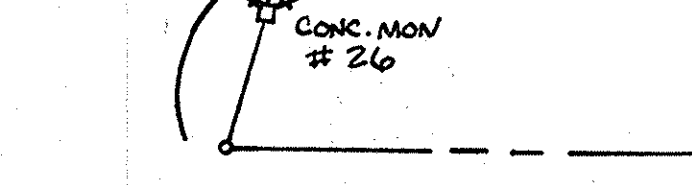
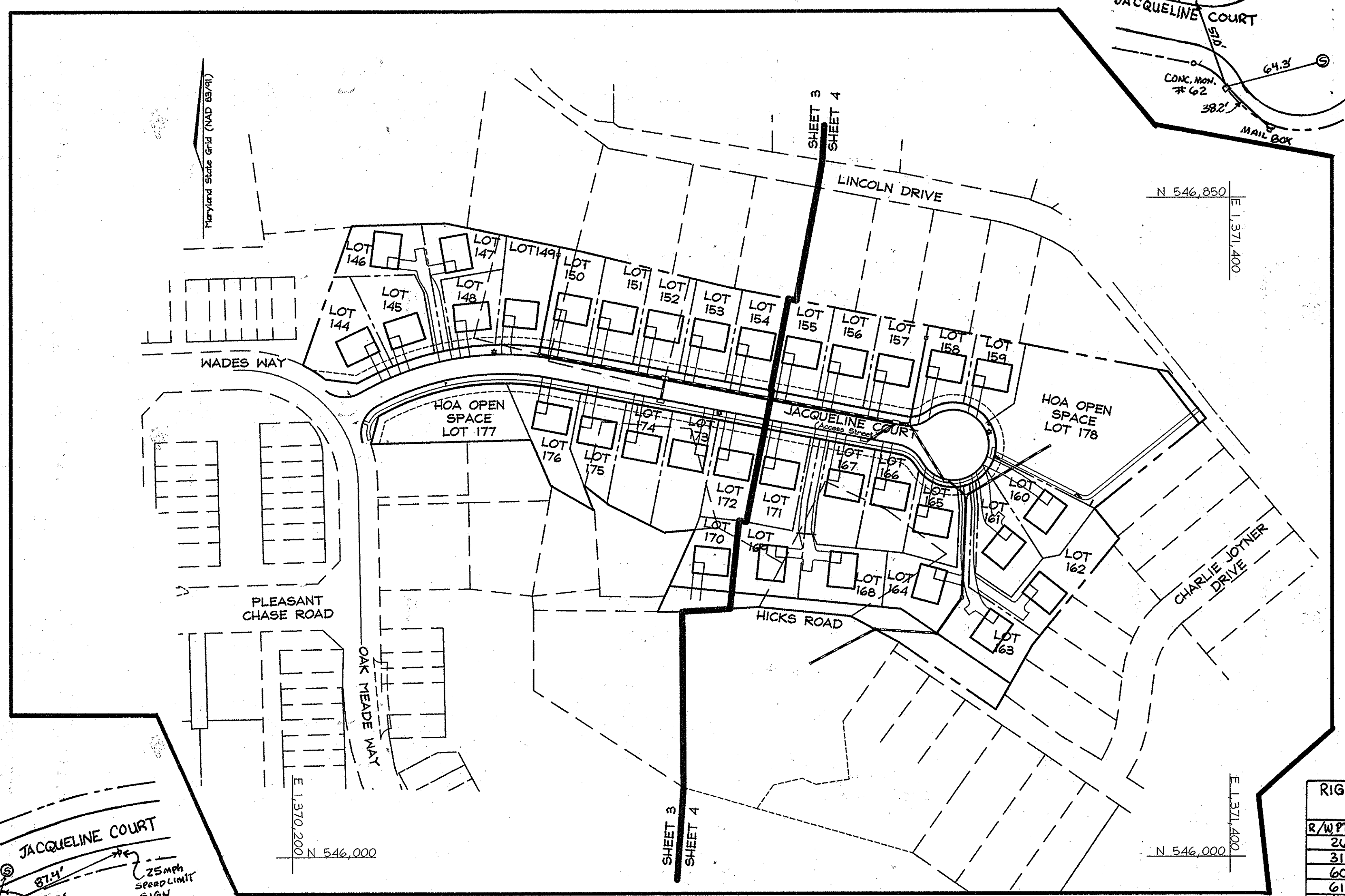


GENERAL NOTES

- Subject property Zoned "R-SC" per 02/02/04 Comprehensive Zoning Plan, and per the "Comp Lite" Zoning Regulations Amendments effective 7/28/06.
- The coordinates shown herein are based upon Howard County Geodetic Control, which is based upon the Maryland State Plane Coordinate System, Howard County Monument Nos. 43EB and 43GB were used for this project.
- This subdivision is subject to Section 16.122B of the Howard County Code. Public water and/or sewer service has been granted under their terms and provisions, thereof.
- This site is located within the metropolitan district.
- Soils map no. 30.
- Gross area of site: 8.241 ac.±
- Net area of site: 8.241 AC. - 0.037 AC. = 8.204 AC.
- Number of proposed buildable lots= 33.
Area of proposed buildable lots: 5.894 ac.±
- Number of proposed open space lots: 2
Area of proposed open space lots: 1.067ac.±
- Open space requirements:
a.) Open Space required (25% of total area of parcels 492, 493, 494 & 622 that were added to the original area of lot 143 as recorded on plat #11760 Pleasant Chase, Section I, Phases 3 & 4.):
1.747 ac.± x 0.25=0.437 ac.±
b.) Open Space provided:
1.067 ac.± (Gross Open Space area)
1.067 ac.± (Credited Open Space area)
c.) Open Space obligations for Phase IV have been met under Phases I, II and III recorded under plat #11757.
d.) Recreational open space obligation have been met under phases I, II and III.
- Area of right of way to be dedicated to Howard County Maryland: 1.330 ac.
- Existing 2 foot topography shown was prepared by Walker Land Surveys, LLC dated February 2007. Boundary survey prepared by FSH Associates in May, 2004.
- Stormwater Management for this project is provided as follows:
CPI by a Micro-Pool Extended Detention Facility
NOV by a Surface Sand Filter and Micro-Pool Extended Detention Facility
Rev by additional stone storage beneath the Surface Sand Filter.
The SPM facility on Open Space Lot 142 (Plat 11758) shall be privately owned & jointly maintained with Howard County. The SPM facility on Open Space Lot 178 shall be privately owned and maintained.
- The traffic study for this project was approved under S-08-03. Based on an investigation prepared by Street Traffic Studies Ltd., in November 2006. It was determined that the project was exempt from an APFO Traffic Study because the nearest required investigation intersections US 1 & MD 175 (P-152) and US 1 & Patuxent Range Road (P-105) were beyond the 1.5 mile study limit.
- The Wetland Letter and report and the Forest Stand Delineation and report were prepared by Exploration Research Inc. Approved under Sketch Plan S-08-03.
- There are no floodplains, streams, historic structures or cemeteries on-site or within the limits of the disturbed area to the best of our knowledge.
- In accordance with section 16.1222(b)(1)(iii) of the Subdivision Regulations, existing Lot 143, Pleasant Chase Phase IV, has a Preliminary Plan approved prior to 12/31/1992. Therefore, only Parcels 492, 493, 494 & 622 are subject to Forest Conservation obligations. These parcels total 1.75 acres. The 0.26 acres of afforestation requirement shall be satisfied with a fee-in-lieu payment of \$8,494.20 (11,325.60 SF x 0.75).
- Landscaping for Lots 144-177 is provided in accordance with a certified Landscape Plan included with this application set in accordance with 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 Developer's Agreement in the amount of \$27,000.00 (62 shade trees @ \$300.00 each, and 56 evergreen trees @ \$150.00 each).
- This project is in conformance with the latest Howard County standards unless waivers have been approved.
- Proposed Lot 170 is a reconfiguration of existing lot 112 plat # 10687. This lot will continue to Derive access onto Hicks Road.
- Density Calculations:
a. Net area of property= 8.254 ac.±
b. Maximum number of units allowed= 8.254 ac. x 4 units/ac. = 33 units.
Grading, removal of vegetation, paving or trees, paving and new structures shall not be located within the limits of wetlands, stream(s), or their required buffers, floodplain and forest conservation easement areas. The breach of the existing dam is considered a necessary disturbance.
- This plan is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations. Development or construction on these lots must comply with setback and buffer regulations in effect at the time of submission of the site development plan, utility petition, or building and grading permits.
- The following DPZ file references apply to this plan, S-91-04, PB-272, WP-91-55, WP-92-185, MP-93-03, WP-00-74, F-92-146, F-94-93, F-95-05, F-95-32, F-95-158, F-03-10, F-04-09, SDF-93-103, SDF-94-06, SDF-95-50, SDF-95-91, SDF-00-117, SDF-02-29, SDF-03-16, SDF-03-145, WP-09-70, S-08-03, and P-09-005.
- The existing dwellings and accessory structures located on Parcels 492, 493, 494 and 622 are to be removed.
- The existing 20' easement per liber 1757, folio 559 located within this property is being abandoned.
- On December 9, 2008 the planning director approved waiver petition WP-09-070 from the following sections of the Subdivision and Land Development Regulations:
a. Section 16.132(a)(2)(i) a & b - not have to construct the road improvements up to one-half of the full designated pavement width for the property frontage on Hicks Road and Lincoln Drive, and not to contribute the necessary funds to perform the road frontage improvements along both roads.
b. Section 16.134(a)(1)(i) - not require the construction of sidewalks on one side of local streets for single family detached subdivisions for Hicks Road and Lincoln Drive.
c. Section 16.135(a) - not require the installation of street lighting along public roads for the property frontage, in accordance with the Design Manual, for Hicks Road and Lincoln Drive.
d. Section 16.135 - not require the installation of street trees along public roads for the property frontage, in accordance with the Landscape Manual, for Hicks Road and Lincoln Drive.
- The noise study for this project was prepared by Polysonics Acoustics and Technology Consulting, dated July 13, 2009 and was approved on July 20, 2009.
- Existing utilities are based on contract drawings and field locations.
- The Geotechnical Report for this project was prepared by Hillis-Carnes Engineering Associates, Inc. dated 3/31/2009.
- Existing 40' wide water, sewer, and utility easement located in the bed of the paper street known as Piedmont Drive has been terminated by the Department of Public Works on 6/4/2009.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Division at (410) 313-1860 at least (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 of Uniform Traffic Control Devices (MUTCD).
- Street light placement and the type of fixtures and poles shall be in accordance with the Howard County Design Manual, Volume III (2006), Section 5.5.A. A minimum of 20' shall be maintained between any street light and any tree. See this sheet for location chart and sheet 2 for street light plan locations.
- All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post. See sheet 2 for approximate sign locations.
- For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipe stem and road right-of-way line and not onto the pipe stem lot driveway.
- Driveway(s) shall be provided prior to issuance of a use and occupancy permit to ensure safe access for fire and emergency vehicles per the following requirements:
A) Width - 12 feet (16 feet serving more than one residence);
B) Surface - six (6") inches of compacted crusher run base with tar and chip coating (1-1/2" minimum);
C) Geometry - Maximum 1% grade, Maximum 10% grade change and 45-foot turning radius;
D) Structures (culverts/bridges) - capable of supporting 25 gross tons (H25-loading);
E) Drainage elements - capable of safely passing 100 year flood with no more than 1 foot depth over surface;
F) Structure clearances - minimum 12 Feet; G) Maintenance - sufficient to ensure all weather use.
- Safe, adequate unimpeded vehicular access must be provided to the existing developed properties along Hicks Road at all times during the removal of any existing driveways that cross within this subdivision and for the duration of construction activity occurring on this project until such a time construction activity is completed.

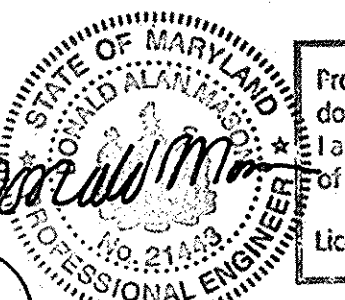
FINAL ROAD CONSTRUCTION PLANS PLEASANT CHASE PHASE IV

LOT 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9 - 12 & 14 OF ONE SPOT HEIGHTS HOWARD COUNTY, MARYLAND



LOCATION MAP

SCALE: 1"=100'
AS-BUILT CERTIFICATION
I hereby certify that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Date 2-3-15
2-2-16
Donald Mason, P.E. No. 21443



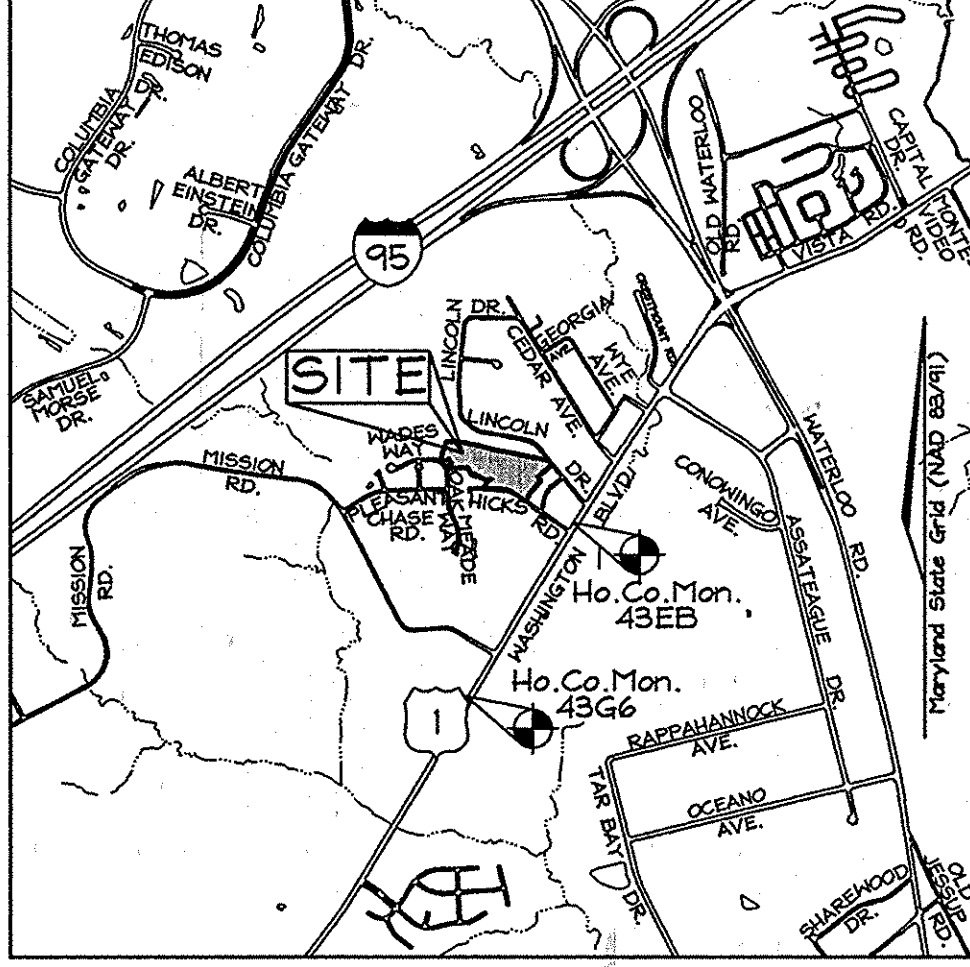
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-16

	GROSS AREA	FLOODPLAIN AND STEEP SLOPES	NET AREA	# OF UNITS ALLOWED	# OF UNITS PROPOSED	OPEN SPACE REQUIRED	OPEN SPACE PROVIDED	DRY REC. OPEN SPACE REQUIRED	DRY REC. OPEN SPACE PROVIDED	DENSITY PER NET ACRE
PHASE 1	7.1607 AC.	0	7.1607 AC.	28.6	20	1.4321 AC.	1.2537 AC.	0.7161 AC.	0.1295 AC.	2.79
PHASE 2	5.6071 AC.	0	5.6071 AC.	22.4	39	1.1214 AC.	2.8652 AC.	0.5607 AC.	2.8652 AC.	6.96
PHASE 3	15.3010 AC.	0.1322 AC.	15.1688 AC.	60.7	51	3.0602 AC.	10.5744 AC.	1.5301 AC.	4.3274 AC.	3.36
PHASE 4	8.290 AC.	0.0368 AC.	8.2532 AC.	33	33	1.2617+0.4370+1.6987 AC. *	1.0673 AC.	0.6308+0.2204+0.8512 AC.	**	4.00
TOTAL	36.3588 AC.	0.1690 AC.	36.1898 AC.	144.70	143	7.3124 AC.	15.7606 AC.	3.6581 AC.	7.3221 AC.	3.95

* Open Space obligations for Lot 143, 1.2617 AC., have been met under Phases I, II & III. Parcels 492, 493, 494 & 622 were added to Lot 143. Therefore, the remaining obligation of Open Space is only for Parcels 492, 493, 494 & 622 for an additional 0.4370 AC. and is fulfilled in Open Space Lots 177 & 178, which provide 1.0673 AC. of open space.
** Recreational Open Space obligations have been met under Phases I, II & III.

LEGEND

- Existing Contour
- Proposed Contour
- Direction of Flow
- Existing Spot Elevation
- Proposed Spot Elevation
- Existing Trees to Remain
- Ex. Utility Pole
- Ex. Fire Hydrant
- Ex. Street Light
- Prop. Street Light
- Surface Drainage Easement
- Use In-Common Access Easement
- Private Stormdrain Easement
- Steep Slopes 15%-24.9%
- Steep Slopes ≥ 25%
- Typical House Box (Typ.)
- Denotes Soil Boring Location
- Stabilized Construction Entrance
- Silt Fence
- Super Silt Fence
- Erosion Control Matting
- Temporary Erosion Control Suede
- Limit of Disturbance
- Perimeter Dike/Suole (Type PD/S-2 for all P D/S's)
- Tree Protection Fence



VICINITY MAP

SCALE: 1"=2000'
ADC MAP 5054, C4

GEODETIC SURVEY CONTROLS

Howard County Monument 43EB
N 545,963.6476 E 1,371,573.8400 El.: 216.33
Howard County Monument 43GB
N 544,117.5286 E 1,370,550.8447 El.: 219.48

AS-BUILT NOTES:

- HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83 ADS 91 AS PROJECTED FROM HO. CO. GEODETIC CONTROL STATIONS 43EB AND 43GB. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM NAVD83 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.
- THE INSTRUMENTS USED IN TOTAL STATION AND PRISM AND RTK GPS.
- THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

SHEET INDEX

COVER SHEET	DESCRIPTION	SHEET No.
ROAD PLAN, PROFILE AND DETAILS		1 of 12
GRADING, SOILS AND SEDIMENT & EROSION CONTROL PLAN		2 of 12
GRADING, SOILS AND SEDIMENT & EROSION CONTROL PLAN		3 of 12
GRADING, SOILS AND SEDIMENT & EROSION CONTROL PLAN		4 of 12
SEDIMENT TRAP PLAN & SEDIMENT & EROSION CONTROL NOTES AND DETAILS		5 of 12
STORM DRAIN PROFILES		6 of 12
STORMWATER MANAGEMENT MICRO-POOL EXTENDED DETENTION FACILITY PLAN & PROFILES		7 of 12
STORMWATER MANAGEMENT MICRO-POOL EXTENDED DETENTION FACILITY NOTES & DETAILS		8 of 12
STORMWATER MANAGEMENT SURFACE SAND FILTER FACILITY PLAN, PROFILES, NOTES & DETAILS		9 of 12
FINAL FOREST CONSERVATION AND LANDSCAPE PLAN		10 of 12
FINAL FOREST CONSERVATION AND LANDSCAPE PLAN		11 of 12
FINAL FOREST CONSERVATION AND LANDSCAPE PLAN		12 of 12

ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	R/W
JACQUELINE COURT	PUBLIC ACCESS STREET	50'

MINIMUM LOT SIZE CHART

LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
146	8,163±	1,334±	6,829±
147	7,182±	1,085±	6,097±
162	11,206±	2,086±	9,120±
163	9,197±	835±	8,362±
168	9,485±	1,646±	7,839±
169	9,124±	1,535±	7,589±

RIGHT OF WAY ELEVATION CHART NAD. 83

R/W PT. NO.	DESCRIPTION	ELEVATION
26	CONC. MON.	290.18'
31	REBAR & CAP	291.67'
60	REBAR & CAP	281.83'
61	REBAR & CAP	252.68'
62	CONC. MON.	250.97'
63	REBAR & CAP	252.57'
64	REBAR & CAP	253.37'
65	X-CUT	281.75'
220	REBAR & CAP	290.19'
901	REBAR & CAP	290.36'
902	MAG NAIL	290.99'
903	X-CUT	289.53'

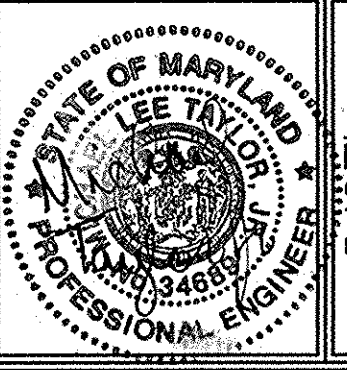
PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #34689, Expiration Date: 7/08/11.

OWNER/DEVELOPER

J L N Development, LLC.
46 Poplar Point Road
Edgewater, Maryland 21037
(410) 224-7575 Fax (410) 224-4774

FINAL ROAD CONSTRUCTION PLANS

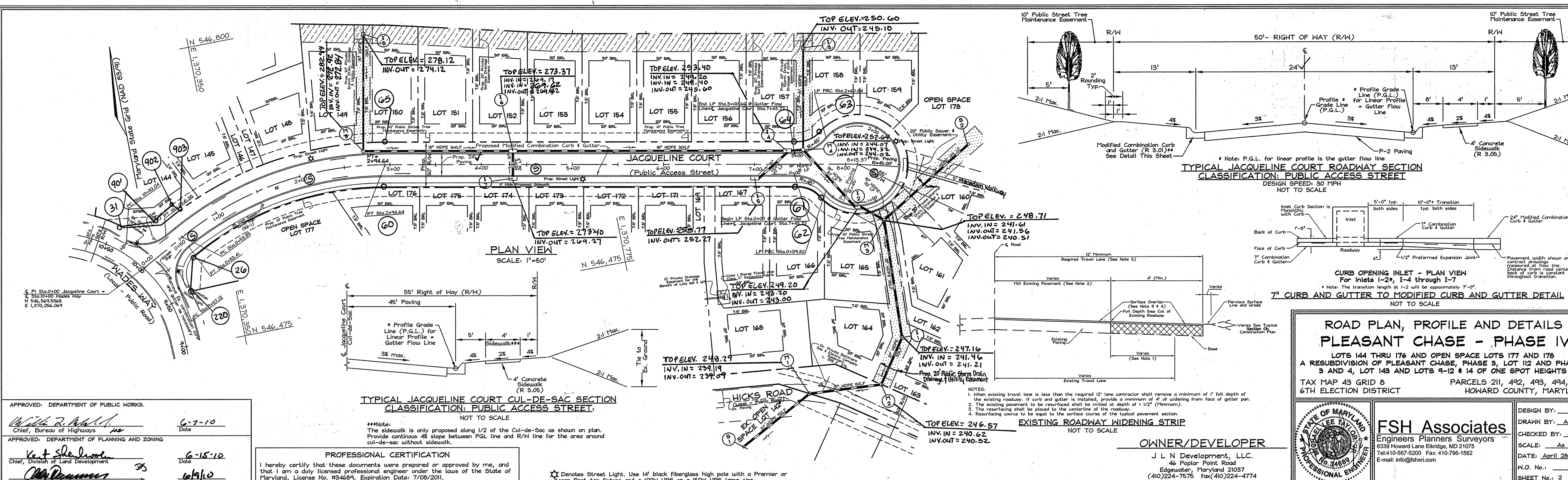
PLEASANT CHASE - PHASE IV
LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
TAX MAP 43 GRID B PARCELS 211, 492, 493, 494, 622
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FSH Associates
Engineers Planners Surveyors
6339 Howard Lane, Elkridge, MD 21075
Tel: 410-567-5200 Fax: 410-796-1562
E-mail: info@fsh.com

DESIGN BY: MLT
DRAWN BY: CED/GH
CHECKED BY: ZYF
SCALE: As Shown
DATE: April 28, 2010
H.O. No.: 3430
SHEET No.: 1 OF 12

AS-BUILT



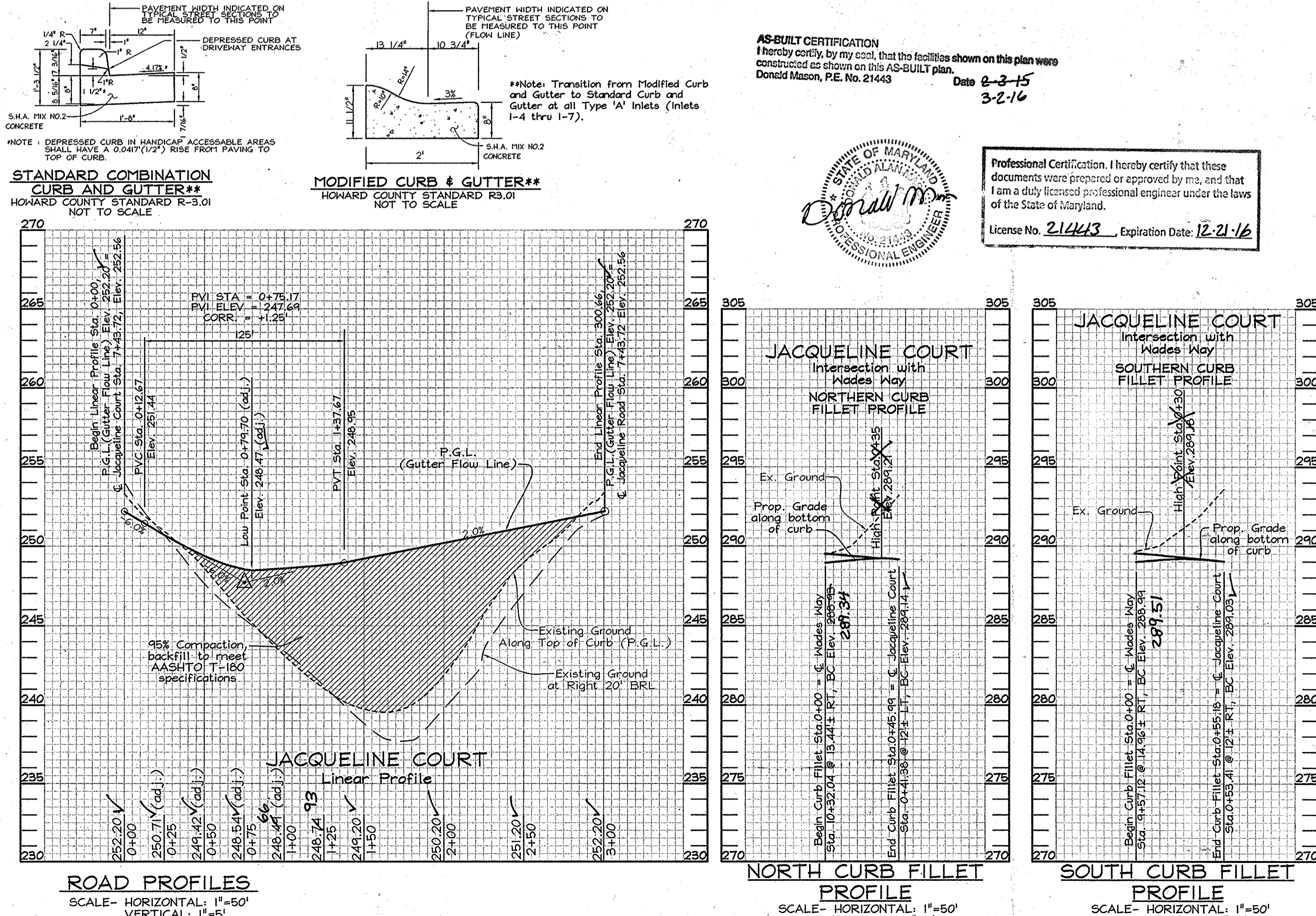
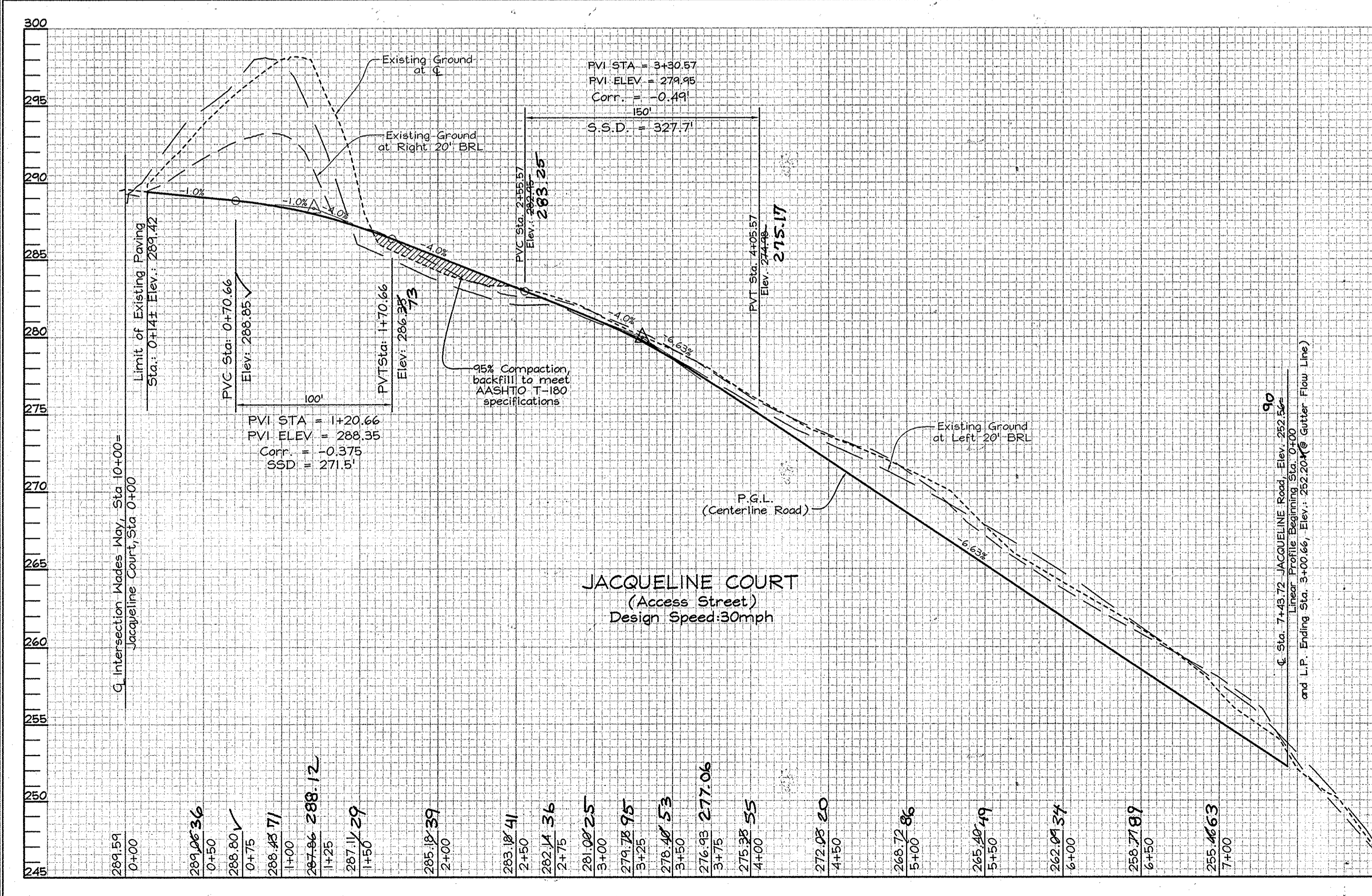
APPROVED: DEPARTMENT OF PUBLIC WORKS
W. R. ...
 Chief, Bureau of Highways
 Date: 6-7-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING
K. S. ...
 Chief, Division of Land Development
 Date: 6-15-10

M. ...
 Chief, Development Engineering Division
 Date: 6/9/10

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. #34689, Expiration Date: 7/06/2011.

Denotes Street Light. Use 14' black fiberglass high pole with a Premier or Acorn Post-top fixture and a 100W HPS or a 150W HPS lamp size.



FSH Associates
 Engineers Planners Surveyors
 8338 Howard Lane Ellicott City, MD 21075
 Tel: 410-567-5200 Fax: 410-796-1562
 E-mail: info@fsh.com

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. 214643, Expiration Date: 12-21-16

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
 Donald Mason, P.E. No. 21443
 Date: 6-3-15
 3-2-16

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
K1C2	Keypot silt loam, 3 to 10 percent slopes, moderately eroded	C
LUB	luka loam, local alluvium, 1 to 5 percent slopes	C
SsB	Sandy and clayey loam, gently sloping	B
S1C2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B
S1B2	Sassafras loam, 1 to 5 percent slopes, moderately eroded	B
SsE	Sassafras soils, 15 to 40 percent slopes	B

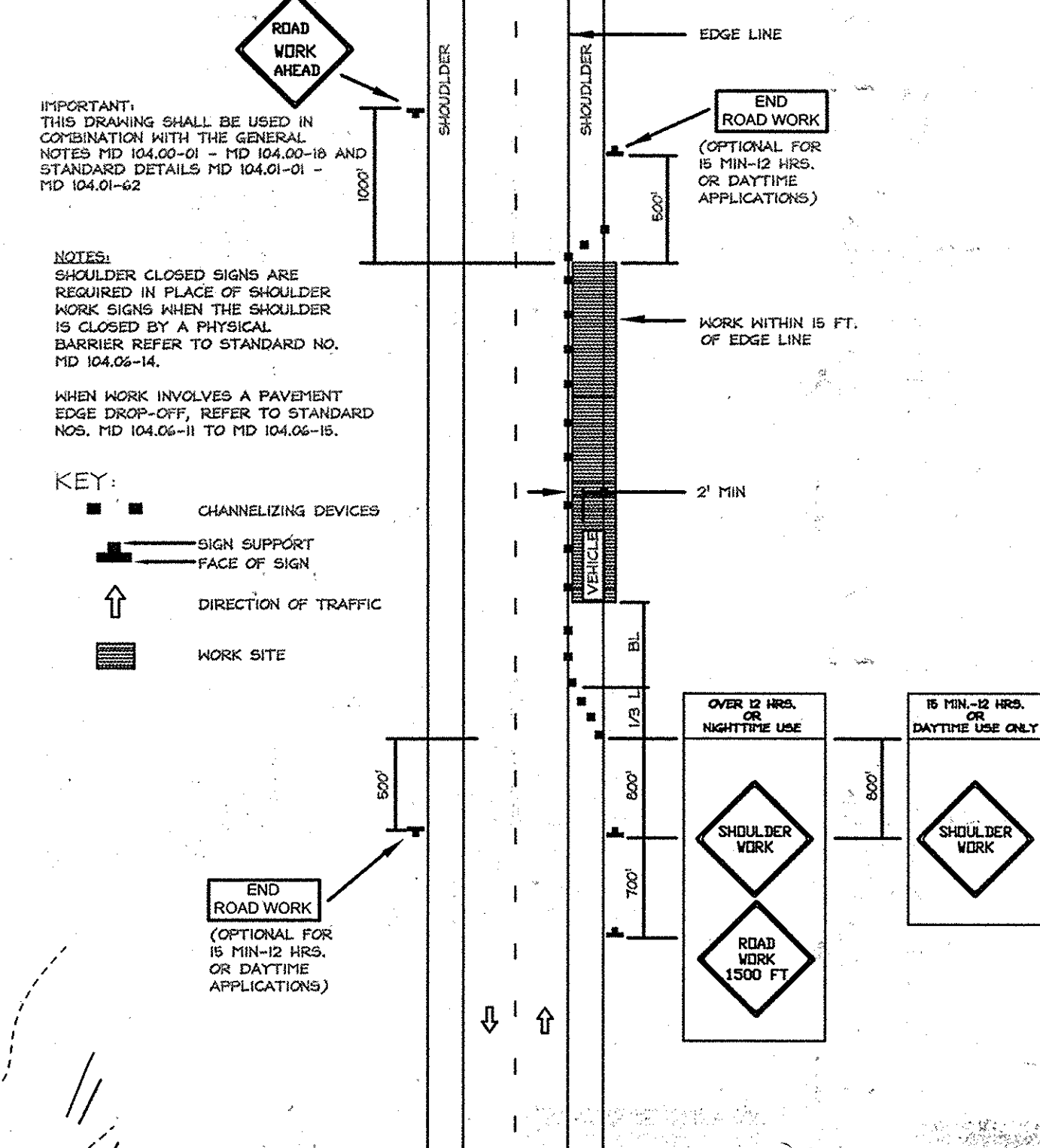


No As-Built information is required on this sheet

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-16



TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.02-01 - MD 104.02-18 AND STANDARD DETAILS MD 104.01-01 TO 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 104.02-14

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

KEY:

- CHANNELED DEVICES
- SIGN SUPPORT FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE

Note: Shoulder work/ 2-Lane, 2-Way... EQL/ Less than 40 mph.

MARYLAND STATE HIGHWAY STANDARD DETAIL MD104.02-02 NOT TO SCALE

NOTE: The First Floor (F.F.) and Basement (B) Elevations shown within the House Boxes are for Illustrative Purposes only. Final Grading of Lots shall be based on the Approved Site Development Plan.

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. #34689, Expiration Date: 07/08/2011.

OWNER/DEVELOPER J L N Development, LLC. 46 Poplar Point Road Edgewater, Maryland 21037 (410)224-7575 Fax:(410)224-4774

GRADING, SOILS AND SEDIMENT & EROSION CONTROL PLAN PLEASANT CHASE - PHASE IV LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 148 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: MLT
 DRAWN BY: CED/RL
 CHECKED BY: ZYE
 SCALE: As Shown
 DATE: April 28, 2010
 N.O. No.: 3490
 SHEET No.: 3 OF 12

FSH Associates
 Engineers Planners Surveyors
 6339 Howard Lane, Elkridge, MD 21075
 Tel: 410-967-5200 Fax: 410-798-1562
 E-mail: info@fshri.com

APPROVED: DEPARTMENT OF PUBLIC WORKS.
 Chief, Bureau of Highways
 Chief, Department of Planning and Zoning
 Chief, Development Engineering Division

6-7-10
 6-15-10
 6/10

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

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

6/15/10
 MICHAEL L. TAYLOR (JR.)

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBILITIES AND OBLIGATIONS OF THE DEVELOPER UNDER THIS PLAN WILL BE FULLY COMPLIED WITH. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

6/21/10
 DANIEL NEUMYER

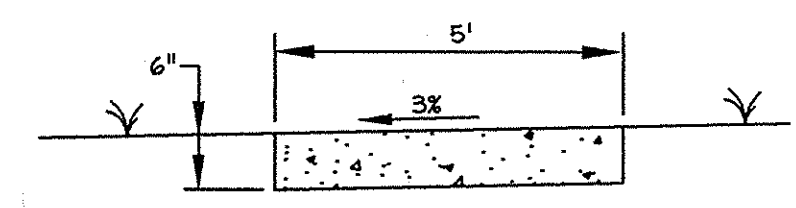
PLAN VIEW SCALE: 1"=30'

MATCHLINE B-B SEE SHEET 4

Proposed Private Micro-Pool Extended Detention Facility (Type P-1) with Shared Maintenance with Howard County-Hazard Class 'A'
 34,956 sq. ft.
 1 Yr. W.S. Elev. 242.49
 10 Yr. W.S. Elev. 244.98
 100 Yr. W.S. Elev. 246.85

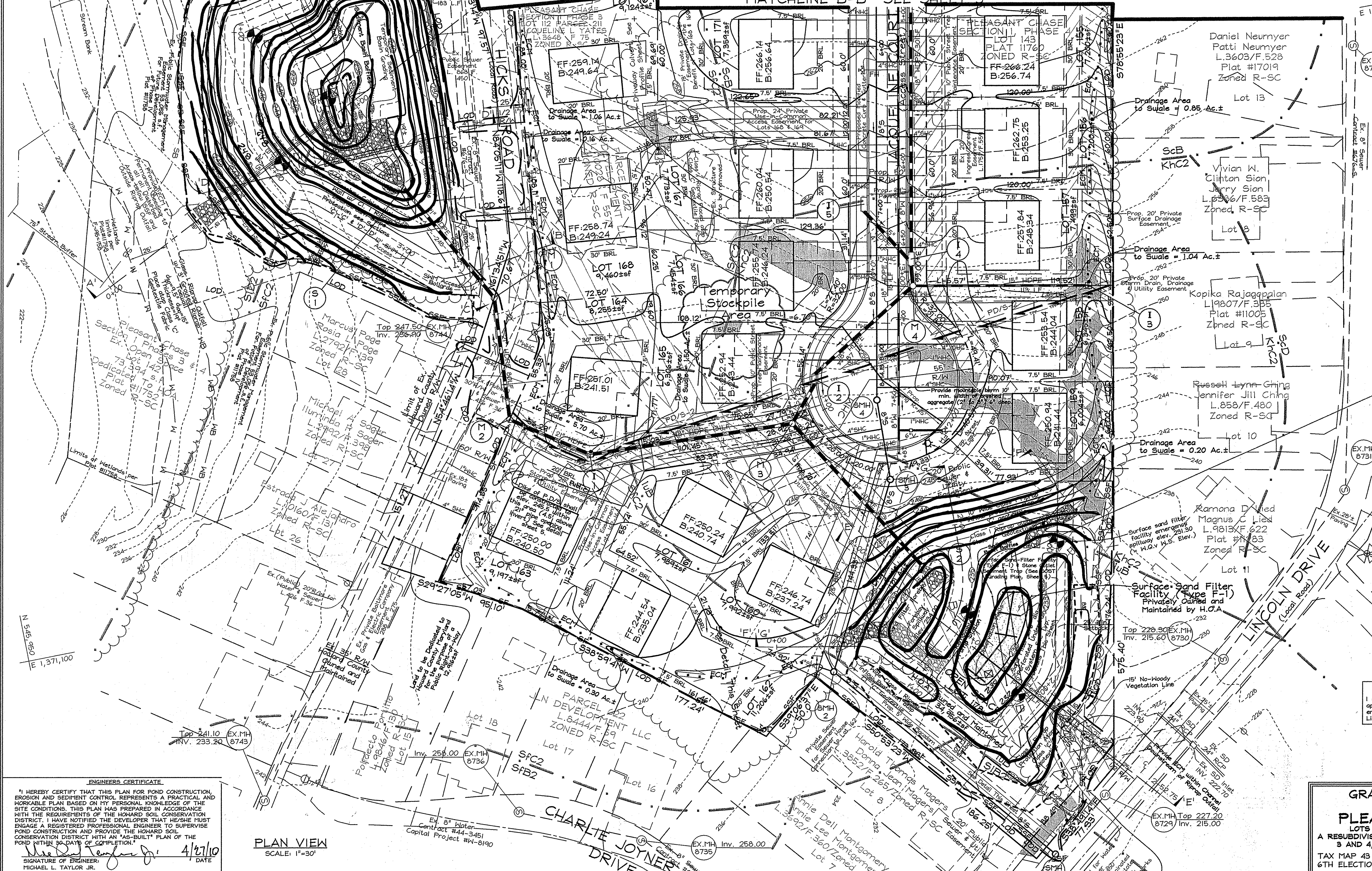
STORMWATER MANAGEMENT SUMMARY TABLE													
SWM Facility	Rev Area*	Rev Req'd** (Percent Volume Method)	Rev Provd.** (Percent Area Method)	WQV Area**	WQV Required**	WQV Provided**	CPV Area***	CPV Required***	CPV Provided***	Q ₁₀ Req'd.****	Q ₁₀ Provd.****	Q ₁₀₀ Req'd.****	Q ₁₀₀ Provd.****
Micro-Pool Extended Detention Surface Sand Filter Facility	9.36 ac.±	(Computed for Entire Site) Rea = 36,373 sq.ft. Rev = 3,014 cu.ft.	3,014 cu.ft. provided through stone storage below the sand filter using the percent volume method	2.84 ac.±	5,155 cu.ft.	5,330 cu.ft. Provd thru Extended Detention	7.14 ac.±	22,712 cu.ft.	22,712 cu.ft. Provd thru 1 Yr. Extended Detention	N/A	N/A	N/A	N/A
				5.76 ac.±	12,545 cu.ft.	12,545 cu.ft. Provd thru Sand Filter	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: All flows above the water quality storm flows are diverted away from the sand filter facility via the diversion manhole, P1-3.
 *Recharge, not drainage area specific, was computed using the entire site area and provided through stone storage beneath the Surface Sand Filter Facility.
 **Water Quality is provided within the Surface Sand Filter Facility through infiltration through the sand filter and through the permanent wet pool within the Micro-Pool Extended Detention Facility.
 ***Channel Protection is provided through 1 year extended detention within the Micro-Pool Extended Detention Facility. The 1 year discharge was diverted away from the Surface Sand Filter Facility via Diversion P1-3 in order to reduce the 1 yr runoff loading to the sand filter to 2.0 c.f.s. or less thereby eliminating the need for channel protection within the sand filter facility drainage area.
 ****Per Howard County Design Manual Volume 1, Section 5.2.1.1.1 and 100 year management are not required for this watershed area.



MACADAM PATHWAY DETAIL
 NOT TO SCALE

MATCHLINE B-B SEE SHEET 3



Daniel Neumyer
 Patti Neumyer
 L.3603/F.528
 Plat #17019
 Zoned R-SC
 Lot 13
 Drainage Area to Swale = 0.85 Ac.±

Vivian W. Clinton Sion
 Jerry Sion
 L.3396/F.583
 Zoned R-SC
 Lot 8
 Drainage Area to Swale = 1.04 Ac.±

Kopika Rajagopalan
 L.9807/F.385
 Plat #11005
 Zoned R-SC
 Lot 9
 Drainage Area to Swale = 0.20 Ac.±

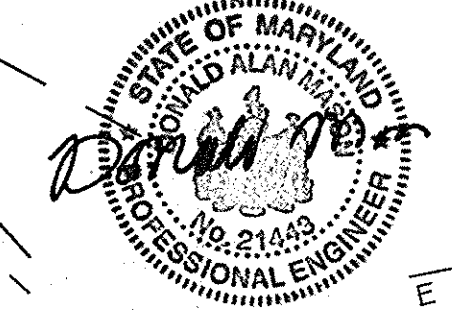
Russell Lynn Ching
 Jennifer Jill Ching
 L.858/F.480
 Zoned R-SC
 Lot 10
 Drainage Area to Swale = 0.20 Ac.±

Ramona D. Lued
 Magnus C. Lued
 L.9813/F.622
 Plat #1183
 Zoned R-SC
 Lot 11
 Drainage Area to Swale = 0.20 Ac.±

STONE OUTLET SEDIMENT TRAP-ST II
 (See Sediment Trap Grading and Summary on Sheet 5)

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
 Donald Mason, P.E. No. 21443 Date 2-8-16
 3-2-16

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443, Expiration Date: 12-21-16



NOTE:
 The First Floor (F.F.) and Basement (B) Elevations shown within the House Boxes are for Illustrative Purposes only. Final Grading of Lots shall be based on the Approved Site Development Plan.

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. #34689, Expiration Date: 07/08/2011.

OWNER/DEVELOPER
 J L N Development, LLC.
 46 Poplar Point Road
 Edgewater, Maryland 21037
 (410)224-7575 Fax:(410)224-4774

ENGINEERS CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 90-DAYS OF COMPLETION.
 Signature of Engineer: Michael L. Taylor Jr. Date: 4/27/10

PLAN VIEW
 SCALE: 1"=30'

APPROVED: DEPARTMENT OF PUBLIC WORKS.
 Signature: Mike Z. Mall Date: 6-7-10
 Chief, Bureau of Highways
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Signature: [Signature] Date: 6-15-10
 Chief, Division of Land Development
 Signature: [Signature] Date: 6/16/10
 Chief, Development Engineering Division

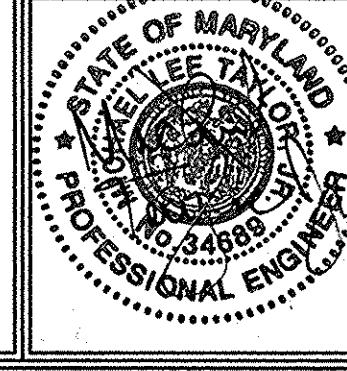
DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION SHALL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE CERTIFICATE OF ATTENDING OF A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 90-DAYS OF COMPLETION.
 Signature of Developer: [Signature] Date: 4/27/10

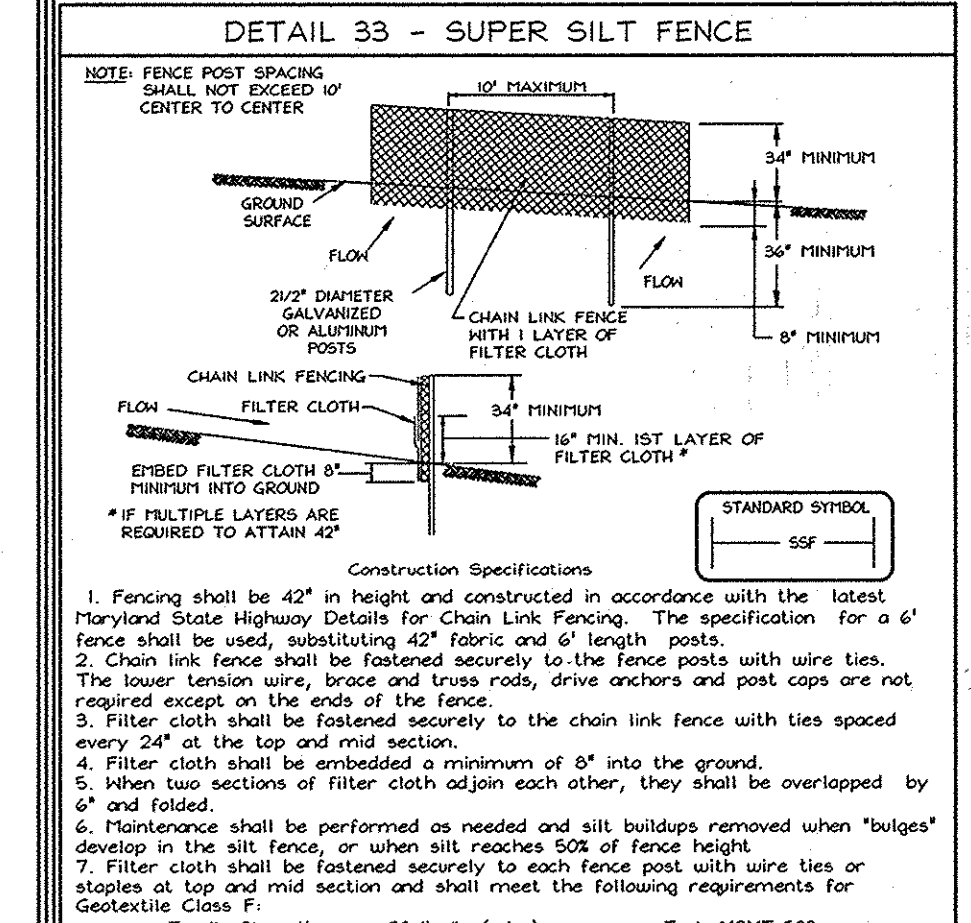
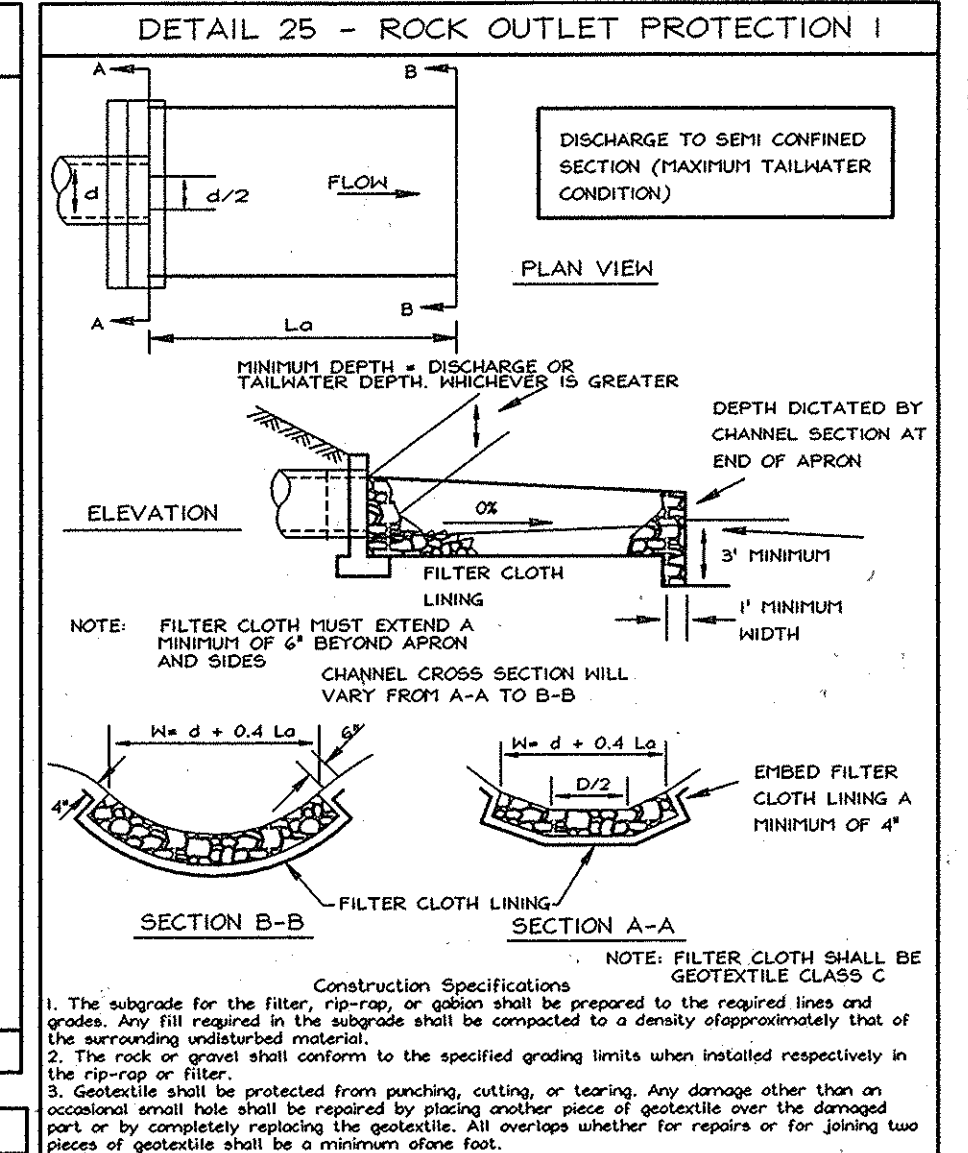
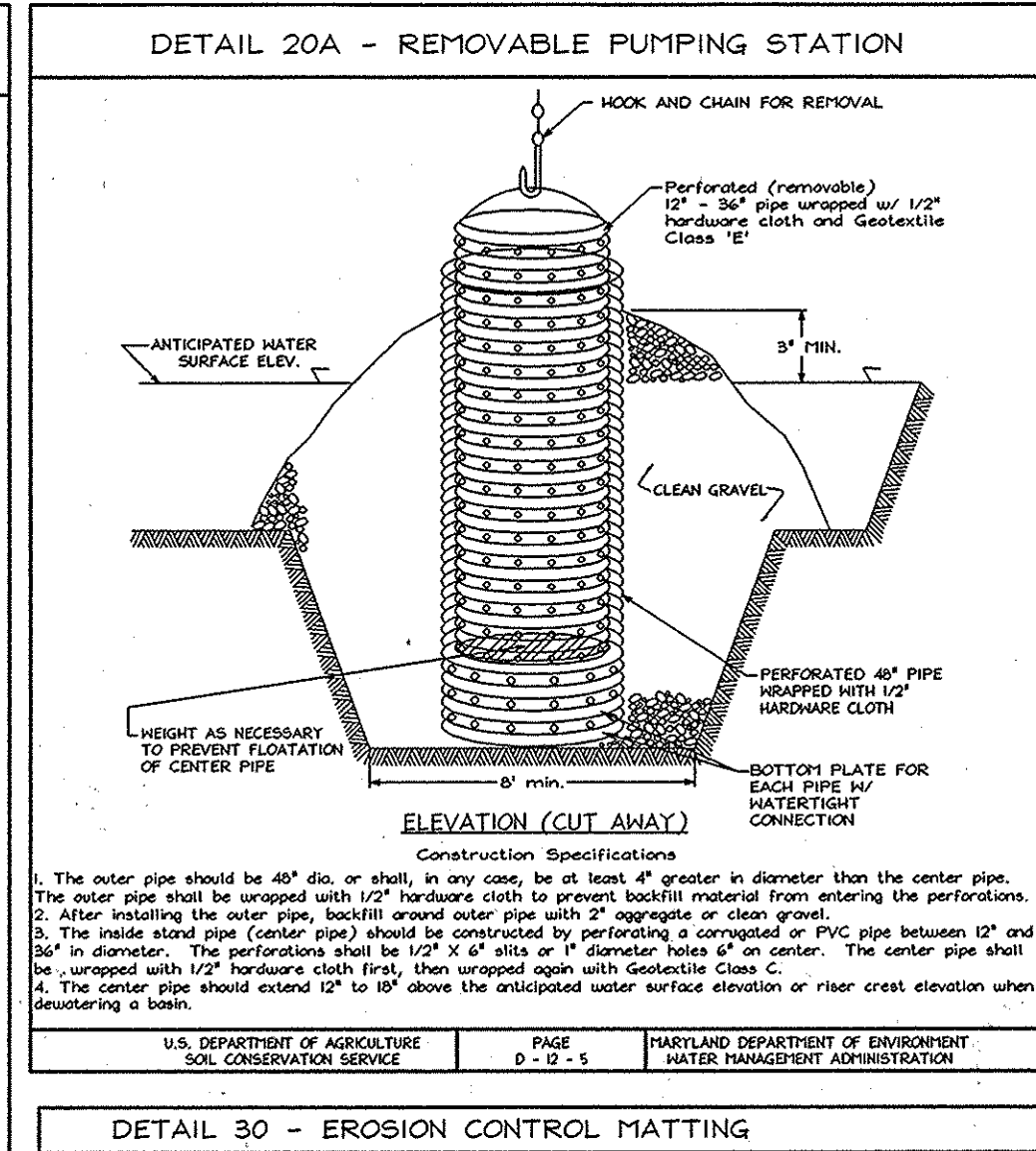
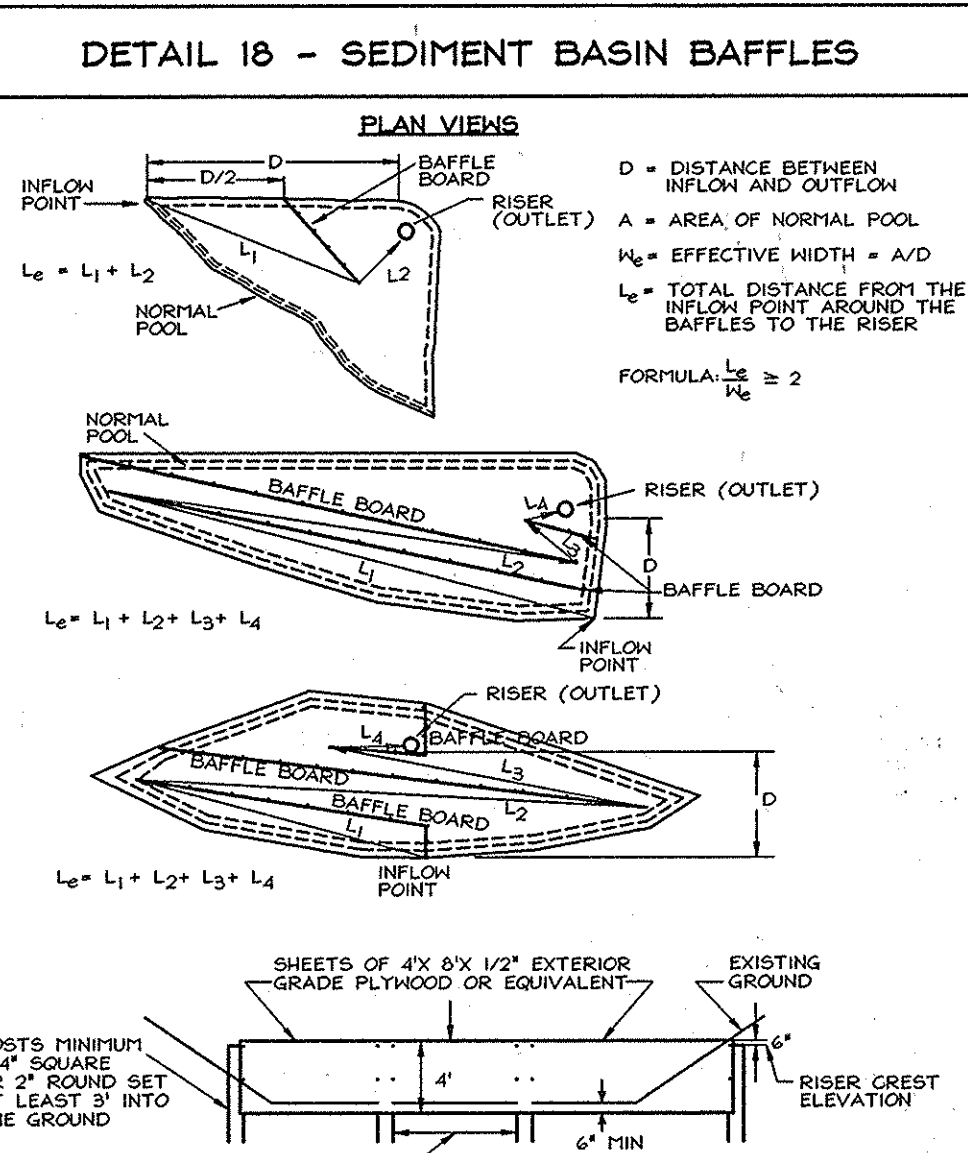
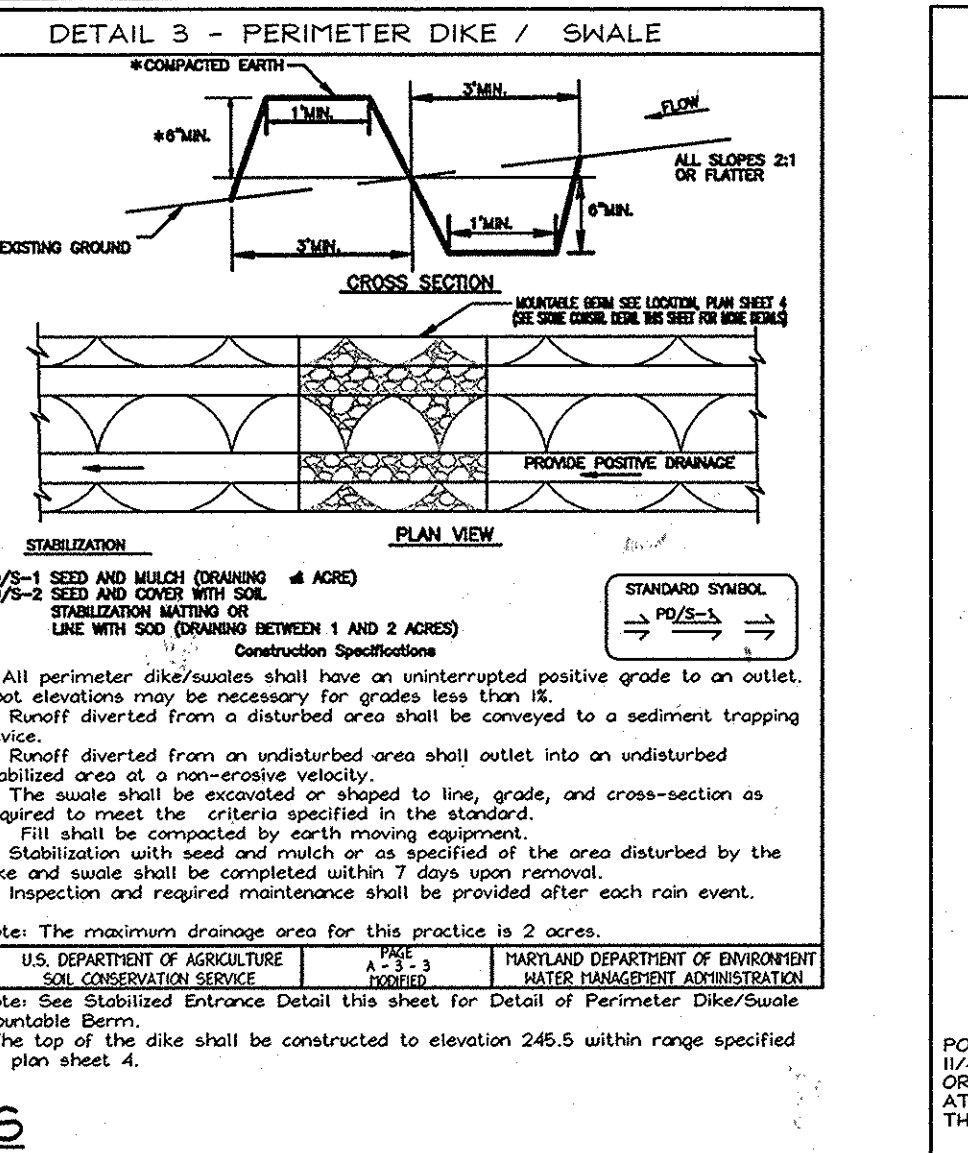
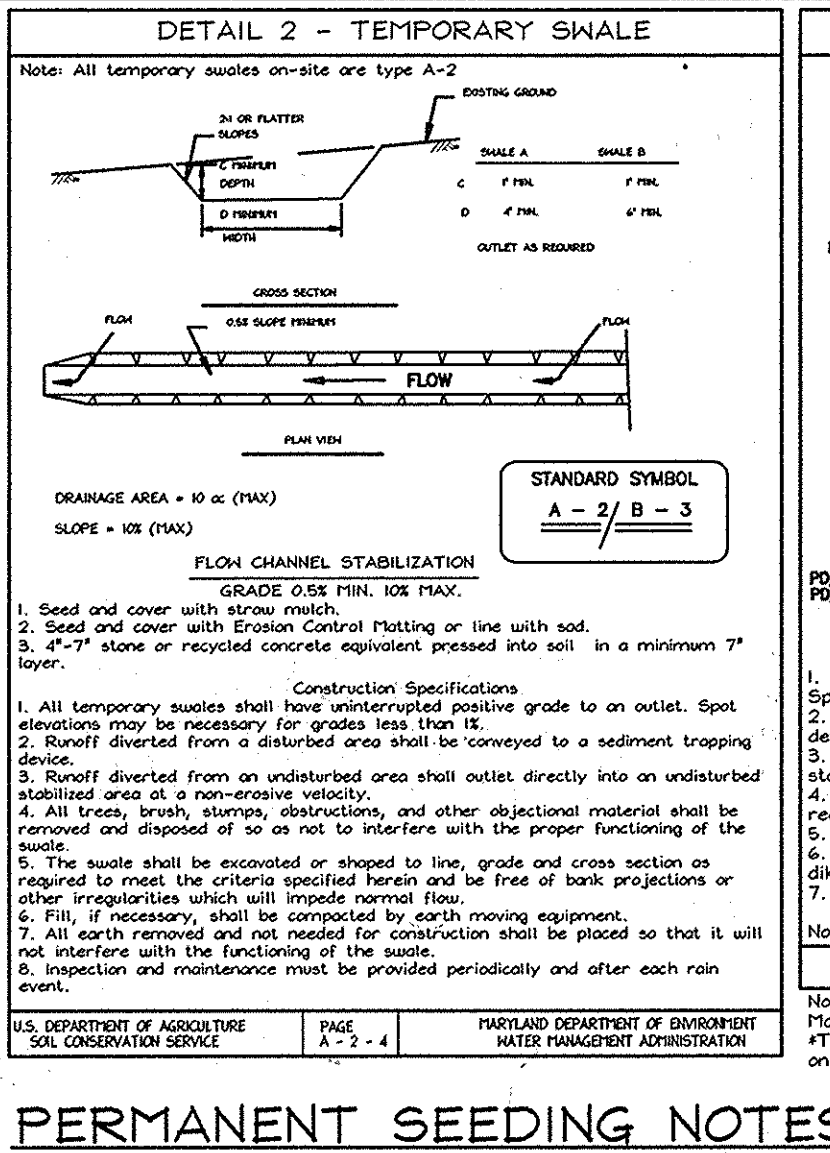
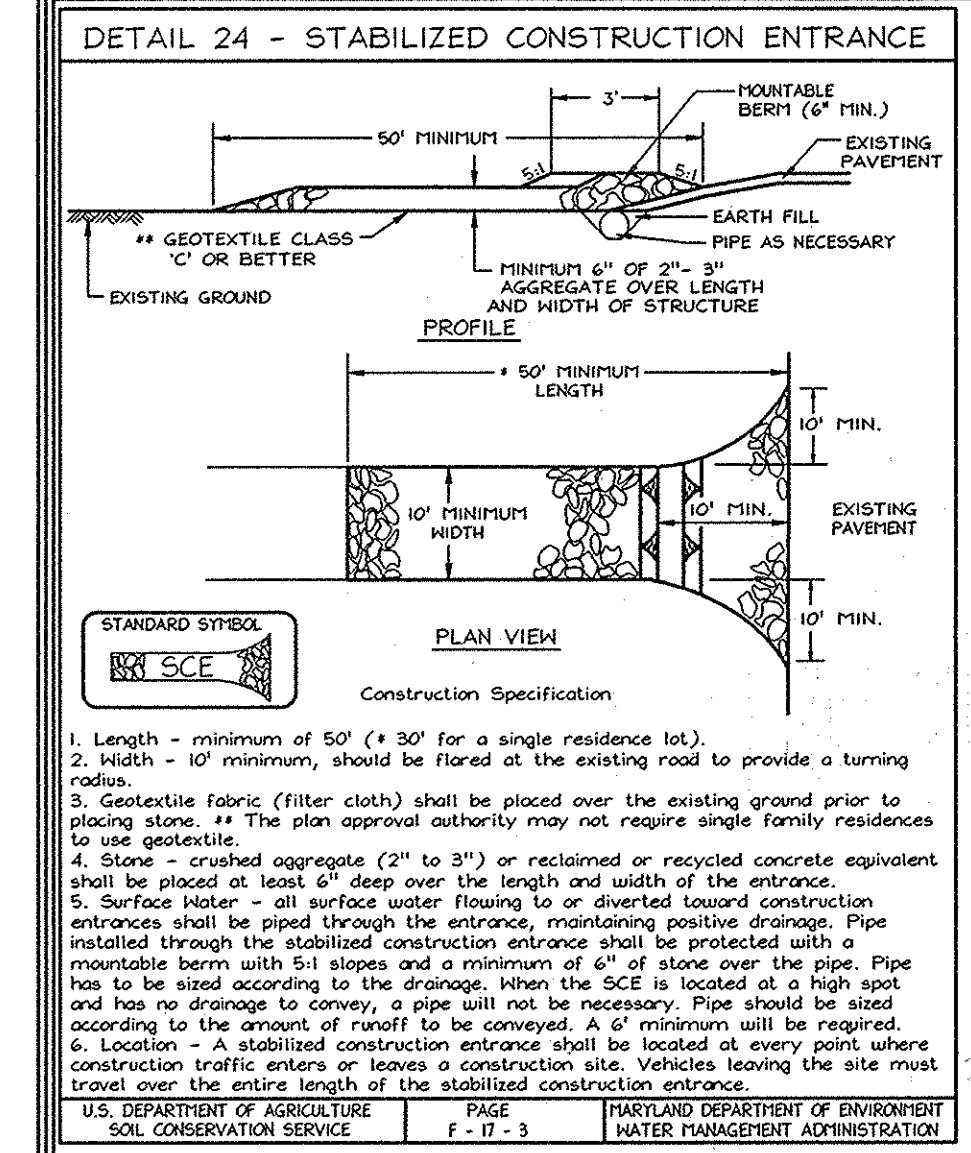
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] Date: 5/25/10
 HOWARD SOIL CONSERVATION DISTRICT

GRADING, SOILS AND SEDIMENT & EROSION CONTROL PLAN
PLEASANT CHASE - PHASE IV
 LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 148 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
 TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
 Engineers Planners Surveyors
 6339 Howard Lane, Elkridge, MD 21075
 Tel: 410-567-5200 Fax: 410-798-1582
 E-mail: info@fsh.com

DESIGN BY: MLT
 DRAWN BY: CED/RL
 CHECKED BY: ZYE
 SCALE: As Shown
 DATE: April 28, 2010
 N.O. No.: 3492
 SHEET No.: 4 OF 12





PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

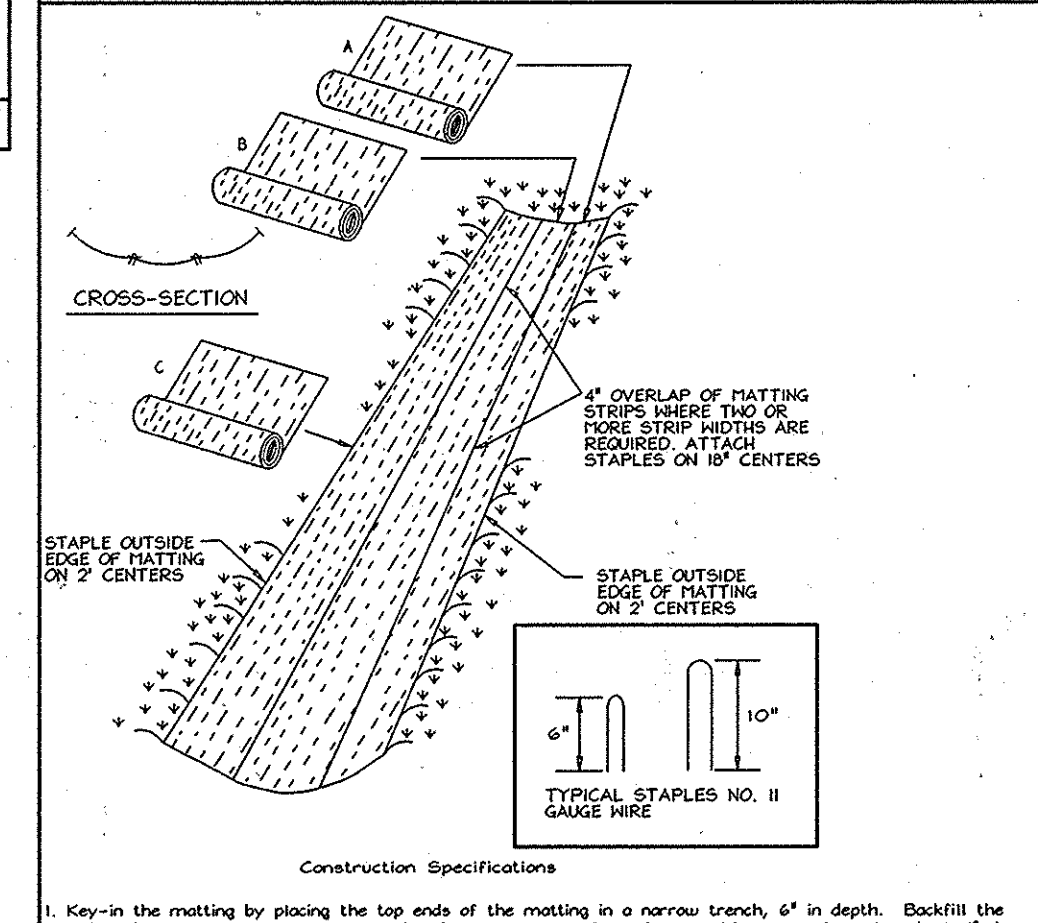
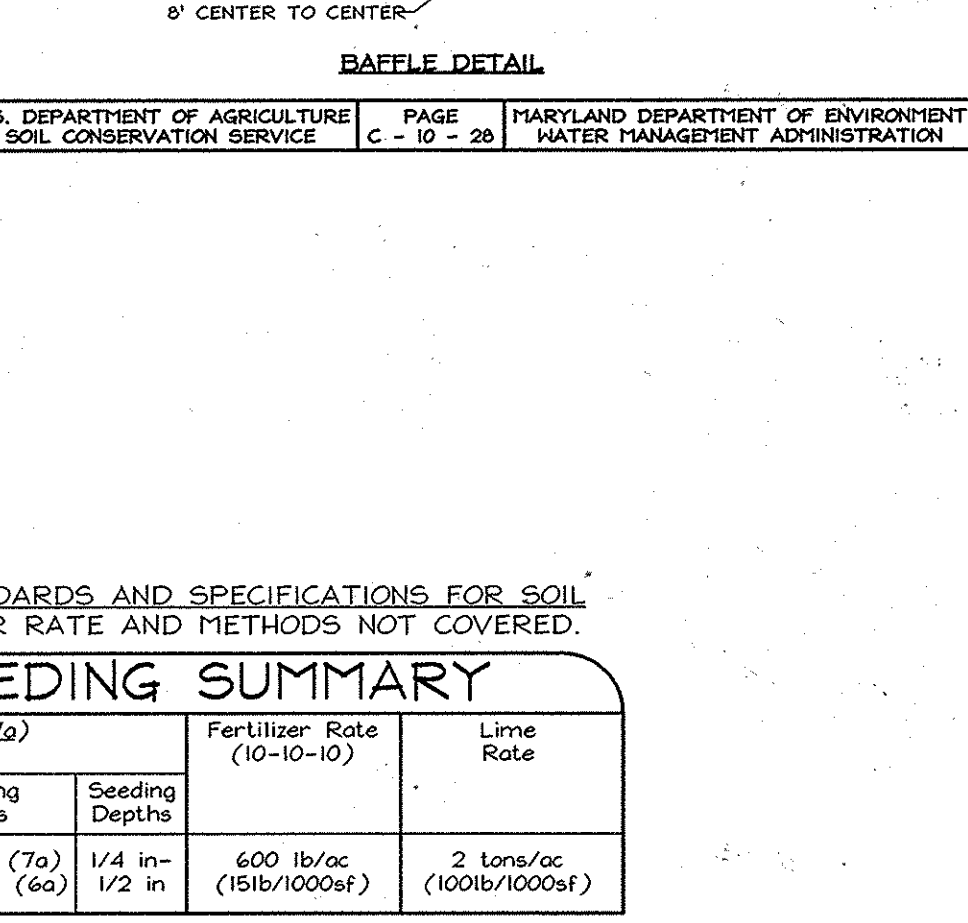
SEEDBED PREPARATION: Loosen three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (82 lbs/1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.

TEMPORARY SEEDING NOTES

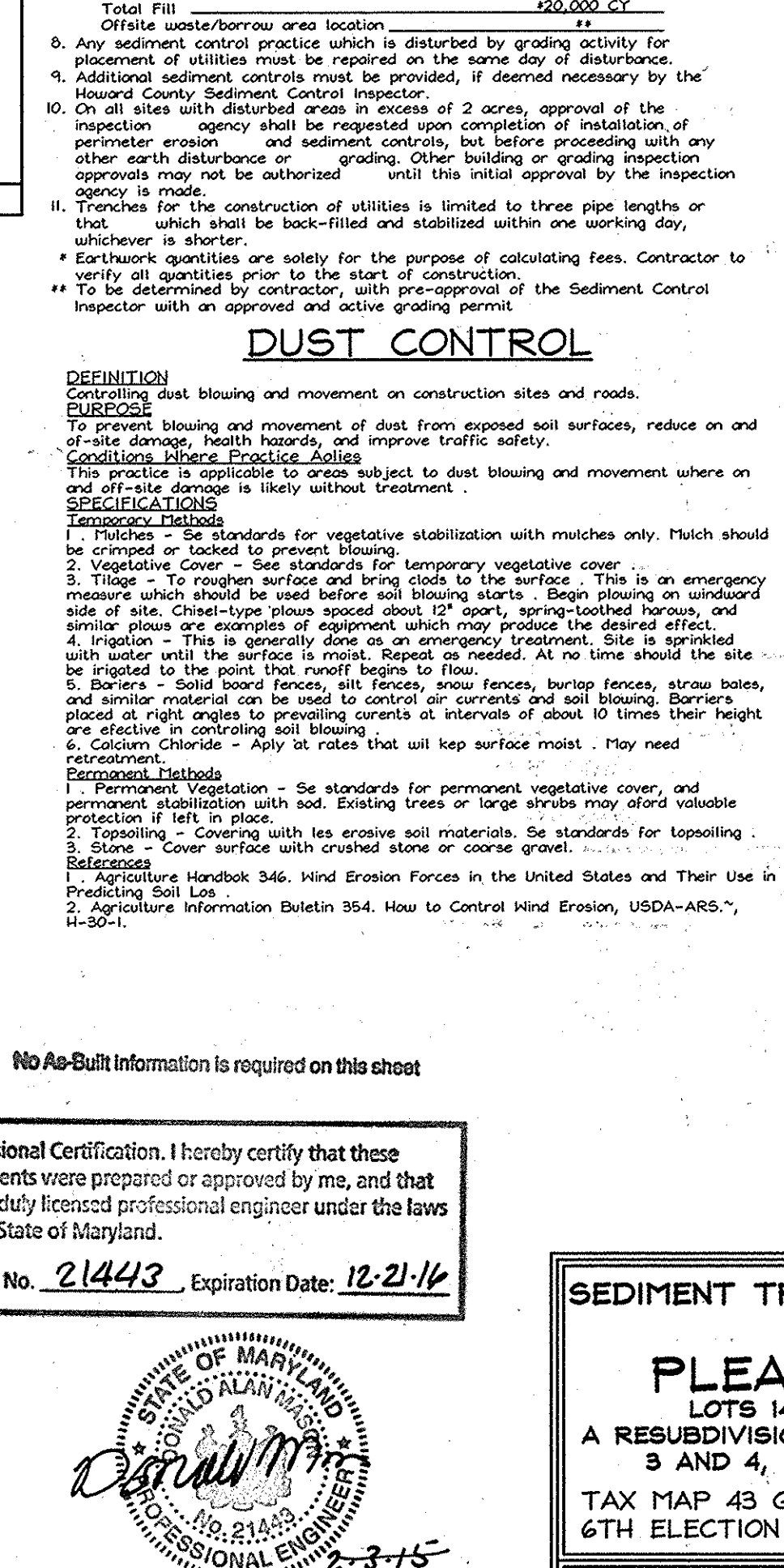
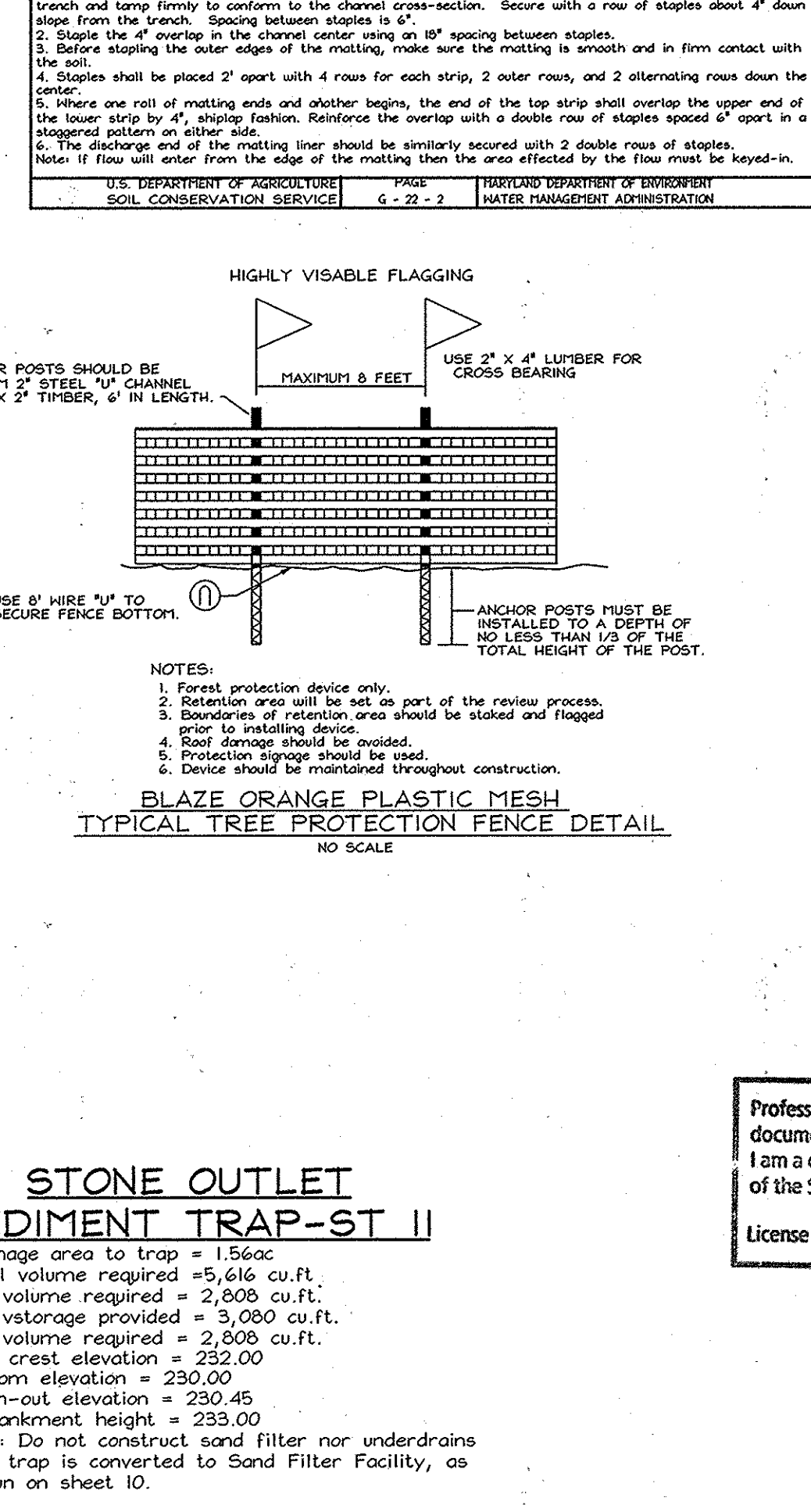
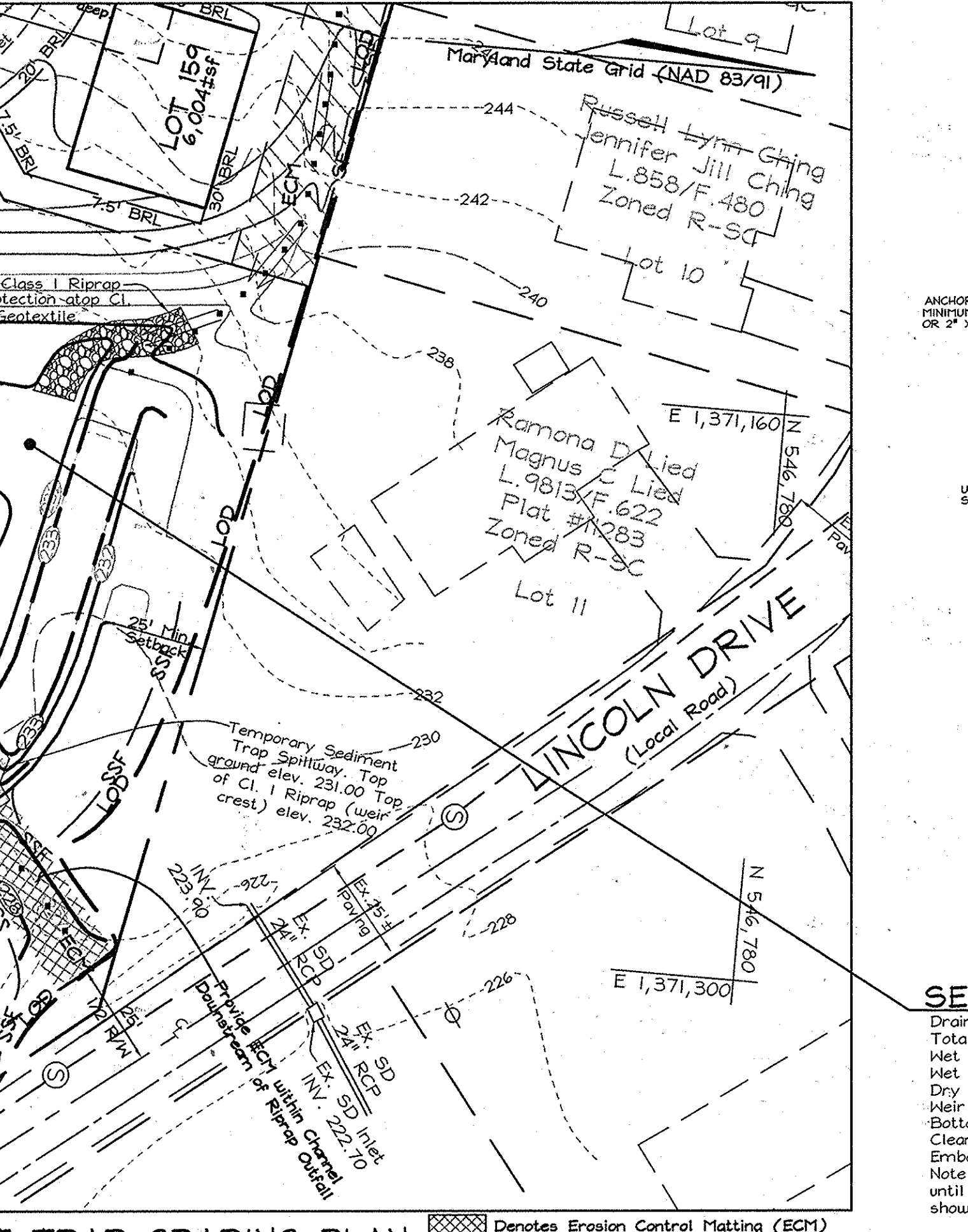
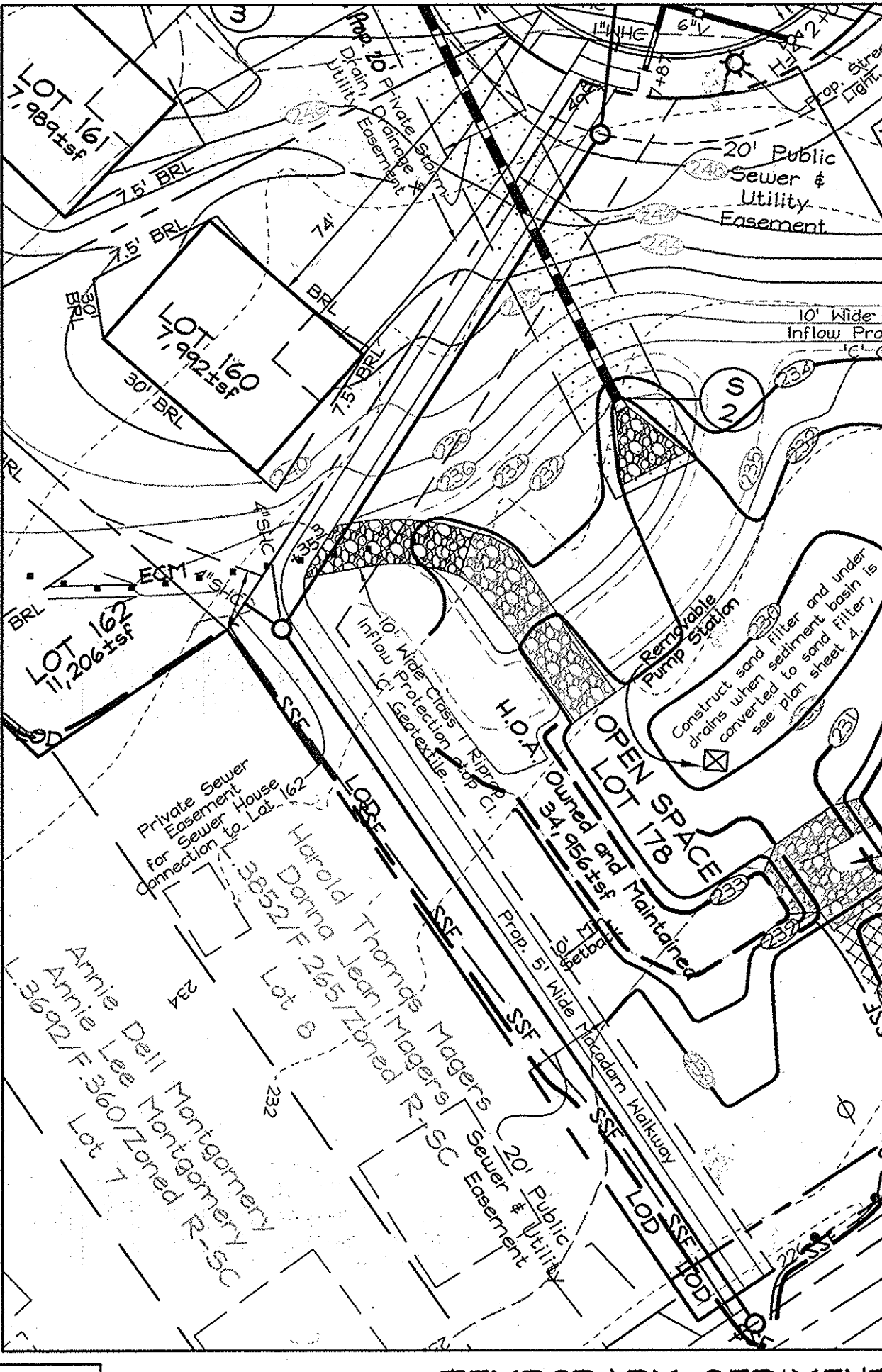
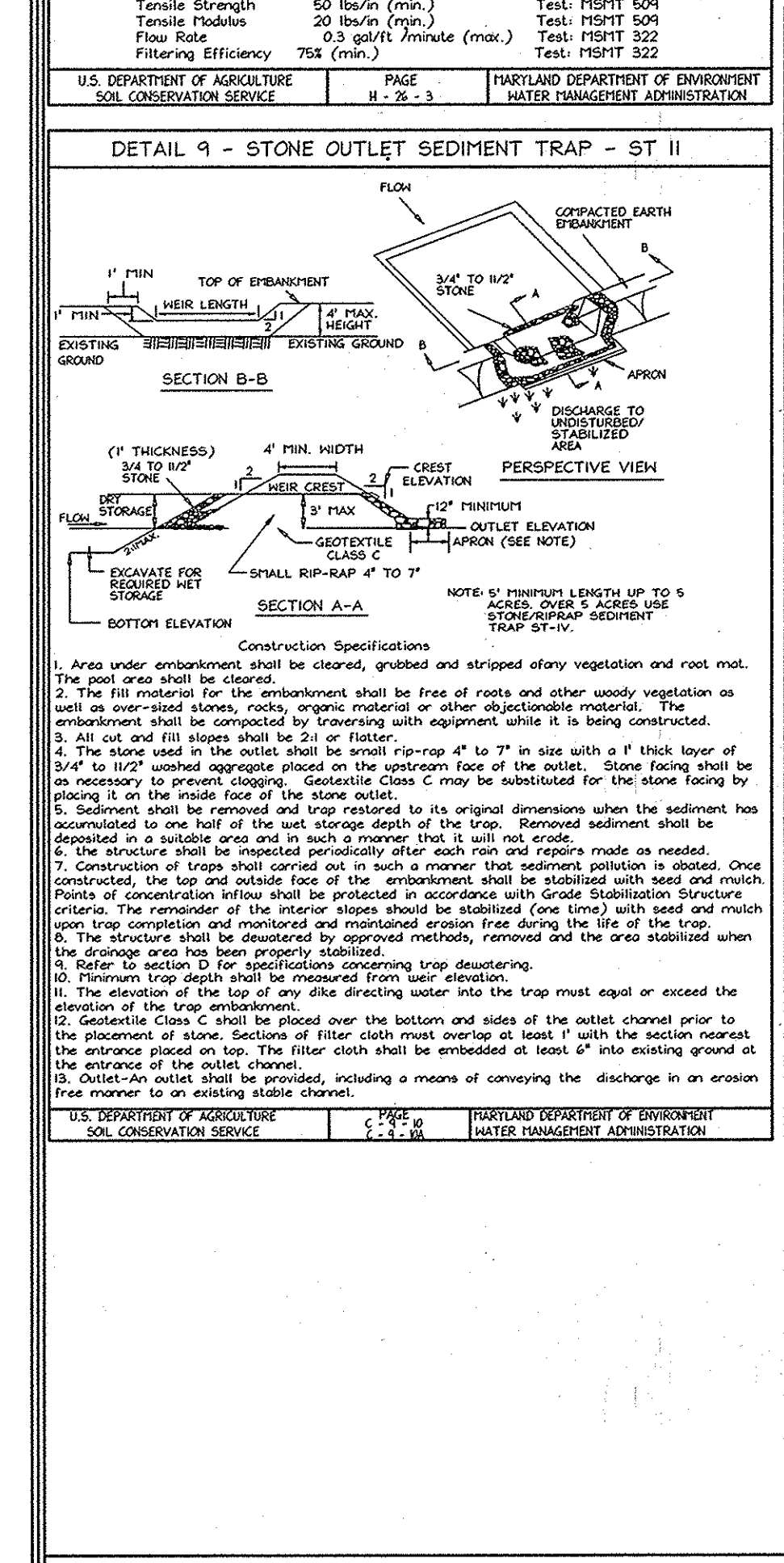
SEEDBED PREPARATION: Loosen three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (82 lbs/1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.



SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (318-1055).
- All sediment control practices are to be installed according to the provisions of this plan and one to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, as amended.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within 72 hours of disturbance for all perimeter sediment control structures, dikes, riprap slopes, and all slopes greater than 3:1, (b) 14 days to all other disturbed or graded areas on the project.
- All disturbed areas shall 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, soil temporary seeding, and mulching. Temporary stabilization with mulch shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 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 Division.



21.0 STANDARDS 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 vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unworkable soil gradation.

Conditions Where Practice Applies:

- This practice is limited to areas having 21 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plan.

Construction and Material Specifications:

Topsoil salvaged from the existing site may be provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.

- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, or other soil classified and approved by the appropriate authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
 - The soil shall be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas over 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - Topsoil pH shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Soil nod or seed shall be placed on soil which has been tested and found to be deficient in phosphorus and potassium until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Topsoil shall be applied in accordance with the recommendations of a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil.

APPROVED: DEPARTMENT OF PUBLIC WORKS.
 Chief, Bureau of Highways
 Date: 6-7-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date: 6-15-10

APPROVED: DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
 Chief, Development Engineering Division
 Date: 6-9-10

ENGINEERS CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON THE BEST INFORMATION AVAILABLE TO ME AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: [Signature]
 DATE: 4/21/10

MICHAEL L. TAYLOR JR.

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

SIGNATURE OF DEVELOPER: [Signature]
 DATE: 4/21/10

J L N Development, LLC.

PROFESSIONAL CERTIFICATION

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

License No. 21443 Expiration Date: 12-21-16

SEDIMENT TRAP PLAN AND SEDIMENT & EROSION CONTROL NOTES AND DETAILS

PLEASANT CHASE - PHASE IV

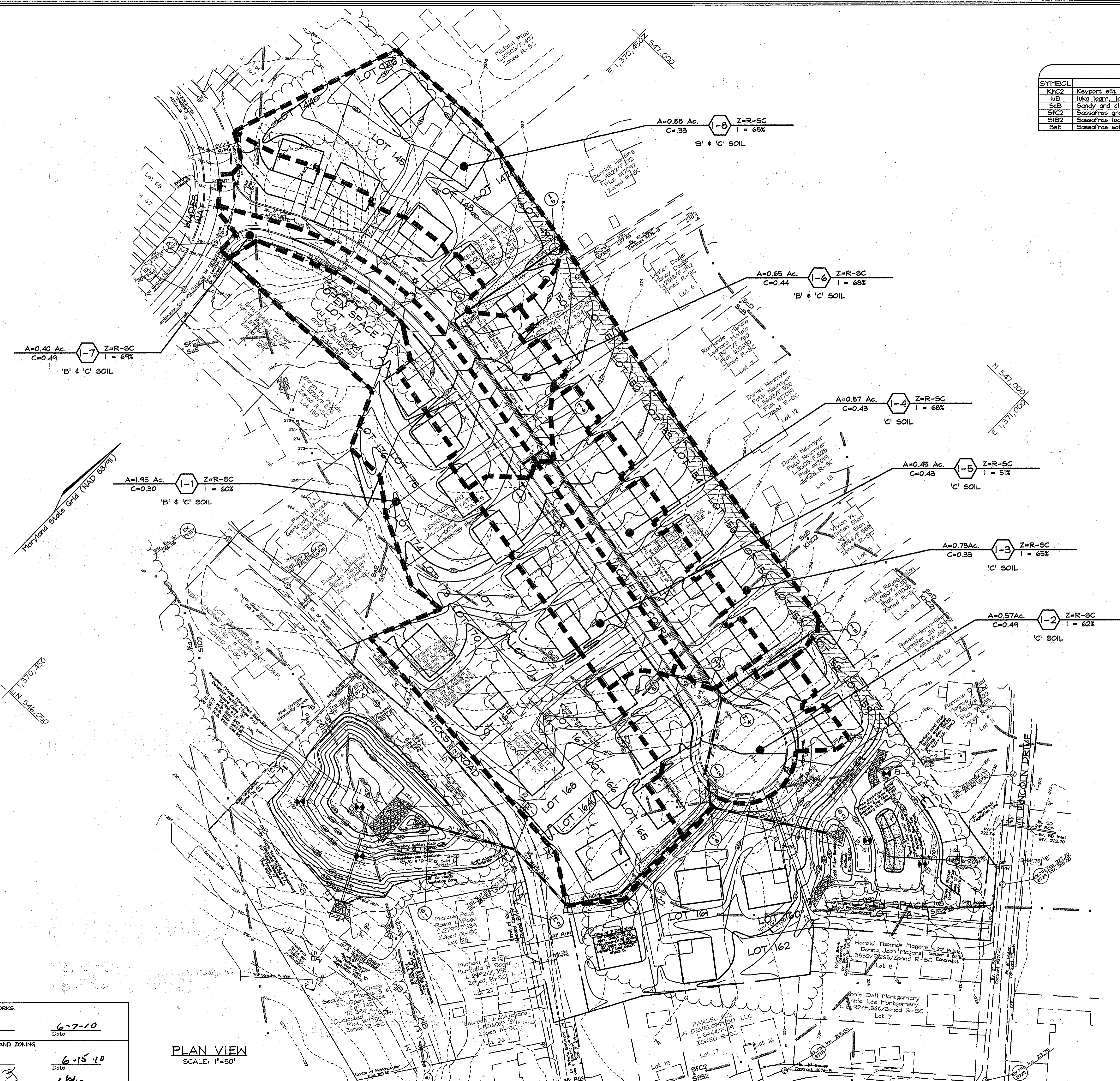
LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS

TAX MAP 43 GRID B PARCELS 211, 492, 493, 494, 622
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates

Engineers Planners Surveyors
 6339 Howard Lane, Elkridge, MD 21075
 Tel: 410-587-5200 Fax: 410-796-1582
 E-mail: info@fsh.com

DESIGN BY: MLT
 DRAWN BY: CED/SPH
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: April 28, 2010
 P.L.O. No.: 3430
 SHEET No. 8 OF 12



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
KhC2	Keypoint silt loam, 3 to 10 percent slopes, moderately eroded	C
luB	luke loam, local alluvium, 1 to 5 percent slopes	C
S4B	Sandy and clayey sand, gently sloping	C
SfC2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B
SfB2	Sassafras loam, 1 to 5 percent slopes, moderately eroded	B
SaF	Sassafras soils, 15 to 40 percent slopes	B

A=0.40 Ac. Z=R-SC
C=0.49 I = 64%
'B' & 'C' SOIL

A=0.88 Ac. Z=R-SC
C=0.33 I = 65%
'B' & 'C' SOIL

A=0.65 Ac. Z=R-SC
C=0.44 I = 68%
'B' & 'C' SOIL

A=0.57 Ac. Z=R-SC
C=0.43 I = 68%
'C' SOIL

A=0.45 Ac. Z=R-SC
C=0.43 I = 51%
'C' SOIL

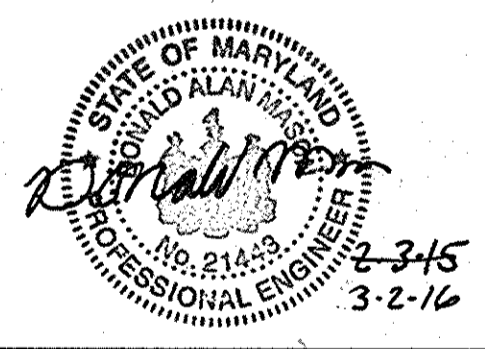
A=0.78 Ac. Z=R-SC
C=0.33 I = 65%
'C' SOIL

A=0.57 Ac. Z=R-SC
C=0.49 I = 62%
'C' SOIL

A=1.95 Ac. Z=R-SC
C=0.30 I = 60%
'B' & 'C' SOIL

No As-Built information is required on this sheet

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443, Expiration Date: 12-21-16



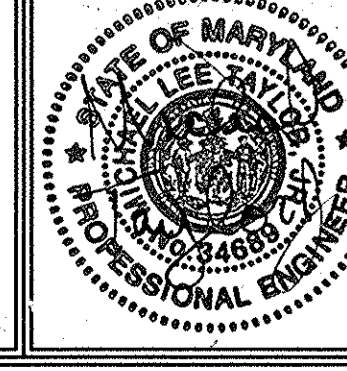
PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #34689, Expiration Date: 7/08/2011.

OWNER/DEVELOPER
J L N Development, LLC.
46 Poplar Point Road
Edgewater, Maryland 21037
(410)224-7575 Fax:(410)224-4774

STORM DRAIN DRAINAGE AREA MAP
PLEASANT CHASE - PHASE IV
LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 148 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS.
William Z. Marshall 6-7-10
Chief, Bureau of Highways
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Kat Lindner 6-15-10
Chief, Division of Land Development
William Deane 6-11-10
Chief, Development Engineering Division

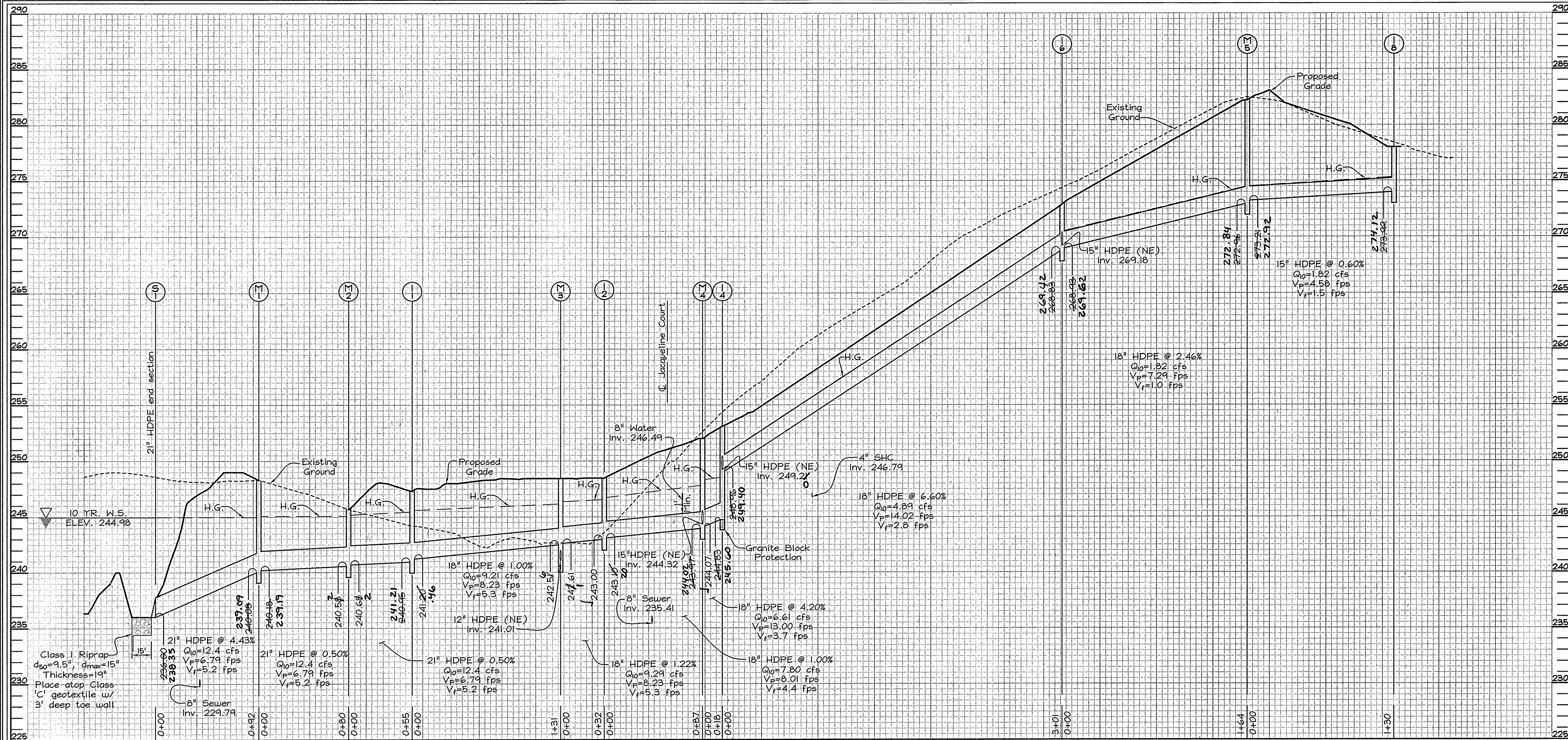
PLAN VIEW
SCALE: 1"=50'



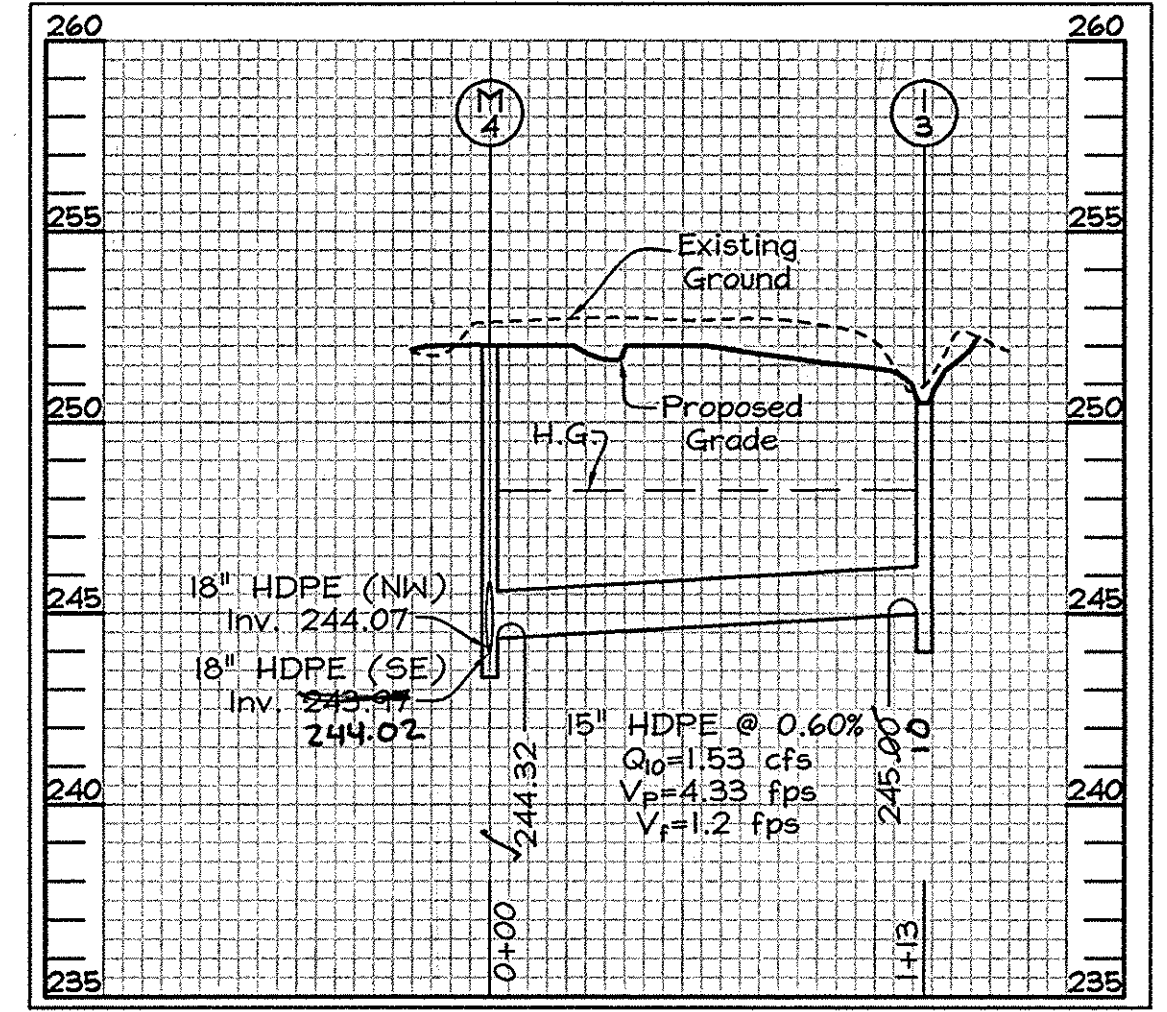
FSH Associates
Engineers Planners Surveyors
3339 Howard Lane, Elkridge, MD 21075
Tel: 410-567-5200 Fax: 410-798-1562
E-mail: info@fshri.com

DESIGN BY: CED/MLT
DRAWN BY: CED
CHECKED BY: ZTF
SCALE: As Shown
DATE: April 28, 2010
N.O. No.: 3430
SHEET No.: 6 OF 12

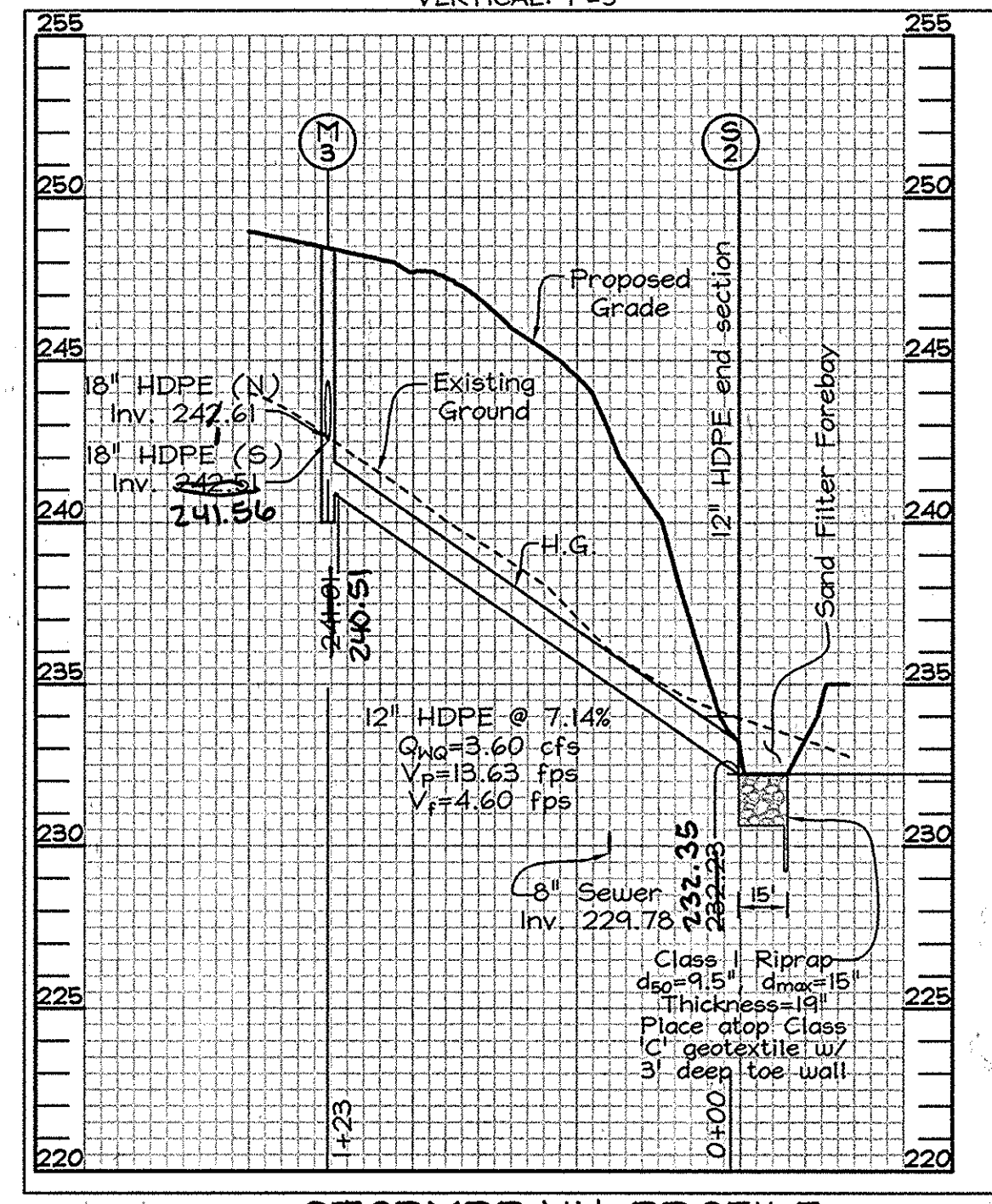
AS-BUILT



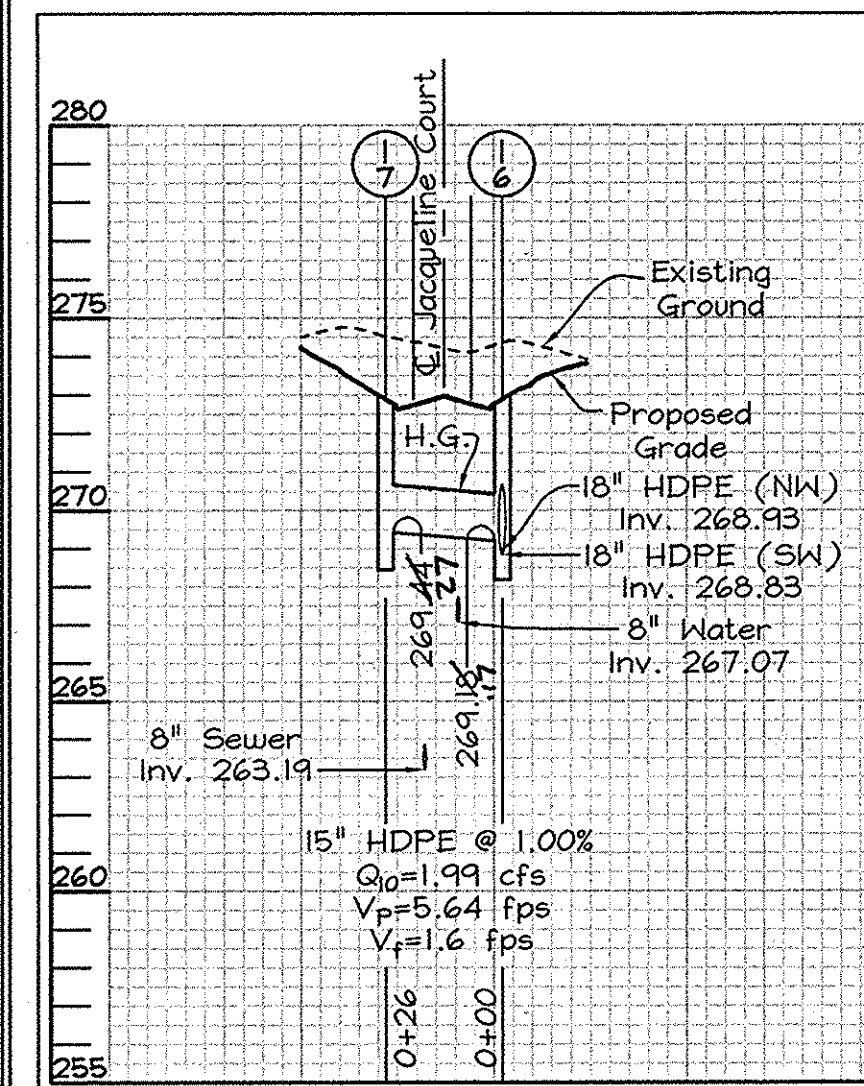
STORMDRAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



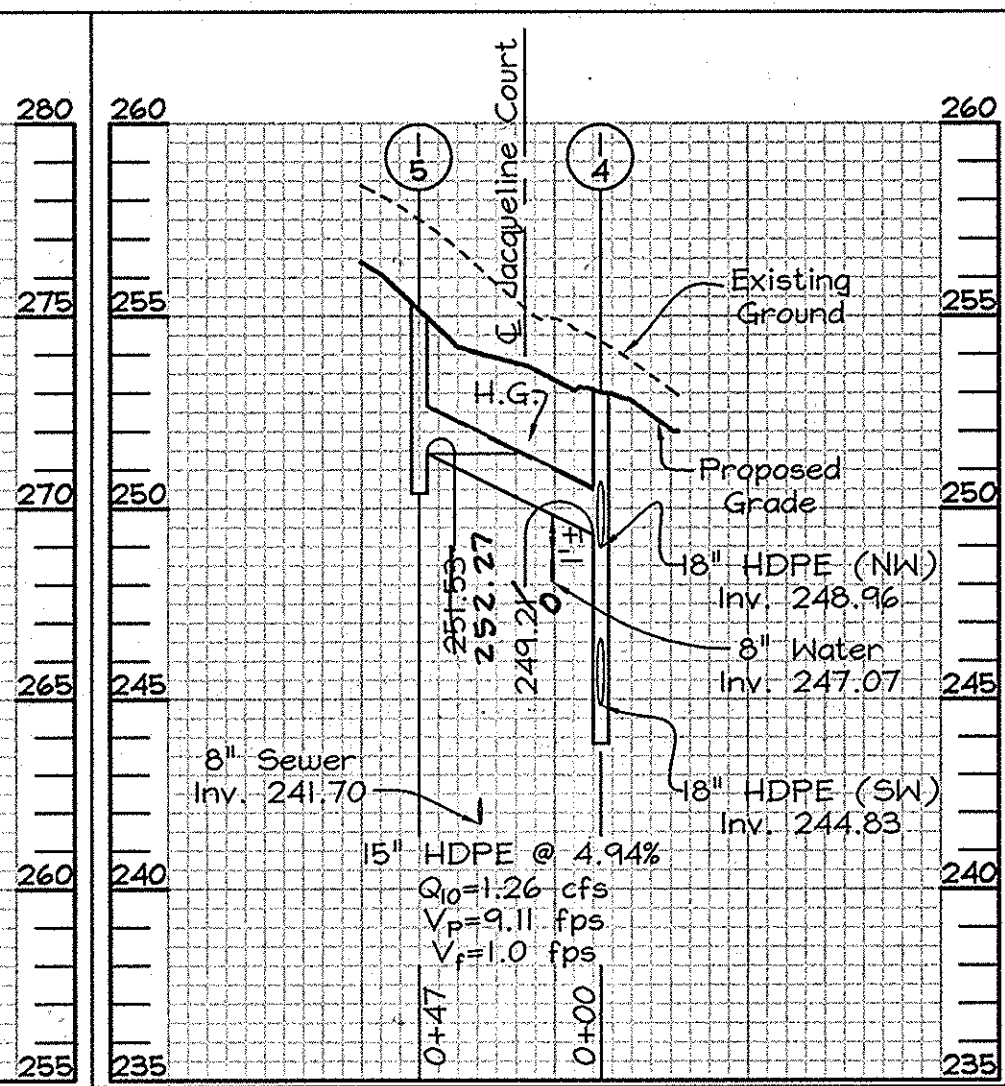
STORMDRAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



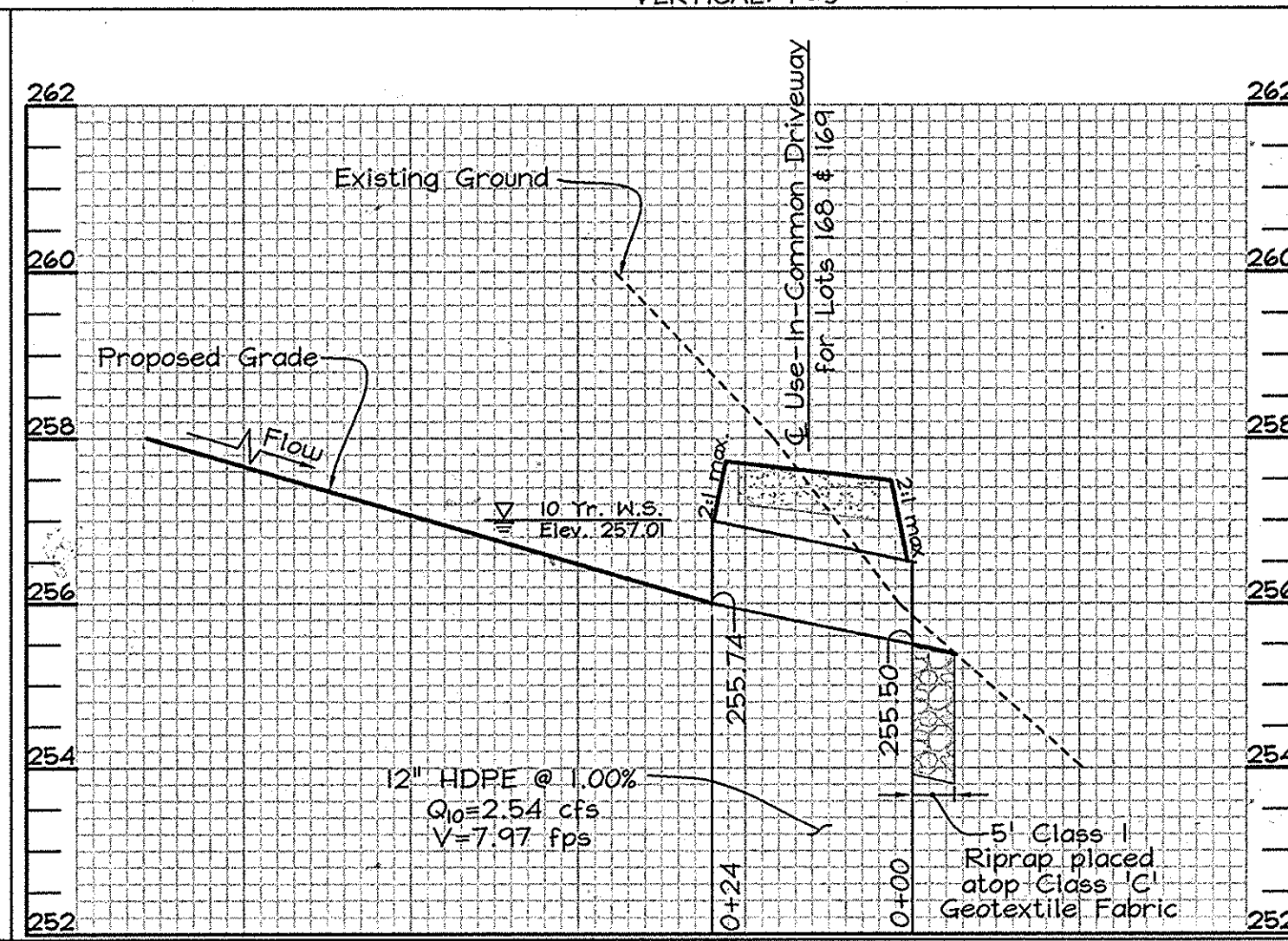
STORMDRAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



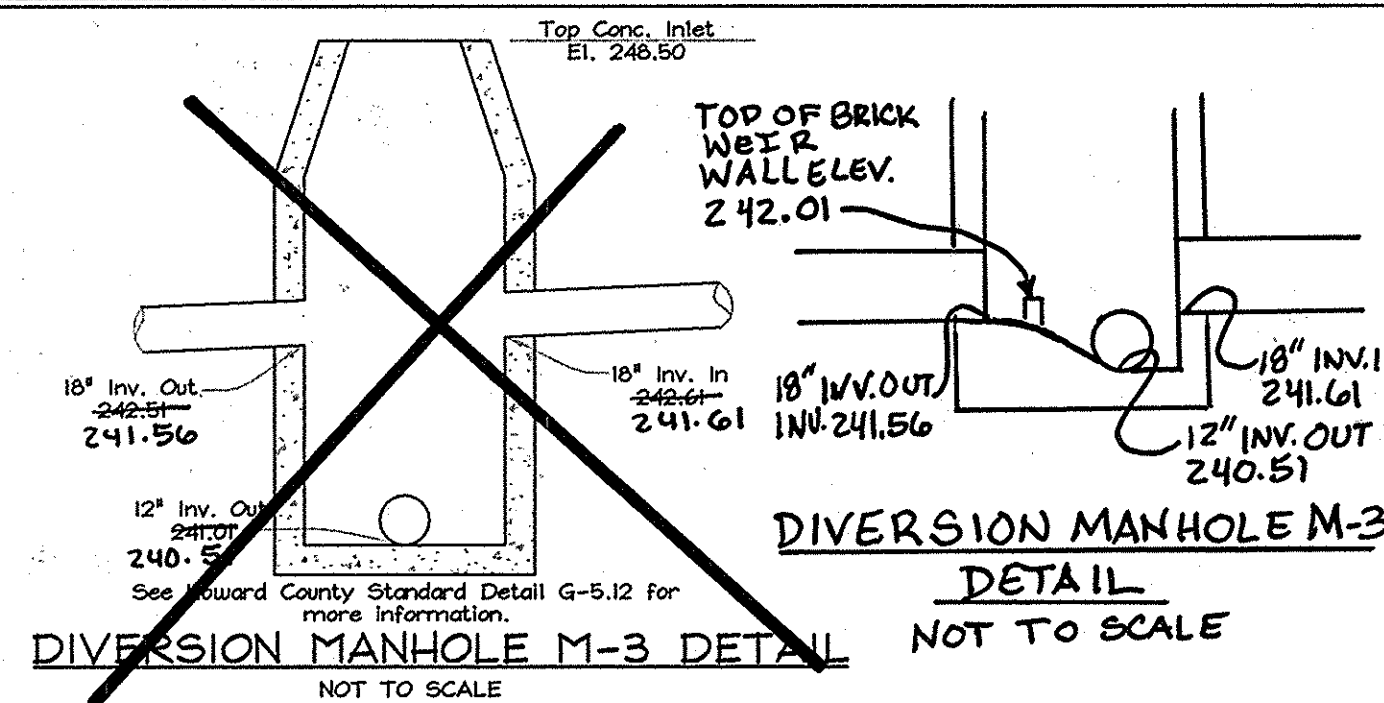
STORMDRAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



STORMDRAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

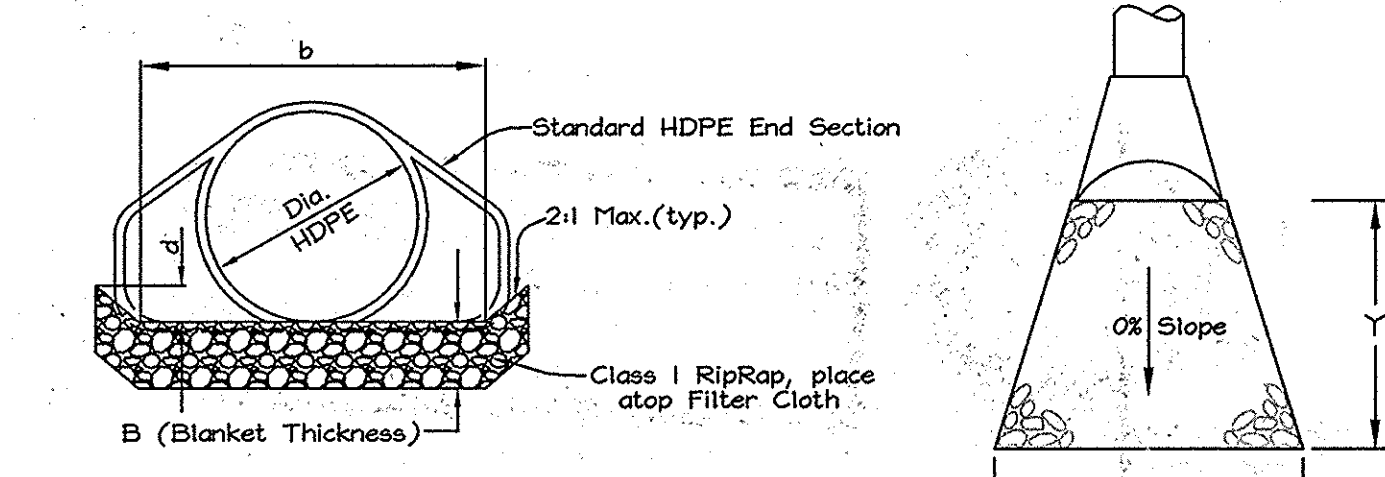


LOT 168-169 USE-IN-COMMON DRIVEWAY PROFILE
SCALE- HORIZONTAL: 1"=20'
VERTICAL: 1"=2'



STORM DRAIN STRUCTURE SCHEDULE									
NO.	TYPE	LOCATION	TOP ELEV.	INV.	OUT	REMARKS			
1-1	Single Type 'S' Inlet	N 546,334.8188, E 1,371,056.9560	247.20	241.20	246.20	Detail D-4.22			
1-2	Precast Type A-5 Inlet	LP Sta 0+79.70	249.70	248.70	243.00	Detail D-4.01			
1-3	Single Type 'S' Inlet	N 546,670.1845, E 1,371,011.5235	250.60	249.40	245.00	Detail D-4.22			
1-4	Precast Type A-10 Inlet	Sta. 7+36.51 @ 12 LT 253.40	263.00	249.27	244.88	Detail D-4.03			
1-5	Precast Type A-10 Inlet	Sta. 7+30.93 @ 12 RT	255.36	247.77	244.88	Detail D-4.03			
1-6	Precast Type A-10 Inlet	Sta. 4+35.51 @ 12 LT 273.31	252.45	241.85	244.88	Detail D-4.03			
1-7	Precast Type A-10 Inlet	Sta. 4+35.51 @ 12 RT 273.40	252.45	241.85	244.88	Detail D-4.03			
1-8	Single Type 'S' Inlet	N 546,777.7721, E 1,370,540.8732	247.40	241.20	246.20	Detail D-4.22			
M-1	Standard 4' Precast MH	N 546,243.8927, E 1,370,945.6141	248.30	244.15	244.00	Detail G-5.12			
M-2	Shallow 4' Precast MH	N 546,288.5711, E 1,371,024.8639	248.50	243.84	243.50	Detail G-5.12			
M-3	Shallow 4' Precast MH	N 546,466.1469, E 1,371,062.4762	248.50	248.61	242.50	Detail G-5.12			
M-4	Standard 4' Precast MH	LP Sta 2+30.38 @ 3.22 RT of FGL	246.45	244.07	244.00	Detail G-5.12			
M-5	Standard 4' Precast MH	Sta 2+72.47 @ 15.90 LT	242.87	242.00	242.84	Detail G-5.12			
S-1	HDPE End Section	N 546,260.9076, E 1,370,864.8167	-44	246.00	246.35	21" HDPE End Section			
S-2	HDPE End Section	N 546,529.8498, E 1,371,168.0020	-44	246.25	246.35	12" HDPE End Section			

- STORM DRAIN STRUCTURE SCHEDULE NOTES:**
- The top elevations for all type 'S' inlets (1-1, 1-3 and 1-8) are the top of the grate elevation. The location of all type 'S' inlets is the center of grate elevation.
 - The top elevations for all type 'A' inlets (1-2 & 1-4 through 1-7) are the top of lid elevation. The location of all type 'A' inlets is the flow line (gutter) at the center of the inlet.
 - Top elevations and location for Precast Manholes are to the center top of manhole cover.
 - The HDPE End Sections location correspond to the point where the end section meets the incoming pipe.
- *Install granite block protection within bottom of inlet.
- * * * PRIVATELY OWNED AND MAINTAINED.**



Structure	Q (c.f.s.)	S	n	Dia.	b	d	d _{max}	d _{ap}	B (Blanket Thickness)	X	Y
S-1	12.4	0.0%	0.06	21"	59"	1.0'	15"	9.5"	19"	17'	15'
S-2	3.6	0.0%	0.06	12"	42"	1.0'	15"	9.5"	19"	16'	15'

OWNER/DEVELOPER

J L N Development, LLC.
46 Poplar Point Road
Edgewater, Maryland 21037
(410)224-7575 Fax (410)224-4774

3-2-16 REVISE DIVERSION MH3 TO ADD WEIR WALL

NO. DATE REVISION

STORM DRAIN PROFILES
PLEASANT CHASE - PHASE IV
LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
8839 Howard Lane, Ellicott City, MD 21075
Tel: 410-567-5200 Fax: 410-796-1562
E-mail: info@fsher.com

DESIGN BY: MLT
DRAWN BY: CED
CHECKED BY: ZYE
SCALE: As Shown
DATE: April 28, 2010
I.O. No.: 3430
SHEET No. 7 OF 12

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Date: 3-2-15
3-2-16
Donald Nasson, P.E. No. 21443

APPROVED: DEPARTMENT OF PUBLIC WORKS.
Walter J. Marshall, Chief, Bureau of Highways, 6-7-10
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Vest St. Lawrence, Chief, Division of Land Development, 6-15-10
M. J. Nasson, Chief, Development Engineering Division, 6/9/10

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. #34689, Expiration Date: 7/08/11.

FOR REVISION #1 BY
BENCHMARK ENGINEERING, INC DATED 3-2-16

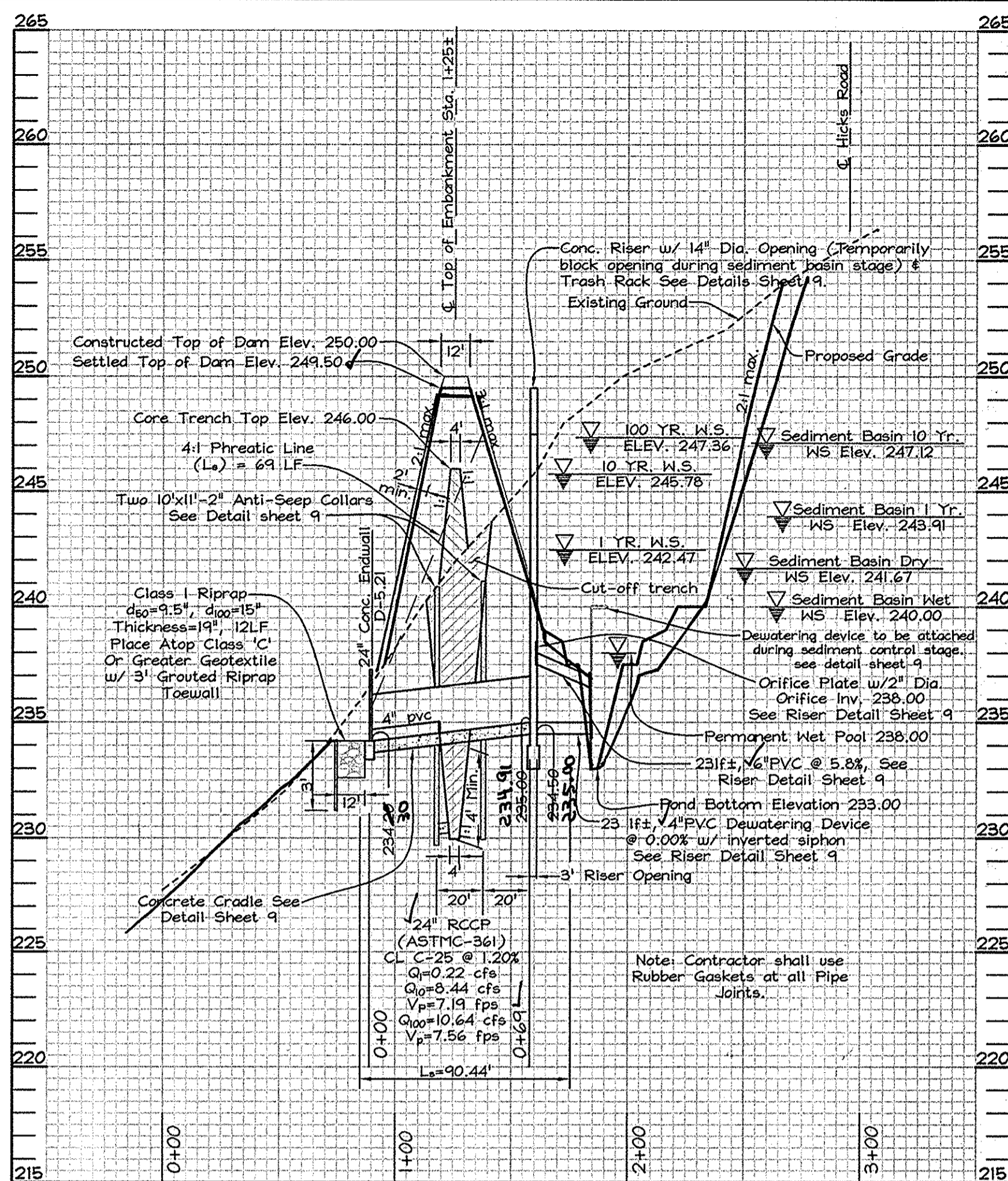
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 2-21-16

PRIVATE PIPE SCHEDULE

SIZE	TYPE	LENGTH
12"	HDPE	147'
15"	HDPE	242'

PUBLIC PIPE SCHEDULE

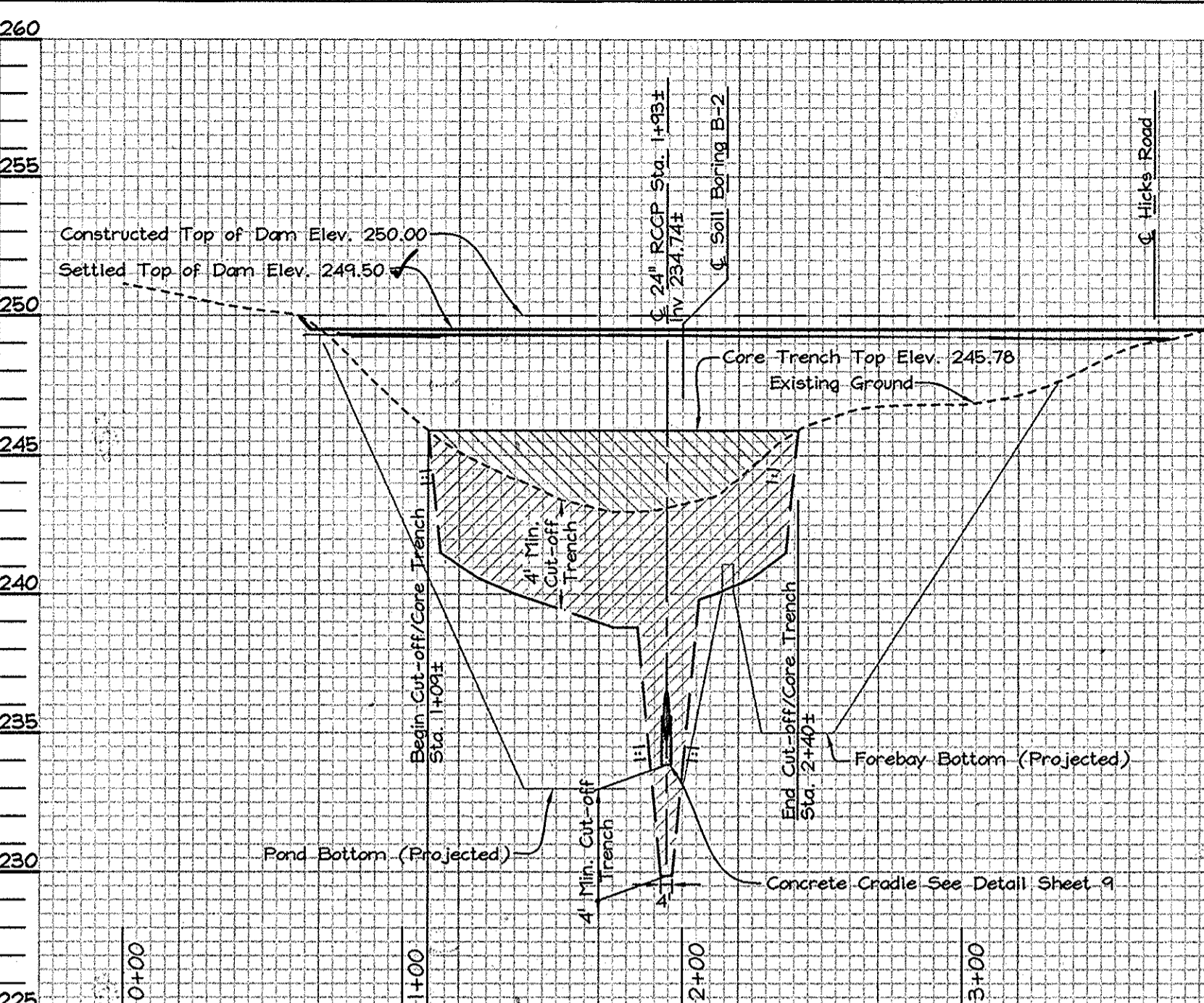
SIZE	TYPE	LENGTH
18"	HDPE	73'
18"	HDPE	733'
21"	HDPE	227'



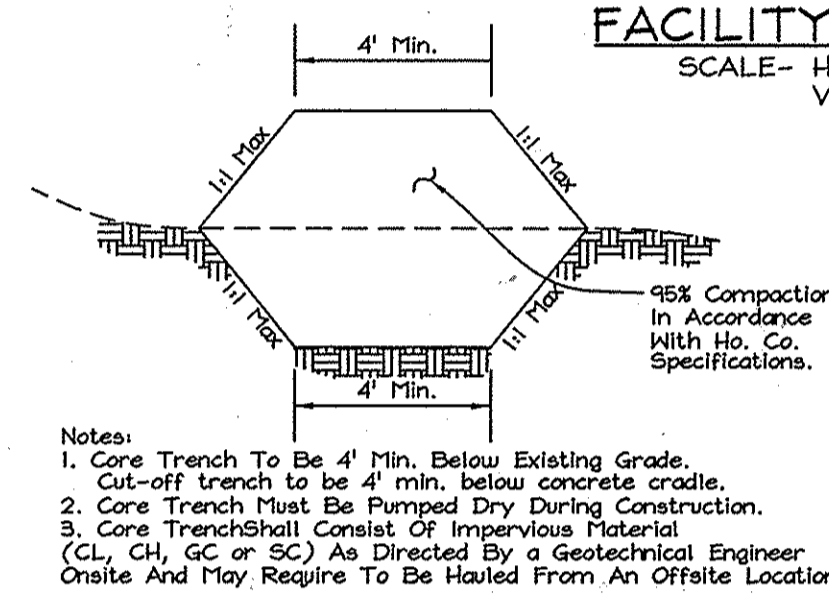
SECTION 'A'-A' MICRO-POOL FACILITY PRINCIPAL SPILLWAY PROFILE
 SCALE- HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'

OPERATION AND MAINTENANCE SCHEDULE FOR HOMEOWNERS ASSOCIATION OWNED AND JOINTLY MAINTAINED STORMWATER PONDS (P-1 THROUGH P-5)

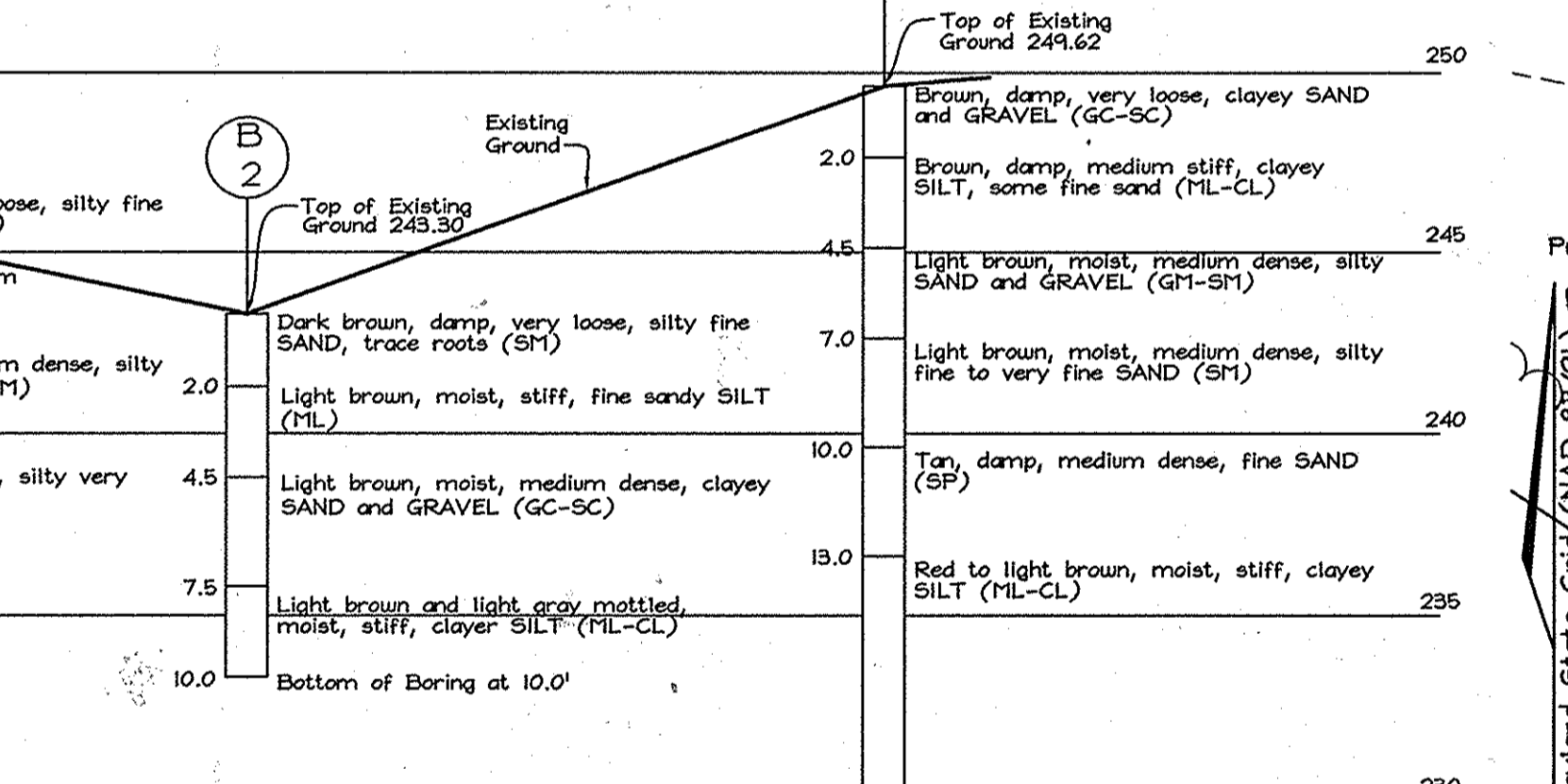
- Routine Maintenance: (H.O.A.)**
1. Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
 2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in June and once in September. Other side slopes and maintenance access shall be mowed as needed.
 3. Debris and litter shall be removed during regular mowing operations and as needed.
 4. Visible signs of erosion in the pond as well as the riprap or gabion outlet area shall be repaired as soon as it is noticed.
- Non-Routine Maintenance: (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 shall be inspected during routine maintenance operations.
 2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



SECTION 'B'-B' PROFILE ALONG MICRO-POOL FACILITY TOP OF DAM
 SCALE- HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'



PERVIOUS CORE AND CUT-OFF TRENCH DETAIL
 Not to scale



BORINGS PROFILE
 SCALE- VERTICAL: 1"=5'

DRAINAGE AREA	AREA	Imp. Area (A1)	% IMP. (I)	Soil Specific Recharge Factor (S)	Recharge Percent Volume Method (Rev)	Recharge Percent Area Method (Rea)	Recharge Provided
DA's 1-5	9.36 ac.±	4.91 ac.±	52%	0.17	3,014 cu.ft.	0.84 ac.±	3,122 cu.ft. Provided Through 6' of Stone Depth Below the Sand Filter using the Recharge Percent Volume Method

Note: Recharge will be achieved using the Recharge Percent Volume Method through stone storage below the Sand Filter.

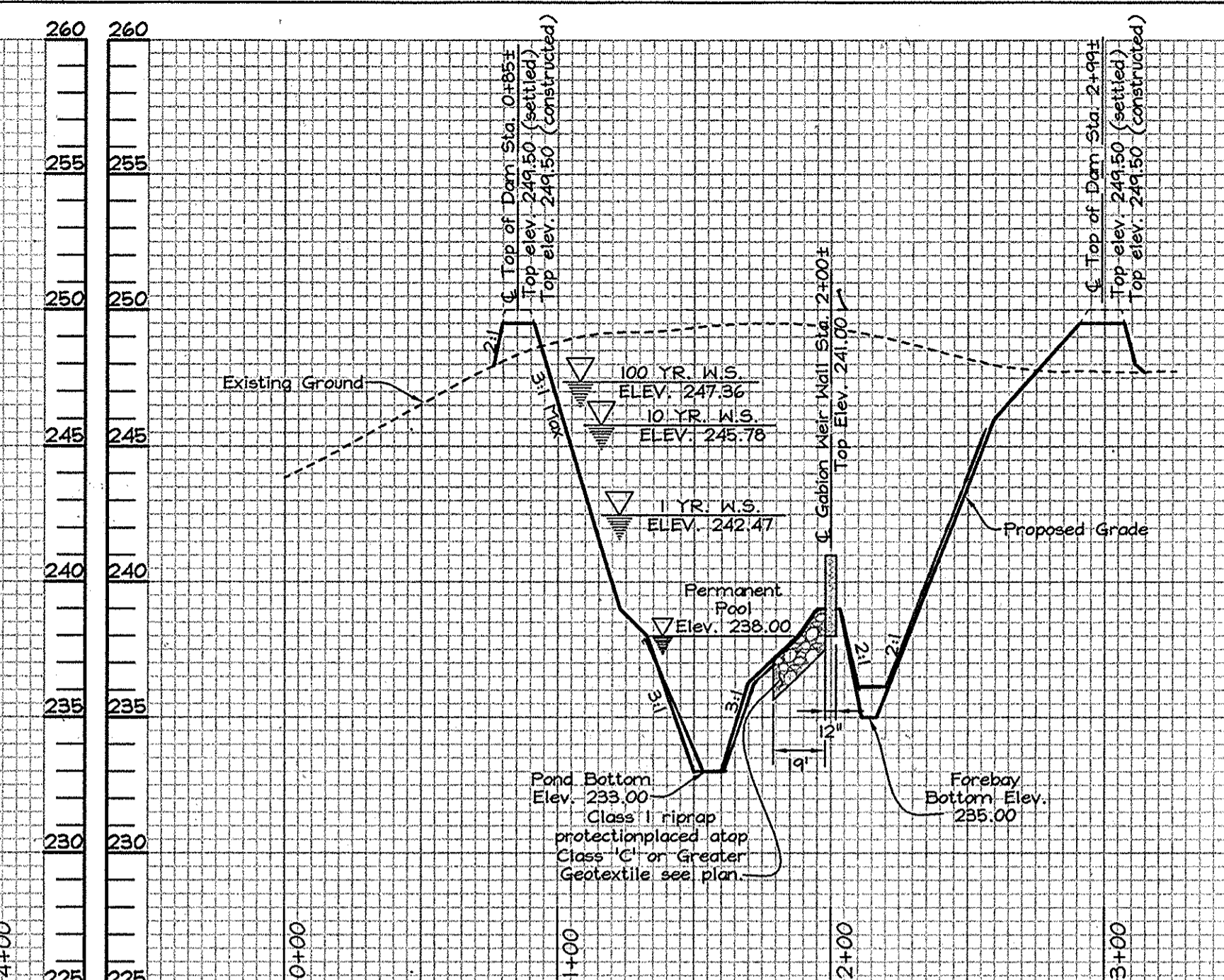
STRUCTURE	AREA	% IMP. (1)	Rv	WATER QUALITY VOLUME (WQV) REQ'D	WATER QUALITY VOLUME (WQV) PROV'D	REMARKS
SAND FILTER FACILITY	DA's 1 & 2 5.76 ac.±	61%	0.60	12,545 cu.ft.	12,545 cu.ft.	PROV'D THROUGH SAND FILTER INFILTRATION
MICRO-POOL EXTENDED DETENTION FACILITY	DA. 4 2.84 ac.±	50%	0.50	5,155 cu.ft.	5,330 cu.ft.	PROV'D THROUGH PERMANENT WET POOL

DRAINAGE AREA	AREA	RCN	TC	One (1) Year Discharge Qcfs	Channel Protection Volume Cv Req'd	CpV Prov'd
DA-1 & 4 (D.A. to Pond)	7.14 Ac±	87	0.22 hrs	11.7 cfs	22,712 cu.ft.	26,420 cu.ft.

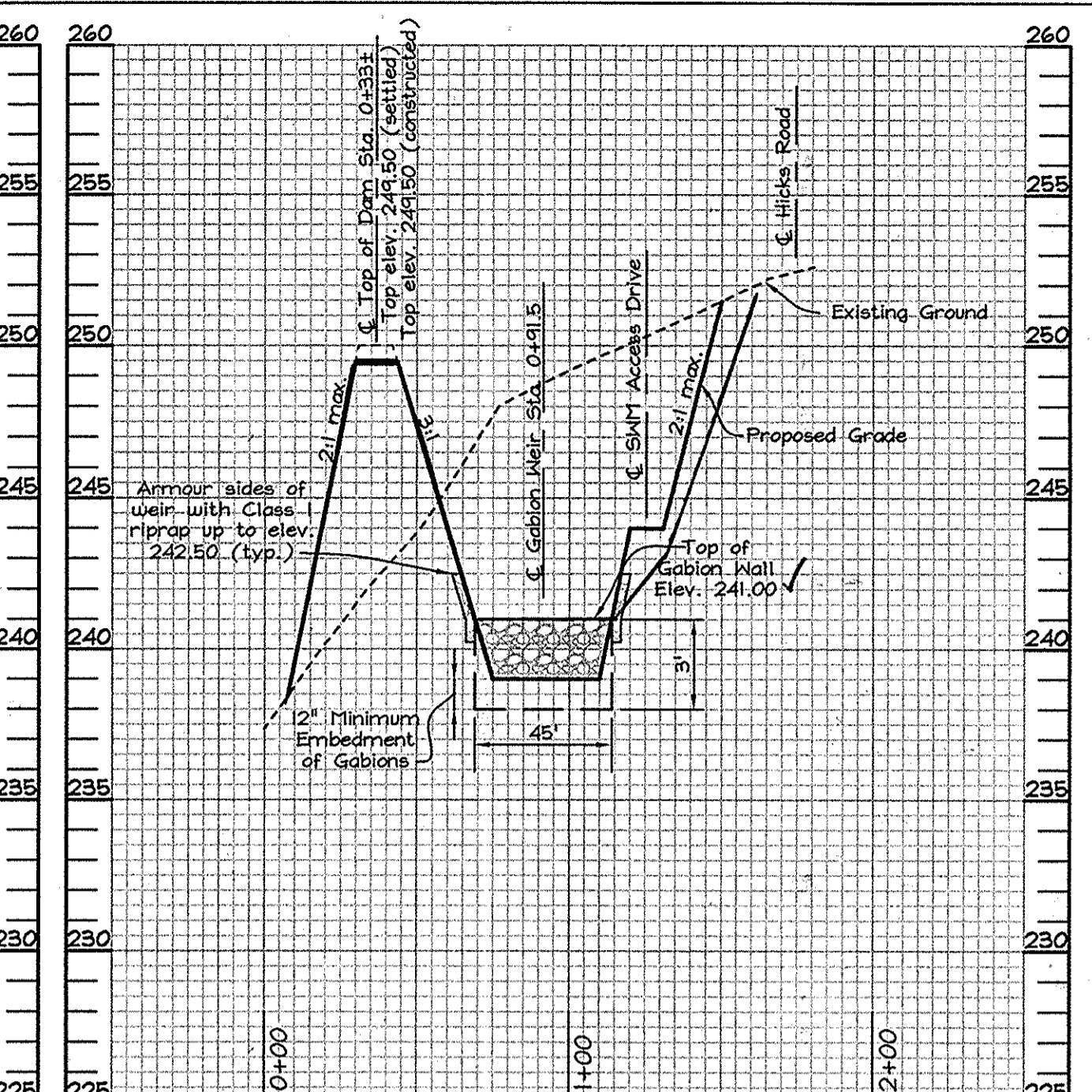
Note: Channel Protection will be provided as required for drainage area 2 through extended detention within the Proposed Micro-pool Extended Detention Facility.

TEMPORARY SEDIMENT BASIN NOTES

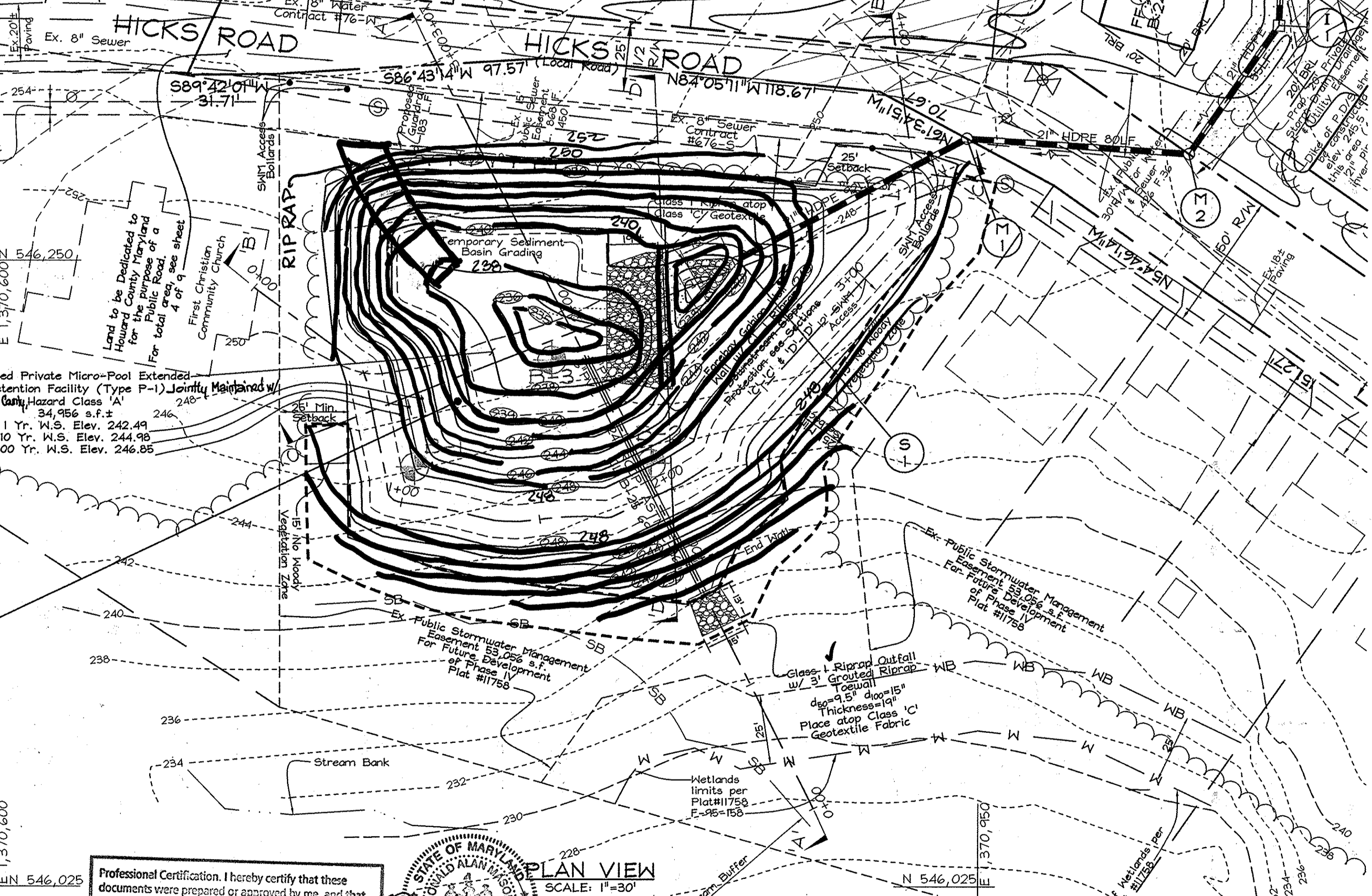
Drainage area to basin = 7.14 ac.
 Wet volume required = 12,852 cu.ft.
 Wet volume provided = 14,199 cu.ft.
 Net volume provided = 2,400 cu.ft.
 Dry volume required = 12,852 cu.ft.
 Dry volume provided = 12,852 cu.ft.
 Dry volume provided = 241.67 cu.ft.
 Bottom of basin elevation = 235.00
 Dewatering orifice diameter = 3.5"
 Dewatering orifice invert elevation = 240.00
 4"x4" riser crest elevation = 247.50
 Clean-out elevation = 238.41
 Top Embankment Elev. = 249.50
 Existing Flow to Basin 1 Yr. Q = 0.53 cfs
 Proposed Flow to Basin 1 Yr. Q = 11.60 cfs
 Newly graded Flow to Basin 1 Yr. Q = 19.80 cfs
 From sediment basin TR-20 Routing:
 1 Year Discharge = 0.62 c.f.s.; Elev. = 243.91 (Basin Outflow)
 10 Year Discharge = 2.81 c.f.s.; Elev. = 247.12 (Basin Outflow)
 100 Year Discharge = 21.88 c.f.s.; Elev. = 249.19 (Basin Outflow)
 Note: Do not construct forebay embankment during the sediment basin stage. Instead temporarily grade as shown above (Temp. Sed. Grading). Additionally see riser detail sheet 9 for temporary riser modifications for sediment basin during construction stage.



SECTION 'C'-C' PROFILE THRU FOREBAY GABION WEIR WALL
 SCALE- HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'



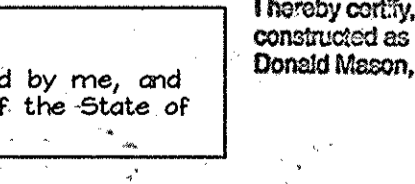
SECTION 'D'-D' PROFILE ALONG FOREBAY GABION WEIR WALL
 SCALE- HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'



PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443, Expiration Date: 12-21-16



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. 93469, Expiration Date: 7/08/2011.



AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
 Date: 2-3-15
 Rev: 9-29-15
 3-2-16

OWNER/DEVELOPER
 J L N Development, LLC.
 46 Poplar Point Road
 Edgewater, Maryland 21037
 (410) 224-7575 Fax: (410) 224-4774

STORMWATER MANAGEMENT MICRO-POOL EXTENDED DETENTION FACILITY PLAN & PROFILES
PLEASANT CHASE - PHASE IV
 LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
 TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
 Engineers Planners Surveyors
 6239 Howard Lane, ElkrIDGE, MD 21075
 Tel: 410-567-5200 Fax: 410-796-1562
 e-mail: info@fsh.com

DESIGN BY: ZYF
 DRAWN BY: CED/SMH
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: April 28, 2010
 P.L.O. No.: 3430
 SHEET No.: 8 OF 12

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Chief, Division of Land Development
 Chief, Development Engineering Division

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF AFFILIATION AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE FOND CONSTRUCTION AND PROVIDE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN IS NOT TO BE CONSIDERED A SUBSTITUTE FOR THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THAT THE HOWARD SOIL CONSERVATION DISTRICT HAS ENGAGED A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

**MARYLAND 378
STORMWATER MANAGEMENT POND CONSTRUCTION
SPECIFICATIONS**

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

Site Preparation
Areas designated for borrow area, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and steep breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the low of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, forces, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface, or dry stormwater management ponds, a maximum of 20% of the area of the embankment or structure shall be cleared.

All cleared and grubbed material shall be disposed of above and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other vegetated areas.

Grout Fill
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" in size or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 50% passing the No. 20 sieve. The depth shall be at least 4 feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with vibratory rollers, or hand tampers, to ensure maximum density.

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

When required by the reviewing agency the minimum required density shall be not less than 95% of maximum dry density with a moisture content within ±2% of the optimum. ±2% compaction is necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width of the trench shall be at least 4 feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with vibratory rollers, or hand tampers, to ensure maximum density.

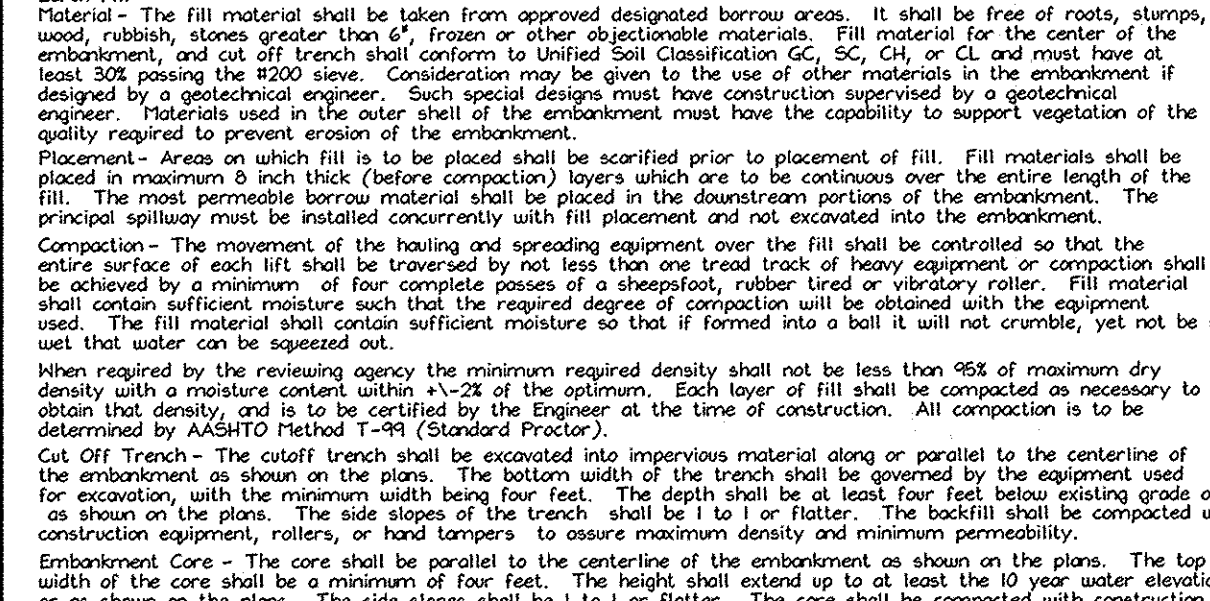
Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up at least 10 years above the design flood level. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction 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 mechanical equipment. The material used to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or a concrete pipe of 24" or greater or over the structure or pipe.

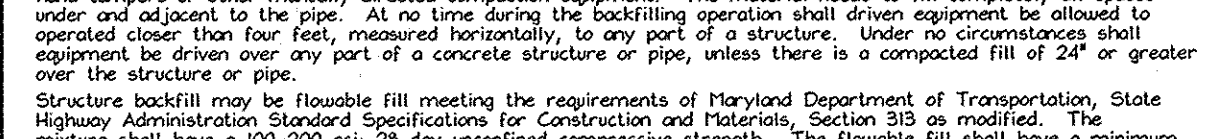
Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 mesh, 20 day unconfined compressive strength. The flowable fill shall have a minimum of 4.0 and a maximum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill will be over (bedding), over and, on the sides of the pipe. If any need to extend up to the spring line for right conductors, the fill shall be 7" to 8" above the flowable fill. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any voids adjacent to the flowable fill core, no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flowable fill) mixture shall be of the type and quality conforming to that specified for the core of the embankment or other fill material.

Pipe Details
All pipes shall be circular in cross section.

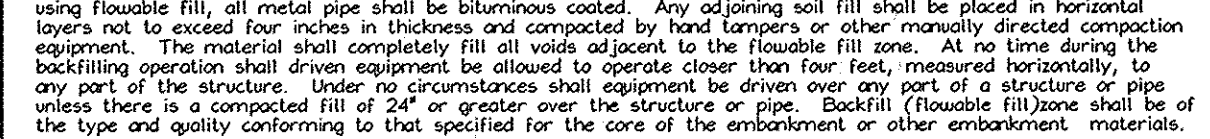
Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe.
Materials - (Polymer coated steel pipe) - Steel pipes with polymeric coating shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications H-295 & H-296 for 12" and 18" diameter underdrain coupling bands or flanges.
Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification H-190 Type A. Any aluminum coating damaged or removed shall be replaced with cold applied bituminous coating. The coating shall be applied in such a manner as to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.
Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-196.
Materials - (PVC Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-190 Type A.
Materials - (PVC Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-190 Type A.
Materials - (PVC Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-190 Type A.
Materials - (PVC Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification H-190 Type A.



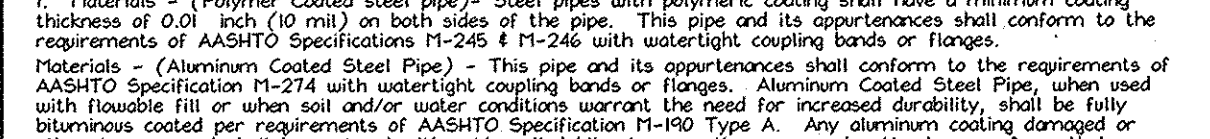
ORIFICE PLATE DETAIL
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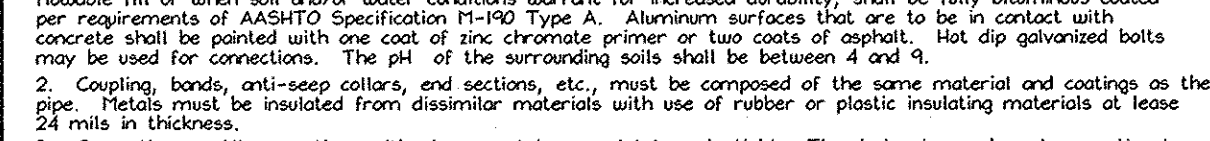
SEDIMENT BASIN DEWATERING DEVICE DETAIL
Not to scale



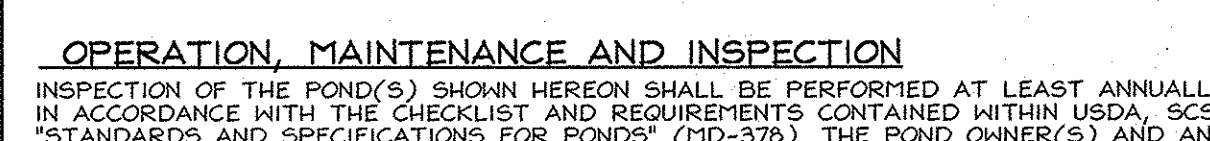
DETAIL OF ADDITIONAL REBARS AROUND RISER OPENING
NOT TO SCALE



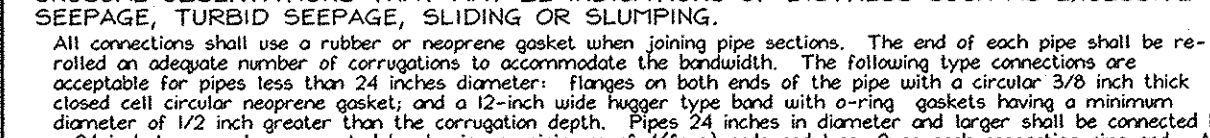
STANDARD CONCRETE WALL CORNER REINFORCING DETAIL
NOT TO SCALE



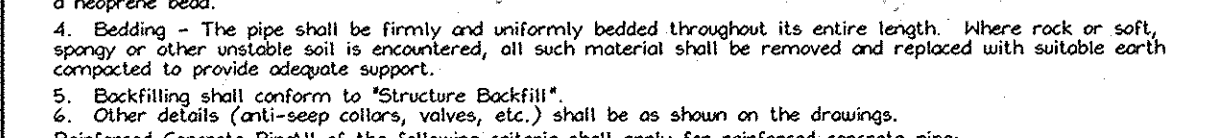
SHOP NOTES



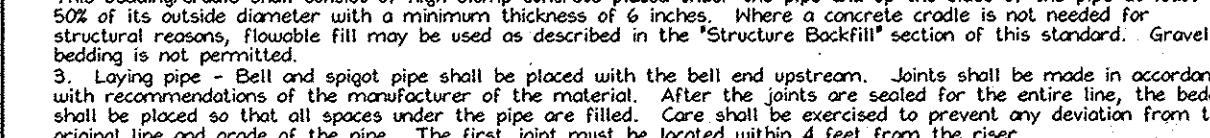
TRASH RACK DETAIL
NOT TO SCALE



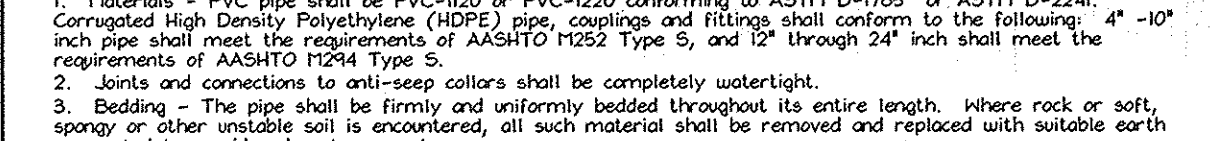
TOP VIEW REINFORCING DETAIL



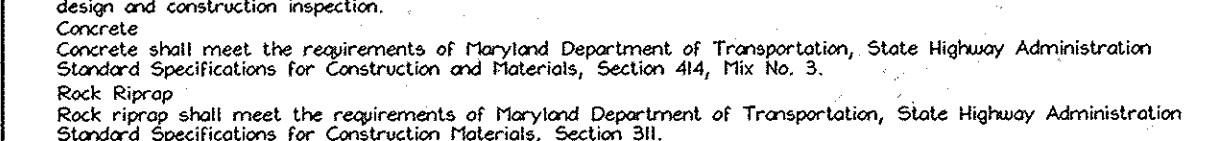
ELEVATION VIEW REINFORCING DETAIL



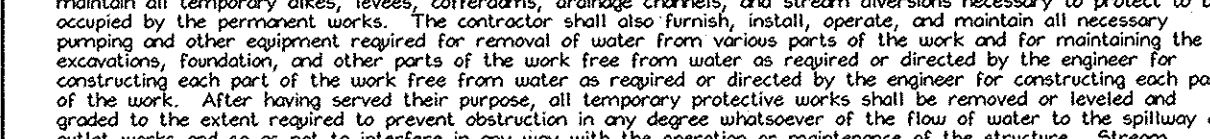
RISER VIEW REINFORCING DETAIL



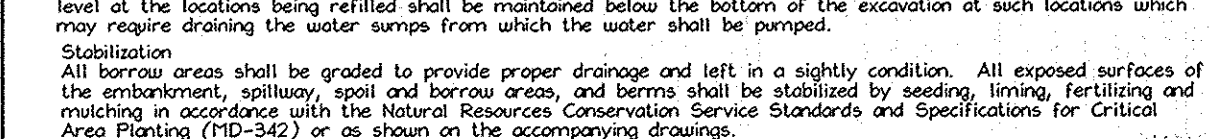
RISER SIDE VIEW



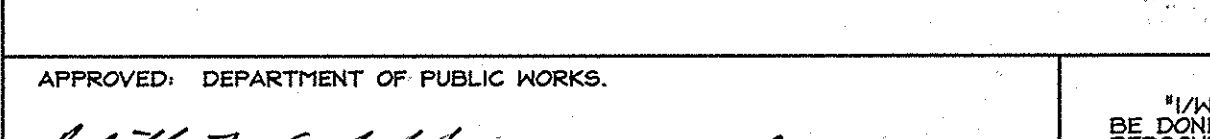
CONCRETE CRADLE DETAIL
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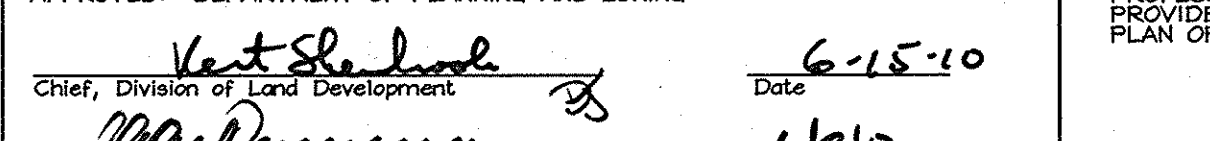
WS WATERSTOP GASKET DETAIL
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ANTI-SEEP COLLARS
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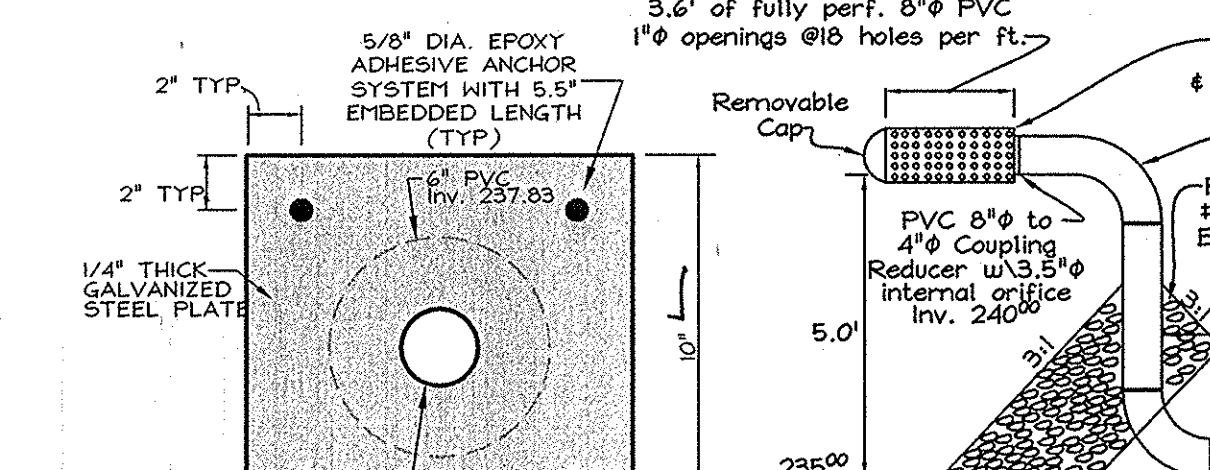


SWM EXTENDED DETENTION FACILITY POND BENCH DETAIL
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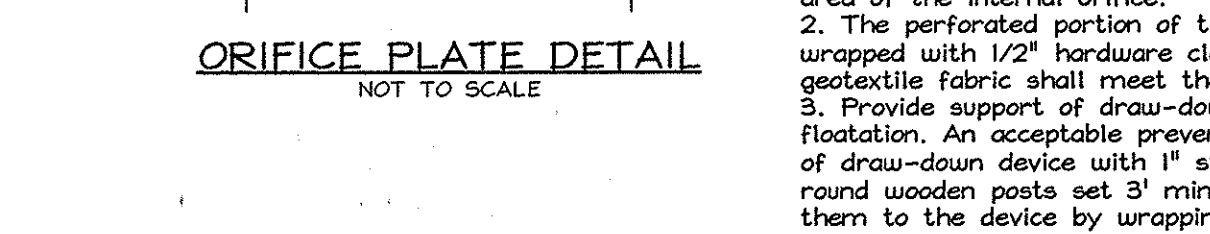


PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 354689, Expiration Date: 7/08/2011.

OWNER/DEVELOPER
J. L. N. Development, LLC
46 Poplar Point Road
Edgewater, Maryland 21037
(410)224-7575 Fax (410)224-4774



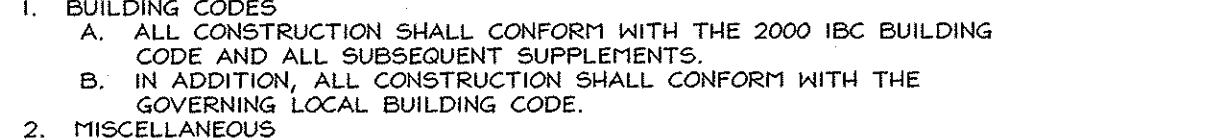
ORIFICE PLATE DETAIL
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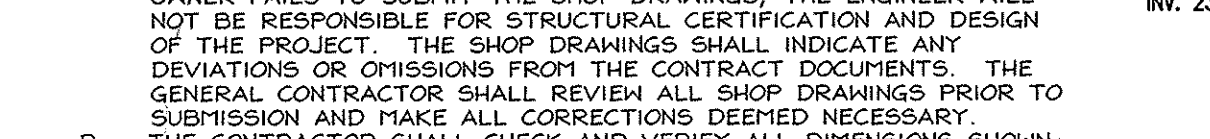
SEDIMENT BASIN DEWATERING DEVICE DETAIL
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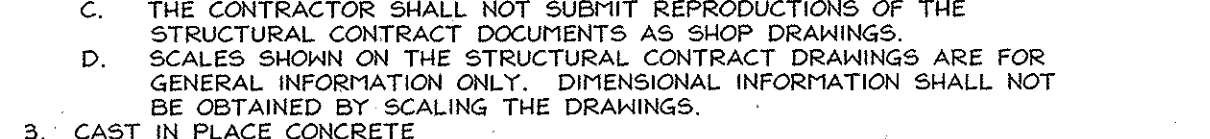
DETAIL OF ADDITIONAL REBARS AROUND RISER OPENING
NOT TO SCALE



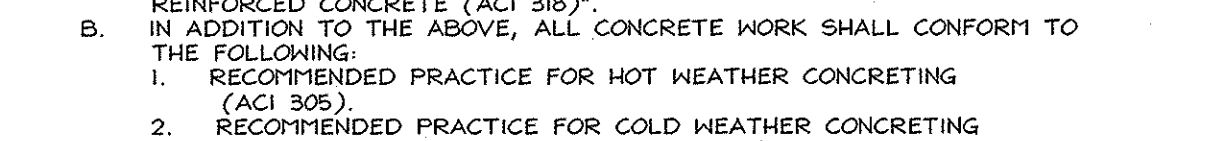
STANDARD CONCRETE WALL CORNER REINFORCING DETAIL
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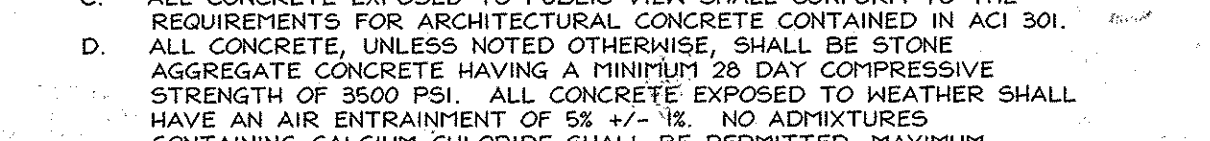
SHOP NOTES



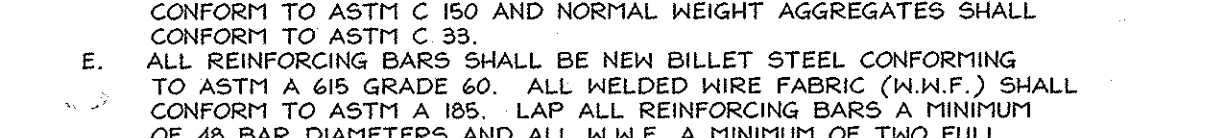
TRASH RACK DETAIL
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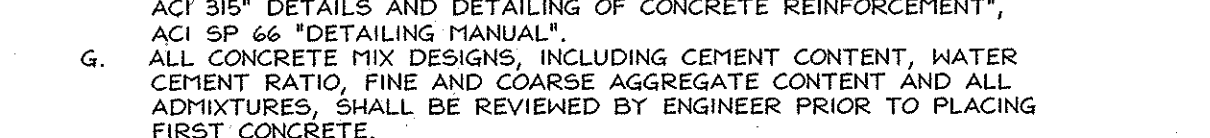
TOP VIEW REINFORCING DETAIL



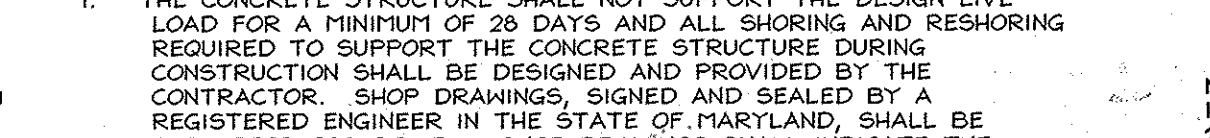
ELEVATION VIEW REINFORCING DETAIL



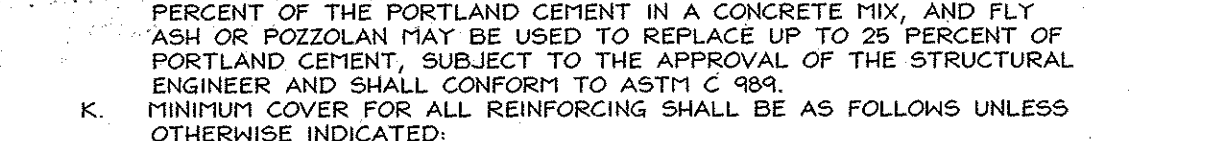
RISER VIEW REINFORCING DETAIL



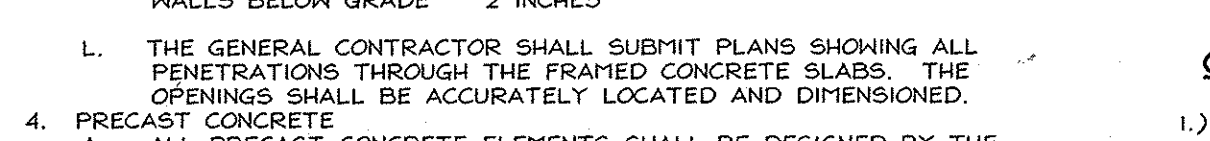
RISER SIDE VIEW



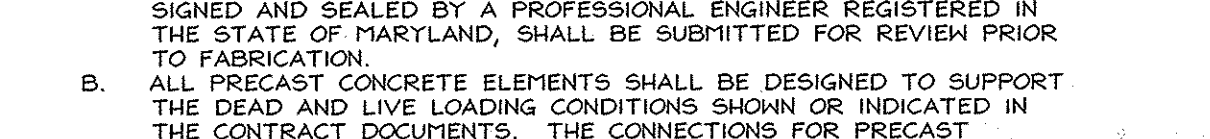
CONCRETE CRADLE DETAIL
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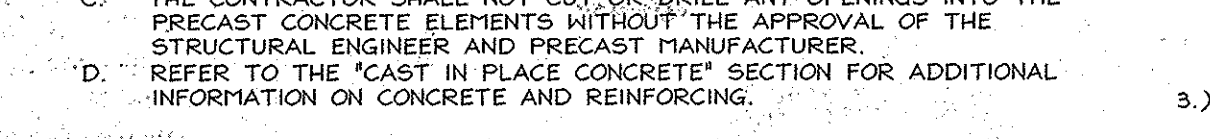
WS WATERSTOP GASKET DETAIL
NOT TO SCALE



ANTI-SEEP COLLARS
NOT TO SCALE

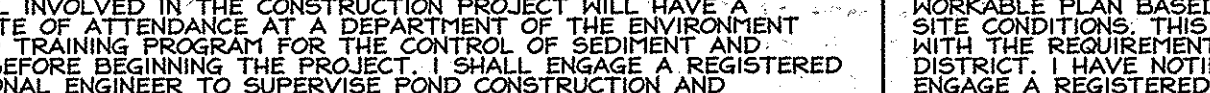


SWM EXTENDED DETENTION FACILITY POND BENCH DETAIL
NOT TO SCALE



PROFESSIONAL CERTIFICATION
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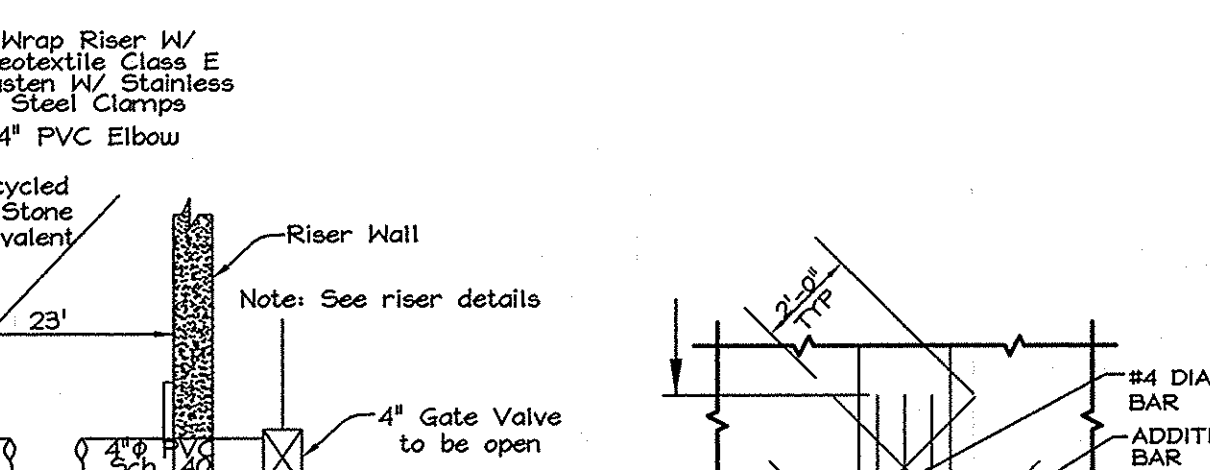


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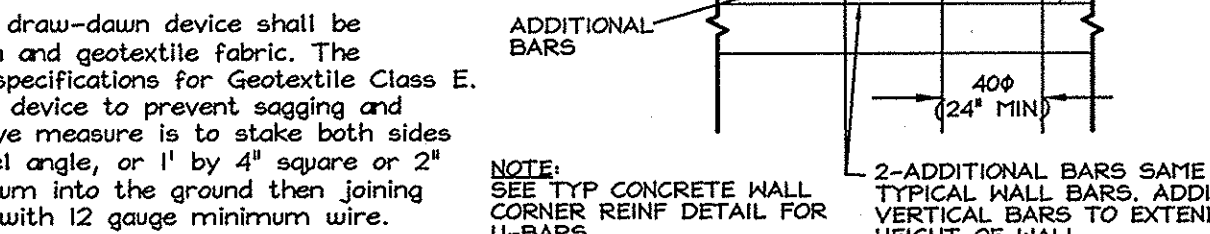
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CHECKED BY: ZTF
SCALE: As Shown
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SHEET No.: 9 OF 12

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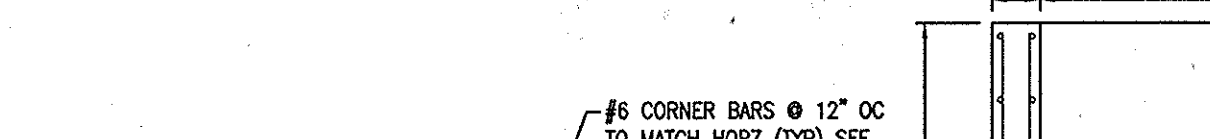
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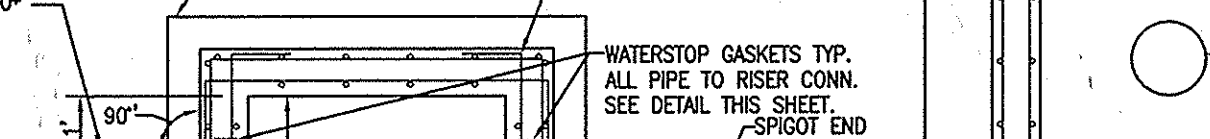
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Not to scale



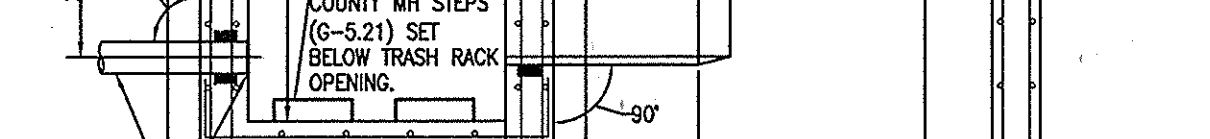
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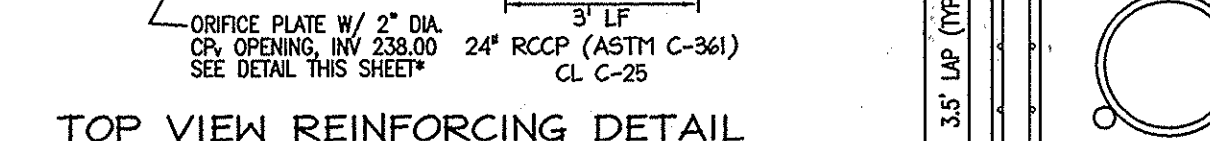
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NOT TO SCALE



SHOP NOTES



TRASH RACK DETAIL
NOT TO SCALE



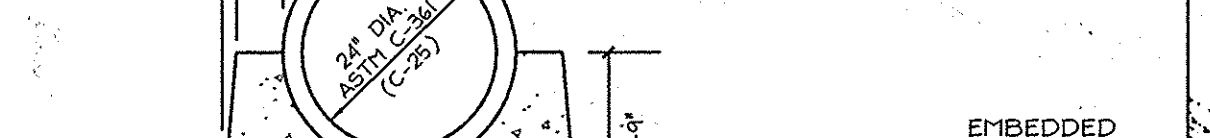
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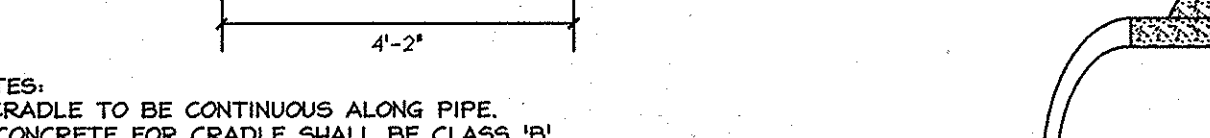
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RISER VIEW REINFORCING DETAIL



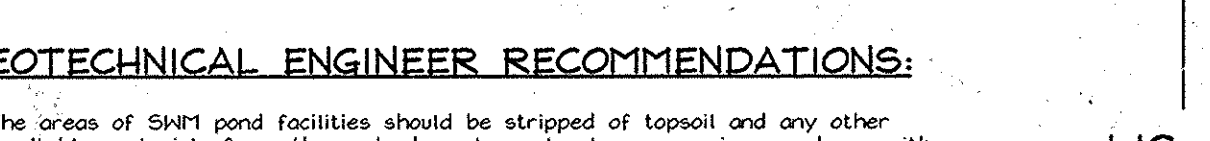
RISER SIDE VIEW



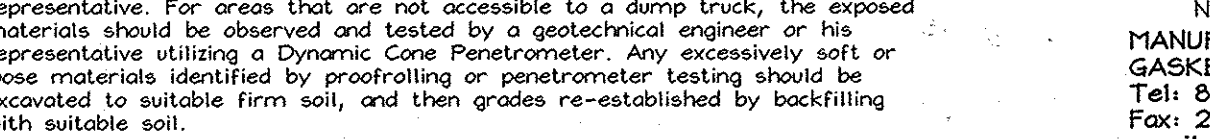
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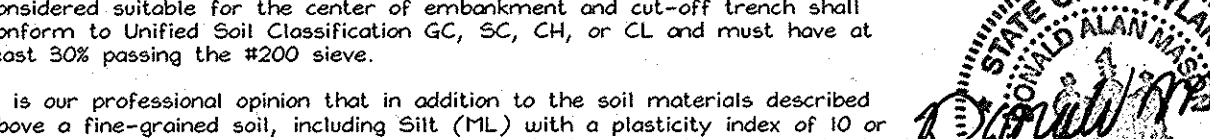
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ANTI-SEEP COLLARS
NOT TO SCALE

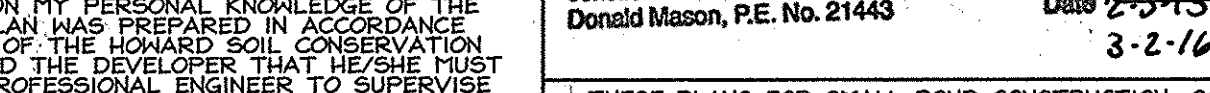


SWM EXTENDED DETENTION FACILITY POND BENCH DETAIL
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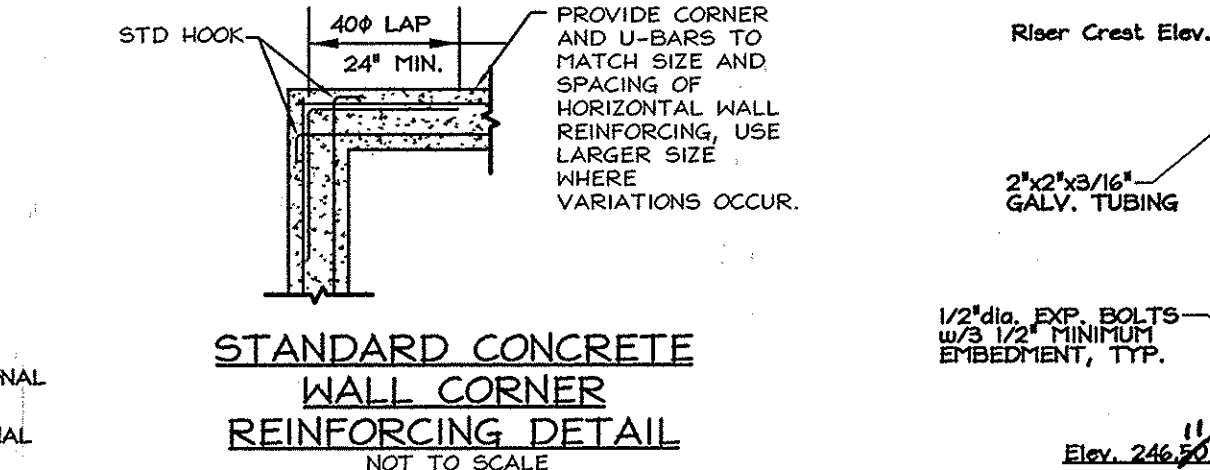


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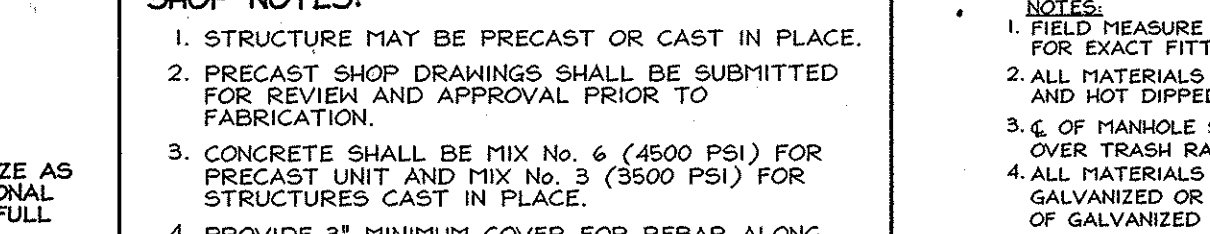
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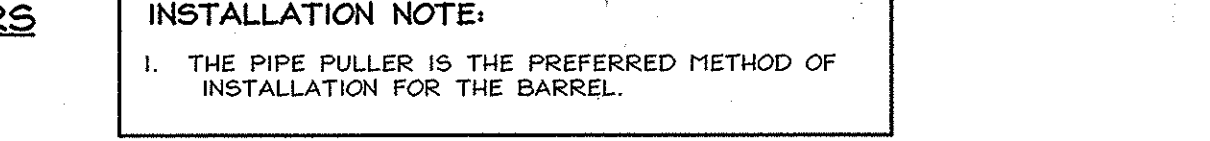
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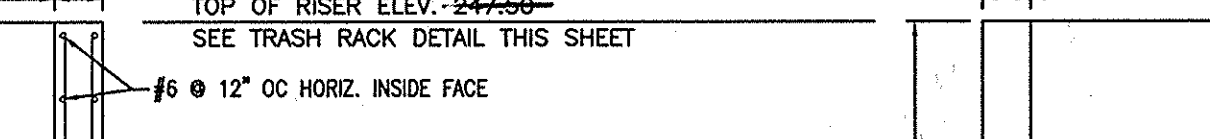
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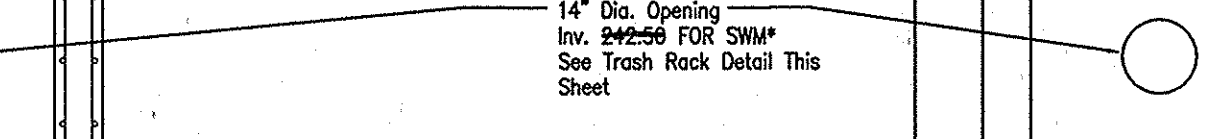
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Not to scale



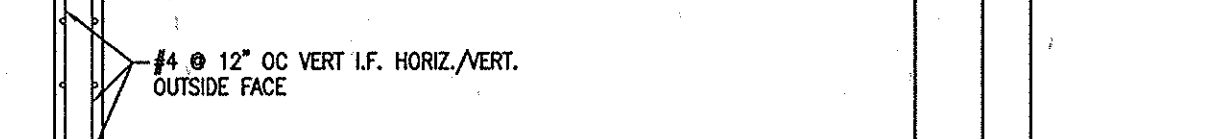
DETAIL OF ADDITIONAL REBARS AROUND RISER OPENING
NOT TO SCALE



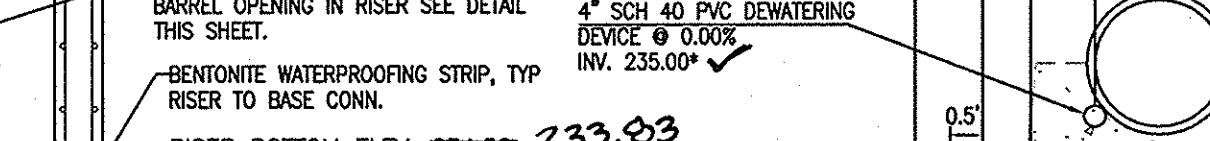
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NOT TO SCALE



SHOP NOTES



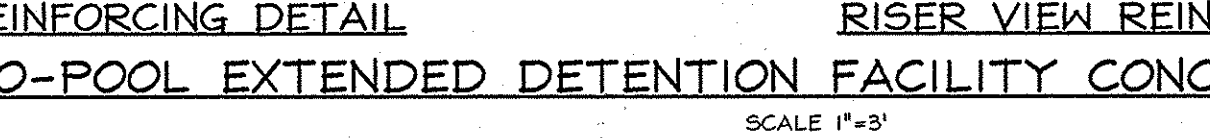
TRASH RACK DETAIL
NOT TO SCALE



TOP VIEW REINFORCING DETAIL



ELEVATION VIEW REINFORCING DETAIL



RISER VIEW REINFORCING DETAIL



RISER SIDE VIEW



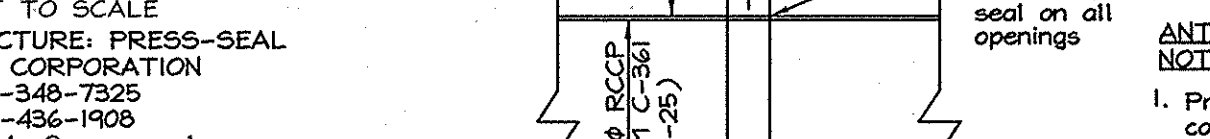
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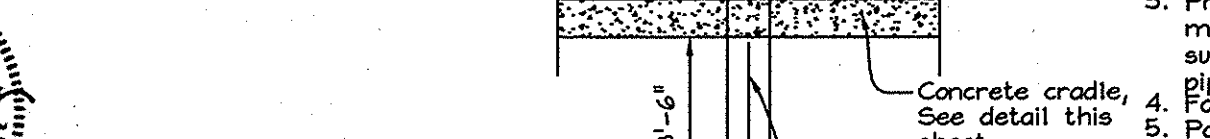
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ANTI-SEEP COLLARS
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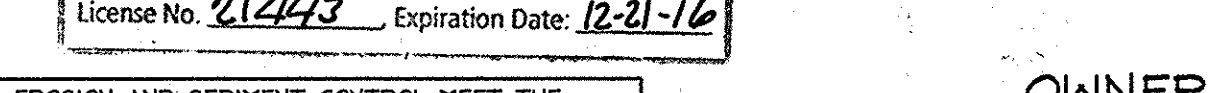


SWM EXTENDED DETENTION FACILITY POND BENCH DETAIL
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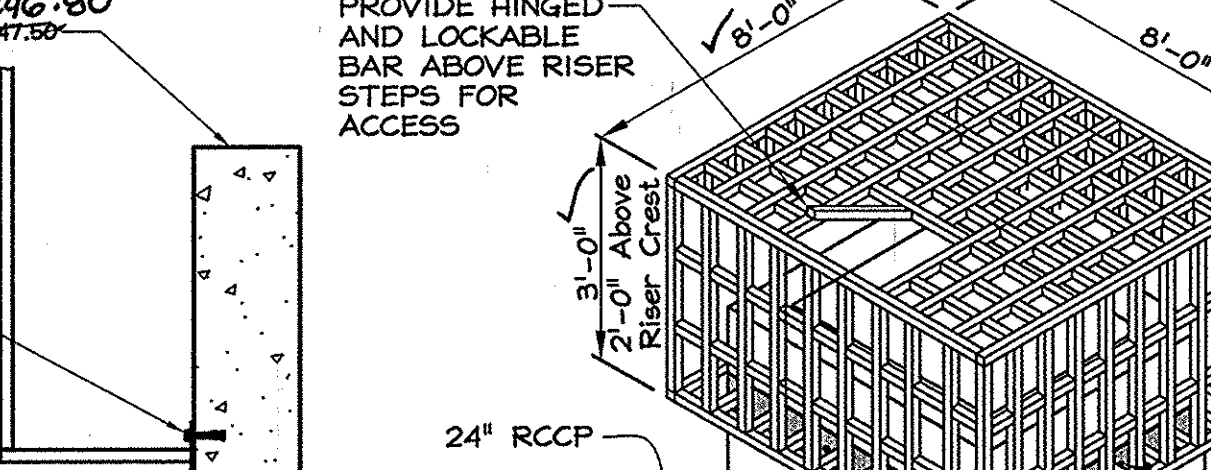


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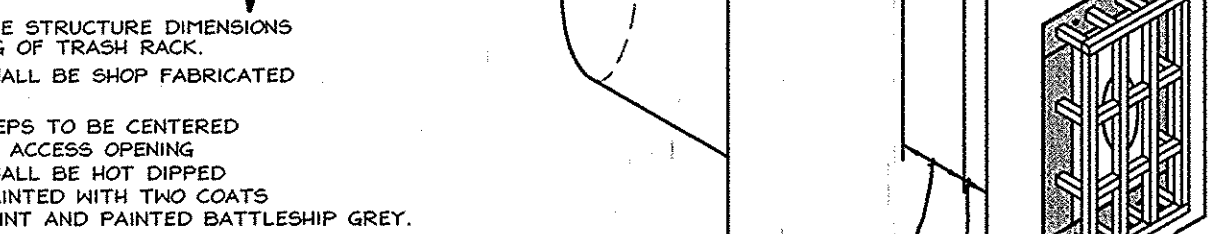
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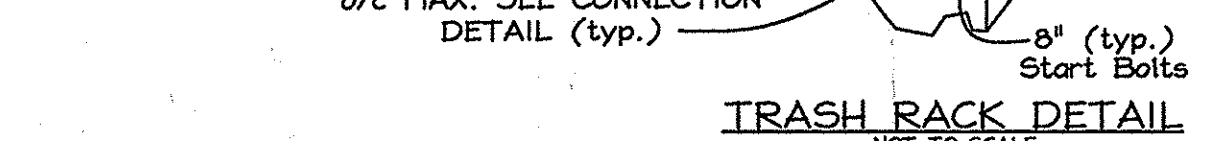
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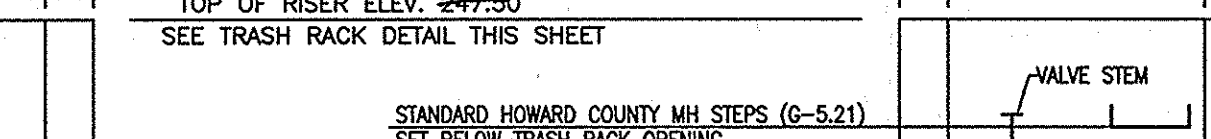
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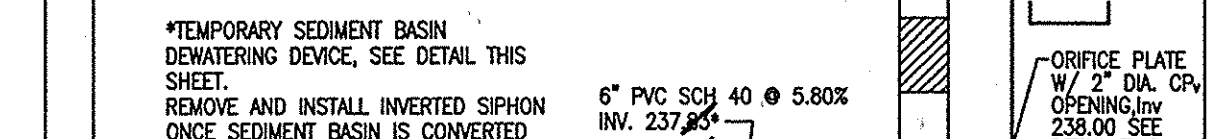
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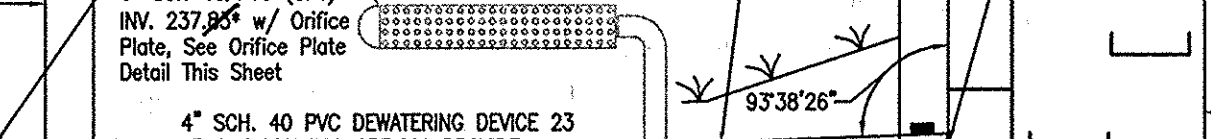
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STANDARD CONCRETE WALL CORNER REINFORCING DETAIL
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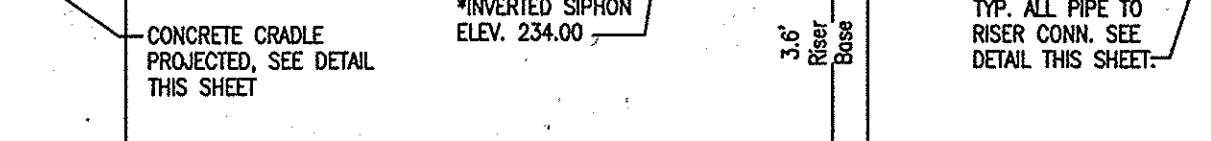
SHOP NOTES



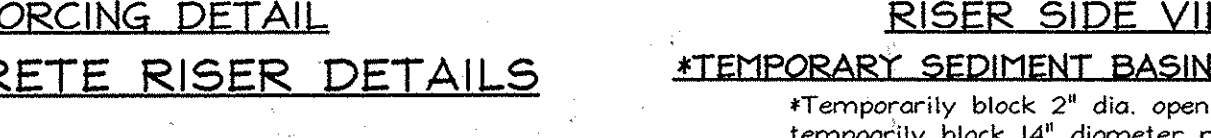
TRASH RACK DETAIL
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TOP VIEW REINFORCING DETAIL



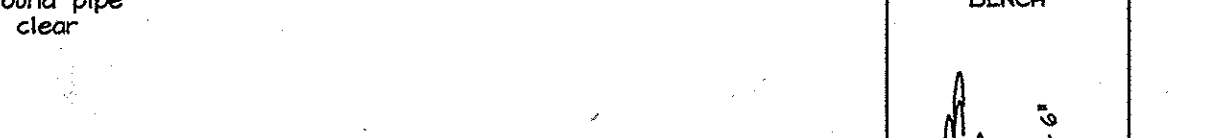
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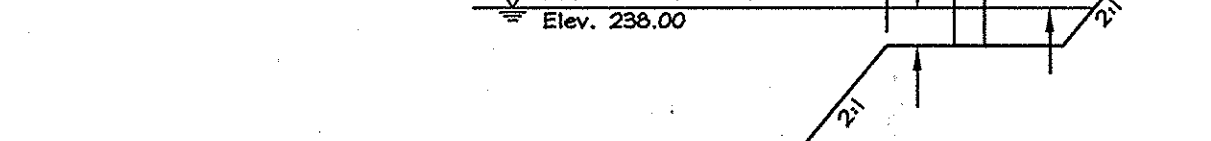
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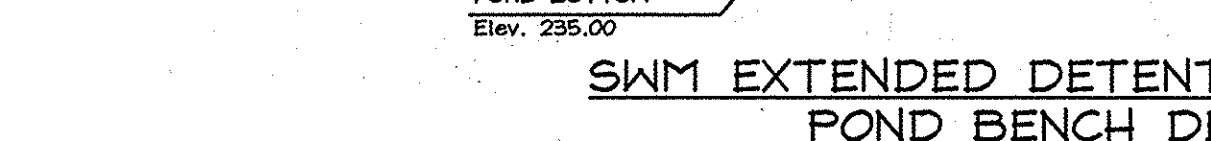
RISER SIDE VIEW



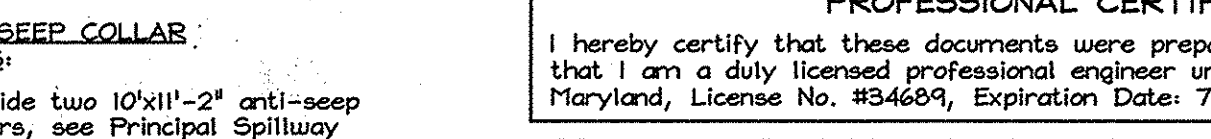
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LANDSCAPE NOTES

- At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
- The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
- Financial surety for the required perimeter landscaping will be posted as part of the Developer's Agreement in the amount of \$27,000.00 (62 shade trees @ \$300.00 each and 56 evergreen trees @ \$150.00 each).

STREET TREE PLANTING SCHEDULE

KEY	QUAN.	BOTANICAL/COMMON NAME	SIZE	NOTE
X	43	Tilia americana 'Redmond' 'Redmond' American Linden	2 1/2"-3" Cal.	B & B

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES			
	I	B	2	3	4	5
Perimeter/Frontage Designation Landscape Type	35'	388'	1068'	322'	643'	111'
Linear Feet of Roadway Frontage/Perimeter						
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No
Credit for Wall, Fence, Berm, or Other Planting (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No	No
Number of Plants Required	150 I 140 B	150 B 140 I	160 I 18	160 B 5	160 I 11	140 B 3
Number of Plants Provided	1	7	18	5	11	3
Shade Trees						
Evergreen Trees						
Other Trees (2:1 Substitution)						
Shrubs (10:1 Substitution)						

SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING

CATEGORY	SM#1 Perimeter 1		SM#1 Perimeter 2	
	A	B	A	B
Perimeter/Frontage Designation Landscape Type	683'	795'		
Linear Feet of Perimeter				
Credit for Existing Vegetation (No, Yes and Linear Feet) Remaining Perimeter Length	No	Yes (264')		531'
Credit for Wall, Fence or Berm (No, Yes and %)	No			
Number of Trees Required	150 I 140 B	150 I 140 B		
Number of Trees Provided	11	23	9	17
Shade Trees				
Evergreen Trees				

FOREST CONSERVATION NARRATIVE

This forest conservation plan has been developed in accordance with the Howard County Forest Conservation Manual and the Forest Conservation Act of 1991. In accordance with section 16 I202 (b)(1)(ii) of the Subdivision Regulations, existing Lot 143, Pleasant Chase Phase IV, has a Preliminary Plan approved prior to 12/31/1992. Therefore, only Parcels 492, 493, 494 & 622 are subject to Forest Conservation obligations. The above mentioned parcels consist of 1.75 acres. There are no forest resources contained on these parcels. Due to the small size of the lots, the 0.26 acre of afforestation requirement shall be satisfied with a fee-in-lieu payment of \$8,414.20 (1,325.60 SF x 0.75).

FOREST CONSERVATION WORKSHEET

Item	Description	Acres
A	Net Tract Area	1.75
B	Total Tract Area	1.75
C	B. Area Within 100 Year Floodplain	---
D	Other deductions	---
E	Net Tract Area	1.75
F	Zoning Use Category: RESIDENTIAL-SUBURBAN	
G	Land Use Category	
H	Afforestation Minimum (15% x D)	0.26
I	Conservation Threshold (20% x D)	0.35
J	Existing Forest Cover	
K	G. Existing Forest on Net Tract Area	0
L	H. Forest Area Above Conservation Threshold	0
M	Breakeven Point	
N	1. Forest Retention Above Threshold with no Mitigation	0.35
O	J. Clearing Permitted without Mitigation	0
P	Proposed Forest Clearing	
Q	K. Forest Areas to be Cleared	0
R	L. Forest Areas to be Retained	0
S	Planting Requirements	
T	M. Reforestation for Clearing Above Threshold	0
U	N. Reforestation for Clearing Below the Threshold	0
V	P. Credit for Retention Above Conservation Threshold	0
W	Q. Total Reforestation Required	0
X	R. Total Afforestation Required	0.26
Y	S. Total Reforestation and Afforestation Requirement	0.26

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL/COMMON NAME	SIZE	NOTE
B	22	Gleditsia triacanthos 'inermis' Thornless Honeylocust	2 1/2"-3" Cal.	B & B
X	17	Liquidambar styraciflua American Sweetgum	2 1/2"-3" Cal.	B & B
○	23	Quercus palustris Pin Oak	2 1/2"-3" Cal.	B & B
●	32	Ilex opaca American Holly	5'-6' Height	B & B
●	24	Pinus strobus White Pine	6'-8' Height	B & B

NOTES

- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
 - EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK IS VISIBLE AT THE TOP OF THE ROOT BALL.
 - STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
 - PLACE UPRIGHT STAKES PARALLEL TO HALFS & BUILDINGS.
 - KEEP MULCH 1" FROM TRUNK.
 - TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWERAGE EASEMENT.
- LEADER MUST REMAIN INTACT DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

RUBBER HOSE, MIN. 0.5" 2 STRANDS OF GALVANIZED WIRE TWISTED FOR SUPPORT UPRIGHT STAKES SET IN GROUND TO FIRM BEARING BEYOND EDGE OF ROOT BALL. FIN. 2" DEPTH MULCH @ 6" ± 4" EARTH SAUCER

ROOT BALL SHALL BE FLUSH WITH ORIGINAL GRADE OR RAISED UP TO 2" MAX. PLANTING MIX - USE EXCAVATED MATERIAL / SEE PLANTING NOTES

CUT BURLAP, ROPE AND WIRE LOOPS FROM TOP 2/3'S OF ROOT BALL. WIRE BASKET SHALL BE CUT ALONG HORIZONTAL MEMBERS AND FOLDED DOWN 8"

PLACE ROOT BALL ON UNEXCAVATED OR TAPPED SOIL

TYPICAL TREE PLANTING AND STAKING

ALL TREES UP TO 3" CALIPER NOT TO SCALE

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(410)224-7575 fax(410)224-4774

FINAL FOREST CONSERVATION AND LANDSCAPE PLAN
PLEASANT CHASE - PHASE IV
LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
8339 Howard Lane, Elkridge, MD 21075
Tel: 410-587-5200 Fax: 410-796-1552
E-mail: info@fsh.com

DESIGN BY: AB/SHM
DRAWN BY: SHM
CHECKED BY: SHM
SCALE: As Shown
DATE: April 28, 2010
P.L. No.: 3490
SHEET No. 11 OF 12

APPROVED: DEPARTMENT OF PUBLIC WORKS.
Walter R. Marshall, Chief, Bureau of Highways, 6-7-10
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Kurt Seibold, Chief, Division of Land Development, 6-15-10
6/10

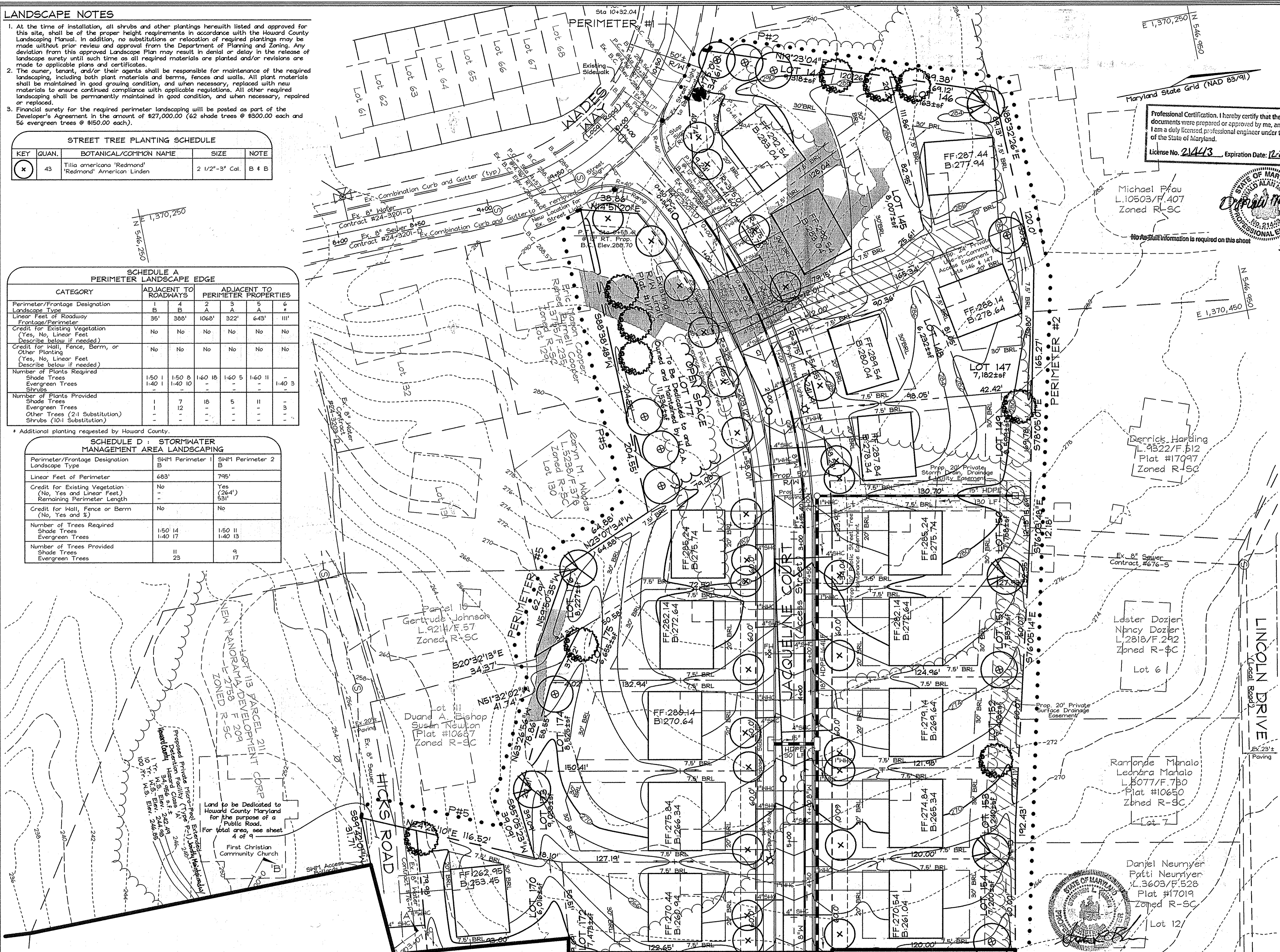
DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
SIGNATURE OF DEVELOPER: [Signature] DATE: 4/27/10

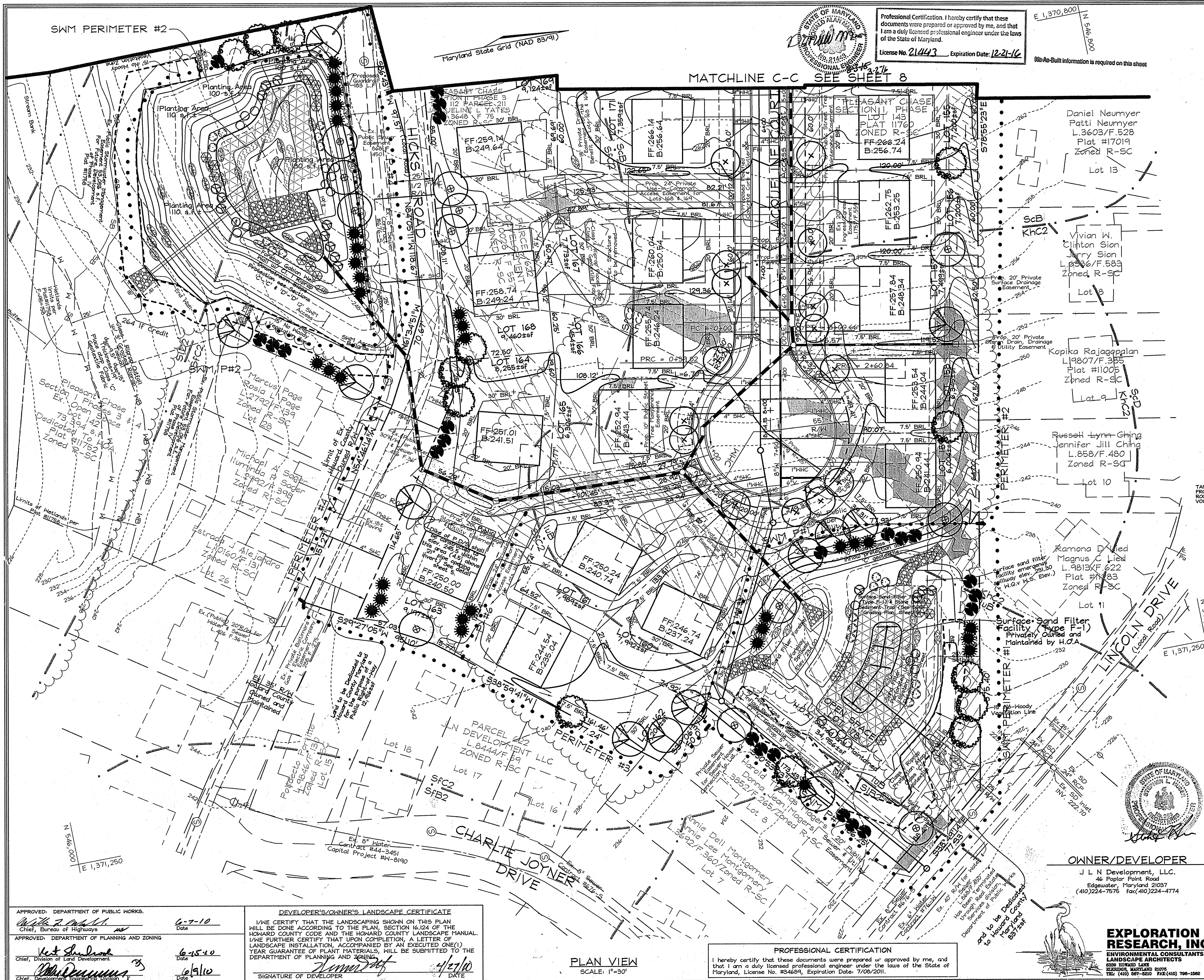
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[Signature] DATE: 4/27/10

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
6330 BOWARD LANE
ELKIDGE, MARYLAND 21075
TEL: (410) 667-5210 FAX: (410) 796-1662

STREET TREE SCHEDULE

STREET NAME	LF REQUIRED	TREES REQUIRED	PROVIDED
JACQUELINE COURT	1715'	(1.40) = 43	43





Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-16

Professional Engineer
 State of Maryland
 License No. 21443
 Expiration Date: 12-21-16

SWM (Surface Sand Filter) Planting Notes

Within Facility - Bottom to 232.0 - 4,656 s.f.
 To be planted with Red Top (*Agrostis alba*) at 5 lbs / 1000 s.f.

SWM POND WOODY PLANT SCHEDULE				
SYMBOL	QUAN.	BOTANICAL NAME	SIZE	NOTE
⊗	9	<i>Clethra alnifolia</i> Sweet Pepperbush	3'-4' Ht.	Cont.
⊗	9	<i>Cephalanthus occidentalis</i> Butterbush	3'-4' Ht.	Cont.
⊗	9	<i>Ilex verticillata</i> Winterberry	3'-4' Ht.	Cont.
⊗	5	<i>Viburnum dentatum</i> Arrowwood	3'-4' Ht.	Cont.

Remaining area around the stormwater management facility will be stabilized as per the permanent seeding notes, Sheet 5 of 12, and vegetated as per the landscape buffer requirements, this sheet.
 Entire area to be prepared as per the permanent seeding notes.

SWM (Type P-1) Planting Notes

Emergent Planting Area
 Within Facility - 238.0 to 239.0 - 1,985 s.f.
 To be planted with Red Top (*Agrostis alba*) at 5 lbs / 1000 s.f.

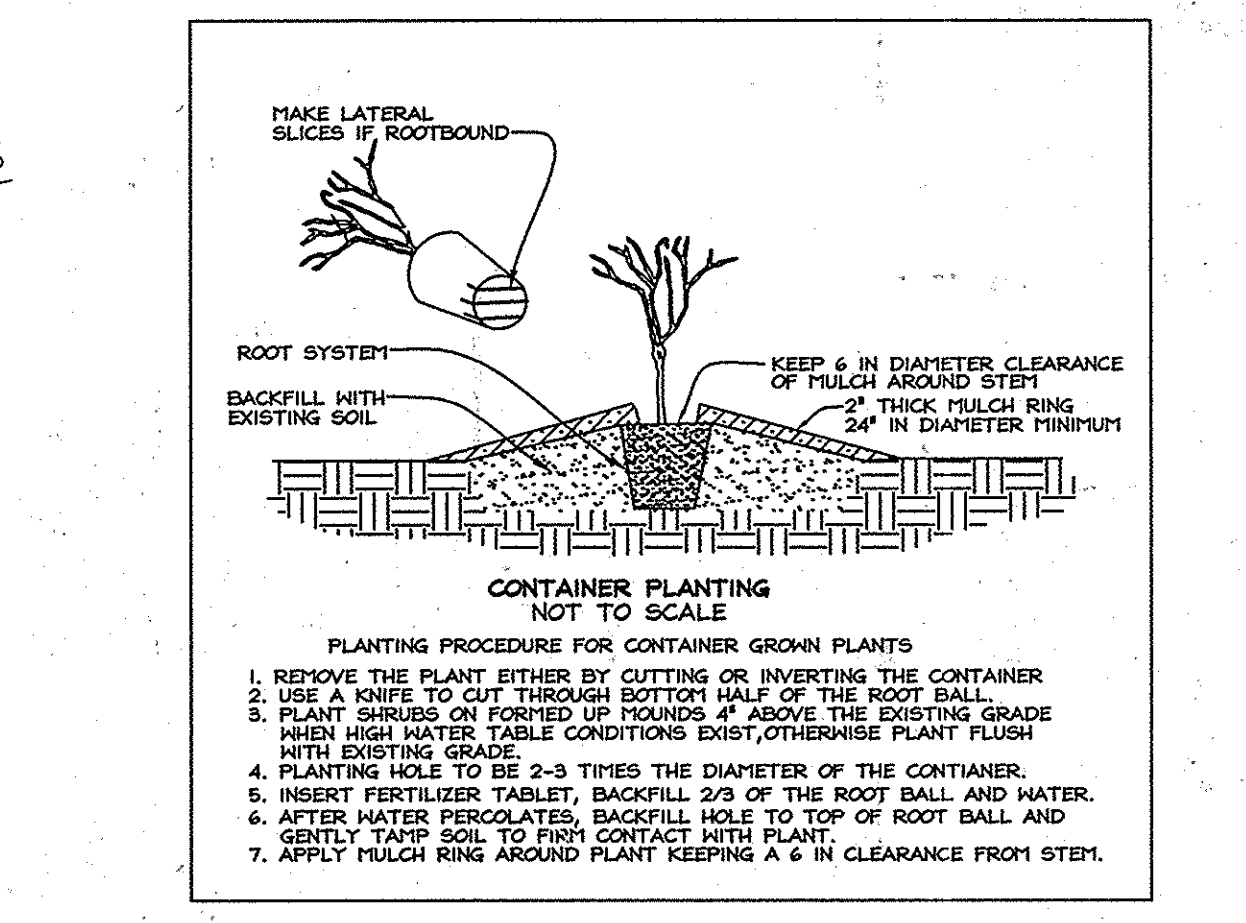
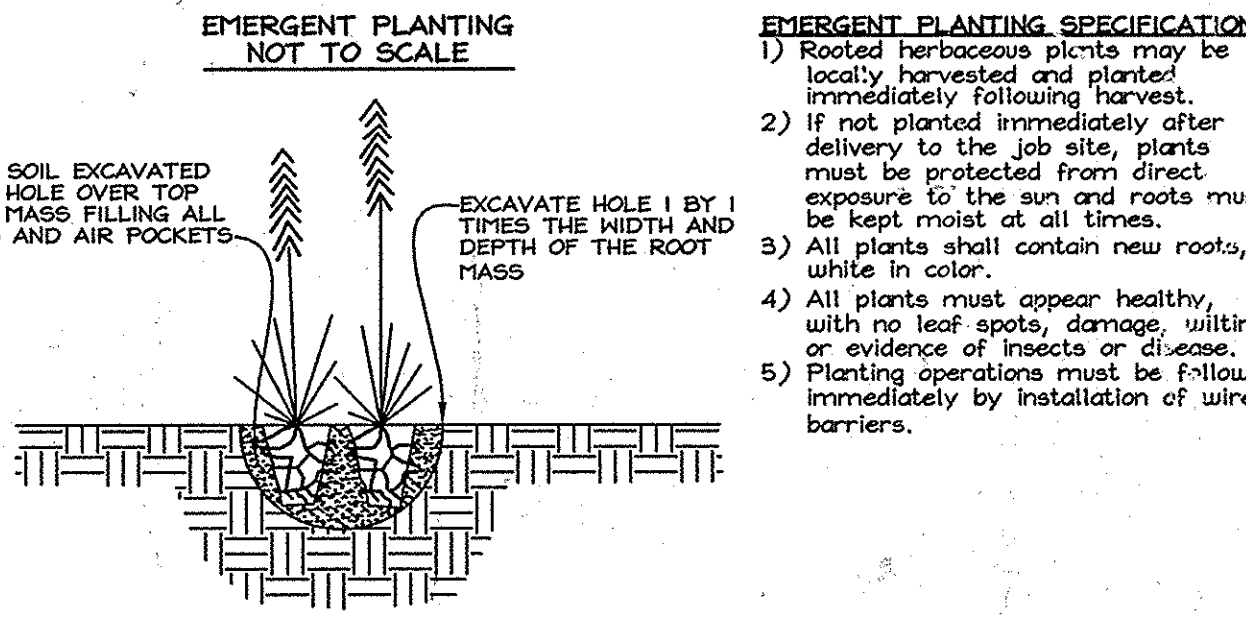
SWM POND WOODY PLANT SCHEDULE				
SYMBOL	QUAN.	BOTANICAL NAME	SIZE	NOTE
⊗	11	<i>Clethra alnifolia</i> Sweet Pepperbush	3'-4' Ht.	Cont.
⊗	11	<i>Cephalanthus occidentalis</i> Butterbush	3'-4' Ht.	Cont.
⊗	11	<i>Ilex verticillata</i> Winterberry	3'-4' Ht.	Cont.
⊗	11	<i>Viburnum dentatum</i> Arrowwood	3'-4' Ht.	Cont.

Remaining area around the stormwater management facility will be stabilized as per the permanent seeding notes, Sheet 5 of 12, and vegetated as per the landscape buffer requirements, this sheet.
 Entire area to be prepared as per the permanent seeding notes.

EMERGENT PLANTING
 (550 S.F.) (160 PLANTINGS, 24" O.C. WITHIN FIVE 5'x 20'-26" PLOTS)

COMMON NAME	SCIENTIFIC NAME	WETLAND INDICATOR	PLANTING STOCK	QUANTITY
Swamp Milkweed	<i>Asclepias incarnata</i>	OBL	Bare root	40
Cardinal Flower	<i>Loebelia cardinalis</i>	FAC+	Bare root	40
Panic Grass	<i>Panicum laxifolium</i>	OBL	Bare root	40
Duck Potato	<i>Sagittaria latifolia</i>	OBL	Bare root	40

EMERGENT PLANTING NARRATIVE
 Vegetation establishment is expected through natural plant propagation and will be enhanced by supplemental planting around the pond area. Supplemental planting in 5' wide plots of varying lengths (20'-26'; see plan).
 Plant installation may be delayed one year after grading to allow the graded area to settle and hydrology to stabilize.



APPROVED: DEPARTMENT OF PUBLIC WORKS.
 Chief, Bureau of Highways
 Date: 6-7-10

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date: 6-15-10

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Division of Engineering
 Date: 6/15/10

DEVELOPER'S/OWNER'S LANDSCAPE 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(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 SIGNATURE OF DEVELOPER: [Signature]
 DATE: 4/27/10

PLAN VIEW
 SCALE: 1"=30'

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. #34609, Expiration Date: 7/08/2011.

OWNER/DEVELOPER
 J L N Development, LLC.
 46 Poplar Point Road
 Edgewater, Maryland 21037
 (410)224-7575 fax:(410)224-4774

FINAL FOREST CONSERVATION AND LANDSCAPE PLAN
PLEASANT CHASE - PHASE IV
 LOTS 144 THRU 176 AND OPEN SPACE LOTS 177 AND 178
 A RESUBDIVISION OF PLEASANT CHASE, PHASE 3, LOT 112 AND PHASES 3 AND 4, LOT 143 AND LOTS 9-12 & 14 OF ONE SPOT HEIGHTS
 TAX MAP 43 GRID 8 PARCELS 211, 492, 493, 494, 622
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FSH Associates
 Engineers Planners Surveyors
 25339 Howard Lane, Elkridge, MD 21075
 Tel: 410-567-5200 Fax: 410-798-1562
 E-mail: info@fsheri.com

DESIGN BY: AB
 DRAWN BY: AB
 CHECKED BY: ZYF
 SCALE: As Shown
 DATE: April 28, 2010
 N.O. No.: 9480
 SHEET No.: 12 OF 12