

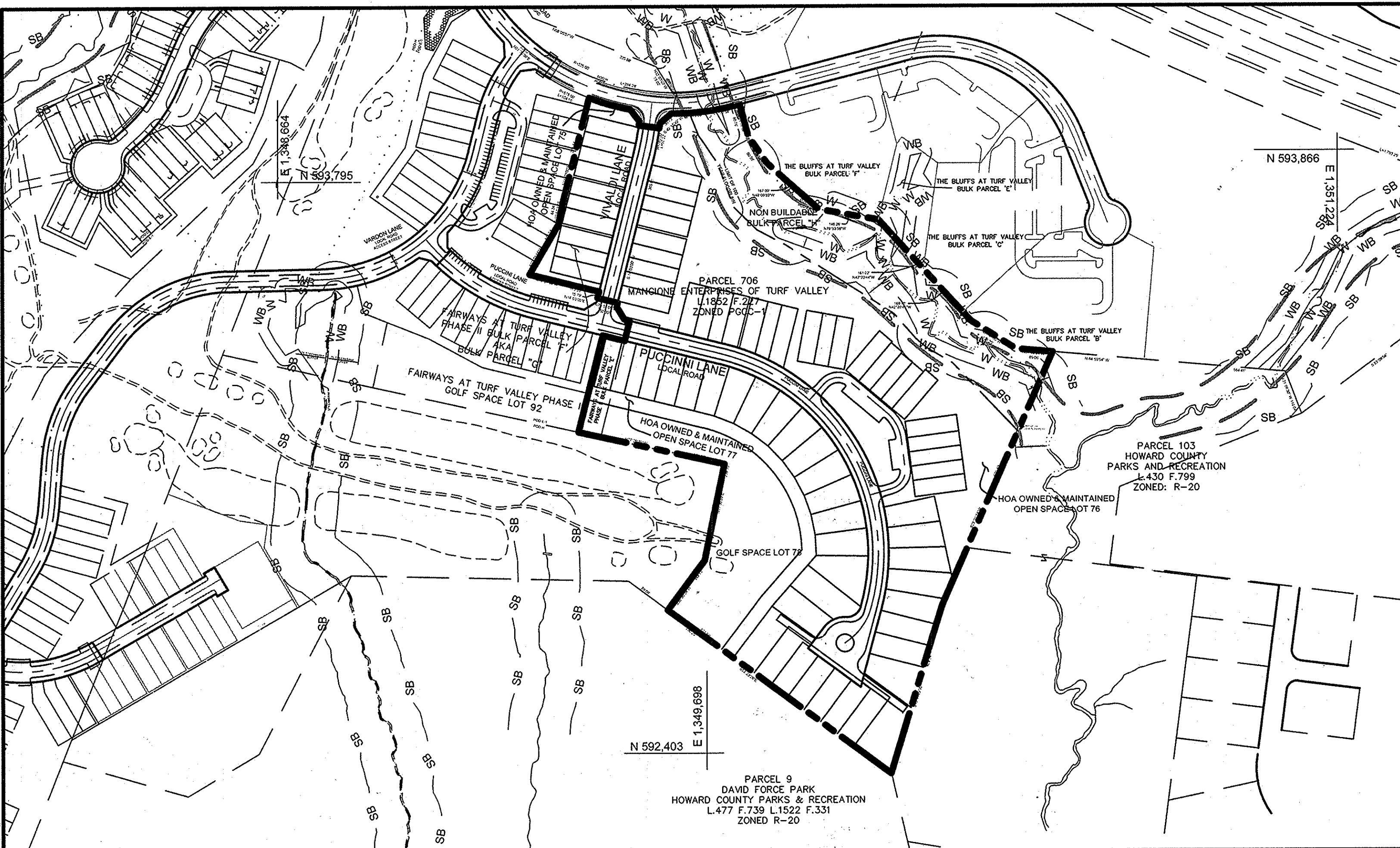
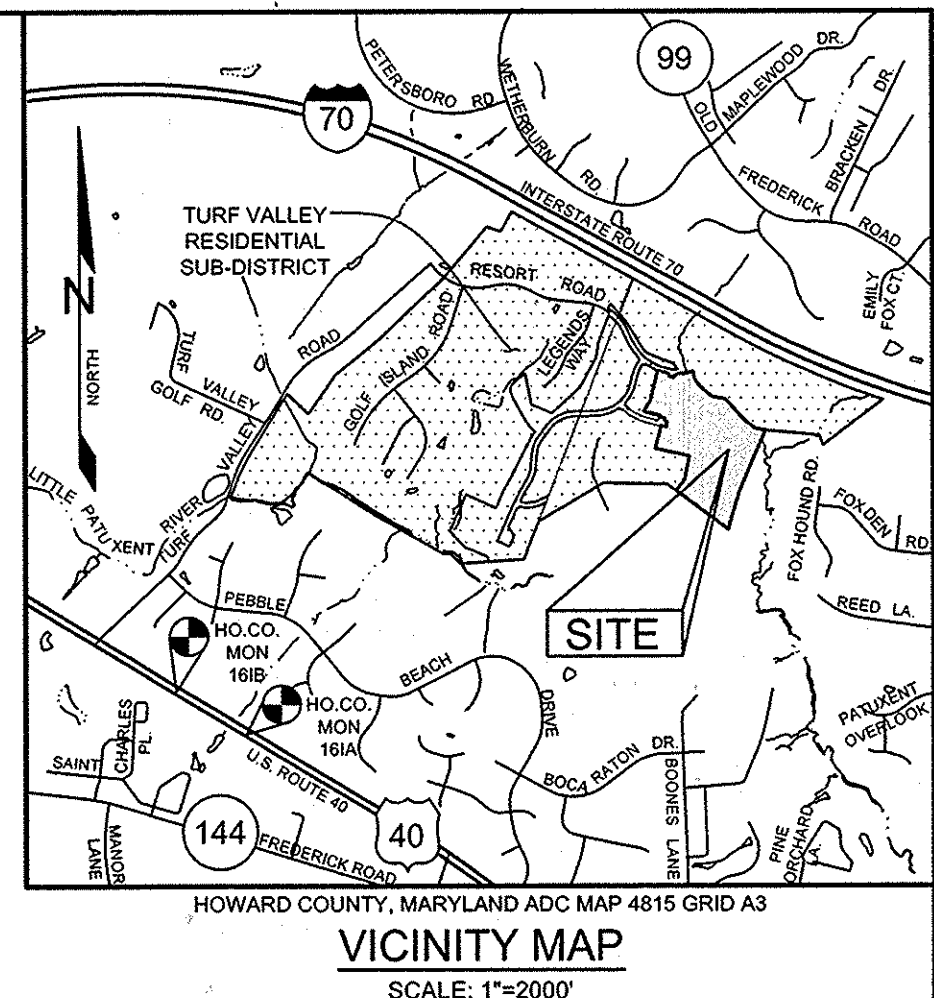
**GENERAL NOTES**

- SUBJECT PROPERTY IS ZONED "PGCC-1" PER THE 2002/04 COMPREHENSIVE ZONING PLAN AND THE "COMP. LITE" ZONING AMENDMENTS EFFECTIVE 7/28/06.
- GROSS AREA OF SITE SUBJECT TO SUBDIVISION = 24.09 AC.±
- AREA OF PROPOSED PUBLIC R/W: 2.11 AC.±
- NUMBER OF PROPOSED BUILDABLE LOTS: 74
- AREA OF PROPOSED BUILDABLE LOTS: 11.12 AC.±
- NUMBER OF PROPOSED BULK PARCELS: 1
- AREA OF PROPOSED BULK PARCEL: 3.74 AC.±
- NUMBER OF OPEN SPACE LOTS: 4
- AREA OF PROPOSED OPEN SPACE LOTS: 7.12 AC.±
- OPEN SPACE REQUIRED: 15% OF GROSS AREA OF SITE SUBJECT TO SUBDIVISION: 24.09 AC. x 15% = 3.61 AC. CREDITED OPEN SPACE PROVIDED: 0.5 AC.± NON-CREDITED OPEN SPACE PROVIDED: 0.62 AC.± TOTAL OPEN SPACE PROVIDED: 7.12 AC.±
- OPEN SPACE LOTS 75-77 TO BE OWNED AND MAINTAINED BY THE HOMEOWNER ASSOCIATION.
- GOLF SPACE LOT 78 TO BE OWNED AND MAINTAINED BY MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP.
- NUMBER OF PROPOSED SINGLE FAMILY LOTS: 31
- NUMBER OF PROPOSED TOWN HOUSES: 43
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- LOTS WILL BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER. PUBLIC WATER AND PUBLIC SEWER WILL BE EXTENDED FROM CONTRACT #24-4671-D AND 24-4354-D.
- SOILS HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE.
- TOPOGRAPHY IS BASED ON WINGS AERIAL MAPPING CO., INC. ON OR ABOUT JANUARY, 2006.
- BOUNDARY SURVEY PREPARED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH, 2006.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- WETLAND LIMITS SHOWN ARE BASED ON A STUDY CONDUCTED BY EXPLOREATION RESEARCH, INC. AND VERIFIED BY ECO-SCIENCE PROFESSIONALS, INC. ON OCTOBER 24, 2007. 100-YEAR FLOODPLAIN LIMITS SHOWN ARE BASED ON A STUDY PREPARED BY MILDENBERG, MOCHI AND ASSOCIATES, INC. WETLAND AND 100-YEAR FLOODPLAIN LIMITS SHOWN ARE IN ACCORDANCE WITH THOSE SHOWN ON THE FOURTH AMENDMENT TO THE TURF VALLEY COMPREHENSIVE SKETCH PLAN (S-86-13, PB 368), APPROVED JULY, 28, 2006.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: S-08-006; ECP-11-053; CONTR.#24-4671-D; CONTR.#24-4354-D; F-07-158; F-10-084; WP-12-021.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- PRELIMINARY GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE. IF FUTURE INVESTIGATIONS SHOW UNSATISFACTORY SOIL CONDITIONS FOR ANY OF THE STORMWATER MANAGEMENT TREATMENTS SHOWN, EITHER UNDERDRAINS WILL BE PROVIDED OR A DIFFERENT PRACTICE WILL BE SUBSTITUTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 161A AND 161B WERE USED FOR THIS PROJECT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- STORMWATER MANAGEMENT IS PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE MARYLAND STORMWATER ACT OF 2007. STORMWATER OBLIGATIONS ARE BEING MET BY THE USE OF BIO-RETENTION FACILITIES, GRASS CHANNELS AND PERVIOUS PAVEMENT. ALL FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. WE ARE ABLE TO MEET THE SITE'S TARGET P<sub>6</sub> AND RCN NUMBERS BY THE USE OF THESE PRACTICES. THEREFORE C<sub>PI</sub> IS NOT REQUIRED.
- THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THESE PLANS IS AN APPROXIMATION OF THE SIZE, SHAPE, AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE, ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
- A PRELIMINARY LANDSCAPE PLAN WILL BE PROVIDED AT THE PRELIMINARY PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
- A PRELIMINARY LANDSCAPE PLAN WILL BE PROVIDED AT THE PRELIMINARY PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF TWENTY FEET (20') SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SHALL BE MOUNTED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A TWO INCH (2") GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (14 GAUGE) THREE FEET (3') LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC GROUP, DATED JANUARY 07, 2005 AND WAS APPROVED UNDER THE 4TH AMENDED COMPREHENSIVE SKETCH PLAN ON APRIL 27, 2006.
- A NOISE STUDY FOR THIS PROJECT IS NOT APPLICABLE.
- PARKING REQUIRED: 43 TOWNHOUSE UNITS (2.3 SPACES PER UNIT) = 99 TOTAL PARKING SPACES REQUIRED = 99 PARKING PROVIDED: 86 SPACES WITHIN GARAGES/DRIVEWAYS OF TOWNHOUSE (2 SPACES EACH TOWNHOUSE) 30 SPACES WITHIN THE PARKING LOTS TOTAL PARKING SPACES PROVIDED = 116
- BULK PARCELS 'B' THRU 'D' AND 'F' TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- THIS PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE SECOND AMENDMENT TO THE TURF VALLEY RESIDENTIAL SUB-DISTRICT FINAL DEVELOPMENT PLAN.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION AND/OR SITE DEVELOPMENT. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION AND/OR SITE DEVELOPMENT PLAN STAGES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS, INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN, AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- WAIVER PETITION WP-12-021 SUBMITTED FOR SECTION 16.116 (a)(3). IN RESIDENTIAL SUBDIVISIONS, WETLANDS, STREAMS, AND THEIR BUFFERS SHALL BE LOCATED IN REQUIRED OPEN SPACE OR NON-BUILDABLE PARCEL RATHER THAN ON RESIDENTIAL LOTS.

# ENVIRONMENTAL CONCEPT PLAN

## TURF VALLEY, POD E-1

### LOTS 1-74, OPEN SPACE LOTS 75-78 AND NON-BUILDABLE BULK PARCEL 'H' HOWARD COUNTY, MARYLAND



BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
161B	590,475.2538	1,344,753.9350	469.892	11.5' SOUTHWEST OF WBL RT. 40, 20.8' WEST OF PK NAIL IN SHOULDER, 66.4' SOUTH OF LAST POST IN GUARDRAIL
161A	589,509.366	1,346,343.63	463.797	RT. 40 0.35 MI WEST OF RT. 144 JOINT

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	D
Gbb	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B
Gbc	GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES	B
Gcb	GLENNVILLE-BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C
MdD	MANOR LOAMS, 15 TO 25 PERCENT SLOPES	B

STORMWATER MANAGEMENT	
DRAINAGE AREA	TREATMENT (MDE NOMENCLATURE)
1	MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
2	MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
3	MICRO-BIORETENTION (M-6)
4	MICRO-BIORETENTION (M-6)
5	MICRO-BIORETENTION (M-6)
6	MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
7	REGIONAL SWM POND (APPROVED UNDER F-10-084)
8	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
9	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
10	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
11	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
12	TWO RAIN BARRELS (M-1) AND PER. PAVEMENT (A-2)
13	SIX DRY WELLS (M-5)
14	REGIONAL SWM POND (APPROVED UNDER F-10-084)
15	ONE DRY WELL (M-5), THREE RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
16	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
17	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
18	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
19	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
20	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
21	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
22	MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
23	SHEET FLOW TO CONSERVATION AREA (N-3)
24	DRY WELLS (M-5)
25	LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
26	MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
44	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
45	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
46	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
47	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
48	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
49	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
50	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
51	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
52	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
53	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
54	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
55	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
56	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
57	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
58	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
59	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
60	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
61	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
62	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
63	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
64	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
65	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
66	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
67	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
68	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
69	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
70	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
71	ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)

SITE ANALYSIS DATA SHEET	
ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	24.09 ACRES±
LIMIT OF DISTURBANCE	16.85 ACRES±
GREEN OPEN AREA (LAWN)	13.00 ACRES±
IMPERVIOUS AREA	6.89 ACRES±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0.68 ACRES±
WETLAND BUFFERS	3.85 ACRES±
FLOODPLAINS	3.22 ACRES±
FLOODPLAIN BUFFERS	0.00 ACRES±
EXISTING FOREST	4.20 ACRES±
SLOPES GREATER THAN 15%	4.53 ACRES±
HIGHLY ERODIBLE SOILS	0.09 ACRES± (1)

NOTE:  
1) HIGHLY ERODIBLE SOILS ARE ASSUMED TO BE A "K" VALUE OF 0.37 OR HIGHER.

SOIL CONDITIONS			
HSG	RCN	AREA	PERCENT
A	35	0.00 AC.	0%
B	55	19.73 AC.±	82%
C	70	0.09 AC.±	0.3%
D	77	4.28 AC.±	17.7%

TOTAL SITE AREA = 24.09 AC.±

**STORMWATER MANAGEMENT NOTES AND DESIGN NARRATIVE**

THIS SITE IS PART OF THE PLANNED GOLF COURSE COMMUNITY LOCATED AROUND THE TURF VALLEY GOLF COURSE AND IS ZONED PGCC-1. 24± ACRE PROPERTY WILL BE SUBDIVIDED INTO A TOTAL OF 74 RESIDENTIAL LOTS CONSISTING OF TOWN HOUSES AND SINGLE FAMILY DWELLINGS. PUCCINI LANE, A PUBLIC ROAD WILL BE EXTENDED THROUGH THE PROPERTY WHICH WILL TERMINATE INTO A CUL-DE-SAC. ANOTHER PUBLIC ROAD NAMED AS DONNETTI LANE WILL CONNECT PUCCINI LANE TO RESORT ROAD, INCLUDED IN THE PROPOSED SUBDIVISION ARE 3 OPEN SPACE LOTS AND ONE GOLF SPACE LOT.

LIMITS OF 100 YEAR FLOODPLAIN ALMOST FOLLOW THE NORTHERN PROPERTY LINE. AN UNMADE STREAM FLOWING IN THE EASTERLY DIRECTION RUNS ALONG THE NORTHERN EDGE OF THE PROPERTY.

STORM WATER MANAGEMENT FOR THE PROPOSED DEVELOPMENT IS ADDRESSED BY IMPLEMENTING ENVIRONMENTAL SITE DESIGN (ESD) TO THE MAXIMUM EXTENT PRACTICABLE (MEP) IN ACCORDANCE WITH THE REVISED MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) STORM WATER DESIGN MANUAL CHAPTER 5. ESD CONSISTS OF COMBINATION OF THE FOLLOWING PRACTICES: MICRO-BIORETENTION (M-6); RAIN GARDENS (M-7); DRY WELLS (M-5); LANDSCAPE INFILTRATION (M-3); PERMEABLE PAVEMENT (A-2); AND SHEETFLOW TO CONSERVATION AREAS (N-3). A PORTION OF THE PROPERTY DRAINS TO THE REGIONAL STORMWATER MANAGEMENT POND, WHICH IS DESIGNED FOR BOTH WATER QUALITY AND QUANTITY MANAGEMENT.

THE SEDIMENT AND EROSION CONTROL PRACTICES FOR THIS DEVELOPMENT WILL BE DESIGNED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. AT THE FINAL PLAN STAGE, THE PLANS WILL INCORPORATE SILT FENCE, SUFFER SILT FENCE AND EARTH BANKS AROUND THE LIMIT OF DISTURBANCE TO ELIMINATE THE POSSIBILITY OF SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE. THE IMPLEMENTATION OF THIS SEDIMENT AND EROSION CONTROL PLAN WILL ENSURE THE CONSTRUCTION PHASE OF THIS DEVELOPMENT HAS NO NEGATIVE EFFECTS ON THE ADJACENT PARCELS.

UTILIZING THE METHODS DESCRIBED ABOVE, WILL SATISFY REQUIRED STORMWATER MANAGEMENT OBLIGATIONS TO THE MAXIMUM EXTENT PRACTICABLE.

ROAD CLASSIFICATION				
ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	R/W
PUCCINI LANE	ACCESS STREET	P-2	30	50'
VIVALDI LANE	ACCESS STREET	P-2	30	50'

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LAYOUT AND CONCEPTUAL GRADING PLAN
3	LAYOUT AND CONCEPTUAL GRADING PLAN
4	ENVIRONMENTAL SITE DESIGN DRAINAGE AREA MAP
5	ENVIRONMENTAL SITE DESIGN DRAINAGE AREA MAP
6	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

**COVER SHEET**

**TURF VALLEY, POD E-1**

LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
 POD 'E-1' SECTION IV, RESIDENTIAL PHASE IV E  
 A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY,  
 PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II,  
 NON-BUILDABLE BULK PARCELS E & F

TAX MAP 17 GRID 7 & 13 PART OF PARCEL 706  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: MGS/K  
 DRAWN BY: MGS/K  
 CHECKED BY: SHV  
 SCALE: AS SHOWN  
 DATE: JULY 25, 2010  
 PROJECT #: 11106-00  
 SHEET #: 1 of 6

**KCE ENGINEERING, INC.**  
 3300 North Ridge Road, Suite 315  
 Ellicott City, Maryland 21114  
 Phone: 410.203.9800 Fax: 410.203.9228  
 Email: kce.eng@verizon.net

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 8816, EXPIRATION DATE: OCT. 17, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* DATE: 8-12-09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* DATE: 8-13-10  
 CHIEF, DIVISION OF LAND DEVELOPMENT

**OWNER/DEVELOPER**

MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MARYLAND 21093  
 410.925.8400





LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	+82.3
DIRECTION OF FLOW	→
EXISTING TREELINE	~
PROPOSED TREELINE	~
EXISTING FLOODPLAIN	---
EXISTING STREAM BUFFER	SB
EXISTING WETLAND BOUNDARY	W
EXISTING WETLAND BUFFER	WB
EXISTING STREAM BANK	---
EXISTING WETLANDS	
SLOPE 4% 15.00% TO 24.99%	▨
SLOPES GREATER THAN 25.00%	▨
LIMIT OF DISTURBANCE	▨
INLET PROTECTION	IP
STABILIZED CONSTRUCTION ENTRANCE	SC
SUPER SILT FENCE	SSF
SWM RAIN BARREL (5'X5'X6')	□
SWM DRY WELL (6.25'X6.25'X5')	□
SWM DRY WELL (5'X5'X5')	□
MICRO BIO-RETENTION FACILITY	▨
LANDSCAPE INFILTRATION FACILITY	▨
PERMEABLE PAVEMENT	▨
EX. WATER	
EX. SEWER	---
PROP. WATER	---
PROP. SEWER	---
PROP. SEWER MANHOLE	○

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Paul E. Cohen* 8-18-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 DATE

*Katrina L. ...* 8-13-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER/DEVELOPER  
 MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MARYLAND 21093  
 410.825.8400

LAYOUT AND CONCEPTUAL GRADING PLAN  
**TURF VALLEY, POD E-1**  
 LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
 POD E-1 SECTION IV: RESIDENTIAL PHASE IV E  
 A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II, NON-BUILDABLE BULK PARCELS E & F

TAX MAP 17 GRID 7 & 13 PART OF PARCEL 706  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

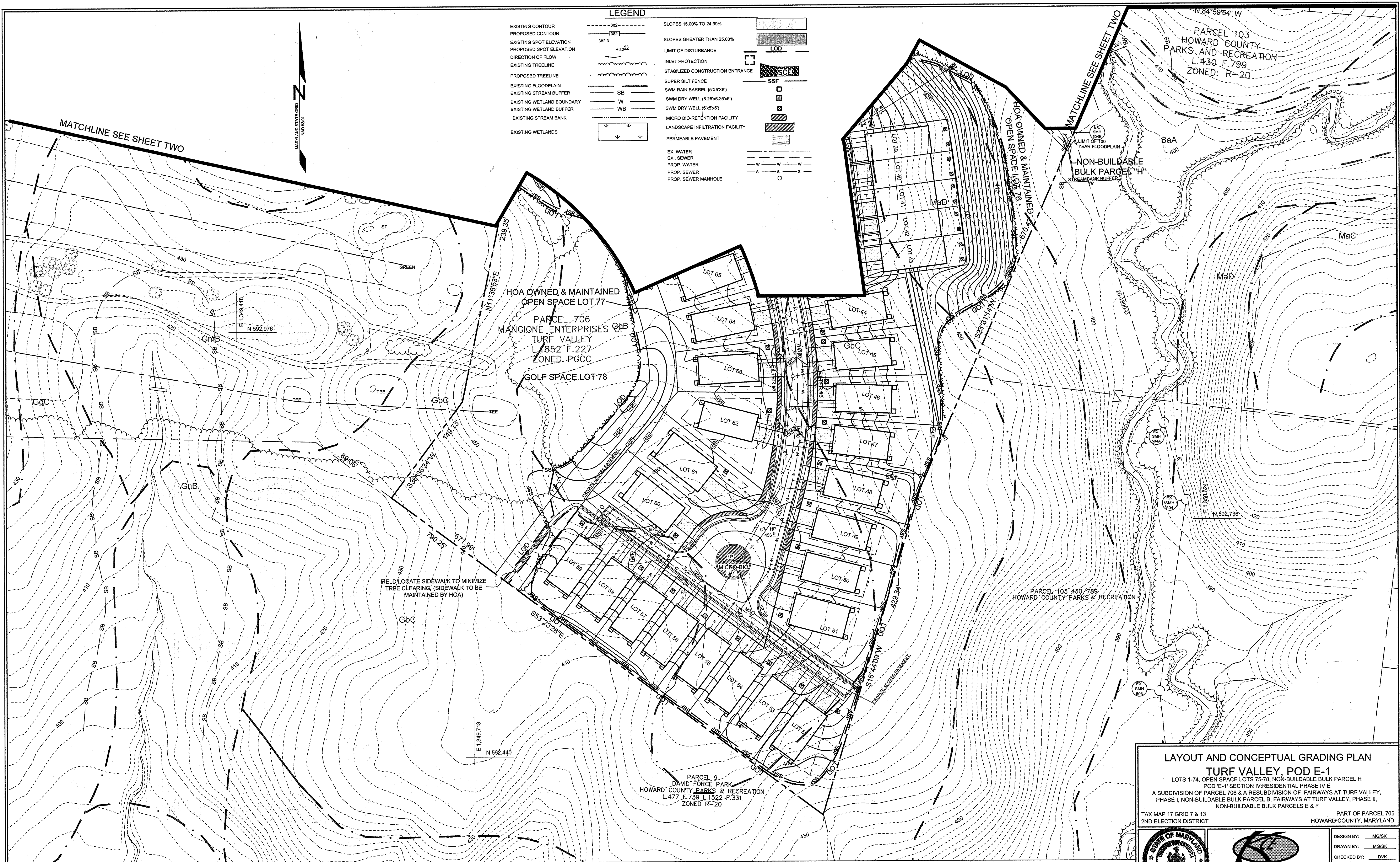


**KCE ENGINEERING, INC.**  
 3300 North Ridge Road, Suite 315  
 Ellicott City, Maryland 21043  
 Phone: 410.203.9800 Fax: 410.203.9228  
 Email: kce.eng@verizon.net

DESIGN BY: MG/SK  
 DRAWN BY: MG/SK  
 CHECKED BY: DVK  
 SCALE: 1"=50'  
 DATE: JULY 25, 2014  
 PROJECT #: 11106-00  
 SHEET #: 2 of 6

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 8818, EXPIRATION DATE: OCT. 17, 2014





**LEGEND**

EXISTING CONTOUR	---382---	SLOPES 15.00% TO 24.99%	[Pattern]
PROPOSED CONTOUR	---382.3---	SLOPES GREATER THAN 25.00%	[Pattern]
EXISTING SPOT ELEVATION	+82.53	LIMIT OF DISTURBANCE	[Pattern]
PROPOSED SPOT ELEVATION	+82.53	INLET PROTECTION	[Symbol]
DIRECTION OF FLOW	→	STABILIZED CONSTRUCTION ENTRANCE	[Symbol]
EXISTING TREELINE	[Symbol]	SUPER SILT FENCE	[Symbol]
PROPOSED TREELINE	[Symbol]	SWM RAIN BARREL (5'X5'6")	[Symbol]
EXISTING FLOODPLAIN	[Symbol]	SWM DRY WELL (6.25'X6.25'X5')	[Symbol]
EXISTING STREAM BUFFER	SB	SWM DRY WELL (5'X5'5')	[Symbol]
EXISTING WETLAND BOUNDARY	W	MICRO BIO-RETENTION FACILITY	[Symbol]
EXISTING WETLAND BUFFER	WB	LANDSCAPE INFILTRATION FACILITY	[Symbol]
EXISTING STREAM BANK	[Symbol]	PERMEABLE PAVEMENT	[Symbol]
EXISTING WETLANDS	[Symbol]	EX. WATER	W
		EX. SEWER	W
		PROP. WATER	S
		PROP. SEWER	S
		PROP. SEWER MANHOLE	O

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 8-17-14  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
 [Signature] 8-13-14  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**OWNER/DEVELOPER**

MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MARYLAND 21093  
 410.925.9400

**LAYOUT AND CONCEPTUAL GRADING PLAN**

**TURF VALLEY, POD E-1**

LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
 POD 'E-1' SECTION IV: RESIDENTIAL PHASE IV E  
 A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II, NON-BUILDABLE BULK PARCELS E & F

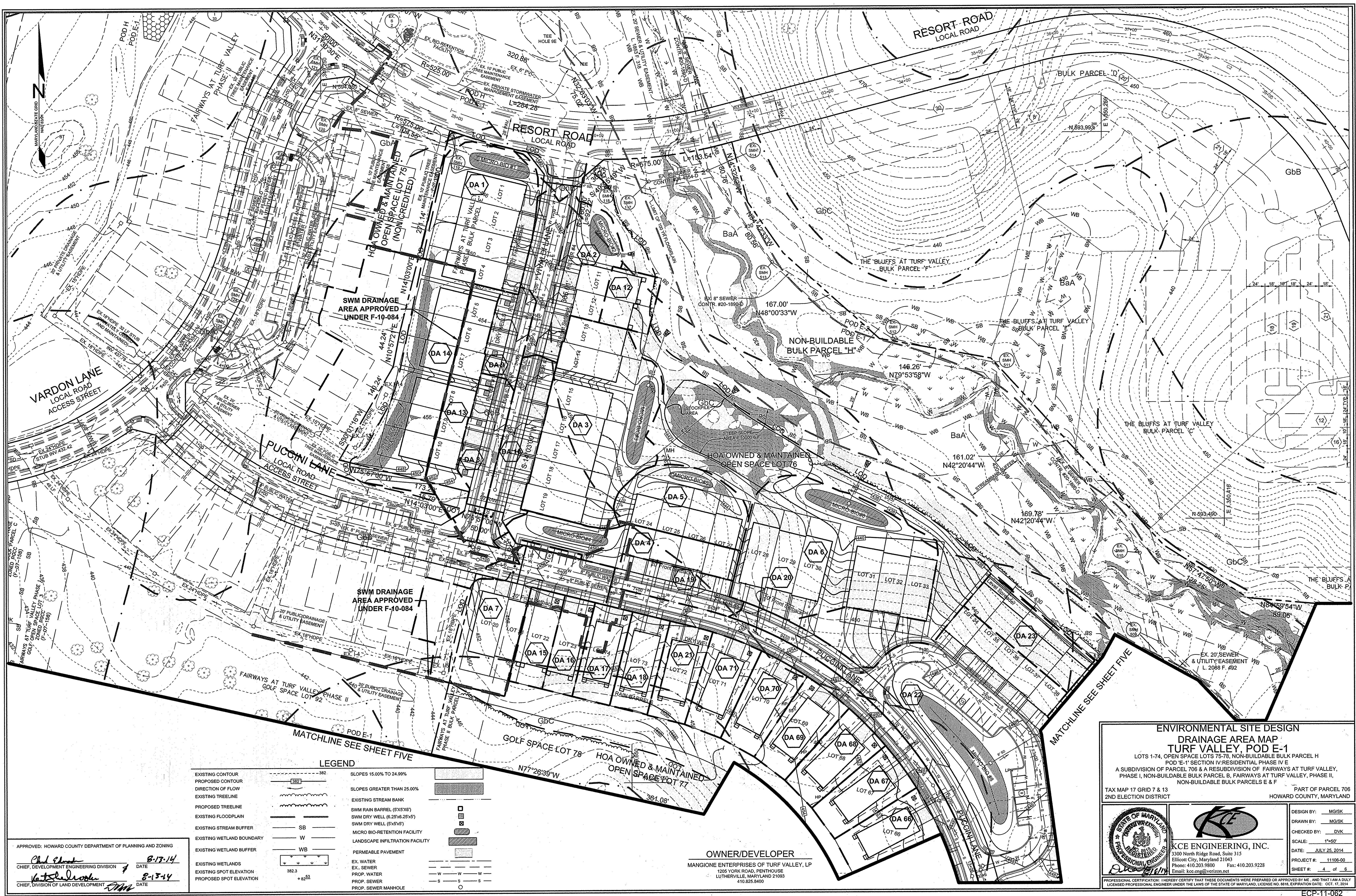
TAX MAP 17 GRID 7 & 13  
 2ND ELECTION DISTRICT

PART OF PARCEL 706  
 HOWARD COUNTY, MARYLAND

		DESIGN BY: MG/SK
		DRAWN BY: MG/SK
		CHECKED BY: DVK
		SCALE: 1"=50'
		DATE: JULY 25, 2014
<b>KCE ENGINEERING, INC.</b> 3300 North Ridge Road, Suite 315 Ellicott City, Maryland 21043 Phone: 410.203.9800 Fax: 410.203.9228 Email: kce_eng@verizon.net		PROJECT #: 11106-00 SHEET #: 3 of 6

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 8818, EXPIRATION DATE: OCT. 17, 2014





**LEGEND**

EXISTING CONTOUR		SLOPES 15.00% TO 24.99%	
PROPOSED CONTOUR		SLOPES GREATER THAN 25.00%	
DIRECTION OF FLOW		EXISTING STREAM BANK	
EXISTING TREELINE		SWM RAIN BARREL (5'X5'6")	
PROPOSED TREELINE		SWM DRY WELL (6.25'X6.25'5")	
EXISTING FLOODPLAIN		SWM DRY WELL (5'X5'5")	
EXISTING STREAM BUFFER		MICRO BIO-RETENTION FACILITY	
EXISTING WETLAND BOUNDARY		LANDSCAPE INFILTRATION FACILITY	
EXISTING WETLAND BUFFER		PERMEABLE PAVEMENT	
EXISTING WETLANDS		EX. WATER	
EXISTING SPOT ELEVATION		PROP. WATER	
PROPOSED SPOT ELEVATION		PROP. SEWER	
		PROP. SEWER MANHOLE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION      DATE: 8-17-14  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT      DATE: 8-13-14

**OWNER/DEVELOPER**  
 MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MARYLAND 21093  
 410.825.9400

**ENVIRONMENTAL SITE DESIGN**  
**DRAINAGE AREA MAP**  
**TURF VALLEY, POD E-1**  
 LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
 POD 'E-1' SECTION IV: RESIDENTIAL PHASE IV E  
 A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY,  
 PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II,  
 NON-BUILDABLE BULK PARCELS E & F

TAX MAP 17 GRID 7 & 13      PART OF PARCEL 706  
 2ND ELECTION DISTRICT      HOWARD COUNTY, MARYLAND

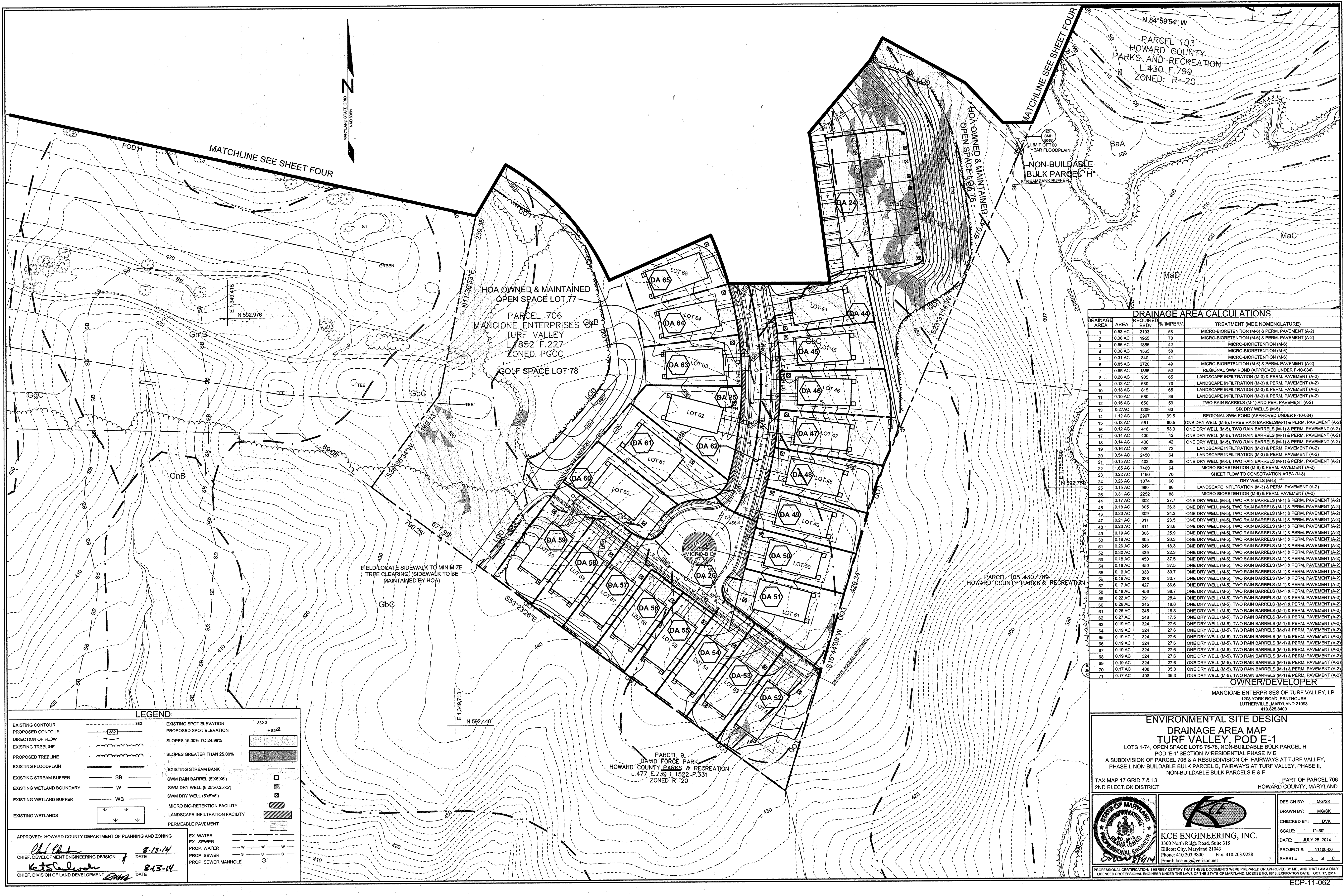
**KCE ENGINEERING, INC.**  
 3300 North Ridge Road, Suite 315  
 Ellicott City, Maryland 21043  
 Phone: 410.203.9800      Fax: 410.203.9228  
 Email: kce\_eng@verizon.net

DESIGN BY: MGS/K  
 DRAWN BY: MGS/K  
 CHECKED BY: DVK  
 SCALE: 1"=50'  
 DATE: JULY 25, 2014  
 PROJECT #: 11106-00  
 SHEET #: 4 of 6

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 8816, EXPIRATION DATE: OCT. 17, 2014

ECP-11-062





DRAINAGE AREA CALCULATIONS			
DRAINAGE AREA	AREA	REQUIRED	TREATMENT (MDE NOMENCLATURE)
ESQV		% IMPERV	
1	0.53 AC	2193	58 MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
2	0.36 AC	1955	70 MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
3	0.66 AC	1855	42 MICRO-BIORETENTION (M-6)
4	0.38 AC	1565	MICRO-BIORETENTION (M-6)
5	0.31 AC	840	41 MICRO-BIORETENTION (M-6)
6	0.85 AC	2720	49 MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
7	0.55 AC	1856	52 REGIONAL SWM POND (APPROVED UNDER F-10-084)
8	0.20 AC	905	65 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
9	0.13 AC	530	70 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
10	0.18 AC	815	65 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
11	0.10 AC	680	86 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
12	0.15 AC	650	59 TWO RAIN BARRELS (M-1) AND PERM. PAVEMENT (A-2)
13	0.27 AC	1209	63 SIX DRY WELLS (M-5)
14	1.12 AC	2967	39.5 REGIONAL SWM POND (APPROVED UNDER F-10-084)
15	0.13 AC	561	60.5 ONE DRY WELL (M-5), THREE RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
16	0.12 AC	416	53.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
17	0.14 AC	400	42 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
18	0.14 AC	400	42 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
19	0.16 AC	920	72 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
20	0.54 AC	2450	64 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
21	0.15 AC	403	39 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
22	1.65 AC	7460	64 MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
23	0.22 AC	1160	70 SHEET FLOW TO CONSERVATION AREA (N-3)
24	0.26 AC	1074	60 DRY WELLS (M-5)
25	0.15 AC	980	86 LANDSCAPE INFILTRATION (M-3) & PERM. PAVEMENT (A-2)
26	0.31 AC	2252	88 MICRO-BIORETENTION (M-6) & PERM. PAVEMENT (A-2)
44	0.17 AC	302	27.7 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
45	0.18 AC	305	26.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
46	0.20 AC	309	24.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
47	0.21 AC	311	23.5 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
48	0.20 AC	311	23.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
49	0.19 AC	306	25.9 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
50	0.18 AC	305	26.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
51	0.26 AC	246	18.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
52	0.30 AC	435	22.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
53	0.18 AC	450	37.5 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
54	0.18 AC	450	37.5 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
55	0.18 AC	333	30.7 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
56	0.16 AC	323	30.7 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
57	0.17 AC	427	36.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
58	0.18 AC	456	38.7 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
59	0.22 AC	391	28.4 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
60	0.26 AC	245	18.8 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
61	0.26 AC	245	18.8 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
62	0.27 AC	248	17.5 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
63	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
64	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
65	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
66	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
67	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
68	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
69	0.19 AC	324	27.6 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
70	0.17 AC	408	35.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)
71	0.17 AC	408	35.3 ONE DRY WELL (M-5), TWO RAIN BARRELS (M-1) & PERM. PAVEMENT (A-2)

**LEGEND**

EXISTING CONTOUR	--- 382	EXISTING SPOT ELEVATION	382.3
PROPOSED CONTOUR	--- 382	PROPOSED SPOT ELEVATION	+82.53
DIRECTION OF FLOW	---	SLOPES 15.00% TO 24.99%	[Symbol]
EXISTING TREELINE	---	SLOPES GREATER THAN 25.00%	[Symbol]
PROPOSED TREELINE	---	EXISTING STREAM BANK	[Symbol]
EXISTING FLOODPLAIN	---	SWM RAIN BARREL (6'x5'x6')	[Symbol]
EXISTING STREAM BUFFER	SB	SWM DRY WELL (6.25'x6.25'x5')	[Symbol]
EXISTING WETLAND BOUNDARY	W	SWM DRY WELL (6'x5'x5')	[Symbol]
EXISTING WETLAND BUFFER	WB	MICRO-BIO-RETENTION FACILITY	[Symbol]
EXISTING WETLANDS	[Symbol]	LANDSCAPE INFILTRATION FACILITY	[Symbol]
		PERMEABLE PAVEMENT	[Symbol]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 8-13-14

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 8-13-14

EX. WATER: [Symbol] EX. SEWER: [Symbol]  
 PROP. WATER: [Symbol] PROP. SEWER: [Symbol]  
 PROP. SEWER MANHOLE: [Symbol]

**OWNER/DEVELOPER**  
 MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE  
 LUTHERVILLE, MARYLAND 21093  
 410.625.8400

**ENVIRONMENTAL SITE DESIGN**  
**DRAINAGE AREA MAP**  
**TURF VALLEY, POD E-1**  
 LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
 POD 'E-1' SECTION IV: RESIDENTIAL PHASE IV E  
 A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY,  
 PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II,  
 NON-BUILDABLE BULK PARCELS E & F

TAX MAP 17 GRID 7 & 13 PART OF PARCEL 706  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

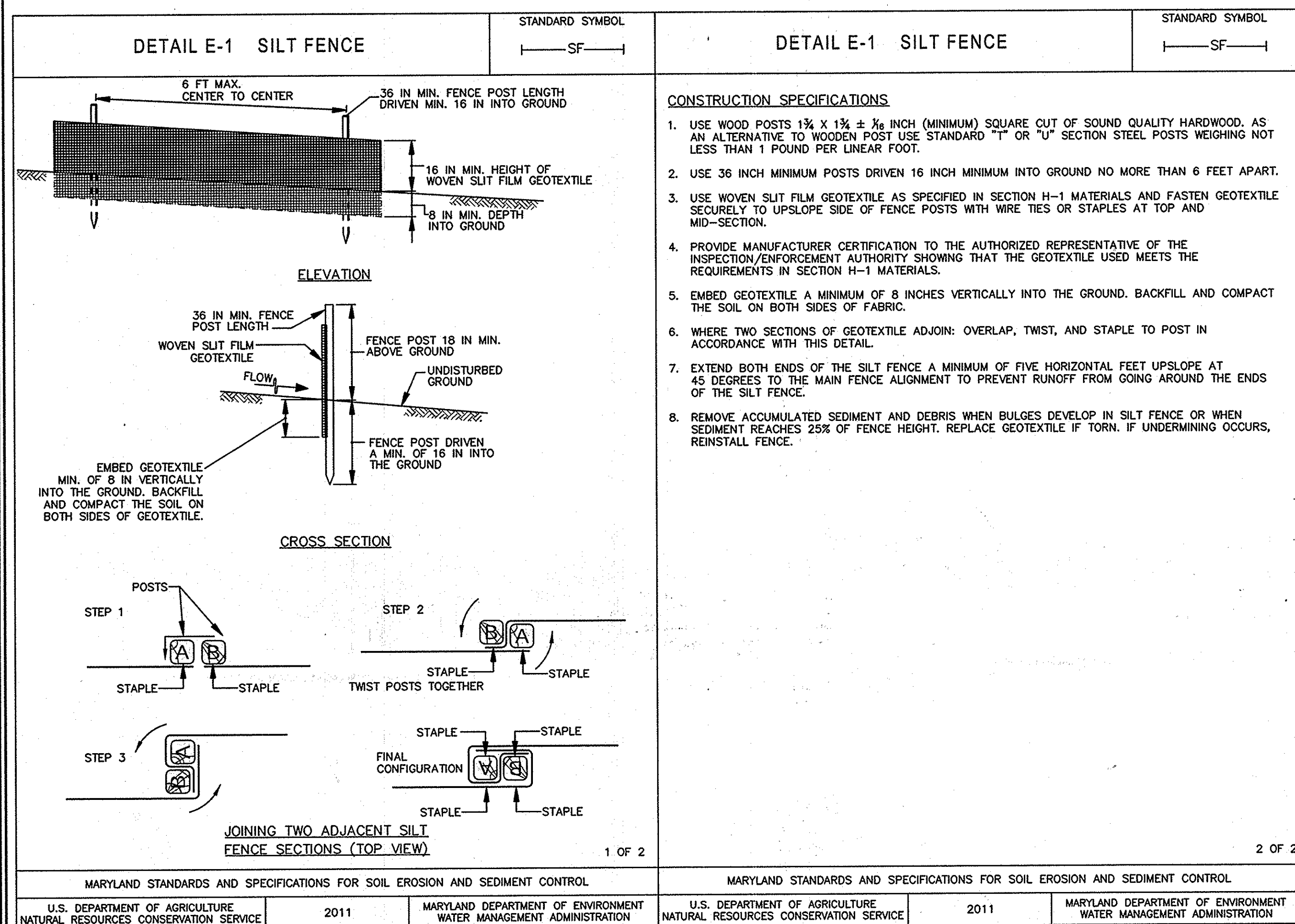
DESIGN BY: MG/SK  
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 DATE: JULY 25, 2014  
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 SHEET #: 5 of 6

**KCE ENGINEERING, INC.**  
 3300 North Ridge Road, Suite 315  
 Ellicott City, Maryland 21043  
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 Email: kce\_eng@verizon.net

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 9518, EXPIRATION DATE: OCT. 11, 2014.

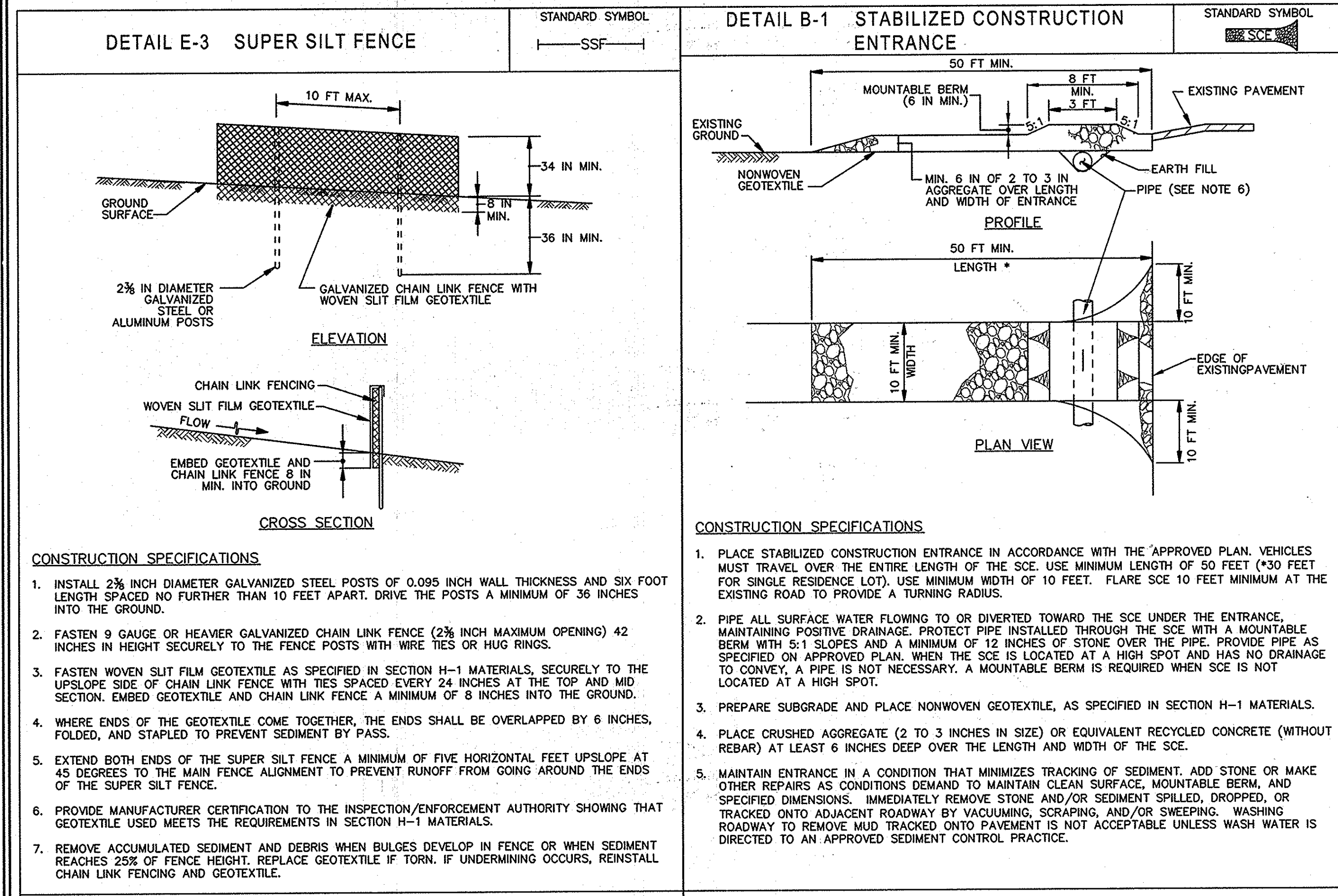
ECP-11-062





MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 8-13-14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 8-13-14  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**STANDARDS AND SPECIFICATIONS FOR TOPSOIL**

**DEFINITION**  
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

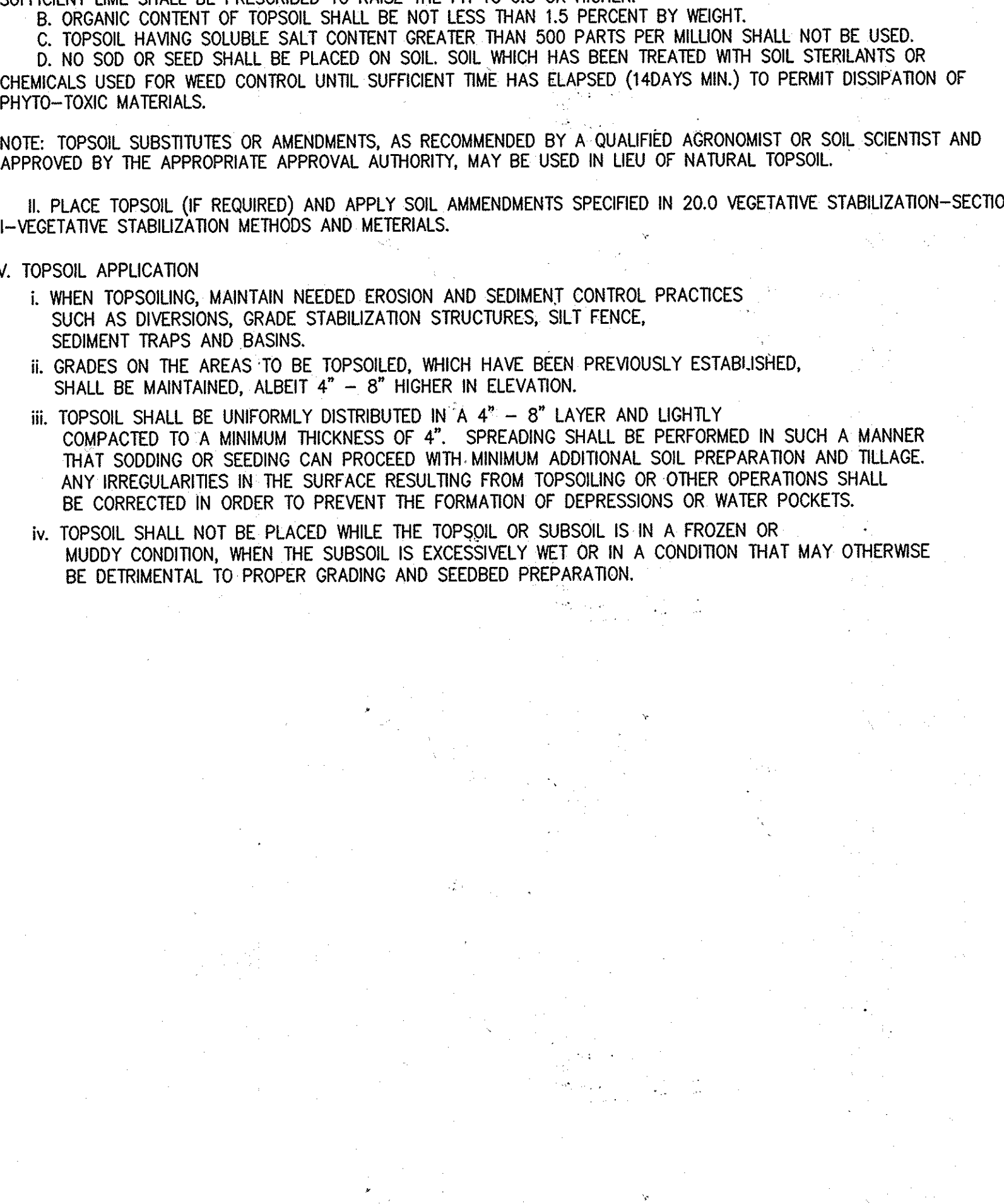
**PURPOSE**  
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
  - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5-INCH IN DIAMETER.
  - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS, SUCH AS BERMUDA GRASS QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
  - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR THIS SITE, WHICH HAS A DISTURBED AREA UNDER 5 ACRES:
  - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
  - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
    - PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH PF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
    - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
    - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
    - NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
  - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION 1-VEGETATIVE STABILIZATION METHODS AND MATERIALS.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 800 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.).
- Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 20, and August 1 - October 20, inclusive, use the appropriate seed mixtures:

Seed Mixture No. 1 - (relatively flat areas regularly mowed and exposed to normal conditions) with 192 lbs PLS/acre of 85% certified turf-type Tall Fescue, 28 lbs PLS/acre of 10% certified Kentucky Bluegrass and 14 lbs PLS/acre of 5% Perennial Ryegrass. Supplemental seed - Annual Ryegrass 25 lbs PLS/acre.

Seed Mixture No. 2 - (sloped areas not subject to regular mowing) with 85 lbs PLS/acre of 75% Hard Fescue, 23 lbs PLS/acre of 20% Chewings Fescue and 7 lbs PLS/acre of 5% Kentucky Bluegrass. Supplemental seed - Redtop 3 lbs PLS/acre.

Seed Mixture No. 3 - (wetland areas and their associated buffer zones) with 83 lbs PLS/acre of 60% Fowl Meadow Grass, 34 lbs PLS/acre of 30% Chewings Fescue and 14 lbs PLS/acre of 10% Perennial Ryegrass. Supplemental seed - Redtop 3 lbs PLS/acre.

Seeding performed after October 20 should be a temporary cover of annual ryegrass and followed by overseeding of the appropriate seed mixture during the spring seeding season.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seeded preparation: - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

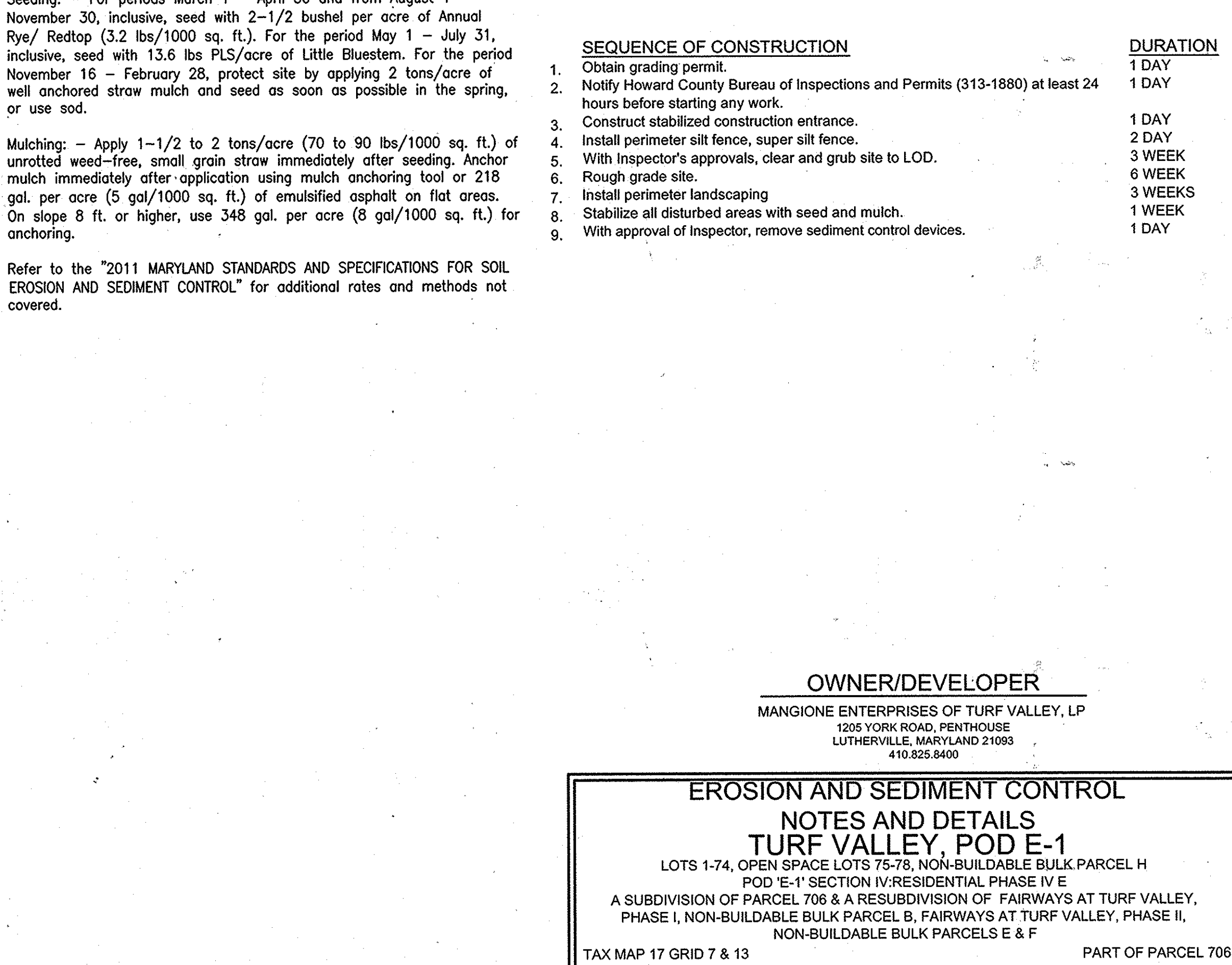
Seeding: - For periods March 1 - April 30 and from August 1 - November 30, inclusive, seed with 2-1/2 bushel per acre of Annual Rye/ Redtop (3.2 lbs/1000 sq. ft.). For the period May 1 - July 31, inclusive, seed with 13.6 lbs PLS/acre of Little Bluestem. For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: - Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" for additional rates and methods not covered.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**OWNER/DEVELOPER**

MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, FENHOUSE  
LUTHERVILLE, MARYLAND 21093  
410.855.8400

**EROSION AND SEDIMENT CONTROL NOTES AND DETAILS**

**TURF VALLEY, POD E-1**

LOTS 1-74, OPEN SPACE LOTS 75-78, NON-BUILDABLE BULK PARCEL H  
POD E-1 SECTION IV/RESIDENTIAL PHASE IV E  
A SUBDIVISION OF PARCEL 706 & A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL B, FAIRWAYS AT TURF VALLEY, PHASE II, NON-BUILDABLE BULK PARCELS E & F

TAX MAP 17 GRID 7 & 13 2ND ELECTION DISTRICT PART OF PARCEL 706 HOWARD COUNTY, MARYLAND

DESIGN BY: MG/SK  
DRAWN BY: MG/SK  
CHECKED BY: DVK  
SCALE: AS SHOWN  
DATE: JULY 25, 2014  
PROJECT #: 11109-00  
SHEET #: 6 of 6

**KCE ENGINEERING, INC.**  
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PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 8618, EXPIRATION DATE: OCT. 17, 2014