

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED "PGCC" PER THE 2/02/04 COMPREHENSIVE ZONING PLAN AND THE "COMP. LITE" ZONING AMENDMENTS EFFECTIVE 7/28/06.
- GROSS AREA OF SITE SUBJECT TO SUBDIVISION = 17.75 AC.±
- AREA OF PROPOSED PUBLIC R/W: 1.14 AC.±
- NUMBER OF PROPOSED OPEN SPACE LOTS: N/A
- AREA OF PROPOSED OPEN SPACE LOTS: N/A
- NUMBER OF PROPOSED BUILDABLE LOTS: 2
- AREA OF PROPOSED BUILDABLE LOTS: 15.46 AC.±
- NUMBER OF NON-BUILDABLE BULK PARCELS: 8
- AREA OF NON-BUILDABLE BULK PARCELS: 1.15 AC.±
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE. PUBLIC WATER AND SEWER WILL BE EXTENDED FROM CONTRACT #44-4480.
- HOWARD COUNTY SOILS MAP 15. SOILS TAKEN FROM THE USDA WEB SOIL SURVEY WEBSITE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AN AERIAL SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY WINGS AERIAL MAPPING CO. DATED JANUARY 2006.
- BOUNDARY SURVEY PREPARED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH, 2006.
- THERE ARE NO WETLANDS, STREAMS, FLOODPLAINS, STEEP SLOPES, HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410.531.5533
BOE (CONTRACTOR SERVICES)	410.850.4620
E&E (UNDERGROUND DAMAGE CONTROL)	410.787.5068
MISS UTILITY	1.800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2640
AT&T	1.800.252.1133
VERIZON	1.800.743.0033/410.224.9210
- PREVIOUS HOWARD COUNTY FILE NUMBERS: S-86-013; CONTR.#44-4480-D; CONTR.#24-3447-D; PB-161; PB-294; PB-300; PB-351; PB-368; S-09-001; S-11-003; SDP-13-038; ECP-13-041; F-97-069; F-97-158; SDP-94-080; SDP-98-146
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 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 CONTRACTOR'S 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.
- ALL HDPE PIPE SPECIFICATION AND INSTALLATION SHALL MEET AASHTO M-252 TYPE S, M-294 TYPE S AND ASTM D2321, RESPECTIVELY.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST, PRIOR TO CONSTRUCTION.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 0012 AND 16E1 WERE USED FOR THIS PROJECT.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
 - GEOMETRY - MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (125,000 LBS.);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- ALL DITCHES AND SWALES WILL HAVE EROSION CONTROL MATTING.
- THIS PROJECT IS EXEMPT FROM THE HOWARD COUNTY FOREST CONSERVATION REQUIREMENTS UNDER SECTION 16.1202(D)(1)(iv) OF THE HOWARD COUNTY CODE SINCE IT IS A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF TWENTY FEET (20') SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THIS PROJECT IS SUBJECT TO THE TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, INC. UNDER S-86-13, UPDATED IN MARCH 2004 AND FURTHER UPDATED VIA LETTER DATED 1-23-2014.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE REQUIRED OPEN SPACE FOR THIS PLAN WILL BE PROVIDED UNDER THE TURF VALLEY CLUBHOUSE PHASE I DEVELOPMENT.
- THIS PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE THIRD AMENDMENT TO THE TURF VALLEY MULTI-USE SUB-DISTRICT FINAL DEVELOPMENT PLAN.
- STORM WATER MANAGEMENT IS PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007. STORMWATER MANAGEMENT OBLIGATIONS ARE BEING MET BY THE USE OF TWO BIORETENTION FACILITIES (F-6) AND AN POND (P-3). ALL FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. THESE FACILITIES ARE SHOWN AND APPROVED AND CONSTRUCTED UNDER TURF VALLEY, REGIONAL STORMWATER MANAGEMENT FACILITIES, SDP-13-038.
- TRAFFIC CONTROL DEVICES:
 - THE R-1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THESE 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.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MMUTCD).
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A GALVANIZED STEEL, PERFORATED (QUICKPUNCH), 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 "QUICKPUNCH" HOLES ABOVE THE GROUND. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THE SIDEWALK RAMPS SHALL BE PER THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, DETAILS R-4.01 AND R-4.05. INCLUDE DETECTABLE WARNING SURFACES ON ALL HANDICAP RAMPS PER DETAIL R-4.07.

FINAL ROAD CONSTRUCTION PLAN

TURF VALLEY

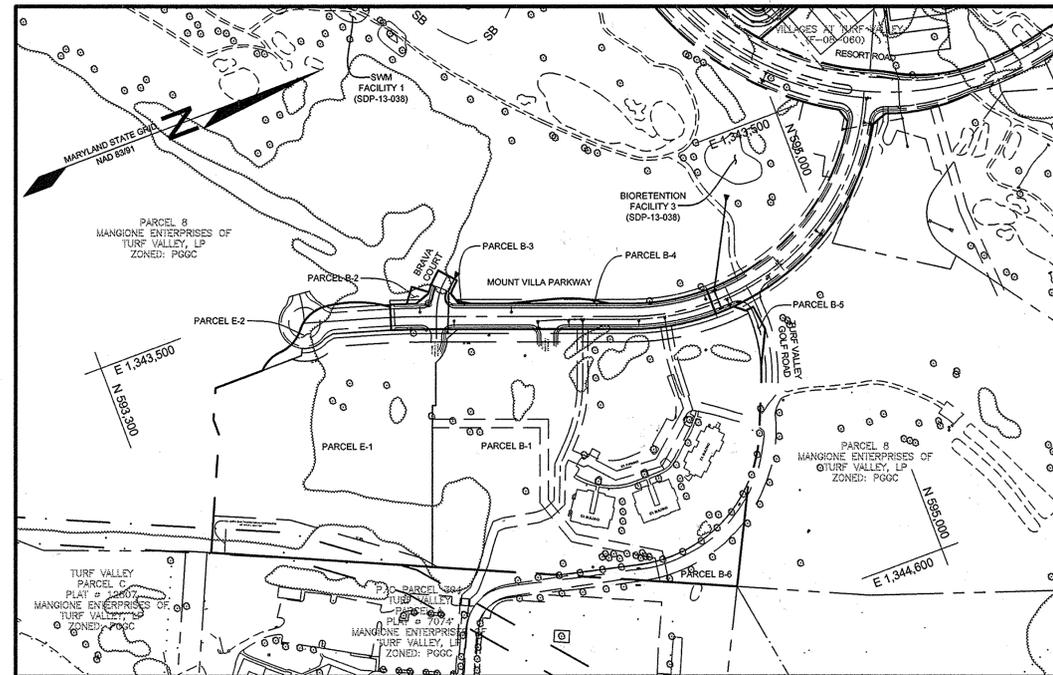
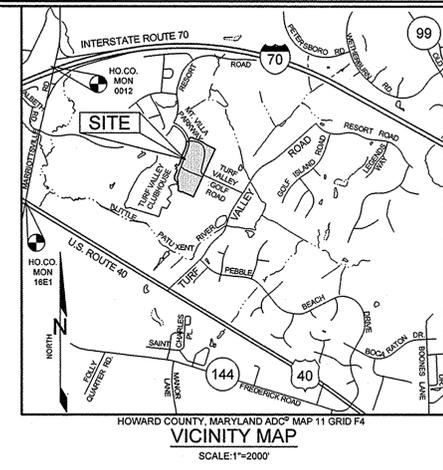
PARCELS E-1 & B-1 AND

NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING STREAMBANK BUFFER
- EXISTING UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED 4" PVC STREET LIGHT CONDUIT WITH PULL STRING, 18" TO 24" DEEP



BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
16E1	593,250.960	1,340,192.700	463.981	STAMPED BRASS DISK SET ON TOP OF A 3 FOOT DEEP COLUMN OF CONCRETE.
0012	596,502.760	1,340,864.370	488.298	STAMPED BRASS DISK SET ON TOP OF A 3 FOOT DEEP COLUMN OF CONCRETE.

ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	R/W
MOUNT VILLA PARKWAY	PUBLIC ACCESS STREET	P-3	40	60'
BRAVA COURT	PUBLIC ACCESS STREET	P-3	25	50'

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN AND PROFILE MOUNT VILLA PARKWAY
3	ROAD PLAN AND PROFILE BRAVA COURT
4	GRADING, SEDIMENT AND EROSION CONTROL PLAN
5	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
6	STORM DRAIN PROFILE AND DRAINAGE AREA MAP
7	STRIPING, STREET LIGHT AND SIGNAGE PLAN
8	STREET TREE PLAN

CENTERLINE ROAD CURVE DATA

CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	238.99	550.00'	24°53'49"	N 68°19'04" E	237.12'
C2	80.45'	2,000.00'	02°18'17"	S 19°36'50" W	80.45'
C3	180.00'	88.42'	28°08'43"	S 55°09'40" E	87.53'

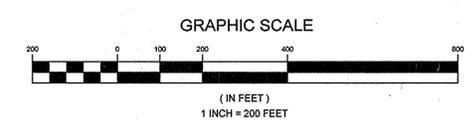
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Karl Steinhilber 7-16-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Carl Edwards 7-15-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Holger Serrano 7-8-14
 CHIEF, BUREAU OF HIGHWAYS DATE



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

COVER SHEET

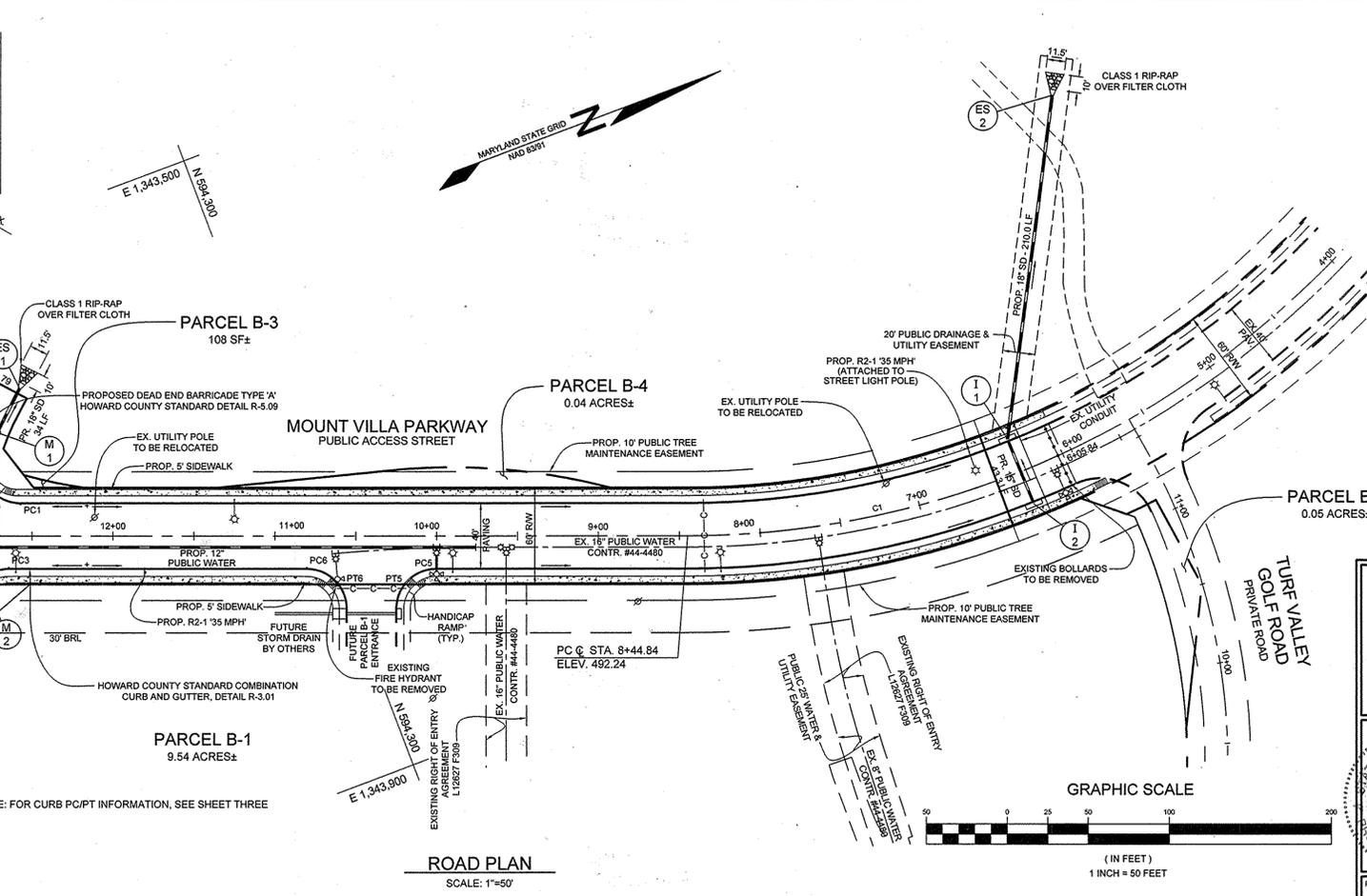
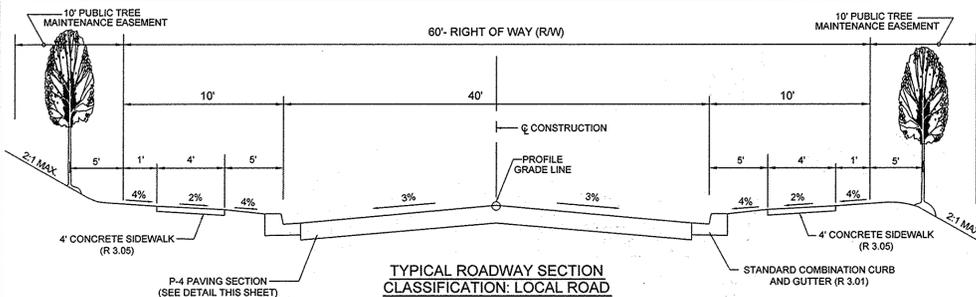
TURF VALLEY
 PARCELS E-1 & B-1 AND
 NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JUNE 27, 2014
 PROJECT #: 14-001
 SHEET #: 1 of 8

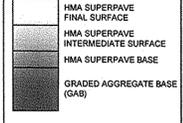
SILL ENGINEERING GROUP, LLC
 3300 North Ridge Road, Suite 160
 Ellicott City, Maryland 21043
 Phone: 443.325.7682
 Fax: 443.325.7685
 Email: info@sillengineering.com
 Civil Engineering for Land Development

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. 30225, EXPIRATION DATE: JUNE 20, 2015



PAVING SECTIONS						
SEC. NO.	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)		MIN HMA WITH GAB		
		5 TO <5 TO <7	27	5 TO <5 TO <7	27	
P-4	MINOR COLLECTORS: NON-RESIDENTIAL MAJOR COLLECTORS	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW ESAL)	4.0	4.0	3.0	6.0
		GRADED AGGREGATE BASE (GAB)	13.0	7.0	4.0	6.0

- NOTES:
- HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
 - HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX).
 - GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 4" MAX COMPACTED THICKNESS LAYERS.
 - THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
 - IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
 - THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CRB VALUE FOR EACH ROADWAY.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Karl Stalrod 7-16-14
CHIEF, DIVISION OF LAND DEVELOPMENT

Chad Church 7-15-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Holger Seaman 7-8-14
CHIEF, BUREAU OF HIGHWAYS

NOTE: FOR CURB PC/PT INFORMATION, SEE SHEET THREE

ROAD PLAN
SCALE: 1"=50'

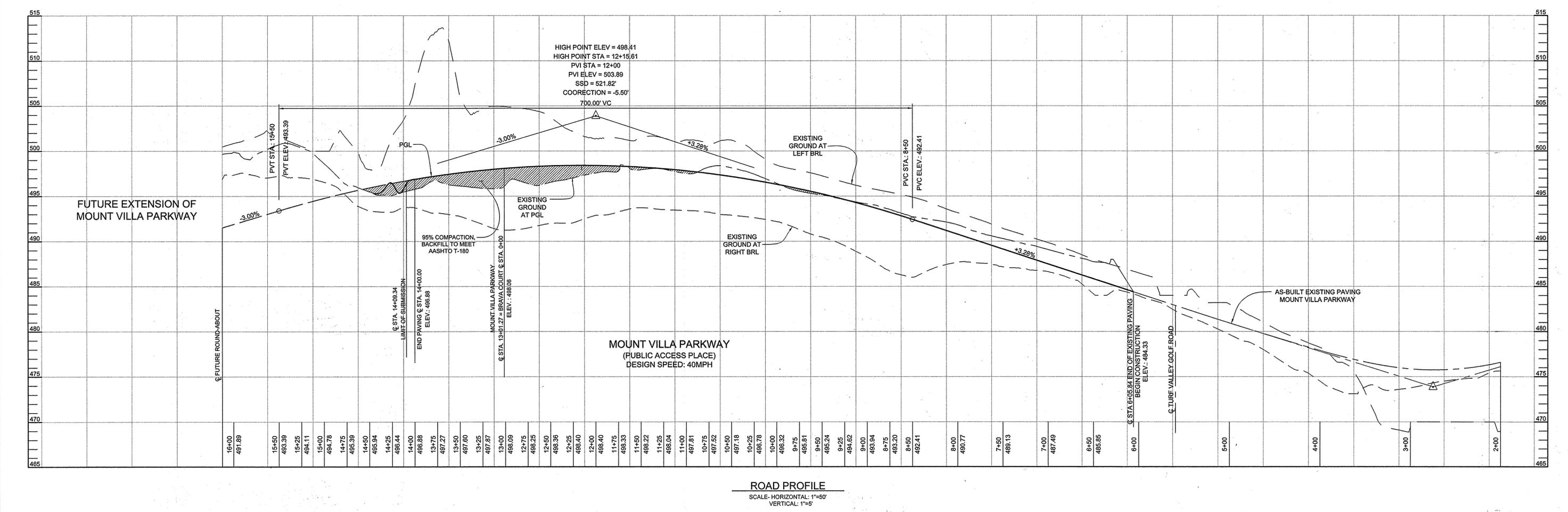
ROAD PLAN AND PROFILE
MOUNT VILLA PARKWAY
TURF VALLEY
PARCELS E-1 & B-1 AND
NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682
Fax: 443.325.7685
Email: info@sillengineering.com
Civil Engineering for Land Development

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DATE: JUNE 27, 2014
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SHEET #: 2 OF 8

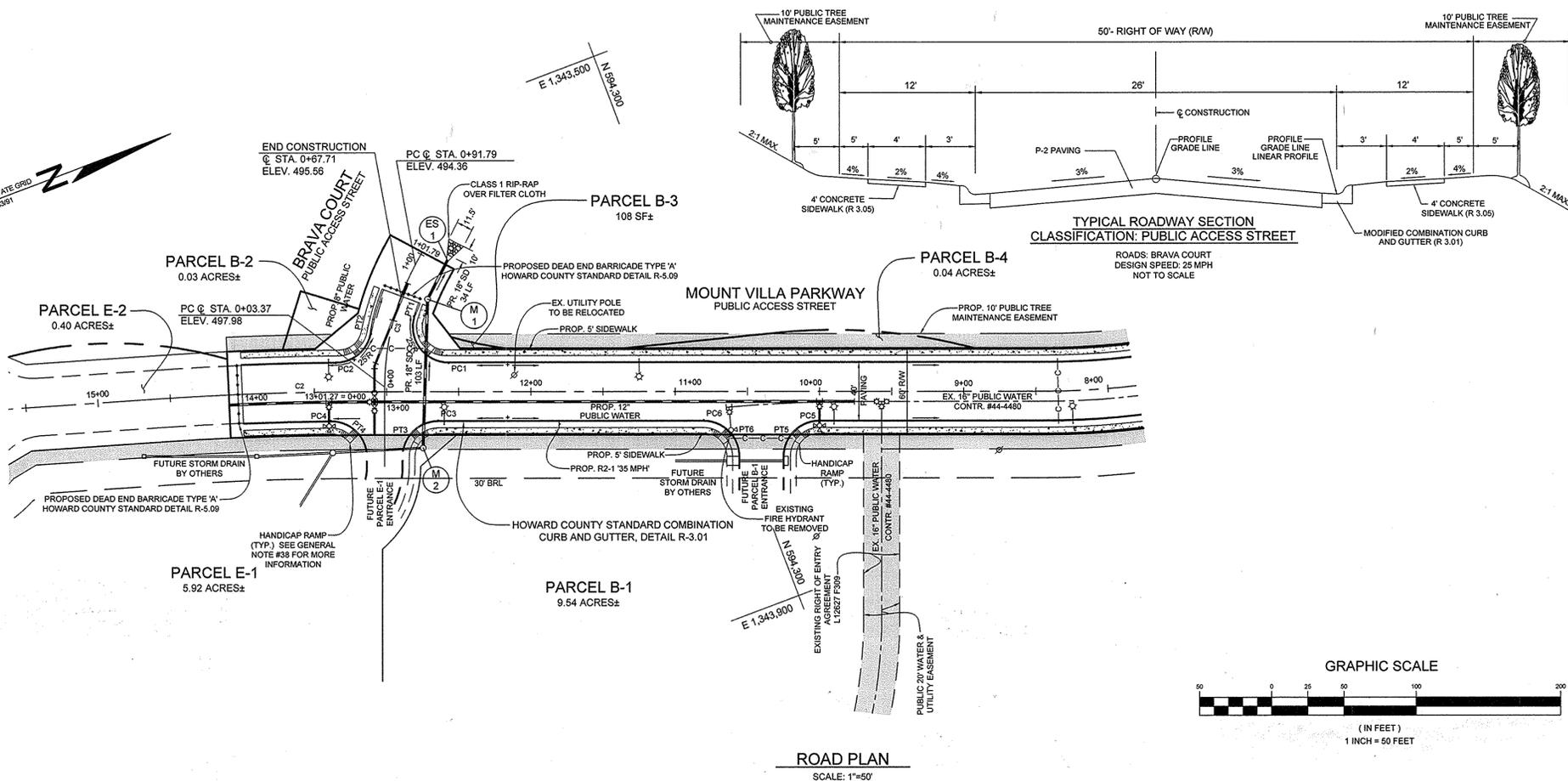
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2015



ROAD PROFILE
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

FILLET DATA			
FILLET	ROAD NAME	Q. STA.	ELEVATION
PC1	MOUNT VILLA PARKWAY	12+57.02	497.73
PT1	BRAVA COURT	0+56.93	495.61
PC2	MOUNT VILLA PARKWAY	13+34.92	497.17
PT2	BRAVA COURT	0+37.90	496.37
PC3	MOUNT VILLA PARKWAY	12+64.27	497.70
PT3	PARCEL E-1	0+30.00	498.10
PC4	MOUNT VILLA PARKWAY	13+38.70	497.13
PT4	PARCEL E-1	0+30.00	497.99
PC5	MOUNT VILLA PARKWAY	10+00.25	495.73
PT5	PARCEL B-1	0+30.00	496.97
PC6	MOUNT VILLA PARKWAY	10+80.25	496.99
PT6	PARCEL B-1	0+30.00	497.49

* ELEVATIONS ARE TO THE FACE OF CURB AT THE FLOWLINE.



PAVING SECTIONS						
SEC. NO.	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5 TO <7		27	
			MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0
P-3	LOCAL ROADS: ACCESS PLACE, ACCESS STREET, CUL-DE-SACS: NON-RESIDENTIAL MINOR COLLECTORS: RESIDENTIAL	HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	6.0	6.0	6.0

- NOTES:
- HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
 - HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2" MIN TO 4" MAX), 12.5 MM SURFACE (1.5" MIN TO 1.7" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX).
 - GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 8" MAX COMPACTED THICKNESS LAYERS.
 - THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
 - IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE AREAS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
 - THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Holger Sencos 7.8.14
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Keith Sencos 7.16.14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad Sencos 7.15.14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROAD PLAN AND PROFILE
BRAVA COURT
TURF VALLEY
 PARCELS E-1 & B-1 AND
 NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

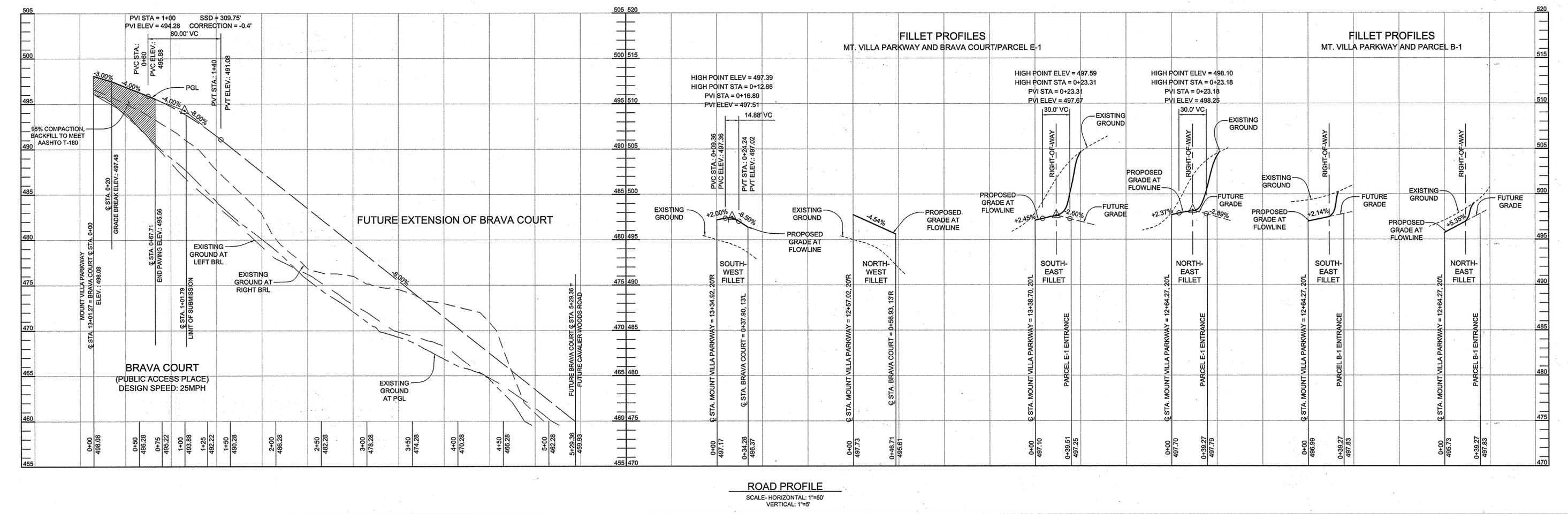
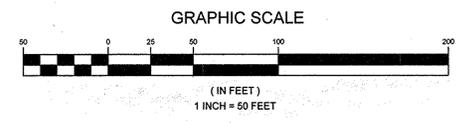
TAX MAP 16 GRID 19
 3RD ELECTION DISTRICT

PART OF PARCELS 8 AND 394
 HOWARD COUNTY, MARYLAND

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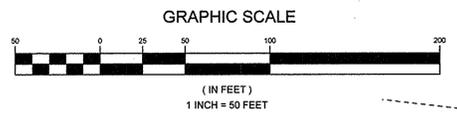
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 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JUNE 27, 2014
 PROJECT #: 14-001
 SHEET #: 3 OF 8

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. 32025, EXPIRATION DATE: JUNE 29, 2015.

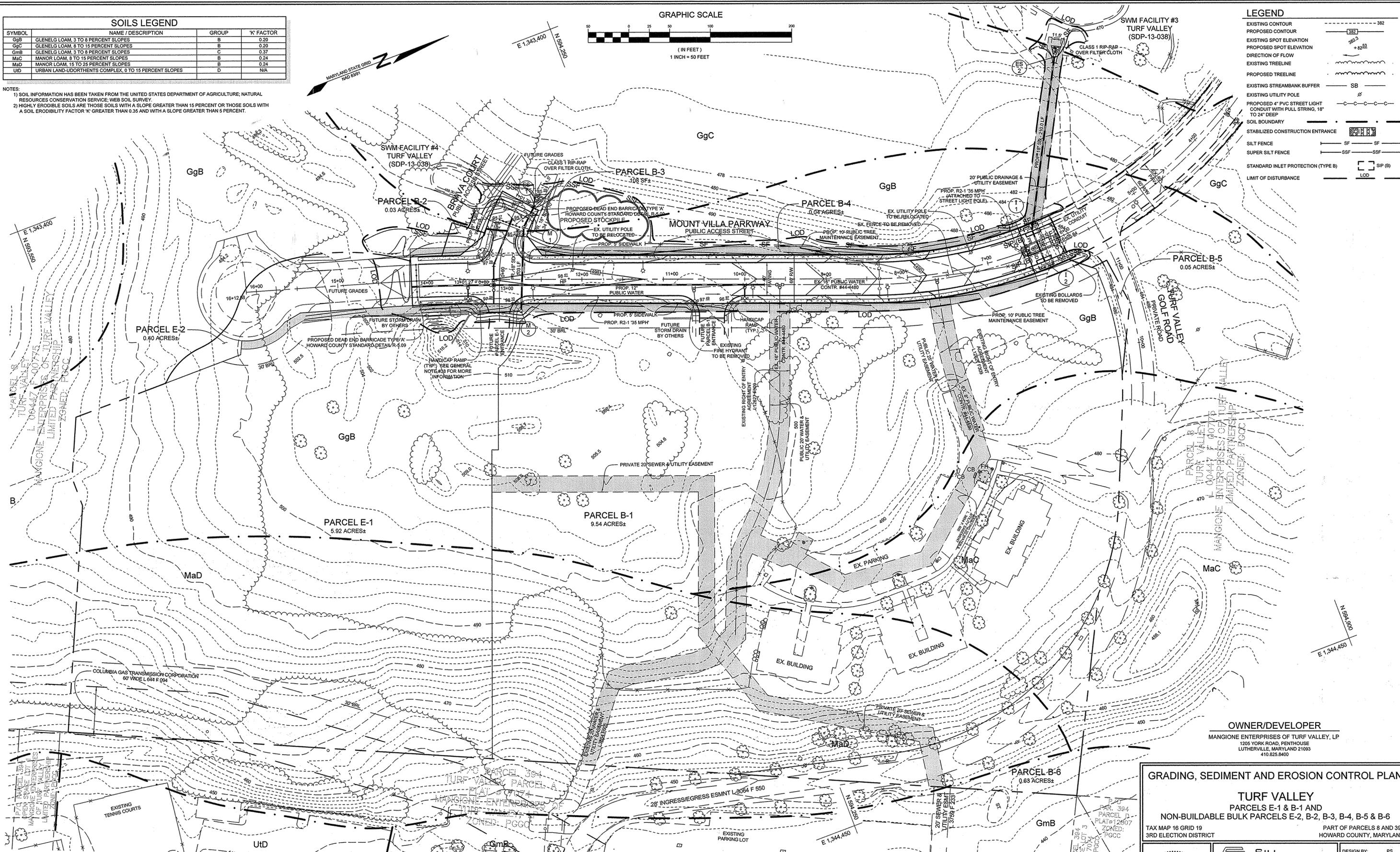


SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.20
GmB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
UD	URBAN LAND-UDORTHERTS COMPLEX, 0 TO 15 PERCENT SLOPES	D	N/A

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) 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.



LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	582.5
PROPOSED SPOT ELEVATION	582.5
DIRECTION OF FLOW	→
EXISTING TREELINE	~
PROPOSED TREELINE	~
EXISTING STREAMBANK BUFFER	SB
EXISTING UTILITY POLE	⊕
PROPOSED 4" PVC STREET LIGHT CONDUIT WITH PULL STRING, 18" TO 24" DEEP	—C—C—C—C—
SOIL BOUNDARY	---
STABILIZED CONSTRUCTION ENTRANCE	▨
SILT FENCE	SF
SUPER SILT FENCE	SSF
STANDARD INLET PROTECTION (TYPE B)	SIP (B)
LIMIT OF DISTURBANCE	LOD



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

GRADING, SEDIMENT AND EROSION CONTROL PLAN

TURF VALLEY
 PARCELS E-1 & B-1 AND
 NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 7-16-14
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 7-8-14
 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Signature: John K. Redman
 7/2/14
 DATE

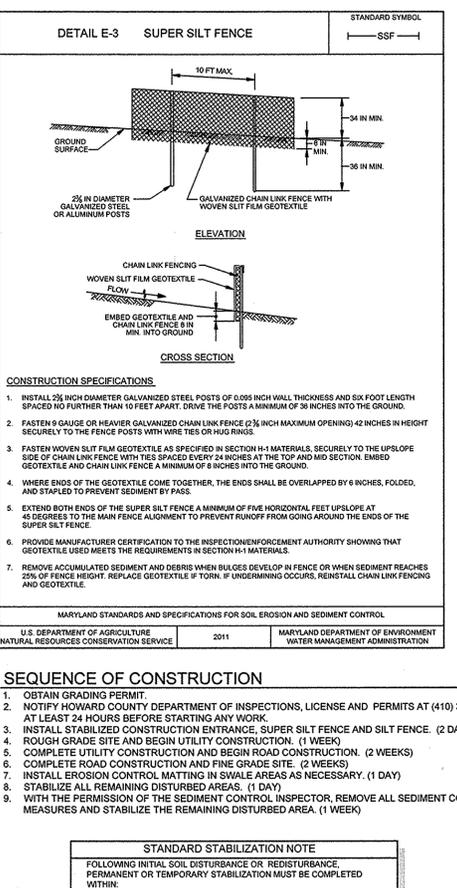
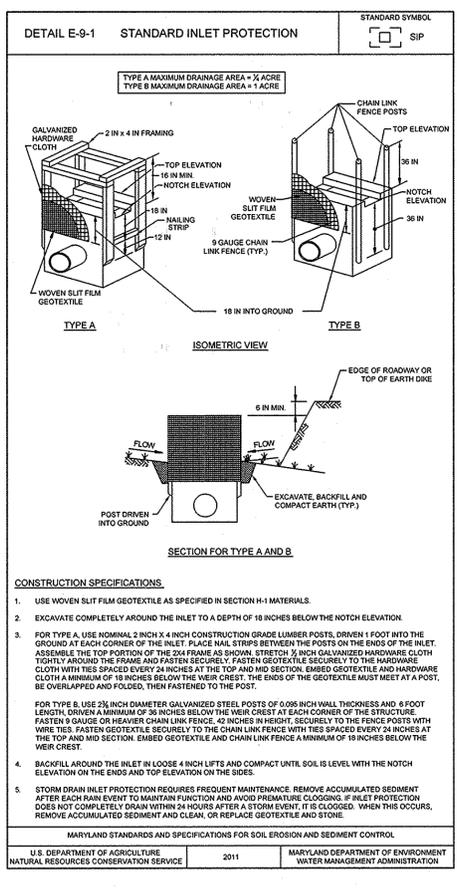
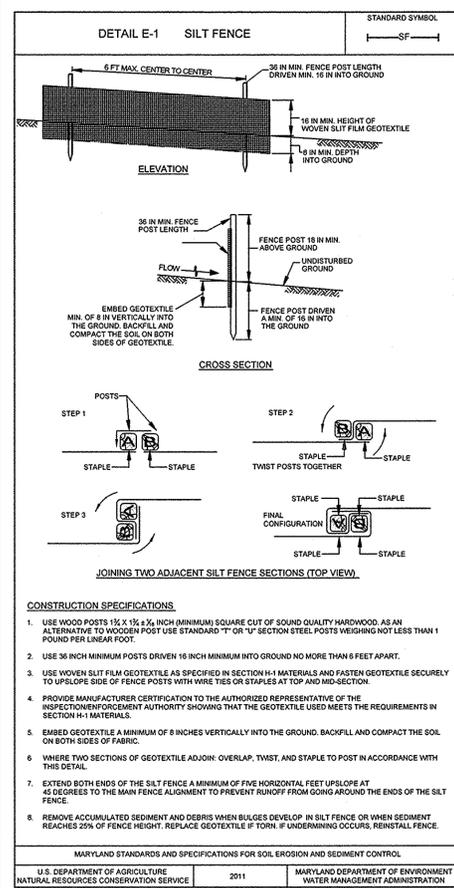
ENGINEER'S CERTIFICATE
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 Signature: Paul M. Sill, P.E.
 7/2/14
 DATE

DEVELOPER'S CERTIFICATE
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 Signature: [Signature]
 7/2/14
 DATE

SILL ENGINEERING GROUP, LLC
 3300 North Ridge Road, Suite 160
 Ellicott City, Maryland 21043
 Phone: 443.325.7682
 Fax: 443.325.7685
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: PS
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: JUNE 27, 2014
 PROJECT #: 14-001
 SHEET #: 4 of 8

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. 32025, EXPIRATION DATE: JUNE 20, 2015



STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
• TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
• CONDITIONS WHERE PRACTICE APPLIES WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

- TEMPORARY STABILIZATION
 - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT SUCH AS HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENEED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TOP SOILED PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND 7.0
 - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT MEETS THE GRANDED MATERIAL GREATER THAN 20 PERCENT SILT PLUS CLAY. TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE, AN EXCEPTION: IF LOW GRADES WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 20 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF THE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
 - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
 - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. MAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN A TRUE AND EVEN GRADE. TRACKED EQUIPMENT RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 3 TO 5 INCHES OF SOIL LOOSE AND FRAGILE. SEEDBED LOOSENESS MAY BE UNNECESSARY ON NEARLY DISTURBED AREAS.

B. TOPSOILING

TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRAIN DISTRIBUTION.

- ROUGH GRADE SITE AND BEGIN CONSTRUCTION (1 WEEK)
- TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS SET FORTH IN THESE SPECIFICATIONS. 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-NRCS.

TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE TREATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

THREE KENTUCKY BLUEGRASS CULTIVARS MUST BE USED IN ALL AREAS WHERE TOPSOILING IS REQUIRED BY THE APPROVED APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CONCRETE, STONES, GLASS, COARSE GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/4 INCHES IN DIAMETER.

TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, STYPPES, JOHNSON GRASS, AND OTHERS AS SPECIFIED ON THE APPROVED PLAN.

TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROVED APPROVAL AUTHORITY, MAY BE USED IN PLACE OF NATURAL TOPSOIL.

C. TOPSOIL APPLICATION

EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

D. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

 - SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR SOIL ANALYSIS.
 - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROVED APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GRADED TO 100 PERCENT PASS THROUGH A 20 MESH SIEVE.
 - LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDRATED) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GRADED TO 100 PERCENT PASS THROUGH A 20 MESH SIEVE.
 - LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - WHERE THE SUBSOIL IS EITHER HIGHLY OR CONSIDERED HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
• TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
• EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

- GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. OTHER SELECTION MIXTURES (S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY, THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHOULDER, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS MULCH OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
- FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- SOIL PH RECEIVING MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3% POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

B. TURFGRASS MIXTURES

- AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A HIGH LEVEL OF MAINTENANCE.
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTION MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
- KENTUCKY BLUEGRASS: FULL SUN MIXTURE. FOR USE IN AREAS THAT RECEIVE INTENSIVE MAINTENANCE. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 1.5 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
- ILLINOIS BLUEGRASS: PERENNIAL RYEGRASS: SHADE MIXTURE. FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA MIXTURE INCLUDES: RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 15 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- FULL SUN/PERENNIAL RYEGRASS: FULL SUN MIXTURE. FOR USE IN DROUGHT PRONE AREAS AND/OR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 15 TO 10 PERCENT, PERENNIAL RYEGRASS CULTIVARS 60 TO 65 PERCENT, AND SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
- KENTUCKY BLUEGRASS/FESCUE: SHADE MIXTURE. FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA MIXTURE INCLUDES: RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 15 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- FULL SUN/PERENNIAL RYEGRASS: FULL SUN MIXTURE. FOR USE IN DROUGHT PRONE AREAS AND/OR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 15 TO 10 PERCENT, PERENNIAL RYEGRASS CULTIVARS 60 TO 65 PERCENT, AND SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

C. IDEAL TIMES OF SEEDING

- WESTERN MD, EASTERN MD TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A)
- SOUTHERN MD, MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 6B)
- SOUTHERN MD, MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 7A, 7B)

D. TILLAGE

TILLAGE TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASS WILL BE OF LOW DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (5 TO 1 INCHES DEPENDENT ON SOIL TEXTURE) THROUGHOUT THEIR EARLY ESTABLISHMENT. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD TO TOPSOILING

1. GENERAL SPECIFICATIONS

- CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE TO A MATCH THE JOB FOREMAN AND INSPECTOR.
- SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 1/2 INCH PLUS OR MINUS 1/8 INCH. AT THE TIME OF CUTTING, MEASUREMENT FOR THICKNESS MUST EXCLUDE THE WIND AND HATCH BROKEN PADS AND TOP OR UNWORN EDGES WHICH WILL NOT BE ACCEPTABLE.
- STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SHAPE AND QUALITY THROUGHOUT THE PERIOD OF STORAGE AND TRANSPORT.
- UPPER 10 PERCENT OF THE SECTION.
- SOD MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY AFFECT THE SEEDING.
- SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
- LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH.
- ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOID WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
- WHERE POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP. PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPER ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE SOD AND THE SOIL SURFACE ARE FULLY AND THOROUGHLY WET. COMPLETE THE CONSTRUCTION OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN 8 HOURS.

3. SOD MAINTENANCE

- IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SO DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- AFTER THE FIRST WEEK, SOIL MOISTURE IS REQUIRED TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- DO NOT MOVI UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/4 OF THE GRASS LEAF SHOULD BE CUT BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE
• TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
• EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY. BELOW LONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- WHEN STABILIZATION IS REQUIRED IN A SECOND SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B.4-3.1.8 AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-185).
- ALL VEGETATIVE AND EROSION CONTROL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THE PERMANENT SEEDING SUMMARY.
- A CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-1) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE UNTIL THE DISTURBED AREA IS IN A CONDITION UNDER PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE:	17.75 ACRES +/-
AREA DISTURBED BY CONSTRUCTION:	0.95 ACRES +/-
AREA TO BE GRADED OR PAVED:	0.95 ACRES +/-
AREA TO BE VEGETATIVELY STABILIZED:	1.24 ACRES +/-
TOTAL CUT:	1,291 CU. YDS.
TOTAL FILL:	1,307 CU. YDS.*
OFFSITE WASTE/BORROW AREA LOCATION	
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE OBTAINED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR DEVIATIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 50 ACRES PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- EARTHWORK QUANTITIES ARE SOLELY FOR THE PURPOSE OF CALCULATING FEES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO THE START OF CONSTRUCTION.
- TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

TABLE B.1: TEMPORARY SEEDING FOR SITE STABILIZATION

PLANT SPECIES	SEEDING RATE (LB/AC)	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATES BY PLANT HARDNESS ZONE		
			5b & 6a	6b	7a & 7b
COOL-SEASON GRASSES					
ANNUAL RYEGRASS (L. POLYCOMUM)	40	1.0	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
BARLEY (HORDEUM VILGARE)	98	2.2	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
OATS (Avena SATIVA)	72	1.7	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
WHEAT (TRITICUM AESTIVUM)	120	2.8	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
CEREALE RYE (SECALE CEREALE)	112	2.8	MARCH 15 TO MAY 31; AUG 1 TO OCT 31	MARCH 1 TO MAY 15; AUG 1 TO NOV 15	AUG 15 TO DEC 15
WARM-SEASON GRASSES					
PORTUL MILET (SETARIA ITALICA)	30	0.7	JUN 1 TO JUL 31	MAY 15 TO JUL 31	MAY 1 TO AUG 14
PEARL MILLET (Pennisetum GLAUCUM)	20	0.5	JUN 1 TO JUL 31	MAY 15 TO JUL 31	MAY 1 TO AUG 14

NOTES:

- FERTILIZER RATE (10-20-20): 436 LB/AC (10LB/1000SF) LIME RATE: 2 TONS/AC (8LB/1000SF)
- SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY. AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASS SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXTURE, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER SEEDS GRASSES (ANNUAL RYEGRASS, PEARL MILLET, PORTUL MILLET, DON NOT EXCEED MORE THAN 1/3 OF THE PERMANENT SEEDING MIXTURE. PERMANENT SEEDING MIXTURE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREALE RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IT MUST BE USED AS A NURSE CROP. SEED AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
- FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
- THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

CONSTRUCTION SPECIFICATIONS

- USE WOVEN SILT FLM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
 - FOR TYPE A, USE NORMAL 2 INCH X 4 INCH CONSTRUCTION GRADE LAMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT A MINIMUM OF 36 INCHES BETWEEN THE POSTS AT THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH 1/2 INCH GALVANIZED HANGING CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY TO THE CHAIN LINK FENCE WITH 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HANGING CLOTH 1 MINIMUM OF 18 INCHES ABOVE THE POSTS. THE ENDS OF THE EMBED GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
 - FOR TYPE B, USE 2 INCH DIA GALVANIZED STEEL POSTS OF 0.008 INCH WALL THICKNESS AND 8 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOOK RINGS.
- FASTEN WOVEN SILT FLM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

SEQUENCE OF CONSTRUCTION

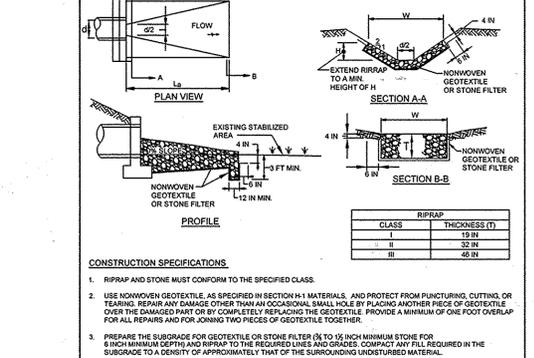
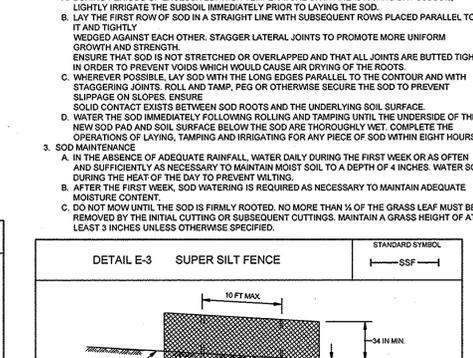
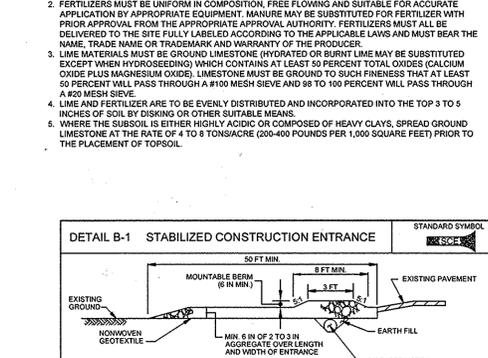
- OBTAIN GRADING PERMIT.
- NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSE AND PERMITS AT (410) 313-1850 AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE AND SILT FENCE (2 DAYS)
- ROUGH GRADE SITE AND BEGIN CONSTRUCTION (1 WEEK)
- COMPLETE UTILITY CONSTRUCTION AND BEGIN ROAD CONSTRUCTION. (2 WEEKS)
- COMPLETE ROAD CONSTRUCTION AND FINE GRADE SITE. (2 WEEKS)
- INSTALL EROSION CONTROL MATTING IN SWALE AREAS AS NECESSARY. (1 DAY)
- STABILIZE ALL REMAINING DISTURBED AREAS. (1 DAY)
- WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE THE REMAINING DISTURBED AREA. (1 WEEK)

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE NECESSARY MAINTENANCE TO THE SEDIMENT CONTROL MEASURES ON THIS PLAN.



PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P2O5	K2O	
1				1/2 IN	45 POUNDS PER ACRE (1.0 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	2 LB/AC (90 LB/1000 SF)

B-4-3 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
• TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.
• CONDITIONS WHERE PRACTICE APPLIES:
• STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
- THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B.4-1 LAND GRADING.
- RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
- ACROSS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
- CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR CONCRETE CHANNEL. CONCENTRATED FLOW SHOULD BE DISCHARGED INTO A SUITABLE SEDIMENT CONTROL PRACTICE.
- WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
- STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 37 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
- IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B.4-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 3:1 SLOPES, 30 FEET FOR 2:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B.4-1 LAND GRADING.

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FT/100 SQ FT FOR SINGLE RESIDENCE LOT. USE MINIMUM WIDTH OF 16 FEET. FENCE 30 FT MINIMUM AT THE ENTRANCE ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOW TO OR DIVERTED TOWARD THE SCE UNDER THE EXISTING, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BEAM WITH 6 SLOPES AND A MINIMUM OF 2 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY. A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SURFACE AND PLACE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT AND STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BEAM AND SPECIFIED DIMENSIONS IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPOILED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUATING, SCOURING AND DISCHARGING CONCENTRATED FLOW INTO A SUITABLE SEDIMENT CONTROL PRACTICE. NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

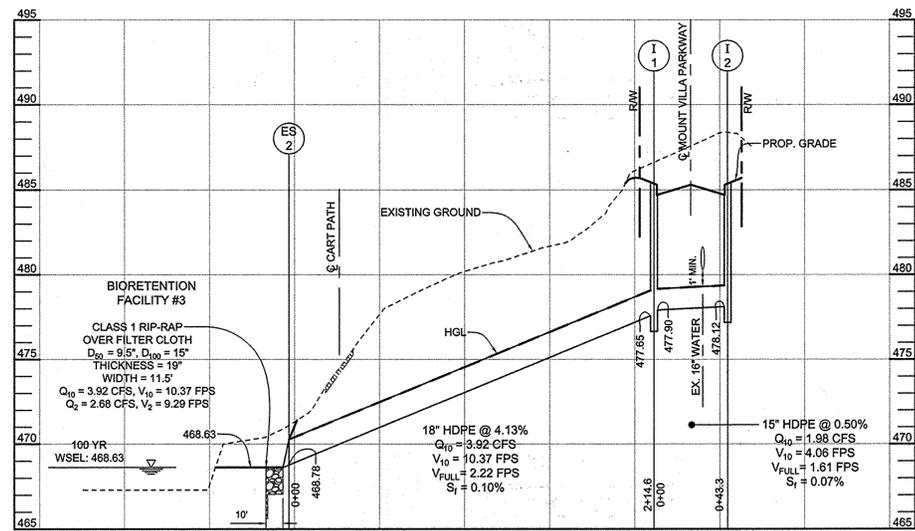
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
• TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

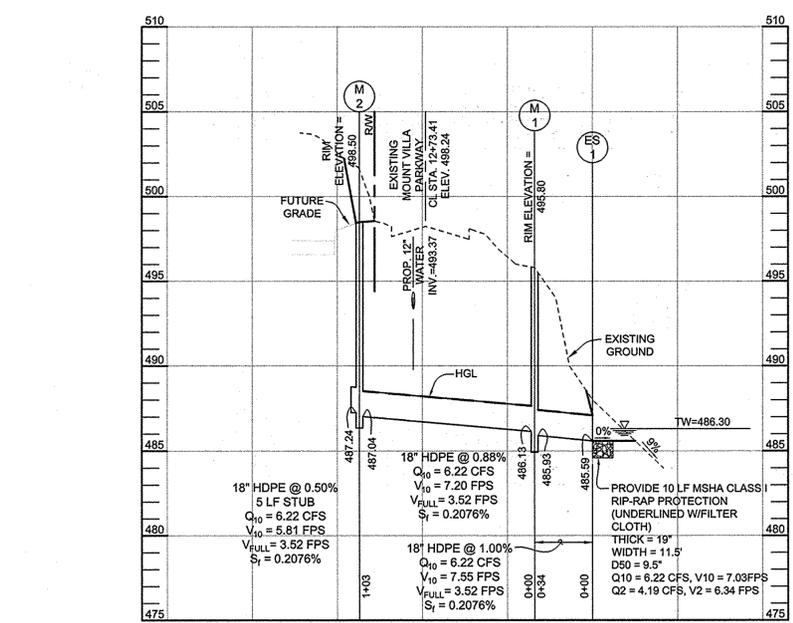
CONDITIONS WHERE PRACTICE APPLIES
• EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. OTHER SELECTION MIXTURES (S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY, THE SUMMARY



STORM DRAIN PROFILE
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



STORM DRAIN PROFILE
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

STRUCTURE SCHEDULE						
NO.	TYPE & OWNERSHIP	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
M-1	STANDARD 4' MANHOLE, PUBLIC (4)	Q STA. 0+72.68, 17.9' RIGHT	495.80	486.13	485.93	G-5.12
M-2	STANDARD 4' MANHOLE, PRIVATE (4)	Q STA. 12+74.59, 38.9' LEFT	495.50	487.24	487.04	G-5.12
I-1	TYPE 'A'-10' INLET, PUBLIC	Q STA. 6+33.94, 20' RIGHT	485.33	477.90	477.65	D-4.03
I-2	TYPE 'A'-10' INLET, PUBLIC	Q STA. 6+33.94, 20' LEFT	485.33		478.12	D-4.03
ES-1	HDPE END SECTION	N 594.155.2 E 1,343,695.8	487.09	468.67	468.63	HANDICAP OR EQUIVALENT
ES-2	HDPE END SECTION	N 594,816.3 E 1,343,652.4	470.31	468.78	468.63	HANDICAP OR EQUIVALENT

- NOTES:
- TOP ELEVATIONS FOR TYPE 'A'-10' INLETS ARE TO THE CENTER OF INLET AT THE TOP, FACE OF CURB.
 - TOP ELEVATIONS OF MANHOLES ARE TO THE CENTER OF MANHOLE COVER.
 - TOP SLOPE OF STRUCTURES TO CONFORM TO SLOPE OF PAVING.
 - STORM DRAIN PIPE BETWEEN M-1 AND M-2 TO BE PRIVATELY OWNED AND MAINTAINED.

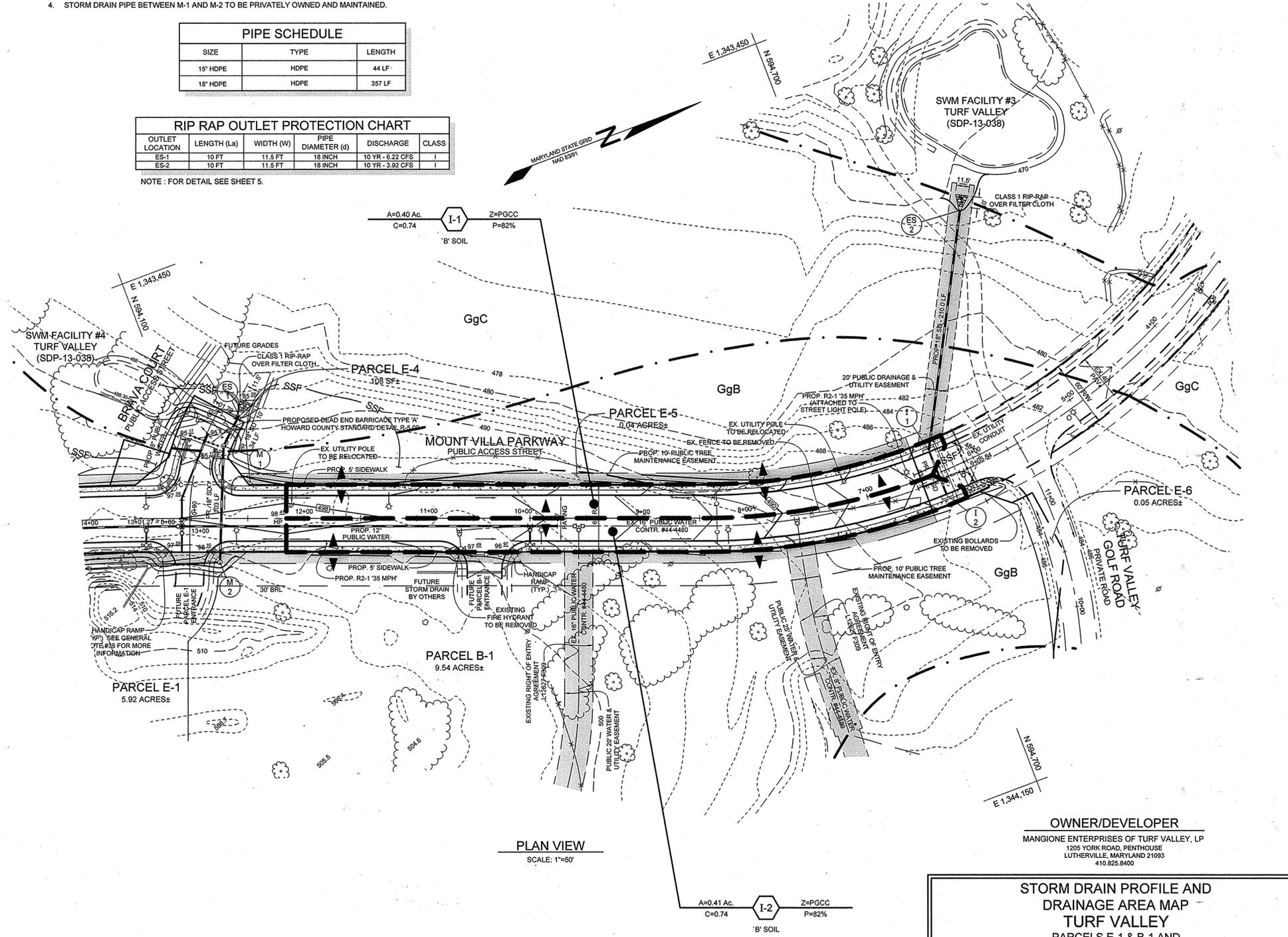
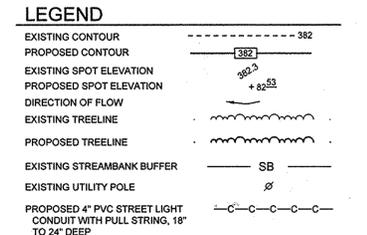
PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15" HDPE	HDPE	44 LF
18" HDPE	HDPE	357 LF

RIP RAP OUTLET PROTECTION CHART					
OUTLET LOCATION	LENGTH (L _a)	WIDTH (W)	PIPE DIAMETER (d)	DISCHARGE CLASS	
ES-1	10 FT	11.5 FT	18 INCH	10 YR - 6.22 CFS	I
ES-2	10 FT	11.5 FT	18 INCH	10 YR - 3.92 CFS	I

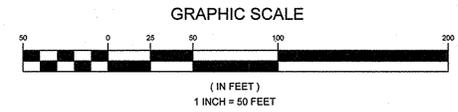
NOTE: FOR DETAIL SEE SHEET 5.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.20
GmB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
UD	URBAN LAND-UDORTMENTS COMPLEX, 0 TO 15 PERCENT SLOPES	D	N/A

- NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY.
 - 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.



PLAN VIEW
SCALE: 1"=50'



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

STORM DRAIN PROFILE AND DRAINAGE AREA MAP
TURF VALLEY
PARCELS E-1 & B-1 AND NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6
TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

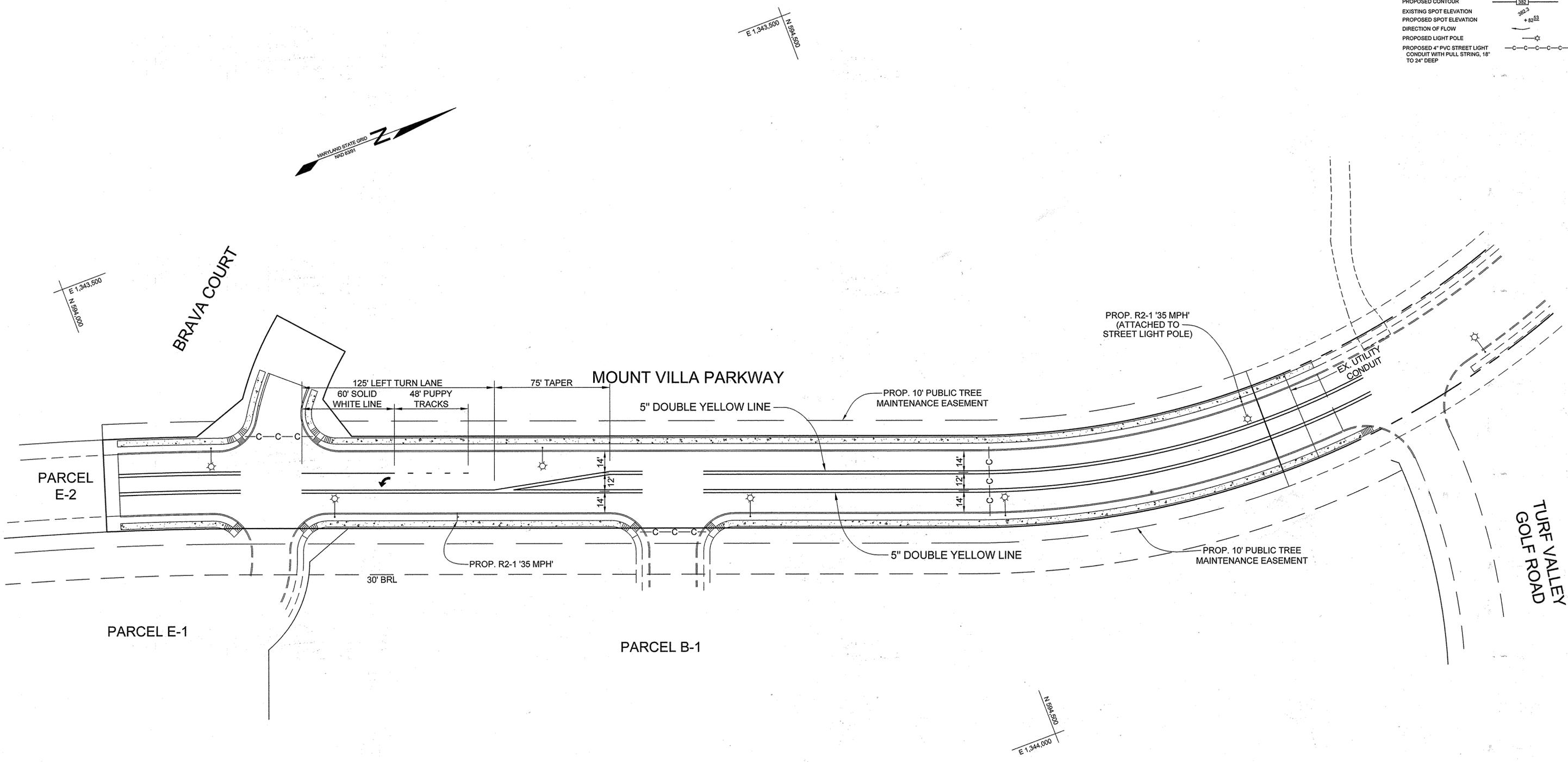
	SILL ENGINEERING GROUP, LLC 3300 North Ridge Road, Suite 160 Ellicott City, Maryland 21043 Phone: 443.325.7682 Fax: 443.325.7685 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: PS CHECKED BY: PS SCALE: AS SHOWN DATE: JUNE 27, 2014 PROJECT #: 14-001 SHEET #: 8 of 8
	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. 32025, EXPIRATION DATE: JUNE 20, 2015	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 7-16-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature] 7-8-14
 CHIEF, BUREAU OF HIGHWAYS DATE

LEGEND

EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	+ 82.53
DIRECTION OF FLOW	→
PROPOSED LIGHT POLE	⊙
PROPOSED 4" PVC STREET LIGHT CONDUIT WITH FULL STRING, 18" TO 24" DEEP	—C—C—C—C—C—C—



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

FIXTURE TYPE	POLE TYPE	LOCATION	STREET
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 6+60 22.5' RIGHT	MOUNT VILLA PARKWAY
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 8+25 22.5' LEFT	MOUNT VILLA PARKWAY
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 9+90 22.5' LEFT	MOUNT VILLA PARKWAY
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 11+25 22.5' RIGHT	MOUNT VILLA PARKWAY
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 12+60 22.5' LEFT	MOUNT VILLA PARKWAY
250 WATT HPS VAPOR PENDANT FIXTURE (SAG) MOUNTED TO POLE USING A 12' ARM	30' BRONZE FIBERGLASS	Q STA. 13+40 22.5' RIGHT	MOUNT VILLA PARKWAY

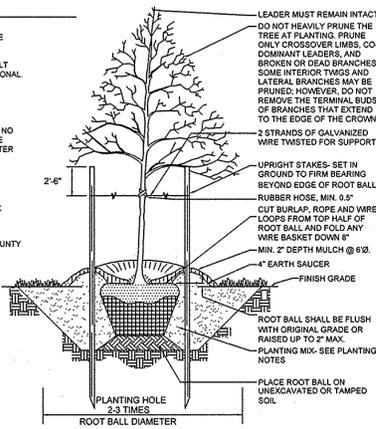
STRIPING, STREET LIGHT AND SIGNAGE PLAN
TURF VALLEY
 PARCELS E-1 & B-1 AND
 NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6
 TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 3300 North Ridge Road, Suite 160 Ellicott City, Maryland 21043 Phone: 443.325.7682 Fax: 443.325.7685 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS
		DRAWN BY: PS
		CHECKED BY: PS
		SCALE: 1" = 30'
		DATE: JUNE 27, 2014
		PROJECT #: 14-001
		SHEET #: 7 of 8

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 7-16-14	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. CHIEF, BUREAU OF HIGHWAYS DATE: 7-8-14
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 7-15-14	

NOTES

- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
- EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
- STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TYPICAL TREE PLANTING AND STAKING

DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

LANDSCAPE NOTES

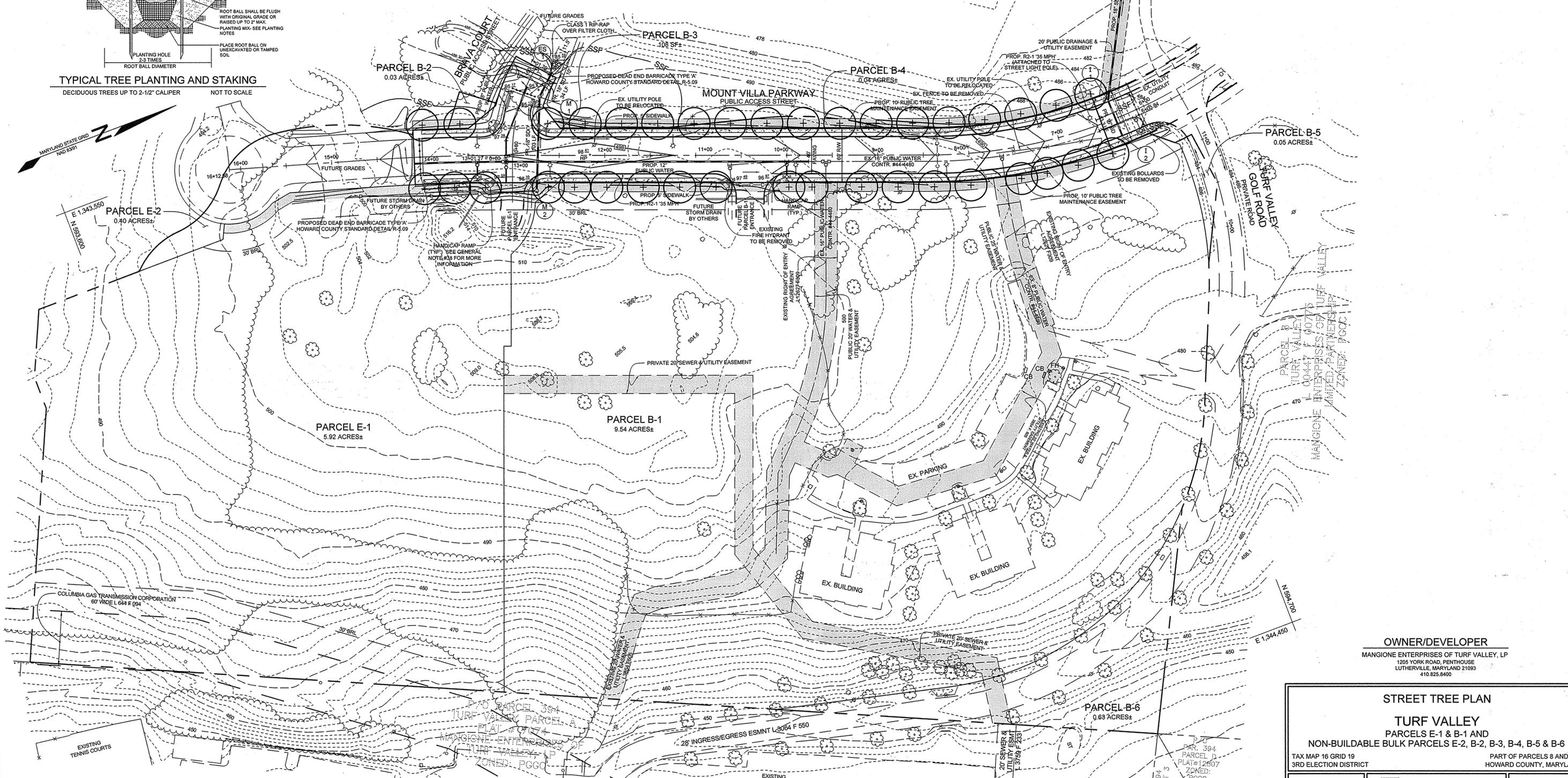
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY FOR THE REQUIRED STREET TREES IN THE AMOUNT OF \$12,000.00 (40 SHADE TREES @ \$300.00 EACH) AS DETERMINED BY THE HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION AS PART OF THE ROAD CONSTRUCTION COST ESTIMATE.
- PERIMETER LANDSCAPING FOR PARCELS B-1 AND E-1 IS NOT REQUIRED SINCE THE ARE LOCATED WITHIN THE TURF VALLEY DEVELOPMENT.
- LANDSCAPING FOR PARCELS E-1 AND B-1 WILL BE PROVIDED FOR AT THE SITE DEVELOPMENT PLAN STAGE.

STREET TREE SCHEDULE			
STREET NAME	LF REQUIRED	TREES REQUIRED	TREES PROVIDED
MOUNT VILLA PARKWAY	1,500	37	37

LANDSCAPE SCHEDULE				
KEY	QUANTITY	BOTANICAL NAME	SIZE	NOTE
(+)	37	TILIA CORDATA (STREET TREES) 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	2 1/2"-3" CAL.	B & B

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREETLINE
- PROPOSED TREETLINE
- EXISTING STREAMBANK BUFFER
- EXISTING UTILITY POLE
- PROPOSED 4" PVC STREET LIGHT CONDUIT WITH FULL STRING, 18" TO 24" DEEP
- PROPOSED STREET TREES



OWNER/DEVELOPER

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

STREET TREE PLAN

TURF VALLEY

PARCELS E-1 & B-1 AND NON-BUILDABLE BULK PARCELS E-2, B-2, B-3, B-4, B-5 & B-6

TAX MAP 16 GRID 19 PART OF PARCELS 8 AND 394
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	<p>SILL ENGINEERING GROUP, LLC</p> <p>3300 North Ridge Road, Suite 160 Ellicott City, Maryland 21043 Phone: 443.325.7682 Fax: 443.325.7685 Email: info@sillengineering.com Civil Engineering for Land Development</p>	<p>DESIGN BY: PS</p> <p>DRAWN BY: PS</p> <p>CHECKED BY: PS</p> <p>SCALE: AS SHOWN</p> <p>DATE: JUNE 27, 2014</p> <p>PROJECT #: 14-001</p> <p>SHEET #: 8 of 8</p>
	<p>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. 32023, EXPIRATION DATE: JUNE 20, 2015</p>	
	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING</p> <p><i>[Signature]</i> 7-16-14 DATE</p> <p>CHIEF, DIVISION OF LAND DEVELOPMENT</p>	
	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS</p> <p><i>[Signature]</i> 7-8-14 DATE</p> <p>CHIEF, BUREAU OF HIGHWAYS</p>	
	<p>DEVELOPER'S CERTIFICATE</p> <p>I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.</p> <p><i>[Signature]</i> 6/27/14 DATE</p> <p>DEVELOPER</p>	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 7-16-14 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 7-8-14 DATE

CHIEF, BUREAU OF HIGHWAYS

DEVELOPER'S CERTIFICATE

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[Signature] 6/27/14 DATE

DEVELOPER

PLAN VIEW
SCALE: 1" = 50'