

PRELIMINARY EQUIVALENT SKETCH PLAN

ROBERT'S CROSSING

LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 AND 17

FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX

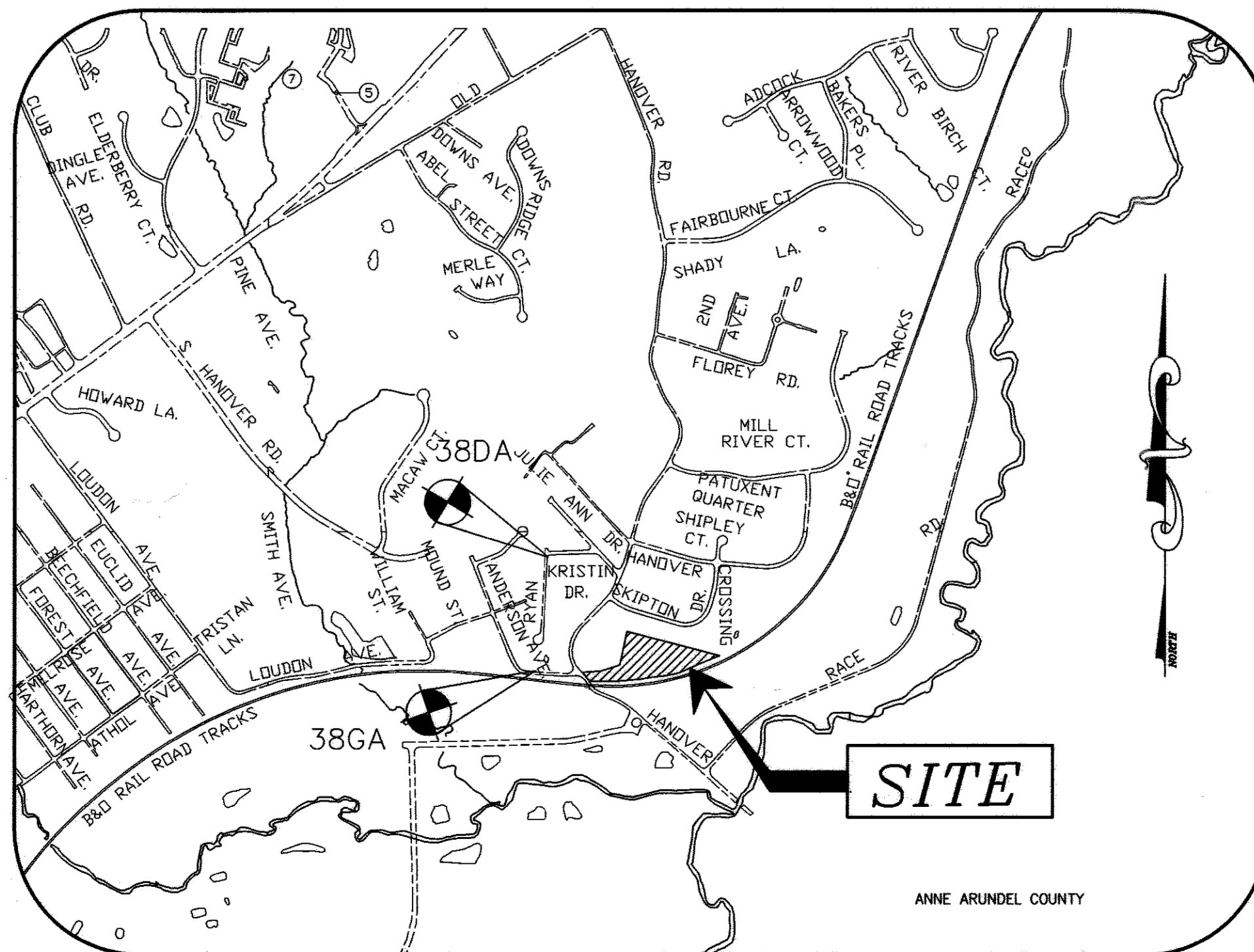
NO	TITLE
1	COVER SHEET
2	PRELIMINARY EQUIVALENT SKETCH PLAN
3	PRELIMINARY ROAD PROFILES, DETAILS AND SECTIONS
4	GRADING AND SEDIMENT CONTROL PLAN (STAGE 1)
5	PRELIMINARY GRADING AND SEDIMENT CONTROL PLAN
6	SOIL AND DRAINAGE AREA MAP
7	PRELIMINARY LANDSCAPING AND FOREST CONSERVATION PLAN
8	PRELIMINARY SWM PLAN
9	SIGHT DISTANCE ANALYSIS

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
5	9,219 SQ.FT.	819 SQ.FT.	8,400 SQ.FT.
6	9,353 SQ.FT.	953 SQ.FT.	8,400 SQ.FT.
7	8,982 SQ.FT.	582 SQ.FT.	8,400 SQ.FT.
8	8,661 SQ.FT.	261 SQ.FT.	8,400 SQ.FT.
11	8,694 SQ.FT.	294 SQ.FT.	8,400 SQ.FT.
12	8,778 SQ.FT.	290 SQ.FT.	8,488 SQ.FT.
13	9,314 SQ.FT.	914 SQ.FT.	8,400 SQ.FT.
14	9,666 SQ.FT.	1,266 SQ.FT.	8,400 SQ.FT.
15	9,961 SQ.FT.	1,558 SQ.FT.	8,403 SQ.FT.

LEGEND

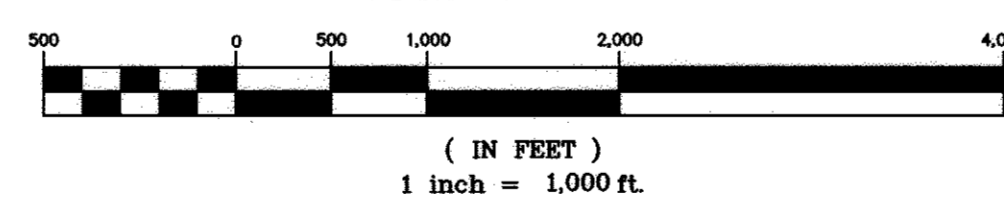
	DRY-WELL (M-5)		SUPER SILT FENCE
	EX. TREE LINE		DIVERSION FENCE
	PR. TREE LINE		AREA TREATED BY DRY WELLS (M-5)
	SPECIMEN TREE TO BE REMOVED		AREA TREATED BY MICRO-BIO. (M-6)
	LIMIT OF DISTURBANCE		AREA OF WETLANDS
	PR. 8" SEWER MAIN		AREA OF SLOPES GREATER THAN 25%
	PR. MANHOLE		AREA OF SLOPES 15-24.9%
	PR. 8" WATER MAIN		
	PR. STORM DRAIN PIPE		
	PR. STORM DRAIN INLET		



VICINITY MAP

ADC MAP: 35 GRID: E-4

GRAPHIC SCALE



OWNER/ DEVELOPER

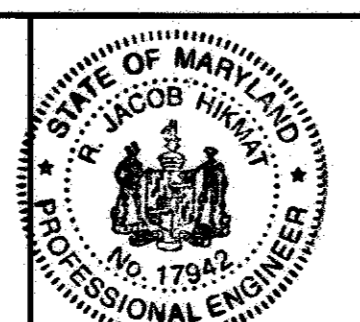
HARMONY BUILDERS INC
4228 COLUMBIA ROAD
ELLCOTT CITY, MD 21042
410-461-0833

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY
[Signature]
PLANNING DIRECTOR
9-30-16
DATE

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. 17942, EXP DATE 09/03/17

R. JACOB HIKMAT P.E.

8/31/16
DATE



GENERAL NOTES:

- THIS SUBJECT PROPERTY IS ZONED R-12 PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD RUN SURVEY PERFORMED BY MILDENBERG, BOENDER & ASSOC., INC. ON OR ABOUT MARCH 2015.
- BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MARCH 2015 BY MILDENBERG, BOENDER & ASSOC.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 386A AND 380A
STA. No. 386A N 555,897.324 E 1390,132.094 ELEV. 80.85
STA. No. 380A N 556,796.309 E 1,390,221.433 ELEV. 126.15
- PROJECT BACKGROUND:
ADDRESS: 6467 HANOVER ROAD, HANOVER, MD 21076
LOCATION: TAX MAP : 38 PARCEL: 273 AND 1009 GRID: 15
ELECTION DISTRICT: FIRST
DEED REFERENCE : PARCEL 273- 16042/00122, PARCEL 1009- 16042/00222
PREVIOUS PROJECT NUMBERS: ECP-15-081, WP-16-066
- SITE AREA TABULATION
AREA OF PARCEL 273: 1.17 AC±
AREA OF PARCEL 1009: 4.62 AC±
TOTAL AREA: 5.79AC±
AREA OF 100 YEAR FLOODPLAIN: 0 AC±
MINIMUM LOT SIZE PROPOSED: 8,400 S.F.(PER SECTION 16.121 OF SUBDIVISION REGULATIONS)
NUMBER OF BUILDABLE LOTS: 15
NUMBER OF OPEN SPACE LOTS: 2
TYPE OF PROPOSED UNIT: SFD
AREA OF BUILDABLE LOTS 3.07 AC±
AREA OF ROAD ROW: 0.67 AC±
AREA OF ROAD DEDICATION: 0.01 AC±
AREA OF CREDITED OPEN SPACE REQUIRED: (30% GROSS AREA) 1.73 AC±
AREA OF CREDITED OPEN SPACE PROVIDED: (33.7% GROSS AREA) 1.95 AC±
AREA OF NON-CREDITED OPEN SPACE PROVIDED: (1.5% GROSS AREA) 0.09 AC±
TOTAL AREA OF OPEN SPACE PROVIDED: (35.2% GROSS AREA) 2.04 AC±
AREA OF PASSIVE RECREATIONAL OPEN SPACE REQUIRED: (200 S.F./UNIT) 3,000 S.F.
AREA OF PASSIVE RECREATIONAL OPEN SPACE PROVIDED: 3,000 S.F. (4% OF THE REQUIRED OPEN SPACE)
- THIS PROPERTY IS IN THE METROPOLITAN DISTRICT. WATER AND SEWER ARE PUBLIC.
- STORMWATER MANAGEMENT IS PROVIDED BY M-6 MICRO-BIORETENTION FACILITIES AND M-5 DRYWELLS IN ACCORDANCE WITH THE 2007 MARYLAND STORMWATER DESIGN MANUAL.
- NO FLOODPLAIN EXISTS ON SITE.
- WETLANDS AND ITS BUFFER EXIST ON SITE AS CERTIFIED IN THE WETLAND REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. IN JUNE 2015.
- FOREST STAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN MARCH, 2015. TOTAL OF 3 SPECIMEN TREES EXIST ON SITE. ALL THREE SPECIMEN TREES ARE TO BE REMOVED.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY ON-SITE RETENTION OF 0.64 ACRES ON EASEMENT "A" AND A PAYMENT OF FEE-IN-LIEU OR AN OFF-SITE CONSERVATION EASEMENT FOR 1.47 ACRES OF REFORESTATION TO BE PROVIDED AT FINAL PLAN STAGE. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- ALL LANDSCAPING REQUIREMENTS SHALL BE FULFILLED AT THE FINAL PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- PER SECTION 16.121(c) OF THE HOWARD COUNTY SUBDIVISION AND LAND USE REGULATIONS, OPEN SPACE FOR THIS SUBDIVISION HAS BEEN PROVIDED THROUGH THE CREATION OF OPEN SPACE LOTS 16 AND 17.
- A PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT WAS HELD ON MARCH 11, 2015 AT 6:00 PM AT THE ELK RIDGE LIBRARY.
- THIS DEVELOPMENT PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL 75-2003. DEVELOPMENT OR CONSTRUCTION ON LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING / GRADING PERMIT.
- ALL EXISTING STRUCTURES ARE TO BE REMOVED PRIOR TO RECORDATION OF THE FINAL SUBDIVISION PLAT.
- APFO ROAD TEST WAS PREPARED BY THE TRAFFIC GROUP ON AUGUST 14, 2015.
- PHASE I NOISE ANALYSIS WAS PREPARED BY PHOENIX NOISE & VIBRATION ON JUNE 30, 2015.
- THIS PROJECT IS LOCATED WITHIN THE BW AIRPORT ZONING DISTRICT. APPROVAL BY THE MARYLAND AVIATION ADMINISTRATION IS REQUIRED.
- NO CEMETERIES OR GRAVE SITES EXIST ON SITE.
- SITE IS NOT ADJACENT TO A DESIGNATED SCENIC ROAD.
- PLEASE NOTE THAT ALL LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.
- THIS PROPERTY CURRENTLY CONTAINS A HISTORIC HOUSE THAT DATES TO 1939. AS SUCH, THE PLAN CAME BEFORE THE HISTORIC PRESERVATION COMMISSION FOR ADVISORY COMMENTS IN DECEMBER 2015.
- STEEP SLOPES EXIST ON SITE; HOWEVER, THERE ARE NO REGULATED AREAS OF STEEP SLOPES WHICH ARE DEFINED AS BEING SLOPES THAT ARE GREATER THAN 25% WITH AN ON-SITE AND/OR OFF-SITE CONTIGUOUS AREA OF 20,000 SQUARE FEET OR GREATER.
- NO GRADING OR REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S), OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS, 100 YEAR FLOODPLAIN AND AREAS OF STEEP SLOPES GREATER THAN 25% WITH CONTIGUOUS AREAS OF 20,000 SQUARE FEET OR GREATER UNLESS A FORMAL WAIVER PETITION IS GRANTED OR HAS BEEN DETERMINED TO BE A NECESSARY OR ESSENTIAL DISTURBANCE.
- THIS PLAN IS SUBJECT TO WP-16-066, WAIVING SECTIONS 16.1205(a)97) AND 16.1205(a)10) WHICH REQUIRES THE RETENTION OF SPECIMEN TREES (30" dbh OR GREATER) THAT ARE NOT CONTAINED WITHIN OTHER PRIORITY FOREST RETENTION AREAS AS OUTLINED IN SECTION 16.1205(a)1-10). THIS WAIVER WAS APPROVED ON DECEMBER 17, 2015 SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE DEVELOPER/BUILDER SHALL PLANT A TOTAL OF SIX (6) 2 1/2" INCH CALIPER SHADE TREES (OR EQUIVALENT) AS REPLACEMENT MITIGATION FOR THE REMOVAL OF THE THREE (3) SPECIMEN TREES WHICH EXIST ON THIS SITE. IF THE SITE DESIGN ALLOWS, THESE MITIGATION TREES SHOULD BE PLANTED ALONG THE PERIMETER OF THIS PROJECT IN ORDER TO PROVIDE ENHANCED SCREENING FOR THE EXISTING ADJACENT DEVELOPED PROPERTIES. REVIEW FOR COMPLIANCE WITH THIS MITIGATION REQUIREMENT WILL BE CONDUCTED AT THE TIME OF REVIEW OF THE PERIMETER LANDSCAPE DESIGN ASSOCIATED WITH THE SUBDIVISION AND DEVELOPMENT OF THIS SITE.
 - FINANCIAL SURETY AND PAYMENT OF AN INSPECTION FEE FOR THE INSTALLATION OF THESE MITIGATION TREES WILL BE INCLUDED IN THE PERIMETER LANDSCAPE ESTIMATE AT THE FINAL PLAN STAGE.
 - ON ALL SUBSEQUENT PLANS AND PLATS, ADD A GENERAL NOTE WHICH PROVIDES A DESCRIPTION OF THIS WAIVER PETITION, WP-16-066, WHICH INCLUDES THE REQUEST, SECTION OF THE REGULATIONS, ACTION TAKEN, DATE AND CONDITIONS OF APPROVAL.
- THE 65DBA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS REQUIRED BY HOWARD COUNTY DESIGN MANUAL, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65DBA NOISE EXPOSURE. THE 65DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- PROPOSED HOMES NEAREST TO THE RAILROAD REQUIRE AN EVALUATION OF ARCHITECTURE TO DETERMINE WHETHER MODIFICATIONS OF WALL CONSTRUCTION OR INCREASE OF SDT RATING FOR WINDOWS AND DOORS ARE NECESSARY TO MAINTAIN INDOOR NOISE LEVEL AT 45 DBA AS REQUIRED BY HOWARD COUNTY.

31. WITH THE INITIAL SUBMISSION OF THE FINAL PLAN, THE DEVELOPER WILL FURTHER EVALUATE THE OPTION OF PROVIDING AN OFF-SITE MITIGATION TO THE RAILROAD TRACKS AND PROVIDE SUCH EVALUATION TO DPZ WITH EXPLANATION, IF THE OPTION WAS NOT USED, AS TO WHY IT WAS NOT USED.

Project 15-003
date SEP. 2016
illustration MAM
scale 1"=50'
approval MAM

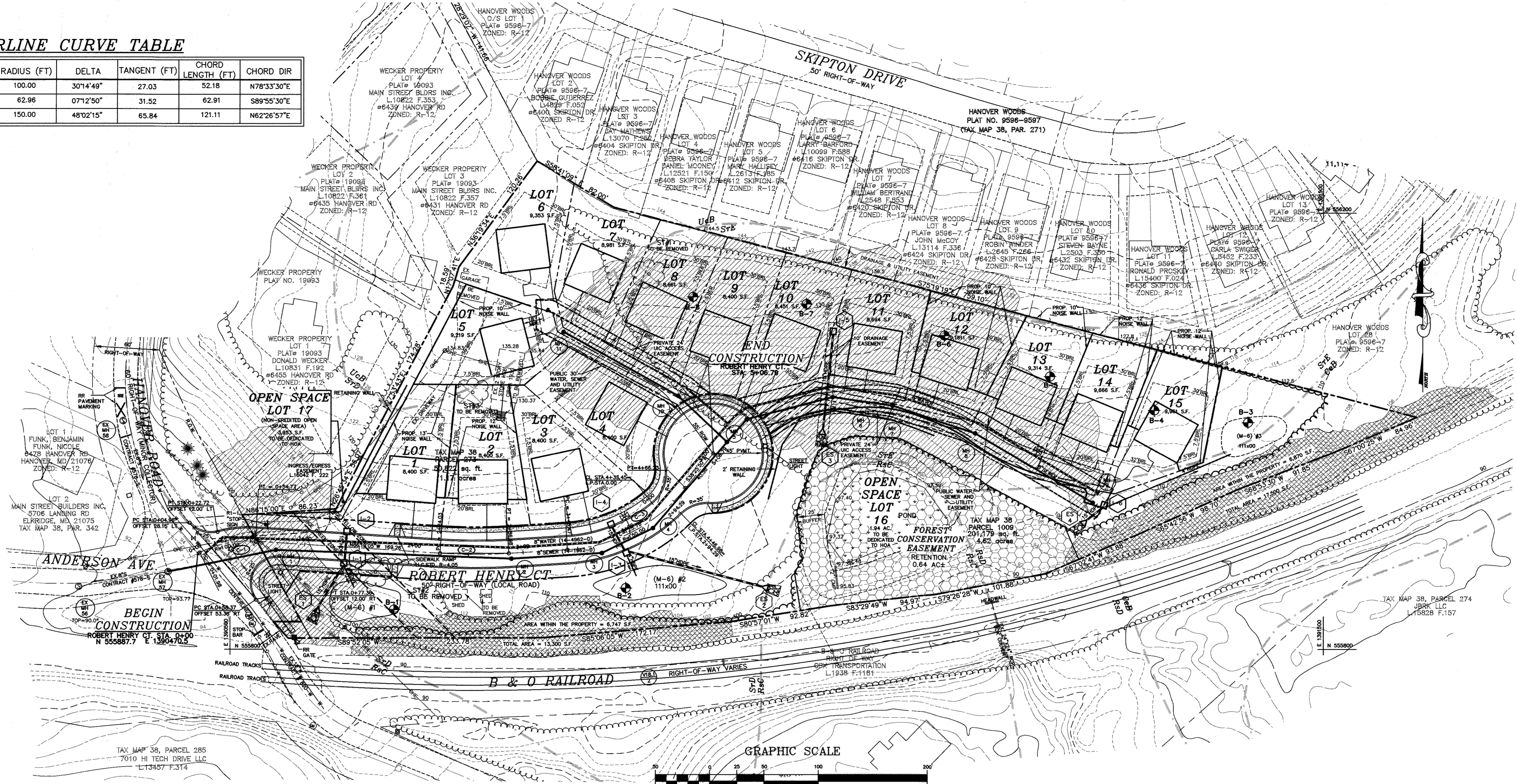
no. _____
description _____
revisions _____

ROBERT'S CROSSING
LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 & 17
TAX MAP 38, GRID 15, PARCEL 273 & 1009
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
COVER SHEET

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044
(410) 997-0296 Tel. (410) 997-0298 Fax

CENTERLINE CURVE TABLE

CURVE	LENGTH (FT)	RADIUS (FT)	DELTA	TANGENT (FT)	CHORD LENGTH (FT)	CHORD DIR
C1	52.79	100.00	30°14'49"	27.03	52.18	N78°33'30"E
C1	500.00	62.96	07°12'50"	31.52	62.91	S89°55'30"E
C1	125.76	150.00	48°02'15"	65.84	121.11	N62°26'57"E



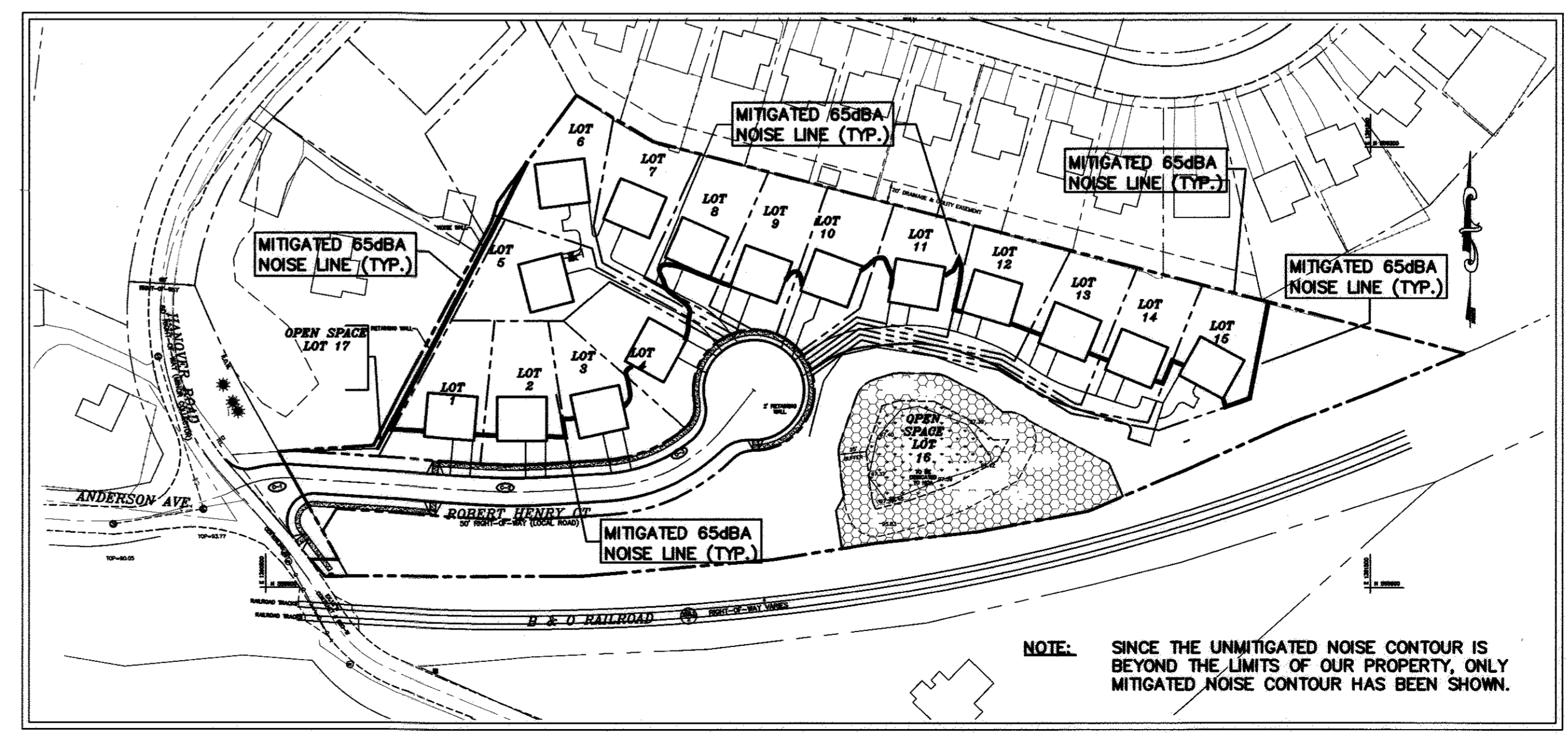
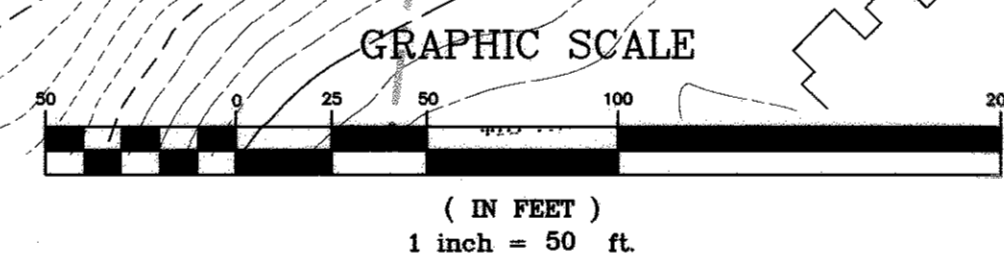
LEGEND

- DRY-WELL (M-5)
- ~ EX. TREE LINE
- ~ PR. TREE LINE
- ⊗ SPECIMEN TREE TO BE REMOVED
- LIMIT OF DISTURBANCE
- 8" SEWER MAIN
- 8" MANHOLE
- 8" WATER MAIN
- PR. STORM DRAIN PIPE
- PR. STORM DRAIN INLET
- ▨ AREA OF WETLANDS
- ▨ AREA OF SLOPES GREATER THAN 25%
- ▨ AREA OF SLOPES 15-24.9%
- NON-MITIGATED 65dBA NOISE LINE
- MITIGATED 65dBA NOISE LINE

OWNER/ DEVELOPER
 HARMONY BUILDERS INC
 4228 COLUMBIA ROAD
 ELLICOTT CITY, MD 21042
 410-461-6042

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
Nadja Jellie
 PLANNING DIRECTOR
 DATE: 9-30-16

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. 17942, EXP DATE 09/03/17
 R. JACOB HIKMAT P.E.
 DATE: 8/31/16



NOTE: SINCE THE UNMITIGATED NOISE CONTOUR IS BEYOND THE LIMITS OF OUR PROPERTY, ONLY MITIGATED NOISE CONTOUR HAS BEEN SHOWN.

65dBA NOISE LINE PLAN
 SCALE: 1"=100'

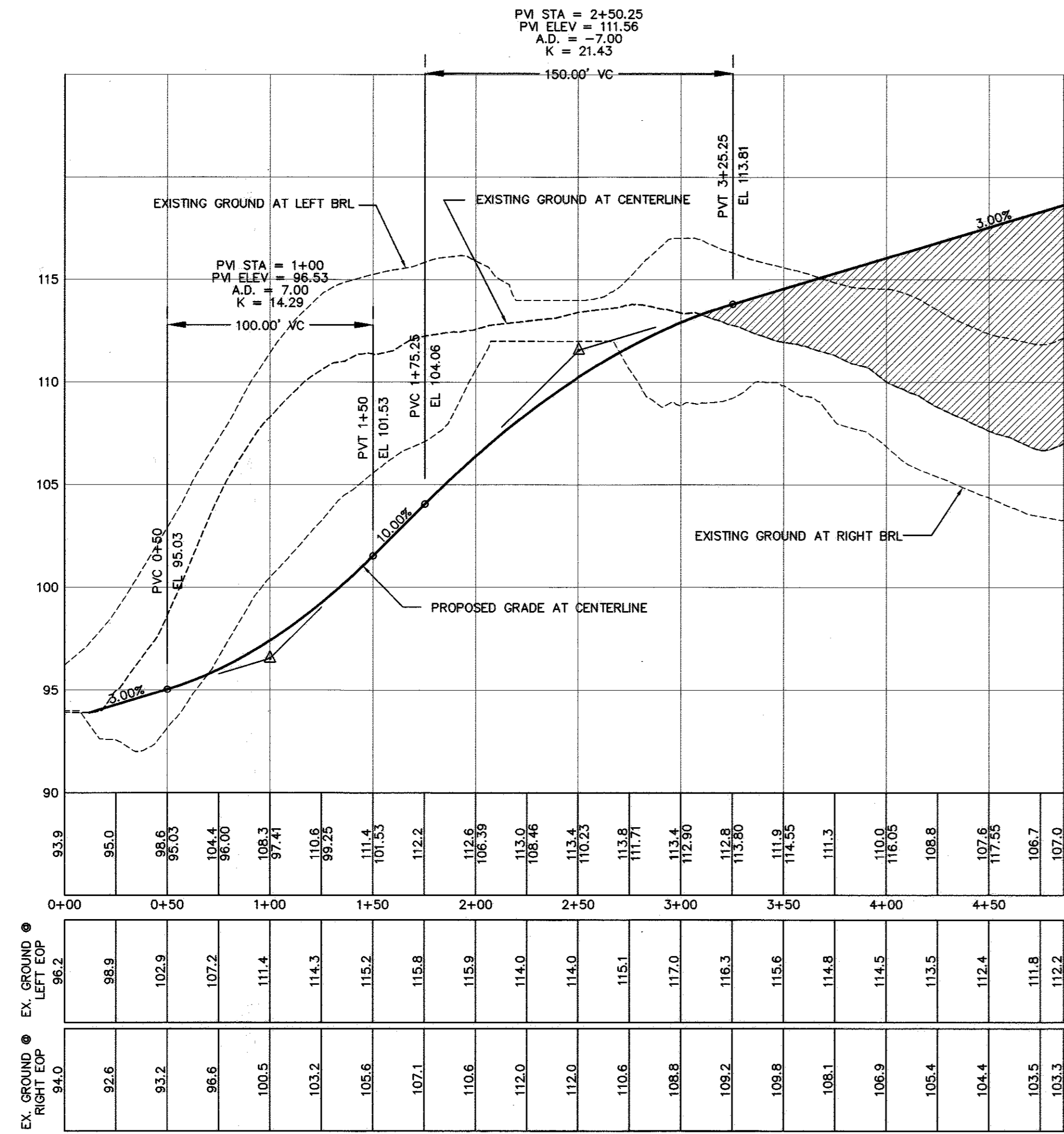
P:\2004\15-003 Robert's Crossing\DWG\PRELIMINARY PLAN.DWG

date	SEP. 2016	engineering	MMM	approval	RJH
project	15-003	illustration	MMM	scale	1"=50'

no.	description	revisions	date
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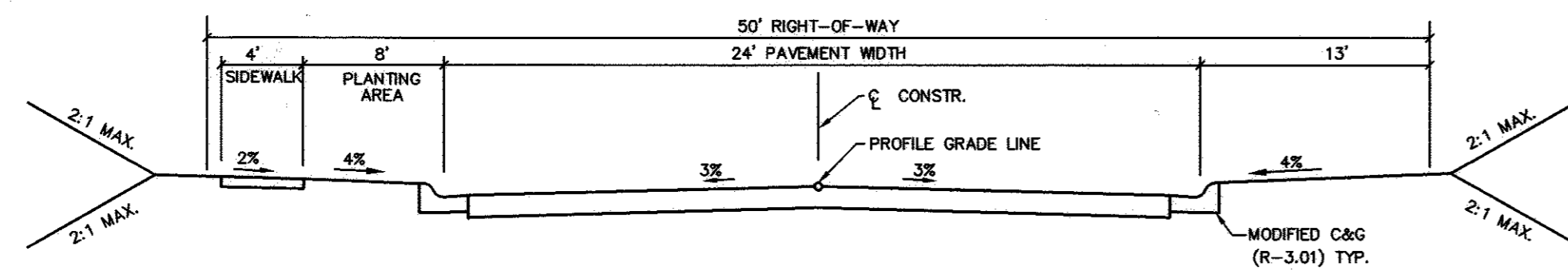
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 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, MD 21044
 (410) 997-0296 Tel. (410) 997-0298 Fax



ROBERT HENRY CT. PROFILE

CLASSIFICATION: ACCESS STREET
 DESIGN SPEED: 30 MPH
 SCALE: HOR. 1"=50'
 VER. 1"=5'



ROBERT HENRY CT. TYP. SECTION

CLASSIFICATION: ACCESS STREET
 DESIGN SPEED: 30 MPH
 HO.CO.STD.R-1.02
 N.T.S.

OWNER/ DEVELOPER

HARMONY BUILDERS INC
 4228 COLUMBIA ROAD
 ELLICOTT CITY, MD 21042
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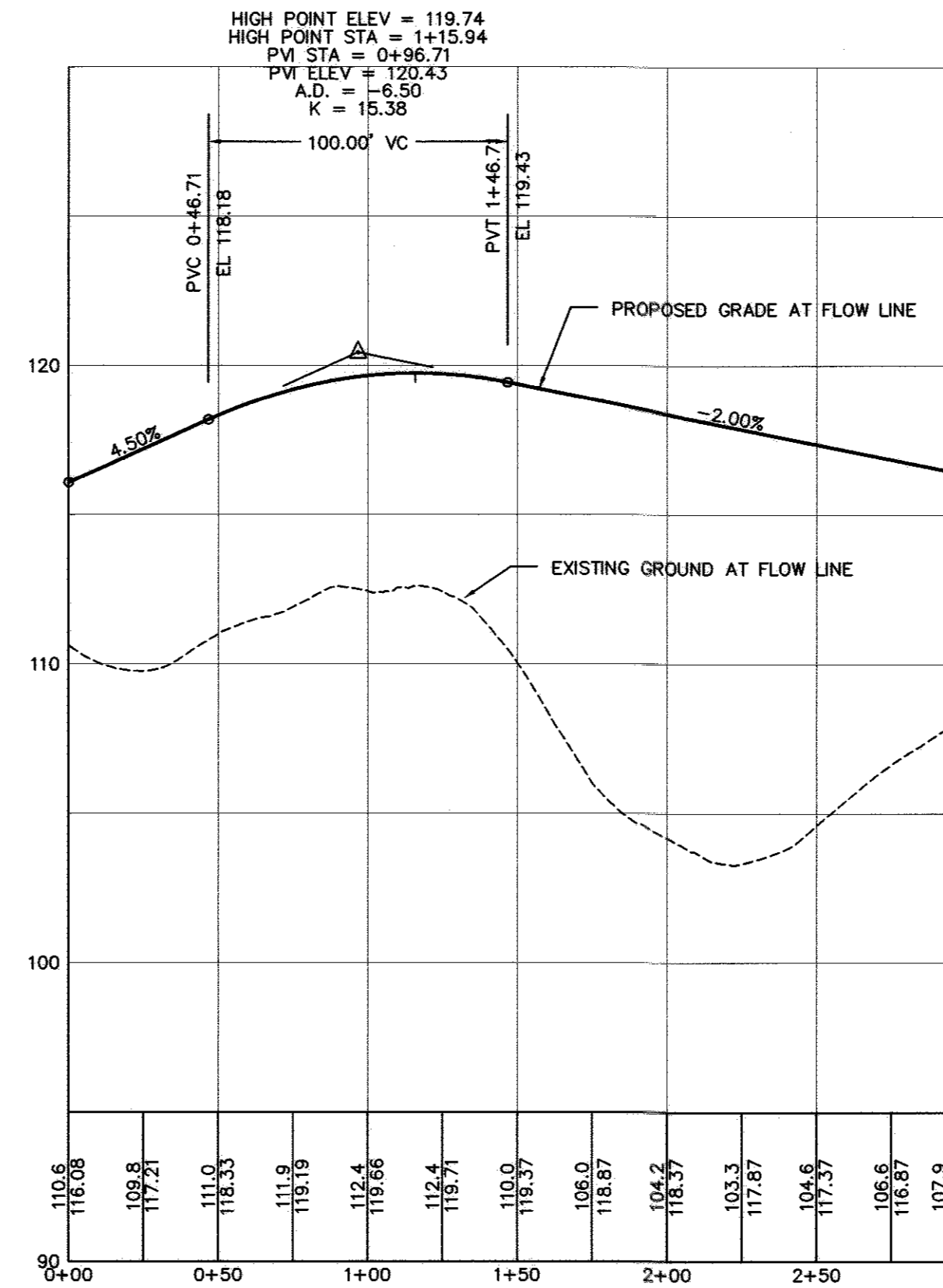
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
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 [Signature]
 PLANNING DIRECTOR
 9-20-16
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R. JACOB HIKMAT P.E.

8/31/16
 DATE



**ROBERT HENRY CT. CUL-DE-SAC
 LINEAR PROFILE**

SCALE: HOR. 1"=50'
 VER. 1"=5'

P:\2004\15-003 Robert's Crossing (DWG) (PRELIMINARY) PLANNING

Project	date	approval
15-003	SEP. 2016	MMM
illustration	engineering	approval
MMM	MMM	RJH

no.	description	date
	revisions	

ROBERT'S CROSSING
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 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
 PRELIMINARY ROAD PROFILES, DETAILS AND SECTIONS

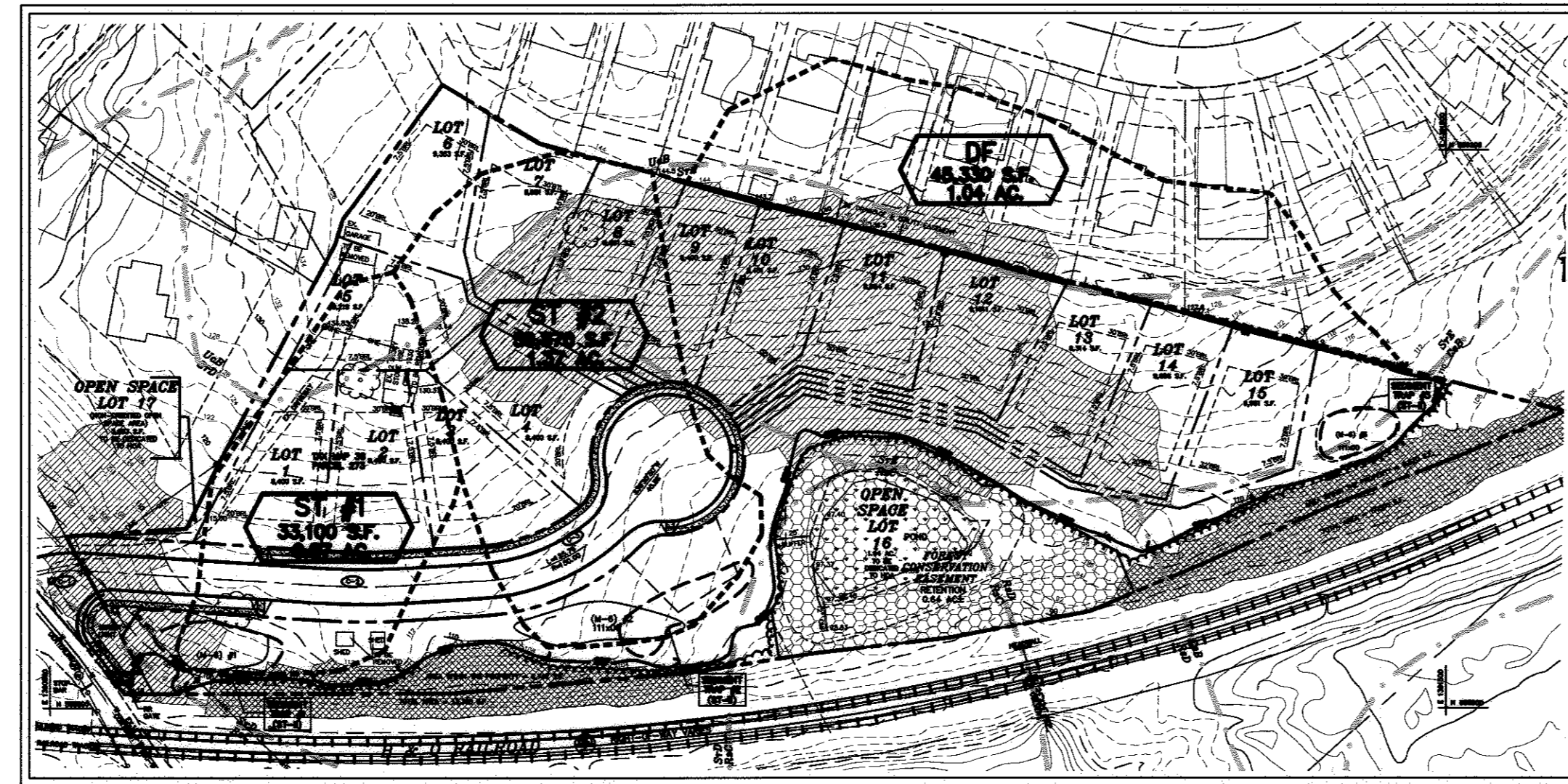
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SOILS TABLE

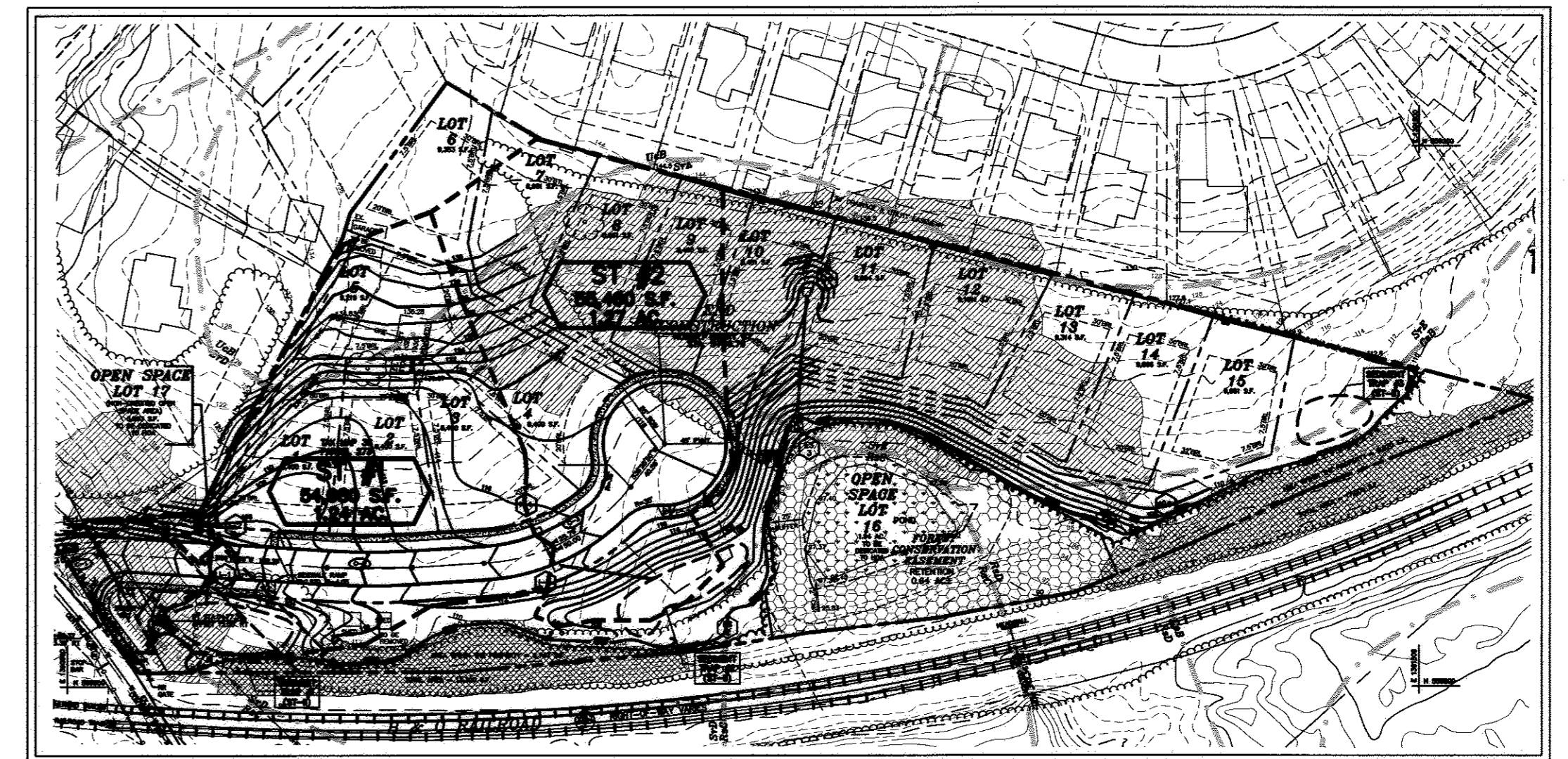
SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
RaC	(C)	RUSSETT FINE SANDY LOAM, 5-10% SLOPES.	.24	20	----
RaD	(C)	RUSSETT FINE SANDY LOAM, 10-15% SLOPES.	.24	20	----
SfD	(B)	SASSAFRAS & CROOM SOILS, 10-15% SLOPES	.35	20	HIGHLY ERODABLE
SfE	(B)	SASSAFRAS & CROOM SOILS, 15-25% SLOPES	.35	20	HIGHLY ERODABLE
UcB	(D)	URBAN LAND-CHILLUM-BELVILLE COMPLEX, 0-5%	----	20	----
CeB	(B)	CHILLUM LOAM 2-5% SLOPES	----	20	----

PRELIMINARY SEQUENCE OF CONSTRUCTION

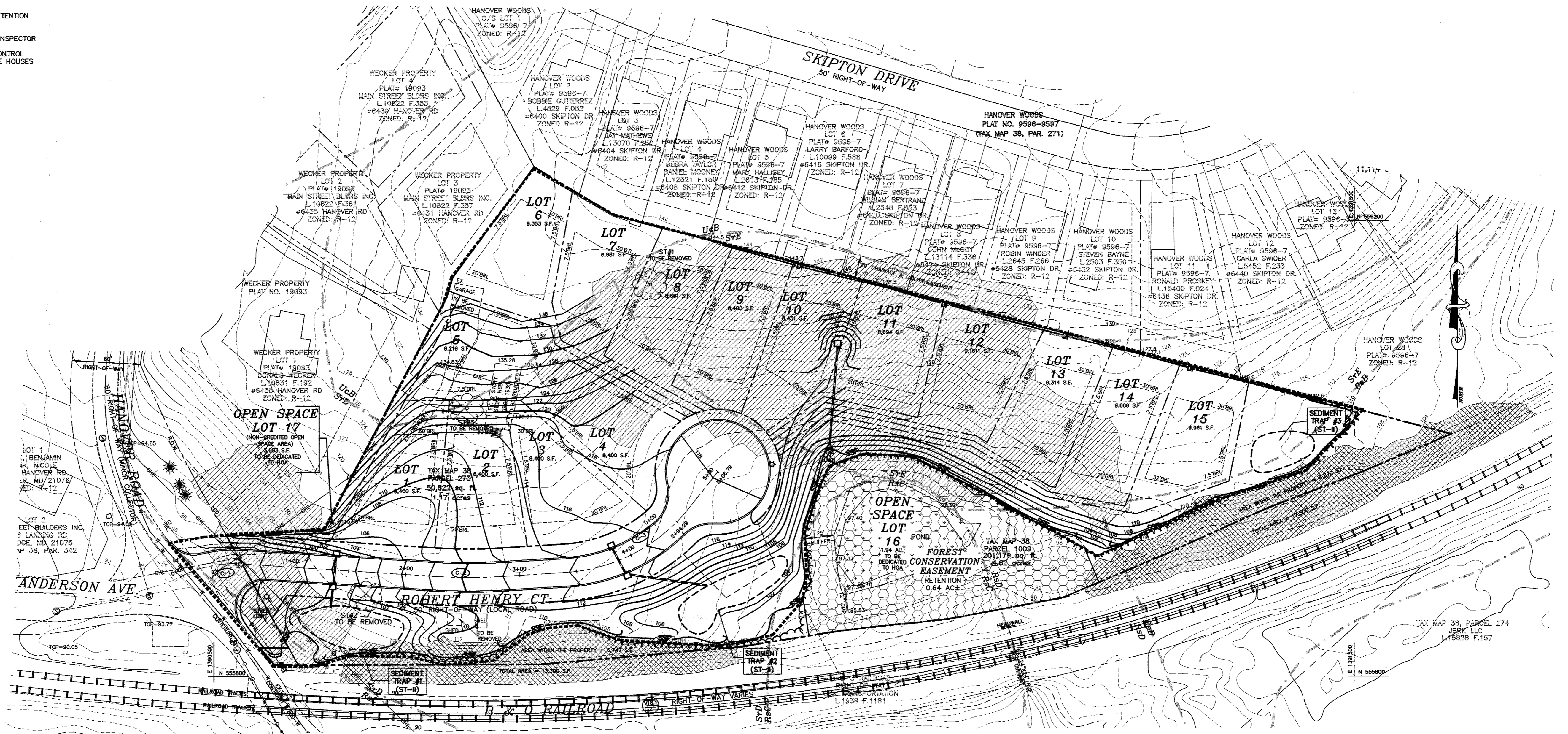
- OBTAIN GRADING PERMIT (1 DAY).
- PERFORM CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS (5 DAYS)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION INDICATED.
- CONSTRUCT PERIMETER CONTROLS: SILT FENCES (SF), SUPER SILT FENCES (SSF) AND DIVERSION FENCE (DF) AS SHOWN ON PLAN.
- CLEAR AND GRUB SITE.
- INSTALL SEDIMENT TRAPS.
- PERFORM INITIAL GRADING (STAGE 1).
- INSTALL STORM DRAIN SYSTEM AND INLET PROTECTION.
- INSTALL WATER AND SEWER SYSTEM.
- CONSTRUCT PUBLIC ROAD.
- CONSTRUCT U-I-C DRIVEWAYS AND RETAINING WALL.
- GRADE SITE PER PLAN.
- STABILIZE ALL DISTURBED AREAS.
- CONVERT SEDIMENT TRAPS INTO MICRO-BIORETENTION FACILITIES AND CONSTRUCT MB-3.
- WITH THE APPROVAL OF SEDIMENT CONTROL INSPECTOR REMOVE DIVERSION FENCE. LEAVE IN PLACE THE REMAINING SEDIMENT CONTROL DEVICES FOR FUTURE CONSTRUCTION OF THE HOUSES (SDP STAGE).



EXISTING DRAINAGE AREA MAP TO SEDIMENT TRAPS AND DIVERSION FENCE



PROPOSED DRAINAGE AREA MAP TO SEDIMENT TRAPS



LEGEND

- EX. TREE LINE
- PR. TREE LINE
- SPECIMEN TREE TO BE REMOVED
- LIMIT OF DISTURBANCE
- PR. STORM DRAIN PIPE
- PR. STORM DRAIN INLET
- SUPER SILT FENCE
- DIVERSION FENCE
- AREA OF WETLANDS
- AREA OF SLOPES GREATER THAN 25%
- AREA OF SLOPES 15-24.9%

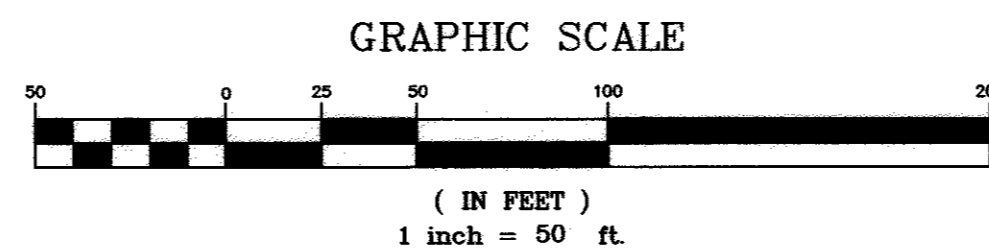
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HOWARD COUNTY
Walter J. J. J.
PLANNING DIRECTOR 9-30-16
DATE

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DATE



Project	15-003	date	SEP 2016
Illustration	MMM	engineering	MMM
Scale	1"=50'	approval	MMM
Revisions			

no.	date	description	revisions

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HOWARD COUNTY, MARYLAND
GRADING AND SEDIMENT CONTROL PLAN (STAGE 1)

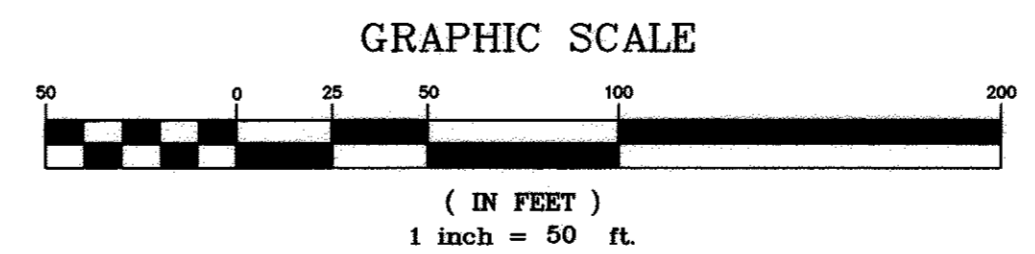
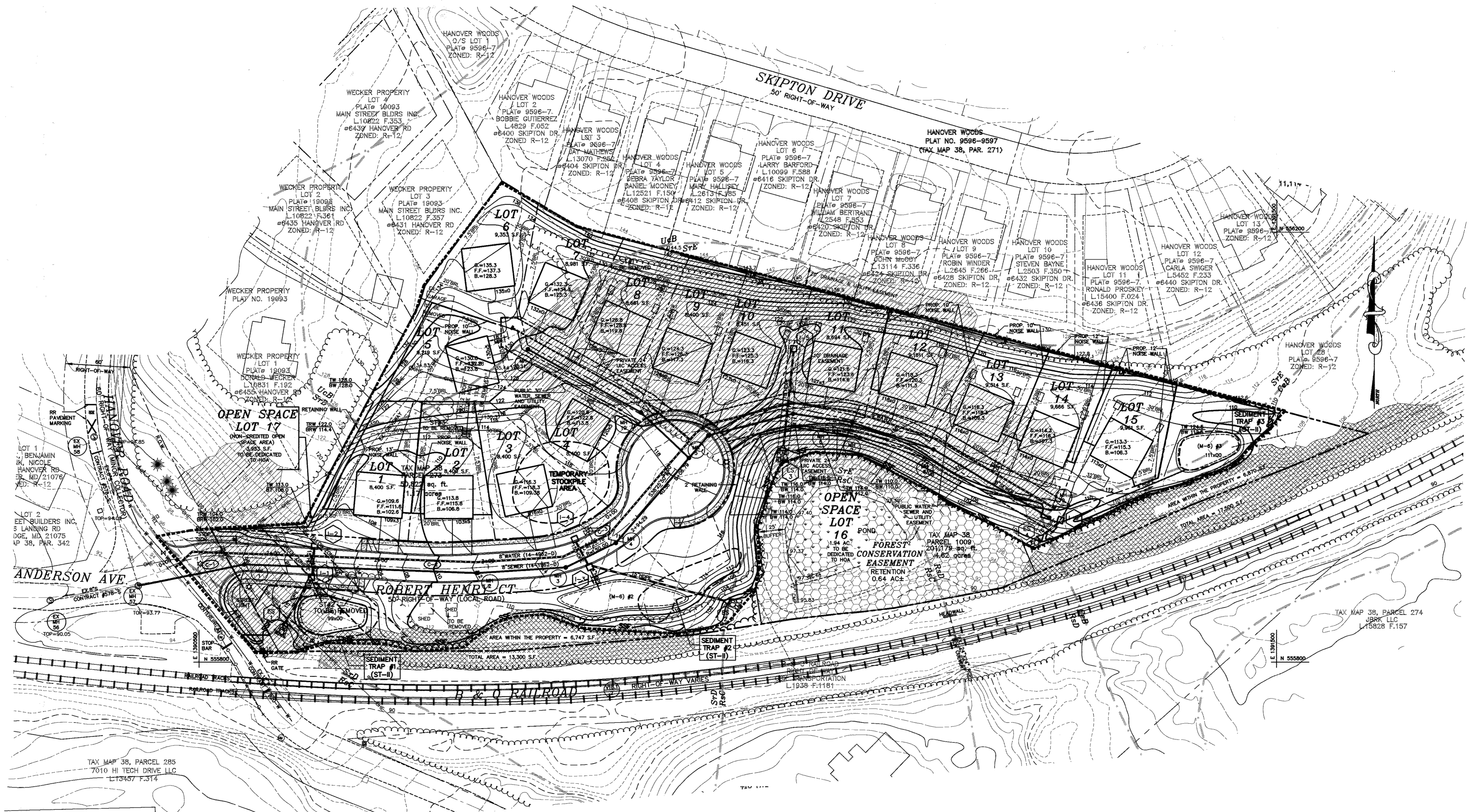
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SOILS TABLE

SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
R _s C	(C)	RUSSETT FINE SANDY LOAM, 5-10% SLOPES.	.24	20	---
R _s D	(C)	RUSSETT FINE SANDY LOAM, 10-15% SLOPES.	.24	20	---
S _r D	(B)	SASSAFRAS & CROOM SOILS, 10-15% SLOPES	.35	20	HIGHLY ERODABLE
S _r E	(B)	SASSAFRAS & CROOM SOILS, 15-25% SLOPES	.35	20	HIGHLY ERODABLE
U _c B	(D)	URBAN LAND-CHILLUM-BELTVILLE COMPLEX, 0-5%	---	20	---
C _e B	(B)	CHILLUM LOAM 2-5% SLOPES	---	20	---

LEGEND

- DRY-WELL (M-5)
- EX. TREE LINE
- PR. TREE LINE
- SPECIMEN TREE TO BE REMOVED
- LIMIT OF DISTURBANCE
- PR. 8" SEWER MAIN
- PR. MANHOLE
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- PR. STORM DRAIN INLET
- SUPER SILT FENCE
- DIVERSION FENCE
- AREA OF WETLANDS
- AREA OF SLOPES GREATER THAN 25%
- AREA OF SLOPES 15-24.9%
- TRW TOP OF RETAINING WALL
- BRW BOTTOM OF RETAINING WALL
- TNW TOP OF NOISE WALL
- BNW BOTTOM OF NOISE WALL



OWNER/ DEVELOPER

HARMONY BUILDERS INC
4228 COLUMBIA ROAD
ELLCOTT CITY, MD 21042
410-461-6042

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY
Najib J. Ali
PLANNING DIRECTOR 9-30-16
DATE

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. 17942, EXP DATE 09/03/18
R. Jacob Hikmat
R. JACOB HIKMAT P.E. 2/31/16
DATE



date	SEP 2016	approval	RJH
project	15-003	illustration	MJM
engineering		scale	1"=50'

date		description	
no.		revisions	

ROBERT'S CROSSING
LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 & 17
TAX MAP 38, GRID 15, PARCEL 273 & 1009
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PRELIMINARY GRADING AND SEDIMENT CONTROL PLAN

MILDENBERG, & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044
(410) 997-0296 Tel. (410) 997-0296 Fax

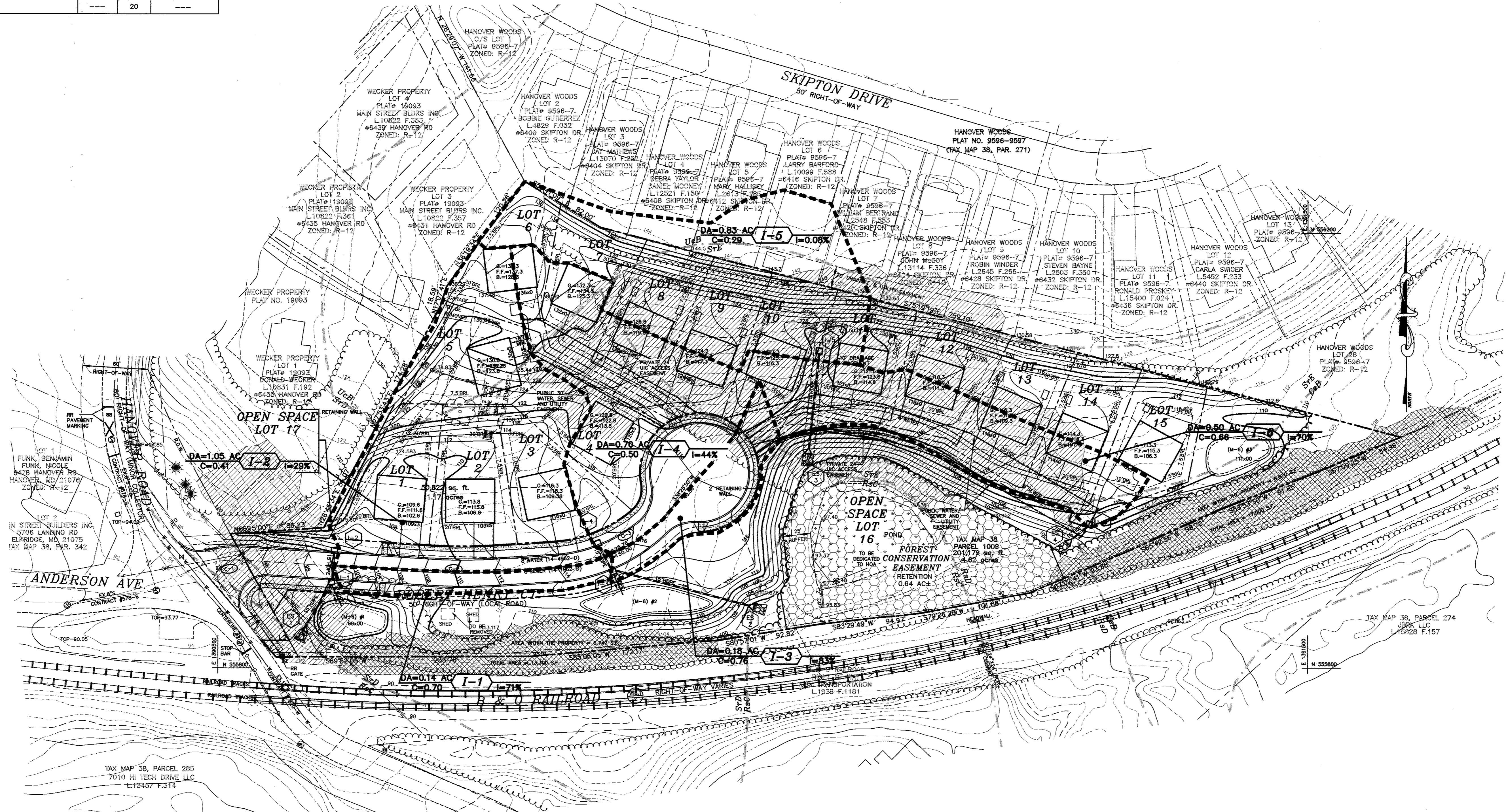


SOILS TABLE

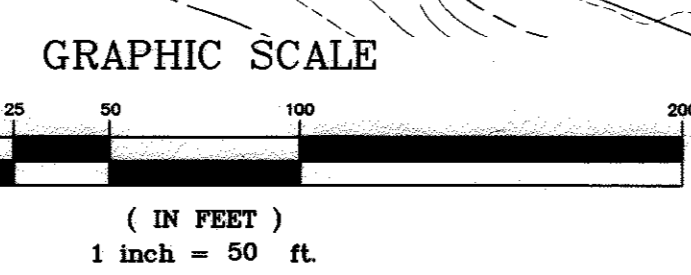
SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
RsC	(C)	RUSSETT FINE SANDY LOAM, 5-10% SLOPES.	.24	20	----
RsD	(C)	RUSSETT FINE SANDY LOAM, 10-15% SLOPES.	.24	20	----
Sd	(B)	SASSAFRAS & CROOM SOILS, 10-15% SLOPES	.35	20	HIGHLY ERODABLE
SrE	(B)	SASSAFRAS & CROOM SOILS, 15-25% SLOPES	.35	20	HIGHLY ERODABLE
UcB	(D)	URBAN LAND-CHILLUM-BELTVILLE COMPLEX, 0-5%	----	20	----
CeB	(B)	CHILLUM LOAM 2-5% SLOPES	----	20	----

LEGEND

- DRY-WELL (M-5)
- EX. TREE LINE
- PR. TREE LINE
- SPECIMEN TREE TO BE REMOVED
- 8" SEWER
- PR. 8" SEWER MAIN
- PR. MANHOLE
- PR. 8" WATER MAIN
- PR. STORM DRAIN PIPE
- PR. STORM DRAIN INLET
- AREA OF SLOPES GREATER THAN 25%
- AREA OF SLOPES 15-24.9%



TAX MAP 38, PARCEL 285
7010 HI TECH DRIVE LLC
L13487 F.314

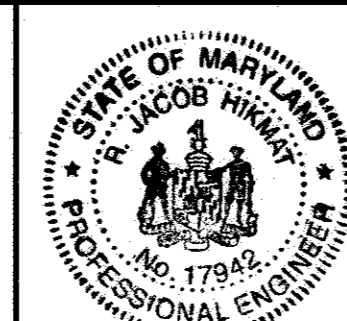


OWNER/ DEVELOPER

HARMONY BUILDERS INC
4228 COLUMBIA ROAD
ELLCOTT CITY, MD 21042
410-461-6042

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY
N. M. J. [Signature]
PLANNING DIRECTOR
DATE: 9-30-16

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R. J. [Signature]
R. JACOB HIKMAT P.E.
DATE: 8/31/16



date	SEP-2016	engineering	MMM	approval
project	15-003	illustration	MMM	scale
				1"=50'

no.		description	revisions

ROBERT'S CROSSING
LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 & 17
TAX MAP 38, GRID 15, PARCEL 273 & 1009
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SOIL AND DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044
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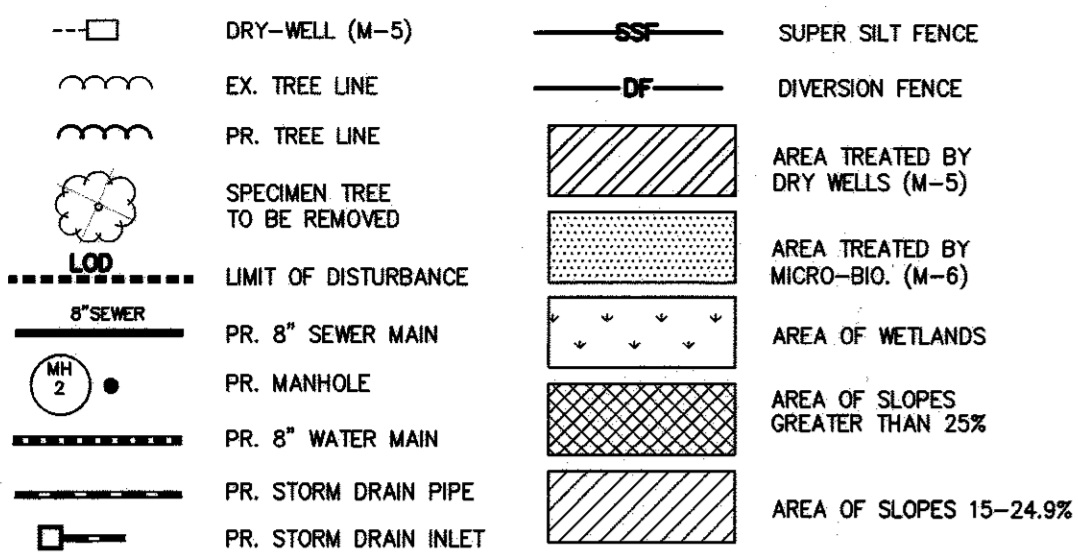


F:\2014\15-003 Robert's Crossing\DWG\PRELIMINARY PLAN.DWG

SOILS TABLE

SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
Rsc	(C)	RUSSETT FINE SANDY LOAM, 5-10% SLOPES.	.24	20	---
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UcB	(D)	URBAN LAND-CHILLUM-BELTVILLE COMPLEX, 0-5%	---	20	---
CeB	(B)	CHILLUM LOAM 2-5% SLOPES	---	20	---

LEGEND



SPECIMEN TREE CHART

KEY	SPECIES	SIZE (IN DBH)	CRZ (FEET RADIUS)	COMMENTS
1	WHITE OAK	31.5	47.25	GOOD CONDITION
2	WHITE OAK	41	61.5	GOOD CONDITION
3	SILVER MAPLE	52	78	FAIR CONDITION, LIMB DIEBACK NOTED

NOTE: THREE (3) SPECIMEN TREES ARE TO BE REMOVED. THE REMOVAL OF THESE TREES WAS GRANTED UNDER THE CONDITIONS OF APPROVAL OF MP-16-006 OUTLINED IN GENERAL NOTE #2.

FOREST STAND DATA

KEY	COMMUNITY TYPE	ACREAGE (NET)	DOMINANT VEGETATION	GENERAL CONDITION	PRIORITY
F1	OAK-PINE	2.9	QUERUS FALCATA, PINUS VIRGINIANA, FRAXINUS AMERLOANA, PRUNUS SEROTINA, ACER RUBRUM, CARYA GLABRA	GOOD	0.5 + WETLANDS, BUFFERS.

WETLAND DATA

WETLAND SYSTEM	COWARDIN CLASSIFICATION	DOMINANT VEGETATION
A	PFO1A	ACER RUBRUM, QUERCUS PALUSTRIS, PLATANUS OCCIDENTALIS, BETULA NIGRA

FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A. Total tract area: 5.79

B. Area within 100 year floodplain: 0.00

C. Area to remain in agricultural production: 0.00

D. Net tract area: 5.79

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

E. Afforestation Threshold: 15% x D = 0.87

F. Conservation Threshold: 20% x D = 1.16

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain): 2.80

H. Area of forest above afforestation threshold: 2.03

I. Area of forest above conservation threshold: 1.74

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation: -1.91

K. Clearing permitted without mitigation: -1.39

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared: 2.26

M. Total area of forest to be retained: 0.64

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold: 0.44

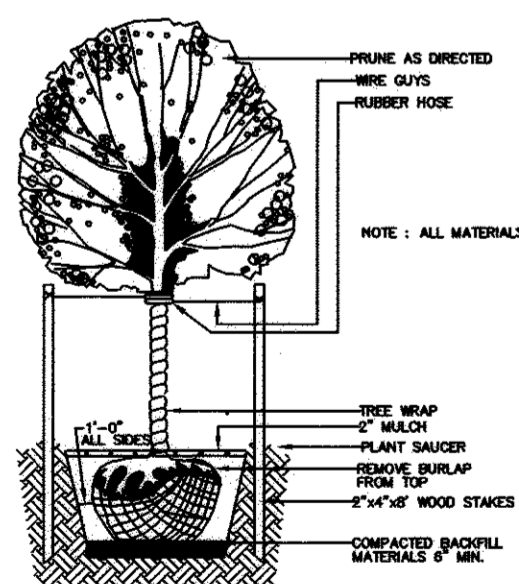
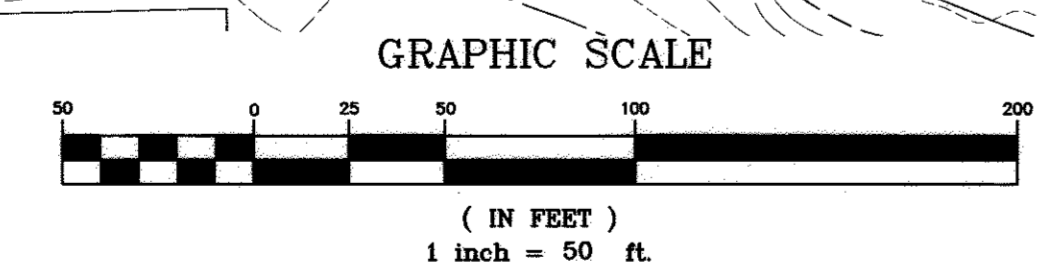
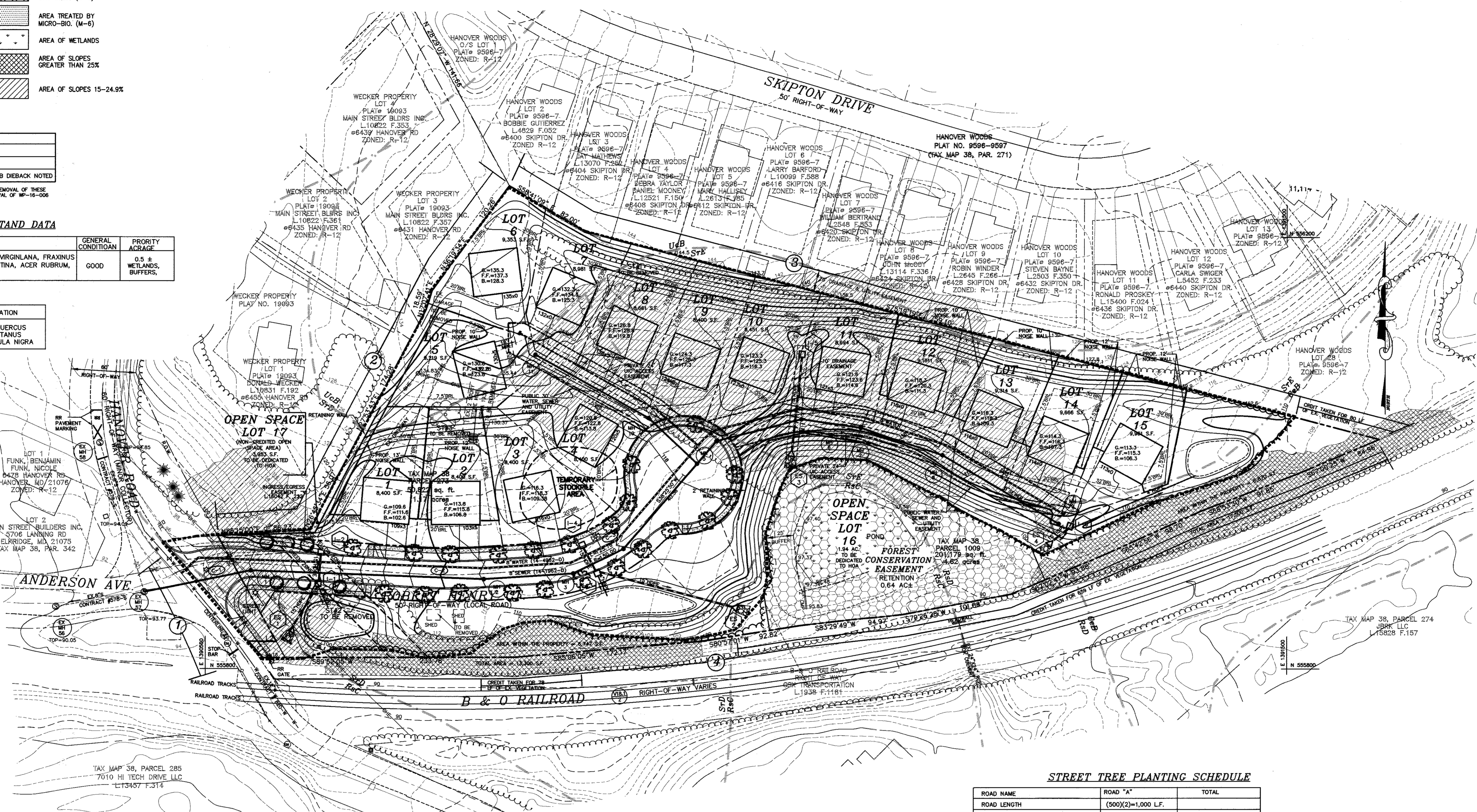
O. Reforestation for clearing below conservation threshold: -1.04

P. Credit for retention above conservation threshold: -0.50

Q. Total reforestation required: 1.47

R. Total afforestation required: -0.00

S. Total reforestation and afforestation required: -1.47



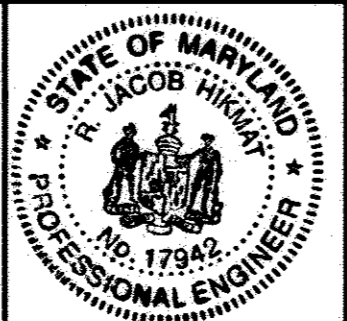
TYPICAL DECIDUOUS TREE PLANTING DETAIL

OWNER/ DEVELOPER

HARMONY BUILDERS INC
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ELLCOTT CITY, MD 21042
410-461-6042

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HOWARD COUNTY
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DATE

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R. JACOB HIKMAT P.E. 8/31/16 DATE



STREET TREE PLANTING SCHEDULE

ROAD NAME	ROAD "A"	TOTAL
ROAD LENGTH	(500)(2)=1,000 L.F.	
NUMBER OF PLANTS REQUIRED	25 LARGE SHADE TREES 0 SMALL SHADE TREES	25 LARGE SHADE TREES 0 SMALL SHADE TREES
NUMBER OF PLANTS PROVIDED	22 LARGE SHADE TREES 3 SMALL SHADE TREES	22 LARGE SHADE TREES 6 SMALL SHADE TREES

* AS PER BGE'S REQUIREMENT SMALLER TREES HAVE BEEN PROVIDED ALONG MONTGOMERY ROAD.

STREET TREE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
6	○	ACER GINNALA OR EQUIVALENT	AMUR MAPLE OR EQUIVALENT	2 1/2" - 3" CAL.
22	○	PRUNUS 'OKAME' OR EQUIVALENT	OKAME CHERRY OR EQUIVALENT	2 1/2" - 3" CAL.
TOTAL				28 STREET TREES

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES				TOTAL
LANDSCAPE TYPE	B (PERIMETER 1)*	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)		
LINEAR FEET OF PERIMETER	129 LF	455.43 LF	841.10 LF	1,065.01 LF		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	N/A	NO	YES, 80 LF.	YES, 737 LF.		
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	N/A	YES, 195 LF.	NO	NO		
NUMBER OF PLANTS REQUIRED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	13 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	23 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	13 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	23 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	

* PERIMETER 1 IS EXEMPT FROM LANDSCAPING BECAUSE IT IS ADJACENT TO A ROADWAY.
** PERIMETER 2 - CREDIT IS BEING TAKEN FOR 195 LF OF PROPOSED NOISE WALL. IF NOISE WALL DOES NOT HAVE ARCHITECTURAL ARTICULATION, ADDITIONAL SHRUBS OR TREES WILL BE PROVIDED.

Project	15-003	date	SEP 2016
Illustration	MMM	engineering	MMM
scale	1"=50'	approval	RJH

description	revisions
date	
no.	

ROBERT'S CROSSING
LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 & 17
TAX MAP 38, GRID 15, PARCEL 273 & 1009
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
PRELIMINARY LANDSCAPING & FOREST CONSERVATION PLAN

MILDENBERG & ASSOC., INC.
Boender Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044
(410) 997-0296 Fax

SOILS TABLE

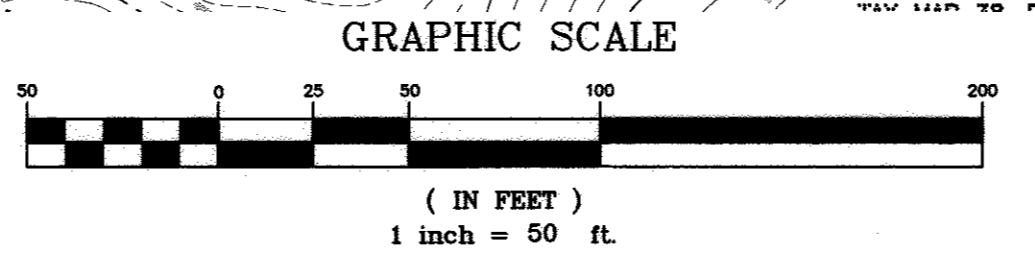
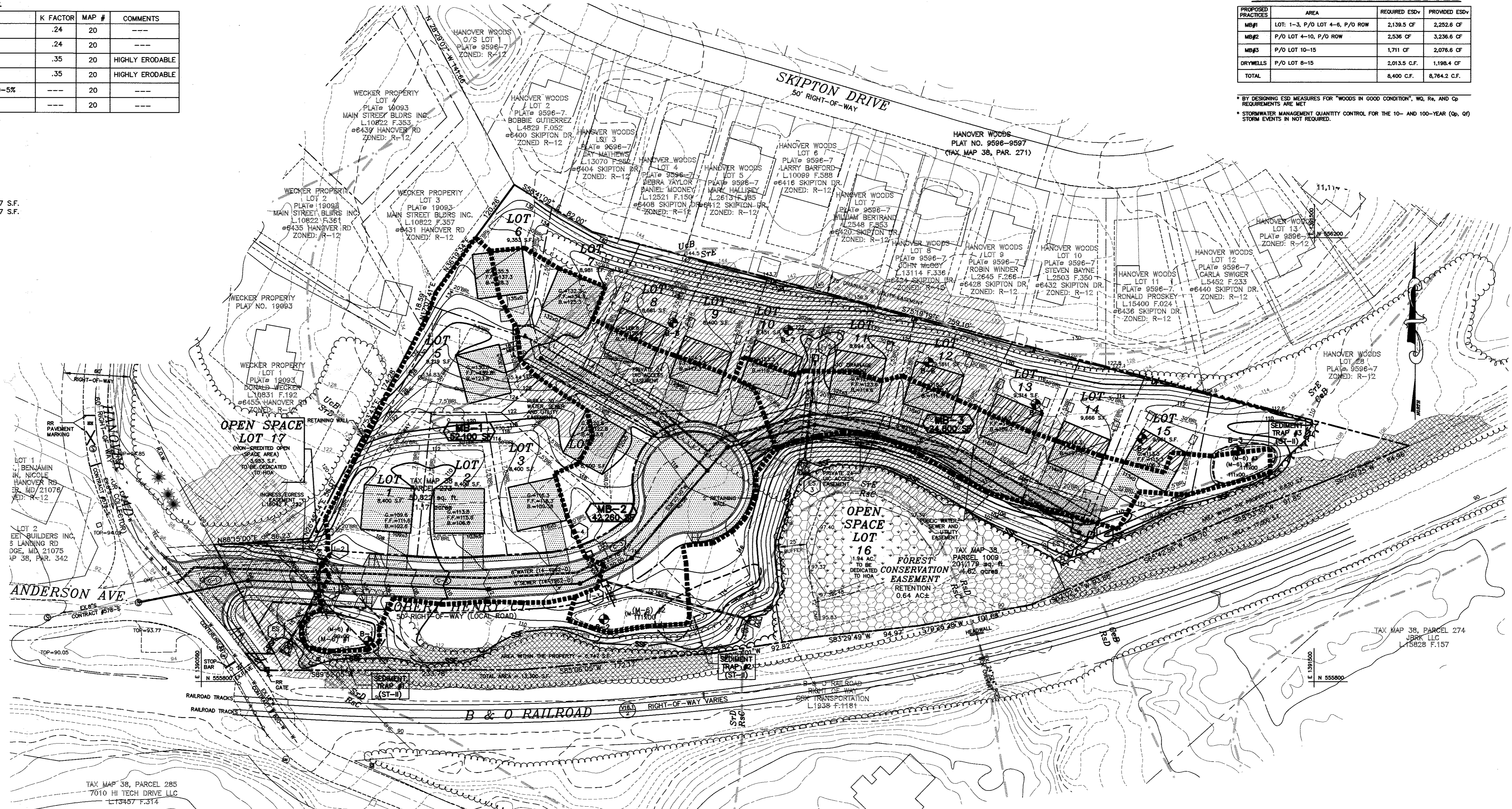
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CsB	(B)	CHILLUM LOAM 2-5% SLOPES	---	20	---

SITE ANALYSIS DATA:

1. AREA OF THE SITE = 5.79 AC ±
2. AREA OF WETLANDS AND ITS BUFFERS = 0.44 AC ±
3. AREA OF FLOODPLAIN = 0
4. AREA OF EXISTING FOREST = 3.0 AC ±
5. AREA OF STEEP SLOPES 15% OR GREATER = 1.84 AC ± 80,157 S.F.
6. AREA OF STEEP SLOPES 25% OR GREATER = 0.31 AC ± 13,617 S.F.
7. AREA OF ERODABLE SOILS = 4.2 AC ±
8. LIMIT OF DISTURBANCE AREA = 4.8 AC ±
9. 15 NEW SINGLE FAMILY DETACHED LOTS ARE PROPOSED.
10. GREEN OPEN AREA (PERVIOUS) = 4.41 AC ±
11. PROPOSED IMPERVIOUS AREA = 1.38 AC ±

LEGEND

- DRY-WELL (M-5)
- EX. TREE LINE
- PR. TREE LINE
- SPECIMEN TREE TO BE REMOVED
- LIMIT OF DISTURBANCE
- PR. 8" SEWER MAIN
- PR. MANHOLE
- PR. 8" WATER MAIN
- PR. STORM DRAIN PIPE
- PR. STORM DRAIN INLET
- SUPER SILT FENCE
- DIVERSION FENCE
- AREA TREATED BY DRY WELLS (M-5)
- AREA TREATED BY MICRO-BIO. (M-6)
- AREA OF WETLANDS
- AREA OF SLOPES GREATER THAN 25%
- AREA OF SLOPES 15-24.9%



SWM PRACTICES SCHEDULE

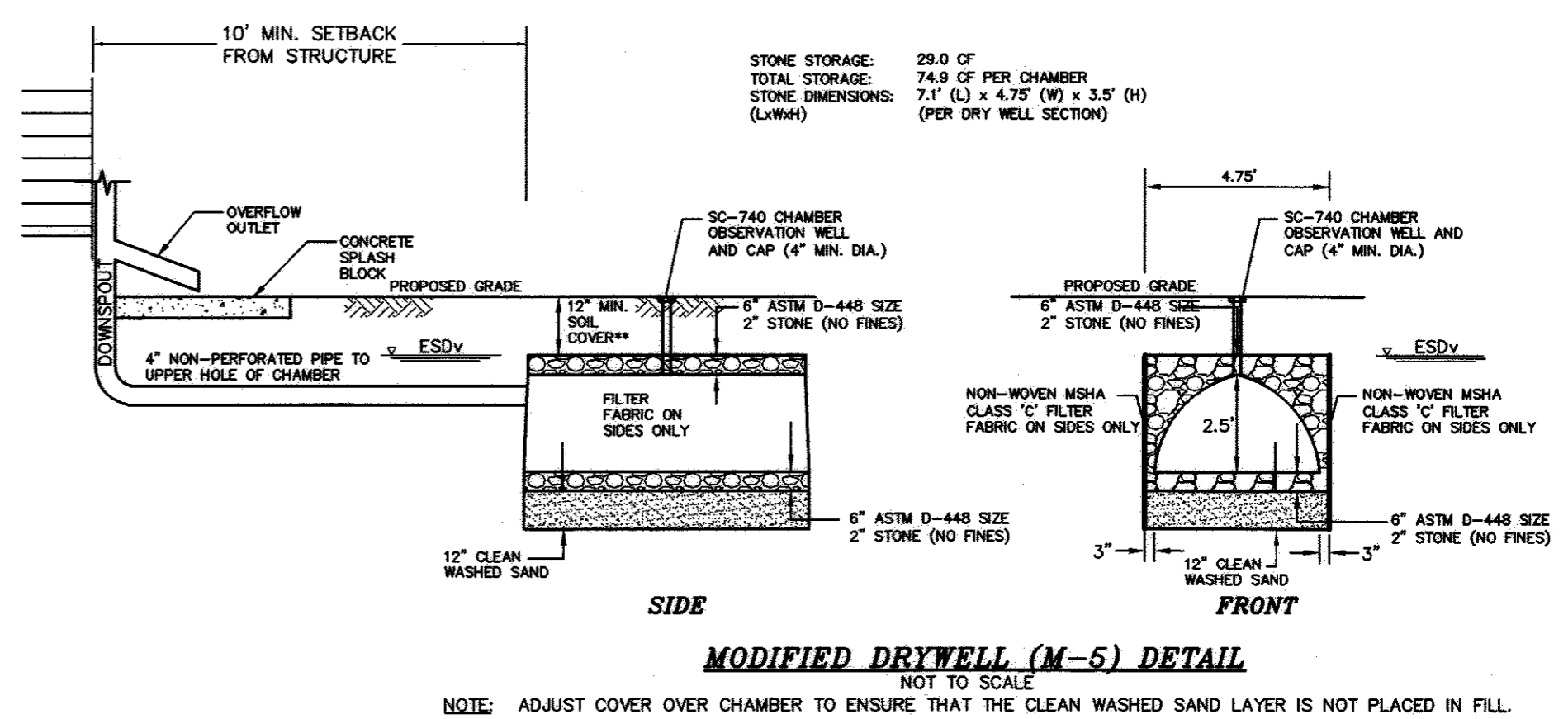
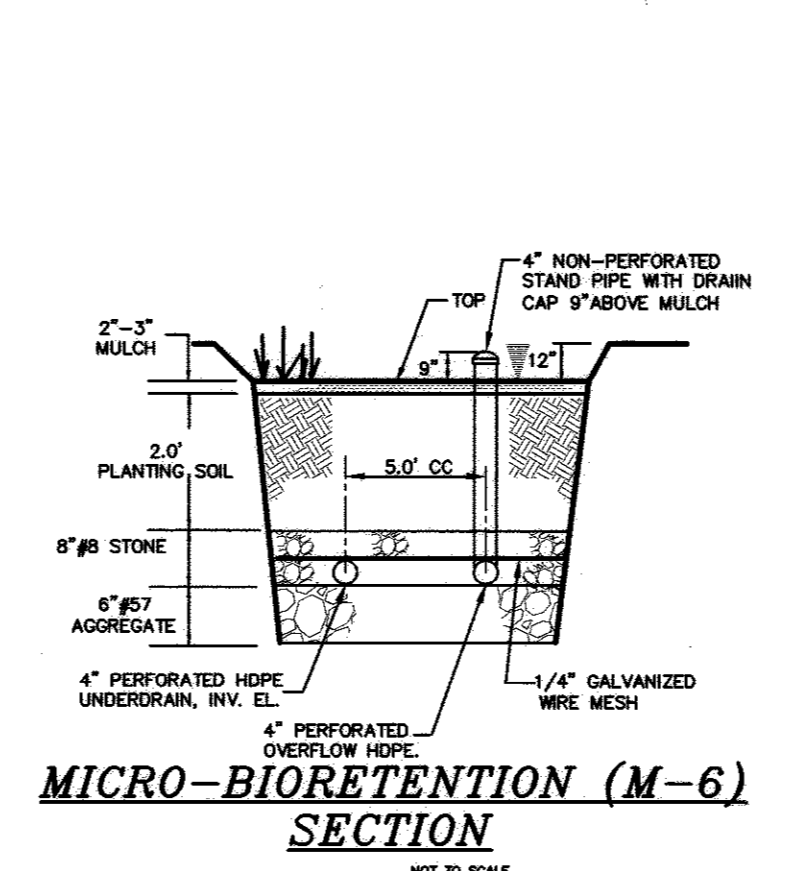
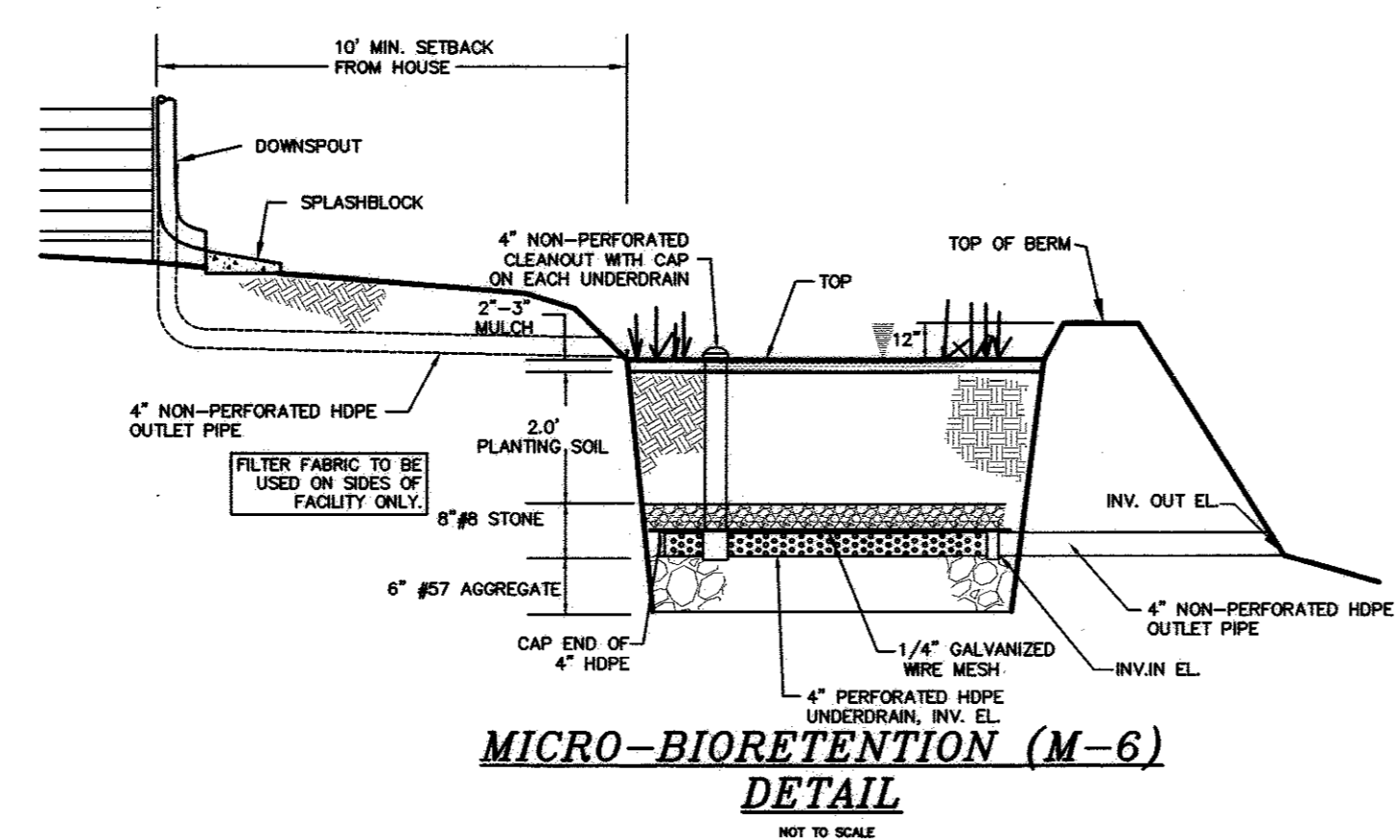
PROPOSED PRACTICES	AREA	REQUIRED ESDV	PROVIDED ESDV
MB#1	LOT 1-3, P/O LOT 4-6, P/O ROW	2,139.5 CF	2,282.6 CF
MB#2	P/O LOT 4-10, P/O ROW	2,536 CF	3,236.6 CF
MB#3	P/O LOT 10-15	1,711 CF	2,076.6 CF
DRYWELLS	P/O LOT 8-15	2,013.5 C.F.	1,194.4 C.F.
TOTAL		5,400 C.F.	6,784.2 C.F.

* BY DESIGNING ESD MEASURES FOR "WOODS IN GOOD CONDITION", WQ, RA, AND C_p REQUIREMENTS ARE MET
 * STORMWATER MANAGEMENT QUANTITY CONTROL FOR THE 10- AND 100-YEAR (Q_p, Q₁₀₀) STORM EVENTS IS NOT REQUIRED.

Project	date	SEP-2016	engineering
15-003	illustration	MMM	MMM
scale	1"=50'	approval	RJH

no.	description	revisions

ROBERT'S CROSSING
 LOTS 1 THRU 15 AND OPEN SPACE LOTS 16 & 17
 TAX MAP 38, GRID 15, PARCEL 273 & 1009
 HOWARD COUNTY
 FIRST ELECTION DISTRICT
SWM PLAN

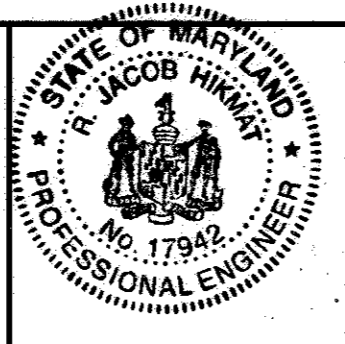


NOTE: ADJUST COVER OVER CHAMBER TO ENSURE THAT THE CLEAN WASHED SAND LAYER IS NOT PLACED IN FILL.

OWNER
 HARMONY BUILDERS INC
 4228 COLUMBIA ROAD
 ELLICOTT CITY, MD 21042
 410-461-6042

TENTATIVELY APPROVED
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 HOWARD COUNTY
 [Signature]
 PLANNING DIRECTOR
 9-30-16
 DATE

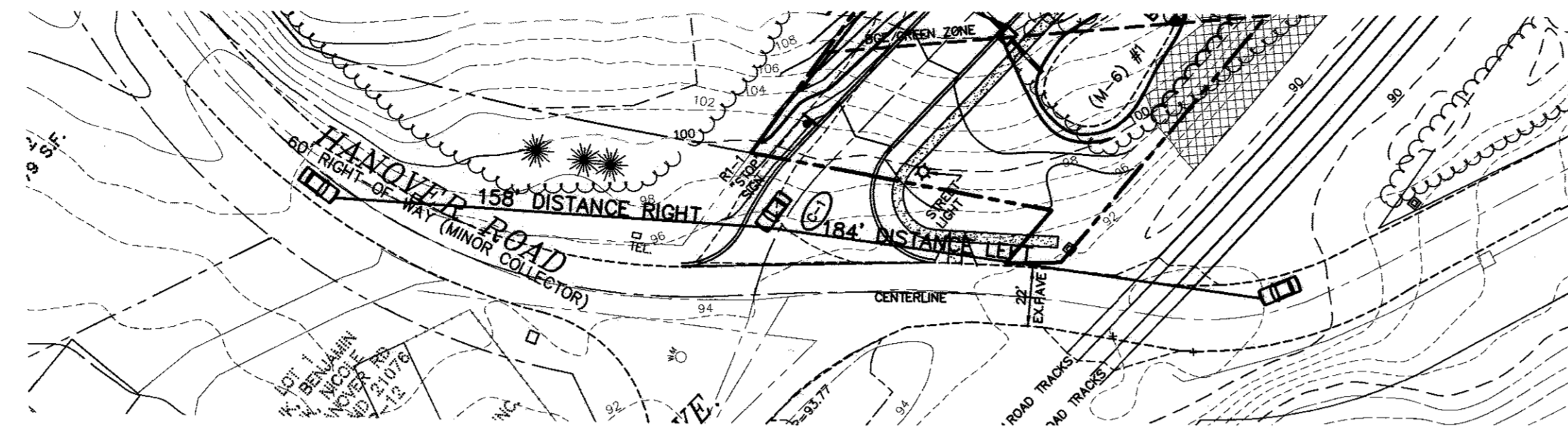
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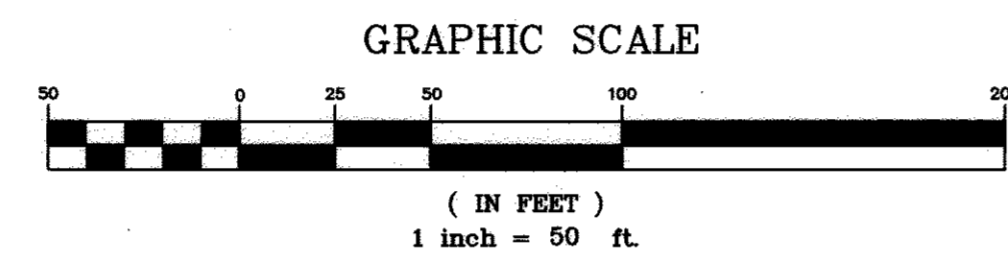
MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
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4. AREA OF EXISTING FOREST = 3.0 AC ±
5. AREA OF STREAM BUFFER = 0
6. AREA OF STEEP SLOPES 15% OR GREATER = 1.84 AC ± : 80,157 S.F.
7. AREA OF STEEP SLOPES 25% OR GREATER = 0.31 AC ± : 13,617 S.F.



STOPPING SIGHT DISTANCE PLAN



NOTES

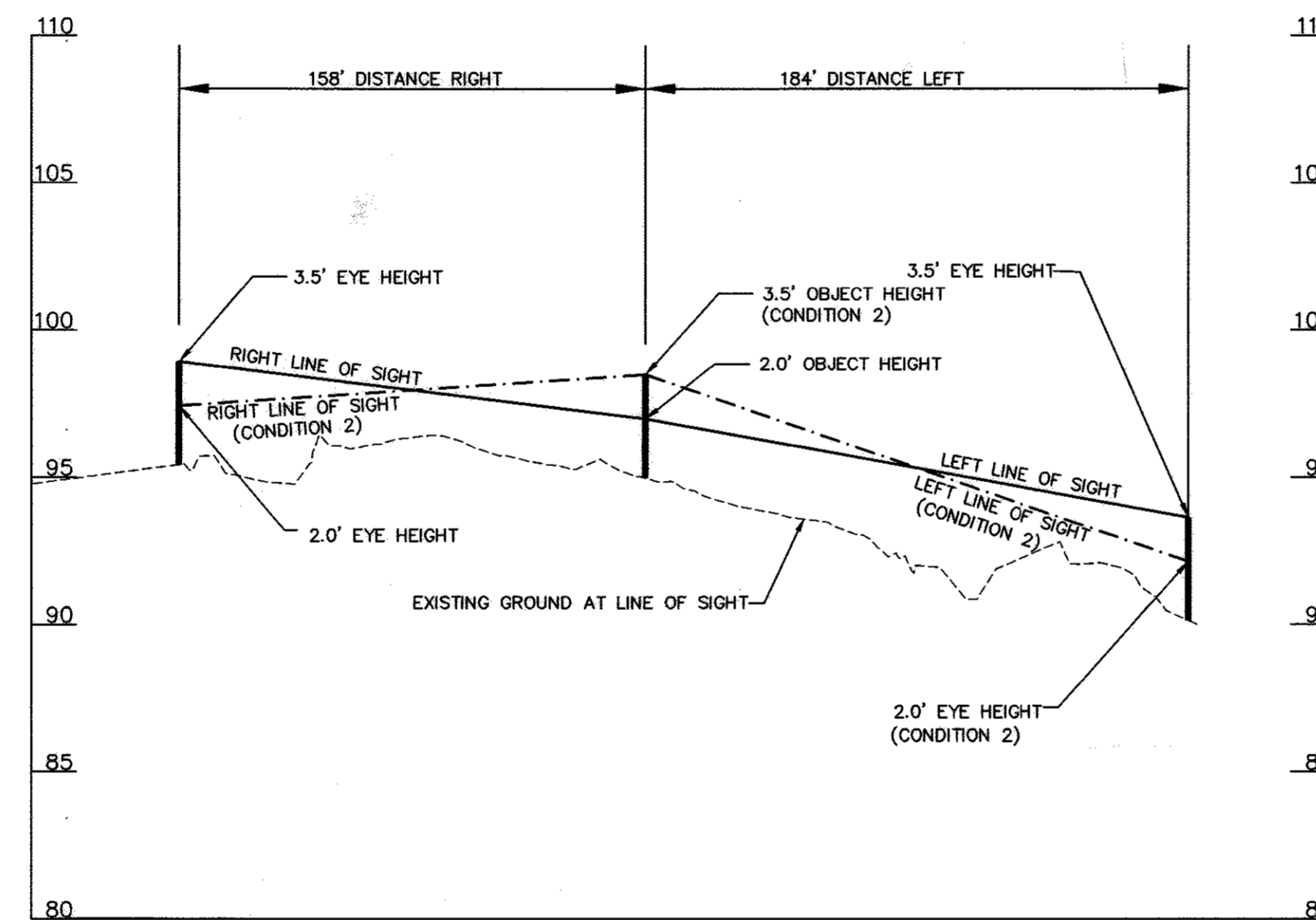
POSTED SPEED = 25 MPH
 OPERATING SPEED (NORTHBOUND) = 24.25 MPH
 OPERATING SPEED (SOUTHBOUND) = 27.0 MPH
 ANALYSIS SPEED = 25 MPH (NORTHBOUND)
 ANALYSIS SPEED = 27 MPH (SOUTHBOUND)
 HEIGHT OF EYE = 3.5'
 HEIGHT OF OBJECT = 2.0' LOCATED 10' FROM THE EDGE OF PAVEMENT

NORTHBOUND
 GRADE = -2% ±
 STOPPING SIGHT DISTANCE = 157'

SOUTHBOUND
 GRADE = 3% ±
 STOPPING SIGHT DISTANCE = 184'

NOTES:

1. BASED ON THIS ANALYSIS, THE ROADWAY HAS ADEQUATE STOPPING SIGHT DISTANCE



STOPPING SIGHT DISTANCE PROFILE

SCALE: HOR. 1"=50'
 VER. 1"=5'

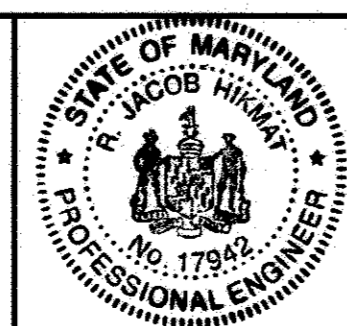
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