

SHEET NO.	TITLE SHEET
1	TITLE SHEET
2-5	SUPPLEMENTAL PLAN - TOPOGRAPHY, STORMWATER MANAGEMENT, LANDSCAPING, AND FOREST CONSERVATION
6	SEDIMENT & EROSION CONTROL PLAN, NOTES, & DETAILS

7-b Grading for house construction

POINT	NORTH (feet)	EAST (feet)
26	276660.8200	1300106.4834
27	276662.3332	1300900.7962
410	277347.0852	1299225.1242
443	278766.2047	1299599.2971
506	278766.2047	1300929.7937
507	278767.7124	1301001.7934
508	278769.4222	1301394.2963
509	278770.9299	1301711.4044
1437	278767.0372	1299571.4999
1438	278768.5450	1299937.0028
1439	278769.3969	1299908.5724
1440	278768.2249	1300065.6544
1441	278769.6488	1300277.6152
1442	278754.5108	1300616.6337
1443	278760.4227	1300624.8830
1444	278762.8173	1301199.9948
1445	278750.7278	1300995.0507
1446	278750.8435	1300944.0293

LINE	BEARING	LENGTH
UC-1	S74°30'59"W	429.44'
UC-2	N89°52'13"W	60.18'
UC-3	N80°50'19"W	279.09'
UC-4	S40°57'19"W	49.89'
UC-5	S73°30'59"W	826.53'
UC-6	S68°50'19"W	12.29'
UC-7	S09°47'11"W	12.29'
UC-8	N09°47'11"E	11.82'
UC-9	S8°18'20"W	14189.28'
UC-10	N75°30'59"E	288.53'
UC-11	N40°57'19"E	67.29'
UC-12	S40°57'19"W	280.07'
UC-13	S89°52'13"E	52.80'
UC-14	N74°30'59"E	418.04'

Lot No.	Gross Area	Pipestem Area	Minimum Lot Size
1	3,139 Ac.*	0.134 Ac.*	3,004 Ac.*
2	3,206 Ac.*	0.202 Ac.*	3,004 Ac.*
3	3,237 Ac.*	0.237 Ac.*	3,000 Ac.*
4	3,259 Ac.*	0.193 Ac.*	3,092 Ac.*
5	4,272 Ac.*	0.143 Ac.*	3,332 Ac.*
6	38,250 Ac.*	0.218 Ac.*	38,032 Ac.*

ROAD NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH
DRIVEWAY 'A'	USE-IN-COMMON	15 MPH	36'

LOT No.	ADDRESS	ROOFTOP DISCONNECTION N-1 (NUMBER)	NON-ROOFTOP DISCONNECTION N-2 (NUMBER)	MICRO BIO-RETENTION M-6 (NUMBER)
1	15105 DEVLIN DRIVE	4	1	M-6 (1)
2	15111 DEVLIN DRIVE	5	1	M-6 (2)
3	15117 DEVLIN DRIVE	4	1	M-6 (3)
4	15135 DEVLIN DRIVE	---	0	M-6 (4)
5	15141 DEVLIN DRIVE	---	1	M-6 (5)
6	15125 DEVLIN DRIVE	8	1	M-6 (6)
---	COMMON DRIVEWAY	---	3	M-6 (6)

SYMBOL	DESCRIPTION
---492---	EXISTING 2' CONTOURS
---490---	EXISTING 10' CONTOURS
---482---	PROPOSED CONTOUR
+	SPOT ELEVATION
---	LIMITS OF DISTURBANCE
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED PAVING
---	SOILS LINES AND TYPE
---	SUPER SILT FENCE
---	STABILIZES CONSTRUCTION ENTRANCE
---	PROPOSED MICRO BIORETENTION (M-6)
---	NON-ROOFTOP DISCONNECTION (N-2)
---	ROOFLEAKAGES
---	UNDERDRAIN PIPE
---	15% TO 24.9% STEEP SLOPES
---	25% AND GREATER STEEP SLOPES
---	DRAINAGE AREA FOR MICRO-BIORETENTION AND BIORETENTION FACILITIES
---	DRAINAGE AREA FOR STORM DRAIN
---	TREE PROTECTION
---	FOREST CONSERVATION EASEMENT (RETENTION)
---	WETLAND AREA
---	25' WETLAND BUFFER
---	FLOODPLAIN ELEVATION
---	STREAM BANK BUFFER
---	100 YEAR PUBLIC FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
---	PROPOSED FOREST CONSERVATION EASEMENT SIGNAGE
---	BORING (PERC) TEST HOLE
---	SILT FENCE
---	EARTH DIKE
---	SPECIMEN TREE

REVISION	DATE	DESCRIPTION
1	7/18/23	REVISE LOT 3 HOUSE TYPE AND GRADING
2	3/15/24	REVISE HOUSE TYPE & GRADING LOT 3
3	5/13/24	REVISE HOUSE TYPE, SWM, & GRADING LOT 1

AREA	DESCRIPTION
A	TOTAL TRACT AREA = 55,196 Ac.
B	AREA OF PROPOSED ROAD @ W = 0.000 Ac.
C	AREA OF PROPOSED BUILDABLE LOTS = 55,192 Ac.
D	AREA OF PROPOSED BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
E	AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
F	NUMBER OF LOTS/PARCELS PROPOSED = 6
G	BUILDABLE PRESERVATION PARCELS = 0
H	NON-BUILDABLE PRESERVATION PARCELS = 0
I	AREA OF FLOODPLAIN = 5.48 Ac.
J	AREA OF DENSITY SENSING (55,192 Ac. - 25.5 Ac.) = 29,692 Ac.

PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	TRASH PAD	TOTAL
LANDSCAPE TYPE	A	A	A	A	A	A	A	A		
LINEAR FEET OF PERIMETER	701 LF	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	795 LF	16 LF	
CREDIT FOR EXISTING VEGETATION	0	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	0	0	
SHADE TREES	0	0	0	0	0	0	0	0	0	
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	
NUMBER OF PLANTS REQUIRED	10 (+2 EX.)	0	0	0	0	0	0	0	0	19***
SHADE TREES	701/760 = 11.7 OR 12)	0	0	0	0	0	0	0	0	
EVERGREEN TREES	0	0	0	0	0	0	0	0	0	
NUMBER OF PLANTS PROVIDED	4	0	0	0	0	0	0	3	0	7
SHADE TREES	12	0	0	0	0	0	0	6	0	18
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUB.)										6
SHRUBS										6

SYMBOL	DESCRIPTION
---	EXISTING 2' CONTOURS
---	EXISTING 10' CONTOURS
---	PROPOSED CONTOUR
+	SPOT ELEVATION
---	LIMITS OF DISTURBANCE
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED PAVING
---	SOILS LINES AND TYPE
---	SUPER SILT FENCE
---	STABILIZES CONSTRUCTION ENTRANCE
---	PROPOSED MICRO BIORETENTION (M-6)
---	NON-ROOFTOP DISCONNECTION (N-2)
---	ROOFLEAKAGES
---	UNDERDRAIN PIPE
---	15% TO 24.9% STEEP SLOPES
---	25% AND GREATER STEEP SLOPES
---	DRAINAGE AREA FOR MICRO-BIORETENTION AND BIORETENTION FACILITIES
---	DRAINAGE AREA FOR STORM DRAIN
---	TREE PROTECTION
---	FOREST CONSERVATION EASEMENT (RETENTION)
---	WETLAND AREA
---	25' WETLAND BUFFER
---	FLOODPLAIN ELEVATION
---	STREAM BANK BUFFER
---	100 YEAR PUBLIC FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
---	PROPOSED FOREST CONSERVATION EASEMENT SIGNAGE
---	BORING (PERC) TEST HOLE
---	SILT FENCE
---	EARTH DIKE
---	SPECIMEN TREE

AREA	DESCRIPTION
A	TOTAL TRACT AREA = 55,196 Ac.
B	AREA OF PROPOSED ROAD @ W = 0.000 Ac.
C	AREA OF PROPOSED BUILDABLE LOTS = 55,192 Ac.
D	AREA OF PROPOSED BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
E	AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
F	NUMBER OF LOTS/PARCELS PROPOSED = 6
G	BUILDABLE PRESERVATION PARCELS = 0
H	NON-BUILDABLE PRESERVATION PARCELS = 0
I	AREA OF FLOODPLAIN = 5.48 Ac.
J	AREA OF DENSITY SENSING (55,192 Ac. - 25.5 Ac.) = 29,692 Ac.

PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	TRASH PAD	TOTAL
LANDSCAPE TYPE	A	A	A	A	A	A	A	A		
LINEAR FEET OF PERIMETER	701 LF	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	795 LF	16 LF	
CREDIT FOR EXISTING VEGETATION	0	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	0	0	
SHADE TREES	0	0	0	0	0	0	0	0	0	
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	
NUMBER OF PLANTS REQUIRED	10 (+2 EX.)	0	0	0	0	0	0	0	0	19***
SHADE TREES	701/760 = 11.7 OR 12)	0	0	0	0	0	0	0	0	
EVERGREEN TREES	0	0	0	0	0	0	0	0	0	
NUMBER OF PLANTS PROVIDED	4	0	0	0	0	0	0	3	0	7
SHADE TREES	12	0	0	0	0	0	0	6	0	18
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUB.)										6
SHRUBS										6

PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	TRASH PAD	TOTAL
LANDSCAPE TYPE	A	A	A	A	A	A	A	A		
LINEAR FEET OF PERIMETER	701 LF	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	795 LF	16 LF	
CREDIT FOR EXISTING VEGETATION	0	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	0	0	
SHADE TREES	0	0	0	0	0	0	0	0	0	
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	0 LF REMAINING	
NUMBER OF PLANTS REQUIRED	10 (+2 EX.)	0	0	0	0	0	0	0	0	19***
SHADE TREES	701/760 = 11.7 OR 12)	0	0	0	0	0	0	0	0	
EVERGREEN TREES	0	0	0	0	0	0	0	0	0	
NUMBER OF PLANTS PROVIDED	4	0	0	0	0	0	0	3	0	7
SHADE TREES	12	0	0	0	0	0	0	6	0	18
SMALL/MEDIUM DECIDUOUS TREES (2:1 SUB.)										6
SHRUBS										6

LINE	BEARING	LENGTH
UC-1	S74°30'59"W	429.44'
UC-2	N89°52'13"W	60.18'
UC-3	N80°50'19"W	279.09'
UC-4	S40°57'19"W	49.89'
UC-5	S73°30'59"W	826.53'
UC-6	S68°50'19"W	12.29'
UC-7	S09°47'11"W	12.29'
UC-8	N09°47'11"E	11.82'
UC-9	S8°18'20"W	14189.28'
UC-10	N75°30'59"E	288.53'
UC-11	N40°57'19"E	67.29'
UC-12	S40°57'19"W	280.07'
UC-13	S89°52'13"E	52.80'
UC-14	N74°30'59"E	418.04'

Lot No.	Gross Area	Pipestem Area	Minimum Lot Size
1	3,139 Ac.*	0.134 Ac.*	3,004 Ac.*
2	3,206 Ac.*	0.202 Ac.*	3,004 Ac.*
3	3,237 Ac.*	0.237 Ac.*	3,000 Ac.*
4	3,259 Ac.*	0.193 Ac.*	3,092 Ac.*
5	4,272 Ac.*	0.143 Ac.*	3,332 Ac.*
6	38,250 Ac.*	0.218 Ac.*	38,032 Ac.*

ROAD NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH
DRIVEWAY 'A'	USE-IN-COMMON	15 MPH	36'

LOT No.	ADDRESS	ROOFTOP DISCONNECTION N-1 (NUMBER)	NON-ROOFTOP DISCONNECTION N-2 (NUMBER)	MICRO BIO-RETENTION M-6 (NUMBER)
1	15105 DEVLIN DRIVE	4	1	M-6 (1)
2	15111 DEVLIN DRIVE	5	1	M-6 (2)
3	15117 DEVLIN DRIVE	4	1	M-6 (3)
4	15135 DEVLIN DRIVE	---	0	M-6 (4)
5	15141 DEVLIN DRIVE	---	1	M-6 (5)
6	15125 DEVLIN DRIVE	8	1	M-6 (6)
---	COMMON DRIVEWAY	---	3	M-6 (6)

AREA	DESCRIPTION
A	TOTAL TRACT AREA = 55,196 Ac.
B	AREA OF PROPOSED ROAD @ W = 0.000 Ac.
C	AREA OF PROPOSED BUILDABLE LOTS = 55,192 Ac.
D	AREA OF PROPOSED BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
E	AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS = 0.000 Ac.
F	NUMBER OF LOTS/PARCELS PROPOSED = 6
G	BUILDABLE PRESERVATION PARCELS = 0
H	NON-BUILDABLE PRESERVATION PARCELS = 0
I	AREA OF FLOODPLAIN = 5.48 Ac.
J	AREA OF DENSITY SENSING (55,192 Ac. - 25.5 Ac.) = 29,692 Ac.

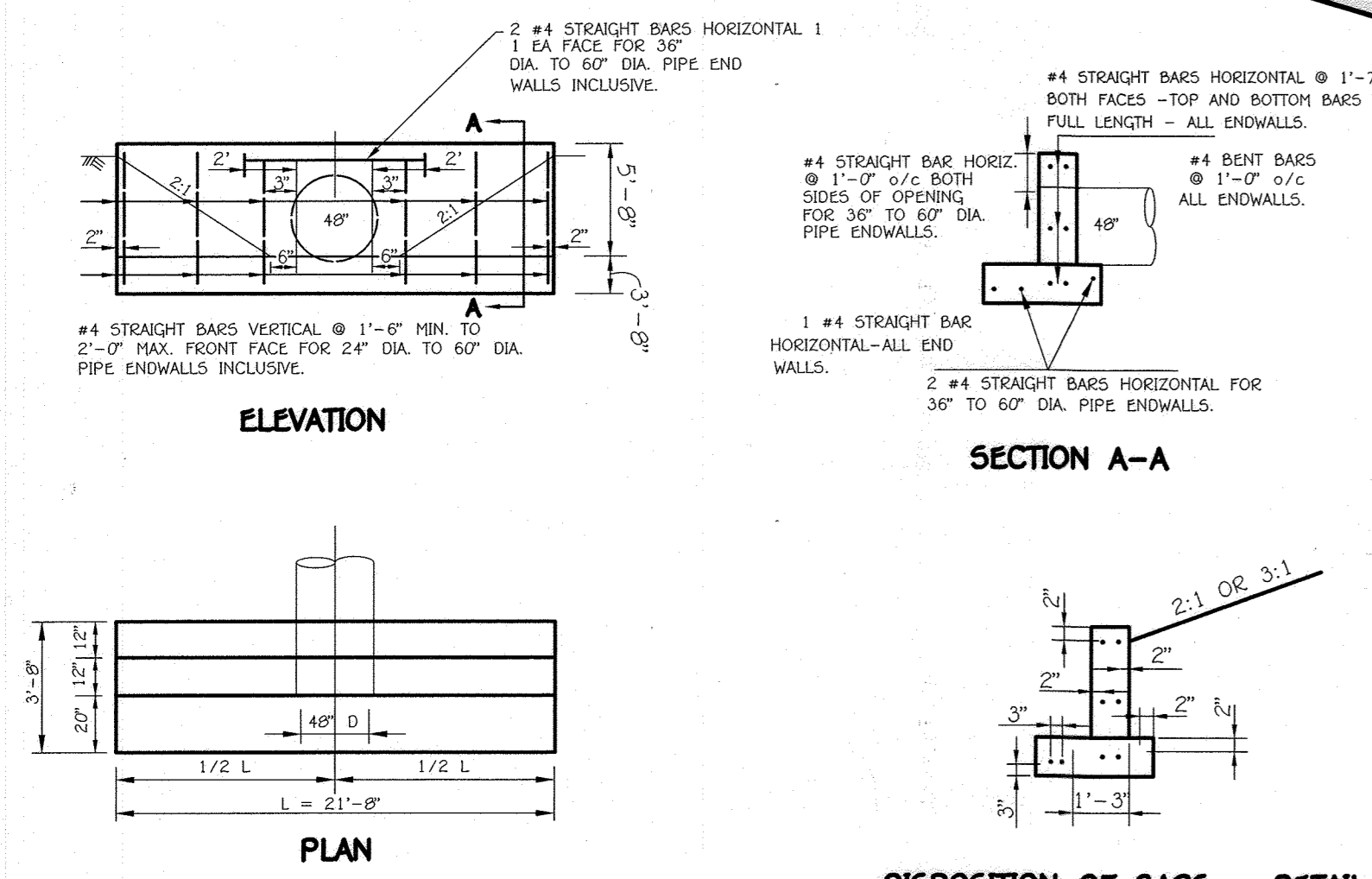
PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	TRASH PAD	TOTAL
LANDSCAPE TYPE	A	A	A	A	A	A	A	A		
LINEAR FEET OF PERIMETER	701 LF	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	795 LF	16 LF	
CREDIT FOR EXISTING VEGETATION	0	2164 LF	1241 LF	603 LF	1460 LF	1082 LF	50 LF	0	0	
SHADE TREES	0	0	0	0						

**NOTE:**  
 1. MARYLAND DEPARTMENT OF THE ENVIRONMENT PERMIT #201461612/H-NT-3258 WAS APPROVED ON JANUARY 13, 2015.  
 2. THE H-NT ENVIRONMENTAL TRUST AND OWNERS (KLEINS) OF ABANDONING LOT 2 OF THE CHASE FARM SUBDIVISION HAVE APPROVED THE LOCATION OF THE OFF-SITE SECTION OF THE SHARED DRIVEWAY FOR THE CATTAIL OVERLOOK SUBDIVISION WHICH CROSSES ONTO THE NORTHWEST PORTION OF LOT 2. IT HAS BEEN LISTED IN THE REGISTRATION OF EASEMENTS AND MAINTENANCE OBLIGATION, RECORDED WITH F-14-072 THAT THE OWNER OF LOT 2 WILL NOT BE A PARTY TO UPGRADE OR MAINTENANCE OF THE SHARED DRIVEWAY FOR CATTAIL OVERLOOK SUBDIVISION, LOTS 1 TO 6.



Existing Public Forest Conservation Easement No. 2 (Retention) (Plat Nos. 21339 Thru 21344)

SOIL	NAME	CLASS	E. FACTOR
Co	Codorus and Harboro silt loams, 0 to 3 percent slopes	C	0.37
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GmA	Glenville silt loam, 0 to 3 percent slopes	C	0.37
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
MdD	Manor loam, 15 to 25 percent slopes, very rocky	B	0.24
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	0.24



REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)  
 CHAMFER: ALL EXPOSED EDGES 1"x 1" OR AS DIRECTED.  
 CONC. SHALL BE S.H.A. A. MIX NO. 2.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL OFFICE: 10272 BATHURST NATIONAL PIKE  
 ELKTON CITY, MARYLAND 21842  
 (410) 461-2955

**MODIFIED TYPE 'C' ENDWALL (HW-2)**

**Developer's/Builder's Certificate**

I/we certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/we further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

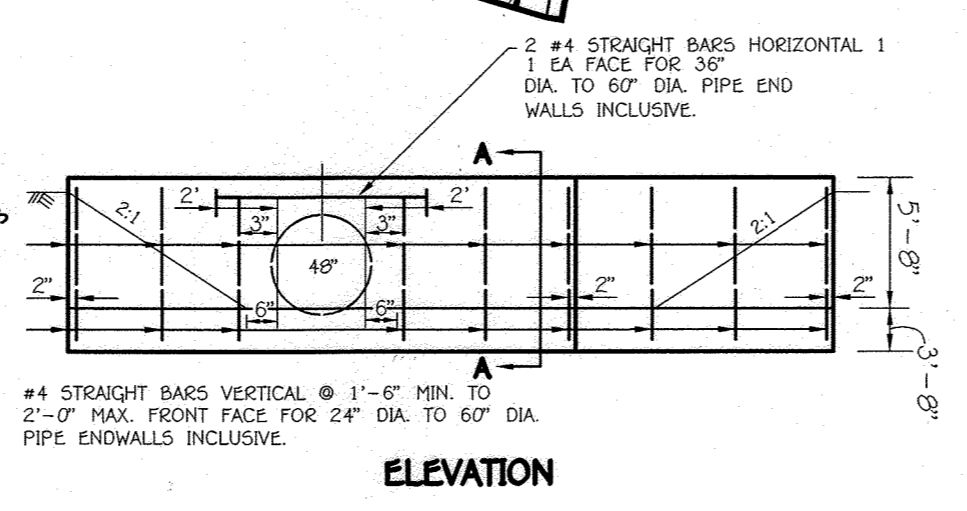
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 8-28-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 8-28-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Developer/Builder: [Signature] 8/2/14

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 [Signature] 1-2-24

Revisions to GLW Professional Certification  
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland. License No. 112975. Expiration Date: May 20, 2014.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
 Approved: [Signature] 8/19/14  
 Howard County



REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)  
 CHAMFER: ALL EXPOSED EDGES 1"x 1" OR AS DIRECTED.  
 CONC. SHALL BE S.H.A. A. MIX NO. 2.

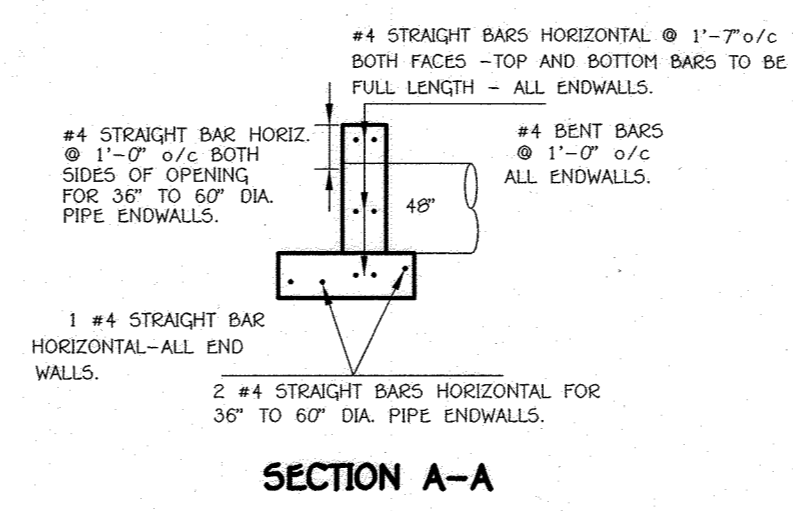
**MODIFIED TYPE 'C' ENDWALL (HW-1)**

**OWNER**

MR. BOB BURCE  
 21400 NORTH AVENUE  
 BROOKVILLE, MARYLAND 20833-1805  
 410-489-7900 ATTN: TIM FEAGA

**DEVELOPER**

HERITAGE LAND DEVELOPMENT  
 15950 NORTH AVENUE  
 P.O. BOX 482  
 LISBON, MARYLAND 21765  
 410-489-7900

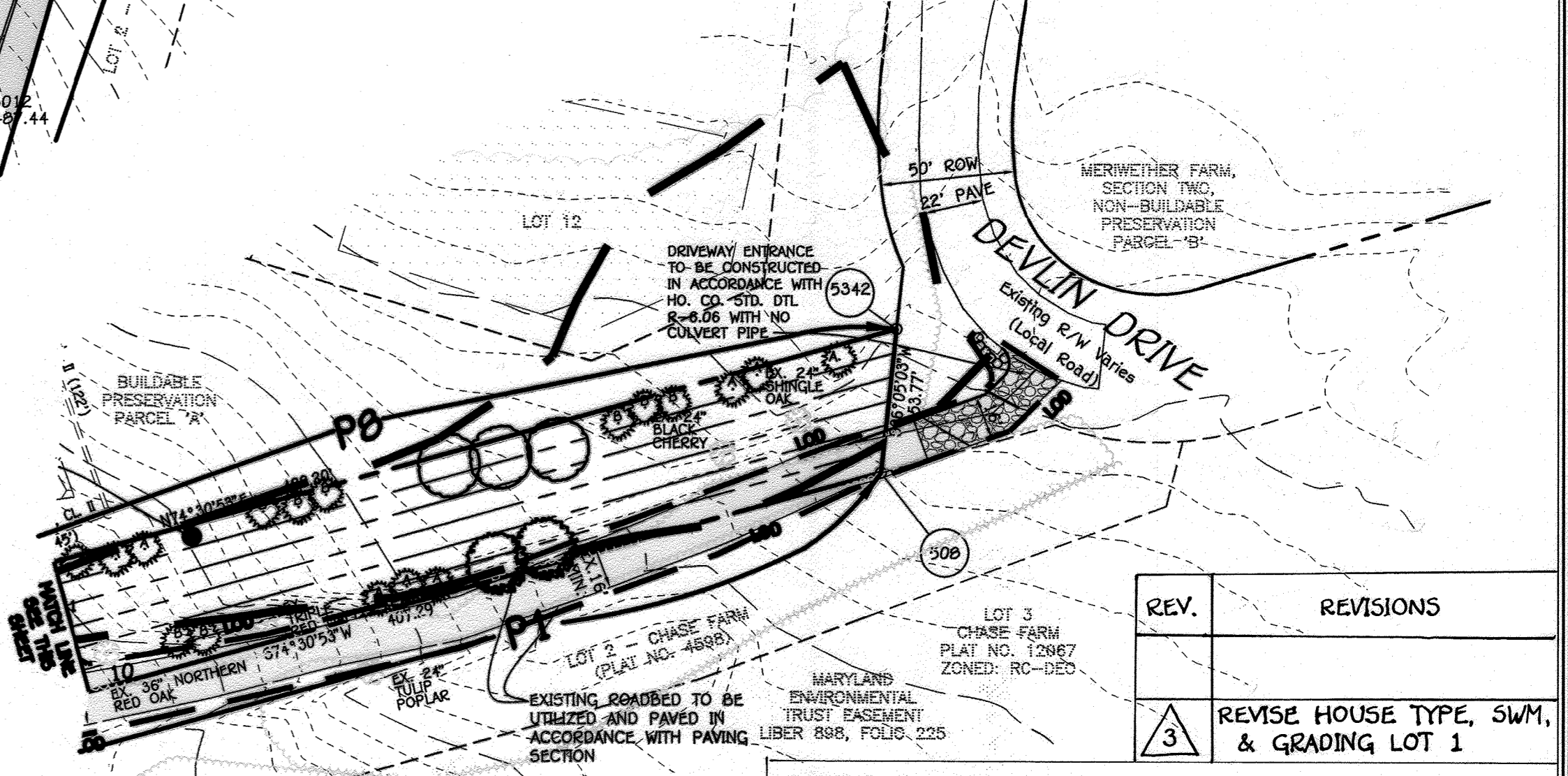


REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)  
 CHAMFER: ALL EXPOSED EDGES 1"x 1" OR AS DIRECTED.  
 CONC. SHALL BE S.H.A. A. MIX NO. 2.

**MODIFIED TYPE 'C' ENDWALL (HW-2)**

[Signature] 8/12/14  
 Stephanie E. Tuje, P.E. 38386  
 I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the state of Maryland. License No. 38386. Expiration Date: 1-12-16.

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 [Signature]



REV.	REVISIONS
3	REVISE HOUSE TYPE, SWM, & GRADING LOT 1

REV 1 - REMOVE PROPOSED DRIVEWAY FROM STREAM CROSSING TO DEVILIN DR TO UTILIZE EXISTING ROADED FOR ACCESS 5/2/15 SST

Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation

**Cattail Overlook**  
 Lots 1 Thru 6

(A Resubdivision of Lot 2 Buice Property - Plat Nos. 5425 - 5429) and (A Resubdivision of Herwether Farm Section One Non-Buildable Parcel - Plat Nos. 21339 - 21344)  
 ZONED: RC-DEO  
 TAX MAP: 21 PARCELS: 24 & 84 GRIDS: 20 & 21  
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
 SCALE: 1"=100' DATE: JULY, 2014  
 SHEET 2 OF 6

F-14-072

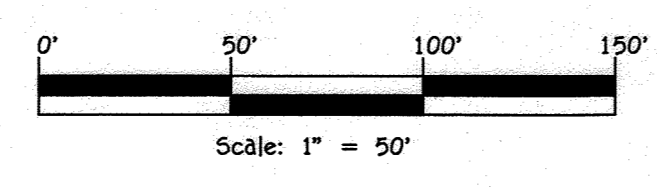
SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
Co	Codorus and Harboro silt loams, 0 to 3 percent slopes	C	0.37
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GmA	Glenville silt loam, 0 to 3 percent slopes	C	0.37
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
McD	Manor loam, 15 to 25 percent slopes, very rocky	B	0.24
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	0.24



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2899

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*V. Stalder* 8-23-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Chad Edwards* 8-28-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**Developer's/Builder's Certificate**  
 I/We certify that the landscaping shown on this plan will be done according to Section 15.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.  
*[Signature]* 7/10/14  
 Developer/Builder DATE



**OWNER**  
 MR. BOB BUICE  
 21400 NEW HAMPSHIRE AVE.  
 BROOKVILLE, MARYLAND 20833-1805  
 410-489-7900 ATTN: TIM FEAGA

**DEVELOPER**  
 HERITAGE LAND DEVELOPMENT  
 15950 NORTH AVENUE  
 P.O. BOX 482  
 LISBON, MARYLAND 21765  
 410-489-7900

*Stephanie J. Tuitt* 7/10/14  
 Stephanie J. Tuitt, P.E. 38386 DATE  
 I, the undersigned, hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 38386, Expiration Date 1-12-16.

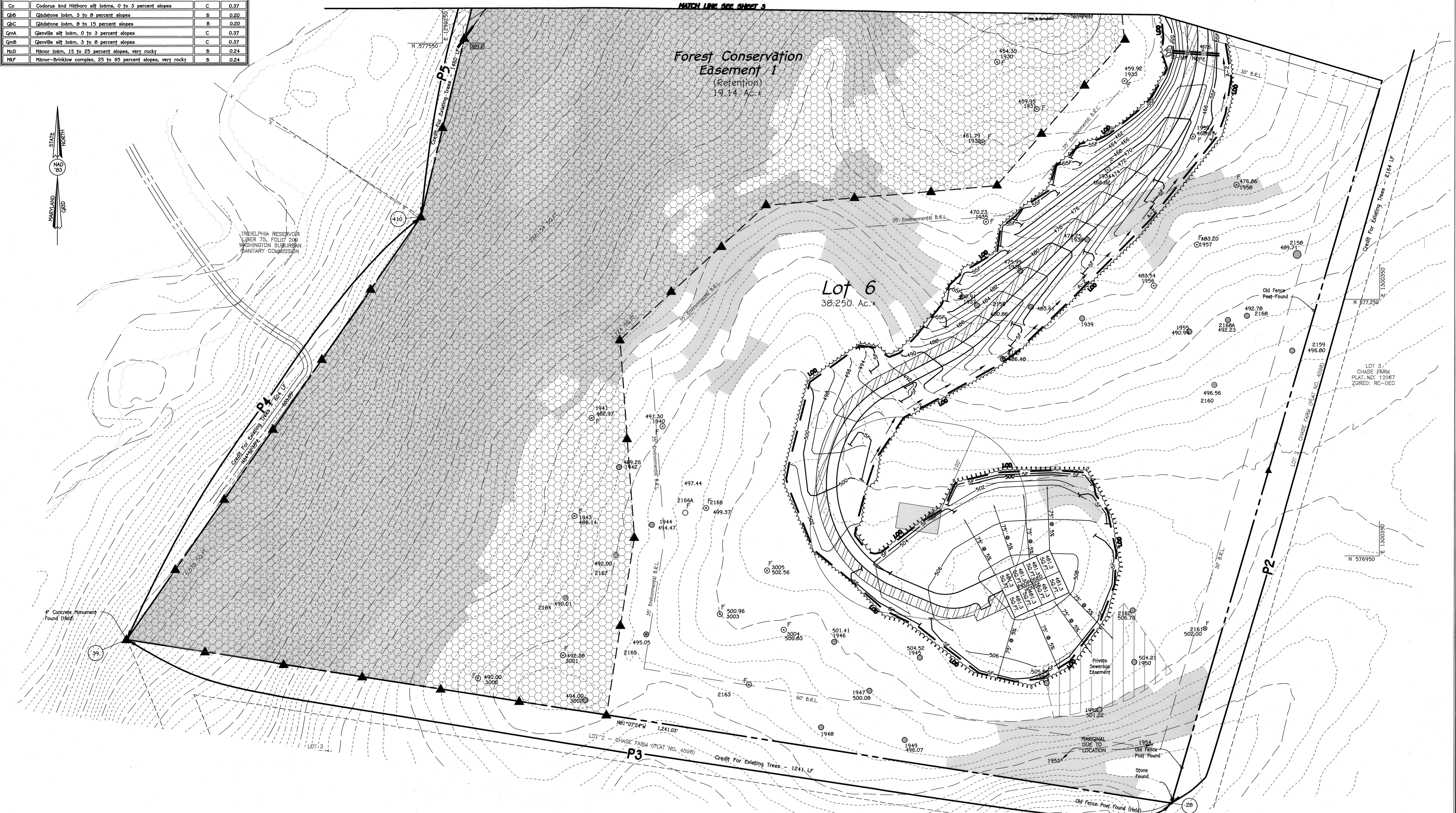
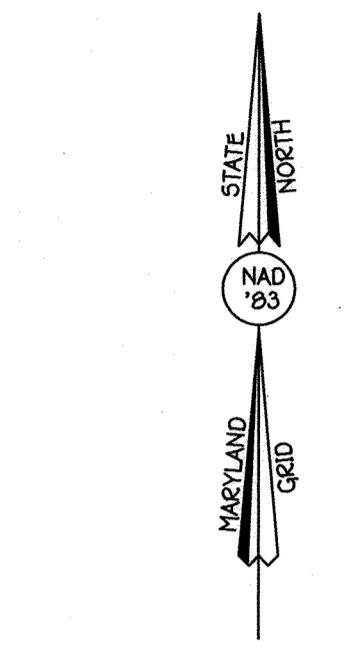


Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation  
**Cattail Overlook**  
 Lots 1 Thru 6  
 (A Resubdivision Of Lot 2 Buice Property - Plat Nos. 5426 - 5429) And (A Resubdivision Of Heritager Farm Section One Non-Buildable Parcel "C" Plat Nos. 21339 - 21344)  
 ZONED: RC-DEO  
 TAX MAP: 21 PARCELS: 24 & 84 GRIDS: 20 & 21  
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
 SCALE: 1"=100' DATE: JULY, 2014  
 SHEET 3 OF 6

F-14-072

K:\SDS\PROJ\30636 BUICE MAD 03\dwg\RECORD PLATS\30636 Support Planning, Sheet 3, 7/10/2014 2:43:15 PM, 1:1

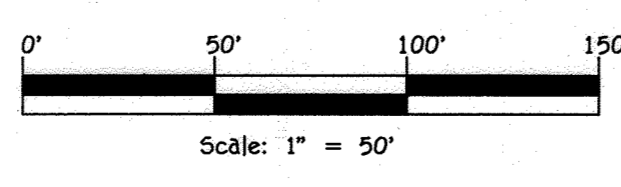
SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	0.37
Gb-B	Gladstone loam, 3 to 8 percent slopes	B	0.20
Gb-C	Gladstone loam, 8 to 15 percent slopes	B	0.20
Gm-A	Glenville silt loam, 0 to 3 percent slopes	C	0.37
Gm-B	Glenville silt loam, 3 to 8 percent slopes	C	0.37
Mu-D	Manor loam, 15 to 25 percent slopes, very rocky	B	0.24
Mu-F	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	B	0.24



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CONTINGENT SERVICE OFFICE: P.O. BOX 10272 BALTIMORE NATIONAL PLACE  
 ELKOTT CITY, MARYLAND 21042  
 (410) 461-2899

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Kate Schaefer* 8-28-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Chad Eshel* 8-28-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**Developer's/Builder's Certificate**  
 I/We certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.  
*T.C. Eshel*  
 Developer/Builder



**OWNER**  
 MR. BOB BUICE  
 21400 NEW HAMPSHIRE AVE.  
 BROOKVILLE, MARYLAND 20833-1805  
 410-489-7900 ATTN: TIM PEAGA

**DEVELOPER**  
 HERITAGE LAND DEVELOPMENT  
 15950 NORTH AVENUE  
 P.O. BOX 482  
 LUSKON, MARYLAND 21765  
 410-489-7900

*Stephanie Tuft* 7/10/14  
 Stephanie Tuft, P.E. 38386 DATE  
 \*Professional certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland. License No. 38386, Expiration Date 1-12-16.\*



**Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation**  
**Cattail Overlook**  
 Lots 1 Thru 6  
 (A Resubdivision of Lot 2 Buice Property - Plat Nos. 5426 - 5429) and (A Resubdivision of Heriweher Farm Section One Non-Buildable Parcel - Plat Nos. 21339 - 21344)  
 ZONED: RC-DEO  
 TAX MAP: 21 PARCELS: 24 & 84 GRIDS: 20 & 21  
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
 SCALE: 1"=100' DATE: JULY, 2014  
 SHEET 4 OF 8 **F-14-072**

K:\GIS\PROJ\30636 BUICE MAD 03\DWG\RECORD PLATS\30636 Support Plan.dwg, Sheet 4, 7/10/2014 2:45:37 PM, 11

**NOTES**

- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 19.14 ACRES OF FOREST WHICH IS SUFFICIENT TO MEET THE BREAK-POINT OF 19.14 ACRES OF REQUIRED RETENTION. SURETY IS NOT REQUIRED FOR RETENTION.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, A LANDSCAPE SURETY FOR THE PERIMETER LANDSCAPING AND TRASH PAD SCREENING FOR 7 SHADE TREES, 18 EVERGREENS, AND 6 SHRUBS IN THE AMOUNT OF (\$4,950.00) SHALL BE PROVIDED WITH THE GRADING PERMIT.  
LOT 1 SURETY: (3) SHADE TREES @300/SHADE TREE & (6) EVERGREENS @150/EVERGREEN = \$1,800.00  
LOT 5 SURETY: (4) SHADE TREES @300/SHADE TREE & (12) EVERGREENS @150/EVERGREEN & (6) SHRUBS @ \$300/SHRUB = \$3,150.00
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SEE THE RECORD PLAT FOR THE BEARING AND DISTANCE DESCRIPTIONS OF THE FOREST CONSERVATION EASEMENTS.

**GUARANTEE REQUIREMENTS**

A 75 PERCENT SURVIVAL RATE OF REFORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

**PLANTING / SOIL SPECIFICATIONS**

- Planting Of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
- A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Reforestation Areas Impacted By Site Grading To Assure A Suitable Planting Area. If Applicable, Disturbed Areas Shall Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
- All Bare Root Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
- Plants Shall Be Installed So That The Top Of The Root Mass Is Level With The Top Of Existing Grade. Backfill In The Planting Pits Shall Consist Of 3 Parts Existing Soil To 1 Part Pine Fines Or Equivalent.
- Fertilizer Shall Consist Of Agriform 22-8-2, Or Equivalent, Applied As Per Manufacturer's Specifications.
- A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
- Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
- All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

**MULTIFLORA ROSE CONTROL NOTE:**

**PRIOR TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED.** Removal Of The Multiflora Rose 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 Rose 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 Manufacturer's Specifications. Care Should Be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. It Is Recommended That Infiltration Of Rose Removal Begin At Least Six Months Prior To Planting So That New Growth Of Roses Is Able To Be More Successfully Managed.

**PRE-CONSTRUCTION MEETING**

- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
  - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
  - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
  - MAKE ALL NECESSARY ADJUSTMENTS;
  - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

**SEQUENCE OF CONSTRUCTION**

- Sediment Controls And Tree Protective Devices Shall Be Installed In Accordance With Sediment & Erosion Control Plans For This Site. If Applicable, (2 Days) Site Shall Be Graded In Accordance With The Plans. (1 Week)
- Proposed Landscape Planting Areas (Along The Common Driveway) Impacted By The Site Grading Shall Be Topsoiled And Stabilized As Per Note 2 Of The "Planting / Soil Specifications". (1 Day)
- Plants Shall Be Installed And Maintained As Per Notes And Specifications. (1 Year)

NOTE: Plantings Shall Be Guaranteed And Maintained In Accordance With The "Guarantee Requirements" (1 Year) And "Maintenance Of Plantings" Associated With This Project.

**FOREST PROTECTION GENERAL NOTES**

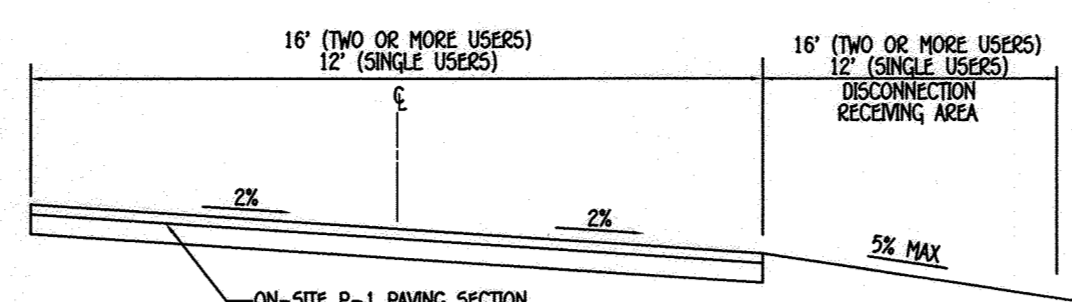
- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE GUN OFF, SPRINGING AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

SPECIMEN TREE TABLE			
KEY	SPECIES	SIZE (DBH)	COMMENTS
1	TULIP POPLAR	35"	GOOD CONDITION
2	SYCAMORE	36"	GOOD CONDITION
3	TULIP POPLAR	34"	GOOD CONDITION
4	TULIP POPLAR	34"	GOOD CONDITION
5	SYCAMORE	31"	GOOD CONDITION
6	SYCAMORE	58"	SPLITS INTO 3 ABOVE BREAST HEIGHT
7	SYCAMORE	33"	TWIN STEMS INCLUDES A 3" TRUNK
8	TULIP POPLAR	40"	GOOD CONDITION
9	TULIP POPLAR	40"	GOOD CONDITION
10	NORTHERN RED OAK	36"	GOOD CONDITION

NOTE: ALL SPECIMEN TREES ARE TO BE RETAINED.

**FOREST CONSERVATION WORKSHEET VERSION 1.0**

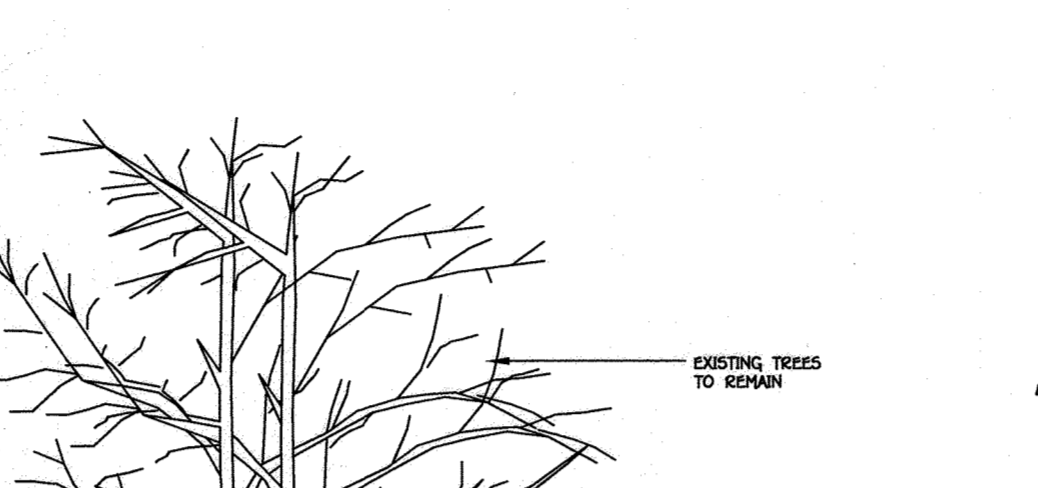
A. TOTAL TRACT AREA	55.19 AC				
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.46				
C. AREA WITHIN AGRICULTURAL PRODUCTION	0.46				
C. NET TRACT AREA	49.71 AC				
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)					
AREA	MPR	IDA	HOR	MPD	CIA
INFORMATION FOR CALCULATIONS:					
D. AFForestation THRESHOLD	0.20% x D =	9.94			
E. FOREST CONSERVATION THRESHOLD	0.25% x D =	12.43			
F. EXISTING FOREST COVER		48.00			
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		33.57			
BREAK EVEN POINT:					
H. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION		19.14			
I. CLEARING PERMITTED WITHOUT MITIGATION		28.96			
PROPOSED FOREST CLEARING:					
J. TOTAL AREA OF FOREST TO BE CLEARED		28.96			
K. TOTAL AREA OF FOREST TO BE RETAINED		19.14			
PLANTING REQUIREMENTS:					
L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		6.72			
M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD		0			
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD		6.72			
O. NET AFForestation REQUIRED		0			
P. TOTAL AFForestation REQUIRED		0			
Q. TOTAL REFORESTATION AND AFForestation REQUIRED		0			
R. EXCESS FOREST CREDIT		0			



NOTE: ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 11 (STANDARD SPECIFICATIONS AND DETAILS) FOR CONSTRUCTION.

**TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION**

NOT TO SCALE



EXISTING TREES TO REMAIN

**GUTTER DRAIN FILTER DETAIL**

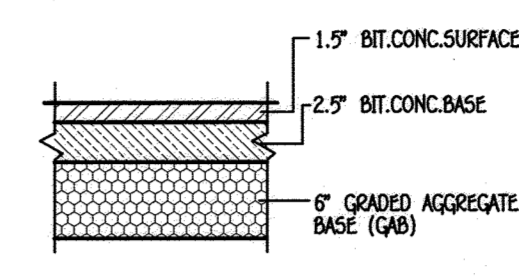
NOT TO SCALE

**STORMWATER MANAGEMENT NOTES**

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

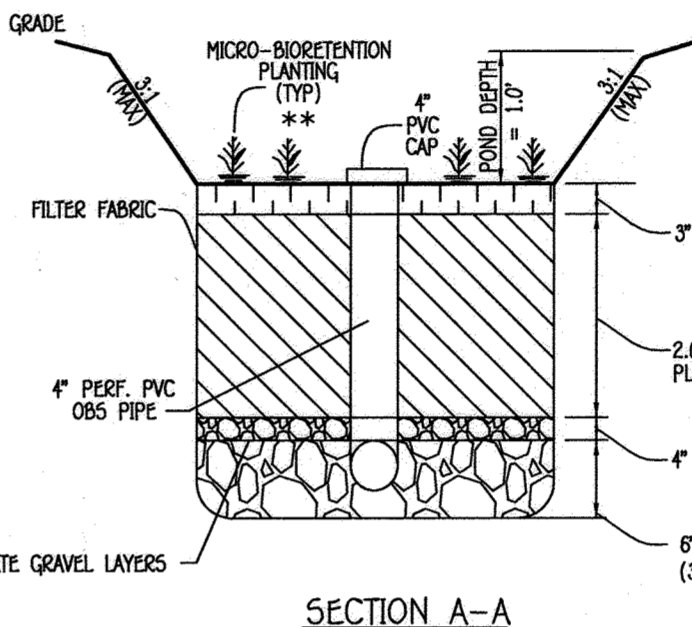
**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF ROOFTOP RUNOFF (N-1) DISCONNECTION OF NONROOFTOP RUNOFF (N-2)**

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

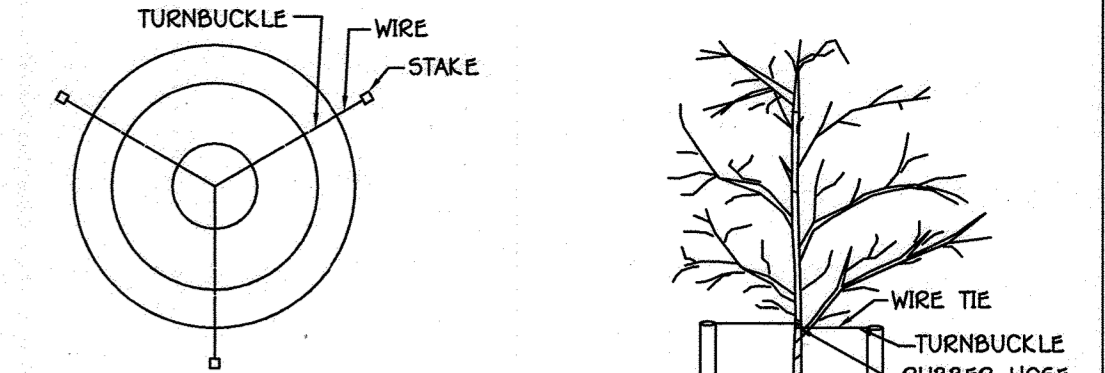


**P-1 DRIVEWAY PAVING SECTION**

NOT TO SCALE

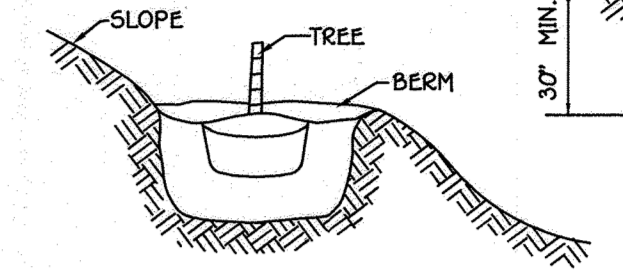


**SECTION A-A**



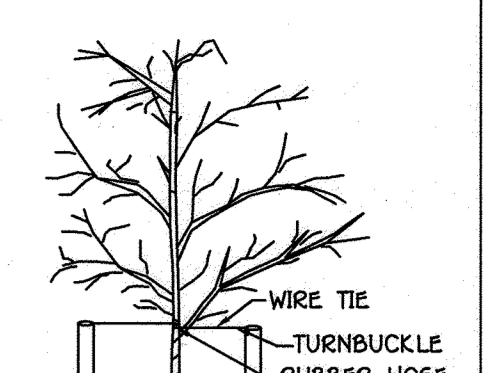
**STAKING DETAIL**

NOT TO SCALE



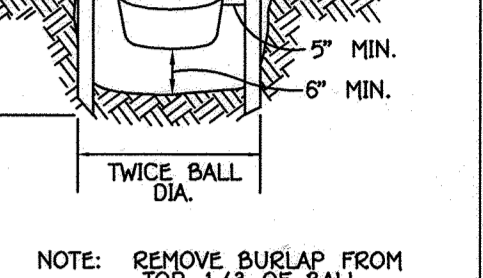
**GRADING FOR PLANTING ON SLOPES**

NOT TO SCALE



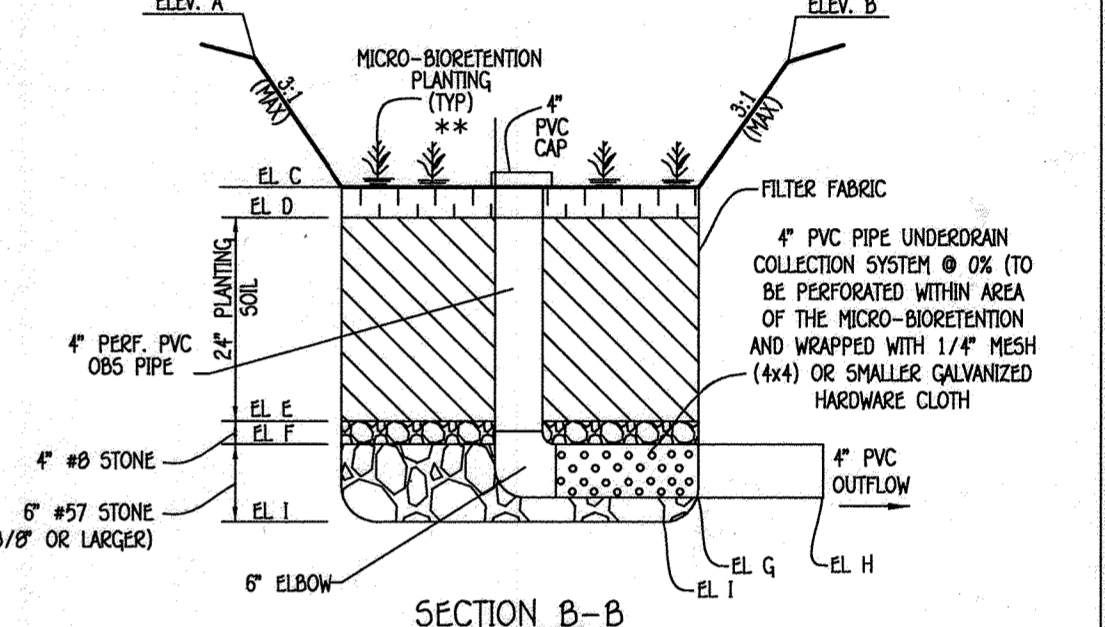
**TREE PLANTING**

NOT TO SCALE



**TREE PLANTING**

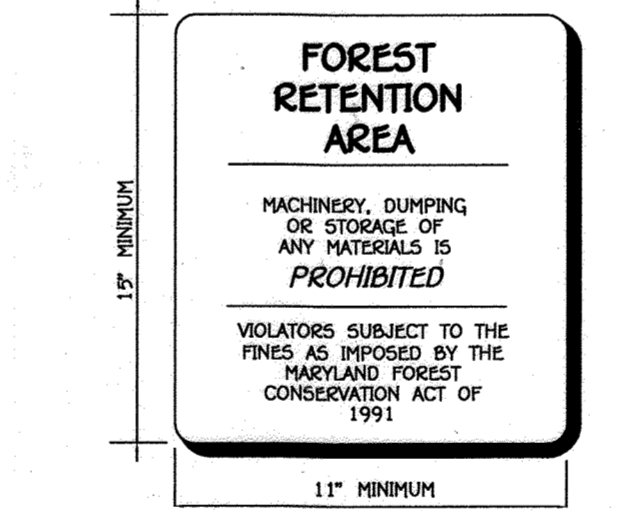
NOT TO SCALE



**MICRO-BIORETENTION DETAIL (M-6)**

NOT TO SCALE

REV.	REVISIONS
3	REVISE HOUSE TYPE, SWM & GRADING LOT 1



**FOREST RETENTION AREA**

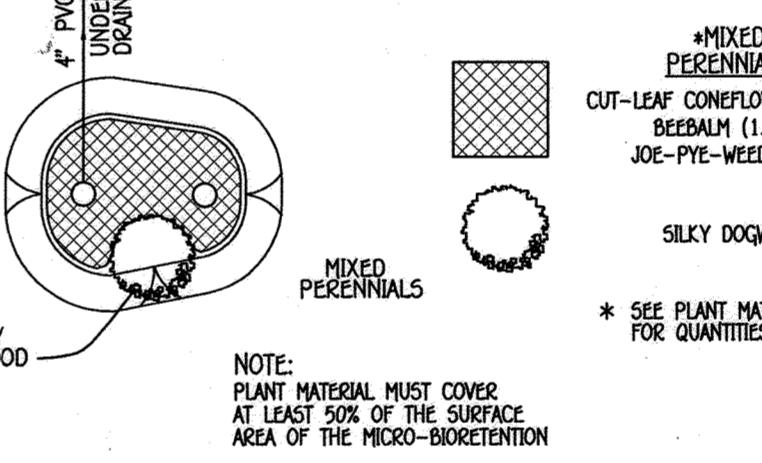
NOT TO SCALE

**FOREST CONSERVATION SIGN DETAIL**

NOT TO SCALE

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
4	○	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2.5"-3" CAL FULL CROWN, B&B
3	○	TILIA CODATA 'GREENSPIRE' (GREENSPIRE LITTLELEAF LINDEN)	2.5"-3" CAL FULL CROWN, B&B
9	○	ILEX 'NELLIE R. STEVENS' (NELLIE R. STEVENS HOLLY)	5' - 6" HT. B&B
9	○	TILIA PLICATA (GIANT ARBORVITAE 'GREEN GIANT')	5' - 6" HT. B&B

TOTAL: 7 SHADE TREES, 18 EVERGREEN



**MICRO-BIORETENTION PLANTING DETAIL**

NOT TO SCALE

**OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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 ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME 1, TABLE A.1.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TRIM DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

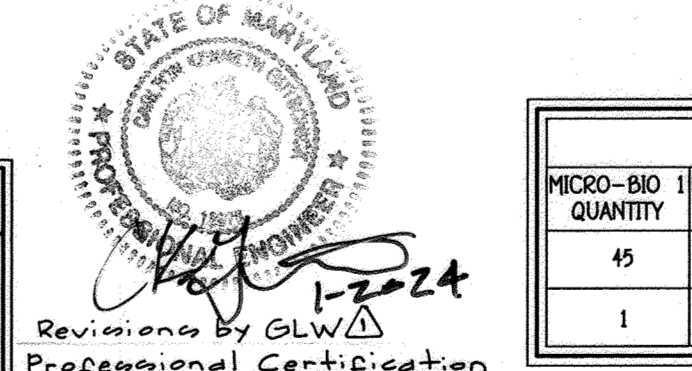
**PLAN**

NOT TO SCALE

BIORETENTION FILTER	MICRO-BIORETENTION								
	A	B	C	D	E	F	G	H	I
1	467.50	467.50	466.50	466.25	464.25	464.00	463.67	462.97	462.50
2	484.00	484.00	483.00	482.75	480.75	480.50	480.17	479.47	479.00
3	477.5	477.5	476.5	476.25	474.25	474.00	473.67	472.97	472.50
4	438.00	438.00	437.00	436.75	434.75	434.50	434.17	433.47	433.00
5	416.00	416.00	415.00	414.75	412.75	412.50	412.17	411.47	411.00
6	465.75	465.75	465.00	464.75	462.75	462.50	462.17	461.47	461.00

Note: For MBR-A & Plant materials on Lot 4 see sheet B

MICRO-BIORETENTION PLANT MATERIAL									
MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	MICRO-BIO 3 QUANTITY	MICRO-BIO 4 QUANTITY	MICRO-BIO 5 QUANTITY	MICRO-BIO 6 QUANTITY	NAME	MAXIMUM SPACING (FT.)		
45	30	25	30	32	40	MIXED PERENNIALS	1.5 TO 3.0 FT.		
1	1	1	1	1	1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION		



Revisions by GLW  
Professional Certification  
I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 13775  
Expiration Date: May 20, 2024

12/17/2023 (by GLW) Rev. for Lot 4 house, grading & swm to be built, see sheet 7 & B

**Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation**

**Cattail Overlook**

Lots 1 Thru 6

(A Resubdivision Of Lot 2 Buice Property - Plot Nos. 5426 - 5429) And (A Resubdivision Of Hervey Farm Section 01 Non-Bulldozable Parcel # Plot Nos. 21399 - 21344)  
ZONED: RC-DEO  
TAX MAP: 21 PARCELS: 24 & 84 GRIDS: 20 & 21  
FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
SCALE: 1"=100' DATE: JULY, 2014  
SHEET 5 OF 8



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development  
Chief, Development Engineering Division  
Date: 8-28-14  
Date: 8-28-14

**Developer's/Builder's Certificate**

I/We certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Landscape Manual. I/We further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

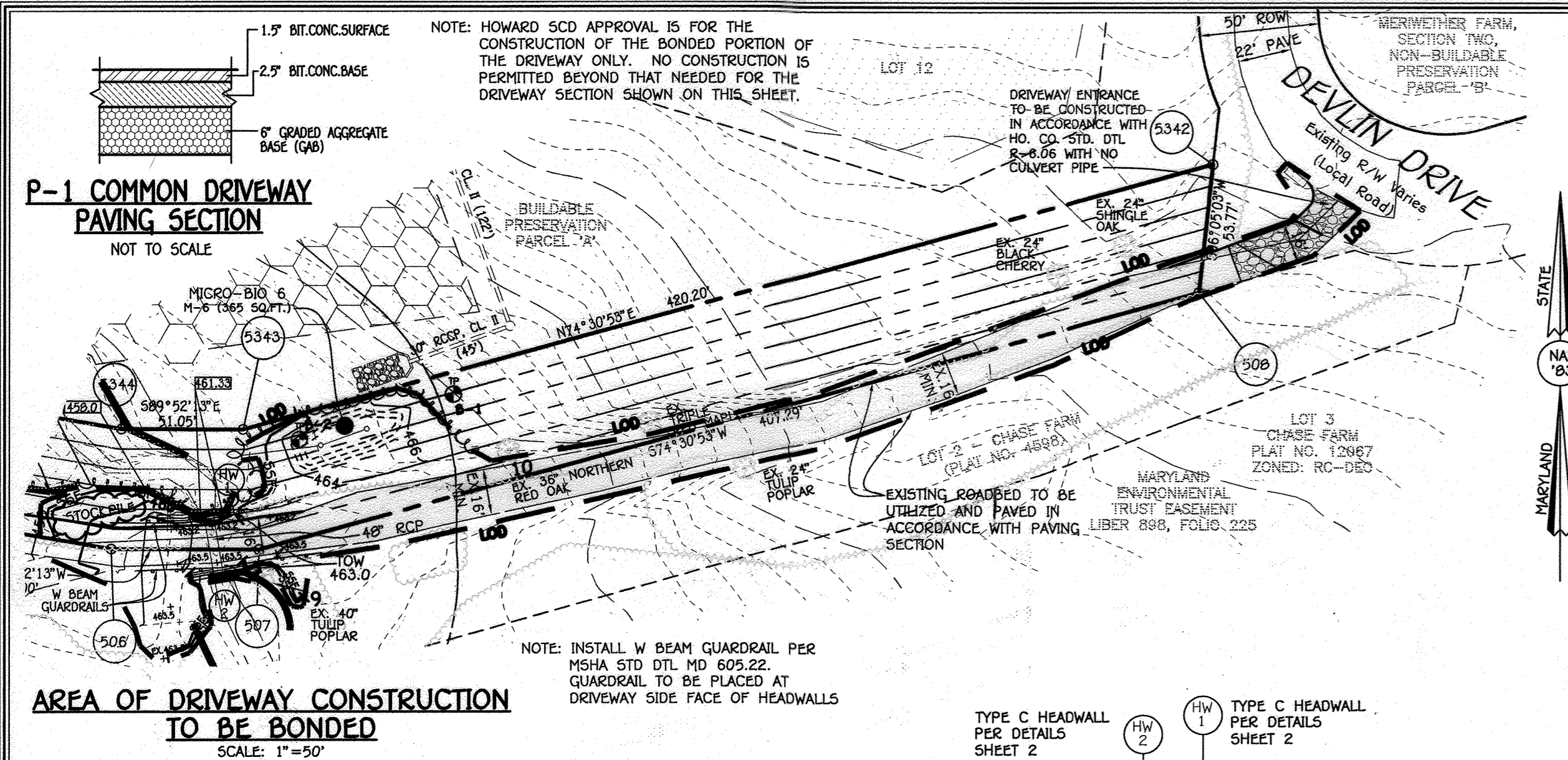
Developer/Builder  
Date: 8-28-14

OWNER  
MR. BOB BUICE  
21400 NEW HAMPSHIRE AVE.  
BROOKVILLE, MARYLAND 20833-1805  
410-489-7900 ATTN: TIM FEAGA

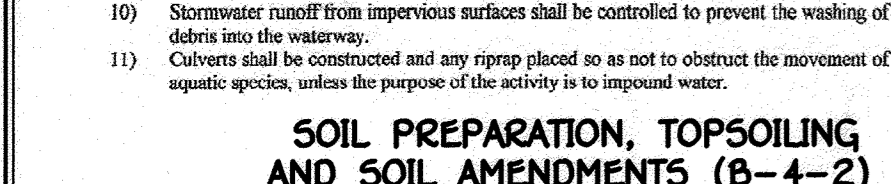
DEVELOPER  
HERITAGE LAND DEVELOPMENT  
15950 NORTH AVENUE  
P.O. BOX 482  
LISBON, MARYLAND 21765  
410-489-7900

Stephanie J. Tuite 7/10/14  
Stephanie J. Tuite, P.E. 38386  
DATE  
Professional certification, I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland. License No. 38386, Expiration Date: 1-12-16





- BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERZONES, WATERWAYS, AND 100-YEAR FLOODPLAINS**
- No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
  - Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
  - Do not use the excavated material as backfill if it contains waste metal products, unweighed debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unweighed debris, toxic material, or any other deleterious substance.
  - Place heavy equipment on mats or suitably prepare the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
  - Repair and maintain any erodible structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
  - Reclassify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any activity.
  - All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria indica*), Barley (*Hordeum sp.*), Oats (*Avena sp.*), and/or Rye (*Sitona cerealis*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-perennial vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division, Kentzky 31. Erosion shall be confined in wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
  - After installation has been completed, make post-construction grading and elevations the same as the original grades and elevations in permanently impacted areas.
  - To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream.
    - Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.
    - Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.
    - Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.
  - Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
  - Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to improve water.



**SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)**

- A. Soil Preparation**
- Temporary Stabilization**
    - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
  - Permanent Stabilization**
    - A soil test is required for any establishment of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      - Soil pH between 6.0 and 7.0.
      - Soluble salts less than 500 parts per million (ppm).
      - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception to this rule is that if loess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      - Soil contains 1.5 percent minimum organic matter by weight.
      - Soil contains sufficient pore space to permit adequate root penetration.
    - Application of amendments or topsoil is required if any soils do not meet the above conditions.
    - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
    - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Stake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
  - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  - Topsoiling is limited to areas having 2:1 or flatter slopes where:
    - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and bare nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The soil is so acidic that treatment with limestone is not feasible.

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

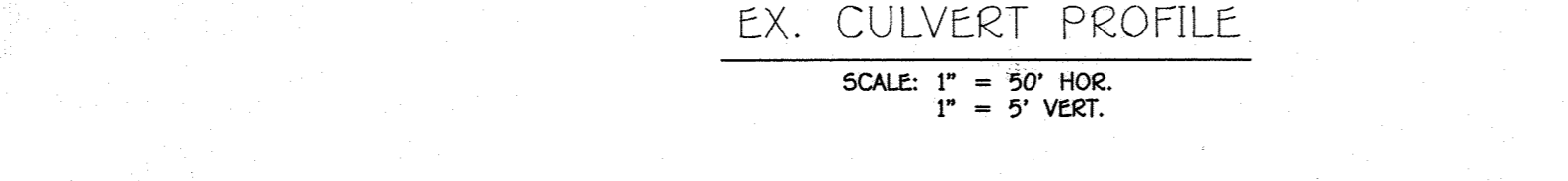
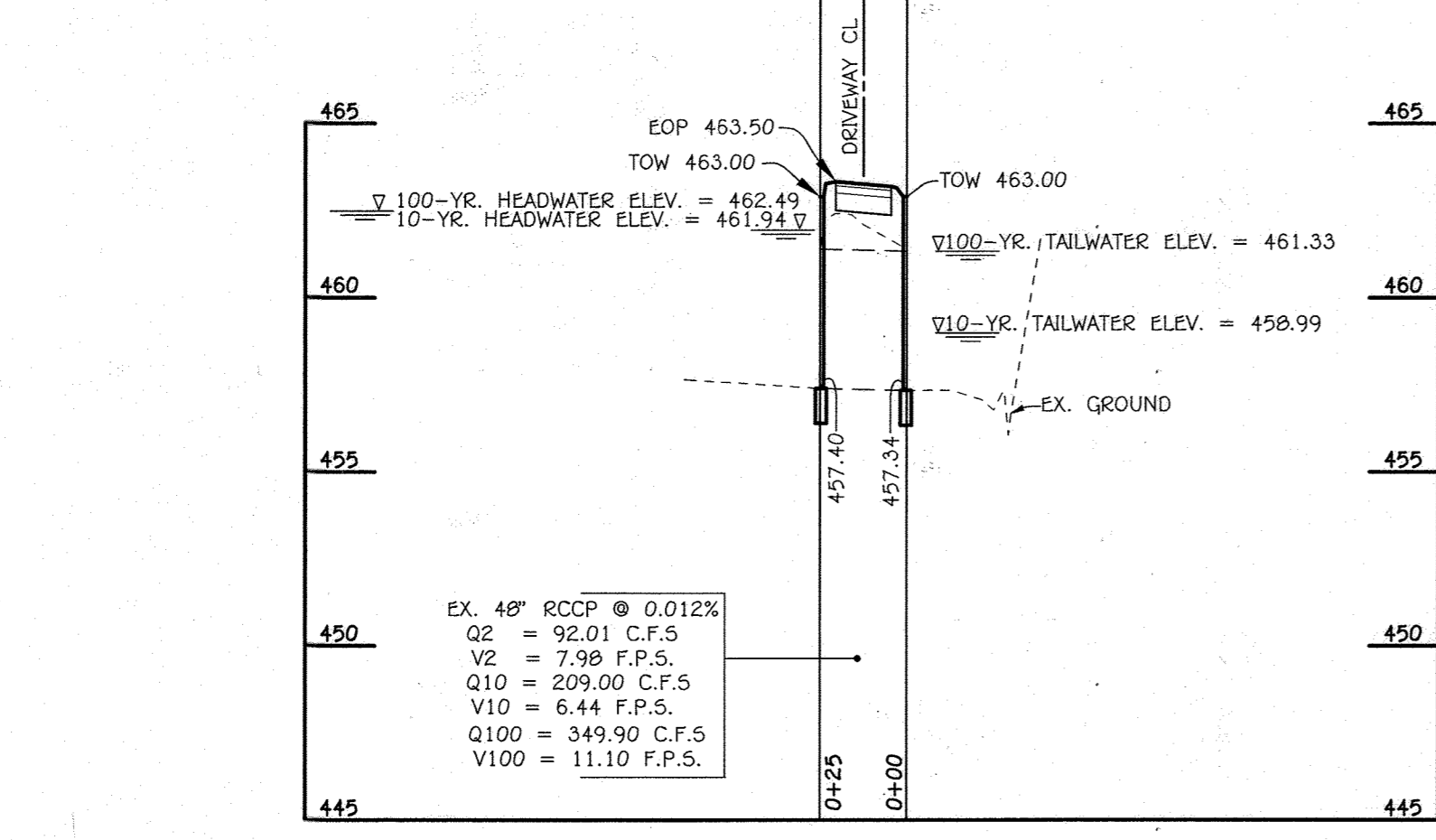
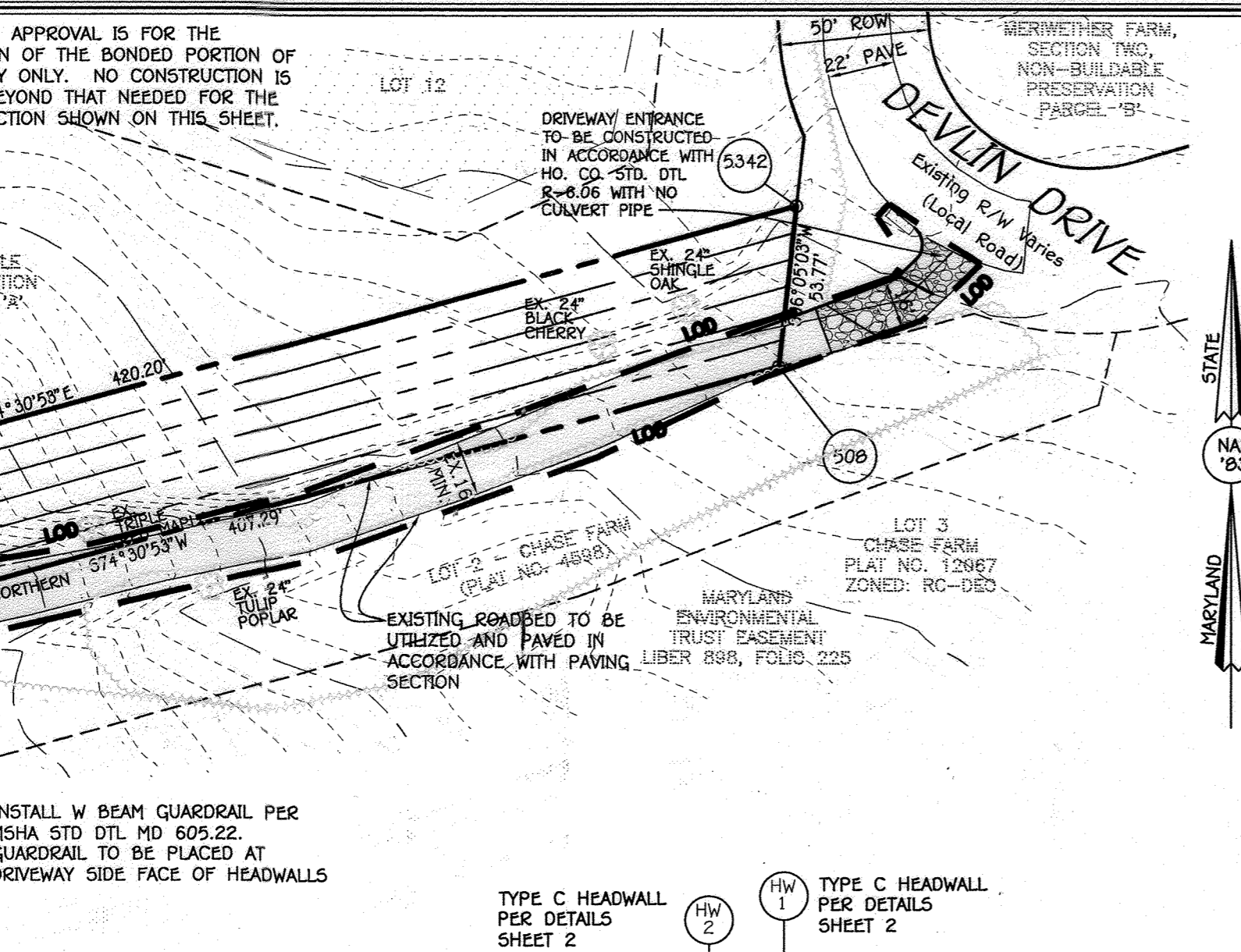
APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *W. H. ...* 8-28-14

Chief, Development Engineering Division: *Chad ...* 8-28-14

REV 1 - REVISE DISTURBANCE & USE OF EX. DRIVE FOR ACCESS INSTEAD OF ORIGINAL DRIVE

APPROVED: *John R. Robertson* 8/14/14  
HOWARD SOIL CONSERVATION DISTRICT



**SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)**

- A. Soil Preparation**
- Temporary Stabilization**
    - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
  - Permanent Stabilization**
    - A soil test is required for any establishment of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      - Soil pH between 6.0 and 7.0.
      - Soluble salts less than 500 parts per million (ppm).
      - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception to this rule is that if loess will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      - Soil contains 1.5 percent minimum organic matter by weight.
      - Soil contains sufficient pore space to permit adequate root penetration.
    - Application of amendments or topsoil is required if any soils do not meet the above conditions.
    - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
    - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Stake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
  - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  - Topsoiling is limited to areas having 2:1 or flatter slopes where:
    - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and bare nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The soil is so acidic that treatment with limestone is not feasible.

**BUILDER/DEVELOPER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Developer: *John R. Robertson* 8/14/14

Signature of Engineer: *Stephanie J. Tute* 8/12/14

**ENGINEER'S CERTIFICATE**

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN AND IN MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IF I WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Engineer: *Stephanie J. Tute* 8/12/14

**OWNER**

MR. BOB BUICE  
21400 N.W. HAMPSHIRE AVE.  
BROOKVILLE, MARYLAND 20833-1805  
410-489-7900 ATTN: TIM FEAGA

**DEVELOPER**

HERITAGE LAND DEVELOPMENT  
19590 NORTH AVENUE  
P.O. BOX 482  
LISBON, MARYLAND 21765  
410-489-7900

**B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING**

- Definition**  
The application of seed and mulch to establish vegetative cover.
- Purpose**  
To protect disturbed soils from erosion during and at the end of construction.
- Conditions Where Practice Applies**  
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.
- Criteria**
- Seeding**
    - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tests must be available upon request to the inspector to verify type of seed and seeding rate.
    - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
    - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculants as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
  - Application**
    - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
    - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
    - Dry Out/Cutsoiler Seeding: Mixture of seed and mulch must be applied and cover seed with soil.
    - Cutsoiler seeding: Seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
    - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
    - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
    - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total soluble nitrogen; P<sub>2</sub>O<sub>5</sub> (phosphorus), 200 pounds per acre; K<sub>2</sub>O (potassium), 200 pounds per acre.
    - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    - Mix seed and fertilizer on site and seed immediately and without interruption.
    - When hydroseeding do not incorporate seed into soil.

- Mulching**
- Mulch Materials (in order of preference)**
    - Straw consisting of thoroughly tumbled wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weeds as specified in the Maryland Seed Law and not moldy, rotting, coated, decayed, or excessively dusty.
    - Note: Use only sterile straw mulch in areas where one species of grass is desired.
    - Wood Cellulose Fiber Mulch (WCFM): consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly applied slurry.
    - WCFM, including dye, must contain no germination or growth inhibiting factors.
    - WCFM material are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and retention properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
    - WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
    - WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
  - Application**
    - Apply mulch to all seeded areas immediately after seeding.
    - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
    - Mix wood cellulose fiber mulch with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Anchoring**
    - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      - Synthetic binders such as Acrylic DLR (Ago-Ton), DCA-70, Petroson, Terra Tex, Terra Lock or any other approved agent may be used, follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier of the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
      - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

**TEMPORARY SEEDING NOTES (B-4-4)**

**Definition**  
To stabilize disturbed soils with vegetation for up to 6 months.

**Purpose**  
To use fast growing vegetation that provides cover on disturbed soils.

**Conditions Where Practice Applies**  
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

**Criteria**

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3A.1.B and maintain until the next seeding season.

**Temporary Seeding Summary**

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate				
Seed Mixture (from Table B.1):	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
B	BARLEY	96	3/1 - 5/15	1"	45 lb/ac	90 lb/ac	2 tons/ac
	OATS	72	8/15 - 10/15	1"	(10 lb/1000 sf)	(90 lb/1000 sf)	(1000 sf)
	RYE	112		1"			

**PERMANENT SEEDING NOTES (B-4-5)**

- A. Seed Mixtures**
- General Use**
    - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
    - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Optimal Seed Planting.
    - For sites having disturbed areas over 6 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
  - Turfgrass Mixtures**
    - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
    - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
      - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive maintenance, irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in lawn areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
      - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
      - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

**B-4-4 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS**

- Definition**  
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
- Purpose**  
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
- Conditions Where Practice Applies**  
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
- Criteria**
- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
  - The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a site slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
  - Rouffini from the stockpile area must drain to a suitable sediment control practice.
  - Access the stockpile area from the upgrade side.
  - Clear water runoff from the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions may be made for discharging concentrated flow in a non-erosive manner.
  - Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
  - Stockpiles must be stabilized in accordance with the 3:1 dry stabilization requirement as well as Standard B-4-1. Incremental stabilization and Standard B-4-4 Temporary Stabilization are not required.
  - If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

**Hardness Zone (from Figure B.3):** 6b \_\_\_\_\_

**Seed Mixture (from Table B.3):** \_\_\_\_\_

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Lime Rate
B	TALL FESCUE	100	Aug. 15-Oct. 15	1 1/4 - 1 1/2 (2 lb/1000 sf)	45 lb/ac	90 lb/ac	2 tons/ac	(90 lb/1000 sf)

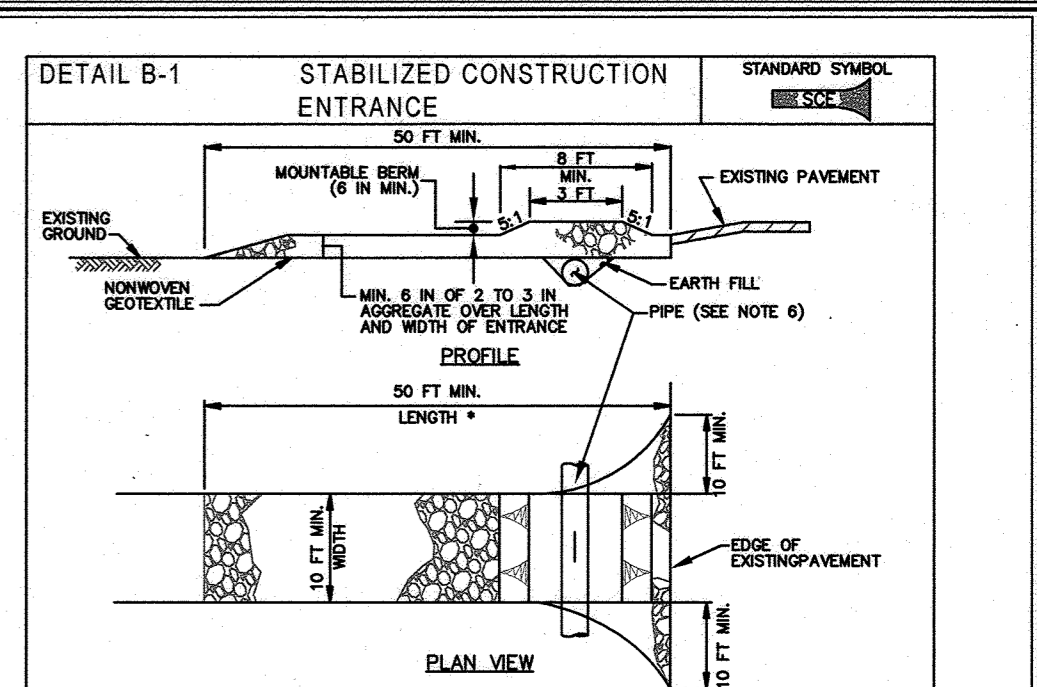
- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).**
- General Specifications**
    - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
    - Sod must be machine cut at a uniform soil thickness to 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
    - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
    - Sod must not be harvested or transported when moisture which would cause die during the trip.
    - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
  - Sod Installation**
    - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
    - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause die during the trip.
    - Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
    - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.
  - Sod Maintenance**
    - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the first week of the life of the sod to prevent wilting.
    - After the first week, sod watering is necessary as necessary to maintain adequate moisture content.
    - Do not mow until the sod is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

**HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES**

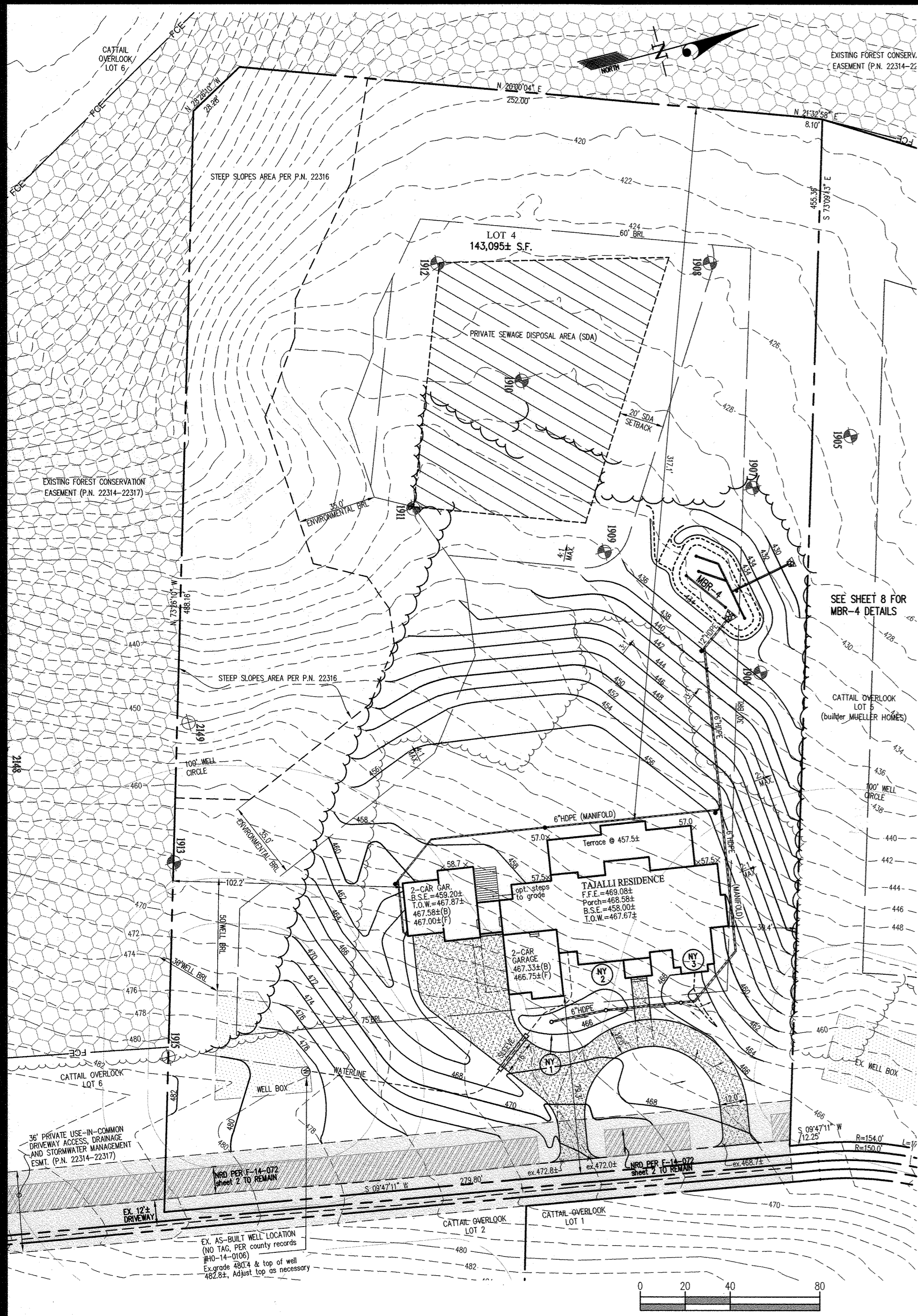
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1829).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND EROSION CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS FOR ALL PERMITS. SEDIMENT CONTROL STRUCTURES, DIKES, FURROWS, SLOPES AND ALL SLOPES GREATER THAN 3:1, 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT STABILIZATION (SEC. B-4-2), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
  - TOTAL AREA OF SITE: 59.20 ACRES
  - AREA DISTURBED: 0.41 ACRES
  - AREA TO BE SEEDING OR PAVED: 0.19 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 0.22 ACRES
  - TOTAL CUT: 100 CU.YDS.
  - TOTAL FILL: 100 CU.YDS.
  - OFFSITE WASTE/BORROW AREA LOCATION
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING OR CRACKING OR GRADING. PERMIT APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- PERMITS FOR THE CONSTRUCTION OF ANY OF THESE STRUCTURES OR PRACTICES SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REMOVED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 ACRES PER GRADING UNIT) AT A TIME WHERE WORK PROCEEDS TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PROCEEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
  - NOTIFY "MESH UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
  - INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER-SILT FENCE, AND DIVERSION FOR OFF-SITE WATER THROUGH EXISTING CULVERT PIPE AS OUTLINED WITH THE MDE PERMIT (AS NECESSARY). (3 DAYS)
  - REMOVE NECESSARY TREES AND TEMPORARY SEED DISTURBED AREAS AS NECESSARY. (5 DAYS)
  - CONSTRUCT HEADWALLS AND GUARDRAIL. (30 DAYS)
  - UPON CURING OF POURED WALLS, ROUGH GRADE AND INSTALL DRIVEWAY. (1 WEEK)
  - INSTALL EROSION CONTROL MATTING AND PERMANENT SEEDING. (3 DAYS)
  - UPON COMPLETION OF ALL GRADING WITH GRASSING AREA TO MICRO-SUBERRETATION AREA, CONSTRUCT MICRO-SUBERRETATION FACILITY AND UNDERDRAIN. (5 DAYS)
  - INSTALL MICRO-BIORETENTION PLANT MATERIAL AND MULCH. (1 DAY)
  - ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF TEMPORARY STRUCTURES. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)
- NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.
- Signature of Engineer: *Stephanie J. Tute* 8/12/14
- Signature of Developer: *John R. Robertson* 8/14/14



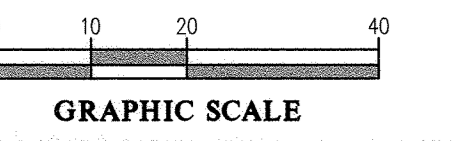
- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SOE. USE MINIMUM LENGTH OF FEET (30 FEET FOR SINGLE REVISIONS) AND MINIMUM WIDTH OF 10 FEET. FLAME SIZE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
  - PIPE ALL SURFACE WATER FLOWING IN TOWARD THE SOE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED TOWARD THE SOE WITH A MOUNTABLE BERM WITH SLOPES AND ANCHORS AND/OR SEEDING. MOUNTABLE BERM AND SLOPES SHOULD BE SPECIFIED ON APPROVED PLAN. WHEN THE SOE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY TO NECESSARY, A MOUNTABLE BERM IS REQUIRED WHEN NOT LOCATED AT A HIGH SPOT.
  - PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
  - PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SOE.
  - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ASH, STONE OR MAKE



LOT 4 GRADING FOR HOUSE CONSTRUCTION (from GP plan) SCALE: 1" = 40'

- LEGEND**
- EXISTING CONTOUR
  - PROPOSED 2-FT CONTOUR
  - WELL BOX LOCATION
  - PRIVATE SEWAGE DISPOSAL AREA

**NOTE:**  
1. SEE SEPARATE PLANS APPROVED BY THE HEALTH DEPARTMENT FOR PRIVATE SEWAGE DISPOSAL SYSTEMS ON EACH LOT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

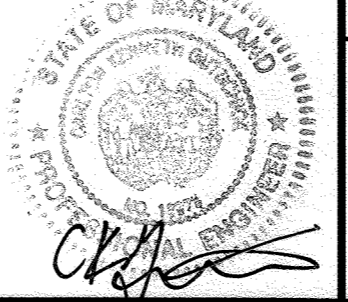
Chief, Division of Land Development  
 Chief, Development Engineering Division  
 Date: 1/18/24  
 Date: 1-14-24

**GLW**  
 PLANNING | ENGINEERING | SURVEYING  
 3909 NATIONAL DRIVE | SUITE 250 | BURTONTOWN, MD 20886 | GLWPA.COM  
 PHONE: 301-421-4024 | BALT: 410-880-1820 | DC&VA: 301-989-2524 | FAX: 301-421-4186

DESIGNED BY:	mbt
DRAWN BY:	klp
CHECKED BY:	ckg
DATE:	12/21/2023
REVISION:	ADDITIONAL MYLAR SHEET ADDED - To show actual house, grading and SWM for Lot 4
BY:	klp
APPR:	

PREPARED FOR:  
 BUILDER:  
 MUELLER HOMES  
 7520 MAIN ST., SUITE 201  
 SYKESVILLE, MD 21784  
 410-549-4444  
 PAUL MUELLER JR.  
 paul@muellerhomes.com

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12925  
 EXPIRATION DATE: MAY 26, 2024



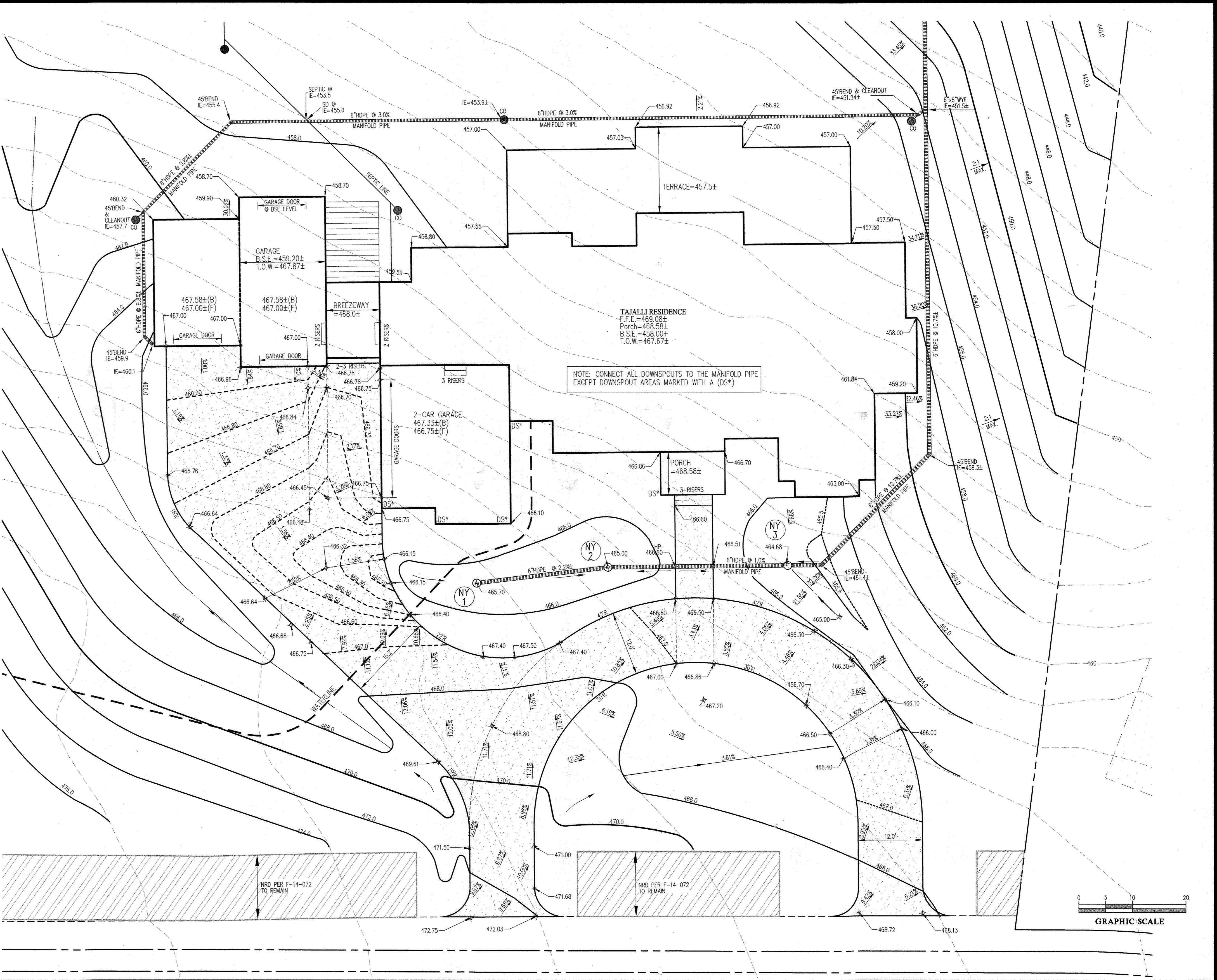
(REVISED) GRADING PLAN FOR HOUSE CONSTRUCTION

**CATTAIL OVERLOOK**  
 Lots 1 thru 6  
 PLAT No. 23314-23317

SCALE: AS SHOWN  
 ZONING: RC-DEO  
 DATE: DEC. 2023  
 TAX MAP - GRID: 21-20  
 SHEET: 7 OF 8

G. L. W. FILE No. 22161

ELECTION DISTRICT No. 4



DETAIL OF GRADING FOR DRIVEWAY AND STORM DRAIN SCALE: 1" = 10'

**STORM DRAIN STRUCTURE SCHEDULE**

NO	TYPE	TOP ELEVATION		INVERT		STD. DETAIL
		UPPER	LOWER	UPPER	LOWER	
NY-1	16" NYLOPLAST DRAIN	465.70	---	463.0	---	NYLOPLAST 16" DRAIN W/ DOME GRATE OR EQUIV.
NY-2	16" NYLOPLAST DRAIN	465.00	---	462.5	462.4	NYLOPLAST 16" DRAIN W/ DOME GRATE OR EQUIV.
NY-3	16" NYLOPLAST DRAIN	464.68	---	462.1	462.0	NYLOPLAST 16" DRAIN W/ DOME GRATE OR EQUIV.

