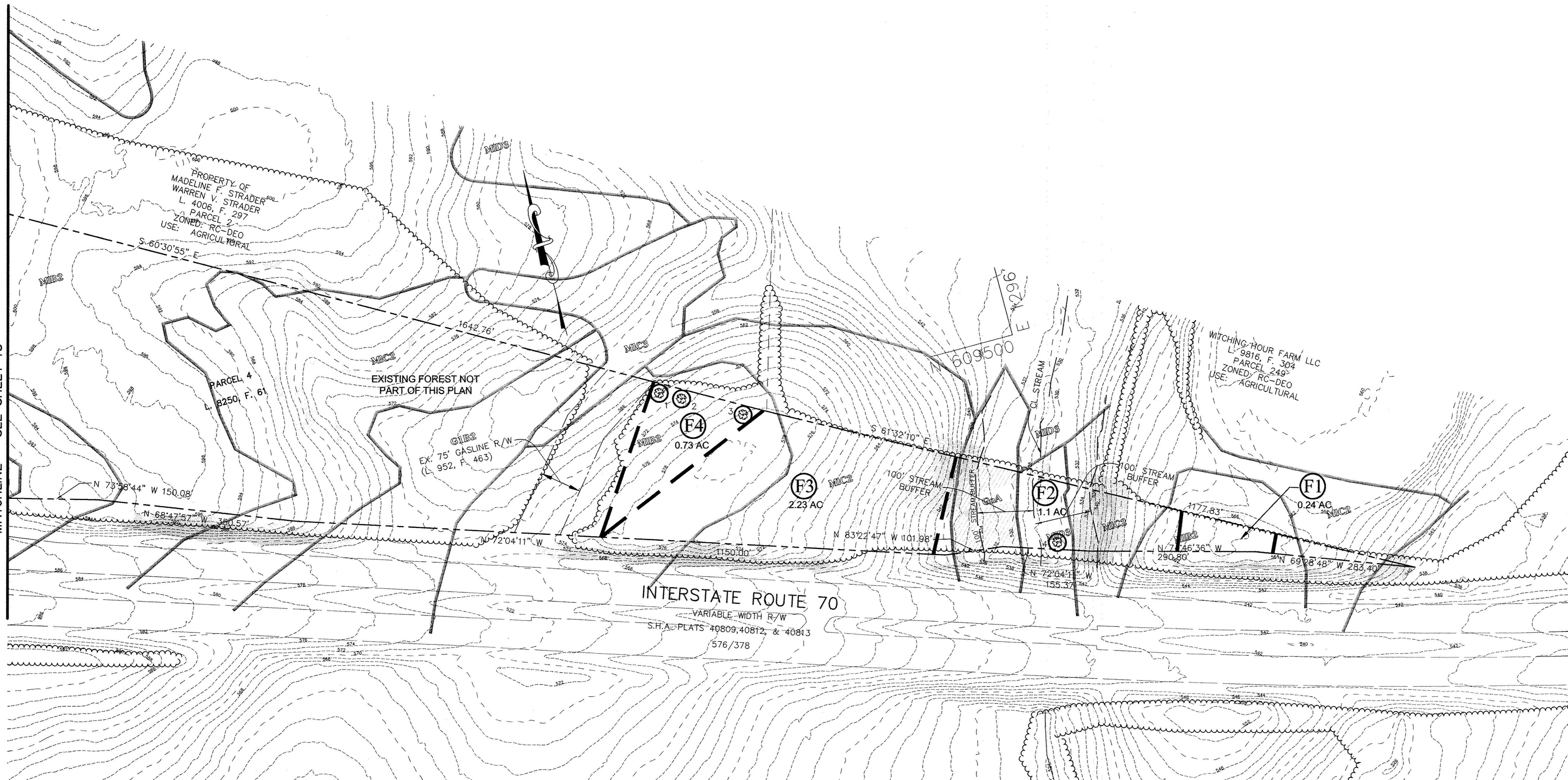
CHECKED BY: PJS  
 DESIGNED BY: NS  
 DRAWN BY: ALC

PROJECT NO: 13043/1-0/ENGR/PLANS  
 /FINAL/C2006D-OFFSITE.DWG

DATE: NOVEMBER 6, 2007  
 SCALE: 1" = 100'  
 DRAWING NO. 18 OF 21

PETER J. STONE # 3068

MATCHLINE - SEE SHEET 18



LEGEND	
EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
SPECIMEN TREE	
STAND #	
STAND DIVISION LINE	
SLOPES 15 - 25%	
SLOPES >25%	

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William F. ...* 11-28-07  
 CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Chris ...* 11/20/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 11/27/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
OWNER		
CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539		
DEVELOPER		
RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414		
PROJECT		
<b>AS-BUILT ORCHARD ESTATES</b> LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C		
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		

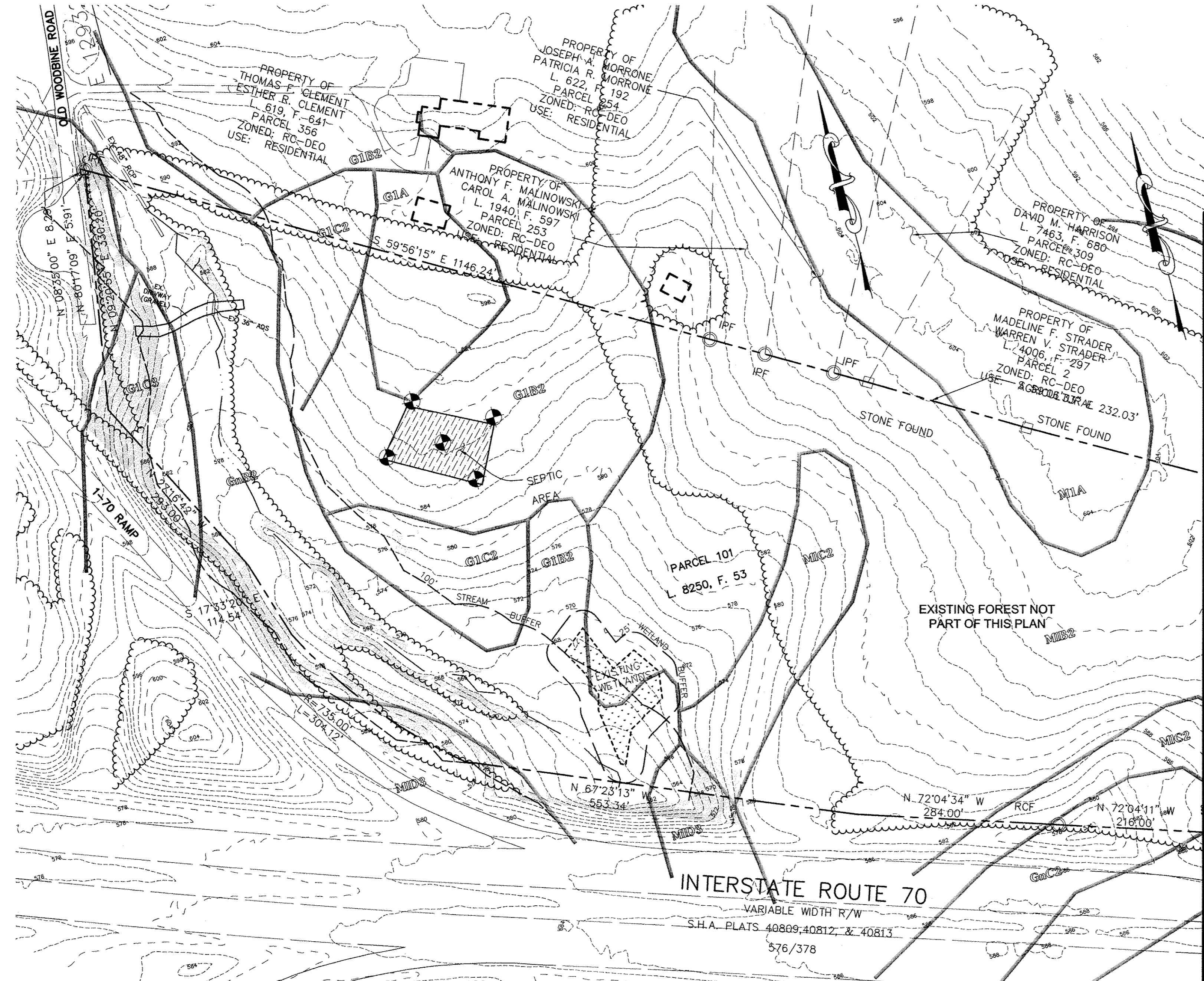


**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
*Sharon K. Cruz* 3/28/08  
 PRINTED NAME MD. P.E. NO.  
 SIGNATURE DATE

FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PHRA

TITLE	
<b>OFFSITE FOREST STAND DELINEATION PLAN</b>	
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	
10-25-07 DATE	CHECKED BY: PJS
	DESIGNED BY : NS
	DRAWN BY: ALC
	PROJECT NO: 13043/1-0/ENGR/PLANS /FINAL/2007CP-OFFSITE.DWG
	DATE : NOVEMBER 6, 2007
	SCALE : 1" = 100'
	DRAWING NO. 19 OF 21
	PETER J. STONE # 3068

AS-BUILT DATE OF SURVEY: 11.08.17



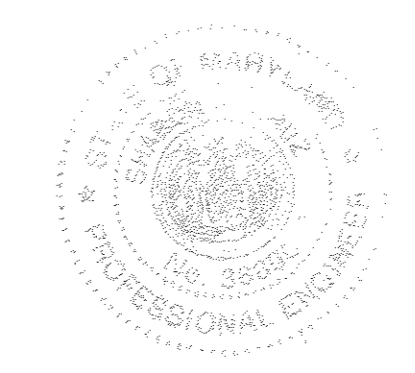
MATCHLINE - SEE SHEET 21

**PURPOSE STATEMENT:**  
 THE PURPOSE OF THIS PLAN IS TO PREPARE A FOREST CONSERVATION EASEMENT FOR 4.30 ACRES OF OFFSITE FOREST TO BE UTILIZED BY ORCHARD ESTATES (F-07-005). THERE ARE FOUR EXISTING FOREST STANDS LOCATED ON THE EASTERN END OF THE SITE, AS SHOWN ON THE PLAN. THEY ARE ALL HIGH PRIORITY FOREST STANDS. A FOREST STAND DELINEATION WAS NOT PREPARED FOR THE REMAINDER OF THE SITE AS THIS FOREST IS NOT BEING USED FOR OFFSITE FOREST RETENTION CREDITS.

LEGEND	
EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
PROPOSED BUILDING	
LIMIT OF DISTURBANCE LINE	
FOREST CONSERVATION AREA	
FOREST CONSERVATION SIGNAGE	
TREE PROTECTION DEVICE (BLAZE ORANGE PLASTIC MESH FENCING)	
SPECIMEN TREE	
SLOPES 15 - 25%	
SLOPES >25%	

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	<i>Walter R. ...</i>	11-20-07
CHIEF, BUREAU OF HIGHWAYS		DATE
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	<i>Cindy ...</i>	11/20/07
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
	<i>...</i>	11/27/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
DATE NO.	REVISION	
OWNER	CARLTON E HEYSER, JR 14526 NEW HAMPSHIRE AVENUE SILVER SPRING, MD 20904 410-531-5539	
DEVELOPER	RUPPERT PROPERTIES ATTN: RICHARD DEMMITT HIGHLAND DEVELOPMENT CORP. P.O. BOX 228 CLARKSVILLE, MARYLAND 21029 410-365-0414	
PROJECT	<b>AS-BUILT ORCHARD ESTATES</b> LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C	
AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO	5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	

**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
*Sharon L. Cruz* 36896  
 PRINTED NAME MD. P.E. NO.  
 SIGNATURE 2/20/08  
 DATE



FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PHRA

AS-BUILT DATE OF SURVEY: 11.08.17

TITLE	<b>OFFSITE FINAL FOREST CONSERVATION PLAN</b>
	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
	<b>PHRA</b>
10-25-07 DATE	CHECKED BY: PJS
	DESIGNED BY: NS
	DRAWN BY: ALC
	PROJECT NO. 13043/1-0/ENGR/PLANS /FINAL/2007CFP-OFFSITE.DWG
	DATE: NOVEMBER 6, 2007
	SCALE: 1" = 100'
	DRAWING NO. 20 OF 21
	PETER J. STONE # 3068

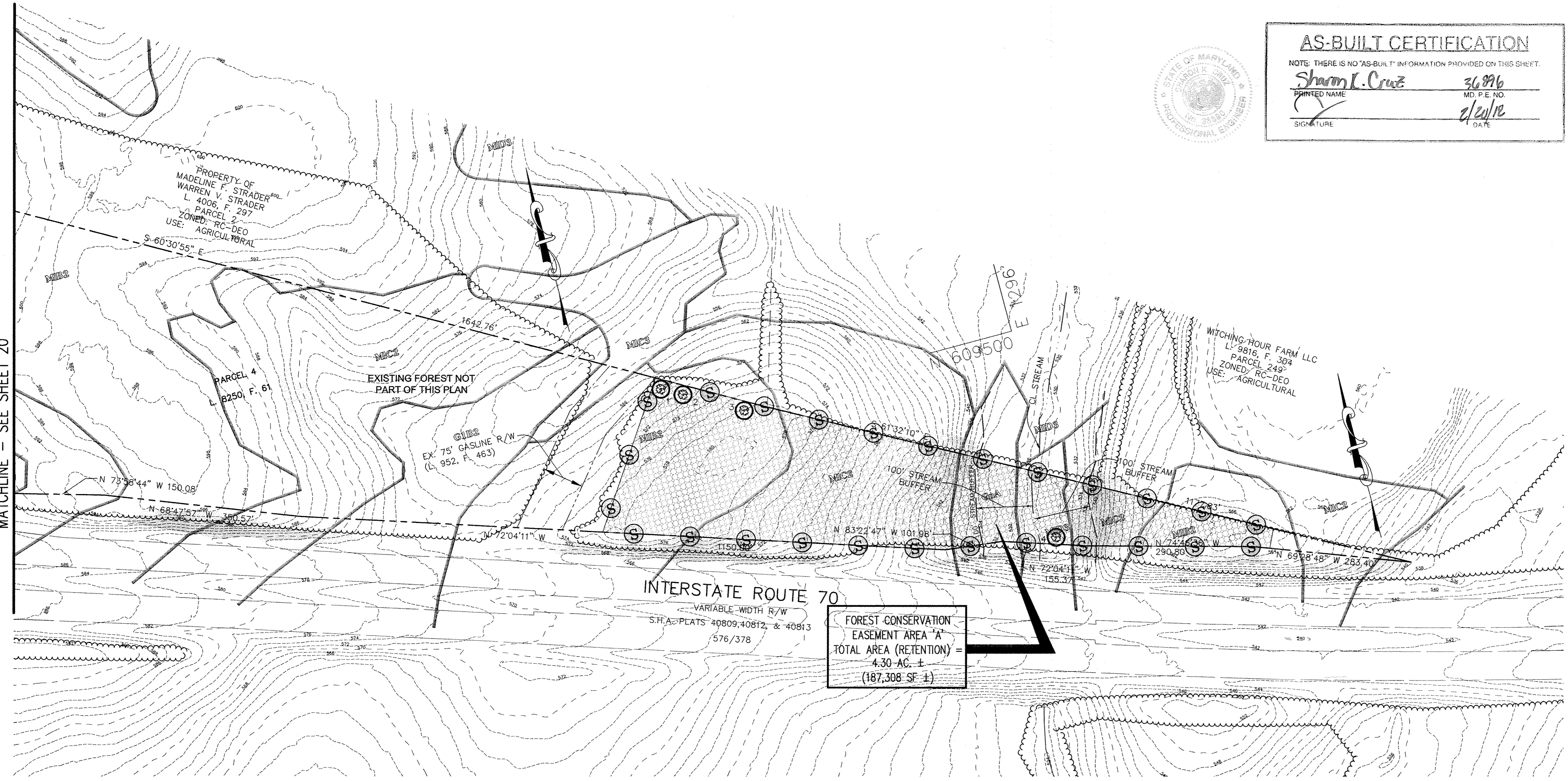


**AS-BUILT CERTIFICATION**  
 NOTE: THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
 Sharm K. Cruz 36996  
 PRINTED NAME MD. P.E. NO.  
 2/20/12  
 SIGNATURE DATE

**LEGEND**

EXISTING TREELINE	
PROPERTY LINE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
SOIL CLASSIFICATION AND BOUNDARY	
EXISTING BUILDING	
PROPOSED BUILDING	
LIMIT OF DISTURBANCE LINE	
FOREST CONSERVATION AREA	
FOREST CONSERVATION SIGNAGE	
TREE PROTECTION DEVICE (PLAZE ORANGE PLASTIC MESH FENCING)	
SPECIMEN TREE	
SLOPES 15 - 25%	
SLOPES >25%	

MATCHLINE - SEE SHEET 20



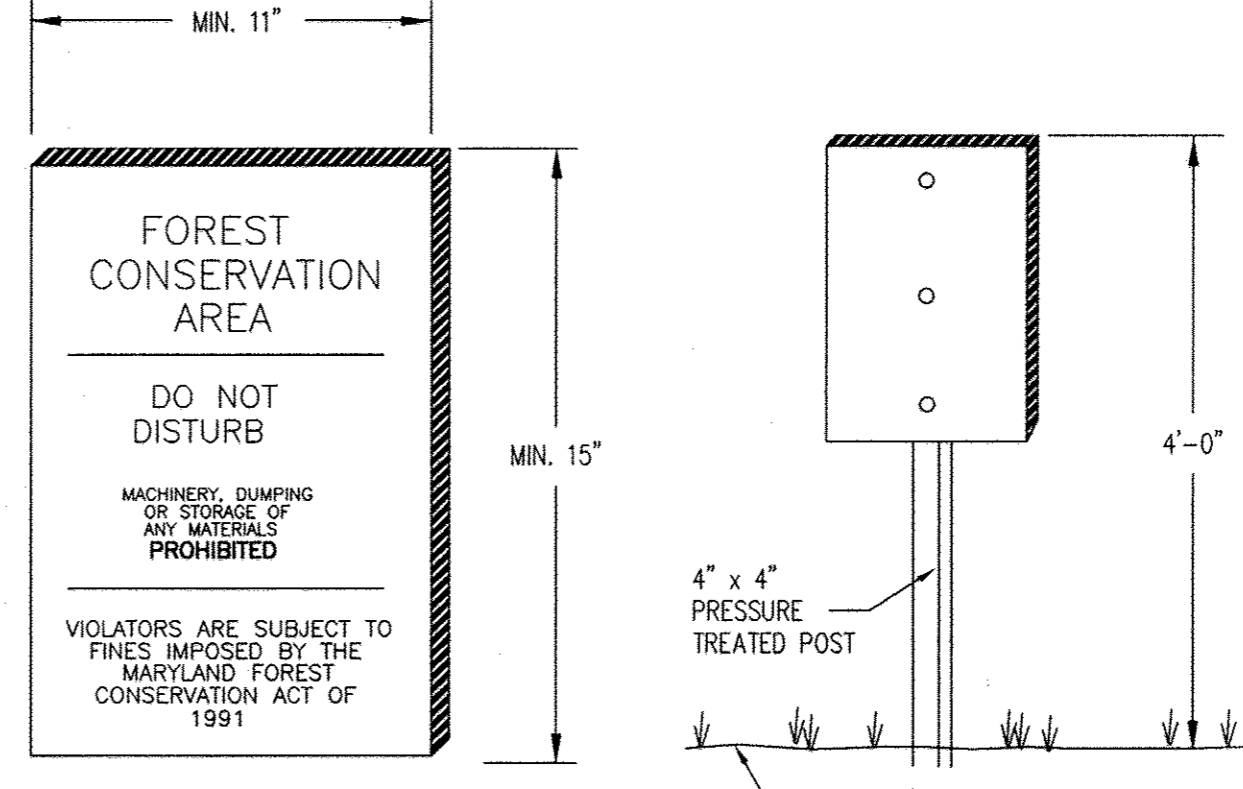
**FOREST CONSERVATION EASEMENT AREA "A"**  
 TOTAL AREA (RETENTION) = 4.30 AC. ±  
 (187,308 SF ±)

**FOREST CONSERVATION PROGRAM**

- I. OBJECTIVE:**  
 IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF ORCHARD ESTATES TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS IN AN OFFSITE FOREST CONSERVATION EASEMENT.
- II. PRESERVATION:**  
 FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- III. GENERAL CONSTRUCTION NOTE:**  
 THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN THE LIMIT OF DISTURBANCE.
- IV. POST CONSTRUCTION MANAGEMENT PRACTICE:**  
 A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:
- 1- MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO
  - 2- PREVENT UNWARRANTED INTRUSION AND DAMAGE.
  - 3- CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
  - 4- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

**GENERAL NOTES:**

1. THE MAJORITY OF THE PLAN HAS BEEN PREPARED USING HOWARD COUNTY GIS DATA. 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. THERE ARE NO EXISTING STRUCTURES ON THE SITE.
6. THIS SITE CONTAINS SOILS WITH POSSIBLE HYDRIC INCLUSIONS, GLENVILLE SILT LOAM (GnB2 AND GnA).
7. THE FSD, DATED DECEMBER 11, 2006, HAS BEEN PREPARED BY PARKTON WOODLAND SERVICES IN CONJUNCTION WITH THESE PLANS.
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. THE FOREST CONSERVATION EASEMENT SHOWN ON THIS PLAN IN THE AMOUNT OF A 4.3 ACRE (187,308 SF) RETENTION EASEMENT SATISFIES THE REMAINING OBLIGATION OF 2.15 ACRES (93,654 SF) OF THE ORCHARD ESTATES (F-07-005) FOREST CONSERVATION REQUIREMENTS.
- OFFSITE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$37,461.60 (187,308 x \$0.20/SF) WILL BE POSTED.
11. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
12. BEARINGS AND DISTANCES FOR FOREST CONSERVATION EASEMENTS ARE PROVIDED ON A "PLAT OF CONSOLIDATION AND PLAT OF PRESERVATION EASEMENT, DENSITY SENDING RUSSELL-HOLLAND PARCEL A" (F-07-130).



PLAN SYMBOL: (S)

NOTES:  
 1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION EASEMENT BORDER.  
 2. SEE PLAN FOR SPACING.

**SPECIMEN TREE CHART**

KEY	SPECIES	SIZE	CONDITION	REMAIN OR REMOVE
1	SCARLET OAK (QUERCUS COCCINEA)	37"	FAIR / GOOD	REMAIN
2	SCARLET OAK (QUERCUS COCCINEA)	33"	FAIR / GOOD	REMAIN
3	WHITE OAK (QUERCUS ALBA)	35"	GOOD	REMAIN
4	RED MAPLE (ACER RUBRUM)	30"	FAIR	REMAIN

FOREST CONSERVATION AREA	AREA (IN ACRES)
A	4.3 AC ±
TOTAL	4.3 AC ±

FOREST CONSERVATION SIGN DETAIL  
 NOT TO SCALE

**FINAL AS-BUILT PLANS  
 PREPARED BY PENNONI  
 ASSOCIATES, FORMERLY  
 PHR+A**

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Walter P. ...* 11-20-07  
 CHIEF, BUREAU OF HIGHWAYS NO. DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*...* 11/30/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 11/27/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION NY DATE

DATE	NO.	REVISION

OWNER: CARLTON E HEYSER, JR  
 14526 NEW HAMPSHIRE AVENUE  
 SILVER SPRING, MD 20904  
 410-531-5539

DEVELOPER: RUPPERT PROPERTIES  
 ATTN: RICHARD DEMMITT  
 HIGHLAND DEVELOPMENT CORP.  
 P.O. BOX 228  
 CLARKSVILLE, MARYLAND 21029  
 410-365-0414

PROJECT: **AS-BUILT ORCHARD ESTATES**  
 LOTS 1-8, PRESERVATION PARCEL A & NON-BUILDABLE PRESERVATION PARCELS B & C

AREA TAX MAP 40, GRID 18, PARCEL 178, ZONED RR-DEO  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **OFFSITE FINAL FOREST CONSERVATION PLAN**

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 Engineers, Surveyors, Planners, Landscape Architects.  
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