

GENERAL NOTES


- This project is in conformance with the latest Howard County Standards unless waivers have been approved.
- The existing topography is taken from aerial survey with two foot contour intervals prepared by Aero-Metric dated 1-25-01.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System, Howard County Monument Nos. 17-FA and 17-F7 were used for this project.
- Water shall be public. Contract number not yet assigned.
- Sewer shall be public. Contract number not yet assigned.
- Stormwater management shall be in conformance with the 2010 MDE standards. The SHM shall be provided by porous pavement for sidewalks and driveways and by microretention facilities and drywells located in the public right of way and on private lots. At Final Plan, the microretention facilities will be re-evaluated for possible replacement with dry wells.
- Existing utilities are based on the aerial survey and field survey by Ben Dyer Associates.
- The floodplain study for this project was prepared by Ben Dyer Associates, dated February, 2012, and meets the requirements for "Obviously not Critical Study". At Final plan, the floodplain study shall be put within a public 100-year Floodplain easement and shown on the plat and plans.
- The wetlands delineation study for this project was prepared by Ben Dyer Associates, dated December, 2012.
- The traffic study for this project was prepared by The Traffic Group, dated April 23, 2013.
- The geotechnical report for this project was prepared by Hillis-Carnes Engineering Associates, dated January 4, 2012.
- The noise study for this project was prepared by Mars Group, dated September 24, 2012.
- In accordance with Section 10B.F.3 of the Howard County Zoning Regulations, the applicant will be transferring one development right from a sending parcel in order to develop the entire R-20 zoning portion under the R-ED bulk regulations as well as to gain one additional development lot. The off-site sending location will be identified and recorded with the final plat submission for this project.
- Grading and disturbance of environmental features as applicable for outfall locations and/or utility construction is considered essential disturbance. No other grading, disturbance or vegetative removal is permitted in wetlands, streams, their buffers, flood plain or forest conservation easement areas.
- Waiver request WP-13-165 was approved September 16, 2013 for the following:
 - The removal of 35 out of 146 specimen trees (Section 16.1205(A)(4-5+7))
 - Impacts to Floodplains (Section 16.115)
 Design Manual Waivers:
 - Vol III Section 2.5.B.10 Intersection Vertical Alignment. Waiver of maximum allowable landing grade at the site entrance to allow Road A to drop quickly and match onsite grades. Approved May 30, 2013.
 - Vol III Section 2.5.B.10 Intersection Vertical Alignment. Waiver of maximum allowable landing grade for Road F at intersections with Road A and Road B. Steepening the road grade shortens the length and thereby avoids extending the road into environmentally sensitive areas. Approved May 30, 2013.
- This subdivision conforms to the Amended Fifth Edition of the Howard County Subdivision and Land Development Regulations.
- Minimum Lot Size= 6,000 sf. (Lot 54)
- No cemeteries, gravesites or historic structures exist on the site.
- Forest Conservation obligations in accordance with Section 16.1202 of the Forest Conservation Manual will be fulfilled by 13.54 acres of retention, 1.46 acres of reforestation and a fee-in-lieu for 8.98 acres of reforestation. In addition, the developer shall either pay a fee-in-lieu or provide obligations off-site for disturbance of the established Forest Conservation Retention Easement located on adjoining Open Space Lot 124 of the Daniels Mill Overlook Subdivision. Disturbance in this area is necessary for public sewer connections to the eastern Daniels Mill Overlook Pump Station. The obligation for this disturbance has not yet been determined but will be fulfilled prior to plat recordation of this subdivision. Recordation of a Forest Conservation Plat of easement will be necessary to show the revised easement area on Open Space Lot 124. The area of 5HA forest conservation easement is not utilized in fulfillment of forest conservation obligation for the proposed development.
- This project is subject to Planning Board Case No. 403, which was approved on February 28, 2014.
- Open space lots 196 and 197 shall be dedicated to the Howard County Department of Recreation and Parks.
- All MDE Permits will be obtained as applicable.
- A Pre-Submission community meeting was held on October 2, 2012.
- Off-site water and sewer connections will require recordation of Plots of Easement. Grading in the steep slopes, wetlands, their buffers and/or floodplain for water and sewer connections is considered essential disturbance, however, such disturbance has been approved under WP-13-165. Any disturbance in off-site Forest Conservation Easements will require amended plats as applicable.
- Perimeter landscaping, street side and trash pad screening shall be provided in accordance with Section 16.124 of the Landscaping Manual. Surety will be provided at final plan submission.
- The R-20 Zoned portion of the site will be developed in accordance with "R-ED" Zoning Regulations per Section 10B.F.3 of the Section 10B.F.2 to receive at least one density sending unit to qualify to use the "R-ED" Regulations.

Site Data
 Location: Tax Map: 17, grids 5, 6, 11 and 12
 Election District: 2nd
 Existing Zoning: R-20 and R-ED per the 2/02/04 Comprehensive Zoning Plan
 Gross Tract Area: 122,744.7 acres
 Area of 100-year Floodplain: 8.43 acres (includes FP in SHA FC Easement(3.93 acres outside of SHA FC Easement))
 Area of Steep Slopes Outside the Floodplain: 16.07 acres
 Net Tract Area: 98.24 acres
 Area of Proposed Buildable Lots : 35.34 Acres
 Area of Open Space Required: 50% x 122.74 = 61.40 acres
 Area of Open Space Provided: 71.74 acres = 63.4% (includes 55.65 acres, SHA FC Easement)
 Recreational Open Space Required: 300 SF x 195 lots = 58,500 SF (1.3 acres)
 Recreational Open Space Provided: 61,015 SF or 1.4 acres (see tracking chart below)
 Area of Proposed Right-of-Way: 4.66 acres
 Number of Lots Permitted (98.24 Net Acres x 2/acre): 196 buildable lots plus 1 density transferred for R-20 Development = 197*
 Number of Lots Proposed: 195 buildable lots
 Total Approximate Disturbed Area: 54.22 acres (44.76 acres on-site/4.46 acres off-site)
 Applicable DPZ File Reference(s): ECP-13-024, Waivers WP-13-165, PB Case No. 403
 Proposed Use: Single Family Detached Residential (195 fee-simple lots)

*This subdivision must transfer one unit to develop R-ED lot sizes in the R-20 Zoned portion. In accordance with Section 10B.F.2 a bonus of up to 10% more units than achievable in the R-ED Zoned land is allowed. The developer, however, has opted to transfer only one unit.

RECREATIONAL OPEN SPACE
 NARRATIVE: 34,815 SF of Recreational Open Space will be provided in 4 trail side rest areas. These rest areas will be designed as formal parks with slopes less than 10% and will include benches, picnic tables, gazebos, exercise stations, ornamental planting, decorative pavers etc... Additionally 21,200 SF of credits will be utilized for recreational amenities located along the extensive pathway system which connects to both Patapsco Park and Howard County Athletic Fields and Howard County Board of Education Athletic Fields. This trail system will include additional benches, and interpretive signage.

SUMMARY
 Recreational Open Space Required: 300 SF x 195 lots = 58,500 SF (1.3 acres)
 Open Space Provided
 34,815 SF provided in 4 trail side rest areas.
 Credits for Recreational Amenities (50% max)
 16,800 SF Paved Pathways @ 3 SF/1 LF
 2,400 SF 12 Benches @ 200 SF/Bench
 2,000 SF 10 Interpretive Signage @ 200 SF/Sign
 Provided 161,015 SF Total

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

 PLANNING DIRECTOR

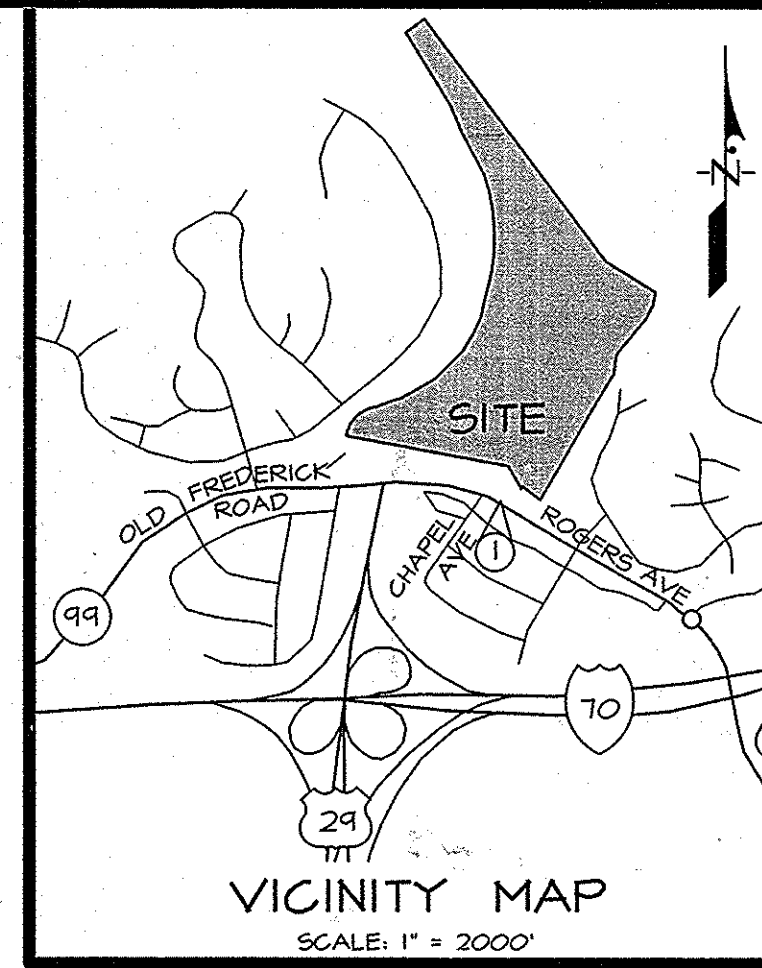
HOUSING UNIT ALLOCATION PHASING	
YEAR	UNITS
2016	35
2017	160

PRELIMINARY EQUIVALENT SKETCH PLAN
THE ESTATES
AT PATAPSCO PARK
 LOTS 1-195 AND
 OPEN SPACE LOTS 196 & 197
 ZONING: R-20, R-ED, 2nd ELECTION DISTRICT
 TAX MAP 17, GRIDS 5, 6, 11 & 12
 HOWARD COUNTY, MARYLAND



SINGLE FAMILY DETACHED - FRONT ELEVATION
 NOT TO SCALE

CONTROL POINTS:
 1) HOWARD COUNTY 17-F7
 NAD83 (Adj 07)
 N 545829.6404
 E 1363088.3414
 2) HOWARD COUNTY 17-FA
 NAD83 (Adj 07)
 N 544948.4216
 E 1364626.7188
ADC MAP COORDINATES:
 N 535,200 E 850,500
 MAP PAGE 12, GRID C-3



MINIMUM LOT SIZE CHART			
LOT NO	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
74	9,871 SF	684 SF	9,182 SF
80	9,353 SF	664 SF	8,684 SF
81	8,032 SF	647 SF	7,385 SF
97	7,749 SF	291 SF	7,508 SF
98	8,314 SF	806 SF	7,508 SF
99	8,824 SF	1,322 SF	7,507 SF
100	10,128 SF	748 SF	9,430 SF
101	7,765 SF	1,135 SF	6,630 SF
102	7,084 SF	454 SF	6,630 SF
141	14,090 SF	1,068 SF	13,022 SF
142	8,786 SF	2,126 SF	6,660 SF
143	8,543 SF	1,613 SF	6,980 SF
144	8,604 SF	1,107 SF	7,447 SF
145	7,886 SF	584 SF	7,302 SF
146	8,022 SF	125 SF	7,847 SF
165	6,860 SF	40 SF	6,820 SF
166	7,625 SF	515 SF	7,110 SF
167	7,620 SF	991 SF	6,624 SF
168	12,627 SF	1,802 SF	10,825 SF
169	12,748 SF	1,226 SF	11,522 SF
170	8,746 SF	408 SF	8,338 SF

ROADWAY INFORMATION CHART				
ROAD NAME	STATION	CLASSIFICATION	DESIGN SPEED	R/W WIDTH
ROAD 'A'	0+00 TO 5+41	MINOR COLLECTOR	35 MPH	70 FT
ROAD 'A'	5+41 TO 21+47	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'B'	1+55 TO 23+09.17	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'C'	1+55 TO 10+00.52	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'D'	0+00 TO 5+91.11	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'E'	0+00 TO 1+70.24	PUBLIC ACCESS STREET	25 MPH	50 FT
ROAD 'F'	0+00 TO 5+40	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'G'	0+00 TO 5+48.21	PUBLIC ACCESS STREET	30 MPH	50 FT
ROAD 'H'	0+00 TO 4+57.86	PUBLIC ACCESS STREET	25 MPH	50 FT
ROAD 'I'	0+00 TO 2+42.05	PUBLIC ACCESS STREET	25 MPH	50 FT

ESD SUMMARY TABLE	
SITE AREA	122.8 AC.
ESDv	89,467.4 CF (REQUIRED) 118,755 CF (PROVIDED)
Rev	INCLUDED IN ESDv
CPV	INCLUDED IN ESDv
GPI0	NOT REQUIRED
GPI00	NOT REQUIRED

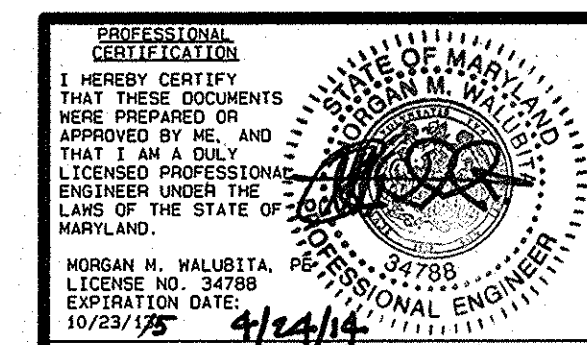
COVER SHEET
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-024

SHEET 1 OF 23

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

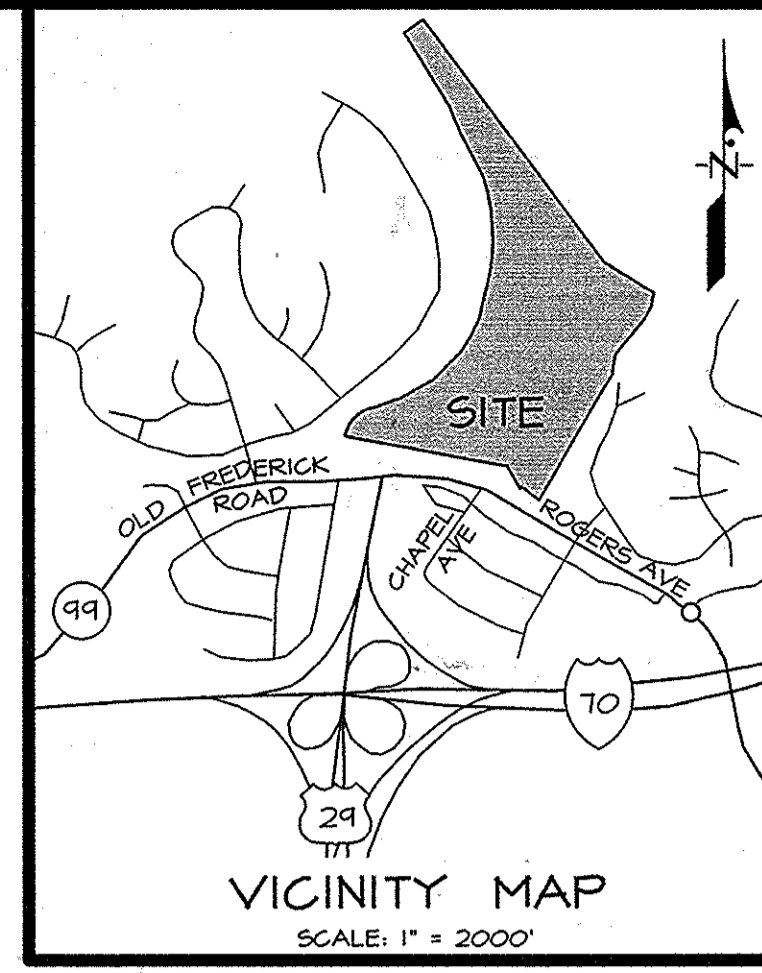


DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
12/21/12	DESIGN	BD	NO SCALE	J-B08034
MARCH 2013	REVISIONS			4.007-Y

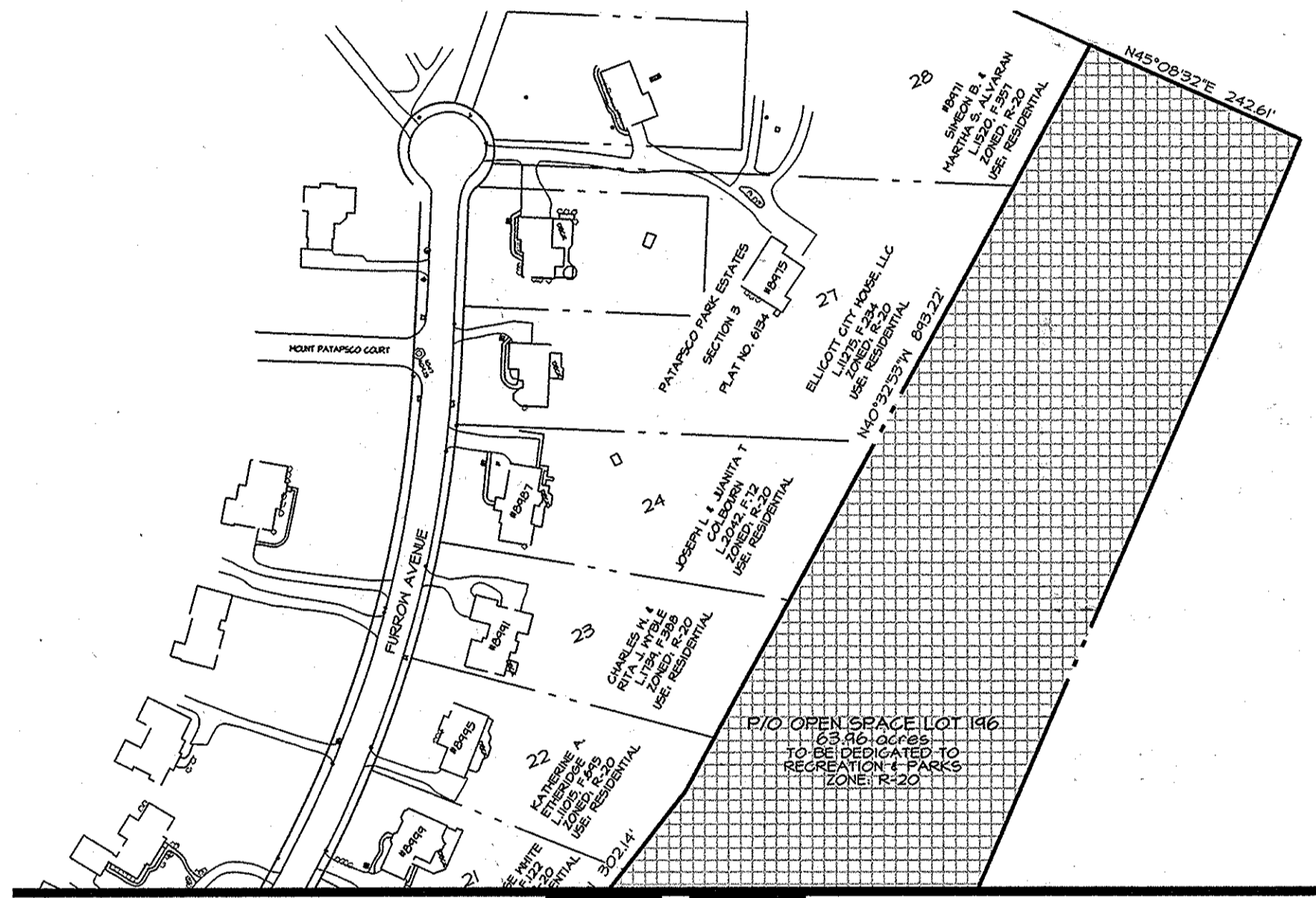
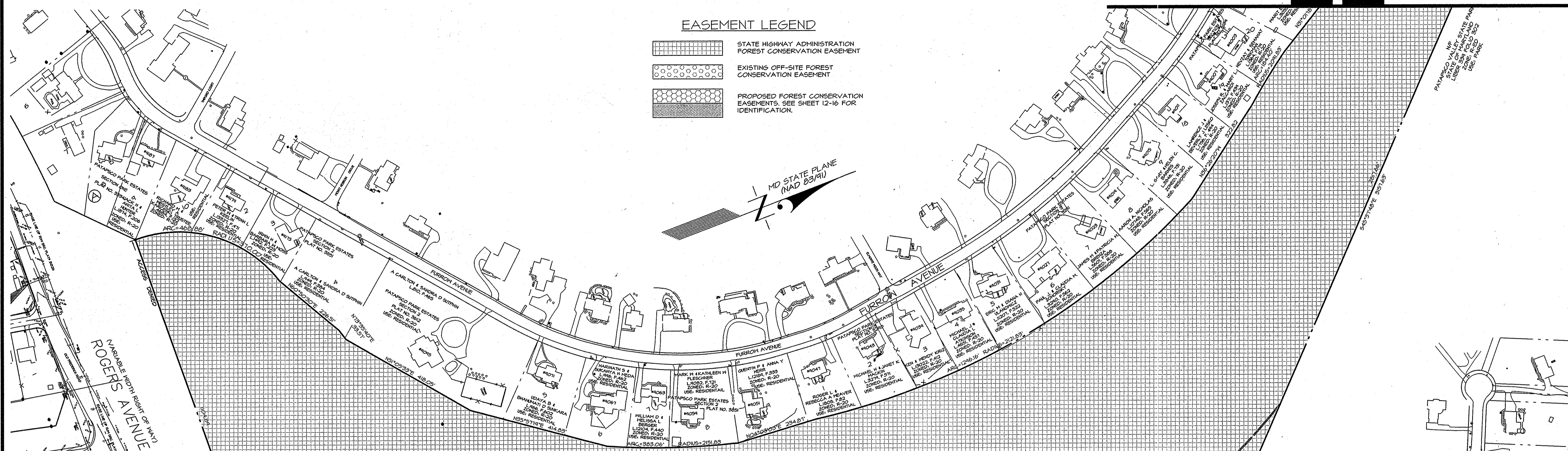
TAX MAP 17, GRIDS 5, 6, 11 & 12

EASEMENT LEGEND

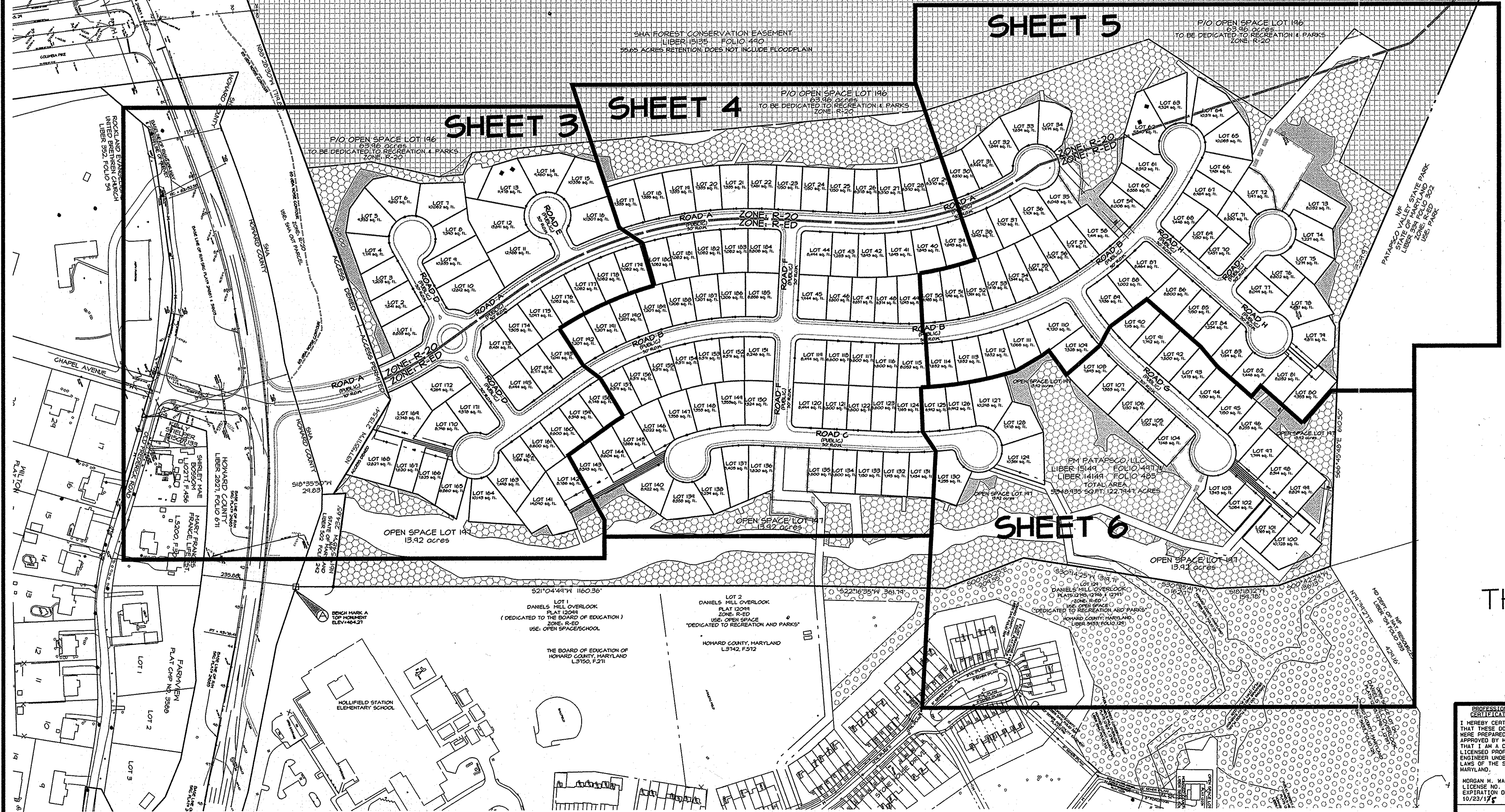
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- EXISTING OFF-SITE FOREST CONSERVATION EASEMENT
- PROPOSED FOREST CONSERVATION EASEMENTS. SEE SHEET 12-16 FOR IDENTIFICATION.



OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645



MATCH LINE "A-A" (THIS SHEET)



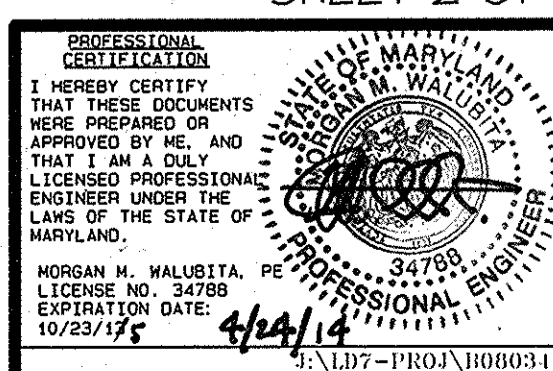
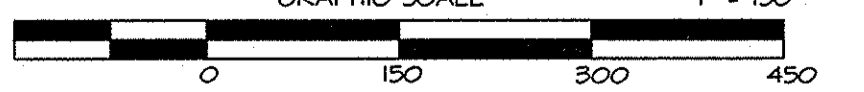
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Frank McCayle 7/11/13
 PLANNING DIRECTOR Date

OVERALL SITE LAYOUT PLAN
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 2 OF 23



DATE	DESCRIPTION	BY	DATE	ORIG. NO.
	REVISIONS			

17121 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
 BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (800) 430-2000
 COPYRIGHT © 2013 BEN DYER ASSOCIATES, INC.
 DRAWN BY (DESIGNED BY) CHECKED BY
 JDS / GS / PBW
 J-B08034
 SCALE 1" = 150'
 DATE MARCH 2013
 4.00B-Y

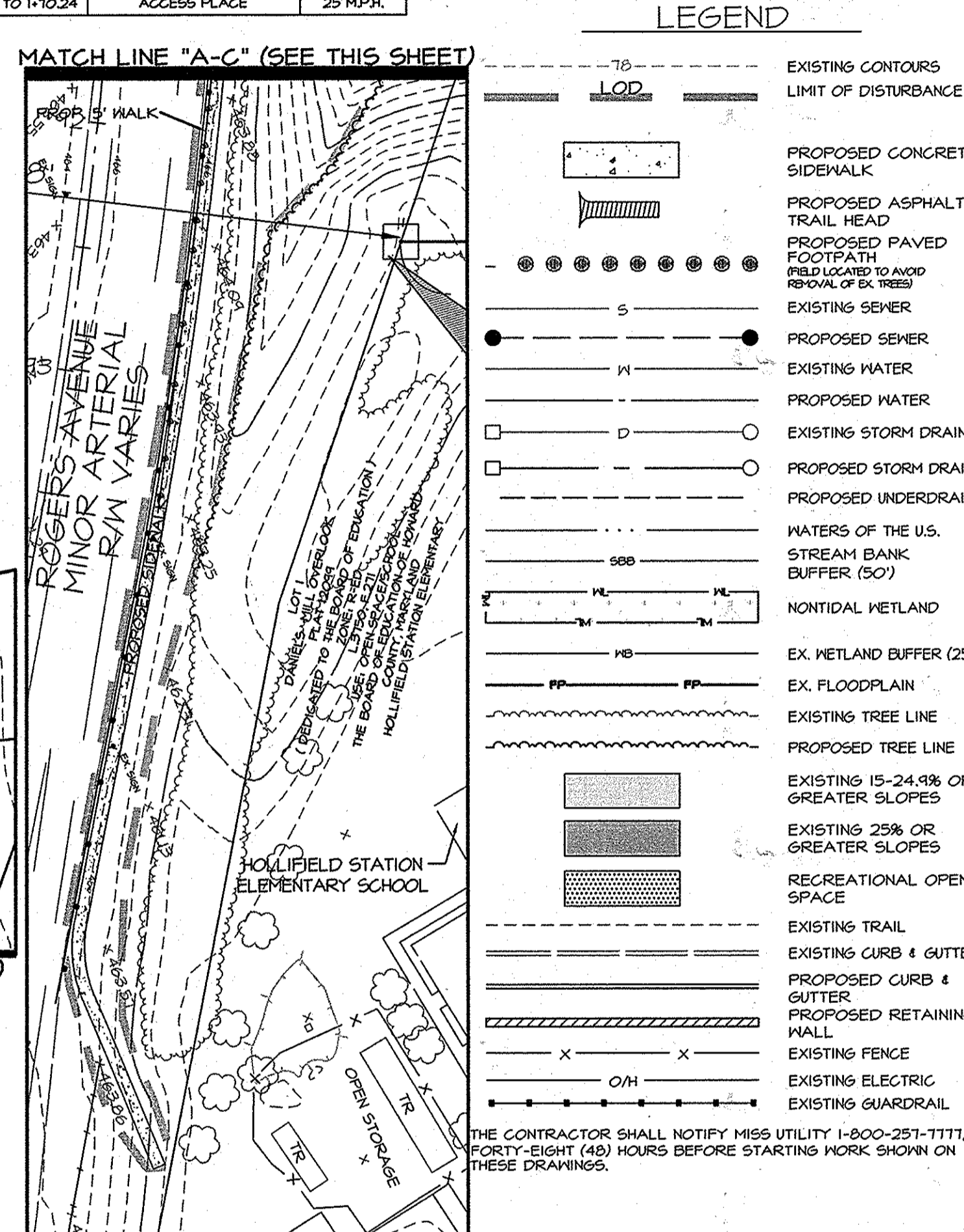
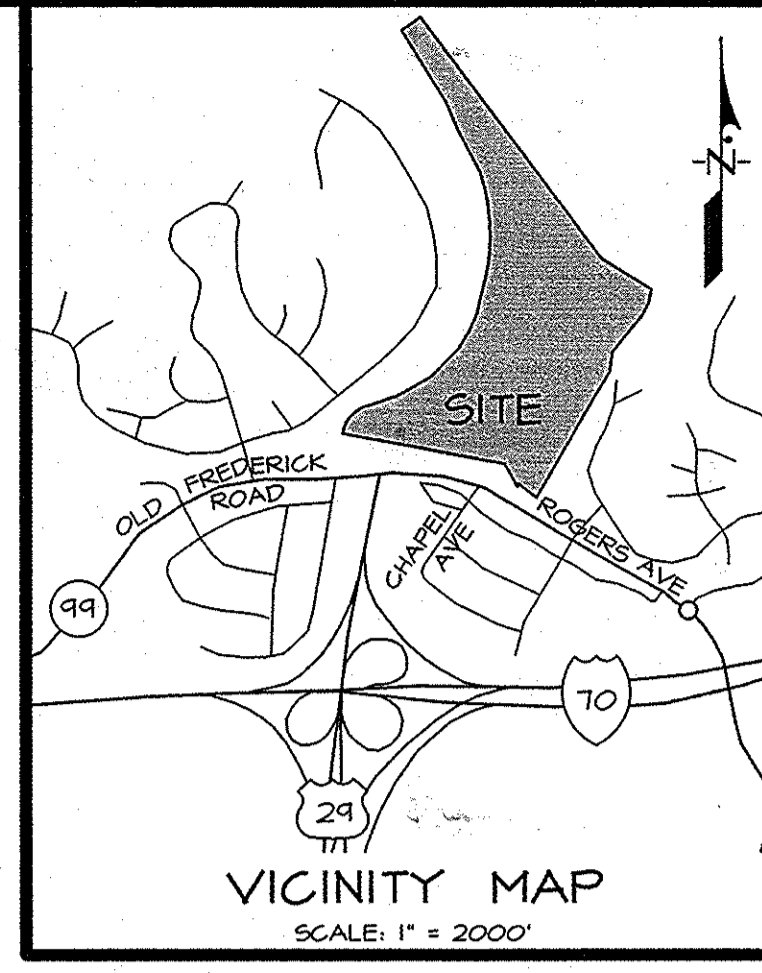


EASEMENT LEGEND

- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
- PUBLIC STORM DRAIN EASEMENT
- PRIVATE STORM DRAIN EASEMENT
- WATER/SEWER EASEMENT
- 24' USE IN COMMON DRIVEWAY EASEMENT
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- EXISTING OFF-SITE FOREST CONSERVATION EASEMENT
- PROPOSED FOREST CONSERVATION EASEMENTS. SEE SHEET 12-16 FOR IDENTIFICATION.

ROAD DESIGN

ROAD	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD A	0+00 TO 5+41	MINOR COLLECTOR	35 MPH.
ROAD B	1+55 TO 23+04.71	ACCESS STREET	30 MPH.
ROAD C	0+00 TO 5+41.11	ACCESS STREET	30 MPH.
ROAD D	0+00 TO 1+10.24	ACCESS PLACE	25 MPH.



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Marsha A. Gagle 5/1/14
PLANNING DIRECTOR 88 Date

SITE LAYOUT PLAN I
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS I-4
(PROPOSED LOTS 1-195 and
OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

ECP 13-029
SHEET 3 OF 23

OWNER/ DEVELOPER
PATAPSCO ASSOCIATES, LP
1216 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645

GRAPHIC SCALE 1" = 50'
0 50 100 150

TAX MAP 17, GRIDS 5, 6, 11 & 12

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.

WISDOM M. MALUUSTA
LICENSE NO. 34788
EXPIRATION DATE: 10/23/14
4/24/14

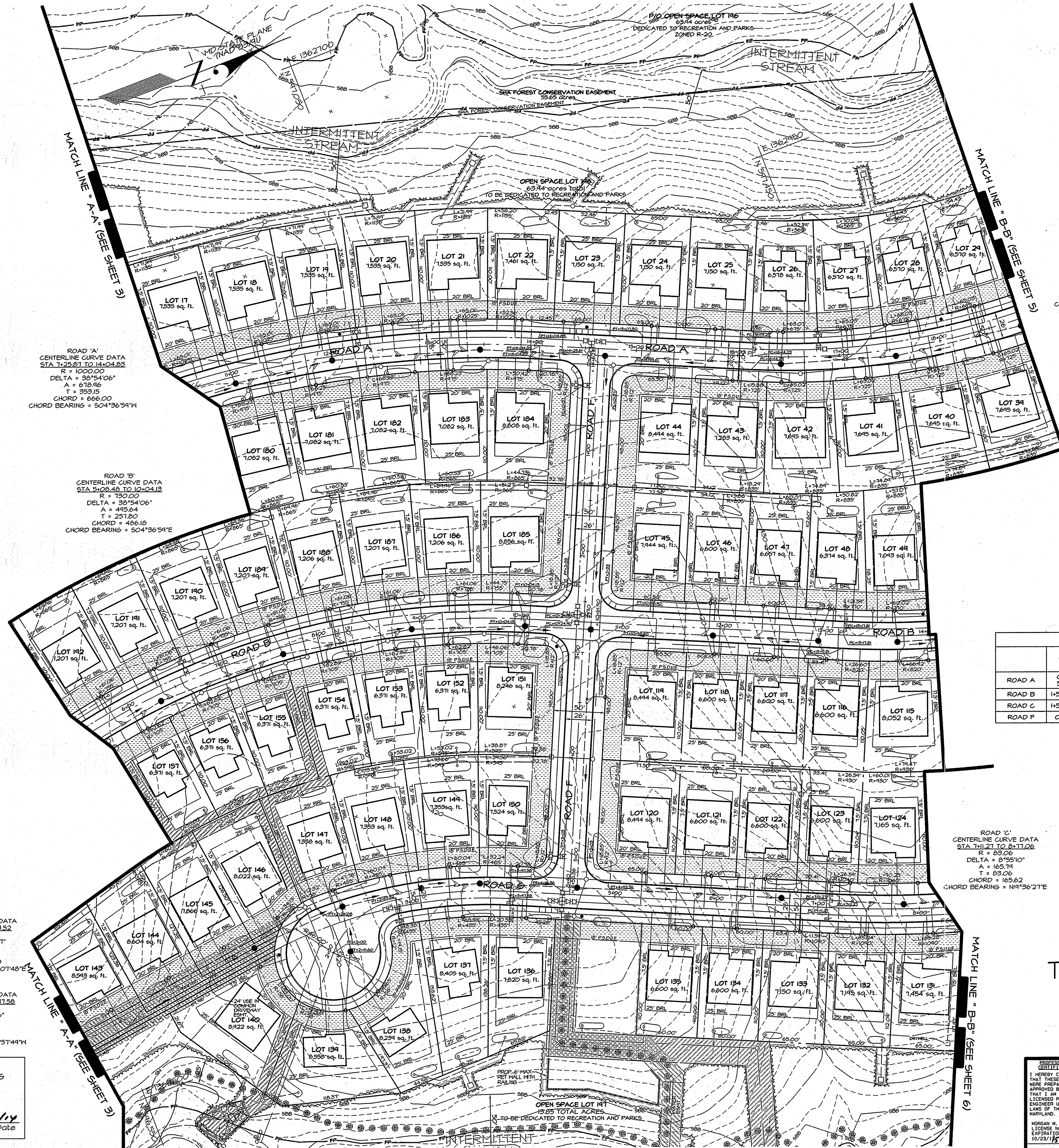
REVISIONS

DATE	DESCRIPTION	BY
10/23/12		

1721 WOODMORE ROAD, SUITE 200
MITCHELLVILLE, MARYLAND 20721

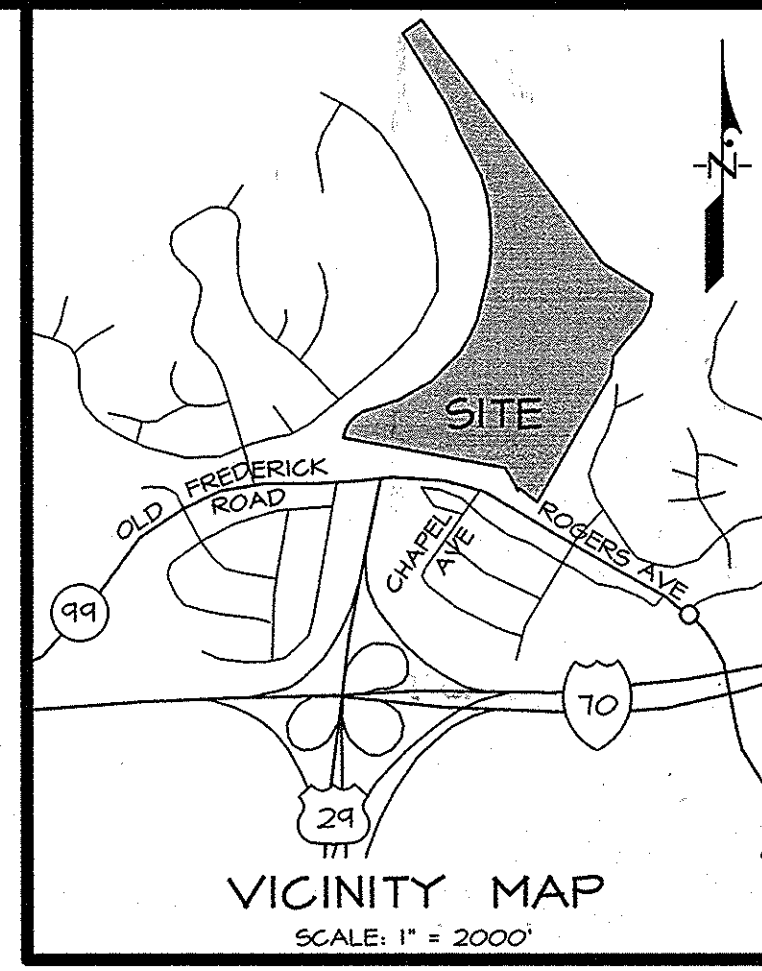
BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 430-2000

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DRAWN BY (DESIGNED BY) CHECKED BY
JDS / GS / PBW J-B08034
SCALE: 1" = 50' DRWG. NO.
DATE: OCTOBER 2012 4.003-Y



EASEMENT LEGEND

- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
- PUBLIC STORM DRAIN EASEMENT
- PRIVATE STORM DRAIN EASEMENT
- WATER/SEWER EASEMENT
- 24' USE IN COMMON DRIVEWAY EASEMENT
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- EXISTING OFF-SITE FOREST CONSERVATION EASEMENT
- PROPOSED FOREST CONSERVATION EASEMENTS. SEE SHEET 12-16 FOR IDENTIFICATION.



ROAD 'A'
 CENTERLINE CURVE DATA
 STA 1+25.81 TO 14+04.82
 R = 1000.00
 DELTA = 30°54'06"
 A = 679.46
 T = 353.15
 CHORD = 666.00
 CHORD BEARING = S04°36'54"W

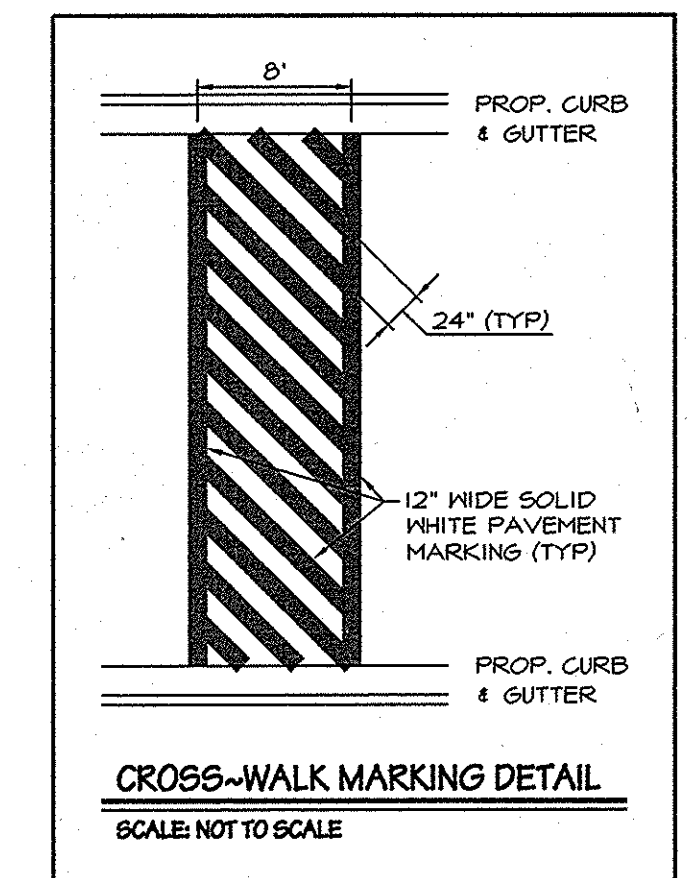
ROAD 'B'
 CENTERLINE CURVE DATA
 STA 5+02.48 TO 10+04.18
 R = 130.00
 DELTA = 30°54'06"
 A = 418.64
 T = 257.80
 CHORD = 486.18
 CHORD BEARING = S04°36'54"E

ROAD 'A'
 CENTERLINE CURVE DATA
 STA 16+14.23 TO 21+02.44
 R = 100.00
 DELTA = 34°52'56"
 A = 491.25
 T = 259.41
 CHORD = 471.48
 CHORD BEARING = S04°07'34"W

ROAD 'C'
 CENTERLINE CURVE DATA
 STA 7+11.21 TO 8+17.02
 R = 83.00
 DELTA = 8°55'10"
 A = 165.74
 T = 89.06
 CHORD = 165.62
 CHORD BEARING = N19°36'27"E

ROAD 'C'
 CENTERLINE CURVE DATA
 STA 2+00 TO 2+23.52
 R = 82.53
 DELTA = 57°50'47"
 A = 83.52
 T = 45.73
 CHORD = 80.00
 CHORD BEARING = S14°07'48"W

ROAD 'C'
 CENTERLINE CURVE DATA
 STA 2+23.52 TO 3+47.50
 R = 460.00
 DELTA = 141°12'26"
 A = 114.06
 T = 57.33
 CHORD = 113.71
 CHORD BEARING = S16°57'44"W



ROAD DESIGN

	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD A	0+00 TO 5+41	MINOR COLLECTOR	35 M.P.H.
	5+41 TO 21+47	ACCESS STREET	30 M.P.H.
ROAD B	1+55 TO 23+04.71	ACCESS STREET	30 M.P.H.
ROAD C	1+55 TO 10+00.52	ACCESS STREET	30 M.P.H.
ROAD F	0+00 TO 5+40	ACCESS STREET	30 M.P.H.

LEGEND

- EXISTING CONTOURS
- LIMIT OF DISTURBANCE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ASPHALT TRAIL HEAD
- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING WATER
- PROPOSED WATER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED UNDERDRAIN
- WATERS OF THE U.S.
- INTERMITTENT STREAM
- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING 15-24% OR GREATER SLOPES
- EXISTING 25% OR GREATER SLOPES
- RECREATIONAL OPEN SPACE
- EXISTING TRAIL
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GUARDRAIL

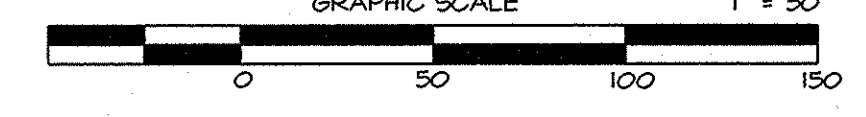
THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

SITE LAYOUT PLAN 2
 for
PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS I-4
 (PROPOSED LOTS I-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 4 OF 23

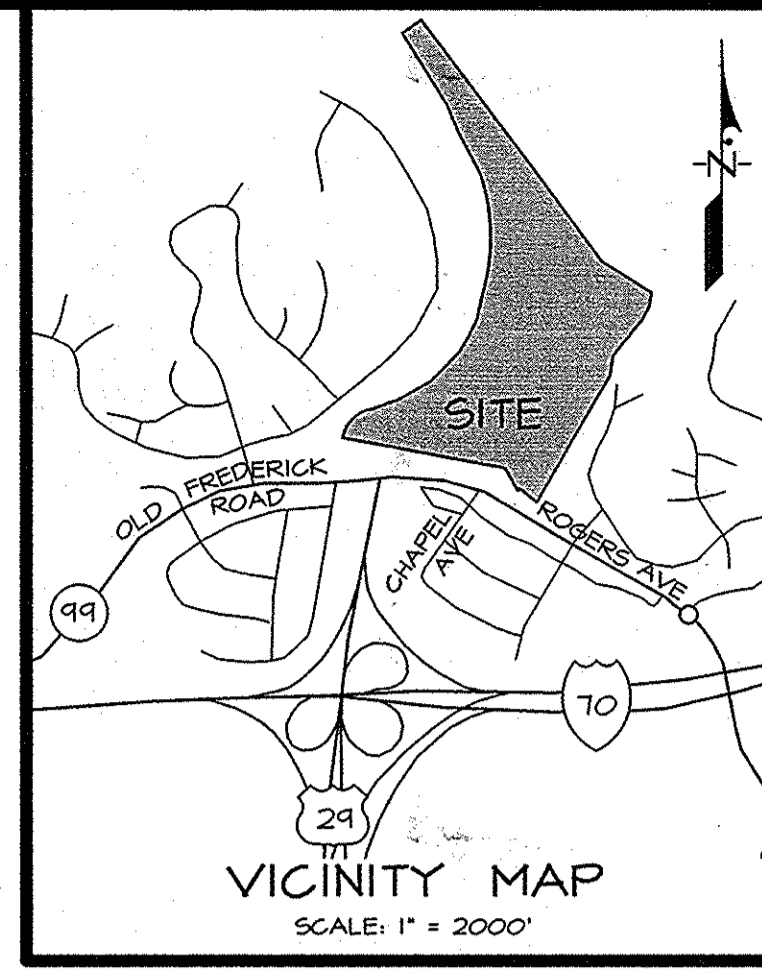


TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
Janet A. Gwyn 5/1/12
 PLANNING DIRECTOR Date

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DELIC LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 MORGAN M. MALLOTT, PE
 LICENSE NO. 34789
 EXPIRATION DATE: 10/28/15
 4/24/12

DATE	DESCRIPTION	BY
	REVISIONS	

TAX MAP 17, GRIDS 5, 6, 11 & 12
 1721 WOODMERE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (801) 430-0000
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 DRAWN BY (DESIGNED BY) CHECKED BY
 JDS/BS/PBW J-BOB034
 SCALE 1" = 50'
 DATE OCTOBER 2012
 DRWG. NO. 4,004-Y



LEGEND

- - - - - 76 - EXISTING CONTOURS
- - - - - LOD - LIMIT OF DISTURBANCE
- - - - - PROPOSED CONCRETE SIDEWALK
- - - - - PROPOSED ASPHALT TRAIL HEAD
- - - - - PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
- - - - - S - EXISTING SEWER
- - - - - PROPOSED SEWER
- - - - - W - EXISTING WATER
- - - - - PROPOSED WATER
- - - - - D - EXISTING STORM DRAIN
- - - - - PROPOSED STORM DRAIN
- - - - - PROPOSED UNDERDRAIN
- - - - - WATERS OF THE U.S.
- - - - - INTERMITTENT STREAM
- - - - - 50' - STREAM BANK BUFFER (50')
- - - - - NONTIDAL WETLAND
- - - - - EX. WETLAND BUFFER (25')
- - - - - EX. FLOODPLAIN
- - - - - EXISTING TREE LINE
- - - - - PROPOSED TREE LINE
- - - - - EXISTING 15-24.9% OR GREATER SLOPES
- - - - - EXISTING 25% OR GREATER SLOPES
- - - - - RECREATIONAL OPEN SPACE
- - - - - EXISTING TRAIL
- - - - - EXISTING CURB & GUTTER
- - - - - PROPOSED CURB & GUTTER
- - - - - PROPOSED RETAINING WALL
- - - - - EXISTING FENCE
- - - - - EXISTING ELECTRIC
- - - - - EXISTING GUARDRAIL

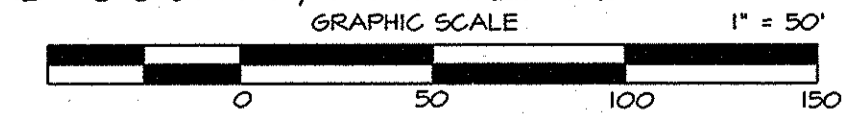
THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-TTTT, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

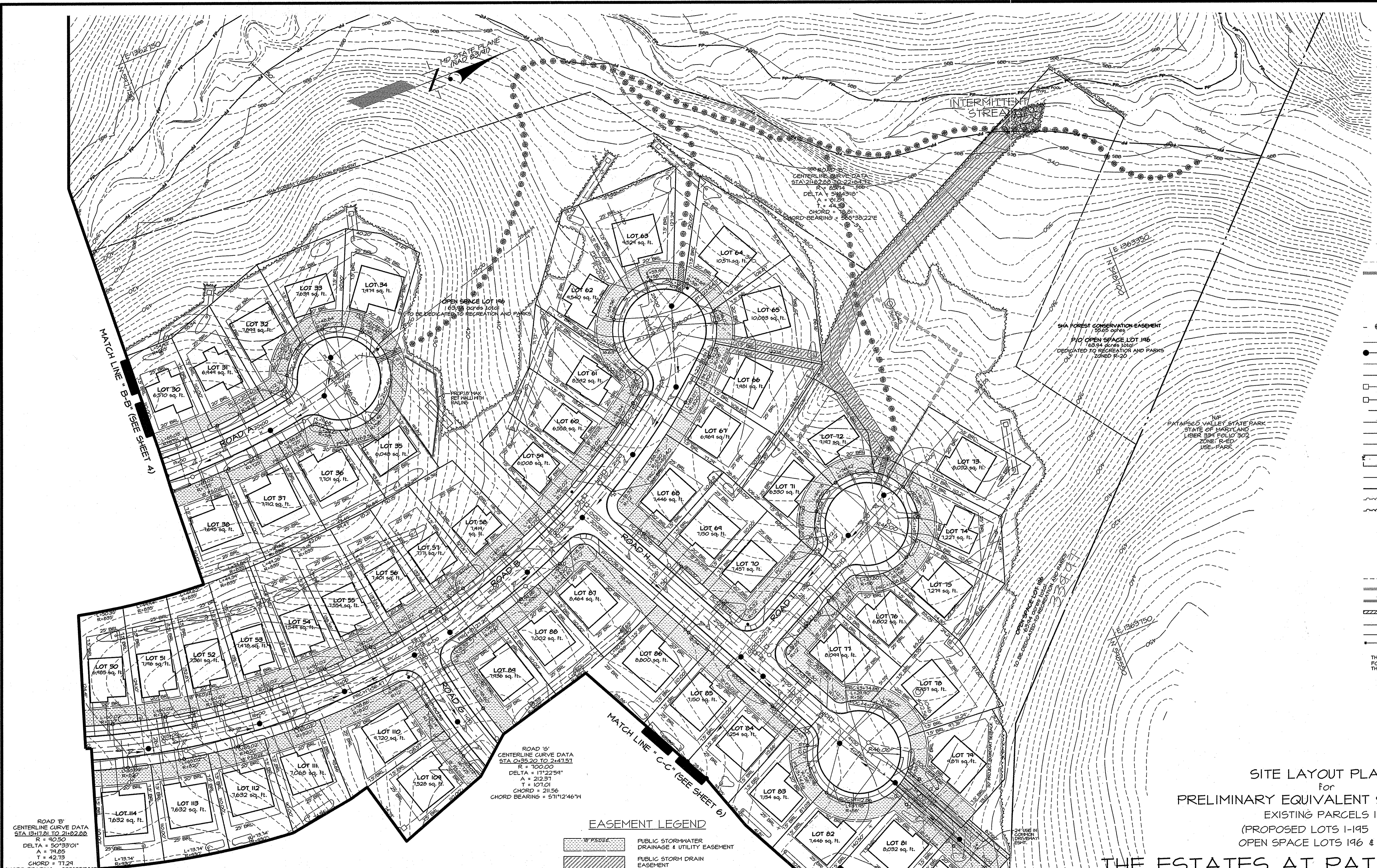
SITE LAYOUT PLAN 3
 for
PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS I-4
 (PROPOSED LOTS I-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 5 OF 23



TAX MAP 17, GRIDS 5, 6, 11 & 12



ROAD B'
 CENTERLINE CURVE DATA
 STA 1317.01 TO 2182.22
 R = 40.50
 DELTA = 50°33'01"
 A = 74.25
 T = 42.73
 CHORD = 77.24
 CHORD BEARING = 512°25'58"

ROAD G'
 CENTERLINE CURVE DATA
 STA 0135.20 TO 2447.57
 R = 100.00
 DELTA = 111°22'54"
 A = 212.37
 T = 107.01
 CHORD = 211.56
 CHORD BEARING = 571°12'46"

EASEMENT LEGEND

- - - - - PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
- - - - - PUBLIC STORM DRAIN EASEMENT
- - - - - PRIVATE STORM DRAIN EASEMENT
- - - - - WATER/SEWER EASEMENT
- - - - - 24' USE IN COMMON DRIVEWAY EASEMENT
- - - - - STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- - - - - EXISTING OFF-SITE FOREST CONSERVATION EASEMENT
- - - - - PROPOSED FOREST CONSERVATION EASEMENTS - SEE SHEET 12-16 FOR IDENTIFICATION.

ROAD DESIGN			
	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD A	0+00 TO 5+41	MINOR COLLECTOR	35 M.P.H.
	5+41 TO 21+47	ACCESS STREET	30 M.P.H.
ROAD B	1+55 TO 23+04.77	ACCESS STREET	30 M.P.H.
ROAD G	0+00 TO 5+48.21	ACCESS STREET	30 M.P.H.
ROAD H	0+00 TO 4+57.86	ACCESS PLACE	25 M.P.H.
ROAD I	0+00 TO 2+42.05	ACCESS PLACE	25 M.P.H.

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
Thomas D. Gault 5/1/12
 PLANNING DIRECTOR Date

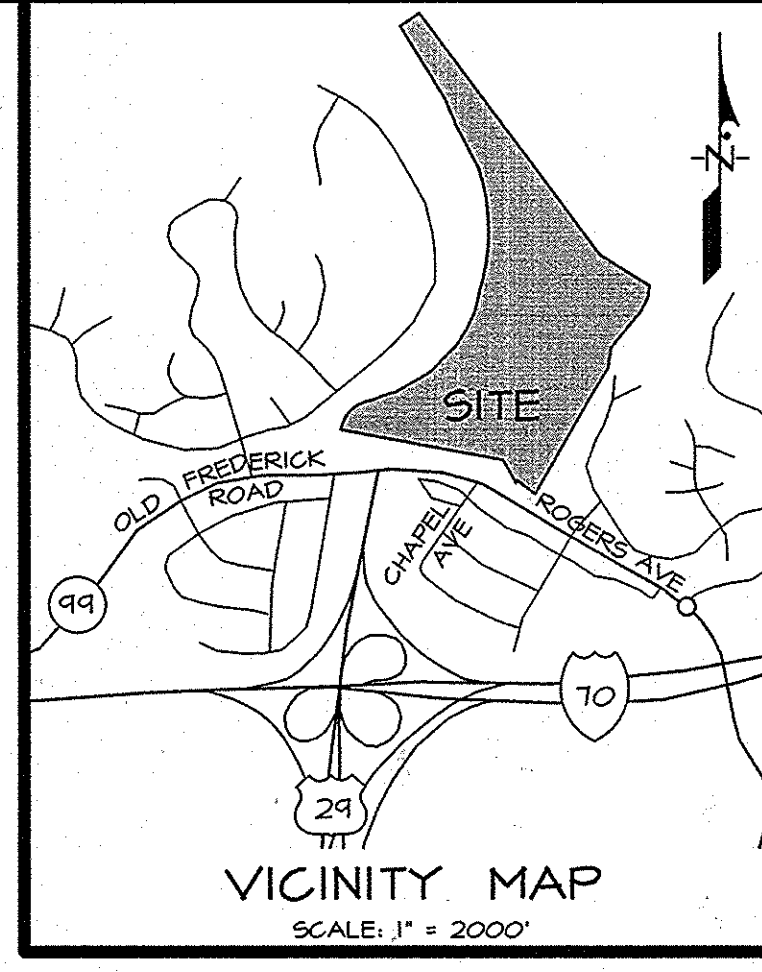
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 NORDAN H. MALIGITA, P.E.
 LICENSE NO. 34788
 EXPIRATION DATE: 10/23/15
 4/24/14

DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
			1" = 50'	J-B08034
				4.005-Y

EASEMENT LEGEND

- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
- PUBLIC STORM DRAIN EASEMENT
- PRIVATE STORM DRAIN EASEMENT
- WATER/SEWER EASEMENT
- 24' USE IN COMMON DRIVEWAY EASEMENT
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- EXISTING OFF-SITE FOREST CONSERVATION EASEMENT
- PROPOSED FOREST CONSERVATION EASEMENTS, SEE SHEET 12-16 FOR IDENTIFICATION.

ROAD DESIGN			
	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD C	1+55 TO 10+00.52	ACCESS STREET	30 M.P.H.
ROAD G	0+00 TO 5+48.21	ACCESS STREET	30 M.P.H.



LEGEND

- EXISTING CONTOURS
- LIMIT OF DISTURBANCE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ASPHALT TRAIL HEAD
- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING WATER
- PROPOSED WATER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED UNDERDRAIN
- WATERS OF THE U.S.
- INTERMITTENT STREAM
- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING 15-24.9% OR GREATER SLOPES
- EXISTING 25% OR GREATER SLOPES
- RECREATIONAL OPEN SPACE
- EXISTING TRAIL
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GUARDRAIL

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-1771, FORTY EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

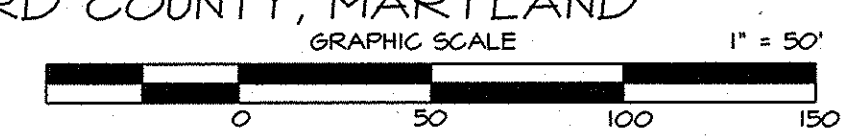
OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

SITE LAYOUT PLAN 4
 for
PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029

SHEET 6 OF 23



TAX MAP 17, GRIDS 5, 6, 11 & 12

ROAD 'C'
 CENTERLINE CURVE DATA
 STA 0+11.06 TO 4+55.52
 R = 44.35
 DELTA = 41°28'40"
 A = 78.46
 T = 41.66
 CHORD = 76.22
 CHORD BEARING = S39°59'12"W

ROAD 'G'
 CENTERLINE CURVE DATA
 STA 4+18.36 TO 5+58.21
 R = 40.50
 DELTA = 50°38'12"
 A = 74.85
 T = 42.73
 CHORD = 71.24
 CHORD BEARING = S87°41'53"W

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Marsha A. Coughlin 5/1/14
 PLANNING DIRECTOR Date

PROFESSIONAL
 CERTIFICATION
 I HEREBY CERTIFY
 THAT THESE DOCUMENTS
 WERE PREPARED OR
 APPROVED BY ME, AND
 THAT I AM A LEGALLY
 LICENSED PROFESSIONAL
 ENGINEER UNDER THE
 LAWS OF THE STATE OF
 MARYLAND.

MORGAN M. MALUBITA, PE
 LICENSE NO. 34788
 EXPIRATION DATE:
 10/23/15

4/24/14

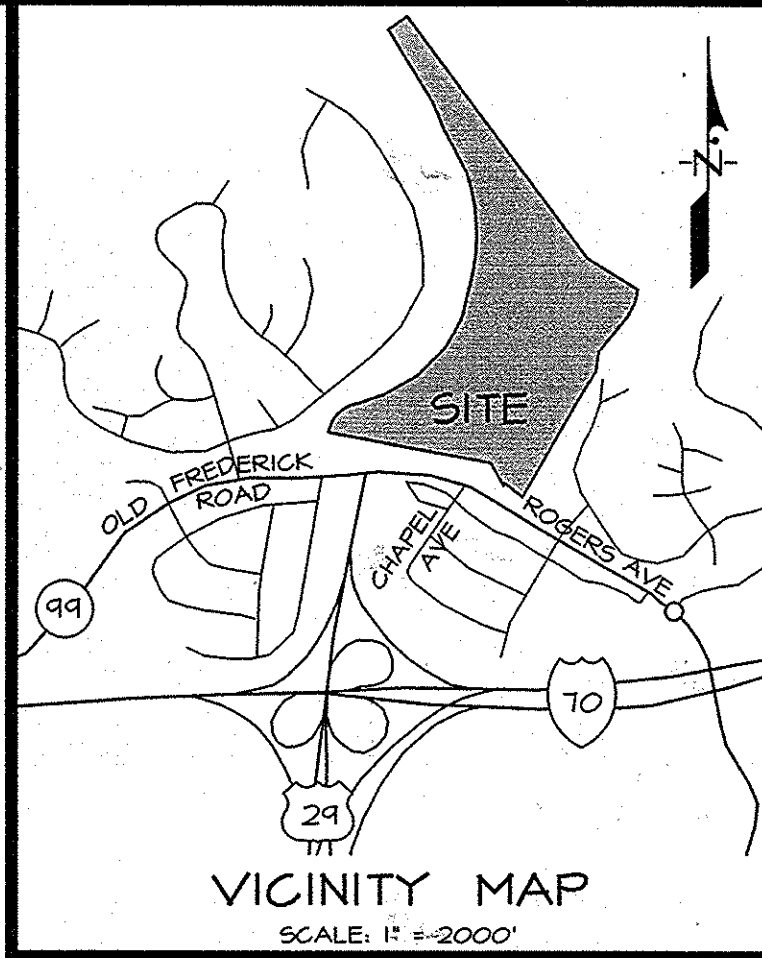
17721 WOODMORE ROAD, SUITE 200 MITCHELLVILLE, MARYLAND 20721		BEN DYER ASSOCIATES, INC. Engineers & Planners TELEPHONE (301) 430-2000	
DATE	DESCRIPTION	BY	DRWG. NO.
10/23/12	REVISIONS	J-B08034	J-B08034
SCALE	1" = 50'	DATE	OCTOBER 2012
			4.006-Y

LEGEND

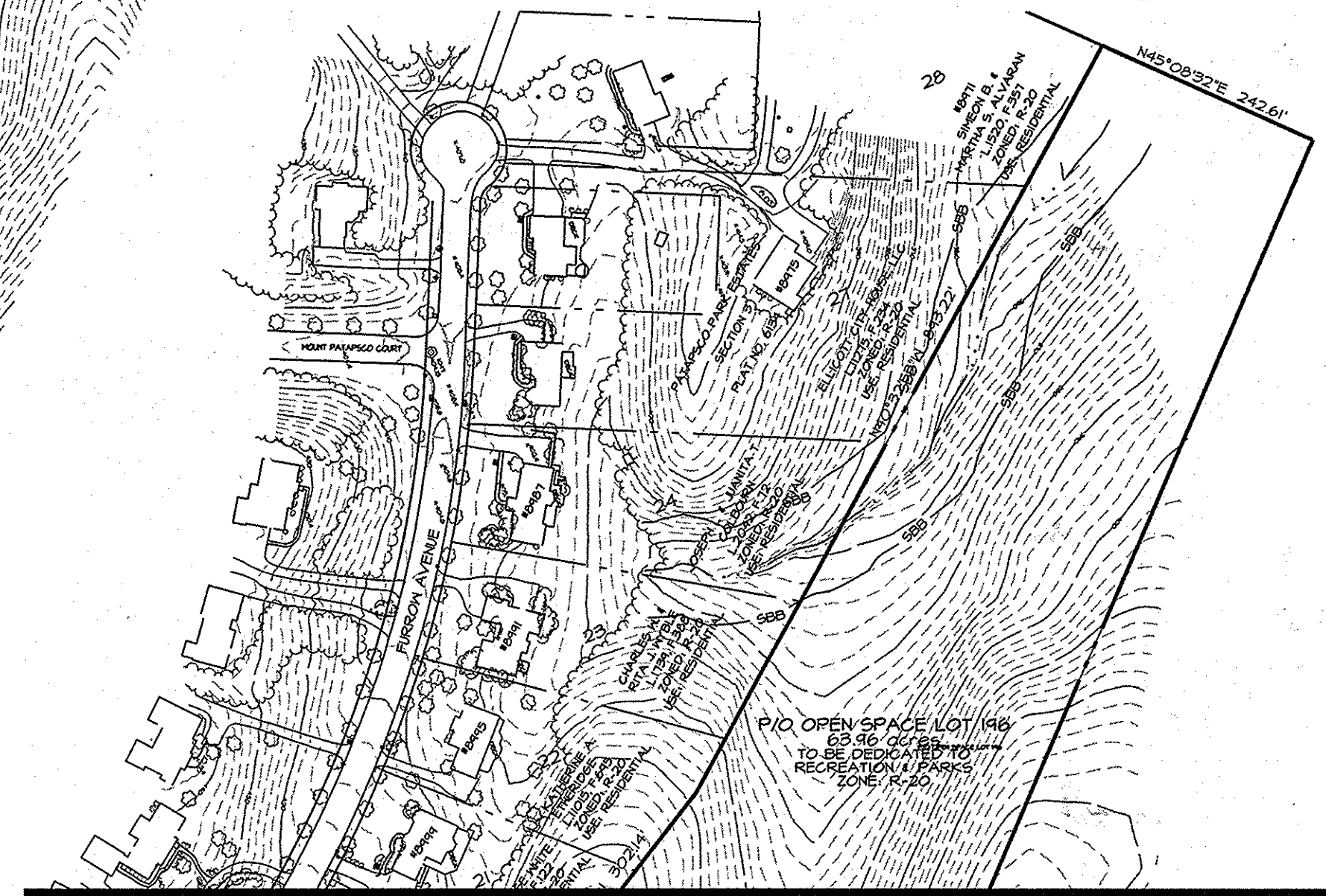
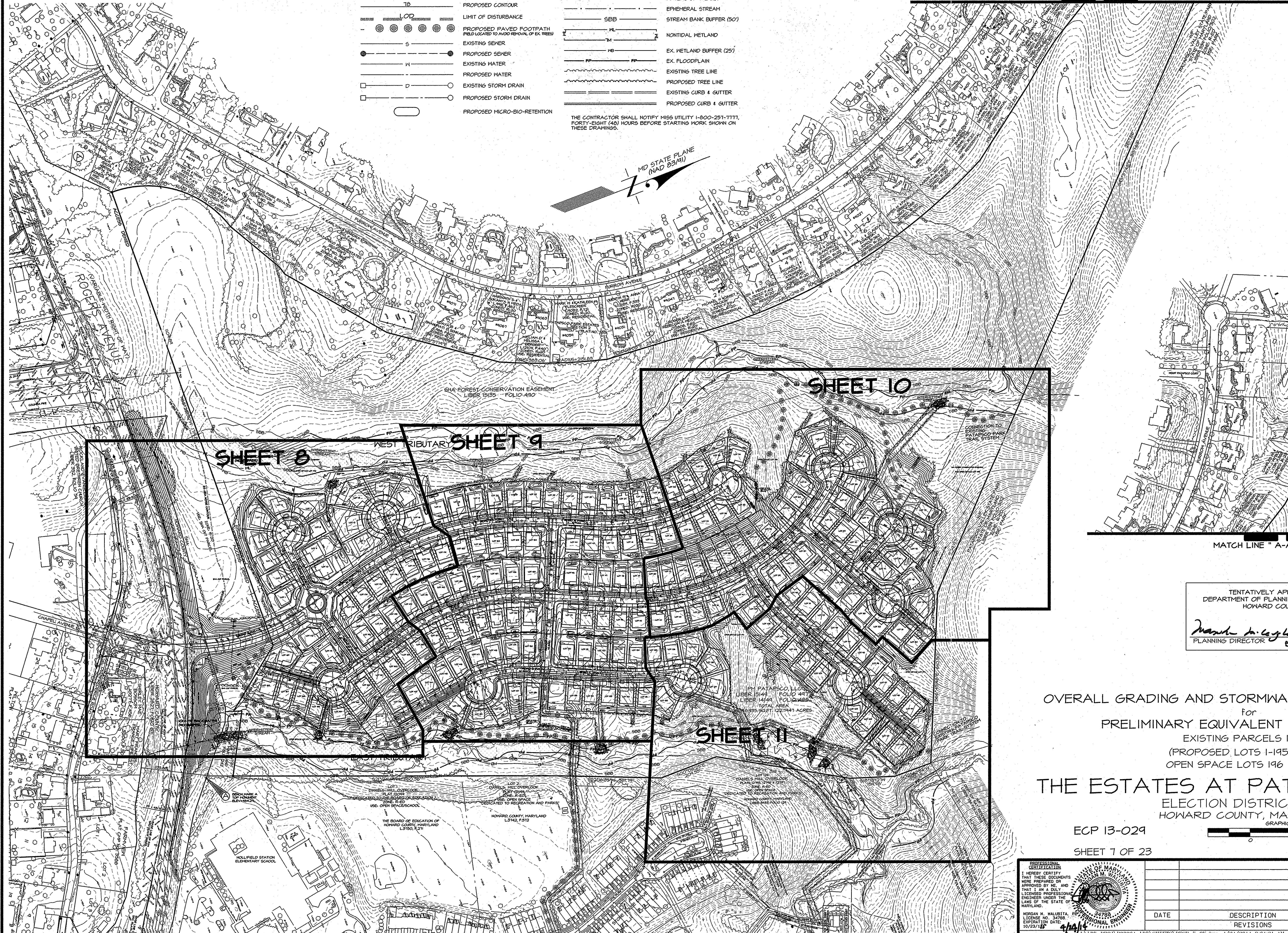
- 70 --- EXISTING CONTOUR
- 10 --- PROPOSED CONTOUR
- LOD --- LIMIT OF DISTURBANCE
- S --- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
- S --- EXISTING SEWER
- S --- PROPOSED SEWER
- W --- EXISTING WATER
- W --- PROPOSED WATER
- D --- EXISTING STORM DRAIN
- D --- PROPOSED STORM DRAIN
- O --- PROPOSED MICRO-BIO-RETENTION
- WATERS OF THE U.S.
- EPHEMERAL STREAM
- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

MATCH LINE "A-A" (THIS SHEET)



OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645



MATCH LINE "A-A" (THIS SHEET)

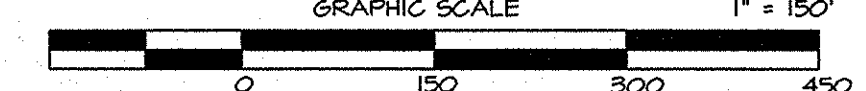
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Morgan H. Halbita 5/1/11
 PLANNING DIRECTOR 88 Date

OVERALL GRADING AND STORMWATER MANAGEMENT PLAN
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-14
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 7 OF 23



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.

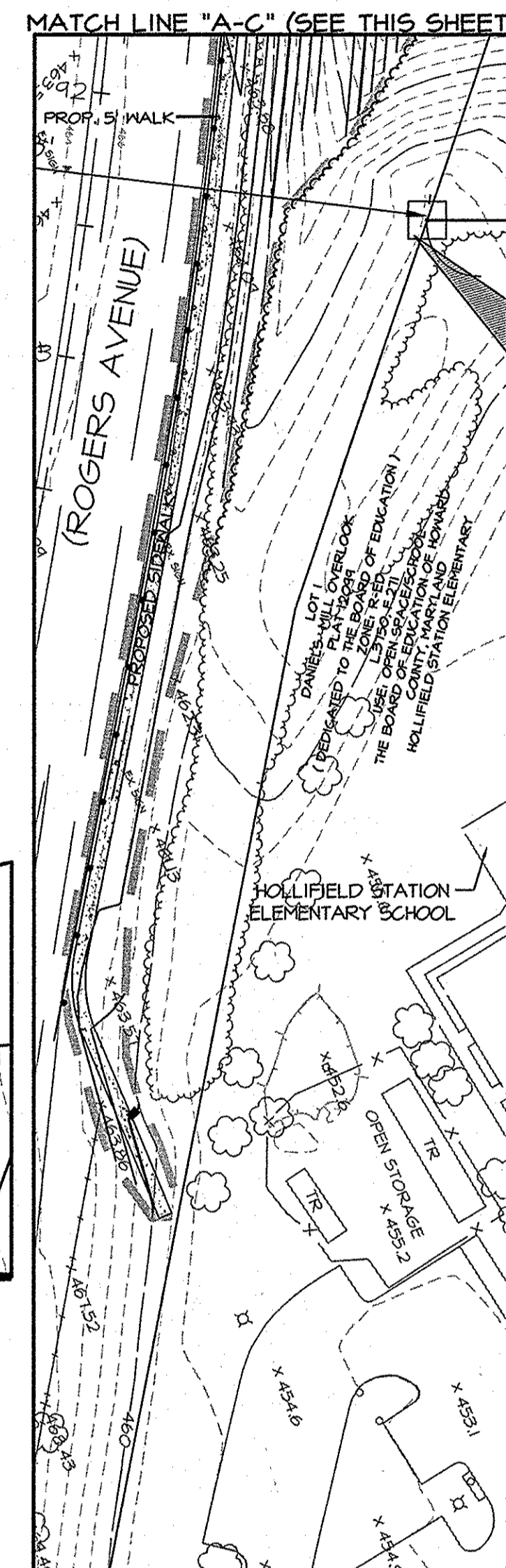
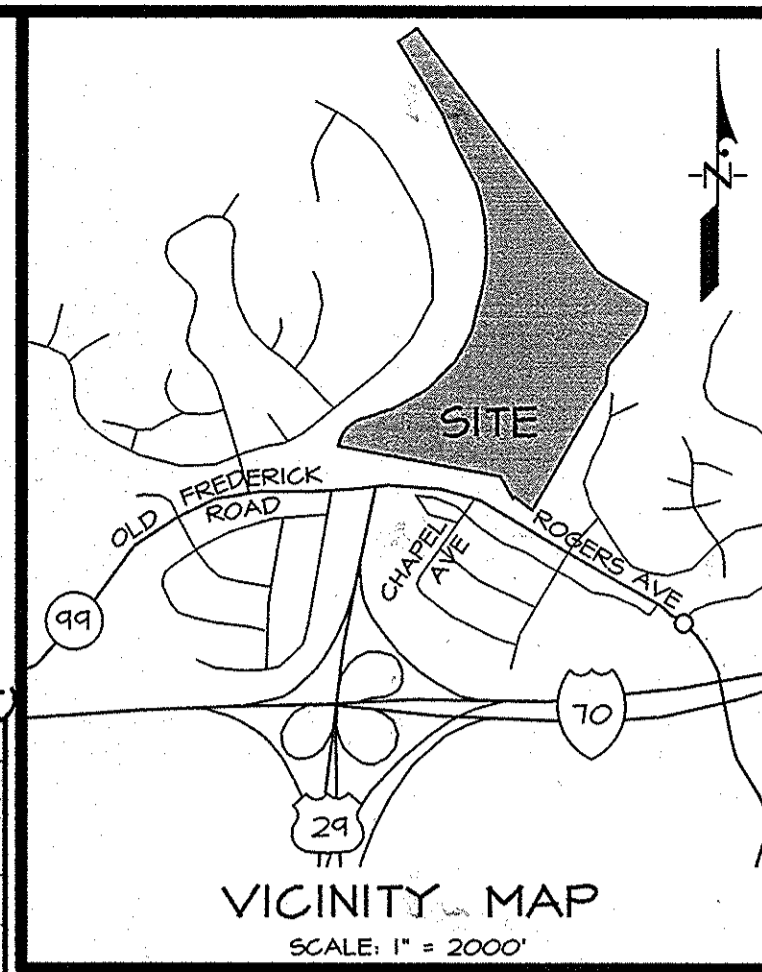
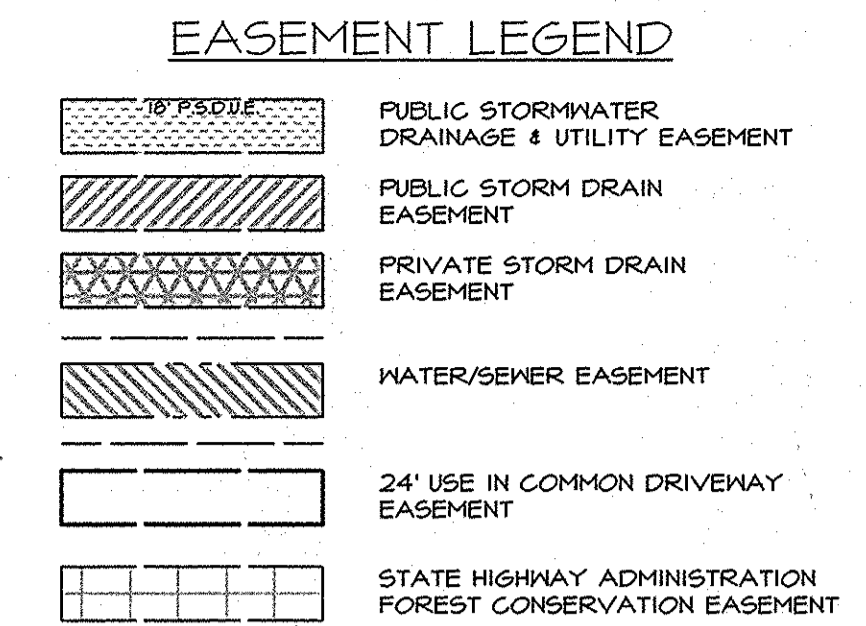
MORGAN H. HALBITA, PE
 LICENSE NO. 34788
 EXPIRATION DATE: 12/23/16

DATE	DESCRIPTION	BY

TAX MAP 17, GRIDS 5, 6, 11 & 12
 1721 WOODMERE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721

BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000

COPYRIGHT © 2013 BEN DYER ASSOCIATES, INC.
 DRAWN BY (DESIGNED BY) (CHECKED BY) (RECORD NO.)
 SCALE 1" = 150'
 DATE MARCH 2013 DRG. NO. 8.004-Y



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Joseph A. Gagliardi 5/1/13
PLANNING DIRECTOR Date

OWNER/ DEVELOPER
PATAPSCO ASSOCIATES, LP
12116 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645

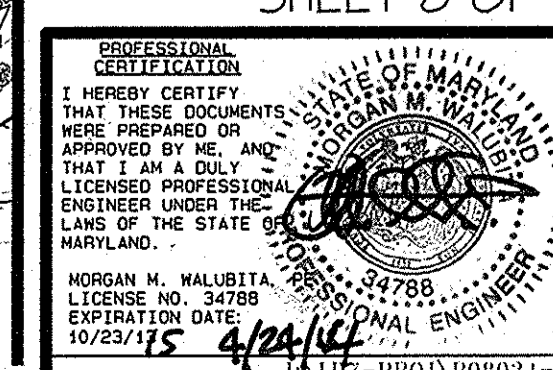
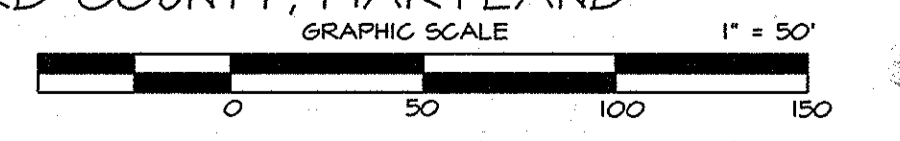
GRADING AND STORMWATER MANAGEMENT PLAN I
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS 1-4
(PROPOSED LOTS 1-195 and
OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK

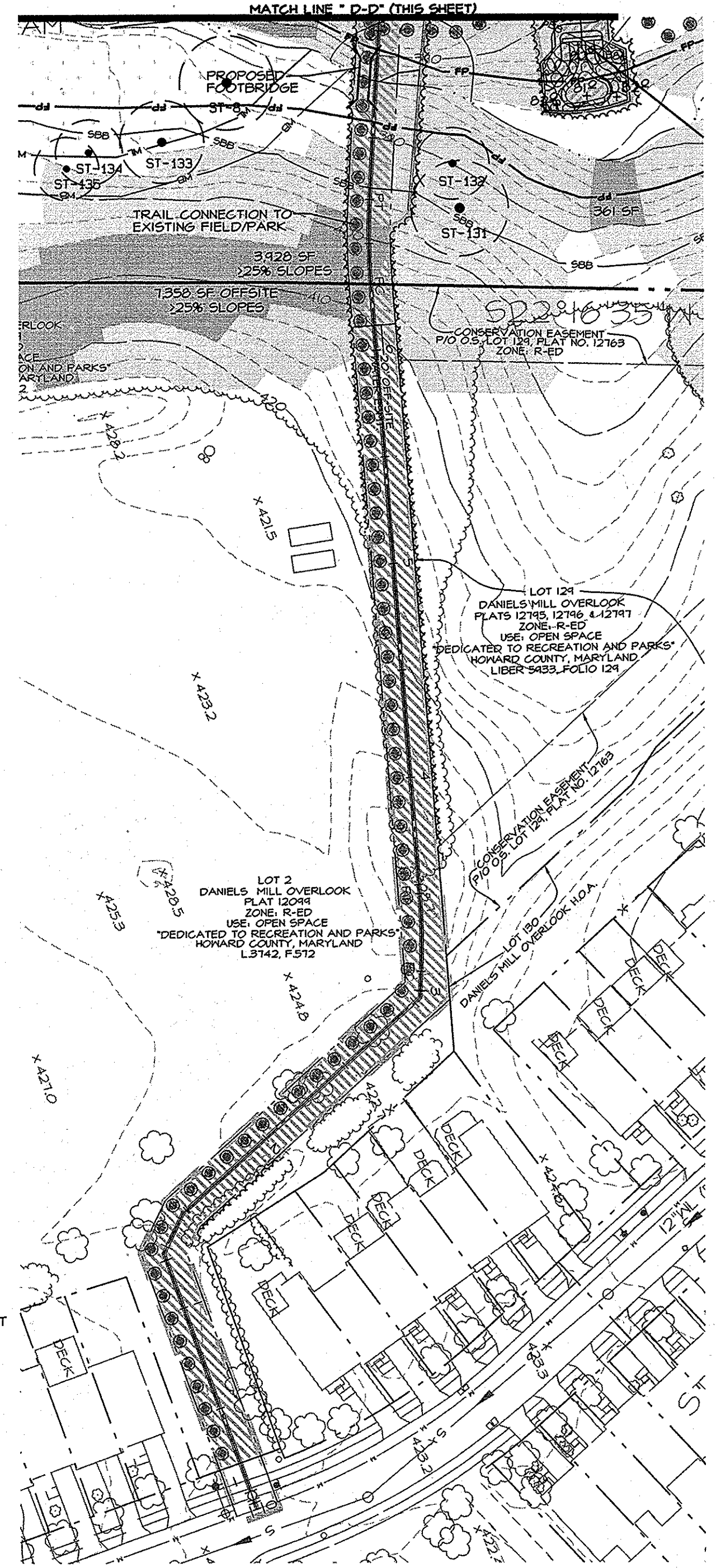
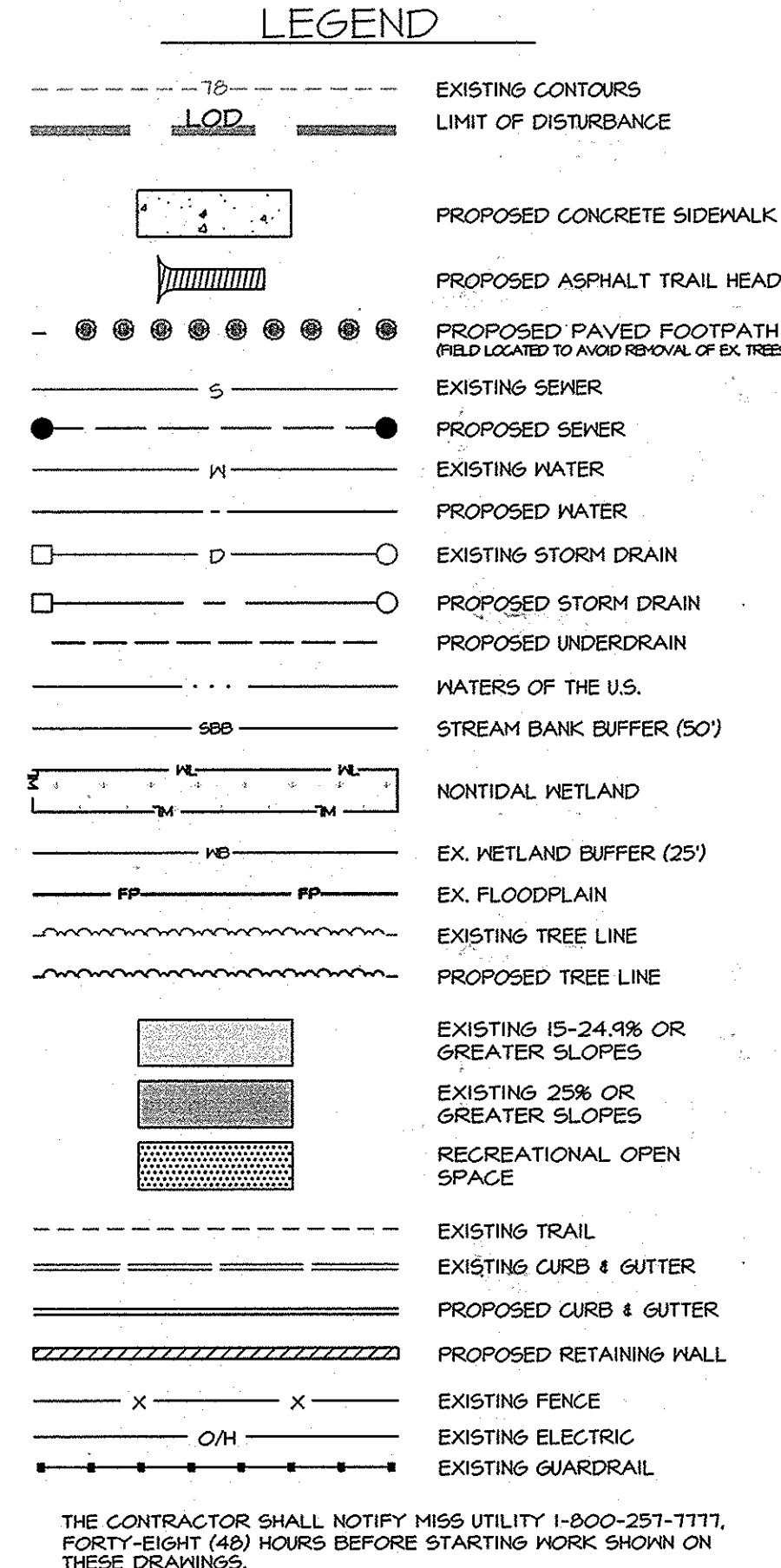
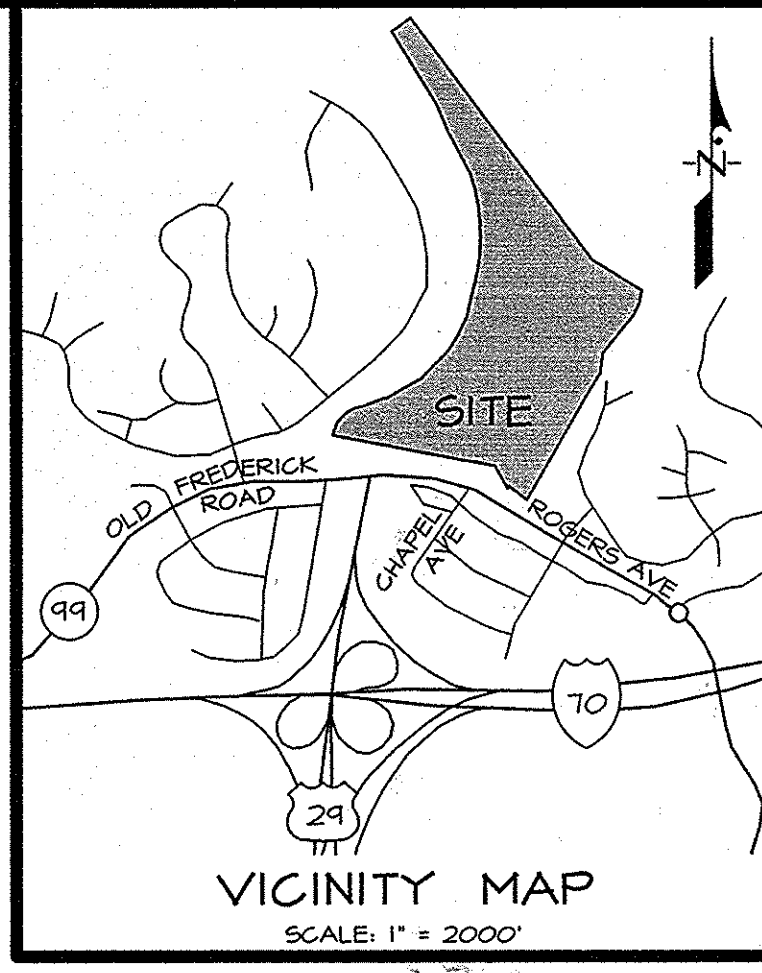
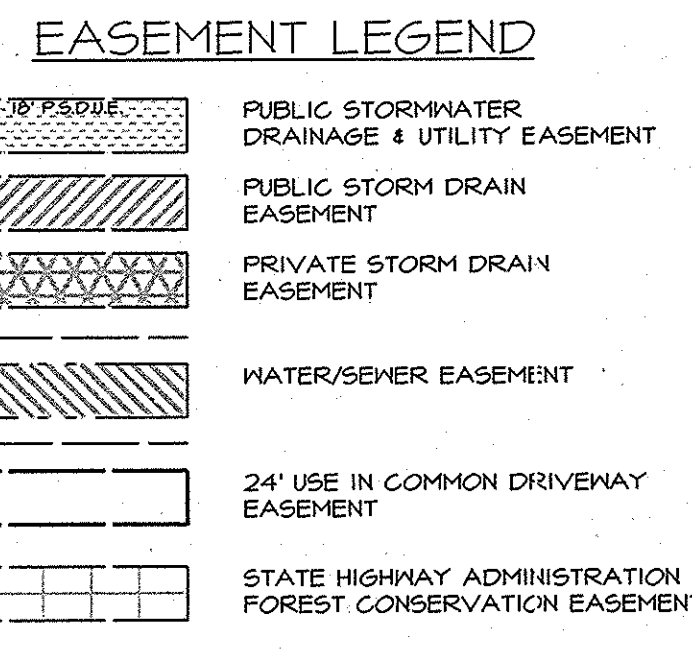
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

ECP 13-029

SHEET 8 OF 23



DATE	DESCRIPTION	BY	SCALE	DATE	DRWG. NO.
12/21/15	REVISIONS		1" = 50'	MARCH 2013	8.005-Y



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Long 5/1/14
PLANNING DIRECTOR Date

GRADING AND STORMWATER MANAGEMENT PLAN 2
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS I-4
(PROPOSED LOTS I-195 and
OPEN SPACE LOTS 196 & 197)

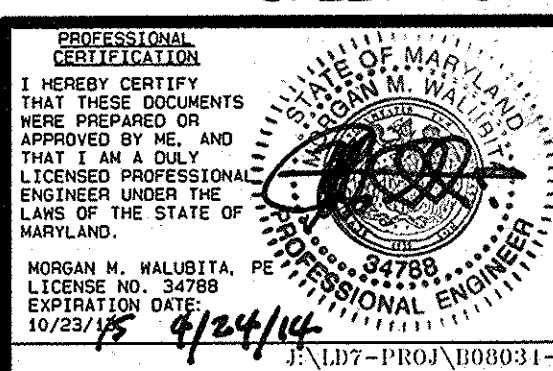
THE ESTATES AT PATAPSCO PARK
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

GRAPHIC SCALE 1" = 50'

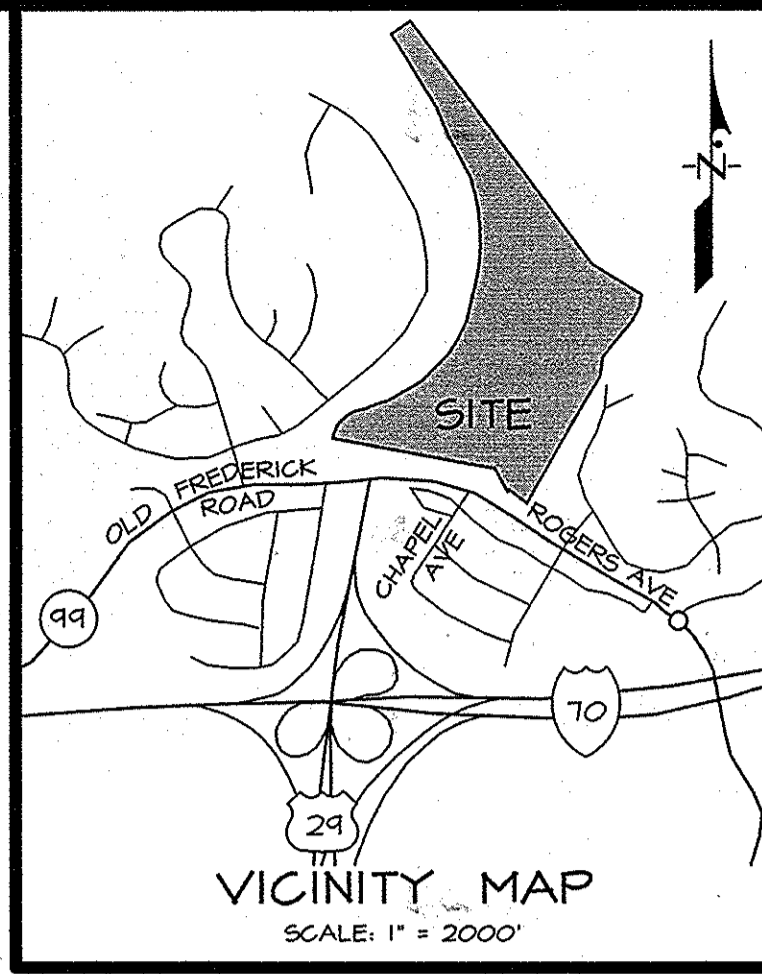
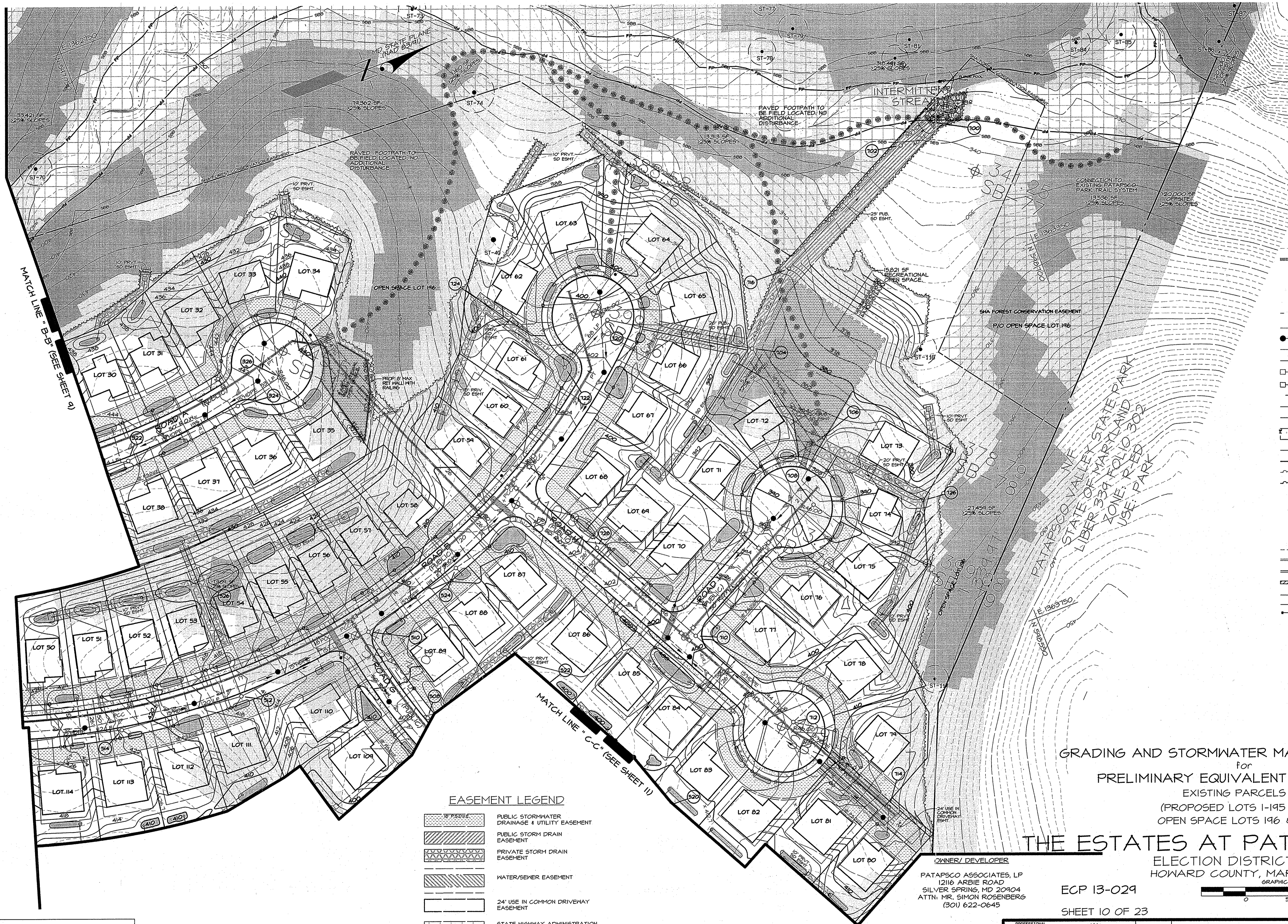
0 50 100 150

ECP 13-029
SHEET 9 OF 23

OWNER / DEVELOPER
PATAPSCO ASSOCIATES, LP
12116 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645



DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
12/1/13	DESIGNED BY RECORD NO.	FB	1" = 50'	J-B08034
MARCH 2013	REVISIONS			8.006-Y



LEGEND

	EXISTING CONTOURS
	LIMIT OF DISTURBANCE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED ASPHALT TRAIL HEAD
	PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
	EXISTING SEWER
	PROPOSED SEWER
	EXISTING WATER
	PROPOSED WATER
	EXISTING STORM DRAIN
	PROPOSED STORM DRAIN
	PROPOSED UNDERDRAIN
	WATERS OF THE U.S.
	STREAM BANK BUFFER (50')
	NONTIDAL WETLAND
	EX. WETLAND BUFFER (25')
	EX. FLOODPLAIN
	EXISTING TREE LINE
	PROPOSED TREE LINE
	EXISTING 15-24.9% OR GREATER SLOPES
	EXISTING 25% OR GREATER SLOPES
	RECREATIONAL OPEN SPACE
	EXISTING TRAIL
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	PROPOSED RETAINING WALL
	EXISTING FENCE
	EXISTING ELECTRIC
	EXISTING GUARDRAIL

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-1111, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

EASEMENT LEGEND

	PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
	PUBLIC STORM DRAIN EASEMENT
	PRIVATE STORM DRAIN EASEMENT
	WATER/SEWER EASEMENT
	24' USE IN COMMON DRIVEWAY EASEMENT
	STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT

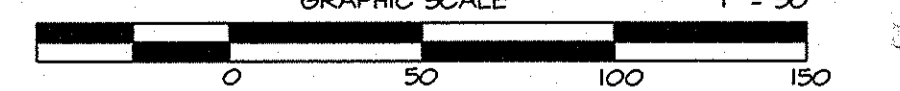
GRADING AND STORMWATER MANAGEMENT PLAN 3
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS I-4
 (PROPOSED LOTS I-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

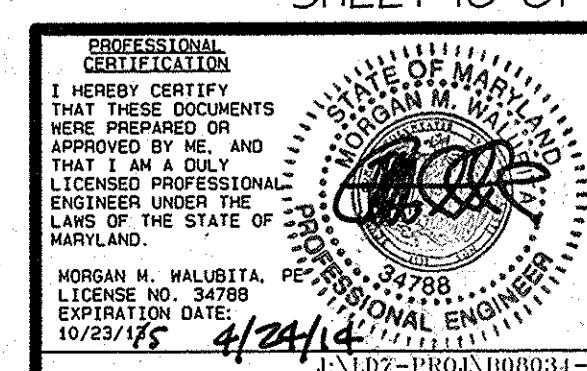
OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 1216 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

ECP 13-029

SHEET 10 OF 23



TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
David M. Gaylor 5/1/12
 PLANNING DIRECTOR Date



DATE	DESCRIPTION	BY	SCALE	DATE
	REVISIONS		1" = 50'	

11721 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000
 COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.
 DRAWN BY (DESIGNED BY) CHECKED BY RECORD NO.
 JDS 65 PBN J-B08034
 DATE OCTOBER 2012 DRWG. NO. 8.001-Y

Hydrologic Soil Group - Summary by Map Unit - Howard County, Maryland (MDO21)

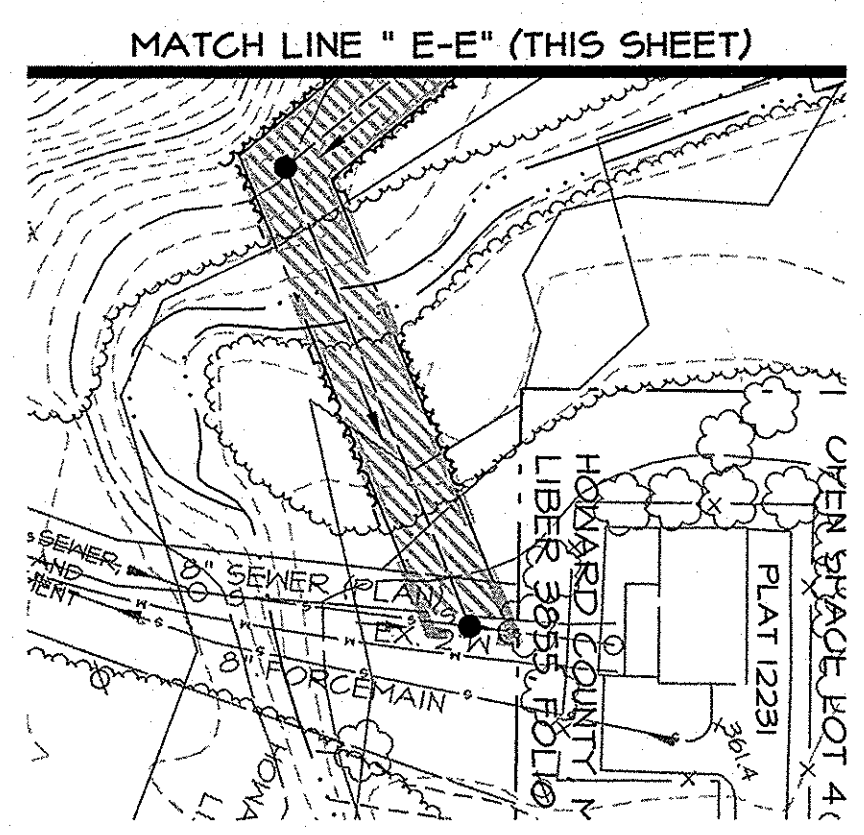
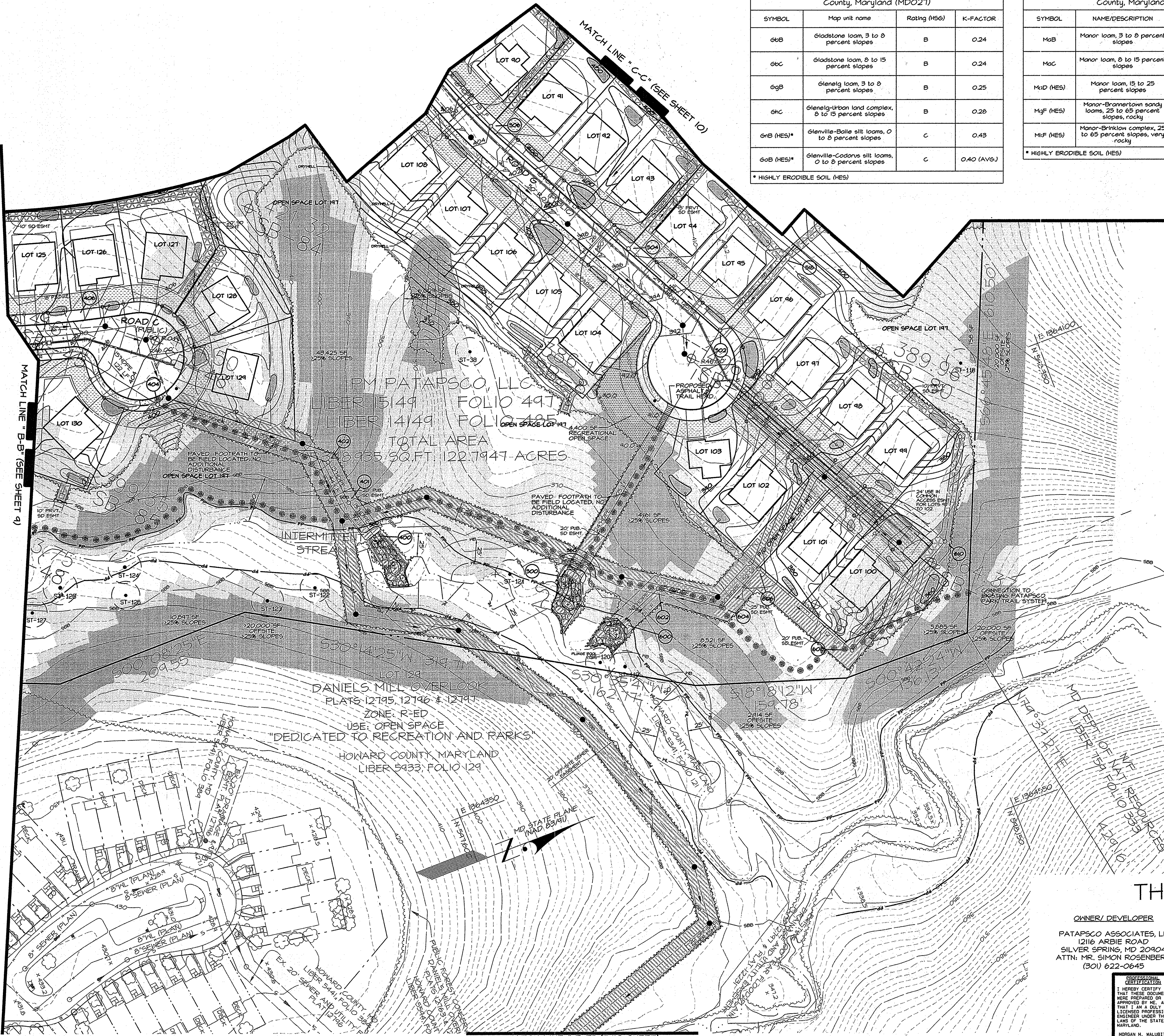
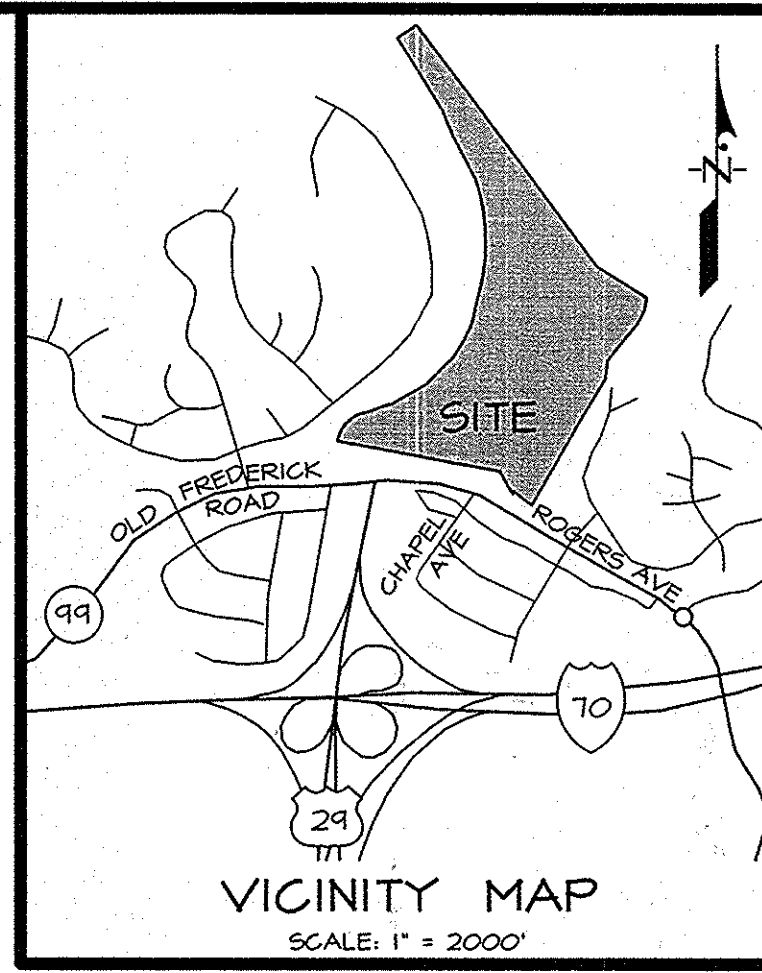
SYMBOL	Map unit name	Rating (H56)	K-FACTOR
66B	Gladstone loam, 3 to 8 percent slopes	B	0.24
66C	Gladstone loam, 8 to 15 percent slopes	B	0.24
66B	Glenelg loam, 3 to 8 percent slopes	B	0.25
66C	Glenelg-Urban land complex, 8 to 15 percent slopes	B	0.28
66B (HES)*	Glenelg-Balle silt loams, 0 to 8 percent slopes	C	0.43
66B (HES)*	Glenelg-Codorus silt loams, 0 to 8 percent slopes	C	0.40 (AVG.)

* HIGHLY ERODIBLE SOIL (HES)

Hydrologic Soil Group - Summary by Map Unit - Howard County, Maryland (MDO21)

SYMBOL	NAME/DESCRIPTION	HYDROLOGIC GROUP	K-FACTOR
MaB	Manor loam, 3 to 8 percent slopes	B	0.28
MaC	Manor loam, 8 to 15 percent slopes	B	0.28
MaD (HES)	Manor loam, 15 to 25 percent slopes	B	0.28
MjF (HES)	Manor-Branntown sandy loams, 25 to 65 percent slopes, rocky	B	0.28
MjF (HES)	Manor-Britton complex, 25 to 65 percent slopes, very rocky	B	0.28

* HIGHLY ERODIBLE SOIL (HES)



- LEGEND**
- EXISTING CONTOURS
 - LIMIT OF DISTURBANCE
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED ASPHALT TRAIL HEAD
 - PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
 - EXISTING SEWER
 - PROPOSED SEWER
 - EXISTING WATER
 - PROPOSED WATER
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 - STREAM BANK BUFFER (50')
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 - EXISTING GUARDRAIL

- EASEMENT LEGEND**
- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
 - PUBLIC STORM DRAIN EASEMENT
 - PRIVATE STORM DRAIN EASEMENT
 - WATER/SEWER EASEMENT
 - 24' USE IN COMMON DRIVEWAY EASEMENT
 - STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

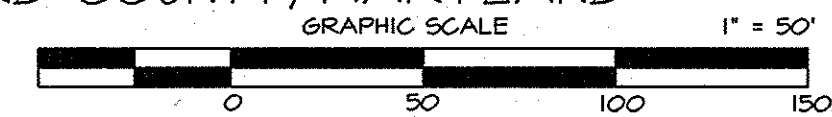
Frank M. Wagoner 5/1/12
PLANNING DIRECTOR 66 Date

GRADING AND STORMWATER MANAGEMENT PLAN 4
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS 1-4
(PROPOSED LOTS 1-145 and
OPEN SPACE LOTS 146 & 147)

THE ESTATES AT PATAPSCO PARK
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
PATAPSCO ASSOCIATES, LP
12116 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645

ECP 13-029
SHEET II OF 23



TAX MAP 17, GRIDS 5, 6, 11 & 12

DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
10/25/12	REVISIONS	JDS	1" = 50'	J-B00034
				8.008-Y

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

JORGAN H. MALIBITA
LICENSE NO. 34788
EXPIRATION DATE: 10/25/16
4/24/14

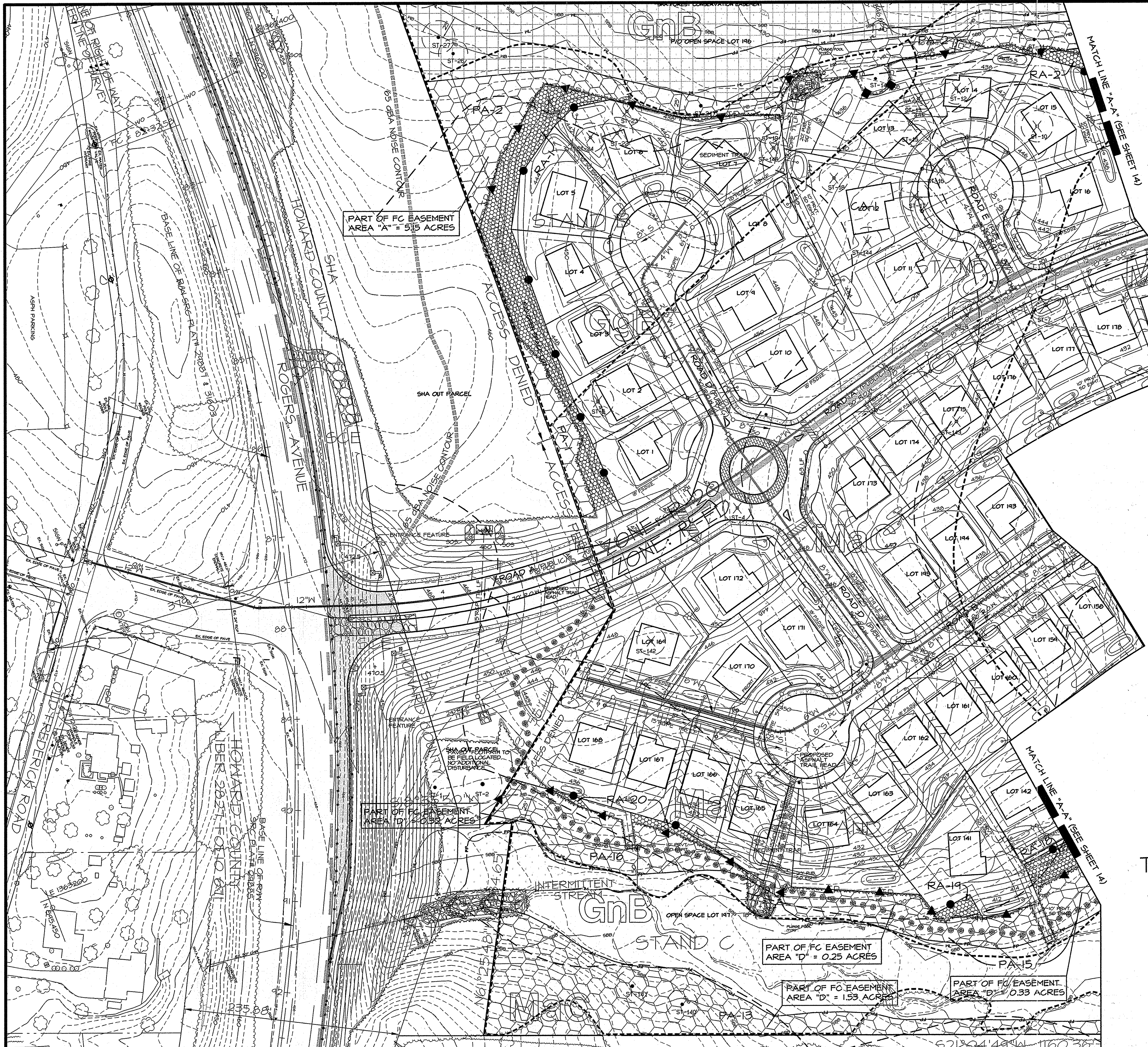
17721 WOODMORE ROAD, SUITE 200
MITCHELLVILLE, MARYLAND 20721

BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 430-2000

COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.
DRAWN BY (DESIGNED BY) CHECKED BY RECORD NO.
JDS 12/12 JBN J-B00034

DATE: OCTOBER 2012 DRWG. NO.: 8.008-Y

J:\LD7-PROJ\08031-LD7\SHEETS\ESP-8-11.dwg, 1/31/2011 8:59:10 AM.



FOREST CONSERVATION WORKSHEET

Net Tract Area:

A. Total Tract Area = 122.74 ac
 B. Deductions Floodplain = 3.93 ac
 C. Previously Dedicated = 55.65 ac*
 D. Net Tract Area = 63.21 ac

Land Use Category: Residential-Suburban

E. Afforestation Threshold (Net Tract area x 15%) = 9.48 ac
 F. Conservation Threshold (Net Tract area x 20%) = 12.64 ac

Existing Forest Cover:

G. Existing Forest Cover (excluding floodplain) = 60.92 ac
 H. Area of forest above afforestation threshold = 51.44 ac
 I. Area of forest above conservation threshold = 48.28 ac

Break Even Point:

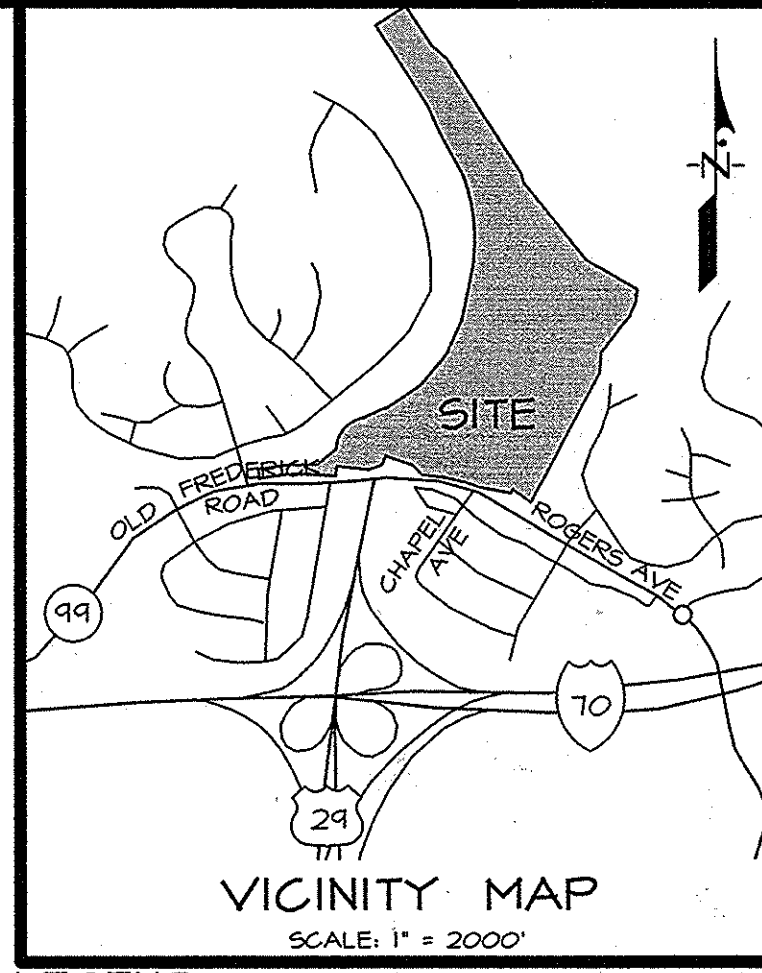
J. Forest retention above threshold with no mitigation = 22.30 ac
 K. Clearing permitted without mitigation = 38.62 ac

Proposed Forest Clearing:

L. Total area of forest to be cleared = 41.38 ac
 M. Total area of forest to be retained = 19.54 ac

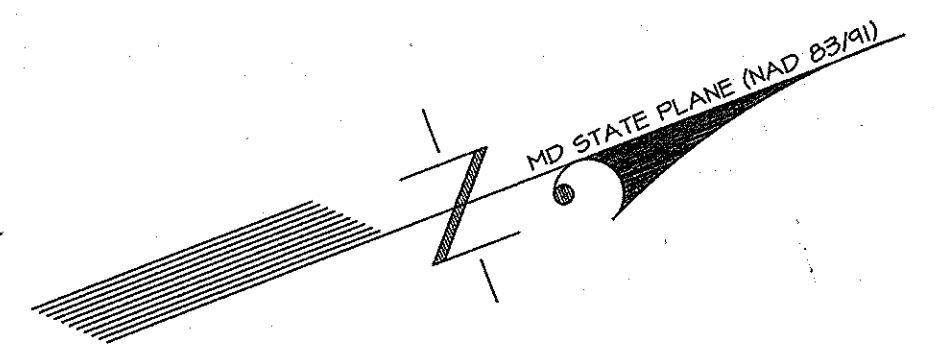
Planting Requirements

N. reforestation for clearing above conservation threshold = 11.85 ac
 O. Reforestation for clearing below conservation threshold = 0.00 ac
 P. Credit for retention above conservation threshold = 0.90 ac
 Q. Total reforestation required = 10.95 ac
 R. Total afforestation required = 0.00 ac
 S. Total reforestation and afforestation required = 10.95 ac**



*55.65 Acres previously placed in FC Easement for SHA.
 **10.95 Acres of reforestation provided on-site (or off-site as applicable). Forest Conservation obligations in accordance with Section 16.1202 of the Forest Conservation Manual will be fulfilled by 13.54 acres of retention, 1.96 acres of reforestation and a fee-in-lieu for 8.48 acres of reforestation. In addition, the developer shall either pay a fee-in-lieu or provide obligations off-site for disturbance of the established Forest Conservation Retention Easement located on adjoining Open Space Lot 129 of the Daniels Mill Overlook Subdivision. Disturbance in this area is necessary for public sewer connections to the eastern Daniels Mill Overlook Pump Station. The obligation for this disturbance has not yet been determined but will be fulfilled prior to plat recordation of this subdivision. Recordation of a Forest Conservation Plat of easement will be necessary to show the revised easement area on Open Space Lot 129. The area of SHA forest conservation easement is not utilized in fulfillment of forest conservation obligation for the proposed development.

Note: Forest Conservation Easements located on-site may be less than 35' in width are located adjacent to the Patapsco State Park and are permitted per DPZ Policy Memo dated 11/01/10 (permitted when adjoining permanently protected State Parkland).



LEGEND

PROPERTY BOUNDARY

EX. ZONE LINE

EX. CONTOUR (2')

EX. CONTOUR (10')

EX. TREELINE

PROP. TREELINE

LIMITS OF DISTURBANCE

WATERS OF THE U.S.

STREAM BANK BUFFER (50')

NONTIDAL WETLAND

EX. WETLAND BUFFER (25')

EX. FLOODPLAIN

15-25% SLOPES

25% SLOPES & GREATER

FOREST STAND BOUNDARY

SOIL TYPE & DELINEATION

SPECIMEN TREE

SPECIMEN TREE TO BE REMOVED

PRESERVATION AREA

REFORESTATION AREA

STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT

TREE PROTECTION FENCE

TREE PROTECTION SIGNAGE (PRESERVATION)

TREE PROTECTION SIGNAGE (REFORESTATION)

SPECIMEN TREE SIGN

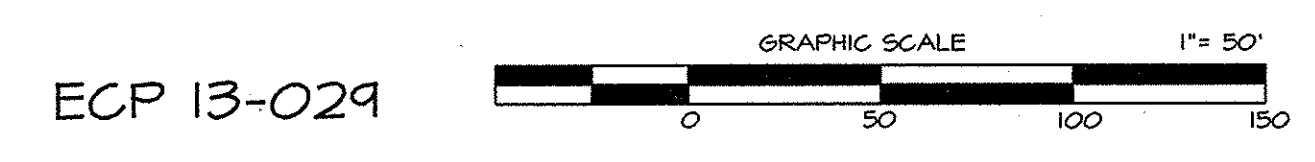
PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Mark A. Agui 5/1/14
 PLANNING DIRECTOR 88 Date

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

CONCEPTUAL FOREST CONSERVATION PLAN I
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)
THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND



ECP 13-029

SHEET 13 OF 23

DATE	DESCRIPTION	BY	DATE
April 24, 2014		Mike Petrakis	MARCH 2013
	REVISIONS		

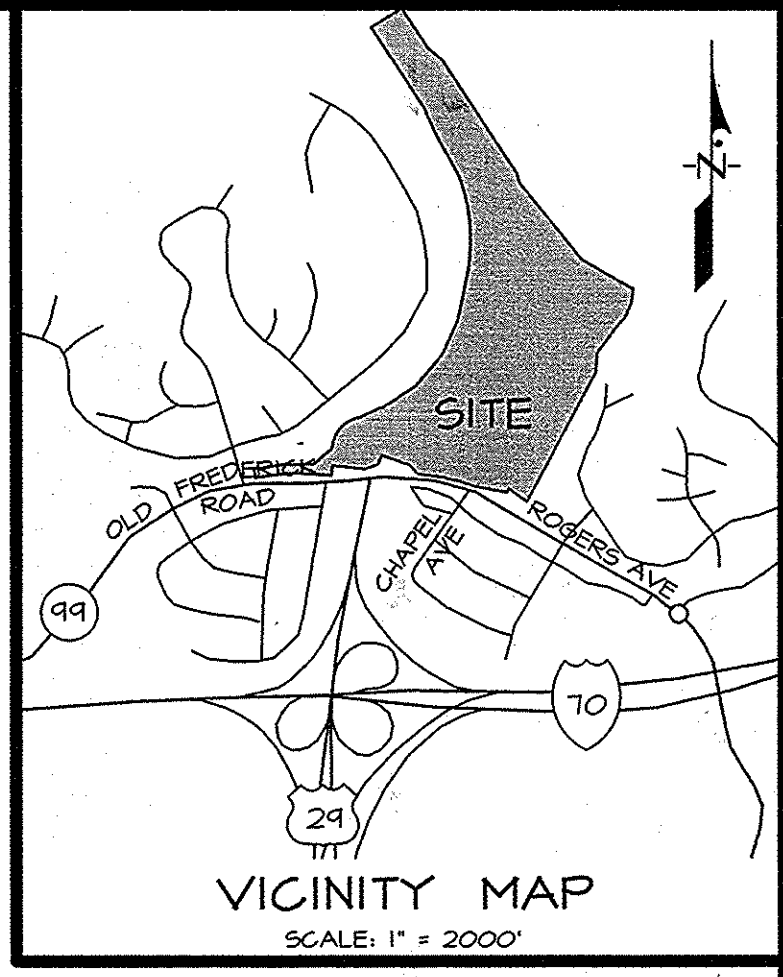
Scale: 1" = 50'

DATE: MARCH 2013

DRWG. NO.: 54.01-Y



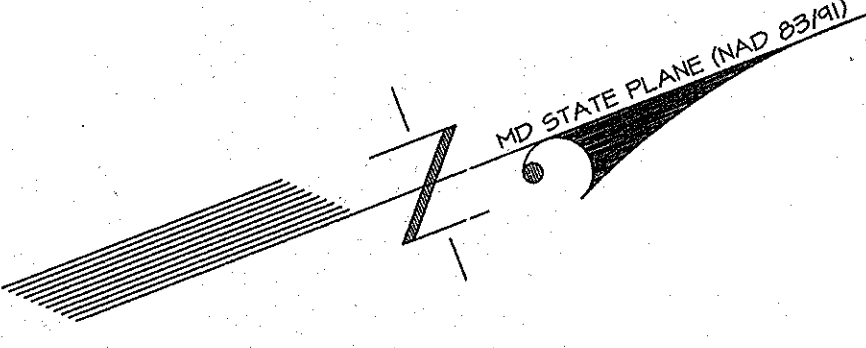
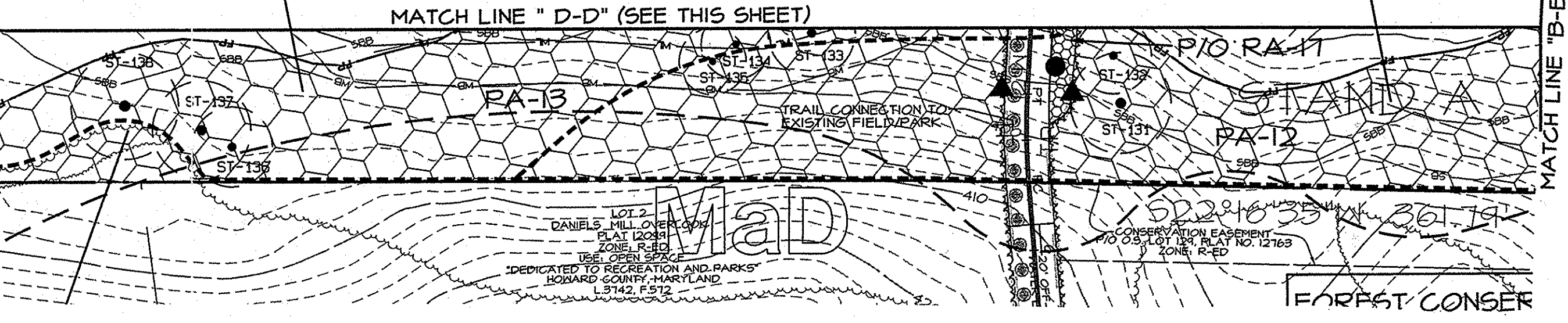
SOILS FOUND ON SITE					
SYMBOL	NAME/DESCRIPTION	K-FACTOR	HYDRIC	HYDROLOGIC GROUP	DRAINAGE CLASS
GbB	Gladstone loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
GbC	Gladstone loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GgB	Glenelg loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
GgC	Glenelg loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GhB	Glenelg-Urbn land complex, 0 to 8 percent slopes		No	B	
GhC	Glenelg-Urbn land complex, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GmB	Glenville silt loam, 3 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
GmC	Glenville silt loam, 8 to 15 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
GmB	Glenville-Boile silt loams, 0 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
GoB	Glenville-Codorus silt loams, 0 to 8 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
MaB	Manor loam, 3 to 8 percent slopes	0.24	No	B	WELL DRAINED
MaC	Manor loam, 8 to 15 percent slopes	0.24	No	B	WELL DRAINED
MaD	Manor loam, 15 to 25 percent slopes	0.24	No	B	WELL DRAINED
MgD	Manor-Bronnertown sandy loams, 15 to 25 percent slopes, rocky	0.24	No	B	WELL DRAINED
MgF	Manor-Bronnertown sandy loams, 25 to 65 percent slopes, rocky	0.24	No	B	WELL DRAINED
MkF	Manor-Bronklow complex, 25 to 65 percent slopes, very rocky	0.24	No	B	WELL DRAINED



PART OF FC EASEMENT AREA "A" = 5.15 ACRES

PART OF FC EASEMENT AREA "D" = 1.53 ACRES

PART OF FC EASEMENT AREA "D" = 0.95 ACRES

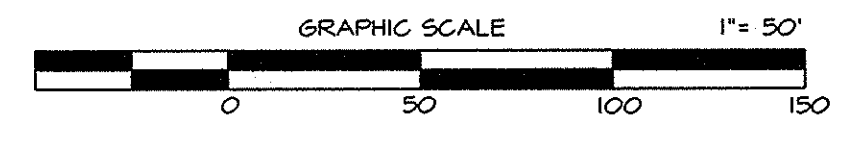


TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Frank A. Lytle 5/1/14
PLANNING DIRECTOR Date

CONCEPTUAL FOREST CONSERVATION PLAN 2
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS 1-4
(PROPOSED LOTS 1-195 and
OPEN SPACE LOTS 196 & 197)
THE ESTATES AT PATAPSCO PARK
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

ECP 13-029
SHEET 14 OF 23



OWNER/DEVELOPER	DATE	BY	DESCRIPTION	REVISIONS
PATAPSCO ASSOCIATES, LP 12116 ARBIE ROAD SILVER SPRING, MD 20904 ATTN: MR. SIMON ROSENBERG (301) 622-0645	April 24, 2014	<i>Mike Petrakis</i>		

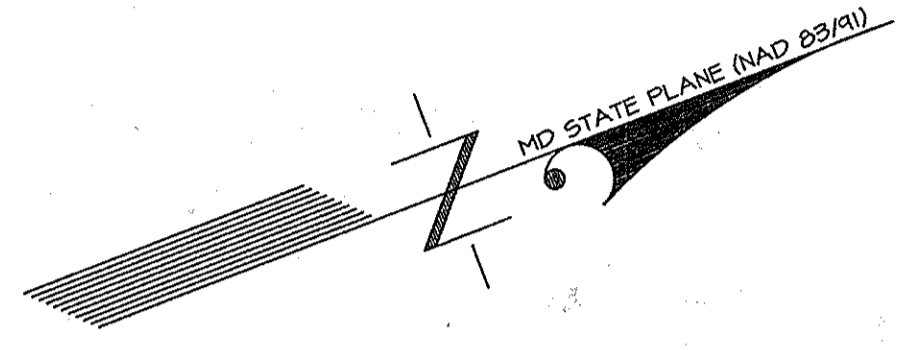
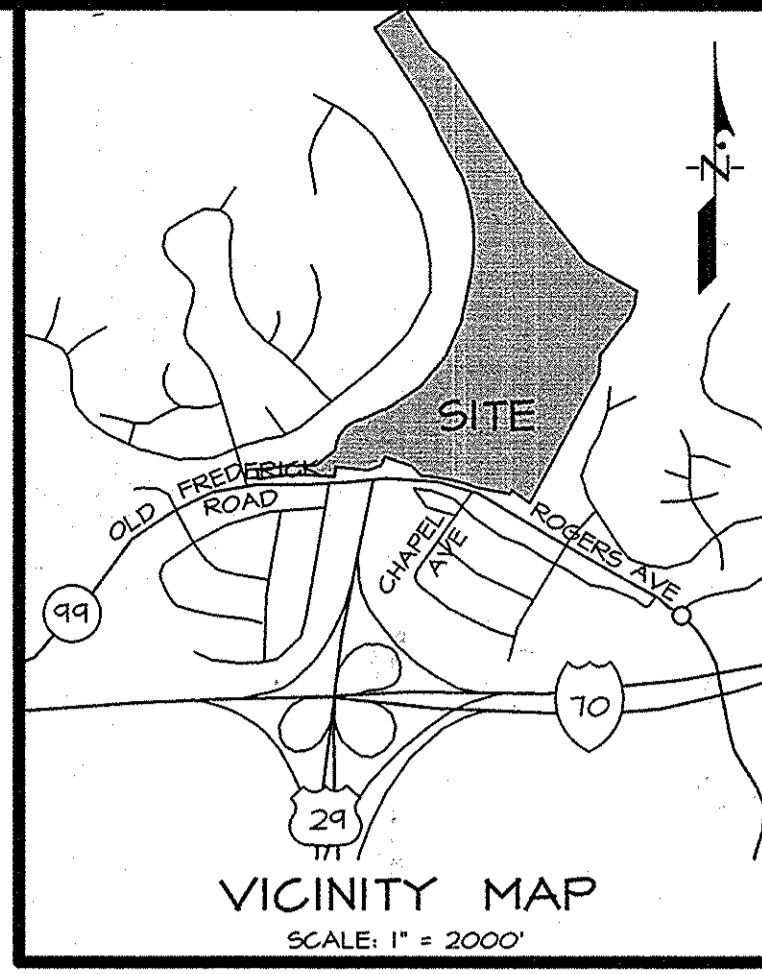
PART OF FC EASEMENT AREA "D" = 0.33 ACRES

PART OF FC EASEMENT AREA "D" = 0.45 ACRES

PART OF FC EASEMENT AREA "D" = 0.17 ACRES

OWNER/DEVELOPER
PATAPSCO ASSOCIATES, LP
12116 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645

1731 WOODMORE ROAD, SUITE 200
MITCHELLVILLE, MARYLAND 20721
BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 430-2000
COPYRIGHT © 2013 BEN DYER ASSOCIATES, INC.
DRAWN BY: [Signature] DATE: [Date]
SCALE: 1" = 50'
DATE: MARCH 2013



PART OF FC EASEMENT AREA "A" = 5.15 ACRES

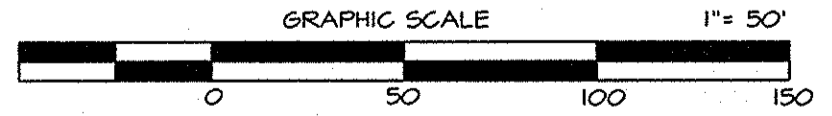
FC EASEMENT AREA "B" = 0.01 ACRES TOTAL

PART OF FC EASEMENT AREA "C" = 1.84 ACRES

PART OF FC EASEMENT AREA "C" = 2.06 ACRES

PART OF FC EASEMENT AREA "C" = 1.03 ACRES

CONCEPTUAL FOREST CONSERVATION PLAN 3
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)
THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND



ECP 13-029
 SHEET 15 OF 23

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
Handwritten signature
 PLANNING DIRECTOR
 Date: 4/1/14

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
April 24, 2014		Mike Petroski	1" = 50'	J-B00034
	REVISIONS			54.014-Y
DATE MARCH 2013				

TAX MAP 17, GRIDS 5, 6, 11 & 12
 11731 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
 BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000
 COPYRIGHT © 2013 BEN DYER ASSOCIATES, INC.
 DRAWN BY: [initials] DESIGNED BY: [initials] CHECKED BY: [initials]
 PCN: [initials] MP: [initials] J-B00034
 SCALE: 1" = 50'
 DATE: MARCH 2013
 DRWG. NO.: 54.014-Y
 J:\LD7-PROJ\006031-LD7\SHETS\PEEP-13-17.DWG, 1/31/2011 9:00:17 AM.

No.	Common Name	Scientific Name	DBH (Inches)	Condition	Disposition
1	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
2	tulip poplar	Liriodendron tulipifera	42"	Fair	To Remain
3	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
4	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
5	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
6	yellow poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
7	red oak	Quercus rubra	48"	Poor	To Be Removed
8	silver maple	Acer saccharinum	44"	Good	To Remain
9	sycamore	Platanus occidentalis	71.5"	Good	To Remain
10	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
11	white oak	Quercus alba	32"	Good	To Remain
12	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
13	red oak	Quercus rubra	32.5"	Fair	To Be Removed
14	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Remain
15	chestnut oak	Quercus prinus	50" dbh	Fair	To Be Removed
16	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
17	white oak	Quercus alba	32"	Good	To Be Removed
18	white oak	Quercus alba	32"	Good	To Be Removed
19	tulip poplar	Liriodendron tulipifera	34"	Fair	To Be Removed
20	tulip poplar	Liriodendron tulipifera	35"	Fair	To Be Removed
21	tulip poplar	Liriodendron tulipifera	35"	Good	To Remain
22	tulip poplar	Liriodendron tulipifera	54" dbh	Fair	To Be Removed
23	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
24	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
25	chestnut oak	Quercus prinus	33.5"	Fair	To Be Removed
26	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
27	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
28	tulip poplar	Liriodendron tulipifera	42.5" dbh	Good	To Be Removed
29	pin oak	Quercus palustris	34"	Fair	To Be Removed
30	tulip poplar	Liriodendron tulipifera	44"	Fair	To Be Removed
31	tulip poplar	Liriodendron tulipifera	35.5"	Fair	To Be Removed
32	tulip poplar	Liriodendron tulipifera	34"	Fair	To Be Removed
33	tulip poplar	Liriodendron tulipifera	33.5"	Fair	To Be Removed
34	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
35	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
36	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
37	tulip poplar	Liriodendron tulipifera	38.5"	Fair	To Be Removed
38	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
39	sycamore	Platanus occidentalis	41"	Good	To Remain
40	tulip poplar	Liriodendron tulipifera	57" dbh	Good	To Remain
41	tulip poplar	Liriodendron tulipifera	32.5"	Good	To Be Removed
42	pin oak	Quercus palustris	33"	Good	To Be Removed
43	tulip poplar	Liriodendron tulipifera	45.5" dbh	Fair	To Remain
44	green ash	Fraxinus pennsylvanica	40.5"	Fair	To Remain
45	white oak	Quercus alba	41"	Fair	To Remain
46	red oak	Quercus rubra	34"	Fair	To Remain
47	tulip poplar	Liriodendron tulipifera	35"	Fair	To Remain
48	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Remain
49	sycamore	Platanus occidentalis	31"	Fair	To Remain
50	silver maple	Acer saccharinum	42.5"	Poor	To Remain
51	silver maple	Acer saccharinum	55"	Fair	To Remain
52	silver maple	Acer saccharinum	34"	Fair	To Remain
53	silver maple	Acer saccharinum	45.5"	Fair	To Remain
54	silver maple	Acer saccharinum	30"	Poor	To Remain
55	silver maple	Acer saccharinum	30"	Fair	To Remain
56	silver maple	Acer saccharinum	30"	Fair	To Remain
57	white pine	Pinus strobus	30"	Fair	To Remain
58	silver maple	Acer saccharinum	44"	Good	To Remain
59	willow oak	Quercus phellos	35.5"	Poor	To Remain
60	willow oak	Quercus phellos	30"	Fair	To Remain
61	silver maple	Acer saccharinum	44"	Good	To Remain
62	silver maple	Acer saccharinum	30"	Fair	To Remain
63	silver maple	Acer saccharinum	40"	Good	To Remain
64	sycamore	Platanus occidentalis	33.5"	Fair	To Remain
65	sycamore	Platanus occidentalis	43.5"	Good	To Remain
66	green ash	Fraxinus pennsylvanica	30"	Good	To Remain
67	sycamore	Platanus occidentalis	30"	Good	To Remain
68	sycamore	Platanus occidentalis	32" dbh	Fair	To Remain
69	tulip poplar	Liriodendron tulipifera	50"	Fair	To Remain
70	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
71	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
72	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
73	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Mark A. Lytle
PLANNING DIRECTOR

5/1/14
Date

No.	Common Name	Scientific Name	DBH (Inches)	Condition	Disposition
14	tulip poplar	Liriodendron tulipifera	45.5"	Fair	To Remain
75	tulip poplar	Liriodendron tulipifera	35"	Fair	To Remain
76	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
77	tulip poplar	Liriodendron tulipifera	50"	Fair	To Remain
78	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
79	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
80	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
81	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
82	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
83	red oak	Quercus rubra	30"	Fair	To Remain
84	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
85	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
86	tulip poplar	Liriodendron tulipifera	35.5"	Fair	To Remain
87	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
88	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
89	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
90	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
91	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
92	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
93	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
94	tulip poplar	Liriodendron tulipifera	35"	Fair	To Remain
95	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
96	tulip poplar	Liriodendron tulipifera	35.5"	Fair	To Remain
97	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
98	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
99	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
100	red oak	Quercus rubra	32"	Fair	To Remain
101	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
102	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
103	pin oak	Quercus palustris	30"	Good	To Remain
104	tulip poplar	Liriodendron tulipifera	35.5"	Good	To Remain
105	tulip poplar	Liriodendron tulipifera	32"	Good	To Remain
106	pin oak	Quercus palustris	32"	Good	To Remain
107	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
108	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
109	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
110	pin oak	Quercus palustris	34"	Good	To Remain
111	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
112	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
113	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
114	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
115	american beech	Fagus grandifolia	31"	Fair	To Remain
116	tulip poplar	Liriodendron tulipifera	36"	Fair	To Be Removed
117	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Remain
118	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
119	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
120	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
121	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
122	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
123	green ash	Fraxinus pennsylvanica	34"	Good	To Remain
124	pin oak	Quercus palustris	35"	Good	To Remain
125	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
126	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
127	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Remain
128	tulip poplar	Liriodendron tulipifera	38"	Fair	To Remain
129	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
130	green ash	Fraxinus pennsylvanica	30"	Good	To Remain
131	sycamore	Platanus occidentalis	45"	Fair	To Remain
132	sycamore	Platanus occidentalis	34"	Fair	To Remain
133	sycamore	Platanus occidentalis	34"	Good	To Remain
134	sycamore	Platanus occidentalis	31"	Good	To Remain
135	sycamore	Platanus occidentalis	30"	Poor	To Remain
136	sycamore	Platanus occidentalis	36"	Good	To Remain
137	sycamore	Platanus occidentalis	44"	Good	To Remain
138	sycamore	Platanus occidentalis	48"	Fair	To Remain
139	green ash	Fraxinus pennsylvanica	30.5"	Fair	To Remain
140	red oak	Quercus rubra	34"	Fair	To Remain
141	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
142	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
143	yellow poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
144	chestnut oak	Quercus prinus	31.5"	Good	To Be Removed
145	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
146	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed

FOREST CONSERVATION NOTES

- Cutting or clearing of woodland not in conformance with this plan or without the expressed written consent of Howard County Department of Planning and Zoning or designee, is prohibited.
- Notify Howard County, Environmental Department, 48 hours in advance, at (410) 313-4755 for the pre-construction meeting, inspection of retention line (tree protection device), completion of construction activities and for inspection of reforestation/afforestation as it is being installed.
- Property owners shall be notified by the Developer or Contractor, of any Woodland Conservation Areas (Tree Save Areas, Reforestation Areas, Afforestation Areas or Selective Clearing Areas) located on their lot or parcel of land and the associated fines for unauthorized disturbances to these areas. Upon the sale of the property the owner/developer or owners representative shall notify the purchaser of the property of any Woodland Conservation Areas.
- Fires permitted in the construction area shall conform with State and local regulations for fire control, and may not enter the retention area or its canopy.
- The location of all Tree Protection Devices (TPD's) shown on this Plan, shall be flagged or staked in the field prior to the pre-construction meeting with the Howard County Environmental Department. Upon approval of the flagged or staked TPD locations by the Inspector, installation of the TPD's may begin. TPD installation shall be completed prior to installation of initial sediment controls. No cutting or clearing of trees may begin before final approval of the TPD installation.
- All field personnel, including equipment operators and supervisors who might work or direct work in the vicinity of protected trees are to be instructed in techniques for avoiding damage to these trees by the landscape Architect, DNR or a Qualified Professional.
- The layout of the construction site shall provide for special, marked areas for fueling, oil changing and equipment maintenance and for materials storage and stockpiling. These areas shall be located so as to prevent the deposit of silt or the washing or leaching of petroleum products or other harmful substances, into the tree save areas.
 - The following are not allowed within a tree save area:
 - Depositing of refuse, construction debris, spoil, petroleum products and vehicle or equipment waste water.
 - Dumping of limbs, stumps, and other clearing debris.
 - Driving of any vehicle or equipment.
 - Storage or stockpiling of materials and supplies.
 - Lighting of any fire, including cooking or warming fires.
- Woodland Conservation - Tree Save Areas and/or Reforestation shall be posted as shown at the same time as the Tree Protective Device installation and/or start of reforestation activities. These signs shall remain in place for five years after completion of work.
- All Tree conservation shall be Performed in accordance with the Howard County Forest Conservation Manual, latest edition.
- Reforestation planting shall be accomplished within 1 year or 2 growing seasons after the completion of the development project.

PRE-CONSTRUCTION ACTIVITIES

- Prior to any disturbance of the site, the tree save lines shall be field located by surveying techniques and the appropriate tree protective device (see detail) shall be erected along these designated lines. Only after the tree protective devices have been installed shall any tree cutting or other clearing, grubbing or grading operations begin. All protection devices shall remain in place until all construction has been completed. Devices shall be maintained throughout construction. Attachment of signs, or any other objects, to trees is prohibited. No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed within protected areas.
- After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on site, a pre-construction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate local inspectors shall attend.
- Reforestation planting shall be done after the final grading is established, stabilized and approved. Reforestation techniques and methods must comply with the details and specifications provided herein.

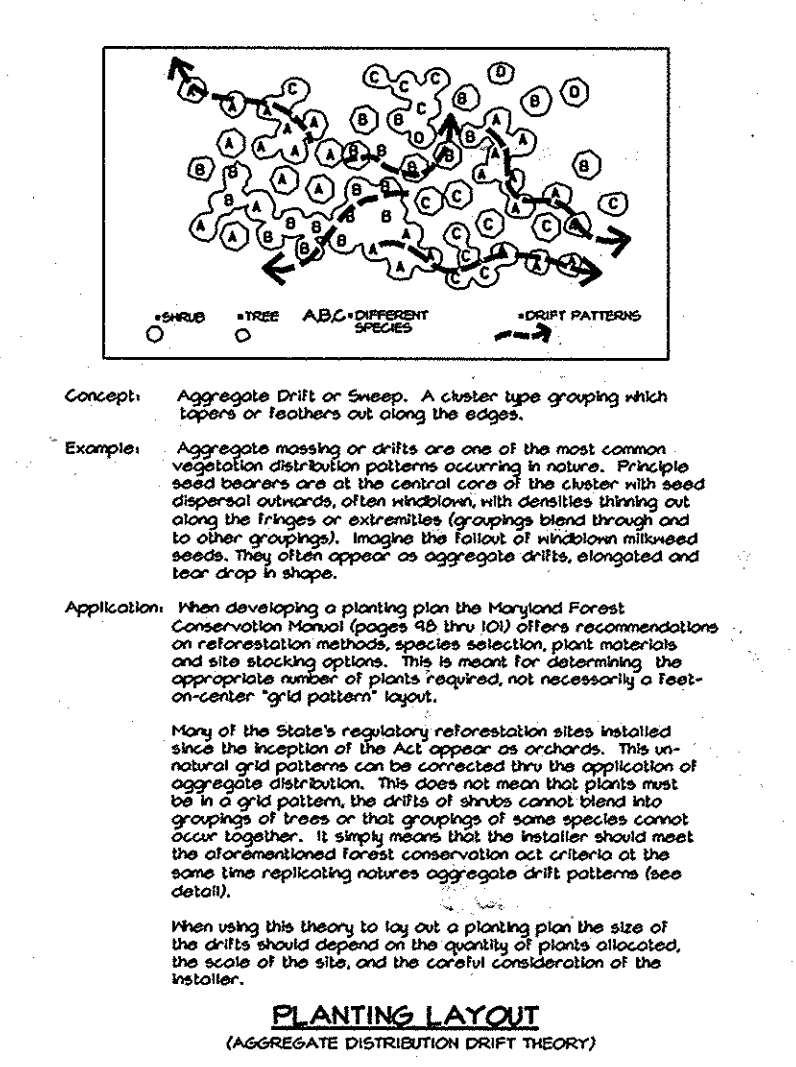
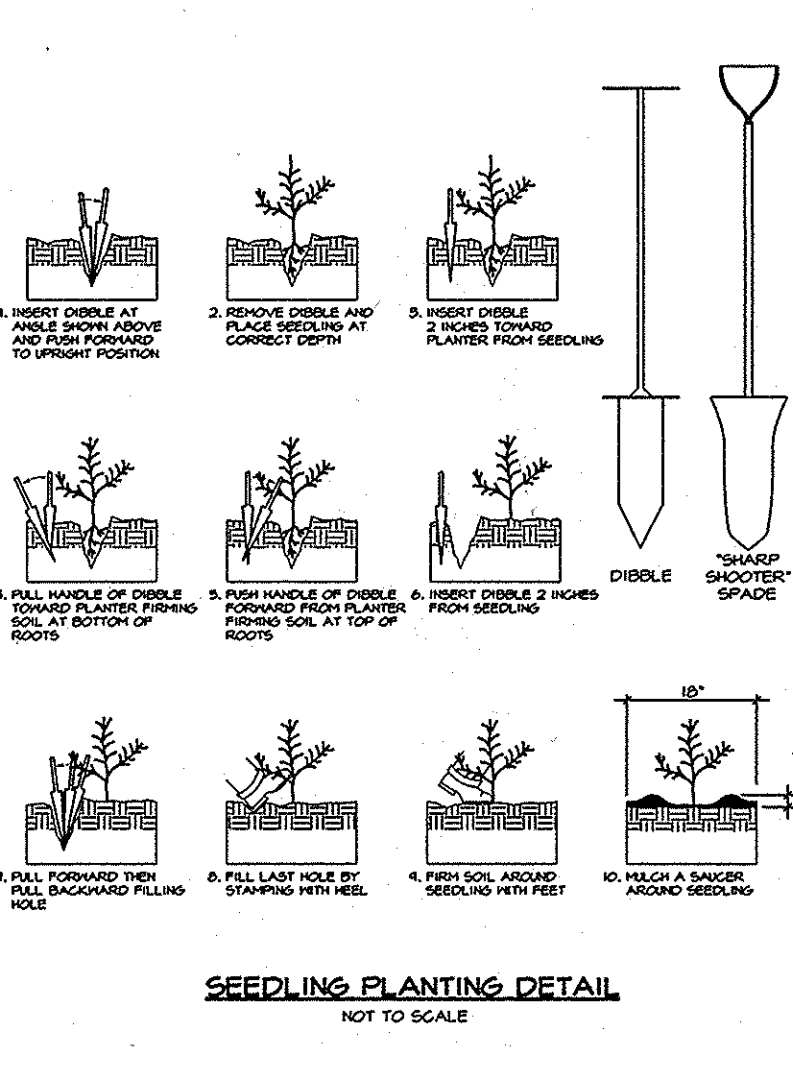
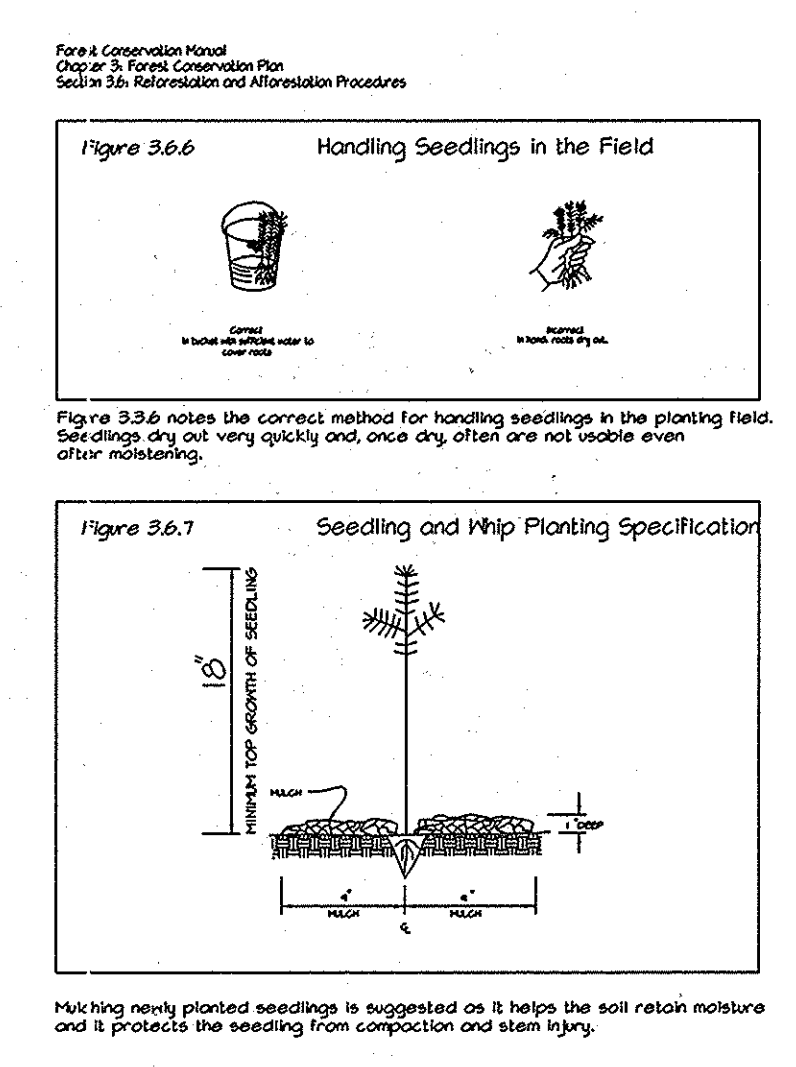
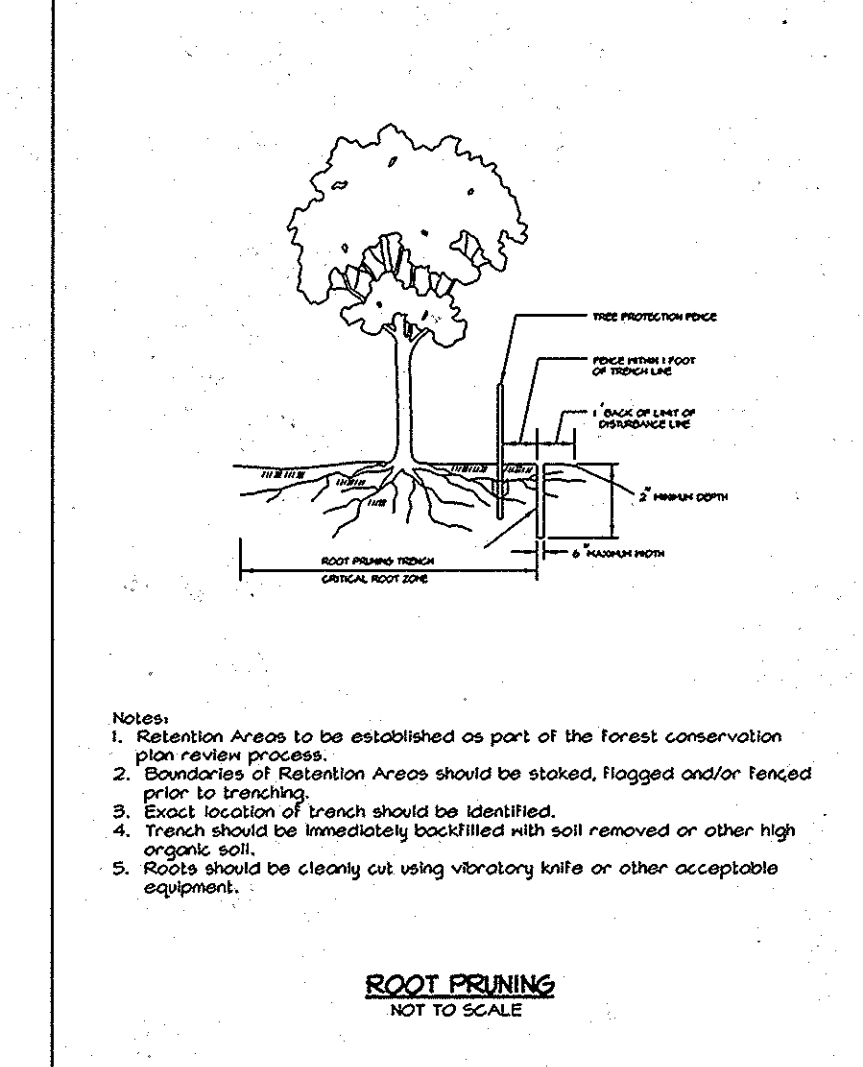
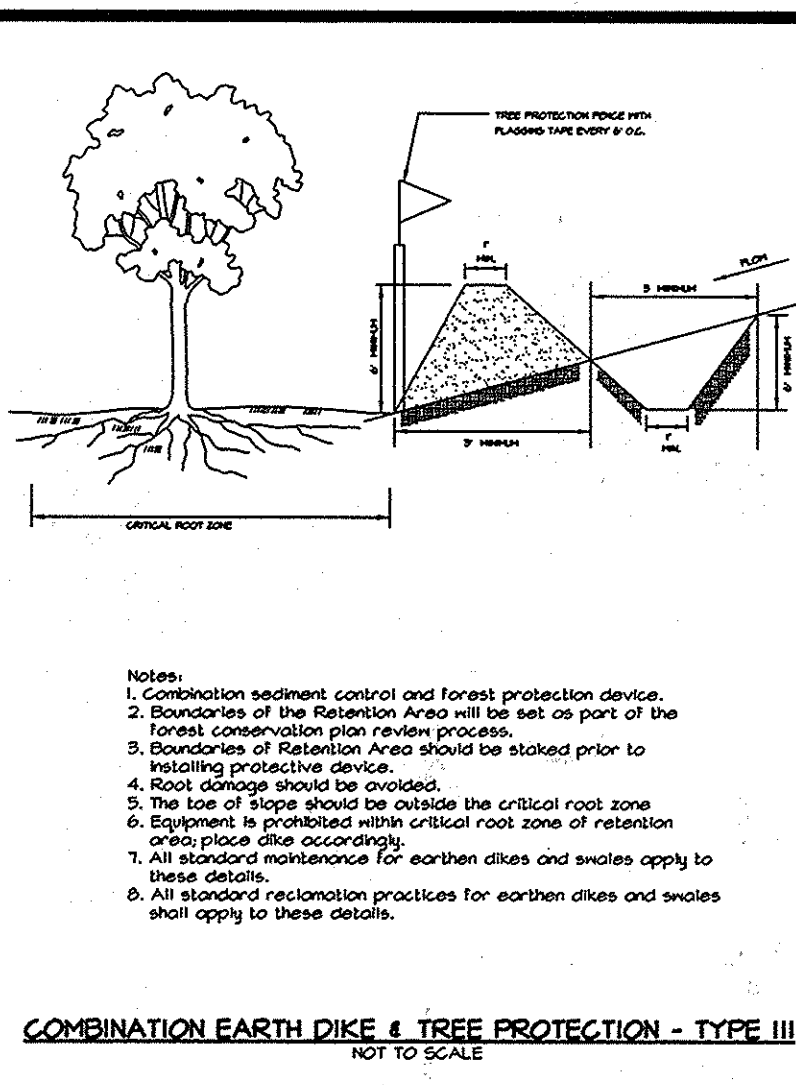
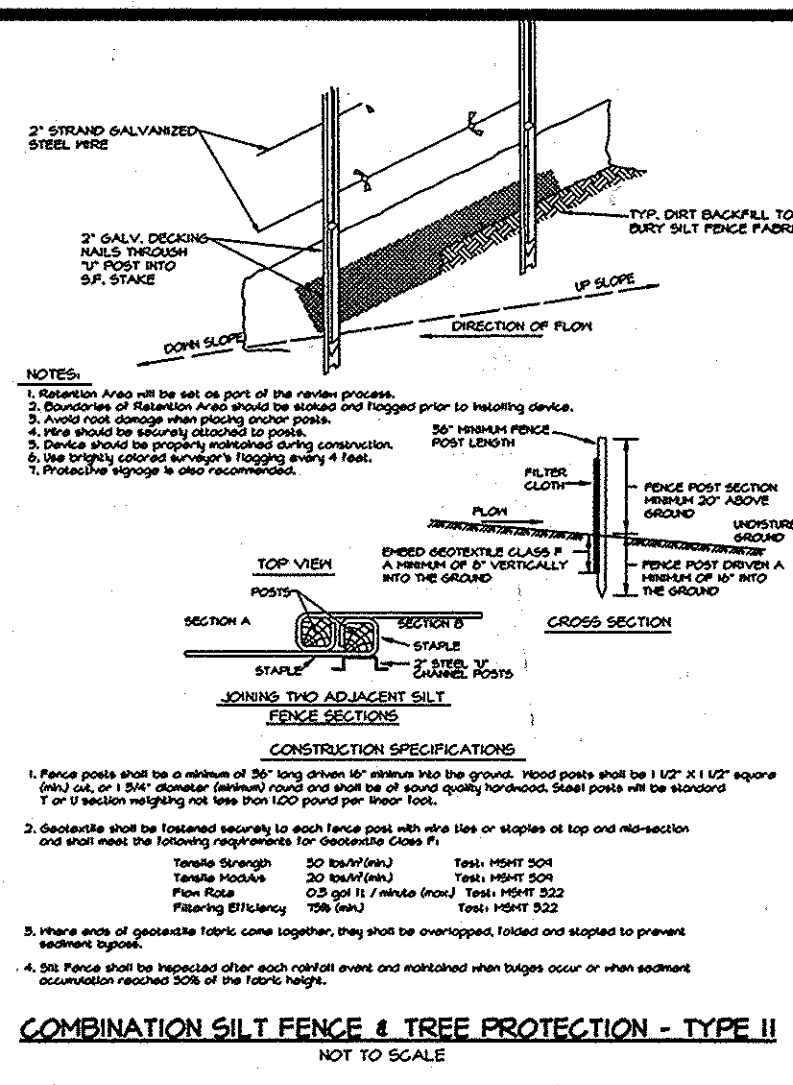
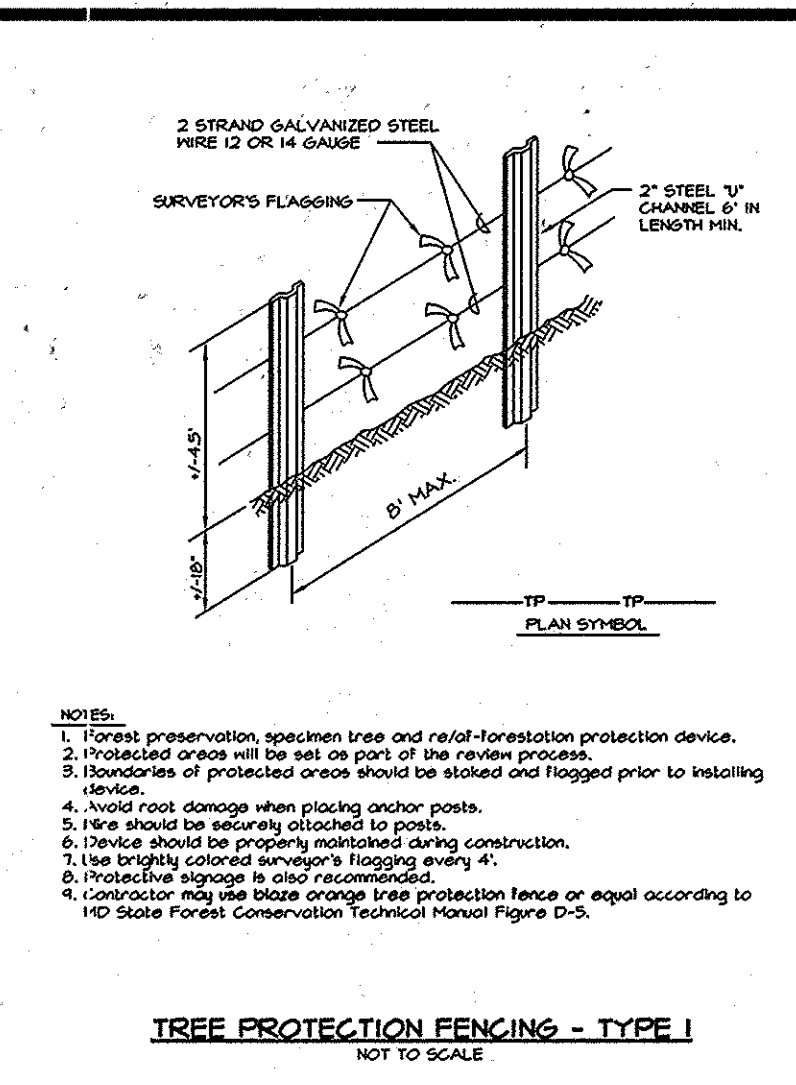
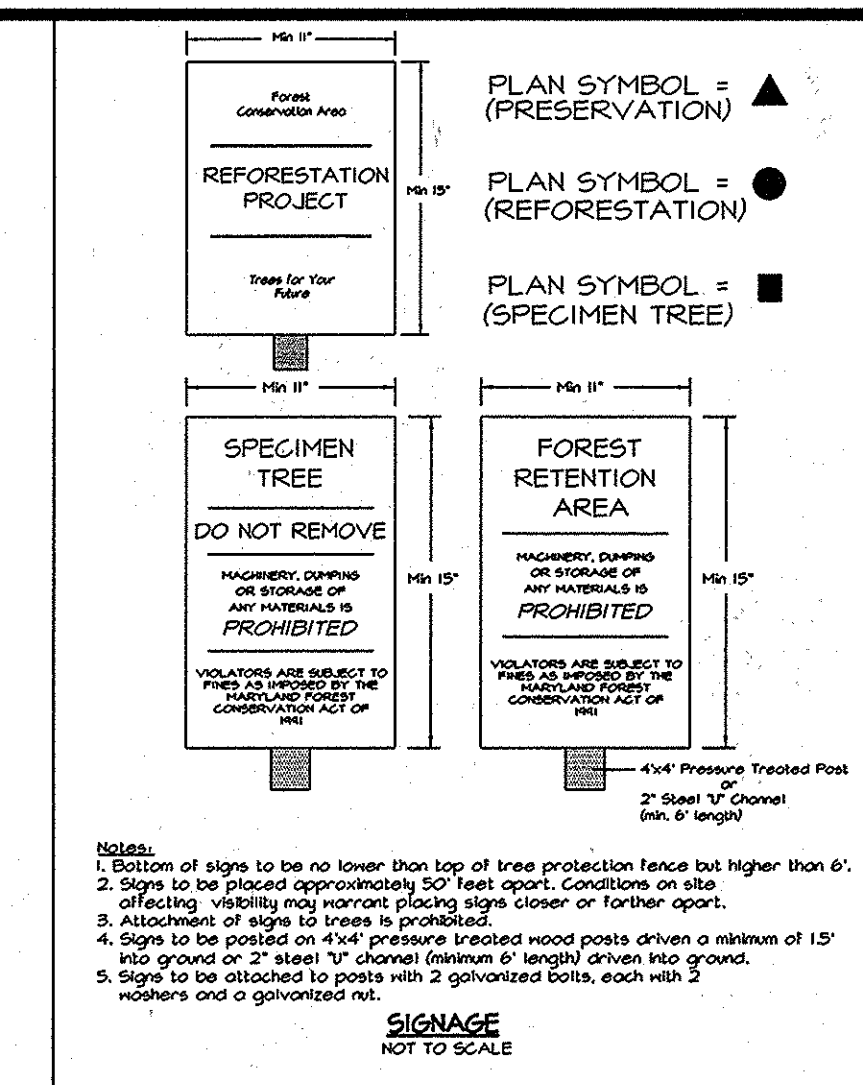
PLANTING SPECIFICATIONS FOR RE/AFFORESTATION AREAS

- Quantity: (see Plant Schedule)
- Type: (see Plant Schedule)
- Plant Quality Standards: The plants selected shall be healthy and sturdy representatives of their species. Seedlings shall have a minimum top growth of 18". The diameter of the root collar (the part of the root just below ground level) shall be at least 3/8". The roots shall be well developed and at least 8" long. No more than twenty-five percent (25%) of the root system (both primary and auxiliary/fibrous) shall show evidence of being cut (pruned) or stripped from the plant during the digging process. Substantial auxiliary/fibrous roots shall be present.

Plants that do not have an abundance of well developed terminal buds on the leaders and branches shall be rejected.

Plants shall be shipped by the nursery immediately after lifting from the field or removal from the greenhouse, and planted immediately upon receipt by the landscape contractor.

If the plants cannot be planted immediately after delivery to the reforestation site, they shall be stored in the shade with their root masses protected from direct exposure to sun and wind by the use of straw, peat moss, compost, or other suitable material and shall be maintained through periodic watering, until the time of planting.
- Plant Handling: The quantity of seedlings taken to the field shall not exceed the quantity that can be planted in a day. Seedlings, once removed from the nursery or temporary storage area shall be planted immediately.
- Timing of Planting: The best time to plant seedlings is while they are dormant, prior to spring budding. The most suitable months for planting are March and April, when the soil is moist. November and early December are also acceptable planting times for this region as cool and cloudy weather is considered ideal. Planting shall occur within one growing season of the issuance of grading/building permits and/or reaching the final grades and stabilization of planting areas.
- Seedling Planting: Tree seedlings can be hand planted using a dibble bar or sharp-shooter shovel. It is important that the seedling be placed in the hole so that the roots can spread out naturally; they should not be twisted, balled up, or bent. Moist soil should then be packed firmly around the roots. Seedlings should be planted at a depth where their roots collar lie just below the ground surface. Air pockets should not be left after closing the hole which would allow the roots to dry out. See planting details for further explanation. If the contractor wishes to plant by another method, the preparer of this tree conservation plan must be contacted and give his approval before planting may begin.
- Spacing: See Plant Schedule and/or Planting Plan for spacing requirements. Also refer to the Planting Layout detail for a description of the general planting theory.
- Soil: Upon the completion of all grading operations, a soil test shall be conducted to determine what soil preparation and soil amendments, if any, are necessary to create good tree growing conditions. Soil samples shall be taken at a rate that provides one soil sample for each area that appears to have a different soil type (if the entire area appears uniform, then only one sample is necessary) and submitted for testing to a private company. The company of choice shall make recommendations for improving the existing soil. The soil will be tested and recommended for corrections of soil texture, pH, magnesium, phosphorus, potassium, calcium and organic matter.
- Soil Improvement Measures: The soil shall then be improved according to the recommendations made by the testing company.
- Fencing & Signage: Final protective fencing shall be placed on the visible and/or development side of planting areas. The protective fence shall be installed upon completion of planting operations. Signs shall be posted per the signage detail on this sheet.
- Planting Method: Consult the Planting Detail(s) shown on this plan.
- Mulching: Apply 2" thick layer of woodchip or shredded hardwood mulch (as noted) to each planting site (see detail shown on this plan).
- Groundcover Establishment: The remaining disturbed area between seeding planting sites shall be seeded and established with white clover seed at the rate of 5lbs./acre.
- Mowing: No mowing shall be allowed in any planting area, however the management of competing vegetation around individual trees is acceptable.
- Survival Check: The seedling planting is to be checked at the end of each year for two years to assure that no less than 75% of the original planted quantity survives.
- Source of Seedlings: John S. Aiton State Forest Tree Nursery
3424 Gallagher Road
Preston, MD 21655
(410) 673-2467



PLANT SCHEDULE FOR RE/AFFORESTATION

STOCK SPECIFICATION:
700 SEEDLINGS PER ACRE

TOTAL RE/AFFORESTATION PROVIDED: 1.81 ACRES

Reforestation Area	Acres	Box Elder	Tulip Poplar	Sycamore	Red Oak	White Oak	Total No. of Seedlings
1	0.30	42	42	42	42	42	210
2	0.06	4	4	4	4	4	45
3	0.03	5	5	5	5	5	45
4	0.01	2	2	2	2	2	10
5	0.03	5	5	5	5	5	25
6	0.19	27	27	27	27	27	135
7	0.03	5	5	5	5	5	25
8	0.43	61	61	61	61	61	305
9	0.03	5	5	5	5	5	25
10	0.15	26	26	26	26	26	105
11	0.08	12	12	12	12	12	60
12	0.02	3	3	3	3	3	15
13	0.02	3	3	3	3	3	15
14	0.02	3	3	3	3	3	15
15	0.32	45	45	45	45	45	225
16	0.06	4	4	4	4	4	45
17	0.05	7	7	7	7	7	35
18	0.10	14	14	14	14	14	70
19	0.02	3	3	3	3	3	15
20	0.02	3	3	3	3	3	15
TOTAL	1.81	289	289	289	289	289	1445

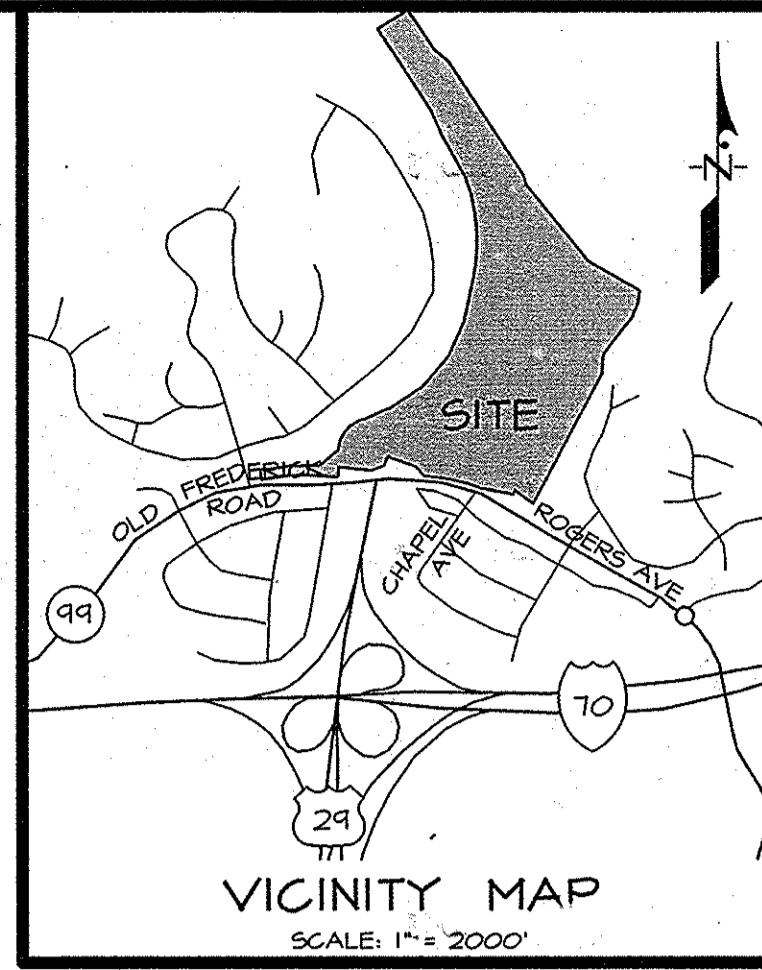
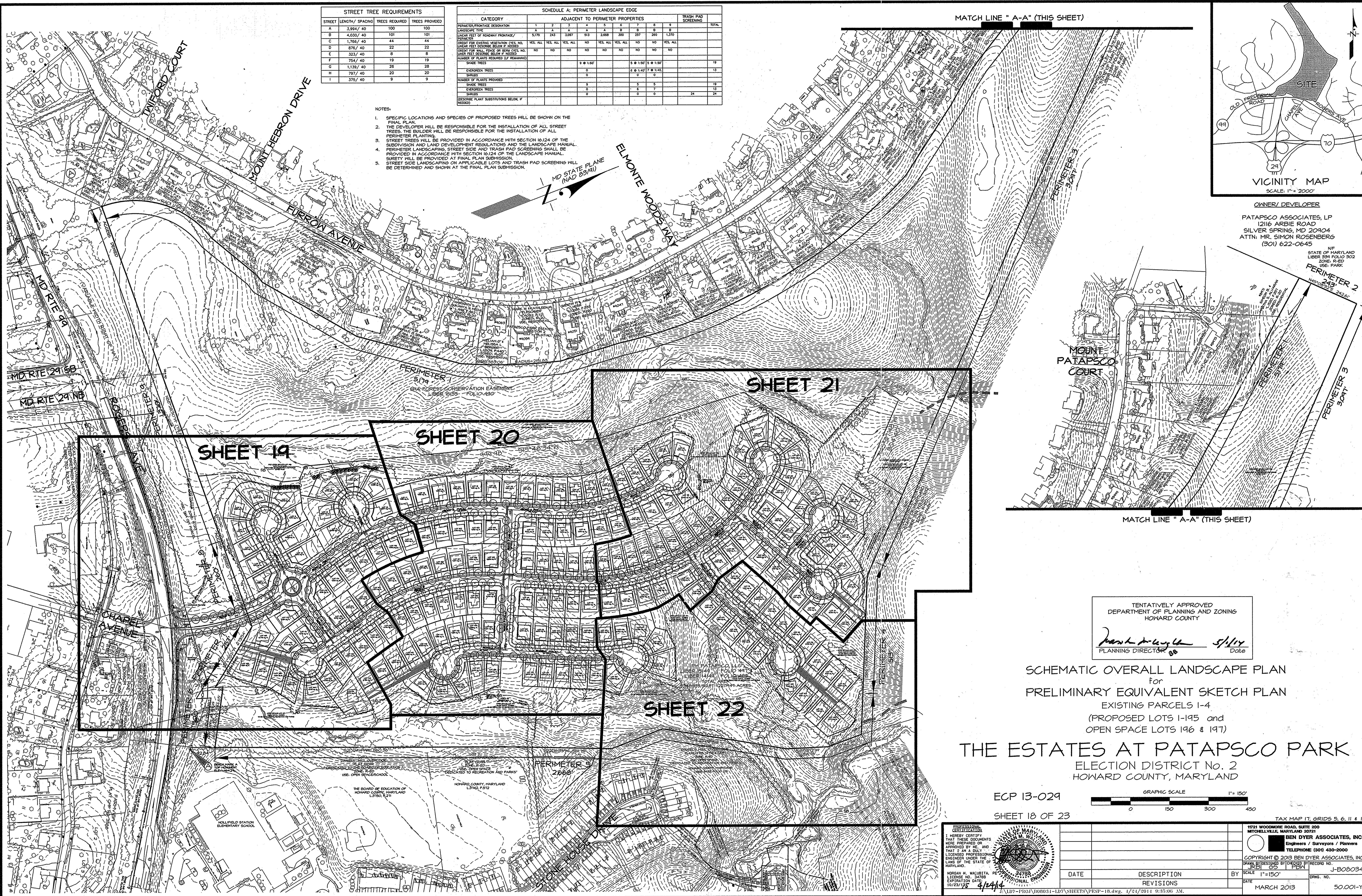
NOTES:

- All tree/shrub species planted within the re/afforestation areas, should be randomly distributed throughout the proposed re/afforestation area, so as to promote a natural woodland structure. (See

STREET TREE REQUIREMENTS			
STREET	LENGTH/ SPACING	TREES REQUIRED	TREES PROVIDED
A	3,994/ 40	100	100
B	4,032/ 40	101	101
C	1,756/ 40	44	44
D	676/ 40	22	22
E	323/ 40	8	8
F	754/ 40	19	19
G	1,139/ 40	28	28
H	797/ 40	20	20
I	375/ 40	9	9

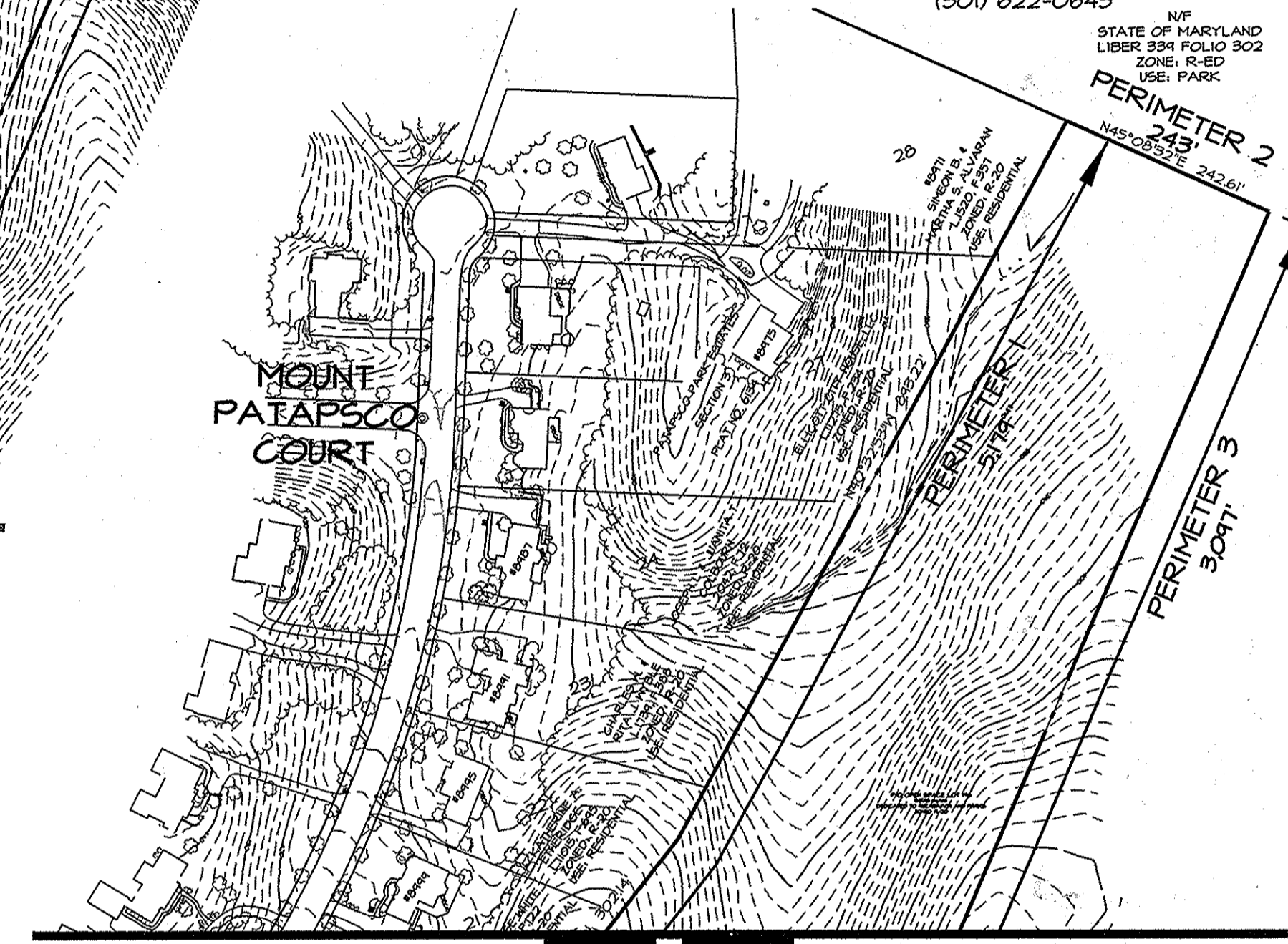
SCHEDULE A: PERIMETER LANDSCAPE EDGE											
CATEGORY	ADJACENT TO PERIMETER PROPERTIES									TRASH PAD SCREENING	TOTAL
	1	2	3	4	5	6	7	8	9		
PERIMETER/FRONTAGE DESIGNATION	1	2	3	4	5	6	7	8	9		
LANDSCAPE TYPE	1	2	3	4	5	6	7	8	9		
MINIMUM FEET OF ROADSIDE FRONTAGE/ PERIMETER	5,175	743	3,997	513	3,849	300	357	291	1,170		
DESIGN FOR EXISTING VEGETATION YES/NO	YES	ALL	YES	ALL	YES	ALL	NO	YES	ALL		
DESIGN FOR NEW TREES OR BURN TIES YES/NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
NUMBER OF PLANTS REQUIRED (IF REMAINING)											
SHRUB TREES					9 @ 1.60'						19
EVERGREEN TREES								6 @ 1.50'	7 @ 1.40'		13
SHRUBS											0
NUMBER OF PLANTS PROVIDED											19
SHRUB TREES											19
EVERGREEN TREES											13
SHRUBS											0
DESIGNER PLANT SUBSTITUTIONS BELOW (IF NEEDED)											24

- NOTES:
1. SPECIFIC LOCATIONS AND SPECIES OF PROPOSED TREES WILL BE SHOWN ON THE FINAL PLAN.
 2. THE DEVELOPER WILL BE RESPONSIBLE FOR THE INSTALLATION OF ALL STREET TREES. THE BUILDER WILL BE RESPONSIBLE FOR THE INSTALLATION OF ALL PERIMETER PLANTING.
 3. STREET TREES WILL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL.
 4. PERIMETER LANDSCAPING, STREET SIDE AND TRASH PAD SCREENING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL. SAFETY WILL BE PROVIDED AT FINAL PLAN SUBMISSION.
 5. STREET SIDE LANDSCAPING ON APPLICABLE LOTS AND TRASH PAD SCREENING WILL BE DETERMINED AND SHOWN AT THE FINAL PLAN SUBMISSION.



OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

IF STATE OF MARYLAND
 LIBER 294 FOLIO 302
 ZONE: R-ED
 USE: PARK



TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Mark D. Long 5/1/14 Date
 PLANNING DIRECTOR

SCHEMATIC OVERALL LANDSCAPE PLAN
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 18 OF 23



TAX MAP 17, GRIDS 5, 6, 11 & 12

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.

MORGAN H. MACBETH, PE
 LICENSE NO. 34798
 EXPIRATION DATE
 10/23/15

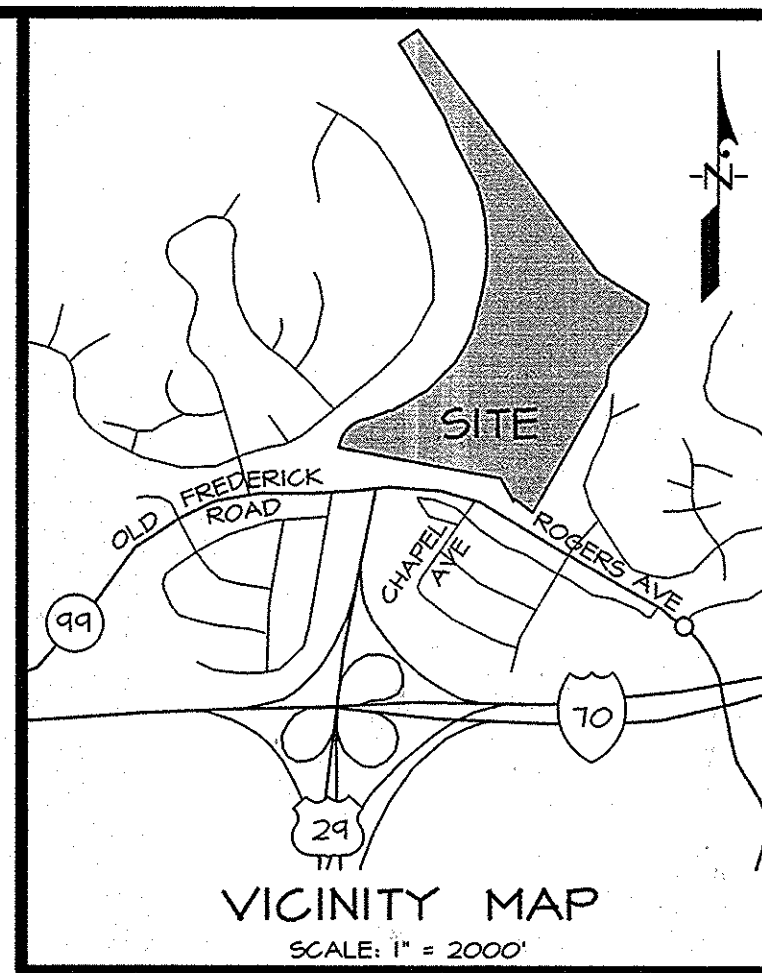
4/24/14

DATE	DESCRIPTION	BY
	REVISIONS	

1721 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721

BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000

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 DRAWING PREPARED BY: JBD
 SCALE: 1"=150'
 DATE: MARCH 2013
 DRWG. NO.: J-B08034
 50.001-Y



LEGEND

[Symbol]	EXISTING CONTOURS
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	PROPOSED CONCRETE SIDEWALK
[Symbol]	PROPOSED ASPHALT TRAIL HEAD
[Symbol]	PROPOSED PAVED FOOTPATH FIELD LOCATED TO ALSO REMOVAL OF EX. TREES
[Symbol]	EXISTING SEWER
[Symbol]	PROPOSED SEWER
[Symbol]	EXISTING WATER
[Symbol]	PROPOSED WATER
[Symbol]	EXISTING STORM DRAIN
[Symbol]	PROPOSED STORM DRAIN
[Symbol]	WATERS OF THE U.S.
[Symbol]	EPHEMERAL STREAM
[Symbol]	STREAM BANK BUFFER (50')
[Symbol]	NONTIDAL WETLAND
[Symbol]	EX. WETLAND BUFFER (25')
[Symbol]	EX. FLOODPLAIN
[Symbol]	EXISTING TREE LINE
[Symbol]	PROPOSED TREE LINE
[Symbol]	EXISTING 15-24.9% OR GREATER SLOPES
[Symbol]	EXISTING 25% OR GREATER SLOPES
[Symbol]	EXISTING CURB & GUTTER
[Symbol]	PROPOSED CURB & GUTTER
[Symbol]	PROPOSED RETAINING WALL
[Symbol]	PROPOSED SHADE TREE
[Symbol]	PROPOSED EVERGREEN TREE
[Symbol]	PROPOSED STREET LIGHT

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Paul R. Gyle 5/1/14
PLANNING DIRECTOR Date

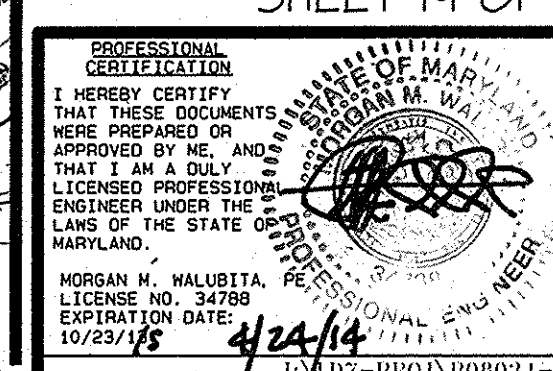
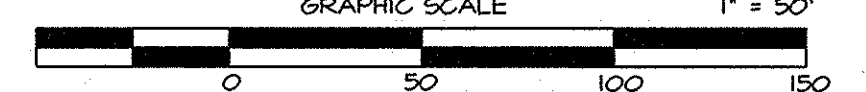
OWNER/ DEVELOPER
PATAPSCO ASSOCIATES, LP
1216 ARBIE ROAD
SILVER SPRING, MD 20904
ATTN: MR. SIMON ROSENBERG
(301) 622-0645

LANDSCAPE AND STREET LIGHTING PLAN I
for
PRELIMINARY EQUIVALENT SKETCH PLAN
EXISTING PARCELS 1-4
(PROPOSED LOTS 1-195 and
OPEN SPACE LOTS 196 & 197)

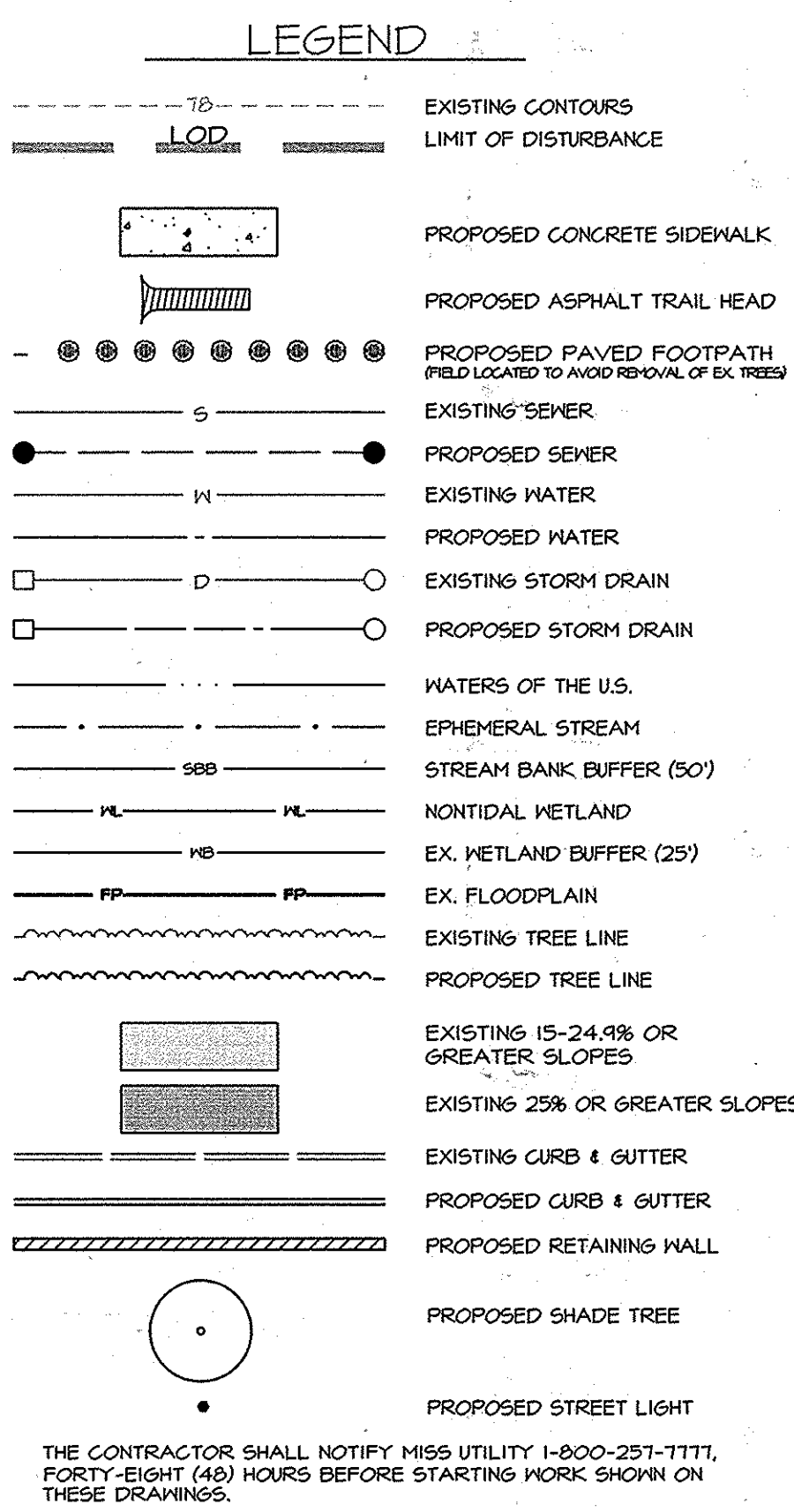
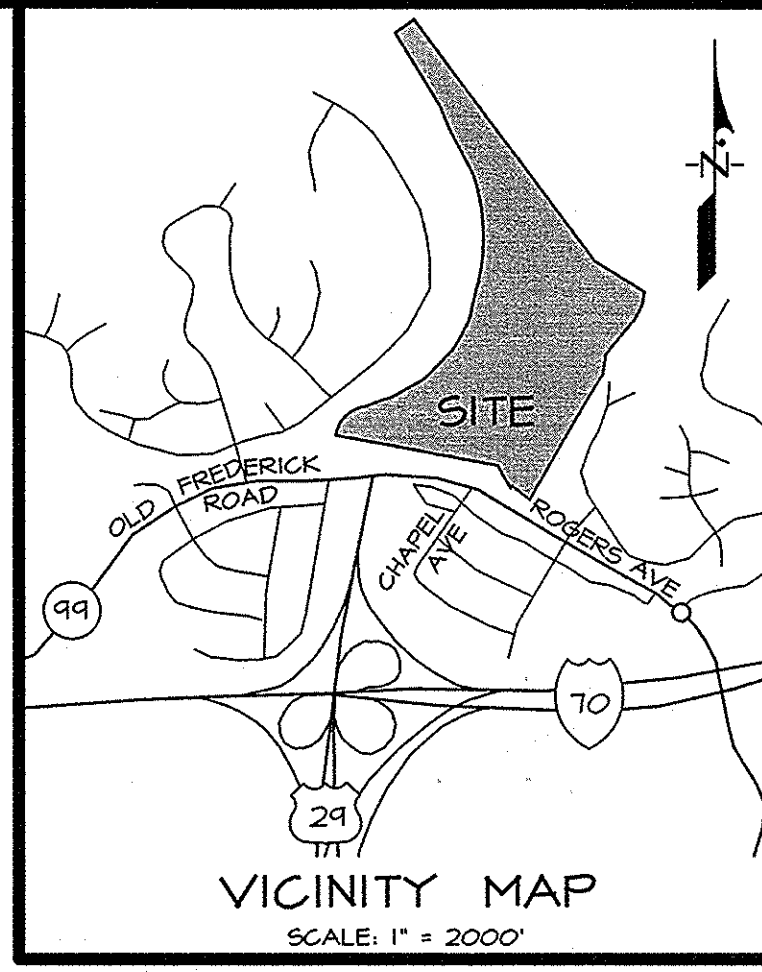
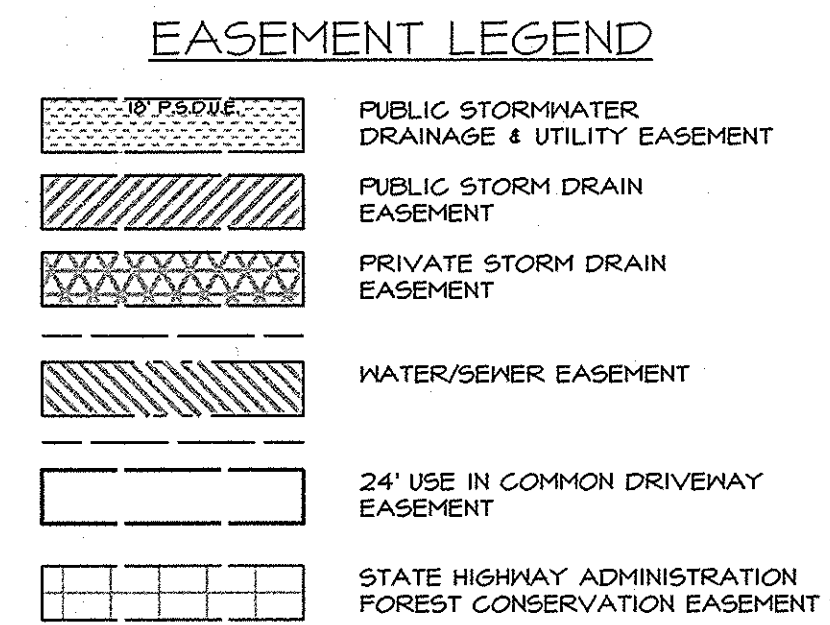
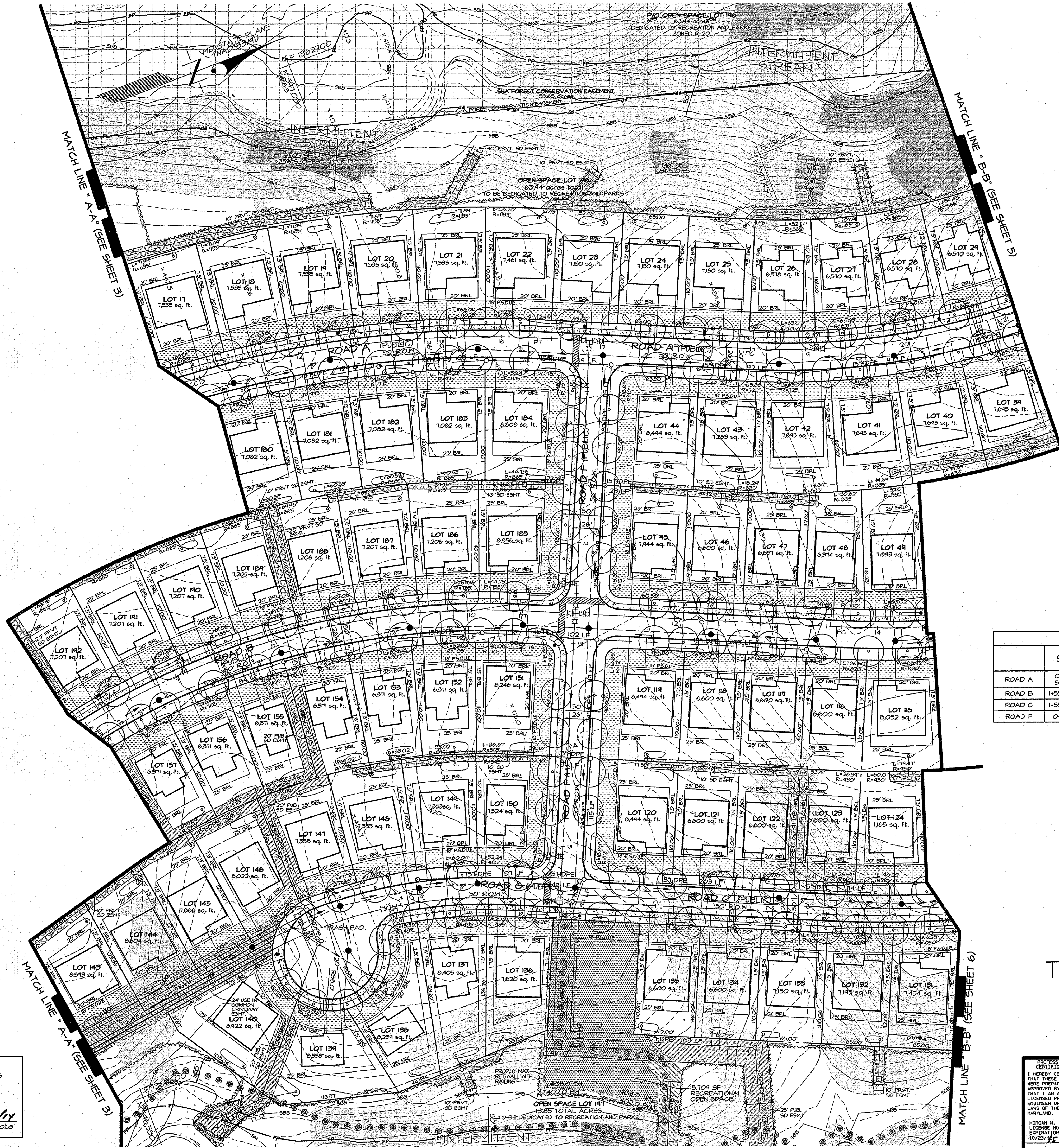
THE ESTATES AT PATAPSCO PARK
ELECTION DISTRICT No. 2
HOWARD COUNTY, MARYLAND

ECP 13-029

SHEET 19 OF 23



DATE	DESCRIPTION	BY	SCALE	DATE
	REVISIONS		1" = 50'	OCTOBER 2012
		DRWS. NO.	50.002-Y	



ROAD DESIGN

ROAD	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD A	0+00 TO 5+41	MINOR COLLECTOR	35 M.P.H.
ROAD A	5+41 TO 21+47	ACCESS STREET	30 M.P.H.
ROAD B	1+55 TO 23+04.17	ACCESS STREET	30 M.P.H.
ROAD C	1+55 TO 10+00.52	ACCESS STREET	30 M.P.H.
ROAD F	0+00 TO 5+40	ACCESS STREET	30 M.P.H.

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

LANDSCAPE AND STREET LIGHTING PLAN 2
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)

THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 20 OF 23
 GRAPHIC SCALE 1" = 50'
 0 50 100 150

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Franklin P. Loyola
 PLANNING DIRECTOR
 5/1/14
 Date

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.

KORIAN W. WALUBITA
 LICENSE NO. 34788
 EXPIRATION DATE 09/23/17
 4/24/14

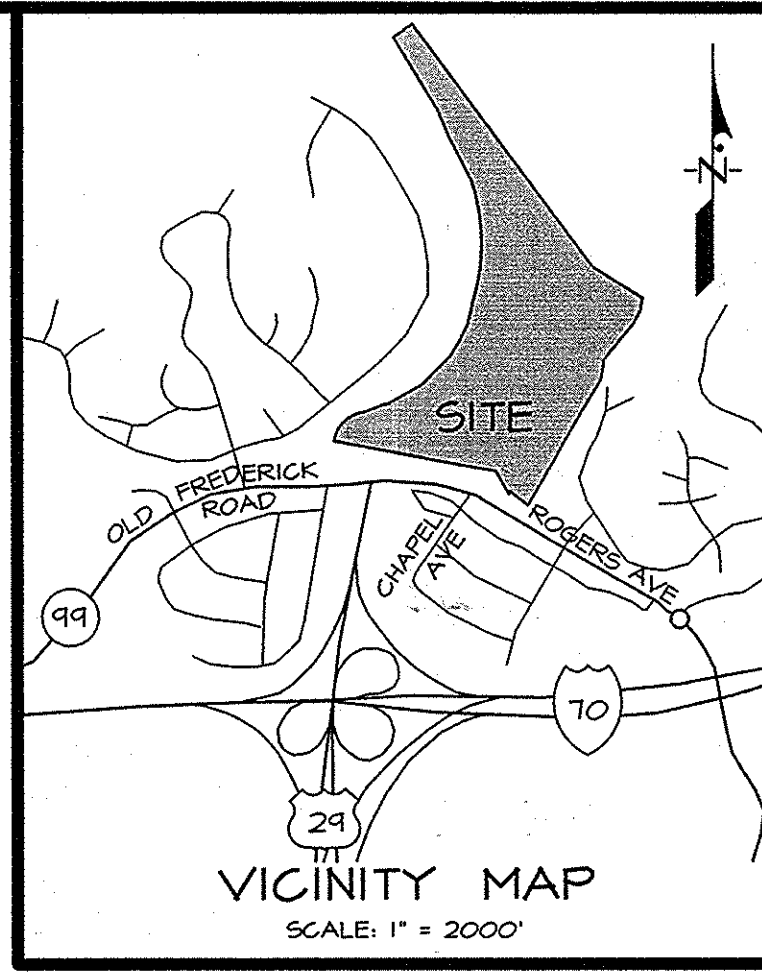
11721 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721

BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000

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 DRAWN BY JDS | GSK | PBN
 J-B08034
 DRWG. NO. 50.003-Y

DATE	DESCRIPTION	BY	SCALE	DATE
	REVISIONS		1" = 50'	OCTOBER 2012

TAX MAP 17, GRIDS 5, 6, 11 & 12
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- LEGEND**
- EXISTING CONTOURS
 - LIMIT OF DISTURBANCE
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED ASPHALT TRAIL HEAD
 - PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
 - EXISTING SEWER
 - PROPOSED SEWER
 - EXISTING WATER
 - PROPOSED WATER
 - EXISTING STORM DRAIN
 - PROPOSED STORM DRAIN
 - WATERS OF THE U.S.
 - EPHEMERAL STREAM
 - STREAM BANK BUFFER (50')
 - NONTIDAL WETLAND
 - EX. WETLAND BUFFER (25')
 - EX. FLOODPLAIN
 - EXISTING TREE LINE
 - PROPOSED TREE LINE
 - EXISTING 15-24.9% OR GREATER SLOPES
 - EXISTING 25% OR GREATER SLOPES
 - EXISTING CURB & GUTTER
 - PROPOSED CURB & GUTTER
 - PROPOSED RETAINING WALL
 - PROPOSED SHADE TREE
 - PROPOSED STREET LIGHT
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-TTTT, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.



LANDSCAPE AND STREET LIGHTING PLAN 3
 for
 PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)
THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 21 OF 23
 TAX MAP 17, GRIDS 5, 6, 11 & 12
 GRAPHIC SCALE 1" = 50'

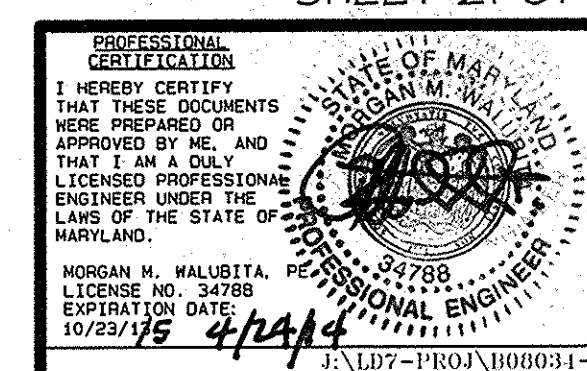
ROAD DESIGN

ROAD	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD A	0+00 TO 5+41	MINOR COLLECTOR	35 M.P.H.
ROAD B	1+55 TO 23+04.71	ACCESS STREET	30 M.P.H.
ROAD G	0+00 TO 5+48.21	ACCESS STREET	30 M.P.H.
ROAD H	0+00 TO 4+57.86	ACCESS PLACE	25 M.P.H.
ROAD I	0+00 TO 2+42.05	ACCESS PLACE	25 M.P.H.

- EASEMENT LEGEND**
- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
 - PUBLIC STORM DRAIN EASEMENT
 - PRIVATE STORM DRAIN EASEMENT
 - WATER/SEWER EASEMENT
 - 24' USE IN COMMON DRIVEWAY EASEMENT
 - STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
 PLANNING DIRECTOR [Signature] Date

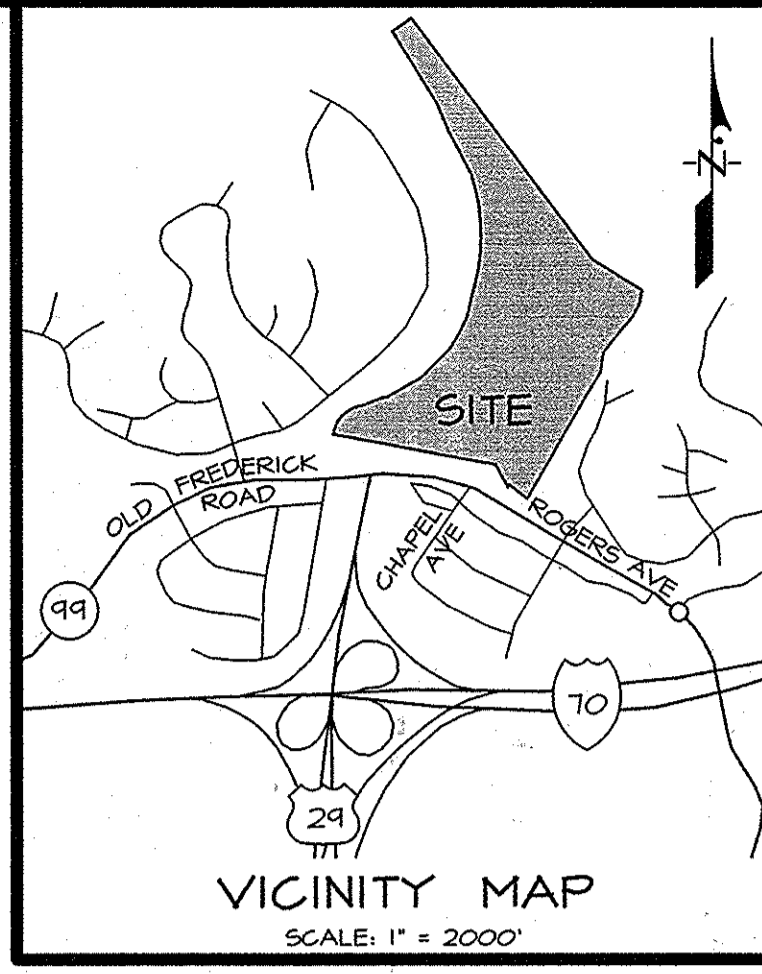
OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARDIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645



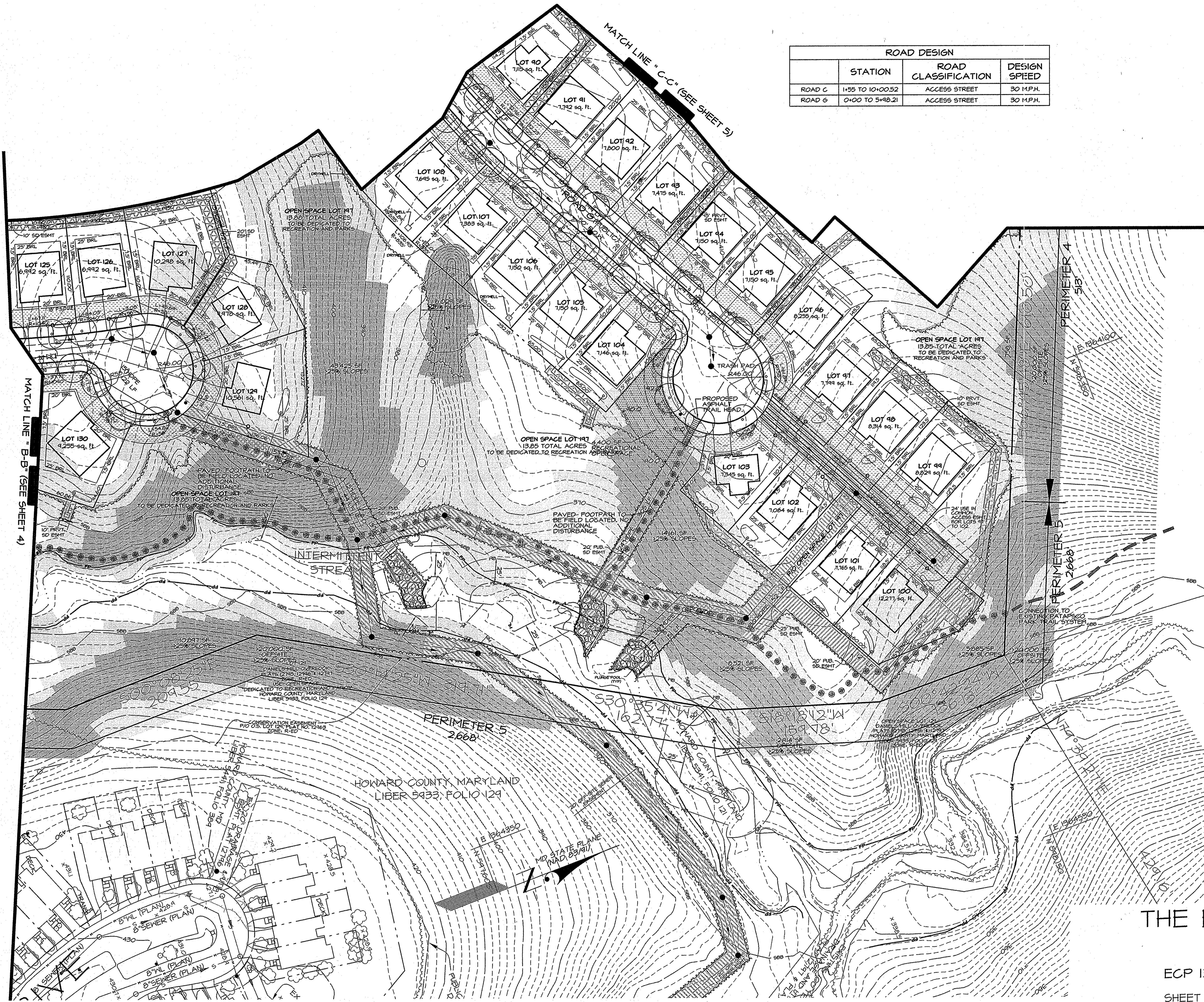
DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
10/23/12	REVISIONS		1" = 50'	J-B00034
				50.004-Y

EASEMENT LEGEND

- PUBLIC STORMWATER DRAINAGE & UTILITY EASEMENT
- PUBLIC STORM DRAIN EASEMENT
- PRIVATE STORM DRAIN EASEMENT
- WATER/SEWER EASEMENT
- 24' USE IN COMMON DRIVEWAY EASEMENT
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT



ROAD DESIGN			
	STATION	ROAD CLASSIFICATION	DESIGN SPEED
ROAD C	1+55 TO 10+00.52	ACCESS STREET	30 M.P.H.
ROAD G	0+00 TO 5+40.21	ACCESS STREET	30 M.P.H.



- LEGEND**
- EXISTING CONTOURS
 - LIMIT OF DISTURBANCE
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED ASPHALT TRAIL HEAD
 - PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
 - EXISTING SEWER
 - PROPOSED SEWER
 - EXISTING WATER
 - PROPOSED WATER
 - EXISTING STORM DRAIN
 - PROPOSED STORM DRAIN
 - WATERS OF THE U.S.
 - EPHEMERAL STREAM
 - STREAM BANK BUFFER (50')
 - NONTIDAL WETLAND
 - EX. WETLAND BUFFER (25')
 - EX. FLOODPLAIN
 - EXISTING TREE LINE
 - PROPOSED TREE LINE
 - EXISTING 15-24.9% OR GREATER SLOPES
 - EXISTING 25% OR GREATER SLOPES
 - PROPOSED CURB & GUTTER
 - PROPOSED RETAINING WALL
 - PROPOSED SHADE TREE
 - PROPOSED STREET LIGHT
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

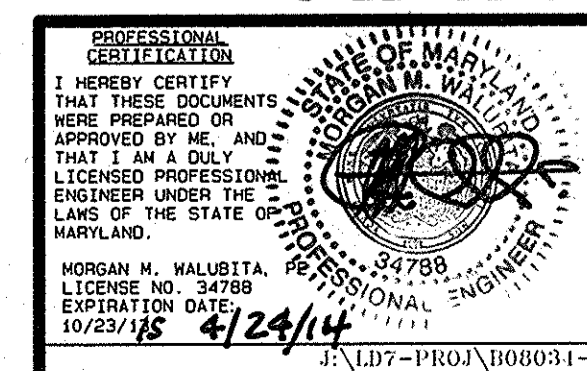
LANDSCAPE AND STREET LIGHTING PLAN 4
 for
PRELIMINARY EQUIVALENT SKETCH PLAN
 EXISTING PARCELS 1-4
 (PROPOSED LOTS 1-195 and
 OPEN SPACE LOTS 196 & 197)
THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 22 OF 23
 GRAPHIC SCALE 1" = 50'
 0 50 100 150

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

 5/1/14
 Date

OWNER/DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 20904
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645



DATE	DESCRIPTION	BY	DATE
	REVISIONS		
10/23/13		4/24/14	

1721 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
 BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000
 COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.
 DRAWN BY (DESIGNED BY) CHECKED BY RECORDED NO.
 JDS | GS | FBR
 SCALE 1" = 50' DRWG. NO. J-B0034
 DATE OCTOBER 2012
 50.005-Y

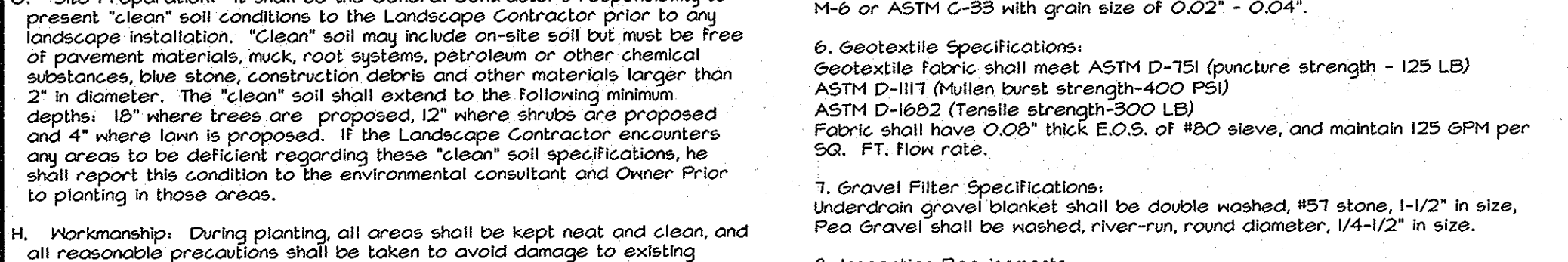
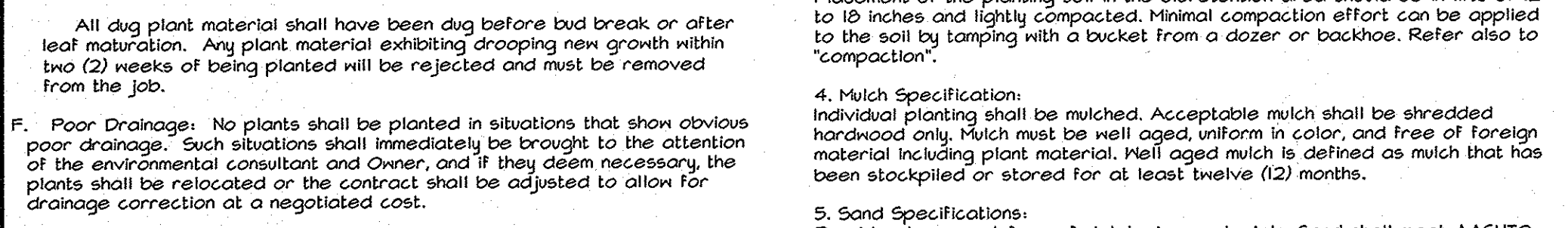
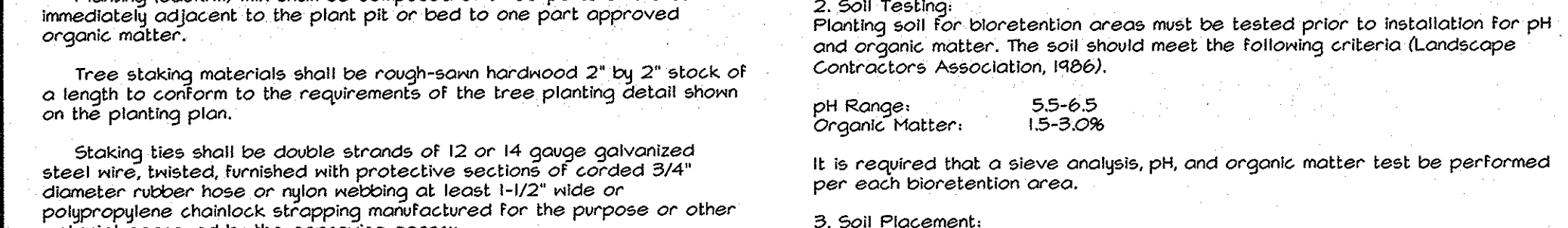
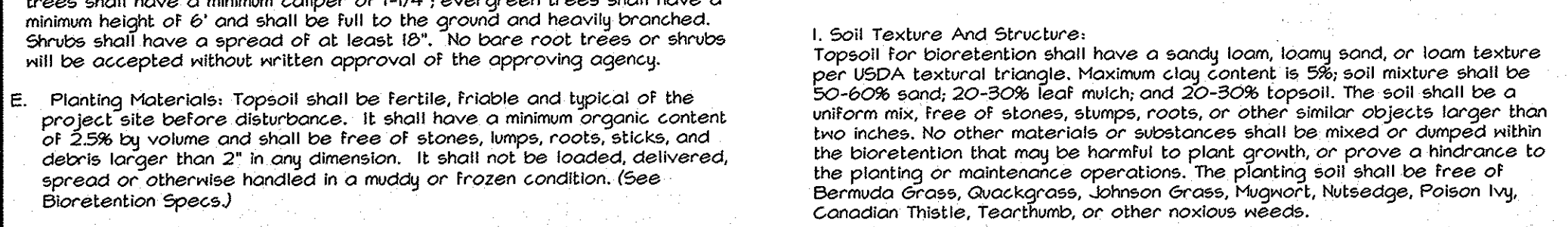
PLANTING SPECIFICATIONS FOR BIORETENTION

I. General Notes
 A. Scope: The Landscape Contractor shall verify all quantities of plant material shown on the plan in the plant list, and shall provide all materials, labor and equipment to complete all landscape work as shown on the plans and specifications.
 B. Utilities: The Landscape Contractor shall notify Miss Utility (1-800-251-7171) to verify the location of all main utilities and shall ask the General Contractor to locate lighting and other on-site utilities in the field before proceeding with the installation of any planting. If conditions arise in the field which necessitate the shifting of a plant location more than 15', the Landscape Architect is to be consulted.
 C. Substitutions: Any change in the type, size and quantity of plant material by the Landscape Contractor must be approved by the environmental consultant prior to installation.
 D. Plant Standards: Plants supplied shall conform in all respects to the current edition of the American Standard for Nursery Stock (ANSI Z60.1). They shall be first class representatives of their species and varieties, nursery grown in accordance with good horticultural practice and grown under climatic conditions similar to those in the locality of the project. Plant names shall be those given in the latest edition of Standard Plant Names, American Joint Committee on Horticultural Nomenclature.
 E. Plants shall be sound, vigorous and healthy, well branched, and densely foliated when in leaf. They shall be free of disease and insect pests and shall have healthy, well developed root systems. Trunks and branches shall be free of cuts and abrasions over one inch (1") in any dimension. Plants in leaf shall be sprayed with anti-desiccant immediately before digging to firm the leaves, branches, and twigs.
 F. Shade trees with broken, damaged or multiple leaders will be rejected.
 G. Balled and burlapped plants shall be dug with a firm natural root-ball. Plants with soft, broken or damaged limbs will be rejected.
 H. Plants shall be tagged with labels identifying the botanical and common names of the plants. No change in the kind, quantity, quality, or size of plants specified shall be made without the written approval of the approving agency.
 I. All plants shall be certified pest-free by the Department of Agriculture of their state of origin.
 J. Major shade trees shall be 2-1/2" caliper or larger (except when in the 2 year WSEL, then 1-1/4" - 1-1/2" cal. will be permitted); ornamental trees shall have a minimum caliper of 1-1/4"; evergreen trees shall have a minimum height of 6' and shall be full to the ground and heavily branched. Shrubs shall have a spread of at least 18". No bare root trees or shrubs will be accepted without written approval of the approving agency.
 K. Planting Materials: Topsoil shall be fertile, friable and typical of the project site before disturbance. It shall have a minimum organic content of 2.5% by volume and shall be free of stones, lumps, roots, or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda Grass, Quackgrass, Johnson Grass, New York Grass, Nutsedge, Poison Ivy, Canadian Thistle, Teardrop, or other noxious weeds.
 L. Soil Testing: Planting soil for bioretention areas must be tested prior to installation for pH and organic matter. The soil should meet the following criteria (Landscape Contractors Association, 1986).
 pH Range: 5.5-6.5
 Organic Matter: 1.5-3.0%
 It is required that a sieve analysis, pH, and organic matter test be performed per each bioretention area.
 M. Soil Placement: Placement of the planting soil in the bioretention area should be in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozer or backhoe. Refer also to "compaction".
 N. Mulch Specification: Individual planting shall be mulched. Acceptable mulch shall be shredded hardwood only. Mulch must be well aged, uniform in color, and free of foreign material including plant material. Well aged mulch is defined as mulch that has been stockpiled or stored for at least twelve (12) months.
 O. Sand Specifications: Provide clean sand, free of deleterious materials. Sand shall meet AASHTO M-6 or ASTM C-33 with grain size of 0.075" - 0.04".
 P. Geotextile Specifications: Geotextile fabric shall meet ASTM D-751 (puncture strength - 125 LB) ASTM D-1117 (tension burst strength-400 PSF) ASTM D-1682 (tensile strength-300 LB) Fabric shall have 0.08" thick E.O.S. of #80 sieve, and maintain 125 GPM per Sq. Ft. flow rate.
 Q. Gravel Filter Specifications: Underdrain gravel blanket shall be double washed, #57 stone, 1-1/2" in size. Pea Gravel shall be washed, river-run, round diameter, 1/4-1/2" in size.
 R. Inspection Requirements:
 -The contractor shall arrange the following meetings:
 A - a "preconstruction meeting" with the owner and architect/ engineer prior to beginning work on the bioretention facility.
 B - At the completion of excavation to inspect subgrade preparation.
 C - During underdrain and filter installation.
 D - During back fill of soil into the bioretention areas. Soil certifications for back fill are required.
 -The final topsoil layers should be thoroughly wetted to achieve settlement of the soil/sand backfill mix.
 -Additional soil backfill should be placed as required to achieve the design top surface elevations.
 E - The work shall be inspected by the owner/ architect prior to final stabilization and planting.
 -Sediment & erosion control practices may be removed upon approval by the County Inspector.

II. Seeding and Sodding:
 All disturbed areas not covered by buildings, pavements and planting beds are to be established in a lawn of Kentucky-31 Tall Fescue either by seed or sod, or combination, depending on the time of year, availability of materials and Owner's preference. The stabilization shall be in conformance to standards and specifications for Soil and Sediment Control, published by the State of Maryland.
III. Guarantee:
 All plant material shall be guaranteed by the contractor to be in a healthy and vigorous condition at the beginning of the second growing season following acceptance by the approving agency. Plants with greater than 30% setback, or have not grown so as to emerge from the water surface, shall be replaced at the next planting season.
IV. Maintenance:
 Remove litter and debris as required during the first growing season and at the beginning of the second growing season.
 Replace unsuccessful transplants monthly for 6 months and at the beginning of the second growing season.

BIORETENTION SOIL & MATERIAL REQUIREMENTS:
 I. Soil Texture and Structure: Topsoil for bioretention shall have a sandy loam, loamy sand, or loam texture per USDA textural triangle. Maximum clay content is 5%; soil mixture shall be 50-60% sand, 20-30% leaf mulch, and 20-30% topsoil. The soil shall be a uniform mix, free of stones, slumps, roots, or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda Grass, Quackgrass, Johnson Grass, New York Grass, Nutsedge, Poison Ivy, Canadian Thistle, Teardrop, or other noxious weeds.
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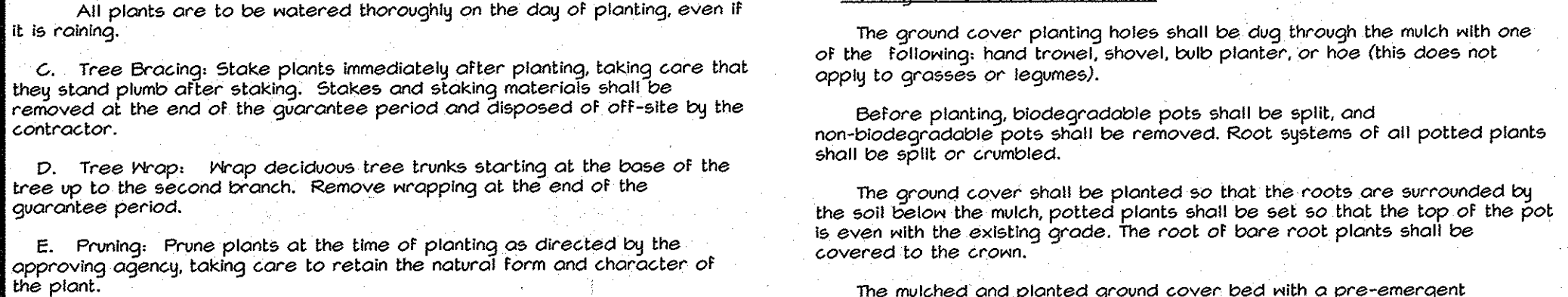
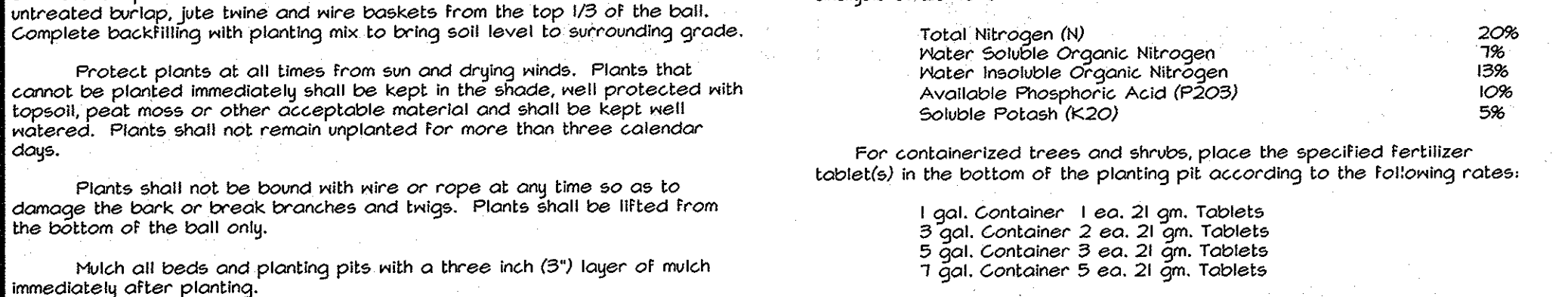
DEPARTMENT OF ENVIRONMENTAL RESOURCES APPROVED BY:	REVISIONS	LANDSCAPING SHRUB PLANTING	LS 10.0
DATE			



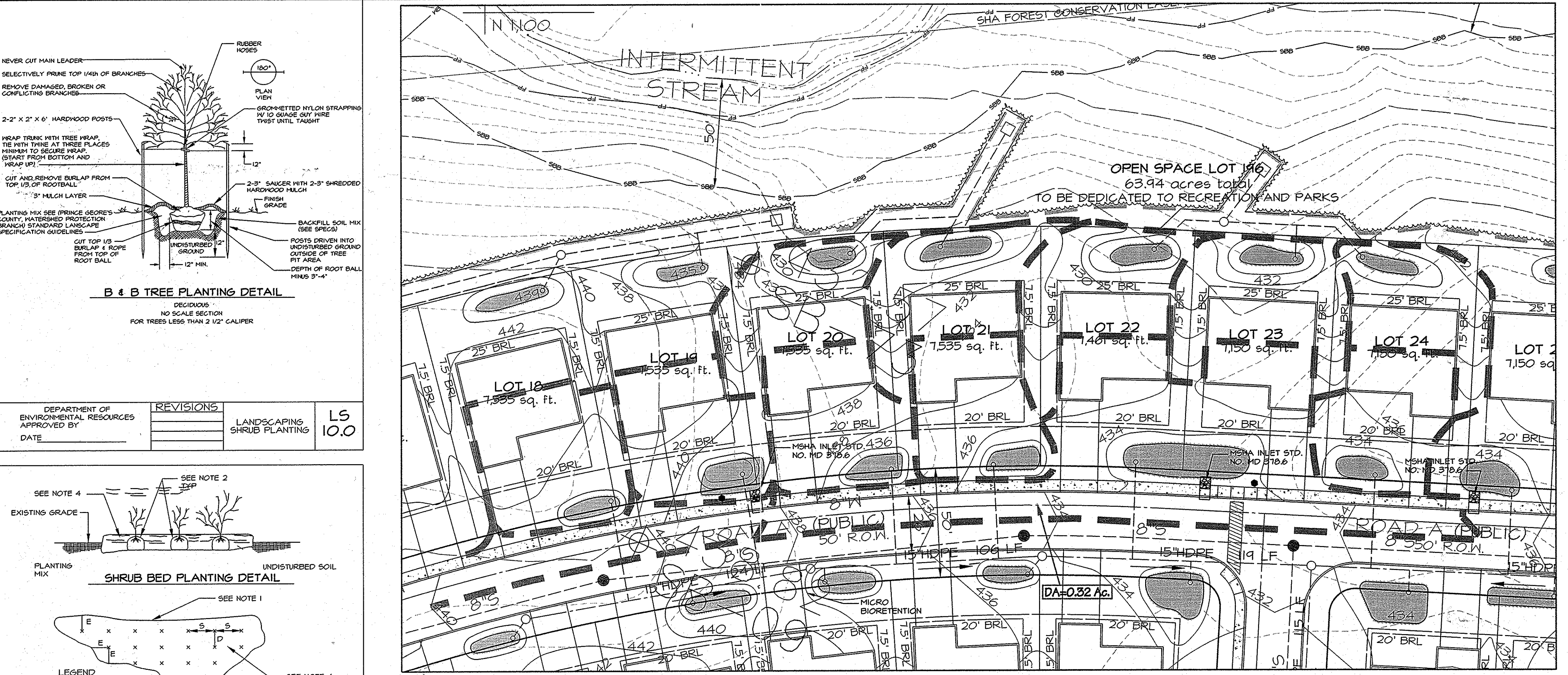
DEPARTMENT OF ENVIRONMENTAL RESOURCES APPROVED BY:	REVISIONS	LANDSCAPING SHRUB PLANTING	LS 20.0
DATE			

LOCATION	DRAINAGE AREA (ac)	BIORETENTION SURFACE AREA (sq ft)	ESD VOLUME PROVIDED (cu ft)	IMPERVIOUS AREA FROM HOUSES & ROOF (sq ft)	ESDV (cu ft) (houses & roofs)	AVAILABLE VOLUME IN THE BIORETENTION FACILITY TO TREAT IMP. AREA FROM THE ROAD (sq ft)	IMPERVIOUS AREA FROM THE ROAD TO BE TREATED (sq ft)
LOTS 22, 23 & ROAD A	0.32	850	850	2,200	219	571	4,508*

REMARKS:
 * FOR HALF WIDTH OF THE ROAD, I.e. 12 FT, WE CAN TREAT 375 LF. IMPERVIOUS AREA FROM THE ROAD IN THIS BIORETENTION FACILITY.



DEPARTMENT OF ENVIRONMENTAL RESOURCES APPROVED BY:	REVISIONS	LANDSCAPING SHRUB PLANTING	LS 20.0
DATE			



TREES & SHRUBS

QTY.	KEY	BOTANICAL NAME/COMMON NAME	SIZE	SPACING	REMARKS
-	BG	Nyssa sylvatica/Blackgum	2.5"-3" Cal.	As Shown	B & B
-	RB	Betula nigra/River birch	2.5"-3" Cal.	As Shown	B & B
-	WH	Quercus alba/White oak	2.5"-3" Cal.	As Shown	B & B
-	ER	Cercis canadensis/Eastern redbud	1.5"-1 3/4" Cal	As Shown	Cont.
-	PH	Hamamelis virginiana/Witch hazel	18"-24" Ht.	As Shown	Cont.
-	WH	Nyssa pensylvanica/Box myrtle	18"-24" Ht.	As Shown	Cont.
-	AW	Viburnum dentatum/Southern arrowwood	18"-24" Ht.	As Shown	Cont.

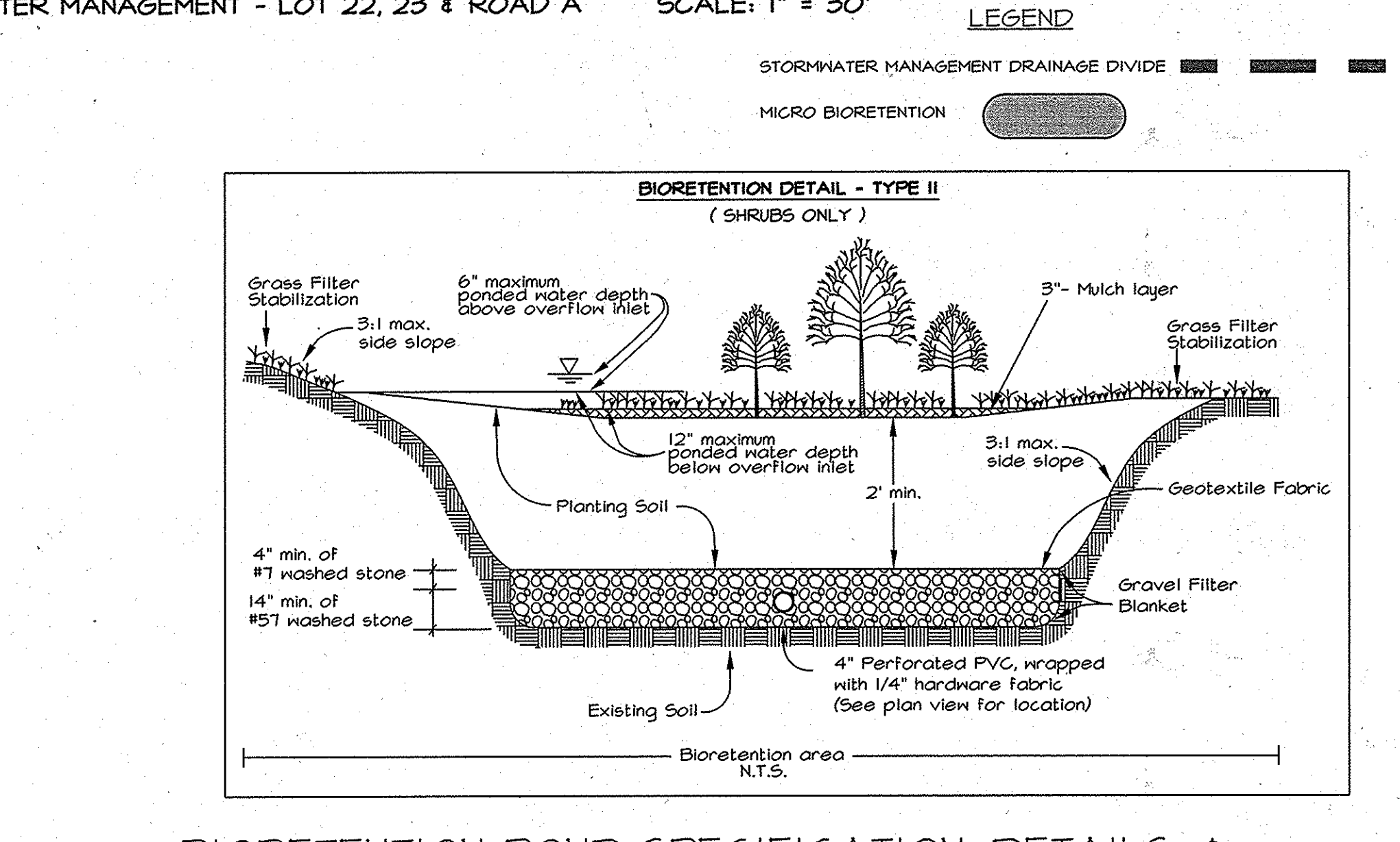
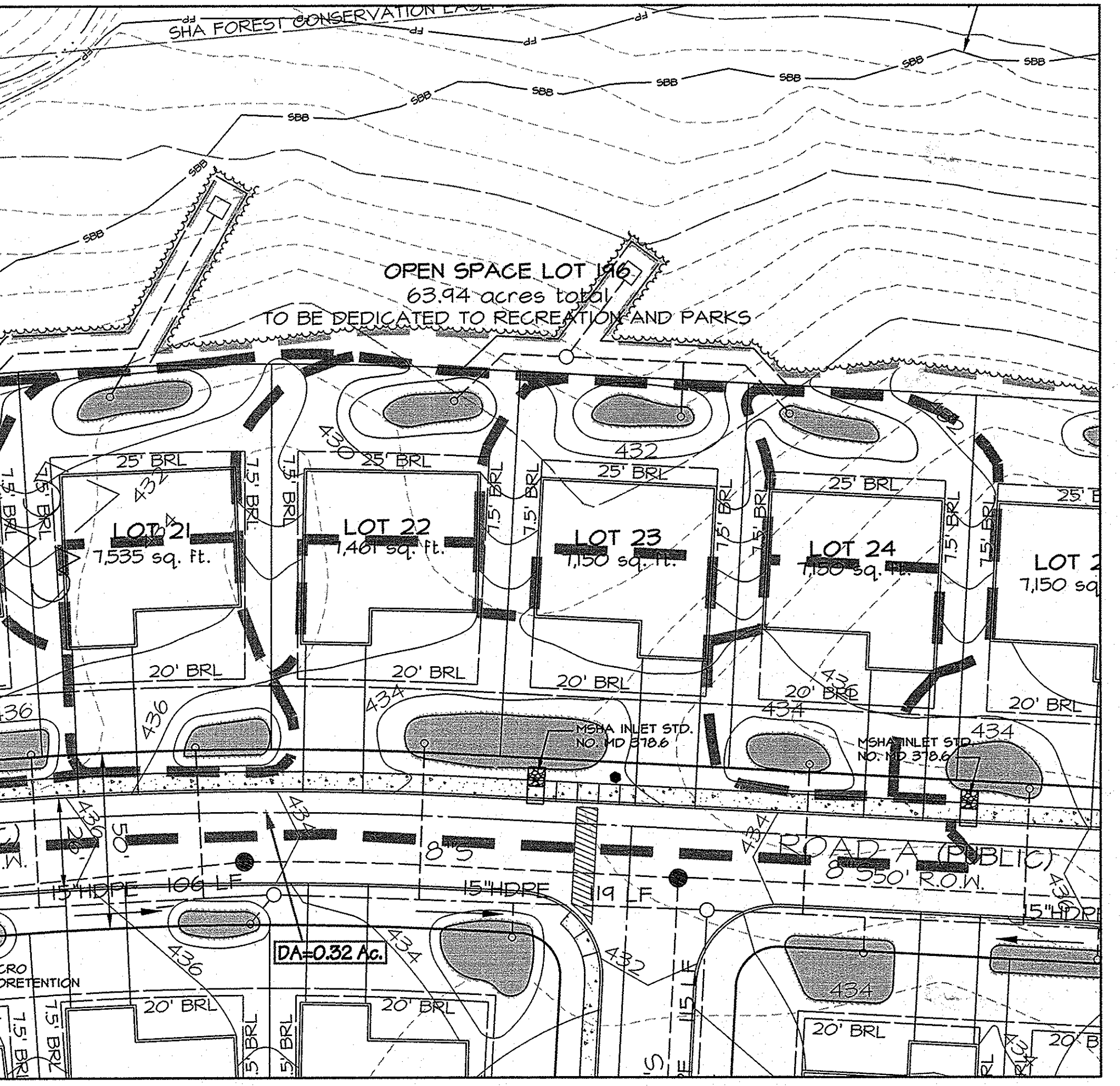
EMERGENT PLANTS

QTY.	KEY	BOTANICAL NAME/COMMON NAME	SIZE	SPACING	REMARKS
-	Ao	Acorus americanus/Sweet flag	Plug	12" o.c.	
-	Cs	Carex stricta/Tussock sedge	Plug	12" o.c.	
-	Ed	Eupatorium altissimum/Joe-pye weed	Plug	12" o.c.	
-	Hb	Hibiscus moscheutos/Marsh hibiscus	Plug	12" o.c.	
-	Hv	Iris versicolor/Blue flag	Plug	12" o.c.	
-	Lc	Lobelia cardinalis/Cardinal Flower	Plug	12" o.c.	
-	Pc	Pontederia cordata/Pickering weed	Plug	12" o.c.	
-	Sp	Sagittaria latifolia/Duck potato	Plug	12" o.c.	
-	Vn	Scirpus pungens/Common three square	Plug	12" o.c.	
-	Vn	Veronica novboracensis/NY ironweed	Plug	12" o.c.	

BIORETENTION DETAIL - TYPE I (TREES AND SHRUBS)

BIORETENTION DETAIL - TYPE II (SHRUBS ONLY)

DEPARTMENT OF ENVIRONMENTAL RESOURCES APPROVED BY:	REVISIONS	LANDSCAPING SHRUB PLANTING	LS 20.0
DATE			



THE ESTATES AT PATAPSCO PARK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND

ECP 13-029
 SHEET 23 OF 23

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

David H. Layton
 PLANNING DIRECTOR 5/11/11 Date

OWNER/ DEVELOPER
 PATAPSCO ASSOCIATES, LP
 12116 ARBIE ROAD
 SILVER SPRING, MD 209104
 ATTN: MR. SIMON ROSENBERG
 (301) 622-0645

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 NORGAN H. MALIBITTA
 LICENSE NO. 34788
 EXPIRATION DATE: 10/23/15
 PROFESSIONAL ENGINEER

1721 WOODMORE ROAD, SUITE 200
 MITCHELLVILLE, MARYLAND 20721
 BEN DYER ASSOCIATES, INC.
 Engineers / Surveyors / Planners
 TELEPHONE (301) 430-2000

COPYRIGHT © 2013 BEN DYER ASSOCIATES, INC.
 DRAWN BY: DESIGNED BY: CHECKED BY: RECORDED BY:
 SCALE: 1" MAX 1" MIN
 J-B00034
 DATE: AS SHOWN ORG. NO.
 OCTOBER 2012 8.009-Y

TAX MAP 17, GRIDS 5, 6, 11 & 12

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