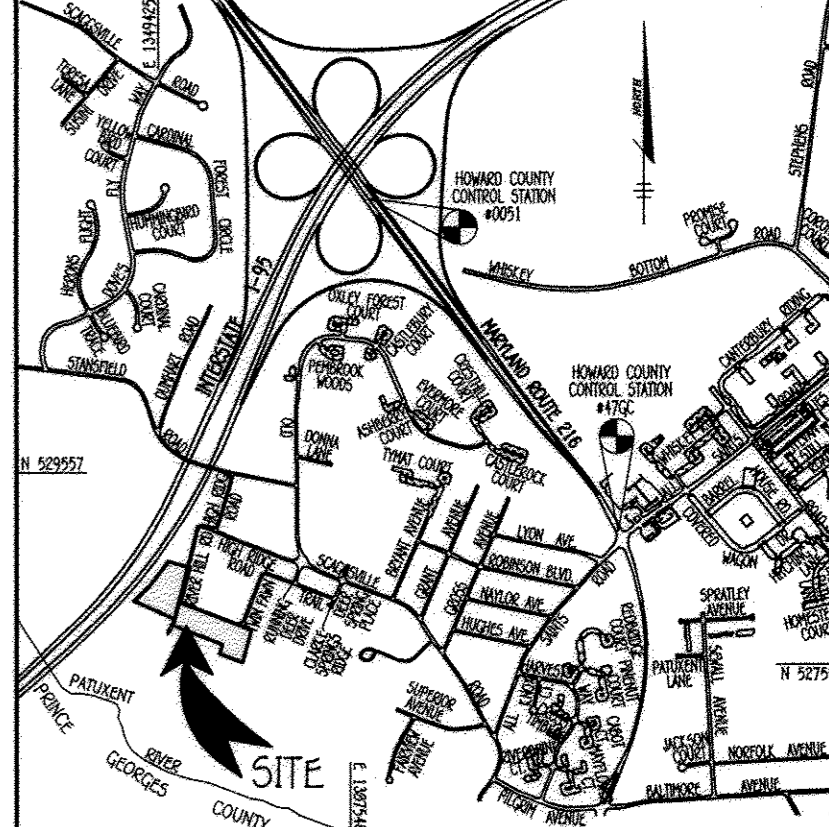
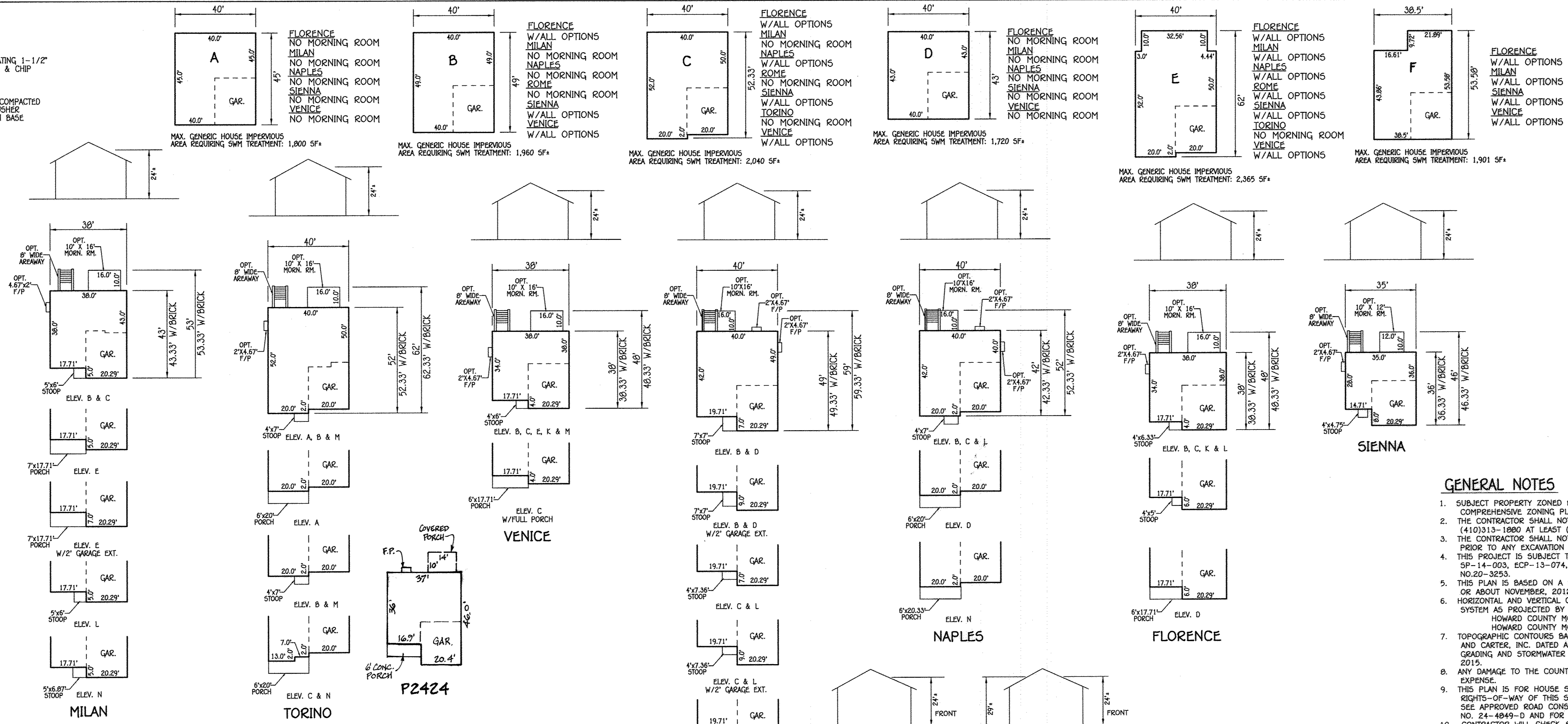


**COMMON DRIVEWAY DETAIL**  
NOT TO SCALE

**ADDRESS CHART**

LOT NUMBER	STREET ADDRESS
1	9979 TWIN FAWN TRAIL
2	9911 AUDREY ROSE
3	9915 AUDREY ROSE
4	9919 AUDREY ROSE
5	9916 AUDREY ROSE
6	9985 TWIN FAWN TRAIL
8	9993 TWIN FAWN TRAIL
9	9997 TWIN FAWN TRAIL
10	10001 TWIN FAWN TRAIL
11	10005 TWIN FAWN TRAIL
12	10009 TWIN FAWN TRAIL
EX. LOT 13	9131 RIVER HILL ROAD
14	9124 RIVER HILL ROAD
15	9120 RIVER HILL ROAD
16	9307 HOLST HILL
17	9311 HOLST HILL
18	9315 HOLST HILL
19	9319 HOLST HILL
20	9316 HOLST HILL
44	9312 HOLST HILL
22	9246 TOMS TRAIL
23	9244 TOMS TRAIL
24	9242 TOMS TRAIL
25	9240 TOMS TRAIL
26	9236 TOMS TRAIL
46	9234 TOMS TRAIL
4C	9232 TOMS TRAIL
47	9230 TOMS TRAIL
4B	9226 TOMS TRAIL
49	9224 TOMS TRAIL
50	9222 TOMS TRAIL
51	9220 TOMS TRAIL
5C	9216 TOMS TRAIL
59	9214 TOMS TRAIL
5A	9212 TOMS TRAIL
59	9210 TOMS TRAIL



**VICINITY MAP**

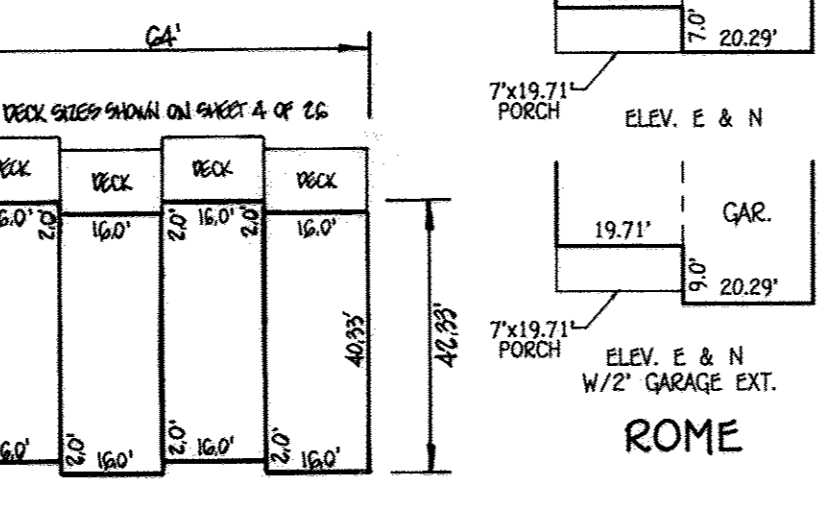
SCALE: 1" = 2000'  
HO. CO. ADC MAP 5169, GRID B-2

**BENCH MARKS**

T.P. 47C ELEV. 226.31  
N. 528,939.728  
E. 1,354,223.554  
LOC. NEAR INTERSECTION OF SCAGGSVILLE ROAD, MD. RTE. 216 & ALL SAINTS ROAD.  
T.P. 0051 ELEV. 349.71  
N. 532,404.156  
E. 1,351,627.334  
LOC. NEAR I-95 BRIDGE ALONG SCAGGSVILLE ROAD, MD. RTE. 216

**STORMWATER MANAGEMENT PRACTICES**

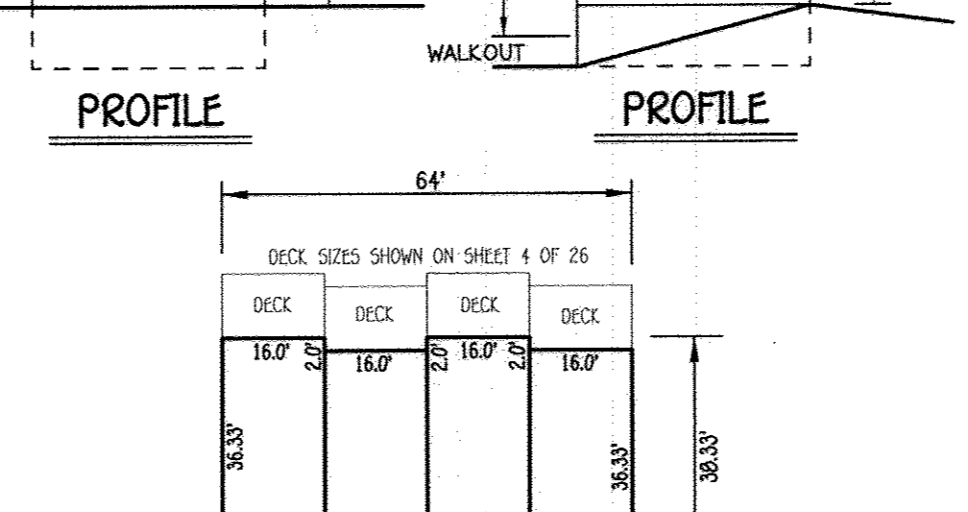
LOT NO.	STREET ADDRESS	DISCONNECTION OF ROOFTOP RUNOFF N-1 (Y/N)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N)	DRY WELLS M-5 (Y/N)	MICRO BIO-RETENTION M-6 (Y/N)	BIO-RETENTION F-6 (Y/N)	PERMEABLE PAVING A-2 (Y/N)
1	9979 TWIN FAWN TRAIL					Y F-6(11)	
2	9911 AUDREY ROSE					Y F-6(11)	
3	9915 AUDREY ROSE					Y F-6(11)	
4	9919 AUDREY ROSE					Y F-6(11)	
5	9916 AUDREY ROSE					Y F-6(11) AND EX. F-6(1)	
6	9985 TWIN FAWN TRAIL					Y F-6(11) AND EX. F-6(1)	
7 (SDP-16-056)	9989 TWIN FAWN TRAIL			Y		Y EX. F-6(1)	
8	9993 TWIN FAWN TRAIL			Y		Y EX. F-6(1)	
9	9997 TWIN FAWN TRAIL					Y EX. F-6(1)	
10	10001 TWIN FAWN TRAIL				Y M-6(2)		
11	10005 TWIN FAWN TRAIL				Y M-6(2)		
12	10009 TWIN FAWN TRAIL				Y M-6(2)	Y (PROVIDED BY F-15-053) EX. F-6(3)	
13	9131 RIVER HILL ROAD					Y EX. F-6(3) & F-6(4)	
14	9124 RIVER HILL ROAD			Y		Y EX. F-6(4)	
15	9120 RIVER HILL ROAD			Y		Y EX. F-6(4)	
16	9307 HOLST HILL					Y F-6(8)	
17	9311 HOLST HILL					Y F-6(8)	
18	9315 HOLST HILL					Y F-6(8)	
19	9319 HOLST HILL					Y F-6(8)	
20	9316 HOLST HILL				Y M-6(10)		
44	9312 HOLST HILL				Y F-6(9)		
22	9246 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
23	9244 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
24	9242 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
25	9240 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
26	9236 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
46	9234 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
4C	9232 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
47	9230 TOMS TRAIL				Y F-6(9)		Y (PROVIDED BY F-15-053)
4B	9226 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
49	9224 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
50	9222 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
51	9220 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
5C	9216 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
59	9214 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
5A	9212 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
59	9210 TOMS TRAIL				Y (PROVIDED BY F-15-053)		Y (PROVIDED BY F-15-053)
USE-IN-COMMON	AUDREY ROSE				Y F-6(11)		
USE-IN-COMMON	HOLST HILL					Y M-6(10)	
USE-IN-COMMON	TWIN FAWN TRAIL					Y F-6(11) AND EX. F-6(1)	
(PRIVATE SHARED ACCESS)	TOMS TRAIL						Y A-2(THRU 4)



MAXIMUM GENERIC HOUSE IMPERVIOUS AREA REQUIRING SWM TREATMENT: 3,093 SF +/-  
LOTS 26, 45-55 (WALKOUT)  
HEPBURN 4 UNIT W/ EXTENSION

**SHEET INDEX CHART**

SHEET	DESCRIPTION
SHEET 1	TITLE SHEET, GENERIC BOXES, HOUSE TYPES, NOTES
SHEET 2	SITE DEVELOPMENT PLAN, LOTS 1 THRU 6 & B THRU 12
SHEET 3	SITE DEVELOPMENT PLAN, LOTS 14 THRU 37
SHEET 4	SEDIMENT/EROSION CONTROL PLAN, LOTS 1 THRU 6 & B THRU 12
SHEET 5	SEDIMENT/EROSION CONTROL PLAN, LOTS 14 THRU 37
SHEET 6	SEDIMENT/EROSION CONTROL DETAILS & NOTES
SHEET 7	STORMWATER MANAGEMENT PLAN & PROFILE
SHEET 8	STORMWATER MANAGEMENT DETAILS
SHEET 9	STORMWATER MANAGEMENT DETAILS & NOTES
SHEET 10	LANDSCAPE PLAN
SHEET 11	LANDSCAPE NOTES & DETAILS
SHEET 12	LOW PRESSURE SEWER EXTENSION PROFILES AND CHARTS



MAXIMUM GENERIC HOUSE IMPERVIOUS AREA REQUIRING SWM TREATMENT: 2,325 SF +/-  
LOTS 22-25  
HEPBURN 4 UNIT

**LEGEND**

SYMBOL	DESCRIPTION
(---)	EXISTING CONTOUR 2' INTERVAL
(---)	PROPOSED CONTOUR 2' INTERVAL
(x362.2)	SPOT ELEVATION
(---)	PROPOSED WALKOUT
(---)	FOREST CONSERVATION EASEMENT
(---)	SUPER SILT FENCE
(---)	EROSION CONTROL MATTING
(---)	LIMIT OF DISTURBANCE
(---)	EXISTING STREET TREE TAKEN FROM F-15-053

**SITE ANALYSIS DATA CHART**

- TOTAL AREA OF SITE = 9.387 AC.±
- TOTAL AREA OF THIS SUBMISSION = 9.387 AC.±
- LIMIT OF DISTURBED AREA = 4.26 AC.±
- PRESENT ZONING DESIGNATION = R-SC
- PROPOSED USE: HOUSING  
SINGLE FAMILY DETACHED = 19 UNITS  
SINGLE FAMILY ATTACHED = 16 UNITS
- FLOOR SPACE ON EACH LEVEL OF BUILDING: N/A
- TOTAL NUMBER OF UNITS: 35 UNIT
- MODERATE INCOME HOUSING UNIT REQUIRED = 5
- TOTAL NUMBER OF PARKING SPACES REQUIRED = 80 SPACES  
a. SINGLE FAMILY DETACHED PARKING = 38 SPACES (19 SFD X 2 SPACES/UNITS)  
b. TOWNHOUSE PARKING REQUIRED = 32 SPACES (16 SFA X 2 SPACES/UNITS)  
c. OVERFLOW PARKING REQUIRED = 10 SPACES (0.5 SPACES X 19 SFD = 9.5) (0.5 SPACES X 19 SFD = 9.5)
- TOTAL NUMBER OF PARKING SPACES PROVIDED = 117 SPACES  
a. SINGLE FAMILY DETACHED PARKING = 76 SPACES (TWO CAR GARAGE AND TWO SPACES ON DRIVEWAY)  
b. SINGLE FAMILY ATTACHED PARKING AREAS = 41 SPACES
- OPEN SPACE ON SITE: 3.706 AC.  
RECREATIONAL OPEN SPACE AREA REQUIRED = 12,700 SF  
RECREATIONAL OPEN SPACE AREA PROVIDED = 16,802 SF.
- BUILDING COVERAGE OF SITE: 17%
- NETTOWARD COUNTY FILES: SDP-05-067, SP-14-003, ECP-13-074, SDP-16-056, F-15-053, W&S CONT. #24-4849-D
- TOTAL AREA OF FLOODPLAIN: 0.00 AC.±
- TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.00 AC.±
- AREA OF WETLANDS = 0.00 AC.±
- AREA OF FOREST:  
TOTAL FOREST EXISTING (F-15-053) = 2.50 AC.±  
TOTAL FOREST CLEARED (F-15-053) = 2.05 AC.±  
TOTAL FOREST RETAINED (F-15-053) = 0.45 AC.±  
TOTAL AREA OF FOREST CONSERVATION EASEMENT ESTABLISHED UNDER F-15-053 AND SHOWN ON THIS PLAN = 0.92 AC.± (INCLUDES RETENTION AND PLANTING)
- IMPERVIOUS AREA = 45% AC.±

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL FREE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-8995

**STATE OF MARYLAND**  
DEPARTMENT OF GENERAL SERVICES  
DIVISION OF LAND MANAGEMENT  
PROFESSIONAL LAND SURVEYOR  
No. 21476

**PROFESSIONAL CERTIFICATION**  
"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, 7/4/17.

*Frank John Derabian*  
NAME: Frank John Derabian DATE: 2/22/16

2 Added HEPBURN 4 UNIT W/STORMWATER CONTROL PLAN FOR LOTS 22-25 TO TITLE BLOCK G/0/17  
1 Added P2424 House type  
NO. REVISION DATE

**OWNERS**  
DOUBLE R VENTURES, LLC  
8310 FOREST STREET  
SUITE 200  
ELLSWORTH CITY, MARYLAND 21043  
ATTN: JOSEPH BUTLER  
410-707-7054

**BUILDER**  
RYAN HOMES  
9720 PATUXENT WOODS DRIVE  
COLUMBIA, MARYLAND 21046  
ATTN: KEVIN BOWSER  
443-574-1066

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Keith Seiden*  
Chief, Division of Land Development  
Date: 10-20-16

*Chad...*  
Chief, Development Engineering Division  
Date: 10-14-16

*Val...*  
Director - Department of Planning and Zoning  
Date: 10-21-16

PROJECT: FOX WOOD MANOR SECTION: PARCEL NO. LOTS 1-G, B-12, 14-20, 22-25 & 44-55

PLAT: BLOCK NO. 1 ZONE: R-SC TAX/ZONE: 50 ELEC. DIST: 6 CENSUS TR. 6089.02

PREVIOUS HOWARD COUNTY FILES: SDP-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-D, F-15-053 AND SDP-16-056

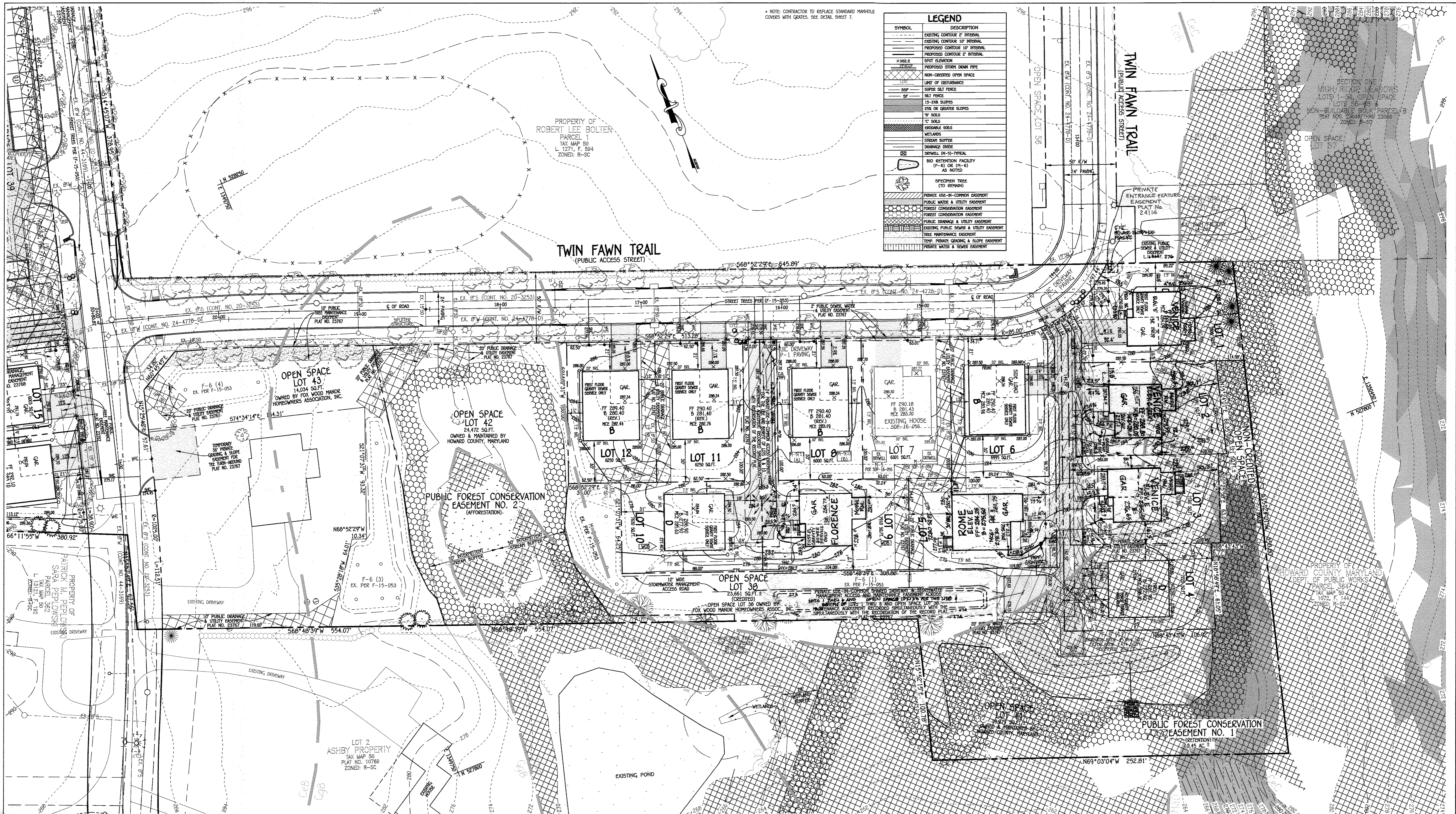
TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 1 OF 12

**TITLE SHEET**

**FOX WOOD MANOR**  
LOTS 1 THRU 6, B THRU 12, 14 THRU 20  
22 THRU 26 & 44 THRU 55  
OPEN SPACE LOTS 39, 39, 41 THRU 43 & 56  
ZONED: R-SC

NO. REVISION DATE



NOTE: CONTRACTOR TO REPLACE STANDARD MANHOLE COVERS WITH GRATES. SEE DETAIL SHEET 7.

SYMBOL	DESCRIPTION
(Dashed line)	EXISTING CONTOUR 2' INTERVAL
(Dashed line)	EXISTING CONTOUR 10' INTERVAL
(Dashed line)	PROPOSED CONTOUR 10' INTERVAL
(Dashed line)	PROPOSED CONTOUR 2' INTERVAL
(Circle with cross)	SPOT ELEVATION
(Line with cross)	PROPOSED STORM SEWER PIPE
(Hatched area)	NON-COVERED OPEN SPACE
(Dashed line)	LIMIT OF DISTURBANCE
(Line with cross)	GRASS SILT FENCE
(Line with cross)	SILT FENCE
(Line with cross)	15-24% SLOPES
(Line with cross)	25% OR GREATER SLOPES
(Line with cross)	TOP SOILS
(Line with cross)	1% SOILS
(Line with cross)	ERODIBLE SOILS
(Line with cross)	WETLANDS
(Line with cross)	STREAM BUFFER
(Line with cross)	DRAINAGE DITCH
(Line with cross)	DEWELL (E-5) TYPICAL
(Line with cross)	RID RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Star symbol)	SPECIMEN TREE (TO REMAIN)
(Hatched area)	PRIVATE USE-IN-COMMON EASEMENT
(Hatched area)	PUBLIC WATER & UTILITY EASEMENT
(Hatched area)	FOREST CONSERVATION EASEMENT
(Hatched area)	FOREST CONSERVATION EASEMENT
(Hatched area)	PUBLIC DRAINAGE & UTILITY EASEMENT
(Hatched area)	EXISTING PUBLIC SEWER & UTILITY EASEMENT
(Hatched area)	TREE MAINTENANCE EASEMENT
(Hatched area)	TEMP. POWER LANDING & SLUICE EASEMENT
(Hatched area)	PRIVATE WALK & SEWER EASEMENT

NO.	REVISION	DATE
7	REVISE LOT 9 TO FLORENCE, REV. GRADING & SEWER EL'S.	9/15/17
6	REVISE LOT 3 TO VENICE, REV. GRADING & SEWER EL'S.	9/14/17
5	REVISE LOT 2 TO VENICE, REV. GRADING & SEWER EL'S.	8/22/17
4	REVISE LOT 2 TO VENICE, REV. GRD.	7/12/17
3	REVISE LOT 2 TO FLORENCE, REV. GRD. & SEWER.	7/10/17
2	ADD EASEMENT & EXISTING ENTRANCE FEATURE & REV. TITLE BLOCK.	6/9/17
1	REV. HPE & GRID LOT 1, FROM GEN. BOX 'A', TO VENICE.	3/29/17

NO.	REVISION	DATE
7	REVISE LOT 9 TO FLORENCE, REV. GRADING & SEWER EL'S.	9/15/17
6	REVISE LOT 3 TO VENICE, REV. GRADING & SEWER EL'S.	9/14/17
5	REVISE LOT 2 TO VENICE, REV. GRADING & SEWER EL'S.	8/22/17
4	REVISE LOT 2 TO VENICE, REV. GRD.	7/12/17
3	REVISE LOT 2 TO FLORENCE, REV. GRD. & SEWER.	7/10/17
2	ADD EASEMENT & EXISTING ENTRANCE FEATURE & REV. TITLE BLOCK.	6/9/17
1	REV. HPE & GRID LOT 1, FROM GEN. BOX 'A', TO VENICE.	3/29/17



**PROFESSIONAL CERTIFICATION**  
 "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, 7/4/17."  
 Name: Joseph Kutter  
 Date: 9/22/16

SCALE: 1" = 30'

OWNERS	BUILDER
DOUBLE R VENTURES, LLC 8310 FOREST STREET SUITE 200 ELICOTT CITY, MARYLAND 21043 ATTN: JOSEPH KUTTER 410-707-7054	RYAN HOMES 9720 PATIENT WOODS DRIVE COLUMBIA, MARYLAND 21046 ATTN: KEVIN BOWSER 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 10-20-16  
 Director - Department of Planning and Zoning: 10-20-16

PROJECT	SECTION	PARCEL No.
FOX WOOD MANOR		LOTS 1-6, B-12, 14-20, 22-26 & 44-55

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23766-23769	1	R-SC	50	6	6069.02

PREVIOUS HOWARD COUNTY FILES:  
 SDP-09-067, SD-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-D, F-15-053 AND SDP-16-056

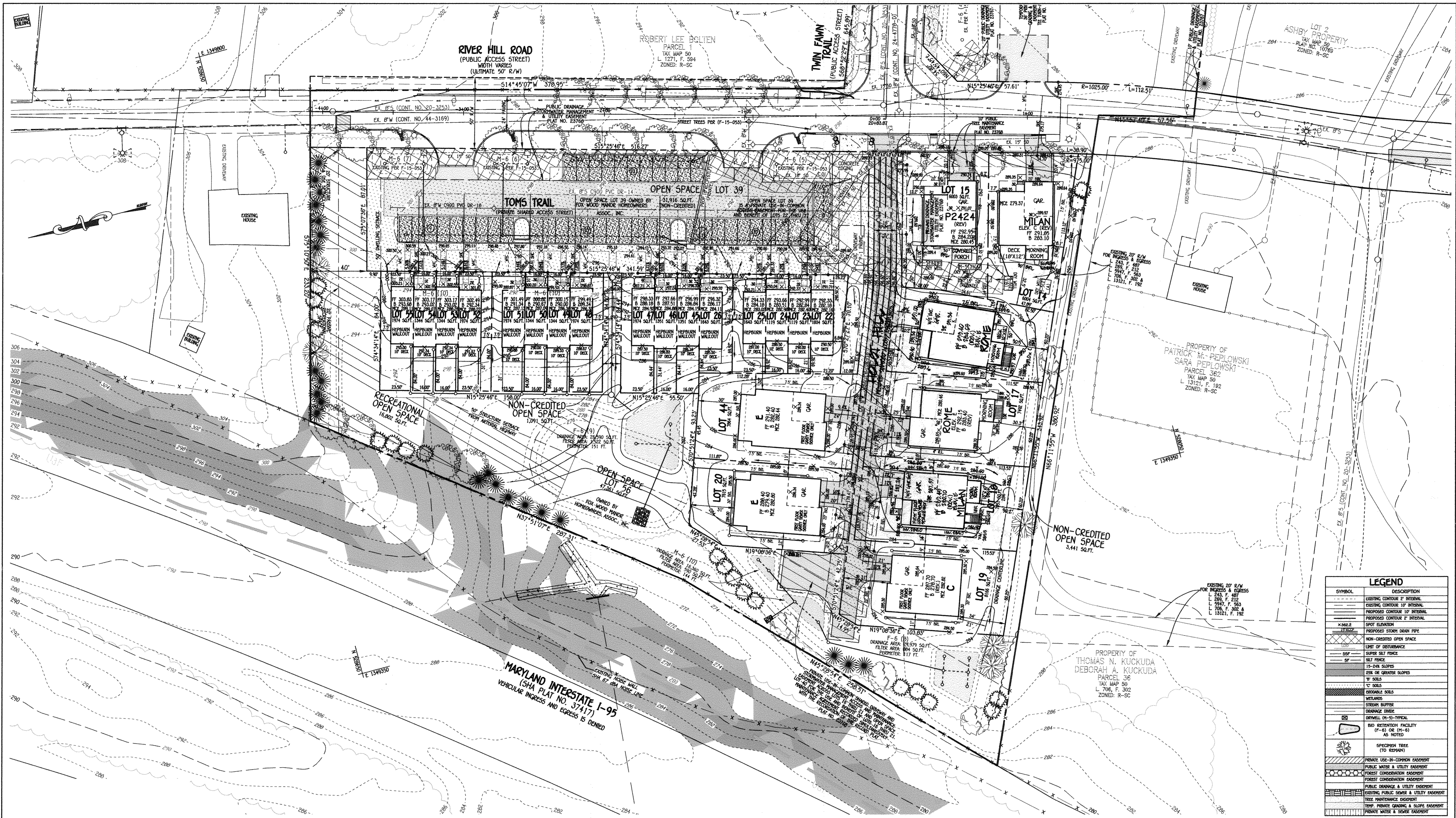
**SITE DEVELOPMENT PLAN**

**FOX WOOD MANOR**  
 LOTS 1 THRU 6, B THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
 OPEN SPACE LOTS 38, 39, 41 THRU 43 & 56

ZONED: R-SC

TAX MAP NO.: 50    PARCEL NO'S.: 405, 429 & 468    GRID NO.: 1  
 SIXTH ELECTION DISTRICT    HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN    DATE: SEPTEMBER 22, 2016

SHEET 2 OF 12    SDP-16-057



**LEGEND**

SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	PROPOSED STORM DRAIN PIPE
(Symbol)	NON-CREDITED OPEN SPACE
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SUPER SILT FENCE
(Symbol)	SILT FENCE
(Symbol)	15-24% SLOPES
(Symbol)	25% OR GREATER SLOPES
(Symbol)	1" SOILS
(Symbol)	ERODIBLE SOILS
(Symbol)	WETLANDS
(Symbol)	STREAM BUFFER
(Symbol)	DRAINAGE DITCH
(Symbol)	DRYWELL (N-5)-TYPICAL
(Symbol)	BIO RETENTION FACILITY (P-6) OR (P-6) AS NOTED
(Symbol)	SPECIMEN TREE (TO REMAIN)
(Symbol)	PRIVATE USE-IN-COMMON EASEMENT
(Symbol)	PUBLIC WATER & UTILITY EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	PUBLIC DRAINAGE & UTILITY EASEMENT
(Symbol)	EXISTING PUBLIC SEWER & UTILITY EASEMENT
(Symbol)	TREE MAINTENANCE EASEMENT
(Symbol)	TEMP. PRIVATE GRADING & SLOPE EASEMENT
(Symbol)	PRIVATE WATER & SEWER EASEMENT

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895

NO.	REVISION	DATE
2	REVISE THE 1/2" GRID LOT 10 FROM 'C' BOX TO HOME HOME TYPE	11/17
2	REVISE THE 1/2" GRID LOT 10 FROM 'C' BOX TO MILAN HOME TYPE	10/21/17
1	REPLACEMENT SHEET	2/8/17



**PROFESSIONAL CERTIFICATION**  
 "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, 7/4/17."  
 Robert Lee Bollen  
 NAME DATE 2/8/17

**OWNERS**  
 DOUBLE R VENTURES, LLC  
 8318 FOREST STREET  
 SUITE 200  
 ELICOTT CITY, MARYLAND 21043  
 ATTN: JOSEPH RUTTER  
 410-707-7054

**BUILDER**  
 RYAN HOMES  
 9720 PATUXENT WOODS DRIVE  
 COLUMBIA, MARYLAND 21046  
 ATTN: KEVIN BOWSER  
 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Land Development  
 Chief, Development Engineering Division  
 Director - Department of Planning and Zoning

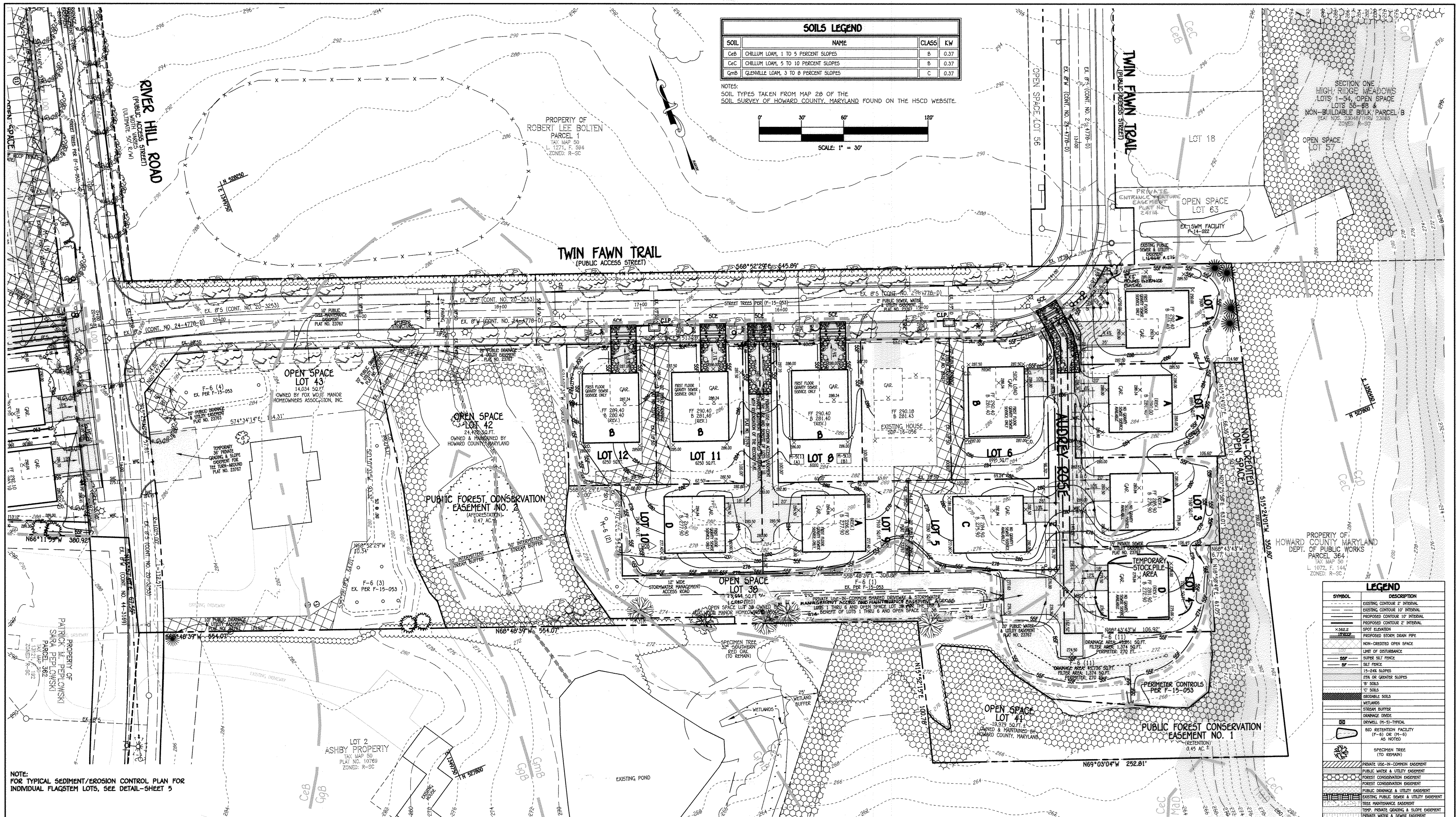
7-24-17  
 7-7-17  
 7-24-17

PROJECT	SECTION	PARCEL NOs.
FOX WOOD MANOR		LOTS 1-6, 8-12, 14-20, 22-26, 44-55

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23766-23769	1	R-5C	50	6	6069.02

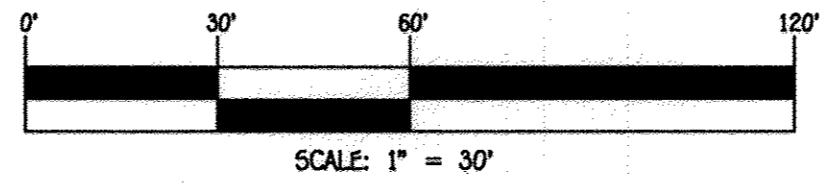
PREVIOUS HOWARD COUNTY FILES:  
 SDP-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-0, F-15-053 AND SDP-16-056

**REPLACEMENT SHEET**  
**SITE DEVELOPMENT PLAN**  
**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
 OPEN SPACE LOTS 38, 39, 41 THRU 43 & 56  
 ZONED: R-5C  
 TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016  
 SHEET 3 OF 12  
 SDP-16-057



SOIL	NAME	CLASS	KW
CeB	CHILLUM LOAM, 1 TO 5 PERCENT SLOPES	B	0.37
CeC	CHILLUM LOAM, 5 TO 10 PERCENT SLOPES	B	0.37
GmB	GLENNVILLE LOAM, 3 TO 8 PERCENT SLOPES	C	0.37

NOTES:  
SOIL TYPES TAKEN FROM MAP 28 OF THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND FOUND ON THE HSCD WEBSITE.



SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	PROPOSED STORM DRAIN PIPE
(Symbol)	NON-CREATED OPEN SPACE
(Symbol)	LINE OF DISTURBANCE
(Symbol)	SUPER SALT FENCE
(Symbol)	SALT FENCE
(Symbol)	15-24% SLOPES
(Symbol)	25% OR GREATER SLOPES
(Symbol)	1' SOILS
(Symbol)	12\"/>
(Symbol)	ERODIBLE SOILS
(Symbol)	WETLANDS
(Symbol)	STREAM BUFFER
(Symbol)	DRAINAGE DITCH
(Symbol)	DRAINAGE BY-59-TYPICAL
(Symbol)	BID RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	SPECIMEN TREE (TO REMAIN)
(Symbol)	PRIVATE USE-IN-COMMON EASEMENT
(Symbol)	PUBLIC WATER & UTILITY EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	PUBLIC DRAINAGE & UTILITY EASEMENT
(Symbol)	EXISTING PUBLIC SEWER & UTILITY EASEMENT
(Symbol)	TREE MAINTENANCE EASEMENT
(Symbol)	TEMP. FRONT GRADING & SLOPE EASEMENT
(Symbol)	PRIVATE WATER & SEWER EASEMENT

NOTE:  
FOR TYPICAL SEDIMENT/EROSION CONTROL PLAN FOR INDIVIDUAL FLAGSTEM LOTS, SEE DETAIL-SHEET 5

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTINELA SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
(410) 461-2895

NO.	REVISION	DATE
1	ADDED EASEMENT & EXISTING ENTRANCE FEATURES & REV. TITLE BLOCK	9/2/16



**PROFESSIONAL CERTIFICATE**  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
Signature: *Frank John Manalansan II* DATE: 9/23/16

**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 CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
Signature: *Kevin Bowser* DATE: 9/23/16

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Signature: *John B. Krouton* DATE: 9/22/16  
HOWARD SCD

**OWNERS**  
DOUBLE R VENTURES, LLC  
8318 FOREST STREET  
SUITE 200  
ELLICOTT CITY, MARYLAND 21043  
ATTN: JOSEPH RUTTER  
410-707-7054

**BUILDER**  
RYAN HOMES  
9720 PATUXENT WOODS DRIVE  
COLUMBIA, MARYLAND 21046  
ATTN: KEVIN BOWSER  
443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Signature: *Kevin Bowser* DATE: 10-20-16  
Chief, Division of Land Development

Signature: *John B. Krouton* DATE: 10-14-16  
Chief, Development Engineering Division

Signature: *Walter J. Griffin* DATE: 10-21-16  
Director - Department of Planning and Zoning

PROJECT: FOX WOOD MANOR SECTION: PARCEL NO'S: 405, 429 & 468  
23766-23769 1 R-SC 50 6 6069.02  
LOT 1-6, 8-12, 14-20, 22 & 44-55

PREVIOUS HOWARD COUNTY FILES:  
SDP-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-D, F-15-053 AND SDP-16-056

**SEDIMENT/EROSION CONTROL PLAN**

**FOX WOOD MANOR**  
LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
22 THRU 26 & 44 THRU 55  
OPEN SPACE LOTS 38, 39, 41 THRU 43 & 56  
ZONED: R-SC

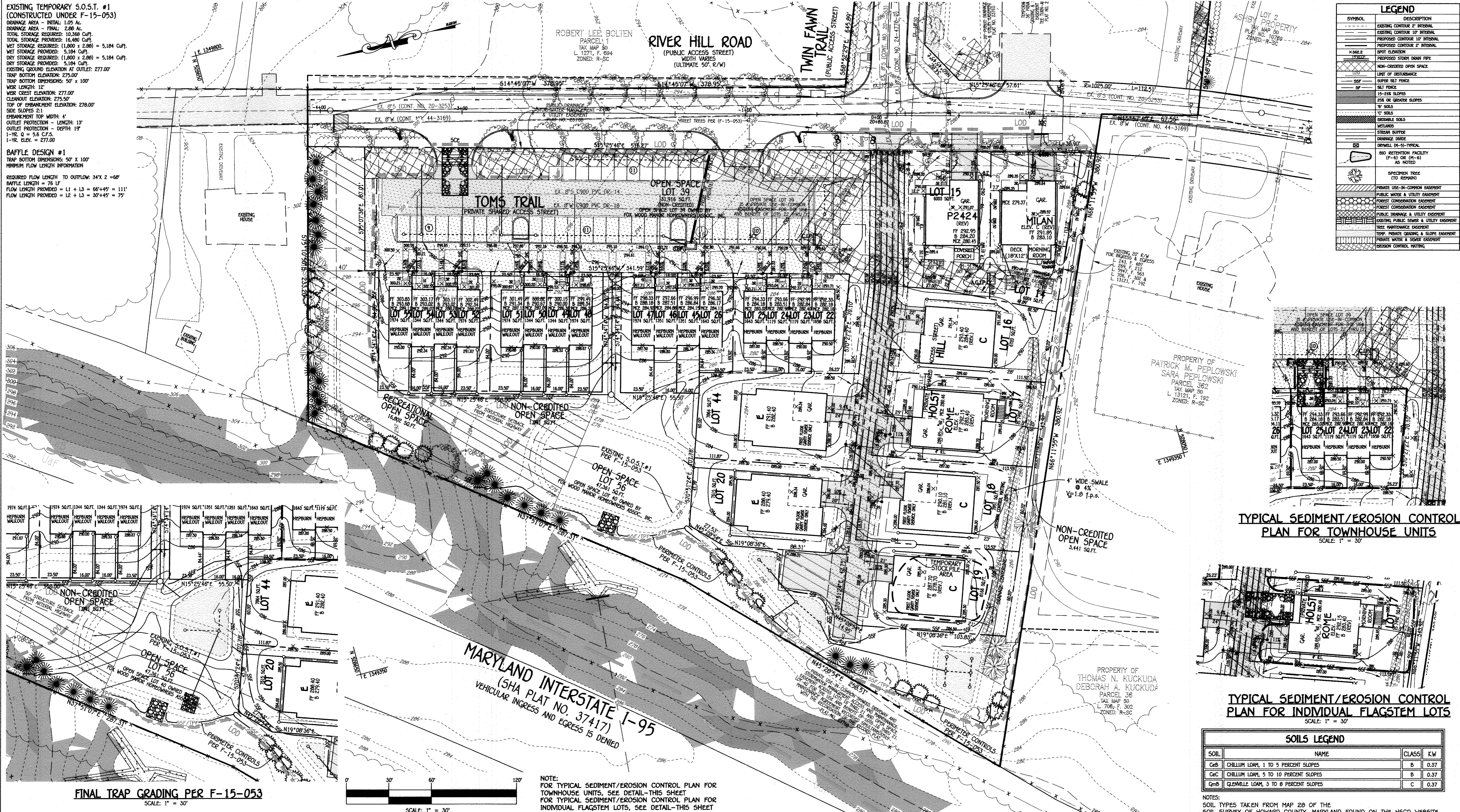
TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 4 OF 12 **SOP-16-057**

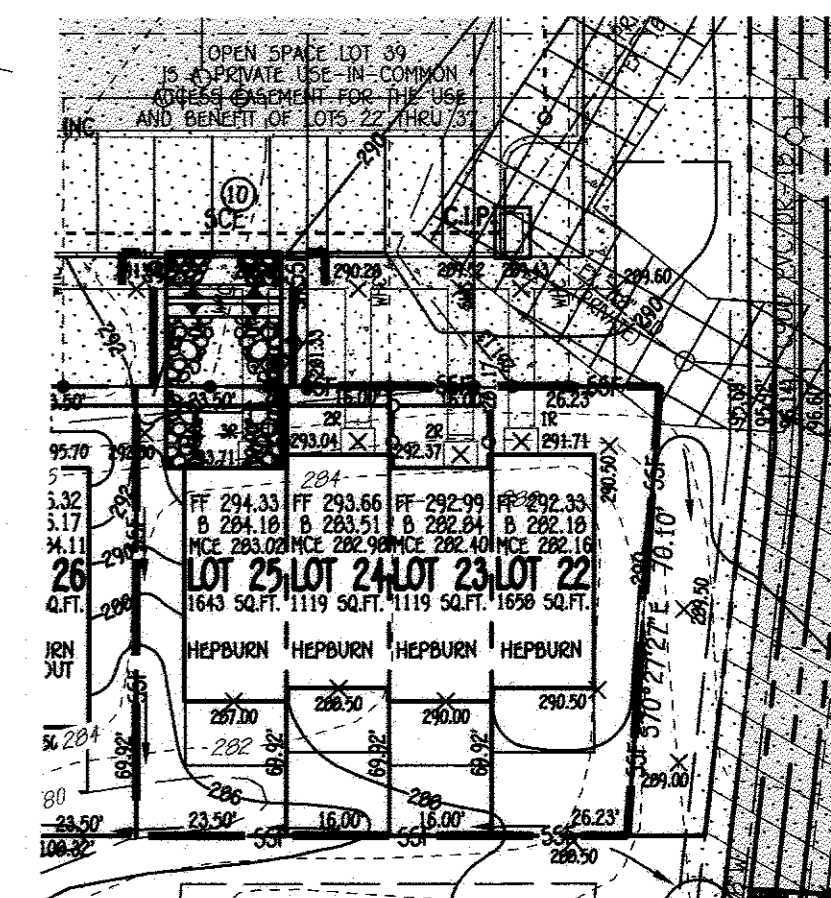
**EXISTING TEMPORARY S.O.S.T. #1  
(CONSTRUCTED UNDER F-15-053)**  
 DRAINAGE AREA - INITIAL: 1.05 AC.  
 DRAINAGE AREA - FINAL: 2.88 AC.  
 TOTAL STORAGE REQUIRED: 10,368 CU.FT.  
 TOTAL STORAGE PROVIDED: 16,490 CU.FT.  
 WET STORAGE PROVIDED: (1,800 x 2.88) = 5,184 CU.FT.  
 WET STORAGE PROVIDED: 5,184 CU.FT.  
 DRY STORAGE REQUIRED: (1,800 x 2.88) = 5,184 CU.FT.  
 DRY STORAGE PROVIDED: 5,184 CU.FT.  
 EXISTING GROUND ELEVATION AT OUTLET: 277.00'  
 TRAP BOTTOM ELEVATION: 275.00'  
 TRAP BOTTOM DIMENSIONS: 50" x 100"  
 WALK LENGTH: 12'  
 WALK CREST ELEVATION: 277.00'  
 CLEANOUT ELEVATION: 275.50'  
 TOP OF EMBANKMENT ELEVATION: 278.00'  
 SIDE SLOPES 2:1  
 EMBANKMENT TOP WIDTH: 4'  
 OUTLET PROTECTION - LENGTH: 13'  
 OUTLET PROTECTION - DEPTH: 19"  
 1-YR. Q = 5.6 C.F.S.  
 1-YR. ELEV. = 277.00'

**BAFFLE DESIGN #1**  
 TRAP BOTTOM DIMENSIONS: 50" x 100"  
 MINIMUM FLOW LENGTH INFORMATION  
 REQUIRED FLOW LENGTH TO OUTFLOW: 34' x 2 = 68'  
 BAFFLE LENGTH = 76 LF  
 FLOW LENGTH PROVIDED = L1 + L3 = 66' + 45' = 111'  
 FLOW LENGTH PROVIDED = L2 + L3 = 30' + 45' = 75'

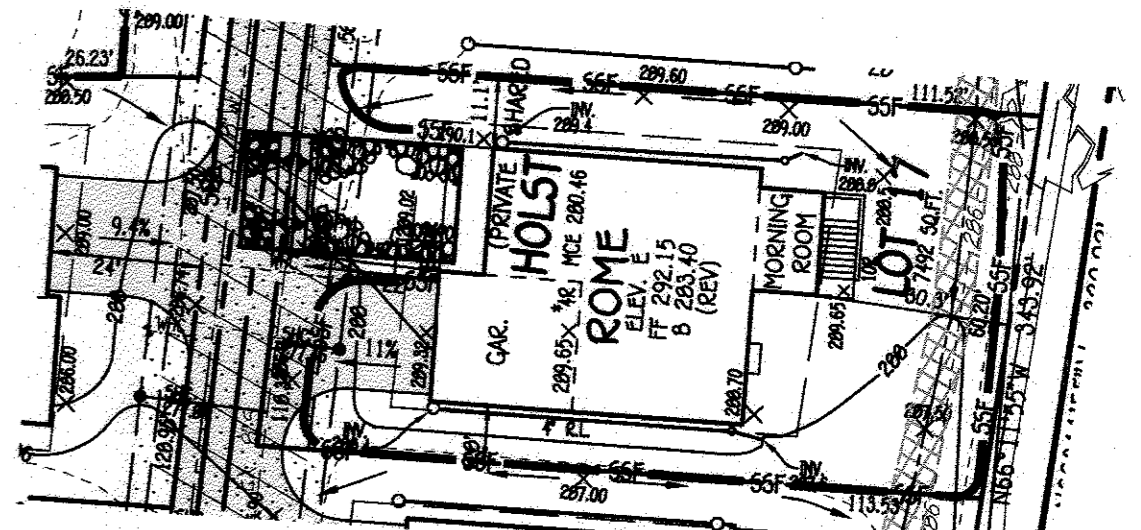
REQUIRE FLOW LENGTH TO OUTFLOW: 34' x 2 = 68'  
 BAFFLE LENGTH = 76 LF  
 FLOW LENGTH PROVIDED = L1 + L3 = 66' + 45' = 111'  
 FLOW LENGTH PROVIDED = L2 + L3 = 30' + 45' = 75'



LEGEND	
SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	PROPOSED STORM DRAIN PIPE
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SUPER SALT POND
(Symbol)	SALT POND
(Symbol)	15-24% SLOPES
(Symbol)	25% OR GREATER SLOPES
(Symbol)	"B" SOILS
(Symbol)	"C" SOILS
(Symbol)	IMPROVED SOILS
(Symbol)	WETLANDS
(Symbol)	STREAM BUFFER
(Symbol)	DRAINAGE DRAIN
(Symbol)	DRYWELL (H-2) TYPICAL
(Symbol)	BIO RETENTION FACILITY (F-6) OR (F-3) AS NOTED
(Symbol)	SPECIEN TREE (TO REMAIN)
(Symbol)	PRIVATE USE-IN-COMMON EASEMENT
(Symbol)	PUBLIC WATER & UTILITY EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	PUBLIC DRAINAGE & UTILITY EASEMENT
(Symbol)	EXISTING PUBLIC SEWER & UTILITY EASEMENT
(Symbol)	TREE MAINTENANCE EASEMENT
(Symbol)	TEMP. PRIVATE GRASSING & SLOPE EASEMENT
(Symbol)	PRIVATE WATER & SEWER EASEMENT
(Symbol)	EROSION CONTROL TYPING



**TYPICAL SEDIMENT/EROSION CONTROL PLAN FOR TOWNHOUSE UNITS**  
 SCALE: 1" = 30'

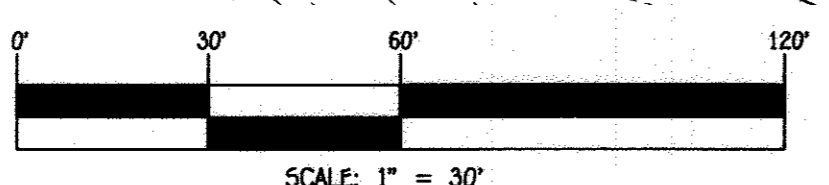


**TYPICAL SEDIMENT/EROSION CONTROL PLAN FOR INDIVIDUAL FLAGSTEM LOTS**  
 SCALE: 1" = 30'

SOILS LEGEND			
SOIL	NAME	CLASS	KW
CeB	CHILLUM LOAM, 1 TO 5 PERCENT SLOPES	B	0.37
CeC	CHILLUM LOAM, 5 TO 10 PERCENT SLOPES	B	0.37
GmB	GLENVILLE LOAM, 3 TO 8 PERCENT SLOPES	C	0.37

NOTES:  
 SOIL TYPES TAKEN FROM MAP 28 OF THE  
 SOIL SURVEY OF HOWARD COUNTY, MARYLAND FOUND ON THE HSCD WEBSITE.

**FINAL TRAP GRADING PER F-15-053**  
 SCALE: 1" = 30'



NOTE:  
 FOR TYPICAL SEDIMENT/EROSION CONTROL PLAN FOR TOWNHOUSE UNITS, SEE DETAIL-THIS SHEET  
 FOR TYPICAL SEDIMENT/EROSION CONTROL PLAN FOR INDIVIDUAL FLAGSTEM LOTS, SEE DETAIL-THIS SHEET

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10732 BALDORRE NATIONAL PkE.  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2895



**PROFESSIONAL CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT."  
 Signature: Frank John Manalansan II  
 DATE: 4/9/17

**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."  
 Signature: Kevin Bowser  
 DATE: 6-14-17

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY  
 Signature: [Handwritten]  
 DATE: 6/21/17

**OWNERS**  
 DOUBLE R VENTURES, LLC  
 8318 FOREST STREET  
 SUITE 200  
 ELLICOTT CITY, MARYLAND 21043  
 ATTN: JOSEPH RUTTER  
 410-707-7054

**BUILDER**  
 RYAN HOMES  
 9720 PATUXENT WOODS DRIVE  
 COLUMBIA, MARYLAND 21046  
 ATTN: KEVIN BOWSER  
 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Signature: [Handwritten]  
 Date: 7-24-17  
 Chief, Division of Land Development

Signature: [Handwritten]  
 Date: 7-27-17  
 Chief Development Engineering Division

Signature: [Handwritten]  
 Date: 7-24-17  
 Director - Department of Planning and Zoning

PROJECT: FOX WOOD MANOR SECTION: [Blank] PARCEL NOs: LOTS 1-6, 8-12, 14-20, 22-25, 44-55

PLAT: 23766-23769 BLOCK NO.: 1 ZONE: R-SC TAX/ZONE: 50 ELEC. DIST.: 6 CENSUS TR.: 6069.02

PREVIOUS HOWARD COUNTY FILES:  
 SDF-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4049-0, F-15-053 AND SDF-16-056

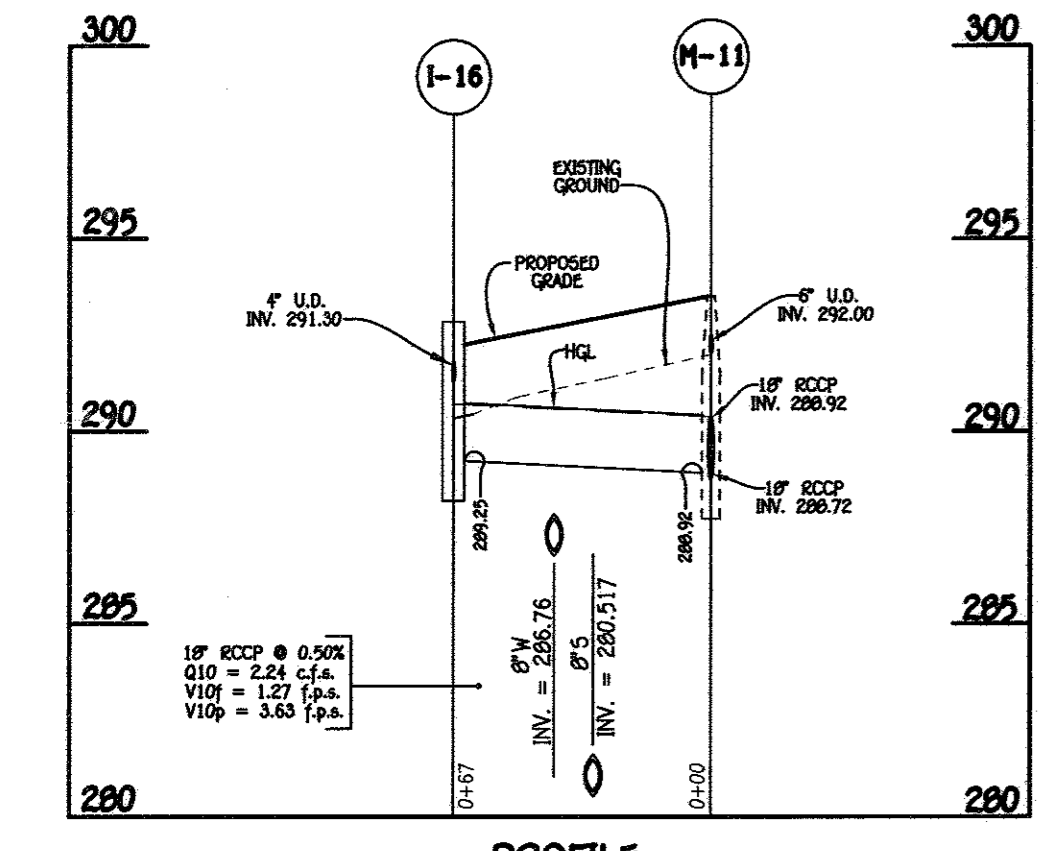
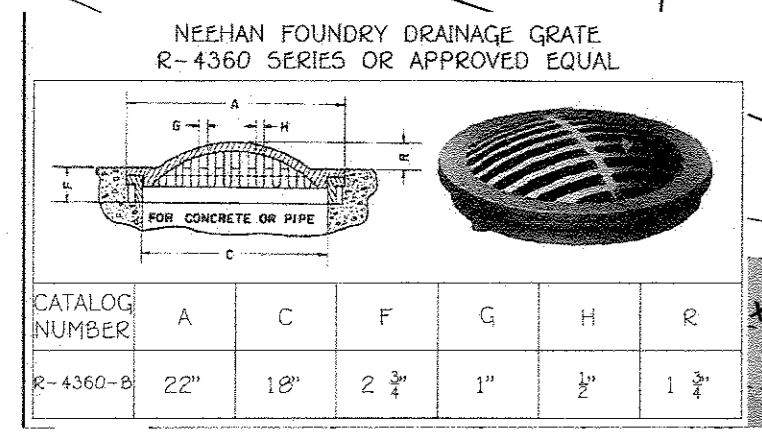
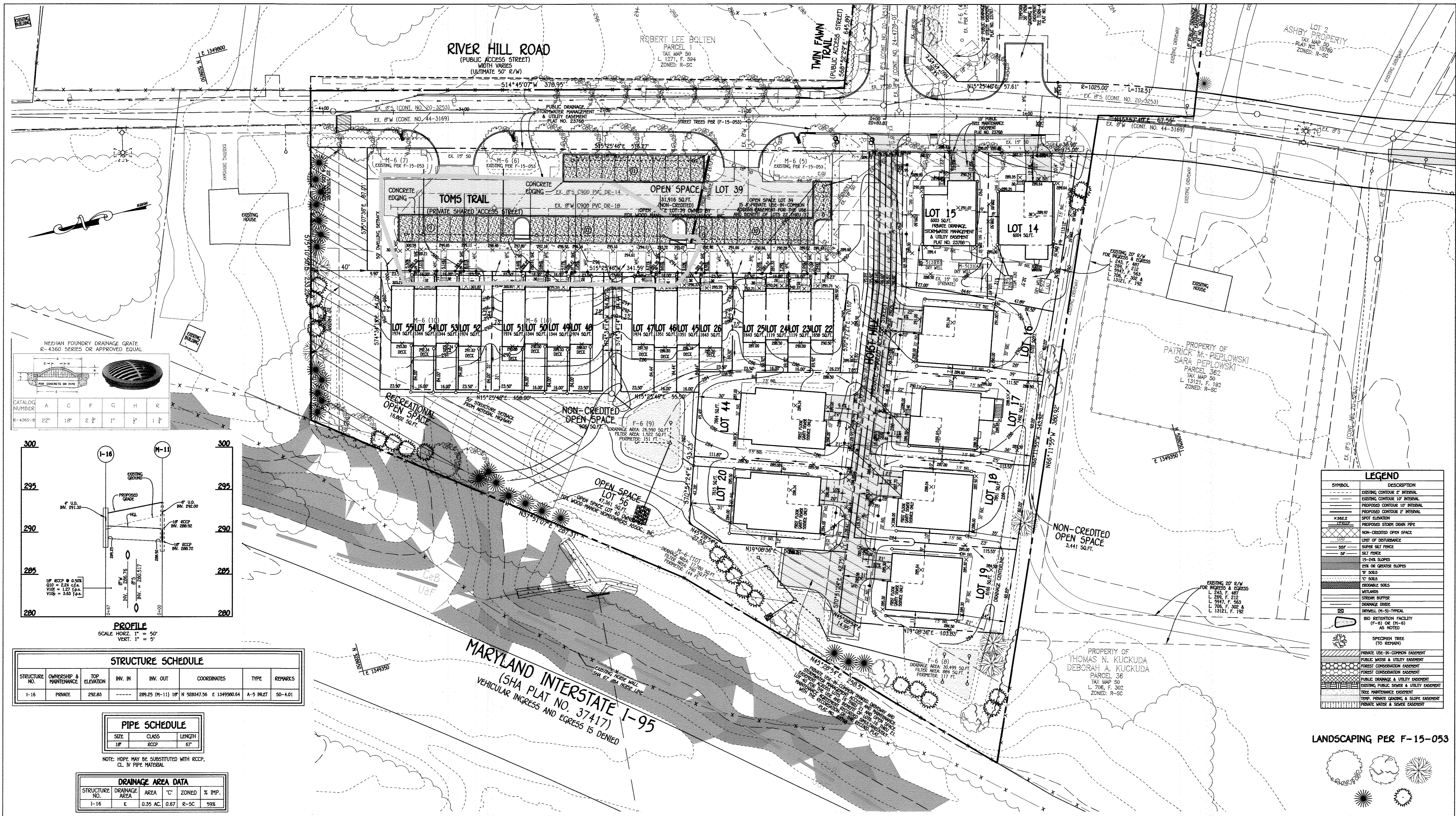
**REPLACEMENT SHEET  
 SEDIMENT/EROSION CONTROL PLAN**

**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
 OPEN SPACE LOTS 30, 39, 41 THRU 43 & 56  
 ZONED: R-SC

TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 460 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 5 OF 12  
 SDF-16-057



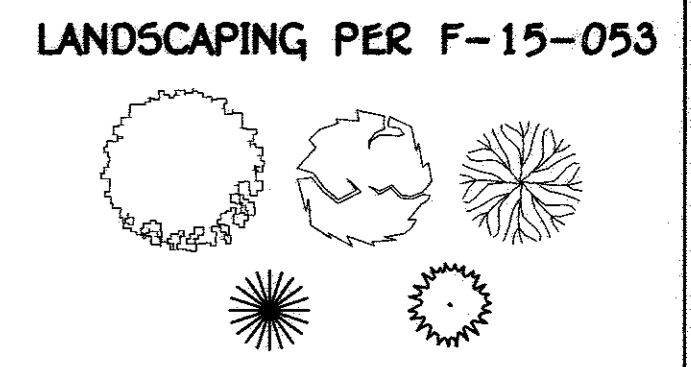


STRUCTURE SCHEDULE						
STRUCTURE NO.	OWNERSHIP & MAINTENANCE	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	REMARKS
I-16	PRIVATE	292.83	-----	289.25 (M-11) 18"	N 528347.56 E 1349980.64	A-5 INLET 50-4.01

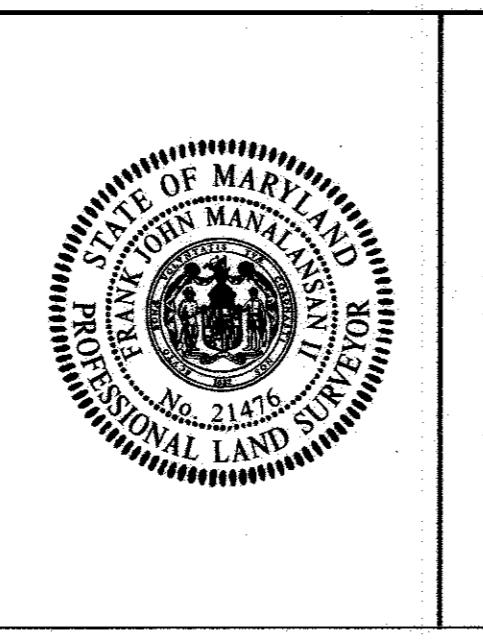
PIPE SCHEDULE		
SIZE	CLASS	LENGTH
18"	RCCP	67'

DRAINAGE AREA DATA			
STRUCTURE NO.	DRAINAGE AREA	% ZONED	% IMP.
I-16	K	0.35 AC.	0.67 R-5C 59%

LEGEND	
SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	SPRIT ELEVATION
(Symbol)	PROPOSED STORM DRAIN PIPE
(Symbol)	NON-CREDITED OPEN SPACE
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SUPER SILT FENCE
(Symbol)	SILT FENCE
(Symbol)	15-24% SLOPES
(Symbol)	25% OR GREATER SLOPES
(Symbol)	1% SOILS
(Symbol)	2% SOILS
(Symbol)	ERODIBLE SOILS
(Symbol)	WETLANDS
(Symbol)	STREAM BUFFER
(Symbol)	DRAINAGE DITCH
(Symbol)	DEWELL (M-5)-TYPICAL
(Symbol)	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	SPECIMEN TREE (TO REMAIN)
(Symbol)	PRIVATE USE - IN-COMMON EASEMENT
(Symbol)	PUBLIC WATER & UTILITY EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	EXISTING PUBLIC SEMI- & UTILITY EASEMENT
(Symbol)	TREE MAINTENANCE EASEMENT
(Symbol)	TYPICAL PRIVATE EASEMENT & SLOPE EASEMENT
(Symbol)	PRIVATE WATER & SEWER EASEMENT



NO.	REVISION	DATE
1	REPLACEMENT SHEET	2/8/17



**PROFESSIONAL CERTIFICATION**  
 "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, 7/4/17."  
 Joseph Gutter 4/9/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 7-24-17  
 Chief, Development Engineering Division: 7-24-17  
 Director - Department of Planning and Zoning: 7-24-17

PROJECT: FOX WOOD MANOR SECTION: PARCEL NO. 23766-23769

PLAT: 23766-23769 BLOCK NO. 1 ZONE: R-5C TAX/ZONE: 50 ELEC. DIST.: 6 CENSUS TR.: 6069.02

PREVIOUS HOWARD COUNTY FILES: SDP-05-067, SP-14-003, ECF-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4649-D, F-15-053 AND SDP-16-056

**OWNERS:** DOUBLE R VENTURES, LLC 8318 FOREST STREET SUITE 200 ELICOTT CITY, MARYLAND 21043 ATTN: JOSEPH GUTTER 410-707-7054

**BUILDER:** RYAN HOMES 9720 PATUKENT WOODS DRIVE COLUMBIA, MARYLAND 21046 ATTN: KEVIN BOWSER 443-574-1026

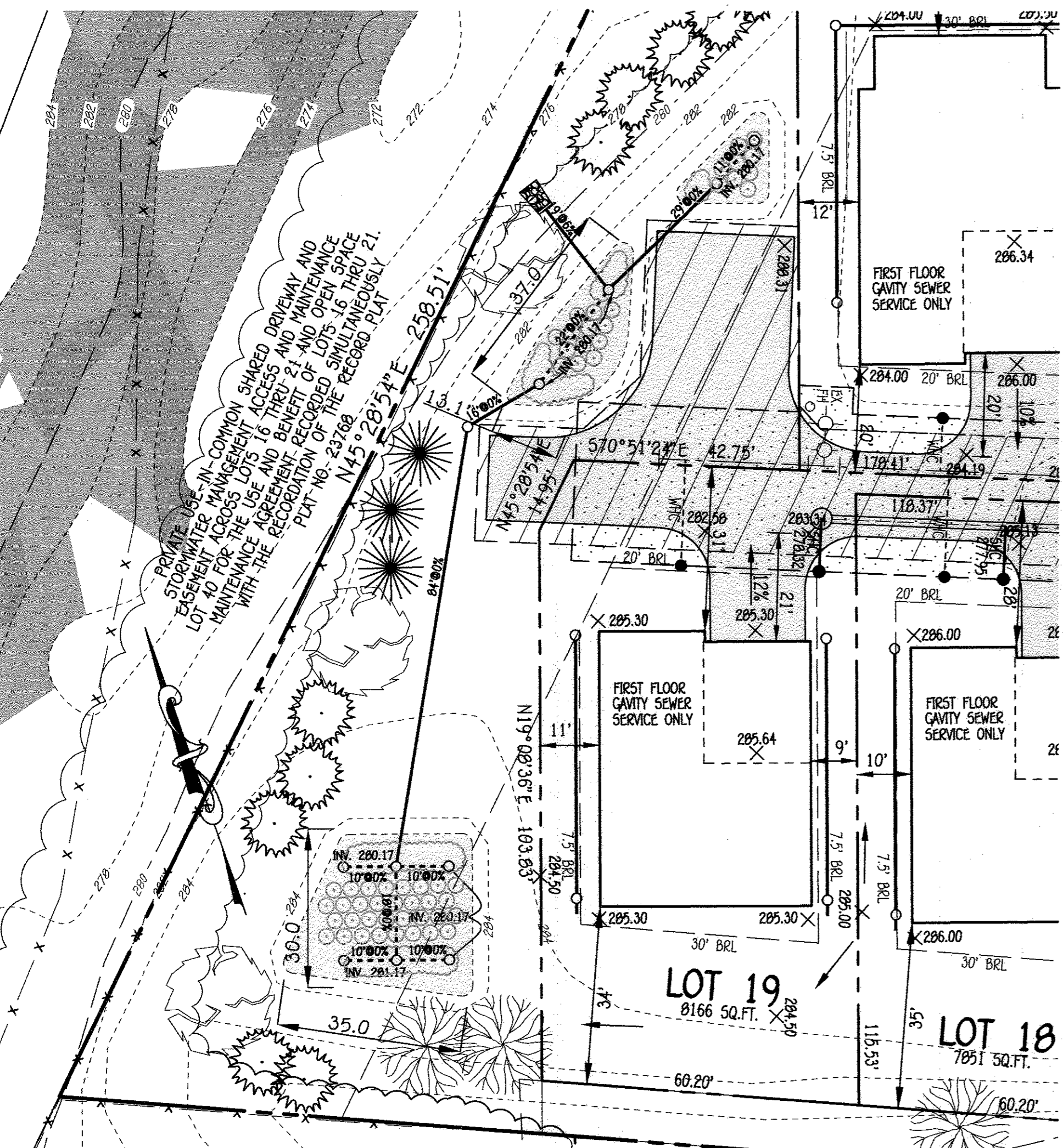
REPLACEMENT SHEET  
 STORM DRAIN DRAINAGE AREA MAP & PROFILE

**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
 OPEN SPACE LOTS 30, 39, 41 THRU 43 & 56  
 ZONED: R-5C

TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 460 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 7 OF 12 SDP-16-057

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



**M-6 (10)**  
 (BIO-RETENTION FACILITY)  
 SCALE: 1" = 20'  
 DRAINAGE AREA: 16,560 sq.ft.  
 FILTER AREA: 590 sq.ft.  
 ELEVATION: 281  
 PERIMETER: 144  
 WEIR ELEVATION: 282

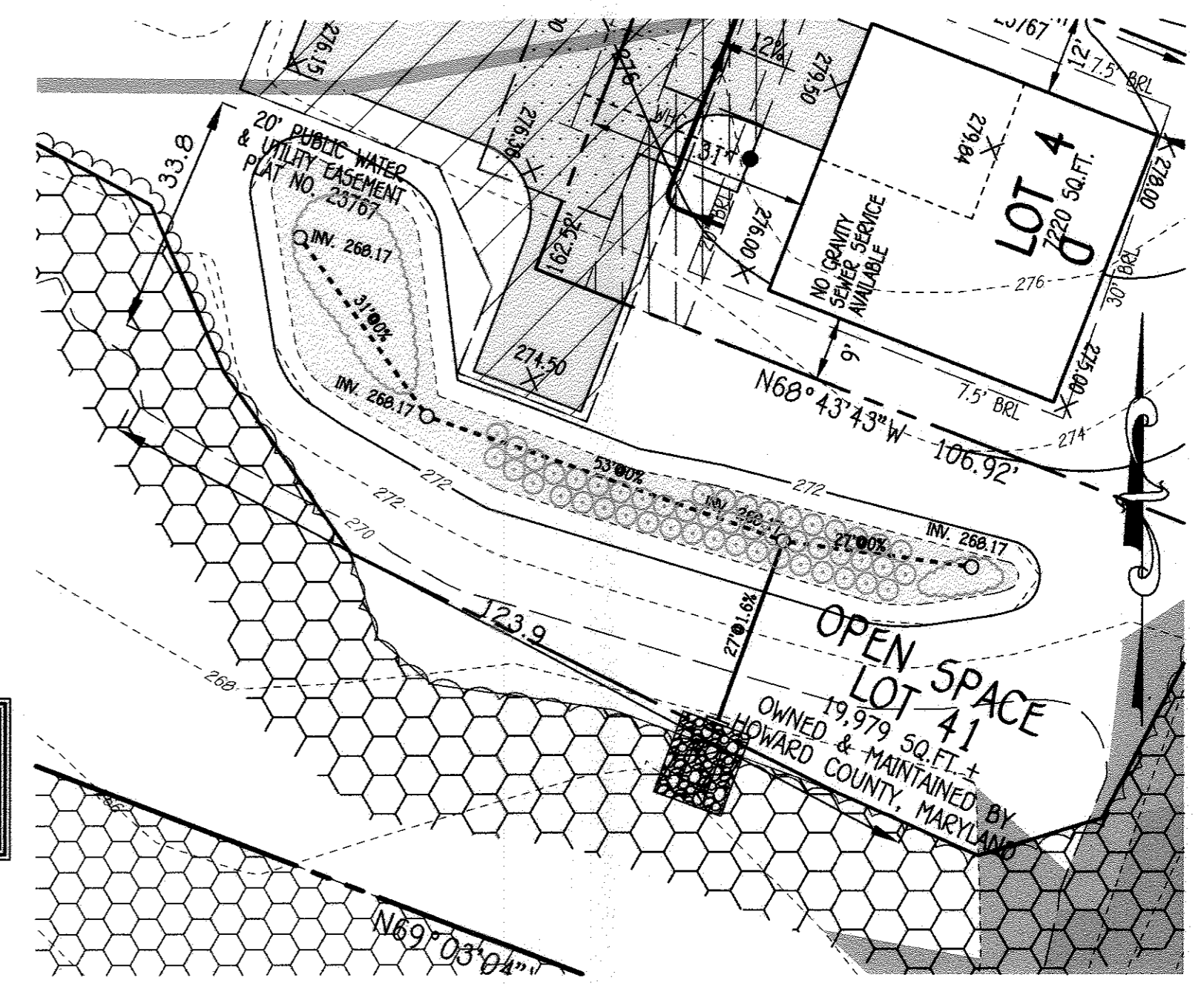
PLANT MATERIAL- BIO-RETENTION M-6 (10)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
50 (148 sq.ft.)	GRASSES	36" o.c.
21	SHRUBS	36"-40" o.c.

LEGEND	
(Symbol)	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	PROPOSED STORM DRAIN PIPE
(Symbol)	NON-CREDITED OPEN SPACE
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SUPER SALT FENCE
(Symbol)	SILT FENCE
(Symbol)	15-24% SLOPES
(Symbol)	25% OR GREATER SLOPES
(Symbol)	TOP SOILS
(Symbol)	ERODIBLE SOILS
(Symbol)	WETLANDS
(Symbol)	STREAM BUFFER
(Symbol)	DRYING BERMS
(Symbol)	DRYWELL (IN-3)-TYPICAL
(Symbol)	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	SPECIMEN TREE (TO REMAIN)
(Symbol)	PRIVATE USE IN-COMMON EASEMENT
(Symbol)	PUBLIC WATER & UTILITY EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	FOREST CONSERVATION EASEMENT
(Symbol)	PUBLIC DRAINAGE & UTILITY EASEMENT
(Symbol)	EXISTING PUBLIC WATER & UTILITY EASEMENT
(Symbol)	TREE MAINTENANCE EASEMENT
(Symbol)	TEMP. PERMITS CONCRETE & SLURRY EASEMENT
(Symbol)	PRIVATE WATER & SEWER EASEMENT

- SHRUBS**  
 BARBERY  
 SPICEBUSH  
 ARROWWOOD  
 WINTERBERRY  
 IN-BERRY  
 WITCH HAZEL  
 BUTTERNUT  
 BUCKEYE  
 BOTTLEBRUSH  
 BUCKEYE
- ANY OF THE SHRUBS LISTED MAY BE USED
- GRASS**  
 SWITCHGRASS  
 HEAVY METAL SWITCHGRASS
- ANY OF THE GRASSES LISTED MAY BE USED

**NOTES:**

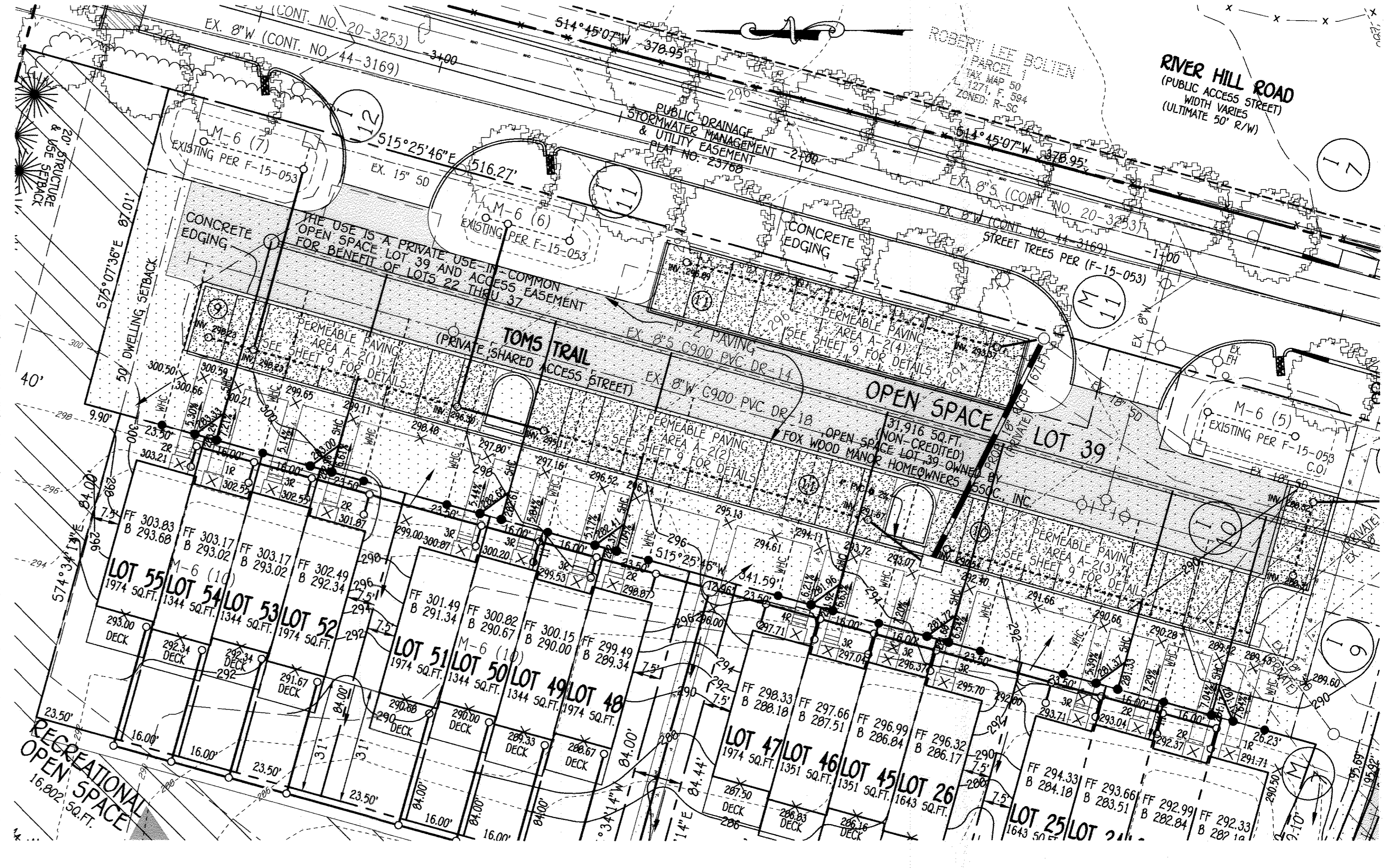
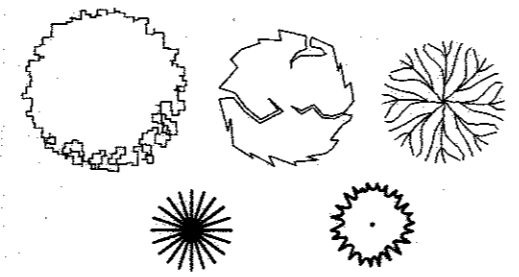
STORMWATER MANAGEMENT DEVICES LOCATED ON INDIVIDUAL LOTS WILL BE OWNED AND MAINTAINED BY THAT PARTICULAR LOT OWNER AND SUBJECT TO THE REQUIREMENTS OF A RECORDED DECLARATION OF COVENANT. THE STORMWATER MANAGEMENT DEVICES LOCATED ON H.O.A. OPEN SPACE WILL BE PRIVATELY OWNED AND MAINTAINED BY THE FOX WOOD MANOR HOMEOWNER'S ASSOCIATION.



**F-6 (11)**  
 (MICRO BIO-RETENTION FACILITY)  
 SCALE: 1" = 20'  
 DRAINAGE AREA: 45,644 sq.ft.  
 FILTER AREA: 1,474 sq.ft.  
 ELEVATION: 271.00  
 PERIMETER: 270.00  
 WEIR ELEVATION: 272.00

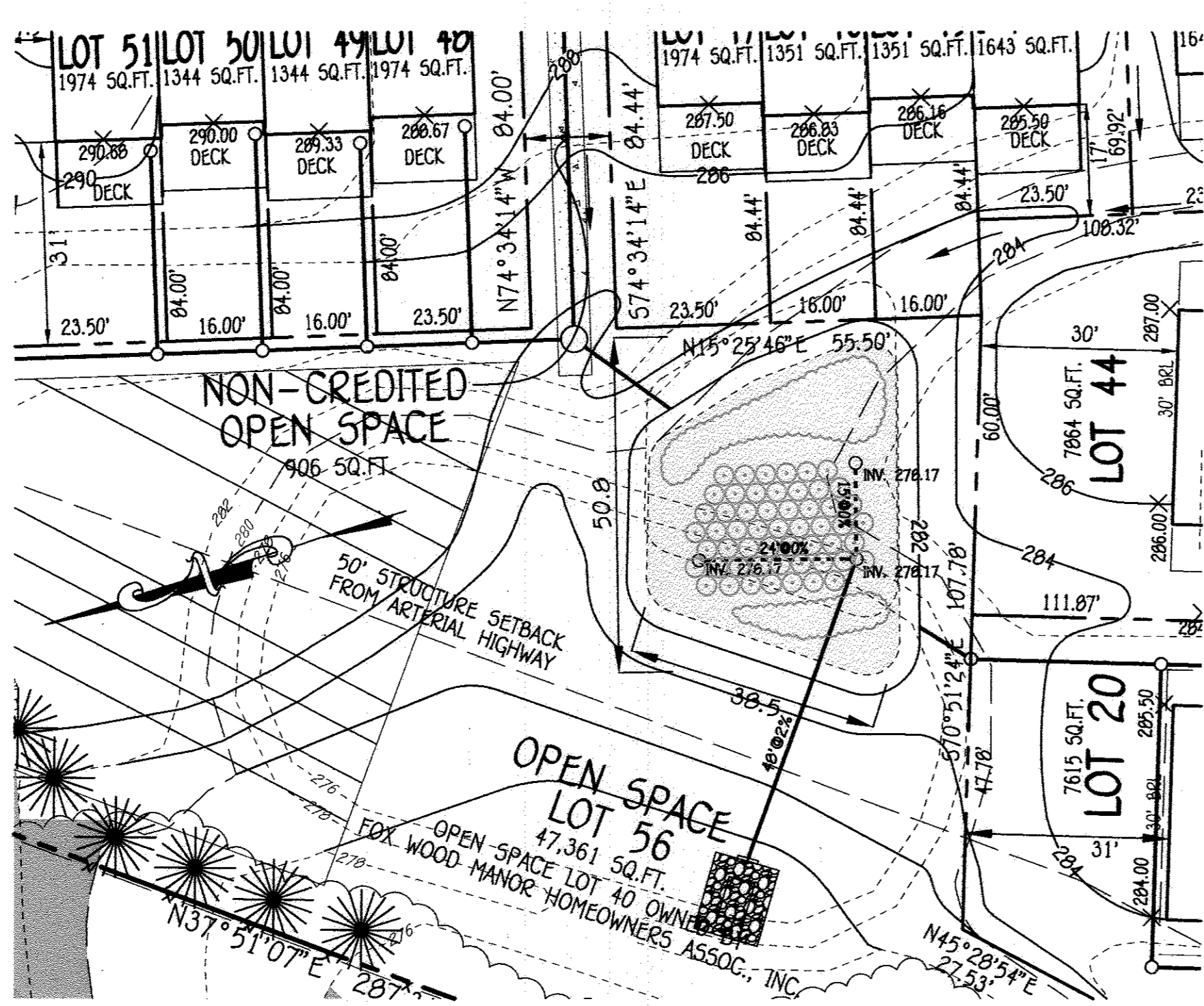
PLANT MATERIAL- BIO-RETENTION F-6 (11)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
115 (344 sq.ft.)	GRASSES	36" o.c.
49	SHRUBS	36"-40" o.c.

**LANDSCAPING PER F-15-053**



**F-6 (8)**  
 (MICRO BIO-RETENTION FACILITY)  
 SCALE: 1" = 20'  
 DRAINAGE AREA: 29,979 sq.ft.  
 FILTER AREA: 864 sq.ft.  
 ELEVATION: 283.00  
 PERIMETER: 117  
 WEIR ELEVATION: 284.00

PLANT MATERIAL- BIO-RETENTION F-6 (8)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
74 (221 sq.ft.)	GRASSES	36" o.c.
32	SHRUBS	36"-40" o.c.



**F-6 (9)**  
 (MICRO BIO-RETENTION FACILITY)  
 SCALE: 1" = 20'  
 DRAINAGE AREA: 25,822 sq.ft.  
 FILTER AREA: 1,522 sq.ft.  
 ELEVATION: 281.00  
 PERIMETER: 151'  
 WEIR ELEVATION: 282.00

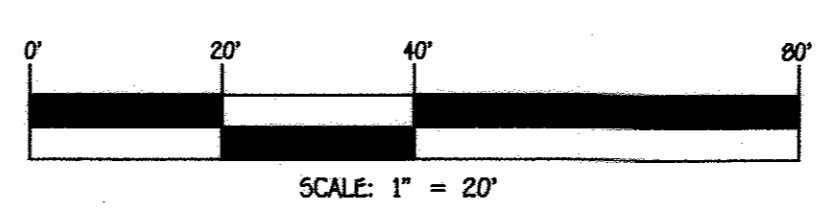
PLANT MATERIAL- BIO-RETENTION M-6 (9)		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
127 (381 sq.ft.)	GRASSES	36" o.c.
54	SHRUBS	36"-40" o.c.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 10732 BALDWIN ROAD, SUITE 200  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2899



**PROFESSIONAL CERTIFICATION**  
 "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, 7/4/17.

*Joseph Ruttner*  
 NAME: Joseph Ruttner DATE: 6/3/17



**OWNERS**  
 DOUBLE R VENTURES, LLC  
 8316 FOREST STREET  
 SUITE 200  
 ELICOTT CITY, MARYLAND 21043  
 ATTN: JOSEPH RUTTER  
 410-707-7054

**BUILDER**  
 RYAN HOMES  
 9720 PATUXENT WOODS DRIVE  
 COLUMBIA, MARYLAND 21046  
 ATTN: KEVIN BOWSER  
 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Victoria Johnson*  
 Chief, Division of Land Development  
 Date: 7-24-17

*Joseph Ruttner*  
 Chief, Development Engineering Division  
 Date: 7-7-17

*William J. Davis*  
 Director - Department of Planning and Zoning  
 Date: 7-24-17

PROJECT: FOX WOOD MANOR SECTION: SECTION 1 PARCEL NOs: 405, 429 & 468  
 14-20, 22-26, 44-55

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23766-23769	1	R-5C	50	6	6069.02

PREVIOUS HOWARD COUNTY FILES:  
 SDP-09-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-6049-D,  
 F-15-053 AND SDP-16-056

**REPLACEMENT SHEET**  
**STORMWATER MANAGEMENT DETAILS**

**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
 OPEN SPACE LOTS 30, 39, 41 THRU 43 & 56  
 ZONED: R-5C

TAX MAP NO.: 50 PARCEL NOs.: 405, 429 & 468 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 8 OF 12  
 SDP-16-057

NO.	REVISION	DATE
1	REPLACEMENT SHEET	2/8/17



### INFILTRATION & FILTER SYSTEM CONSTRUCTION SPECIFICATIONS

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

WHEN PROPERLY PLANTED, VEGETATION WILL THREATEN AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATED PLANTS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHORUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL ADD TO NITRIFICATION AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROMOTE STORMWATER TO PERMEATE TO POSITIVE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

#### DESIGN CONSTRAINTS:

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

### BIO-RETENTION SOIL BED CHARACTERISTICS

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

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 5% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQE), 1996, ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ET&B), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.57 INR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUHLENBERG, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COVER 15.08.01.05.) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LOTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKSCOPE BUCKET OR TROWEL) BY ORDER TRUCKS. THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3.

TABLE A.3 PLANTING SOIL CHARACTERISTICS

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P2O5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH - K2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	0 TO 5 %
SILT	30 TO 55 %
SAND	35 TO 60 %

### MULCH LAYER

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

### PLANTING GUIDANCE

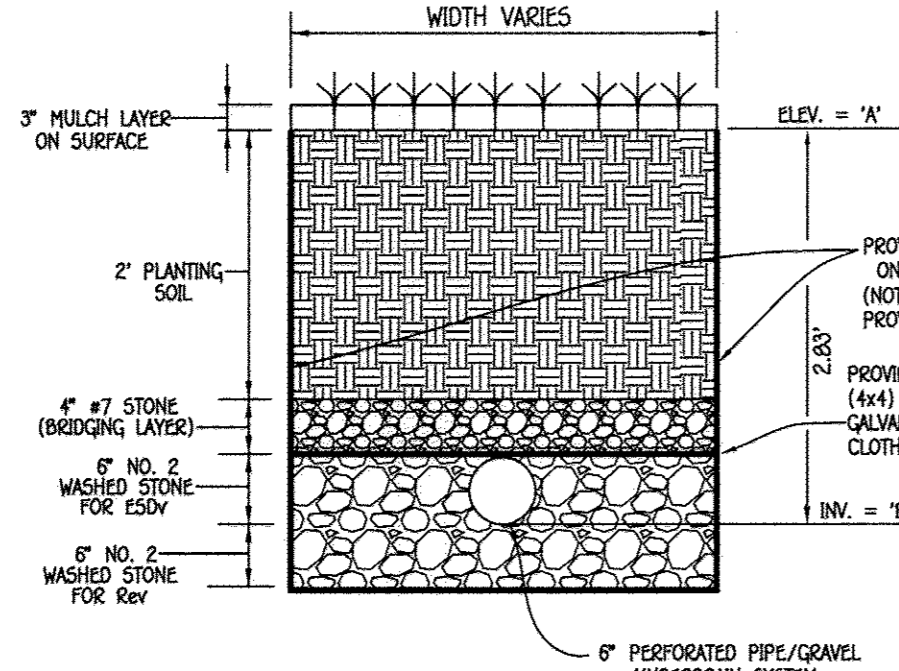
Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The upper elevation is the highest elevation and generally supports plants adapted to drier conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principles described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ET&B, 1993 or Cleary and Schaefer, 1997.

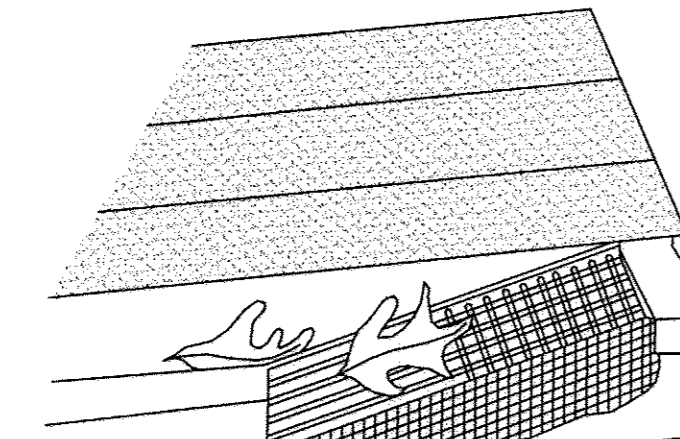
### OPERATION & MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6) & (F-6)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL. MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EXCESSION 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 EXCESSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

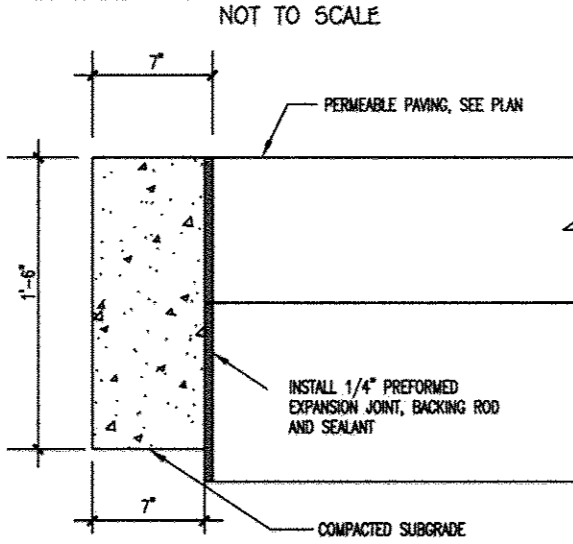
FACILITY NO.	A	B
F-6 (8)	283.00	280.17
M-6 (9)	281.00	278.17
M-6 (10)	281.00	278.17
F-6 (11)	271.00	268.17



TYPICAL SECTION BIO-RETENTION FACILITY (F-6)

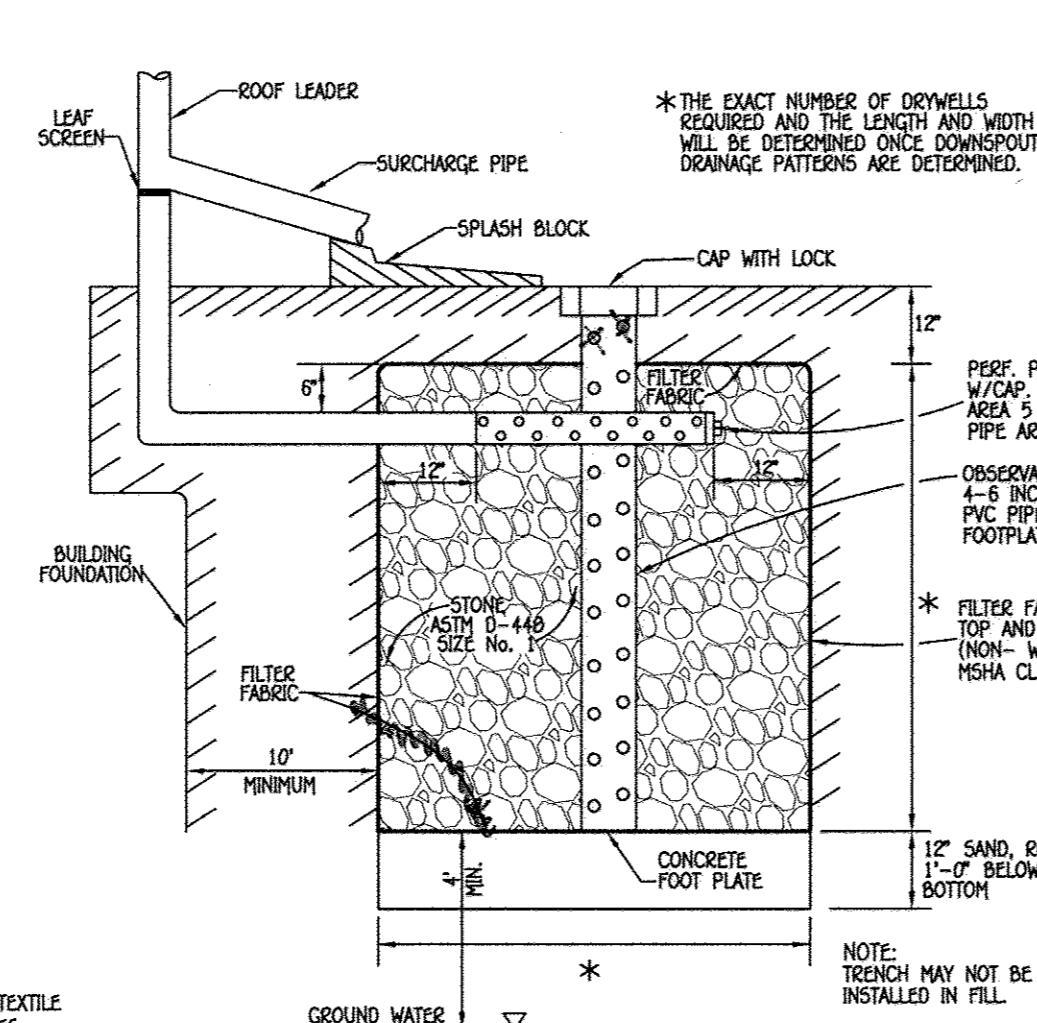


GUTTER DRAIN FILTER DETAIL



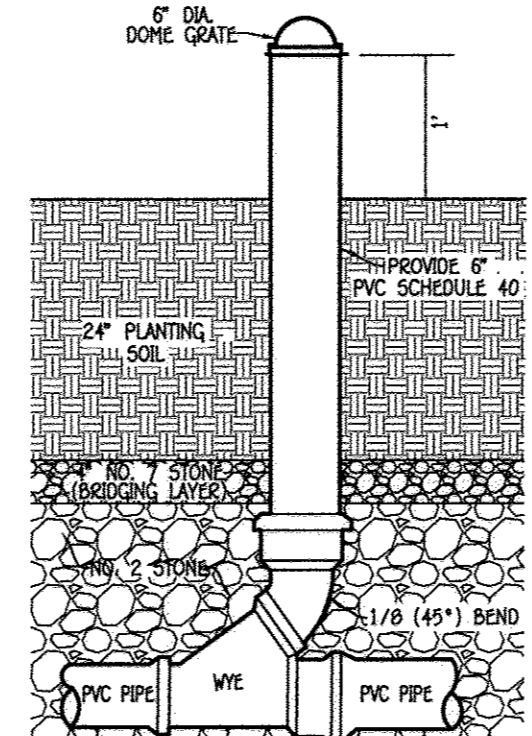
CONCRETE EDGING

BORING #	EXISTING ELEV.	MICRO-BIO. TOP	MICRO-BIO. BOTTOM	BORING BOTTOM
M-5 (2)	291.00	290.00	286.67	281.00
M-5 (2) BORING #5			286.00	280.00
M-6 (11)	279.00	279.00	275.00	271.00
M-6 (11) BORING #6				
F-6 (9)	288.00	283.00	279.00	273.00
F-6 (9) BORING #13				
M-6 (8)	291.00	289.00	285.00	278.00
M-6 (8) BORING #14				
M-6 (10)	282.00	281.00	277.00	267.00
M-6 (10) BORING #15				

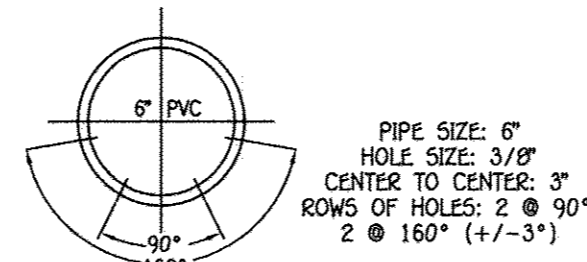


DRY WELL DETAIL

ROOF DOWN SPOUT DETAIL



TYPICAL CLEAN-OUT DETAIL



SCH40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE

PERM. PAV. AREA NO.	DEPTH
A-2(1)	2.37'
A-2(2)	2.42'
A-2(3)	2.39'
A-2(4)	1.24'

AREA ID	BIO 6\"/>	BIO 6\"/>	BIO 6\"/>	AREA OF PERMEABLE PAVING	TOTAL DEPTH OF PERMEABLE PAVING	BIO 6\"/>	BIO 6\"/>
F-6 (8)	95	48	284				
M-6 (9)	56	35	1,089				
M-6 (10)	45	29	590				
F-6 (11)	26	105	1,374				
A-2 (1)				1,820	1.90	22	56
A-2 (2)				1,782	2.42	17	88
A-2 (3)				1,937	2.31	10	84
A-2 (4)				1,782	1.24	20	101

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

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

### 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. DOWNSPOUTS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

### CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH DRY WELLS:

- EROSION AND SEDIMENT CONTROL: FINAL GRADING FOR PROPOSED DRY WELLS SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS COMPLETELY STABILIZED. IF THIS CANNOT BE ACCOMPLISHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED.
- SOIL COMPACTION: EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION. CONSTRUCTION OF A DRY WELL SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA.

#### UNDERGROUND CHAMBER:

A SUBSURFACE PREFABRICATED CHAMBER MAY BE USED.

#### DRY WELL BOTTOM:

THE BOTTOM SHALL BE AS LEVEL AS POSSIBLE TO MINIMIZE POOLED WATER IN SMALL AREAS THAT MAY REDUCE OVERALL INFILTRATION AND LONGEVITY.

#### FILTER CLOTH:

FILTER CLOTH SHALL NOT BE INSTALLED ON THE BOTTOM OF THE WELL. NON-WOVEN FILTER CLOTH SHOULD BE USED TO LINE THE TOP AND SIDES OF THE DRY WELL TO PREVENT THE PORE SPACE BETWEEN THE STONES FROM BEING BLOCKED BY THE SURROUNDING NATIVE MATERIAL.

#### GRAVEL MEDIA:

THE AGGREGATE SHALL BE COMPOSED OF AN 18 TO 48-INCH LAYER OF CLEAN WASHED, OPEN GRADED MATERIAL WITH 40% POROSITY (E.G., ASTM D448 4, 5, OR 6 STONE OR EQUAL).

LOT NO.	DRYWELL NUMBER	NO. OF DOWNSPOUTS	AREA OF ROOF PER DOWNSPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	AREA OF STORAGE	NO. OF DRYWELLS	DIMENSIONS OF DRYWELLS
8	M-5 (1) A	2	490 SQ.FT.	140 CU.FT.	140 CU.FT.	100%	979	1	10' X 7' X 5'
8	M-5 (1) B	2	490 SQ.FT.	140 CU.FT.	140 CU.FT.	100%	979	1	10' X 7' X 5'
14	M-5 (2) A	2	447 SQ.FT.	128 CU.FT.	140 CU.FT.	100%	893	1	10' X 7' X 5'
14	M-5 (2) B	2	421 SQ.FT.	120 CU.FT.	120 CU.FT.	100%	842	1	10' X 6' X 5'
15	M-5 (3) A	2	430 SQ.FT.	125 CU.FT.	126 CU.FT.	100%	860	1	9' X 7' X 5'
15	M-5 (3) B	2	430 SQ.FT.	125 CU.FT.	128 CU.FT.	100%	860	1	16' X 4' X 5'

### OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

- a. The owner shall periodically sweep (or vacuum porous concrete pavement) the pavement surfaces to reduce sediment accumulation and insure continued surface porosity. Sweeping should be performed at least twice annually with a commercial cleaning unit. Washing or compressed air units should not be used to perform surface cleaning.
- b. The owner shall periodically clean drainage pipes, inlets, stone edge drains and other structures within or draining to the subsurface.
- c. The owner shall use deicers in moderation. Deicers should be non-toxic and be applied either as calcium magnesium acetate or as pretreated salt.
- d. The owner shall ensure snow plowing is performed carefully with blades set one inch above the surface. Plowed snow piles and snowmelt should not be directed to permeable pavement.

### Construction Specifications for Environmental Site Design Practices

#### B.4.B Specifications for Permeable Pavements & Reinforced Turf

These specifications include information on acceptable materials for typical applications and are not exclusive or limiting. The designer is responsible for developing detailed specifications for individual projects and specific conditions.

#### 1. Pervious Concrete Specifications

Design Thickness -- Pervious concrete applications shall be designed so that the thickness of the concrete slab shall support the traffic and vehicle types that will be carried. Applications may be designed using either standard pavement procedures (e.g., AASHTO, ACI 325.9R, ACI 330R) or using structural values derived from flexible pavement design procedures.

Mix & Installation -- Traditional Portland cements (ASTM C 150, C 1157) may be used in pervious concrete applications. Phosphorus admixtures may also be used. Materials should be tested (e.g., trial batching) prior to construction so that critical properties (e.g., setting time, rate of strength development, porosity, permeability) can be determined.

Aggregate -- Pervious concrete contains a limited fine aggregate content. Commonly used gradations include ASTM C 33 No. 67 (3% in. to No. 4), No. 8 (1/8 in. to No. 16) and No. 89 (3/8 in. to No. 50) sizes. Single-sized aggregate (up to 1 inch) may also be used.

Water Content -- Water-to-cement ratios between 0.27 and 0.30 are used routinely with proper inclusion of chemical admixtures. Water quality should meet ACI 308. As a general rule, potable water should be used although recycled concrete production water meeting ASTM C 94 or AASHTO M 157 may also be used.

Admixtures -- Chemical admixtures (e.g., retarders or hydration-stabilizers) are used to obtain special properties in pervious concrete. Use of admixtures should meet ASTM C 494 (chemical admixtures) and ASTM C 260 (air entraining admixtures) and closely follow manufacturer's recommendations.

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).

#### 2. Permeable Interlocking Concrete Pavements (PICP)

Paver Blocks -- Blocks should be either 3 1/8 in. or 4 in. thick, and meet ASTM C 936 or CSA A23 1.2 requirements. Applications should have 20% or more (40% preferred) of the surface area open. Installation should follow manufacturer's instructions, except that infill and base course materials and dimensions specified in this Appendix shall be followed.

Infill Materials and Leveling Course -- Openings shall be filled with ASTM C-33 graded sand or sandy loam. PICP blocks shall be placed on a one-inch thick leveling course of ASTM C-33 sand.

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).

#### Underdrains -- Underdrains should meet the following criteria:

- Pipe-- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 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 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel -- The gravel layer 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 section.
- A 4" layer of sand shall be located between the filter media and underdrain to prevent migration of fines into the underdrain.

#### Notes:

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

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



### PROFESSIONAL CERTIFICATION

"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, 7/4/17.

Kevin Bowers, 7/22/16

OWNERS: DOUBLE R VENTURES, LLC 8318 FOREST STREET SUITE 200 ELLICOTT CITY, MARYLAND 21043 ATTN: JOSEPH RUTTER 410-707-7054

BUILDER: RYAN HOMES 9720 PATUXENT WOODS DRIVE COLUMBIA, MARYLAND 21046 ATTN: KEVIN BOWSER 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County Department of Planning and Zoning, Kevin Bowers, Director

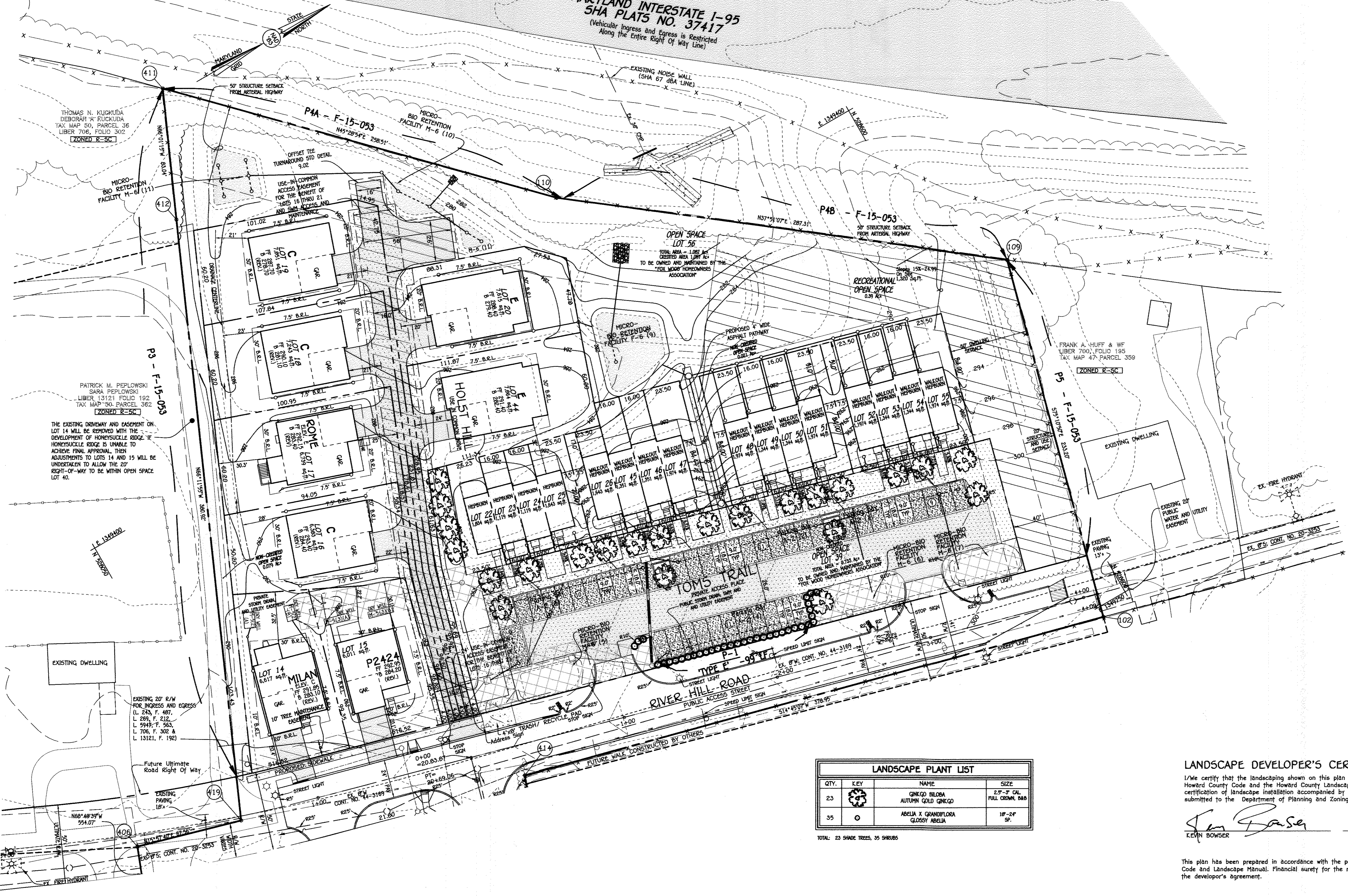
PROJECT	FOX WOOD MANOR	SECTION	PARCEL NOS. LOTS 1-6, 8-12, 14-20, 22-26 & 44-59
PLAT	23766-23769	BLOCK NO.	1
ZONE	R-5C	TAX/ZONE	50
ELEC. DIST.	6	CENSUS TR.	8069.02

### STORMWATER MANAGEMENT DETAILS & NOTES

FOX WOOD MANOR LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20, 22 THRU 26 & 44 THRU 59 OPEN SPACE LOTS 28, 29, 41 THRU 43 & 56

TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

**MARYLAND INTERSTATE I-95  
SHA PLATS NO. 37417**  
(Vehicular Ingress and Egress is Restricted  
Along the Entire Right Of Way Line)



**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	SPOT ELEVATION
---	PROPOSED STORM DRAIN PIPE
---	NON-CREDITED OPEN SPACE
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	15-24% SLOPES
---	25% OR GREATER SLOPES
---	1' SOILS
---	2' SOILS
---	ERODIBLE SOILS
---	METLANDS
---	STREAM BUFFER
---	SWAMPY WOODS
---	DEWELL (M-9)-TYPICAL
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	SPECIMEN TREE (TO REMAIN)
---	PRIVATE USE-IN-COMMON EASEMENT
---	PUBLIC WATER & UTILITY EASEMENT
---	FOREST CONSERVATION EASEMENT
---	FOREST CONSERVATION EASEMENT
---	PUBLIC DRAINAGE & UTILITY EASEMENT
---	EXISTING PUBLIC SEWER & UTILITY EASEMENT
---	TREE MAINTENANCE EASEMENT
---	TERRACE PRIVATE GRADING & SLOPE EASEMENT
---	PRIVATE WATER & SEWER EASEMENT

**PERIMETER LANDSCAPING  
PER F-15-053**

**INTERNAL LANDSCAPING  
PER SDP-16-057**

**LANDSCAPE PLANT LIST**

QTY.	KEY	NAME	SIZE
23	☼	QINQO BULOBA AUTUMN GOLD QINQO	2.5" CAL FULL CROWN BAB
35	○	ABELIA X GRANDIFLORA GLOSSY ABELIA	18"-24" SP.

TOTAL: 23 SHADE TREES, 35 SHRUBS

**LANDSCAPE DEVELOPER'S CERTIFICATE**

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

*Kevin Bowers* 6-14-17  
KEVIN BOWSER Date

This plan has been prepared in accordance with the provision of Section 16.124 of the Howard County Code and Landscape Manual. Financial surety for the required landscaping will be posted as part of the developer's agreement.

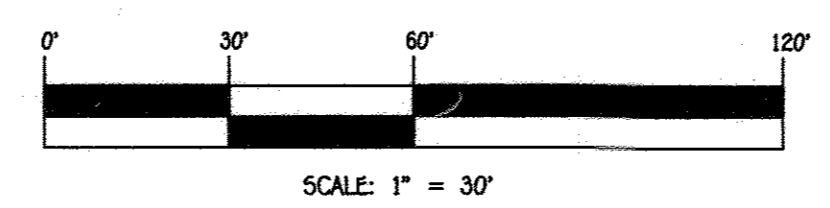
**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
410.461.2999



**PROFESSIONAL CERTIFICATION**

"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, 7/4/17.

*Frank John MacLennan* 6/17  
NAME DATE



**OWNERS**  
DOUBLE R VENTURES, LLC  
8318 FOREST STREET  
SUITE 200  
ELLCOTT CITY, MARYLAND 21043  
ATTN: JOSEPH RUTTER  
410-707-7054

**BUILDER**  
RYAN HOMES  
9720 PATUXENT WOODS DRIVE  
COLUMBIA, MARYLAND 21046  
ATTN: KEVIN BOWSER  
443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kevin Bowers* 7-24-17  
Chief, Division of Land Development Date

*Kevin Bowers* 7-7-17  
Chief, Development Engineering Division NY Date

*Kevin Bowers* 7-24-17  
Director - Department of Planning and Zoning Date

PROJECT	SECTION	PARCEL No.
FOX WOOD MANOR		LOTS 1-6, 8-12, 14-20, 22-26, 44-55
PLAT	BLOCK NO.	ZONE
23766-23769	1	R-SC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
50	6	6069.02

PREVIOUS HOWARD COUNTY FILES:  
SDP-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-0,  
F-15-053 AND SDP-16-056

**REPLACEMENT SHEET  
LANDSCAPE PLAN**

**FOX WOOD MANOR**  
LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
22 THRU 26 & 44 THRU 55  
OPEN SPACE LOTS 38, 39, 41 THRU 43 & 56  
ZONED: R-SC

TAX MAP NO.: 50 PARCEL NO'S: 405, 429 & 468 GRID NO.: 1  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 10 OF 12  
SDP-16-057

NO.	REVISION	DATE
1	REPLACEMENT SHEET	2/8/17

**NOTES**

- LANDSCAPE OBLIGATION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY IN THE AMOUNT OF \$7,950.00 BASED ON (23) SHADE TREES @ \$300/SHADE TREE, AND (35) SHRUBS @ \$30/SHRUB SHALL BE BONDED AS PART OF THE DPW DEVELOPERS AGREEMENT.
- 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 BENCHES, 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.

**LANDSCAPE DEVELOPER'S CERTIFICATE**

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

*Kevin Bowser*  
 KEVIN BOWSER Date

This plan has been prepared in accordance with the provision of Section 16.124 of the Howard County Code and Landscape Manual. Financial surety for the required landscaping will be posted as part of the developer's agreement.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
	SINGLE FAMILY ATTACHED
NUMBER OF PARKING SPACES	42
NUMBER OF TREES REQUIRED (1:10)	5
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTE)	5

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
	SINGLE FAMILY ATTACHED
NUMBER OF DWELLING UNITS	16
NUMBER OF TREES REQUIRED (1:10 SFA)	16
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTE)	18

SCHEDULE A - PERIMETER LANDSCAPE EDGE		
PERIMETER	P1	TOTAL
CATEGORY	BUFFER - PARKING ADJACENT TO ROADWAY	
LANDSCAPE TYPE	E	
LINEAR FEET OF PERIMETER	99 L.F.	
CREDIT FOR EXISTING VEGETATION LINEAR FEET (LF) OF CREDIT EXPANDED PERIMETER (LF)	- 99 LF REMAINING	
NUMBER OF PLANTS REQUIRED SHADE TREES (1: 40LF) EVERGREEN TREES (1: 4LF)	(99/40 = 2.5 OR 3) (99/4 = 24.8 OR 25)	3* 25
CREDIT FOR EXISTING VEGETATION SHADE TREES SMALL/MEDIUM DECIDUOUS OR EVERGREEN TREES (2:1 SUBSTITUTE)	0 0	0 0
NUMBER OF PLANTS PROVIDED SHADE TREES SMALL/MEDIUM DECIDUOUS OR EVERGREEN TREES (2:1 SUBSTITUTE)	2 0	2 0
SHRUBS (1:0.1 SUBSTITUTE)	35	35

\*10 SHRUBS SUBSTITUTION FOR 1 SHADE TREE

**PLANTING SPECIFICATIONS**

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISEASE, DISORDERING GROWTH, SOIL BORN INSECTS, WEAKNESS OF THE BARK, PLANT DAMAGE, INSECT FEEDING DAMAGE AND ALL FORMS OF INSECT INFESTATIONS OR OBSCURABLE DEFOLIATIONS. PLANT MATERIAL THAT IS WEAKE OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORCED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FREELY BUDG, NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALDWIN-WASHINGTON PRESERVATION AREA", (DISCRIPTIVE "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROVED SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONDITIONS, AND THESE UTILITY A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF 4 FOOT HIGH SHAW FENCE OR BLAZE ORANGE SAFETY FENCE AT THE GRIP LINE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

SOIL SHALL BE BASED ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.

PLANT QUANTITIES ARE PROVIDED FOR THE COMMENCEMENT OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

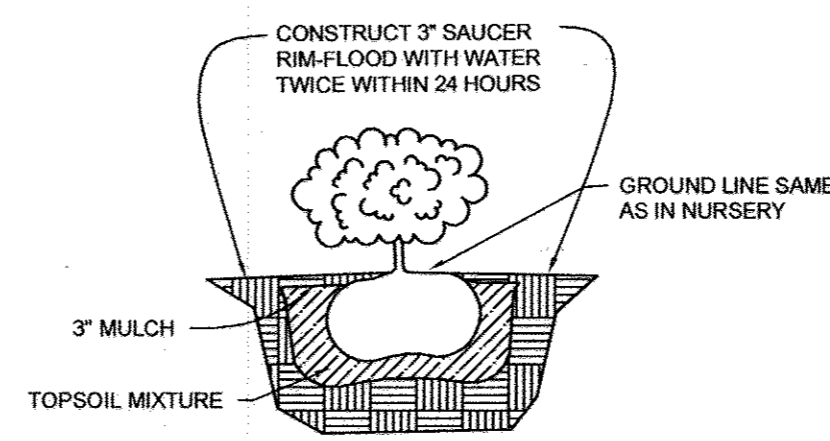
POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE.

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-SORTED COV OR HORSE MANURE, AND 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL, AND 3 LBS. OF EVERGREEN (WACK) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

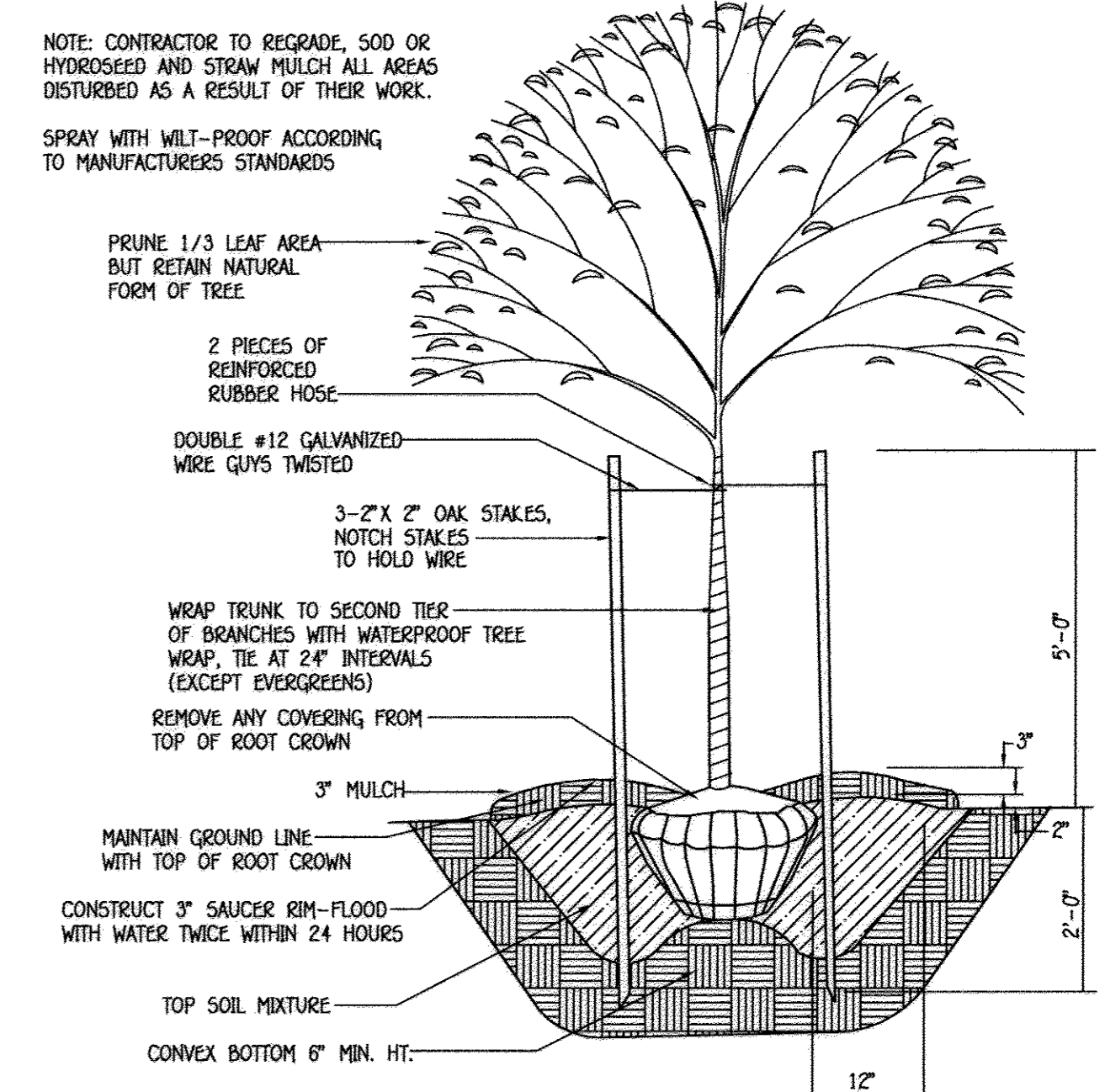
WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

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

THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEEDING CONTROL, LAYOUT, ETC.



**SHRUB PLANTING DETAIL**



**TREE PLANTING DETAIL**  
NOT TO SCALE

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL, ENGINEERING, CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 18272 BALTIMORE NATIONAL PIKE  
 ELIJAH CITY, MARYLAND 21046  
 (410) 461 - 2895

NO.	REVISION	DATE
1	REV. TITLE BLOCK	9/9/16



**PROFESSIONAL CERTIFICATION**  
 "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, 7/4/17.

*Frank John Thomsen*  
 NAME DATE 9/22/16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Kevin Bowser* 10-20-16  
 Chief, Division of Land Development

*John Chumbley* 10-14-16  
 Chief, Development Engineering Division

*Michael J. Miller* 10-21-16  
 Director - Department of Planning and Zoning

PROJECT	SECTION	PARCEL NOS.
FOX WOOD MANOR		LOTS 1-6, 8-12, 14-20, 22-26 & 44-56

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
23766-23769	1	R-5C	50	6	6069.02

PREVIOUS HOWARD COUNTY FILES:  
 SDP-05-067, SP-14-003, ECP-13-074, CONTRACT NO. 20-3253, CONTRACT NO. 24-4849-0, F-15-053 AND SDP-16-056

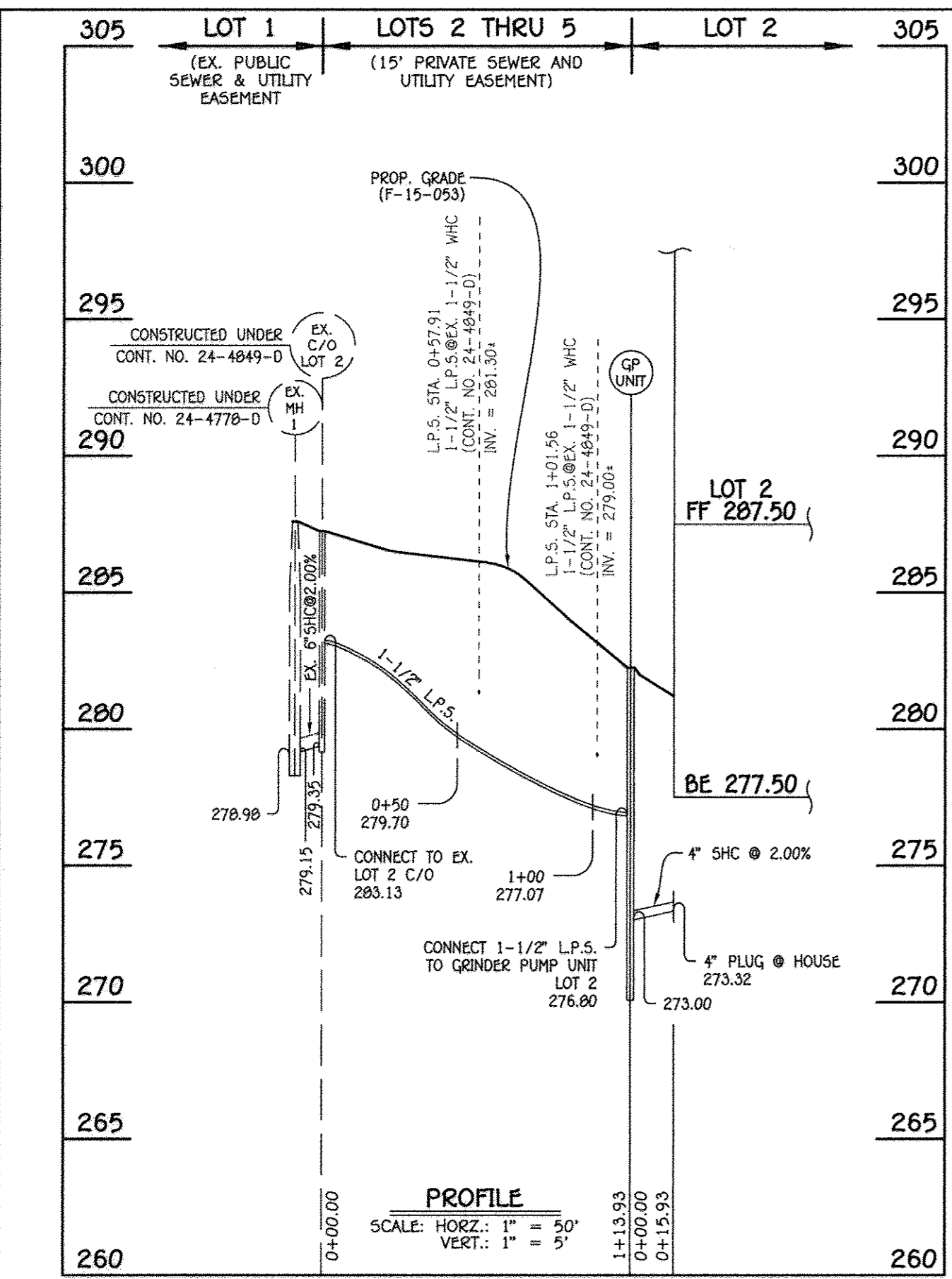
<b>OWNERS</b>	<b>BUILDER</b>
DOUBLE R VENTURES, LLC 8318 FOREST STREET SUITE 200 ELIJAH CITY, MARYLAND 21043 ATTN: JOSEPH RUTTER 410-707-7054	RYAN HOMES 9720 PARTNERS WOODS DRIVE COLUMBIA, MARYLAND 21046 ATTN: KEVIN BOWSER 443-574-1026

**LANDSCAPE NOTES AND DETAILS**

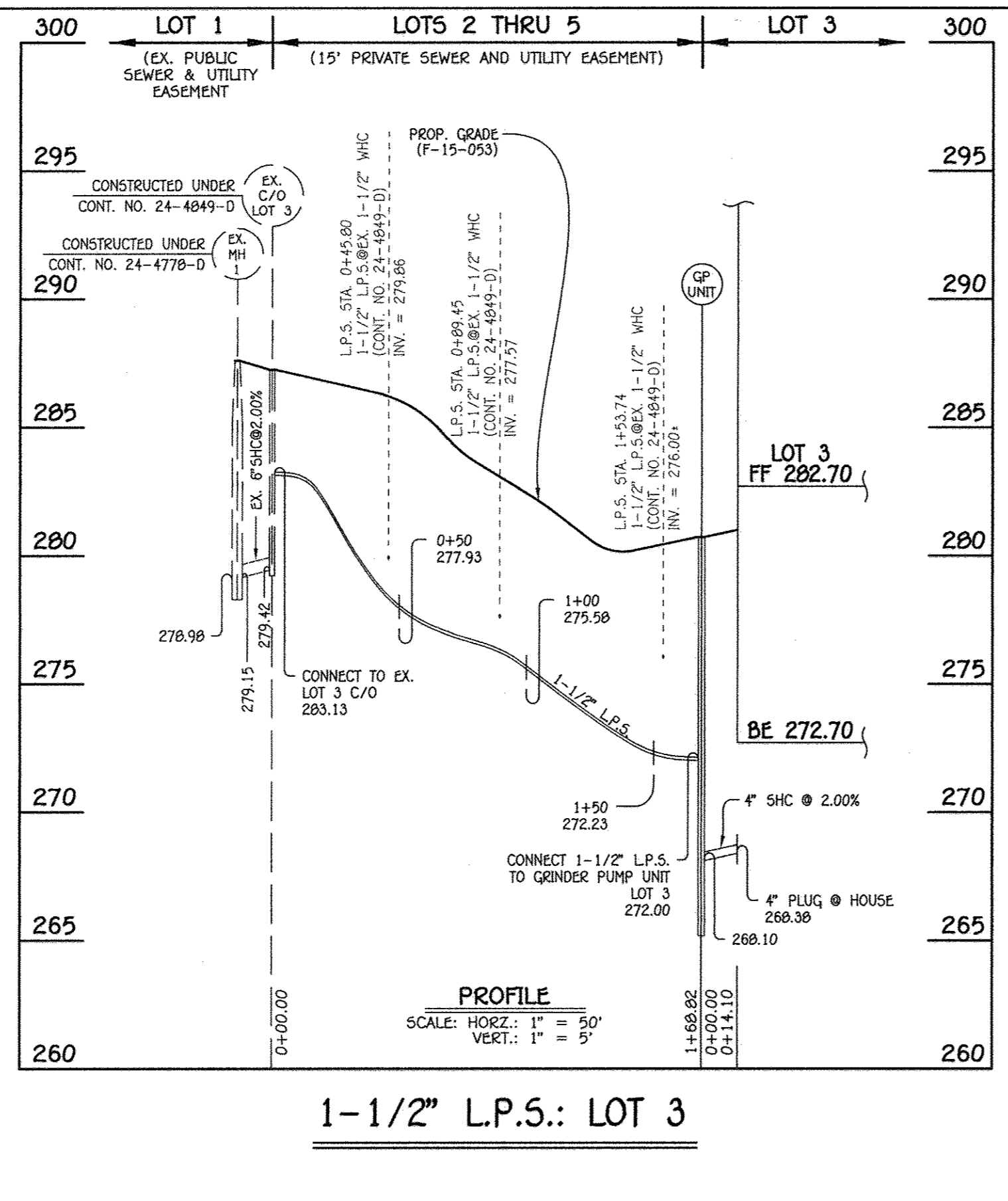
**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 56  
 OPEN SPACE LOTS 38, 39, 41 THRU 43 & 56

ZONED: R-5C  
 TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

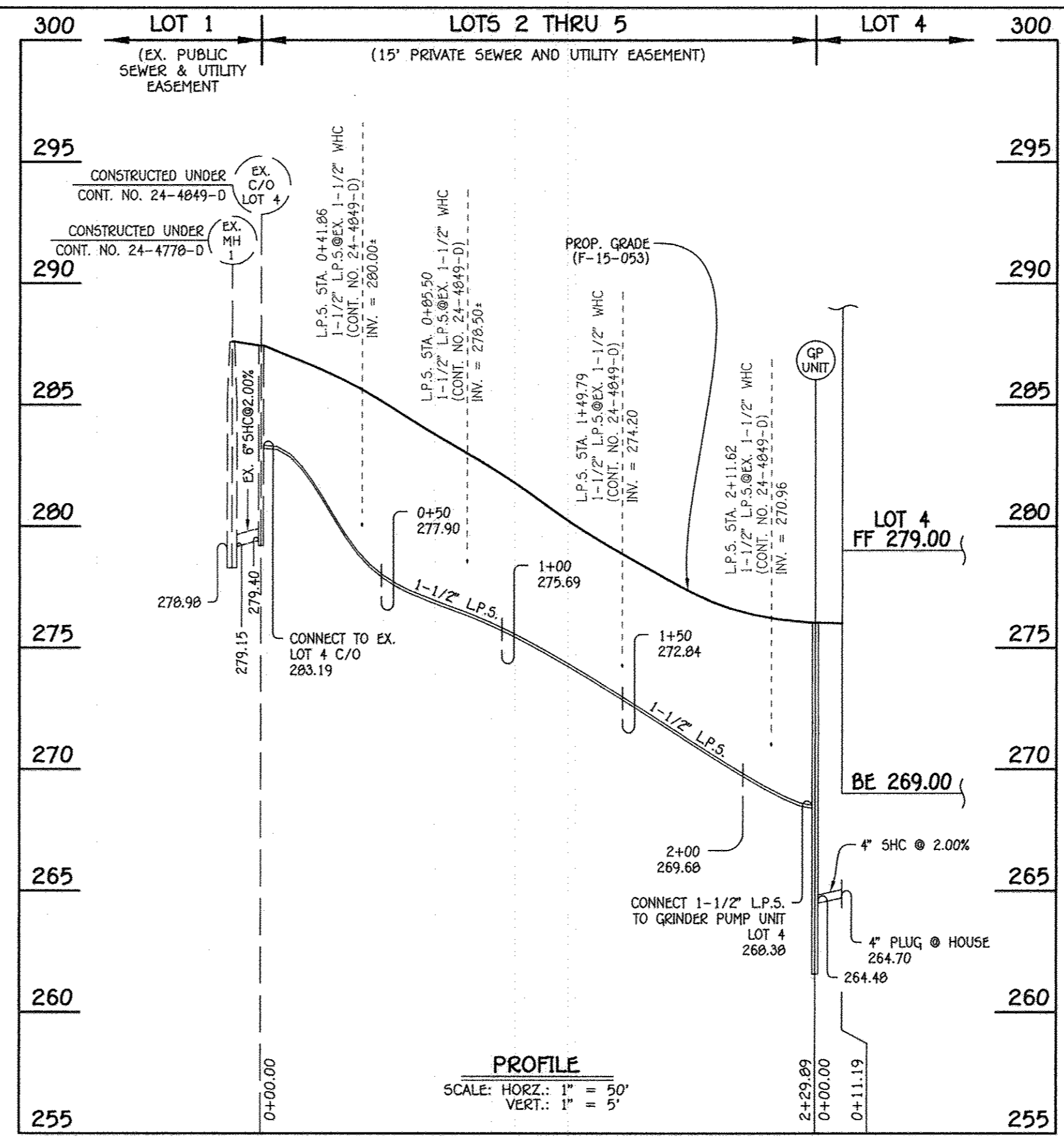
SHEET 11 OF 12



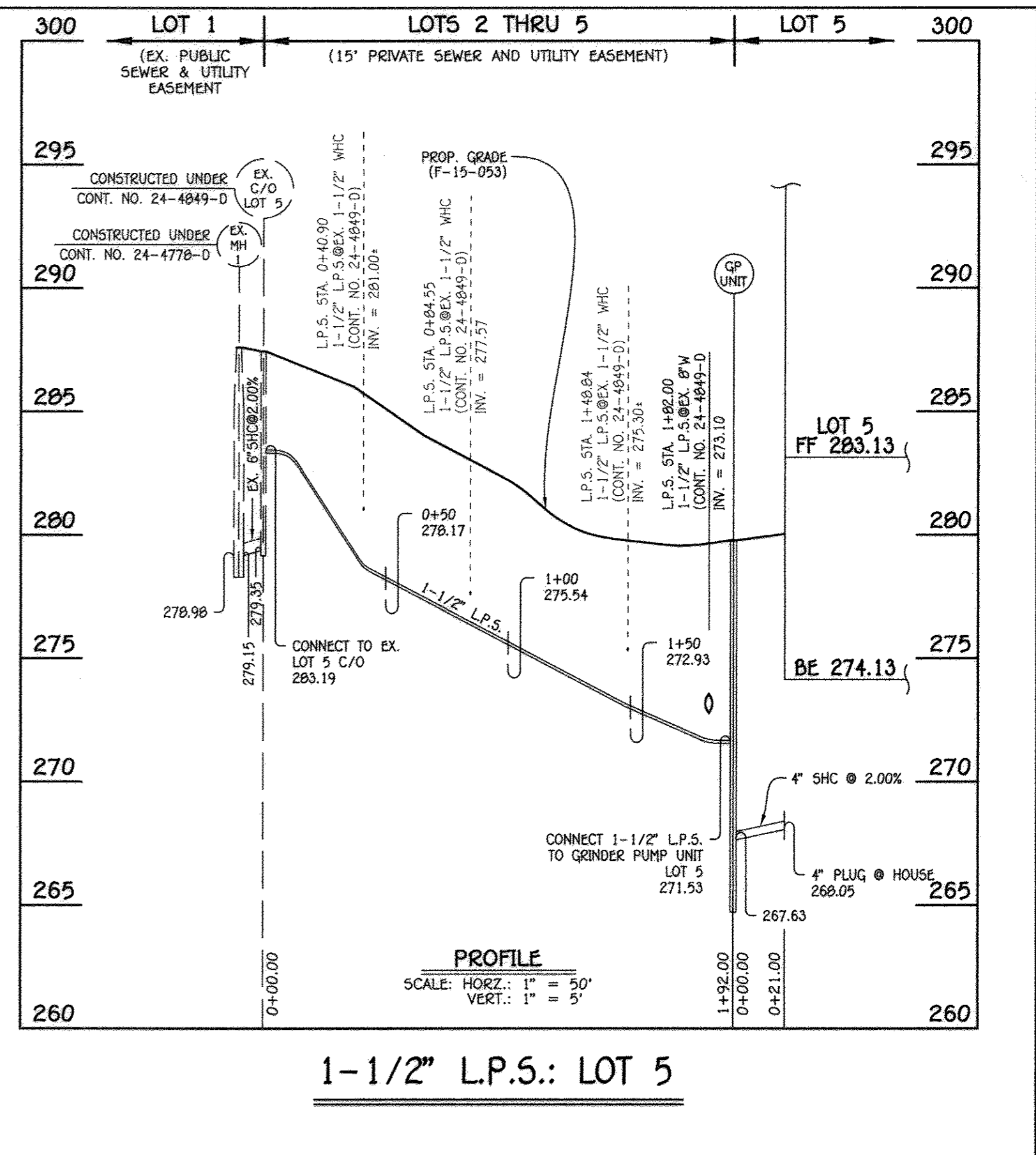
1-1/2" L.P.S.: LOT 2



1-1/2" L.P.S.: LOT 3



1-1/2" L.P.S.: LOT 4



1-1/2" L.P.S.: LOT 5

L.P.S. STA.	APPURTENANCE	NORTHING	EASTING
1-1/2" L.P.S. MAIN: LOT 2			
0+00.00	● C/O	527943.24	1350305.32
0+03.00	PC CRIMP RADIUS 5"	527942.16	1350308.16
0+06.14	PT CRIMP RADIUS 5"	527939.57	1350309.26
0+19.13	PC CRIMP RADIUS 5"	527927.46	1350304.57
0+23.57	PT CRIMP RADIUS 5"	527924.51	1350301.45
0+44.06	PC CRIMP RADIUS 5"	527918.19	1350281.96
0+48.49	PT CRIMP RADIUS 5"	527915.25	1350278.05
1+09.79	PC CRIMP RADIUS 2"	527898.12	1350256.61
1+12.93	PT CRIMP RADIUS 2"	527895.53	1350257.74
1+13.93	● SIMPLEX GRINDER PUMP UNIT	527895.17	1350258.68

L.P.S. STA.	APPURTENANCE	NORTHING	EASTING
1-1/2" L.P.S. MAIN: LOT 3			
0+00.00	● C/O	527936.72	1350302.78
0+08.20	PC CRIMP RADIUS 5"	527929.07	1350299.82
0+12.64	PT CRIMP RADIUS 5"	527926.12	1350296.70
0+30.53	PC CRIMP RADIUS 5"	527920.60	1350279.69
0+34.96	PT CRIMP RADIUS 5"	527917.66	1350276.57
1+61.68	PC CRIMP RADIUS 2"	527799.57	1350230.59
1+64.83	PT CRIMP RADIUS 2"	527796.98	1350231.73
1+68.82	● SIMPLEX GRINDER PUMP UNIT	527795.53	1350235.45

L.P.S. STA.	APPURTENANCE	NORTHING	EASTING
1-1/2" L.P.S. MAIN: LOT 4			
0+00.00	● C/O	527935.75	1350297.03
0+05.43	PC CRIMP RADIUS 5"	527930.69	1350295.08
0+09.87	PT CRIMP RADIUS 5"	527927.73	1350291.95
0+25.16	PC CRIMP RADIUS 5"	527923.02	1350277.41
0+29.59	PT CRIMP RADIUS 5"	527920.08	1350274.29
2+19.75	PC CRIMP RADIUS 2"	527742.87	1350205.30
2+22.89	PT CRIMP RADIUS 2"	527740.28	1350206.44
2+29.89	● SIMPLEX GRINDER PUMP UNIT	527737.74	1350212.96

L.P.S. STA.	APPURTENANCE	NORTHING	EASTING
1-1/2" L.P.S. MAIN: LOT 5			
0+00.00	● C/O	527937.55	1350292.37
0+05.62	PC CRIMP RADIUS 5"	527932.31	1350290.34
0+10.06	PT CRIMP RADIUS 5"	527929.35	1350287.22
0+22.78	PC CRIMP RADIUS 5"	527925.43	1350275.13
0+27.21	PT CRIMP RADIUS 5"	527922.49	1350272.49
1+67.87	PC CRIMP RADIUS 2"	527791.42	1350220.98
1+71.00	PT CRIMP RADIUS 2"	527790.28	1350218.39
1+92.00	● SIMPLEX GRINDER PUMP UNIT	527797.90	1350198.82

NO.	REVISION	DATE
1	REV. TITLE BLOCK	9/2/17



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 Paul W. Kriebel 09/23/16  
 PAUL W. KRIEBEL DATE

**OWNERS**  
 DOUBLE R VENTURES, LLC  
 8318 FORREST STREET  
 SUITE 200  
 ELLICOTT CITY, MARYLAND 21043  
 ATTN: JOSEPH RUTTER  
 410-707-7054

**BUILDER**  
 RYAN HOMES  
 9720 PATUXENT WOODS DRIVE  
 COLUMBIA, MARYLAND 21046  
 ATTN: KEVIN BOWSER  
 443-574-1026

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kurt Seidman 10-20-16  
 Chief, Division of Land Development

Chris Edmunds 10-14-16  
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Victoria J. Miller 10-21-16  
 Director - Department of Planning and Zoning

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LOW PRESSURE SEWER SYSTEM EXTENSIONS  
 PROFILES & CHARTS

**FOX WOOD MANOR**  
 LOTS 1 THRU 6, 8 THRU 12, 14 THRU 20,  
 22 THRU 26 & 44 THRU 55  
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ZONED: R-5C  
 TAX MAP NO.: 50 PARCEL NO'S.: 405, 429 & 468 GRID NO.: 1  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 22, 2016

SHEET 12 OF 12 SDP-16-057