

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	PRELIMINARY SITE LAYOUT AND LANDSCAPE PLAN
4	PRELIMINARY ROAD PROFILES AND DETAILS
5	PRELIMINARY GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP
6	PRELIMINARY STORMDRAIN DRAINAGE AREA MAP
7	STORMWATER MANAGEMENT NOTES, DETAILS & SOIL BORINGS
8	SIGHT DISTANCE PROFILE SHEET

SOILS LEGEND			
SOIL	NAME	CLASS	KW/VALUE
CeB	Chillum loam, 2 to 5 percent slopes	C	0.37
ChB	Chillum-Russeff loams, 2 to 5 percent slopes	C	0.31
ChC	Chillum-Russeff loams, 5 to 10 percent slopes	C	0.32
JaB	Jackland silt loam, 3 to 8 percent slopes	D	0.43
LaB	Legore silt loam, 3 to 8 percent slopes	C	0.28
LaC	Legore silt loam, 8 to 15 percent slopes	C	0.28
ReC	Russeff fine sandy loam, 5 to 10 percent slopes	C	0.24
RuC	Russeff and Beltsville soils, 5 to 10 percent slopes	C	0.28
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.32

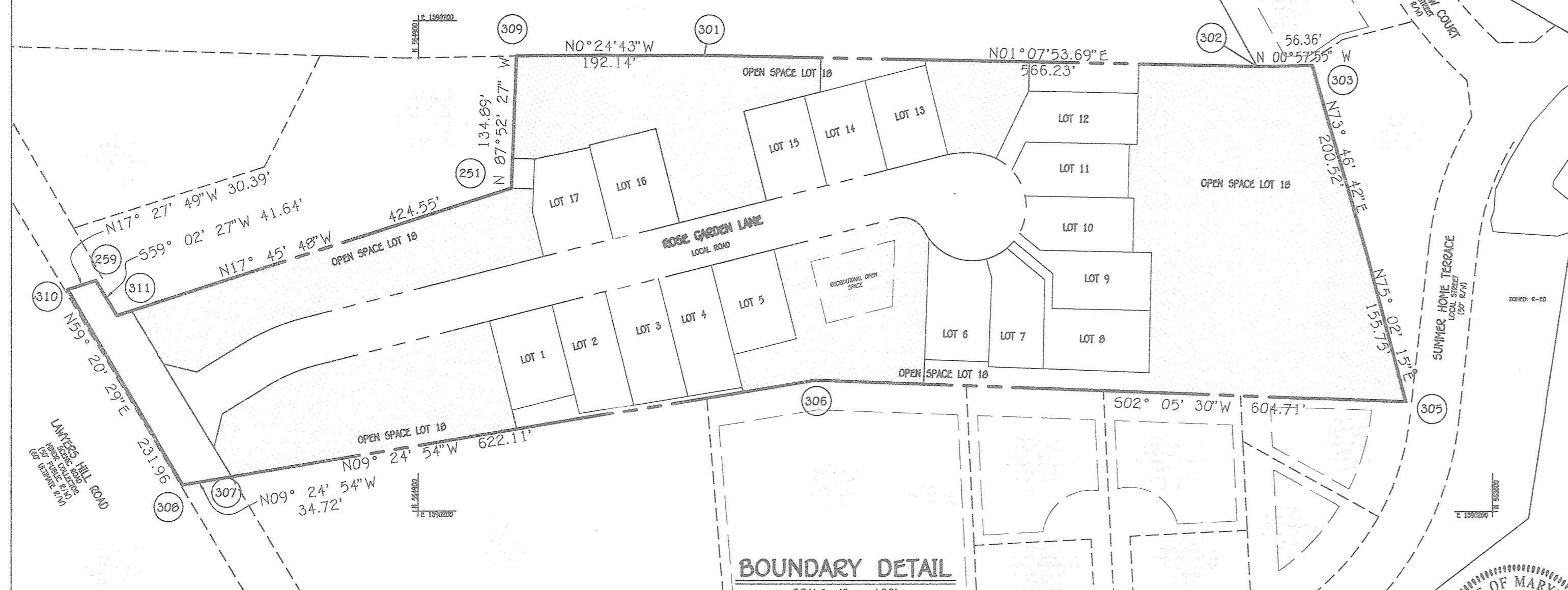
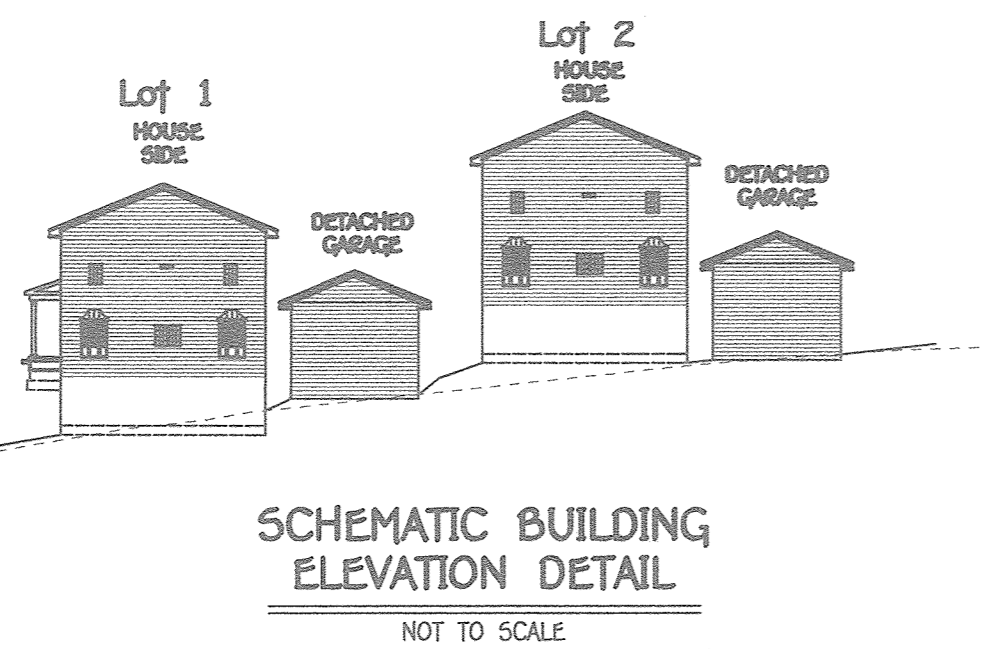
STORMWATER MANAGEMENT PRACTICES BY LOT			
AREA ID.	DRYWELL (M-5) NUMBER	BIO (F-6) NUMBER	REMARKS
LOT 1	2	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 2	2	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 3	2	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 4	2	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 5	2	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 6	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 7	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 8	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 9	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 10	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 11	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 12	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 13	2	2	DRYWELL DRAINS TO MICRO-BIO ON OPEN SPACE
LOT 14	2	2	DRYWELL DRAINS TO MICRO-BIO ON OPEN SPACE
LOT 15	2	2	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 16	1	1	DRYWELL DRAINS TO BIO ON OPEN SPACE
LOT 17	1	1	DRYWELL DRAINS TO MICRO-BIO ON OPEN SPACE

BOUNDARY COORDINATE DATA TABLE			
Number	Northing	Easting	
251	564804.78300	139029.28600	
309	564799.77972	1390664.08318	
301	564607.64364	1390665.46471	
302	564041.52421	1390654.28249	
303	563985.17221	1390655.23207	
304	563929.15574	1390462.69525	
305	563888.93253	1390312.18739	
306	564493.24144	1390334.25683	
307	565106.97138	1390232.49040	
308	565141.21879	1390226.81162	
310	565259.50013	1390426.34830	
259	565230.51200	1390435.46800	
311	565209.09278	1390399.76263	

MINIMUM LOT SIZE CHART			
LOT No.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
8	7,544 Sq.ft.	771 Sq.ft.	6,773 Sq.ft.
9	6,509 Sq.ft.	270 Sq.ft.	6,239 Sq.ft.
12	6,948 Sq.ft.	589 Sq.ft.	6,359 Sq.ft.

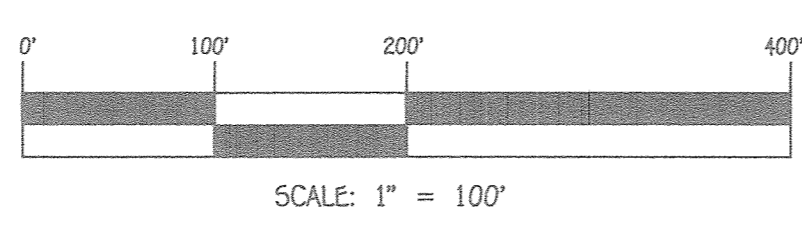
ROADWAY INFORMATION CHART			
STREET NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH
ROSE GARDEN LANE	PUBLIC ACCESS STREET	25 MPH	50' ROW

STREET SIGN CHART			
STREET NAME	STATION	OFFSET	POSTED SIGN
ROSE GARDEN LANE	0+45	16' L	STOP



FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
SILVER SPRING, MARYLAND 21042  
(410) 461-2899

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY  
1-24-2020  
DATE



PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/21.  
Frank Mawalangan, II  
DATE: 1/4/20

OWNERS  
EDMUND M. POLLARD &  
JOYCE E. ACCON  
6349 BASKET SWITCH ROAD  
NEWARK, MARYLAND 21841

DEVELOPER  
LAND DESIGN & DEVELOPMENT, INC.  
8318 FOREST STREET SUITE 200  
ELLICOTT CITY, MARYLAND 21043  
TEL: 410-992-6400  
ATTN: MR. DONALD R. REUWER, JR.

# PRELIMINARY EQUIVALENT SKETCH PLAN LAWYERS HILL OVERLOOK LOTS 1 THRU 17 AND OPEN SPACE LOT 18 ZONING: R-ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT) DISTRICT TAX MAP No. 32 GRID No. 20 PARCEL No. 13 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL	---	LIMIT OF DISTURBANCE
---	EXISTING CONTOUR 10' INTERVAL	---	SUPER SILT FENCE
---	PROPOSED CONTOUR 2' INTERVAL	---	SILT FENCE
---	PROPOSED CONTOUR 10' INTERVAL	---	EXISTING TREE LINE
---	SPOT ELEVATION	---	PROPOSED TREE LINE
---	EXISTING STORM DRAIN	---	DRAINAGE DIVIDE
---	PROPOSED STORM DRAIN PIPE	---	DRYWELL (M-5)-TYPICAL
---	EXISTING WATER LINE	---	SOIL LINES AND TYPES
---	EXISTING SEWER LINE	---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED SEWER	---	PROPOSED ROOF LEADER
---	PROPOSED WATER	---	DENOTES EXISTING TREES TO BE REMOVED
---	BUILDING AND DRIVES TO BE DEMOLISHED	---	DENOTES EXISTING TREES TO REMAIN
---	PROPOSED PAVING	---	CRITICAL ROOT ZONE
---	PROPOSED SIDEWALKS	---	DENOTES 15%-24.9% SLOPES
---	DENOTES EXISTING FOREST TO BE REMOVED	---	DENOTES 25% AND GREATER SLOPE
---	FOREST CONSERVATION EASEMENT (RETENTION)		
---	FOREST CONSERVATION EASEMENT (REFORESTATION)		
---	DENOTES ERODIBLE SOILS		

### GENERAL NOTES

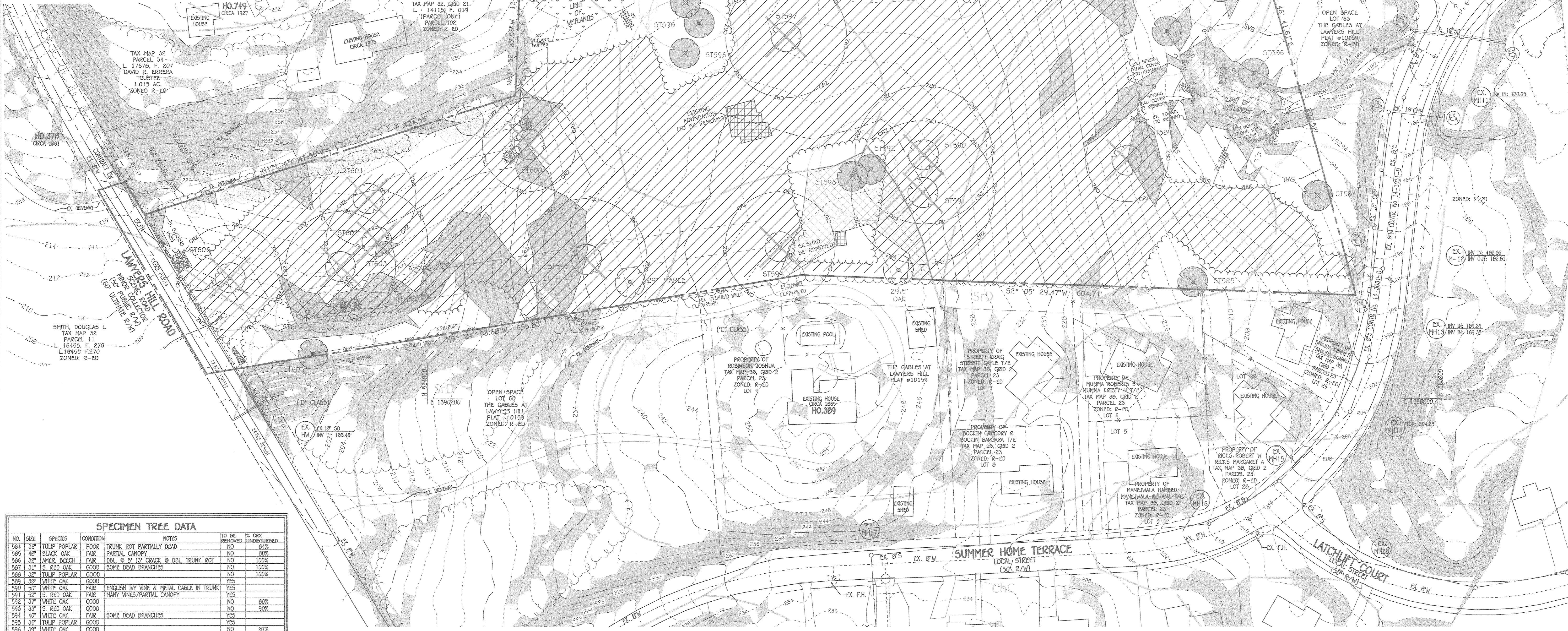
- SUBJECT PROPERTY ZONED R-ED PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- THIS SUBMISSION PLAN IS SUBJECT TO THE REVISED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2013 ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A SITE DEVELOPMENT PLAN.
- PROPERTY DEED REFERENCE: LIBER 14508 AT FOLIO 484.
- TOPOGRAPHY INFORMATION SHOWN IS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED ON OR ABOUT FEBRUARY, 2018 BY FISHER, COLLINS & CARTER, INC.
- BOUNDARY INFORMATION IS BASED ON A SURVEY PERFORMED ON OR ABOUT FEBRUARY, 2018 BY FISHER, COLLINS & CARTER, INC.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL.  
STATION NO. 388A AND NO. 388B42:  
HOWARD COUNTY MONUMENT NO. 388A N 562,953.31 FT E 1,390,967.98 FT ELEV. 166.74  
N 564,007.65 FT E 1,393,649.93 FT ELEV. 63.65  
HOWARD COUNTY MONUMENT NO. 388B  
N 562,953.31 FT E 1,390,967.98 FT ELEV. 166.74  
N 564,007.65 FT E 1,393,649.93 FT ELEV. 63.65
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND PUBLIC WATER AND SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT.  
a. PUBLIC SEWER FRONTAGE PROVIDED BY CONTRACT NO. 14-3031-0.  
b. PUBLIC WATER SERVICE PROVIDED BY CONTRACT NO. 14-3031-0.  
c. THE TRAFFIC STUDY DATED NOVEMBER, 2018 FOR THIS PROJECT WAS PREPARED BY THE MMES GROUP.  
d. STORMWATER MANAGEMENT SHALL BE PROVIDED BY ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES 1 & II, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT BY THE USE OF SIX (6) (M-6) DRYWELLS, THREE (3) (M-6) MICRO-BIORETENTION FACILITIES AND ONE (1) (F-6) BIORETENTION FACILITY TO MEET AND EXCEED THE REQUIRED 150 VOLUME.  
e. FOR FLAG OR PIPESTEM SLOPES, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD R/W LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.  
f. NO CEMETERIES ARE LOCATED ON-SITE BASED ON THE HOWARD COUNTY CEMETERY INVENTORY MAP.  
g. B.R.L. DENOTES BUILDING RESTRICTION LINE.  
h. FOREST STAND DELINEATION AND A WETLAND REPORT DATED: 11/1/2018 WERE PREPARED BY ECOTONE INC. AND HAVE BEEN PROVIDED.  
i. DRYWELLS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:  
1. WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).  
2. SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.  
3. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 TURNING RADIUS.  
4. STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (1 1/2 TONS LOAD).  
5. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRAINAGE SURFACE.  
6. STRUCTURE CLEARANCES - MINIMUM 12 FEET.  
7. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.  
8. A GEO TECHNICAL REPORT DATED FEBRUARY, 2019 WAS PREPARED BY HILLS-CARNEIS ENGINEERING ASSOCIATES INC.
- A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON AUGUST 7, 2019 FOR THIS PROJECT.
- THERE ARE NO 100 YEAR FLOODPLAIN OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS PROPERTY. THERE ARE TWO AREAS OF WETLANDS AND A STREAMS IDENTIFIED ON THE SITE. THESE ARE NOT WETLANDS ON-SITE THAT WOULD BE DISTURBED OR THAT WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND.
- FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1020 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WILL BE FULFILLED BY CONSERVATION OF FOREST RESTORATION OF 1.70 ACRES. CONSERVATION RESTORATION OF 0.37 AC +/- AND BY A FEE-IN-LIEU PAYMENT FOR THE REMAINING OBLIGATION OF 0.63 AC +/- AT THE FINAL PLAN STAGE OF THIS PROJECT.
- SITE IS ADJACENT TO A SCENIC ROAD.
- ALL LOT/PARCEL AREAS ARE MORE OR LESS.
- DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO WAD 83 GRID.
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS OTHERWISE BEEN APPROVED.
- THE SWM FACILITIES LOCATED ON A.S.A. OPEN SPACE WILL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION, ANY SWM FACILITY LOCATED ON A LOT WILL BE OWNED AND MAINTAINED BY THE OWNER OF THAT PARTICULAR LOT.
- THE LANDSCAPING TABULATION UNDER THIS PLAN IS PRELIMINARY. LANDSCAPING WILL BE PROVIDED WITH THE FINAL SUBMISSION PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- ARTICLES OF INCORPORATION FOR THE LAWYERS HILL OVERLOOK HOMEOWNERS ASSOCIATION, INC. WILL BE FILED WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION PRIOR TO RECORDECTION OF THE FINAL PLAN.
- A NOISE STUDY IS NOT REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL, VOLUME III, ROADS AND BRIDGES, SECTION 5.2, P.2.
- OPEN SPACE LOT 18 WILL BE OWNED BY THE LAWYERS HILL OVERLOOK HOMEOWNERS ASSOCIATION, INC.
- PROPERTY IS LOCATED IN THE LAWYERS HILL HISTORIC DISTRICT.
- HISTORIC PRESERVATION COMMISSION MEETINGS WERE HELD ON: 4/5/18, 12/6/18, 1/17/19
- PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILES NUMBERS: ECP-18-054, PB 445.
- STREET LIGHT PLACEMENT, PATTERNS, AND POLE TYPES SHALL ADHERE TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- MODERATE INCOME HOUSING UNITS REQUIRED. SEE MHU CHART THIS SHEET.
- IN ACCORDANCE WITH SECTION 12B.D.A.(1)(J) OF THE ZONING REGULATIONS, ROOM EXTENSIONS AND BUILDING ADDITIONS BEING DEVELOPED UNDER THE R-ED REGULATIONS MAY PROJECT 10 FEET INTO A REAR SETBACK, ALONG NOT MORE THAN 50% OF THE REAR FACE OF A DWELLING ON A LOT WHICH ADJOINS OPEN SPACE ALONG THE MAJORITY OF THE REAR LOT LINE.
- PRELIMINARY EQUIVALENT SKETCH PLAN, SP-18-002 OR THE SUBDIVISION OF 17 SINGLE-FAMILY DETACHED RESIDENTIAL LOTS AND 1 OPEN SPACE LOT WAS APPROVED ON 12/9/2019 BY THE PLANNING BOARD OF HOWARD COUNTY, MARYLAND, SUBJECT TO THE FOLLOWING CONDITIONS OF APPROVAL:  
1) THE ENTRANCE SHOULD BE DESIGNED CONSISTENT WITH ANY SAFETY REQUIREMENTS, TO BLEND WITH THE SCENIC ROAD AND SIMILAR IN APPEARANCE TO OTHER ACCESS POINTS ALONG THE ROAD, THIS MAY INCLUDE SEEKING NECESSARY WAIVERS TO CURRENT STREET GUIDELINES WITH RESPECT TO APPEARANCE. REQUIREMENTS FOR PRESTRAIN ACCESS AND SIGNAL REQUIREMENTS SHOULD BE ACHIEVED WITH ALTERNATIVES THAT PRESERVE THE VISUAL CHARACTER OF THE SCENIC ROAD.  
2) ANY HISTORIC ARTIFACTS MUST BE CATALOGUED AND RECORDED.  
3) THE LANDSCAPE BUFFER AROUND THE ENTIRE PERIMETER OF THE PROPERTY MUST BE A "CLASS A" BUFFER.  
4) THE BUFFER AND AREA OF DISTURBANCE MUST TAKE INTO ACCOUNT THE TREES ON NEIGHBORING PROPERTIES TO THE EXTENT POSSIBLE.  
5) THE DEVELOPER MUST CONSULT WITH AND RECEIVE RECOMMENDATIONS FROM THE HISTORIC PRESERVATION COMMISSION.
- THIS PRELIMINARY EQUIVALENT SKETCH PLAN APPROVAL IS CONTINGENT UPON SUBMISSION OF A FOREST CONSERVATION PLAN THAT COMPLIES WITH THE APPLICABLE REQUIREMENTS, INCLUDING OBTAINING ANY NECESSARY WAIVERS OR APPROVED ALTERNATIVE COMPLIANCE. THE PRELIMINARY FOREST CONSERVATION PLAN DOES NOT PRESENTLY COMPLY UNLESS WAIVERS OR ALTERNATIVE COMPLIANCE ARE OBTAINED. APPROVAL OF THIS PLAN (SP-18-002) DOES NOT CONSTITUTE GRANTING OF ANY WAIVERS OR ALTERNATIVE COMPLIANCE. THE FINAL FOREST CONSERVATION PLAN AND ANY ASSOCIATED WAIVERS OR ALTERNATIVE COMPLIANCE REQUESTS WILL BE FULLY EVALUATED UPON FINAL PLAN SUBMISSION.

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING	
Total Number of Lots/Units Proposed	17
Number of MIHU Required	1.7
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	16
MIHU Fee-in-Lieu (indicate lot/unit numbers)	LOTS 1-17

TITLE SHEET  
LAWYERS HILL OVERLOOK  
LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
5819 LAWYERS HILL ROAD  
DEED REFERENCE: L14508 F.484  
TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
ZONED R-ED  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: DECEMBER, 2019  
SHEET 1 OF 8  
SP-19-002

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING STORM DRAIN
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	BUILDING AND DRIVES TO BE DEMOLISHED
---	DEMOTES EXISTING FOREST TO BE REMOVED
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	SOIL LINES AND TYPES
---	DEMOTES EXISTING TREES TO BE REMOVED
---	DEMOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	DEMOTES 15%-24.9% SLOPES
---	DEMOTES 25% AND GREATER SLOPE
---	DEMOTES ERODIBLE SOILS

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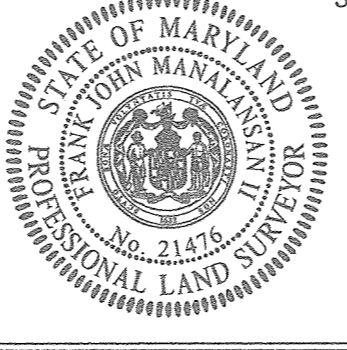
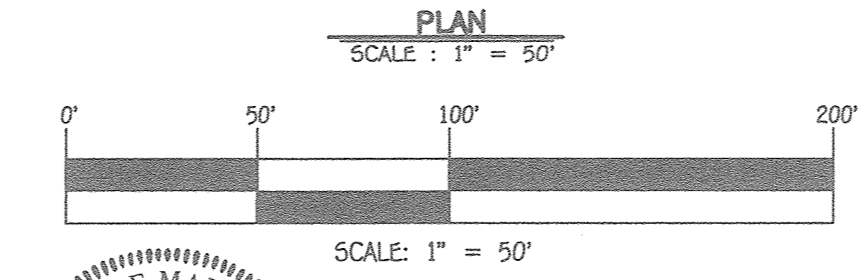


SPECIMEN TREE DATA						
NO.	SIZE	SPECIES	CONDITION	NOTES	TO BE REMOVED	IF OK UNDISTURBED
584	36"	TULIP POPLAR	POOR	TRUNK ROT PARTIALLY DEAD	NO	04%
585	48"	BLACK OAK	FAIR	PARTIAL CANOPY	NO	00%
586	32"	AMER. BEECH	FAIR	DBL. @ 9' 13" CRACK @ DBL. TRUNK ROT	NO	100%
587	31"	S. RED OAK	GOOD	SOME DEAD BRANCHES	NO	100%
588	32"	TULIP POPLAR	GOOD		NO	100%
589	38"	WHITE OAK	GOOD		YES	
590	50"	WHITE OAK	FAIR	ENGLISH IVY VINE & METAL CABLE IN TRUNK	YES	
591	52"	S. RED OAK	FAIR	MANY VINES/PARTIAL CANOPY	NO	80%
592	37"	WHITE OAK	GOOD		NO	90%
593	33"	S. RED OAK	GOOD		NO	90%
594	40"	WHITE OAK	FAIR	SOME DEAD BRANCHES	YES	
595	36"	TULIP POPLAR	GOOD		YES	
596	39"	WHITE OAK	GOOD		NO	87%
597	44"	BLACK OAK	FAIR	1/2 OF DBL./TRUNK ROT	YES	
598	37"	WHITE OAK	GOOD		NO	89%
599	34"	BLACK OAK	FAIR	VINES & CABLE THRU TRUNK @ 8'	NO	100%
600	34"	RED MAPLE	FAIR	BROKEN BRANCH & VINES	YES	
601	39"	TULIP POPLAR	GOOD	NO TAG JUST RIBBON	YES	
602	37"	TULIP POPLAR	GOOD	NO TAG JUST RIBBON	YES	
603	40"	TULIP POPLAR	GOOD	NO TAG JUST RIBBON	YES	
604	33"	CHESTNUT OAK	GOOD	NO TAG JUST RIBBON	YES	
605	45"	TULIP POPLAR	FAIR		NO	89%
606	36"	TULIP POPLAR	GOOD		YES	

NOTE: 12 SPECIMEN TREES TO BE REMOVED SHALL BE REPLACED AT A 2:1 RATIO FOR A TOTAL OF 24 TREES.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 18272 BALDWIN NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2899

TEMPORARILY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 PLANNING DIRECTOR [Signature]  
 DATE: 1-24-2020

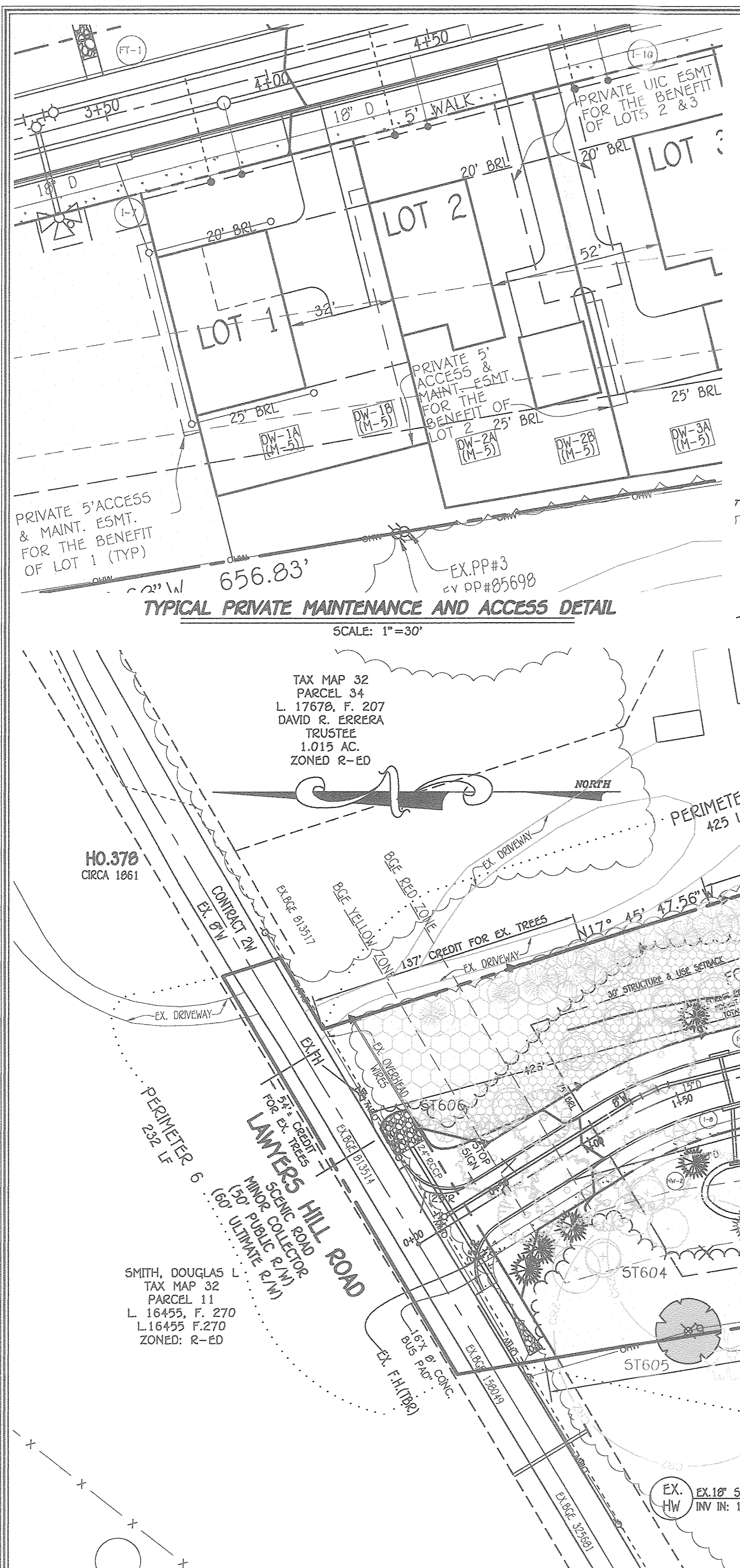


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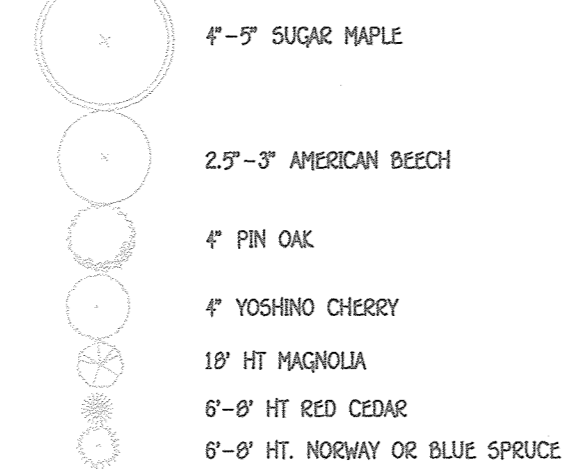
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 8310 FORREST STREET SUITE 200  
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EXISTING CONDITIONS, SOILS &  
 DEMOLITION PLAN  
**LAWYERS HILL OVERLOOK**  
 LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
 5819 LAWYERS HILL ROAD  
 DEED REFERENCE: L.14508 F.404  
 TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
 ZONED R-ED  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: DECEMBER, 2019  
 SHEET 2 OF 8



**PERIMETER LANDSCAPE LEGEND**



**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	PERIMETER						TOTAL
	P1	P2	P3	P4	P5	P6	
Open Space to Perimeter Properties	422 LF	134 LF	815 LF	596 LF	1,231 LF	220 LF	56 req.
Adjacent to Perimeter Properties	1:60 = 7.09 (0)	1:60 = 2.23(3)	1:60 = 13.98(14)	1:60 = 4.93(6)	1:60 = 20.51(21)	1:60 = 3.33(4)	32 credit
Adjacent to Perimeter Properties	YES, 292 LF	YES, 104 LF	YES, 375 LF	YES, 356 LF	YES, 535 LF	YES, 34 LF	20 req.
Adjacent to Perimeter Properties	4	1	0	0	13	3	0
Adjacent to Perimeter Properties	1	0	2	0	2	0	0
Adjacent to Perimeter Properties	0	0	0	0	24	0	29
Adjacent to Perimeter Properties	0	0	0	0	0	0	0

- REQUIRED PERIMETER SHADE TREES WITHIN THE 60' YELLOW ZONE SHALL REQUIRE APPROVAL FROM BGE AND DPZ AT THE FINAL PLAN STAGE.
- SMALL DECIDUOUS TREES AND EVERGREEN TREES MAY BE SUBSTITUTED FOR REQUIRED SHADE TREES AT A 2:1 RATIO PER THE HOWARD COUNTY LANDSCAPE MANUAL RECOMMENDED PLANT LIST - APPENDIX C.

**STREET TREE SCHEDULE**

QTY.	SIZE	COMMENTS
ROW LENGTH = 1742'	2 1/2"-3" CAL. (SEE NOTE)	40' APART ON PUBLIC R/W (Rose Garden Lane) (Provided 44 Trees)
2040/40 = 43		
44 TREES REQUIRED		
44 TREES PROVIDED		

NOTE: THE DEVELOPER IS PROPOSING ENHANCED STREET TREE PLANTINGS WITH A CALIPER RANGE OF 4"-5" WHICH SHALL EXCEED THE MINIMUM 2" CALIPER REQUIREMENT PER THE HOWARD COUNTY LANDSCAPE MANUAL. REFER TO STREET TREE LEGEND FOR SIZE AND SPECIES.

**STREET TREE LEGEND**

QUANTITY	SYMBOL	TYPE
15	(Symbol)	5" AMERICAN ELM
12	(Symbol)	5" KWANZAN CHERRY
6	(Symbol)	6" SUGAR MAPLE
7	(Symbol)	6"-7" RED MAPLE
3	(Symbol)	6" HEDGE MAPLE

NOTE: ALL PROPOSED STREET TREES SHALL EXCEED THE MINIMUM 2 1/2" INCH CALIPER REQUIREMENT PER THE HOWARD COUNTY LANDSCAPE MANUAL.

**LEGEND**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL	(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	EXISTING CONTOUR 10' INTERVAL	(Symbol)	SUPER SILT FENCE
(Symbol)	PROPOSED CONTOUR 10' INTERVAL	(Symbol)	SILT FENCE
(Symbol)	PROPOSED CONTOUR 2' INTERVAL	(Symbol)	EXISTING TREE LINE
(Symbol)	SPOT ELEVATION	(Symbol)	PROPOSED TREE LINE
(Symbol)	EXISTING STORM DRAIN	(Symbol)	DRAINAGE DIVIDE
(Symbol)	PROPOSED STORM DRAIN PIPE	(Symbol)	DRYWELL (M-5)-TYPICAL
(Symbol)	EXISTING WATER LINE	(Symbol)	SOIL LINES AND TYPES
(Symbol)	EXISTING SEWER LINE	(Symbol)	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	PROPOSED SEWER	(Symbol)	PROPOSED ROOF LEADER
(Symbol)	PROPOSED WATER	(Symbol)	DENOTES EXISTING TREES TO BE REMOVED
(Symbol)	BUILDING AND DRIVES TO BE DEMOLISHED	(Symbol)	DENOTES EXISTING TREES TO REMAIN
(Symbol)	PROPOSED PAVING	(Symbol)	CRITICAL ROOT ZONE
(Symbol)	PROPOSED SIDEWALKS	(Symbol)	DENOTES 15%-24.9% SLOPES
(Symbol)	DENOTES EXISTING FOREST TO BE REMOVED	(Symbol)	DENOTES 25% AND GREATER SLOPE
(Symbol)	FOREST CONSERVATION EASEMENT (RETENTION)		
(Symbol)	FOREST CONSERVATION EASEMENT (REFORESTATION)		
(Symbol)	DENOTES ERODIBLE SOILS		

**OVERALL PLANT LIST & LEGEND**

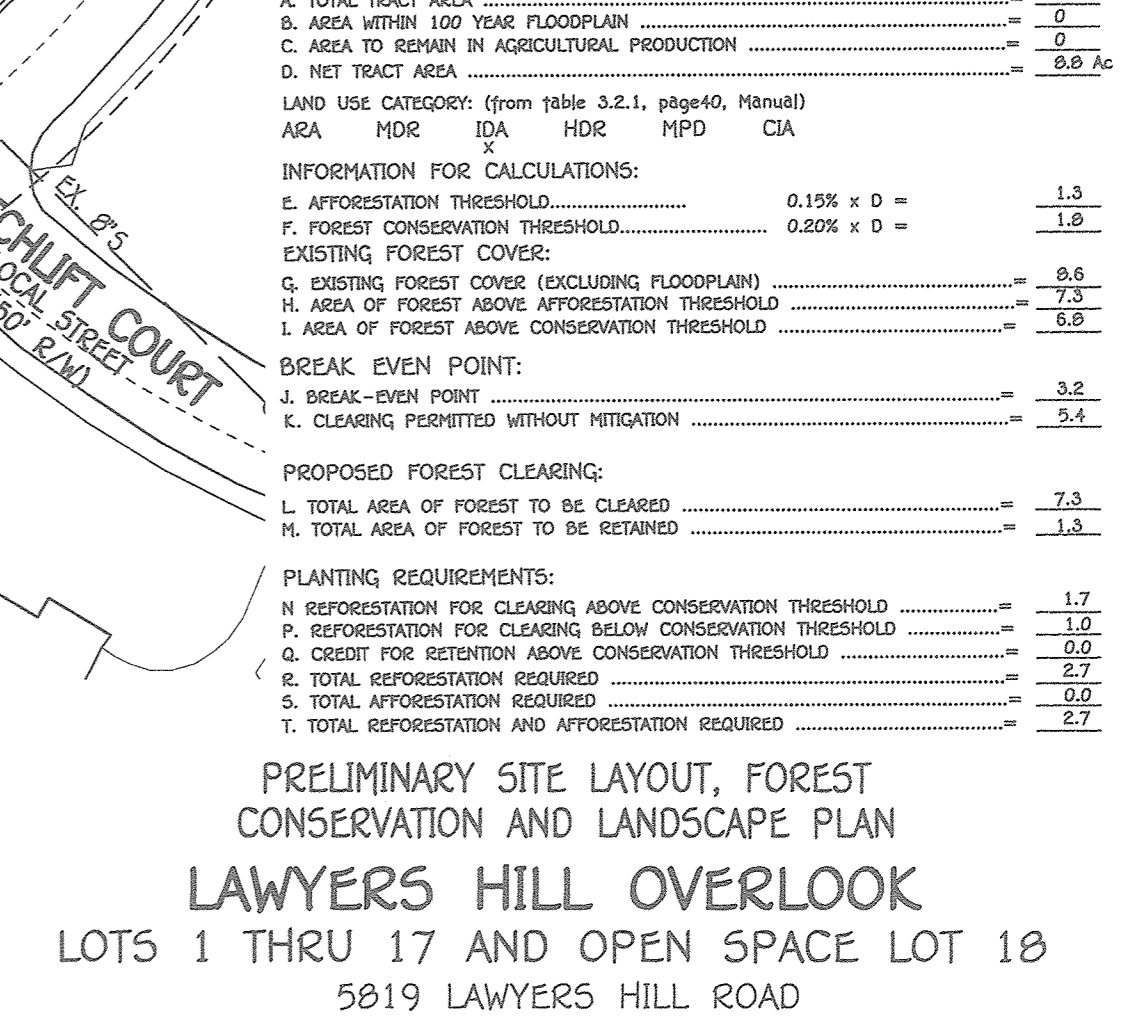
SYMBOL	QTY	COMMON NAME	SCIENTIFIC NAME	REQUIRED	PROVIDED	TYPE
(Symbol)	15	American Elm	Ulmus americana	2.5'-3"	5'	Shade
(Symbol)	3	Hedge Maple*	Acer campestre	2.5'-3"	5'	Shade
(Symbol)	4	Sugar Maple*	Acer saccharum	2.5'-3"	4'-5'	Shade
(Symbol)	6	Willow Oak	Quercus phellos	2.5'-3"	5'	Shade
(Symbol)	3	American Beech*	Fagus grandifolia	2.5'-3"	2.5'-3"	Shade
(Symbol)	6	Pin Oak*	Quercus palustris	2.5'-3"	4'	Shade
(Symbol)	32	Sweetbay Magnolia*	Magnolia virginiana	18' ht	18' ht	Shade
(Symbol)	8	Red Maple*	Acer rubrum	2.5'-3"	4'	Shade
(Symbol)	14	Kwanzan Cherry	Prunus serrulata 'Kanzan'	2.5'-3"	5'	Ornamental
(Symbol)	52	Yoshino Cherry	Prunus x yedoensis 'Somen-yoshino'	2.5'-3"	5'	Ornamental
(Symbol)	27	Norway Spruce	Picea abies	8'-9' ht	8'-9' ht	Evergreen
(Symbol)	28	American Holly*	Ilex opaca	2.5'-3"	5'	Evergreen
(Symbol)	20	Red Cedar, Eastern*	Juniperus virginiana	6'-8' ht.	6'-8' ht.	Evergreen
(Symbol)	TOTAL			218		

**CL ROAD CURVE DATA TABLE**

Curve	Radius	Arc Length	Delta	Tangent	Bearing & Dist
(C1)	200.00'	59.73'	17°06'40"	30.09'	S 22°46'43" E 59.51'
(C2)	110.50'	87.66'	45°27'06"	46.28'	S 08°30' 10" W 85.30'

**FOREST CONSERVATION WORKSHEET VERSION 1.0**

A. TOTAL TRACT AREA	0.00 ac
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00 ac
C. AREA TO BE REMOVED IN AGRICULTURAL PRODUCTION	0.00 ac
D. NET TRACT AREA	0.00 ac
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)	
AREA	MOR IDA HOR MPD CIA
INFORMATION FOR CALCULATIONS:	
F. AFFORESTATION THRESHOLD	0.15% x D = 1.5
G. FOREST CONSERVATION THRESHOLD	0.20% x D = 1.8
EXISTING FOREST COVER:	
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	0.6
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	2.3
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	2.8
BREAK-EVEN POINT:	
J. BREAK-EVEN POINT	3.2
K. CLEARING PERMITTED WITHOUT MITIGATION	2.4
PROPOSED FOREST CLEARING:	
L. TOTAL AREA OF FOREST TO BE CLEARED	7.3
M. TOTAL AREA OF FOREST TO BE RETAINED	1.3
PLANTING REQUIREMENTS:	
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	1.7
O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	1.0
P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	0.0
Q. TOTAL REFORESTATION REQUIRED	2.7
R. TOTAL AFFORESTATION REQUIRED	0.2
S. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	2.7



**PRELIMINARY SITE LAYOUT, FOREST CONSERVATION AND LANDSCAPE PLAN**  
**LAWYERS HILL OVERLOOK**  
 LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
 5819 LAWYERS HILL ROAD  
 DEED REFERENCE: L14508 F.404  
 TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
 ZONED R-ED  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: DECEMBER, 2019  
 SHEET 3 OF 8

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461 - 2995

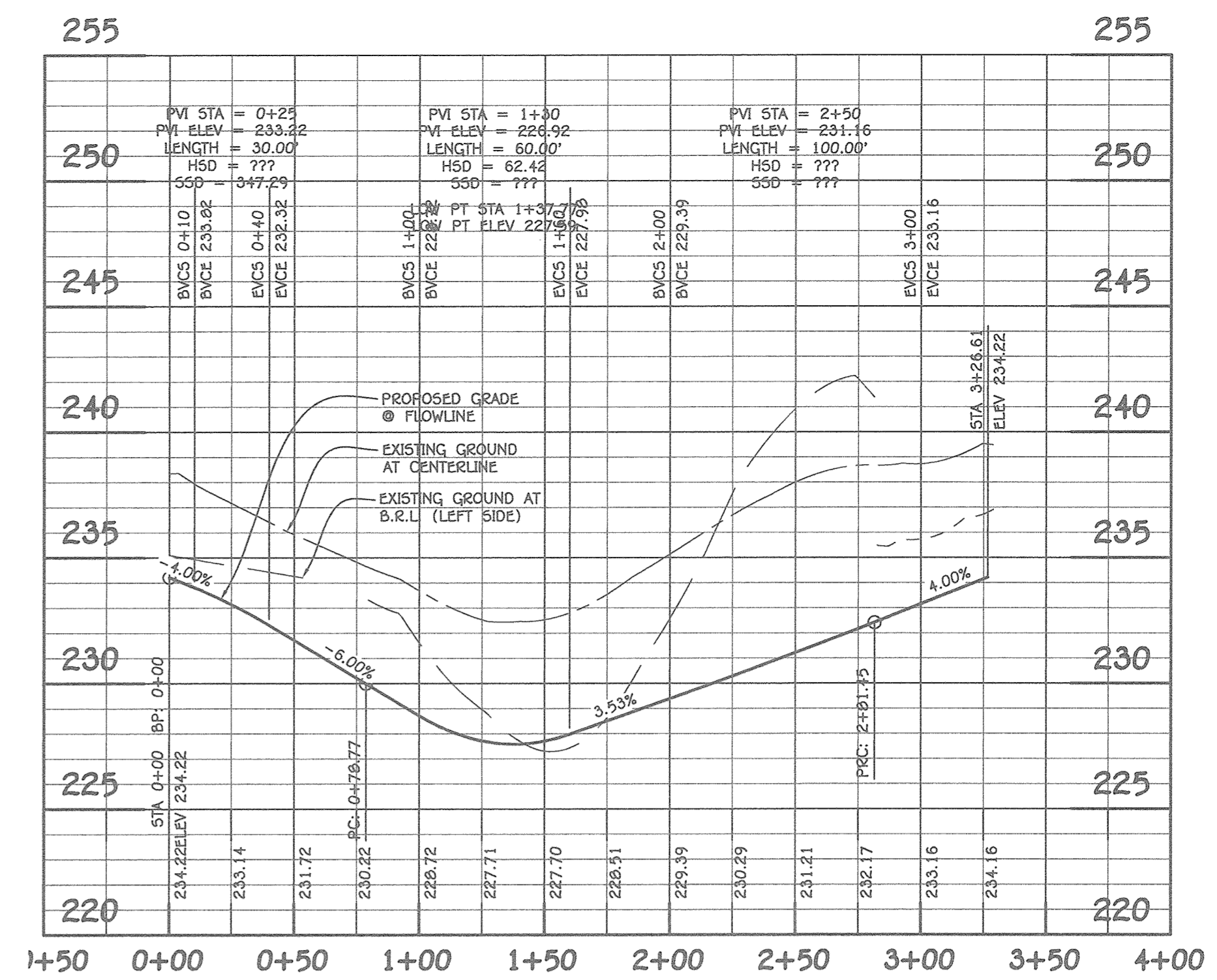
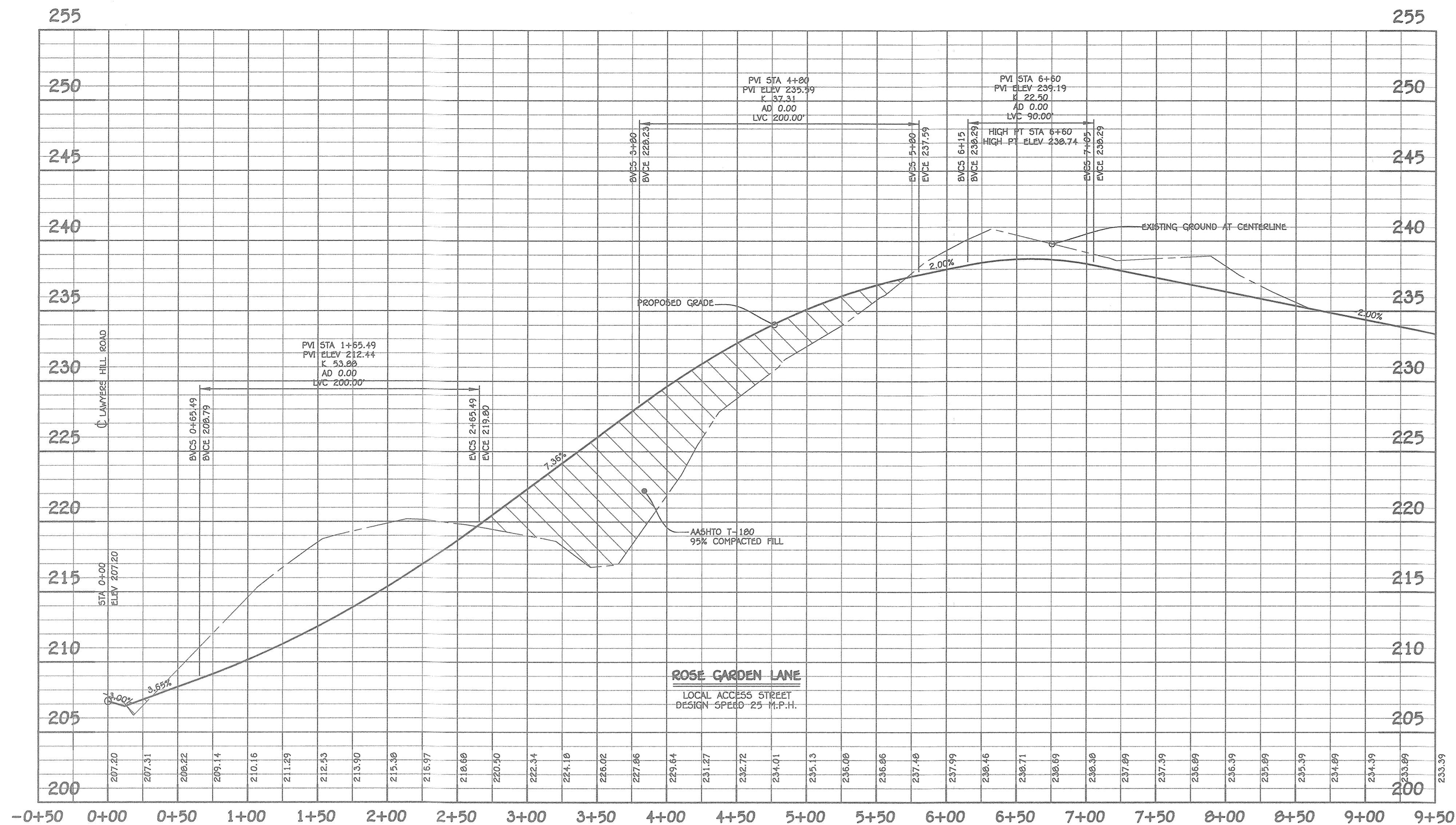
TEMPORARILY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 PLANNING DIRECTOR  
 DATE: 1-24-2020



**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/21.  
 Frank Manalangan, II  
 DATE: 1/14/20

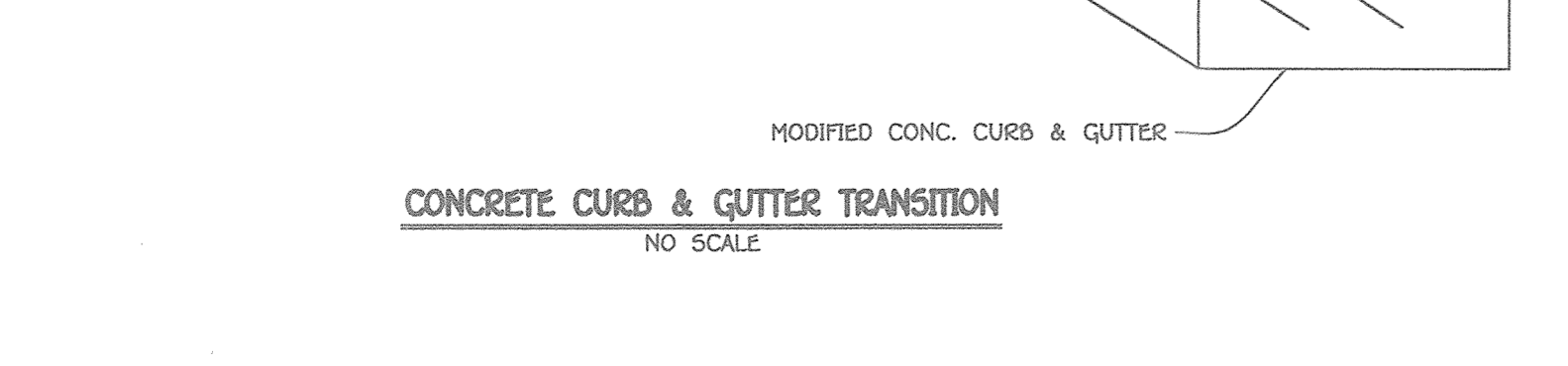
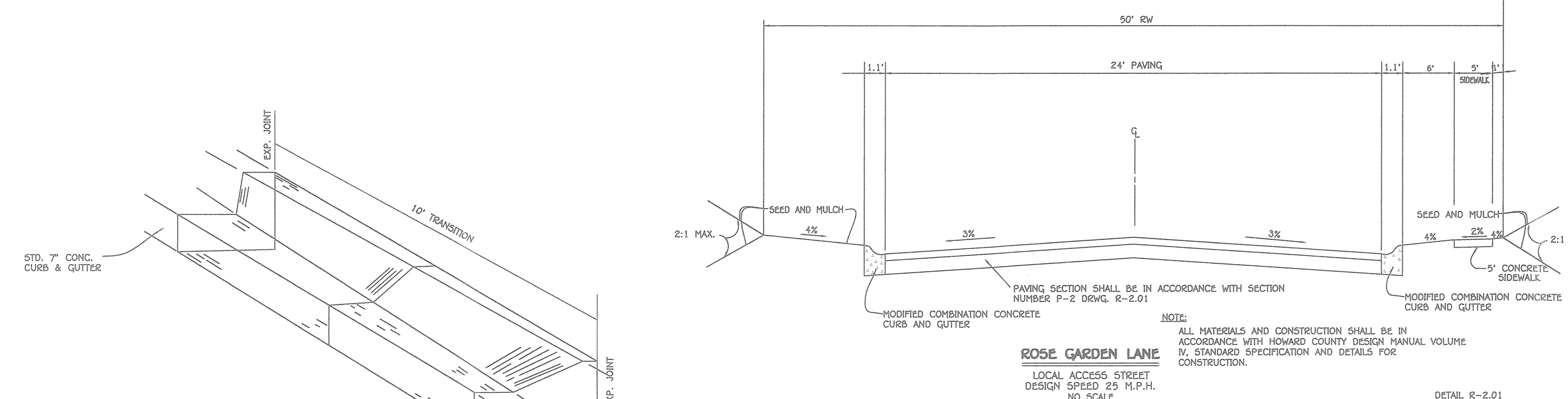
**OWNERS**  
 EDMUND H. POLLARD & JOYCE E. ADOCK  
 6349 BASKET SWITCH ROAD  
 NEWARK, MARYLAND 21041

**DEVELOPER**  
 LAND DESIGN & DEVELOPMENT, INC.  
 8310 FOREST STREET SUITE 200  
 ELLICOTT CITY, MARYLAND 21043  
 TEL: 410-392-6400  
 ATTN: MR. DONALD R. RUEWER, JR.



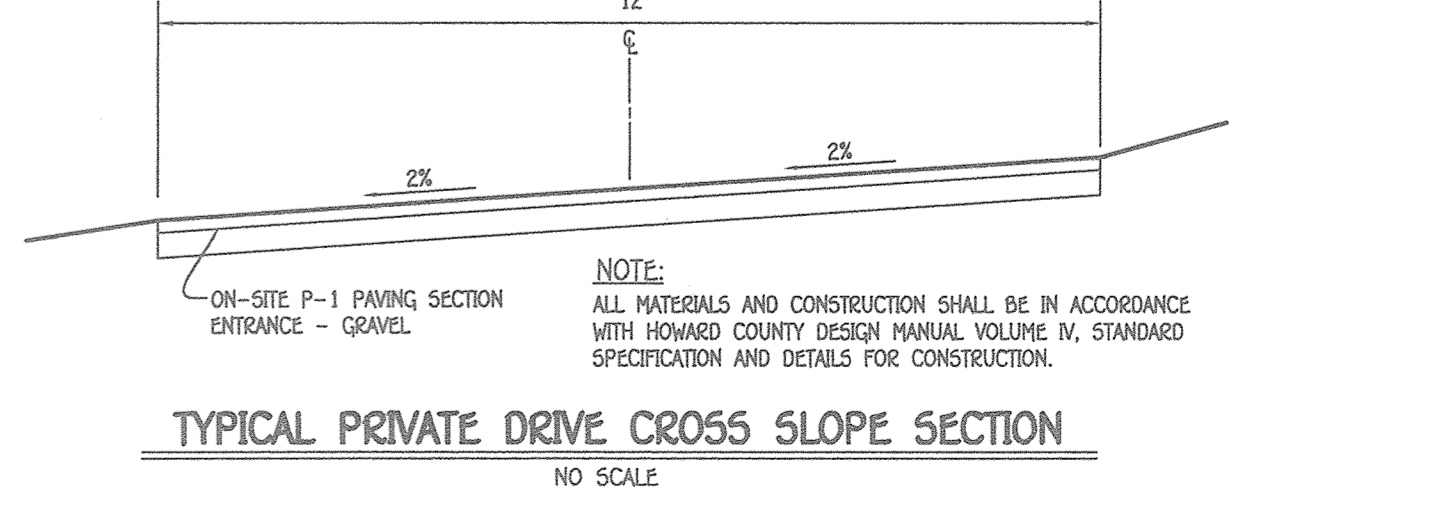
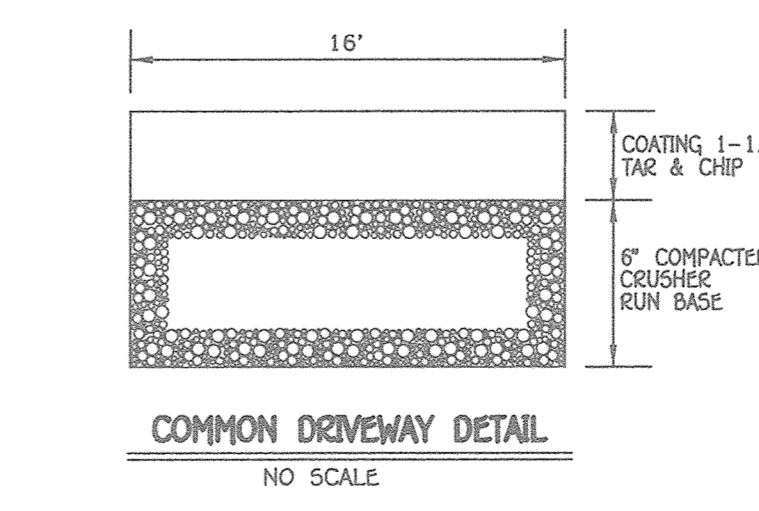
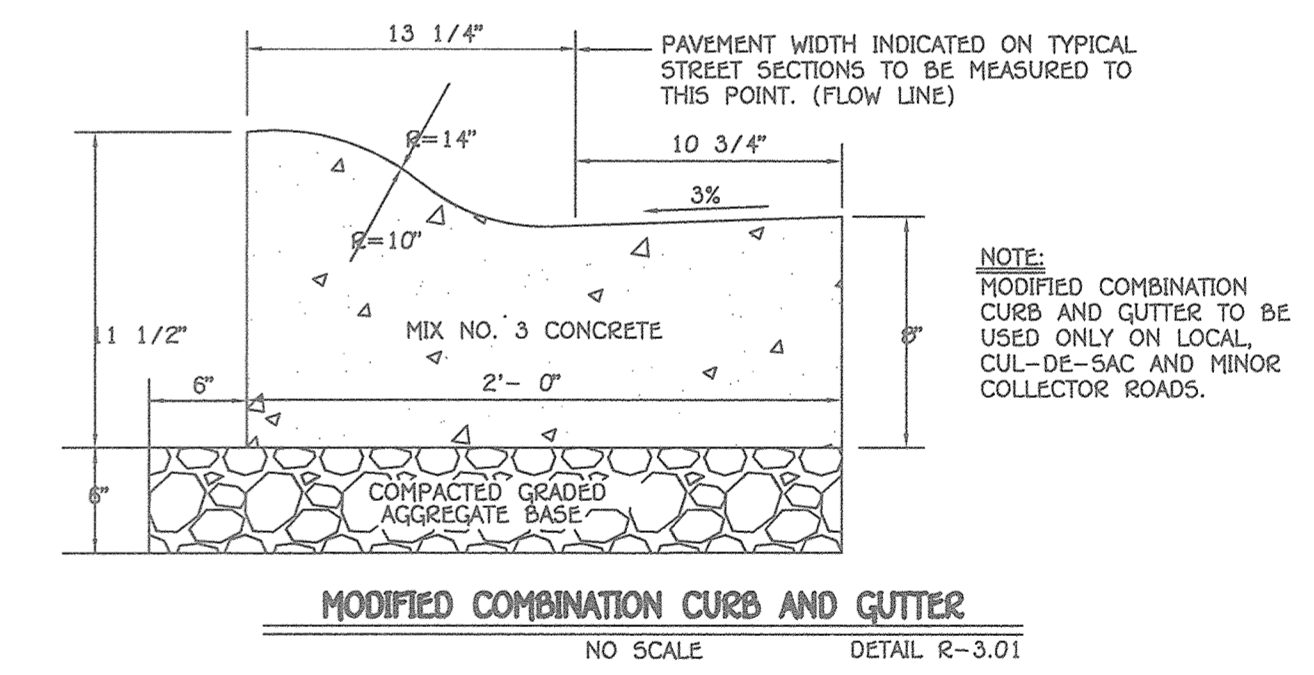
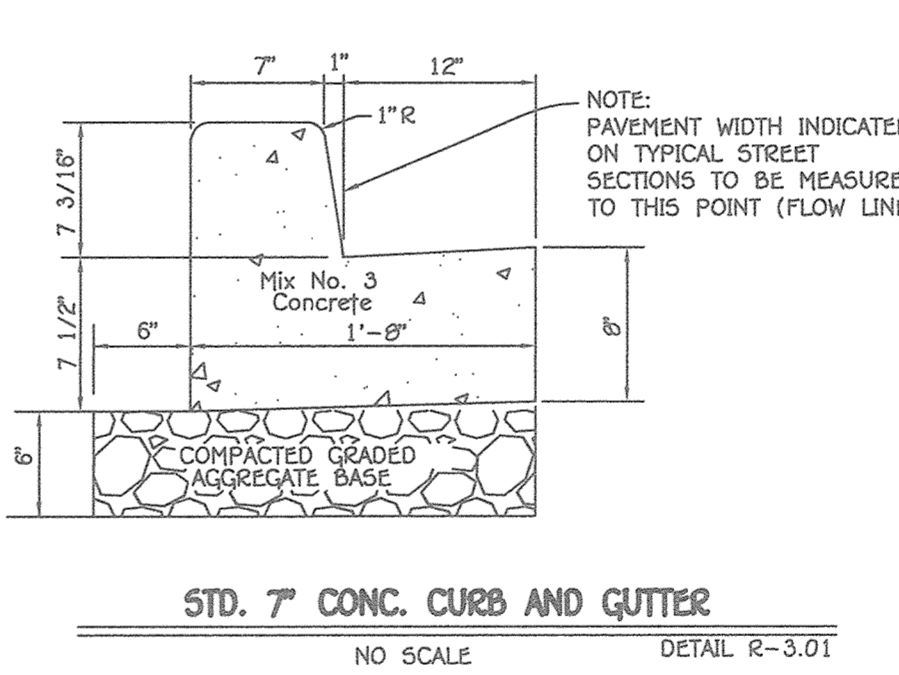
**PROFILE**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

**ROSE GARDEN LANE - CUL-DE-SAC**  
LOCAL ACCESS STREET  
DESIGN SPEED 25 M.P.H.  
**PROFILE**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



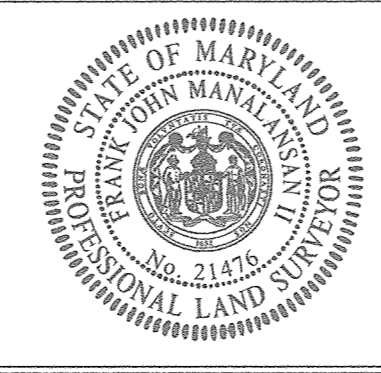
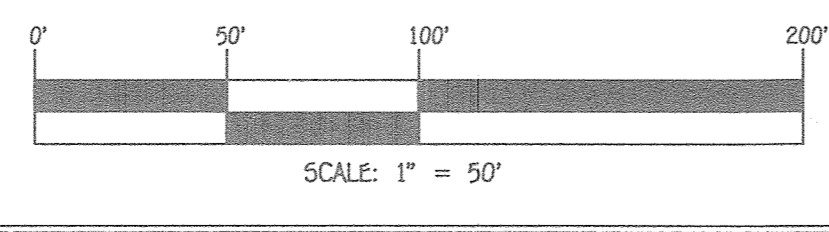
**ROSE GARDEN LANE**  
LOCAL ACCESS STREET  
DESIGN SPEED 25 M.P.H.  
NO SCALE  
DETAIL R-2.01

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
		3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
P-2	PARKING DRIVE ASLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLAC. ACCESS STREET CUL-DE-SACS: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)					
		HMA SUPERPAVE FINAL SURFACE 9.5 MM. PG 64-22, LEVEL 1 (ESAL)					
		HMA SUPERPAVE BASE 19.0 MM. PG 64-22, LEVEL 1 (ESAL)					
		8.0	4.0	3.0	4.0	4.0	4.0



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2895

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY  
*John G. ...*  
PLANNING DIRECTOR  
1-24-2020  
DATE



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*Frank Hamaian, II*  
FRANK HAMAIAN, II  
1/4/20  
Date

**OWNERS**  
EDMUND M. POLLARD &  
JOYCE E. ADCOCK  
6349 BASKET SWITCH ROAD  
NEWARK, MARYLAND 21041

**DEVELOPER**  
LAND DESIGN & DEVELOPMENT, INC.  
8310 FORREST STREET SUITE 200  
ELLCOTT CITY, MARYLAND 21043  
TEL: 410-992-6400  
ATTN: MR. DONALD R. REUWER, JR.

PRELIMINARY ROAD  
PROFILES AND DETAILS  
**LAWYERS HILL OVERLOOK**  
LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
5819 LAWYERS HILL ROAD  
DEED REFERENCE: L14508 F.404  
TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
ZONED R-ED  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: DECEMBER, 2019  
SHEET 4 OF 8  
**SP-19-002**

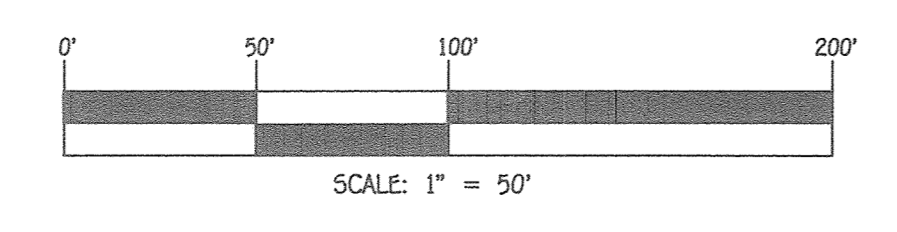
SOILS LEGEND			
SOIL	NAME	CLASS	K <sub>w</sub> VALUE
CeB	Chillum loam, 2 to 5 percent slopes	C	0.37
ChB	Chillum-Russett loams, 2 to 5 percent slopes	C	0.31
ChC	Chillum-Russett loams, 5 to 10 percent slopes	C	0.32
JaB	Jackland silt loam, 3 to 8 percent slopes	D	0.43
LaB	Legore silt loam, 3 to 8 percent slopes	C	0.28
LaC	Legore silt loam, 8 to 15 percent slopes	C	0.28
RaC	Russett fine sandy loam, 5 to 10 percent slopes	C	0.24
RuC	Russett and Bettsville soils, 5 to 10 percent slopes	C	0.28
SrD	Sassafras and Croom soils, 10 to 15 percent slopes	B	0.32

LEGEND	
SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	SPOT ELEVATION
	EXISTING STORM DRAIN
	PROPOSED STORM DRAIN PIPE
	EXISTING WATER LINE
	EXISTING SEWER LINE
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED PAVING
	PROPOSED SIDEWALKS
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	SILT FENCE
	EXISTING TREE LINE
	PROPOSED TREE LINE
	DRAINAGE DIVIDE
	DRIVEWELL (M-5)-TYPICAL
	SOIL LINES AND TYPES
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PROPOSED ROOF LEADER
	DENOTES EXISTING TREES TO REMAIN
	CRITICAL ROOT ZONE
	DENOTES 15%-24.9% SLOPES
	DENOTES 25% AND GREATER SLOPE
	FOREST CONSERVATION EASEMENT (RETENTION)
	FOREST CONSERVATION EASEMENT (REFORESTATION)

- SEDIMENT CONTROL NOTES:**
- 1) BIO RETENTION FACILITIES MAY BE USED IN AN INTERIM CONDITION FOR SEDIMENT CONTROL.
  - 2) TEMPORARY STORMWATER MANAGEMENT DESIGN WILL BE PROVIDED WITH THE FINAL PLAN SUBMISSION IF REQUIRED.
  - 3) ALL PROPOSED SEDIMENT CONTROL DEVICES WILL BE SIZED AND SUPPORTING COMPUTATIONS WILL BE PROVIDED WITH THE FINAL PLAN SUBMISSION.
  - 4) ALL SPECIMEN TREES AND WOODS TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION PER HOWARD COUNTY FOREST CONSERVATION GUIDELINES.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461 - 2995

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 PLANNING DIRECTOR *[Signature]*  
 DATE 1-24-2020

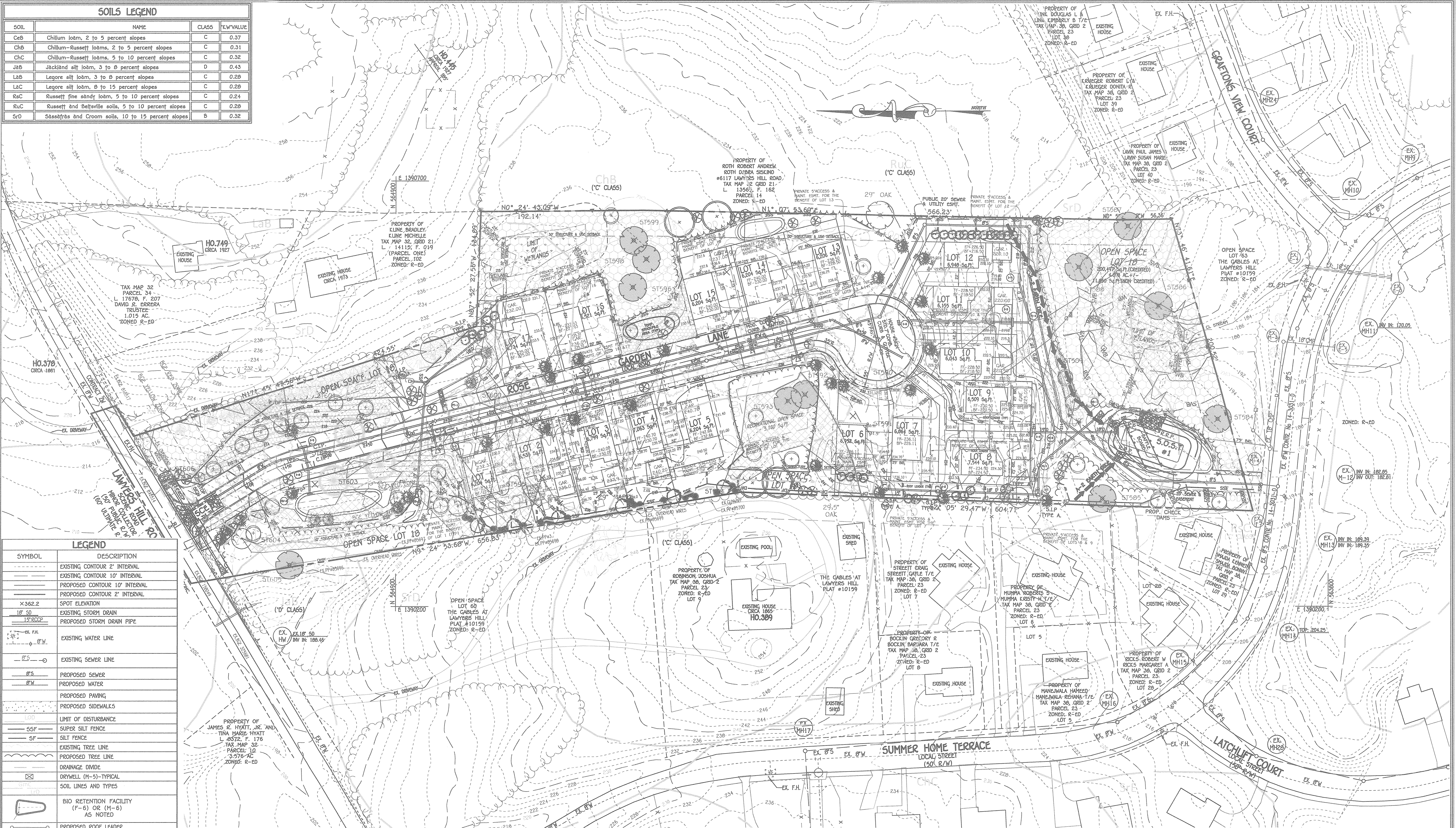


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*Frank Maralansan, II*  
 1/4/20  
 Date

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 EDMUND M. POLLARD &  
 JOYCE E. ADCOCK  
 6349 BASKET SWITCH ROAD  
 NEWARK, MARYLAND 21041

**DEVELOPER**  
 LAND DESIGN & DEVELOPMENT, INC.  
 8318 FORREST STREET SUITE 200  
 ELLICOTT CITY, MARYLAND 21043  
 TEL: 410-992-6400  
 ATTN: MR. DONALD R. REUWER, JR.

PRELIMINARY GRADING, SEDIMENT AND  
 EROSION CONTROL PLAN AND SOILS MAP  
**LAWYERS HILL OVERLOOK**  
 LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
 5819 LAWYERS HILL ROAD  
 DEED REFERENCE: L.14508 F.484  
 TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
 ZONED R-ED  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: DECEMBER, 2019  
 SHEET 5 OF 8  
**SP-19-002**



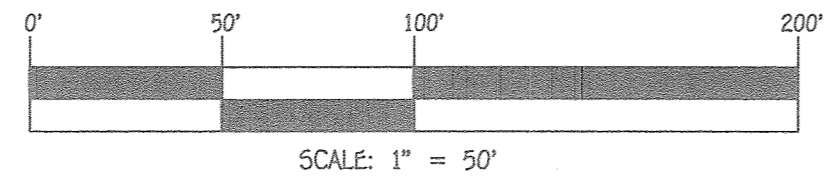
LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL		LIMIT OF DISTURBANCE
	EXISTING CONTOUR 10' INTERVAL		SUPER SILT FENCE
	PROPOSED CONTOUR 10' INTERVAL		SILT FENCE
	PROPOSED CONTOUR 2' INTERVAL		EXISTING TREE LINE
	SPOT ELEVATION		PROPOSED TREE LINE
	EXISTING STORM DRAIN		DRAINAGE DIVIDE
	PROPOSED STORM DRAIN PIPE		DRYWELL (M-5) TYPICAL
	EXISTING WATER LINE		SOIL LINES AND TYPES
	EXISTING SEWER LINE		BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PROPOSED SEWER		PROPOSED ROOF LEADER
	PROPOSED WATER		BUILDING AND DRIVES TO BE DEMOLISHED
	PROPOSED PAVING		DENOTES EXISTING TREES TO BE REMOVED
	PROPOSED SIDEWALKS		DENOTES EXISTING TREES TO REMAIN
	DENOTES EXISTING FOREST TO BE REMOVED		CRITICAL ROOT ZONE
	FOREST CONSERVATION EASEMENT (RETENTION)		DENOTES 15% - 24.9% SLOPES
	FOREST CONSERVATION EASEMENT (REFORESTATION)		DENOTES 25% AND GREATER SLOPE
	DENOTES ERODIBLE SOILS		



DRAINAGE AREA DATA				
STRUCTURE NO.	AREA	"C"	ZONED	% IMP.
I-1	0.13	0.40	R-ED	28%
I-2	0.35	0.30	R-ED	15%
I-3	0.20	0.31	R-ED	16%
I-4	1.00	0.47	R-ED	37%
I-5	0.10	0.19	R-ED	0%
I-6	0.27	0.32	R-ED	17%
I-7	0.19	0.63	R-ED	61%
I-8	0.28	0.53	R-ED	46%
I-9	0.10	0.62	R-ED	57%
I-10	0.18	0.19	R-ED	17%
I-11	0.18	0.59	R-ED	55%
FT-1	0.18	0.37	R-ED	24%

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PRELIMINARY STORM DRAIN  
 DRAINAGE AREA MAP  
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 SHEET 6 OF 8  
**SP-19-002**

**INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS**

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC, AND RE. V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR QP AS WELL AS THE MOST COMMON SYSTEMS INCLUDE INFILTRATION TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS.

WHEN PROPERLY PLANTED, VEGETATION WILL THRIVE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHORUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTICLES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

**DESIGN CONSTRAINTS:**

- > PLANTING BUFFERS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE PLANTING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING.
- > DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH SO THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY WILL BE SIMILAR TO BIORETENTION FACILITIES, SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).
- > PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS USED AS PART OF FACILITY DESIGN.
- > TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY.
- > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
- > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SO.
- > TEMPORARILY DIVERT FLOWS FROM SEEDING AREAS UNTIL VEGETATION IS ESTABLISHED.
- > SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS.

**BIO-RETENTION**

**SOIL BED CHARACTERISTICS**  
THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (SLO), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.75 IHR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MIGNONNETE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHALL BE IN 12 TO 18 UNITS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3.

**TABLE A.3 PLANTING SOIL CHARACTERISTICS**

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P2O5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH - K2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	10 TO 25 %
SILT	30 TO 55 %
SAND	35 TO 60%

**MULCH LAYER**

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINEST SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

**PLANTING GUIDANCE**

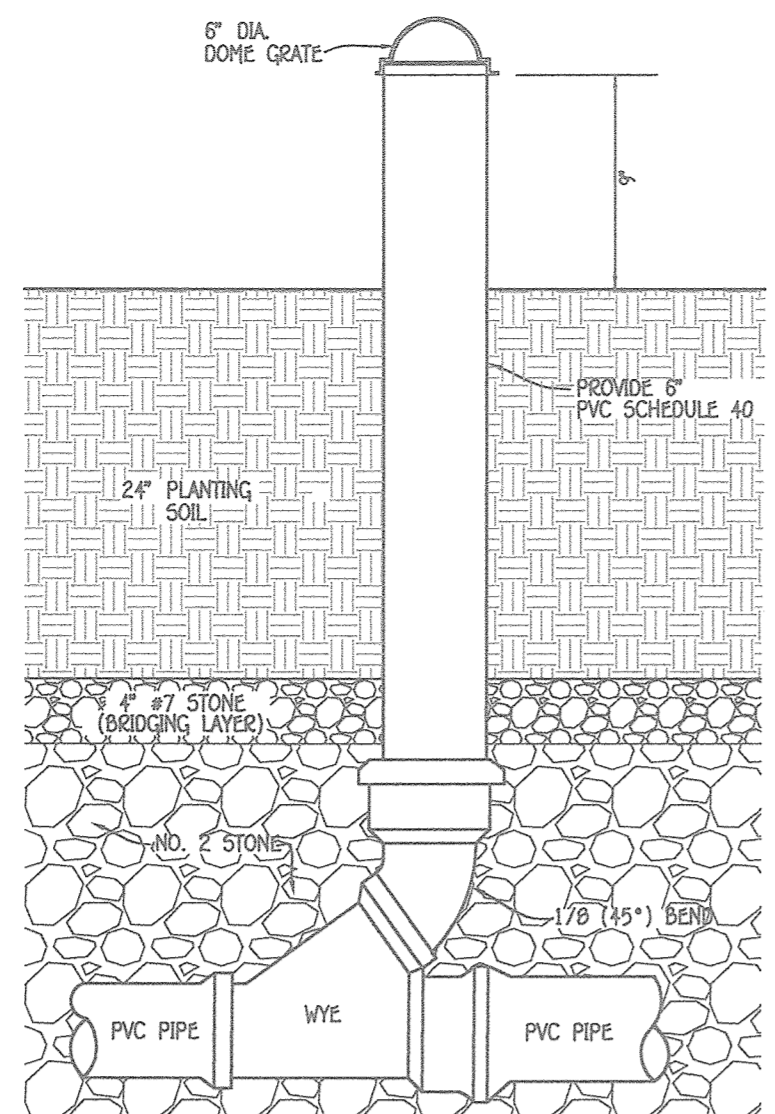
PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DIVERSE, DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE.

THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE

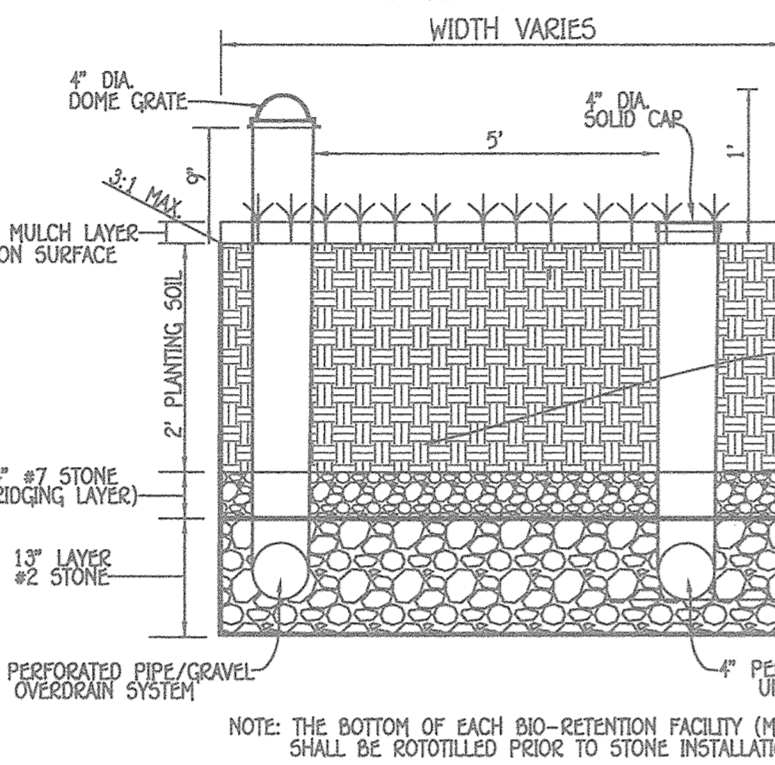
IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRYER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPLES DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETAB, 1993 OR CLAYTON AND SCHUELER, 1997.

Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

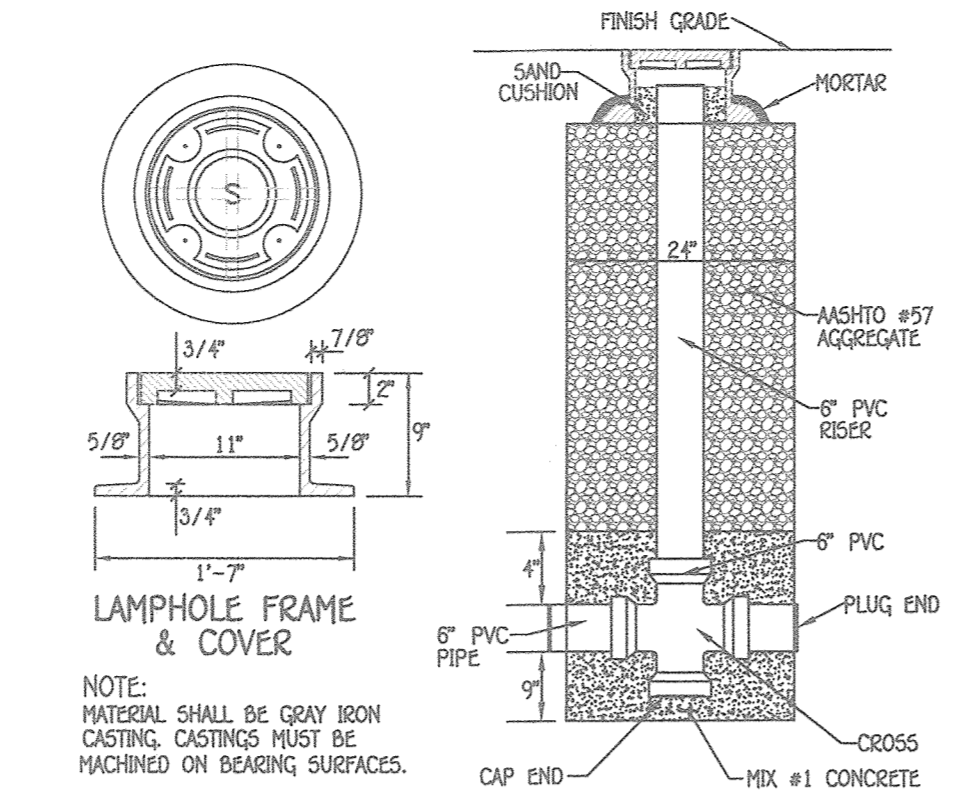
Material	Specification	Size	Notes
Plantings soil	see Appendix A, Table A.4	n/a	plantings are site-specific
Plantings soil (2" to 4" deep)	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 5974)		
Mulch	shredded hardwood	aged 6 months, minimum	
Pea gravel diaphragm	pea gravel; ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	optional) stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/4" to 3/4")	
Underdrain piping	1" F798, Type FS 28 or AASHTO M-276	4" to 6" rigid schedule 40 PVC or 50828	slotted or perforated pipe; 3/8" perf. @ 6" on center; 4 holes per row; minimum of 2" of gravel over pipes; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MHA Mix No. 3; f = 3500 psi at 28 days, normal weight. air-entrained, meeting to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or precast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 308.6/79; vertical loading 11-10 or M-202 allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO #10) are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock duff" can be used for sand.



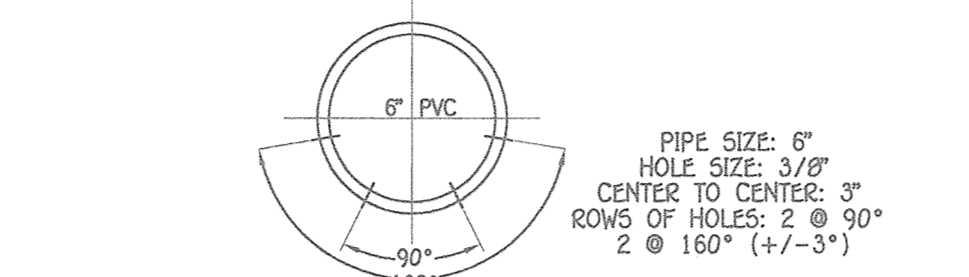
TYPICAL CLEAN-OUT DETAIL  
NO SCALE



TYPICAL SECTION BIO-RETENTION FACILITY (M-6)  
NO SCALE



CLEANOUT/ WATER QUALITY SAMPLING PORT DETAIL  
NO SCALE



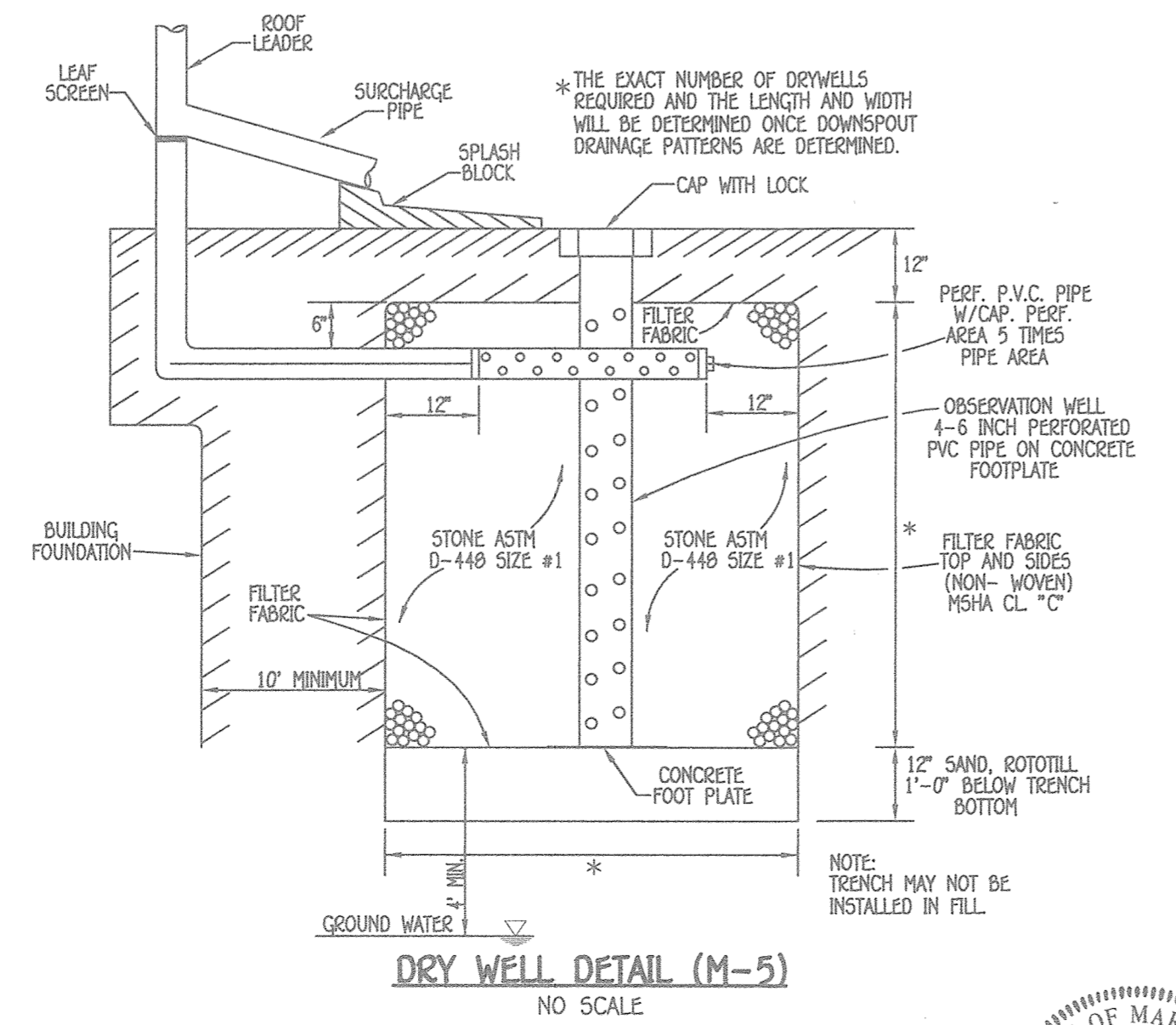
PIPE SIZE: 6" HOLE SIZE: 3/8" CENTER TO CENTER: 3" RADIUS OF HOLES: 2 @ 90° @ 2 @ 180° (+/- 3")  
NO SCALE

**STORMWATER MANAGEMENT NOTES**

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH & FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



DRY WELL DETAIL (M-5)  
NO SCALE

Table with columns for Date, Hammer, Hole Diameter, Risk, and Date Completed. Includes a log of soil exploration data for boring M-1.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-2 through M-5.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-6 through M-10.

Table with columns for Date, Hammer, Hole Diameter, Risk, and Date Completed. Includes a log of soil exploration data for boring M-1.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-2 through M-5.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-6 through M-10.

Table with columns for Date, Hammer, Hole Diameter, Risk, and Date Completed. Includes a log of soil exploration data for boring M-1.

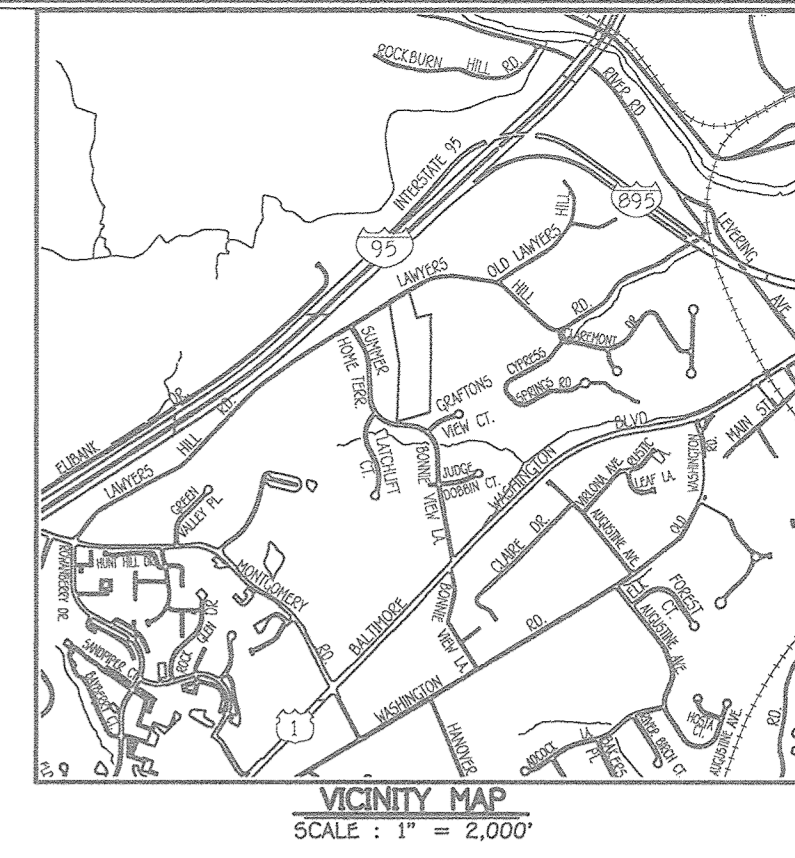
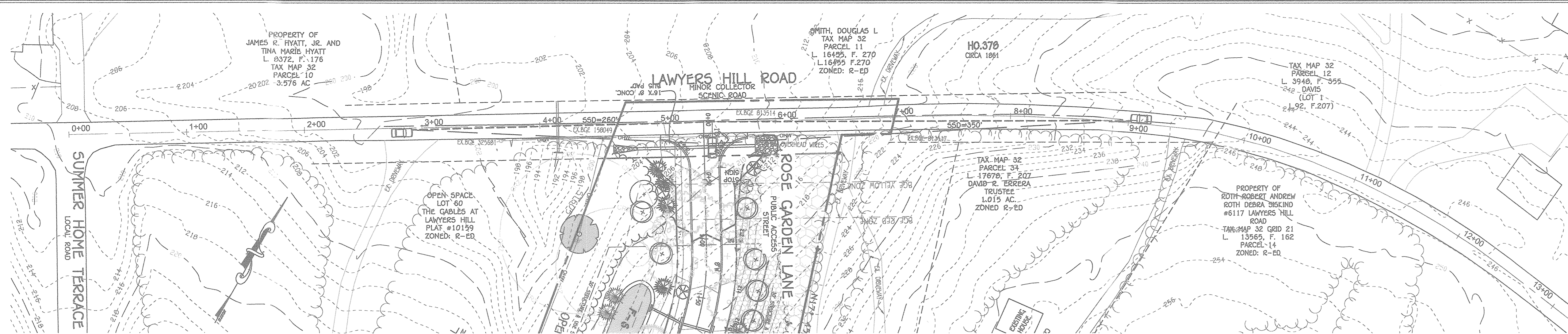
Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-2 through M-5.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-6 through M-10.

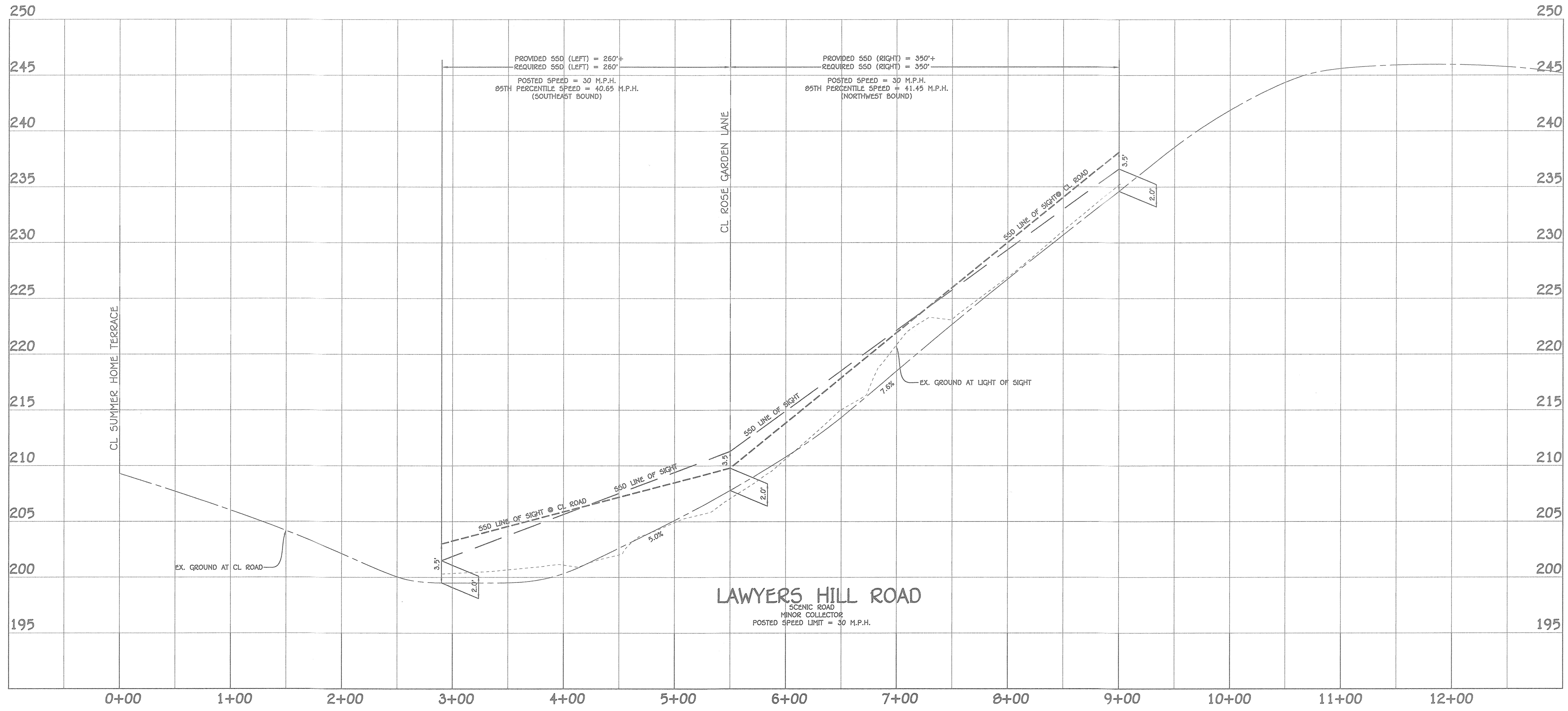
Table with columns for Date, Hammer, Hole Diameter, Risk, and Date Completed. Includes a log of soil exploration data for boring M-1.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-2 through M-5.

Table with columns for Boring, Description, and SPT Blow. Includes soil logs for borings M-6 through M-10.



PLAN  
SCALE: 1" = 50'

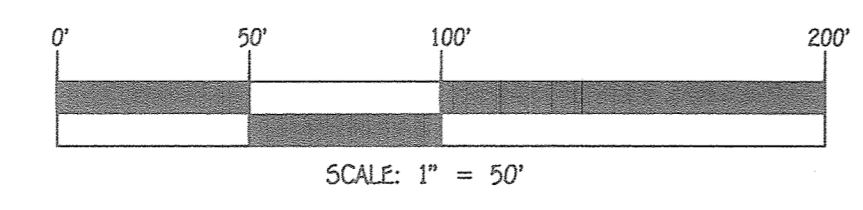


PROFILE  
SCALE: HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

SIGHT DISTANCE PLAN  
AND PROFILE  
LAWYERS HILL OVERLOOK  
LOTS 1 THRU 17 AND OPEN SPACE LOT 18  
5819 LAWYERS HILL ROAD  
DEED REFERENCE: L.14508 F.404  
TAX MAP NO.: 32 GRID NO.: 20 PARCEL NO.:13  
ZONED R-ED  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: DECEMBER, 2019  
SHEET 8 OF 8

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
410 461 - 2993

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY  
PLANNING DIRECTOR  
DATE: 1-24-2020



PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/21.  
Frank Malarowski, II  
DATE: 1/4/20

OWNERS  
EDMUND M. POLLARD &  
JOYCE E. ADCOCK  
6349 BASKET SWITCH ROAD  
NEWARK, MARYLAND 21841

DEVELOPER  
LAND DESIGN & DEVELOPMENT, INC.  
8318 FORREST STREET SUITE 200  
ELLCOTT CITY, MARYLAND 21043  
TEL: 410-992-6400  
ATTN: MR. DONALD R. REUWER, JR.