GENERAL NOTES

- AREA OF PROPOSED PUBLIC RW: 2.06 AC+ NUMBER OF PROPOSED BUILDABLE LOTS: (
- AREA OF PROPOSED BUILDABLE LOTS: 0.00 AC±
- NUMBER OF PROPOSED GOLF/OPEN SPACE LOTS:
- AREA OF PROPOSED GOLF/OPEN SPACE LOTS: 20.61 AC

410 787 9068

410.795.1390

- BGE(CONTRACTOR SERVICES)
- **BGE(UNDERGROUND DAMAGE CONTRO** HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES
- 410.313.4900 410.313.2640

- - SURFACE SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MININ

- 37. THE PORTION OF THIS PROJECT LOCATED ON PARCEL 8 IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS LINDER SECTIO MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992. THE FOREST CONSERVATION REQUIREMENT FOR THE PORTION OF THIS PROJECT LOCATED ON PARCEL 706 WAS PROVIDED UNDER
- 38. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- A. THE R1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED
- HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES. C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MdMUTCD).
- D. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 gauge) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 gauge) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 40. 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. 41. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT SINCE IT IS MORE THAN FIVE HUNDRED FEET (500') FROM A PRINCIPAL OR INTERMEDIATE ARTERIAL HIGHWAY AND SINCE THE HEAVY TRUCK TRAFFIC ON INTERSTATE ROUTE 70 DOES NOT EXCEED AN ADT OF
- THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON, APRIL 30, 2016 ID#D13513999. THE ARTICLES FOR THE TURF VALLEY
- PROPERTY OWNERS ASSOCIATION WAS ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON JUNE 30, 2006
- THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004. PER SECTION 126(H)(A), PLANNING BOARD APPROVAL IS REQUIRED FOR THE SITE DEVELOPMENT PLAN FOR THIS PROJECT AND FOR FDP AMENDMENT SUBSEQUENT TO SIGNATURE APPROVAL OF S-86-013
- 45. 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 MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAIL 46. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY BERNARD JOHNSON INCORPORATED, DATED MAY 1986, AND WAS
- APPROVED BY HOWARD COUNTY UNDER THE LITTLE PATUXENT RIVER WATERSHED MODEL UPDATE ULTIMATE WATERSHED
- 47. ACCESS TO THE REGIONAL STORMWATER MANAGEMENT FACILITY SHOWN IS PROVIDED FOR UNDER SDP-95-121.
- 48. REFER TO SHEET 9 ENTITLED GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR DISPOSITION OF THE RE-USE MATERIAL PURSUANT TO THE HIALEAH STOCKPILE AGREEMENT.
- 49. RESORT ROAD IS CLASSIFIED AS A LOCAL ROAD PER THE HOWARD COUNTYGENERAL PLAN. IT WILL BE DESIGNED AND
- CONSTRUCTED TO MINOR COLLECTOR ROAD STANDARDS.
- 50. NON-BUILDABLE BULK PARCELS A, B, C, & D WILL BE RESUBDIVIDED UNDER A FUTURE PHASE. 51. THIS PLAN IS SUBJECT TO WAIVER PETITION, WP-09-048, TO WAIVE SECTION 16.1202(a)(1) OF THE HOWARD COUNTY CODE AND WAS APPROVED ON NOVEMBER 26, 2008, SUBJECT TO THE FOLLOWING CONDITIONS:
 - 1. PETITIONER IS ADVISED THAT WAIVER PETITION APPROVAL APPLIES ONLY TO TEMPORARY DEFERRAL FOR ESTABLISHING ON- OR OFF-SITE FOREST CONSERVATION EASEMENTS FOR DEVELOPMENT OF TURF VALLEY 4TH AMENDED CSP, PARCEL 706. EACH SUBSEQUENT PHASE OF DEVELOPMENT MUST ESTABLISH THE REQUIRED AREA OF FOREST CONSERVATION EASEMENTS AND PROVIDE THE NECESSARY AREA OF FOREST RETENTION AND AFFORESTATION PLANTING AS REQUIRED BY THE FOREST CONSERVATION WORKSHEET FOR THE DEVELOPMENT TO SATISFY IT'S OBLIGATION. THE ENTIRE AREA OF FOREST CONSERVATION OBLIGATION FOR PARCEL 706 MUST BE PROVIDED WITH THE
 - PROCESSING AND RECORDING OF THE LAST PHASE OF DEVELOPMENT LOCATED ON PARCEL 706.

6/14/2017 APPROVED: DEPARTMENT OF PLANNING AND ZONING

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.

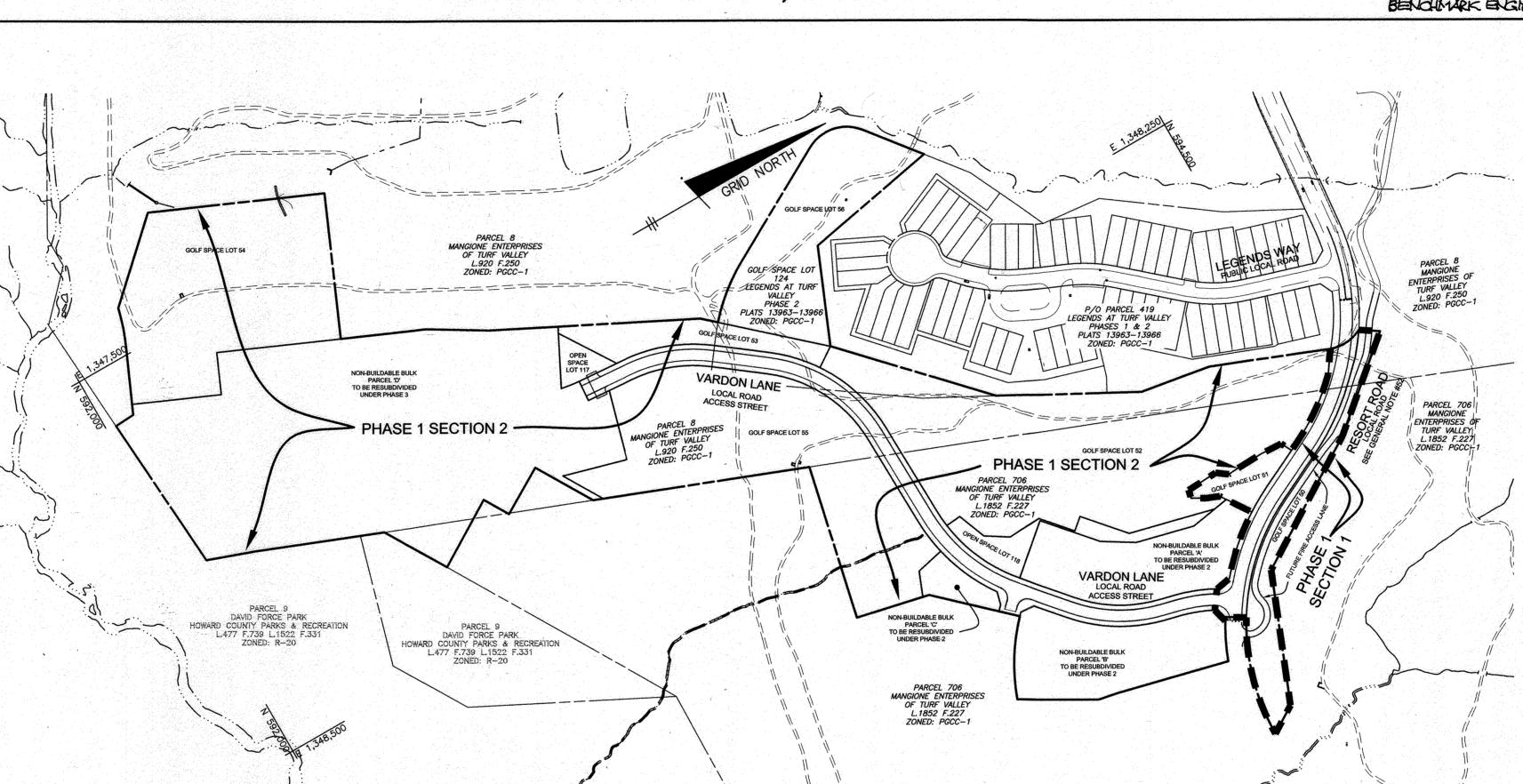
THIS SHEET REPLACES THE PREVIOUS SHEET 1 **SIGNED ON 1-11-2017**

FINAL ROAD CONSTRUCTION PLAN FAIRWAYSATTURF VALLEY

PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 51 PHASE 1 SECTION 2: OPEN SPACE LOTS 117, & 118 GOLF SPACE LOTS 52 THRU 56, AND NON-BUILDABLE

BULK PARCELS A, B, C, & D

PODS 'F' AND PART OF 'H' SECTION IV : RESIDENTIAL PHASE IV D AND A RESUBDIVISION OF GOLF SPACE LOT 124 HOWARD COUNTY, MARYLAND



LOCATION MAP

	STORMW	ATER MA	NAGEME	NT SUMM	ARY TABL	
D.A.	WAT QUA		RECHARGE		CHANNEL PROTECTION	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED
A-1	N/A(1)	N/A(1)	N/A(1)	N/A(1)	N/A(1)	N/A(1)
A-2	N/A(1)	N/A(1)	N/A(1)	N/A(1)	N/A(1)	N/A(1)
В	915cf (2)	915cf (2)	240cf (2)	240cf (2)	N/A(3)	N/A(3)
С	1,873cf (2)	1,873cf (2)	470cf (2)	470cf (2)	N/A(3)	N/A(3)
D	4,966cf (2)	4,966cf (2)	941cf (2)	941cf (2)	N/A(3)	N/A(3)
E	653cf (2)	653cf (2)	44cf (2)	44cf (2)	N/A(3)	N/A(3)
F	4,966cf(2)	4,966cf(2)	793cf(2)	793cf(2)	N/A(3)	N/A(3)

1) PROVIDED UNDER REGIONAL SWM FACILITY SDP-95-121. 2) WQv AND REV HAVE BEEN CALCULATED FOR THE AREAS SUBJECT TO GRADING AND LAND COVER CHANGE. TREATMENT FOR WQV AND REV WILL BE PROVIDED FOR

-DRAINAGE AREA 'C' AND 'D' BY A DRY SWALE (0-1) -DRAINAGE AREA 'F' BY A BIORETENTION FACILITY (F-6) -DRAINAGE AREA 'B' IS A BY-PASS AREA. NO NEW DEVELOPMENT PROPOSED.

3) CPV IS NOT REQUIRED FOR THESE DRAINAGE AREAS SINCE THE COMPUTED, POST-DEVELOPED -YEAR RUNOFF IS LESS THEN 2.0cfs OR LESS THAN THE EXISTING RUNOFF. DRAINAGE AREA 'B' IS A BY-PASS AREA. NO NEW DEVELOPMENT IS

4) OVERBANK FLOOD PROTECTION VOLUME, Qp, IS NOT REQUIRED FOR THIS SITE. ★ 3) EXTREME FLOOD VOLUME, Qf, IS NOT REQUIRED FOR THIS SITE. AS-BUILT CERTIFICATION I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT"

Plan meet the Approved Plans and Specifications

	RU/	AD CLASS	IFICATION		- 12 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	LIMITS OF CONSTRUCTION	R/W	PHASE
RESORT ROAD	* LOCAL ROAD	P-3	35	19+00 to 27+07.89	50'	P1S1
VARDON LANE	PUBLIC ACCESS STREET	P-2	30	0+00 TO 17+78.46	50'	P1S2

FIXTURE TYPE	POLE TYPE	LOCATION	STREET	PHASE
LED-150 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 0+30 18.29' RIGHT	VARDON LANE	P1S1
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	Ç STA. 02+28 15.33' LEFT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 03+69 15.33' RIGHT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 05+69 15.33' LEFT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 07+65 15.33' LEFT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 10+11 15.33' RIGHT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 12+22 15.33' RIGHT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 14+32 15.33' RIGHT	VARDON LANE	P1S2
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 16+90 15.33' RIGHT	VARDON LANE	P1S2
LED-150 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 20+45 16.33' RIGHT	RESORT ROAD	P1S1
LED-150 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 22+40 16.33' RIGHT	RESORT ROAD	P1S1
LED-150 COLONIAL POST TOPS	14' BLACK FIBERGLASS	© STA. 24+40 16.33' RIGHT	RESORT ROAD	P1S1

STREET LIGHT TABLE

SYMBOL	ROAD NAME	STATION	OFFSET	DESCRIPTION	PHASE
	RESORT ROAD	17+34	16' RIGHT	W11-11 (30"X30") with "AHEAD" panel	P1S1
	RESORT ROAD	20+23	16' RIGHT	W11-11 (24"X24") with W16-7p	P1S1
	RESORT ROAD	20+45	16' LEFT	W11-11 (24"X24") with W16-7p	P1S1
	RESORT ROAD	23+34	16' LEFT	W11-11 (30"X30") with "AHEAD" panel	P1S1
	RESORT ROAD	24+75	16' LEFT	R2-1 "SPEED LIMIT"	P1S1
	VARDON LANE	0+44	16' RIGHT	R1-1 "STOP"	P1S2
	VARDON LANE	1+75	15' RIGHT	R2-1 "SPEED LIMIT"	P1S2
b [VARDON LANE	9+00	15' RIGHT	W11-11 (30"X30") with "AHEAD" panel	P1S2
	VARDON LANE	11+44	15' RIGHT	W11-11 (24"X24") with W16-7p	P1S2
	VARDON LANE	11+66	15' LEFT	W11-11 (24"X24") with W16-7p	P1S2
	VARDON LANE	14+25	15' RIGHT	W11-11 (24"X24") with W16-7p	P1S2
	VARDON LANE	14+56	15' LEFT	W11-11 (24"X24") with W16-7p	P1S2
	VARDON LANE	17+00	15' LEFT	W11-11 (30"X30") with "AHEAD" panel	P1S2
	VARDON LANE	17+20	15' LEFT	R2-1 "SPEED LIMIT"	P1S2

NOTE: LIGHT POLE LOCATION GIVEN AT CENTER OF BASE

LEGEND

1.) HORIZONTAL AND VERTICAL DATUM FOR HIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM

2.) The instruments used in performing THE AS BUILT WERE A 5" TOTAL STATION

NAD 83/ ADJ 07A5 PROJECTED FROM HO.CO GEODETIC CONTROL STATIONS IGIE

AND PRISM AND RTK GPS
3.) THIS AS-BUILT WAS PERFORMED BY
BENCHMARK ENGINEERING, INC.

RESIDENTIAL

VICINITY MAP SCALE: 1"=2000"

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
16IB	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
17AB	598,435.249	1,348,615.2482	508.469	SE OF INTERSECTION OF RTE. 99 AND WETHERBURN ROAD, 14.8' WEST OF FENCE POST, 35' NE OF MANHOLE

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN AND PROFILE RESORT ROAD
3	ROAD PLAN AND PROFILE VARDON LANE
4	ROAD PLAN AND PROFILE VARDON LANE
5	ROAD PLAN AND PROFILE VERDI COURT
6	PHASE I LOD GRADING, SEDIMENT AND EROSION CONTROL PLAN
7	GRADING, SEDIMENT AND EROSION CONTROL PLAN AND DETAILS
8	GRADING, SEDIMENT AND EROSION CONTROL PLAN
9	GRADING, SEDIMENT AND EROSION CONTROL PLAN
10	SEDIMENT AND EROSION CONTROL NOTES
- 11	SEDIMENT BASIN PROFILES AND DETAILS
12	SEDIMENT BASIN NOTES, DETAILS, AND SWM OPEN CHANNEL PROFILES AND NOTES
13	STORM DRAIN DRAINAGE AREA MAP
14	STORM DRAIN DRAINAGE AREA MAP
15	STORM DRAIN PROFILES, CHARTS, AND DETAILS
16	STORM DRAIN PROFILES
17	BIO-RETENTION PROFILES AND DETAILS
18	LANDSCAPE PLAN
19	LANDSCAPE PLAN
20	SEDIMENT AND EROSION CONTROL DETAILS

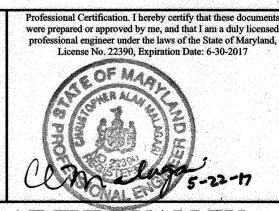
	CEN	ITERLINE	ROAD	CURVE DAT	Α
CURVE	RADIUS	ARC LENGTH	DELTA	CHORD BEARING	CHORD LENGTH
C1	550.00'	368.27'	38°21'50"	N45°13'11"W	361.43'
C2	550.00'	318.38'	33°10'00"	S42°37'16"E	313.95'
C3	350.00'	131.95'	21°36'03"	S24°51'01"W	131.17'
C4	350.00'	215.49'	35°16'37"	S31°41'18"W	212.11'
C4-B	400.00'	276.03'	39°32'18"	S69°05'45"W	270.59'
C5	350.00'	314.42'	51°28'14"	S63°07'48"E	303.95'
C6	350.00'	201.75'	33°01'39"	S20°52'51"W	198.97'

NOTE: FOR AS-BUILT NOTES AND RIGHT-OF-WAY CHART SEE SHEET NO. 5

3	5-17-2017	REMOVE LOTS 1-47 FROM PLANS AND MOVE TO F-10-086. STOP VARDON LANE AT STA. 17+78.46. UPDATE STREET LIGHT TABLE, STREET SIGN CHART AND CENTERLINE CURVE DATA CHART ACCORDINGLY. UPDATE GENERAL NOTES ACCORDINGLY. ADD SWM SUMMARY TABLE FROM THE APPROVED REPORT.
2	12-12-2016	REVISE FIRE ACCESS LANE ALIGNMENT. UPDATE SHEET INDEX. ADD OS LOTS 117 AND 118. UPDATE GEN NOTE #42.
1	5-12-2016	REVISE STREET LIGHT TABLE, CURVE TABLE, AND LOCATION MAP BASED ON REVISED VARDON LANE ALIGNMENT AND LOT LAYOUT. ADD PHASING DESIGNATIONS. REVISE NOTES 2-9, & 47. MOVE PAVEMENT MARKING PLAN TO SHEET 2. REVISE TITLE BLOCK AND SHEET NUMBER.
NO.	DATE	REVISION

BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS

ENGINEERING, INC ALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM



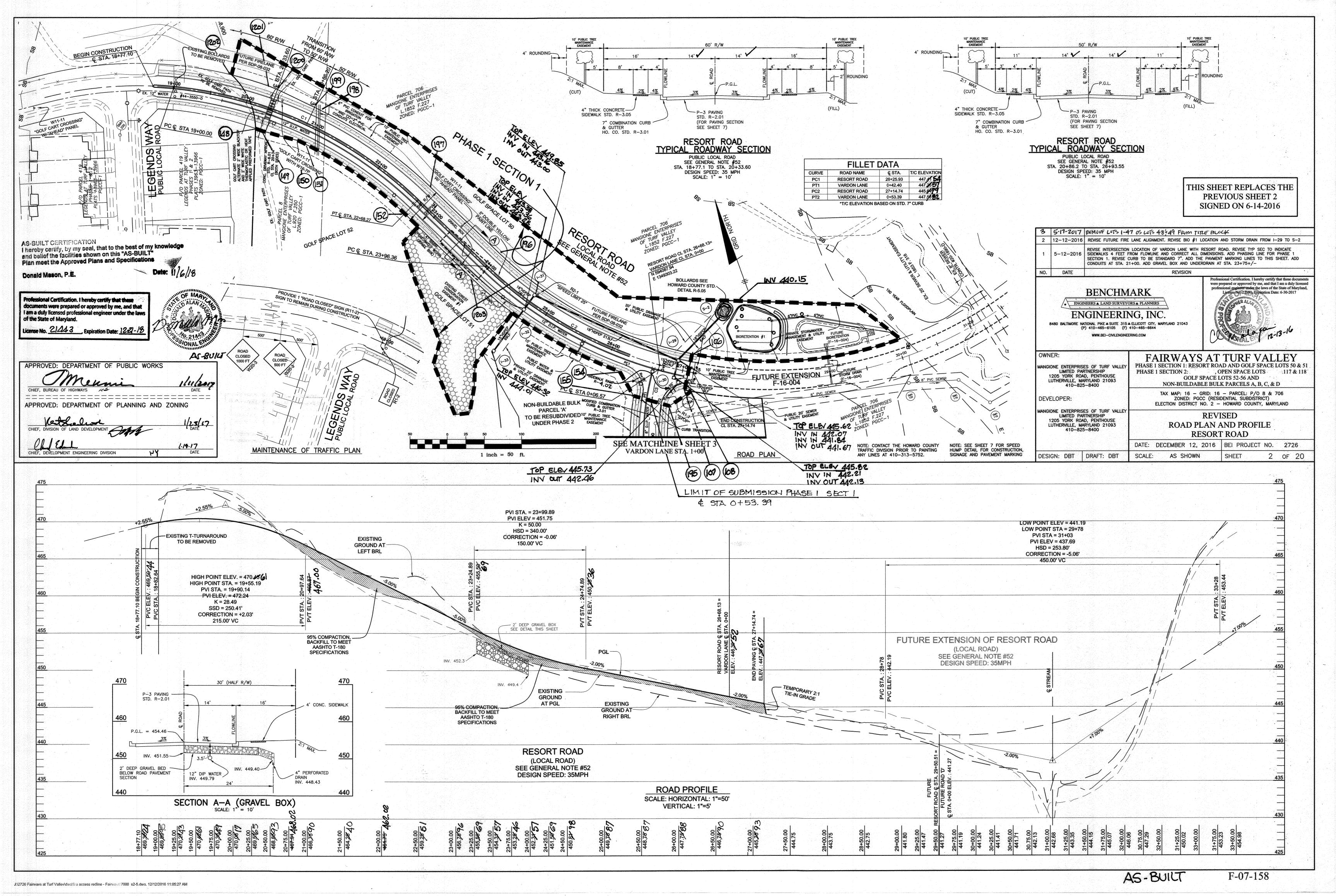
OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	PHASE 1 SECTION 1: RESORT RO PHASE 1 SECTION 2: OP GOLF SPACE	TURF VALLEY AD AND GOLF SPACE LOTS 50 & 51 EN SPACE LOTS 117, & 118 LOTS 52-56 AND LK PARCELS A, B, C, & D
DEVELOPER:	ZONED: PGCC (RES	6 – PARCEL: P/O 8 & 706 SIDENTIAL SUBDISTRICT) – HOWARD COUNTY, MARYLAND
MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	[2] - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	TSED SHEET
	DATE: MAY 17, 2017	BEI PROJECT NO. 2726
DESIGN: DBT DRAFT: DBT	SCALE: AS SHOWN	SHEET 1 OF 20

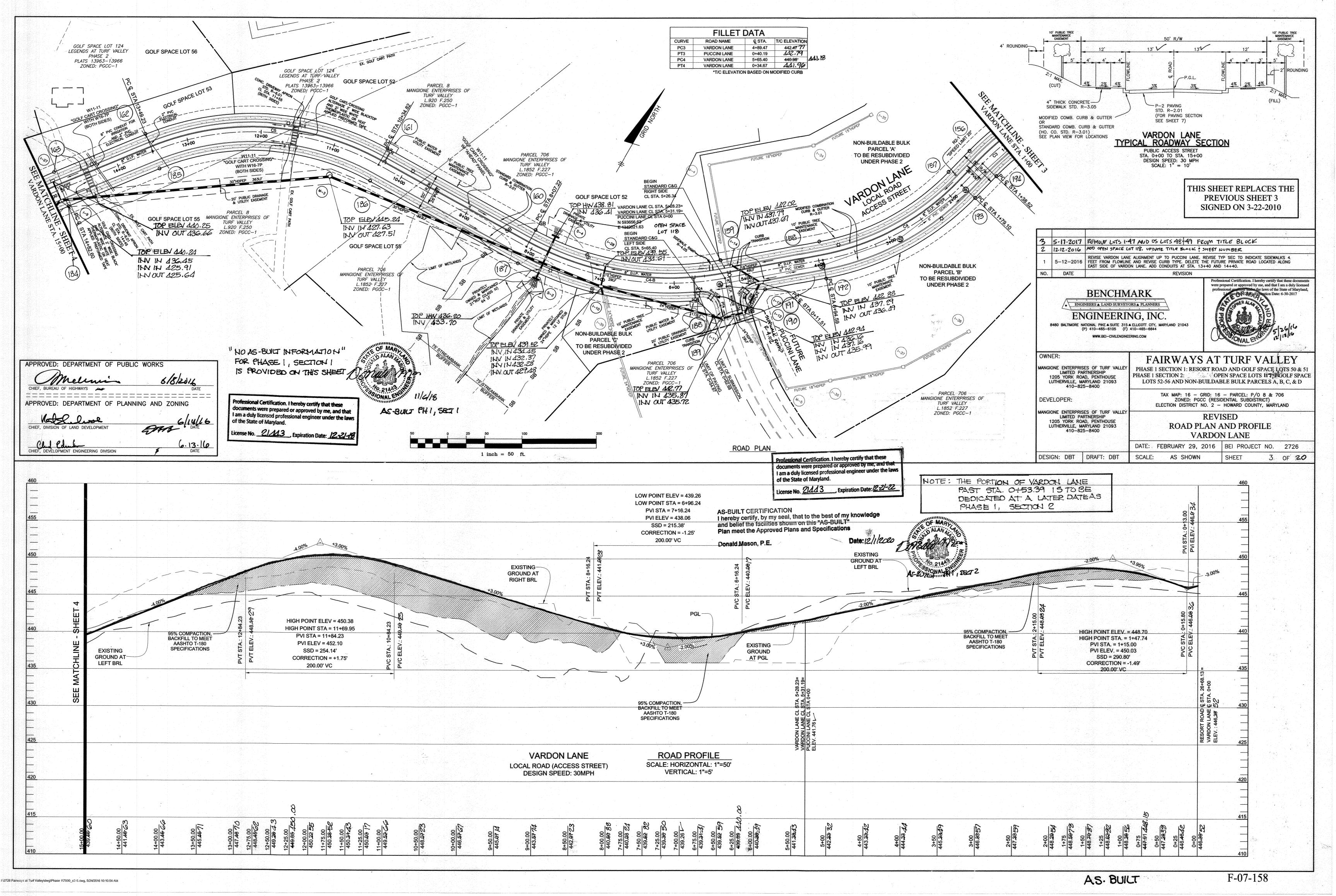
AS-BUILT

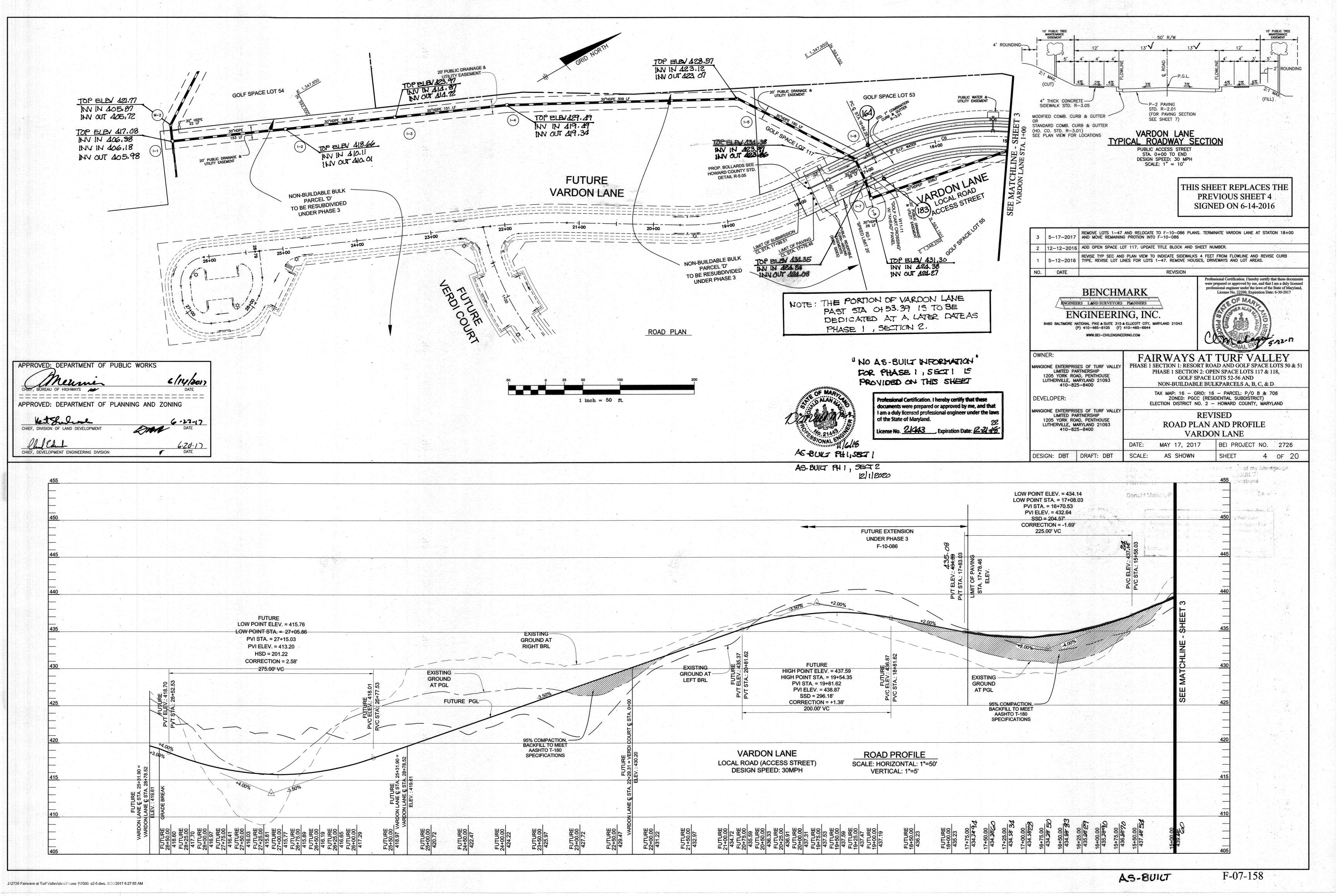
F-07-158

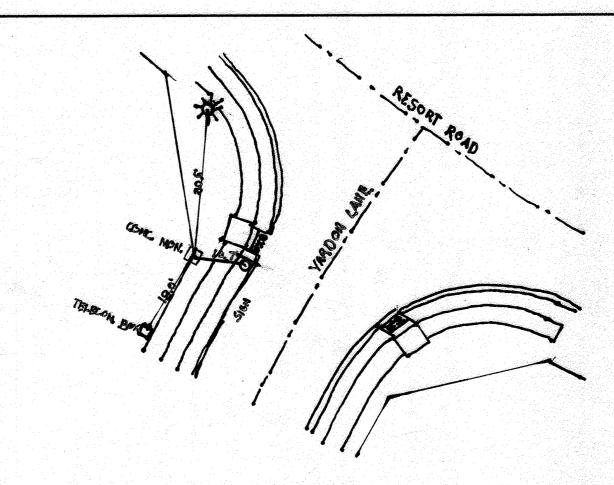
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CHIEF, DEVELOPMENT ENGINEERING DIVISION

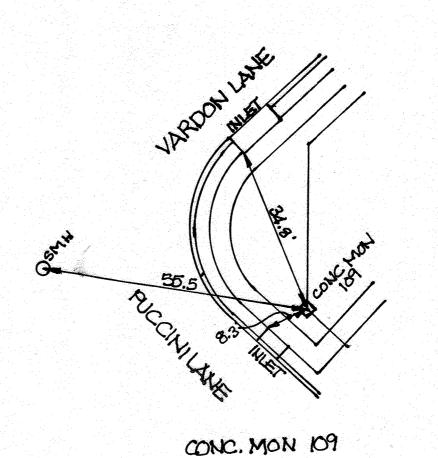








CONC. MON. #155



PHA	SE I, SECTI	ON 2
RIGHT (OF WAY ELEI	MOTTAN
RWPTNO	DESCRIPTION	BENTO
156	X-CUT	449.03
157	X-CUT	448.82
158	X-CUT	111461
159	REBAR & CAP	442.39
160	REBAR & CAP	441.46
161	REBAR ECAP	448.30
162	rebar e cap	146.24
168	rebar ecap	141.43
164	rebar ecap	134.52
183	rebyr & cap	431.73
184	REBAR & CAP	440.51
185	rebar ? cap	146.26
186	rebare cap	448.43
187	rebar 2 cap	141.75
188	REBAR (KAP	441.41
189	rebara cap	442.45
190	CONC. MON.	443.16
191	rebar e cap	443,08
192	X-CUT	442.65
193	X-CUT	148.82
194	rebyr icap	448.96

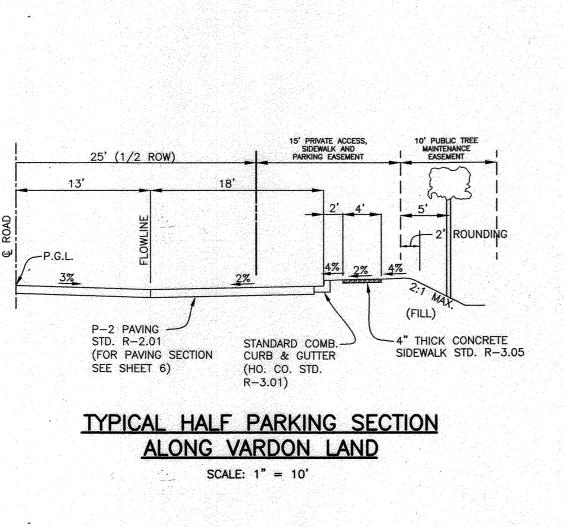
AS-BUILT NOTES:

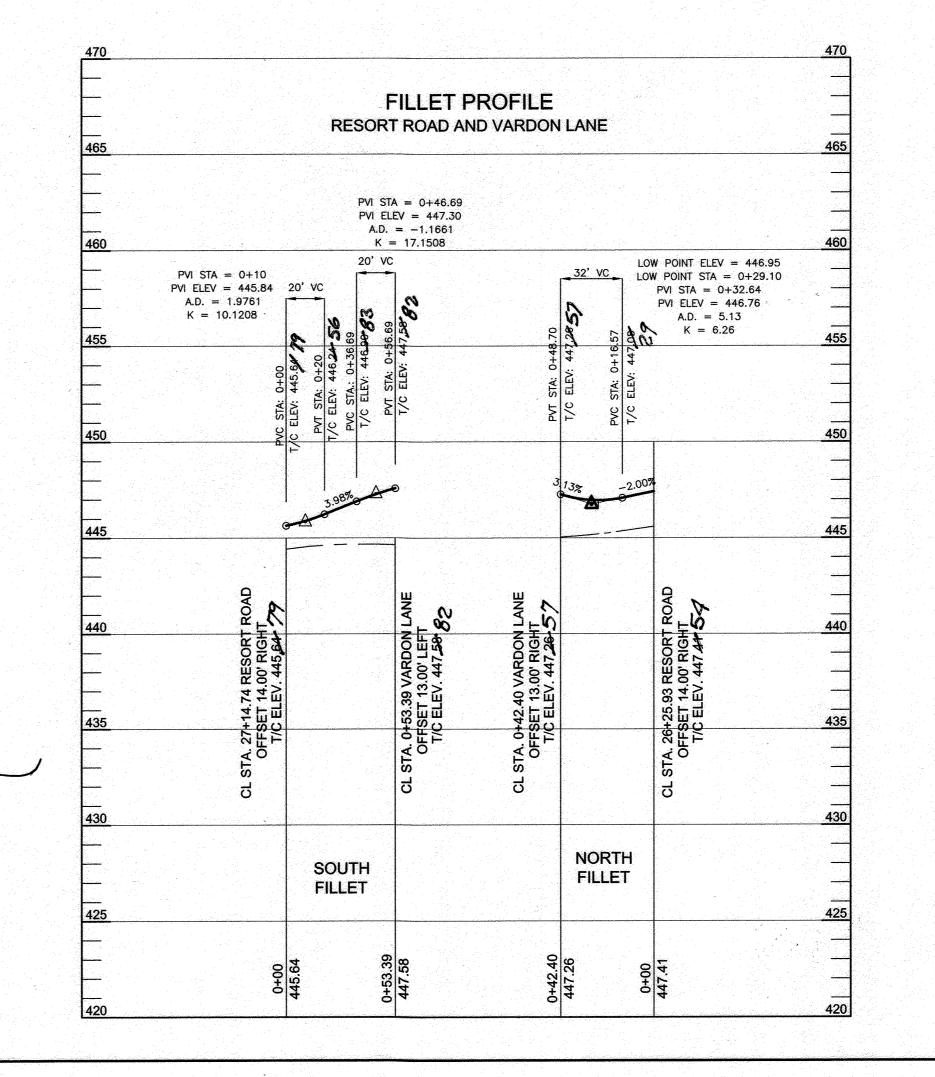
- 1.) HORIZONTAL AND VERTICAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REPERENCE SYSTEM NAD 83/ ADJ OTAS PROJECTED PROM HO. CO. GEODETIC CONTROL STATIONS 1918
- AND 17AB,

 1) THE INSTRUMENTS USED IN PERFORMING
 THE AS-BUILT WERE A 5" TOTAL STATION
 AND PRISM AND RTK GPS.

 3) THIS AS-BUILT WAS PERFORMED BY
 BENCHMARK ENGINEERING, INC.

W PT.NO. DESCRIPTION	ELEVATION
106 REBAR & CAP	946,24
107 REBAR & CAP	446.07
108 REBAR & CAP	446.00
148 REBAR & CAP	469.67
149 X-MARIKIN DW	
150 REBAR & CAP	467,83"
151 REBAR & CAP	467,53
152 REBAR & CAP	458.78
154 REBAR 4 CAP	447.72
155 CONC. MON	447.57
195 REBAR & CAP	447.09
196 REBAR & CAP	453,17
197 Rebar & Cap	459,60
198 REBAR & CAP	467.52
199 REBAR & CAP	468.04
1200 MAG NAIL	469.79
1201 REBAR & CAP	470,52
1202 REBAR & CAP	471.27
1203 REBAR & CAP	452.96





AS-BUILT CERTIFICATION I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Date: 11/6/18 PHASE 1, SECT 2 12/1/2020

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.

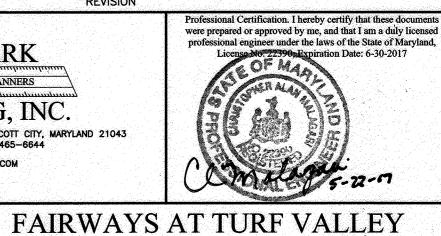
License No. 21413 Expiration Date: 1221=16

THIS SHEET REPLACES THE PREVIOUS SHEET 5 SIGNED ON 6-14-2016

NO.	DATE	REVISION
1	5-12-2016	REVISE FILLET PROFILES FOR VARDON LANE & RESORT ROAD. REVISE TYPICAL SECTION FOR PARKING SPACES.
2	12-12-2016	UPDATE TITLE BLOCK AND SHEET NUMBER
3	5-17-2017	REMOVE VERDI COURT PLAN, PROFILE, FILLET PROFILES AND TYPICAL SECTION. UPDATE TITLE BLOCK.

BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM



 owice.	
OWNER:	
MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP	P
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093	PF
410-825-8400	
DEVELOPER:	

MANGIONE ENTERPRISES OF TURF VALLEY
LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

DESIGN: DBT | DRAFT: DBT

PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 5 PHASE 1 SECTION 2: OPEN SPACE LOTS 117 & 118, GOLF SPACE LOTS 52-56 AND NON-BUILDABLE BULK PARCELS A, B, C, & D

TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706 ZONED: PGCC (RESIDENTIAL SUBDISTRICT) ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

	REV	/ISED	
		AND PROFILE COURT	
DATE:	MAY 17, 2017	BEI PROJECT NO.	2726
SCALE:	AS SHÖWN	SHEET 5	or 20

F-07-158

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PUBLIC WORKS

Katolina

Chi Chi

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION

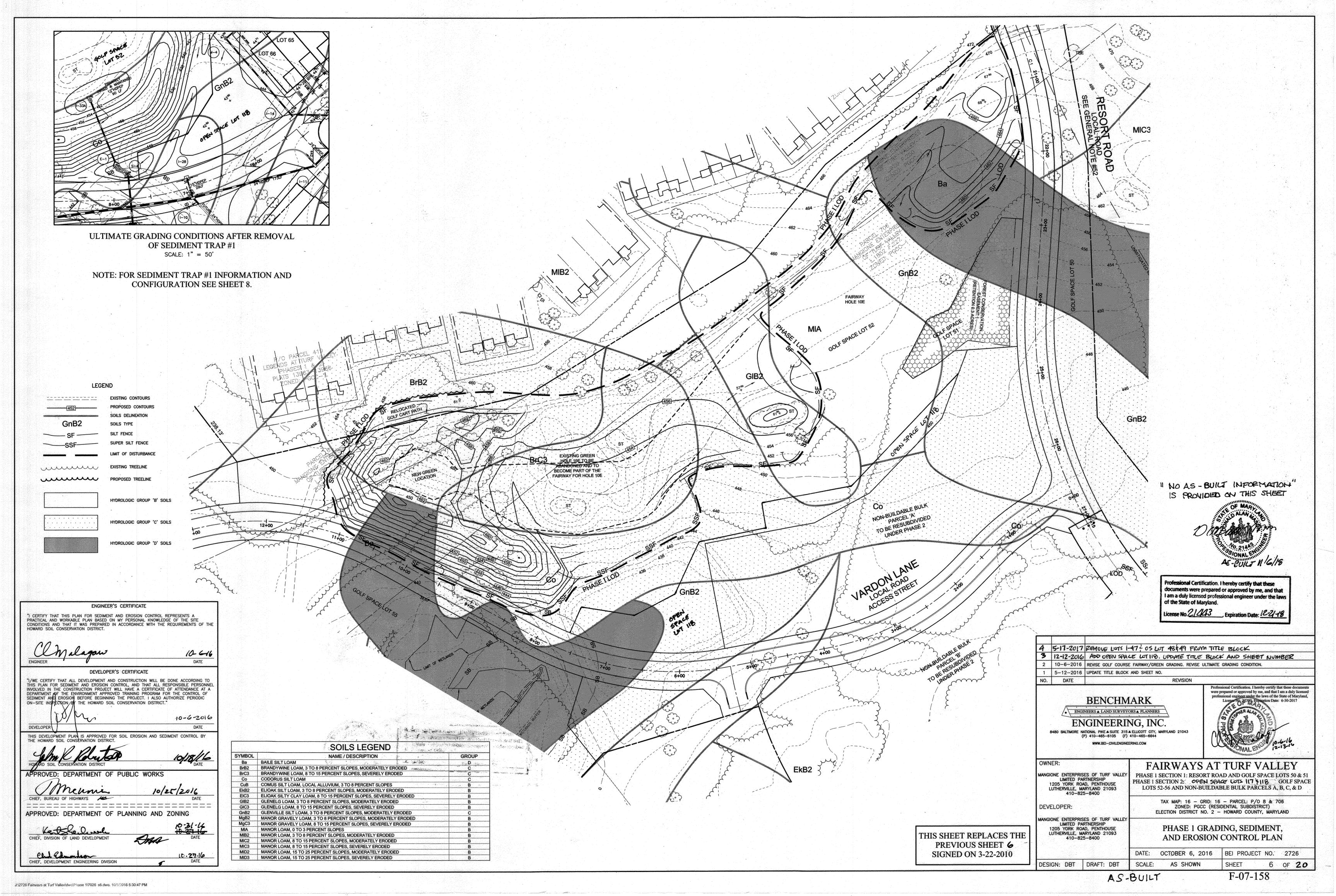
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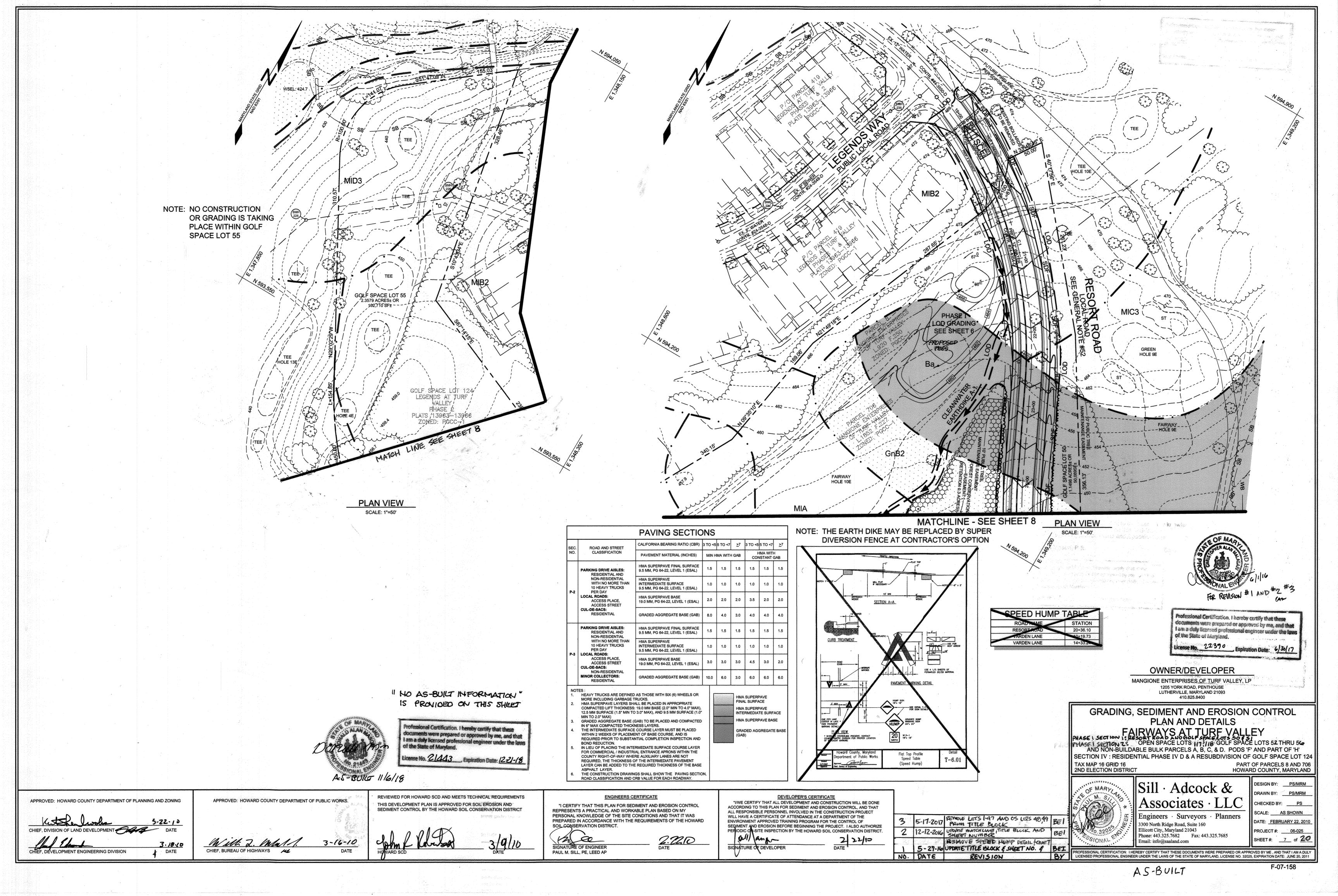
2/14/2017

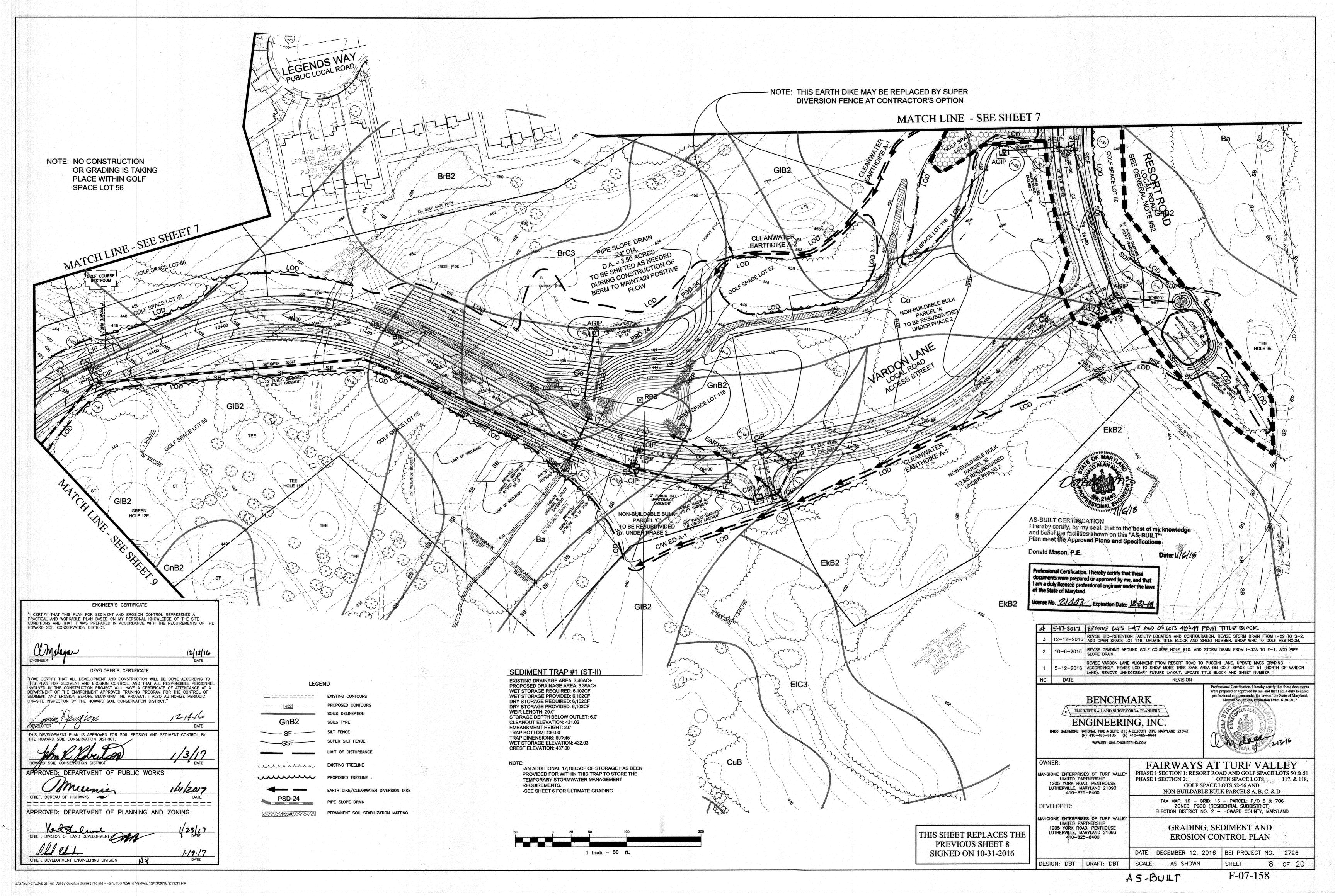
6-22-17

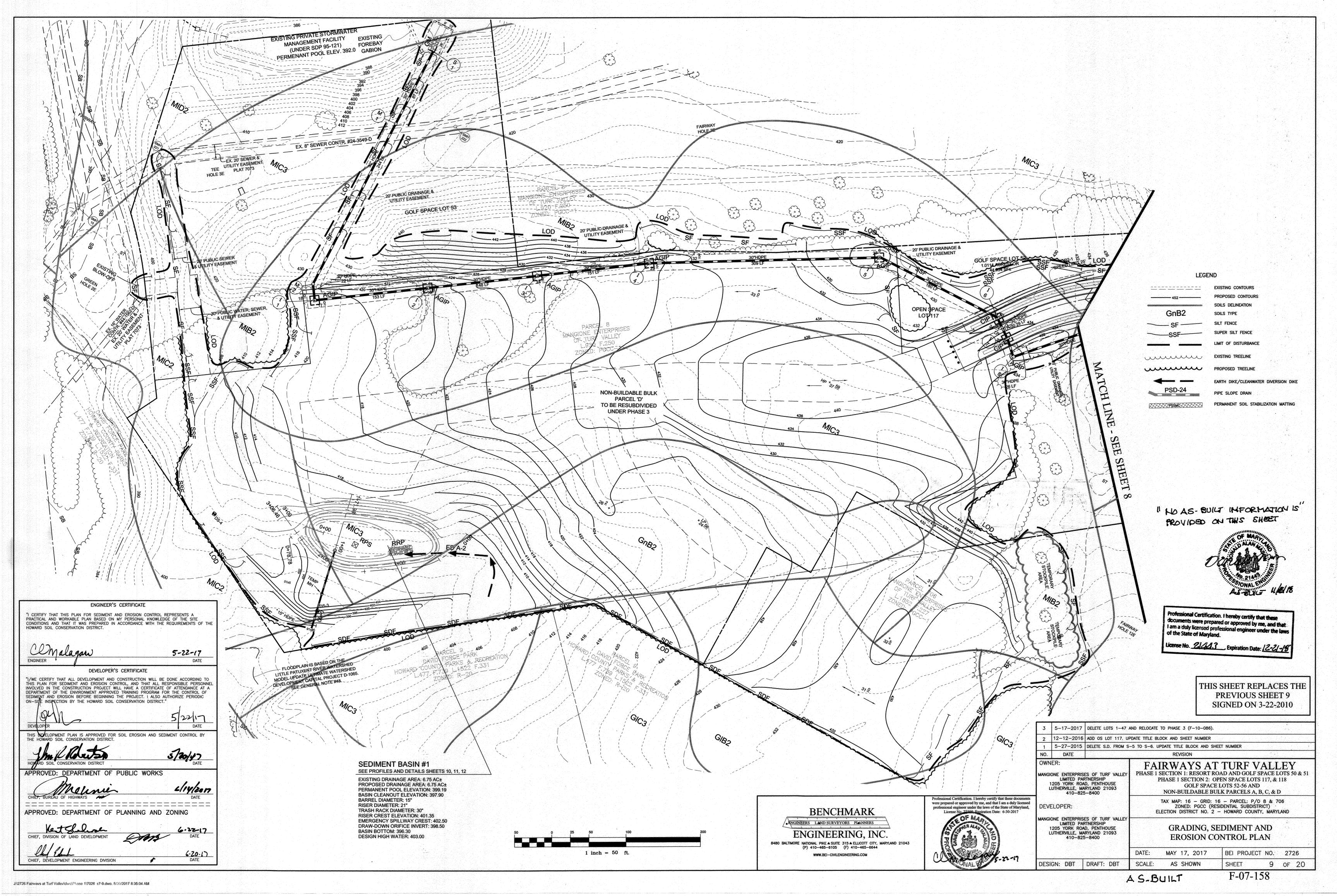
6.20.17 DATE

AS-BUILT









B-4 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATION Using vegetation as cover to protect exposed soil from erosion.

reducing sediment loads and runoff to downstream areas.

To promote the establishment of vegetation on exposed soil. Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on

incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization:

and permanent stabilization Effects on Water Quality and Quantity Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall,

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation 2. increase organic matter content and improve the water holding capacity of the soil and subsequent plant

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment Adequate Vegetative Establishmen

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover. 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified. 4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

> **B-4-1 STANDARDS AND SPECIFICATIONS INCREMENTAL STABILIZATION**

Establishment of vegetative cover on cut and fill slopes. To provide timely vegetative cover on cut and fill slopes as work progresses. Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height, Prepare seedbed

and apply seed and mulch on all cut slopes as the work progresses. 2. Construction sequence example (Refer to Figure B.1): a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.

b. Perform Phase 1 excavation, prepare seedbed, and stabilize. c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously

seeded areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans. 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept

surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans

address this area. b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize. e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the

ENGINEER'S CERTIFICATE I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT

MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE

SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD

DEVELOPER'S CERTIFICATE "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WIL

BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING

INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED

EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

neum

IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL ON

PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION

SOIL CONSERVATION DISTRICT."

DISTRICT AND/OR MDE

B-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization

To provide a suitable soil medium for vegetative growth. Conditions Where Practice Applies Where vegetative stabilization is to be established.

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 disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running 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: i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.

iv. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to permit adequate root penetration Application of amendments or topsoil is required if on-site soils do not meet the above

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. d. 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. Rake 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 an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

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

Topsoil salvaged from an existing site may be used provided 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-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. 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. Areas having slopes steeper than 2:1 require special consideration and design.

Topsoil Specifications: Soil to be used as topsoil must meet the following criteria: a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2 inches in diameter. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack

grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. Topsoil Application

a. 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 of additional 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. 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 chemical analyses. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate 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 and

warranty of the producer. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will 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 acidic or composed of 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

B-4-3 STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING Definition

The application of seed and mulch to establish vegetative cover. To protect disturbed soils from erosion during and at the end of construction. Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading

1. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate. b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is

frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

d. Sod or seed must not 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.

2. Application a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact. b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after ii. Apply seed in two directions, perpendicular to each other. Apply half the

seeding rate in each direction. c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and i. If fertilizer is being applied at the time of seeding, the application rates should

nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by

not exceed the following: nitrogen, 100 pounds per acre total of soluble

hydroseeding at any one time. Do not use burnt or hydrated lime when iii. Mix seed and fertilizer on site and seed immediately and without interruption

iv. When hydroseeding do not incorporate seed into the soil. B. Mulching

1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty Note: Use only sterile straw mulch in areas where one species of grass is desired b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will

> provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting

iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.

v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

2. Application a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per

acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds

of wood cellulose fiber per 100 gallons of water. a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending

upon the size of the area and erosion hazard: i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a

maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer

recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to

B-4-5 STANDARDS AND SPECIFICATIONS

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.

A. Seed Mixtures 1. General Use

a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s). application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting.

c For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil d For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ 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. . Turfgrass Mixtures a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. b. Select one or more of the species or mixtures listed below based on the site conditions or purpose.

Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan. i. Kentucky Bluegrass: Full sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total

mixture by weight. ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended. iv.Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b. 6a) Central MD:March 1 to May 15. August 15 to October 15 (Hardiness Zone: 6h) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15

(Hardiness Zones: 7a, 7b) d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty. e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch

every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter). 1. General Specifications a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job

UP TO STWILDN 17400 IN VARROW LANE.

ALL DEVICES PAST STA. 17400 INGLUDING

THE SEDIMENT BASIN SHALL REMAIN IN

OR A MAXIMUM OF 3 YEARS FROM ITS

CONSTRUCTION:

3. Sod Maintenance

foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of % inch, plus or minus % inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.

c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section. d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival. e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted

within this period must be approved by an agronomist or soil scientist prior to its installation 2. Sod Installation a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.

b. Lav the first row of sod in a straight line with subsequent rows placed parallel to it 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 voids which would cause air drying of the roots. c. Wherever 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 slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface. d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

a. 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 sod during the heat of the day to prevent wilting. b. After the first week, sod watering is required as necessary to maintain adequate moisture content. c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless

B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABLIZATION

To stabilize disturbed soils with vegetation for up to 6 months.

sedimentation, and changes to drainage patterns.

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

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along 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. 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

B-4-8 STANDARDS AND SPECIFICATIONS

STOCKPILE AREA Definition A mound or pile of soil protected by appropriately designed erosion and sediment control measures To provide a designated location for the temporary storage of soil that controls the potential for erosion,

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Conditions Where Practice Applies

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. 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-3 Land Grading. 3. Runoff from the stockpile area must drain to a suitable sediment control practice.

4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging

concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment

control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

8. 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. The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in

accordance with Section B-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 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

H-5 STANDARDS AND SPECIFICATIONS

DUST CONTROL Controlling the suspension of dust particles from construction activities

To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

Conditions Where Practice Applies Areas subject to dust blowing and movement where on and off-site damage is likely without treatment Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3

Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing. Vegetative Cover: See Section B-4-4 Temporary Stabilization. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and

similar plows are examples of equipment that may produce the desired effect. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.

Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan



"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET

rofessional 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. 21443 Expiration Date: 1221-19

SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK

1. Obtain grading permit. Notify D.I.L.P. at 410-313-1880 at least 24 hours before starting any work. (1 day)

2. Hold on-site pre-construction meeting. (1 day)

3. Install stabilized construction entrance and all controls associated with the Phase 1 LOD (2

4. Perform all grading and fully stabilize all areas within the Phase 1 LOD (3 weeks)

5. With the permission of the sediment control inspector, remove all sediment control measures associated with the Phase 1 LOD (1 week)

6. Install all controls associated with the installation of the culvert located at Vardon Lane station 7+78 (1 week).

7. Construct culvert. Cover to road subgrade and stabilize the area. (2 weeks).

9. Rough grade site and begin road construction. Once grading begins at Vardon Lane station

8. Install remaining perimeter controls, Sediment Trap #1 and Sediment Basin #1, (2 WEFKS)

8+50. ENSURE the terminus of the PIPE SLOPE DEAIN DISCHARGES into the constructed culvert at Vardon Lane station 7+78. (1 month) 10. IN CONJUNCTION WITH #9 ABOVE, INSTAIL UTILITIES (2 MONTHS)

11. With the permission of the sediment control inspector, REMOVE SED, TRAP #1, ONCE REMOVED REMOVE CLEAN WATER DUEPSON PIKE (3 WEEKS)

Add inlet protection on all storm drain inlets as constructed.

STARTING WITH CLEANWATER DIKE & PIPE SLOPE DRAW, THE

12. Upon approval from the Howard County Sediment Control Inspector, remove all sediment control devices and stabilize any remaining disturbed areas in accordance with the permanent seedbed notes. (1 week)

Note: Following initial soil disturbance or any re-disturbances, permanent or temporary stabilization shall be completed within: PLACE FOR CONSTRUCTION OF PHASE 3 (FLO-086) A. 3 calendar days for all perimeter sediment control structures, dikes, swales and all slopes greater than 3:1.

> B. 7 calendar days for all other disturbed areas. During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures of this plan.

THIS SHEET REPLACES THE

PREVIOUS SHEET 10

SIGNED ON 3-22-2010

NO. DATE BENCHMARK ● ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

ENGINEERING, INC

WWW.BEI-CIVILENGINEERING.COM

10-6-2016 REVISE SEQUENCE #8,9,311

3 12-12-2016 UPDATE TITLE BLOCK AND SHEET NUMBER

5-12-2016 UPDATE NOTES TO THE LATEST HSCD REQUIREMENTS.

8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043

4 5-17-2017 PEVISE SOC # 8,10,11,12 REMOVE LOTS 1-47 OS LOTS 48 & 49 FROM TITLE BLOCK

ofessional Certification. I hereby certify that these docume vere prepared or approved by me, and that I am a duly license

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400 **DEVELOPER:** IANGIONE ENTERPRISES OF TURF VALLE LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093

410-825-8400

DESIGN: DBT

DRAFT: DBT

FAIRWAYS AT TURF VALLEY PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 51 Phase 1 Section 2: Open space us 117 \$118 Golf space LOTS 52-56 AND NON-BUILDABLE BULK PARCELS A, B, C, & D

TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706 ZONED: PGCC (RESIDENTIAL SUBDISTRICT) ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

SEDIMENT AND EROSION CONTROL NOTES

AS SHOWN SHEET 10 of **20**

Permanent Seeding Summary

	Hardiness Zone (from Figure B.3): Seed Misture (from Table B.3):		6b Tall Fescue/Kentucky Bluegrass		Fertilizer Rate (10-20-20)			Lime Rate
No.	Species Application Rate (Ib/ac.)	Seeding Dates	Seeding Depths	N	P205	K20		
	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds			
9	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	per acre (1.0 lb/		90 lb/ac 2 lb/	2 tons/ac (90lb/
				1/4 - 1/2 in	100 sf)	1000 sf)	1000 sf)	1000 sf)

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/		Seeding	Recommended Seeding Dates by Plant Hardiness Zone 3/		
Tunt Species	lb/ac	lb/1000 ft2	Depth 2/ (inches)	5b and 6a	6b	7a and 7b
Cool-Season Grasses						<u> </u>
Annual Ryegrass (Lolium perenne ssp. Multiflorum	40	1.0	0.5		Mar 1 to May 15; Aug 1 to Oct 31	
Barley (Hordeum vulgare)	96	2.2	1.0		Mar 1 to May 15; Aug 1 to Oct 31	
Oats (Avena sativa)	72	1.7	1.0		Mar 1 to May 15; Aug 1 to Oct 31	
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 1 to May 15; Aug 1 to Oct 31		
Cereal Rye (Secale cereale) 112 2.8		1.0	Mar 1 to May 15; Aug 1 to Nov 15			
Warm-Season Grasses			· · · · · · · · · · · · · · · · · · ·			
Foxtail Millet (Serataria italica)	30	0.7	0.5		May 16 to Jul 31	
Pearl Millet (Pennisetum glaucum	20	0.5	0.5		May 16 to Jul 31	
Notes:	20	0.5	0.5		May 16 to Jul 31	حواق حدد

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 grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If 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.

6.13.10 DATE

6/8/2016

5/26/16

5/26/16

CHIEF, DEVELOPMENT ENGINEERING DIVISION

.2726 Fairways at Turf Valley\dwg\Phase 1\7023_s10-11.dwg, 5/24/2016 9:52:08 AM

A5-BUILT

SCALE:

F-07-158

DATE: FEBRUARY 29, 2016 | BEI PROJECT NO. 2726

a. Prior to the start of earth disturbance, b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading, c. Prior to the start of another phase of construction or opening of another grading d. Prior to the removal or modification of sediment control practices.

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public

Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

4. 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 topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch glone can only be applied between the fall and spring seeding dates if the ground is frozen, incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization

5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

7. Any sediment control practice which is disturbed by grading activity for placement of

8. Additional sediment control must be provided, if deemed necessary by the CID. The site

rain event. A written report by the contractor, made available upon request, is part of every

and all controls shall be inspected by the contractor weekly, and the next day after each

• Weather information (current conditions as well as time and an=mount of last recorded

• Compliance status regarding the sequence of construction and stabilization requirements

• Other inspection items as required by the General Permit for Stormwater Associated with

and shall be back filled and stabilized by the end of each work day, whichever is shorter.

10. Any major changes or revisions to the plan or sequence of construction must be

reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD—approved field changes.

11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that

grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at

disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the DS, no more than 30 acres cumulatively may

12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be

14. All silt fence and super silt fence shall be placed on—the—contour, and be imbricated at

16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL</u> <u>EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on-site and available when

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

15. Stream channels must not be disturbed during the following restricted time periods

a time. Work may proceed to a subsequent grading unit when at least 50 percent of the

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can

• Brief description of project's status (e.g. percent complete) and/or current activities

6. Site Analysis:

Total Area of Site:

inspection and should include:

Evidence of sediment discharges

Construction Activities (NPDES, MDE).

be disturbed at a given time.

• Use I and IP March 1 - June 15

• Use IV March 1 - May 31

*CUT/FILL NUMBERS

TO VERIFY.

ARE FOR SEDIMENT

CONTROL PURPOSES ONLY. CONTRACTOR

• Use III and IIIP October 1 - April 30

• Identification of plan deficiencies

Photographs

Monitoring/sampling

Area to be roofed or paved:

Area to be vegetatively stabilized:

utilities must be repaired on the same day of disturbance

• Inspection type (routine, pre-storm event, during rain event)

• Identification of sediment controls that require maintenance

• Maintenance and/or corrective action performed

•Identification of missing or improperly installed sediment controls

treated in a sediment basin or other approved washout structure.

25' minimum intervals, with lower ends curled uphill by 2' in elevation.

Area Disturbed:

PHASE 1 REMAINING

7.46

17.11

3.97 Acres 31.13

3.97 Acres 24.57

0007* Cu Yds 12,346*

Cu Yds 15981*

SITE WITH AN ACTIVE GRADING PERMIT

0.00 Acres

3.97

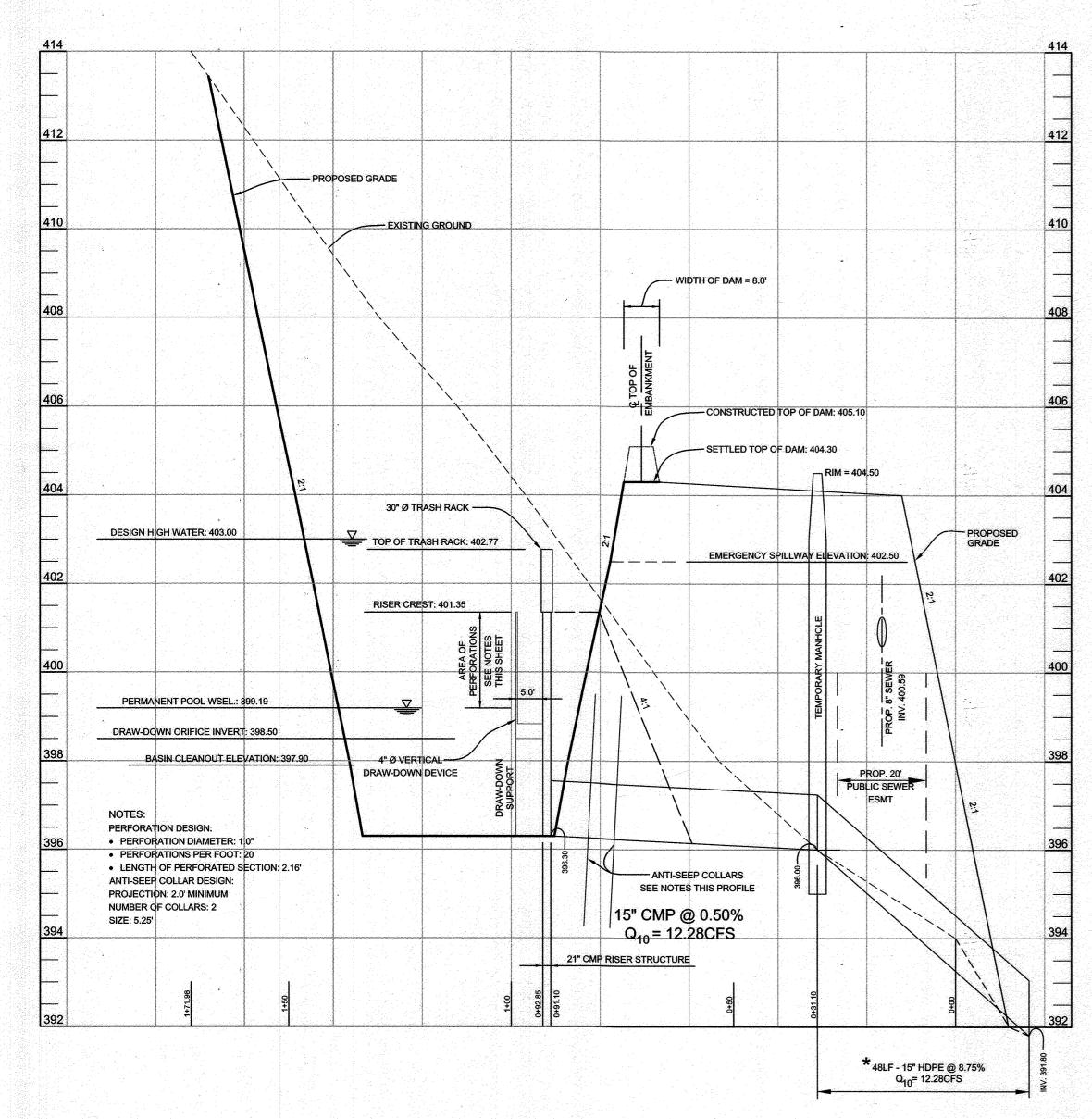
TOTAL

35.10

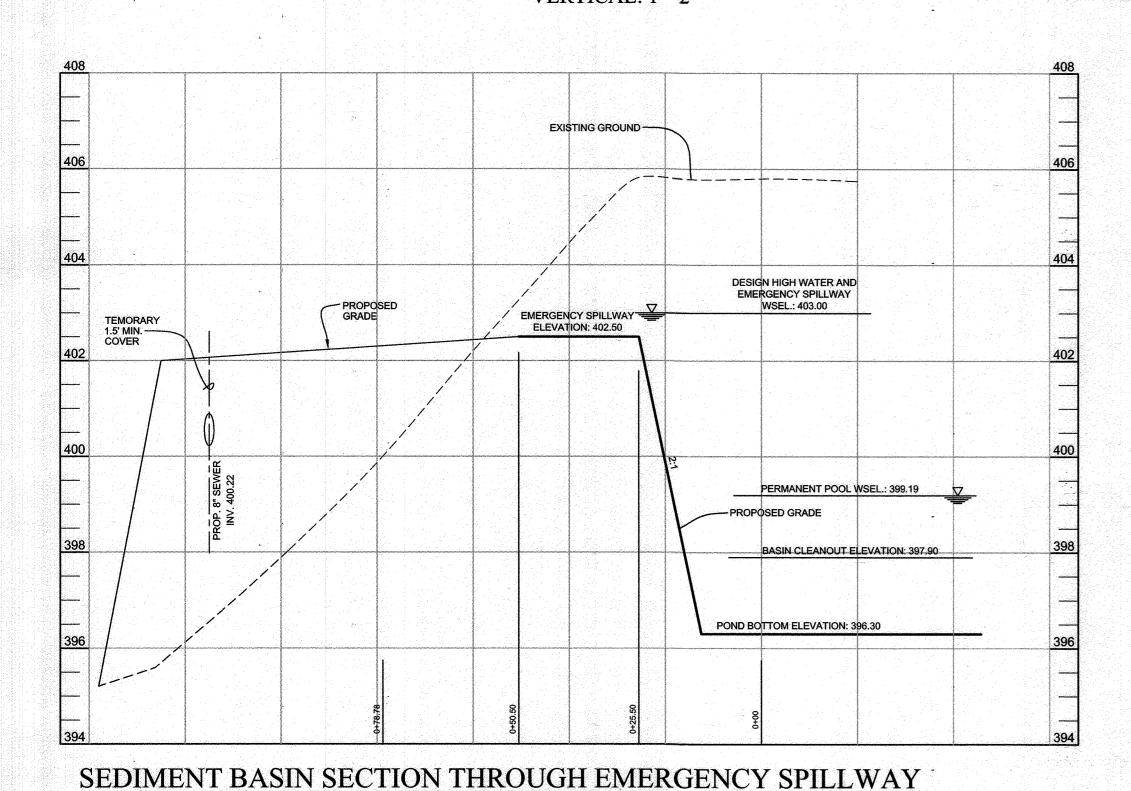
28.54

7.46

20,793*

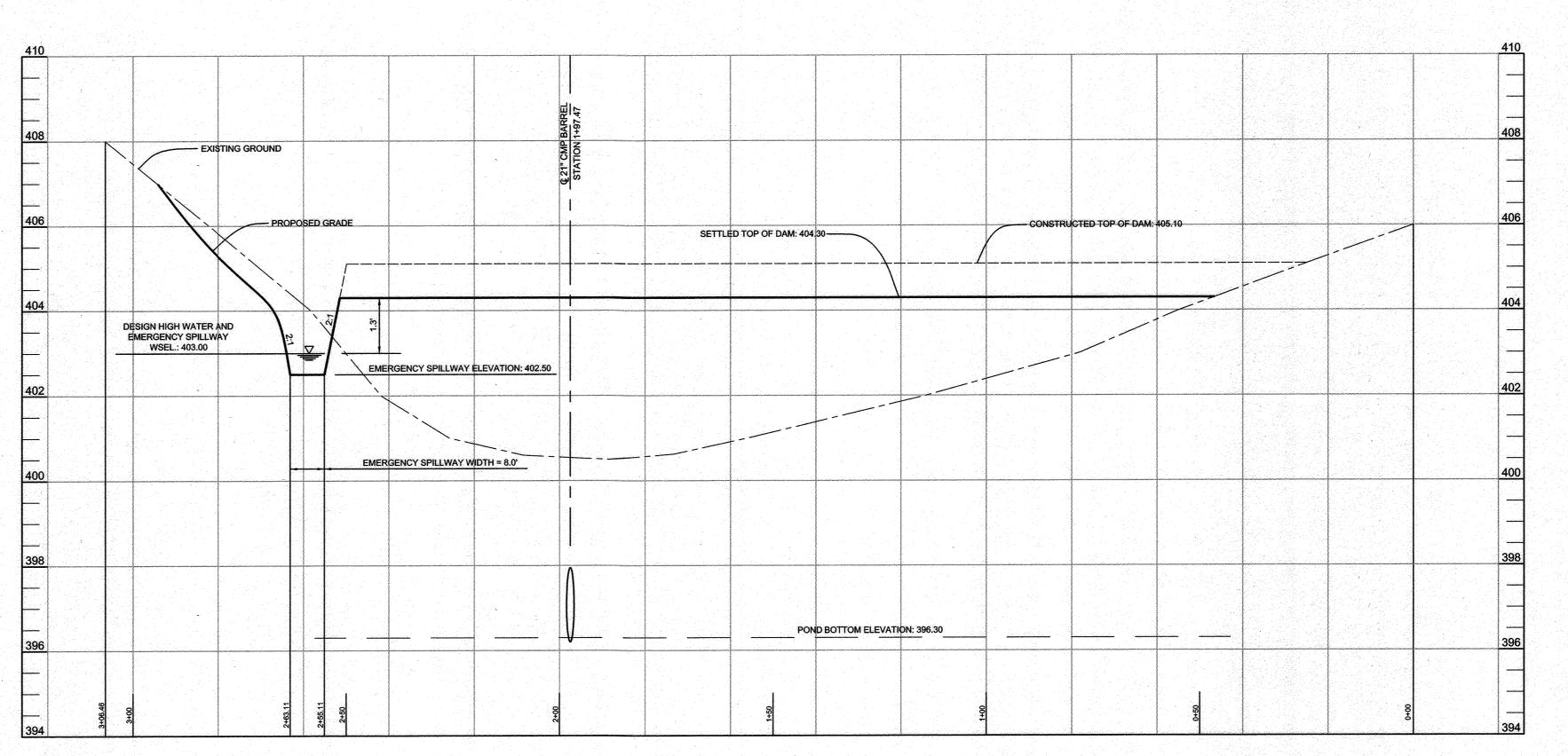


SEDIMENT BASIN SECTION THROUGH PRINCIPAL SPILLWAY SCALE: HORIZONTAL: 1"=20' VERTICAL: 1"=2"



SCALE: HORIZONTAL: 1"=20'

VERTICAL: 1"=2"



SEDIMENT BASIN SECTION THROUGH EMBANKMENT

SCALE: HORIZONTAL: 1"=20' VERTICAL: 1"=2'

* NOTE: UPON REMOVAL AND BACKFILL OF SEDIMENT BASIN, THE PORTION OF HDPE PIPE WITHIN THE SEWER EASEMENT IS TO BE FILLED WITH FLOWABLE FILL. PORTION OUTSIDE EASEMENT TO

BE REMOVED.

I NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET

ofessional 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. 21443 Expiration Date: 12-21-19

"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 THI 5-22-17 DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO 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-SIT INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT." 72217 DATE THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY APPROVED: DEPARTMENT OF PUBLIC WORKS APPROVED: DEPARTMENT OF PLANNING AND ZONING 6.22-17 DATE

3 5-17-2017 REVISE SEDIMENT BASIN DETAILS PER HSCD APPROVAL ON 2-13-2017 2 | 12-12-2016 | UPDATE TITLE BLOCK AND SHEET NO. 1 | 5-27-2016 | UPDATE TITLE BLOCK AND SHEET NO. NO. DATE REVISION **BENCHMARK** ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 2104: (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM OWNER: MANGIONE ENTERPRISES OF TURF VALLEY
LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

PHASE 1 SECTION 2: OPEN SPACE LOTS 117, & 118 GOLF SPACE LOTS 52-56 AND

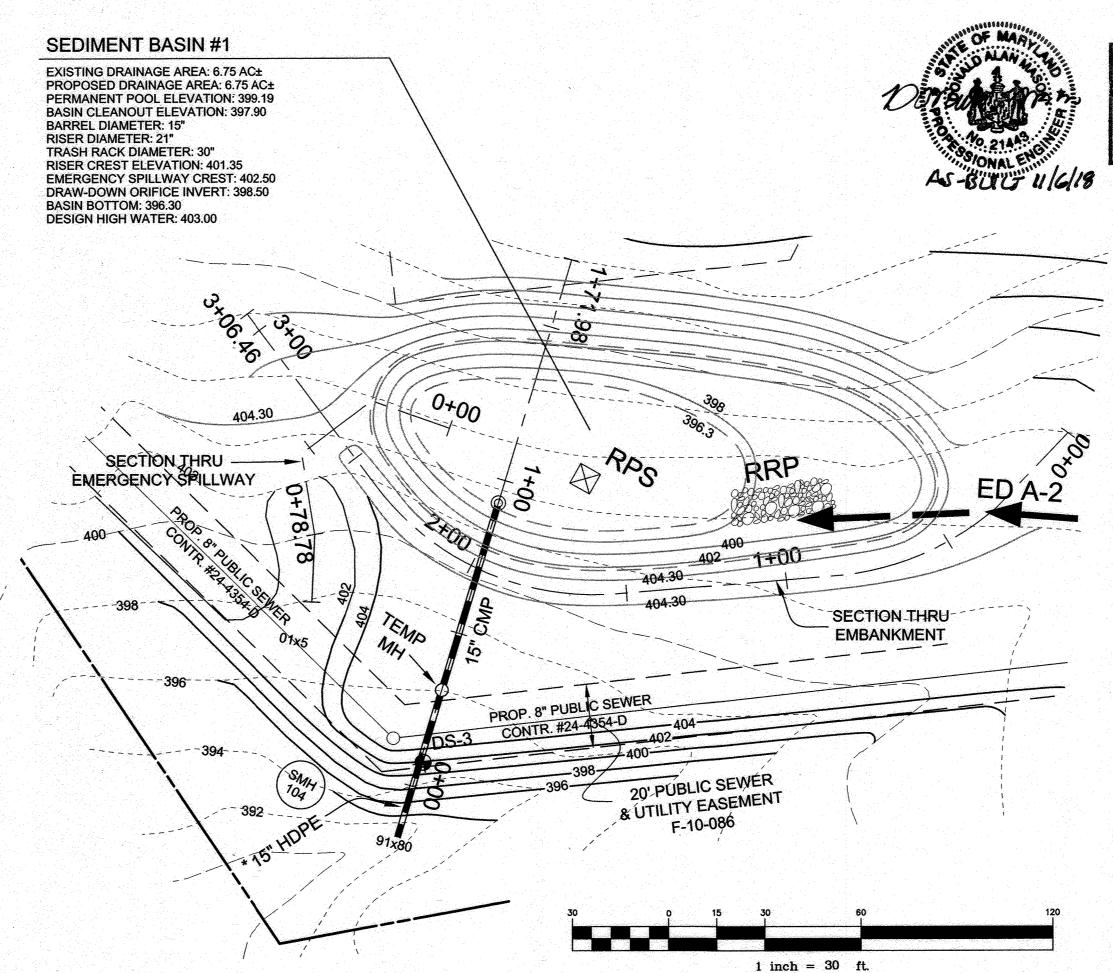
NON-BUILDABLE BULK PARCELS A, B, C, & D TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706
ZONED: PGCC (RESIDENTIAL SUBDISTRICT)
ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

SEDIMENT BASIN PROFILES

DEVELOPER:

AS SHOWN

MANGIONE ENTERPRISES OF TURF VALLEY
LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400 AND DETAILS MAY 17, 2017 BEI PROJECT NO. 2726 DESIGN: DBT | DRAFT: DBT SCALE: 11 of 20



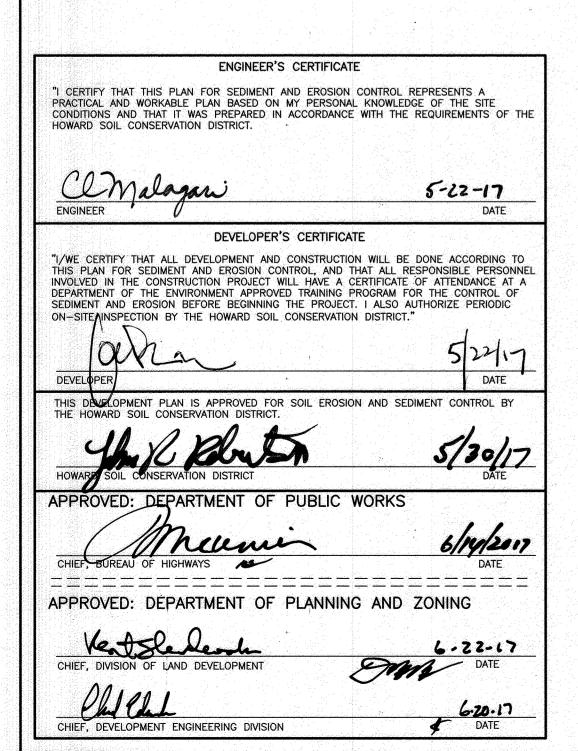
rofessional Certification. I hereby certify that these document were prepared or approved by me, and that I am a duly licensed

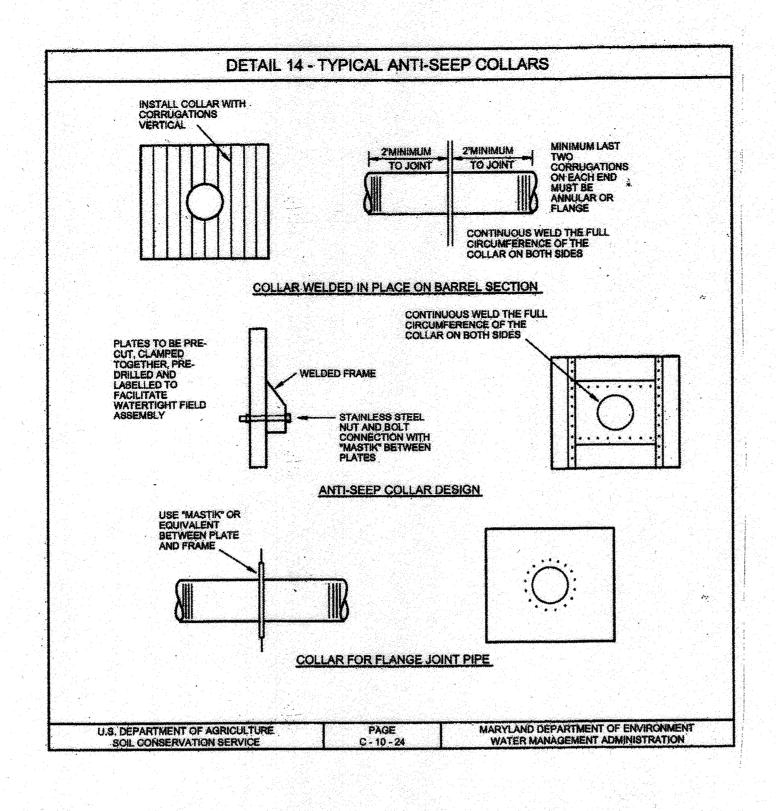
professional engineer under the laws of the State of Maryland

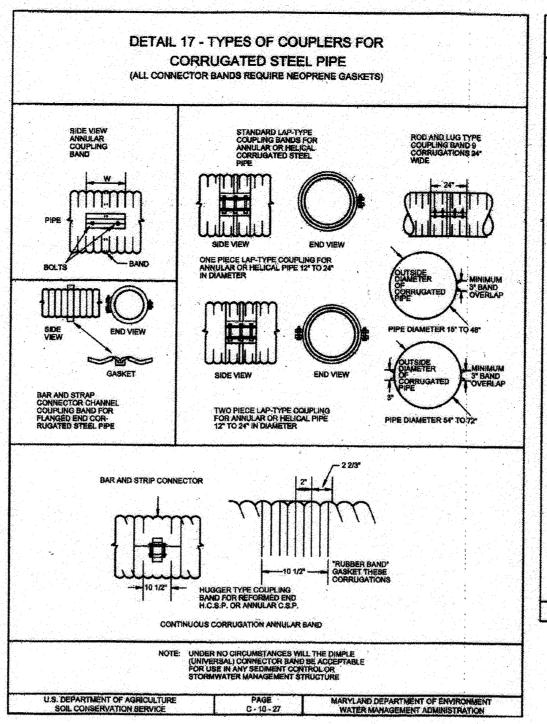
10.0 STANDARDS AND SPECIFICATIONS FOR SEDIMENT BASINS

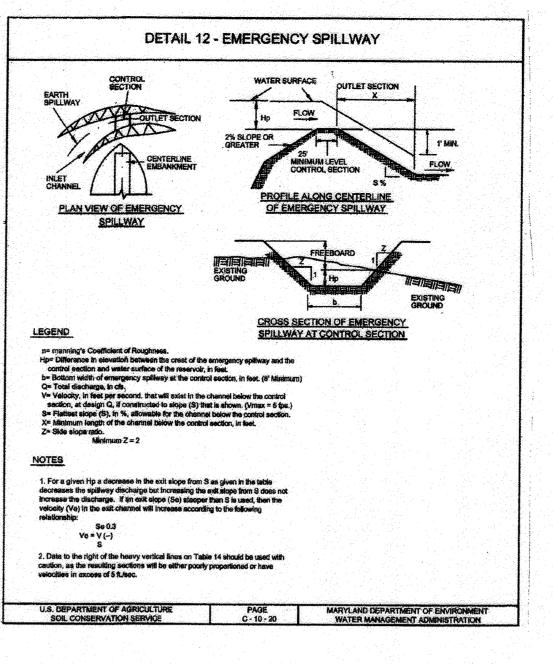
C-10-6 & C-10-7: CONSTRUCTION SPECIFICATIONS

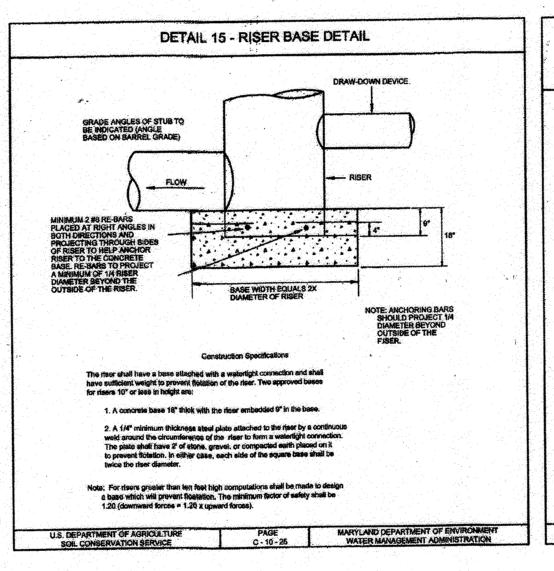
- 1. Site Preparation: Perimeter sediment control devices must be installed prior to clearing and grubbing. Areas where the embankment is to be placed shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. The pool area shall not be cleared until completion of the dam embankment unless the pool area is to be used for borrow. In order to facilitate clean-out and restoration, the pool area (measured at the top of the pipe spillway) shall be cleared of all brush, trees, and other objectionable materials.
- 2. Cut-off Trench: A cut-off trench shall be excavated along the centerline of earth fill embankments. The minimum depth shall be four feet. The cut-off trench shall extend up both abutments to the riser crest elevation. The minimum bottom width shall be two feet, but wide enough to permit operation of excavation and compaction equipment. The side slopes shall be no steeper than 1:1. Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling-compaction operation. For dewatering see Section D.
- 3. Embankment: The fill material shall be taken from approved areas shown on the plans. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks, or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) or organic materials (Unified Soil Classes OL and OH) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six-inch to eight-inch thick continuous lifts over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. The embankment shall be constructed to an elevation 10 percent higher than the design height to allow for settlement.
- 4. Principal Spiliway: Steel risers shall be securely attached to the barrel or barrel stub by welding the full circumference making a watertight structural connection. Concrete risers shall be poured with the principal spiliway in place or precast with voids around the principal spiliway filled with concrete or shrink proof grout for watertight connection. The barrel stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connection between barrel sections must be achieved by approved watertight band assemblies. The barrel and riser shall be placed on a firm, smooth foundation of impervious soil as the embankment is constructed. Breaching the embankment to install the barrel is unacceptable. Pervious materials such as sand, gravel, or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch lifts and hand compacted under and around the pipe to at least the same density as the adjacent embankment. A depth of 1.5 times the pipe diameter (min.) shall be backfilled over the principal spillway and hand compacted before crossing it with construction equipment.
- 5. Emergency Spillway: The emergency spillway shall be installed in undisturbed ground. The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of +/- 0.2 feet.
- 6. Vegetative Treatment: Stabilize the embankment in accordance with the appropriate vegetative Standard and Specifications immediately following construction. In no case shall the embankment remain unstabilized for more than seven (7) days. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon basin completion and monitored and maintained erosion free during the life of the basin.
- 7. Safety: Local requirements concerning fencing and signs shall be met, warning the public of hazards of soft sediment and floodwater.
- 8. Maintenance: Repair all damage caused by soil erosion and construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser as shown on the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain. Disposal area must be stabilized.
- 9. Final Disposal: When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with the approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the basin material and trapped sediments must be removed and safely disposed of and the basin shall be backfilled with a structural fill. When the basin area is to remain open space, the pond may be pumped dry (using methods in Section D Dewatering), graded, and back filled.
- Conversion to Stormwater Management Structure: After the permanent stabilization of all disturbed contributory drainage areas, temporary sediment basins, if initially built and certified to meet permanent standards, may be converted to permanent stormwater management structures. To convert the basin from temporary to permanent use, the outlet structure must be modified in accordance with approved stormwater management design plans. Additional grading may also be necessary to provide the required storage volume in the basin. Conversion can only take place after all disturbed areas have been permanently stabilized to the satisfaction of the inspection authority and storm drains have been flushed.

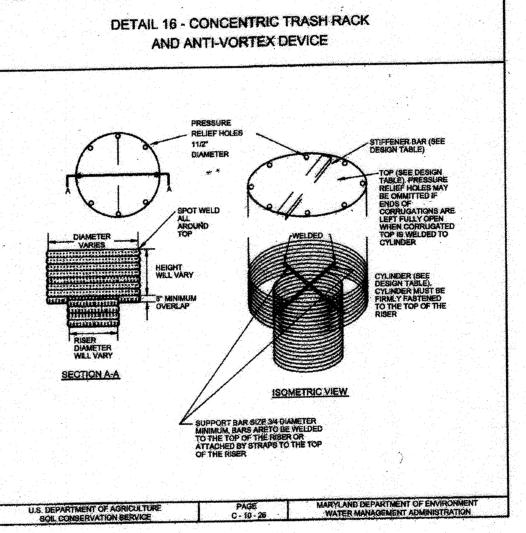




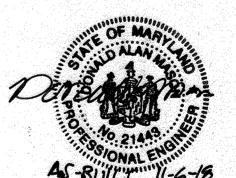








IS PROVIDED ON THIS SHEET



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duty licensed professional engineer under the laws of the State of Maryland.

License No. 2/2/3 Expiration Date: 2/2/19

3 5-17-2017 REMOVE SWM OPEN CHANNEL AND DRY SWALE PROFILES, NOTES AND DETAILS. UPDATE TITLE BLOCK.

2 12-12-2016 UPDATE TITLE BLOCK AND SHEET NUMBER.

1 5-27-2016 UPDATE TITLE BLOCK AND SHEET NUMBER.

NO. DATE REVISION

Professional Certification. I hereby certify that these document were prepared or approved by me, and that I am a duly licensed professional engineers in the laws of the State of Maryland, License No. 139 Expire on Date: 6-30-2017

ENGINEERS LAND SURVEYORS PLANNESS

ENGINEER SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043

(P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM

OWNER:

MANGIONE ENTERPRISES OF TURF VALLEY
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LUTHERVILLE, MARYLAND 21093
410-825-8400

DEVELOPER:

MANGIONE ENTERPRISES OF TURF VALLEY

LIMITED PARTNERSHIP

LUTHERVILLE, MARYLAND 21093

PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 5
PHASE 1 SECTION 2: OPEN SPACE LOTS 117, & 118
GOLF SPACE LOTS 52-56 AND
NON-BUILDABLE BULK PARCELS A, B, C, & D

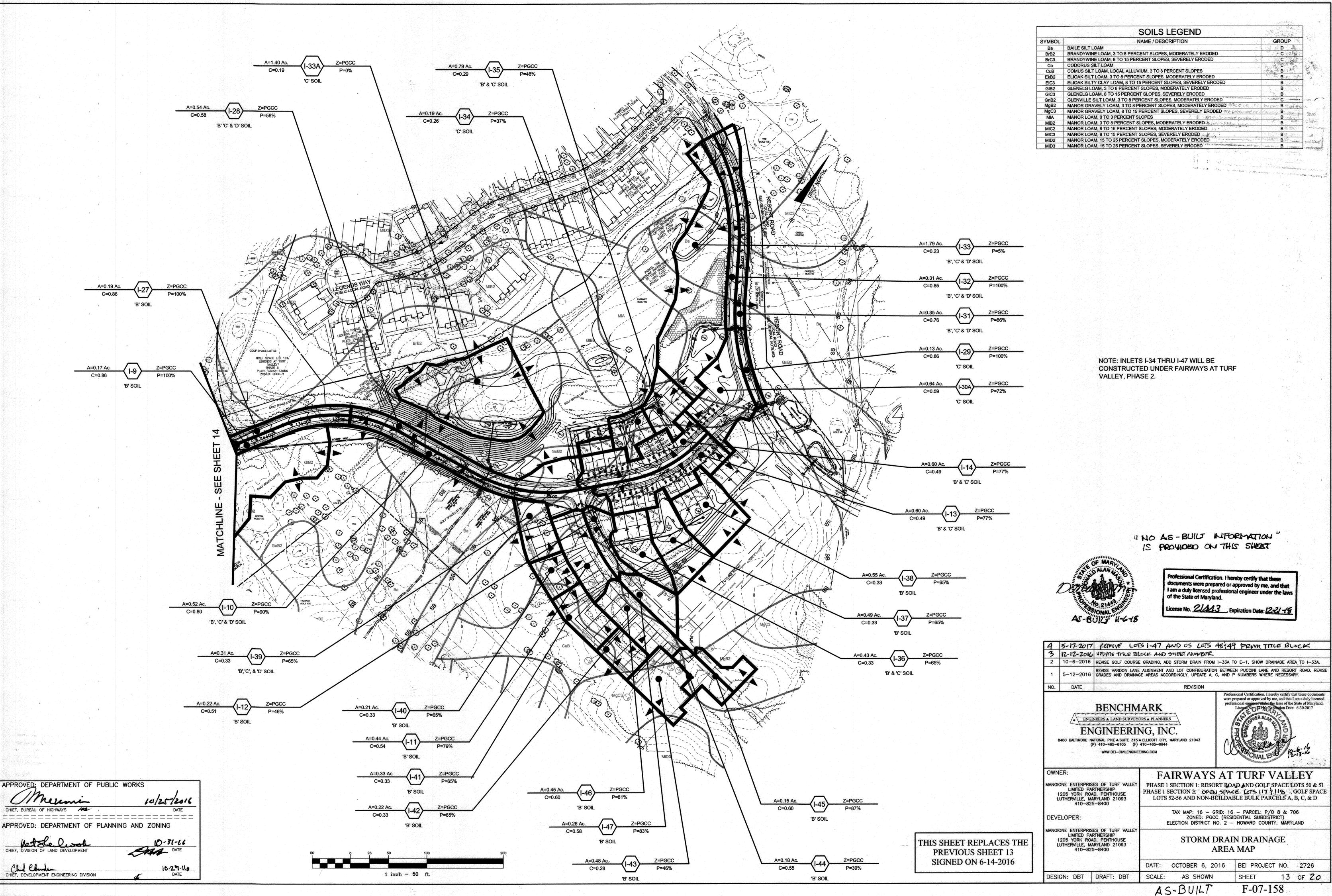
TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706
ZONED: PGCC (RESIDENTIAL SUBDISTRICT)
ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

REVISED
SEDIMENT BASIN NOTES AND DETAILS

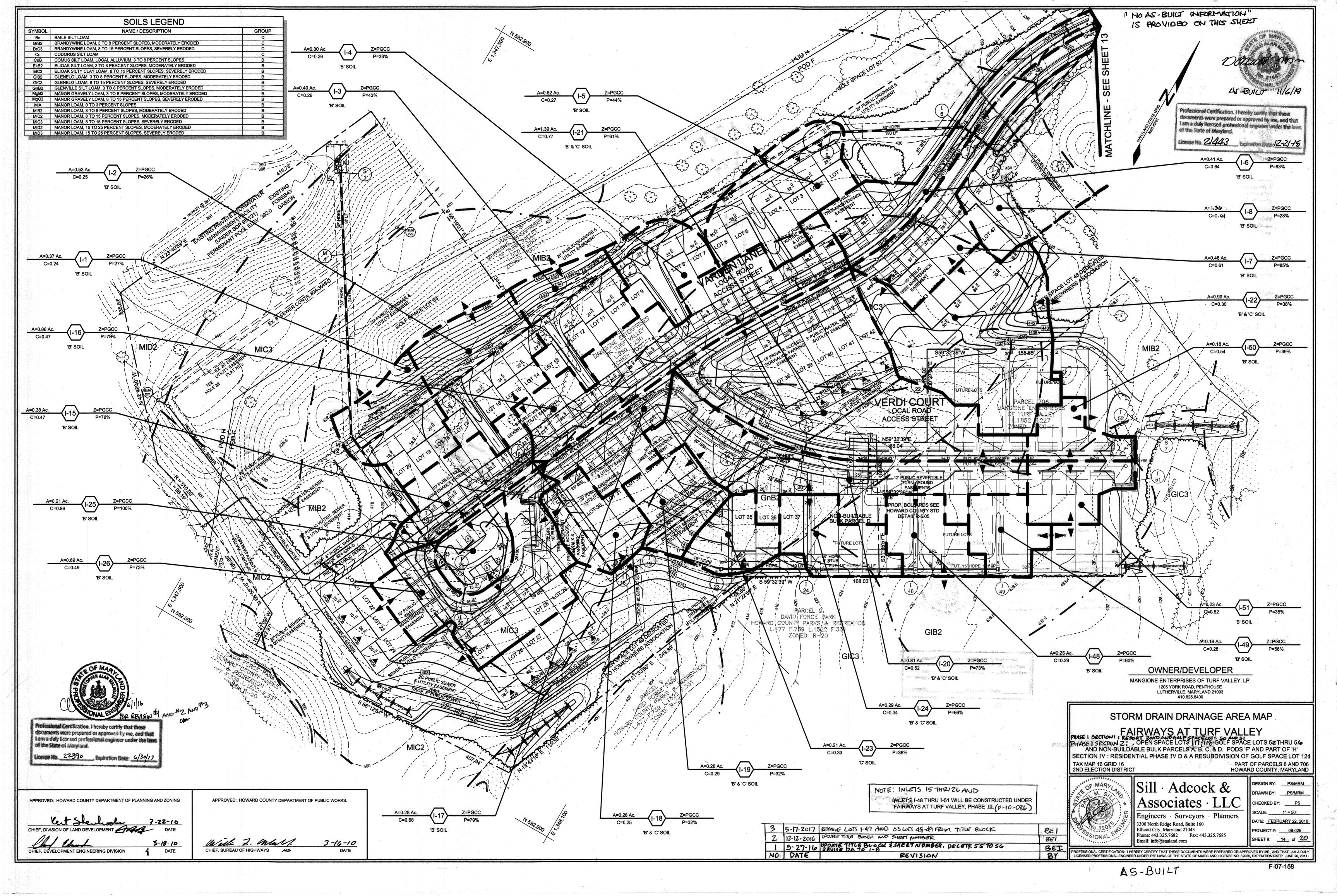
DATE: MAY 17, 2017 BEI PROJECT NO. 2726

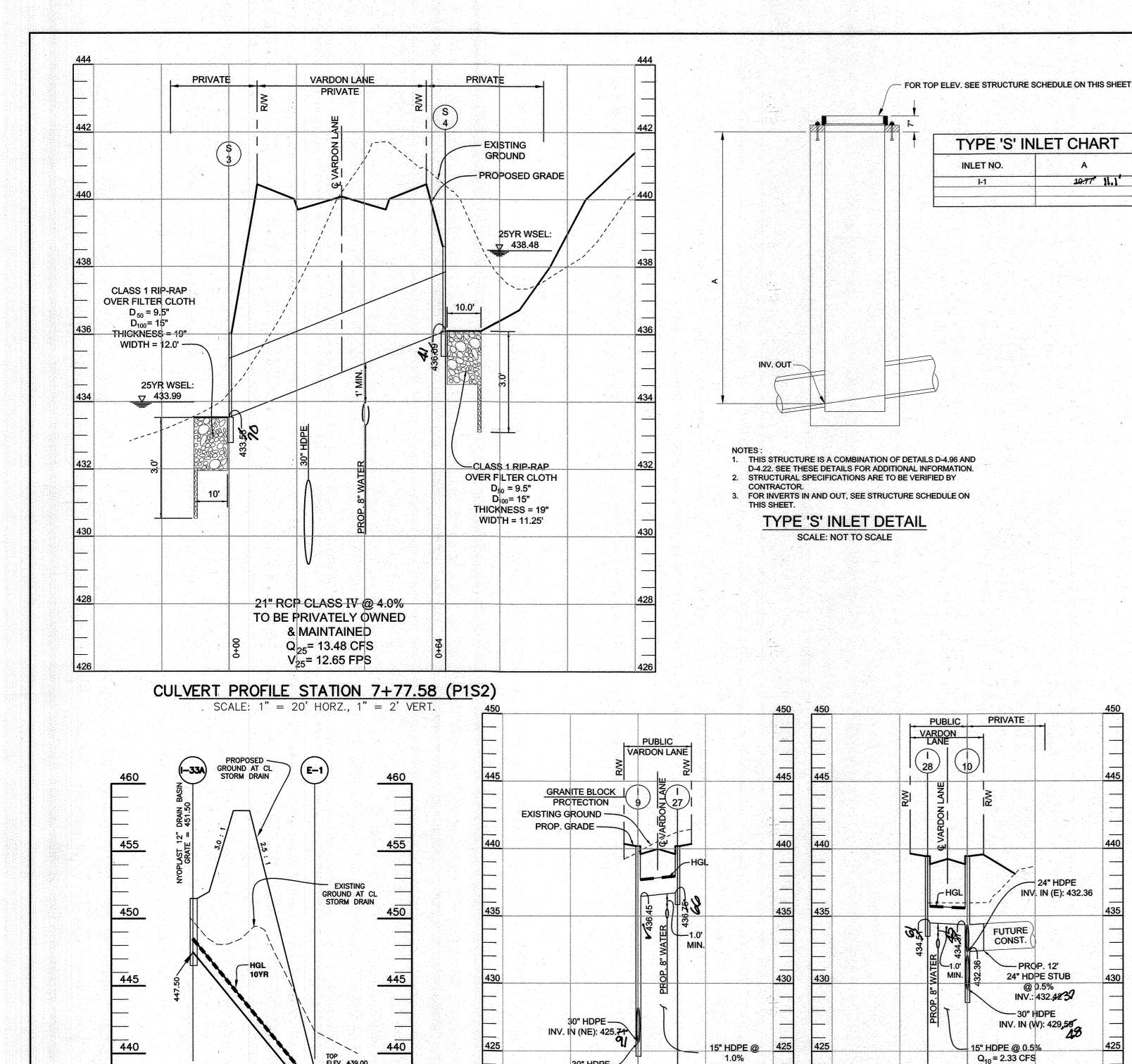
DESIGN: DBT DRAFT: DBT SCALE: AS SHOWN SHEET 12 OF 20

THIS SHEET REPLACES THE PREVIOUS SHEET 12 SIGNED ON 3-22-2010



J:\2726 Fairways at Turf Vallev\dwo\Phase 1\7025 s13-17.dwo 10/5/2016 5:41:50 PM





30" HDPE -

INV. OUT (S): 425.61

PRIVATE

12" WATER

PRIVATE

15" HDPE @ 0.50%

 $Q_{10} = 3.09 \text{ CFS}$

 $V_{10} = 5.14 \text{ FPS}$

V_{FULL}= 2.52 FPS $S_f = 0.14\%$

STORM DRAIN PROFILE (P1S2)

SCALE: 1" = 50' HORZ., 1" = 5' VERT.

 $\langle 32 \rangle \langle 31 \rangle$

 $Q^{10} = 1.23 CFS$

 $V^{10} = 4.39 \text{ FPS}$

VFULL= 1.00 FPS

 $S^f = 0.02\%$

RESORT ROAD

18" HDPE @ 0.50% Q₁₀ = 6.40 CFS V₁₀ = 5.98 FPS V_{FUL} = 3.62 FPS

 $S_f = 0.22\%$

STORM DRAIN PROFILE (P1S1)

SCALE: 1'' = 50' HORZ., 1'' = 5' VERT.

18" HDPE @ 0.50%

Q₁₀ = 4.74 CFS

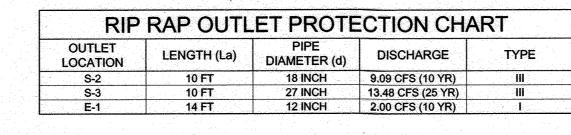
 $V_{10} = 5.63 \text{ FPS}$

 $V_{FULL} = 2.68 FPS$ $S_f = 0.12\%$

-EXISTING GROUND

15" HDPE ---INV. IN (SW): 442,3/5 07

-PROP. GRADE



10.77 11.1

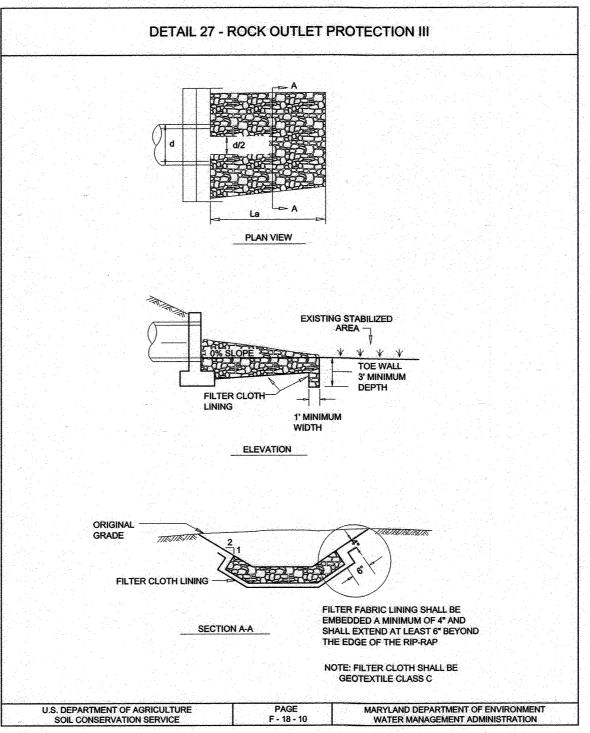
V₁₀ = 4.55 FPS

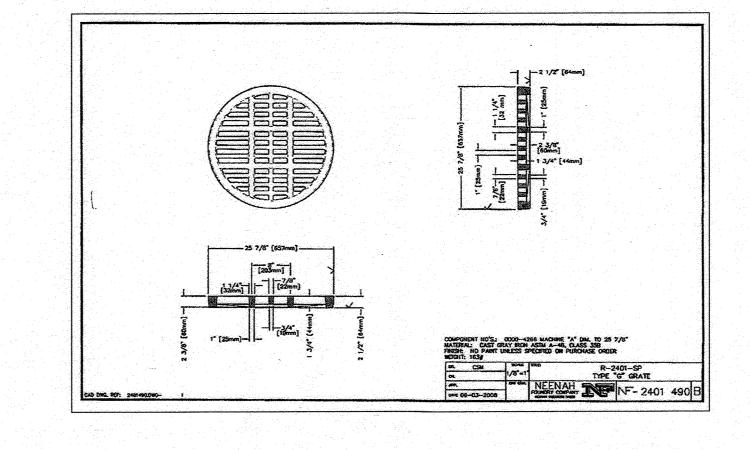
V_{FULL}= 1.90 FPS

 $S_f = 0.08\%$

STORM DRAIN PROFILE (P1S2)

SCALE: 1" = 50' HORZ., 1" = 5' VERT.







1. TOP ELEVATIONS FOR TYPE 'S' INLETS ALONG CURB AND GUTTERS ARE TO THE CENTER EDGE OF GRATE AT THE FLOW LINE. TOP ELEVATIONS FOR TYPE 'S' INLETS IN GRASS AREAS ARE TO THE CENTER TOP OF GRATE.

- TOP ELEVATIONS FOR TYPE 'A-5' INLETS ARE TO THE CENTER OF INLET, TOP OF CURB. TOP ELEVATIONS FOR PRECAST MANHOLES ARE TO THE CENTER TOP OF MANHOLE COVER.
- 4. TOP SLOPE OF STRUCTURES TO CONFORM TO SLOPE OF PAVING
- 5. FOR ALL TYPE 'S' INLETS WITHIN THE TRAFFIC LANES, USE A BICYCLE-SAFE GRATE PER HOWARD COUNTY STANDARD DETAIL D-4.96 (WR INLET FRAME, GRATE & SUPPORT)
- 6. INVERT AT END OF PIPE UTILIZE HOWARD COUNTY STANDARD DETAIL G-5.13. REPLACE MANHOLE COVER WITH
- NEENAH TYPE 'G' GRATE PER DETAIL THIS SHEET. 8. 12" SQUARE PEDESTRIAN GRATE TO BE UTILIZED ON THE NYOPLAST DRAIN BASIN (I-33A).

AS-BUILT CERTIFICATION I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Date: |1-6-/8

15" PRIVATE	HDPE	69 LF
18" PUBLIC	HDPE	321 LF
		Market Control of the Santa
24" PUBLIC	HDPE	1.
30" PUBLIC	HDPE	
12" PRIVATE	HDPE	
21" PRIVATE	RCP (CLASS IV)	**********

15" PUBLIC

PIPE SCHEDULE

TYPE

P1S1

33 LF

P1S2

58 LF

49 LF

248 LF

2,334 LF

. 90 LF

64 LF

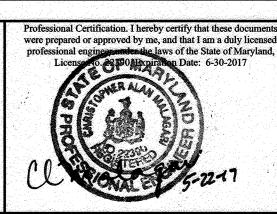
PHASE 1, SOUT PHASE I. SECT & 12/1/2020

rofessional 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. 2143 Expiration Date: 2-21-18

> REVISE STRUCTURE SCHED TO DELETE I-15 THRU I-16 AND M-4. UPDATE PIPE SCHEDULE. 5-17-2017 REMOVE ERRONEOUS PROFILE FROM I-29 TO S-2. ADD RIP-RAP AT S-2. REMOVE LOTS 1-47 AND OS LOTS 48 & 49 FROM TITLE BLOCK. SPECIFY "P1S1" OR "P1S2" ON PROFILES 3 | 12-12-2016 | REVISED PROFILE TO SHOW I-29 TO S-2. UPDATE TITLE BLOCK AND SHEET NUMBER. 10-6-2016 ADD PROFILE FOR I-33A TO E-1, UPDATE STRUCTURE SCHED. AND PIPE SCHED. MOVED THE PROFILE FOR 1-9 TO 1-27 TO THIS SHEET. DELETE CULVERT PROFILE FOR S-5 TO S-6 AND PROFILE FOR I-13 TO I-36. UPDATE STRUCTURE SCHED AND PIPE SCHED. UPDATE Q,V,Sf FOR STORM DRAIN RUNS. REVISION

BENCHMARK • ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM



OWNER:	FA	IRWAYS AT	TURF VALLEY
MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400		PHASE 1 SECTION 2: C GOLF SPACE	OAD AND GOLF SPACE LOTS 50 & 51 OPEN SPACE LOTS 117, & 118 E LOTS 52-56 AND ULK PARCELS A, B, C, & D
DEVELOPER:		ZONED: PGCC (RI	16 - PARCEL: P/O 8 & 706 ESIDENTIAL SUBDISTRICT) - HOWARD COUNTY, MARYLAND
MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	R	EVISED STORM	I DRAIN PROFILES
	DATE:	MAY 17, 2017	BEI PROJECT NO. 2601

AS SHOWN

455	SUST 1			
	PUBLIC			
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450	© RESORT			
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- 412 M	AAL A	T - "(BIO FOREBA	
44227			-	
440 442.21 —	PITA NI	₩/ ~~~	_ 1"	
-110	HY	172	(38	
 1.0'	PROP: 12" WATER 442,16	7 18" HDPE @ 2. 4 Q ₁₀ = 9.14 CF	10/	
MIN.	\ ₹ 4	18" HDPE @ 2. Q ₁₀ = 9.14 CF	S las	
	<u> </u>	V _{FULL} = 5.18 FP	SSI	
		S _f = 0.44829	9 <u>4</u> /	ting the second
435	<u> </u> <u> </u>			CLASS 1 RIP-R
15" HDPE @ 0.50%		_15" HDPE @ 0.5		OVER FILTER CL D ₅₀ = 9.5"
Q ₁₀ = 2.49 CFS	*	Q ₁₀ = 2.49 CFS	3	D ₁₀₀ = 15"
V ₁₀ = 4.63 FPS		$V_{10} = 4.63 \text{ FPS}$	S	THICKNESS =
V_{FUL} = 2.03 FPS S_f = 0.09%	8 2 8	V _{FULL} = 2.03 FP	S 8	
	0+09	V _{FULL} = 2.03 FP	00+0	

STORM DRAIN PROFILE (PIST)

SCALE: 1" = 50' HORZ., 1" = 5' VERT.

THIS SHEET REPLACES THE **PREVIOUS SHEET 15** SIGNED ON 10-31-2016

DESIGN: DBT | DRAFT: DBT

15 of 20

SCALE:

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS

neuve

APPROVED: DEPARTMENT OF PLANNING AND ZONING

PRIVATE 12" HDPER

@ 13.75%

Q10 = 2.00 cfs

Vf = 2.54 fps

Sf = 0.1857%

Va = 14.62 fps

RIP-RAP OUTLET

lenath = 14'

thick = 19'd50 = 9.0"

(SEE DETAIL)

(UNDERLINED W/FILTER

STORM DRAIN PROFILE (P1S2)

SCALE: 1" = 50' HORZ., 1" = 5' VERT.

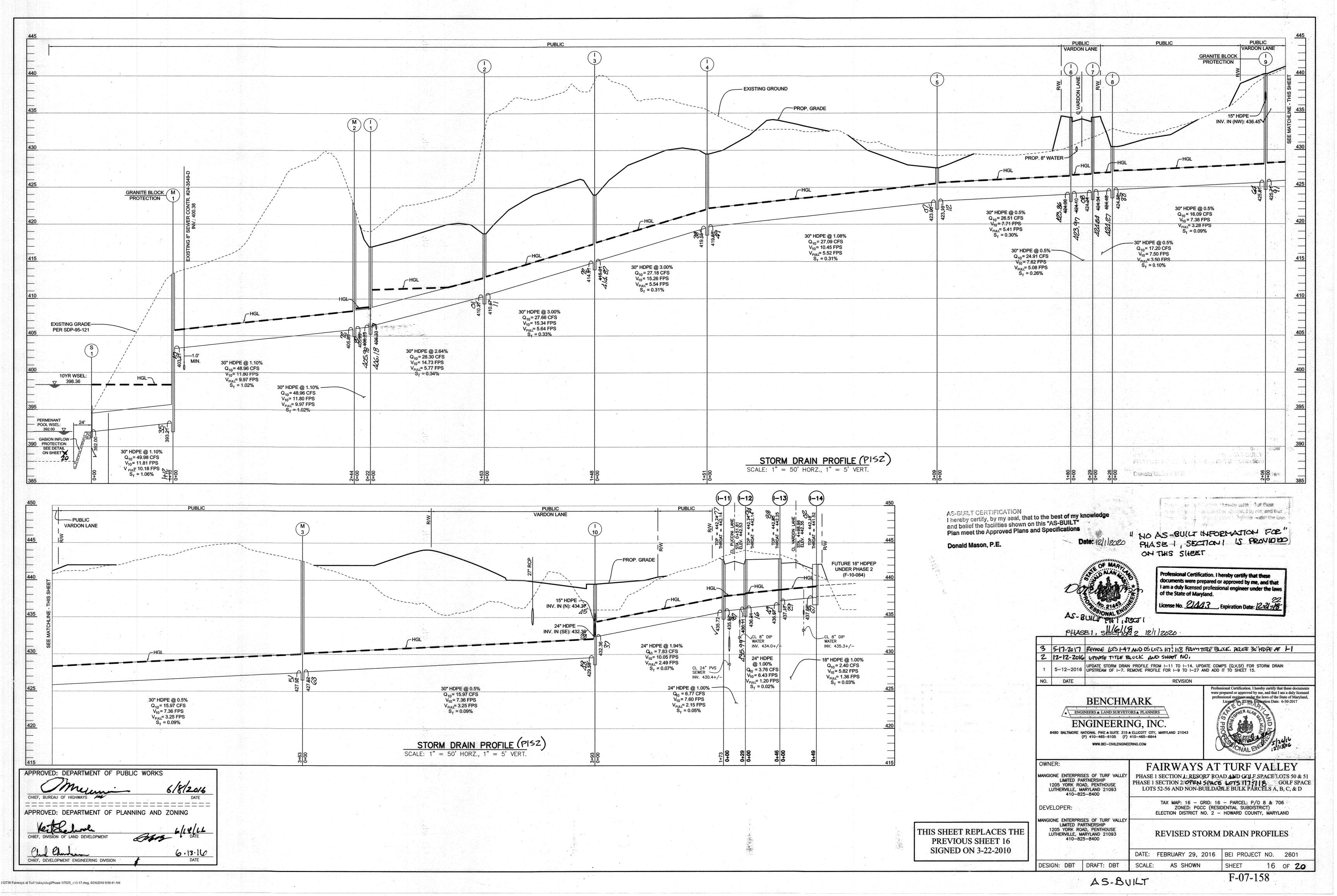
Q2 = 1.20 cfs

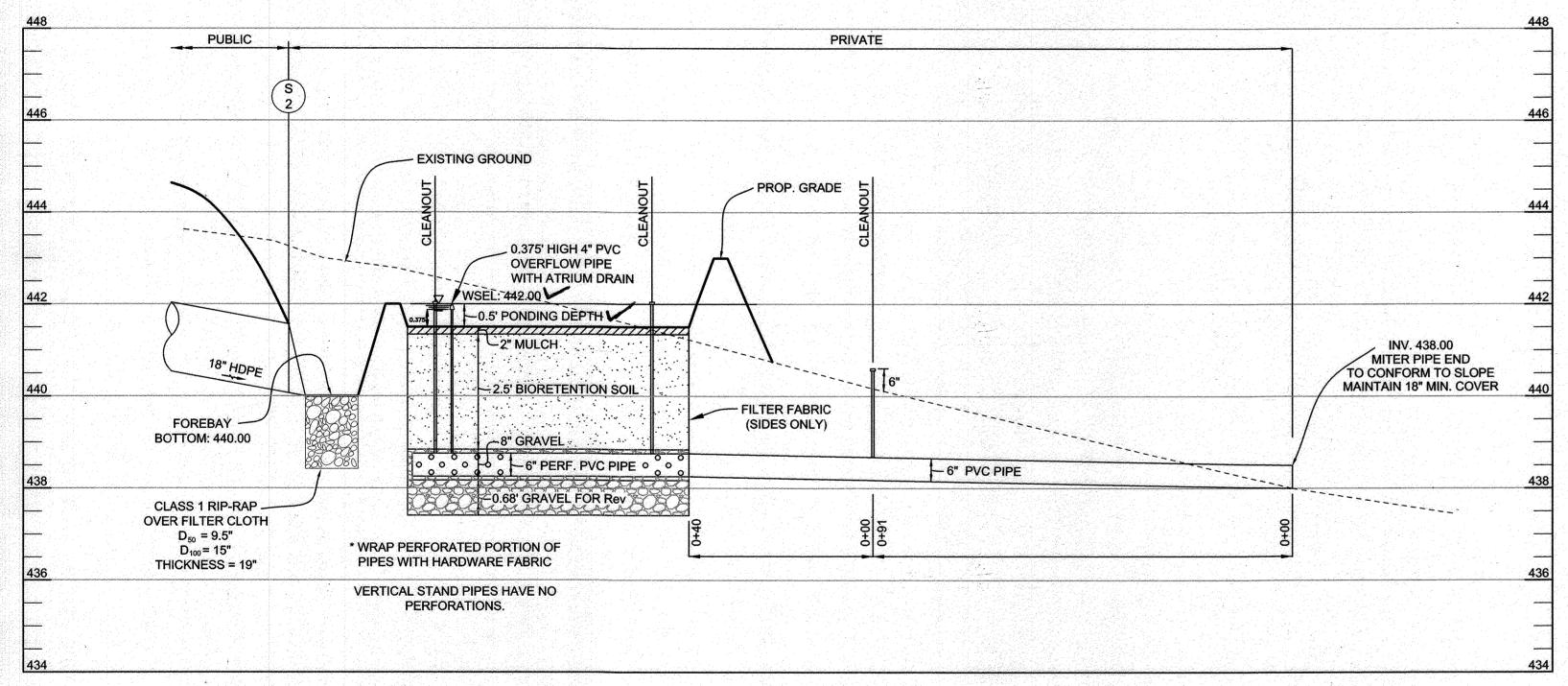
Vf = 1.53 fps

Va = 12.58 fps

6/14/2017

6・23ペ7

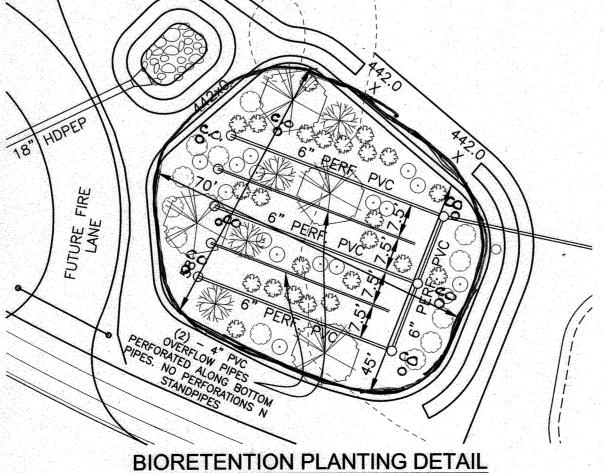




BIORETENTION FACILITY SCALE - HORIZONTAL: 1"=20" VERTICAL: 1"=2"

OPERATION AND MAINTENANCE SCHEDULE FOR **BIO-RETENTION AREAS**

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



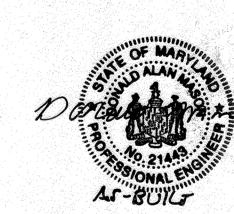
	I	BIORETENTION	PLANT LIST	
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
4	₩	PLATANUS x ACERIFOLIA	LONDON PLANE TREE	2-1/2" - 3" CAL.
4	**	ILEX GLABRA	INK BERRY	2' - 3' HT.
24	ELVA.	LOBELIA CARDINALIS	CARDINAL FLOWER LOBELIA	1 GAL. CONTAINER
16	\odot	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER
12	0	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

NOTE: -TOTAL - 52 PERENNIALS, 4 SHRUBS, 4 TREES -ALL REMAINING SURFACE FILTER AREA TO BE PLANTED WITH NATIVE GRASSES

AS-BUILT CERTIFICATION I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Date: 11/6/18



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. <u>21243</u> Expiration Date: <u>1221-19</u>

THIS SHEET REPLACES THE PREVIOUS SHEET 17 SIGNED ON 1-23-2017

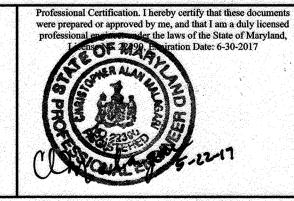
3 5-17-2017 REMOVE STORM DRAIN PROFILES ADD 4" OVERFLOW PIPES TO BIO DETAILS. REMOVE LOTS 1-47 AND OS LOTS 48 & 49 FROM TITLE BLOCK. 2 12-12-2016 REVISE BIO-RETENTION FACILITY PROFILE AND PLANTING DETAIL BASED ON ITS RECONFIGURATION AND LOCATION ONLY. UPDATE TITLE BLOCK AND SHEET NUMBER.

5-27-2016 UPDATE TITLE BLOCK & SHEET NUMBER. FIX DISTANCE FROM I-15 TO I-17, ADD CLEANOUT TO 6" UNDERDRAIN @ BIO-RET. FACILITY.

BENCHMARK • ENGINEERS LAND SURVEYORS PLANNERS

ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

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MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

DATE

DEVELOPER:

MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

DESIGN: DBT | DRAFT: DBT

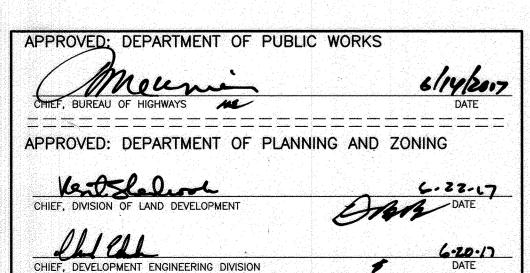
PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 51 PHASE 1 SECTION 2: OPEN SPACE LOTS 117, & 118 GOLF SPACE LOTS 52-56 AND

NON-BUILDABLE BULK PARCELS A, B, C, & D TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706 ZONED: PGCC (RESIDENTIAL SUBDISTRICT)

ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND REVISED STORM DRAIN AND BIO-RETENTION

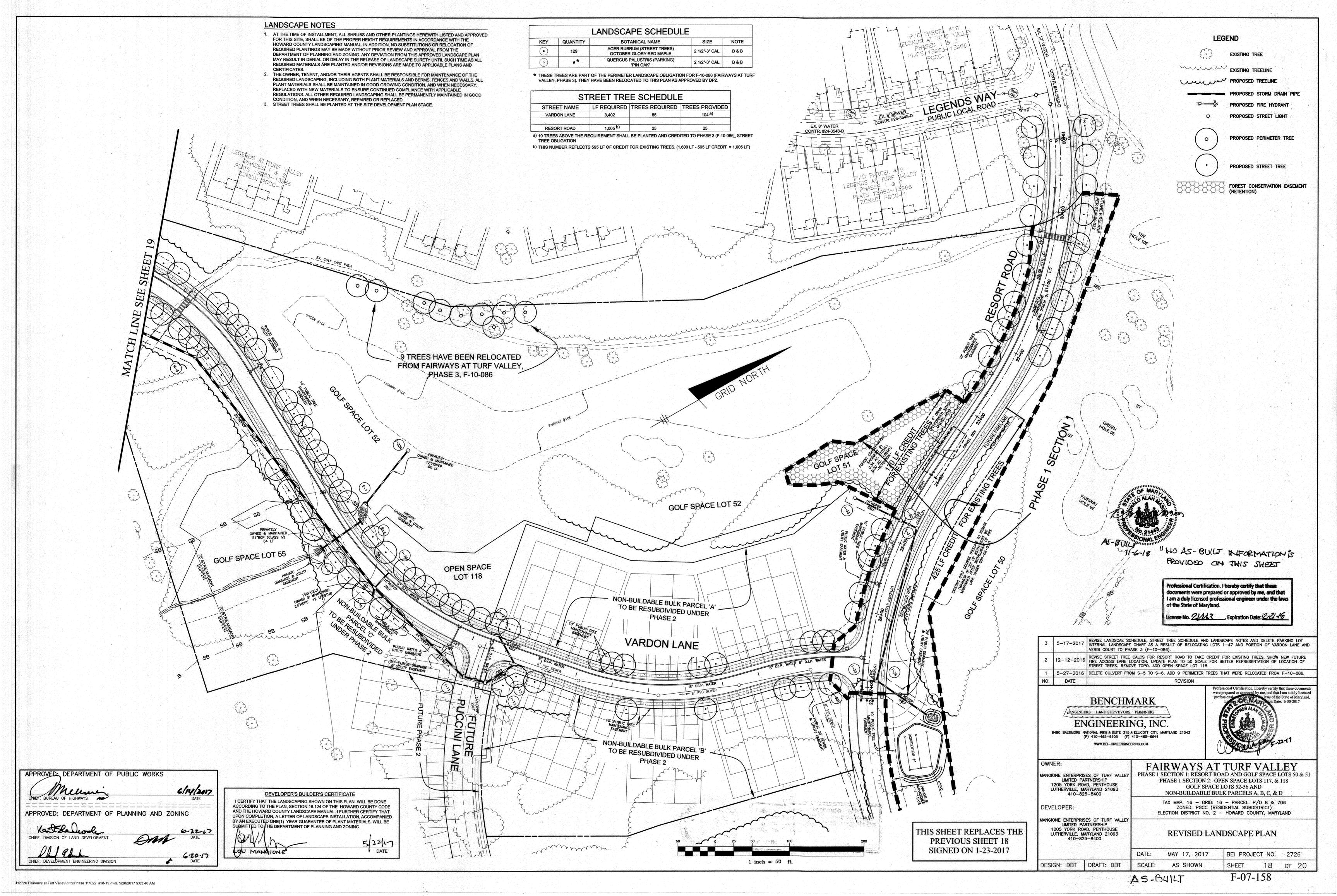
PROFILES AND DETAILS MAY 17, 2017 BEI PROJECT NO. 2726 17 of 20 SCALE: AS SHOWN

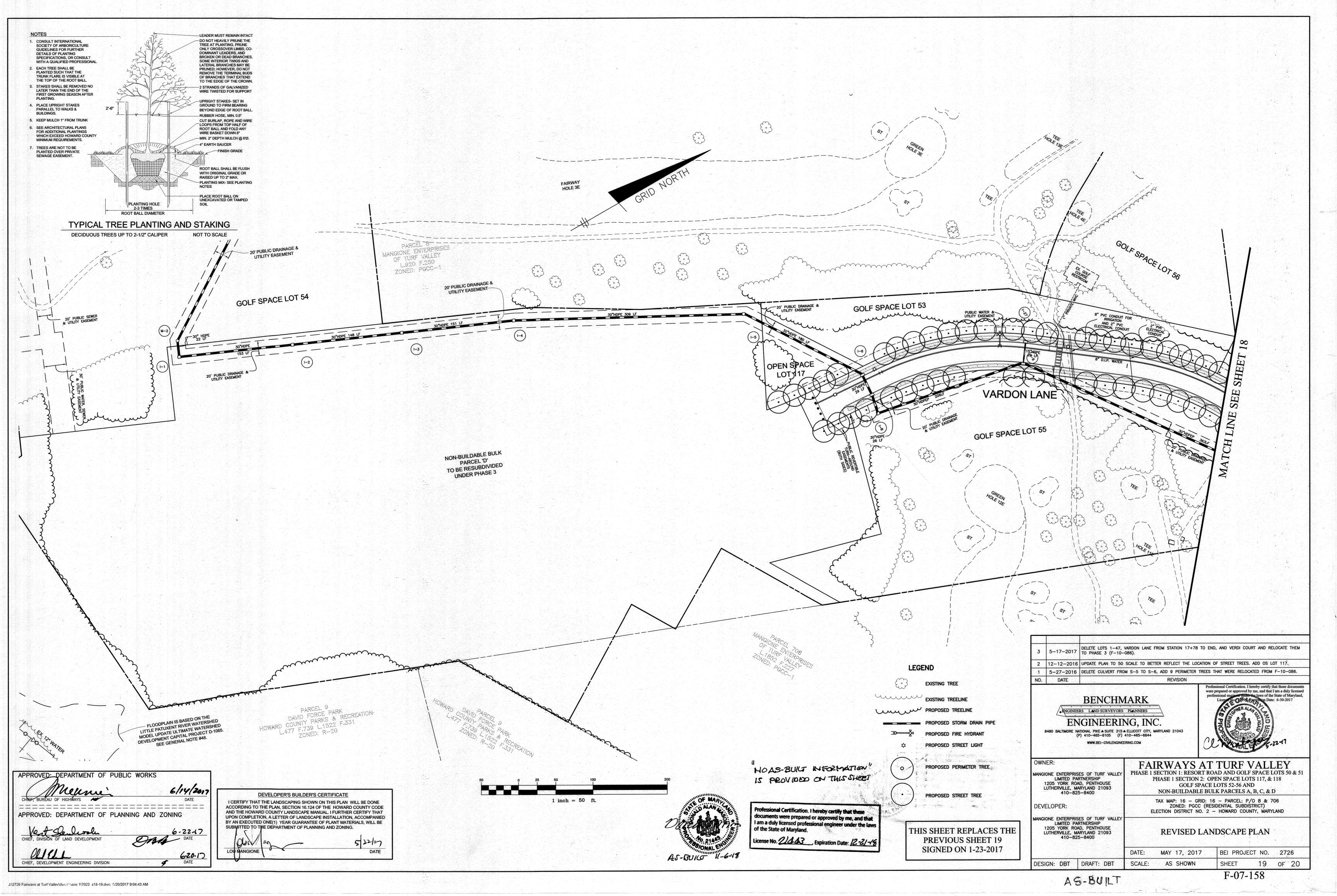
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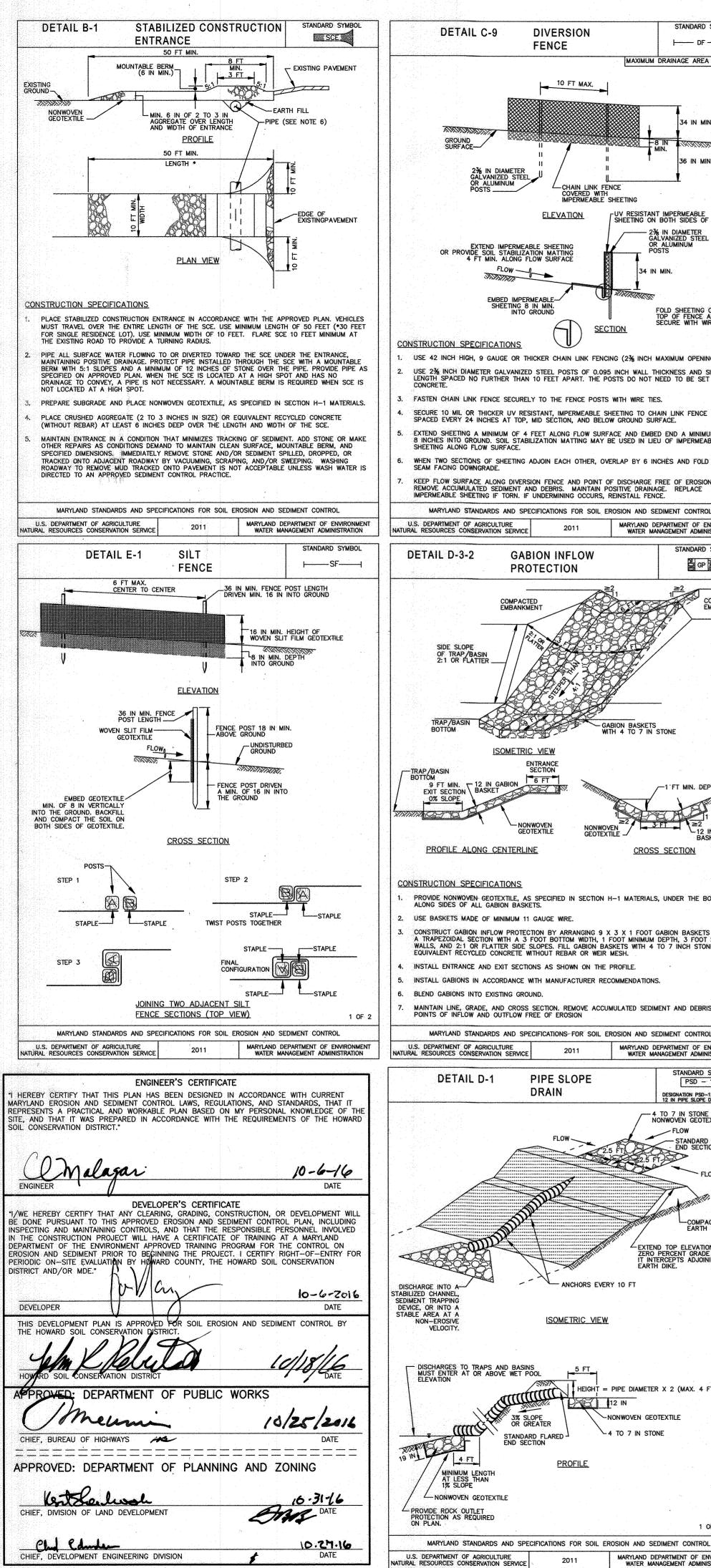


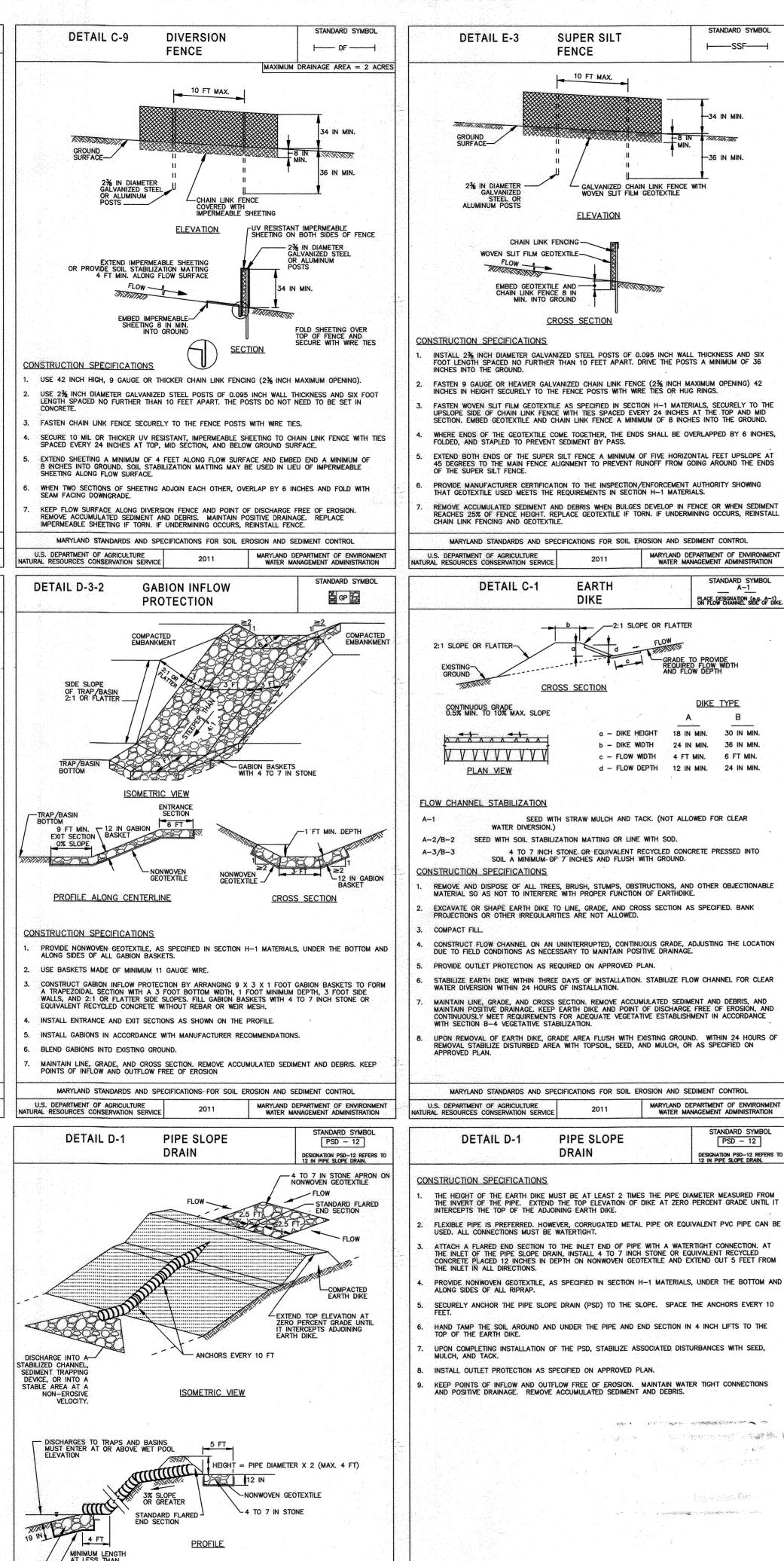
BIORETENTION PLANTING DETAIL

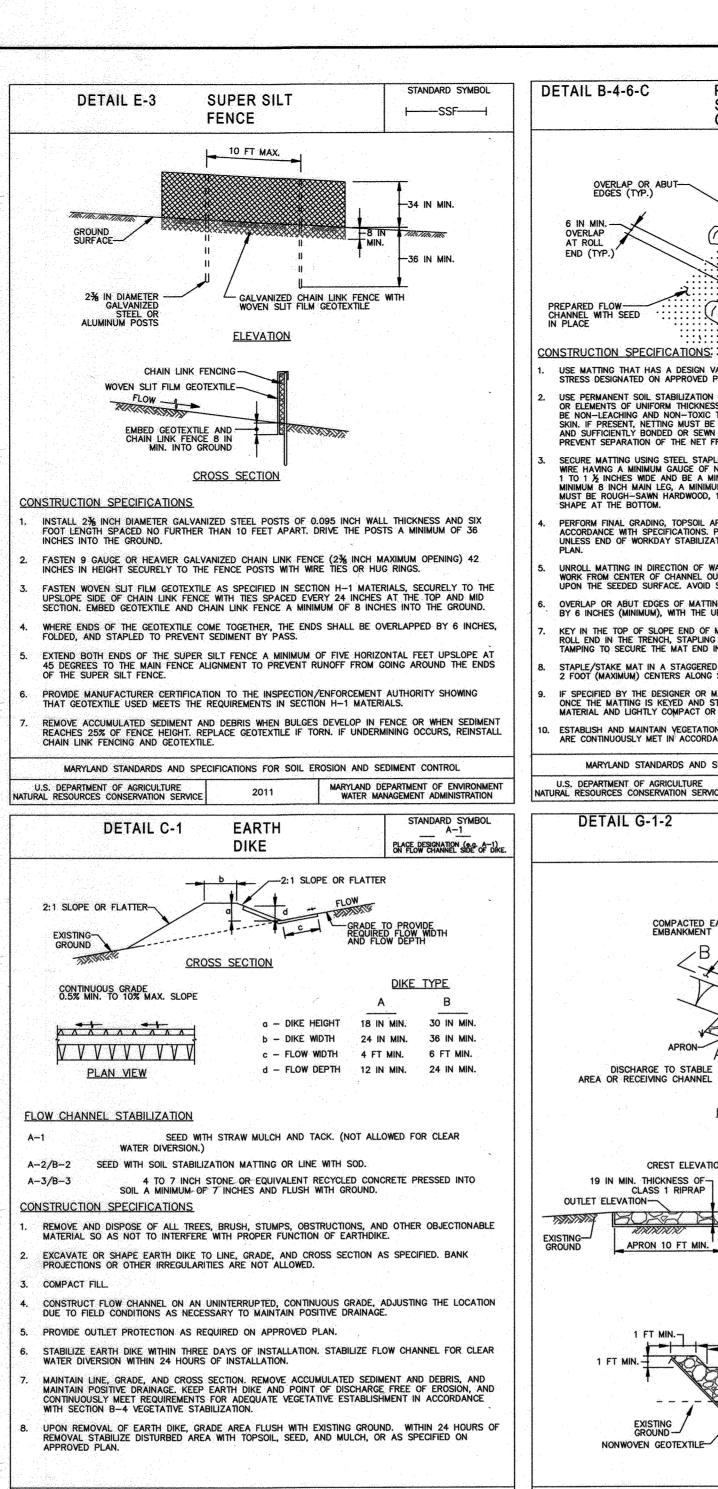
J:\2726 Fairways at Turf Vallev\dwg\Phase 1\7024 s17.dwg. 5/20/2017 9:00:15 AM



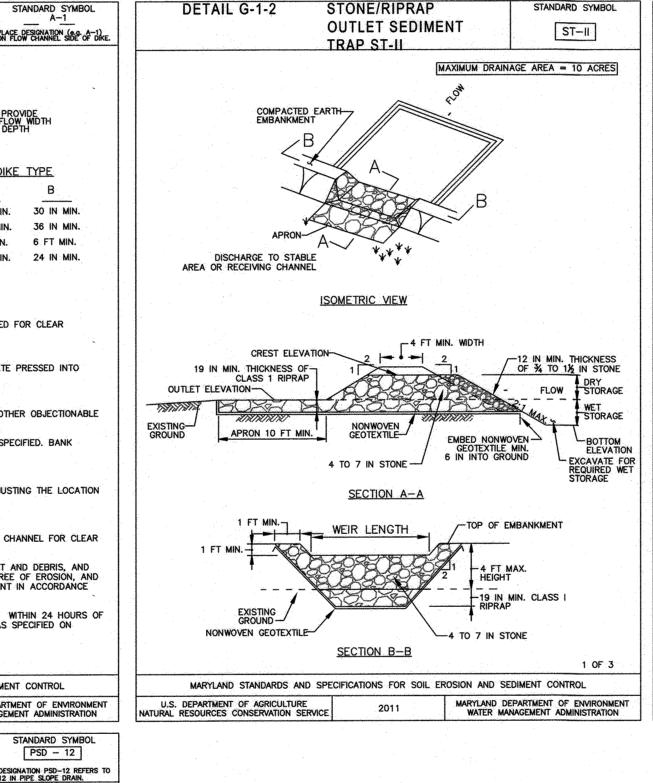








MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



PERMANENT SOIL

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

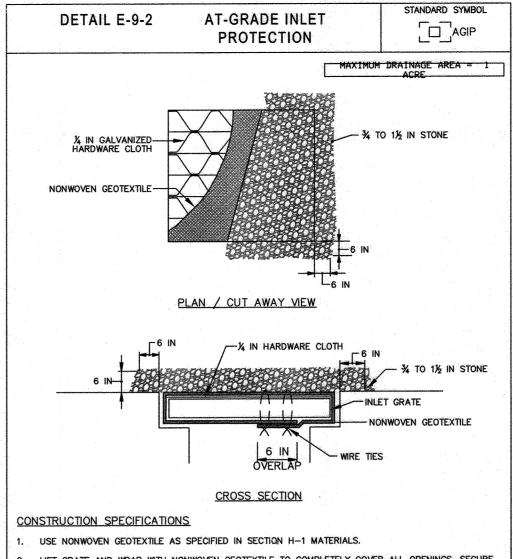
TAMPING TO SECURE THE MAT END IN THE KEY.

OVERLAP AT ROLL

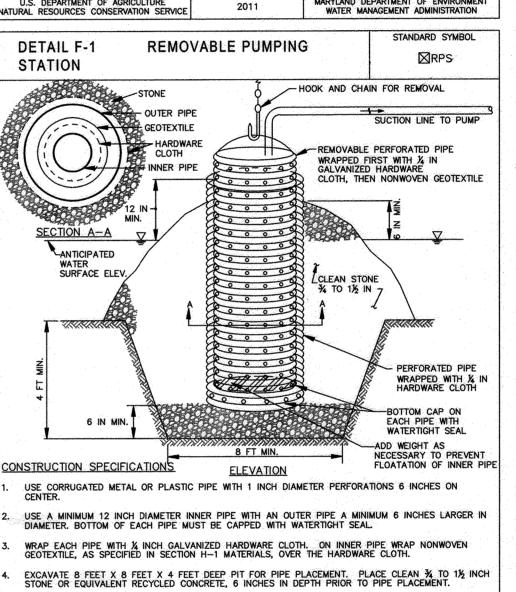
CHANNEL APPLICATION

STABILIZATION MATTING | PSSMC - * 1.81 lb/ft2

(* INCLUDE SHEAR STRESS)



LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE. PLACE CLEAN 34 TO 11/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).

BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.

A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

ISOMETRIC VIEW OF CLASS I RIPRAP PROFILE ALONG CENTERLINE PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 \times D $_{50}$) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE. BLEND RIPRAP INTO EXISTING GROUND MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

CURB INLET

PROTECTION

2 IN x 4 IN WEIR-

34 TO 11/2 STONE

[=]CIP

- 2 FT MIN. LENGTH OF 2 IN × 4 IN

- GALVANIZED HARDWARE

MAXIMUM DRAINAGE AREA = 1/4 ACRE

SECTION A-A

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

TANDARD SYMBOL

DETAIL E-9-3

-6 FT MAX. SPACING OF 2 IN x 4 IN SPACERS

-2 IN x 4 IN WEIR

USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

ATTACH A CONTINUOUS PIECE OF 1/4 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4

PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.

PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2

LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.

FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET

STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS

OGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

RIPRAP INFLOW

PROTECTION

LEDGE OF GUTTER PAN

ISOMETRIC

USE NOMINAL 2 INCH x 4 INCH LUMBER

CONSTRUCTION SPECIFICATIONS

DETAIL D-3-1

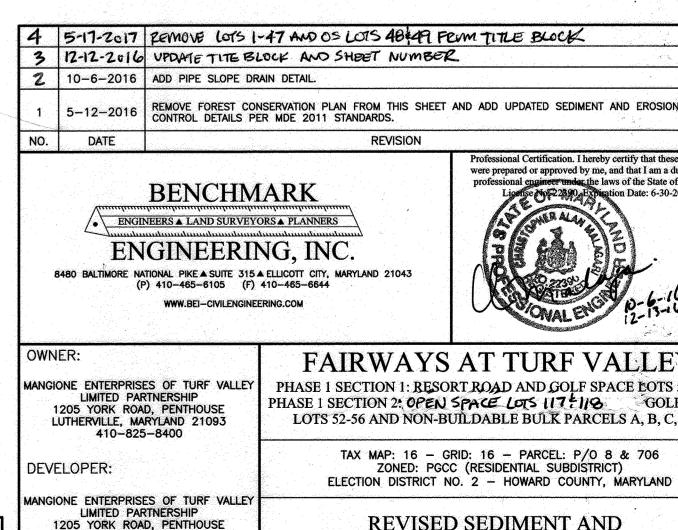
I NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET



rofessional 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. 21443 ____ Expiration Date: 12-21-18

THIS SHEET REPLACES THE PREVIOUS SHEET 19 SIGNED ON 6-14-2016



LUTHERVILLE, MARYLAND 21093

410-825-8400

DESIGN: DBT | DRAFT: DBT

4 5-17-2017 REMOVE LOTS 1-47 AND OS LOTS 48:49 FEWN TITLE BLOCK 3 12-12-2016 UPDATE TITE BLOCK AND SHEET NUMBER REMOVE FOREST CONSERVATION PLAN FROM THIS SHEET AND ADD UPDATED SEDIMENT AND EROSION CONTROL DETAILS PER MDE 2011 STANDARDS. were prepared or approved by me, and that I am a duly license onal engineer under the laws of the State of Maryland joins 10 22390 Expiration Date: 6-30-2017 ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE \$\text{SUITE } 315 \text{ ELLICOTT CITY, MARYLAND } 21043 (P) 410-465-6105 (F) 410-465-6644 FAIRWAYS AT TURF VALLEY PHASE 1 SECTION 1: RESORT ROAD AND GOLF SPACE LOTS 50 & 51 PHASE I SECTION 2: OPEN SPACE LOTS 117 1/18 GOLF SPACE LOTS 52-56 AND NON-BUILDABLE BULK PARCELS A, B, C, & D

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

REVISED SEDIMENT AND EROSION CONTROL DETAILS

ZONED: PGCC (RESIDENTIAL SUBDISTRICT)

DATE: OCTOBER 6, 2016 BEI PROJECT NO. 2726 AS SHOWN SHEET

AS-BUILT

J:\2726 Fairways at Turf Vallev\dwc\Phase 1\7023 s10-11.dwg 10/5/2016 5:56:23 PM

1 OF 2

F-07-158

20 OF 20