

GENERAL NOTES

- 1. PROJECT BACKGROUND: A. GRACE TECH PARK - PARCEL B-1 AND C PLATS 23334-23337...

- 2. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.

- 3. TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM AERIAL PHOTOGRAMMETRY COMPILED BY POTOMAC AERIAL SURVEYS INC. JANUARY 2017.

- 4. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON AN AERIAL SURVEY PERFORMED BY MORRIS & RITCHE ASSOCIATES, INC. IN NOVEMBER 2008 AND UPON MDR PLATS 23334-23337, RECORDED MAY 2015.

- 5. PARCEL 412 - PARCEL A SHALL BE DEDICATED TO HOWARD COUNTY RECREATION AND PARKS.

- 6. THE GROUNDWATER USE RESTRICTION AREA SHOWN HEREON IS DESCRIBED IN A TITLE NOTICE DATED APRIL 7, 2008 AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN L1163 FOLIO 568.

- 7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS BM 359 AND BM 358S WERE USED FOR THIS PROJECT.

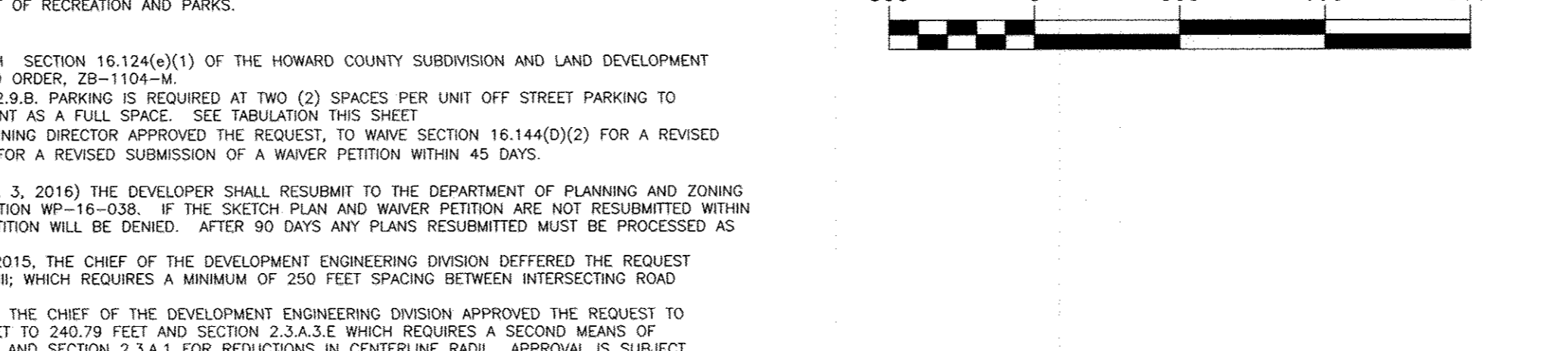
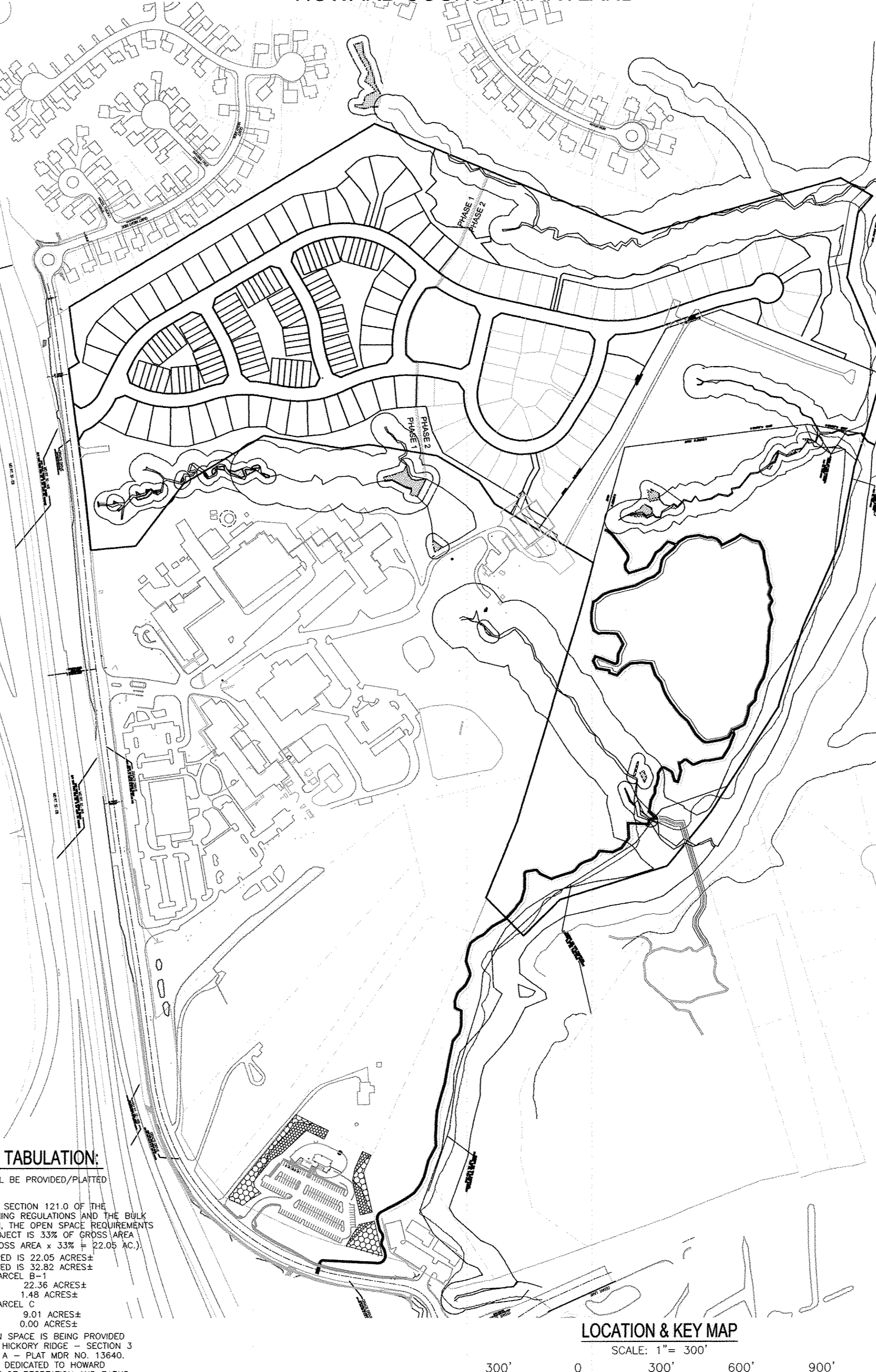
- 8. THE SUBJECT PROJECT IS ZONING BOARD DECISION AND ORDER FOR CASE ZB1104M, APPROVED ON APRIL 6, 2015 AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.

- 9. HOWARD COUNTY ZONING BOARD CASE ZB-1104-M, APPROVED ON APRIL 6, 2015, CONTAINED THE FOLLOWING CONDITIONS OF APPROVAL:

SIMPSON OAKS APFO PHASING table with columns: PHASE NUMBER, ALLOCATION YEAR, TOTAL NO. OF ALLOCATIONS

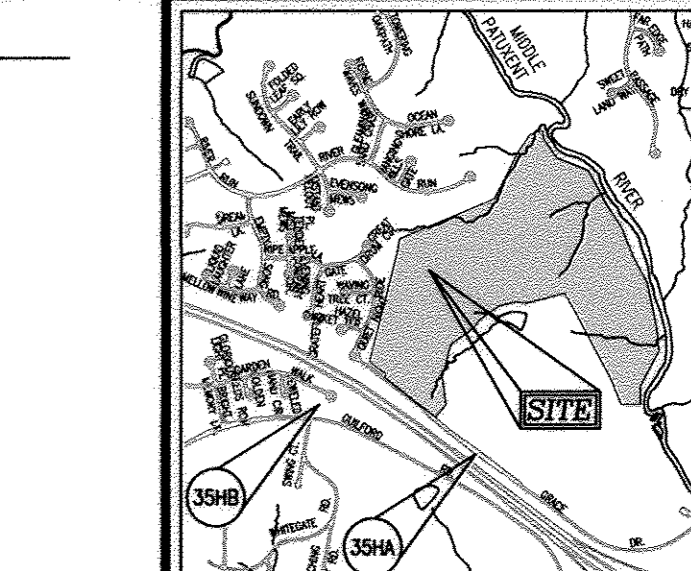
LEGEND table with symbols and descriptions: PROPERTY LINE, RIGHT-OF-WAY LINE, ADJACENT PROPERTY LINE, CENTERLINE OF EXISTING STREAM, EXISTING TREELINE, EXISTING CURB AND GUTTER, PROPOSED CURB AND GUTTER

PRELIMINARY PLAN SIMPSON OAKS - PHASE 1 LOTS 1 - 129, OPEN SPACE LOTS 130 - 140 AND NON-BUILDABLE BULK PARCELS A - F A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND COLUMBIA - VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' & OPEN SPACE LOT 45 HOWARD COUNTY, MARYLAND



NOTE: ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-320 OUTSIDE METER SETTINGS.

BENCHMARKS: BM 35HA*, N 553,966.7457 E 1,340,476.9524 NAD 83 (Aq 07) NAVD 88 ELEV. 404.584



VICINITY MAP SCALE: 1"=2000' ADC MAP PAGE: 32 GRID B-3, C-3, B-4 & C-4

OPEN SPACE TABULATION:

ALL OPEN SPACE WILL BE PROVIDED/PLATTED UNDER PHASE 1. IN ACCORDANCE WITH SECTION 121.0 OF THE HOWARD COUNTY ZONING REGULATIONS AND THE BULK REGULATIONS APPROVED UNDER HOWARD COUNTY ZONING BOARD CASE ZB-1104-M BULK REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS CE-F-R PROJECT IS 33% OF GROSS AREA.

PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED: 184 SINGLE FAMILY DETACHED (SFD) = 83 LOTS SINGLE FAMILY DETACHED (SFD) = 101 LOTS -PHASE 1 = 129 TOTAL (83 SFA, 46 SFD) -PHASE 2 = 55 SFD UNITS

RECREATION OPEN SPACE TABULATION:

TOTAL RECREATION OPEN SPACE REQUIRED FOR SIMPSON OAKS SINGLE FAMILY DETACHED (SFD) & SINGLE FAMILY ATTACHED (SFA) = 1,000 SF/UNIT x 184 UNITS = 184,000 SF OR 4.22 ACRES

SHEET INDEX table with columns: DESCRIPTION, SHEET NO. Includes entries for COVER SHEET, OVERALL SITE LAYOUT PLAN & DETAILS, PRELIMINARY SITE LAYOUT PLAN, etc.

SITE ANALYSIS DATA CHART

Table with columns: Description, Area. Includes entries: A. TOTAL PROJECT AREA: 98.20 AC +/-, B. AREA OF FLOODPLAIN: 0.51 AC, C. AREA OF FOREST: 43.89 AC, etc.

- 37. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(d)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE LANDSCAPE MANUAL AND THE ZONING BOARD DECISION AND ORDER, ZB-1104-M.

OWNER/DEVELOPER: T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A) SIMPSON OAKS CRP3, LLC W.R. GRACE & CO. 7500 GRACE DR COLUMBIA, MD 21044-0098

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY. Planning Director: [Signature] DATE: 10-5-17

ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS - SURVEYORS - PLANNERS 8407 MAIN STREET ELICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

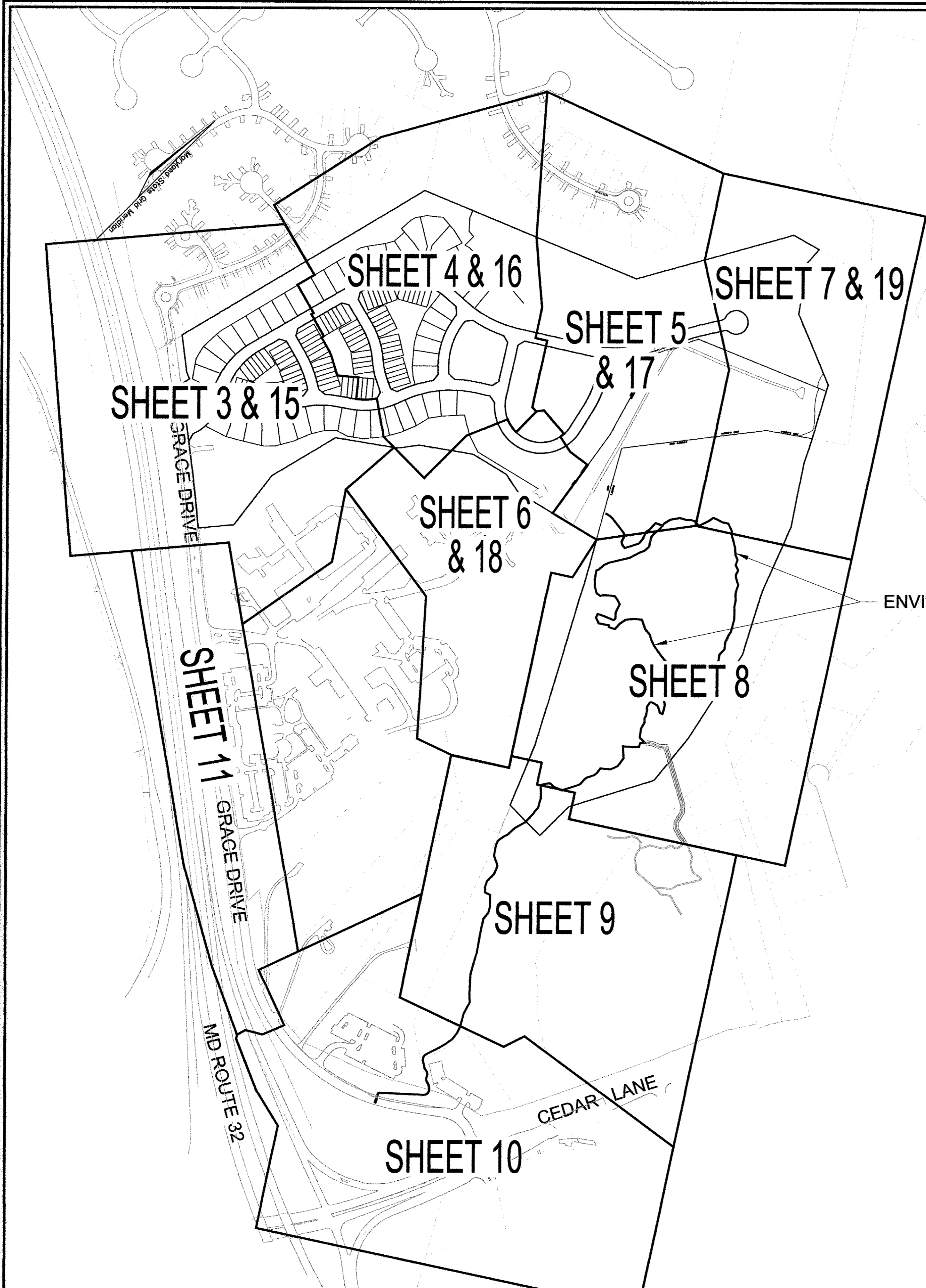
GENERAL NOTES (CONTINUED)

41. THIS PROJECT IS SUBJECT TO WP-16-038, ON DECEMBER 5, 2016; THE PLANNING DIRECTOR APPROVED THE REQUEST FOR ALTERNATIVE COMPLIANCE TO SECTION 16.1205(A)(7)&(10) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH REQUIRES THE RETENTION OF STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES, AND TREES 30" IN DIAMETER OR LARGER.
APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. APPROVAL IS TO REMOVE 41 SPECIMEN TREES IDENTIFIED ON THE ALTERNATIVE COMPLIANCE EXHIBIT. A SEPARATE ALTERNATIVE COMPLIANCE REQUEST MUST BE SUBMITTED AND APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING FOR ANY OTHER SPECIMEN TREE TO BE REMOVED, UNLESS OTHERWISE NOTED IN THESE CONDITIONS OF APPROVAL.
2. SPECIMEN TREES WHERE THE CRITICAL ROOT ZONE IS IMPACTED BY THE LIMIT OF DISTURBANCE WILL REQUIRE PRE-, DURING, AND POST-CONSTRUCTION PRACTICES AND MEASURES TO MINIMIZE IMPACT TO THE TREES. THESE SPECIFIC PRACTICES WILL BE IDENTIFIED WITHIN THE FINAL SUBDIVISION PLAN AND SHALL BE IMPLEMENTED AND/OR SUPERVISED IN THE FIELD BY A CERTIFIED ARBORIST.
3. SPECIMEN TREES WHERE THE CRITICAL ROOT ZONE IS IMPACTED BY THE LIMIT OF DISTURBANCE, AND INDICATED IN THE ALTERNATIVE COMPLIANCE EXHIBIT TO BE IN POOR OR FAIR CONDITION, MAY BE REMOVED UNDER THIS ALTERNATIVE COMPLIANCE REQUEST IF A CERTIFIED ARBORIST DETERMINES SURVIVAL OF THE TREE IS IMPROBABLE OR THE TREE MAY BE A POTENTIAL HAZARD TO THE DEVELOPMENT. PRIOR TO REMOVING THE TREE, THE APPLICANT SHALL SUBMIT A REPORT FROM THE CERTIFIED ARBORIST TO THE DEPARTMENT OF PLANNING AND ZONING DETAILING THE TREE'S CONDITION, THE PRACTICES EXAMINED TO SAVE THE TREE, AND THE REASONING FOR THE TREE'S REMOVAL.
4. REMOVAL OF THE 41 SPECIMEN TREES WILL REQUIRE MITIGATION AS ADDITIONAL LANDSCAPE PLANTINGS OR 1" CALIPER FOREST CONSERVATION PLANTINGS, OR A COMBINATION THEREOF. MITIGATION WILL BE DETERMINED BY THE DEPARTMENT OF PLANNING AND ZONING DURING THE REVIEW OF THE PRELIMINARY PLAN OR FINAL PLAN WHEN SITE DESIGN IS FURTHER ENGINEERED.
42. TRAFFIC CONTROL DEVICES:
A. THE R1-(STOP) SIGN AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUTCD).
D. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, ("QUICK PUNCH") SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG). THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
43. THIS PROJECT WILL REQUIRE STREET LIGHTING IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE HOWARD COUNTY DESIGN MANUAL AND THE ZONING BOARD DECISION AND ORDER, 28-1104-M. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II, SECTION 5.5.A. A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
44. IN ACCORDANCE WITH SECTION 121.0 OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. A MHU AGREEMENT AND MHU COVENANTS WILL BE REQUIRED IN ACCORDANCE WITH SECTION 13.402 OF THE HOWARD COUNTY CODE. THE MHU REQUIREMENTS FOR THIS SUBDIVISION WILL BE 19 UNITS (10% OF 184 UNITS).
-PHASE 1 REQUIRES 128 X 10% = 13 UNITS.
-PHASE 2 REQUIRES 56 X 10% = 6 UNITS.
45. ON APRIL 18, 2016 THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DETERMINED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OCCURRING ALONG GRACE DRIVE. THE DISTURBANCE REQUIRED TO CONNECT TO PUBLIC SEWER, AND THE RECONSTRUCTION OF THE OFF SITE POND TO MEET MD-378 STANDARDS ARE NECESSARY DISTURBANCE.
46. ON JUNE 22, 2017 THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DETERMINED THAT THE DISTURBANCE OF STEEP SLOPES FOR INSTALLATION OF A SANITARY SEWER IS NECESSARY FOR REASONABLE DEVELOPMENT OF THE PROPERTY.
47. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLIES SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS FOR DRIVEWAYS TO LOTS 170 & 171 AND LOTS 190 & 191 AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
48. NO STREET TREE CAN BE PLANTED WITHIN 30' OF A PROPOSED "STOP" SIGN LOCATION (APPROACH DIRECTION).
49. THIS PROJECT IS SUBJECT TO WP-17-108, ON JULY 20, 2017; THE PLANNING DIRECTOR APPROVED THE REQUEST FOR ALTERNATIVE COMPLIANCE WITH SUBSECTION 16.144(C) OF THE CODE, REQUIRING A PRELIMINARY PLAN FOR PHASE 2:
APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. APPLICANT SHALL SUBMIT A FINAL PLAN APPLICATION BASED ON P-17-002, ONCE APPROVED, AND SHALL RECORD A SUBDIVISION PLAT WITH THE LAND RECORDS OFFICE OF HOWARD COUNTY BASED ON SAID FINAL PLAN. THE FINAL PLAT SHALL INDICATE PHASE 1 AND PHASE 2 OF THE SIMPSON OAKS SUBDIVISION. THE PHASE 1 FINAL PLAN WILL INCLUDE BUILDING LOTS, NON-BUILDABLE BULK PARCELS, OPEN SPACE LOTS AND ROAD CONSTRUCTION DRAWINGS FOR THE ENTIRE PROJECT. THE PHASE 2 FINAL PLAN WILL ONLY SHOW THE REDIVISION OF NON-BUILDABLE PARCELS INTO THE REMAINING BUILDABLE LOTS.
50. AT FINAL PLAN RE-EVALUATE EASEMENT OWNERSHIP OF INTERNAL DRAINAGE AND STORM MANAGEMENT FACILITIES.

CEF-R REGULATIONS:

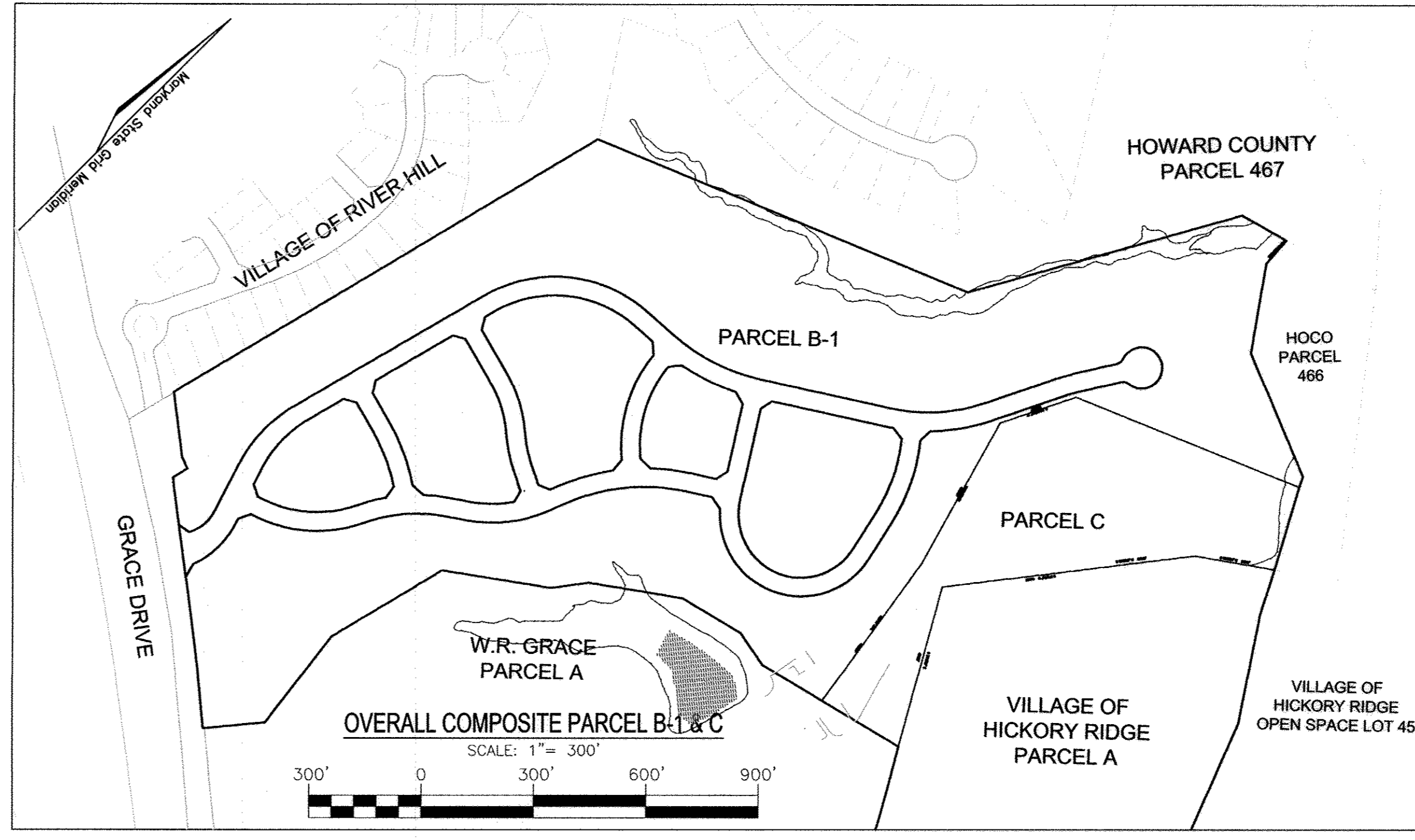
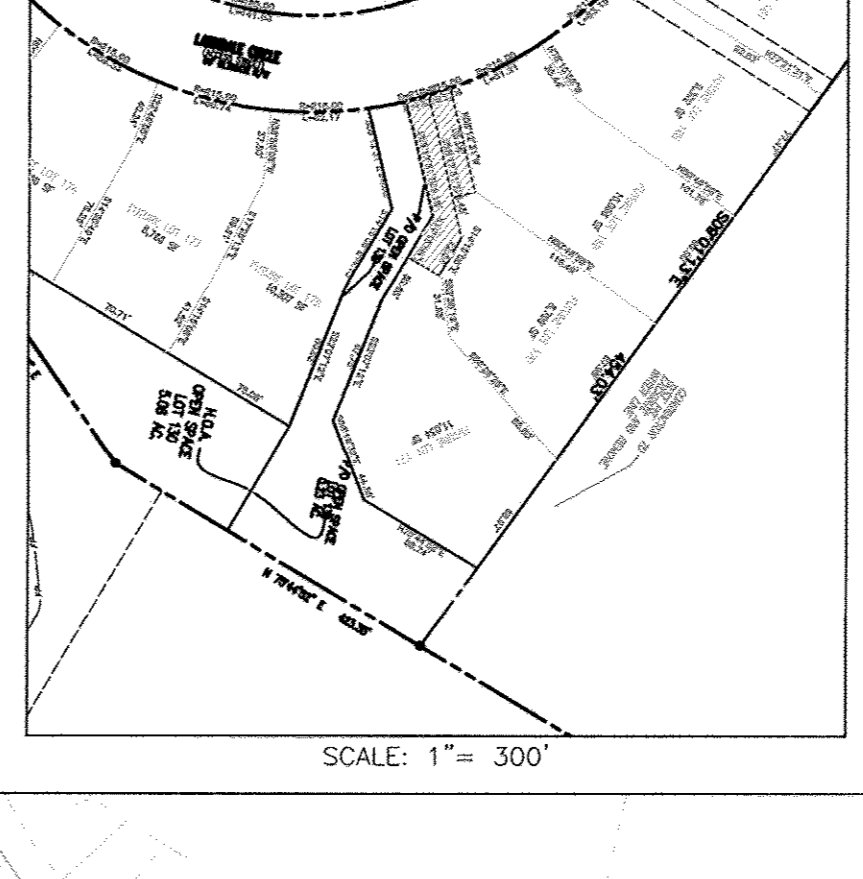
- A. PERMITTED USES:
-SINGLE FAMILY ATTACHED DWELLING UNITS
-SINGLE FAMILY DETACHED DWELLING UNITS
- B. ACCESSORY USES:
THE FOLLOWING ARE PERMITTED ACCESSORY USES IN THIS CEF-R DISTRICT. MORE THAN ONE ACCESSORY USE SHALL BE PERMITTED ON A LOT, PROVIDED THAT THE COMBINATION OF ACCESSORY USES REMAINS SECONDARY, INCIDENTAL, AND SUBORDINATE TO THE PRINCIPAL USE.
1. ANY USE NORMALLY AND CUSTOMARILY INCIDENTAL TO SINGLE FAMILY DETACHED AND SINGLE FAMILY ATTACHED DWELLINGS. ACCESSORY STRUCTURES ARE SUBJECT TO THE REQUIREMENT OF HOWARD COUNTY ZONING REGULATIONS SECTION 128.0.A.
2. THE HOUSING BY A RESIDENT FAMILY OF:
a. NOT MORE THAN FOUR NON-TRANSIENT ROOMERS OR BOARDERS; OR
b. NOT MORE THAN EIGHT MENTALLY AND/OR PHYSICALLY DISABLED PERSON OR PERSON 62 YEARS OF AGE OR OLDER, PROVIDED THE USE IS REGISTERED, LICENSED OR CERTIFIED BY THE STATE OF MARYLAND, OR
c. A COMBINATION OF A AND B ABOVE, PROVIDED THAT THE TOTAL NUMBER OF PERSONS HOUSED IN ADDITION TO THE RESIDENT FAMILY DOES NOT EXCEED EIGHT
3. HOME OCCUPATIONS, SUBJECT TO THE REQUIREMENTS OF HOWARD COUNTY ZONING REGULATIONS SECTION 128.0.C.
4. HOME CARE, PROVIDED THAT IF HOME CARE IS COMBINED WITH HOUSING OF MENTALLY OR PHYSICALLY DISABLED PERSONS OR PERSONS 62 YEARS OF AGE OR OLDER, AS ALLOWED BY PARAGRAPH 2.B ABOVE, THE TOTAL NUMBER OF PERSONS RECEIVING HOME CARE AT ANY ONE TIME PLUS THE NUMBER OF PERSONS BEING HOUSED SHALL NOT EXCEED EIGHT.
5. SMALL WIND ENERGY SYSTEM, BUILDING MOUNTED, ON SINGLE FAMILY DETACHED DWELLINGS, SUBJECT TO THE REQUIREMENTS OF HOWARD COUNTY ZONING REGULATIONS SECTION 128.0.L.
6. ACCESSORY SOLAR COLLECTORS
- C. GENERAL BULK REGULATIONS (PARCEL 145, B-1 & C ONLY):

GENERAL BULK REGULATIONS (PARCEL 145, B-1 & C ONLY):	REQUIRED 2.75 DWELLING UNITS/ GROSS ACRE	PROVIDED 2.75 DWELLING UNITS/ GROSS ACRE
1. MAXIMUM DENSITY:	105'	105'
2. PRINCIPAL STRUCTURE (SEE ITEM D):	105'	105'
a. FROM EXTERNAL PROPERTY LINES (ADJACENT TO SFU UNITS):	105'	105'
b. FROM EXTERNAL PROPERTY LINES (ADJACENT TO ALL OTHERS):	50'	50'
c. FROM EXTERNAL RIGHTS-OF-WAYS:	50'	50'
3. MINIMUM DISTANCE BETWEEN SINGLE FAMILY ATTACHED BUILDINGS AND SINGLE FAMILY DETACHED BUILDINGS:		
a. FACE TO FACE:	30'	30'
b. FACE TO SIDE/REAR TO SIDE:	15'	15'
c. SIDE TO SIDE:	15'	15'
d. REAR TO REAR:	50'	50'
e. REAR TO FACE:	100'	100'
D. SINGLE FAMILY DETACHED BULK REGULATIONS (PARCEL 145, B-1 & C ONLY):		
1. MINIMUM LOT SIZE:	7,200 SF	7,200 SF
2. MINIMUM WIDTH AT BUILDING RESTRICTION LINES:	60'	60'
3. BUILDING SETBACKS (SEE ITEM I):		
a. FRONT:	20'	20'
b. SIDE (CORNER LOTS):	15'	15'
i. FROM RIGHT-OF-WAY:	15'	15'
ii. TOTAL OF BOTH SIDE YARDS:	25'	20'
c. SIDE (INTERIOR LOTS):	7.5'	7.5'
i. TOTAL OF BOTH SIDE YARDS:	15'	15'
d. REAR - PRINCIPAL STRUCTURE:	30'	30'
e. REAR - ACCESSORY STRUCTURE:	10'	10'
4. USES SETBACK:	0'	0'
*USES INCLUDE DRIVEWAYS, PATIOS, AND LANDSCAPE STRUCTURES (PERGOLAS AND ARBORS INCLUDED)		
5. MAXIMUM HEIGHT:		
a. PRINCIPAL STRUCTURE:	34'	34'
b. ACCESSORY STRUCTURES:	15'	15'
c. (HOWEVER, THE MAXIMUM HEIGHT FOR PRINCIPAL STRUCTURES WITH GABLE, HIP, OR GAMBREL ROOFS SHALL BE 40')		
E. SINGLE FAMILY ATTACHED BULK REGULATIONS (PARCEL 145, B-1 & C ONLY):		
1. MINIMUM LOT SIZE:	1,840 SF	1,840 SF
2. MAXIMUM UNITS PER STRUCTURE:	7 UNITS	7 UNITS
3. BUILDING SETBACKS (SEE ITEM I):		
a. FRONT:	20'	20'
b. SIDE (ADJACENT TO RIGHT-OF-WAY):	20'	20'
c. SIDE (EXTERNAL LOT LINE):	0'	0'
d. SIDE (INTERNAL LOT LINE):	0'	0'
e. REAR - PRINCIPAL STRUCTURE:	20'	20'
f. REAR - ACCESSORY STRUCTURE:	10'	10'
4. MAXIMUM HEIGHT:		
a. PRINCIPAL STRUCTURE:	40'	40'
b. ACCESSORY STRUCTURES:	15'	15'
5. MAXIMUM LOT COVERAGE:	60%	60%
6. MAXIMUM BUILDING LENGTH:	180'	180'
7. SIDE SETBACKS FOR DECKS & PORCHES:		
a. INTERNAL LOT LINE:	1'	1'
b. EXTERNAL LOT LINE:	5'	5'
F. OPEN SPACE:		
PARCEL 145, B-1 & C:	31.88 AC.	4.90 AC. TOTAL REC AREA
PARCEL 412 - PARCEL 413:	31.39 AC.	
G. ON-SITE AMENITY AREA/RECREATIONAL AREA:	1,000 SF/UNIT (4.22 AC.)	4.90 AC. TOTAL REC AREA
(184 UNITS x 1,000 SF = 184,000 SF or 4.22 ACRES)		
(2.57 OPEN RECREATIONAL AREA PLUS 2.33 AC. TRAIL ON PARCELS 145, B-1 & C AND PARCEL 412-PARCEL A)		
H. MHU (MODERATE INCOME HOUSING UNITS):	10% (19 UNITS)	10% (19 SFA UNITS)
I. CERTAIN EXCEPTIONS TO SETBACKS ARE APPLICABLE PURSUANT TO HOWARD COUNTY ZONING REGULATIONS, SECTION 128.0.A.1.		



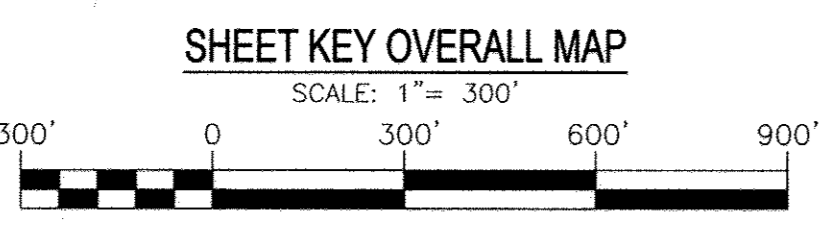
MINIMUM LOT SIZE CHART

LOT #	GROSS AREA	PIPESTEM AREA	NET AREA
18	12,505 SF	1,672 SF	10,833 SF
19	14,568 SF	2,453 SF	12,115 SF
20	12,274 SF	1,627 SF	10,647 SF
170	8,799 SF	860 SF	8,139 SF
171	11,034 SF	1,276 SF	9,758 SF
190	15,368 SF	1,183 SF	14,185 SF
191	11,973 SF	1,093 SF	10,880 SF



OWNER / DEVELOPER
T.M. 35 - P.148 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
(410) 531-3900

OWNER
T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Nadine J. Ali
PLANNING DIRECTOR

10-5-17
DATE

NO.	REVISION	DATE

PRELIMINARY PLAN
OVERALL SITE LAYOUT PLAN & DETAILS

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
AND
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 ZONED: CEF-R PARCEL 145
TAX MAP 35 GRID 16 ZONED: NT PARCEL 412
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 1983 EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RH/EJS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

2 SHEET OF 39

ROBERT H. VOGEL, PE No.16193

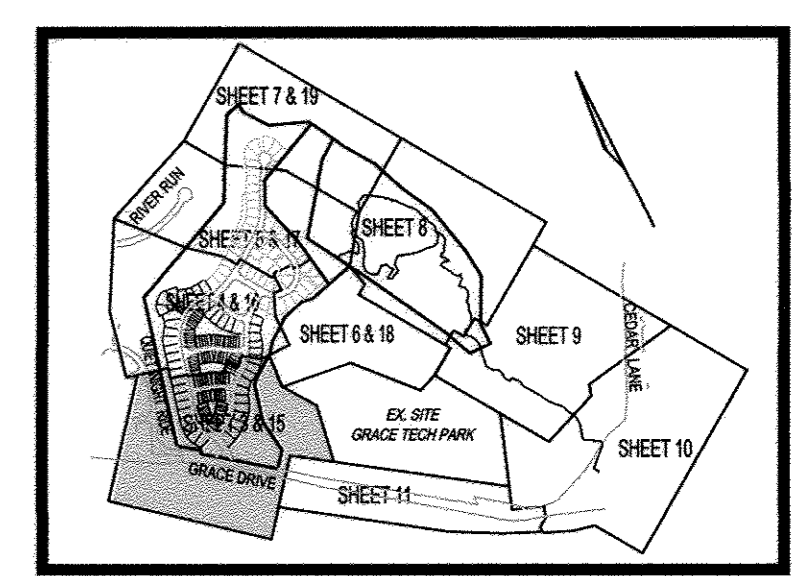
LEGEND:

EXISTING CURB AND GUTTER	EXISTING TREELINE (FIELD LOCATED)	PROP. 10' TREE MAINTENANCE EASEMENT
EXISTING LIGHT POLE	EXISTING STERAM	PROP. 6' NEIGHBORHOOD PATHWAY
EXISTING MAILBOX	EXISTING WETLAND	AMENITIES AREA
EXISTING SIGN	EXISTING WETLAND BUFFER	
EXISTING SANITARY MANHOLE	EXISTING FENCE	
EXISTING SANITARY LINE	PROPERTY LINE	
EXISTING CLEANOUT	RIGHT-OF-WAY LINE	
EXISTING FIRE HYDRANT	8' BIKEWAY	
EXISTING WATER LINE	PROPOSED CURB	
EXISTING STORM DRAIN		
EX. ELECTRIC CONDUIT		
EX. ZONING LINE		
PROP. 5' SIDEWALK		

EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE	EX. MONITORING WELL	PUBLIC DRAINAGE AND UTILITY EASEMENT
		PRIVATE DRAINAGE AND UTILITY EASEMENT
		MICRO BIORETENTION AREA
		FOREST CONSERVATION AREA (REFORESTATION)
		FOREST CONSERVATION AREA (RETENTION)

SECTION A-A
SECTION B-B
ELEVATION
SECTION

Model: 8335
Outdoor Mail Unit
© 2008
Salsbury Industries, Inc.
Established in 1906, Salsbury Industries is the industry leader in manufacturing and distributing quality mailboxes.



- CBU BOX LOCATIONS:** SUBJECT TO CHANGE
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 4 TO SERVE LOTS 1 - 6, 65-70.
 - ONE 22 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 68 TO SERVE LOTS 56 - 64 & 71 - 82.
 - ONE 16 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 43 TO SERVE LOTS 40 - 55.
 - ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 37 TO SERVE LOTS 34 - 39 & 83 - 88.
- TYPICAL CENTRAL MAIL DELIVERY BOX (CBU) OR APPROVED EQUAL**



SALSBUURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBUURY 3000 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. "M" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 10DSQ-08-B-0026



CURVE TABLE

CURVE	STA. TO STA.	ARC	RADIUS	TANGENT	DELTA	CHORD
00	0+10.97-1+84.32	173.35'	175.00'	94.53'	56°45'16"	N09°08'30"E 166.35'
01	3+21.23-5+29.63	208.40'	350.00'	107.39'	34°06'56"	S02°10'31"E 205.33'
06	0+71.80-3+51.28	278.48'	350.00'	147.67'	45°45'05"	N48°04'27"E 272.11'
07	3+51.28-5+81.34	230.06'	435.00'	117.79'	30°18'09"	S40°20'50"W 227.39'
08	6+41.27-8+51.90	210.63'	350.00'	108.61'	34°28'49"	N38°15'39"E 207.46'
010	1+39.44-3+58.43	218.22'	475.00'	111.07'	26°19'20"	N81°57'24"W 216.30'

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-556-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR: *Valerio*
DATE: 10-5-17

PRELIMINARY LAYOUT PLAN

MD RT. 32 - WB
STATE PUBLIC PRINCIPAL ARTERIAL ROADWAY
(R/W WIDTH VARIES FROM 332' TO 564' ALONG SITE FRONTAGE)

SCALE: 1"=50'

NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULKY PARCELS A-F
RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRD 21
TAX MAP 35 GRD 16
5TH ELECTION DISTRICT

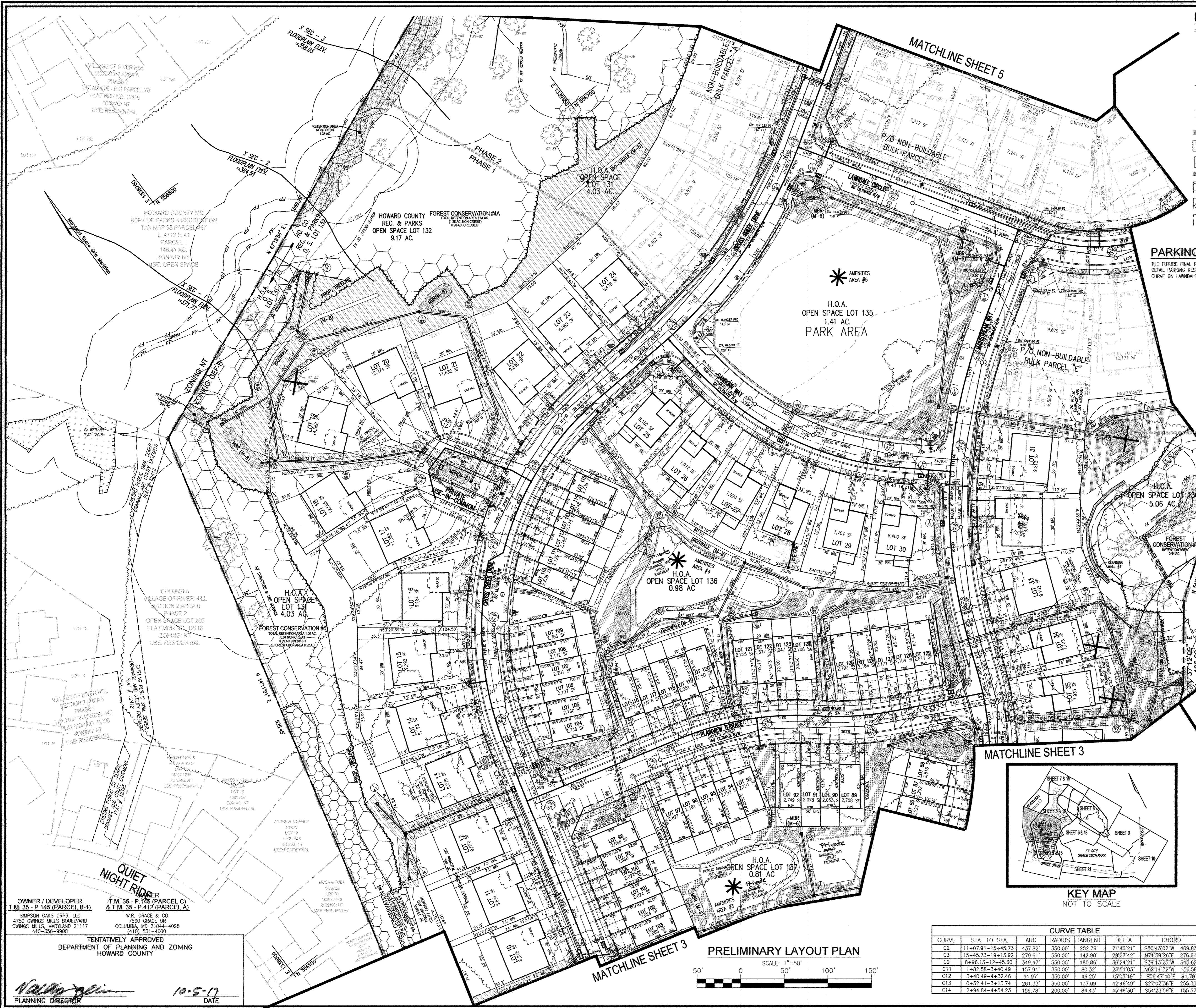
PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
DRAWN BY: MCL/KJC
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 1E193
EXPIRATION DATE: 09-27-2018

3 SHEET OF 39



LEGEND:

EXISTING CURB AND GUTTER	EXISTING TREE LINE (FIELD LOCATED)
EXISTING UTILITY POLE	EXISTING STERAM
EXISTING LIGHT POLE	EXISTING STERAM BUFFER
EXISTING MAILBOX	EXISTING WETLAND
EXISTING SIGN	EXISTING WETLAND BUFFER
EXISTING SANITARY MANHOLE	EXISTING FENCE
EXISTING SANITARY LINE	PROPERTY LINE
EXISTING CLEANOUT	RIGHT-OF-WAY LINE
EXISTING FIRE HYDRANT	EXISTING FLOOD PLAN
EXISTING WATER LINE	PROPOSED CURB
EXISTING STORM DRAIN	
EX. ELECTRIC CONDUIT	
EX. ZONING LINE	
PROP. 6' NEIGHBORHOOD PATHWAY	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
PROP. 5' SIDEWALK	EX. MONITORING WELL
PHASE LINE	PUBLIC DRAINAGE AND UTILITY EASEMENT
FOREST CONSERVATION AREA (REFORESTATION)	PRIVATE DRAINAGE AND UTILITY EASEMENT
FOREST CONSERVATION AREA (RETENTION)	MICRO BIORETENTION AREA
PROP. 10' TREE MAINTENANCE EASEMENT	

PARKING RESTRICTION:
THE FUTURE FINAL ROAD CONSTRUCTION PLAN WILL DETAIL PARKING RESTRICTIONS ALONG THE INSIDE CURVE ON LAWNDALE CIRCLE

STREET LIGHT LOCATIONS

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
CROSS CREEK DRIVE	8+40	17' L	
CROSS CREEK DRIVE	12+40	17' L	
CROSS CREEK DRIVE	13+92/15+35	17' L/17' R	
CROSS CREEK DRIVE	18+52	17.5' R	
CROSS CREEK DRIVE	19+43	17' L	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
LAWNDALE CIRCLE	1+55	17' L	
PLAINVIEW TERRACE	3+14	16.5' R	
PLAINVIEW TERRACE	0+28	20' R	
PLAINVIEW TERRACE	1+24	17' L	
PLAINVIEW TERRACE	3+57	16' L	
MAINSTREAM WAY	7+90/9+67	18'/16.5' L	
MAINSTREAM WAY	12+38	17' R	
SANBORN WAY	0+28	18' L	
SANBORN WAY	1+86	15' R	
SANBORN WAY	3+48	17' L	

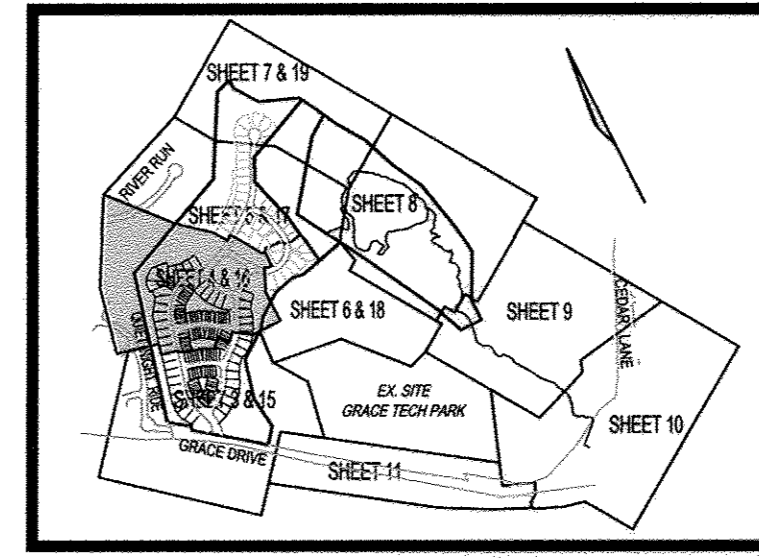
SIGNAGE LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
MAINSTREAM WAY	13+28	17' R	R1-1 STOP SIGN
LAWNDALE CIRCLE	0+33	17' L	R1-1 STOP SIGN
PLAINVIEW TERRACE	0+29	18' L	R1-1 STOP SIGN
PLAINVIEW TERRACE	5+00	16' R	R1-1 STOP SIGN
SANBORN WAY	0+33	16' L	R1-1 STOP SIGN
SANBORN WAY	3+49	16' R	R1-1 STOP SIGN

CBU BOX LOCATIONS: SUBJECT TO CHANGE

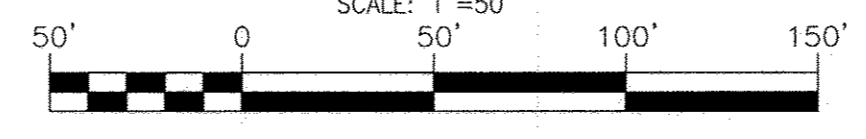
- ONE 24 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 125 TO SERVE LOTS 89 - 97 & 116 - 129.
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 111 TO SERVE LOTS 7 - 12 & 88 - 103.
- ONE 16 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 109 TO SERVE LOTS 13 - 16 & 104 - 115.
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR LOT 22 TO SERVE LOTS 17 - 24.
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR THE SE CORNER OF OPEN SPACE LOT 135 TO SERVE LOTS 25 - 30 & 31 - 33.

MATCHLINE SHEET 3



KEY MAP NOT TO SCALE

PRELIMINARY LAYOUT PLAN



CURVE TABLE

CURVE	STA. TO STA.	ARC	RADIUS	TANGENT	DELTA	CHORD
C2	11+07.91-15+45.73	437.82'	350.00'	252.76'	71°40'21"	550'43.07' W 409.83'
C3	15+45.73-19+13.92	279.61'	550.00'	142.90'	29°07'42"	N71°59'26" W 276.61'
C9	8+96.13-12+45.60	349.47'	550.00'	180.86'	36°24'21"	S39°13'25" W 343.62'
C11	1+82.58-3+40.49	157.91'	350.00'	80.32'	26°51'03"	N62°11'32" W 156.58'
C12	3+40.49-4+32.46	91.97'	350.00'	46.25'	15°03'19"	S56°47'40" E 91.70'
C13	0+52.41-3+13.74	261.33'	350.00'	137.09'	42°46'49"	S27°07'36" E 255.30'
C14	2+94.84-4+54.23	159.78'	200.00'	84.43'	45°46'30"	S54°23'59" E 155.57'

OWNER / DEVELOPER
T.M. 35 - P. 143 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR
10-5-17
DATE

NO. _____ REVISION _____ DATE _____

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RECONFIGURATION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

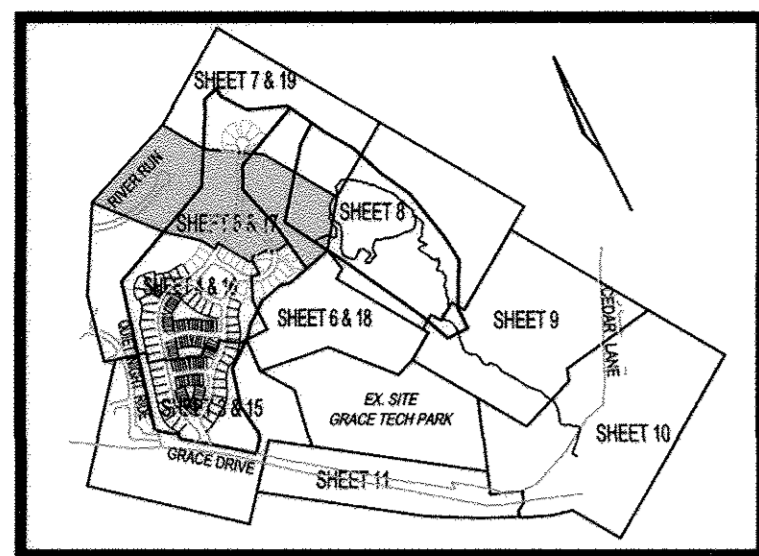
TAX MAP 35 GRID 21 PARCEL 142 5TH ELECTION DISTRICT
ZONED: CEF-R
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
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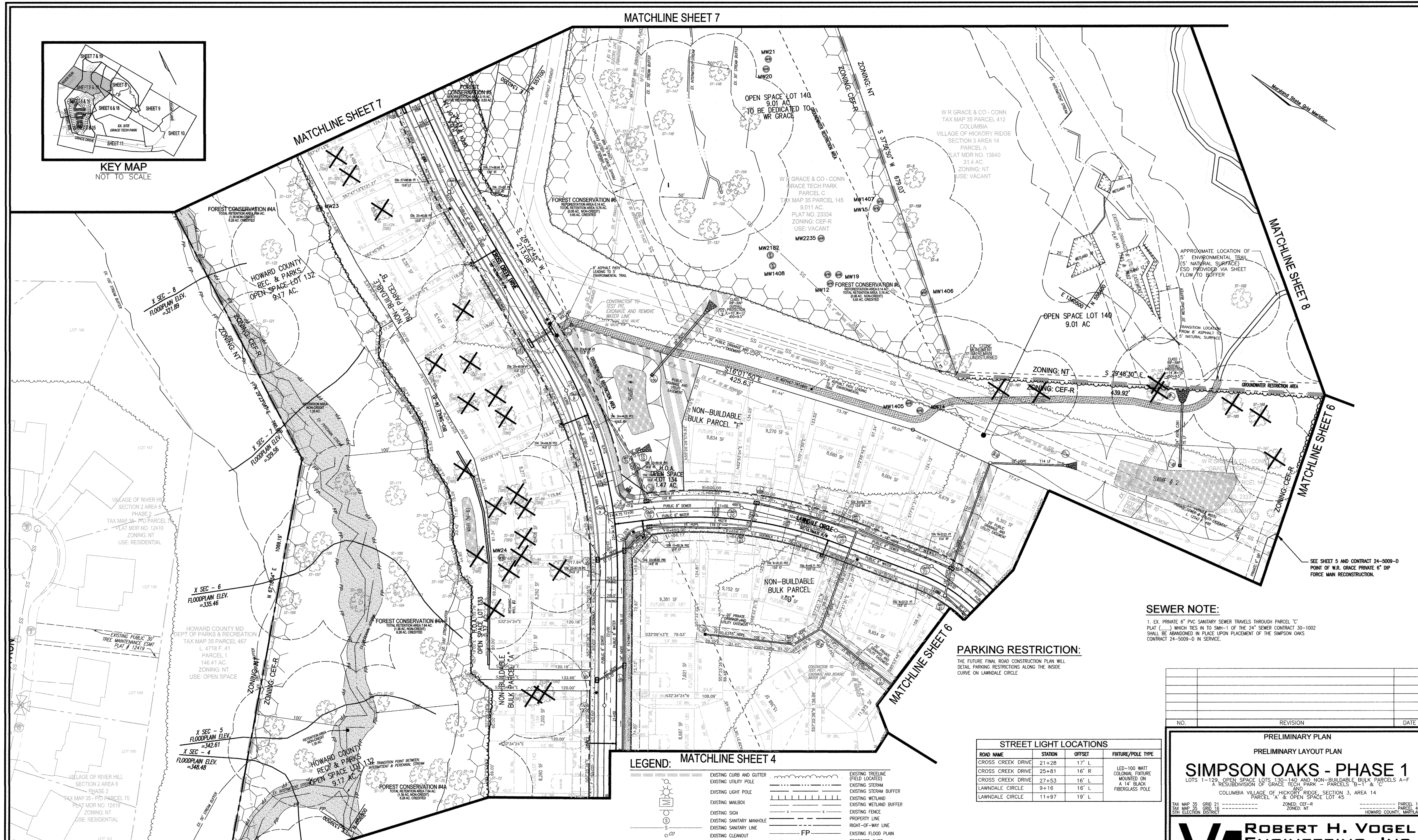
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS.
DRAWN BY: MDL/KJG.
CHECKED BY: RHY.
DATE: SEPTEMBER 2017.
SCALE: AS SHOWN.
W.O. NO.: 15-55

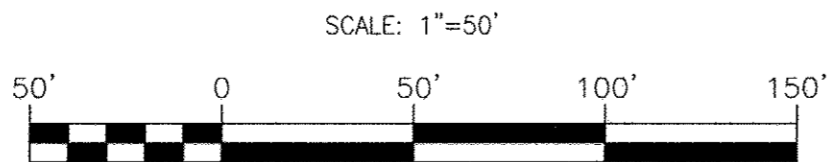
4 SHEET OF 39



KEY MAP
NOT TO SCALE



PRELIMINARY LAYOUT PLAN



LEGEND: MATCHLINE SHEET 4

- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANDOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- EXISTING SPECIMEN TREES
- SIDEWALK (5' OR 6')
- 8" ASPHALT PATH
- PROP. 10" TREE MAINTENANCE EASEMENT
- PROP. 6" NEIGHBORHOOD PATHWAY
- EXISTING TRENCH (FIELD LOCATED)
- EXISTING STERAM
- EXISTING STERAM BUFFER
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING FLOOD PLAN
- PROPOSED CURB
- EXISTING MONITOR WELLS
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- MICRO BIORIENTATION AREA
- FOREST CONSERVATION AREA (RESTORATION)
- FOREST CONSERVATION AREA (RETENTION)
- CONCEPT LOD
- CONCEPT LOD

PARKING RESTRICTION:

THE FUTURE FINAL ROAD CONSTRUCTION PLAN WILL DETAIL PARKING RESTRICTIONS ALONG THE INSIDE CURVE ON LAWNDALE CIRCLE

STREET LIGHT LOCATIONS

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
CROSS CREEK DRIVE	21+28	17' L	
CROSS CREEK DRIVE	25+81	16' R	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
CROSS CREEK DRIVE	27+53	16' L	
LAWNDALE CIRCLE	9+16	16' L	
LAWNDALE CIRCLE	11+97	19' L	

SIGNAGE LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
LAWNDALE CIRCLE	11+94	17' R	R1-1 STOP SIGN

CURVE TABLE

CURVE	STA. TO STA.	ARC	RADIUS	TANGENT	DELTA	CHORD
C4	22+67.70 - 25+40.09	272.40'	500.00'	139.67'	31°12'51"	N41°49'10"E 269.04'
C5	27+52.00 - 27+88.66	36.66'	350.00'	18.34'	6°00'02"	S29°12'46"W 36.84'
C16	9+51.85 - 11+80.26	228.40'	475.00'	116.45'	27°33'02"	N26°25'00"W 226.21'

SEWER NOTE:

1. EX. PRIVATE 6" PVC SANITARY SEWER TRAVELS THROUGH PARCEL "C" PLAT () WHICH TIES IN TO SMH-11 OF THE 24" SEWER CONTRACT 30-1002 SHALL BE ABANDONED IN PLACE UPON PLACEMENT OF THE SIMPSON OAKS CONTRACT 24-5009-D IN SERVICE.

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRD 21 PARCEL 145
5TH ELECTION DISTRICT
ZONED: CEF-R
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS.
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

5 SHEET OF 39

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRPS, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-306-9500

OWNER
T.M. 35 - P. 145 (PARCEL C)
& T.M. 35 - P. 212 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

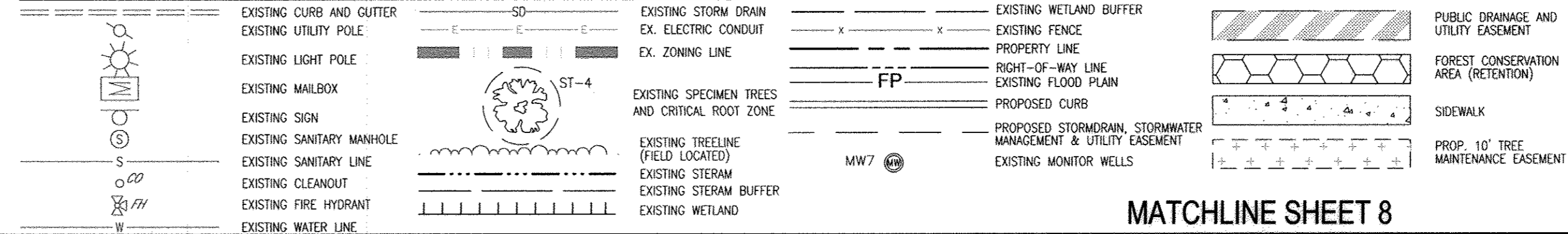
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valley
PLANNING DIRECTOR

10-5-17
DATE

CURVE TABLE					
CURVE	STA. TO STA.	ARC RADIUS	TANGENT	DELTA	CHORD
C15	4+84.23 - 8+39.35	382.53'	190.00'	300.28'	115°21'15"
					N45°02'09"E 321.12'

LEGEND:



SEWER NOTE:

1. EX. PRIVATE 6" PVC SANITARY SEWER TRAVELS THROUGH PARCEL "C" PLAT () WHICH TIES IN TO SMH-1 OF THE 24" SEWER CONTRACT 30-1002 SHALL BE ABANDONED IN PLACE UPON PLACEMENT OF THE SIMPSON OAKS CONTRACT 24-5009-D IN SERVICE.

NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

PRIVATE "GRACE" POND MD 378 HAZARD CLASSIFICATION "A" P-3 WET EXTENDED DETENTION FACILITY OWNED BY WR GRACE CO. MAINTAINED BY WR GRACE CO.

WR GRACE NOTE:

- EXISTING PAVEMENT ACROSS THE POND SHALL BE REPLACED AS REQUIRED AT CONCLUSION OF POND RECONSTRUCTION.
- EXISTING PAVEMENT ACCESS WILL SERVE AS MAINTENANCE ACCESS FOR PONDS:
 - WR GRACE RECONSTRUCTION
 - POND # 2

PARKING RESTRICTION:

THE FUTURE FINAL ROAD CONSTRUCTION PLAN WILL DETAIL PARKING RESTRICTIONS ALONG THE INSIDE CURVE ON LAWNDALE CIRCLE

STREET LIGHT LOCATIONS			
ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
LAWNDALE CIRCLE	5+19	16.5' R	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE
LAWNDALE CIRCLE	7+14	15' R	

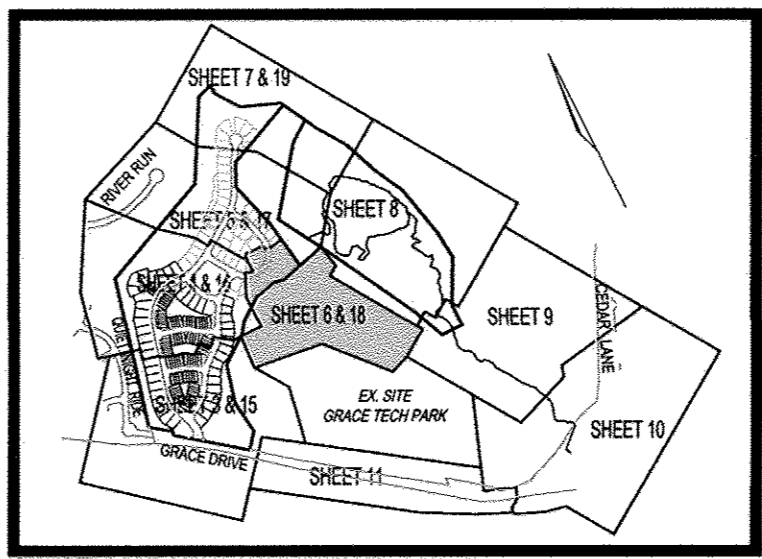
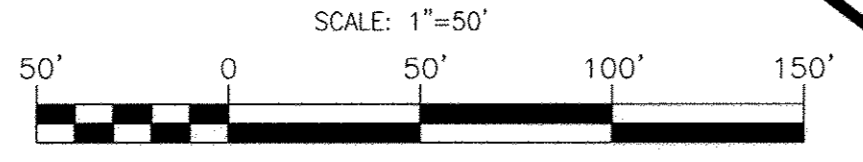
OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-358-9900

OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-0000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Nathan J. J. [Signature]
PLANNING DIRECTOR
10-5-17
DATE

PRELIMINARY LAYOUT PLAN



KEY MAP
NOT TO SCALE

NO.	REVISION	DATE

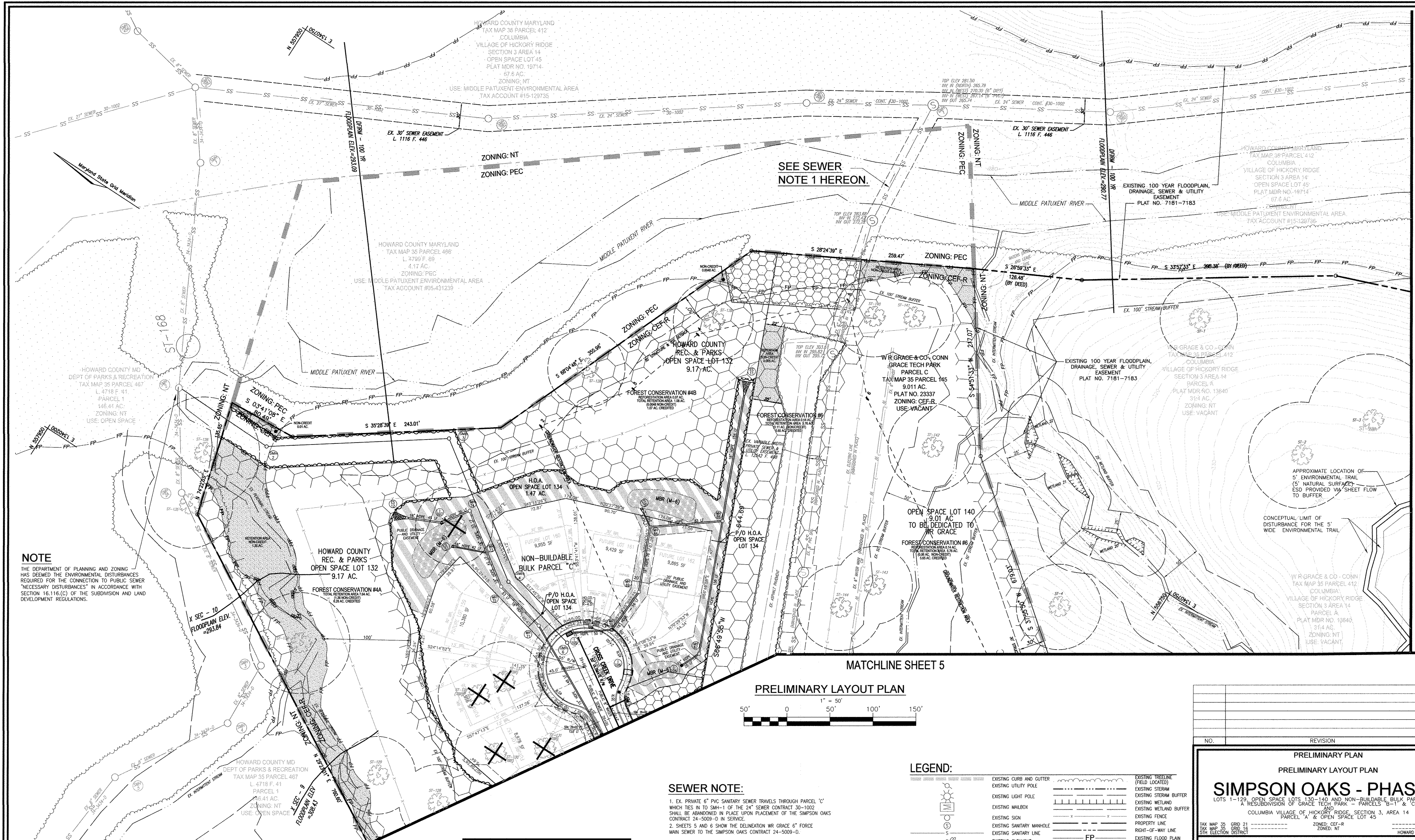
PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45
TAX MAP 35 GRID 21 PARCEL 145
TAX MAP 35 GRID 15 PARCEL 412
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
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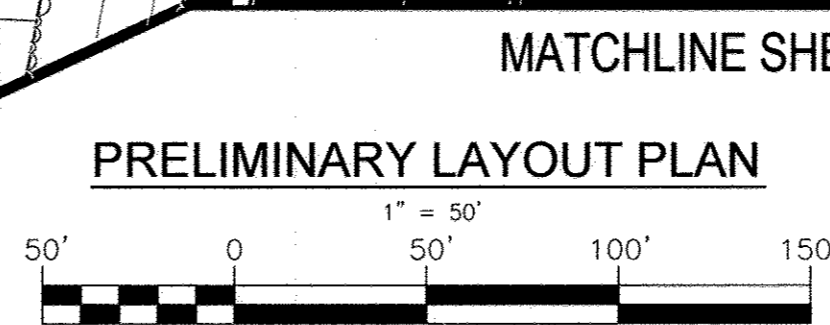
DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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6 SHEET OF 39



NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



SEWER NOTE:

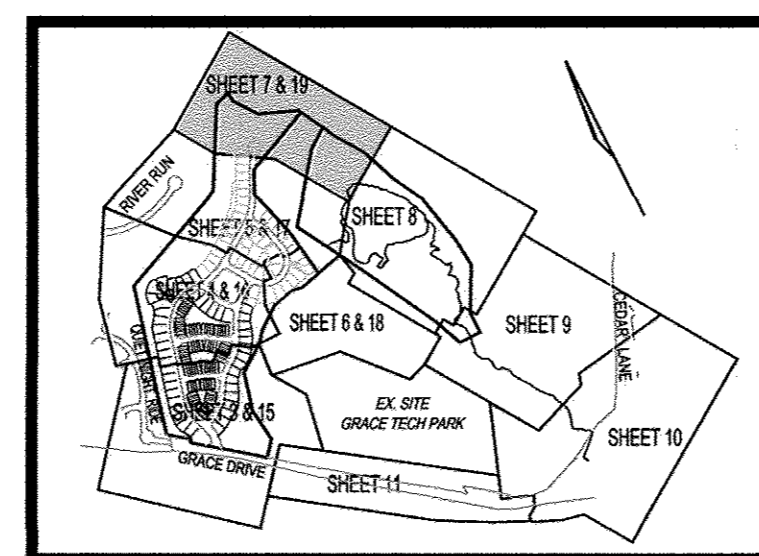
- EX. PRIVATE 6" PVC SANITARY SEWER TRAVELS THROUGH PARCEL 'C' WHICH TIES IN TO SMH-1 OF THE 24" SEWER CONTRACT 30-1002 SHALL BE ABANDONED IN PLACE UPON PLACEMENT OF THE SIMPSON OAKS CONTRACT 24-5009-D IN SERVICE.
- SHEETS 5 AND 6 SHOW THE DELINEATION WR GRACE 6" FORCE MAIN SEWER TO THE SIMPSON OAKS CONTRACT 24-5009-D.

LEGEND:

	EXISTING CURB AND GUTTER		EXISTING TREE LINE (FIELD LOCATED)
	EXISTING UTILITY POLE		EXISTING STREAM
	EXISTING LIGHT POLE		EXISTING STREAM BUFFER
	EXISTING MAILBOX		EXISTING WETLAND
	EXISTING SIGN		EXISTING WETLAND BUFFER
	EXISTING SANITARY MANHOLE		EXISTING FENCE
	EXISTING SANITARY LINE		PROPERTY LINE
	EXISTING CLEANOUT		EXISTING FLOOD PLAN
	EXISTING FIRE HYDRANT		PROPOSED CURB
	EXISTING WATER LINE		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
	EXISTING STORM DRAIN		PUBLIC DRAINAGE AND UTILITY EASEMENT
	EX. ELECTRIC CONDUIT		MICRO BIORETENTION AREA
	EX. ZONING LINE		EX. 100 YEAR FLOODPLAIN DRAINAGE, SEWER, AND UTILITY EASEMENT
	SIDEWALK		5' ENVIRONMENTAL TRAIL
	FOREST CONSERVATION AREA (REFORESTATION)		
	FOREST CONSERVATION AREA (RETENTION)		
	PROP. 10' TREE MAINTENANCE EASEMENT		
	CONCEPT LOD		

STREET LIGHT LOCATIONS

ROAD NAME	STATION	OFFSET	FIXTURE/POLE TYPE
CROSS CREEK DRIVE	29+23	24' R	LED-100 WATT COLONIAL FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE



KEY MAP
NOT TO SCALE

MATCHLINE SHEET 5

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-558-9900

OWNER
T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie J. J...
PLANNING DIRECTOR

10-5-17
DATE

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS 5-11 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
TAX MAP 35 GRID 18
5TH ELECTION DISTRICT

ZONED: CEF-R
ZONING: NT
PARCEL 145
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
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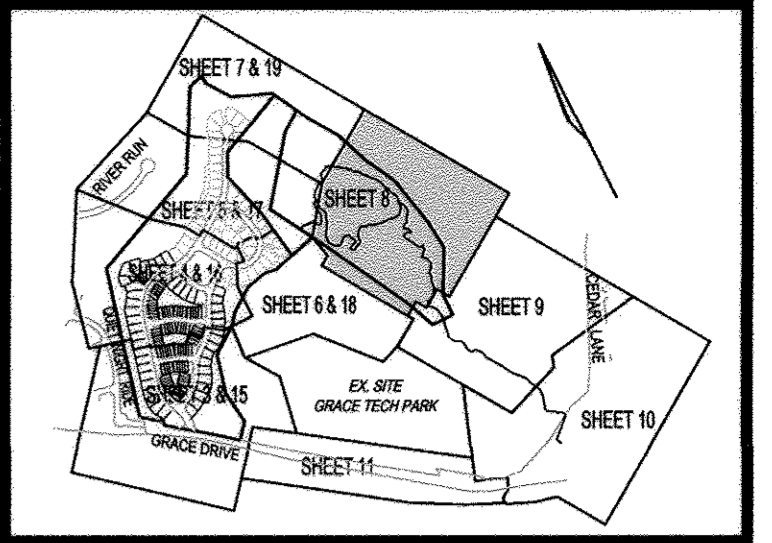
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DRAWN BY: MDL/KG
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DATE: SEPTEMBER 2017
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W.O. NO.: 15-55

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7 SHEET OF 39

ROBERT H. VOGEL, PE No.16193

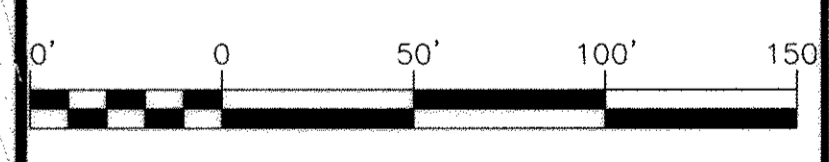


KEY MAP
NOT TO SCALE

LEGEND:

- 399- EXISTING CONTOUR
- 398- PROPOSED CONTOUR
- 402.00' EXISTING SPOT ELEVATION
- - - - - EXISTING CURB AND GUTTER
- - - - - EXISTING UTILITY POLE
- ☀ EXISTING LIGHT POLE
- ☐ EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- - - - - EXISTING SANITARY LINE
- - - - - EXISTING CLEANOUT
- - - - - EXISTING FIRE HYDRANT
- - - - - EXISTING WATER LINE
- - - - - EXISTING STORM DRAIN
- - - - - EX. ELECTRIC CONDUIT
- - - - - EX. ZONING LINE
- - - - - EXISTING TREELINE (FIELD LOCATED)
- - - - - EXISTING STREAM
- - - - - EXISTING STREAM BUFFER
- - - - - EXISTING WETLAND
- - - - - EXISTING WETLAND BUFFER
- - - - - EXISTING FENCE
- - - - - PROPERTY LINE
- - - - - RIGHT-OF-WAY LINE
- - - - - EXISTING FLOOD PLAN
- - - - - PROPOSED CURB
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- 5' ENVIRONMENTAL TRAIL
- CONCEPT LOD
- CONCEPT LOD

PRELIMINARY LAYOUT PLAN
SCALE: 1"=50'



NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN

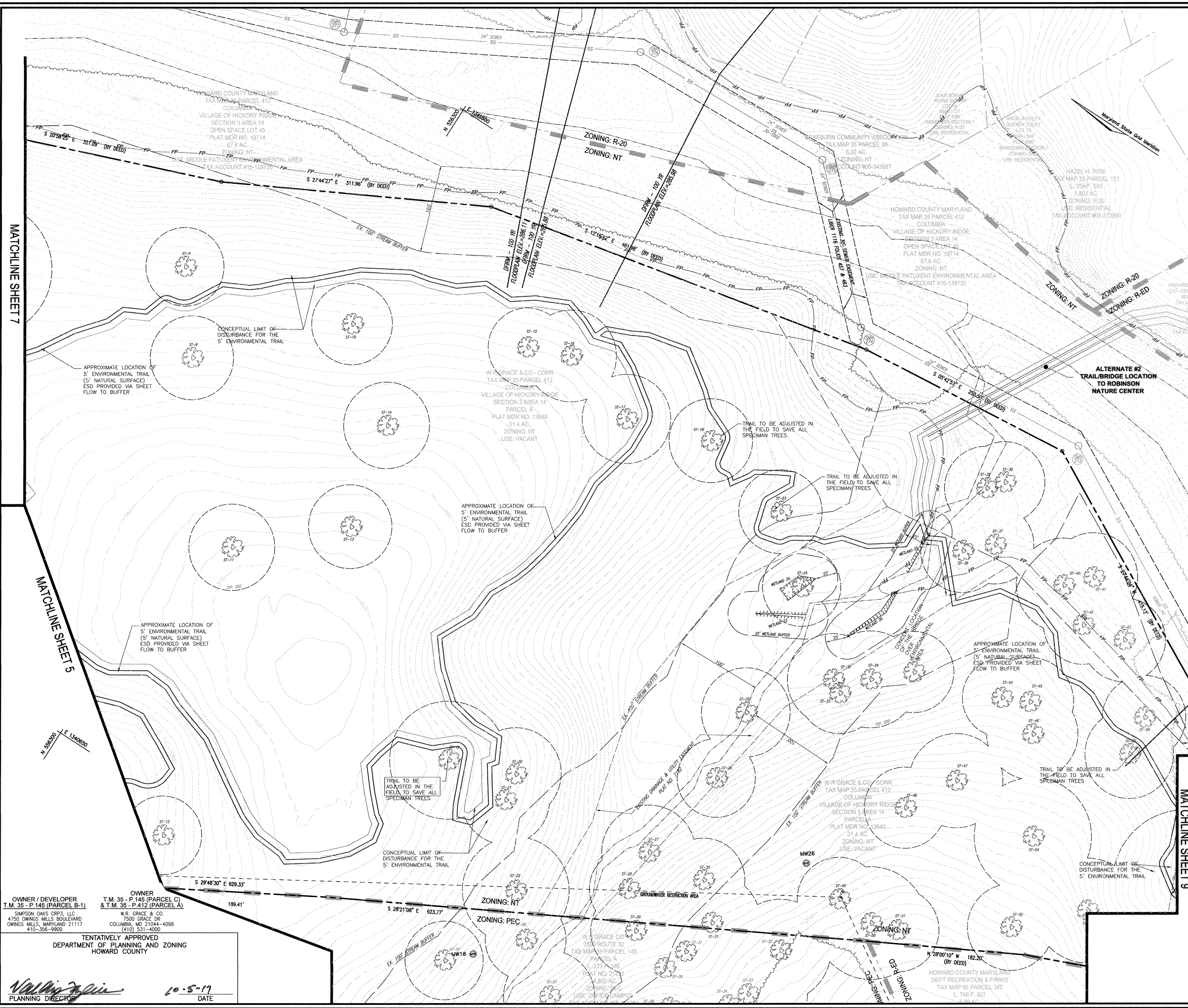
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-11 & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL A & OPEN SPACE LOT 45
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18193 EXPIRATION DATE: 09-27-2018

8 SHEET OF 39



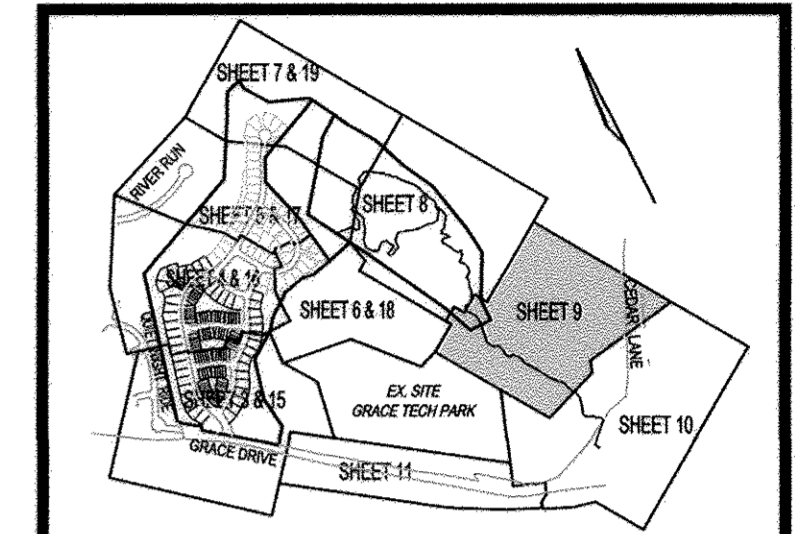
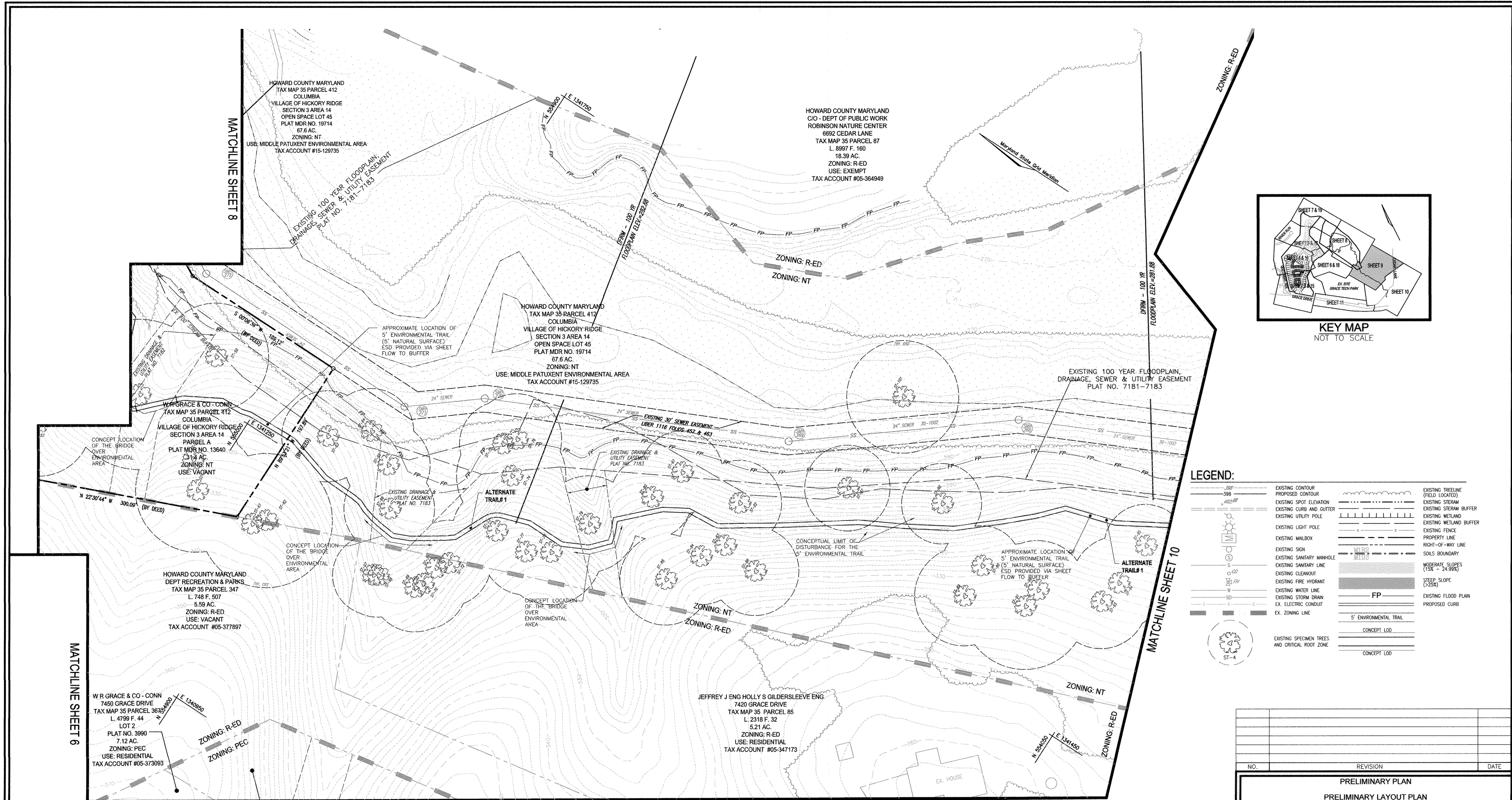
OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS GRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-0000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

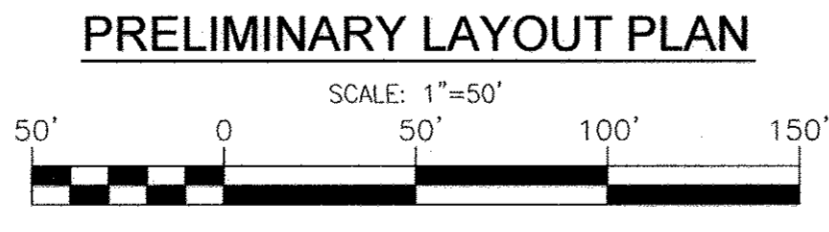
10-5-17
 DATE

Valerie J. ...
 PLANNING DIRECTOR



LEGEND:

	EXISTING CONTOUR		EXISTING TREELINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		MODERATE SLOPES (15% - 24.99%)
	EXISTING CLEANOUT		STEEP SLOPE (>25%)
	EXISTING FIRE HYDRANT		EXISTING FLOOD PLAN
	EXISTING WATER LINE		PROPOSED CURB
	EXISTING STORM DRAIN		5' ENVIRONMENTAL TRAIL
	EX. ELECTRIC CONDUIT		CONCEPT LOD
	EX. ZONING LINE		CONCEPT LOD
	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE		CONCEPT LOD



NO.	REVISION	DATE

PRELIMINARY PLAN
 PRELIMINARY LAYOUT PLAN
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH. PARK - PARCELS B-1 & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
 TAX MAP 35 GRID 18 PARCEL 112
 5TH ELECTION DISTRICT

ZONED: DEF-R
 ZONED: NT

PARCEL 145
 PARCEL 112
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16163, EXPIRATION DATE: 09-27-2018

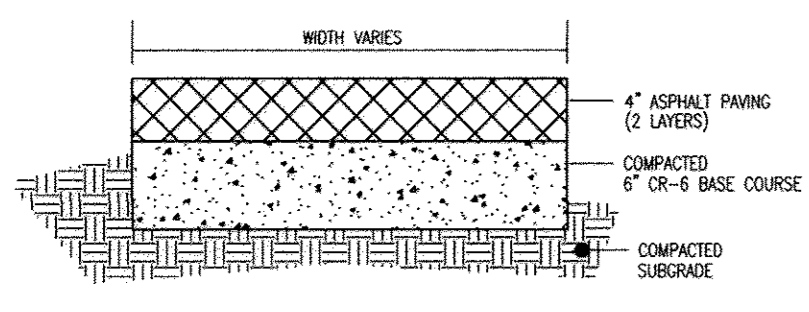
9 SHEET OF 39

OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

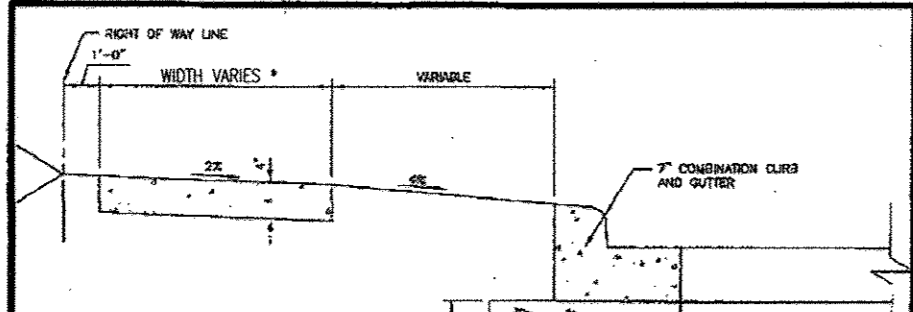
OWNER
 T.M. 35 - P.145 (PARCEL C)
 & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

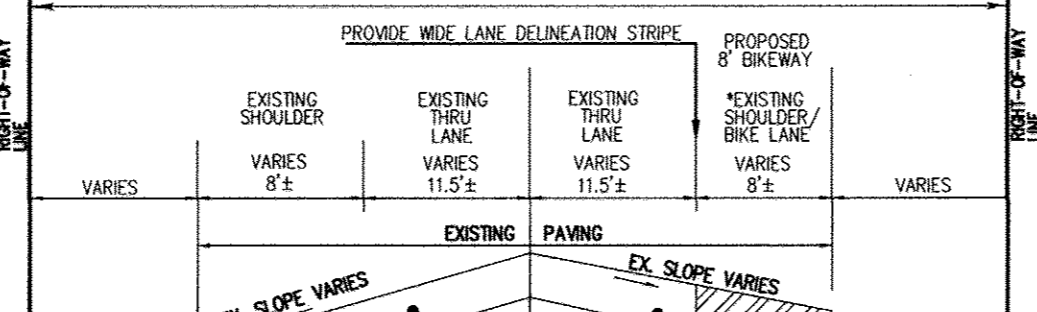
Valerie J. Pflin
 PLANNING DIRECTOR
 10-5-17
 DATE



6' OR 8' ASPHALT PATHWAY DETAIL
NOT TO SCALE



CONCRETE SIDEWALK DETAIL
NOT TO SCALE



VARIABLE RIGHT-OF-WAY
NOT TO SCALE

- NOTES:
1. SIDEWALK TO BE SET IN 6\"/>

- NOTES:
1. GRACE DRIVE MAY REQUIRE RE-STRIPING FOR DELINEATION OF 8' BIKEWAY
 2. TRAFFIC ENGINEERING HAS CONSIDERED THE EXISTING EASTBOUND SHOULDER INTO A BICYCLE LANE
 3. CURRENTLY GRACE DRIVE IS A MINOR COLLECTOR - OPEN SECTION ROADWAY WHICH REQUIRES 20' PAVING
 4. IF 8' SHOULDER CURRENTLY THESE EXISTING 11.5' TRAVEL LANES AND AN APPROXIMATE 8-10' EASTBOUND SHOULDER THIS EASTBOUND SHOULDER SHALL BE UTILIZED FOR THE PROPOSED 8' BIKEWAY

Howard County, Maryland	MODIFIED	Detail
Department of Public Works	Concrete Sidewalk	R-3.05

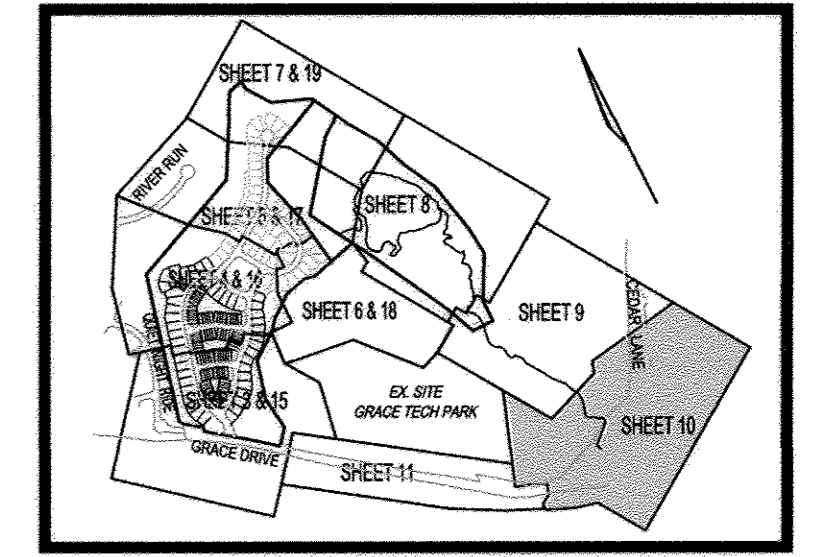
HOWARD COUNTY MARYLAND
TAX MAP 35 PARCEL 412
COLUMBIA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 14
OPEN SPACE LOT 45
PLAT MDR NO. 19714
67.6 AC.
ZONING: NT
USE: MIDDLE PATUENT ENVIRONMENTAL AREA
TAX ACCOUNT #15-129735

NORMAL TYPICAL ONSITE SUBDIVISION SIDEWALK = 5' WIDE
ONSITE NEIGHBORHOOD PATHWAY (SIDEWALK) WHICH CONNECTS THE GRACE DRIVE 8' ASPHALT PATHWAY TO THE 8' ASPHALT PATHWAY LEADING FROM NEAR SHWIF #3 TRAVELLING AT THE REAR OF LOTS 69 - 72 AND ALONG THE TOP OF SLOPE OF SWMP #2 AND CONNECTING TO THE OFFICE 5' ENVIRONMENTAL TRAIL SHALL BE 8' CONCRETE SIDEWALK (KNOWN AS 8' NEIGHBORHOOD PATHWAY), CONSTRUCTED TO R-305 SPECIFICATIONS

APPROXIMATE LOCATION OF 5' ENVIRONMENTAL TRAIL (5' NATURAL SURFACE) ESD PROVIDED VIA SHEET FLOW TO BUFFER

PRELIMINARY LAYOUT PLAN
SCALE: 1"=50'

GRACE DRIVE - 8' BIKEWAY POSITION
NOT TO SCALE



KEY MAP
NOT TO SCALE

TYPICAL BRIDGE SPECIFICATIONS

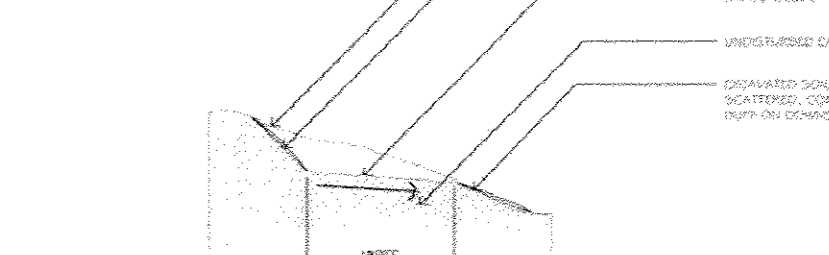
- STRUCTURAL NOTES (See page)
- Specifications:
1. All bridge design shall conform to specifications of the American Institute of Steel Construction, Inc. (AISC) - American Wood-Preservative Association
- Materials:
1. Use steel (200 pounds) square foot of deck
 2. Vehicular load = 1.4 (2,000 pounds wheel)
 3. Allow on vertical surface 25 pounds per square foot
 4. Allow 10 pounds per square foot of deck
 5. Allow 20 pounds per sq. ft. for horizontal and vertically applied loads
- Construction:
1. All steel and metal connections shall be finished carefully and shall have no rust or scale at any time.
 2. All exposed metal surfaces shall be protected and painted.
 3. Timber ends and other exposed surfaces shall be protected with preservative.
 4. All fasteners shall be installed as specified in the construction manual table C-1.
 5. After installation of steel truss in girders, they shall show signs of distress.
 6. The bridge shall be designed and constructed to provide a minimum vertical clearance of 5.00 feet over the highest existing ground level. Use Simpson Top Floor 10' 0" for ground level.
 7. Poles shall be set to align with 3" - 5/8" x 5/8" bolts. No 3/4" or more shall be shown in 1/2" increments parallel to the deck.
 8. All members and splices shall be hot dip galvanized, meeting ASTM A551, class C195 with 2.00 mils of zinc coating. Galvanizing shall be done in accordance with the specifications of the National Association of Corrosion Engineers (NACE).
 9. All steel shall be protected with a minimum of 1/2" of concrete. The concrete shall be placed in place.
 10. All cables, bolts and nuts shall be the surface of contact shall be immediately protected by zinc treatment.
 11. Timber shall be treated with preservative of desired color.

TYPICAL 5' WIDE ENVIRONMENTAL TRAIL DETAIL



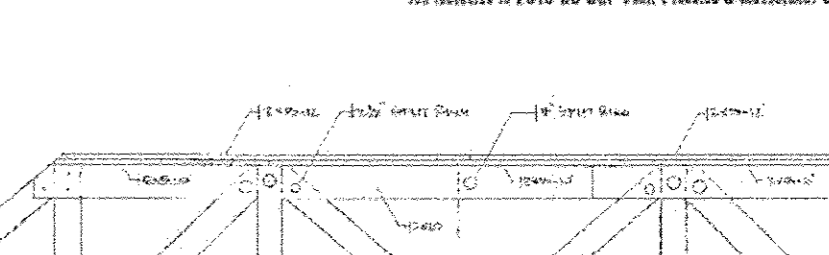
TYPICAL 5' WIDE ENVIRONMENTAL TRAIL DETAIL
NOT TO SCALE

FULL BENCH NATURAL SURFACE TRAIL



FULL BENCH NATURAL SURFACE TRAIL
NOT TO SCALE

TYPICAL ENVIRONMENTAL TRAIL - BRIDGE DETAIL



TYPICAL ENVIRONMENTAL TRAIL - BRIDGE DETAIL
NOT TO SCALE

LEGEND:

- | | |
|---------------------------|---|
| EXISTING CONTOUR | EXISTING FIRE HYDRANT |
| PROPOSED CONTOUR | EXISTING WATER LINE |
| PROPOSED SPOT ELEVATION | PROPOSED STORM DRAIN |
| EXISTING SPOT ELEVATION | PROPOSED STORM DRAIN INLET |
| EXISTING CURB AND GUTTER | EXISTING TREELINE |
| PROPOSED CURB AND GUTTER | EXISTING FENCE |
| EXISTING UTILITY POLE | PROPERTY LINE |
| EXISTING LIGHT POLE | RIGHT-OF-WAY LINE |
| EXISTING MAILBOX | EXISTING SIDEWALK |
| EXISTING SIGN | EX. ZONING LINE |
| EXISTING SANITARY MANHOLE | EXISTING SPECIMEN TREE (B-1) AND CRITICAL ROOT ZONE |
| EXISTING SANITARY LINE | |
| EXISTING CLEANOUT | |
| 8' BIKEWAY | |
| 5' ENVIRONMENTAL TRAIL | |
| CONCEPT LOD | |
| CONCEPT LOD | |

MATCHLINE SHEET 11

MATCHLINE SHEET 9

MATCHLINE SHEET 9

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRPS, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4100

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR
10-5-17
DATE

10-5-17
DATE

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY LAYOUT PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-120, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BAY PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-11 & PARCELS A & OPEN SPACE LOT 45
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

ROBERT H. VOGEL
ENGINEERING, INC.
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8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
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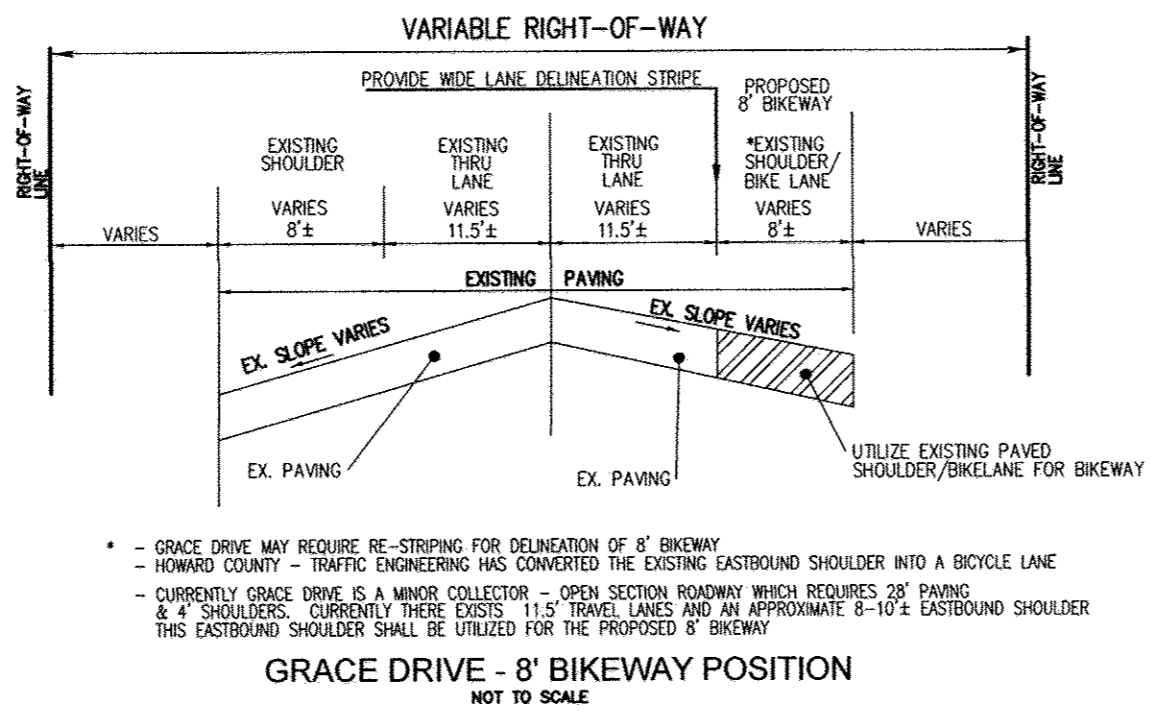
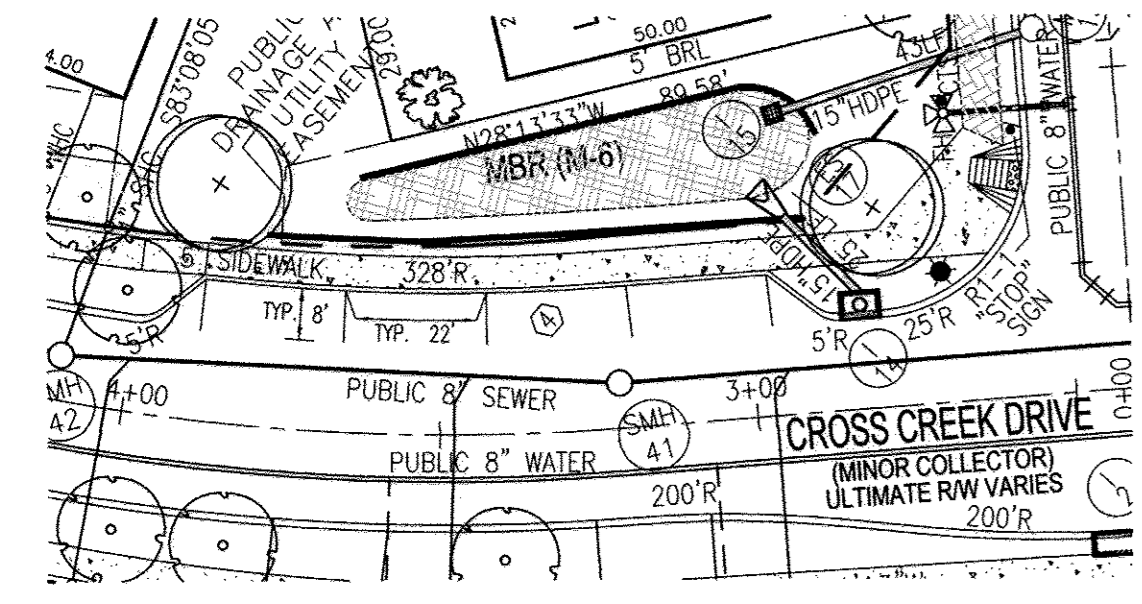
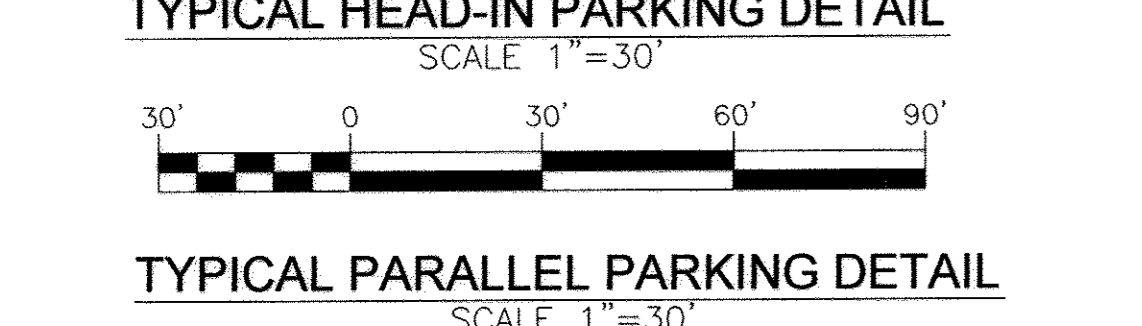
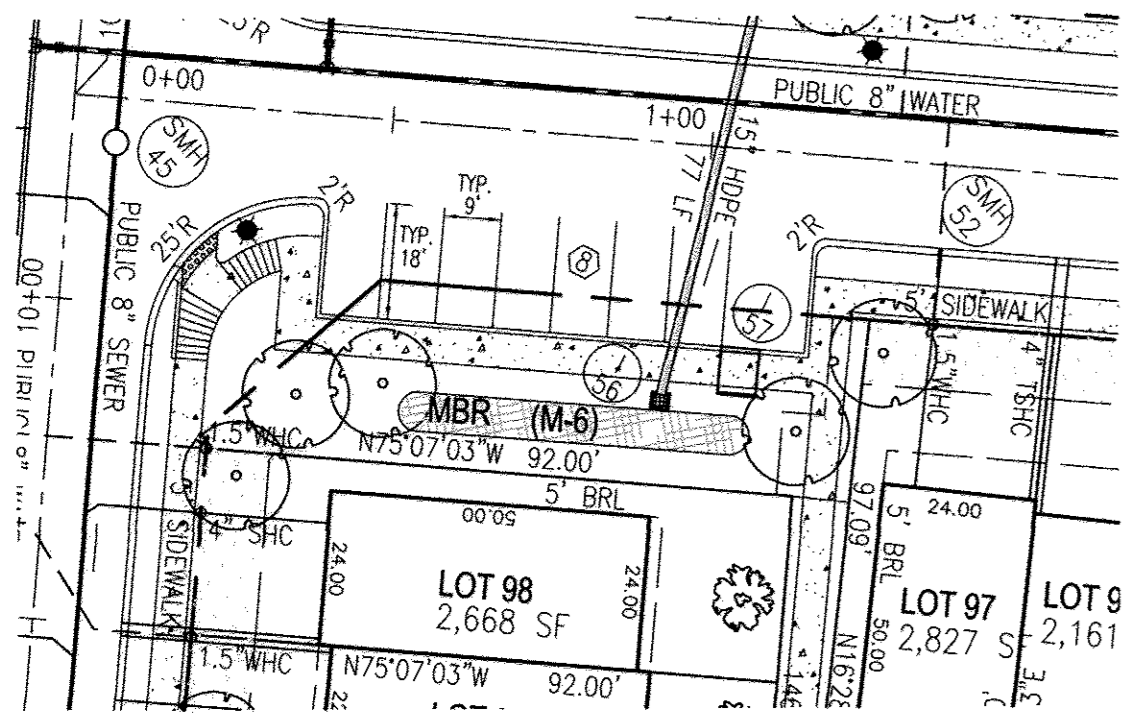
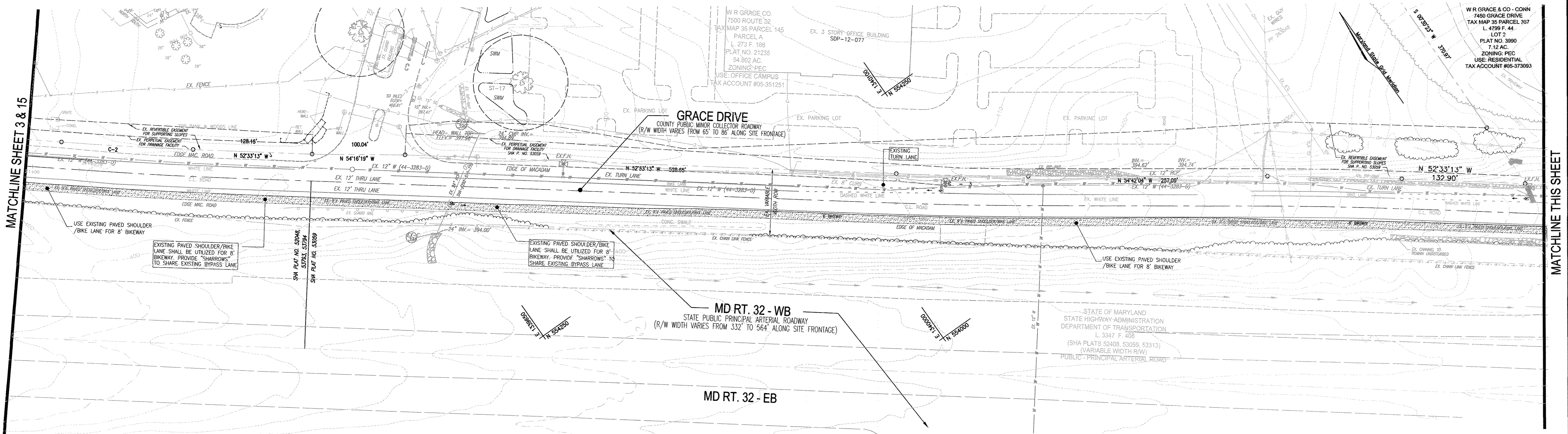
PROFESSIONAL CERTIFICATE
DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

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. 16193, EXPIRATION DATE: 09-27-2018

10 SHEET OF 39

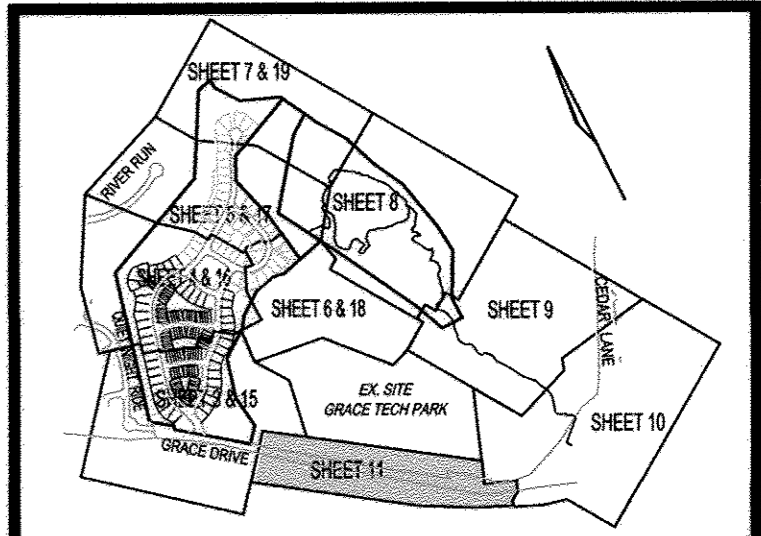
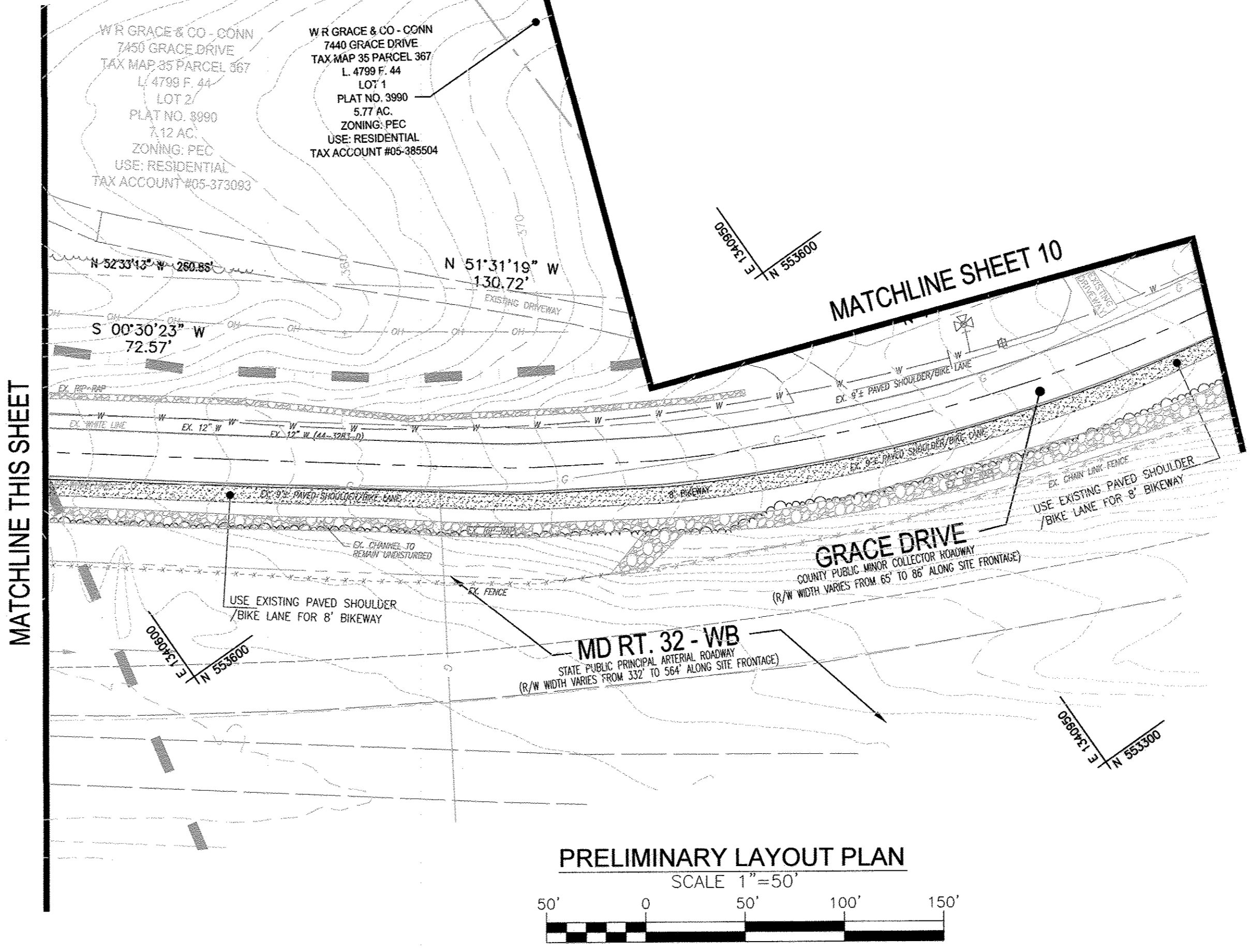
MATCHLINE SHEET 3 & 15

MATCHLINE THIS SHEET



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING STORM DRAIN
	EX. ELECTRIC CONDUIT
	EX. ZONING LINE
	8' BIKEWAY
	EXISTING TREELINE (FIELD LOCATED)
	EXISTING STREAM
	EXISTING STREAM BUFFER
	EXISTING WETLAND
	EXISTING WETLAND BUFFER
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	MODERATE SLOPES (15% - 24.99%)
	STEEP SLOPE (25%+)
	EXISTING FLOOD PLAN
	PROPOSED CURB
	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE



OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

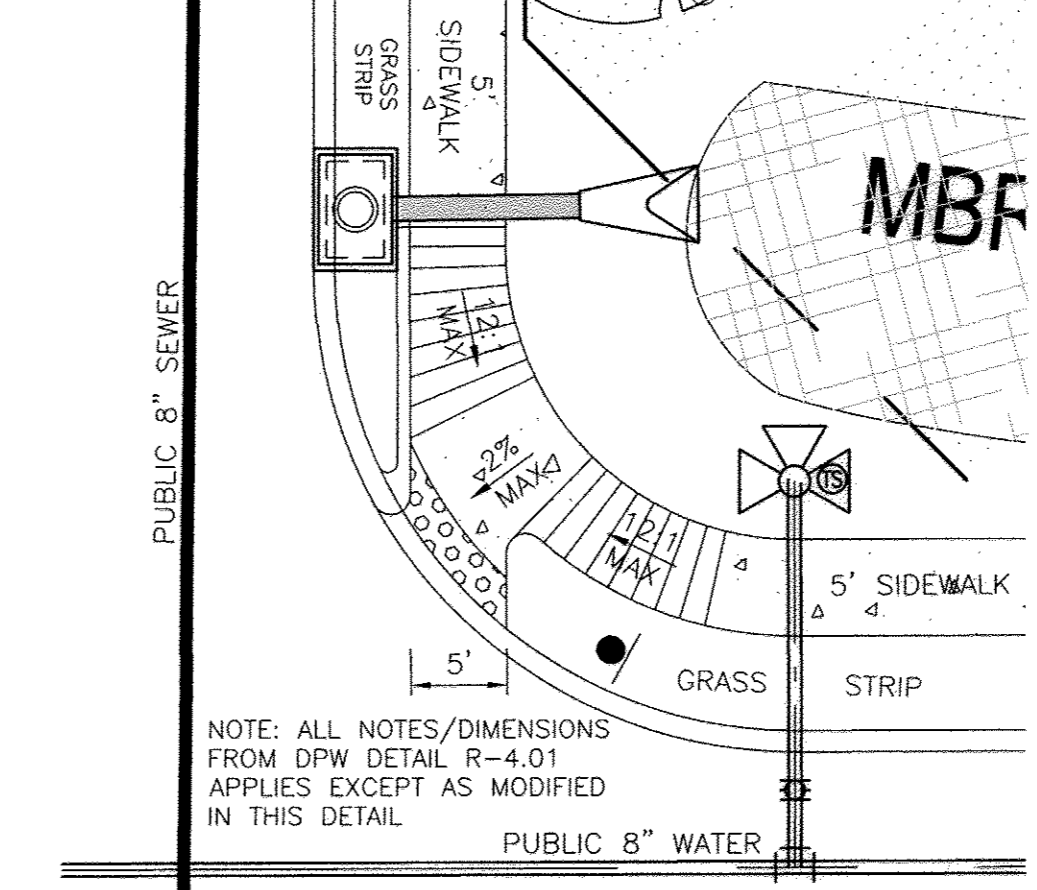
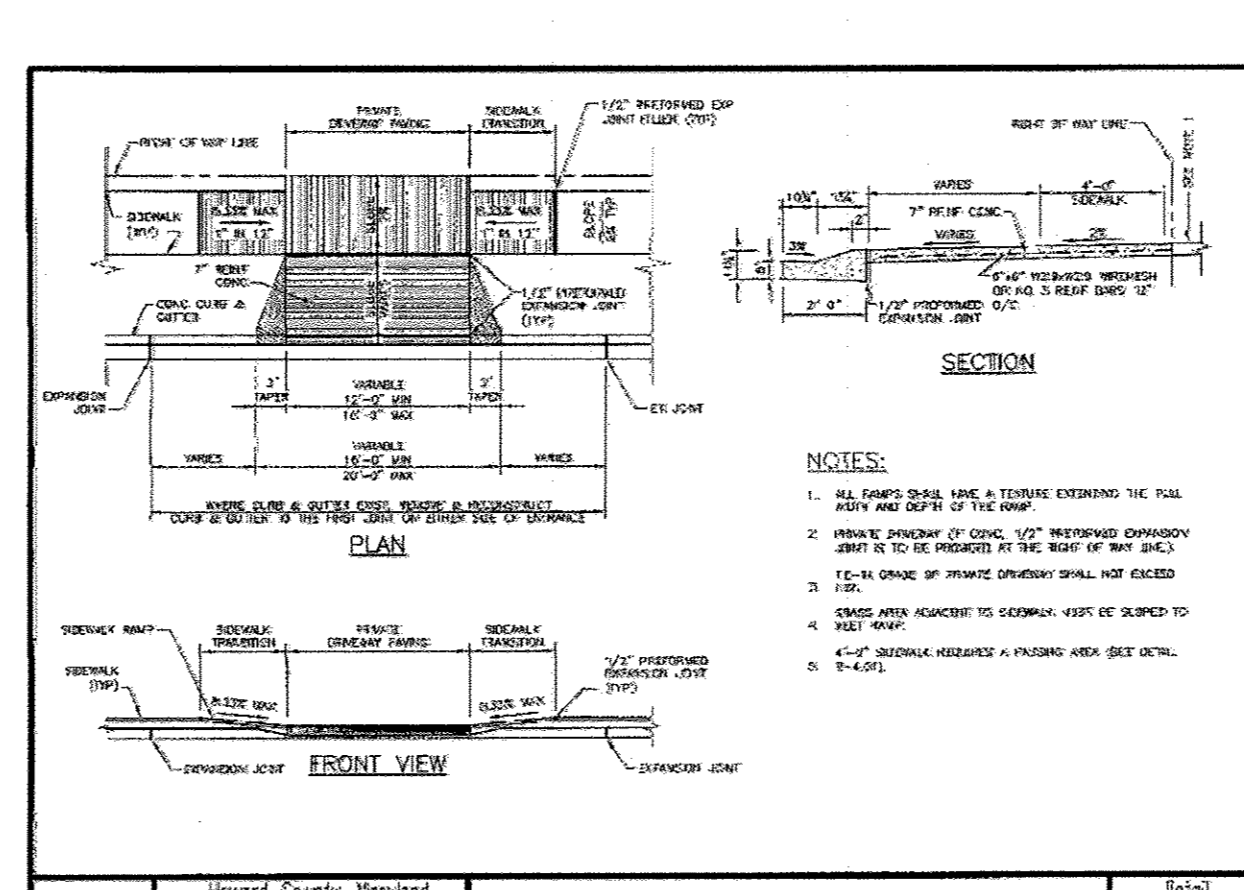
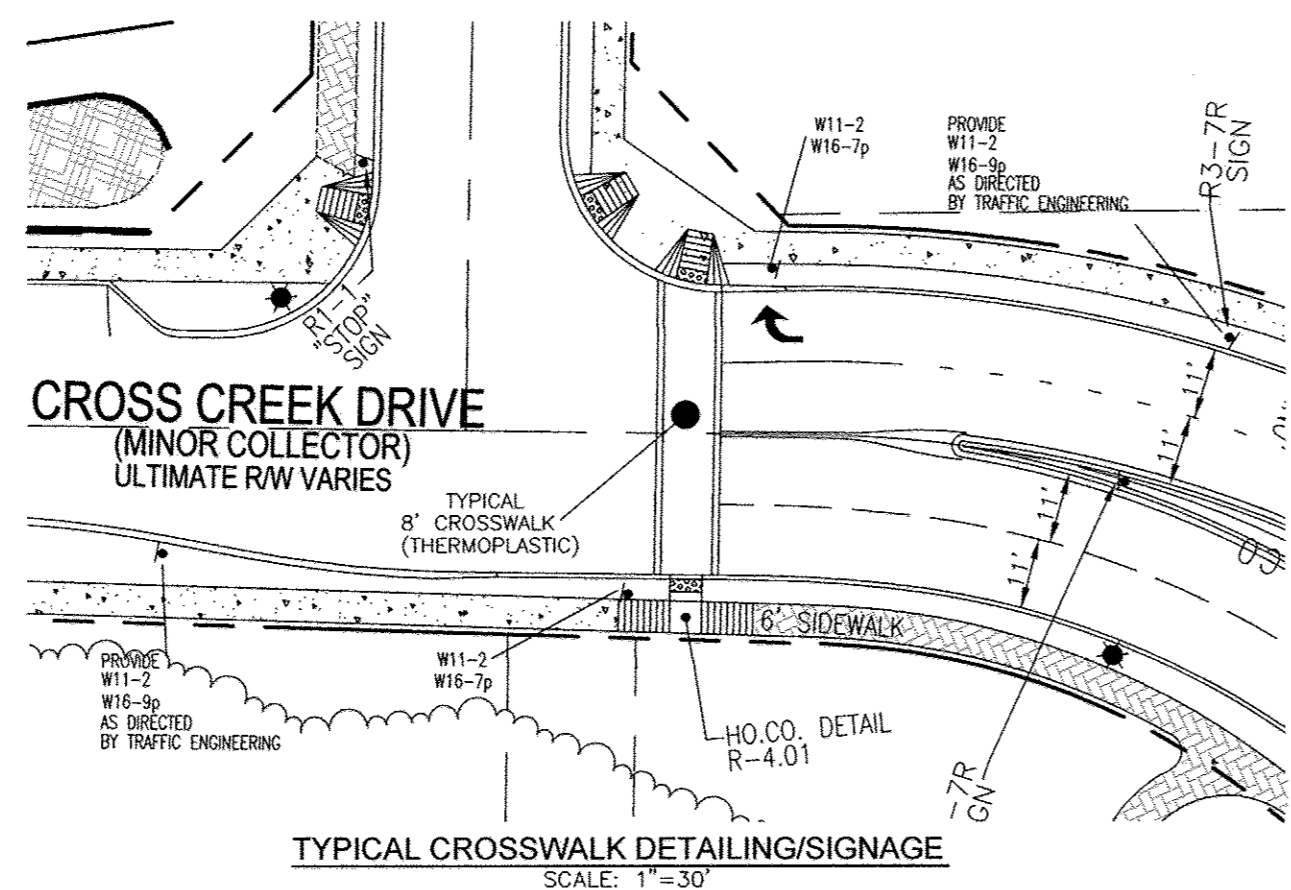
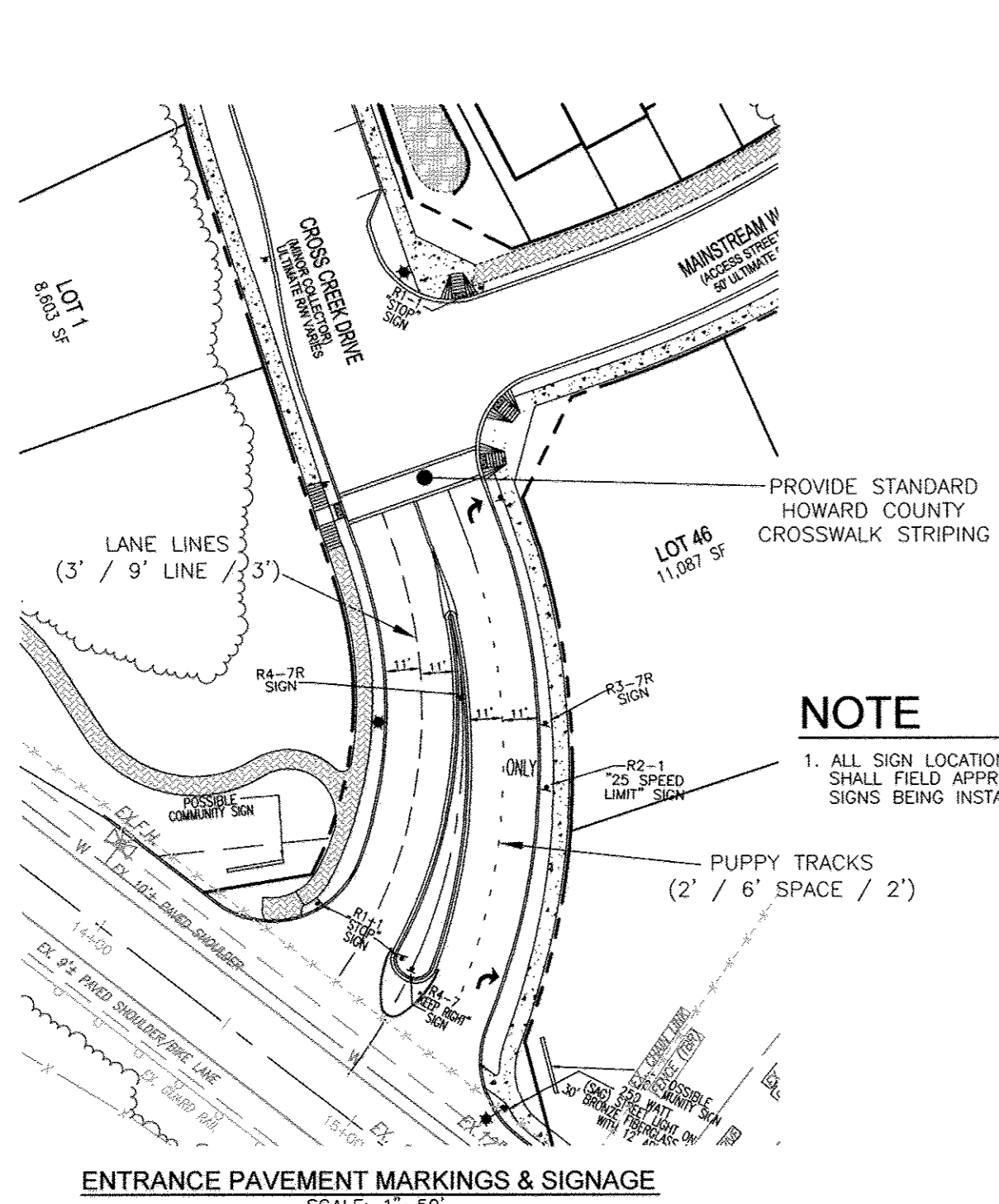
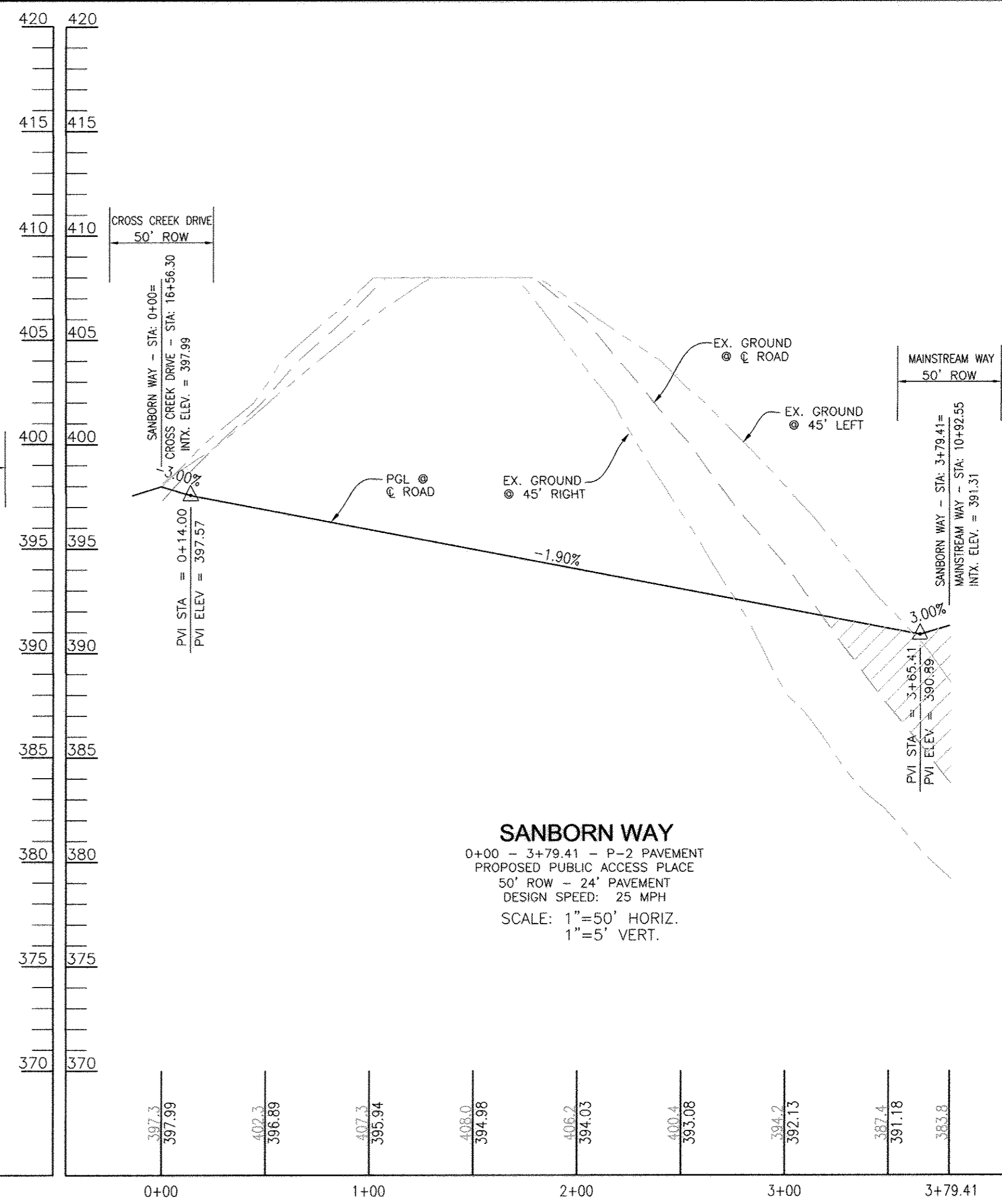
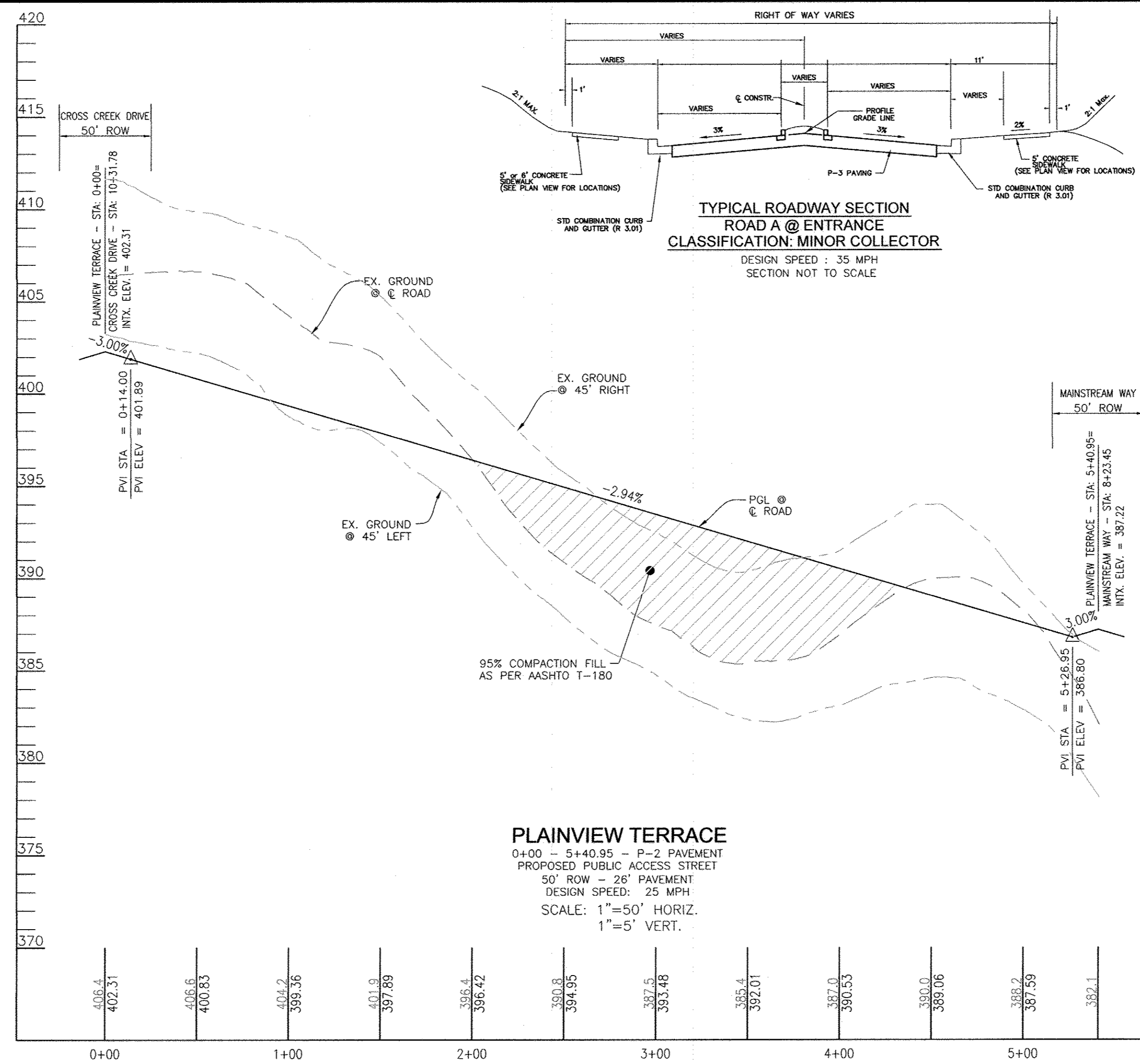
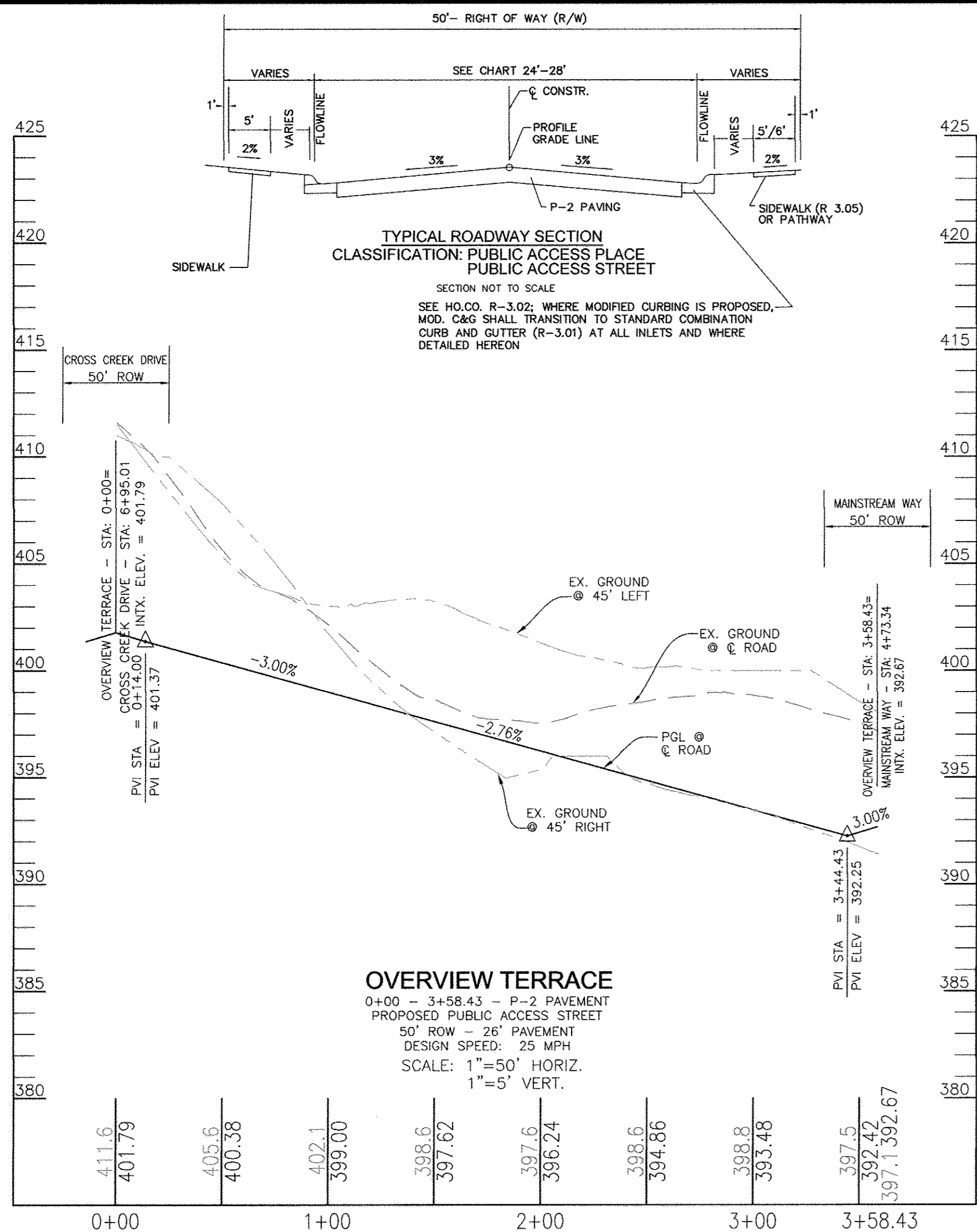
OWNER
T.M. 35 - P. 145 (PARCEL C)
& T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

N. J. J. J.
PLANNING DIRECTOR

10-5-17
DATE

NO.	REVISION	DATE
PRELIMINARY PLAN PRELIMINARY LAYOUT PLAN		
SIMPSON OAKS - PHASE 1		
LOTS 1-129 OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C AND COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21 5TH ELECTION DISTRICT	GRID 16	PARCEL 145 PARCEL 412 HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS		
8407 MAIN STREET ELLIGOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961		
		PROFESSIONAL CERTIFICATE 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. 16193, EXPIRATION DATE: 09-27-2018
DESIGN BY: CR/RHV/EDS	CHECKED BY: RHV	DATE: SEPTEMBER 2017
SCALE: AS SHOWN	W.O. NO.: 15-55	11 SHEET OF 39



ROAD	STATION TO	STATION	PAVEMENT WIDTH, NOTES
CROSS CREEK DRIVE	0+24 TO 3+21	TO 3+21	PAVEMENT WIDTH / SECTION VARIES - SEE PLAN VIEW
MAINSTREAM WAY	0+17+1 TO 13+52	TO 13+52	28' PAVEMENT W/ AREAS OF 8' WIDE PARALLEL PARKING* *REQUIRES PUBLIC SIDEWALK EASEMENT
LAWDALE CIRCLE	0+14+1 TO 12+21	TO 12+21	28' PAVEMENT WIDTH W/ AREA OF 8' WIDE PARALLEL PARKING AT OPEN SPACE LOT 135
OVERVIEW TERRACE	0+14+1 TO 3+44.43	TO 3+44.43	26' PAVEMENT WIDTH
PLAINVIEW TERRACE	0+14+1 TO 5+26.95	TO 5+26.95	26' PAVEMENT WIDTH W/ AREA OF PERPENDICULAR PARKING
SANBORN WAY	0+14+1 TO 3+65.41	TO 3+65.41	24' PAVEMENT WIDTH W/ AREA OF 8' WIDE PARALLEL PARKING AT OPEN SPACE LOT 135

NOTE
1. ALL SIGN LOCATIONS ARE APPROXIMATE. HOWARD COUNTY TRAFFIC SHALL FIELD APPROVE OR MARK ALL SIGN LOCATIONS PRIOR TO ANY SIGNS BEING INSTALLED. CALL 410-313-5752.
2. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUTCD).
3. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, 'QUICK PUNCH' SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-3/8" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3' LONG). THE ANCHOR SHALL NOT EXTEND MORE THAN TWO 'QUICK PUNCH' HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-358-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

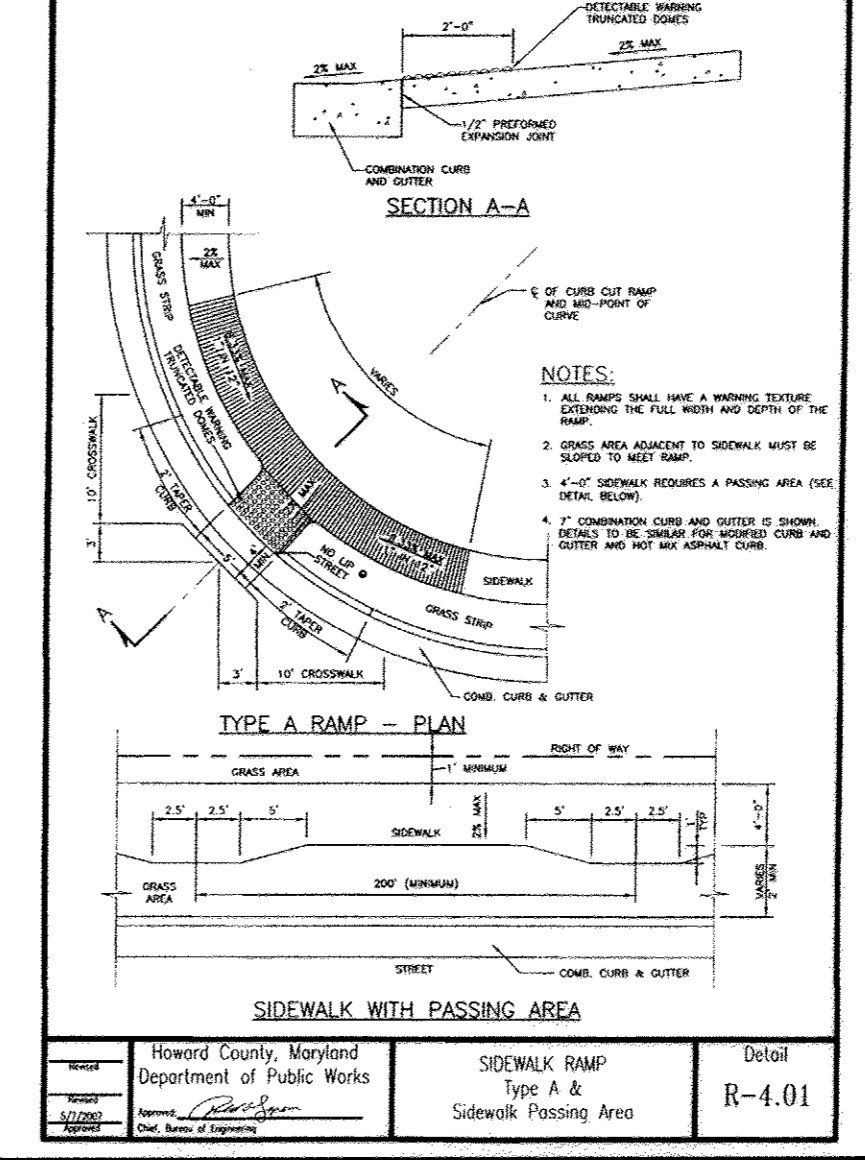
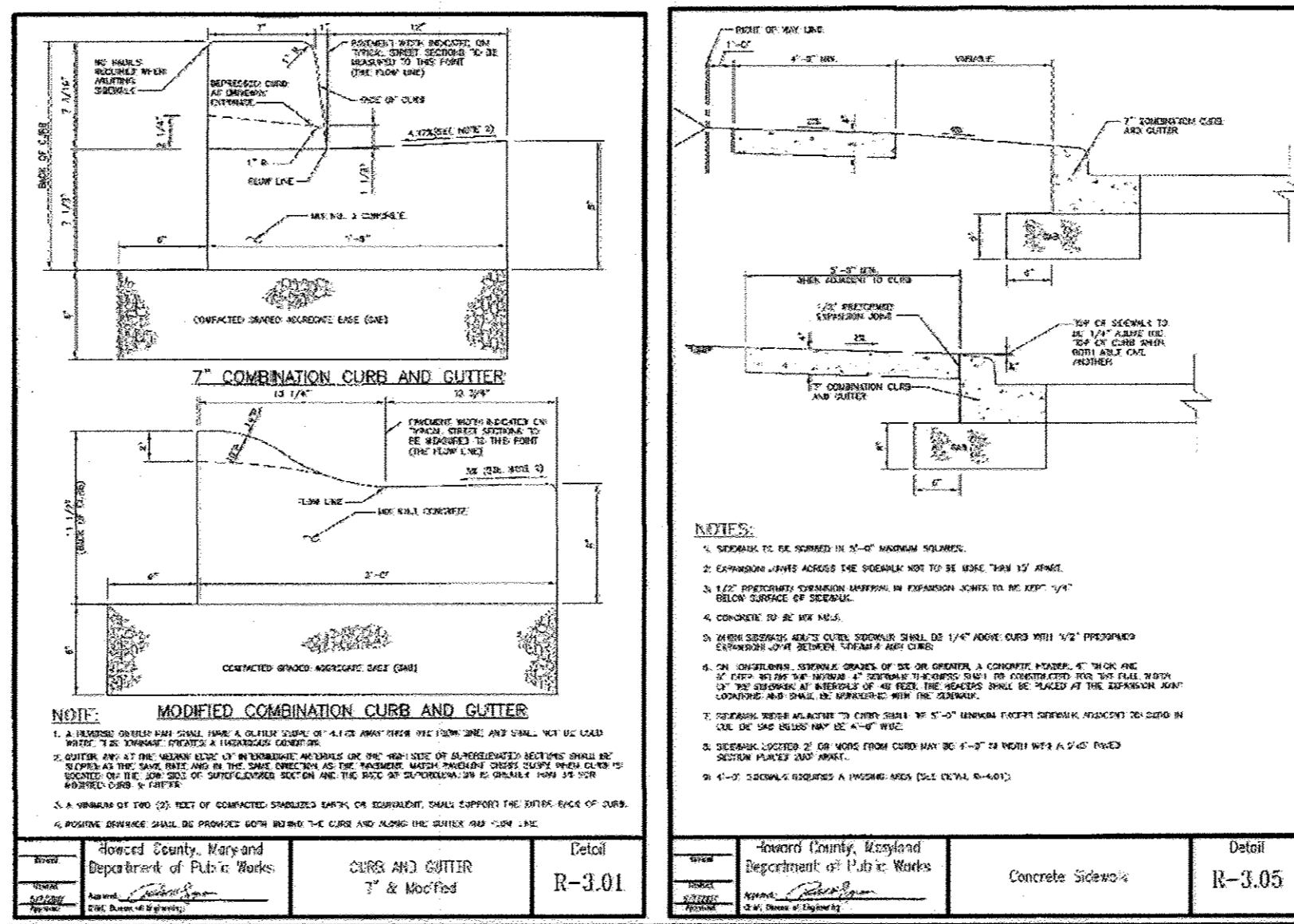
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie Flynn
PLANNING DIRECTOR

10-5-11
DATE

SECTION	PAVEMENT CLASSIFICATION	THICKNESS (INCHES)	MIN. CURB AND GUTTER	MIN. SIDEWALK	MIN. SIDEWALK WITH PASSING AREA
P-1	CONCRETE	12.0	12.0	12.0	12.0
P-2	CONCRETE	12.0	12.0	12.0	12.0
P-3	CONCRETE	12.0	12.0	12.0	12.0
P-4	CONCRETE	12.0	12.0	12.0	12.0

NOTES:
1. ALL PAVEMENTS SHALL BE CONCRETE UNLESS OTHERWISE NOTED.
2. ALL CURB AND GUTTERS SHALL BE CONCRETE UNLESS OTHERWISE NOTED.
3. ALL SIDEWALKS SHALL BE CONCRETE UNLESS OTHERWISE NOTED.
4. ALL SIDEWALKS WITH PASSING AREAS SHALL BE CONCRETE UNLESS OTHERWISE NOTED.
5. ALL PAVEMENTS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
6. ALL CURB AND GUTTERS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
7. ALL SIDEWALKS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
8. ALL SIDEWALKS WITH PASSING AREAS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
9. ALL PAVEMENTS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
10. ALL CURB AND GUTTERS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
11. ALL SIDEWALKS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.
12. ALL SIDEWALKS WITH PASSING AREAS SHALL BE FINISHED TO A 1/4" FINISH GRADE UNLESS OTHERWISE NOTED.



PRELIMINARY PLAN
PRELIMINARY ROAD PROFILES
SIMPSON OAKS - PHASE 1
LOTS 1-120, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
TAX MAP 35 GRID 16
5TH ELECTION DISTRICT

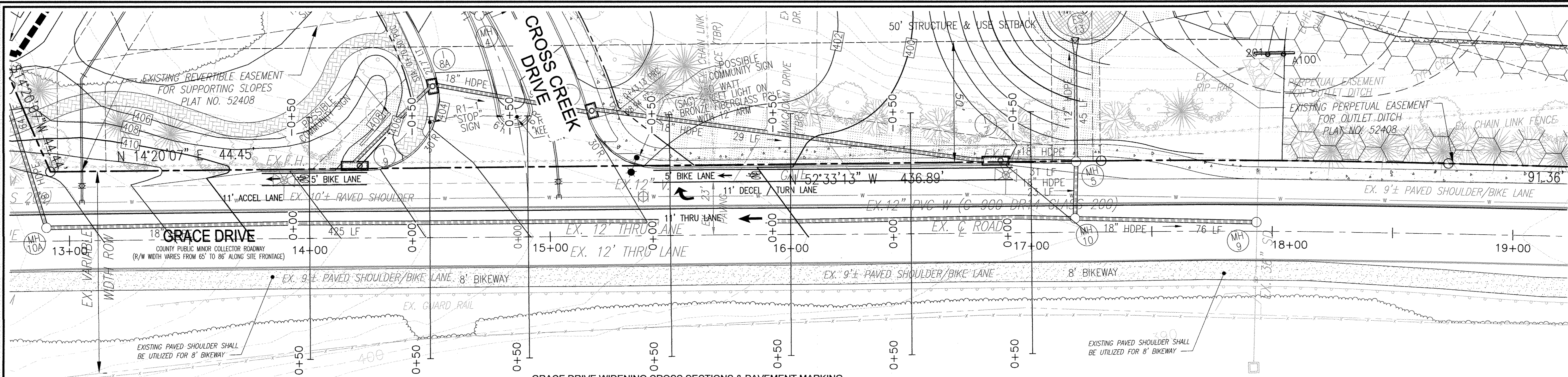
PARCEL 145
PARCEL 412
ZONED: NT
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS - SURVEYORS - PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

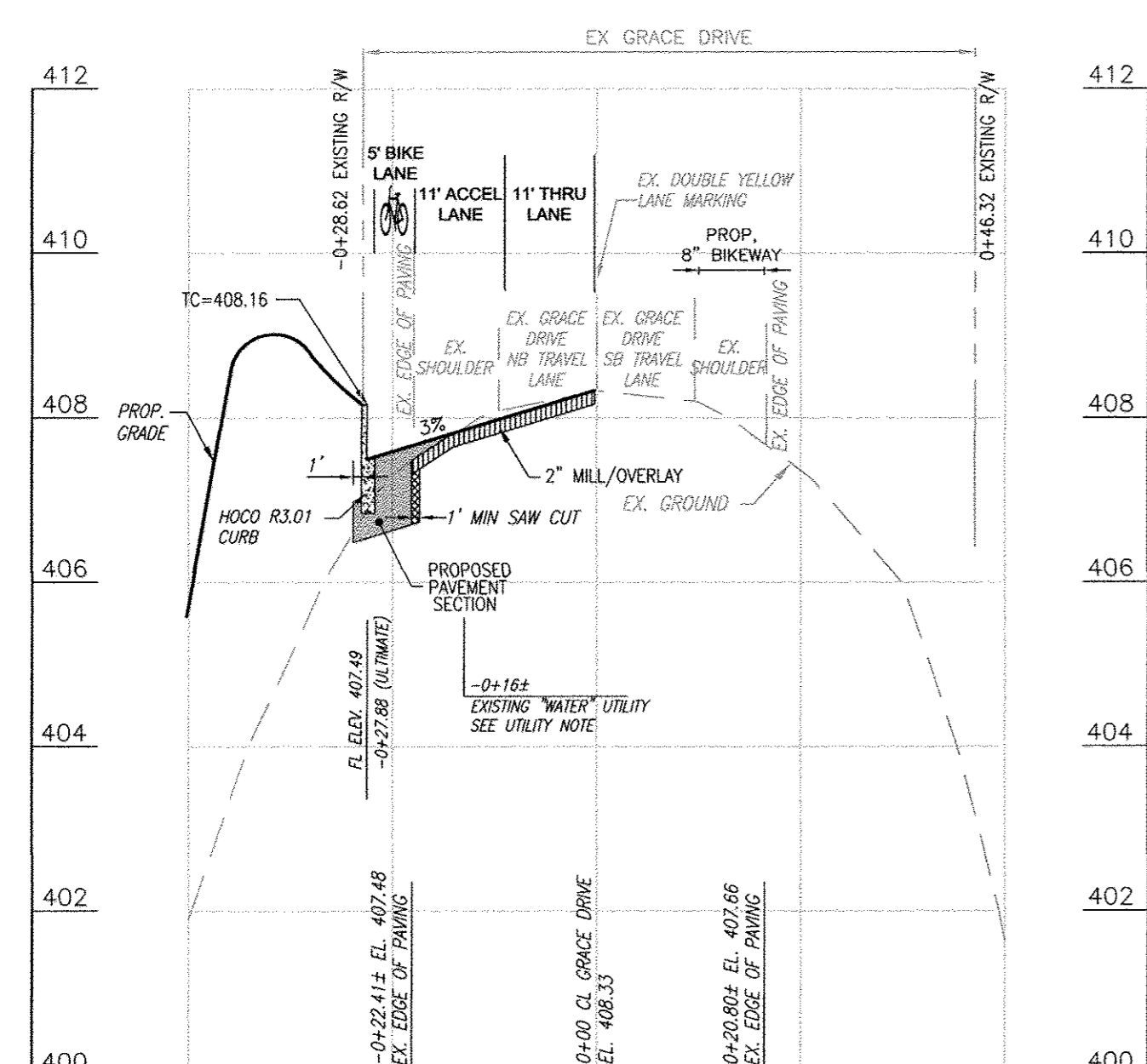
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

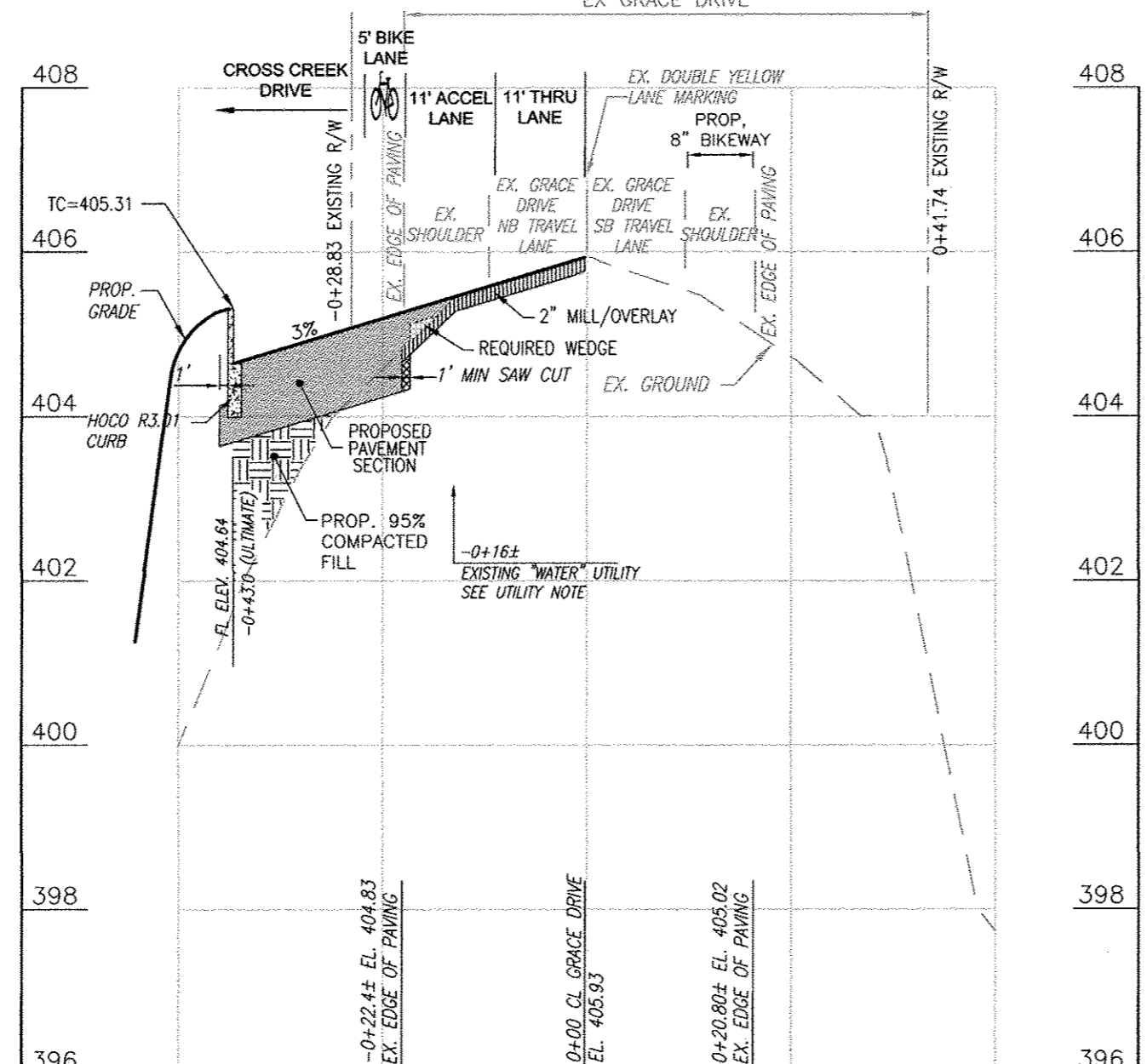
13 SHEET OF 39



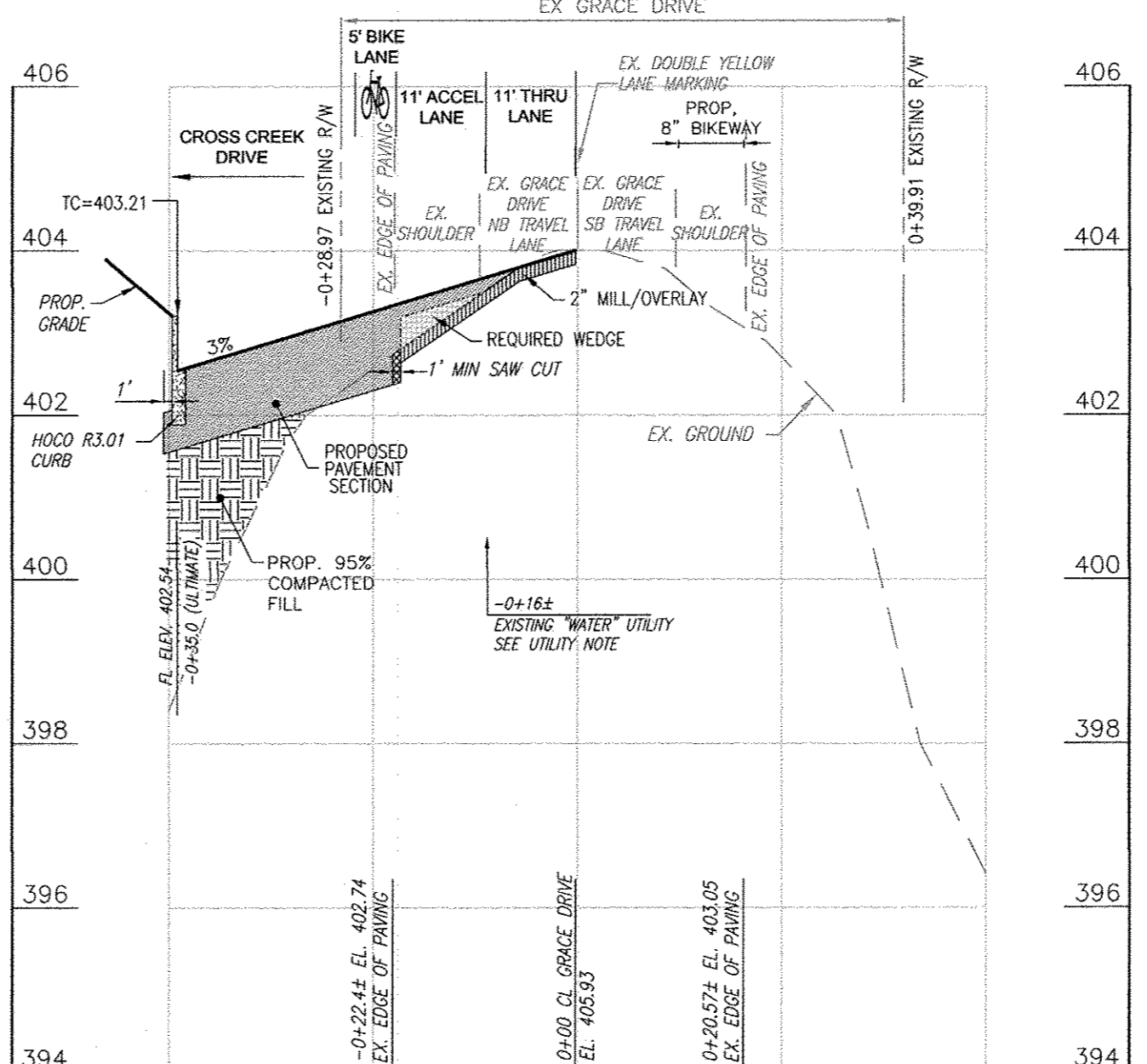
GRACE DRIVE WIDENING CROSS SECTIONS & PAVEMENT MARKING
SCALE: 1"=50'



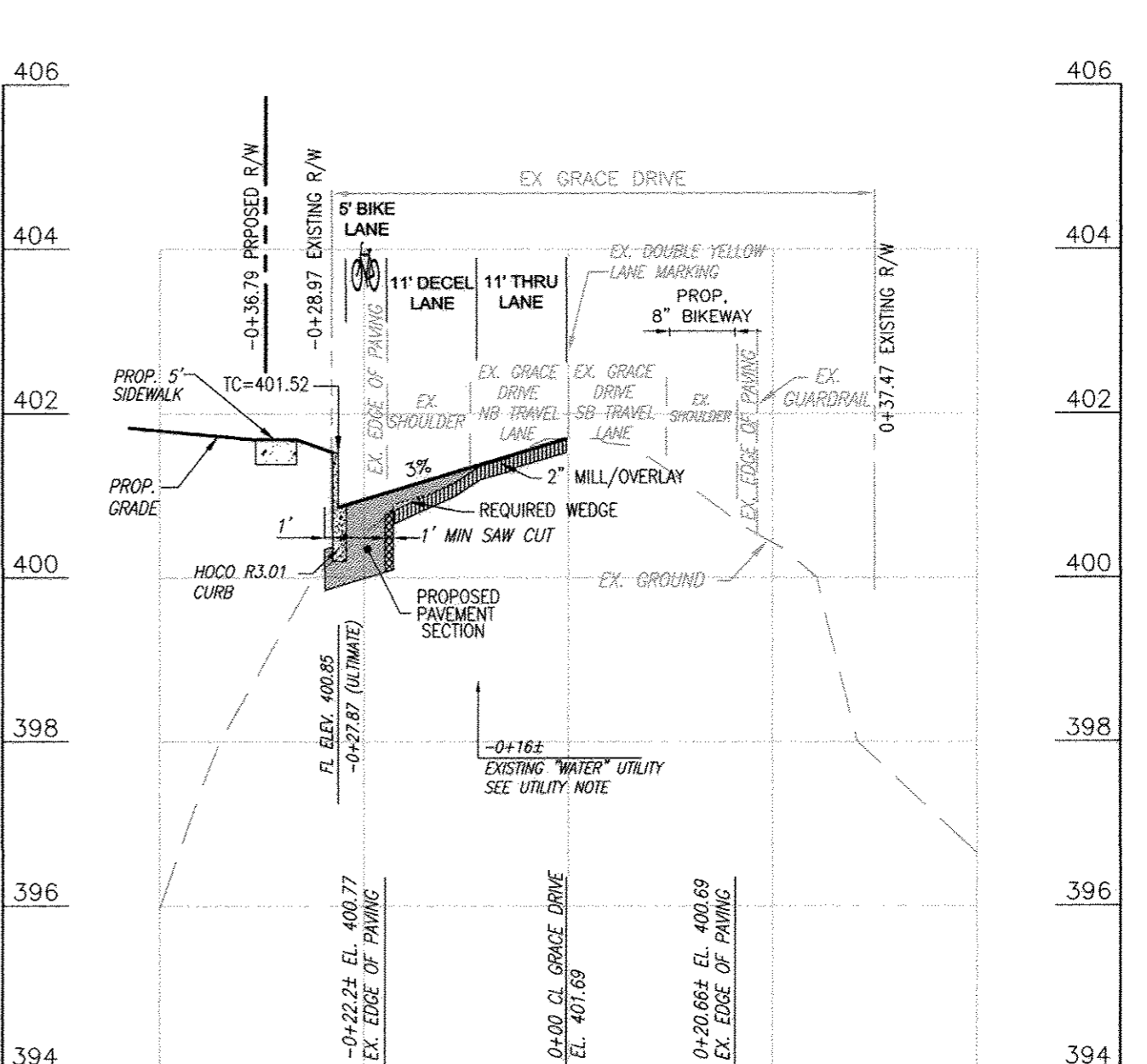
GRACE DRIVE STA. 14+00
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



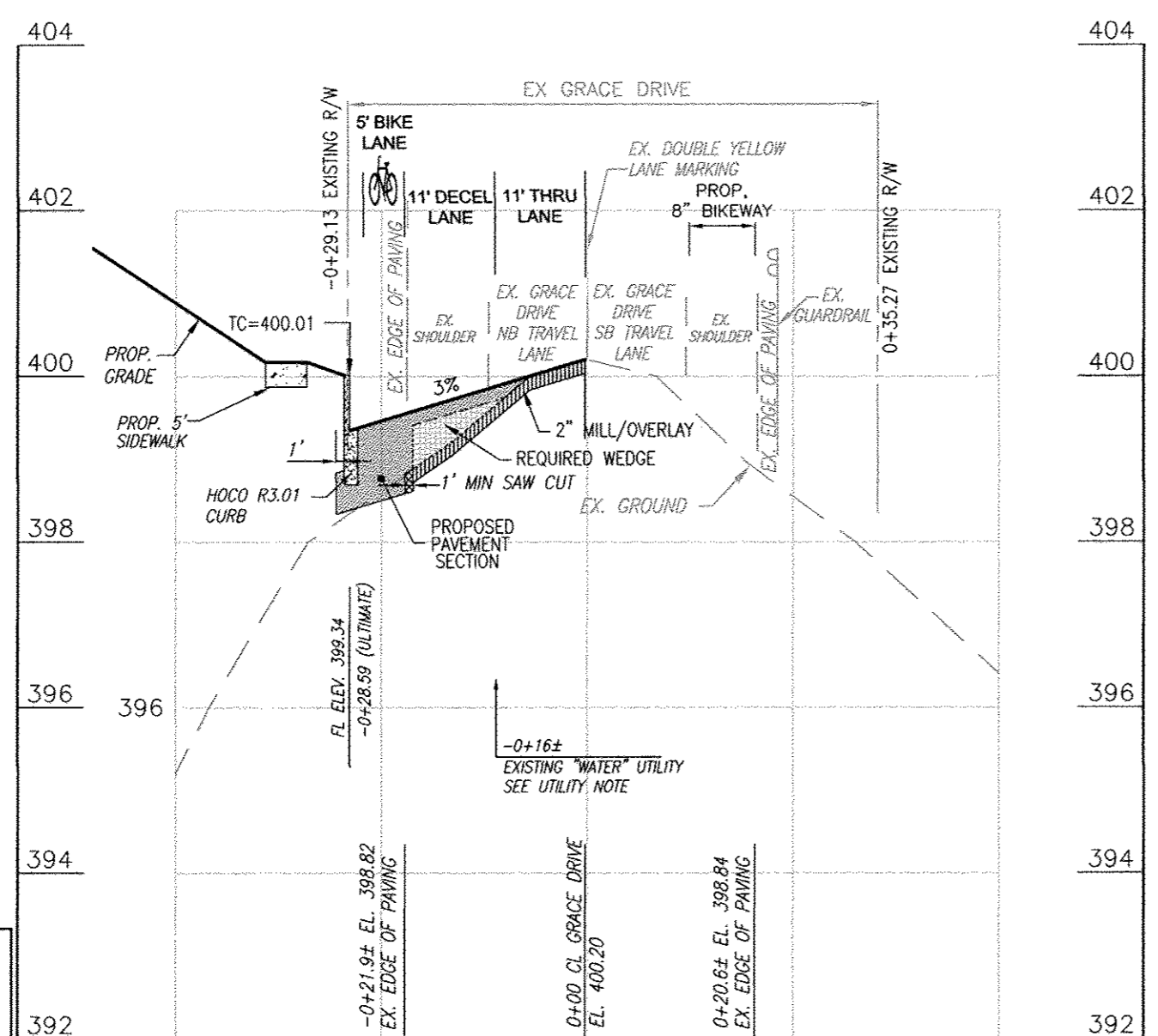
GRACE DRIVE STA. 14+50
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



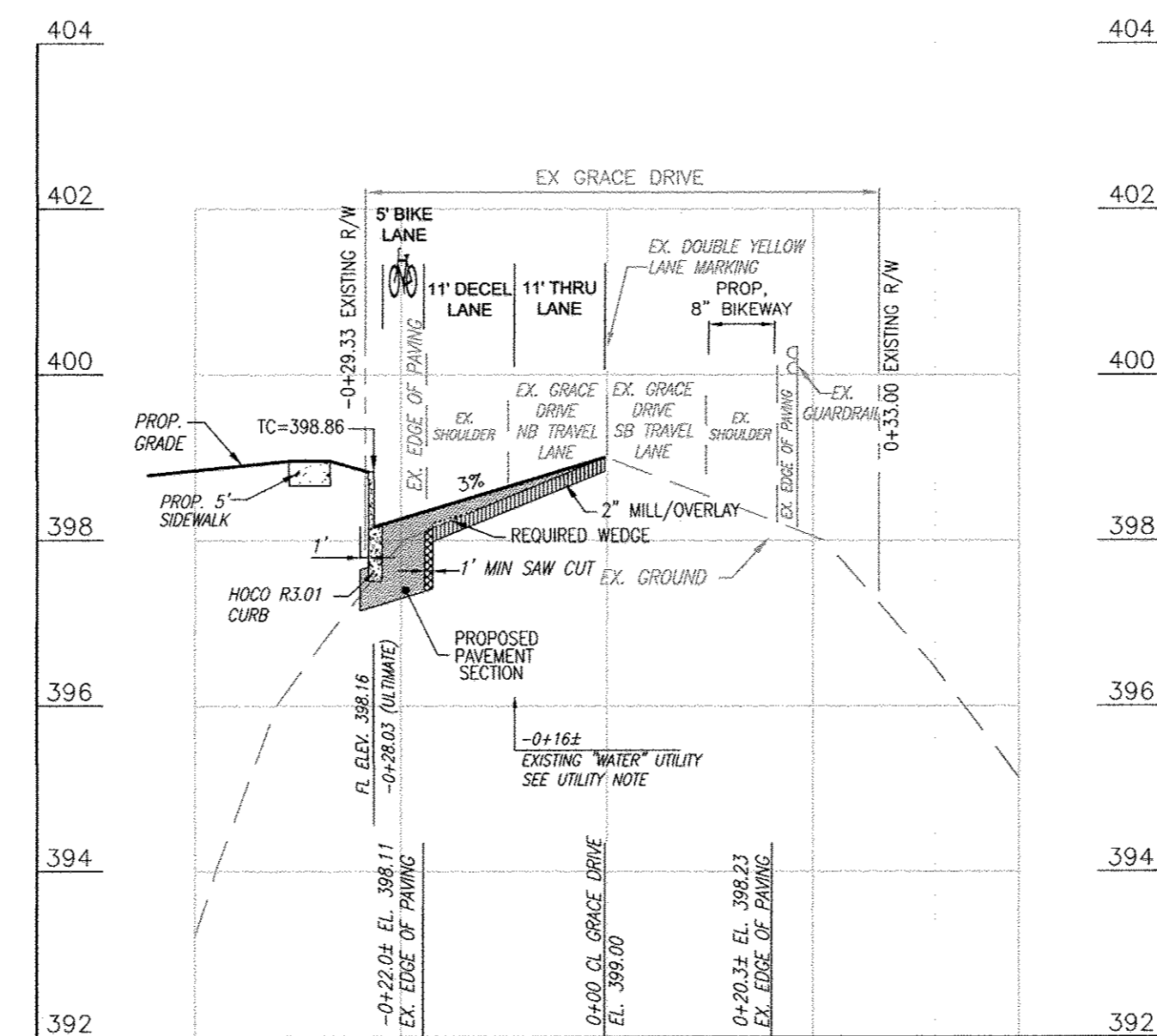
GRACE DRIVE STA. 14+90 AT CROSS CREEK DRIVE 0+00
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



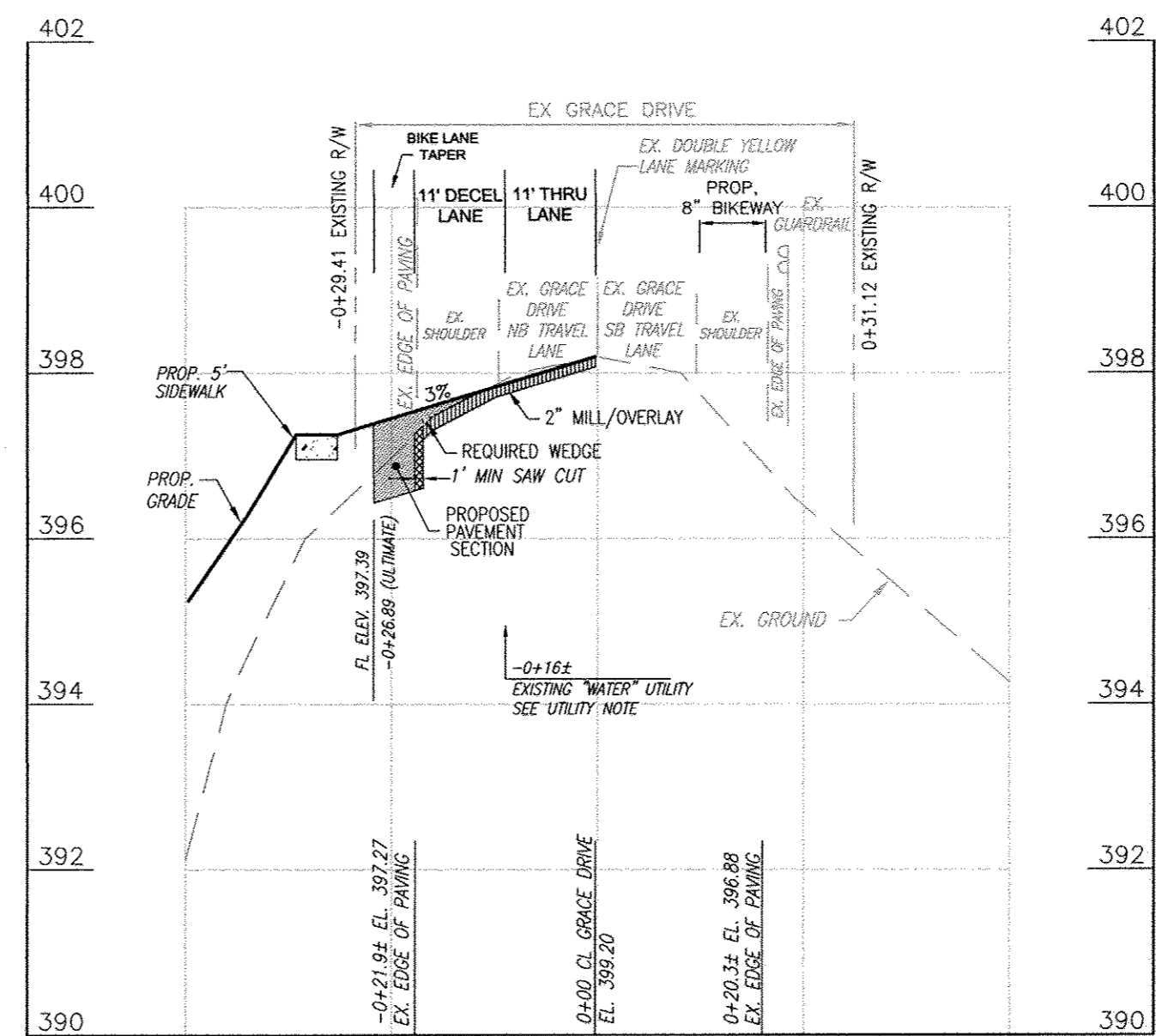
GRACE DRIVE STA. 15+50
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



GRACE DRIVE STA. 16+00
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



GRACE DRIVE STA. 16+50
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'



GRACE DRIVE STA. 17+00
SCALE: HORIZONTAL - 1"=20'
VERTICAL - 1"=2'

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-558-9900

OWNER
T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR
DATE: 10-5-17

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY GRACE DRIVE IMPROVEMENTS & CROSS SECTIONS
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH. PARK - PARCELS B-1 & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
TAX MAP 35 GRID 16
5TH ELECTION DISTRICT

ZONED: CEF-R
ZONED: NY

PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AND
THAT I AM A FULLY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

14 SHEET OF 39

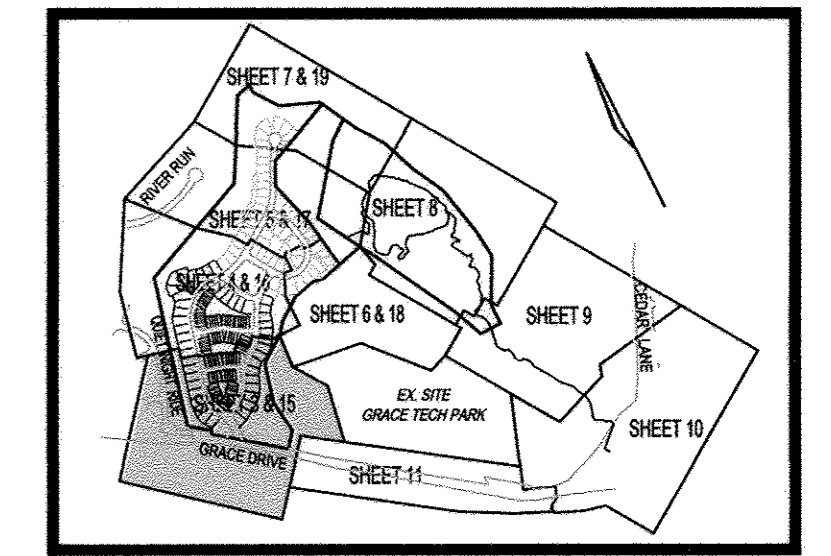
LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELEVATION POINT
- EXISTING TREETRINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING WETLAND BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- MODERATE SLOPES (15% - 24.99%)
- STEEP SLOPE (>25%)
- EX. ZONING LINE
- PROP. 5' SIDEWALK
- 8' BIKEWAY
- PROPOSED CURB
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- MICRO BIORETENTION AREA
- FOREST CONSERVATION AREA (REFORESTATION)
- FOREST CONSERVATION AREA (RETENTION)
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- PROP. 10' TREE MAINTENANCE EASEMENT
- PROP. 6' NEIGHBORHOOD PATHWAY
- EX. MONITORING WELL
- LIMIT OF DISTURBANCE

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PERCENT	PERCENT
B5a	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES
C3	COOKING & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES
G3b	GLENLEIGH LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO
G3b	GLENLEIGH-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO
G3b	GLENLEIGH SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.43	YES	YES
G3c	GLENLEIGH SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES
G3b	GLENLEIGH-URBAN LAND-UDOROTHIS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES
M3b	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO
M3c	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO
M3d	MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES
M3f	MAJOR-BRONKON COMPLEX, 25-50% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT
 SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY, CONSULTED ON OCTOBER 28, 2014. AMANDA CHAMBERS AT: https://nationalsoilsurvey.usda.gov/soil/soil.html
 2. SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRO SOILS LIST, AT: https://soils.usda.gov/soil/soil.html, CONSULTED ON DECEMBER 23, 2014.



NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DETERMINED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY GRADING PLAN
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL A & OPEN SPACE LOT 45

TAX MAP 35, GRID 21
 TAX MAP 35, GRID 16
 5TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

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. 16193, EXPIRATION DATE: 09-27-2018

15 SHEET OF 39

OWNER / DEVELOPER
 T.M. 35 - P. 145 (PARCEL B-1)
 SIMPSON OAKS GRP, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-358-9900

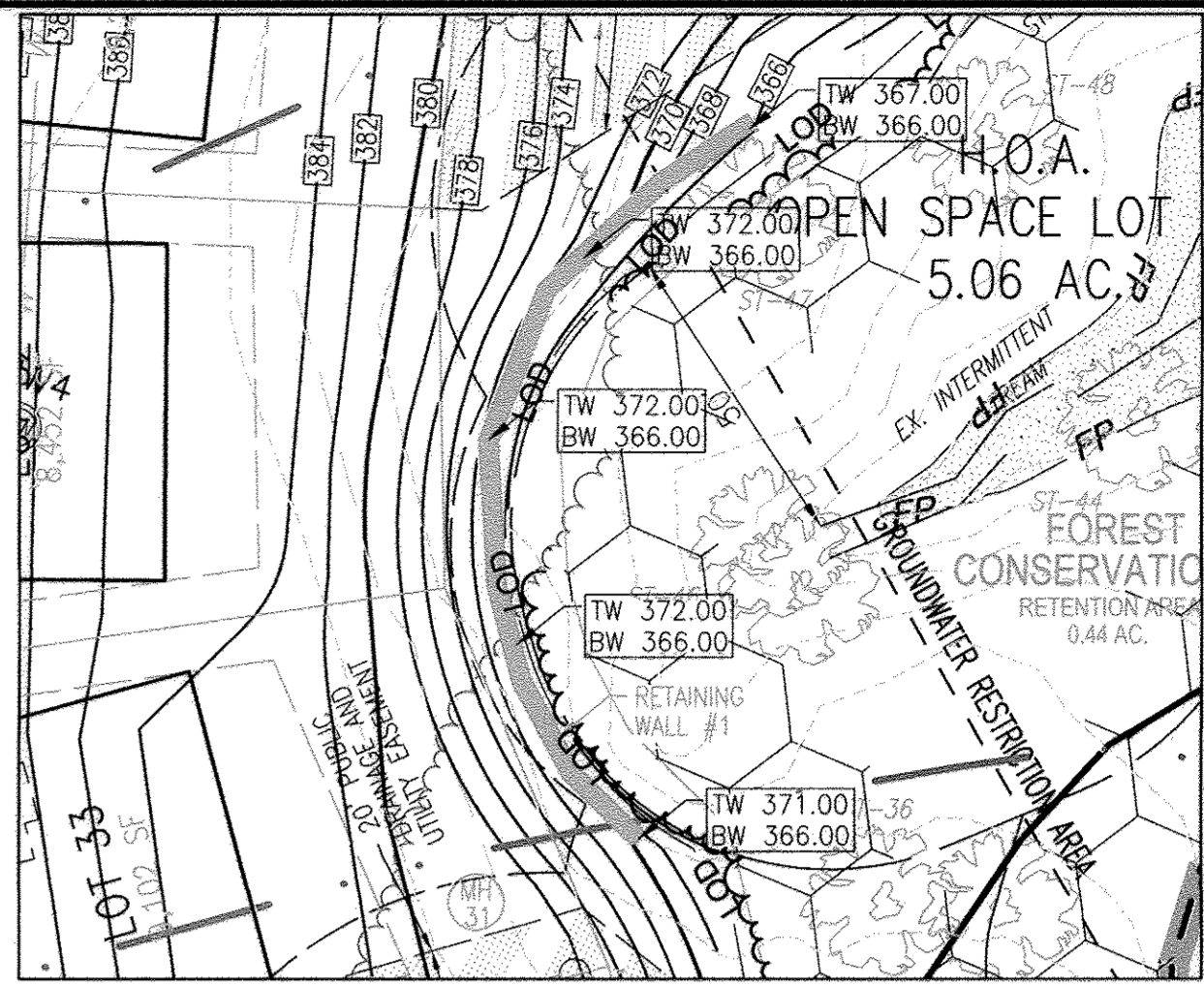
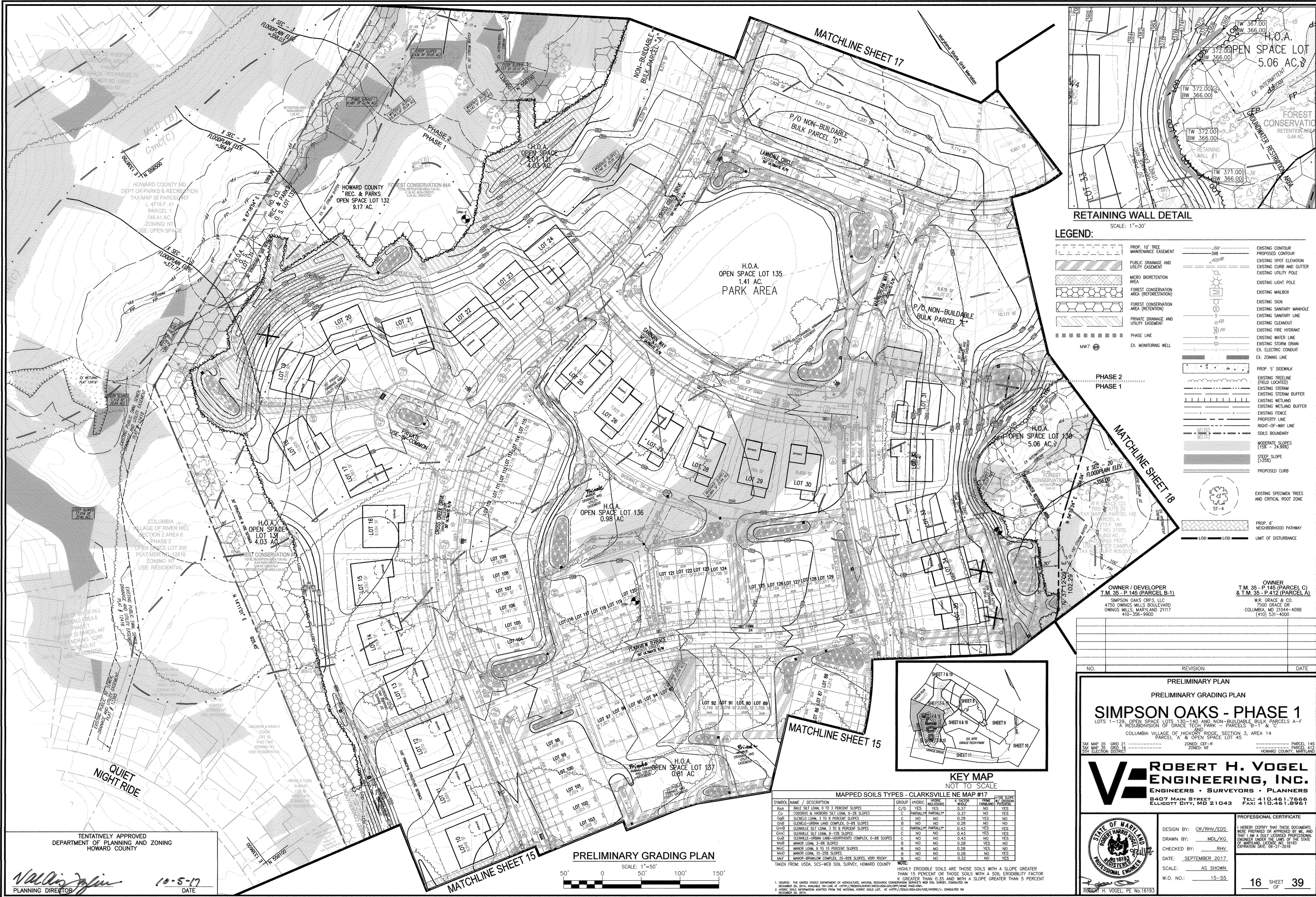
OWNER
 T.M. 35 - P. 145 (PARCEL C)
 & T.M. 35 - P. 412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

10-5-17
 DATE

MD ROUTE 32 - WB
 STATE PUBLIC PRINCIPAL ARTERIAL ROADWAY
 (R/W WIDTH VARIES FROM 332' TO 564' ALONG SITE FRONTAGE)

SCALE: 1"=50'
 0 50' 100' 150'



LEGEND:

[Symbol]	PROP. 10' TREE MAINTENANCE EASEMENT	[Symbol]	EXISTING CONTOUR
[Symbol]	PUBLIC DRAINAGE AND UTILITY EASEMENT	[Symbol]	EXISTING SPOT ELEVATION
[Symbol]	MICRO BIORETENTION AREA	[Symbol]	EXISTING CURB AND GUTTER
[Symbol]	FOREST CONSERVATION AREA (PRESERVATION)	[Symbol]	EXISTING UTILITY POLE
[Symbol]	FOREST CONSERVATION AREA (RETENTION)	[Symbol]	EXISTING LIGHT POLE
[Symbol]	PRIVATE DRAINAGE AND UTILITY EASEMENT	[Symbol]	EXISTING MAILBOX
[Symbol]	PHASE LINE	[Symbol]	EXISTING SIGN
[Symbol]	EX. MONITORING WELL	[Symbol]	EXISTING SANITARY MANHOLE
[Symbol]		[Symbol]	EXISTING SANITARY LINE
[Symbol]		[Symbol]	EXISTING CLEANOUT
[Symbol]		[Symbol]	EXISTING FIRE HYDRANT
[Symbol]		[Symbol]	EXISTING WATER LINE
[Symbol]		[Symbol]	EXISTING STORM DRAIN
[Symbol]		[Symbol]	EX. ELECTRIC CONDUIT
[Symbol]		[Symbol]	EX. ZONING LINE
[Symbol]		[Symbol]	PROP. 5' SIDEWALK
[Symbol]		[Symbol]	EXISTING TREELINE (FIELD LOCATED)
[Symbol]		[Symbol]	EXISTING STERAM
[Symbol]		[Symbol]	EXISTING STERAM BUFFER
[Symbol]		[Symbol]	EXISTING WETLAND
[Symbol]		[Symbol]	EXISTING WETLAND BUFFER
[Symbol]		[Symbol]	EXISTING FENCE
[Symbol]		[Symbol]	PROPERTY LINE
[Symbol]		[Symbol]	RIGHT-OF-WAY LINE
[Symbol]		[Symbol]	SOILS BOUNDARY
[Symbol]		[Symbol]	MODERATE SLOPES (15% - 24.99%)
[Symbol]		[Symbol]	STEEP SLOPE (>25%)
[Symbol]		[Symbol]	PROPOSED CURB
[Symbol]		[Symbol]	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
[Symbol]		[Symbol]	PROP. 6' NEIGHBORHOOD PATHWAY
[Symbol]		[Symbol]	LIMIT OF DISTURBANCE

OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MD 21117
 410-356-9900

OWNER
 T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.142 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-1098
 (410) 531-4000

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY GRADING PLAN
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & B-2
 AND COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 ZONED: CEF-R PARCEL 145
 12A MAP 35 GRID 21 ZONED: NT PARCEL 412
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

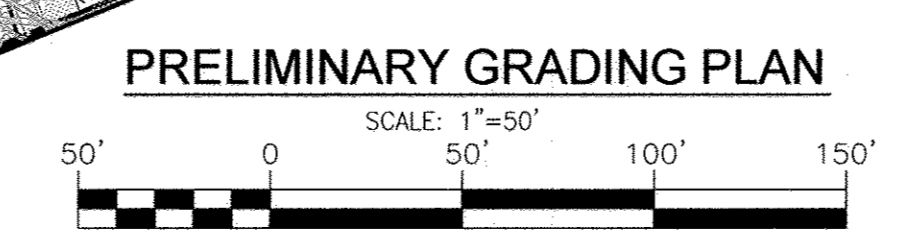
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10037, EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS.
 DRAWN BY: MDL/KG.
 CHECKED BY: RHV.
 DATE: SEPTEMBER 2017.
 SCALE: AS SHOWN.
 W.O. NO.: 15-55.

16 SHEET OF 39

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Nellis J. J. J.
 10-5-17
 PLANNING DIRECTOR DATE



MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

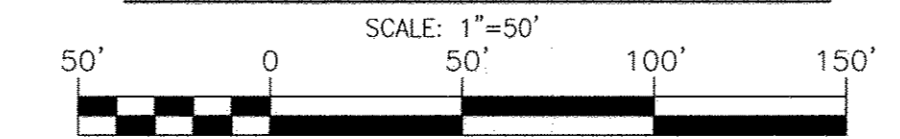
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	INCLUSIONS	PERCENT BULK	PERCENT BULK	PERCENT BULK	PERCENT BULK	PERCENT BULK	PERCENT BULK
BsA	SHALY SILT LOAM, 3 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO	NO	NO
Cp	COARSE SAND AND SANDY SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	NO	NO	NO
GsE	GLENNVILLE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO	NO
GsB	GLENNVILLE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO	NO
GmE	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	NO	NO	NO
GmC	GLENNVILLE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	NO	NO	NO
GsB	GLENNVILLE-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	NO	NO	NO	NO
MsE	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO
MsC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO
MdD	MANOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO	NO
LsE	LANE-URBAN LAND COMPLEX, 25-45% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	NO	NO	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014. AVAILABLE ON-LINE AT: <http://websoilsurvey.com>

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT: <http://soils.usda.gov/survey/hydric/>, CONSULTED ON DECEMBER 29, 2014.



MATCHLINE SHEET 19

ONSITE SWMF #3 - SAND FILTER

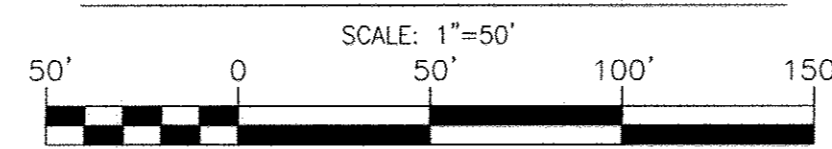
TYPE: MD 378
HAZARD CLASS: A
EX. DRAINAGE AREA: 23.58 AC. (B/C COMBINED)
PROP. DRAINAGE AREA: 1.3 AC.
BOTTOM ELEV.: 352.50 TOP SAND FILTER
LOW FLOW INVERT: 352.50
SAND FILTER: 349.5 - 352.5 (SURFACE)
TOP OF EMBANKMENT: 358.00
EMERGENCY SPILLWAY: N/A
Q1/CPV (EX.): 1 CFS
Qp10 (EX.): 30 CFS
Qp100 (EX.): 69 CFS
Q1/CPV (DEV): 0.3 CFS
1 YR SWM WSEL= 353.25
Qp10 (DEV): 0.7 CFS
10 YR SWM WSEL= 354.55
Qp100 (DEV): 4 CFS
100 YR SWM WSEL= 355.07

WV Required = 2,196 cuft
WV Provided = 3,485 cuft
REV Required = 285 cuft
REV Provided = 2,947 sf @ 3" Stone
Below Underdrain

MATCHLINE SHEET 19

MATCHLINE SHEET 16

PRELIMINARY GRADING PLAN



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING CLEANDOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- EXISTING SPECIMEN TREES
- SIDEWALK (5' OR 6')
- 8' ASPHALT PATH
- EXISTING TREELINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- MODERATE SLOPES (15% - 24.99%)
- STEEP SLOPE (>25%)
- EXISTING FLOOD PLAN
- PROPOSED CURB
- EXISTING FOREST CONSERVATION AREA (REFORESTATION)
- EXISTING FOREST CONSERVATION AREA (RETENTION)
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- MICRO BIORETENTION AREA
- PROP. 10' TREE MAINTENANCE EASEMENT
- PROP. 6' NEIGHBORHOOD PATHWAY
- LIMIT OF DISTURBANCE
- PROP. 6' NEIGHBORHOOD PATHWAY

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDROLOGIC INCLUSIONS	K FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY	PERCENT ORGANIC	PERCENT ROCK
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C	NO	0.37	NO	NO	NO	NO	NO
Co	COODORUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	NO	NO
GnB	GLENNLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO
GnB	GLENNLE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
GnB	GLENNLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	NO	NO
GnB	GLENNLE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	NO	NO
GnB	GLENNLE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.43	NO	NO	NO	NO
MaB	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MaC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
Md	MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES	NO	NO
MvF	MAJOR-BRINKMAN COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

HOWARD COUNTY REC. & PARKS OPEN SPACE LOT 132 9.47 AC.

X SEC - 6 FLOODPLAIN ELEV. = 335.46

X SEC - 3 FLOODPLAIN ELEV. = 342.61

X SEC - 5 FLOODPLAIN ELEV. = 348.48

OWNER / DEVELOPER: T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

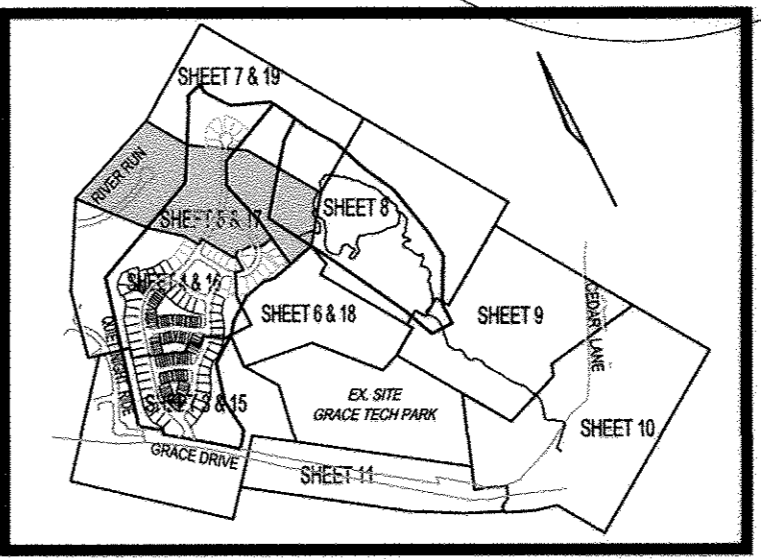
PLANNING DIRECTOR: *Nathan J. J...* DATE: 10-5-17

ONSITE SWMF #2 - SAND FILTER

TYPE: MD 378
HAZARD CLASS: A
EX. DRAINAGE AREA: 23.58 AC. (B/C COMBINED)
PROP. DRAINAGE AREA: 7.5 AC.
BOTTOM ELEV.: 343.00 TOP SAND FILTER
LOW FLOW INVERT: 343.00
SAND FILTER: 340.5 - 343.00 (SURFACE)
TOP OF EMBANKMENT: 352.00
EMERGENCY SPILLWAY: N/A
Q1/CPV (EX.): 1 CFS
Qp10 (EX.): 32 CFS
Qp100 (EX.): 73 CFS
Q1/CPV (DEV): 0.3 CFS
1 YR SWM WSEL= 345.14
Qp10 (DEV): 10 CFS
10 YR SWM WSEL= 347.02
Qp100 (DEV): 24 CFS
100 YR SWM WSEL= 348.15

WV Required = 13,613 cuft
WV Provided = 13,275 cuft
REV Required = 1,770 cuft
REV Provided = 7,357 sf @ 8" Stone
Below Underdrain

RETAINING WALL DETAIL SCALE: 1"=30'



PRELIMINARY PLAN
PRELIMINARY GRADING PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRD 21
TAX MAP 35 GRD 16
5TH ELECTION DISTRICT

PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

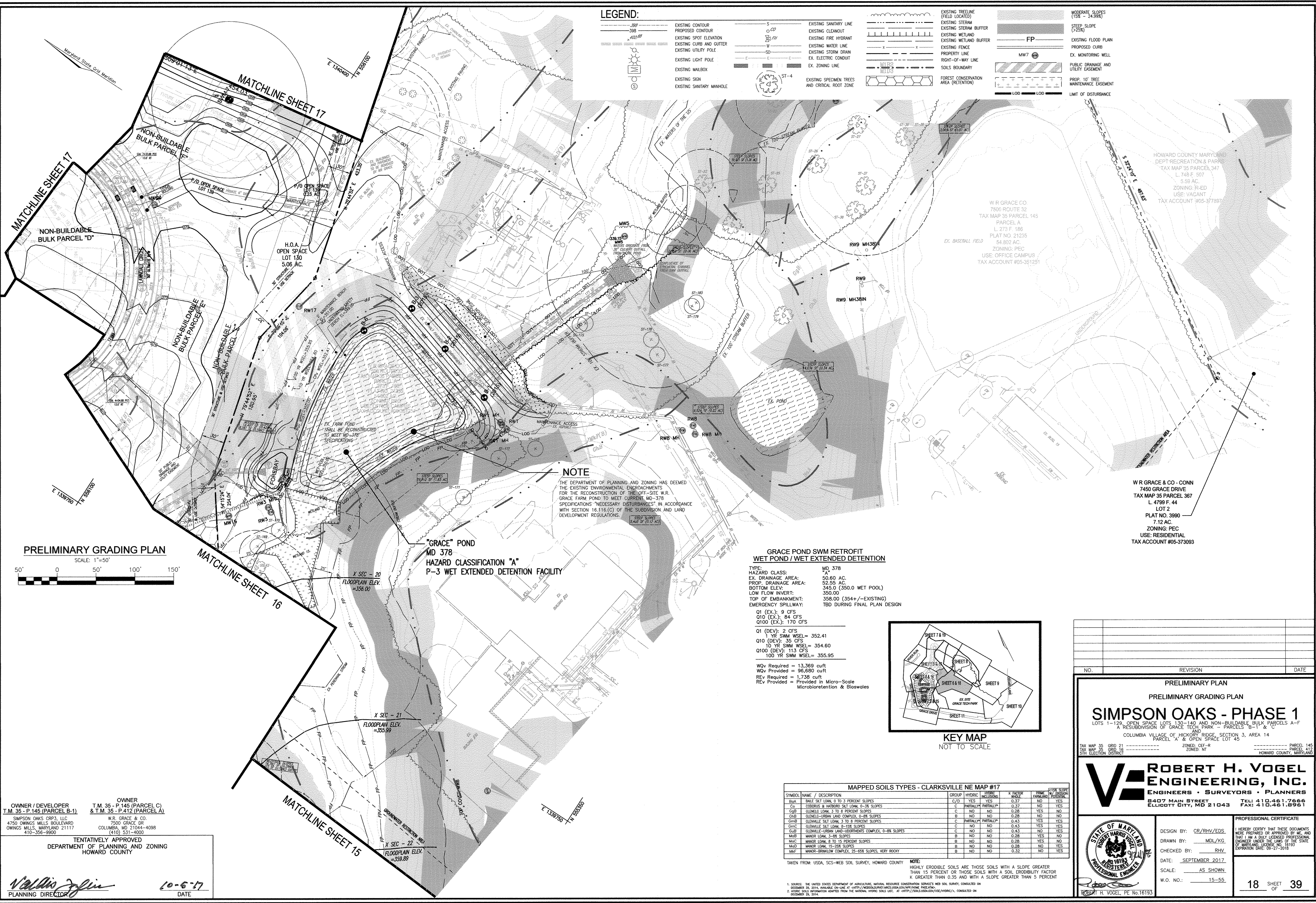
DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2018

17 OF 39

LEGEND:

<p>289 398 402.88</p>	<p>S C/D W SD E E</p> <p>EXISTING SANITARY LINE EXISTING CLEANSOUT EXISTING FIRE HYDRANT EXISTING WATER LINE EXISTING STORM DRAIN EX. ELECTRIC CONDUIT EX. ZONING LINE</p>	<p>ST-4</p> <p>EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE</p>	<p>EXISTING TRENLINE (FIELD LOCATED) EXISTING STERAM EXISTING STERAM BUFFER EXISTING WETLAND EXISTING WETLAND BUFFER EXISTING FENCE PROPERTY LINE RIGHT-OF-WAY LINE SOILS BOUNDARY FOREST CONSERVATION AREA (RETENTION)</p>	<p>MODERATE SLOPES (15% - 24.99%) STEEP SLOPE (≥25%) EXISTING FLOOD PLAIN PROPOSED CURB EX. MONITORING WELL PUBLIC DRAINAGE AND UTILITY EASEMENT PROP. 10' TREE MAINTENANCE EASEMENT LIMIT OF DISTURBANCE</p>
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NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

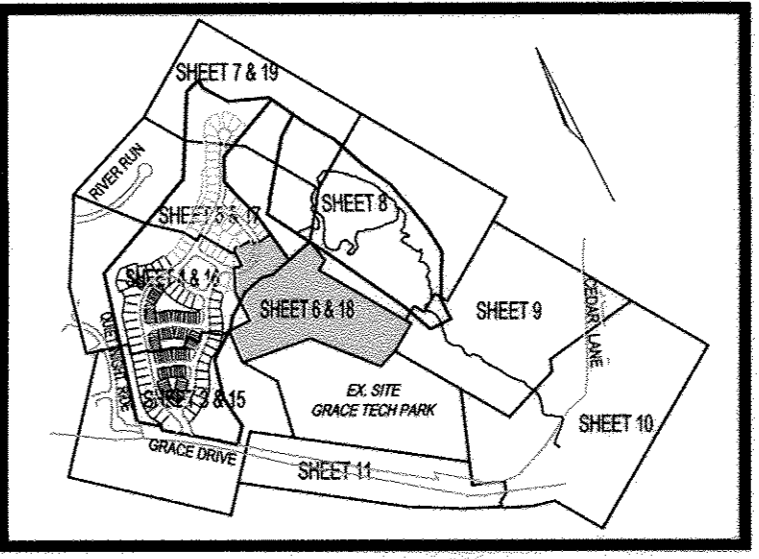
**GRACE POND SWM RETROFIT
WET POND / WET EXTENDED DETENTION**

TYPE: MD 378
HAZARD CLASS: "A"
EX. DRAINAGE AREA: 50.60 AC.
PROP. DRAINAGE AREA: 52.55 AC.
BOTTOM ELEV.: 345.0 (350.0 WET POOL)
LOW FLOW INVERT: 350.00
TOP OF EMBANKMENT: 358.00 (354+/- EXISTING)
EMERGENCY SPILLWAY: TBD DURING FINAL PLAN DESIGN

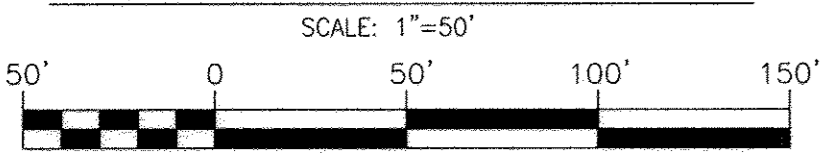
Q1 (EX.): 9 CFS
Q10 (EX.): 84 CFS
Q100 (EX.): 170 CFS

Q1 (DEV): 2 CFS
1 YR SWM WSEL = 352.41
Q10 (DEV): 35 CFS
10 YR SWM WSEL = 354.60
Q100 (DEV): 113 CFS
100 YR SWM WSEL = 355.95

WQv Required = 13,369 cuft
WQv Provided = 96,890 cuft
Rev Required = 1,738 cuft
Rev Provided = Provided in Micro-Scale Microbioretention & Bioswales



PRELIMINARY GRADING PLAN



OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS GRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-0000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Nadine Zilins
PLANNING DIRECTOR

10-6-17
DATE

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT SLOPES	K FACTOR	PERCENT SLOPES	PERCENT SLOPES
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	0.37	NO	YES	NO
Co	COORUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	0.37	NO	YES	NO
CbB	GLENELE-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	0.28	YES	NO	NO
CbC	GLENELE-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	0.28	NO	YES	NO
CbD	GLENELE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	0.43	YES	YES	YES
CbE	GLENELE SILT LOAM, 8-15% SLOPES	C	NO	0.43	YES	YES	YES
CbF	GLENELE-URBAN LAND-UDORMENTS COMPLEX, 0-8% SLOPES	C	NO	0.43	NO	YES	YES
CbG	GLENELE SILT LOAM, 3-8% SLOPES	B	NO	0.28	YES	NO	NO
CbH	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	YES	NO	NO
CbI	MANOR LOAM, 15-25% SLOPES	B	NO	0.28	NO	YES	NO
CbJ	MANOR-BRINKLOW COMPLEX, 25-55% SLOPES, VERY ROCKY	B	NO	0.32	NO	YES	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 20, 2014, AVAILABLE ON-LINE AT: <http://websoilsurvey.nrcs.usda.gov/nv/>

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LEG. AT: <http://soils.nrcs.usda.gov/hydric/>, CONSULTED ON DECEMBER 20, 2014.

PRELIMINARY PLAN
PRELIMINARY GRADING PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
TAX MAP 35 GRID 16
5TH ELECTION DISTRICT

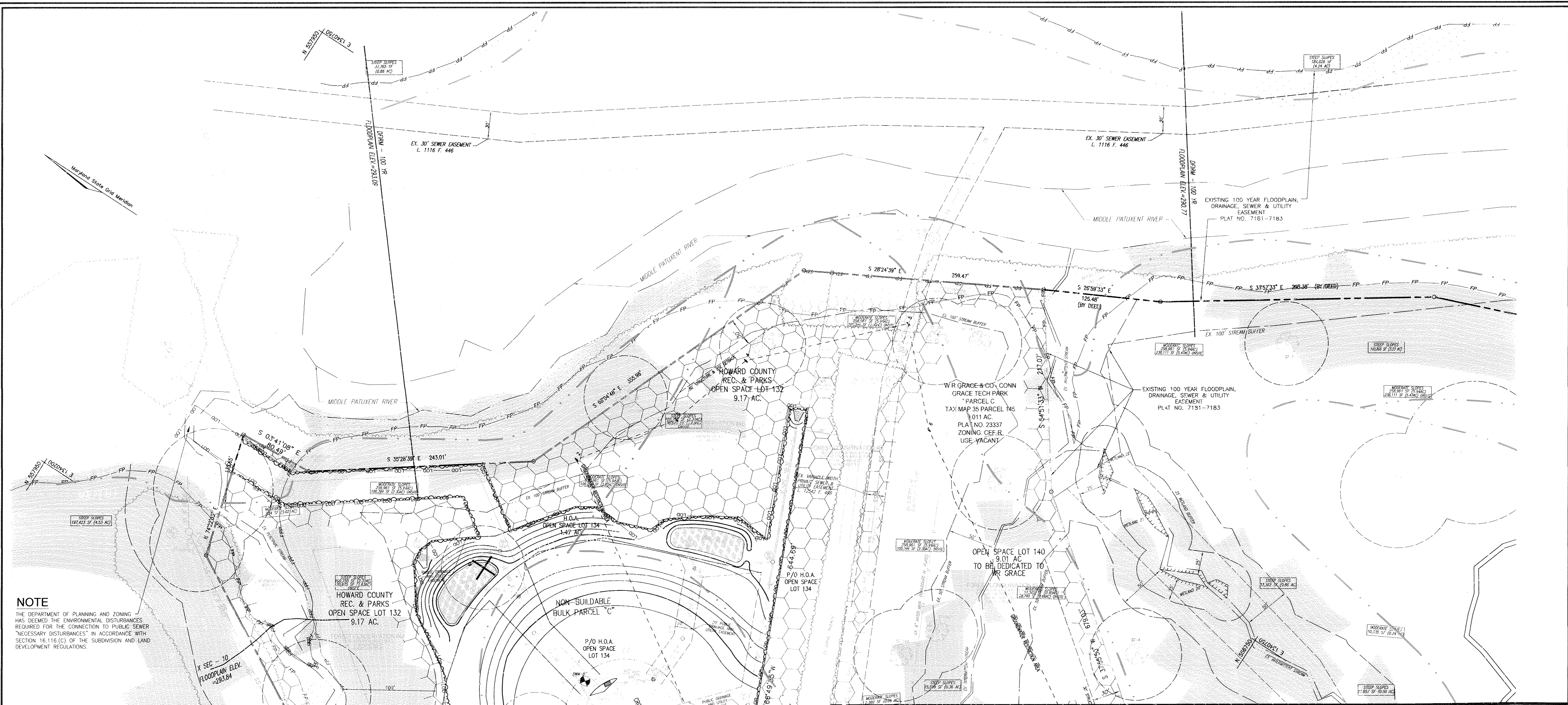
PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL
ENGINEERING, INC.**
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLIOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KJC
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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18 SHEET OF 39



NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410.356.9000

OWNER
 T.M. 35 - P.145 (PARCEL C)
 & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO
 7500 GRACE DR
 COLUMBIA, MD 21044 4098
 (410) 531-6000

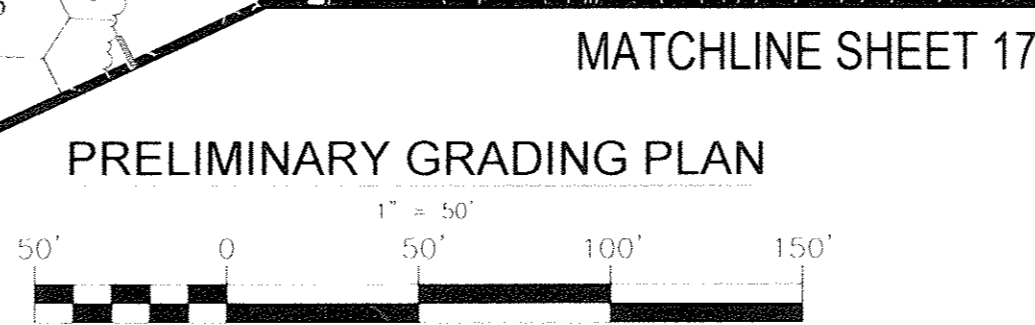
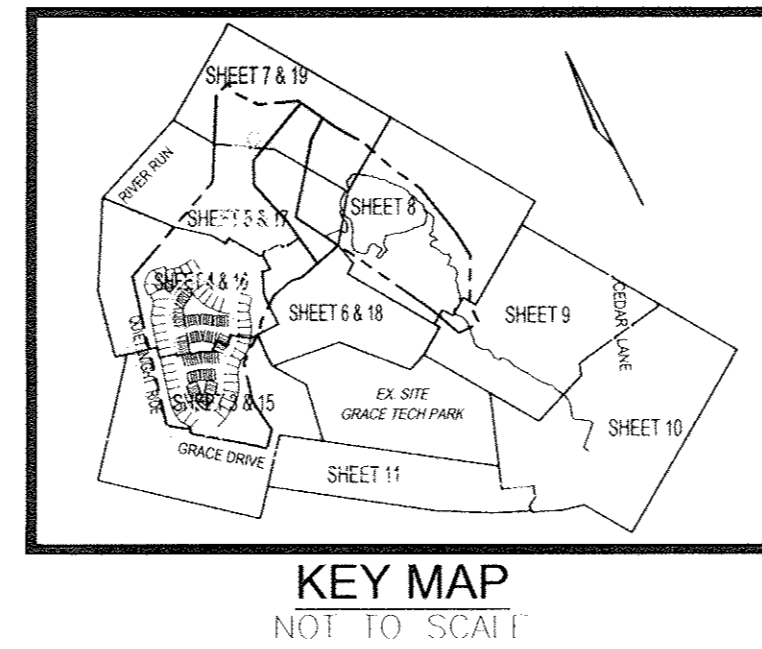
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PERCENT	PERCENT	PERCENT	PERCENT
SuA	SANDY SILT LOAM, 0 TO 3 PERCENT SLOPES	C	NO	NO	0.37	NO	NO	NO	YES
Co	COARSE & MEDIUM SANDY SILT LOAM, 0 TO 3 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	NO	YES
ChB	GLENEIC LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
ChC	GLENEIC URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
ChD	GLENEIC SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	NO	NO
ChE	GLENEIC SILT LOAM, 8 TO 15 PERCENT SLOPES	C	NO	NO	0.43	YES	YES	NO	NO
ChF	GLENEIC URBAN LAND (HOODRENTS) COMPLEX, 0 TO 8 PERCENT SLOPES	C	NO	NO	0.43	NO	NO	NO	NO
MdA	MANOR LOAM, 3 TO 8 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MdB	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MdC	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
MdD	MANOR BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO	NO

Nathan J. Griffin
 PLANNING DIRECTOR

10-5-17
 DATE



LEGEND:

EXISTING CONTOUR	EXISTING SANITARY MANHOLE	EXISTING TREE LINE (FIELD LOCATED)
PROPOSED CONTOUR	EXISTING SANITARY LINE	EXISTING STREAM
EXISTING SPOT ELEVATION	EXISTING CLEARCUT	EXISTING STREAM BUFFER
EXISTING CURB AND GUTTER	EXISTING WATER LINE	EXISTING WETLAND
EXISTING UTILITY POLE	EXISTING STORM DRAIN	EXISTING WETLAND BUFFER
EXISTING LIGHT POLE	EX. 111 CIRC. CONDUIT	EXISTING FENCED PROPERTY LINE
EXISTING MAILBOX	EX. ZONING LINE	RIGHT OF WAY LINE
EXISTING SIGN	PROP. 5' SIDEWALK	SOILS BOUNDARY
EXISTING SIGNAGE	FORST. CONSERVATION AREA (REFORESTATION)	MODERATE SLOPES (15% - 24.99%)
EXISTING SIGNAGE	FORST. CONSERVATION AREA (REFORESTATION)	STEEP SLOPE (>25%)
EXISTING SIGNAGE	EX. 100 YEAR FLOODPLAIN, DRAINAGE, SEWER, AND UTILITY FACILITY	EXISTING FLOODPLAIN
EXISTING SIGNAGE	PROP. 10' TREE MAINTENANCE EASEMENT	PROPOSED CURB
EXISTING SIGNAGE		EXISTING SPACED IN TREES AND CRITICAL ROOT ZONE
EXISTING SIGNAGE		EX. MONITORING WELL
EXISTING SIGNAGE		PUBLIC DRAINAGE AND UTILITY FACILITY
EXISTING SIGNAGE		MICRO BORE TRENCH AREA
EXISTING SIGNAGE		LIMIT OF DISTURBANCE

NO. REVISION DATE

PRELIMINARY PLAN
 PRELIMINARY GRADING PLAN

SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 131-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK, PARCELS B-1 & C
 AND
 COLUMBIA VILLAGE OF HICKORY BRIDGE, SECTION 3, AREA 14
 PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35, GRID 21
 TAX MAP 35, GRID 16
 5TH ELECTION DISTRICT

ZONED: CE, R
 ZONED: M

PARCEL 145
 PARCEL 412
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

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DESIGN BY: CR/RHV/EJDS
 DRAWN BY: MUL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15.95

19 SHEET OF 39

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EXISTING TIE LINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- MODERATE SLOPES (2% - 24.99%)
- STEEP SLOPE (>25%)

- EX. ZONING LINE
- PROP. 5' SIDEWALK
- 8' BIKEWAY
- PROP. 6' NEIGHBORHOOD PATHWAY
- PROPOSED CURB
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- EX. MONITORING WELL
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- MICRO BIORETENTION AREA
- FOREST CONSERVATION AREA (REFORESTATION)
- FOREST CONSERVATION AREA (RETENTION)
- PROP. 10' TREE MAINTENANCE EASEMENT
- DRAINAGE AREA
- INLET
- ZONING
- C FACTOR
- % IMPERVIOUS
- DRAINAGE AREA DIVIDE

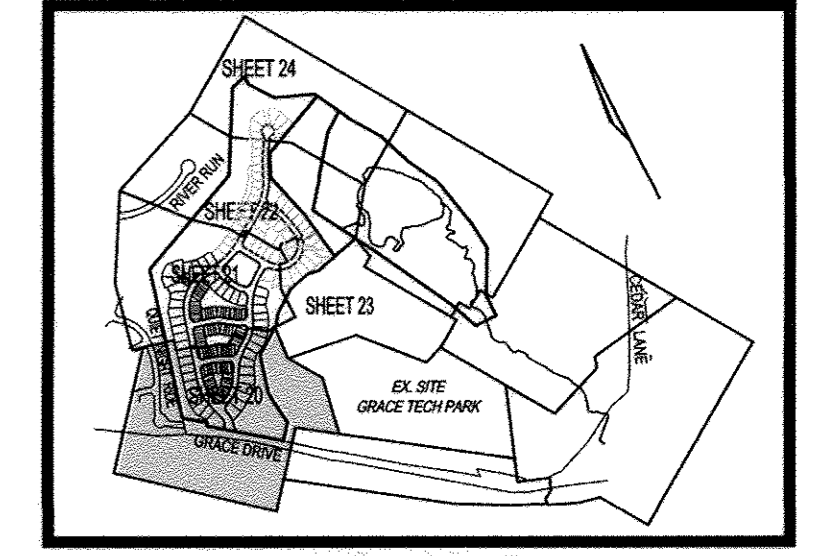
MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PERCENT	PERCENT	PERCENT
BsA	BALKE SALT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO
Cs	COODINE & HARBOR Silt LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	NO
GcB	GLENNEL LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO
GcB	GLENNEL-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO
GcB	GLENNEL Silt LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES
GcB	GLENNEL Silt LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES
GcB	GLENNEL-URBAN LAND-UDDETHENS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES	NO
MdS	MINOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO
MdS	MINOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
MdS	MINOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES	NO
MdF	MINOR-BRINKLOW COMPLEX, 25-50% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO

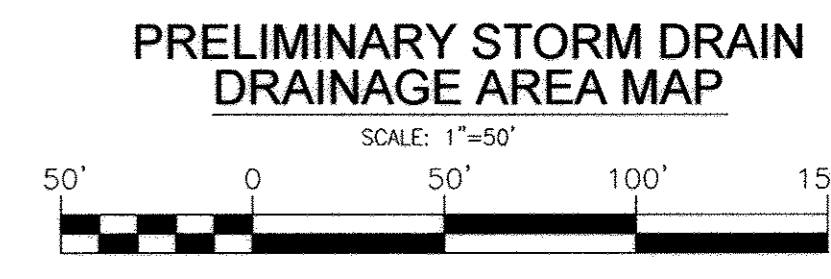
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 28, 2014. AVAILABLE AT: <http://NRCS.GOV/SURVEY/WEB/USDA/USDA/USDA/USDA/>

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT: <http://NHL.GOV/USDA/USDA/USDA/USDA/>, CONSULTED ON DECEMBER 28, 2014.



KEY MAP
NOT TO SCALE



OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)

OWNER
T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY STORM DRAIN DRAINAGE AREA MAP

SIMPSON OAKS - PHASE 1

LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
5TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
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8407 MAIN STREET
ELICOTT CITY, MD 21043
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DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
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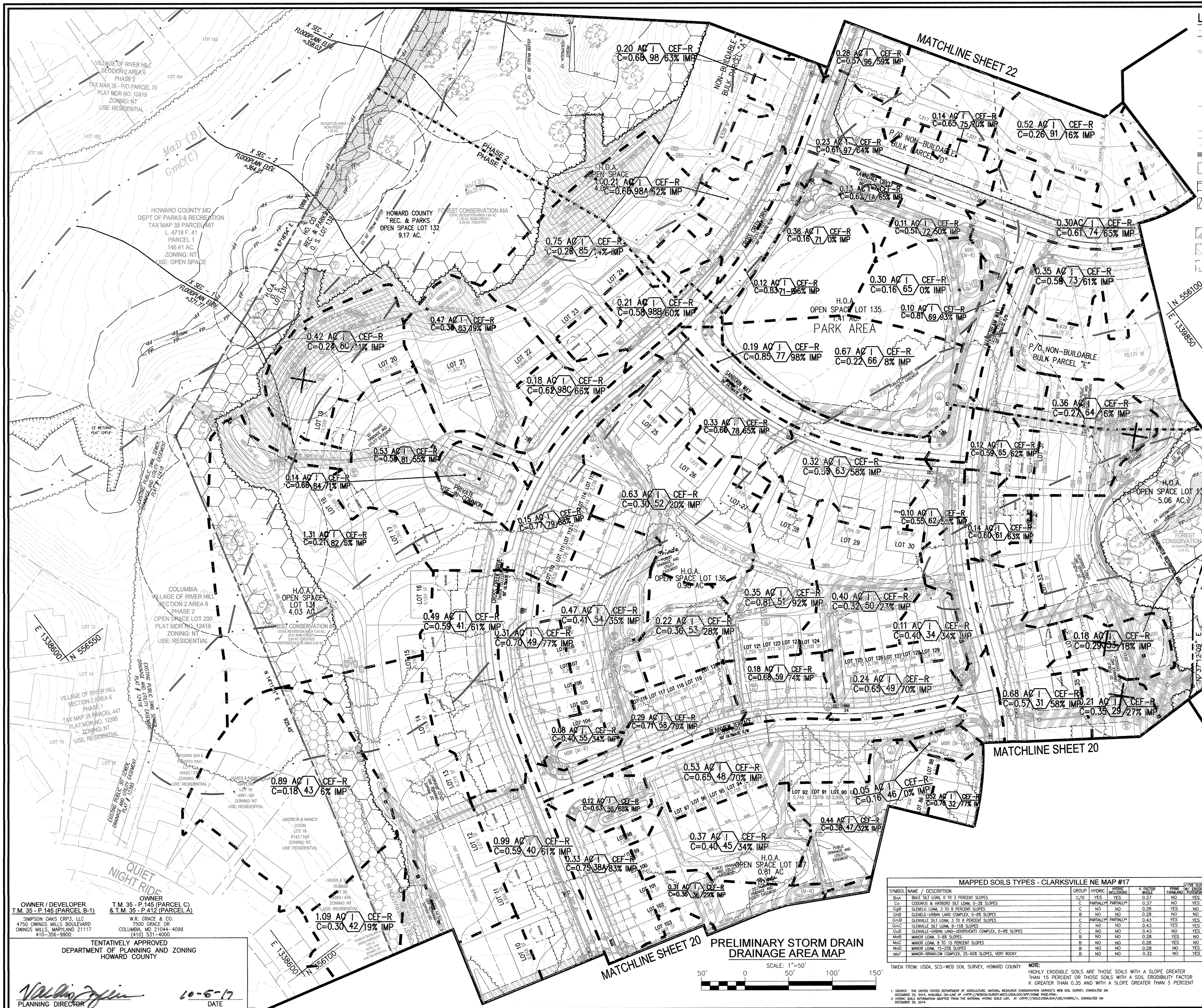
20 SHEET OF 39

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie Flynn
PLANNING DIRECTOR
10-5-17
DATE

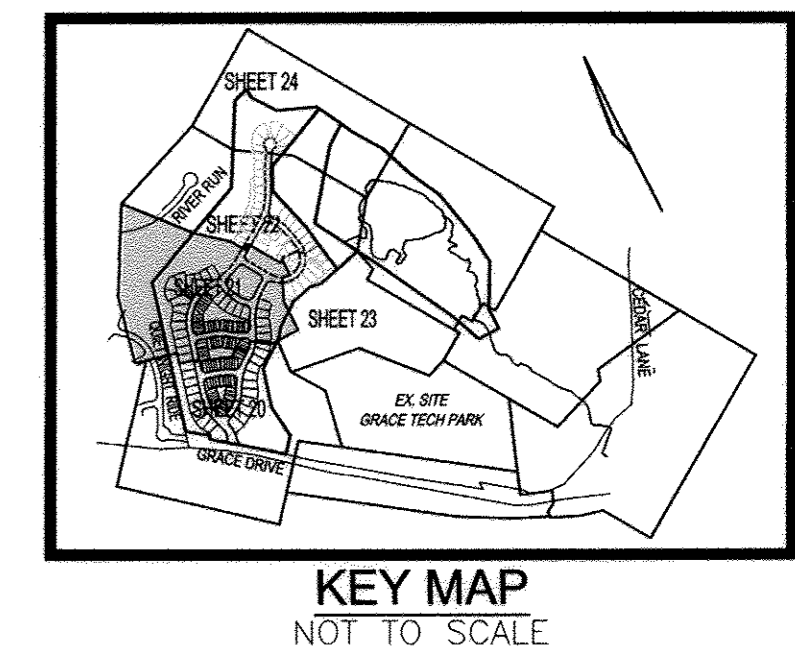
NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



LEGEND:

EXISTING CONTOUR	EXISTING TIE LINE (FIELD LOCATED)
EXISTING SPOT ELEVATION	EXISTING STERAM
EXISTING CURB AND GUTTER	EXISTING STERAM BUFFER
EXISTING UTILITY POLE	EXISTING WETLAND
EXISTING LIGHT POLE	EXISTING WETLAND BUFFER
EXISTING MAILBOX	EXISTING FENCE
EXISTING SIGN	PROPERTY LINE
EXISTING SANITARY MANHOLE	RIGHT-OF-WAY LINE
EXISTING SANITARY LINE	SOILS BOUNDARY
EXISTING CLEANOUT	MODERATE SLOPES (1% - 24.99%)
EXISTING FIRE HYDRANT	STEEP SLOPE (>25%)
EXISTING WATER LINE	EXISTING FLOOD PLAN
EXISTING STORM DRAIN	PROPOSED CURB
EX. ELECTRIC CONDUIT	
EX. ZONING LINE	
PROP. 5' SIDEWALK	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
FOREST CONSERVATION AREA (REFORESTATION)	
FOREST CONSERVATION AREA (RETENTION)	
EXISTING MONITORING WELL	
PUBLIC DRAINAGE AND UTILITY EASEMENT	DRAINAGE AREA DIVIDE
PRIVATE DRAINAGE AND UTILITY EASEMENT	PROP. 6' NEIGHBORHOOD PATHWAY
PROP. 10' TREE MAINTENANCE EASEMENT	



OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR.
COLUMBIA, MD 21044-4098
(410) 531-4000

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY STORM DRAIN
DRAINAGE AREA MAP

SIMPSON OAKS - PHASE 1

LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
TAX MAP 35 GRID 16
5TH ELECTION DISTRICT

PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

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CHECKED BY: RHV
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W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2018

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE, No. 16193

21 SHEET OF 39

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR.
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR
10-6-17
DATE

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PERME	K FACTOR	ERODI	FLUVE	SLOPE
B3a	BULK SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	
Cs	COARSE & MEDIUM SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	
CgE	CLAYEY SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.26	YES	NO	
GnE	GLENNVILLE-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	NO	0.28	NO	NO	
GnEh	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	
GnEi	GLENNVILLE SILT LOAM, 0-15% SLOPES	C	NO	NO	0.43	YES	YES	
GnEj	GLENNVILLE-URBAN LAND-HIGHWAYS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES	
MbB	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	
MbC	MANOR LOAM, 0 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	
MdD	MANOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES	
MkF	MANOR-BRANFLOAM COMPLEX, 25-55% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

MATCHLINE SHEET 24

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

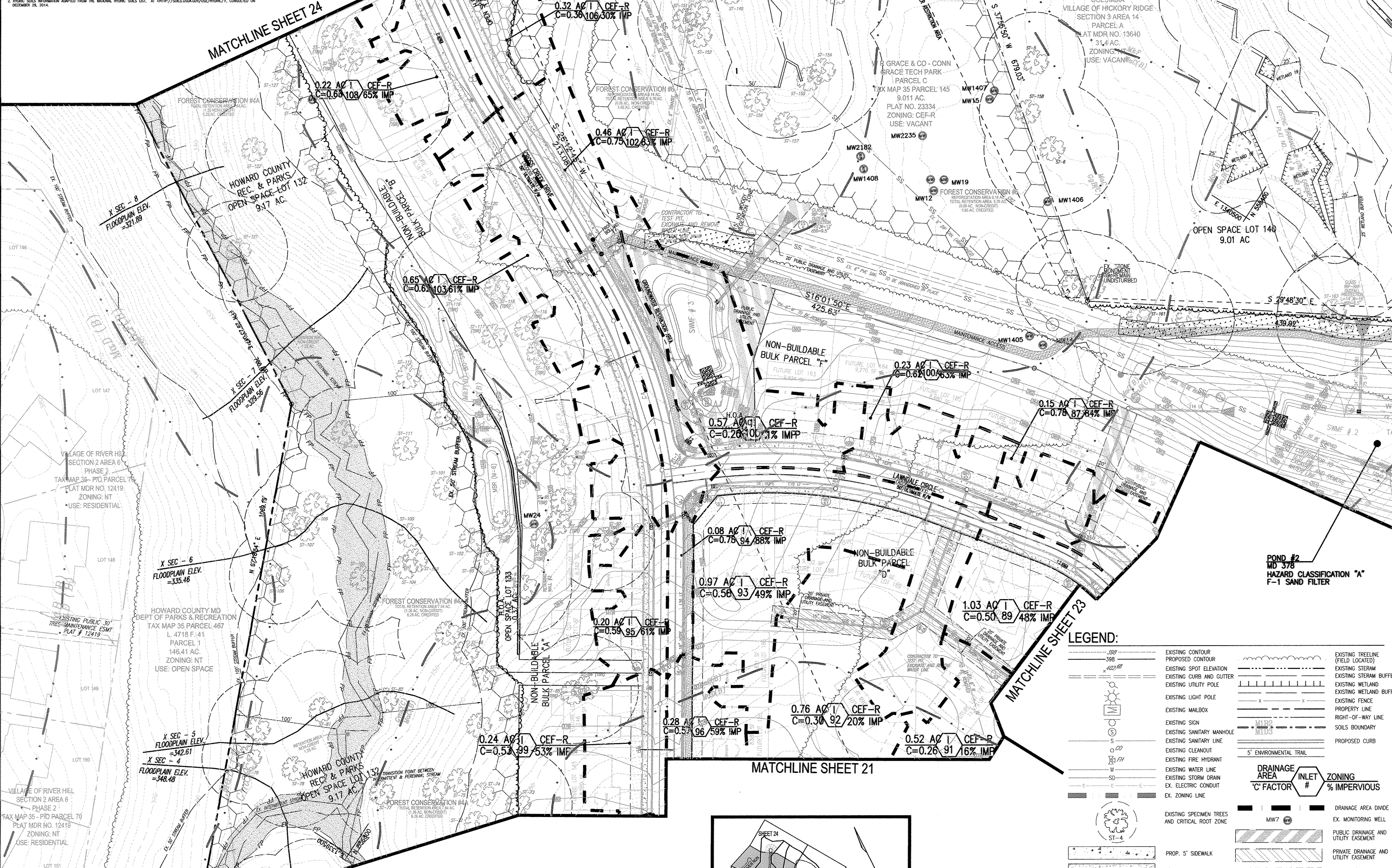
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERMEABLE	K FACTOR	PERCENT	CEC	SLOPE
BaA	BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	YES
Cs	COARSE & MEDIUM SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	YES
GbB	GLENN-LAND, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO
GbE	GLENN-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO
GbH	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.43	YES	YES	NO
GbI	GLENNVILLE SILT LOAM, 3-15% SLOPES	C	NO	NO	0.43	YES	YES	YES
GbJ	GLENNVILLE-URBAN LAND-ADVERTISEMENTS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	NO	YES
MbB	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO
MbC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
MbD	MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES	NO
MbF	MAJOR-BRINKLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 15, 2014, AVAILABLE ON-LINE AT: <http://websoilsurvey.sc.egov.usda.gov/USNRWebSoilSurvey.aspx>

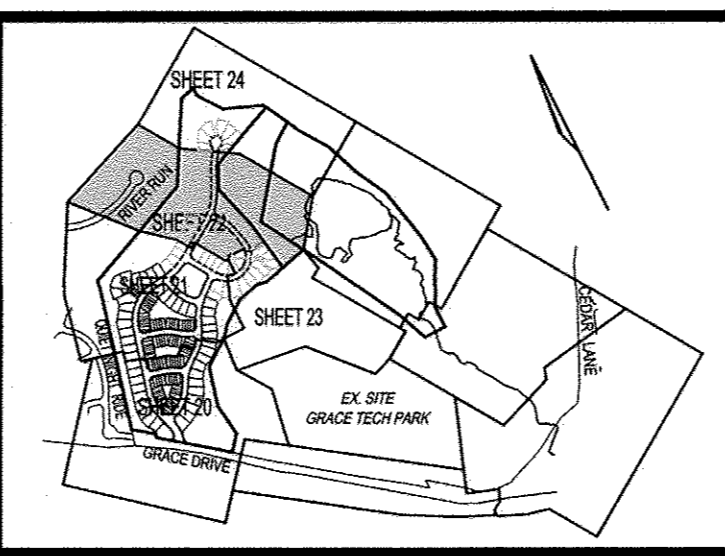
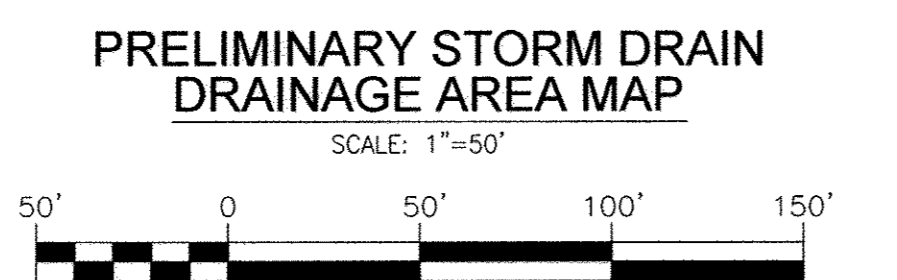
2. SOURCE: SOILS INFORMATION REPORTED FROM THE NATIONAL FIRE DISASTER ACT AT: <http://www.usda.gov/ndbc/nrcs>, CONSULTED ON DECEMBER 20, 2014.



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Vallis
PLANNING DIRECTOR

105-17
DATE



- LEGEND:**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING STORM DRAIN
 - EX. ELECTRIC CONDUIT
 - EX. ZONING LINE
 - EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
 - PROP. 5' SIDEWALK
 - 8' ASPHALT PATH
 - PROP. 6' NEIGHBORHOOD PATHWAY
 - FOREST CONSERVATION AREA (REFORESTATION)
 - FOREST CONSERVATION AREA (RETENTION)
 - EXISTING FLOOD PLAN
 - EXISTING TREETLINE (FIELD LOCATED)
 - EXISTING STORM BUFFER
 - EXISTING WETLAND BUFFER
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - SOILS BOUNDARY
 - PROPOSED CURB
 - EXISTING MONITORING WELL
 - EXISTING STORM
 - PRIVATE DRAINAGE AND UTILITY EASEMENT
 - PROP. 10' TREE MAINTENANCE EASEMENT
 - CONCEPT LOD
 - CONCEPT LOD

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR.
COLUMBIA, MD 21044-4098
(410) 531-4000

NO. _____ REVISION _____ DATE _____

PRELIMINARY PLAN
PRELIMINARY STORM DRAIN
DRAINAGE AREA MAP

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE, LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRD 21
TAX MAP 35 GRD 18
5TH ELECTION DISTRICT

PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

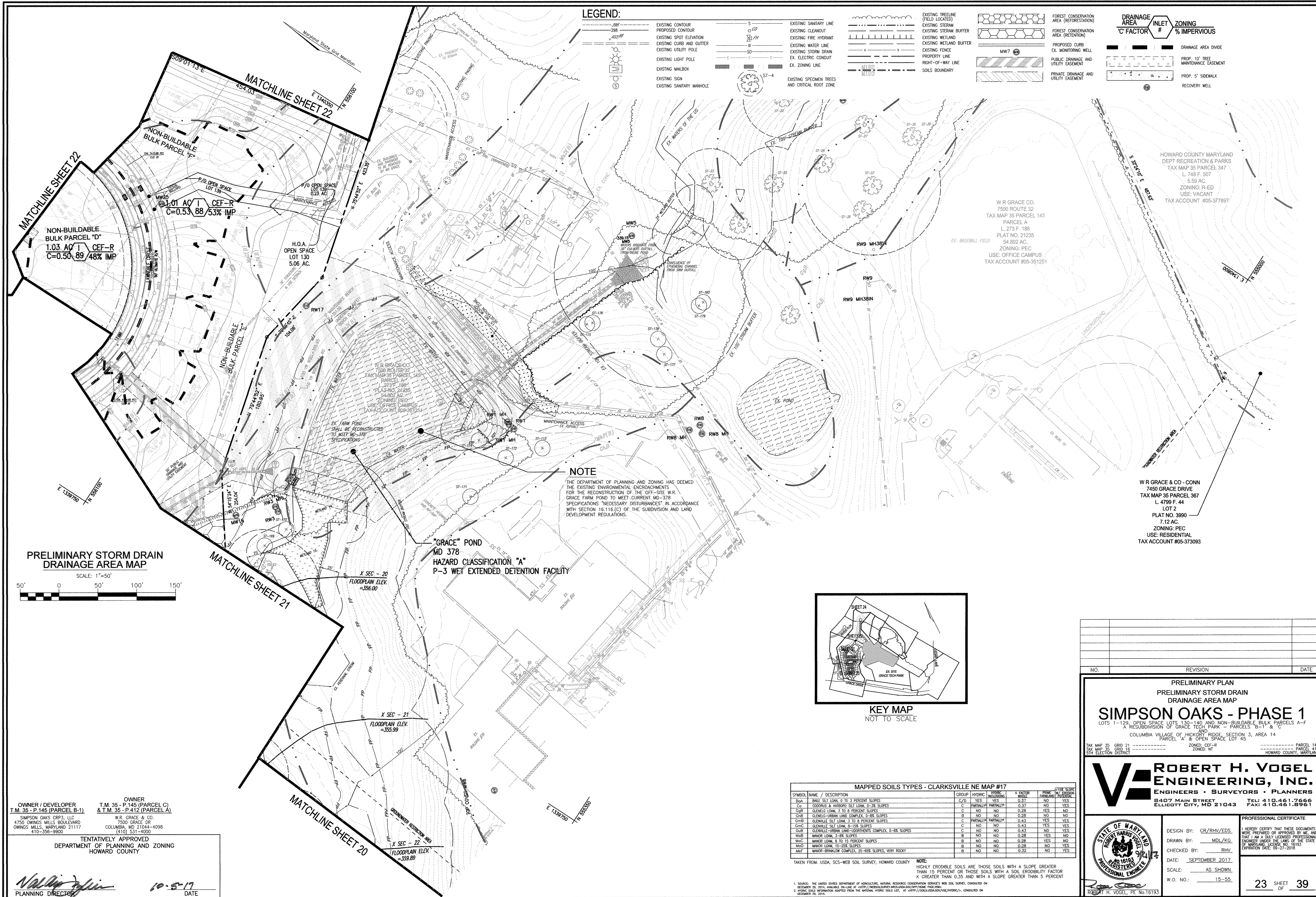
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

22 SHEET OF 39

ROBERT H. VOGEL, P.E. NO. 16193



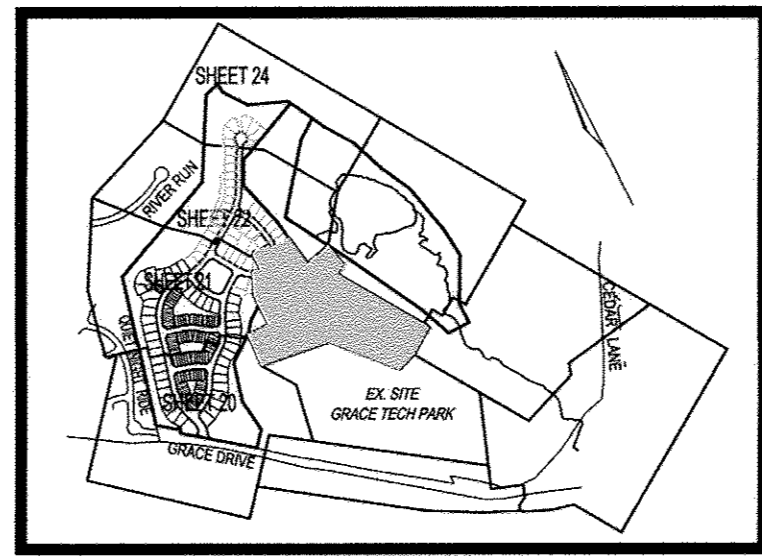
LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ELECTRIC LINE
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- EXISTING TREELINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- FOREST CONSERVATION AREA (REFORESTATION)
- FOREST CONSERVATION AREA (RETENTION)
- PROPOSED CURB
- EX. MONITORING WELL
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- DRAINAGE AREA
- INLET
- ZONING
- % IMPERVIOUS
- DRAINAGE AREA DIVIDE
- PROP. 10' TREE MAINTENANCE EASEMENT
- PROP. 5' SIDEWALK RECOVERY WELL

NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

"GRACE" POND
 MD 378
 HAZARD CLASSIFICATION "A"
 P-3 WET EXTENDED DETENTION FACILITY



KEY MAP
NOT TO SCALE

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PERCENT	PERCENT	PERCENT	PERCENT
BuA	BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO	YES
Co	COORUS & WARBOD SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	NO	YES
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	YES
GmB	GLENVILLE SILT LOAM, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	YES
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES	YES
GmC	GLENVILLE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES	YES
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.43	YES	YES	YES	YES
MoB	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	YES
MgC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	YES
MdD	MANOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	NO	NO	YES
MkF	MANOR-BRINKLOW COMPLEX, 25-50% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	NO	NO	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL EROSION FACTOR K, GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

PRELIMINARY STORM DRAIN DRAINAGE AREA MAP
 SCALE: 1"=50'
 50' 0 50' 100' 150'

OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-358-9900

OWNER
 T.M. 35 - P.145 (PARCEL C)
 & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-0000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Valerie Taylor
 PLANNING DIRECTOR

10-5-17
 DATE

NO.	REVISION	DATE

PRELIMINARY PLAN
 PRELIMINARY STORM DRAIN DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
 LOTS 1-120, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
 AND
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
 TAX MAP 35 GRID 16
 5TH ELECTION DISTRICT

ZONED: CEF-R
 ZONED: NY

PARCEL 145
 PARCEL 412
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE 09-27-2018

STATE OF MARYLAND
 REGISTERED PROFESSIONAL ENGINEER
 NO. 16193

23 SHEET OF 39

ROBERT H. VOGEL, PE No. 16193



NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DETERMINED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

MATCHLINE SHEET 22

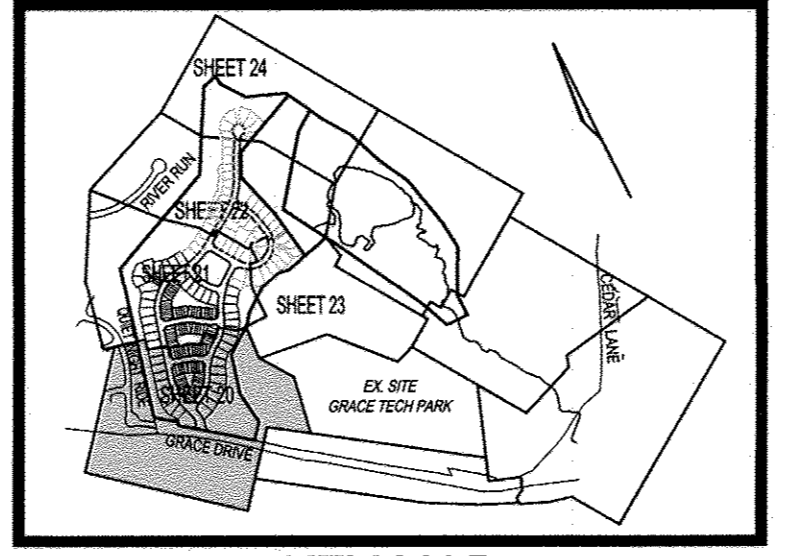
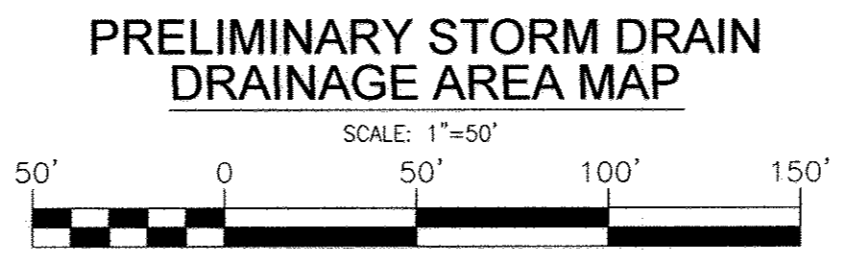
OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B.1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-558-9900

OWNER
 T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PERCENT	PERCENT	PERCENT	PERCENT
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	NO	0.37	NO	NO	NO	NO
Co	COORUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	NO	NO
GmB	GLENNIE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO
GmB	GLENNIE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
GmB	GLENNIE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES	YES
GmC	GLENNIE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES	YES
GmB	GLENNIE-URBAN LAND-ADDITIONS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	NO	NO	NO
MdB	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MdC	MAJOR LOAM, 3 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MdD	MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
MkF	MAJOR-BRINKLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO	NO



MATCHLINE SHEET 22

LEGEND:

	EXISTING CONTOUR		EXISTING STREAM
	PROPOSED CONTOUR		EXISTING STREAM BUFFER
	EXISTING SPOT ELEVATION		EXISTING WETLAND
	EXISTING CURB AND GUTTER		EXISTING WETLAND BUFFER
	EXISTING UTILITY POLE		EXISTING FENCE
	EXISTING LIGHT POLE		PROPERTY LINE
	EXISTING MAILBOX		RIGHT-OF-WAY LINE
	EXISTING SIGN		SOILS BOUNDARY
	EXISTING SANITARY MANHOLE		EXISTING FLOOD PLAN
	EXISTING SANITARY LINE		PROPOSED CURB
	EXISTING CLEANOUT		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
	EXISTING FIRE HYDRANT		DRAINAGE AREA DIVIDE
	EXISTING WATER LINE		PROP. 10' TREE MAINTENANCE EASEMENT
	EXISTING STORM DRAIN		EX. 100 YR FLOODPLAIN, DRAINAGE, SEWER, AND UTILITY EASEMENT
	EX. ELECTRIC CONDUIT		DRAINAGE AREA DIVIDE
	EX. ZONING LINE		PROP. 10' TREE MAINTENANCE EASEMENT
	PROP. 5' SIDEWALK		EX. 100 YR FLOODPLAIN, DRAINAGE, SEWER, AND UTILITY EASEMENT
	FOREST CONSERVATION AREA (REFORESTATION)		DRAINAGE AREA DIVIDE
	FOREST CONSERVATION AREA (RETENTION)		PROP. 10' TREE MAINTENANCE EASEMENT
	EX. MONITORING WELL		DRAINAGE AREA DIVIDE
	PUBLIC DRAINAGE AND UTILITY EASEMENT		PROP. 10' TREE MAINTENANCE EASEMENT
	5' ENVIRONMENTAL TRAIL		DRAINAGE AREA DIVIDE

NO.	REVISION	DATE

PRELIMINARY PLAN
 PRELIMINARY STORM DRAIN DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
 TAX MAP 35 GRID 16
 5TH ELECTION DISTRICT

PARCEL 145
 PARCEL 412
 HOWARD COUNTY, MARYLAND

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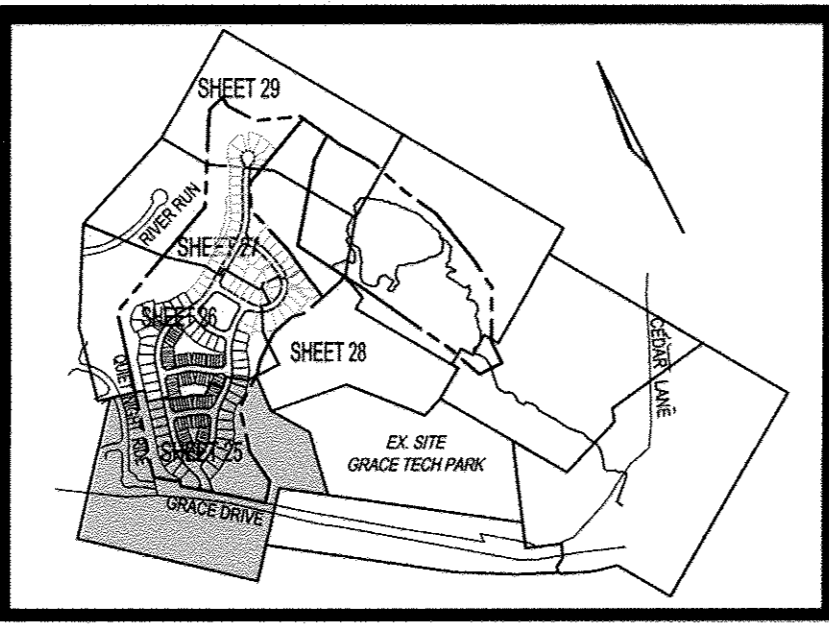
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24 SHEET OF 39

William J. J...
 PLANNING DIRECTOR
 10-5-17
 DATE

NOTE:
 IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
 3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 FOREST CONSERVATION AREAS 3 & 4 SHALL BE PLANTED WITH 1" CALIBER TREES PER CONDITION 4, WP-15-076.



LEGEND:

EXISTING CONTOUR	EXISTING TREELINE (FIELD LOCATED)
PROPOSED CONTOUR	EXISTING STERAM
EXISTING SPOT ELEVATION	EXISTING STERAM BUFFER
EXISTING CURB AND GUTTER	EXISTING WETLAND
EXISTING UTILITY POLE	EXISTING WETLAND BUFFER
EXISTING LIGHT POLE	EXISTING FENCE
EXISTING MAILBOX	PROPERTY LINE
EXISTING SANITARY MANHOLE	RIGHT-OF-WAY LINE
EXISTING SANITARY LINE	SOILS BOUNDARY
EXISTING CLEANOUT	EXISTING FLOOD PLAN
EXISTING FIRE HYDRANT	EX. ZONING LINE
EXISTING WATER LINE	PROP. 5' SIDEWALK
EXISTING STORM DRAIN	8' BIKWAY
EX. ELECTRIC CONDUIT	PROPOSED CURB
FOREST CONSERVATION AREA (RETENTION)	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
FOREST CONSERVATION AREA (RESTORATION)	PROP. 10' TREE MAINTENANCE EASEMENT
PROP. 10' TREE MAINTENANCE EASEMENT	PROP. 6" NEIGHBORHOOD PATHWAY
PROP. 6" NEIGHBORHOOD PATHWAY	EX. MONITORING WELL
EX. MONITORING WELL	PUBLIC DRAINAGE AND UTILITY EASEMENT
PUBLIC DRAINAGE AND UTILITY EASEMENT	PRIVATE DRAINAGE AND UTILITY EASEMENT
PRIVATE DRAINAGE AND UTILITY EASEMENT	MICRO BIoretention AREA
MICRO BIoretention AREA	PROP. PERIMETER TREES
PROP. PERIMETER TREES	PROP. STREET TREES
PROP. STREET TREES	

DPZ'S POLICES GOVERNING THE PLACEMENT OF LANDSCAPING AND STREET TREES IN PROXIMITY TO BGE'S POWER LINES OR TRANSMISSION RIGHT-OF-WAY ARE BASED ON BGE'S PUBLISHED "PLANTING ZONE CONCEPT" WHICH STIPULATES THE MAXIMUM ALLOWABLE SIZE OF PLANT MATERIALS FOR THREE DEFINED ZONES: AS THE DISTANCE FROM BGE EQUIPMENT INCREASES, SO DOES THE SIZE OF THE ALLOWABLE PLANT MATERIALS. THESE THREE ZONES ARE DEFINED AS FOLLOWS:

ZONE	DISTANCE FROM THE BGE POWER LINE OR TRANSMISSION RIGHT-OF-WAY	MAXIMUM HEIGHT OF VEGETATION
GREEN	UP TO 20 FEET	25 FEET
YELLOW	BETWEEN 20 FEET AND 45 FEET	40 FEET
RED	BEYOND 45 FEET	ABOVE 40 FEET

- B.G. & E. NOTES:**
- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
 - THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK, NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHOUT PERMISSION.
 - CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG GRACE DRIVE & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

- NOTE:**
- REFER TO SHEET 28 FOR LANDSCAPE SCHEDULE A, STREET TREE REQUIREMENTS AND LANDSCAPING NOTES AND DETAILS.
 - REFER TO SHEET 31 FOR FOREST CONSERVATION COMPUTATIONS, PLANTING NOTES AND DETAILS.

OWNER / DEVELOPER
 T.M. 35 - P-145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 T.M. 35 - P-145 (PARCEL C) & T.M. 35 - P-412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DRIVE
 COLUMBIA, MD 21044-4098
 (410) 531-4000

NO.	REVISION	DATE

PRELIMINARY PLAN
 PRELIMINARY LANDSCAPE AND
 FOREST CONSERVATION PLAN
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK PARCELS B-1 & C
 AND
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL A, OPEN SPACE LOT 45

TAX MAP 35, GRID 21
 MAP 35, PARCEL 447
 5TH ELECTION DISTRICT

ZONED: CEF-R
 ZONED: NT

PARCEL 145
 PARCEL 447
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KC
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

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. 1813, EXPIRATION DATE: 09-27-2018

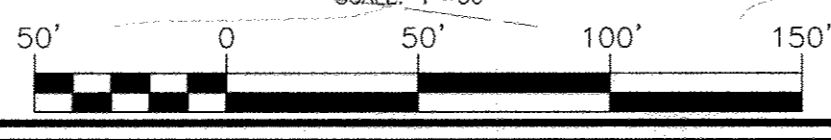
25 SHEET OF 39

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

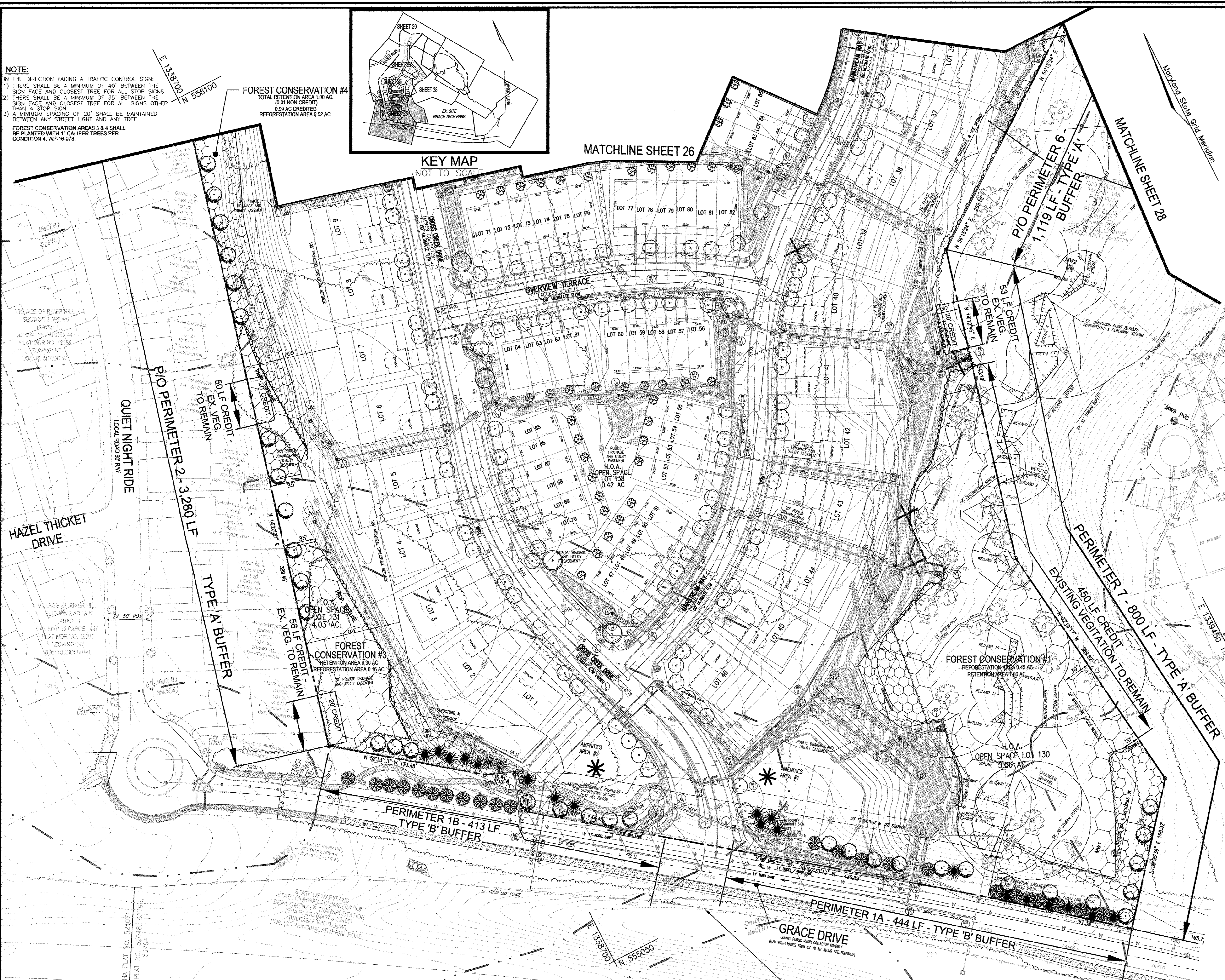
Naldis J. Jolly
 PLANNING DIRECTOR

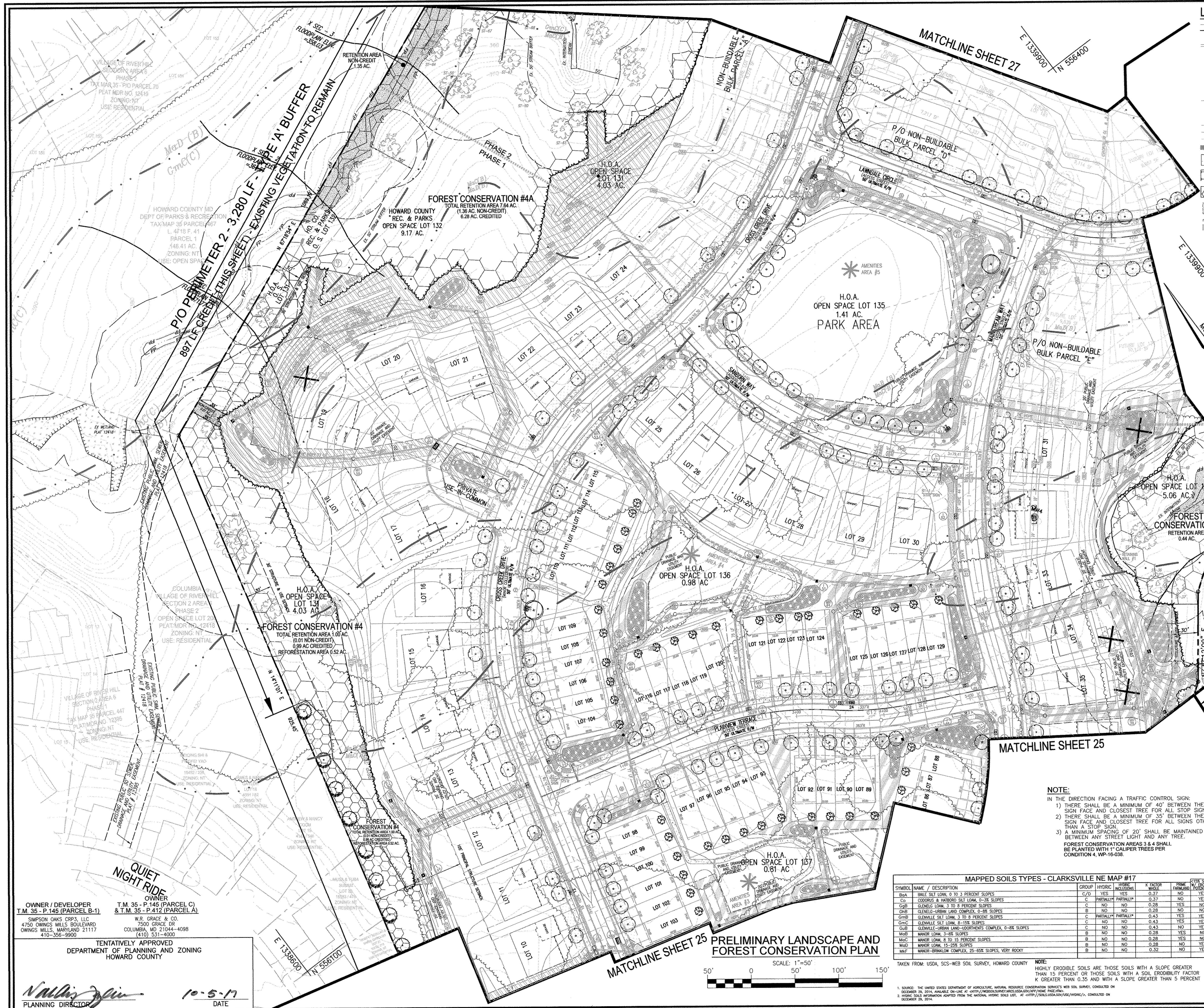
10-5-17
 DATE

PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN



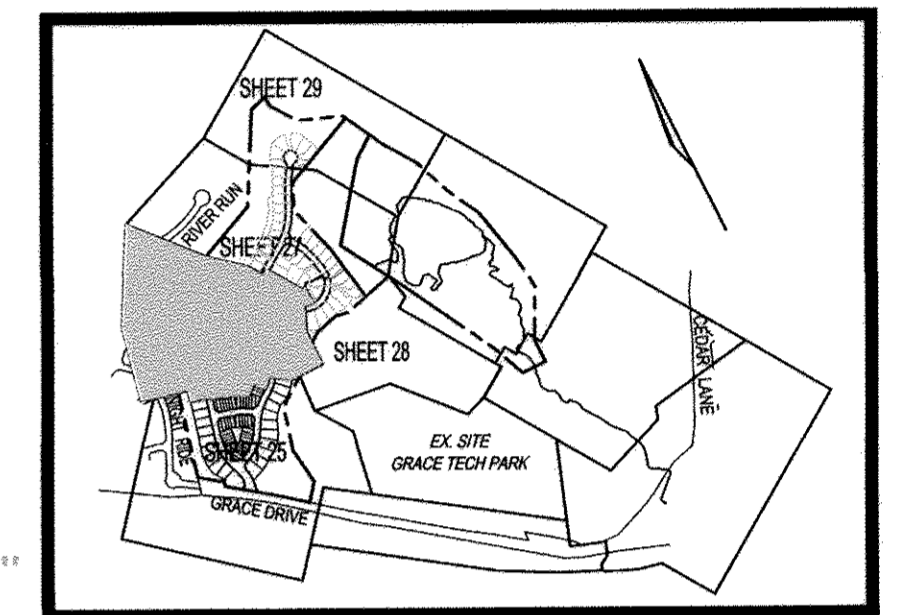
NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116 (C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.





LEGEND:

EXISTING CONTOUR	EXISTING TREELINE (FIELD LOCATED)
PROPOSED CONTOUR	EXISTING STERAM BUFFER
EXISTING SPOT ELEVATION	EXISTING WETLAND BUFFER
EXISTING CURB AND GUTTER	EXISTING FENCE
EXISTING UTILITY POLE	PROPERTY LINE
EXISTING LIGHT POLE	RIGHT-OF-WAY LINE
EXISTING MAILBOX	SOILS BOUNDARY
EXISTING SIGN	PROPOSED CURB
EXISTING SANITARY MANHOLE	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
EXISTING FIRE HYDRANT	EXISTING STORM DRAIN
EXISTING WATER LINE	EX. ELECTRIC CONDUIT
EXISTING STORM DRAIN	EX. ZONING LINE
EX. ZONING LINE	PROP. 5' SIDEWALK
PROP. 5' SIDEWALK	AREA (REFORESTATION)
PROP. 10' TREE MAINTENANCE EASEMENT	FOREST CONSERVATION AREA (RETENTION)
PROP. PERIMETER TREES	MICRO BIOPRETENTION AREA
PROP. STREET TREES	PROP. 10' TREE MAINTENANCE EASEMENT
PROP. 6' NEIGHBORHOOD PATHWAY	EXISTING FLOOD PLAN



KEY MAP
NOT TO SCALE

NOTE:
1. REFER TO SHEET 28 FOR LANDSCAPE SCHEDULE A, STREET TREE REQUIREMENTS AND LANDSCAPING NOTES AND DETAILS.
2. REFER TO SHEET 31 FOR FOREST CONSERVATION COMPUTATIONS, PLANTING NOTES AND DETAILS.

OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)

W.R. GRACE & CO.
7500 GRACE DR.
COLUMBIA, MD 21044-4098
(410) 531-4000

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)

SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MD 21117
410-356-9900

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY LANDSCAPE AND
FOREST CONSERVATION PLAN

SIMPSON OAKS - PHASE 1

LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCELS A & OPEN SPACE LOT 43

TAX MAP 35, GRID 21
TAX MAP 35, GRID 16
5TH ELECTION DISTRICT

ZONED: CEF-R
ZONED: NT

PARCEL 145
PARCEL 412
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET
ELICOTT CITY, MD 21043

TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
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HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 16193 EXPIRATION DATE: 09-27-2018

26 SHEET OF 39

NOTE:
IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
FOREST CONSERVATION AREAS 2 & 4 SHALL BE PLANTED WITH 1" CALIPER TREES PER CONDITION 4, WP-16-038.

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	C/D	YES	NO	K FACTOR	WHOLE	NO	YES	PRIME	FARMSTEAD	NO	YES	CLOSE	SLOPE
BkA	BARE SITE LOAM, 0 TO 3 PERCENT SLOPES	C	NO	NO	NO	NO	0.37	NO	NO	NO	NO	NO	NO	NO	NO	NO
Cb	COARSE & MEDIUM SILT LOAM, 0-3% SLOPES	C	NO	NO	NO	NO	0.37	NO	NO	NO	NO	NO	NO	NO	NO	NO
GsB	GLENNEL LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
GmB	GLENNEL-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
GmC	GLENNEL SILT LOAM, 1 TO 8 PERCENT SLOPES	C	NO	NO	NO	NO	0.43	NO	NO	NO	NO	NO	NO	NO	NO	NO
GmD	GLENNEL SILT LOAM, 8-15% SLOPES	C	NO	NO	NO	NO	0.43	NO	NO	NO	NO	NO	NO	NO	NO	NO
GmE	GLENNEL-URBAN LAND-SPORTS COMPLEX, 0-8% SLOPES	B	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
MmB	MANOR LOAM, 3-8% SLOPES	B	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
MmC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
MmD	MANOR LOAM, 15-25% SLOPES	B	NO	NO	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO	NO	NO
MmE	MANOR-URBANLAND COMPLEX, 25-60% SLOPES, VERY ROCKY	B	NO	NO	NO	NO	0.32	NO	NO	NO	NO	NO	NO	NO	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICES WITH SOIL SURVEY, CONSULTED ON DECEMBER 26, 2014. AVAILABLE ON-LINE AT: http://websoilsurvey.nrcs.usda.gov/APP1_612.asp, FILED: 10/11/14

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT: <http://soils.usda.gov/soils/hydric/>, CONSULTED ON DECEMBER 26, 2014.

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)

SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

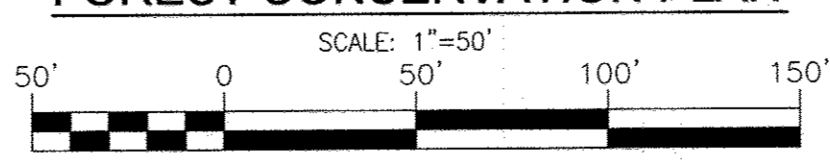
OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)

W.R. GRACE & CO.
7500 GRACE DR.
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Nellis
PLANNING DIRECTOR

10-5-17
DATE



MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL / NAME / DESCRIPTION	GROUP	HYDRO	TOPOG	INCLUSIONS	K FACTOR	PERM	STURD	WATER	WATER
B0A BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C	NO	NO	NO	0.37	NO	NO	NO	NO
C0 COCORUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	NO	0.37	NO	NO	NO	NO
G0B GLENELG LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	NO	0.28	YES	NO	NO	NO
G0B GLENELG-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	NO	NO	0.28	NO	NO	NO	NO
G0B GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	NO	0.43	YES	YES	NO	NO
G0C GLENELG SILT LOAM, 8-15% SLOPES	C	NO	NO	NO	0.43	YES	YES	NO	NO
G0B GLENELG-URBAN LAND-ROCKHURST COMPLEX, 0-8% SLOPES	C	NO	NO	NO	0.43	NO	NO	NO	NO
M0B MANOR LOAM, 3-8% SLOPES	B	NO	NO	NO	0.28	YES	NO	NO	NO
M0C MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	NO	0.28	YES	NO	NO	NO
M0D MANOR LOAM, 15-25% SLOPES	B	NO	NO	NO	0.28	NO	YES	NO	NO
M0F MANOR-BRANLUM COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	NO	0.32	NO	YES	NO	NO

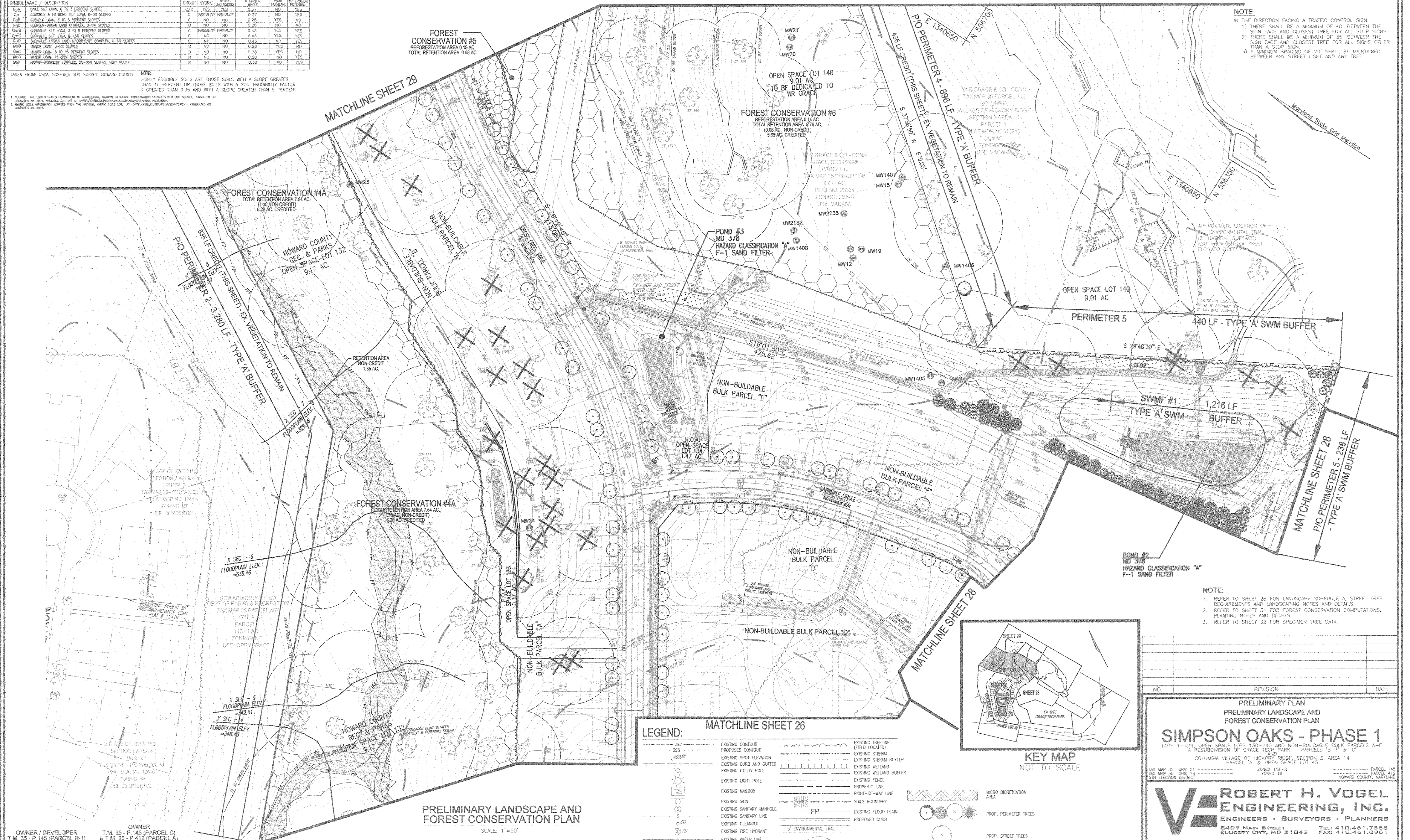
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014. AVAILABLE ON-LINE AT: <http://websoilsurvey.sc.egov.usda.gov/>

HYDROLOGIC SOIL INFORMATION ADAPTED FROM THE NATIONAL HYDRO SOILS USE AT: <http://pubs.nrcs.usda.gov/hydro/>, CONSULTED ON DECEMBER 29, 2014.

MATCHLINE SHEET 29



NOTE:
 1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
 3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

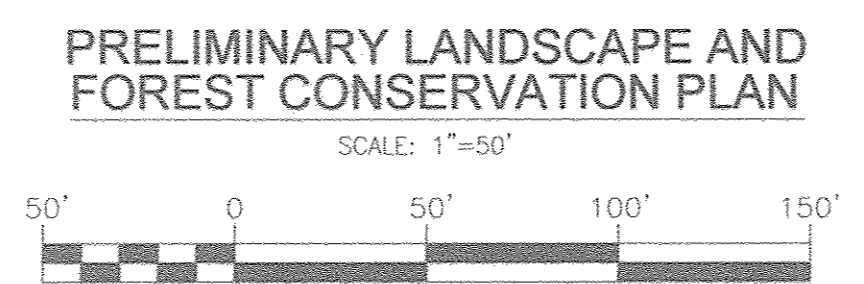
NOTE:
 1. REFER TO SHEET 28 FOR LANDSCAPE SCHEDULE A, STREET TREE REQUIREMENTS AND LANDSCAPING NOTES AND DETAILS.
 2. REFER TO SHEET 31 FOR FOREST CONSERVATION COMPUTATIONS, PLANTING NOTES AND DETAILS.
 3. REFER TO SHEET 32 FOR SPECIMEN TREE DATA.

OWNER / DEVELOPER
 T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4000

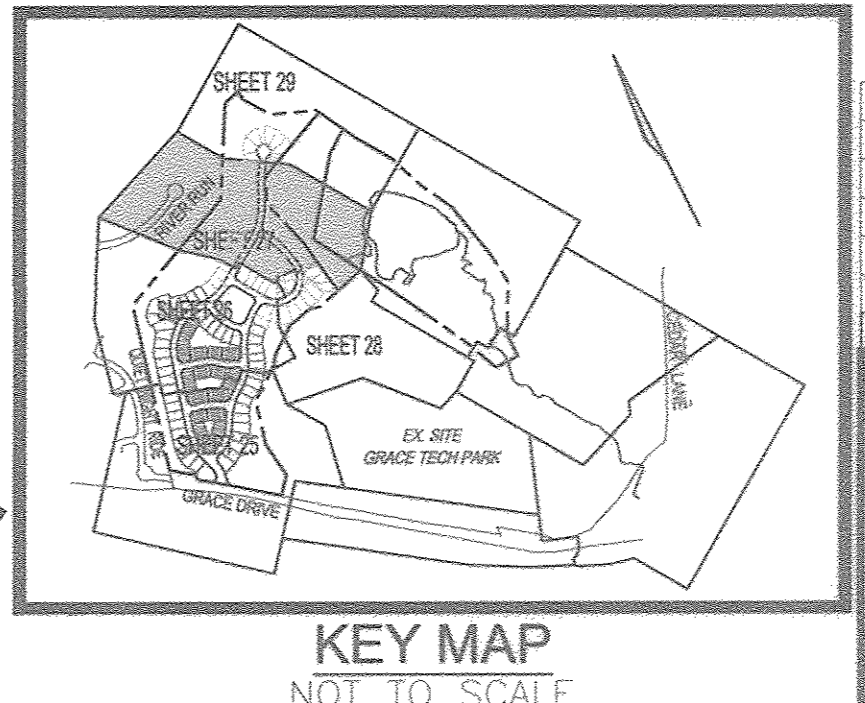
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

PLANNING DIRECTOR
 10-5-17
 DATE



LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATION)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		EXISTING FLOOD PLAN
	EXISTING CLEANOUT		PROPOSED CURB
	EXISTING FIRE HYDRANT		5' ENVIRONMENTAL TRAIL
	EXISTING WATER LINE		PROP. 5' SIDEWALK
	EXISTING STORM DRAIN		8' ASPHALT PATH
	EX. ELECTRIC CONDUIT		FOREST CONSERVATION AREA (REFORESTATION)
	EX. ZONING LINE		FOREST CONSERVATION AREA (RETENTION)
	PROP. 5' SIDEWALK		EX. MONITORING WELL
	8' ASPHALT PATH		PUBLIC DRAINAGE AND UTILITY EASEMENT
	FOREST CONSERVATION AREA (REFORESTATION)		PRIVATE DRAINAGE AND UTILITY EASEMENT
	FOREST CONSERVATION AREA (RETENTION)		MW 7
			MW 8
			MW 9
			MW 10
			MW 11
			MW 12
			MW 13
			MW 14
			MW 15
			MW 16
			MW 17
			MW 18
			MW 19
			MW 20
			MW 21
			MW 22
			MW 23
			MW 24
			MW 25
			MW 26
			MW 27
			MW 28
			MW 29
			MW 30
			MW 31
			MW 32
			MW 33
			MW 34
			MW 35
			MW 36
			MW 37
			MW 38



NO. _____ REVISION _____ DATE _____

PRELIMINARY PLAN
 PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN

SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F AND COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
 TAX MAP 35 GRID 16 PARCEL 412
 5TH ELECTION DISTRICT

ZONED: DEF-R
 ZONED: NT

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410-461-7566
 FAX: 410-461-8961

OWNER
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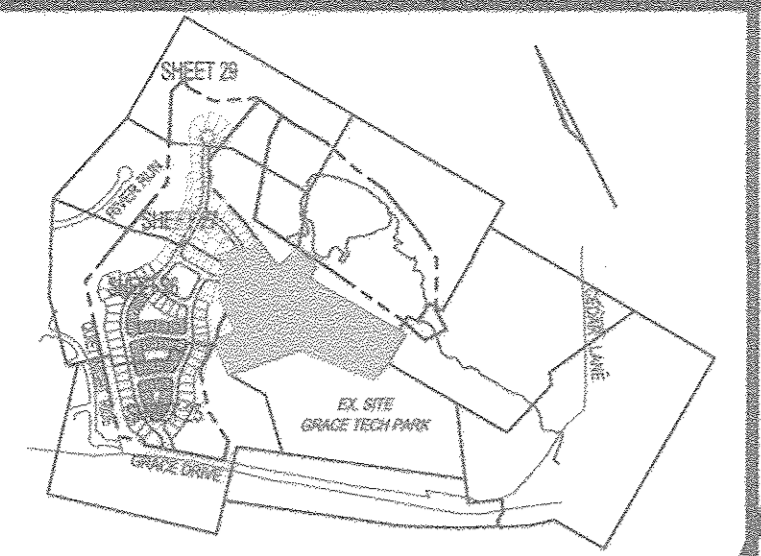
OWNER / DEVELOPER
 T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDJ/KC
 CHECKED BY: RHY
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE 03-27-2019.

9/21/17

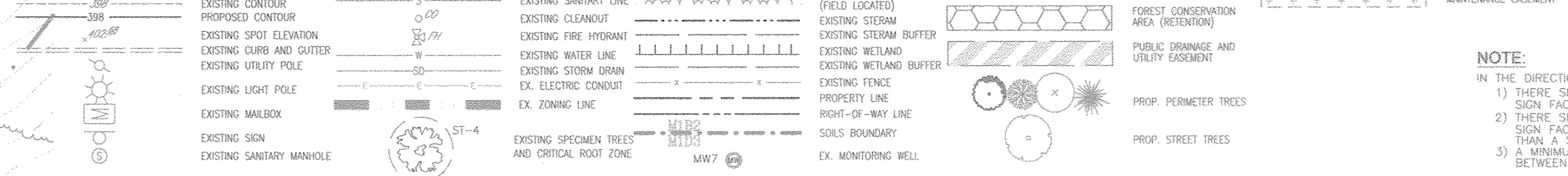
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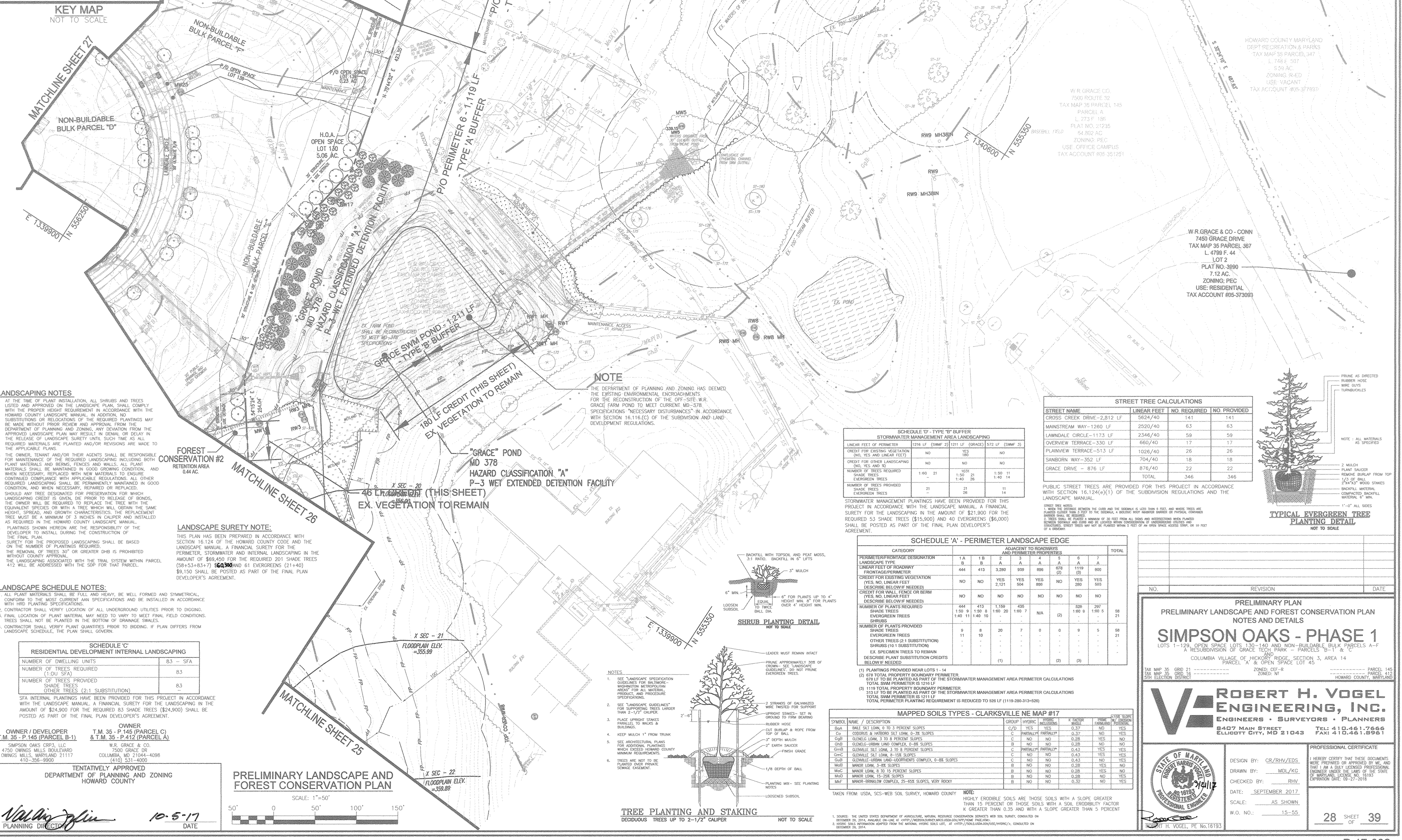
**SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PROPOSED PARKING SPACES	69
NUMBER OF TREES REQUIRED (1/10 SPACES)	7
NUMBER OF TREES PROVIDED	7
SHADE TREES	7
OTHER TREES (2:1 SUBSTITUTION)	-

LEGEND:



NOTE:
IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.



LANDSCAPING NOTES

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 1 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
- SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.
- THE REMOVAL OF TREES 30" OR GREATER DBH IS PROHIBITED WITHOUT COUNTY APPROVAL.
- THE LANDSCAPING ASSOCIATED WITH THE TRAIL SYSTEM WITHIN PARCEL 412 WILL BE ADDRESSED WITH THE SDP FOR THAT PARCEL.

LANDSCAPE SCHEDULE NOTES:

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAS SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HED PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF GRAVITY SHALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

**FOREST CONSERVATION #2
RETENTION AREA
0.44 AC.**

LANDSCAPE SURETY NOTE:
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY FOR THE PERIMETER, STORMWATER AND INTERNAL LANDSCAPING IN THE AMOUNT OF \$69,450 FOR THE REQUIRED 201 SHADE TREES (\$345.343 x 7) \$60,900 AND 61 EVERGREENS (21 x 40) \$8,150 SHALL BE POSTED AS PART OF THE FINAL PLAN DEVELOPER'S AGREEMENT.

**SCHEDULE 'C'
RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

NUMBER OF DWELLING UNITS	83 - SFA
NUMBER OF TREES REQUIRED (1:DU SFA)	83
NUMBER OF TREES PROVIDED	83
SHADE TREES	83
OTHER TREES (2:1 SUBSTITUTION)	-

SFA INTERNAL PLANTINGS HAVE BEEN PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH THE LANDSCAPE MANUAL. A FINANCIAL SURETY FOR THE LANDSCAPING IN THE AMOUNT OF \$24,900 FOR THE REQUIRED 83 SHADE TREES (\$24,900) SHALL BE POSTED AS PART OF THE FINAL PLAN DEVELOPER'S AGREEMENT.

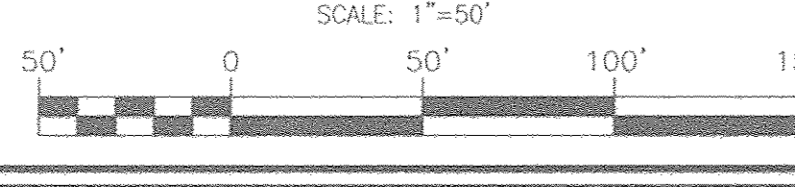
OWNER / DEVELOPER
T.M. 35 - P 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-326-9800

OWNER
T.M. 35 - P 145 (PARCEL C) & T.M. 35 - P 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-6000

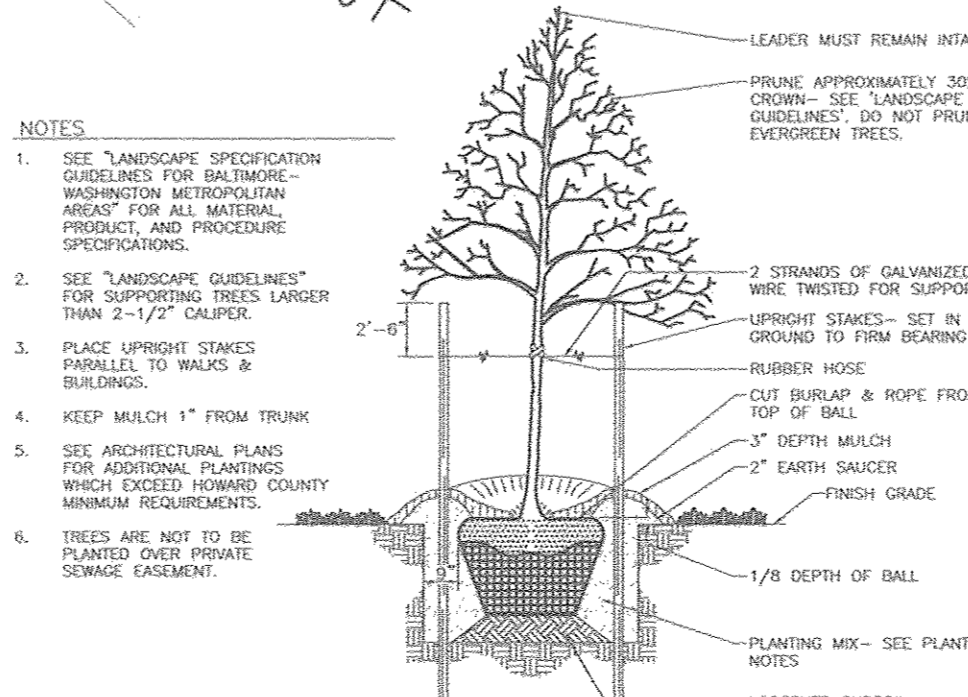
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie J. Flynn
PLANNING DIRECTOR
10-5-17
DATE

PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE



NOTES:
1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREA" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK.
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWER EASEMENT.

**SCHEDULE 'D' - TYPE 'B' BUFFER
STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	1216 LF (SWMP 2)	1211 LF (GRACE)	572 LF (SWMP 3)
CREDIT FOR EXISTING VEGETATION (NO. YES AND LINEAR FEET)	NO	YES 180	NO
CREDIT FOR OTHER LANDSCAPING (NO. YES AND TO)	NO	NO	NO
NUMBER OF TREES REQUIRED	1:60 21	1:50 21	1:50 11
SHADE TREES	1:60 21	1:50 21	1:40 11
EVERGREEN TREES	1:40 26	1:40 26	-
NUMBER OF TREES PROVIDED	21	21	11
SHADE TREES	21	21	11
EVERGREEN TREES	-	-	-

STORMWATER MANAGEMENT PLANTINGS HAVE BEEN PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH THE LANDSCAPE MANUAL. A FINANCIAL SURETY FOR THE LANDSCAPING IN THE AMOUNT OF \$21,900 FOR THE REQUIRED 53 SHADE TREES (\$415,000) AND 40 EVERGREENS (\$5,000) SHALL BE POSTED AS PART OF THE FINAL PLAN DEVELOPER'S AGREEMENT.

SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES							TOTAL
	1 A	1 B	2	3	4	5	7	
PERIMETER/FRONTAGE DESIGNATION	B	A	A	A	A	A	A	
LANDSCAPE TYPE	B	A	A	A	A	A	A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	444	413	3,280	939	898	678	1,119	808
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	YES 1,189	YES 2,121	YES 504	NO	YES 280	503
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	444	413	1,189	438	150	9	267	58
SHRUBS	150	9	150	9	150	20	100	7
EVERGREEN TREES	1:40 11	1:40 10	1:40 10	1:40 10	1:40 10	1:40 10	1:40 10	21
NUMBER OF PLANTS PROVIDED	9	8	20	7	0	0	9	5
SHADE TREES	11	10	-	-	-	-	-	21
EVERGREEN TREES	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-
SHRUBS (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-
EX. SPECIMEN TREES TO REMAIN DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	-	-	(1)	-	-	(2)	(3)	-

(1) PLANTINGS PROVIDED NEAR LOTS 1 - 14
(2) 678 TOTAL PROPERTY BOUNDARY PERIMETER
(3) 1119 TOTAL PROPERTY BOUNDARY PERIMETER
TOTAL PERIMETER PLANTING REQUIREMENT IS REDUCED TO 526 LF (119-290-313-826)

MAPPED SOIL TYPES - CLARKSVILLE NE MAP #17

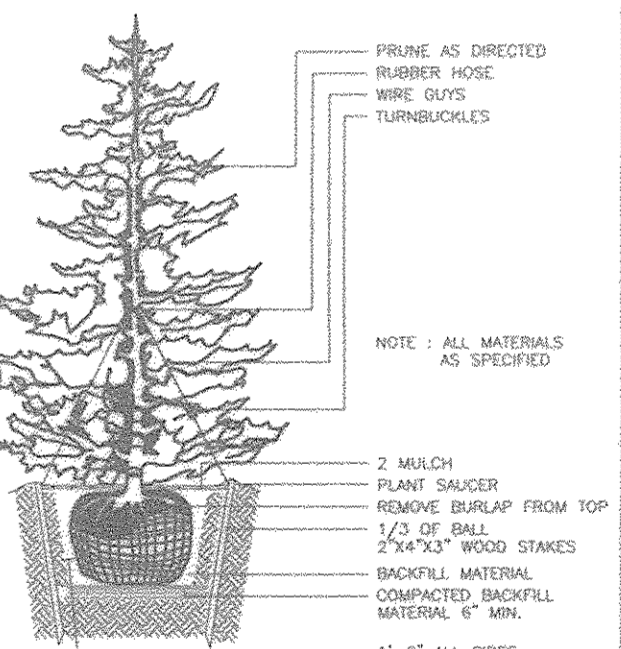
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PERCENT SAND	PERCENT SILT	PERCENT CLAY	PERCENT ORGANIC	PERCENT ROCK	PERCENT COBBLES
BaA	BALE Silt LOAM, 0 TO 3 PERCENT SLOPES	C	NO	NO	NO	0.37	NO	NO	NO
Ca	CODORUS & HATFIELD Silt LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	NO	0.37	NO	NO	NO
CbB	GENELLE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	NO	0.28	YES	NO	NO
CbE	CLEGGLE-HOBAN LOAM COMPLEX, 0-3% SLOPES	B	NO	NO	NO	0.28	NO	NO	NO
CbH	GENELLE Silt LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	NO	0.43	YES	YES	YES
CbK	GENELLE Silt LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	NO	0.43	YES	YES	YES
CbL	CLEGGLE-HOBAN LOAM COMPLEX, 0-3% SLOPES	B	NO	NO	NO	0.43	NO	YES	YES
MaE	MANOR LOAM, 3-8% SLOPES	B	NO	NO	NO	0.28	YES	NO	NO
MaG	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	NO	0.28	YES	NO	NO
MaH	MANOR LOAM, 15-20% SLOPES	B	NO	NO	NO	0.28	NO	YES	NO
MbF	MANOR-BRIDGLOVE COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	NO	0.32	NO	YES	YES

TAKEN FROM: USDA, SEC-5 WEB SOIL SURVEY, HOWARD COUNTY
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

STREET TREE CALCULATIONS

STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
CROSS CREEK DRIVE-2,812 LF	5624/40	141	141
MAINSTREAM WAY-1260 LF	2520/40	63	63
LAWDALE CIRCLE-1173 LF	2346/40	59	59
OVERVIEW TERRACE-330 LF	660/40	17	17
PLAINVIEW TERRACE-513 LF	1026/40	26	26
SANBORN WAY-352 LF	704/40	18	18
GRACE DRIVE - 876 LF	876/40	22	22
TOTAL		346	346

PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
STREET TREE NOTE:
1. WHEN THE SPACING BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, AND WHEEL TRUCKS ARE PLANNED TO OPERATE IN THE STREET, A 6" WIDE SHOULDER BUFFER OF PHYSICAL SEPARATION SHALL BE REQUIRED.
2. TREE SHALL BE PLANTED WITH A MINIMUM OF 35 FEET FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB AND BE LOCATED WITHIN CONCENTRATION OF UNDERGROUND UTILITIES AND STRUCTURES. STREET TREES MAY NOT BE PLANTED WITHIN 5 FEET OF AN OPEN SPACE, STREET, OR 10 FEET OF A DRIVEWAY.
1"-10" ALL SIDES



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

**PRELIMINARY PLAN
PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN
NOTES AND DETAILS**

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-141, AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45, 3, AREA 14

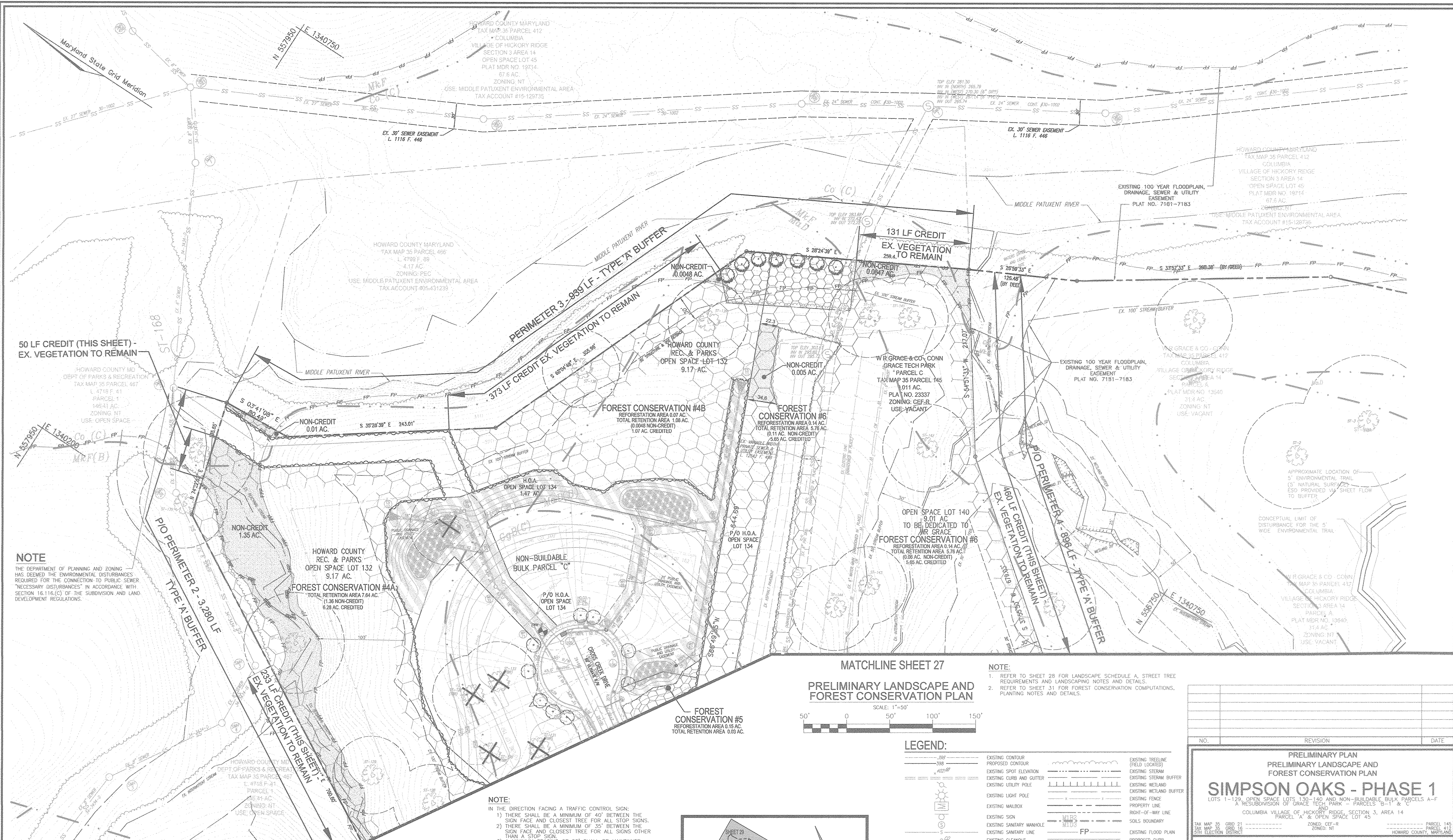
TAX MAP 35 GRD 21 ----- ZONED: CEY-R ----- PARCEL 145
LOT 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141
5TH ELECTION DISTRICT ----- HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL
ENGINEERS, INC.
ENGINEERS - SURVEYORS - PLANNERS**
8407 MAIN STREET
ELLIOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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. 16197, EXPIRATION DATE: 09-27-2018

DESIGN BY: CRH/RV/EDS.
DRAWN BY: MDL/KG.
CHECKED BY: RHV.
DATE: SEPTEMBER 2017.
SCALE: AS SHOWN.
W.O. NO.: 15-55.

28 SHEET OF 39



NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

MATCHLINE SHEET 27

OWNER / DEVELOPER
T.M. 35 - P 148 (PARCEL B-1)
SIMPSON OAKS CORP, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-306-9800

OWNER
T.M. 35 - P 145 (PARCEL C) & T.M. 35 - P 412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 331-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

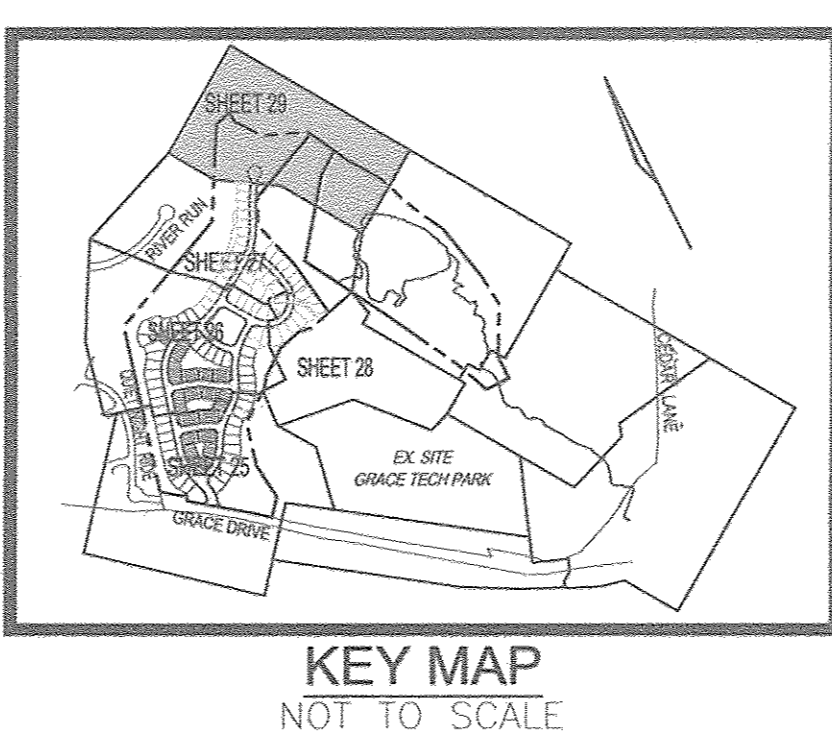
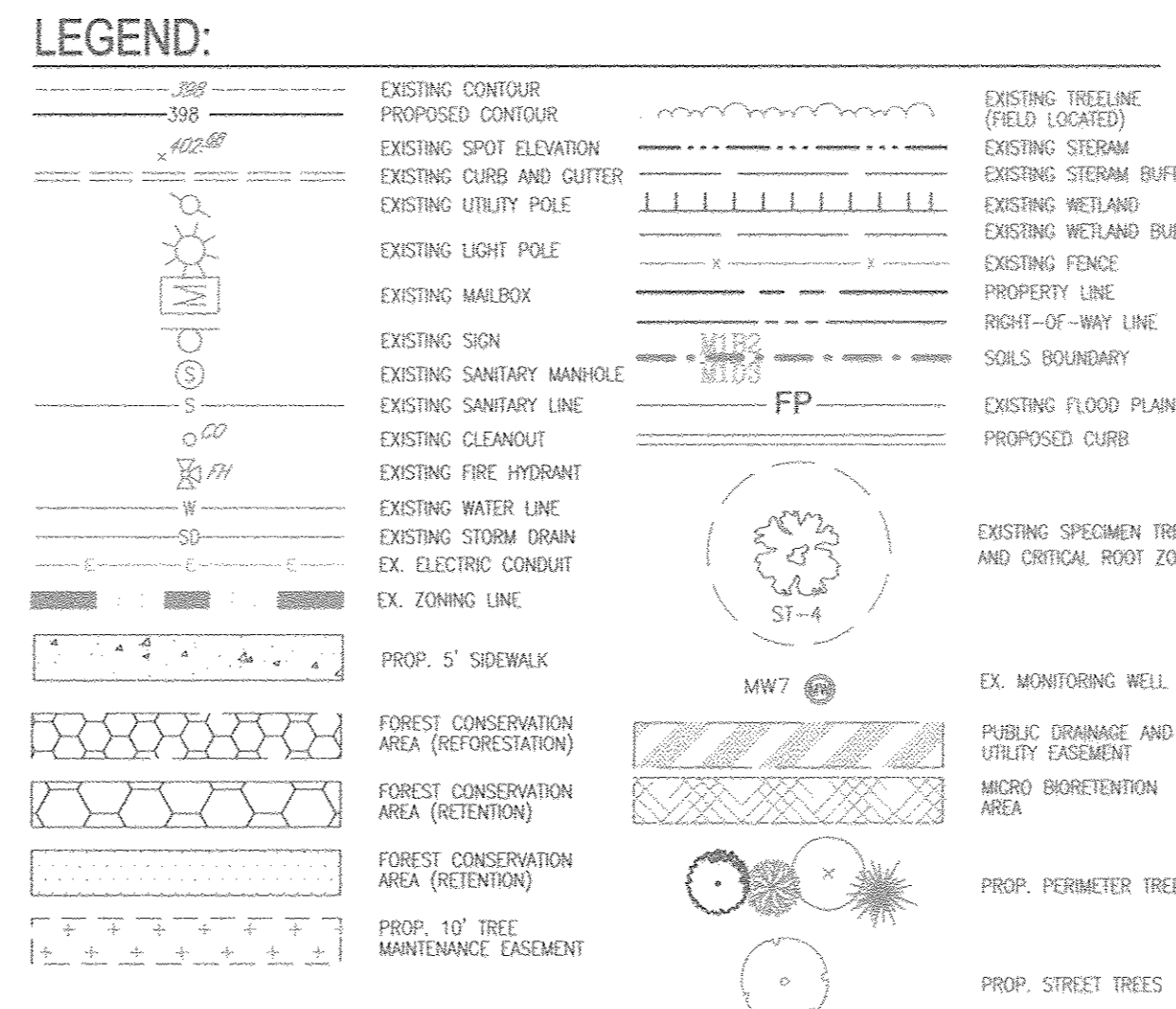
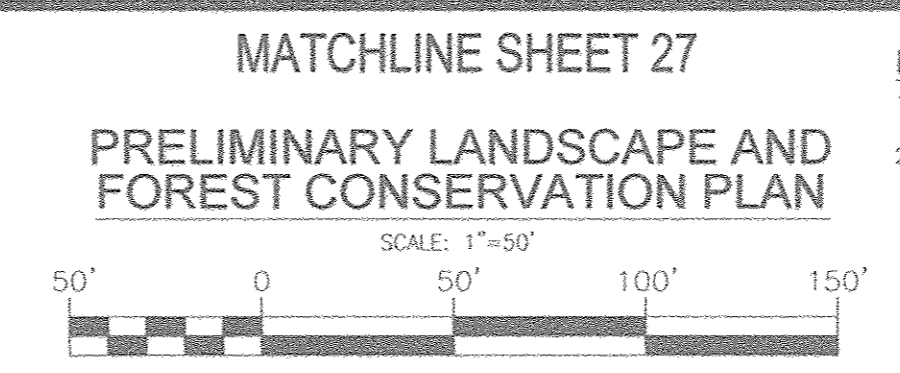
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PROB	K FACTOR	PRISM	ERODE
BhA	BALE SALT LOAM, 0 TO 3 PERCENT SLOPES	C	NO	NO	0.37	NO	YES
Cc	COGOLONG & HATBORO SILT LOAM, 0-3% SLOPES	C	PARTIALLY**	PARTIALLY**	0.37	NO	YES
CgB	CLEWELL LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	NO	NO
CgB	CLEWELL-HORON LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO
CgB	CLEWELL SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY**	PARTIALLY**	0.43	YES	YES
CgC	CLEWELL SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES
CgC	CLEWELL-HORON LAND COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	NO
MdB	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO
MdC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO
MdE	MANOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES
MdF	MANOR-BROOKLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES

TAKEN FROM: USDA, SCS-WEER SOIL SURVEY, HOWARD COUNTY

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

N. J. ...
PLANNING DIRECTOR

10-6-17
DATE



NOTE:

- REFER TO SHEET 28 FOR LANDSCAPE SCHEDULE A, STREET TREE REQUIREMENTS AND LANDSCAPING NOTES AND DETAILS.
- REFER TO SHEET 31 FOR FOREST CONSERVATION COMPUTATIONS, PLANTING NOTES AND DETAILS.

PRELIMINARY PLAN
PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-132 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
AND COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35, GRID 21, PARCEL 145
5TH ELECTION DISTRICT

ZONED: CEF-R
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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. 18197, EXPIRATION DATE: 08-27-2018

DESIGN BY: CR/RHV/EDS.
DRAWN BY: MDL/KJC.
CHECKED BY: RHW.
DATE: SEPTEMBER 2017.
SCALE: AS SHOWN.
W.O. NO.: 15-55.

29 SHEET OF 39

ROBERT H. VOGEL, PE No. 16793



FOREST CONSERVATION AREA #4A
RETENTION AREA
7.64 AC.
(7.64-1.36) (NON-CREDIT)
TOTAL 6.28 AC CREDITED

FOREST CONSERVATION AREA #4A
NON-CREDIT RETENTION AREA
1.36 AC
(1.10 + 0.26)

P/O NON-CREDIT FOREST CONSERVATION AREA #4B
(RETENTION & REFORESTATION)

P/O NON-CREDIT FOREST CONSERVATION AREA #6
(RETENTION)

FOREST CONSERVATION AREA #6
(RETENTION)
5.7 AC.

FOREST CONSERVATION AREA #2
(RETENTION)

FOREST CONSERVATION AREA #1
(RETENTION & REFORESTATION)

FOREST CONSERVATION AREA #3
(RETENTION & REFORESTATION)

FOREST CONSERVATION AREA #4
(RETENTION & REFORESTATION)

EASEMENT	RETENTION		REFORESTATION	TOTAL
	CREDITED	NON-CREDITED		
FCE#1	1.60 AC	-	0.45 AC	2.05 AC
FCE#2	0.38 AC	0.06 AC	-	0.44 AC
FCE#3	0.30 AC	-	0.16 AC	0.46 AC
FCE#4	0.99 AC	0.01 AC	0.52 AC	1.52 AC
FCE#4A	6.28 AC	1.36 AC	-	7.64 AC
FCE#4B	1.07 AC	0.01 AC	0.07 AC	1.15 AC
FCE#5	0.03 AC	-	0.15 AC	0.18 AC
FCE#6	5.65 AC	0.06 AC	0.14 AC	5.85 AC
TOTAL	16.30 AC	1.50 AC	1.49 AC	19.29 AC

FOREST CONSERVATION LEGEND:

- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION EASEMENT (NON-CREDITED RETENTION)
- FOREST CONSERVATION EASEMENT (REFORESTATION)

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-0900

OWNER
T.M. 35 - P.145 (PARCEL C)
& T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

N. J. J. J.
PLANNING DIRECTOR
10-5-17
DATE

FOREST STAND DELINEATION PREPARED BY:

GEO-TECHNOLOGY ASSOCIATES, INC.
GEO-TECHNICAL AND ENVIRONMENTAL CONSULTANTS
14280 PARK CENTER DRIVE, SUITE A
LAUREL, MARYLAND 20707
(410) 792-8448 OR (202) 470-4470
FAX: (410) 792-7385
GTAENG.COM

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY FOREST CONSERVATION PLAN
SIMPSON OAKS - PHASE 1
LOTS 1-128, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45
TAX MAP 15 GRID 21 PARCEL 145
TAX MAP 36 GRID 16 PARCEL 412
5TH ELECTION DISTRICT ZONED: CE-4 PARCEL 145
ZONED: NT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

STATE OF MARYLAND
ROBERT H. VOGEL
REGISTERED PROFESSIONAL ENGINEER
NO. 16193
9/24/17

30 SHEET OF 39

LEGEND:

	EXISTING CONTOUR		EXISTING TREELINE		EX. ZONING LINE		PROP. 10' TREE MAINTENANCE EASEMENT
	EXISTING SPOT ELEVATION		EXISTING STREAM		PROP. 5' SIDEWALK		PROP. 6' NEIGHBORHOOD PATHWAY
	EXISTING CURB AND GUTTER		EXISTING WETLAND		8' BIKEWAY		
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER		PROPOSED CURB		
	EXISTING LIGHT POLE		EXISTING FENCE		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE		
	EXISTING MAILBOX		RIGHT-OF-WAY LINE		EX. MONITORING WELL		
	EXISTING SIGN		SOILS BOUNDARY		PUBLIC DRAINAGE AND UTILITY EASEMENT		
	EXISTING SANITARY MANHOLE		FOREST CONSERVATION AREA (REFORESTATION)		PRIVATE DRAINAGE AND UTILITY EASEMENT		
	EXISTING SANITARY LINE		FOREST CONSERVATION AREA (RETENTION)		MICRO BIORETENTION AREA		
	EXISTING CLEANOUT						
	EXISTING FIRE HYDRANT						
	EXISTING WATER LINE						
	EXISTING STORM DRAIN						
	EX. ELECTRIC CONDUIT						

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

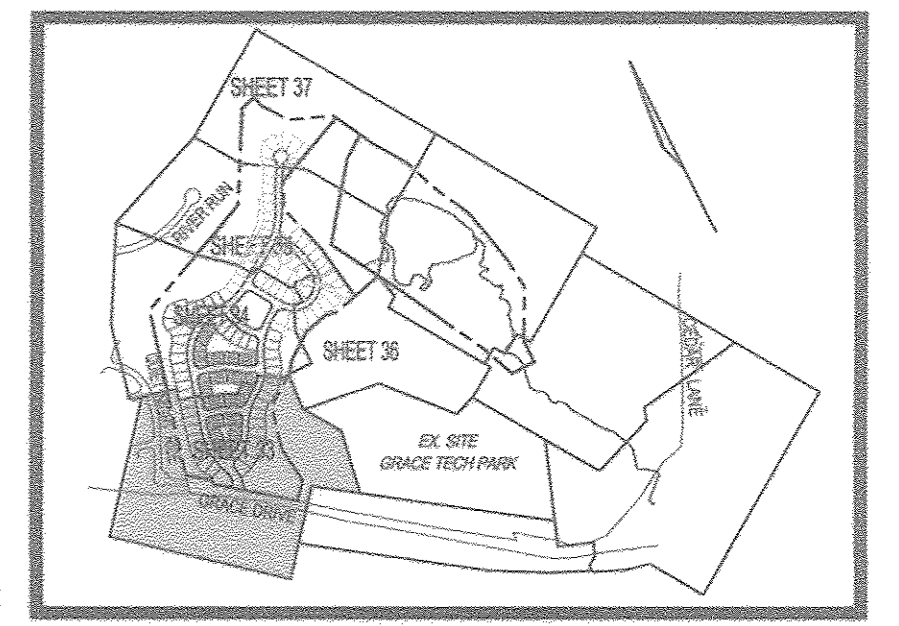
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANICS	R FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
BhA	BRIE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO
Cu	COARSE & MEDIUM SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	NO
CuB	GLENNVILLE LOAM, 0 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO
CuBb	GLENNVILLE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO
CuBc	GLENNVILLE SILT LOAM, 0 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES
CuBd	GLENNVILLE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES
CuBd	GLENNVILLE-URBAN LAND-URBANTHENS COMPLEX, 0-8% SLOPES	B	NO	NO	0.43	NO	NO	NO
MuB	MANOR LOAM, 0-8% SLOPES	B	NO	NO	0.28	YES	NO	NO
MuBc	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
MuBd	MANOR LOAM, 15-20% SLOPES	B	NO	NO	0.28	NO	NO	NO
MuBf	MANOR-BROWLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

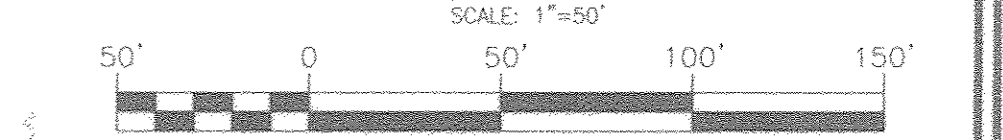
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

ESD LEGEND:

	TEST PIT
	SOIL BORING
	ESD DRAINAGE AREA DIVIDE
	ESD DRAINAGE AREA DESIGNATION
	NON-STRUCTURAL ROOFTOP DISCONNECTION
	MICRO-SCALE PRACTICE
	MICRO BIORETENTION (M-B)
	200 GAL RAIN BARREL
	PROPOSED DRYWELL



PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP



OWNER / DEVELOPER T.M. 35 - P. 145 (PARCEL B-1) SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-358-9900	OWNER T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A) W.R. GRACE & CO. 7500 GRACE DR COLUMBIA, MD 21044-4098 (410) 531-4000
--	---

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RECONFIGURATION OF GRACE TECH PARK - PARCELS B & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 - GRID 21 - ZONED: CET-R - PARCEL 145
TAX MAP 35 - GRID 16 - ZONED: NT - PARCEL 412
5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10183, EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHY
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

33 SHEET OF 39

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

William J. ...
PLANNING DIRECTOR
10-6-17
DATE

NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



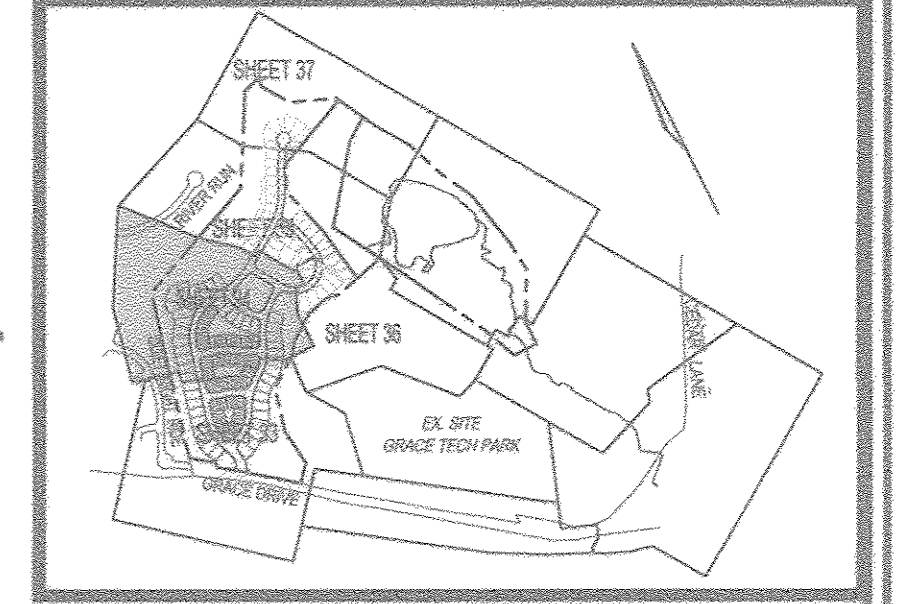


LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- PROP. 5' SIDEWALK
- PHASE LINE
- FOREST CONSERVATION AREA (REFORESTATION)
- FOREST CONSERVATION AREA (RETENTION)
- EXISTING TREENINE (FIELD LOCATED)
- EXISTING STERAM BUFFER
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED CURB
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- EX. MONITORING WELL
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT

ESD LEGEND:

- TEST PIT
- SOIL BORING
- ESD DRAINAGE AREA DIVISION
- ESD DRAINAGE AREA DESCRIPTION
- NON-STRUCTURAL ROOFTOP DISCONNECTION
- MICRO-SCALE PRACTICE BIO-SWALE (M-B)
- MICRO BIOPRETENTION (M-B)
- 200 GAL. RAIN BARREL
- PROPOSED DRYWELL



OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR.
 COLUMBIA, MARYLAND 21044-4098
 (410) 531-4000

PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP



MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT SAND	PERCENT SILT	PERCENT CLAY	PERCENT ORGANIC	PERCENT ROCK	PERCENT COBBLES	PERCENT GRAVEL	PERCENT STONES	PERCENT Boulders
BsA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO	NO	NO	NO	NO
Cd	CECROBI & HARRIS SILT LOAM, 0-3% SLOPES	C	NO	NO	0.37	NO	NO	NO	NO	NO	NO	NO
CdR	CENNE SILT LOAM, 3 TO 5 PERCENT SLOPES	C	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO
CdR	GENESEE-URBAN LAND COMPLEX, 0-8% SLOPES	C	NO	NO	0.28	NO	NO	NO	NO	NO	NO	NO
CdR	GENESEE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.43	YES	YES	NO	NO	NO	NO	NO
CdR	GENESEE SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	NO	NO	NO	NO	NO
CdR	GENESEE-URBAN LAND-UDORMENTS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	YES	YES	NO	NO	NO	NO	NO
MdS	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO	NO	NO
MdS	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO	NO	NO
MdS	MANOR LOAM, 15-20% SLOPES	B	NO	NO	0.28	NO	YES	NO	NO	NO	NO	NO
MdF	MANOR-BROOKLOW COMPLEX, 25-60% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO	NO	NO	NO	NO

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON FEBRUARY 26, 2014. AVAILABLE ONLINE AT: <http://websoilsurvey.nrcs.usda.gov/nv/index.html>

2. SOURCE: SOIL INFORMATION REPORTED FROM THE NATIONAL HYDRO SOIL SURVEY, AT: <http://nhdhsoilsurvey.nrcs.usda.gov/nhdhsoilsurvey/>, CONSULTED ON FEBRUARY 26, 2014.

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Valerie J. Flynn
 PLANNING DIRECTOR

10-5-17
 DATE

PRELIMINARY PLAN
 PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
 TAX MAP 35 GRID 18 PARCEL 412
 5TH ELECTION DISTRICT ZONED: NT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

STATE OF MARYLAND PROFESSIONAL ENGINEER

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHW
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-85

PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE: 09-27-2018

34 SHEET OF 39

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	PROB. FROM (NO)	CRP% SLOPE					
BhA	BALD SLT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES					
Cb	COARSE & MEDIUM SBT LOAM, 0-8% SLOPES	C	POTENTIALLY	HYDROLOGICALLY	0.37	NO	YES					
GcB	GLENNVILLE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO					
GcB	GLENNVILLE-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO					
GcB	GLENNVILLE SBT LOAM, 3 TO 8 PERCENT SLOPES	C	POTENTIALLY	HYDROLOGICALLY	0.43	YES	YES					
GcC	GLENNVILLE SBT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES					
GcB	GLENNVILLE-URBAN LAND-URBORMENTS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES					
MbB	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO					
MbC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO					
MbD	MAJOR LOAM, 15-25% SLOPES	B	NO	NO </tr <tr> <td>MbF</td> <td>MAJOR-BRONZLOW COMPLEX, 25-85% SLOPES, VERY ROCKY</td> <td>B</td> <td>NO</td> <td>NO</td> <td>0.32</td> <td>NO</td> <td>YES</td> </tr>	MbF	MAJOR-BRONZLOW COMPLEX, 25-85% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES
MbF	MAJOR-BRONZLOW COMPLEX, 25-85% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES					

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014. AVAILABLE ONLINE AT <http://websoilsurvey.nrcs.usda.gov/wSS/APP/INDEX.jsp>

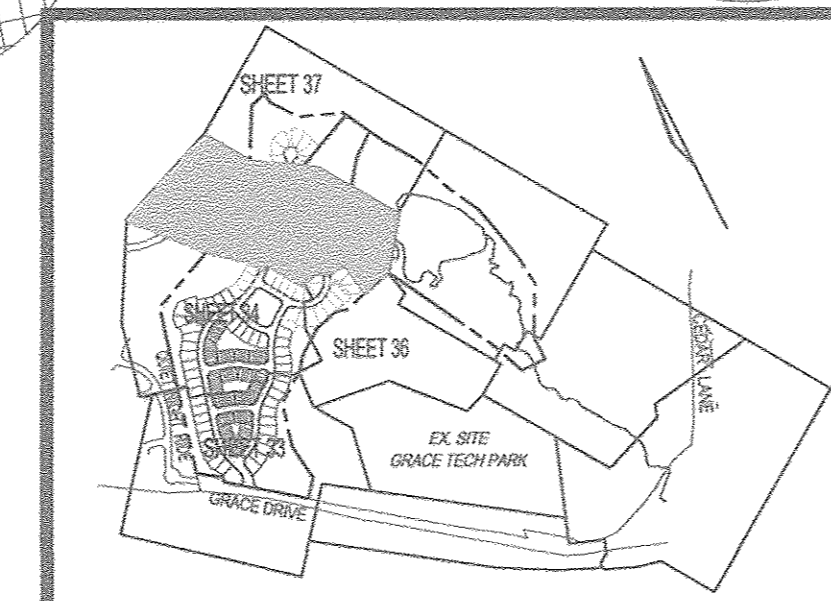
2. SOILS DATA INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LISTS, AT <http://soils.usda.gov/survey/hydric/>, CONSULTED ON DECEMBER 29, 2014.



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Nathan J. J. J.
PLANNING DIRECTOR

10-5-17
DATE

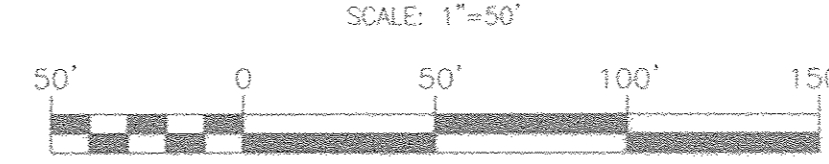


MATCHLINE SHEET 37

ESD LEGEND:

- TEST PIT
- SOIL BORING
- ESD DRAINAGE AREA DIVIDE
- ESD DRAINAGE AREA DESIGNATION
- NON-STRUCTURAL ROOFTOP DISCONNECTION
- MICRO-SCALE PRACTICE (BIO-SWALE (M-8) MICRO BIORETENTION (M-6))
- 200 GAL RAIN BARREL
- PROPOSED DRYWELL

PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP



- LEGEND:**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING STORM DRAIN
 - EX. ELECTRIC CONDUIT
 - EX. ZONING LINE
 - PROP. 5' SIDEWALK
 - 8' ASPHALT PATH
 - FOREST CONSERVATION AREA (REFORESTATION)
 - FOREST CONSERVATION AREA (RETENTION)
 - EXISTING TREETRINE (FIELD LOCATED)
 - EXISTING STERAM BUFFER
 - EXISTING WETLAND BUFFER
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - SOILS BOUNDARY
 - PROPOSED CURB
 - EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
 - EX. MONITORING WELL
 - PUBLIC DRAINAGE AND UTILITY EASEMENT
 - PRIVATE DRAINAGE AND UTILITY EASEMENT
 - MICRO BIORETENTION AREA

OWNER / DEVELOPER
T.M. 35 - P.145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

OWNER
T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
W.R. GRACE & CO.
7500 GRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

NO. REVISION DATE

PRELIMINARY PLAN
PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELIGOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: CR/RHV/EDS
DRAWN BY: MDL/KG
CHECKED BY: RHV
DATE: SEPTEMBER 2017
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 16183, EXPIRATION DATE: 09-27-2018.

35 SHEET OF 39

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- EXISTING TREELINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- FOREST CONSERVATION AREA (RETENTION)
- MW7
- EX. MONITORING WELL
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- PROP. 5' SIDEWALK

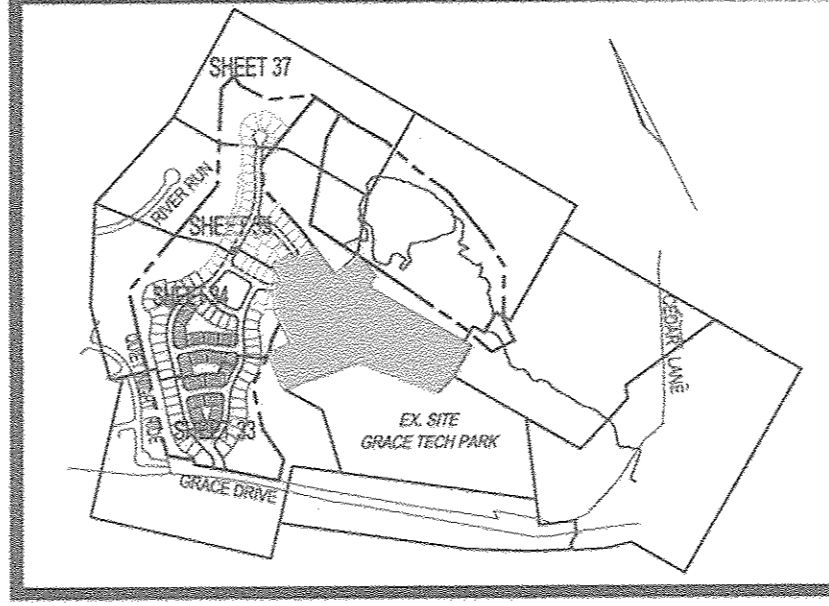
NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

**"GRACE" POND
MD 378
HAZARD CLASSIFICATION "A"
P-3 WET EXTENDED DETENTION FACILITY**

ESD LEGEND:

- TEST PIT
- SOIL BORING
- ESD DRAINAGE AREA DIVIDE
- ESD DRAINAGE AREA DESIGNATION
- NON-STRUCTURAL ROOFTOP DISCONNECTION
- MICRO-SCALE PRACTICE (8" SWALE (M-8) MICRO-ORIENTATION (M-6))
- 200 GAL RAIN BARREL
- PROPOSED DRYWELL



**KEY MAP
NOT TO SCALE**

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	TOXIC	W. FACTOR	PERCENT	ERODIBLE	EROSION
Bga	BALE Silt loam, 0 to 3 percent slopes	C/O	YES	YES	0.37	NO	YES
Cu	COOPER & HARBING Silt loam, 0-3% slopes	C	PARTIALLY	PARTIALLY*	0.37	NO	YES
Gub	CUMBLE Silt loam, 3 to 8 percent slopes	C	NO	NO	0.28	YES	NO
Gub	CUMBLE-URBAN LAND COMPLEX, 0-8% slopes	B	NO	NO	0.28	NO	NO
Gub	CUMBLE Silt loam, 3 to 8 percent slopes	C	PARTIALLY	PARTIALLY*	0.43	YES	YES
Gub	CUMBLE Silt loam, 8-15% slopes	C	NO	NO	0.43	YES	YES
Gub	CUMBLE-URBAN LAND-URBORNMENTS COMPLEX, 0-8% slopes	C	NO	NO	0.43	YES	YES
Mab	MANOR loam, 3-8% slopes	B	NO	NO	0.28	YES	NO
Mab	MANOR loam, 8 to 15 percent slopes	B	NO	NO	0.28	YES	NO
Mab	MANOR loam, 15-25% slopes	B	NO	NO	0.28	NO	YES
Mbf	MANOR-BROOKLOO COMPLEX, 25-85% slopes, VERY ROCKY	B	NO	NO	0.32	NO	YES

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 26, 2014. AVAILABLE ONLINE AT: <http://websoilsurvey.nrcs.usda.gov>
 2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT: <http://soils.usda.gov/ce/soils/hydric/>, CONSULTED ON DECEMBER 26, 2014.
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR X GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
 LOTS 1-128, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
 AND
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
 TAX MAP 35 GRID 16
 11th ELECTION DISTRICT

ZONED: DEF-R
 ZONED: NT

PARCEL 145
 PARCEL 413
 HOWARD COUNTY, MARYLAND

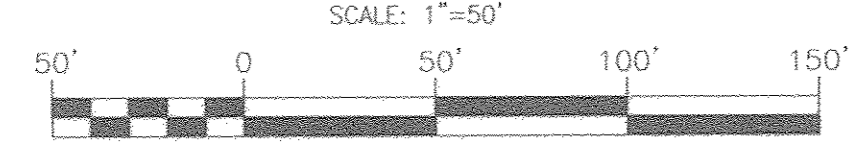
ROBERT H. VOGEL ENGINEERING, INC.
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PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A SOLE LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18183, EXPIRATION DATE: 09-27-2018.

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RRV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

36 SHEET OF **39**

PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP



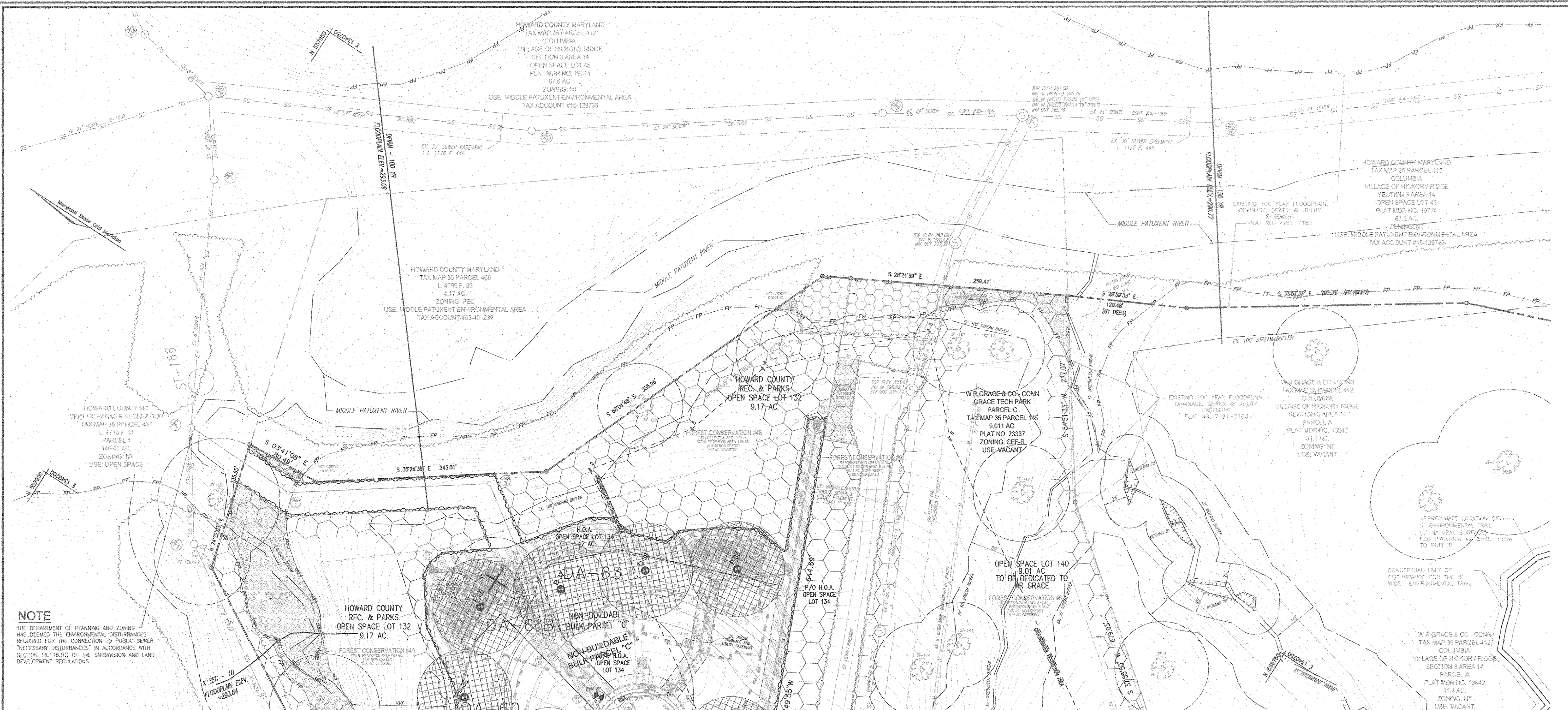
OWNER / DEVELOPER
 T.M. 35 - P.145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 T.M. 35 - P.145 (PARCEL C) & T.M. 35 - P.412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4200

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Nathan J. Jolin
 PLANNING DIRECTOR

10-5-17
 DATE



NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

OWNER / DEVELOPER
 T.M. 35 - P. 145 (PARCEL B-1)
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

OWNER
 T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
 W.R. GRACE & CO.
 7500 GRACE DR
 COLUMBIA, MD 21044-4098
 (410) 531-4000

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

N. Valdis Joffe
 PLANNING DIRECTOR

10-5-17
 DATE

MATCHLINE SHEET 35

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL NAME / DESCRIPTION	GROUP	HYDRO	PERC. INCLUSIONS	K FACTOR	PERC. SAND AND SILT	CRUIE SLOPE
BsA BULK SET LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	NO	0.37	NO	NO
Co COCODUS & HARBORO SET LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY*	0.37	NO	YES
Clb CLINELE LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO
CmB CLINELE-MORAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO
CmC CLINELE SET LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY*	0.43	YES	YES
CmD CLINELE SET LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES
CmE CLINELE-MORAN LAND-TOOTHENS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES
MaB MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO
MaC MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO
MaD MANOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES
MaF MANOR-BROOKLAND COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

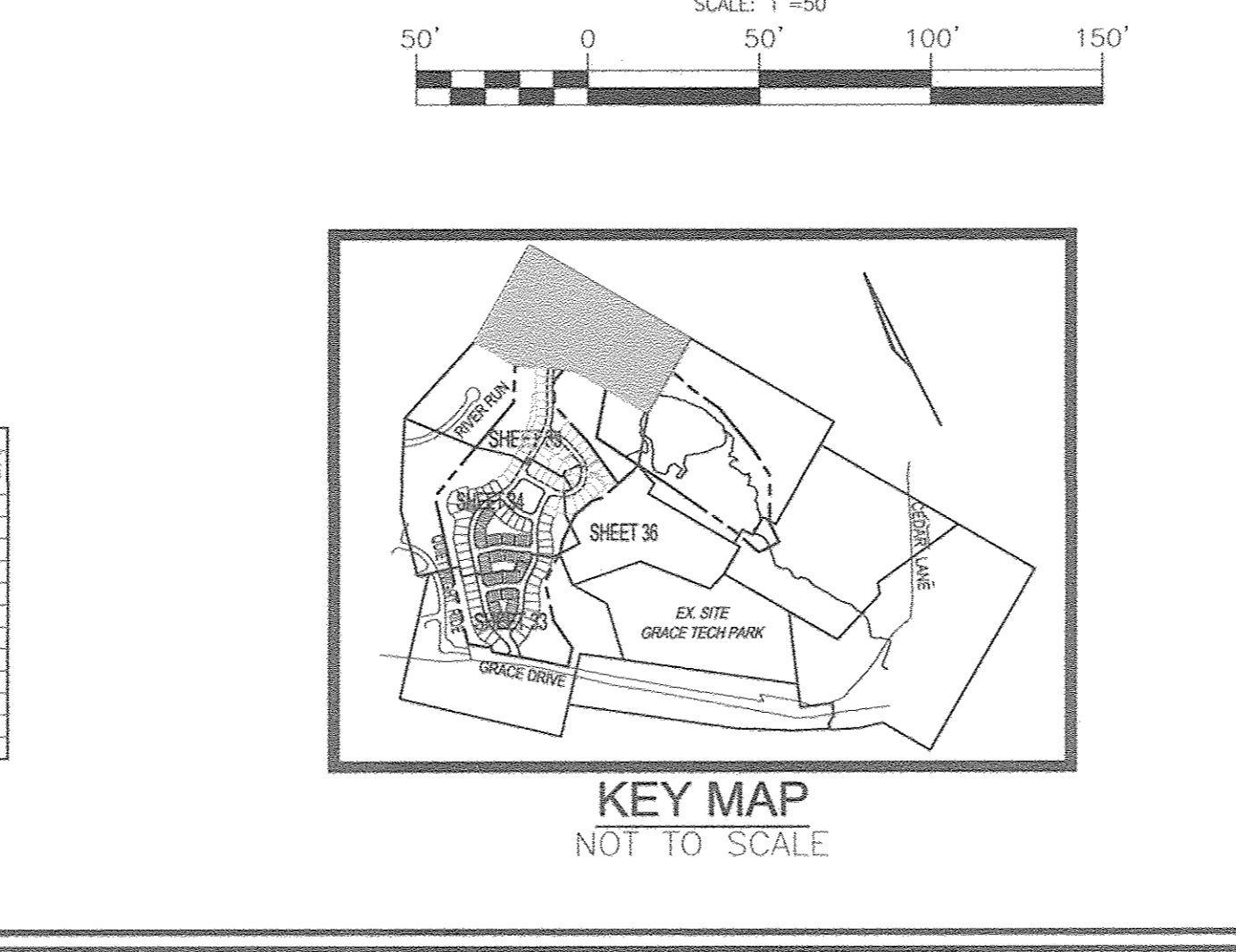
MATCHLINE SHEET 35

ESD LEGEND:

- TEST PIT
- SOIL BORING
- ESD DRAINAGE AREA DIVIDE
- ESD DRAINAGE AREA DESIGNATION
- NON-STRUCTURAL ROOFTOP DISCONNECTION
- MICRO-SCALE PRACTICE (BIO-SWALE (M-8) MICRO-BIORETENTION (M-6))
- 200 GAL RAIN BARREL
- PROPOSED DRYWELL

DA-7

SCALE: 1"=50'
 50' 0 50' 100' 150'



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- PROP. 5' SIDEWALK
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- FOREST CONSERVATION AREA (RETENTION)
- FOREST CONSERVATION AREA (RESTORATION)
- EXISTING TREELINE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- EXISTING FLOODPLAIN
- PROPOSED CURB
- EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
- EXISTING MONITOR WELLS

PRELIMINARY PLAN
PRELIMINARY STORMWATER MANAGEMENT DRAINAGE AREA MAP
SIMPSON OAKS - PHASE 1
 LOTS 1-129, OPEN SPACE LOTS 130-140 AND NON-BUILDABLE BULK PARCELS A-F
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
 COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21
 TAX MAP 35 GRID 16
 5TH ELECTION DISTRICT

PARCEL 145
 PARCEL 412
 PARCEL 145
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
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PROFESSIONAL CERTIFICATE
 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. 16193 EXPIRATION DATE: 09-27-2018

DESIGN BY: CR/RHV/EDS
 DRAWN BY: MDL/KG
 CHECKED BY: RHV
 DATE: SEPTEMBER 2017
 SCALE: AS SHOWN
 W.O. NO.: 15-55

37 SHEET OF 39

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- 1. MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 2. FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDERANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOxious WEEDS AS SPECIFIED UNDER COMPOST (3.02.01.02). THE PLANTING SOIL SHALL MEET THE FOLLOWING CRITERIA:
• SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
• ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COMPOST SAND (30%), AND COMPOST (40%).
• CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
• pH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMMONIUMS (E.G. UREA, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE SPECIFIED TESTS. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE TREADS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RESTRUCTURE THE SOIL PROFILE THROUGHOUT THE 12" HIGH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINISH GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LOTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MESH TRACKS.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDINGS TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE TOPSOIL TO FINISH GRADE DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STAKE DURING THE ENTIRE PLANTING PROCESS. THROUGHOUT WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

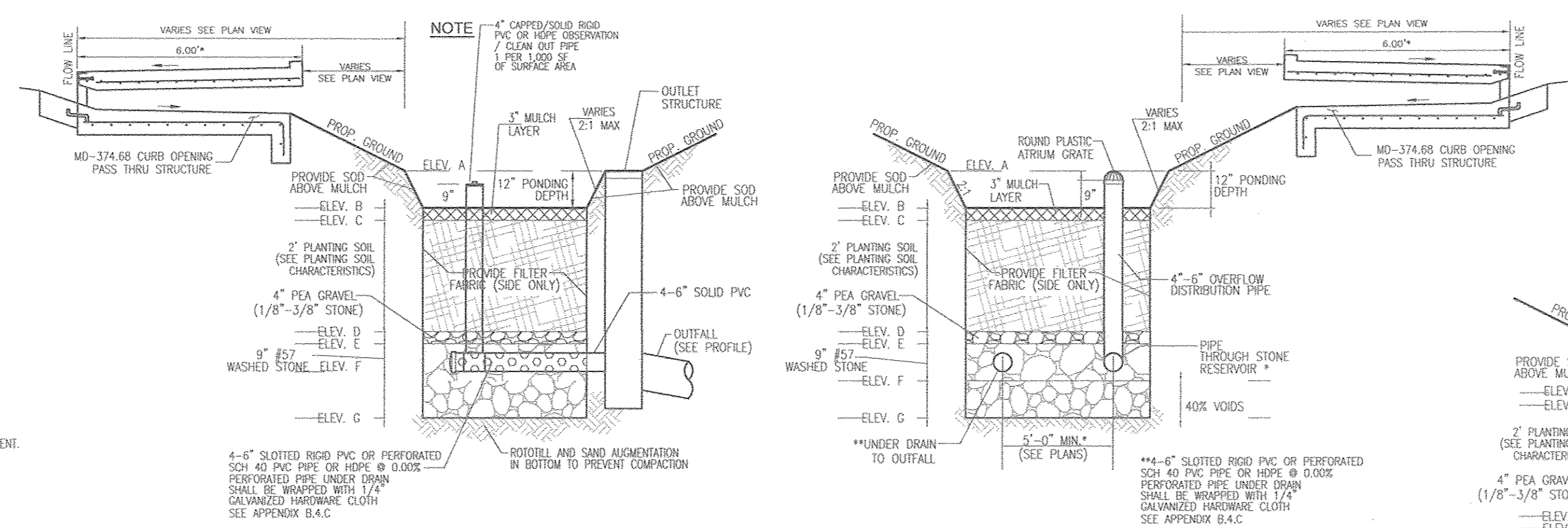
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLOTS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, DEFOLIANTS, OR AT A MINIMUM, IMPROVES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F758, TYPE PS 28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HOPEL).
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER FOOT. PIPE SHALL BE WRAPPED WITH 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.
• GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
• THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
• A RIGID, NON-PERFORATED OBSERVATION WELL SHALL BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING GRASS AREA HAS BEEN STABILIZED.

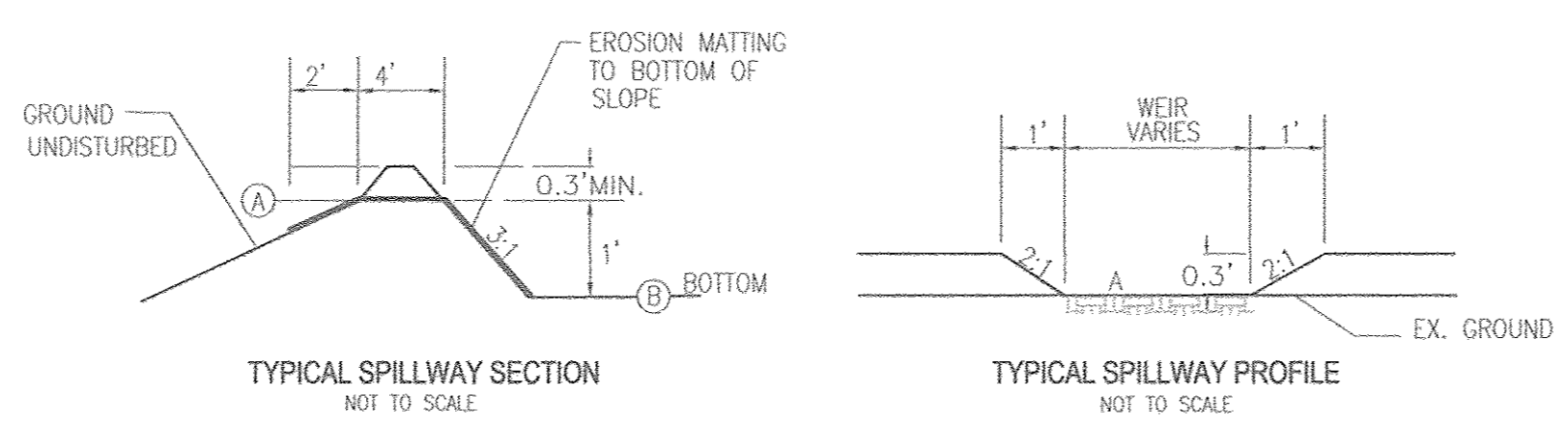


MICRO-BIORETENTION (UNDERDRAIN)
NOT TO SCALE

MICRO-BIORETENTION (OVERFLOW)
NOT TO SCALE

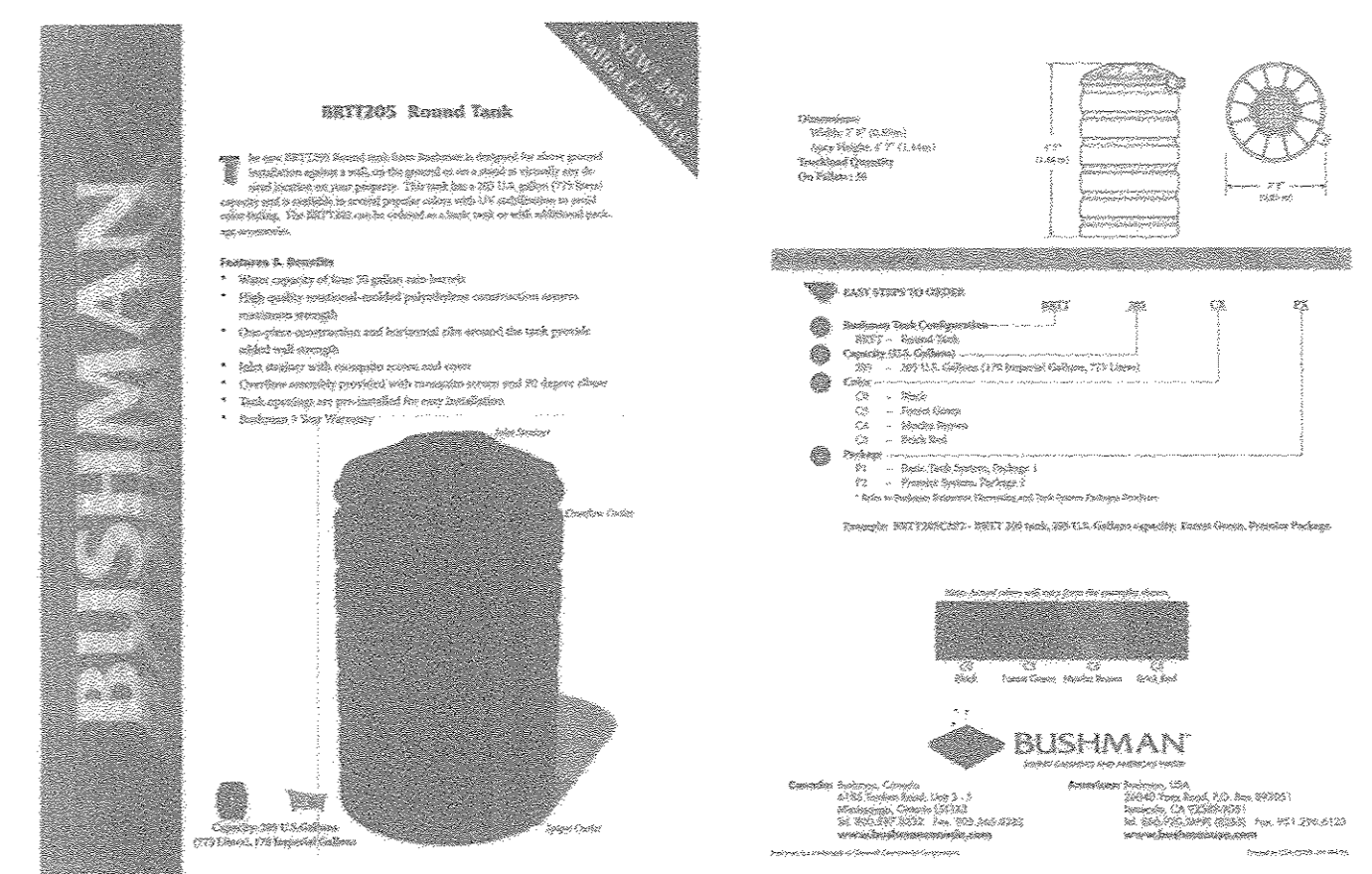
MICROBIORETENTION NOTES:

- ONLY THE SIDES OF MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MBR TO FAIL AND THEREFORE SHALL NOT BE INSTALLED.
- WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH. SEE APPENDIX B.4.C.5.
- PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS.



DETAILS OF WEIR OUTLET MICRO-BIORETENTION/BIO-SWALE
NOT TO SCALE

BUSHMAN BRT205 (200 GALLON) RAIN HARVESTING SYSTEM OR EQUIVALENT 200 GALLON RAIN BARREL
NOT TO SCALE



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RAINWATER HARVESTING (M-1)

- THE OWNER SHALL EMPTY BARRELS ON A MONTHLY BASIS AND CLEAN BARRELS WITH A HOSE.
- THE OWNER SHALL VERIFY INTEGRITY OF LEAF SCREENS, GUTTERS, DOWNPOUTS, SPIGOTS, AND MOSQUITO SCREENS, AND CLEAN AND REPAIR ANY DAMAGED.
- THE OWNER SHALL REPLACE DAMAGED COMPONENTS AS NEEDED.
- THE OWNER SHALL ALLOW THE BARREL TO DRAIN BY BOTTOM SPIGOT DURING THE WINTER SEASON.

N-1. DISCONNECTION OF ROOFTOP RUNOFF

CONSTRUCTION CRITERIA:
THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:
- EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF.
- SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARIFYING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:
A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAS BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:
MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

A. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

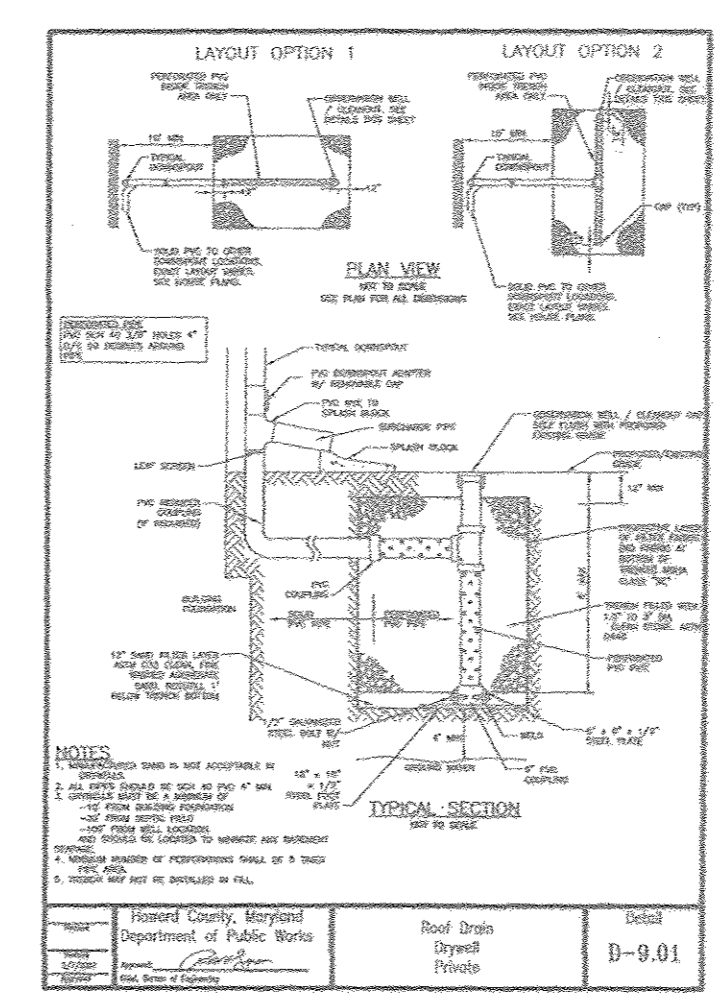
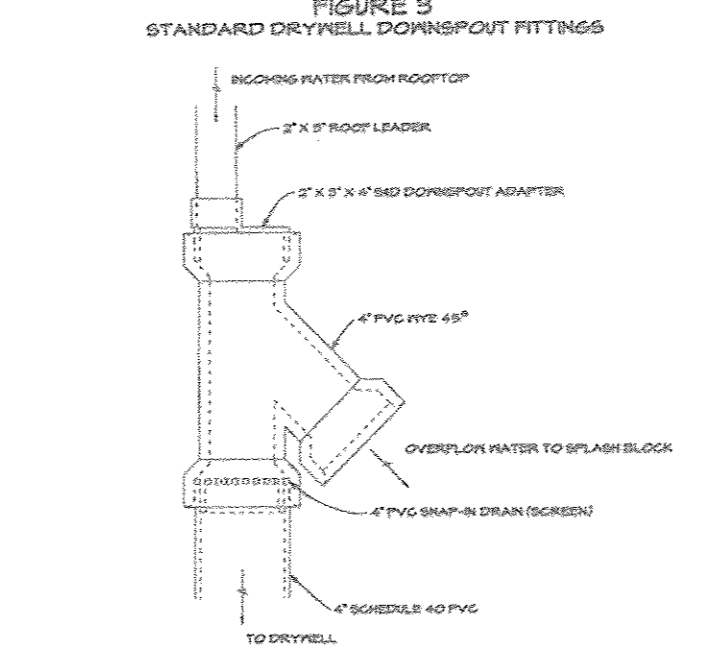


FIGURE 9 STANDARD DRYWELL DOWNSPOUT FITTINGS



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

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

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

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2' to 4' deep)	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone, washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type I nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE	(3/8" TO 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; F _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer (licensed in the State of Maryland - design to include meeting ACT Code 350.8A/B; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressure), and analysis of potential cracking
Sand	AASHTO M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Craystones (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

OPERATION AND MAINTENANCE SCHEDULE FOR (M-6) MICROBIORETENTION / (M-8) BIO-SWALE AREAS

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OWNER/DEVELOPER
T.M. 35 - P. 142 (PARCEL B-1)
SIMPSON OAKS CRPS, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-326-9900

OWNER
T.M. 35 - P. 145 (PARCEL C) & T.M. 35 - P. 412 (PARCEL A)
W.R. CRACE & CO.
7500 CRACE DR
COLUMBIA, MD 21044-4098
(410) 531-4000

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

10-5-17
DATE

NO.	REVISION	DATE

PRELIMINARY PLAN
PRELIMINARY STORMWATER MANAGEMENT
NOTES & DETAILS

SIMPSON OAKS - PHASE 1
LOTS 1-129, OPEN SPACE SITS 130-140 AND NON-BUILDABLE BULK, PARCELS A-F
A RESUBDIVISION OF CRACE TECH. PARK - PARCELS B-1 & C
AND
COLUMBIA VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRD 21
5TH ELECTION DISTRICT

ZONED: CEF-R
COUNTY: NT
HOWARD COUNTY, MARYLAND

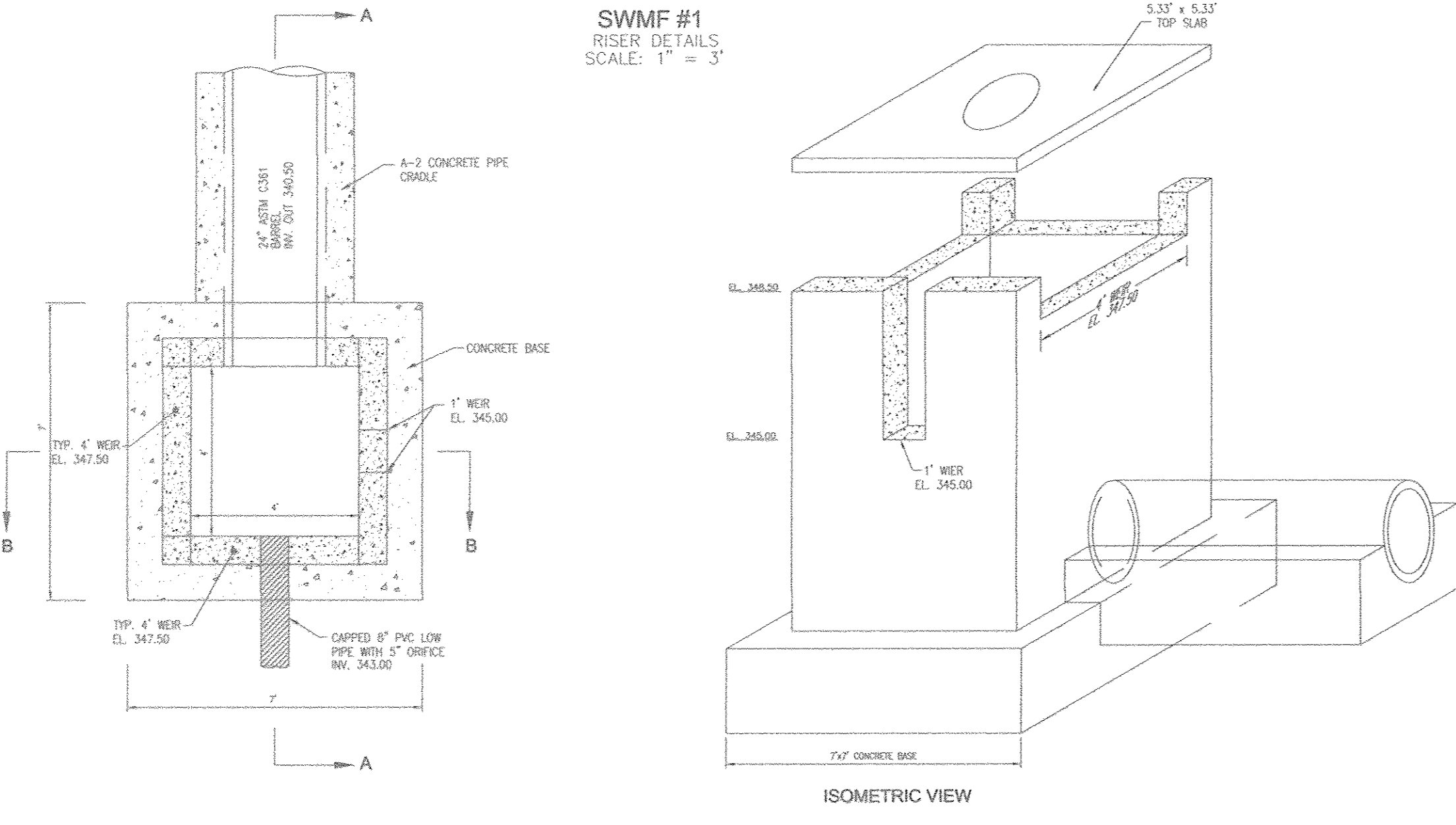
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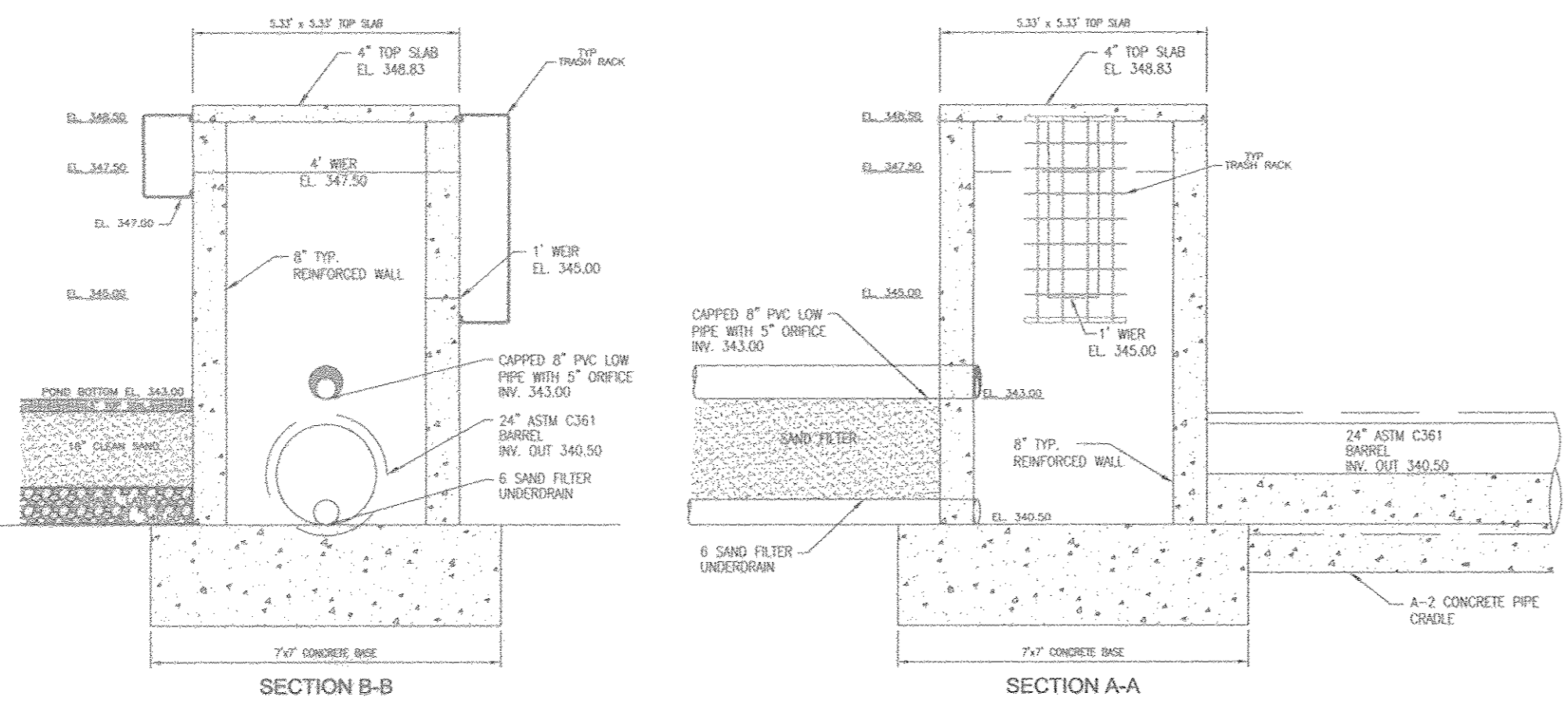
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CHECKED BY: RHV
DATE: SEPTEMBER 2017
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SWMF #1
RISER DETAILS
SCALE: 1" = 3'

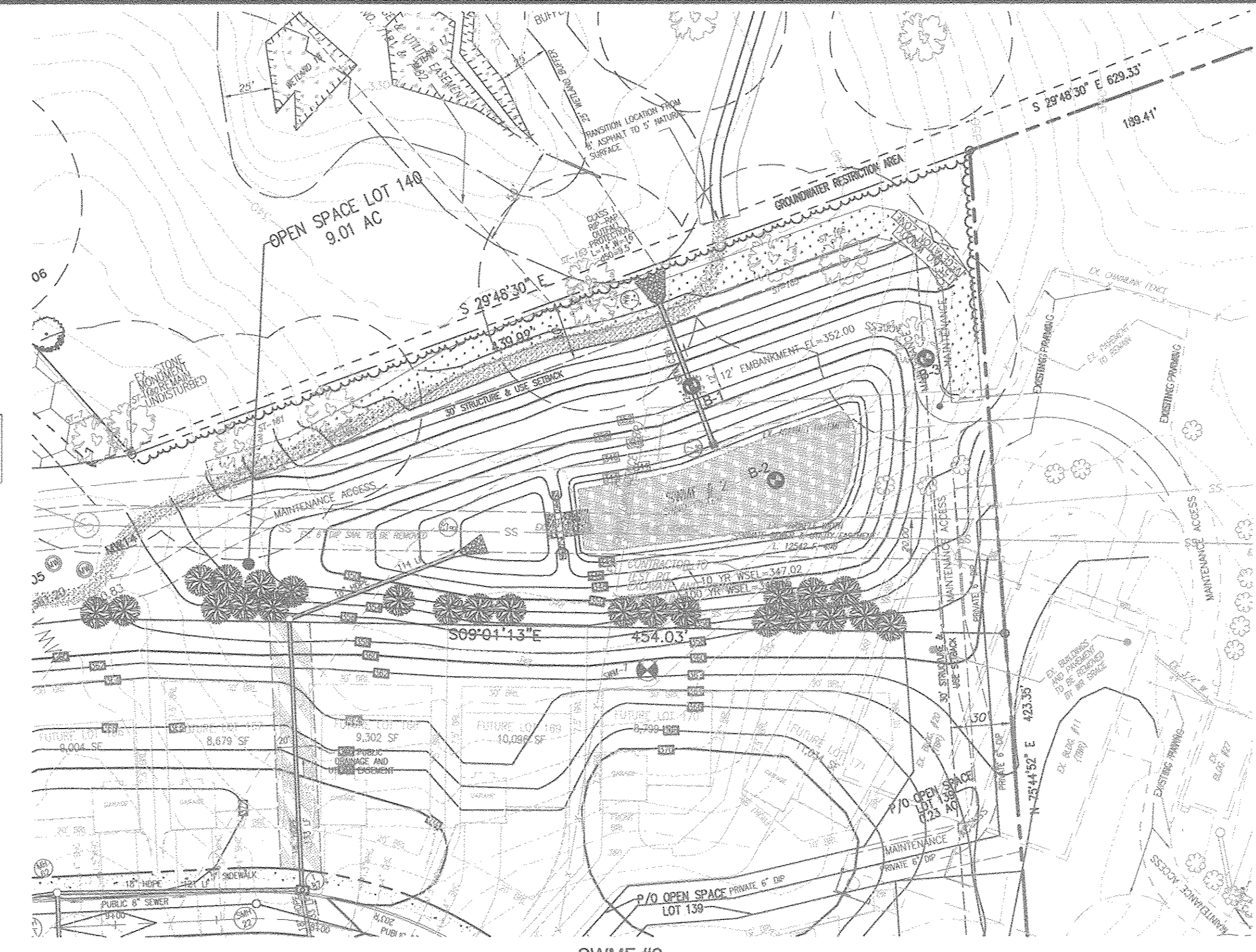


ISOMETRIC VIEW

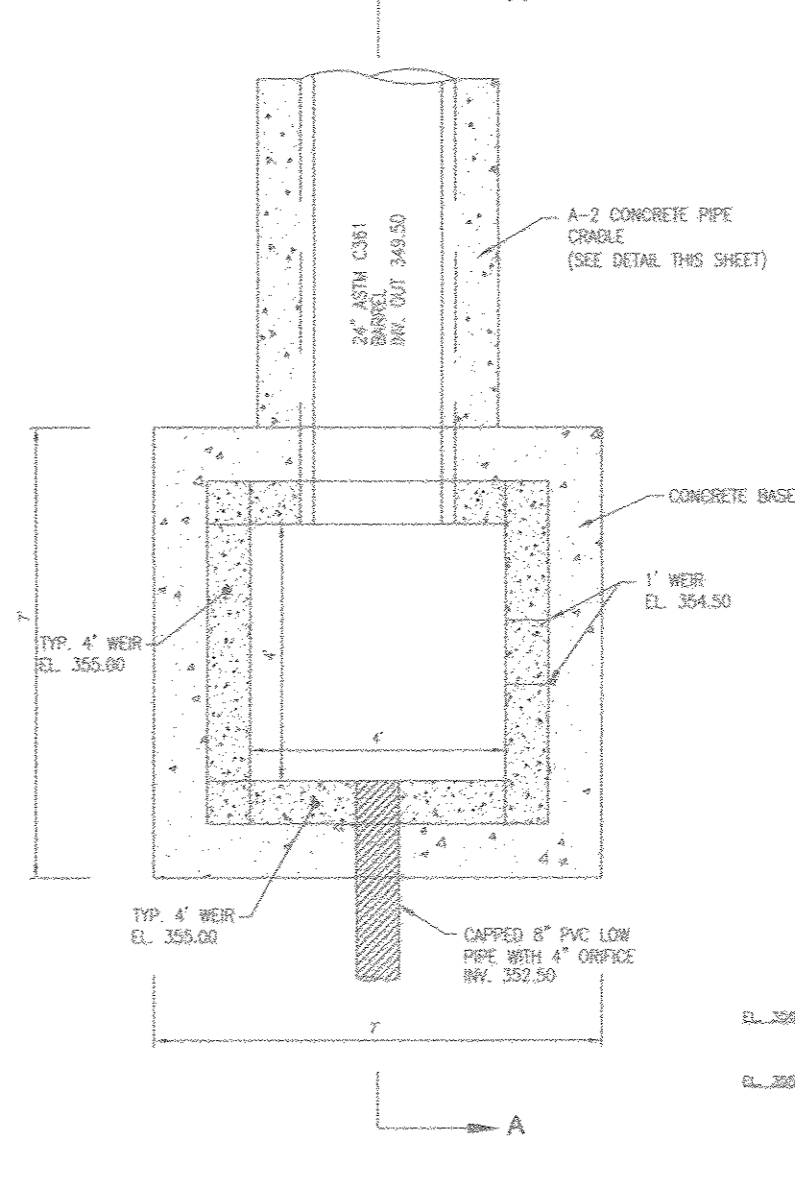


SECTION B-B

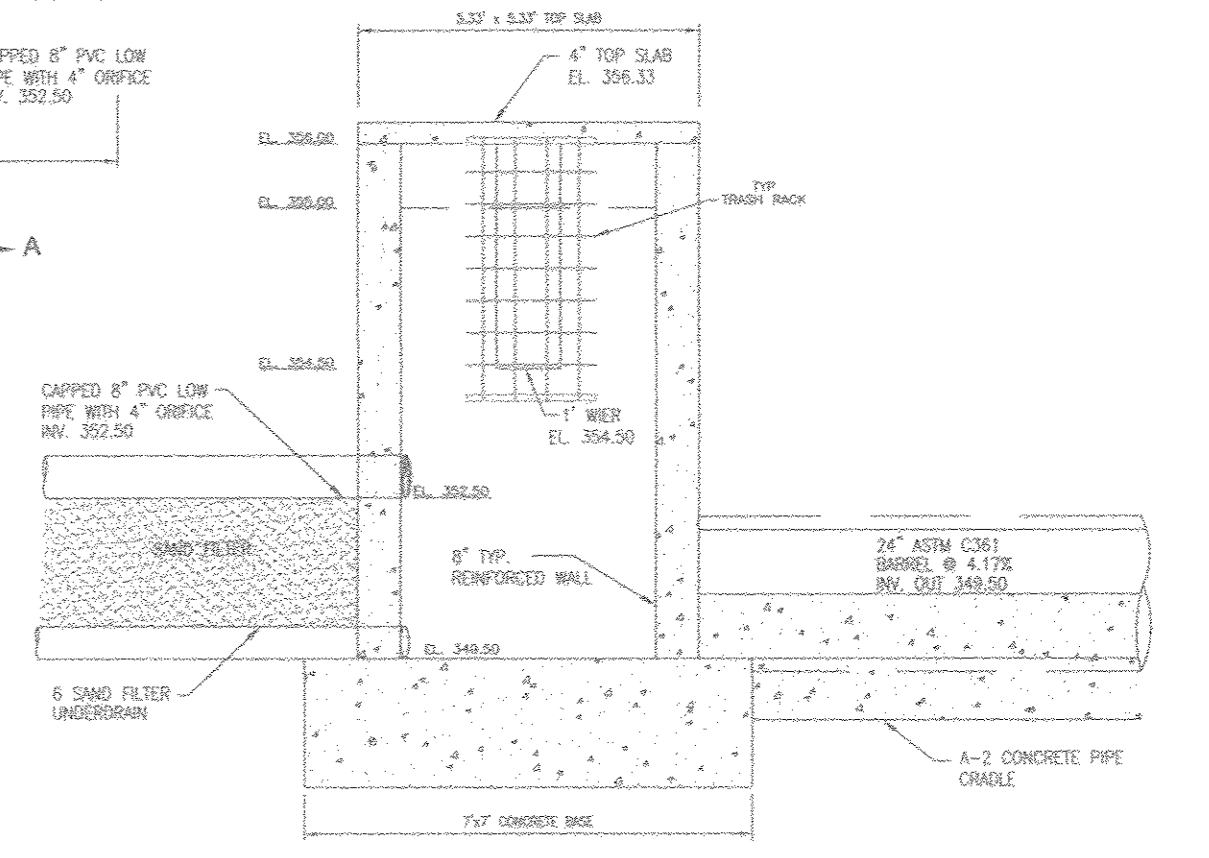
SECTION A-A



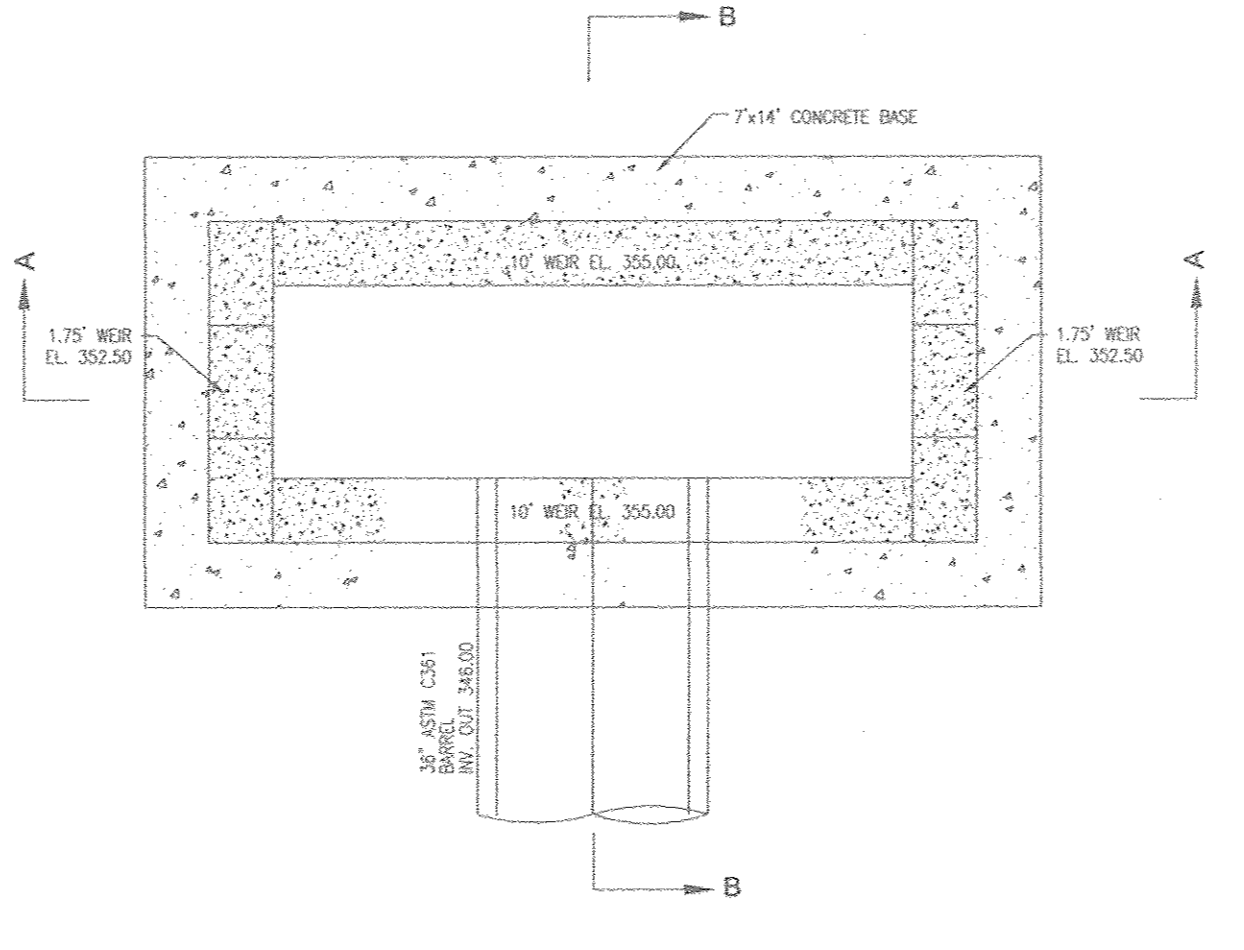
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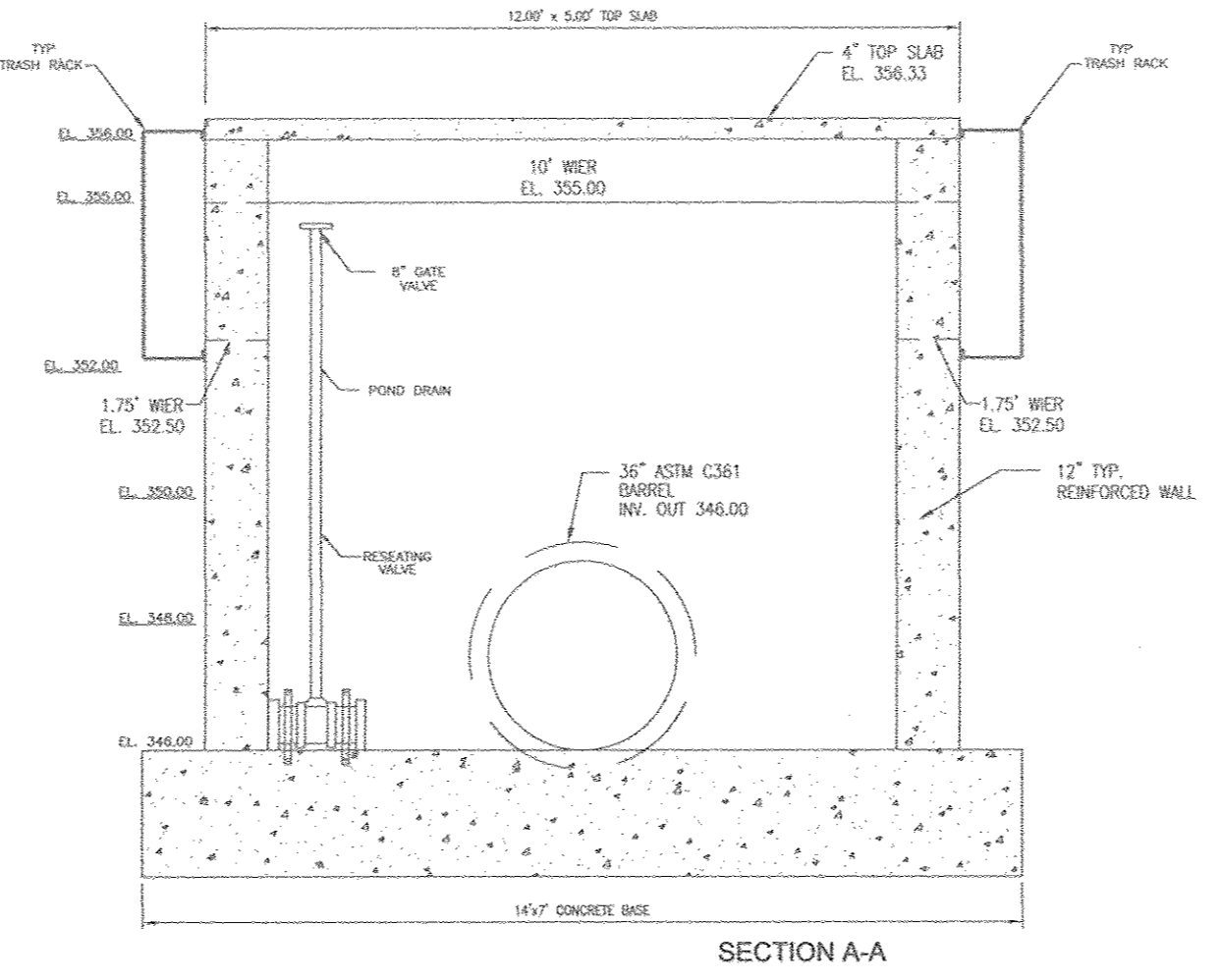
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RISER DETAILS
SCALE: 1" = 3'



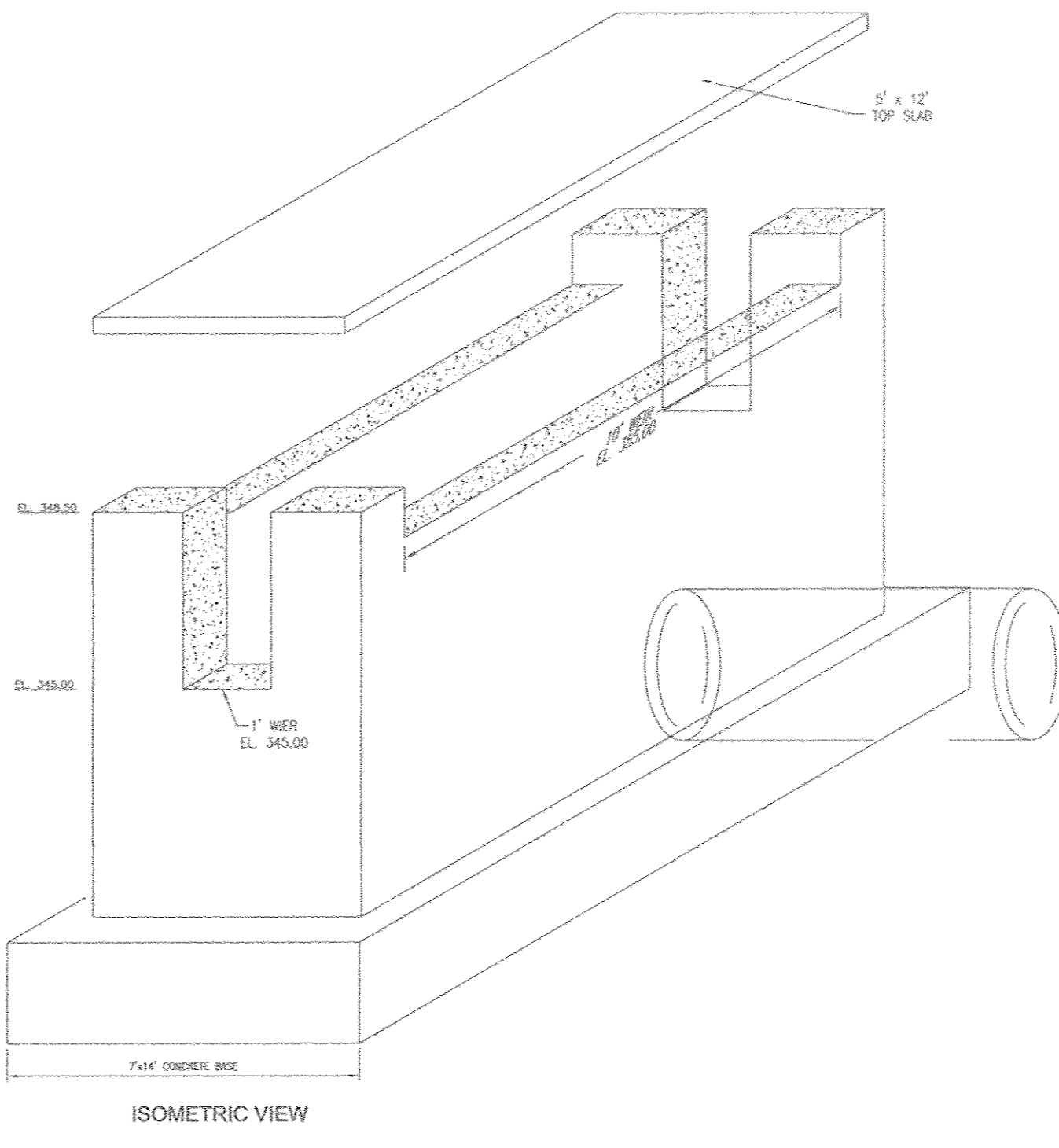
W.R. GRACE POND
RISER DETAILS
SCALE: 1" = 3'



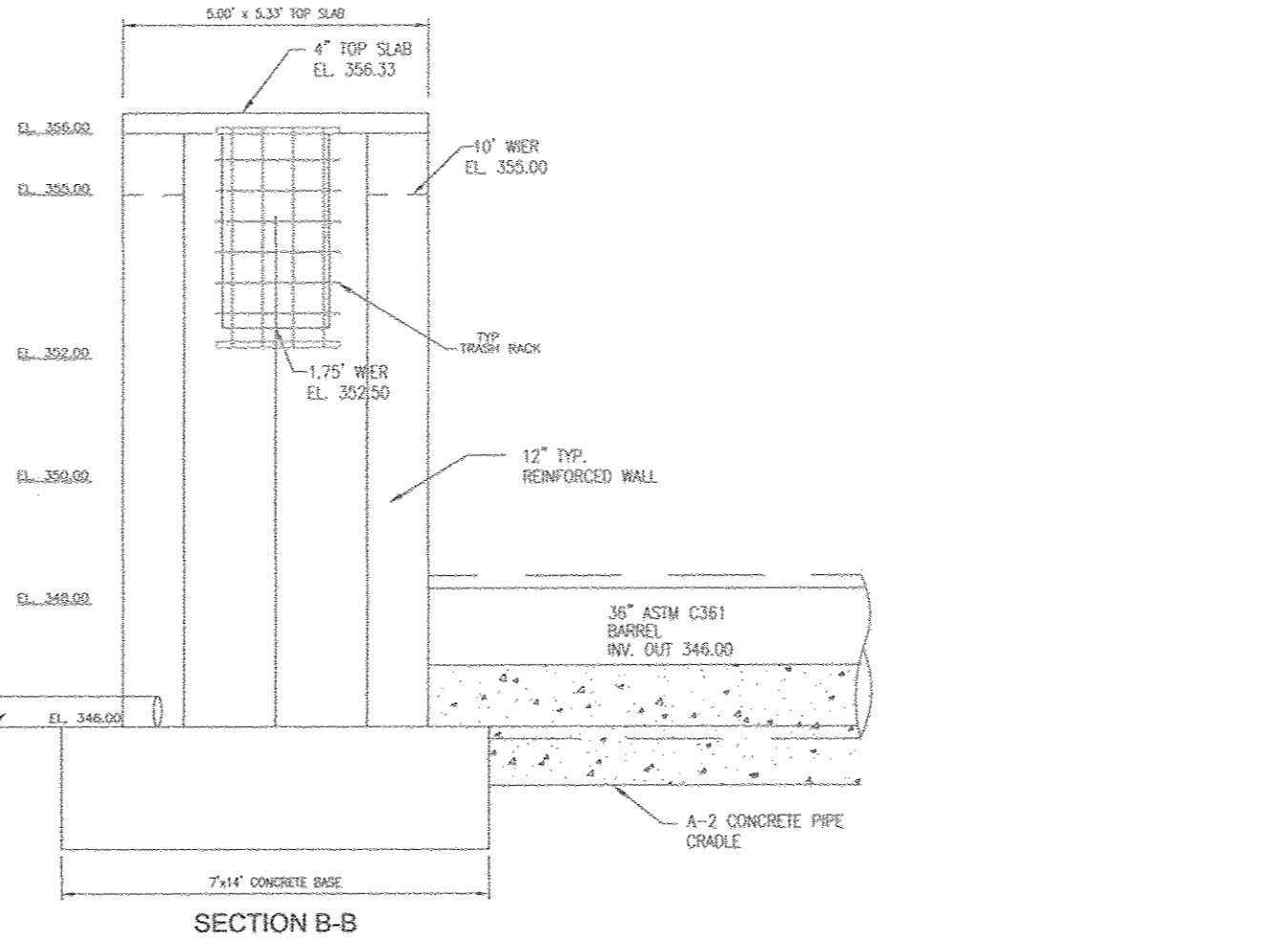
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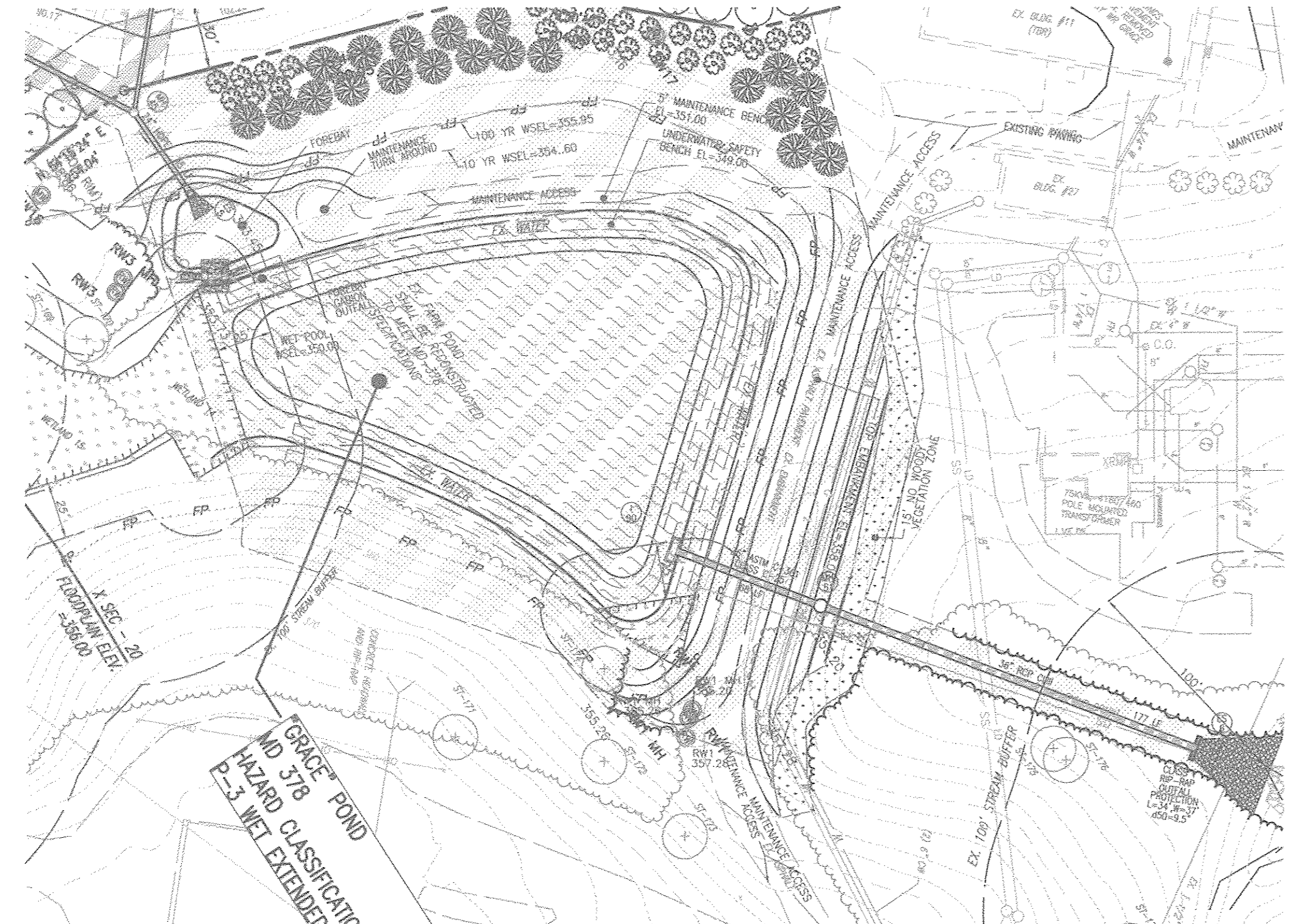
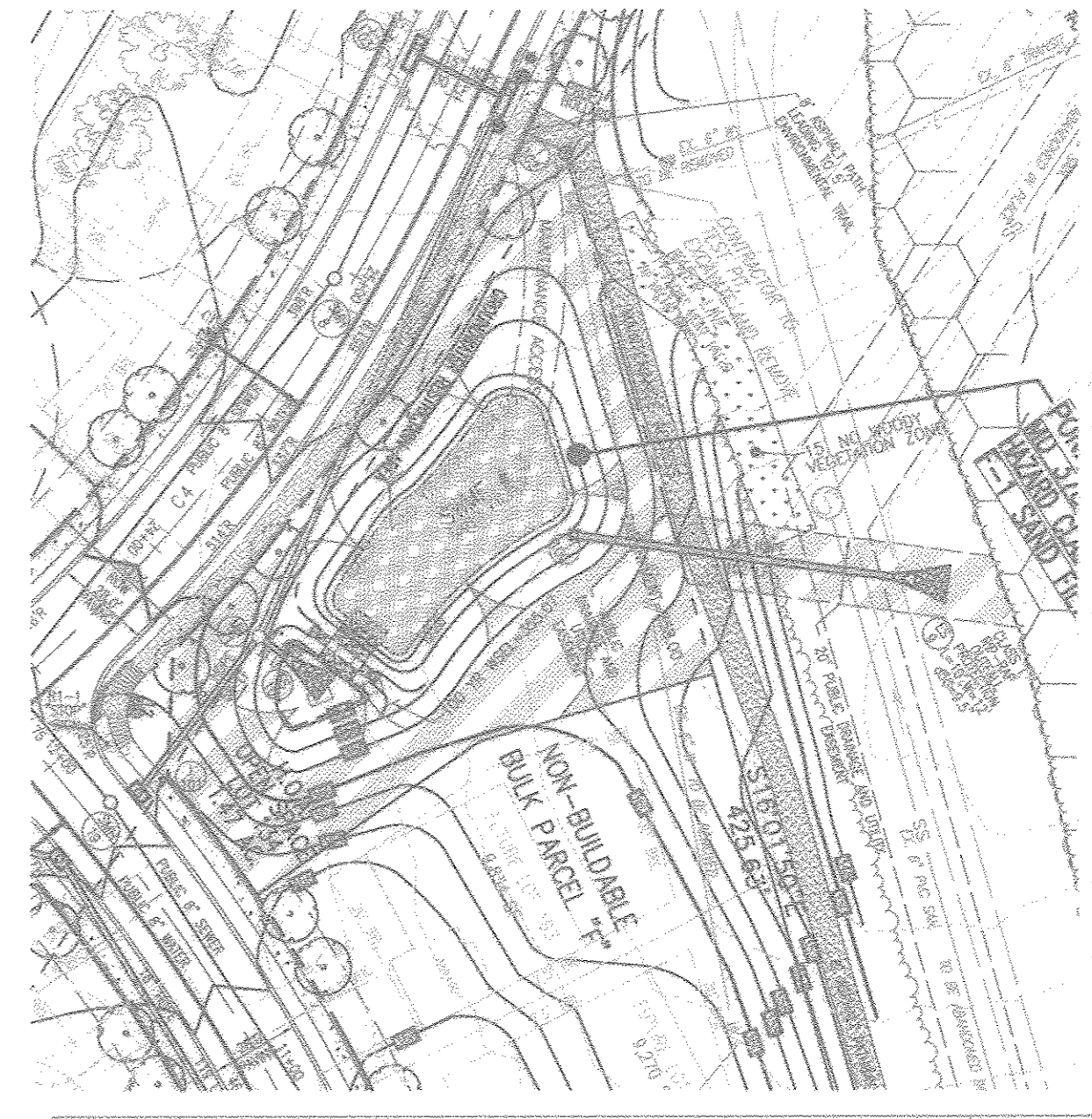
SECTION A-A



ISOMETRIC VIEW



SECTION B-B



W.R. GRACE POND RECONSTRUCTION DETAIL
SCALE: 1" = 50'

W.R. GRACE POND NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

OWNER / DEVELOPER
T.M. 35 - P. 145 (PARCEL B-1)
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-358-9900

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

N. J. J. J.
PLANNING DIRECTOR

10-5-17
DATE

NO.	REVISION	DATE

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PRELIMINARY STORMWATER MANAGEMENT NOTES & DETAILS

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A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & C
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ZONED: CE-FR
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