

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS PLAN
3	SUPPLEMENTAL PLAN
4	STORM DRAIN DASH AND PROFILES
5	NOTES AND DETAILS
6	NOTES AND DETAILS
7	LANDSCAPE PLAN & DETAILS
8	FOREST CONSERVATION PLAN

STREET ADDRESS CHART	
LOT NO.	ADDRESS
1	3824 OLD COLUMBIA PIKE
2	3828 OLD COLUMBIA PIKE
3	3832 OLD COLUMBIA PIKE
4 (OPEN SPACE)	3836 OLD COLUMBIA PIKE

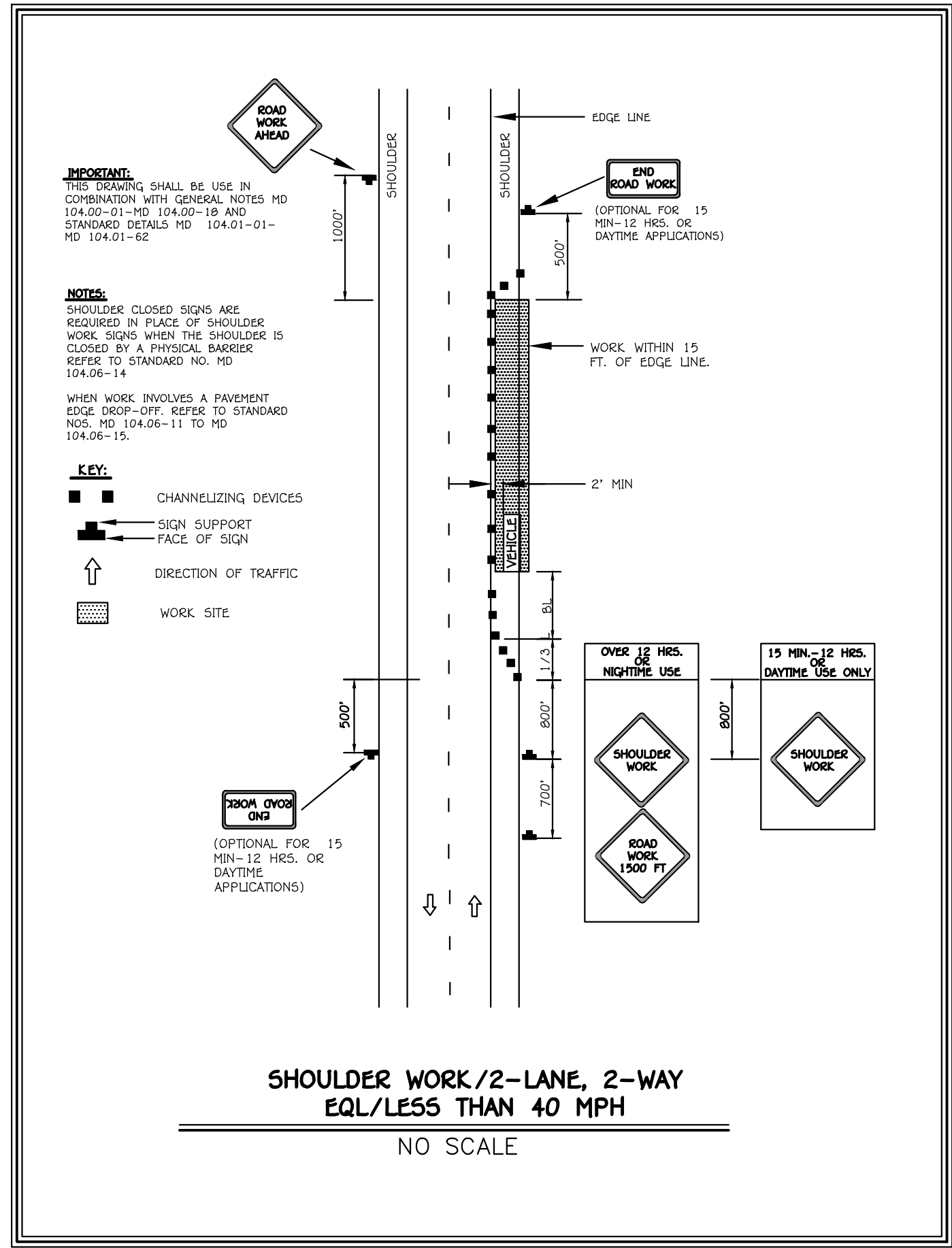
SOILS LEGEND			
SOIL	NAME	K.W.	CLASS
GfB	Gladstone-Urbán land complex, 0 to 8 percent slopes	.20	A
GfC	Gladstone-Urbán land complex, 8 to 15 percent slopes	.28	A
GcB	Glenville-Codorus silt loams, 0 to 8 percent slopes	.37	C
MgF	Manor-Bannertown sandy loams, 25 to 65 percent slopes, rocky	.24	B

STORMWATER MANAGEMENT PRACTICE CHART						
LOT NUMBER & ADDRESS	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	H.O.A. MAINTAINS	MISC.
LOT 1	M-5 (1-4)	DRY WELLS	N	Y	N	
LOT 2	M-5 (5-8)	DRY WELLS	N	Y	N	

STORMWATER MANAGEMENT PRACTICE CHART - HOA						
LOT NUMBER & ADDRESS	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	H.O.A. MAINTAINS	MISC.
LOT 1	M-6 (1)	MICRO BIO-RETENTION	N	Y	Y	
LOT 2	M-6 (2)	MICRO BIO-RETENTION	N	Y	Y	

SWM PRACTICES			
LOT NO.	MICRO BIO-RETENTION (M-6)	DRYWELLS (M-5)	
3824 Old Columbia Pike	1	4	
3828 Old Columbia Pike	1	4	

Minimum Lot Size Tabulation			
Lot No.	Gross Area	Pipestem Area	Minimum Lot Size
2	12,415 Sq. Ft.*	2,870 Sq. Ft.*	9,545 Sq. Ft.*



REVISIONS		
NO.	DESCRIPTION	DATE

Approved: Howard County Department Of Planning And Zoning

Chief, Development Engineering Division

Date

Chief, Division Of Land Development

Date

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

19012 DRN: JNG CHK: FJM



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: 7/14/27.

FRANK JOHN MANALANSAN II

Date

OWNER/DEVELOPER

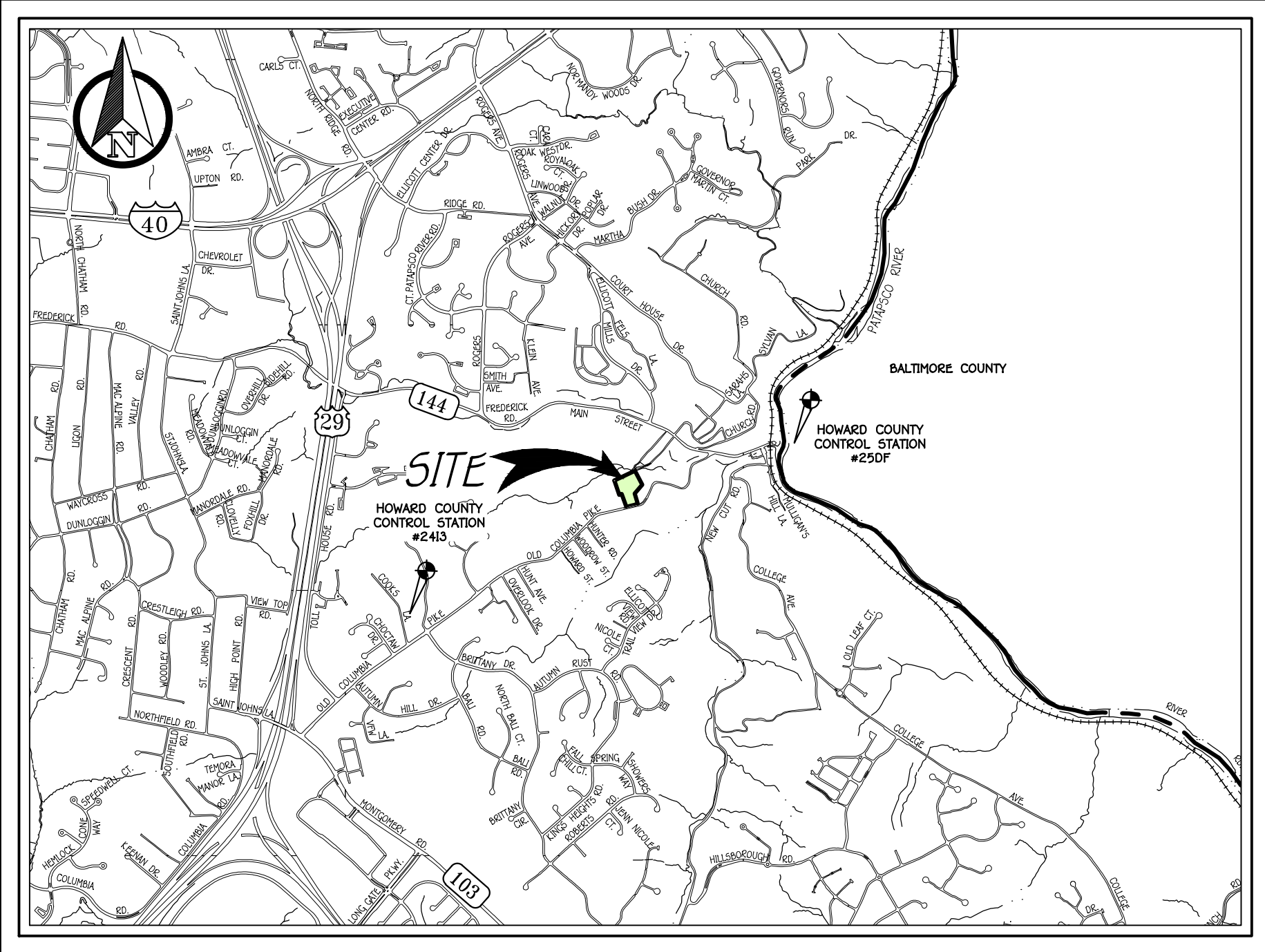
SHIHENG ZHAO & QIYING ZHU
3832 OLD COLUMBIA PIKE
ELICOTT CITY, MARYLAND 21043
202-701-9756

SUPPLEMENTAL PLAN OLD COLUMBIA CROSSING

LOTS 1 THRU 3 AND OPEN SPACE LOT 4
3832 OLD COLUMBIA PIKE

ZONING: R-ED

(RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT)
TAX MAP No. 25A GRID No. 13 PARCEL No. 262
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



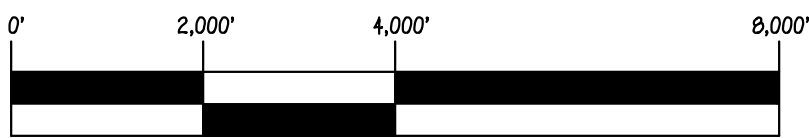
HOWARD COUNTY
GEODETIC SURVEY CONTROL NO. 2413
N 580,648.901 E 1,364,974.507
ELEVATION: 403.703

HOWARD COUNTY
GEODETIC SURVEY CONTROL NO. 250F
N 583,222.771 E 1,370,771.665
ELEVATION: 125.453

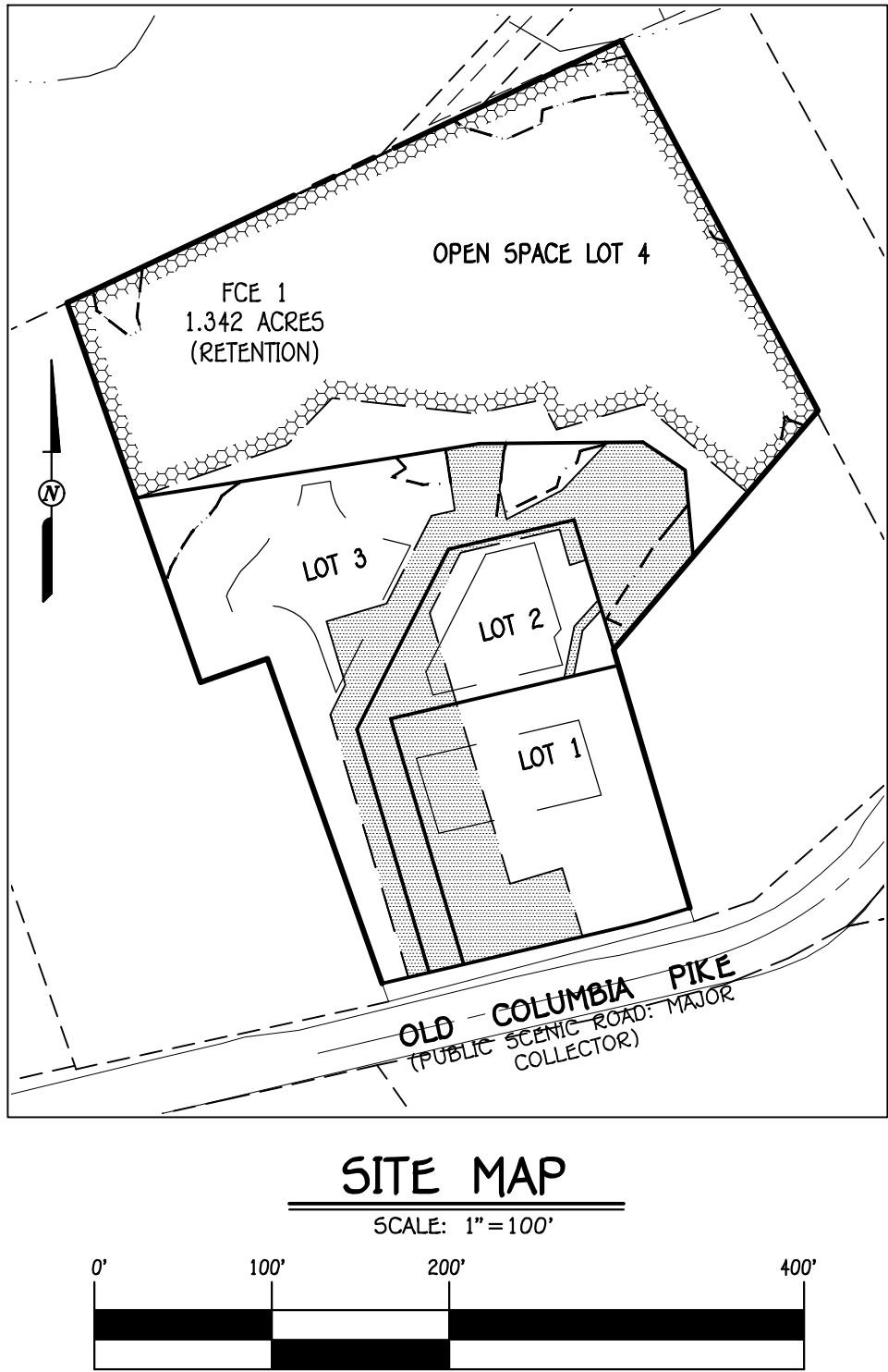
REFER TO HOWARD CO. ADC MAP 28-A1

VICINITY MAP

SCALE: 1" = 2,000'

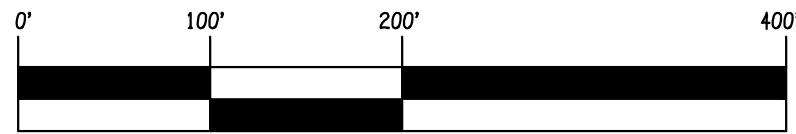


SCALE: 1" = 2,000'



SITE MAP

SCALE: 1" = 100'



SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 2.893 AC.*
- LIMIT OF DISTURBED AREA = 39,650 SQ.FT.* OR 0.91 AC.*
- PRESENT ZONING DESIGNATION = R-ED
(PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: ECP-14-028, ECP-22-057, WP-21-081
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 180 SQ.FT.*
- TOTAL AREA OF STEEP SLOPES:
 - MODERATED STEEP SLOPES: 15%-24.99% = 10,352 SQ.FT.* OR 0.236 AC.*
 - STEEP SLOPES: 25% OR GREATER = 64,374 SQ.FT.* OR 1.478 AC.*
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.*
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 10,570 SQ.FT.*
- TOTAL AREA OF EXISTING FOREST = 60,801 SQ.FT.* OR 1.396 AC.*
- TOTAL AREA OF FOREST TO BE RETAINED = 1,342 AC* (FCE)
- TOTAL AREA OF BUILDABLE LOTS = 1,454 AC*
- TOTAL GREEN OPEN AREA = 1,500 AC*
- NATL PROPOSED IMPERVIOUS AREA = 10,914 SQ.FT.* OR 0.250 AC.*
- TOTAL AREA OF ERODIBLE SOILS = 1.55 AC.*
- TOTAL AREA OF ROAD DEDICATION = 0.035 AC.*
- TOTAL NET TRACT AREA = 1,507 AC.*
- DENSITY CALCULATIONS: PER R-ED; 2 D.U. PER NET AREA = 1.507 x 2 = 3.01 UNITS OR 3 LOTS.

General Notes:

- Subject Property Zoned R-ED Per 10/06/13 Comprehensive Zoning Plan.
- Coordinates Based On Nad '83, Maryland Coordinate System As Projected By Howard County Geodetic Control Station No. 2413 And Baltimore County Control Station No. 250F.
Sta. 2413 N 580,648.901 E 1,364,974.507 Elev. = 403.703
Sta. 250F N 583,222.771 E 1,370,771.665 Elev. = 125.45
- This Plan Is Based On Field Run Nonmetred Boundary Survey Performed On Or About August, 2014 By Fisher, Collins And Carter, Inc.
- The Existing Topography Is Taken From Field Run Survey With Maximum Two Foot Contour Intervals. Prepared By Fisher, Collins, And Carter Dated April, 2019 And January, 2024 And Supplemented With County Aerial Topography.
- All Areas Are More Or Less (±). Distances Shown Are Based On Surface Measurement And Not Reduced To Nad '83 Grid Measurement.
- For Flag Or Pipe Stem Lots, Snow Removal And Road Maintenance Are Provided To The Junction Of Flag Or Pipe Stem And Road Right-Of-Way Line Only And Not Onto The Flag Or Pipe Stem Lot Driveway, Trunk And Receivables Collection Will Be At Old Columbia Pike Within 5' Of The County Roadway. Driveways Shall Be Provided Prior To Issuance Of A Use And Occupancy Permit For Any New Dwellings To Ensure Safe Access For Fire And Emergency Vehicles Per The Following (Minimum) Requirements:
 - a). Width - 12 Feet (16 Feet Serving More Than One Residence).
 - b). Surface - Six (6") Inches Of Compacted Crusher Run Base With Tar And Chip Coating.
 - (1) - 1/2" Minimum).
 - c). Geometry - Maximum 15% Grade, Maximum 10% Grade Change And 45-Foot Turning Radius.
 - d). Structures (Culverts/Bridges) - Capable Of Supporting 25 Gross Tons (H25-Loading).
 - e). Drainage Elements - Capable Of Safely Passing 100 Year Flood With No More Than 1 Foot Depth Over Surface.
 - f). Structure Clearance - Minimum 12 Feet.
 - g). Maintenance - Sufficient To Ensure All Weather Use.
- Property Subject To Prior Department Of Planning And Zoning File No's: ECP-14-028, ECP-22-057, And WP-21-081.
- No Cemeteries Exist On The Subject Property Based On Visual Observation Or Listed In Available Howard County Cemetery Inventory Map.
- There Is An Existing Historic Dwelling On Lot 3 To Remain (H0-550). No New Buildings, Extensions Or Additions To The Existing Dwelling Are To Be Constructed At A Distance Less Than The Zoning Regulation Requirements.
- Property Is Located Within The Elicott City Historic District And Is The Site Of An Historic House (H0-550). An Historic Preservation Commission Meeting Was Conducted On 05/07/2020 (HPC-20-08).
- There Are No Wetlands On This Site Based On A Wetland And Simplified Forest Stand Delineation Report Prepared By Eco-Science Professionals, Inc. (dated February 17, 2021) Steep Slopes, Stream And Its Buffers, And A Floodplain Buffer (180 Sq.Ft.) Exist On-Site.
- An Updated Wetland And Simplified Forest Stand Delineation Report For This Project Dated November 14, 2025 Was Prepared By Eco-Science Professionals.
- No Clearing, Grading, Removal Of Vegetative Cover Or Trees, Paving And New Structures Shall Be Permitted Within Wetlands, Stream, Their Buffers, 100-year Floodplain, Steep Slopes, Or Forest Conservation Easements.
- Stormwater Management Is In Accordance With The M.D.E. Storm Water Design Manual, Volumes I & II, Revised 2009. Site Is Located Within The Tiber Hudson Watershed, Non-Structural Practices (Easement, Bio-Retention Facilities (M-6) And Drywells (M-5)) In Accordance With Chapter 5 Are Being Utilized. 100 Year Management And 10-15 Year 1/2" 6.8 inch Storm event Are Being Provided For The Proposed House. This Subdivision Plan Is Subject To The Amended Fifth Edition Of The Subdivision And Land Development Regulations And The 10-06-13 Zoning Regulations Per Council Bill No. 32-2013. Development Or Construction On These Lots Or Parcels Must Comply With Setbacks And Buffer Regulations In Effect At The Time Of Submission Of A Building Or Grading Permit Application.
- This Property Is Located Within The Metropolitan District. Public Water And Sewer Will Be Utilized For This Project.
- Existing Utilities Are Based On Howard County Records And A Topographic Survey Performed By Fisher, Collins, And Carter On July 23, 2019.
- Water For This Project Is Public. (Contract No. 11-W)
- Sewer For This Project Is Public. (Contract No. 31-S)
- Water And Sewer For These Lots Will Be Controlled Under The Provisions Of Section 18.122.B Of The Howard County Code.
- Public Water And Sewerage Allocation Will Be Granted At The Time Of Issuance Of Building Permit If Capacity Is Available At That Time.
- The Speed Study For This Project Was Prepared By Mars Group On August 15, 2024.
- No Noise Study Is Required For This Project Because The Subdivision Does Not Fall Within The Guidelines Of Design Manual, Volume III, Complete Streets Section 5.2.G.2.
- Land Dedicated To Howard County For The Purpose Of A Public Road (0.035 Ac.)
- The Forest Conservation Easement Area Within This Subdivision Has Been Established To Fulfill The Requirements Of Section 16.120 Of The Howard County Code And The Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Are Allowed. The Forest Conservation Act Requirements Are In Accordance With Section 16.124 Of The Howard County Code.
- The Perimeter And Street Tree Landscape Obligation Is Provided In Accordance With Section 16.124 Of The Howard County Code And Landscape Manual, Section 16.127 - Residential Infill Development Of The Subdivision And Land Development Regulations. And Concerns Expressed By Adjacent Lot Owners And HPC. A Landscape Survey Is The Amount Of \$1,500 Based On 8 Shade Trees @ \$300/Tree, 13 Ornamental Trees @ \$150/Tree, And 21 Evergreen Trees @ \$150/Tree. Shall Be Bonded As Part Of The Site Development Plan.
- Soil Test PIP Information Has Been Performed And Is Included With This Design.
- The Private Variable Width Access, Stormwater Management, Water, Sewer, Drainage & Utility Easement And Maintenance Agreement For The Use And Benefit Of Lots 1, 2, 3 And Open Space Lot 4 Will Be Recorded Simultaneously With The Plat At Final Plan Submission.
- This Subdivision Is Subject To The Protection Of Scenic Roads. Per Section 16.125 Of The Subdivision And Land Development Regulations, Site Has Frontage On Old Columbia Pike, And Was Approved By The Howard County Planning Board on ____.
- This Plan Is Subject To WP-21-081 Which On January 21, 2021 The Planning Director Approved A Request For Alternative Compliance In Respect To Section 16.126(c)(1) Of The Subdivision And Land Development Regulations To Allow The Petitioner To Host A Virtual Presubmission Community Meeting During The COVID-19 State Of Emergency. Approval Of This Alternative Compliance Is Subject To The Following Conditions:
 - The Alternative Compliance Petition Will Remain Valid As Long As The Howard County State Of Emergency Is In Effect.
 - The Petitioner Must Comply With The Department Of Planning And Zoning's Virtual Presubmission Meeting Guidelines For Applying And Hosting A Virtual Public Meeting (Attached).*Note That WP-21-081 Is No Longer Active Due To Howard County Lifting The State Of Emergency On 3/19/2021.
- A Pre-submission Community Meeting Was Held On January 30, 2024, At Howard County's Miller Branch Library For This Project.
- Approval Of A Site Development Plan Is Required For The Development Of Residential Lots Within This Subdivision Prior To Issuance Of Any Grading Or Building Permits For New House Construction In Accordance With Section 16.155 Of The Subdivision And Land Development Regulations. The Site Development Plan Will Require Planning Board Approval For Development In The R-ED Zoning District In Accordance With Section 107.0.4 Of The Zoning Regulations.
- Open Space Tabulation: (Per Howard County Section 16.121(c))
 - Open Space Required = 1,495 Acres (2.989AC x 50%)
 - Total Open Space Provided = 1,500 Acres
- Subdivision Is Subject To Section 104.0.F. of The Zoning Regulations. At Least 10% Of The Dwelling Units Shall Be Moderate Income Housing Units (M.I.H.U.) Or An Alternative Compliance Will Be Provided. The Developer Shall Execute A M.I.H.U. Agreement With The Department Of Housing To Indicate How The M.I.H.U. Requirement Will Be Met. The M.I.H.U. Agreement Will Be Recorded Simultaneously With The Plat In The Land Records Of Howard County, Maryland. This Development Will Meet M.I.H.U. Alternative Compliance By A Payment Of Fee-In-Lieu To The Howard County Housing Department For Each Required Unit.
 - Moderate Income Housing Unit (M.I.H.U.) Tabulation:
 - a). M.I.H.U. Required = (3 Lots x 10%) = 0.3 M.I.H.U.
 - b). M.I.H.U. Proposed = Developer Will Provide A Fee-In-Lieu To The Howard County Housing Department For The Units Required By The Development.
- Approval Of A Site Development Plan Is Required For The Development Of Residential Lots Within This Subdivision Prior To Issuance Of Any Grading Or Building Permits For New House Construction In Accordance With Section 107.0.4 Of The Zoning Regulations.
- The Contractor Shall Notify "Miss Utility" At 1-800-257-7777 At Least 48 Hours Prior To Any Excavation Work Being Done.
- Traffic Control Devices, Markings, And Signage Shall Be In Accordance With The Latest Edition Of The Manual Of Uniform Traffic Control Devices (MUTCD). All Street And Roadway Signs Shall Be In Place Prior To The Placement Of Any Asphalt.
- Street Light Placement And The Type Of Fixture And Pole Shall Be In Accordance With The Howard County Design Manual, Volume II (1993) And As Modified By "Guidelines For Street Lights In Residential Developments (June 1993)". A Minimum Spacing Of 20' Shall Be Maintained Between Any Street Light And Any Tree.
- This Project Is Subject To The Approval And Conditions Of A Design Manual Minor For Design Manual, Volume III, Complete Streets And Bridges, Section 2.5.2 Sight Distance (Section 2.1.E.3), To Allow The Use Of Stopping Sight Distance Instead Of Intersection Sight Distance.
- A Private Range Of Address Street Name Signs (SNS) Shall Be Installed As Part Of This Development. The Developer Will Be Responsible For Paying For This Sign To Be Installed. Please Contact Howard County Traffic (410-313-2430) To Make Arrangements For Payment.
- No Traffic Study Is Required For This Project.

M.I.H.U. Note: All Lots In This Subdivision Are subject To The M.I.H.U. Fee-in-lieu Requirement That Is To Be Calculated And Paid To The Department Of Inspections, Licenses And Permits At The Time Of Building Permit Issuance By The Permit Applicant. Fee-in-lieu For Lot 3 Will Be Paid If/ When The Existing House Is Demolished And A New House Is Constructed. See General Note 36.

TITLE SHEET

OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike

TAX MAP NO: 25A GRID: 13 PARCEL NO: 262

ZONED R-ED

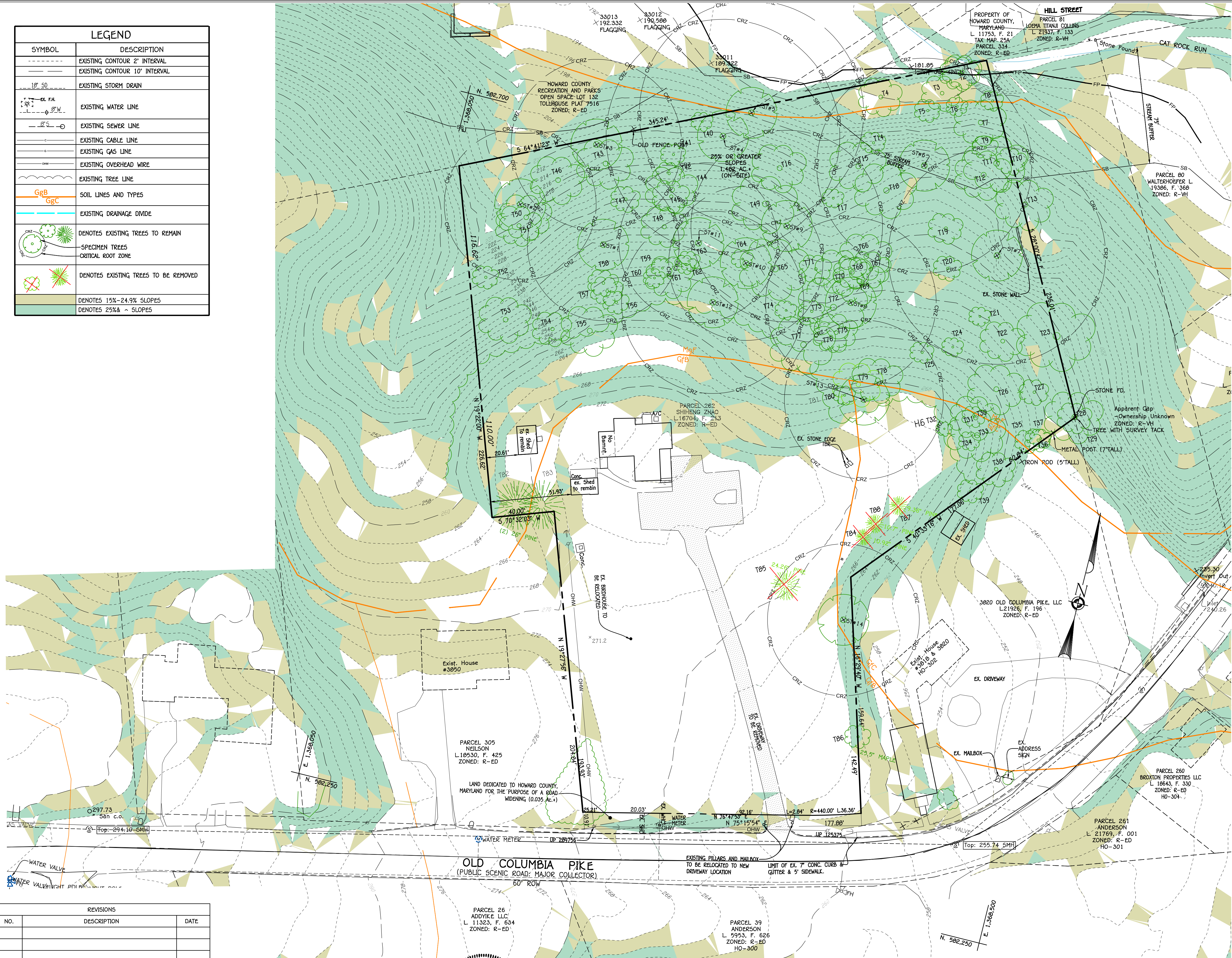
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JULY, 2025

SHEET 1 OF 8

F-24-036

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	EXISTING CONTOUR 10' INTERVAL
---	EXISTING STORM DRAIN
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	EXISTING TREE LINE
GGB GGC	SOIL LINES AND TYPES
---	EXISTING DRAINAGE DIVIDE
○	DENOTES EXISTING TREES TO REMAIN
○	SPECIMEN TREES
○	CRITICAL ROOT ZONE
○	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES 15%-24.9% SLOPES
---	DENOTES 25% & ~ SLOPES



Specimen Tree Chart				
Key (Key)	Species	Size (in dbh)	CRZ (feet radius)	Comments
1	Tulip poplar	32.5	48.75	good
2	Tulip poplar	32.5	48.75	good
3	Tulip poplar	36.5	54.75	good
4	Tulip poplar	50	75	fair, some dieback in crown
5	Tulip poplar	48	72	poor, dieback in crown and exposed roots
6	Tulip poplar	46	69	fair, limited crown, weak roots
7	Tulip poplar	46.5	69.75	fair, limited crown, roots exposed
8	Tulip poplar	36.5	54.75	good
9	Tulip poplar	41	61.5	good
10	Tulip poplar	33	49.5	good
11	Tulip poplar	34	51	good
12	Black walnut	39	58.5	poor, notable trunk wound
13	Black walnut	34	51	fair, reduced canopy
14	Norway maple	32.5	48.75	not native

TREE LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
T1	18" MAPLE	T45	17" TULIP POPLAR
T2	18" MAPLE	T46	25" TULIP POPLAR
T3	18.5" TULIP POPLAR	T47	13.5" MAPLE
T4	20" MAPLE	T48	21" TULIP POPLAR
T5	12" MAPLE	T49	30" TULIP POPLAR
T6	10" BEECH	T50	24" TULIP POPLAR
T7	24" OAK	T51	21" TULIP POPLAR
T8	10.5" CHERRY	T52	12" MAPLE
T9	12" DECIDUOUS	T53	24" CHERRY
T10	14" TULIP POPLAR	T54	18" DECIDUOUS
T11	25.5" OAK	T55	26" TULIP POPLAR
T12	26" OAK	T56	12" MAPLE
T13	26.5" TULIP POPLAR	T57	15" MAPLE
T14	11.5" BEECH	T58	14" MAPLE
T15	26" OAK	T59	10" MAPLE
T16	25" TULIP POPLAR	T60	10" MAPLE
T17	10" MAPLE	T61	22" DECIDUOUS
T18	28.5" OAK	T62	10" WALNUT
T19	18" BEECH	T63	10.5" MAPLE
T20	13" CHERRY	T64	10" MAPLE
T21	10" TULIP POPLAR	T65	29.5" TULIP POPLAR
T22	20.5" DECIDUOUS	T66	24" TULIP POPLAR
T23	36" TULIP POPLAR	T67	19" TULIP POPLAR
T24	10" TULIP POPLAR	T68	17" TULIP POPLAR
T25	11" TULIP POPLAR	T69	24" TULIP POPLAR
T26	26" TULIP POPLAR	T70	24" TULIP POPLAR
T27	13.5" MAPLE	T71	15" TULIP POPLAR
T28	16" MAPLE	T72	32" TULIP POPLAR
T29	18" DECIDUOUS	T73	12" TULIP POPLAR
T30	23" TULIP POPLAR	T74	10" MAPLE
T31	11" CHERRY	T75	20" WALNUT
T32	12" CHERRY	T76	16" TULIP POPLAR
T33	26.75" TULIP POPLAR	T77	29" SYCAMORE
T34	10" DECIDUOUS	T78	23.5" TULIP POPLAR
T35	12" MAPLE	T79	23" WALNUT
T36	12" MAPLE	T80	10" CHERRY
T37	10" MAPLE	T81	34.5" BLACK WALNUT
T38	18" TULIP POPLAR	T82	27" NORWAY SPRUCE
T39	12" MULBERRY	T83	27.25" NORWAY SPRUCE
T40	10" MAPLE	T84	10.92" BLUE SPRUCE
T41	11.5" BEECH	T85	22" NORWAY SPRUCE
T42	12" BEECH	T86	25.5" NORWAY MAPLE
T43	26" TULIP POPLAR	T87	9.36" NORWAY SPRUCE
T44	24" TULIP POPLAR	T88	10.7" NORWAY SPRUCE

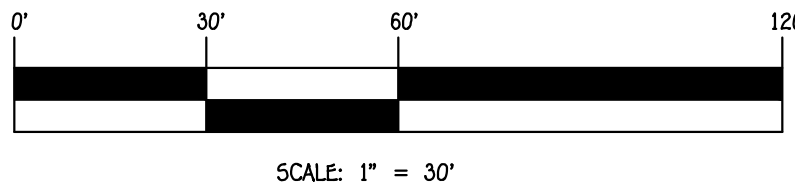
REVISIONS		
NO.	DESCRIPTION	DATE
Approved: Howard County Department Of Planning And Zoning		
Chief, Development Engineering Division		
Chief, Division Of Land Development		

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

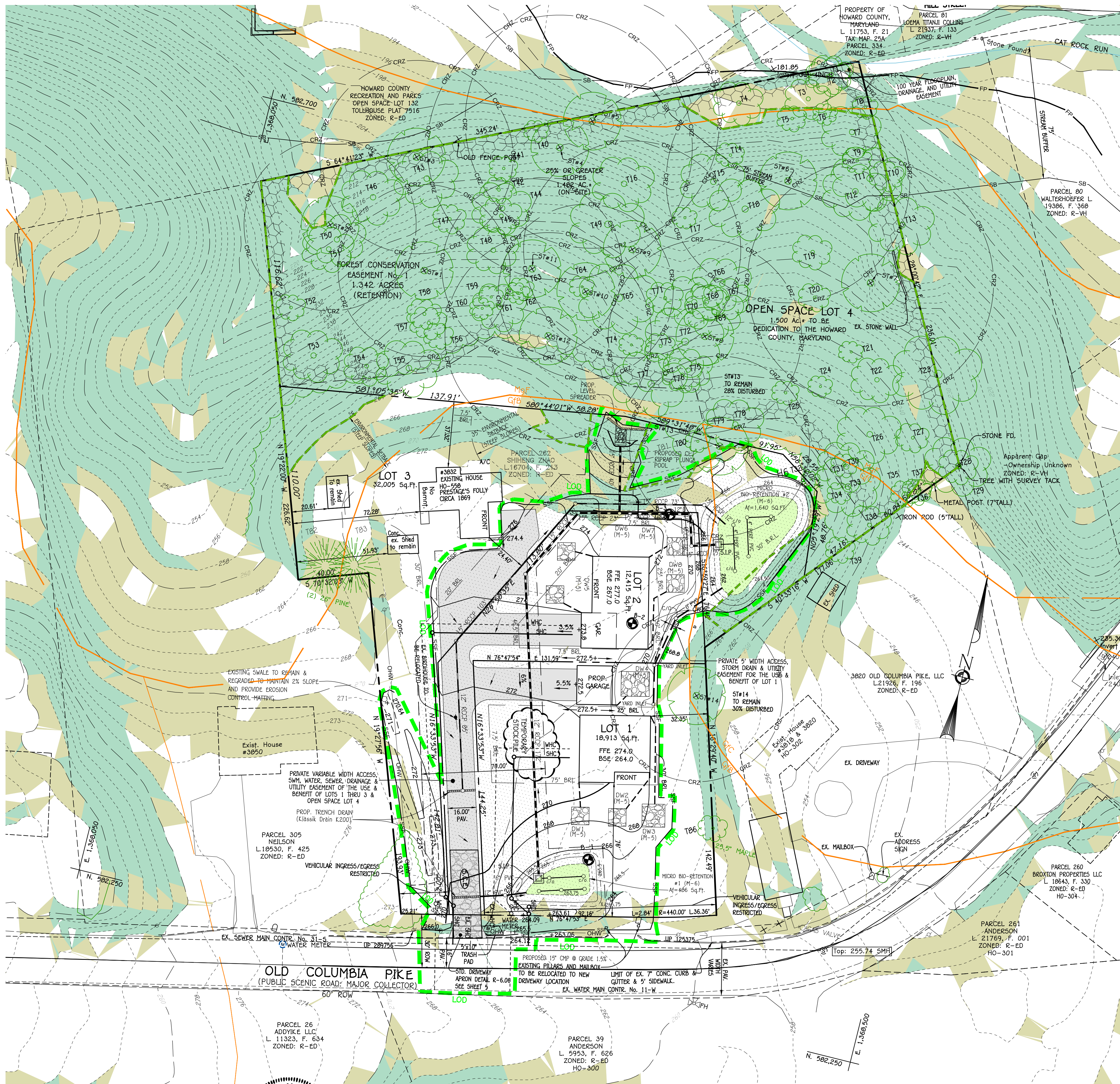


PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/27.
FRANK JOHN MANALANSAN II

OWNER/DEVELOPER
SHIHENG ZHAO & QIYING ZHU
3832 OLD COLUMBIA PIKE
ELIJAH CITY, MARYLAND 21043
202-701-9756



EXISTING CONDITIONS PLAN
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO.: 25A GRID: 13 PARCEL NO: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 2 OF 8



SOILS LEGEND			
SOIL	NAME	Kw	CLASS
GfB	Gladstone-Urban land complex, 0 to 8 percent slopes	.20	A
GfC	Gladstone-Urban land complex, 8 to 15 percent slopes	.28	A
GoB	Glenville-Codorus silt loams, 0 to 8 percent slopes	.37	C
MgF	Manor-Bannertown sandy loams, 25 to 65 percent slopes, rocky	.24	B

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X 448.5	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN PIPE
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	PROPOSED SEWER
---	PROPOSED WATER
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING
---	PROPOSED SIDEWALKS
---	USE IN COMMON EASEMENT
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	TEMPORARY TREE PROTECTION FENCE
---	SUPER SILT FENCE/ TREE PROTECTION FENCING
---	STANDARD INLET PROTECTION
---	STABILIZED CONSTRUCTION ENTRANCE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRYWELL (M-5)-TYPICAL
---	SOIL LINES AND TYPES
---	SOIL BORING LOCATIONS
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREES TO REMAIN
---	SPECIMEN TREES
---	CRITICAL ROOT ZONE
---	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES 15%-24.9% SLOPES
---	DENOTES 25%+ SLOPES

SEDIMENT CONTROL NOTE:
CONSTRUCTION SHALL BE SEQUENCED SUCH
THAT ACCESS TO EXISTING HOUSE IS MAINTAINED
THROUGHOUT THE CONSTRUCTION PROCESS.

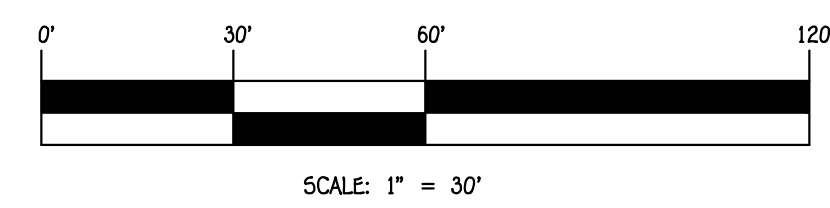
REVISIONS		
NO.	DESCRIPTION	DATE
Approved: Howard County Department Of Planning And Zoning		
Chief, Development Engineering Division		
Chief, Division Of Land Development		

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELIJAH CITY, MARYLAND 21042
(410) 461-2095

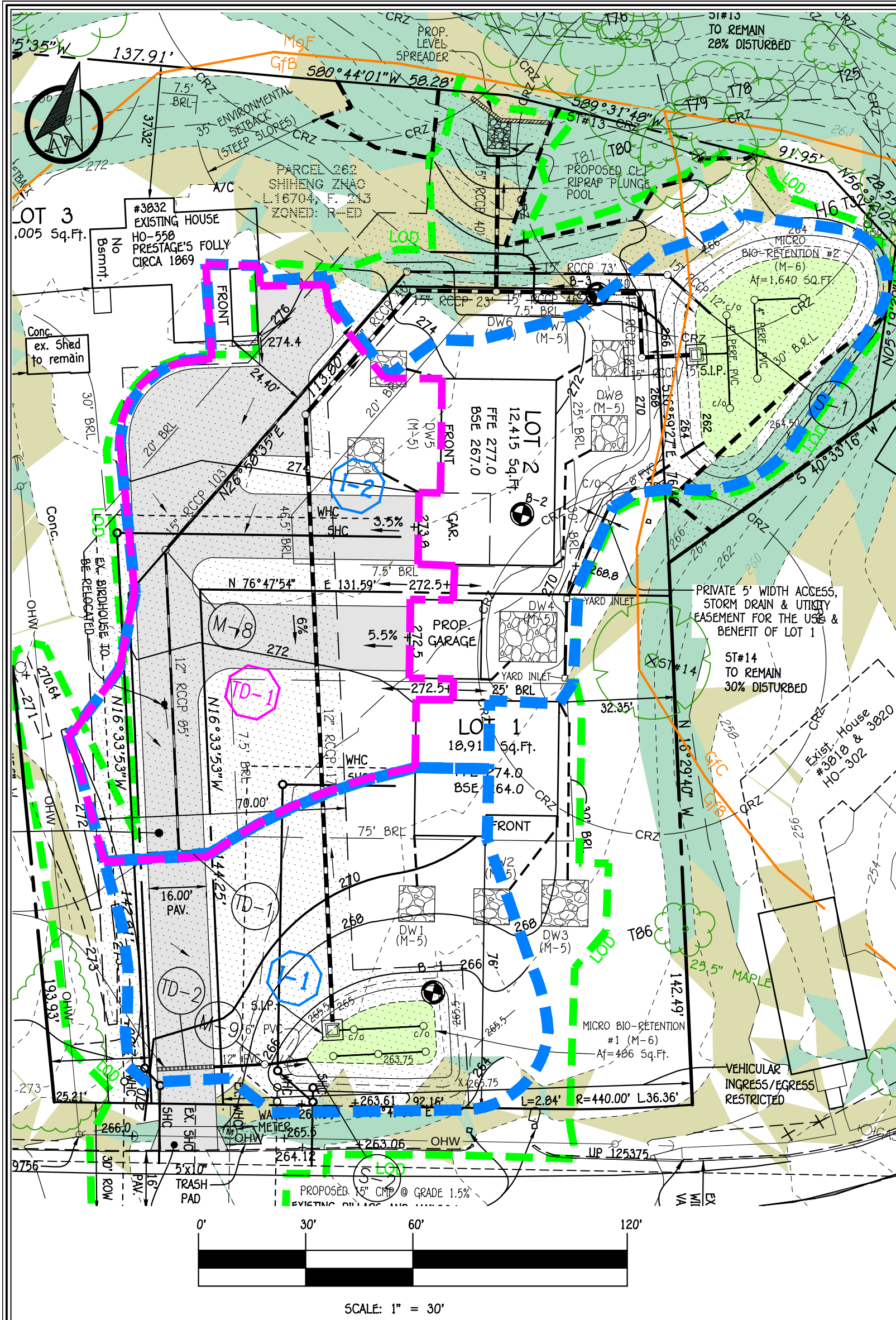


PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND
THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE
STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/27.
FRANK JOHN MANALANSAN II Date

OWNER/DEVELOPER
SHIHENG ZHAO & QIYING ZHU
3832 OLD COLUMBIA PIKE
ELIJAH CITY, MARYLAND 21043
202-701-9756



SUPPLEMENTAL PLAN
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO: 25A GRID: 13 PARCEL NO: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 3 OF 8



SOILS LEGEND			
SOIL	NAME	Kw	CLASS
Gfb	Gladstone-Urban land complex, 0 to 8 percent slopes	.20	A
GfC	Gladstone-Urban land complex, 8 to 15 percent slopes	.28	A
GoB	Glenville-Codorus silt loams, 0 to 8 percent slopes	.37	C
MgF	Manor-Bannertown sandy loams, 25 to 65 percent slopes, rocky	.24	B

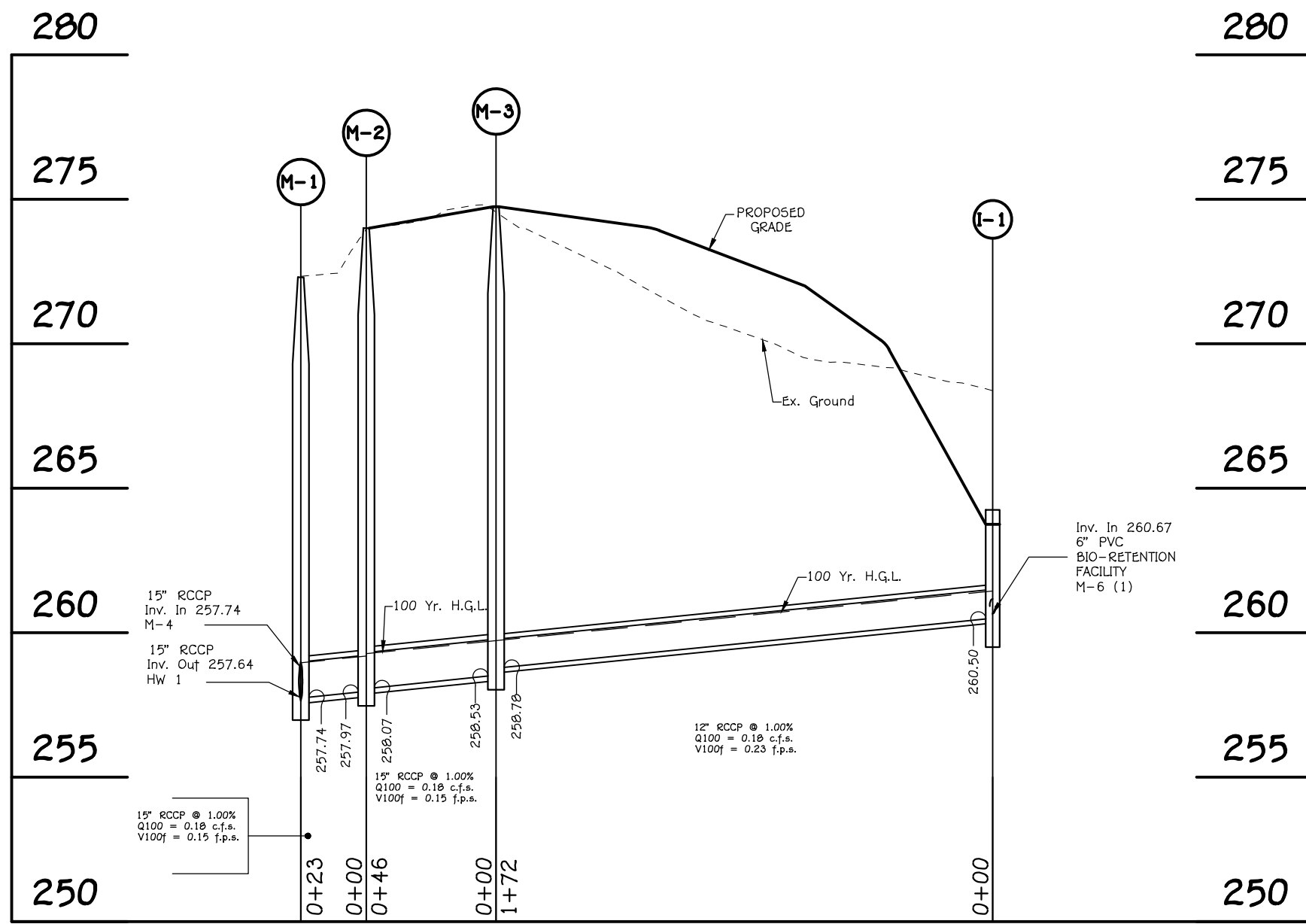
STORM DRAIN DRAINAGE AREA LEGEND	
SYMBOL	DESCRIPTION
	DRAINAGE AREA TO TRENCH DRAIN 1
	DRAINAGE AREA TO RISER INLETS
	LIMIT OF DISTURBANCE

PROP. DRAINAGE AREA DATA			
STRUCTURE	AREA	%	ZONED % IMP.
I-1	0.21 AC.	0.21	R-ED 12%
I-2	0.50 AC.	0.43	R-ED 38%
TD-1	0.28 AC.	0.47	R-ED 43%

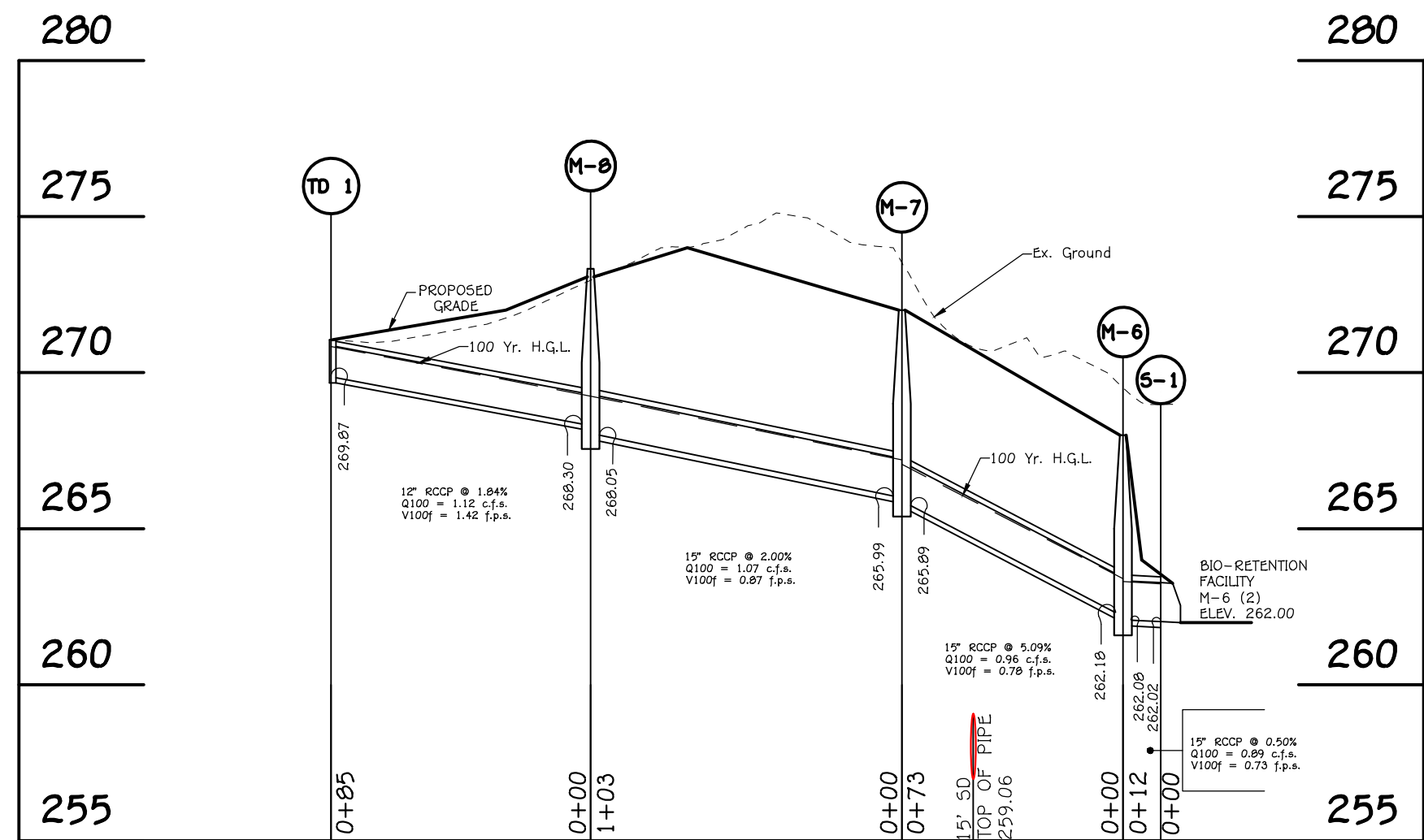
PIPE SCHEDULE		
SIZE	CLASS	LENGTH
4"	PERFORATED PVC, SCH.40	105 L.F.
6"	PVC, SCH.40	11 L.F.
12"	RCCP, CL. IV	257 L.F.
15"	RCCP, CL. IV	370 L.F.

NOTE: RCCP, CL. IV MAY BE SUBSTITUTED WITH HDPE PIPE MATERIAL WHERE DEPTH OF COVER PERMITS.

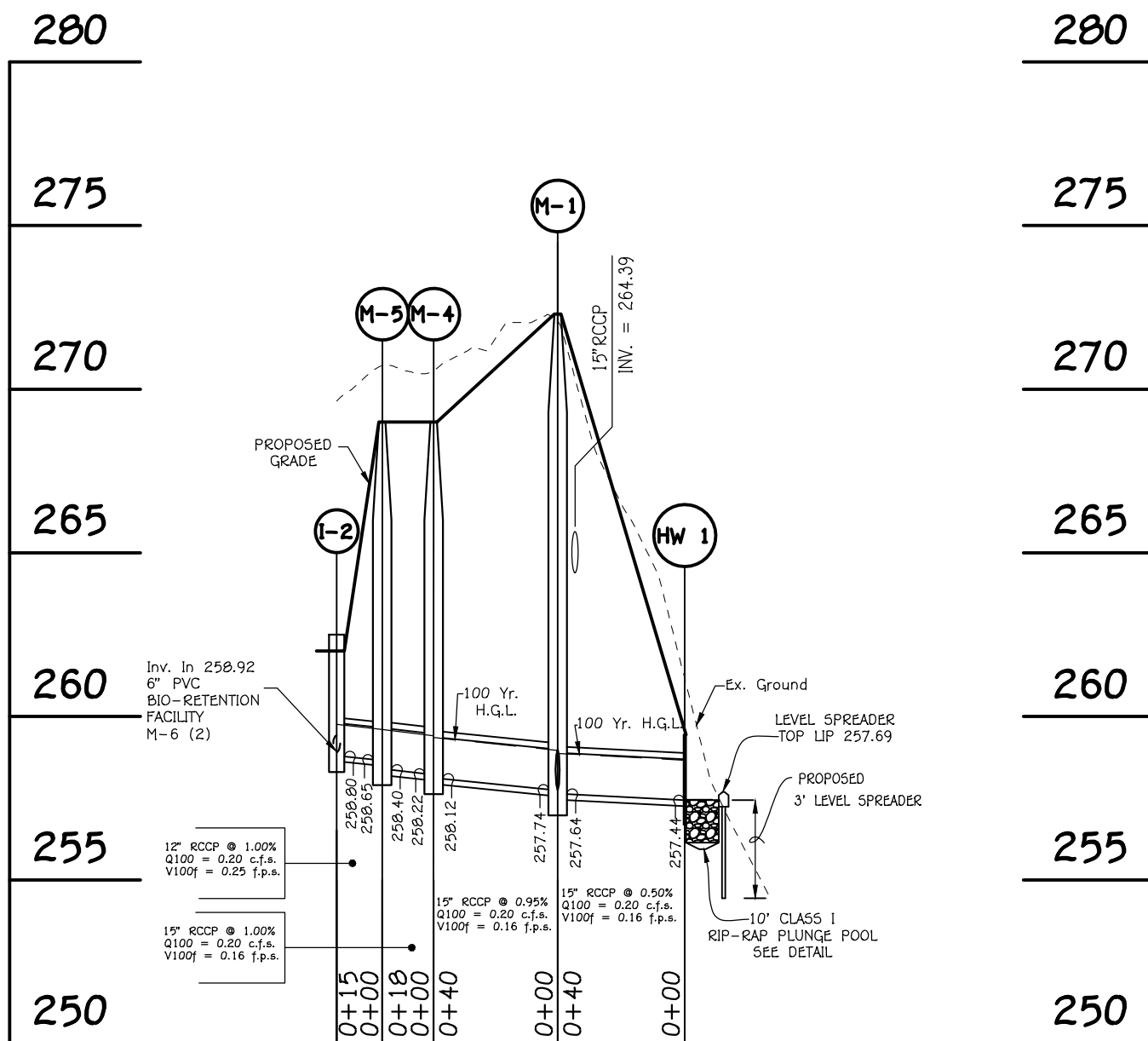
STRUCTURE SCHEDULE							
STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV IN	INV OUT	COORDINATES	TYPE	REMARKS
HW 1	PRIVATE	259.38	257.44 (M-1) 15"	-----	N 582558.80 E 1368288.98	TYPE "C" HEADWALL	D-5.21
I-1	PRIVATE	264.25	-----	260.50 12"	N 582308.39 E 1368303.69	MODIFIED YARD INLET	SEE DETAIL SHEET 5
I-2	PRIVATE	262.50	-----	258.80 12"	N 582516.30 E 1368356.67	MODIFIED YARD INLET	SEE DETAIL SHEET 5
M-1	PRIVATE	272.30	257.74 (M-2) 15"	257.64 15"	N 582519.88 E 1368298.08	4" DIA. MANHOLE	G-5.12
M-2	PRIVATE	274.00	258.07 (M-3) 15"	257.97 15"	N 582514.53 E 1368275.43	4" DIA. MANHOLE	G-5.12
M-3	PRIVATE	274.74	258.78 (I-1) 12"	258.53 15"	N 582473.61 E 1368254.60	4" DIA. MANHOLE	G-5.12
M-4	PRIVATE	269.00	258.22 (M-5) 15"	258.12 15"	N 582529.08 E 1368336.99	4" DIA. MANHOLE	G-5.12
M-5	PRIVATE	269.00	258.65 (I-2) 12"	258.40 15"	N 582511.85 E 1368342.10	4" DIA. MANHOLE	G-5.12
M-6	PRIVATE	268.00	262.18 (M-7) 15"	262.08 15"	N 582536.00 E 1368343.44	4" DIA. MANHOLE	G-5.12
M-7	PRIVATE	272.00	265.99 (M-8) 15"	265.89 15"	N 582519.23 E 1368272.49	4" DIA. MANHOLE	G-5.12
M-8	PRIVATE	273.32	268.30 (TD 1) 12"	268.05 15"	N 582427.35 E 1368225.72	4" DIA. MANHOLE	G-5.12
S-1	PRIVATE	263.96	262.02 (M-6) 15"	-----	N 582530.21 E 1368354.33	END SECTION	D-5.52
TD 1	PRIVATE	271.53	-----	269.87 12"	N 582346.03 E 1368249.91	TRENCH DRAIN	-----



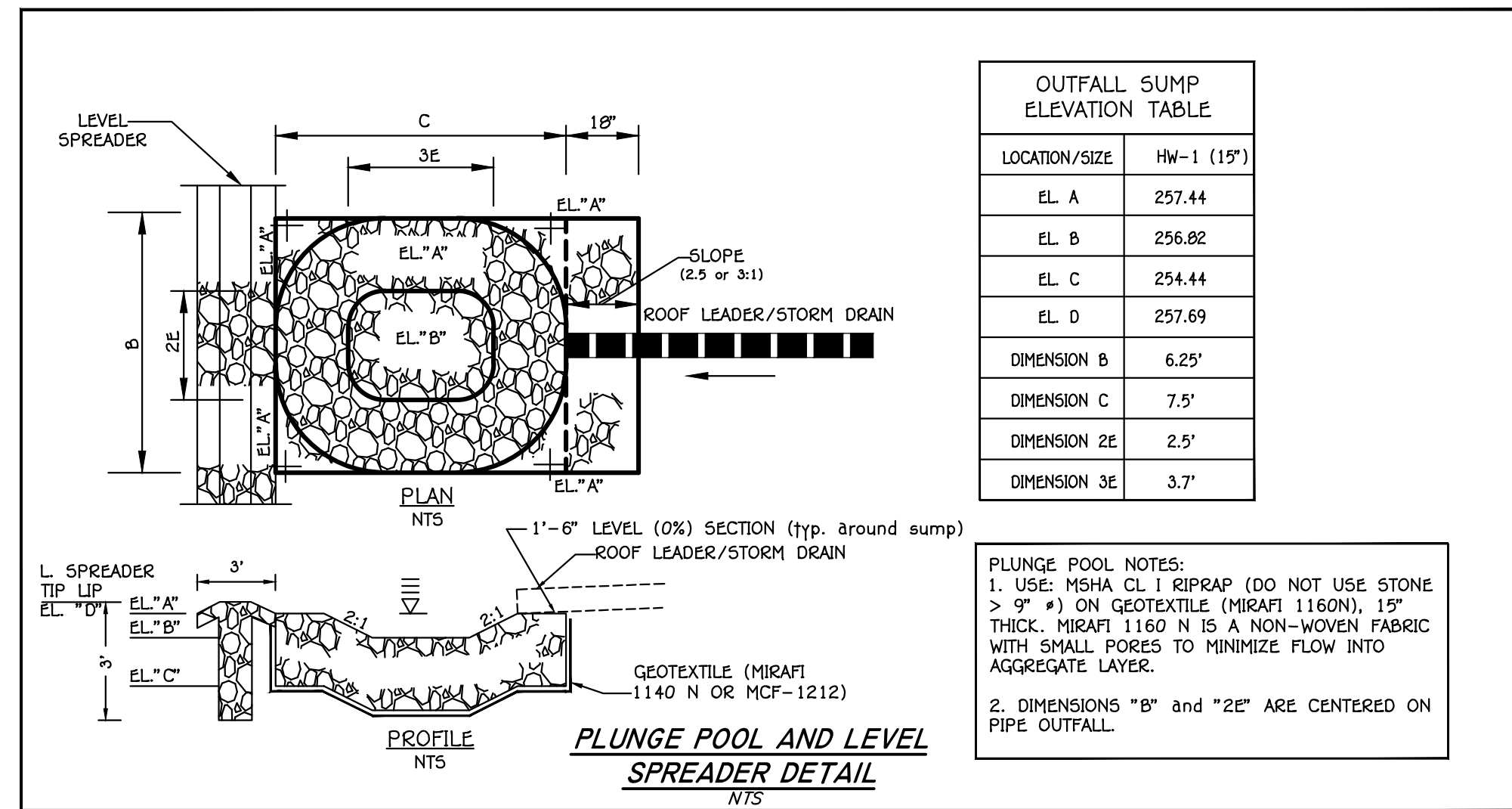
PROFILE ALIGNMENT SD 2
SCALE HORZ. 1" = 50'
VERT. 1" = 5'



PROFILE ALIGNMENT SD 3
SCALE HORZ. 1" = 50'
VERT. 1" = 5'



PROFILE ALIGNMENT SD 1
SCALE HORZ. 1" = 50'
VERT. 1" = 5'



STORM DRAIN DRAINAGE AREA MAP AND PROFILES
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO.: 25A GRID: 13 PARCEL NO: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 4 OF 8

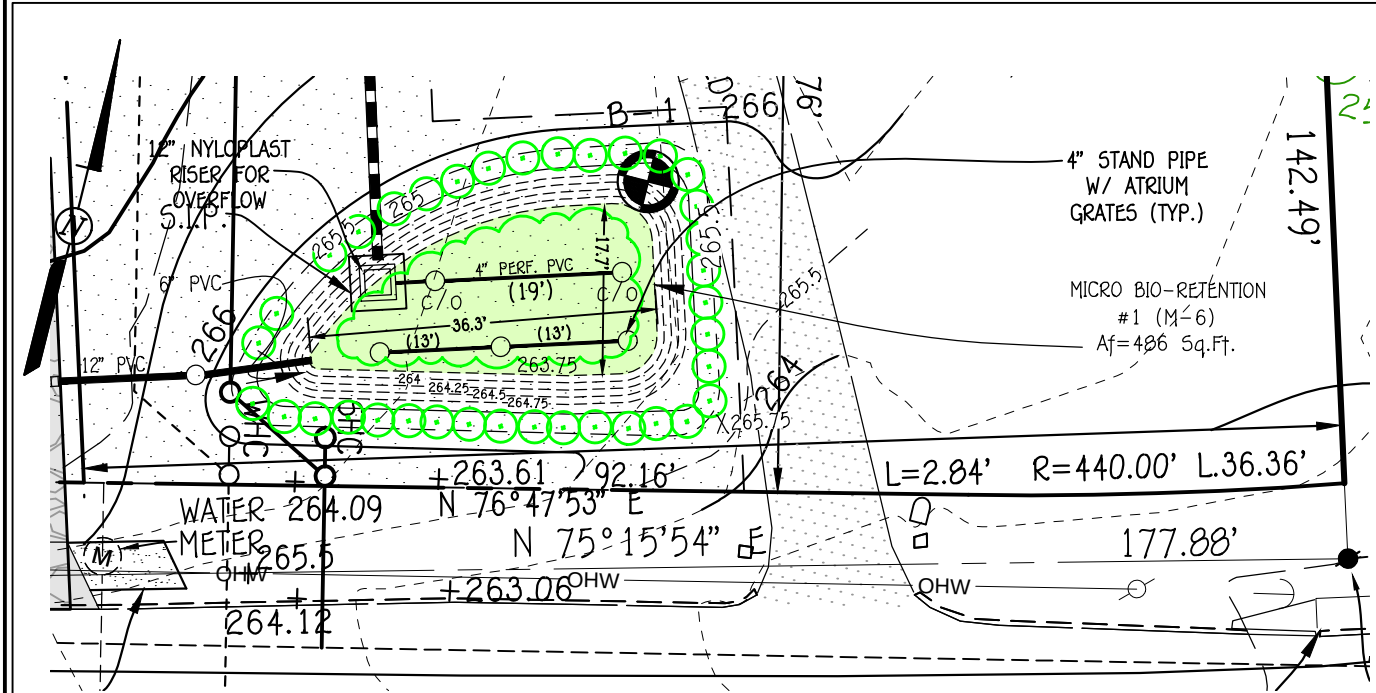
REVISIONS		
NO.	DESCRIPTION	DATE
Approved: Howard County Department Of Planning And Zoning		
Chief, Development Engineering Division		
Chief, Division Of Land Development		

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



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: 7/14/27.
FRANK JOHN MANALANSAN II

OWNER/DEVELOPER
SHIHENG ZHAO & QIYING ZHU
3832 OLD COLUMBIA PIKE
ELIJAH CITY, MARYLAND 21043
202-701-9756



M-6 (1)

SCALE: 1" = 20'
DRAINAGE AREA: 8,131 SqFt.
FILTER AREA: 486 SqFt.
ELEVATION 263.75
PERIMETER 93'
RISER LOWER WEIR ELEVATION 264.25 (1.0')
RISER HIGHER WEIR ELEVATION 265.00 (2.0')

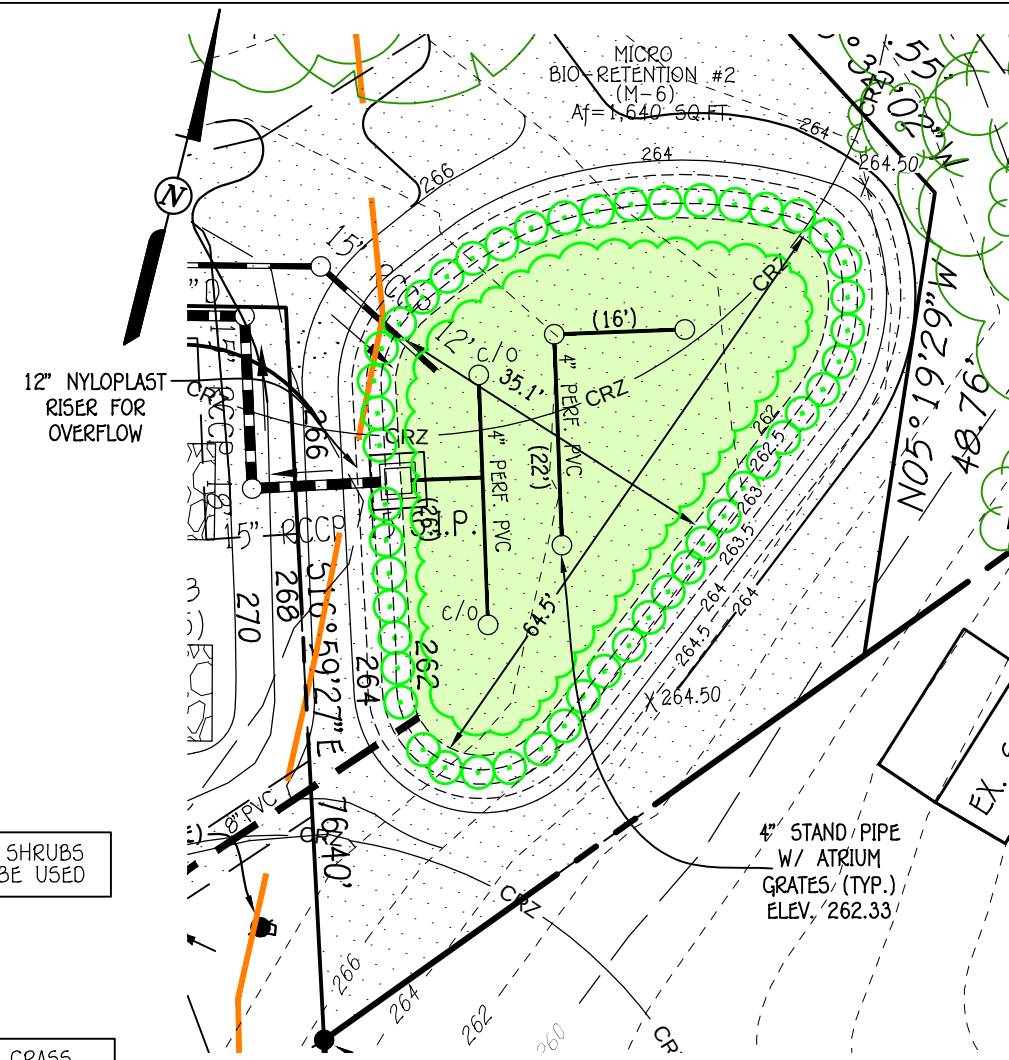
PLANT MATERIAL-MICRO BIO-RETENTION M-6 (1)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
162 (486 sq.ft.)	GRASSES	36" o.c.
36	SHRUBS	36"-40" o.c.

SHRUBS

ANY OF THE SHRUBS LISTED MAY BE USED
BAYBERRY
SILVERDOGSWOOD
WINTERBERRY
JUNEBERRY
WITCH HAZEL
BUTTERNUT
BUCKEYE
BOTTLEBRUSH

GRASS

ANY OF THE GRASS LISTED MAY BE USED
SWITCHGRASS
HEAVY METAL SWITCHGRASS



M-6 (2)

SCALE: 1" = 20'
DRAINAGE AREA: 22,002 SqFt.
FILTER AREA: 1,640 SqFt.
ELEVATION 262.00
PERIMETER 161'
RISER LOWER WEIR ELEVATION 262.50 (1.0')
RISER HIGHER WEIR ELEVATION 263.50 (2.0')

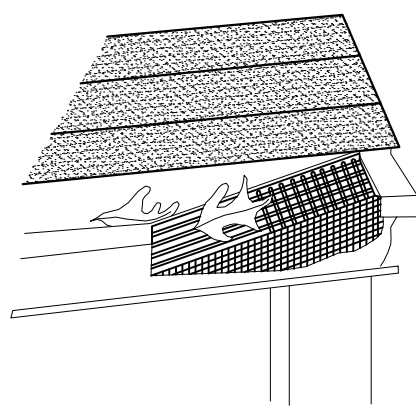
PLANT MATERIAL-MICRO BIO-RETENTION M-6 (2)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
547 (1,640 sq.ft.)	GRASSES	36" o.c.
49	SHRUBS	36"-40" o.c.

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

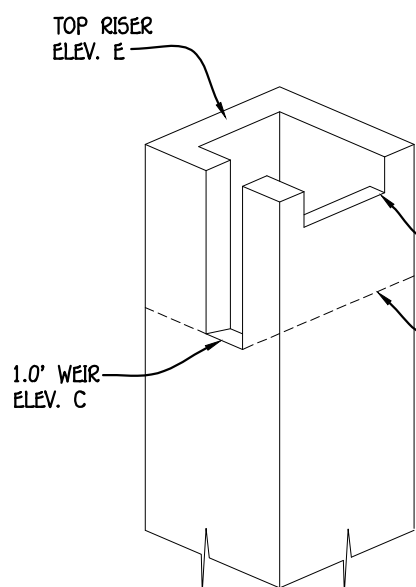
Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2' to 4' deep)	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		aged 6 months, minimum
Mulch	shredded hardwood		
Pea gravel diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" pert. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underneath pipe. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3: 1 = 3500 psi at 28 days, normal weight, air-entrained; reinforcing 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 pre-cast) not using previously approved site or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting AASHTO 309.8/399 vertical loading (H-10 or H-20); 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 Gravelstone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

STORMWATER MANAGEMENT NOTES

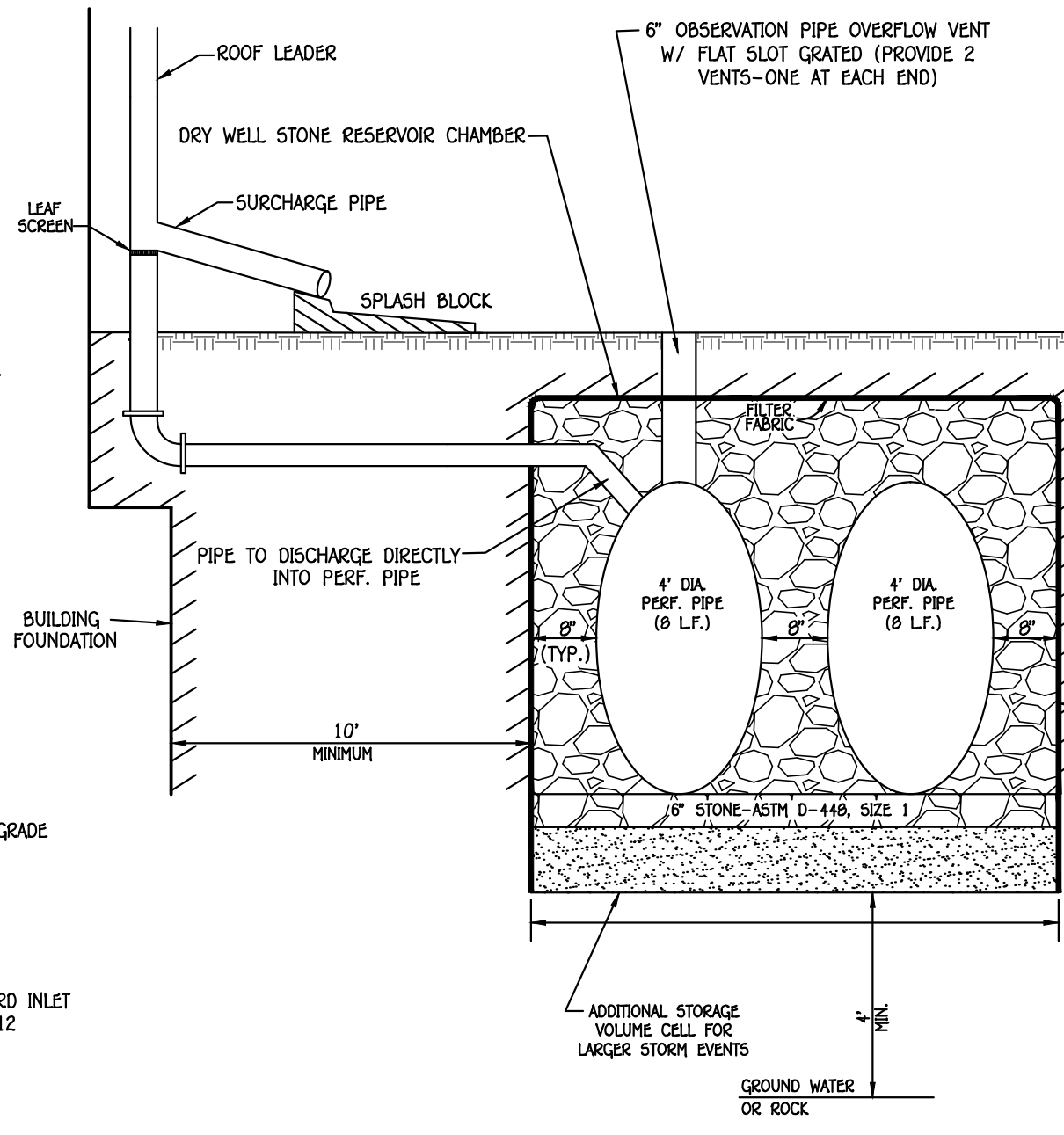
1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS SHOWN ON THE SITE DEVELOPMENT PLAN.



GUTTER DRAIN FILTER DETAIL

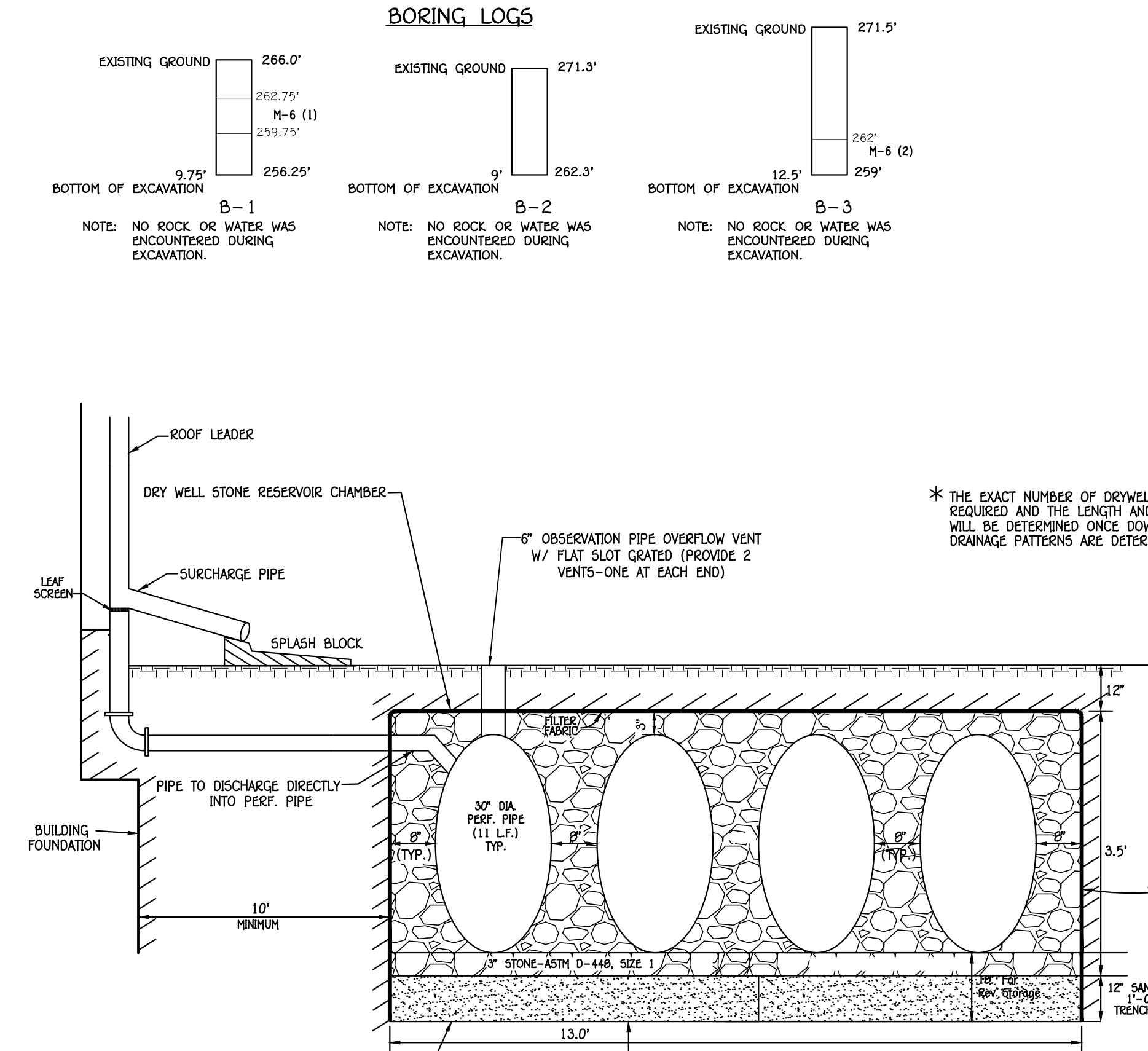


RISER SCHEMATIC



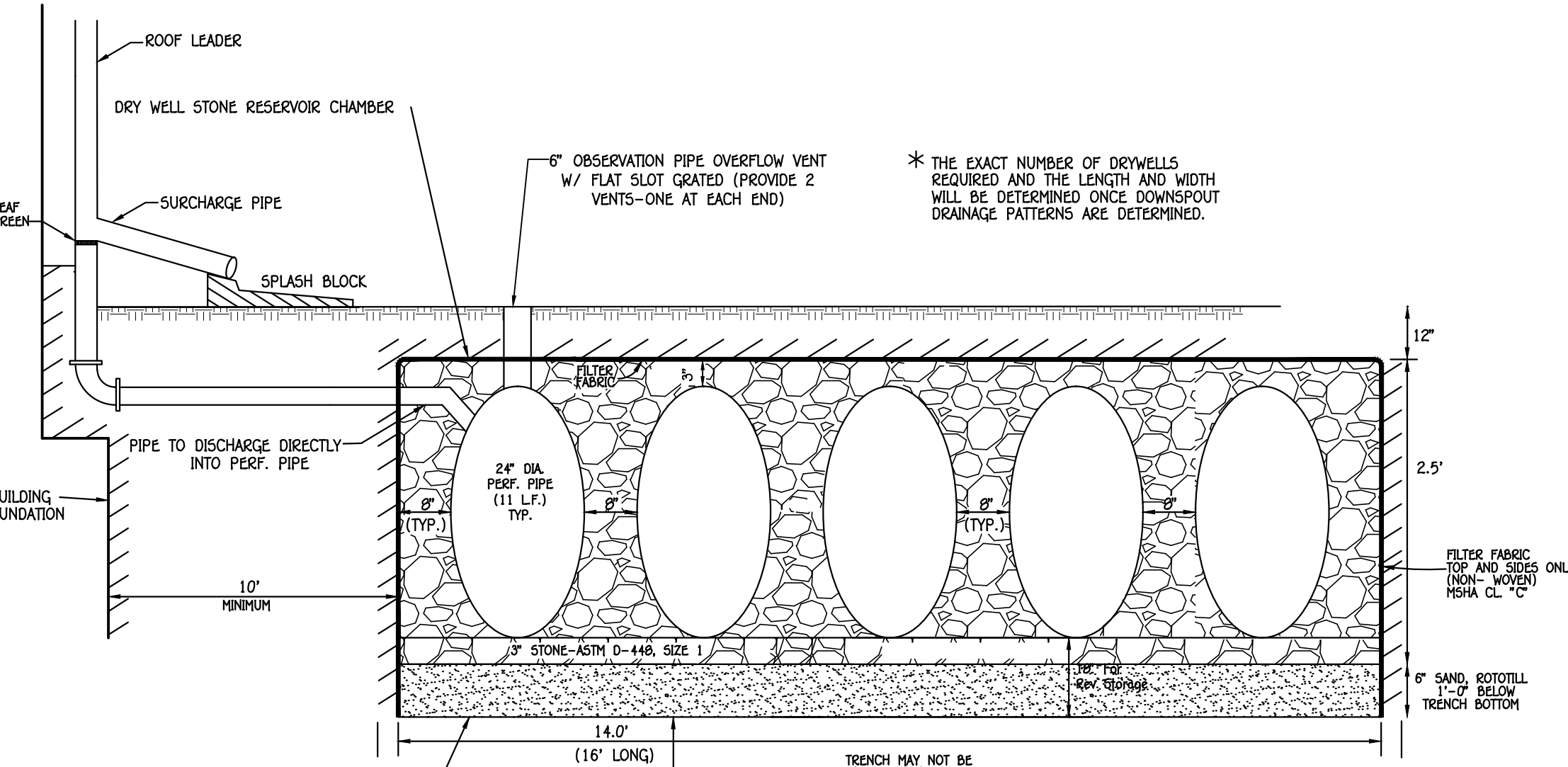
Modified Drywell (M-5)
Drywells 1, 2, 5-8

NO SCALE



Modified Drywell (M-5)
Drywell 3

NO SCALE

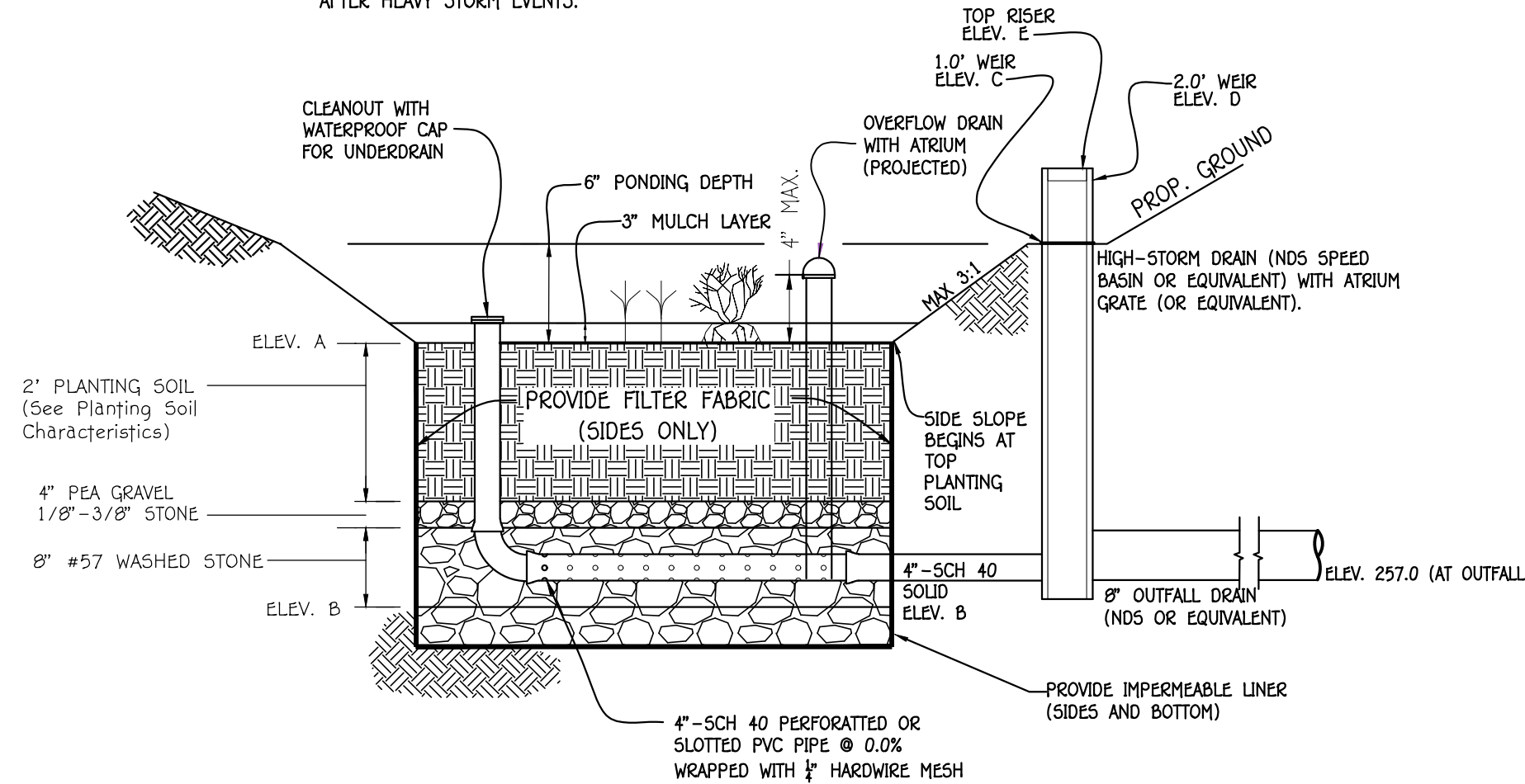


Modified Drywell (M-5)
Drywell 4

NO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6) AND (F-6)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS. WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



MICRO-BIORETENTION (UNDERDRAIN) (M-6)

NO SCALE

FACILITY NO.	DA	DA / IMP.	ESOV Req'd	ESOV Prov'd	A	B	C	D	E
M-6 (1)	22,002 SqFt.	5,306 SqFt.	279	279	263.75	260.67	264.25	265.00	265.50
M-6 (2)	8,131 SqFt.	842 SqFt.	882	882	262.0	258.92	262.50	263.50	264.00

DRY WELL CHART							
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME CREDITED	VOLUME PROVIDED	AREA OF TREATMENT	L x W x D	
LOT 1	1	452 SQ. FT.	93	361	452 SQ. FT.	10' x 10' x 6'	
LOT 1	2	320 SQ. FT.	66	361	320 SQ. FT.	10' x 10' x 6'	
LOT 1	3	620 SQ. FT.	128	434	620 SQ. FT.	13' x 13' x 4.5'	
LOT 1	4	440 SQ. FT.	91	401	440 SQ. FT.	14' x 16' x 3'	
LOT 2	5	400 SQ. FT.	82	361	400 SQ. FT.	10' x 10' x 6'	
LOT 2	6	460 SQ. FT.	95	361	460 SQ. FT.	10' x 10' x 6'	
LOT 2	7	481 SQ. FT.	95	361	481 SQ. FT.	10' x 10' x 6'	
LOT 2	8	481 SQ. FT.	99	361	481 SQ. FT.	10' x 10' x 6'	

OPERATION AND MAINTENANCE SCHEDULE FOR DRYWELLS (M-5)

1. The Owner Shall Inspect The Monitoring Wells And Structures On A Quarterly Basis And After Every Heavy Storm Event.
2. The Owner Shall Record The Water Levels And Sediment Build Up In The Monitoring Wells Over A Period Of Several Days To Insure Trench Drains.
3. The Owner Shall Maintain A Log Book To Determine The Rate At Which The Facility Drains.
4. 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.
5. The Maintenance Log Book Shall Be Available To Howard County For Inspection To Insure Compliance With Operation And Maintenance Criteria.
6. 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.

REVISIONS		
NO.	DESCRIPTION	DATE
Approved: Howard County Department Of Planning And Zoning		
Chief, Development Engineering Division		
Chief, Division Of Land Development		

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



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: 7/14/27.

FRANK JOHN MANALANSAN II

Date

NOTES AND DETAILS
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO: 25A GRID: 13 PARCEL NO: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 5 OF 8

LEVEL SPREADER CRITERIA

FOR IMPERVIOUS SURFACE RUNOFF APPLICATIONS:
THE CAPACITY FOR THE LEVEL SPREADER IS DETERMINED IN THE DESIGN OF THE FILTER STRIP TO WHICH IT DISCHARGES.

THE SPREADER SHALL RUN LINEARLY ALONG THE ENTIRE WIDTH OF THE FILTER STRIP TO WHICH IT DISCHARGES. IN MOST CASES, THE SPREADER WILL BE THE SAME WIDTH AS THE CONTRIBUTING IMPERVIOUS SURFACE. THE ENDS OF THE SPREADER SHALL BE TIED INTO HIGHER GROUND TO PREVENT FLOW AROUND THE SPREADER.
THE MINIMUM DEPTH SHALL BE 6 INCHES AND THE MINIMUM WIDTH SHALL BE 6 FEET FOR THE LOWER SIDE SLOPE. SIDE SLOPES SHALL BE 2:1 (HORIZONTAL TO VERTICAL) OR FLATTER.

THE GRADE OF THE SPREADER SHALL BE 0%.

THE OUTLET DISCHARGE AREA MUST BE GENERALLY SMOOTH AND WELL VEGETATED WITH A MAXIMUM SLOPE OF 10%.

FOR ALL APPLICATIONS:
THE SPREADER LIP SHALL BE CONSTRUCTED TO A UNIFORM HEIGHT AND ZERO GRADE OVER THE LENGTH OF THE SPREADER. FOR DESIGN FLOWS OF 4 CFS OR GREATER, A RIGID LIP OF NON-ERODIBLE MATERIAL, SUCH AS PRESSURE-TREATED TIMBERS OR CONCRETE CURBING, SHALL BE USED. FOR FLOWS LESS THAN 4 CFS, A VEGETATED LIP MAY BE USED. THE SPREADER LIP SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.

WHEN USING A VEGETATED LIP IT SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET TO PREVENT EROSION AND ALLOW THE VEGETATION TO BECOME ESTABLISHED. THE BLANKET SHALL BE A MINIMUM OF 4 FEET WIDE EXTENDING A MINIMUM OF 1 FOOT DOWNSTREAM OVER THE LEVEL LIP. THE BLANKET SHALL BE SECURED WITH HEAVY-DUTY STAPLES AND THE DOWNSTREAM AND UPSTREAM EDGES SHALL BE BURIED AT LEAST 6 INCHES DEEP IN A VERTICAL TRENCH.

WHEN USING A RIGID LIP IT SHALL BE ENTRENCHED AT LEAST 4 INCHES BELOW EXISTING GROUND AND SECURELY ANCHORED TO PREVENT DISPLACEMENT. AN APRON OF CLASS 1 RCP-RAP SHALL BE PLACED TO THE TOP OF THE RIGID LIP AND EXTEND DOWNSTREAM AT LEAST 3 FEET. A FILTER FABRIC SHALL BE PLACED UNDER THE COARSE AGGREGATE.

IMMEDIATELY AFTER LEVEL SPREADER CONSTRUCTION, SEED AND MULCH THE ENTIRE DISTURBED AREA OF THE SPREADER IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.

CONSIDERATIONS
THE LEVEL SPREADER IS A RELATIVELY LOW-COST STRUCTURE TO:

1. DISPERSE IMPERVIOUS SURFACE RUNOFF UNIFORMLY TO A FILTER STRIP OR
2. RELEASE SMALL VOLUMES OF CONCENTRATED FLOW FROM DIVERSIONS WHEN CONDITIONS ARE SUITABLE.

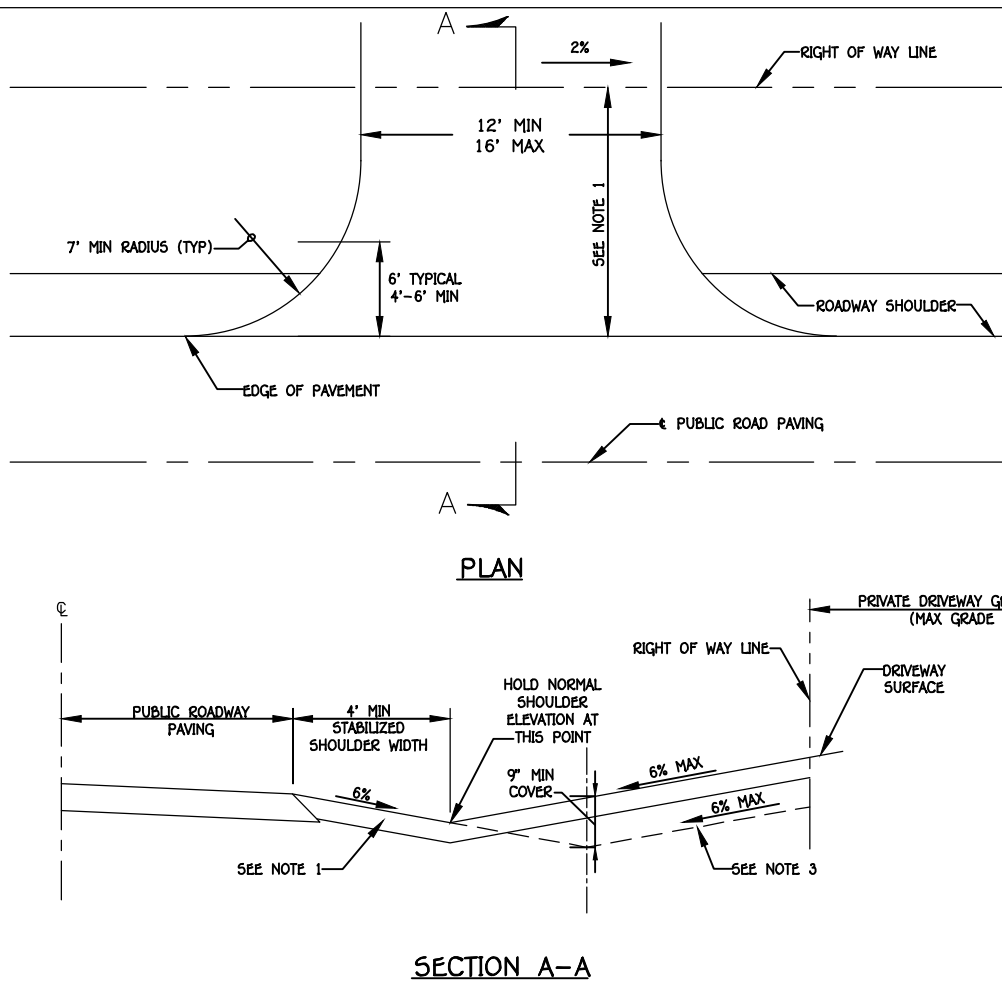
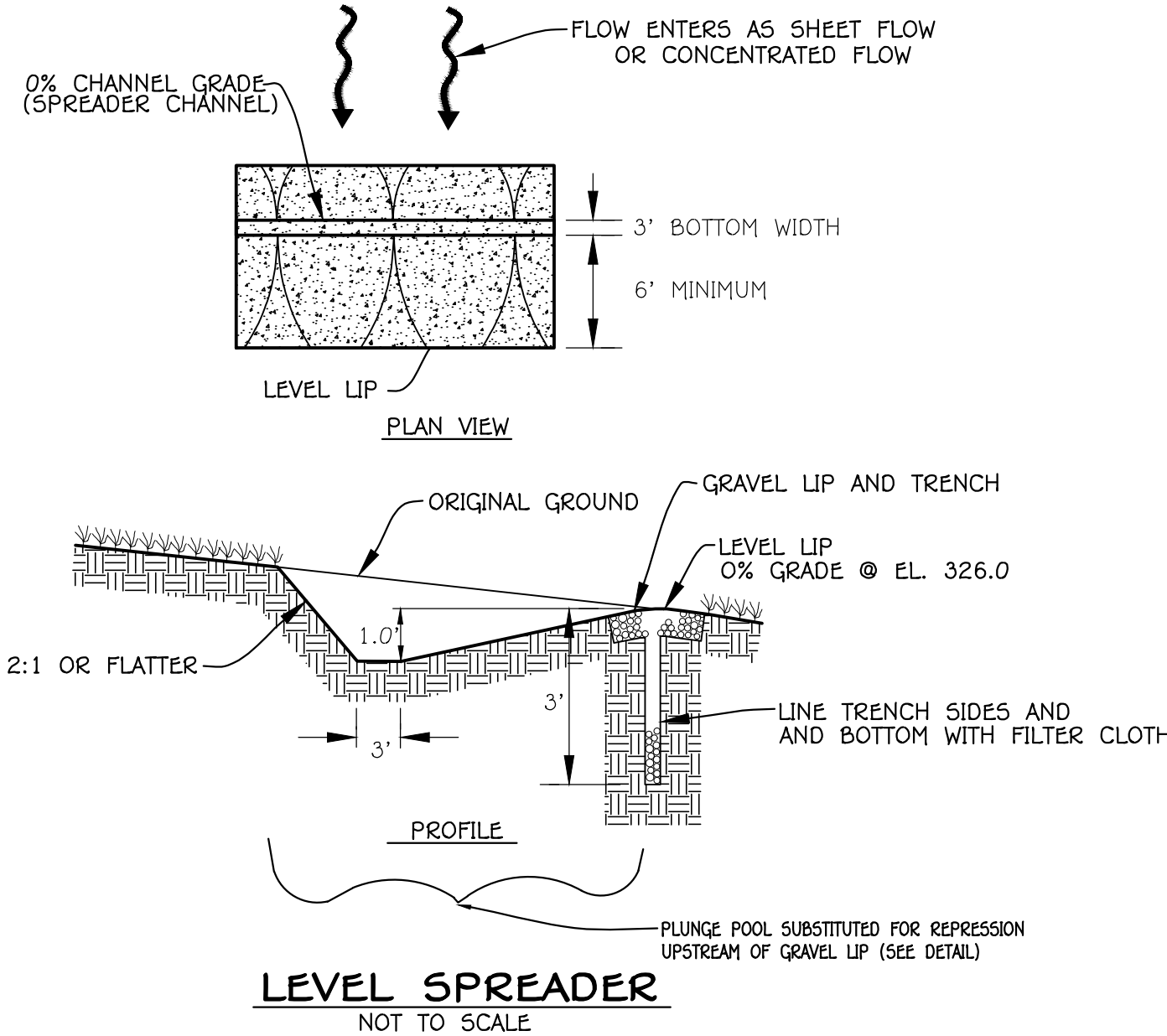
TO ACCOMPLISH THESE PURPOSES, PARTICULAR CARE MUST BE TAKEN TO CONSTRUCT THE SPREADER LIP COMPLETELY LEVEL. ANY DEPRESSIONS IN THE LIP WILL CONCENTRATE THE FLOW, RESULTING IN A LOSS OF POLLUTANT FILTERING EFFECTIVENESS AND/OR EROSION. EVALUATE THE OUTLET SYSTEM TO BE SURE THAT FLOW DOES NOT CONCENTRATE BELOW THE OUTLET.

FOR FILTER STRIP APPLICATIONS, THE DETERMINATION OF WHETHER A LEVEL SPREADER IS NEEDED SHOULD BE BASED ON HOW THE RUNOFF IS ENTERING THE FILTER STRIP. IF THE RUNOFF IS CONCENTRATED BY CURB CUTS, AND PARTICULARLY IF A LARGE AREA OF IMPERVIOUS SURFACE DRAINS TO ONE POINT, A LEVEL SPREADER IS ESSENTIAL TO ACHIEVE EFFECTIVE POLLUTANT REMOVAL IN THE FILTER STRIP. A LEVEL SPREADER ALSO IS IMPORTANT IF THE FILTER STRIP IS RELATIVELY STEEP IN ORDER TO AVOID EROSION FROM CONCENTRATED RUNOFF DISCHARGE. IF THE RUNOFF IS EVENLY DISTRIBUTED OVER THE WIDTH OF THE IMPERVIOUS SURFACE (E.G., A CURBLESS, EVEN-SLOPED ROAD OR PARKING LOT), A LEVEL SPREADER MAY NOT BE NECESSARY.

WHEN THE LEVEL SPREADER IS USED AS AN OUTLET FOR TEMPORARY OR PERMANENT DIVERSIONS AND DIVERSION DIKES, RUNOFF CONTAINING HIGH SEDIMENT LOADS MUST BE TREATED IN AN APPROVED SEDIMENT TRAPPING DEVICE.

OPERATION AND MAINTENANCE
INSPECT LEVEL SPREADERS AFTER EVERY RAINFALL UNTIL VEGETATION IS ESTABLISHED, AND PROMPTLY MAKE NEEDED REPAIRS. AFTER THE AREA HAS BEEN STABILIZED, MAKE PERIODIC INSPECTIONS AND MAINTAIN VEGETATION IN A HEALTHY, VEGEUSOUS CONDITION.

VERIFY THAT THE LEVEL SPREADER IS DISTRIBUTING FLOW EVENLY. IF PROBLEMS ARE NOTED, MAKE APPROPRIATE MODIFICATIONS TO ENSURE EVEN FLOW DISTRIBUTION.



NOTES:

1. DRIVEWAY MUST BE PAVED FROM EDGE OF PUBLIC ROAD TO RIGHT OF WAY LINE USING STANDARD PAVING SECTION P-1 OR ALTERNATE SECTION EQUAL TO OR BETTER THAN P-1, AS APPROVED BY DPM.
2. SWALE FLOW MAY BE PROVIDED OVER DRIVEWAY LOCATED AT OR NEAR THE CREST OF VERTICAL CURVES ON THE PUBLIC ROAD WHERE QUANTITY OF FLOW IS SMALL, AS APPROVED BY DPM.
3. TIE-IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 15%.

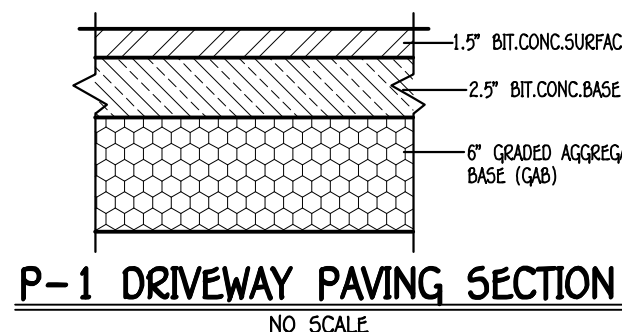
RESIDENTIAL DRIVEWAY ENTRANCE
OPEN SECTION ROADWAY
(MODIFIED)
DETAIL
R-6.06
(MODIFIED)

Approved:
Chief, Bureau of Engineering

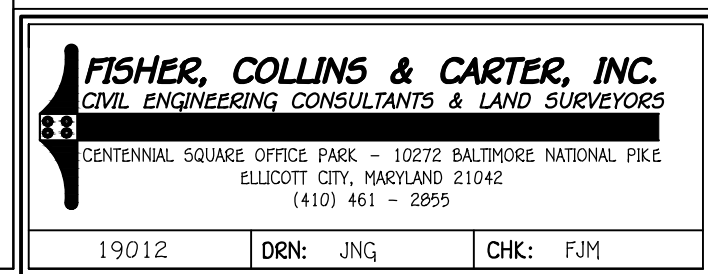
Revised
5/20/2011

Approved
5/7/2007

Approved



REVISIONS		
NO.	DESCRIPTION	DATE
Approved: Howard County Department Of Planning And Zoning		
Chief, Development Engineering Division		DATE
Chief, Division Of Land Development		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: 7/14/27.

FRANK JOHN MANALANSAN II

DATE

OWNER/DEVELOPER

SHIHENG ZHAO & QIYING ZHU
3832 OLD COLUMBIA PIKE
ELIJAH CITY, MARYLAND 21043
202-701-9756

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% ($n = 0.30$).

3. Reinforced Turf

Reinforced Grass Pavement (RGP) - Whether used with grass or gravel, the RGP thickness shall be at least 1½" thick with a load capacity capable of supporting the traffic and vehicle types that will be carried.

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice 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, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content - Media shall have a clay content of less than 5%.
- pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textual analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are

Appendix B.4. Construction Specifications for Environmental Site Design Practices

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.

5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

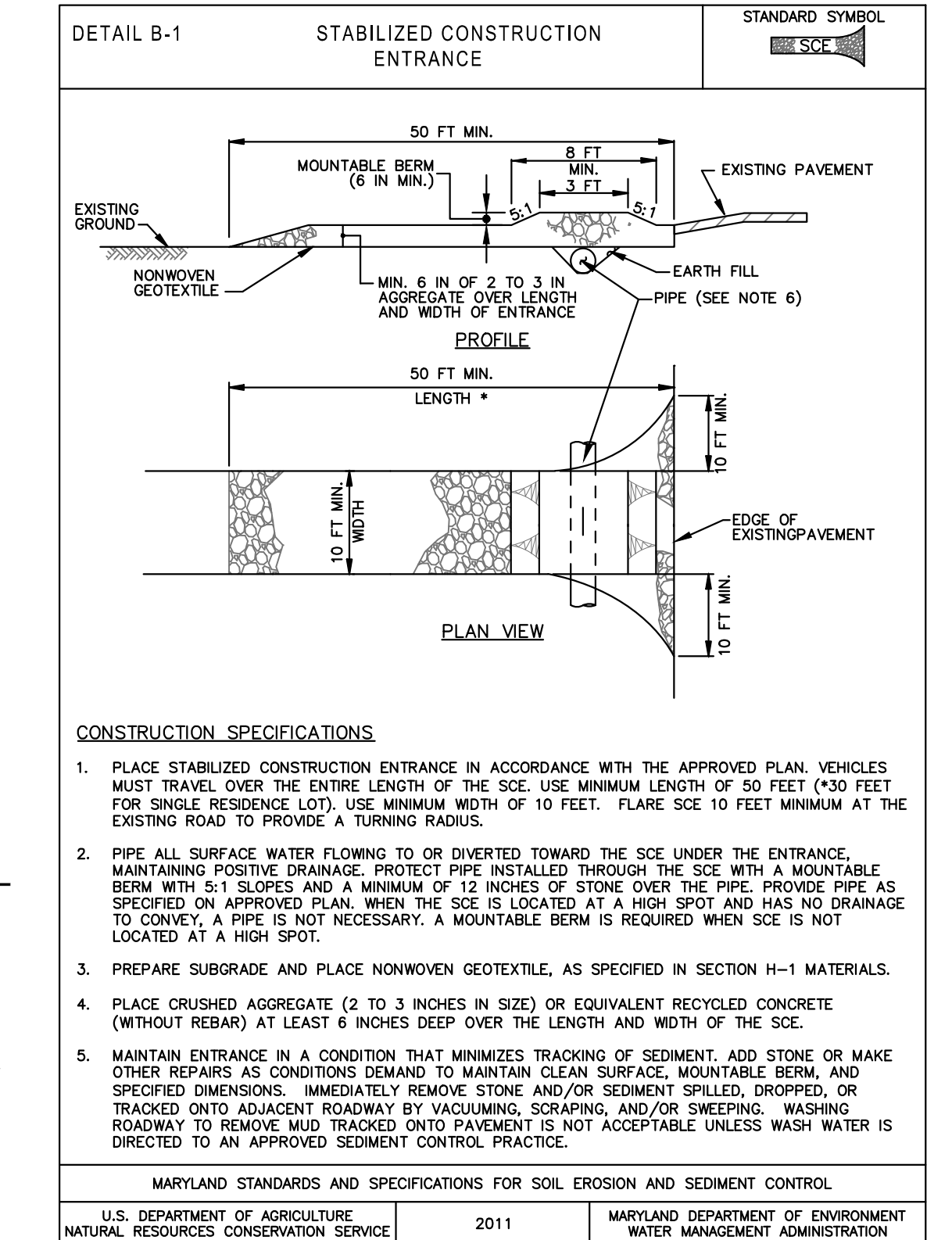
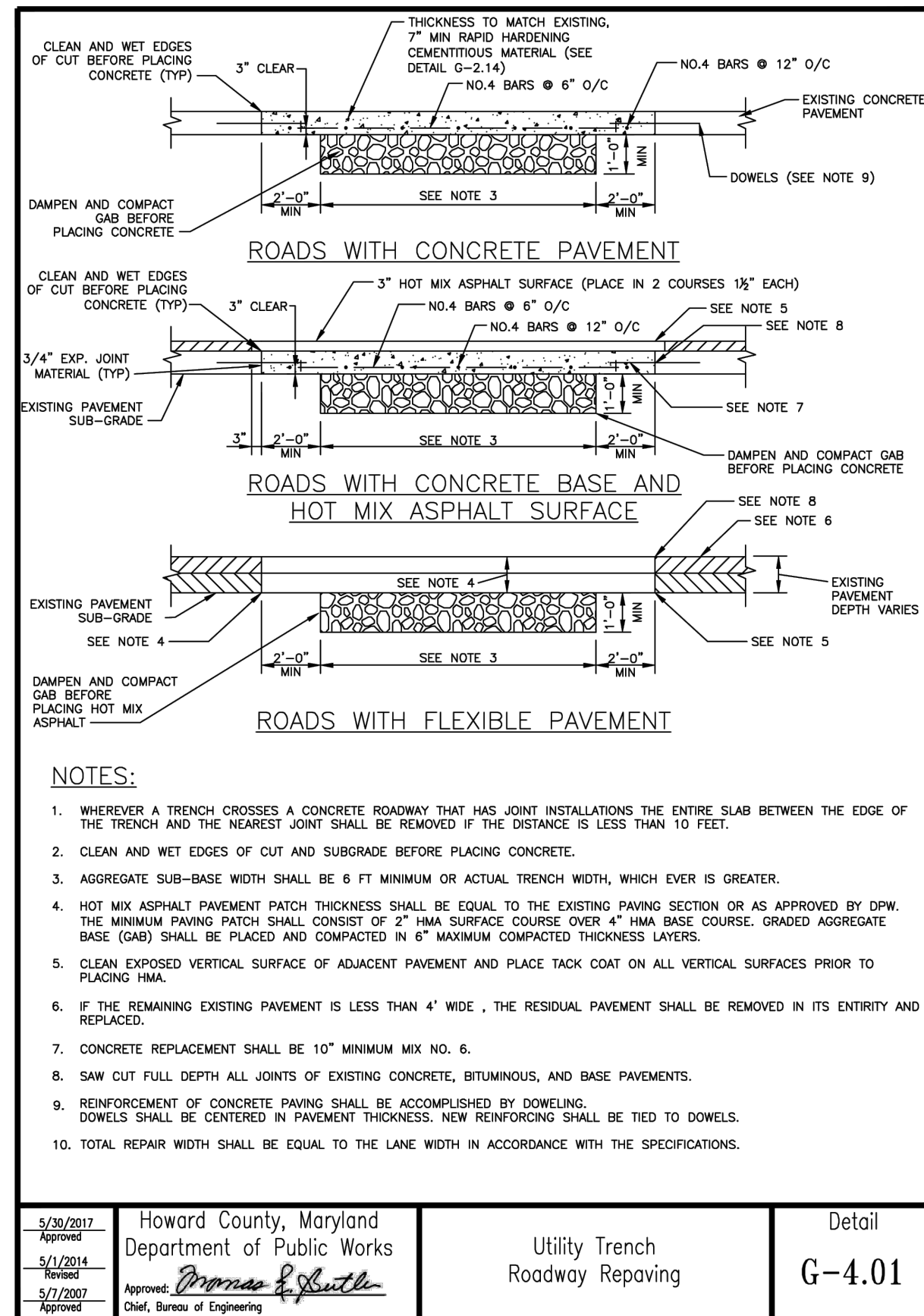
Underdrains should meet the following criteria:

- Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be ¾" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a ¼" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (¼" to ¾" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been stabilized



NOTES AND DETAILS
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO.: 25A GRID: 13 PARCEL NO.: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 6 OF 8
F-24-036

SCHEDULE A - PERIMETER LANDSCAPE EDGE							
PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	TOTAL
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	FRONT ADJACENT TO ROADWAY	
LANDSCAPE TYPE	B (INFILL)	B (INFILL)	B (INFILL)	B (INFILL)	B (INFILL)	N/A	
LINEAR FEET OF PERIMETER	456 L.F.	345 L.F.	236 L.F.	177 L.F.	147 L.F.	170 L.F.	
CREDIT FOR EXISTING VEGETATION	YES, 117 L.F.	YES, 345 L.F.	YES, 236 L.F.	YES, 77 L.F.	NO	NO	650 L.F.
SHADE TREES	0	0	0	0	2	2	0
EVERGREEN TREES	2	0	0	0	0	0	2
NUMBER OF PLANTS REQUIRED							
SHADE TREES	(339/50' = 6.8 OR 7)	0	0	(100/50' = 2)	(147/50' = 2.9 OR 3)	0	11
EVERGREEN TREES	(339 / 40' = 8.5 OR 9)	0	0	(100/40' = 2.5 OR 3)	(147/40' = 3.6 OR 4)	0	0
NUMBER OF PLANTS PROVIDED							
SHADE TREES	3	0	0	2	3	0	8
EVERGREEN TREES	9	0	0	3	4	0	16
ORNAMENTAL TREES	*0	0	0	0	0	0	0

STREET TREE SCHEDULE				
QTY.	SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
5		CERCIS CANADENSIS EASTERN REDBUD	2.5" - 3" CAL.	30' APART ON PUBLIC R/W

SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	4	ULMUS AMERICANA "VALLEY FORGE" VALLEY FORGE AMERICAN ELM	2 1/2" - 3" CAL.	
	4	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CAL.	
	4	CORNUS FLORIDA FLOWERING DOGWOOD	8" - 10" HGT.	
	4	CHIONANTHUS VIRGINICUS FRINGETREE	1 1/2" - 2" CAL.	
	16	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	6" - 8" HGT.	
	5	ILEX X 'NELLIE R. STEVENS' NELLY STEVENS HOLLY	6" - 8" HGT.	

LANDSCAPE NOTES

-
- Diagram illustrating the components of a tree support system:
- DOUBLE #12 GALVANIZED GUY WIRES TWISTED
 - 2-2" X 2" OAK STAKES, NOTCH STAKES TO HOLD WIRE
 - REMOVE ANY COVERING FROM TOP OF BALL
 - TOPSOIL MIXTURE
 - RODENT BAIT
 - (APPROX. 3 FEET) 1/2 OF TREE HEIGHT
 - CONSTRUCT 3" SAUCER
 - GROUND LINE SAME AS IN NURSERY

2 PIECES OF REINFORCED RUBBER HOSE

(APPROX. 3 FEET)
1/2 OF TREE HEIGHT

CONSTRUCT 3" SAUCER

GROUND LINE SAME AS IN NURSERY

REVISIONS		
NO.	DESCRIPTION	DATE

Chief, Division Of Land Development _____ Date _____

19012	DRN: JNG	CHK: F
-------	----------	--------



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

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDDED.

LANDSCAPE PLAN AND DETAILS

OLD COLUMBIA CROSSING

LOT 5 1 THRU 3 & OPEN SPACE LOT 4

3032 Old Columbia Pike

TAX MAP NO.: 25A GRID: 13 PARCEL NO: 262

ZONED R-ED

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JULY, 2025

SHEET 7 OF 8

FCP NOTES

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT, NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WILL BE FULFILLED BY ON-SITE FOREST RETENTION OF 1.342 ACRES. NO SURETY IS REQUIRED FOR FOREST RETENTION
- THE PROPERTY IS WITHIN THE PATAPSCO RIVER L N BRANCH - WATERSHED 021309061017).
- NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES ARE KNOWN TO OCCUR ON THE SITE.
- THE PROPERTY IS NOT WITHIN THE HOWARD COUNTY GREEN INFRASTRUCTURE NETWORK.
- 12 SPECIMEN TREES EXIST WITHIN THE FOREST RETENTION EASEMENT (14 TOTAL ON-SITE), NO HISTORIC TREES, CHAMPION TREES OR TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES ARE LOCATED ON-SITE.

INVASIVE SPECIES CONTROL NOTE:

PRIOR TO PLANTING ALL INVASIVE PLANTS WITHIN PLANTING AREAS SHALL BE REMOVED.

The following invasive species exist on site: Japanese Honeysuckle, Grape and Oriental bittersweet. Removal of invasive species May be Performed with Mowing And Herbicide Treatments. Physical Removal Of All Top Growth Followed By A Periodic Herbicide Treatment Of Stump Sprouts Is Recommended. Native Tree And Shrub Species Occurring Within The Invasive Thickets Should be Retained Wherever Possible. Herbicide Treatments Shall Occur On Two (2) Month Intervals During The First Growing Season And Once In The Spring And Once In The Fall For Subsequent Years. Herbicide Used Shall be Made Specifically To Address Woody Plant Material And Shall be Applied As Per Manufacturers Specifications. Care Should be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. Preparation Of Invasive Removal Should Begin At Least One Year Prior To Planting So That New Growth Of Invasive plants Is Able to be More Successfully Managed.

In addition, any large vines, such as poison ivy and grape vine that are growing on existing native trees should be cut at ground level and at breast height to ensure a section of the vine has been cut and removed. Stumps of vines can be treated with an herbicide to suppress re-growth.

OLD COLUMBIA CROSSING

Net Tract Area

- A. Total (Gross) Tract Area
B. Area within 100-year Floodplain
C. Other Deductions (Identify:)
D. Net Tract Area

Land Use Category

Insert the number "1" under the appropriate land use (limit to only one entry)

Resid.	Resid.	Resid.	Inst./	Retail/Ind./	Mixed Use/
Rural LD	Rural MD	Suburban	Linear	Office	PUD
0	0	1	0	0	0

- E. Afforestation Threshold (Net Tract Area x 15%)
F. Reforestation Threshold (Net Tract Area x 20%)

Existing Forest Cover

- G. Existing Forest Cover within the Net Tract Area
H. Area of Forest above Afforestation Threshold
I. Area of Forest above Reforestation Threshold

Break Even Point

- J. Break Even Point
K. Forest Clearing Permitted without Mitigation

Proposed Forest Clearing

- L. Total Area of Forest to be Cleared
M. Total Area of Forest to be Retained

Planting Requirements Inside Watershed

- N. Reforestation for Clearing above the Reforestation Threshold
P. Reforestation for Clearing below the Reforestation Threshold
Q. Credit for Retention above the Reforestation Threshold
R. Total Reforestation Required
S. Total Afforestation Required
T. Total Reforestation and Afforestation Requirement
U. 75% of Total Obligation (Retention + Planting)
V. Planting Required Onsite to meet 75% Obligation

Planting Requirements Outside Watershed

- W. Total Planting within Development Site Watershed
X. Total Afforestation Required
Y. Remaining Planting within Watershed for Reforestation Credit
Z. Reforestation for Clearing above the Reforestation Threshold
AA. Reforestation for Clearing below the Reforestation Threshold
BB. Credit for Retention above the Reforestation Threshold
CC. Total Reforestation Required
DD. Total Afforestation and Reforestation Requirement

Date: 05/07/2025

NOTE:
THE PROPERTY CONTAINS 180 SQ. FT. OF FLOODPLAIN THAT DOES NOT IMPACT THE GROSS AREA OF THE SITE.

FOREST CONSERVATION NARRATIVE

OLD COLUMBIA CROSSING SUBDIVISION IS 2.989 ACRES AND IS LOCATED AT 3832 OLD COLUMBIA PIKE, ELIJACOTT CITY, MD. THE PROPERTY IS ZONED R-ED AND IS SURROUNDED BY MEDIUM DENSITY RESIDENTIAL DEVELOPMENT. THE PROPERTY IS HOME TO AN HISTORIC HOUSE, WITH OTHER HISTORIC HOMES IN THE AREA. THE PROPERTY CURRENTLY HAS A LARGE FRONT LAWN WHICH IS MODERATELY SLOPED. THE REAR OF THE PROPERTY HAS STEEP, FORESTED SLOPES THAT DESCEND TO A STREAM VALLEY.

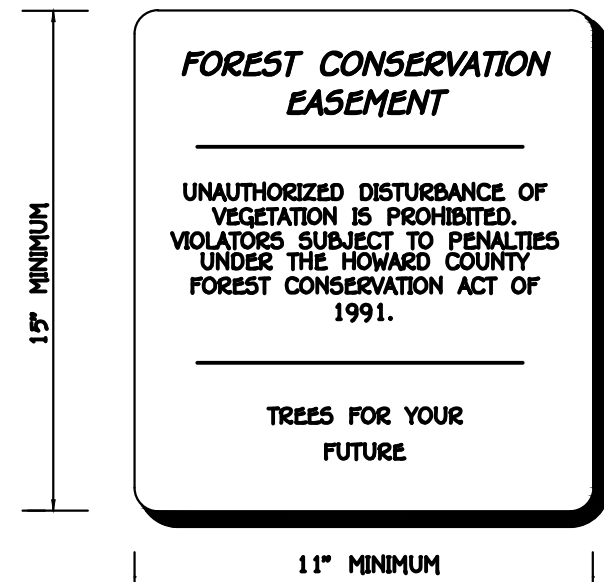
- THE PROPERTY IS NOT LOCATED WITHIN THE HOWARD COUNTY GREEN INFRASTRUCTURE NETWORK.
- THE PROPERTY CONTAINS 210 SQ.FT. OF A 100-YEAR FLOODPLAIN IN THE NORTHERN CORNER OF THE PROPERTY.
- THE PROPERTY CONTAINS 10,570 SQ.FT. OF A STREAM AND ITS BUFFER. THE STREAM IS PART OF THE PATAPSCO RIVER WATERSHED.
- THE PROPERTY DOES NOT CONTAIN ANY FORESTED WETLAND OR WETLAND BUFFER AS DEFINED IN THE SUBDIVISION REGULATIONS.
- THE PROPERTY DOES NOT CONTAIN ANY THREE HUNDRED FEET WIDE FOREST CORRIDORS OF CRITICAL HABITAT AREAS. THE EXISTING FOREST WILL BE PRESERVED WITHIN A FOREST CONSERVATION EASEMENT.
- THE PROPERTY DOES NOT HAVE FOREST OVER 300 FEET FROM A FOREST EDGE SUITABLE FOR INTERIOR DWELLING SPECIES.
- THE PROPERTY CONTAINS 1.72 ACRES OF STEEP SLOPES AND 1.55 ACRES OF ERODIBLE SOILS.
- THE PROPERTY IS LOCATED IN THE THE PATAPSCO RIVER WATERSHED (021309061017)
- THE PROPERTY DOES NOT HAVE FOREST LOCATED WITHIN A NATURAL RESOURCE PROTECTION ZONE, A RESERVOIR WATERSHED, OR A WELLHEAD PROTECTION AREA.
- THE PROPERTY IS NOT LOCATED WITHIN THE PLANNED SERVICE AREA AND THEREFORE NOT AN URBAN AREA.
- THE PROPERTY DOES NOT CONTAIN FOREST CONTIGUOUS WITH THE PRIORITY AREAS LISTED ABOVE.
- THE PROPERTY DOES NOT CONTAIN FOREST CONTIGUOUS WITH A FOREST CONSERVATION EASEMENT ON AN ADJACENT PROPERTY.
- THE PROPERTY IS LOCATED ON A SCENIC ROAD.

THE PROPOSED DESIGN MAINTAINS THE EXISTING FOREST ON SITE AND WILL ESTABLISH A FOREST CONSERVATION EASEMENT CONSISTING OF 1.342 ACRES. NO FOREST IS TO BE CLEARED AND NO SPECIMEN TREES ARE TO BE REMOVED.

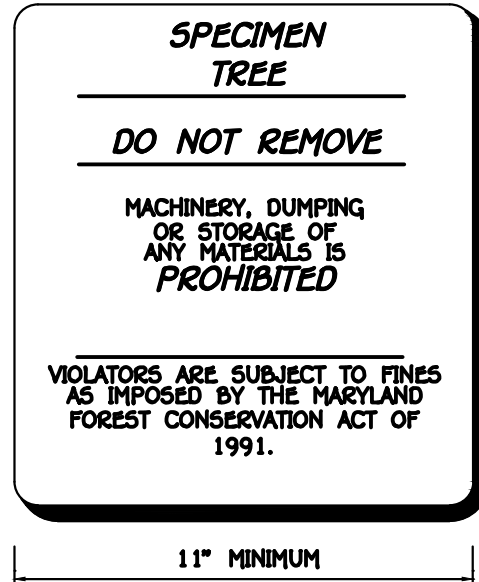
Specimen Tree Chart

Key (X#)	Species	Size (in/dbh)	CRZ (feet radius)	Comments
1	Tulip poplar	32.5	48.75	good
2	Tulip poplar	32.5	48.75	good
3	Tulip poplar	36.5	54.75	good
4	Tulip poplar	50	75	fair, some dieback in crown
5	Tulip poplar	48	72	poor, dieback in crown and exposed roots
6	Tulip poplar	46	69	fair, limited crown, weak roots
7	Tulip poplar	46.5	69.75	fair, limited crown, roots exposed
8	Tulip poplar	36.5	54.75	good
9	Tulip poplar	41	61.5	good
10	Tulip poplar	33	49.5	good
11	Tulip poplar	34	51	good
12	Black walnut	39	58.5	poor, notable trunk wound
13	Black walnut	34	51	fair, reduced canopy
14	Norway maple	32.5	48.75	not native

ON-SITE SIGNAGE FOR FOREST CONSERVATION



ON-SITE SIGNAGE FOR SPECIMEN TREES



NOTE:
SIGNAGE SHALL BE PLACED ADJACENT TO SPECIMEN TREE AND SHALL REMAIN IN PLACE IN PERPETUITY

CERTIFICATION OF QUALIFIED PROFESSIONAL AND ISA CERTIFIED ARBORIST:
I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND AND HOWARD COUNTY FOREST CONSERVATION LAWS.

JAMES W. WITMER, QUALIFIED PROFESSIONAL
MONR / COMAR 08.19.06.01
ISA CERTIFIED ARBORIST MA-4597A

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: 7/14/27.

FRANK JOHN MANALANSAN II

Date



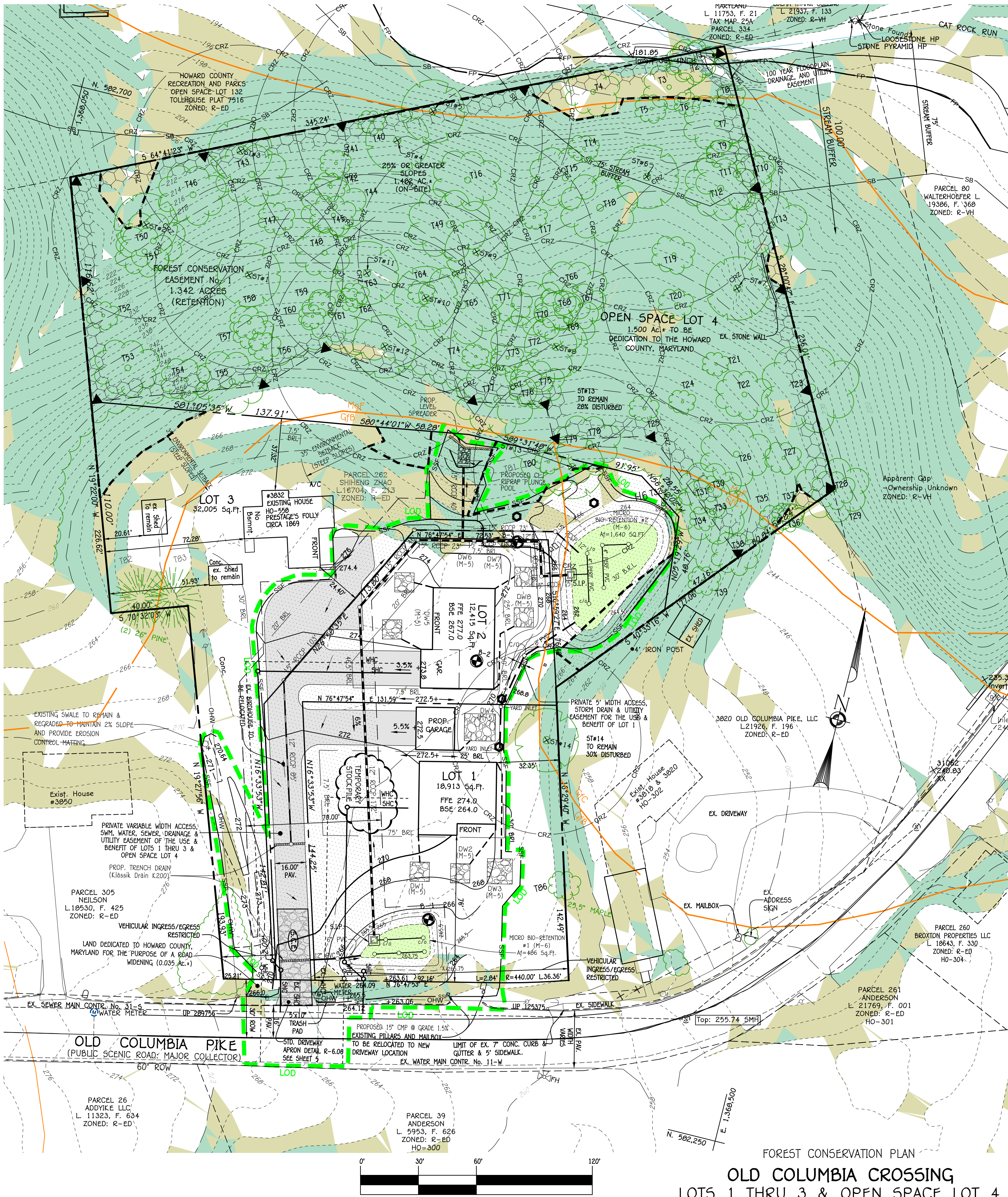
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELIJACOTT CITY, MARYLAND 21042
(410) 461 - 2895

19012

DRN: JNG

CHK: FJM



FOREST CONSERVATION PLAN
OLD COLUMBIA CROSSING
LOTS 1 THRU 3 & OPEN SPACE LOT 4
3832 Old Columbia Pike
TAX MAP NO.: 25A GRID: 13 PARCEL NO: 262
ZONED R-ED
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JULY, 2025
SHEET 8 OF 8

F-24-036

Old Columbia Crossing

F-24-036

Scenic Road Report

For

3832 Old Columbia Pike

Howard County

March 2025

Prepared By:

Fisher, Collins, & Carter, Inc.

Centennial Square Business Park

10272 Baltimore National Pike

Ellicott City, Maryland 21042

410-461-2855

w.o. # 19012

Owner/ Developer:

Shiheng Zhao & Quiying Zhu

3832 Old Columbia Pike

Ellicott City, Maryland 21043

Old Columbia Crossing
Scenic Road report for
Old Columbia Pike, Ellicott City, Maryland

List of exhibits:

Scenic Road Exhibit
Photos and Illustrative Location Map

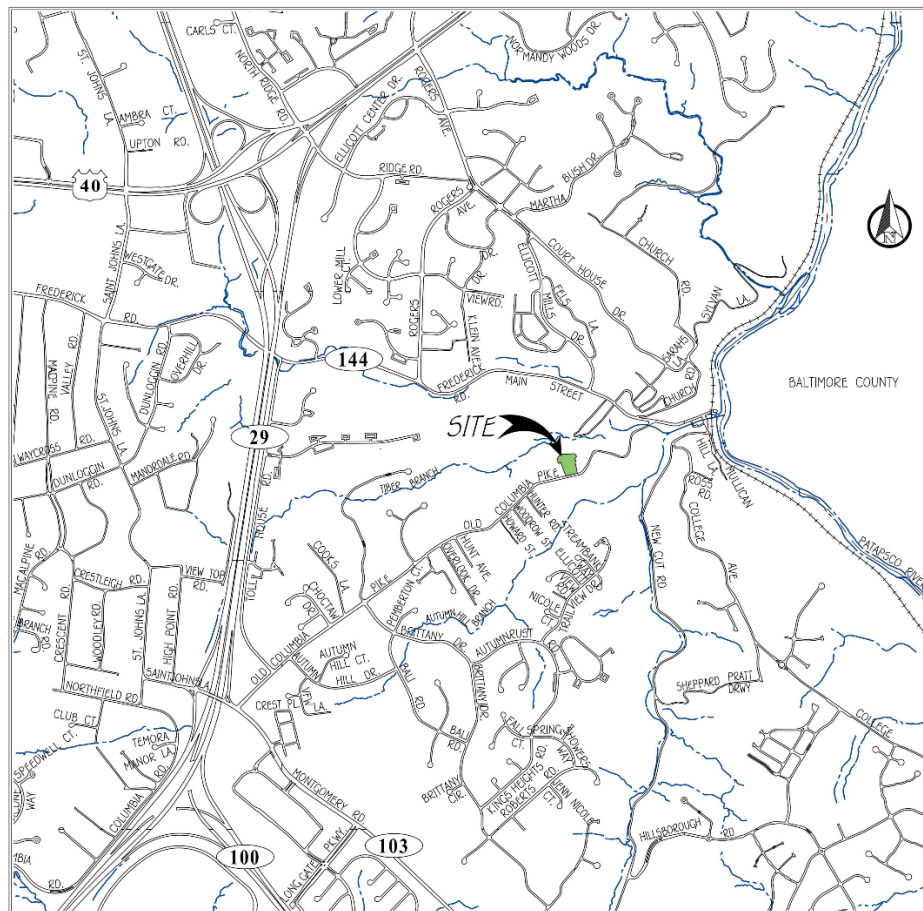
Old Columbia Crossing

Scenic Road Study

Introduction

Old Columbia Pike has been designated as a Howard County Scenic Road, and as Major Collector in the Howard County General Plan. The study area for this report is a single parcel (Parcel 262, Tax Map 25, consisting of 2.989 Acres) currently accessed by Old Columbia Pike and located approximately half a mile south of Main Street Ellicott City. The property is zoned R-ED and is home to an historic house (HO-558) to remain.

Location:



Existing Conditions:



Existing Conditions

This portion of Old Columbia Pike is in the Ellicott City Historic District, the property is home to an historic house to remain. The property is mostly grass, with some trees to the right side, along the property line and is wooded in the back along steep slopes that lead to Cat Rock Run, a stream that connects with the Tiber-Hudson branch river. 1.342 Acres of trees will remain within a forest conservation easement. Old Columbia Crossing is a winding road in this area, sloping down toward the east in the direction of Main Street. The slope of the road at this property is approximately 6%. Houses on this road are of varying styles and sizes. The property is served by an existing driveway that does not meet current sight distance requirements for safe access due to a neighboring home and the curvature of the road to the east of the property.

Proposed Conditions:



Proposed development and impacts

This development proposes two new homes accessed by a single use-in-common driveway. The existing driveway will be removed and the proposed driveway will be placed approximately 75 feet to the left of the existing drive in order to accommodate the two proposed homes as well as the existing home. The reason for the driveway change is to provide safer sight distance by pulling the driveway further away from the curve in the road and the neighboring house, which blocks sight distance. This improved driveway location will meet the Howard County Stopping Sight Distance requirement. This project is proposing to meet the required Intersection Sight Distance by Design Manual Waiver.

The Guidelines for Development of Land Abutting a Scenic Road were applied where applicable for the presented design.

- (i) The future homes on this project have been placed away from the scenic road right-of-way, without negatively impacting the surrounding steep slopes or obstructing the existing Historic Home.
- (ii) The subject property exists as an “open view” area naturally limiting removal of existing vegetation. The only trees proposed to be removed are a 22” non-native Norway Spruce, one 11” and two 9” non-native Blue Spruces. Required perimeter landscaping, street trees and a forest conservation easement are being provided as part of this project.
- (iii) The relocation of the driveway to improve vehicular safety will add some additional grading to provide a reasonable slope drive to the existing historic home. This new driveway will also require stormwater management. To accommodate these revisions and limit any impact to the scenic road perimeter landscaping and street trees will provide additional screening. Additionally, a proposed bio-retention stormwater management facility has been selected to create a 1’ planted depression along the roadway with limited visual impact.
- (iv) None of the proposed homes are oriented with the backs of the homes toward the scenic road. The proposed home closest to Old Columbia Pike is oriented with the front of the home facing the road but is also screened by the previously mentioned perimeter landscaping and street trees.
- (v) Nearly all future utilities will be buried with cleanouts placed at ground level. To reduce any visual impact of the inlets located in the bio-retention facility required to treat the new driveway a 12” Nyloplast Riser (inlet) is proposed and placed into the side slope of the facility. Unlike concrete risers seen in similar facilities, this riser will utilize colors that can better blend into the surrounding landscaping. No lighting, bridges, fences or walls are proposed on this project.

- (vi) The front facing home has been proposed in a location that allows screening of the garage and the second proposed home from the scenic road.
- (vii) This site currently exists as an “open view” area. Landscaping was selected from the Howard County Landscape Manual to blend in with other types of vegetation in the area and complement the existing historic home.
- (viii) This project is zoned R-ED and does not have a density receiving option.

The above design features minimize the impact of this development to the surrounding area by containing water runoff and preserving and enhancing the scenic viewshed.

Locations of Proposed houses, driveway, and trees looking east down Old Columbia Pike:



Locations of Proposed houses, driveway, and trees looking west up Old Columbia Pike:



Planning Board Criteria (16.125(c)(5))

(i) Access

Access is provided along this scenic road as there are no other roads abutting this property. The existing driveway location does not provide safe sight distance, the proposed location is safer. The proposed access keeps in character with this scenic road as there are other residences in this area with vehicular access directly from Old Columbia Pike.

(ii) Buffers

There is no existing vegetative buffer along the scenic road on this property. Proposed conditions provide a vegetative buffer consisting of ornamental street trees (due to overhead wires that exist on-site) perimeter trees, and enhanced landscaping consisting of ornamental, evergreen and larger deciduous trees.