#### **GENERAL NOTES**

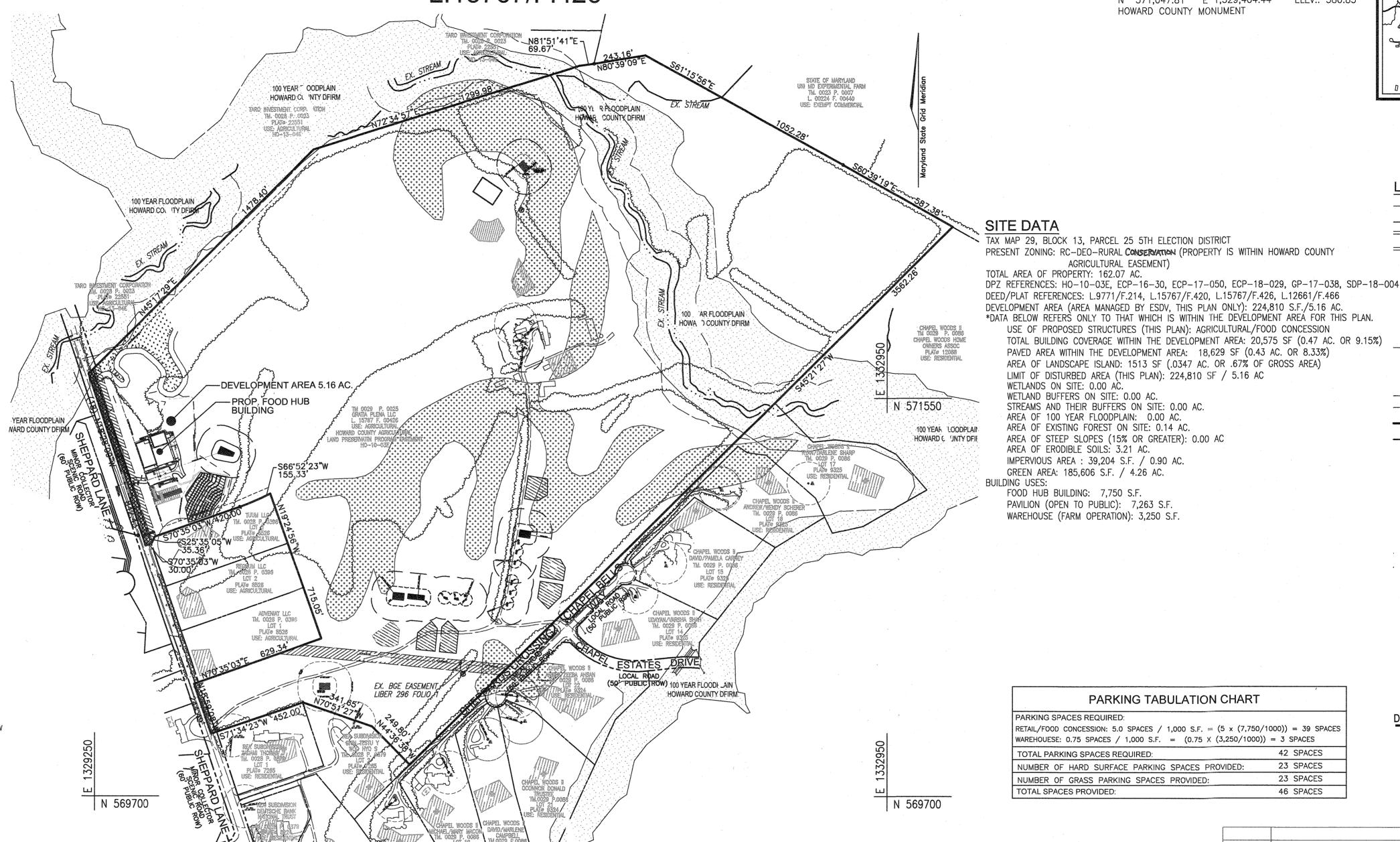
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE UNLESS WAIVERS HAVE BEEN APPROVED. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, /BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE
- PRIOR TO THE PLACEMENT OF ANY ASPHALT. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEYS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED MAY, 2015, AND FROM HOWARD COUNTY GIS.
- THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY CONTROL STATIONS 28-FA & 28-FB WERE USED FOR THIS PROJECT.
- WATER FOR THIS PROJECT IS TO BE BY PRIVATE WELL SEWER FOR THIS PROJECT IS TO BE BY PRIVATE SEPTIC SYSTEM.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON-STRUCTURAL AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTION (M-6) FACILITIES, AND A BIO-SWALE (M-8). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED EXISTING UTILITIES BASED ON A FIELD RUN TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE
- EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. THERE ARE NO "FLOODPLAIN" AREAS LOCATED WITHIN THE DEVELOPMENT AREA AS PER FEMA DFIRM MAPS. REFERENCE ENVIRONMENTAL FINDINGS LETTER, DATED NOVEMBER 9, 2015, FROM MR. JOHN CANOLES AND ECO-SCIENCE PROFESSIONALS. THERE ARE 0 S.F. (0.00 AC.) AREA OF WETLANDS PRESENT WITHIN THE DEVELOPMENT AREA PER ECO-SCIENCE
- PROFESSIONALS, INC. C/O MR. JOHN CANOLES, NOVEMBER 9, 2015. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, DATED JULY 26, 2017.
  THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY SHANABERGER & LANE, DATED AUG. 13, 2010. THE SUBJECT PROPERTY IS ZONED RC-DEO-RURAL CONSERVATION IN ACCORDANCE WITH THE ZONING REGULATIONS EFFECTIVE ON OCT. 06, 2013, AND IS SUBJECT TO SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE OCT. 07, 2007 PER COUNCIL BILL 47-2007 & 48-2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY
- DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS. THERE ARE 0 S.F. (0.00 AC.) >/= 25% STEEP SLOPES, AND 0 S.F. (0.00 AC.) 15%-24.99% STEEP SLOPES OVER

MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE

- 20,000 SF CONTIGUOUS LOCATED WITHIN THE DEVELOPMENT AREA. FOREST CONSERVATION WILL NOT BE REQUIRED FOR THIS PROJECT, BECAUSE THE FOLLOWING CONDITIONS HAVE BEEN MET: A.) THE PROPERTY IS UNDER A RECORDED AGRICULTURAL EASEMENT AND THE NEW FOOD HUB USE IS A COMMERCIAL ENTERPRISE ASSOCIATED WITH THE AGRICULTURAL USE.
  - A SOIL AND WATER CONSERVATION PLAN HAS BEEN APPROVED BY HSCD. C.) THE BUSINESS AND PROPERTY SHALL BE TAXED AS AN AGRICULTURAL USE.
- IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THERE IS NO OPEN SPACE REQUIREMENTS FOR THIS RC-DEO (AGRICULTURAL PRESERVATION) PROJECT. CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THAT GROUNDWATER AND ROCK ARE NOT PRESENT AT BIOSWALE AND MICRO-BIORETENTION LOCATIONS. OPEN TEST PITS WERE OBSERVED BY ROBERT H. VOGEL ENGINEERING ON FEB. 16, 2017 AND INFORMATION REGARDING THE FINDINGS IS LOCATED IN THE SWM REPORT. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A FOREST STAND DELINEATION PLAN, ENVIRONMENTAL STUDIES AND REPORT HAVE BEEN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. MR. JOHN CANOLES, NOVEMBER 2015. MR. CANOLES NOTED A SMALL AREA OF FOREST ENCROACHMENT IN THE NORTHWEST CORNER OF THE DEVELOPMENT AREA, BUT NO SPECIMEN TREES OR ANY OTHER REGULATED ENVIRONMENTAL FEATURES WERE FOUND WITHIN THE LIMITS OF THE DEVELOPMENT AREA FOR THIS PROJECT SHEPPARD LANE IS CLASSIFIED AS A MINOR COLLECTOR. SITE ACCESS SHALL BE VIA A PRIVATE COMMERCIAL DRIVEWAY. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES
- LOCATED WITHIN THE DEVELOPMENT AREA. THERE ARE NO EXISTING DWELLINGS OR STRUCTURES WITHIN THE DEVELOPMENT AREA.
- THE PROPOSED BUILDING SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- DEVELOPMENT OF THIS PROPERTY SHALL FOLLOW THE GUIDELINE CRITERIA ENUMERATED UNDER SECTION 16.125 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS FOR THE PROTECTION OF SCENIC ROADS. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, OR FLOODPLAIN.
- LANDSCAPING FOR THIS PROJECT SITE IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$17,100.00 FOR THE REQUIRED 34 SHADE TREES (\$10,200) AND 46 EVERGREENS (\$6,900) AND SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT. CONTRACTOR TO PROVIDE BLAZE ORANGE FENCING AROUND SEWAGE DISPOSAL AREA. THERE SHALL BE NO
- CONSTRUCTION TRAFFIC OR ACTIVITY IN THIS AREA. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOIUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GUAGE) INSERTED INTO A 2-3" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (12 GUAGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200'
- DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN. 5. ALL WELLS SHALL BE DRILLED PRIOR TO BUILDING PERMIT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO BUILDING PERMIT SUBMITTAL. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT BUILDING PERMIT APPROVAL.
- SOIL TYPES SHOWN HEREON ARE FROM THE USDA WEB SOIL SURVEY. ADJUSTMENT TO THE SEPTIC EASEMENT AREA MAY NOT BE PERMITTED WITHOUT ADDITIONAL TESTING.
- 9. A FOOD HUB, INCLUDING ONSITE CARRY-OUT FOOD SALES IS A PERMITTED USE UNDER AGRICULTURAL PRESERVATION ACCORDING TO SECTION 106.1.C.1.t. A MEETING WITH SRC AGENCIES WAS HELD ON 10/18/17 AND NO COMMENTS WERE MADE REGARDING THIS USE. ON-SITE CONSUMPTION OF FOOD IS PROHIBITED. THE SUBJECT PROPERTY IS LOCATED IN THE GROWTH TIER IV DESIGNATION AREA PER HOWARD COUNTY 2030 AND SB-236.
- THE SUSTAINABLE GROWTH AND AGRICULTURAL PRESERVATION ACT OF 2012. HOWARD COUNTY SUBDIVISION AND LAND REGULATIONS SECTION 16.125.(b)(3)(i.-v.), PROTECTION OF SCENIC ROADS, IS MET BY A TYPE 'C' LANDSCAPE EDGE TO BUFFER VIEWS OF THE PROPOSED PARKING AND BUILDING. THE PROPOSED PARKING LOTS ARE ORIENTED PERPENDICULAR TO SHEPPARD LANE AND GRASS PAVERS ARE USED FOR A PORTION OF THE PARKING TO REDUCE
- . HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PLANS FOR THE CARRY-OUT FOOD CONCESSION TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THS SDP WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT, AND/OR MAY REQUIRE REVIEW AND APPROVAL BY THE STATE DEPARTMENT OF HEALTH AND MENTAL HYGEINE, FOOD PROTECTION PROGRAM. (410-767-8400). THE IRRIGATION WATER LINE THAT IS NEAR TO AND WITHIN THE LOWER REACHES OF THE SDA FOR THE FOOD HUB MUST BE REMOVED PRIOR TO BUILDING PERMIT APPROVAL FOR THE FOOD HUB. REMOVAL OF THE WATER LINE MUST BE CONFIRMED BY AN ENVIRONMENTAL HEALTH SPECIALIST.

# SITE DEVELOPMENT PLAN CUNNINGHAM PROPERTY - FOOD HUB 4979 SHEPPARD LANE

L.15767/F.426



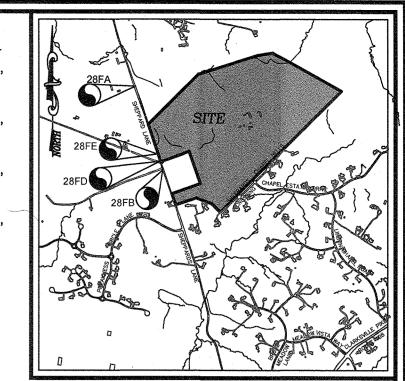
**BENCHMARKS** HOWARD COUNTY BENCHMARK 28FA N 572,456.68 E 1,328,957.64 ELEV.: 348.21' HOWARD COUNTY MONUMENT HOWARD COUNTY BENCHMARK 28FB N 570,710.84 E 1,329,524.63 ELEV.: 385.45' HOWARD COUNTY MONUMENT

AGRICULTURAL EASEMENT)

PARKING TABULATION CHART

HOWARD COUNTY BENCHMARK 28FD N 570,895.88 E 1,329,461.33 ELEV.: 381.91 HOWARD COUNTY MONUMENT

HOWARD COUNTY BENCHMARK 28FE N 571,047.81 E 1,329,404.44 ELEV.: 380.85' HOWARD COUNTY MONUMENT



VICINITY MAP ADC MAP COORDINATES: 4934-A3

LEGEND EXISTING UTILITY POLE EXISTING LIGHT POLE EXISTING MAILBOX EXISTING SIGN EXISTING SANITARY MANHOLE EXISTING SANITARY LINE

EXISTING CLEANOUT EXISTING FIRE HYDRANT EXISTING WATER LINE EXISTING FENCE

LIMIT OF EXISTING WETLANDS DFIRM FLOODPLAIN

 $\sim$ 

EXISTING PRIVATE WELL

PROPOSED PRIVATE WELL

DEVELOPMENT AREA / LOD LIMIT OF DISTURBANCE / LIMIT OF DEVELOPMENT AREA

OWNER/DEVELOPER: GRATIA PLENA, LLC. 11140 HOMEWOOD ROAD ELLICOTT CITY, MD 21042 PHONE: 443-677-4612

#### SHEET INDEX DESCRIPTION SHEET NO. COVER SHEET 1 OF 10 SITE LAYOUT AND LANDSCAPING PLAN 2 OF 10 SITE PROFILES AND DETAILS 3 OF 10 4 OF 10 BAT / SEPTIC INSTALLATION PLAN AND DETAILS 5 OF 10 BAT / SEPTIC INSTALLATION PLAN PROFILES AND DETAILS 6 OF 10 LANDSCAPING DETAILS GRADING, EROSION AND SEDIMENT CONTROL PLAN -SITE MILLED HARDWOOD SEDIMENT AND EROSION CONTROL DETAILS 8 OF 10 SIDING BY OWNER 9 OF 10 STORM DRAIN DRAINAGE AREA MAP AND STORM DRAIN PROFILES STORMWATER MANAGEMENT DRAINAGE AREA MAP, NOTES AND DETAILS 10 OF 10

WATER CODE: N/A

ADDRESS CHART STREET ADDRESS BUILDING NO. 4979 SHEPPARD LANE PERMIT INFORMATION CHAR SUBDIVISION NAME PARCEL NUMBER SECTION/AREA N/A N/A TAX/ZONE | ELECT. DIST. | CENSUS 1 DEED REF. | BLOCK NO. 15767/F 426 605104

SEWER CODE:

N/A

SITE DEVELOPMENT PLAN **COVER SHEET** 

REVISION

**CUNNINGHAM PROPERTY - FOOD HUB** 4979 SHEPPARD LANE L.15767/F.426

TAX MAP:29 GRID:13 PARCEL:25 5TH ELECTION DISTRICT

23 SPACES

23 SPACES

46 SPACES

DPZ REFERENCE: HO-10-03E/ECP-16-030 ZONED: RC-DEO-RURÁL CONSERVATION HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING** 

TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com

do co

ROBERT H. VOGEL, PE No.1619

CHECKED BY: DATE: NOVEMBER, 2019 SCALE:

SHEET 10

STORMWATER MANAGEMENT INFORMATION CHART							
LOT/PARCEL#	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	MAINTENANCE RESPONSIBILITY		
Parcel 25 MBR #1		M-6 MICRO-BIORETENTION		Х	Owner		
Parcel 25	MBR #2	M-6 MICRO-BIORETENTION		Х	Owner		
Parcel 25 BIO-SWALE #1 M-8 BIO-SWALE X Owner							
ADDRESS (ALL FACILITIES) 4979 SHEPPARD LANE, ELLICOTT CITY, MD 21042							

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF. DEVELOPMENT ENGINEERING DIVISION 2/27/2020 CHIEF, DIVISION OF LAND DEVELOPMENT 2-27-2020

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEADTH OFFICER

HOWARD COUNTY HEALTH DEPARTMEN

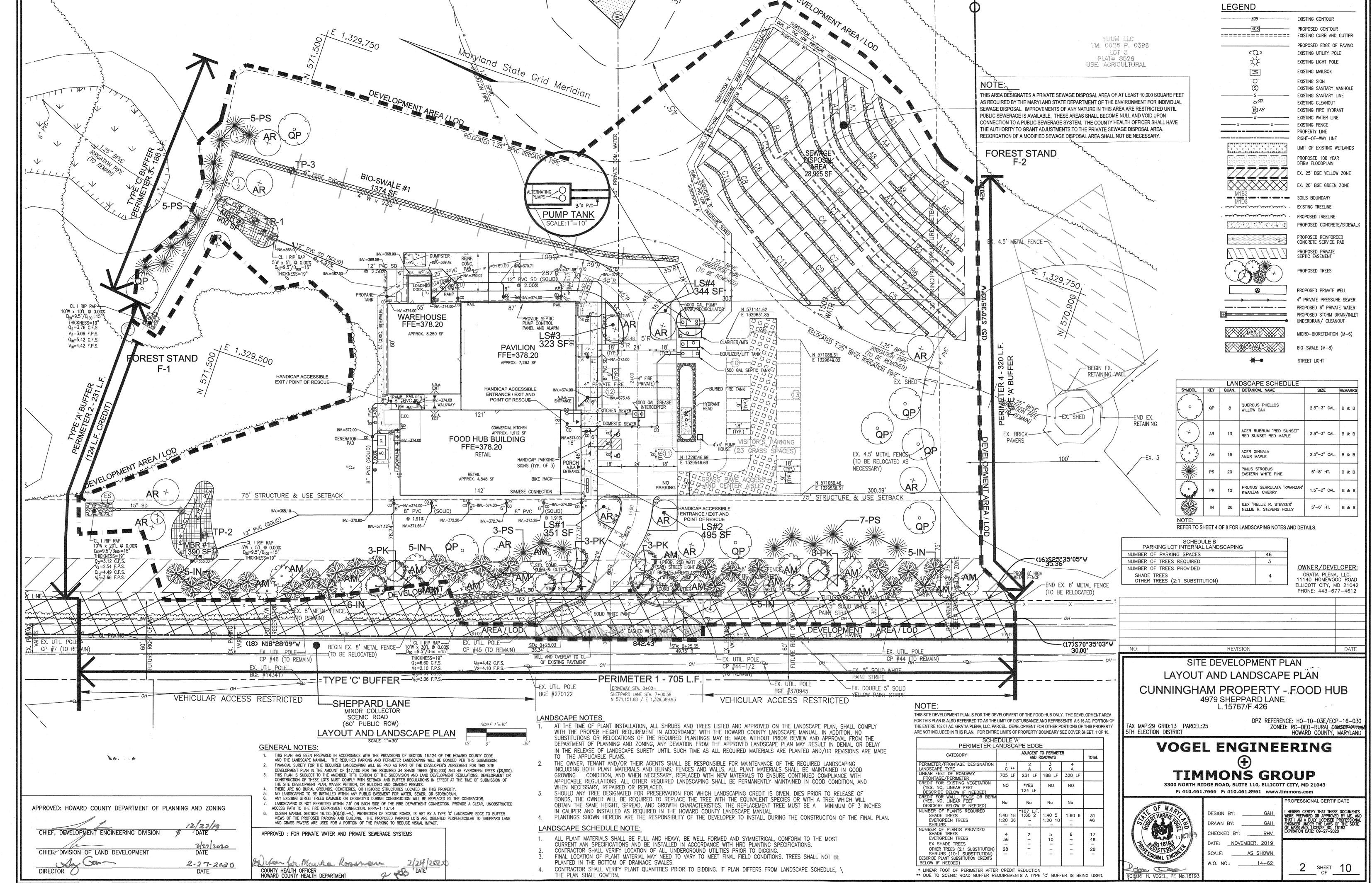
DATE

-SITE MILLED HARDWOOD FRONT ELEVATION SIDING BY OWNER N.T.S.

-SITE MILLED HARDWOOD

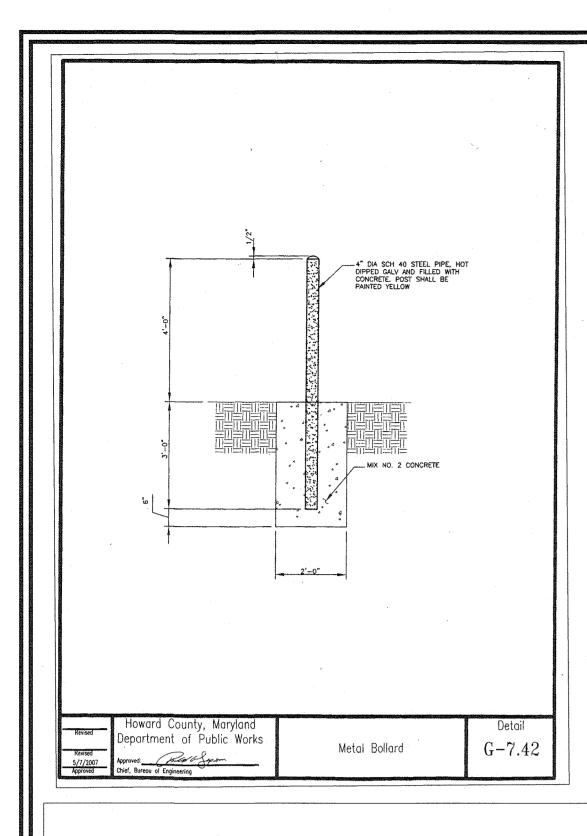
RIGHT ELEVATION

SIDING BY OWNER



rojects/14-62\ENGR\dwg\SDP\_FOOD HUB\SDP02\_LAYOUT

SDP-18-004



ROAD AND STREET

CLASSIFICATION

Revised

5/30/2017

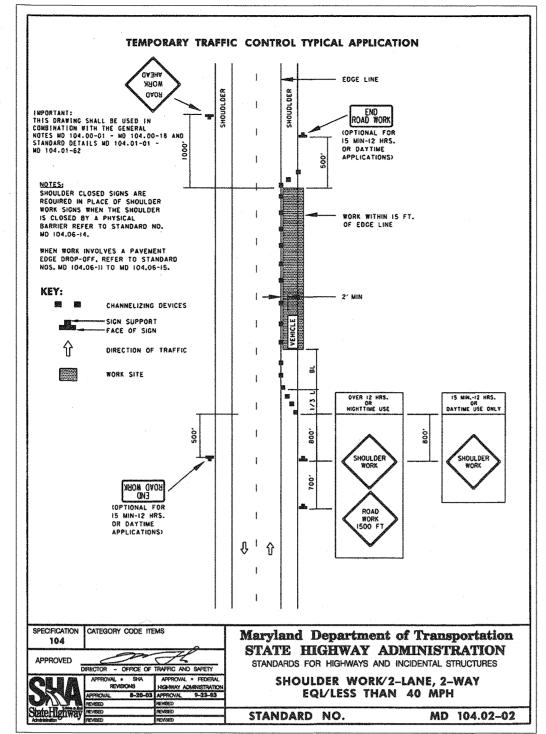
Revised

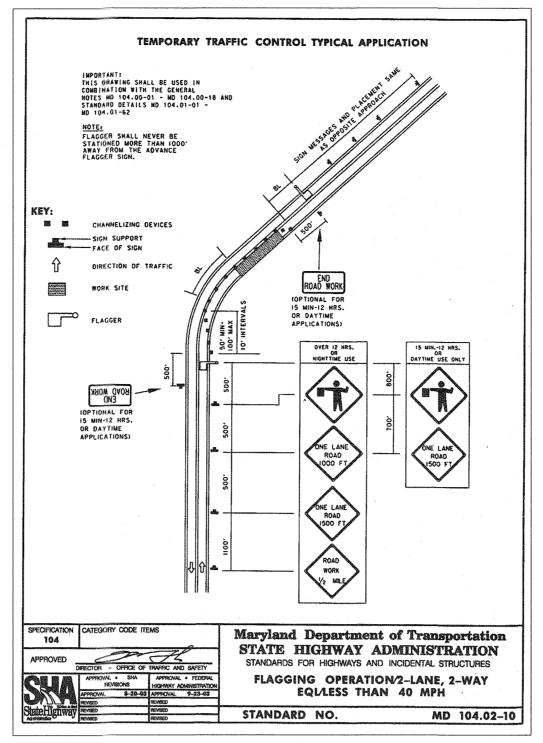
LACE, ACCESS STREET

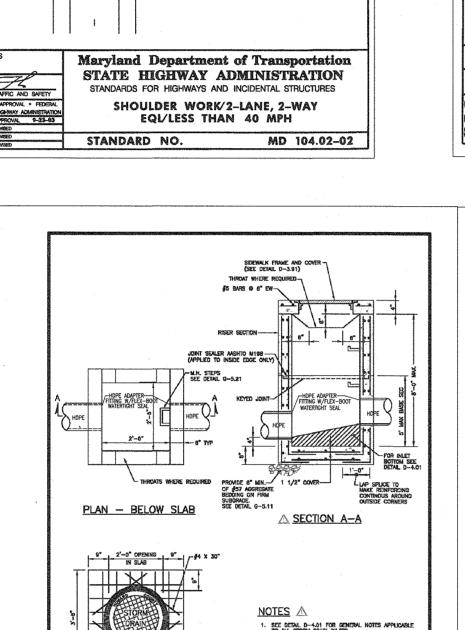
Department of Public Works

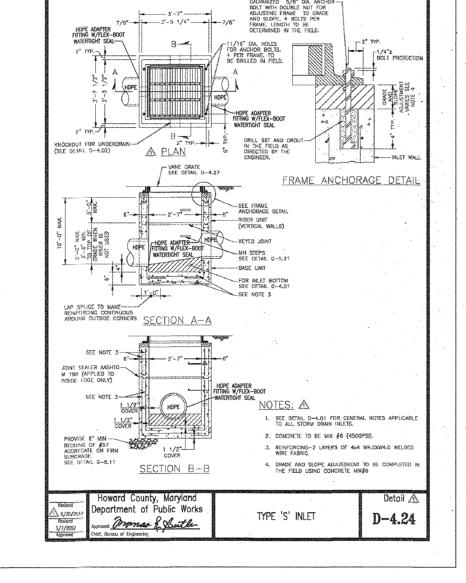
Approved: momas & Setle

PARKING DRIVE AISLES:
RESIDENTIAL AND NON-RESIDENTIAL W
THAN 10 HEAVY TRUCKS PER DAY
LOCAL ROADS:
ACCESS PLACE, ACCESS STREET
CULDE-SACS:
NON-RESIDENTIAL
MINOR COLLECTORS:
RESIDENTIAL



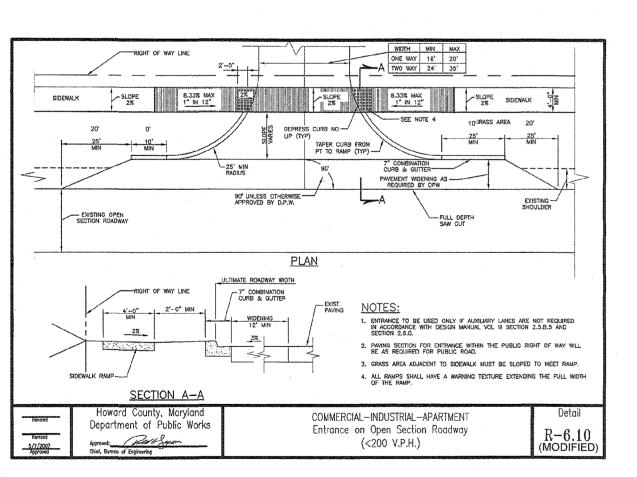






/-- 4" CONCRETE @ 4000 PSI

(WIDTH VARIES)



CALIFORNIA BEARING RATIO (CBR) 3 TO <5 5 TO <7  $\geq$  7 3 TO <5 5 TO <7  $\geq$ 

PAVEMENT MATERIAL (INCHES)

(NA)
SUPERPAVE ASPHALT MIX BASE
19.0 MM, PG 64-22S, LEVEL 1 (ESAL)

GRADED AGGREGATE BASE (GAB

GRADED AGGREGATE BASE (GAB)

PAVING SECTIONS

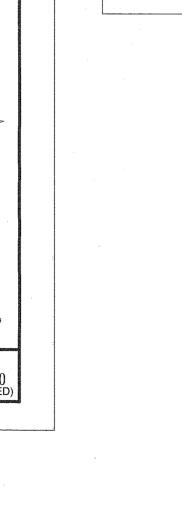
P-1 to P-4

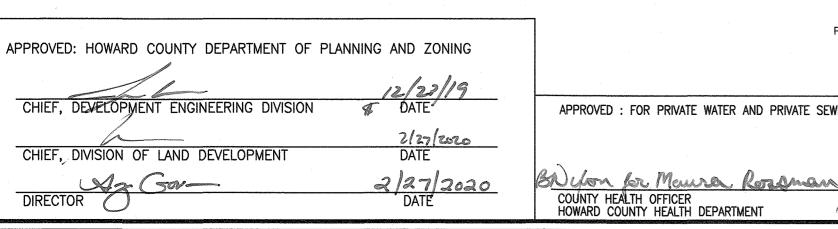
MIN. SUPERPAVE ASPHALT MIX SUPERPAVE ASPHALT M
WITH GAB WITH CONSTANT GAB

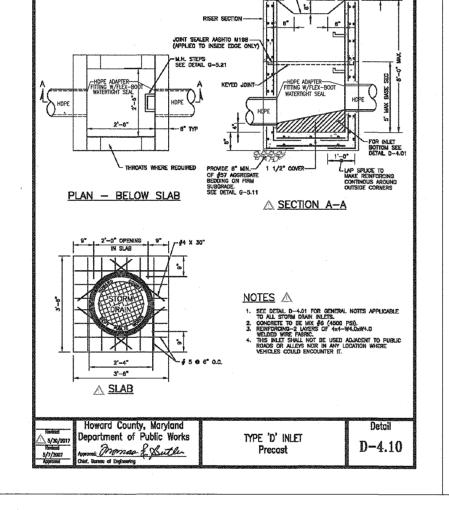
SUPERPAVE ASPHALT MIX FINAL SURFACE

SUPERPAVE ASPHALT MIX INTERMEDIATE SURFA SUPERPAVE ASPHALT MIX BASE GRADED AGGREGATE BASE (GAB)

R-2.01







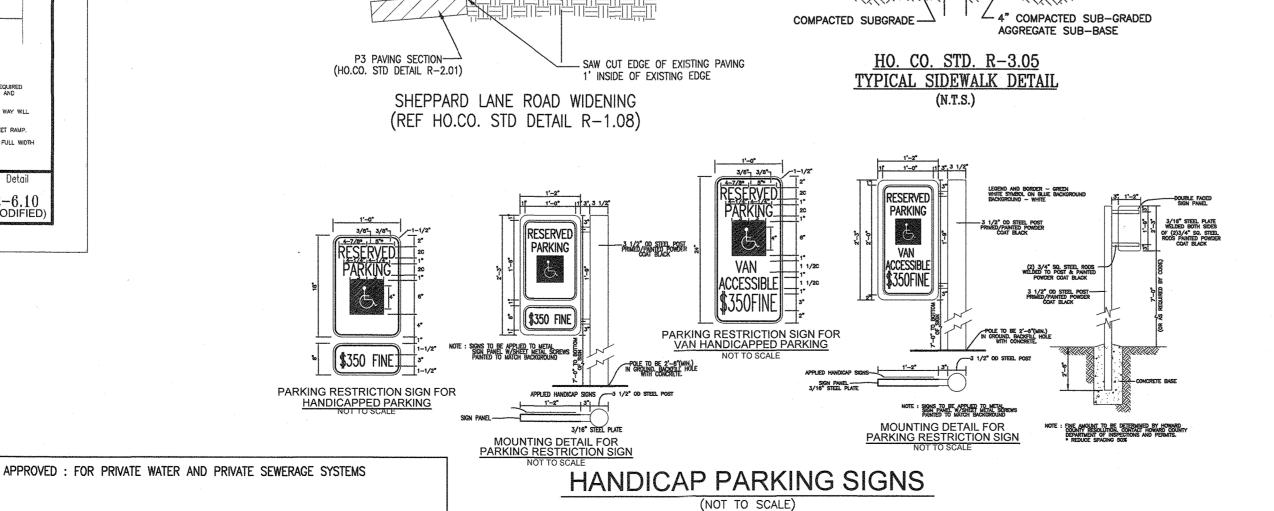
30'-1/2 (60' ROW)

MILL EX. PAVEMENT 1-1/2"-

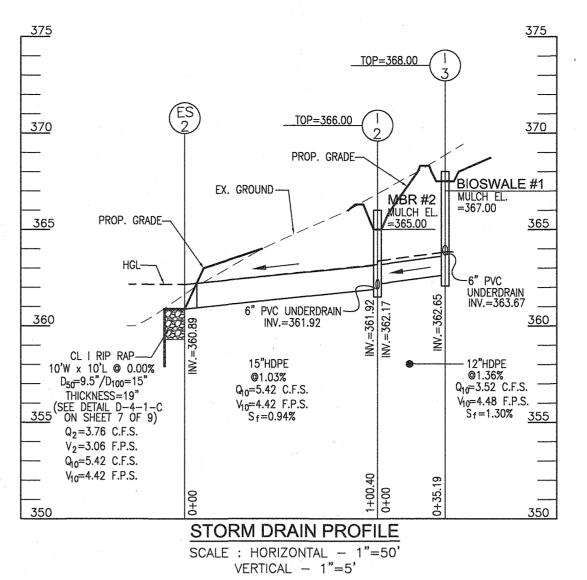
TO CL AND OVERLAY WITH

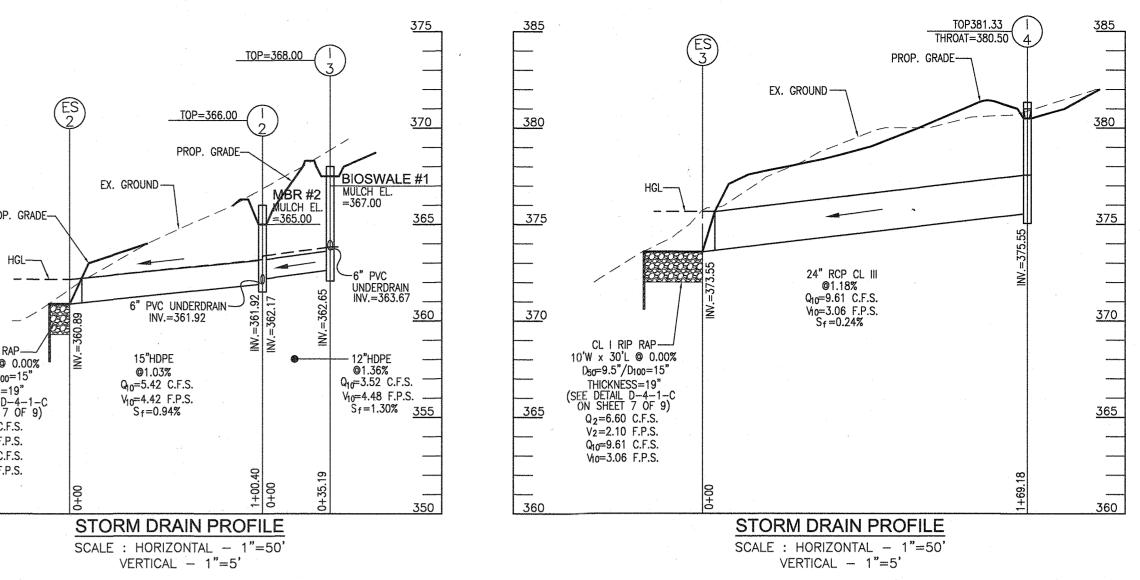
1-1/2" SURFACE COURSE (HO.CO. STD, DET. R-2.01)

10 10°



Ç EX. SHEPPARD LANE



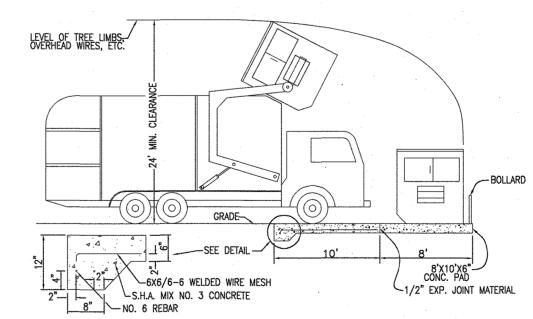


SIZE	TYPE	LENGTH
	HDPE	35 LF
15"	HDPE	154 LF
24"	RCP CL III	163 LF
6"	PVC (SOLID)	307 LF
6"	PVC (PERFORATED)	613 LF
8"	PVC (SOLID)	372 LF
12"	PVC (SOLID)	359 LF

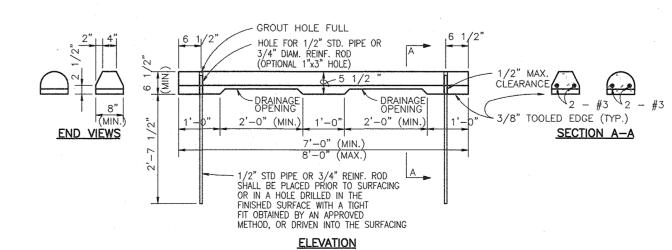
	STRUC	TURE SCHEDULE			
NO.	TYPE	LOCATION		NV. INV. IN OUT	COMMENTS
1-1	TYPE 'S' INLET	N 571489.05 E 1329377.15	357.00 35	2.67 352.67	HO. CO. STD D-4.22
1-2	TYPE 'S' INLET	N 571537.81 E 1329608.73	366.00 36	2.17 1.92 361.91	HO. CO. STD D-4.22
1–3	TYPE 'S' INLET	N 571537.01 E 1329643.91	368.00 36.	3.67 362.65	HO. CO. STD D-4.22
1-4	TYPE 'D' PRECAST INLET	N 571083.64 E 1329441.36	381.33	- 375.55	HO. CO. STD D-4.10
ES-1	15" HDPE END SECTION	N 571538.64 E 1329361.59	- 35	1.86 –	ADS "NYLOPLAST" OR EQUAL
ES-2	15" HDPE END SECTION	N 571555.49 E 1329509.91	- 360	0.89 -	ADS "NYLOPLAST" OR EQUAL
ES-3	24" HDPE END SECTION	N 571243.75 E 1329386.70	- 37.	3.55 -	ADS "NYLOPLAST" OR EQUAL

NOTES: 1. TOP ELEVATIONS/LOCATION ARE AT CENTER OF GRATE FOR "S" INLETS AND AT CENTER TOP OF SLAB FOR "D" INLETS. LOCATION AND INVERT FOR END SECTIONS IS AT END (AT RIP-RAP). TOP ELEVATIONS DO NOT APPLY.

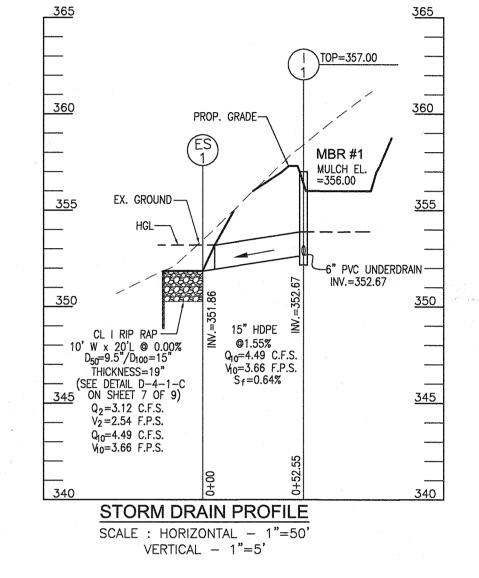
- 2. ALL TOP SLABS AND GRATES SHALL BE SET LEVEL.
- SEE ARCHITECTURAL PLANS FOR ROOF DRAIN DETAILS. 4. THERE ARE A TOTAL OF 15 CLEANOUTS FOR BIO-RETENTION AND ROOF DRAINS.

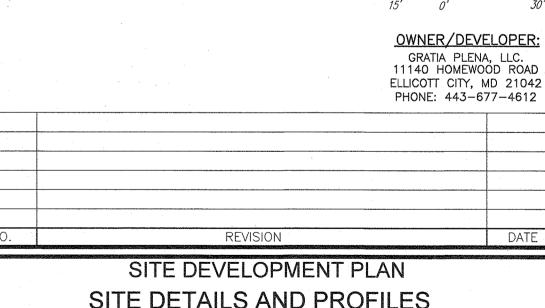


SOLID WASTE SERVICE PAD HOWARD COUNTY STD. R 8.03 NOT TO SCALE



PRECAST CONCRETE WHEEL STOP DETAILS





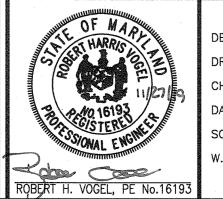
SITE DETAILS AND PROFILES **CUNNINGHAM PROPERTY - FOOD HUB** 4979 SHEPPARD LANE L.15767/F.426

TAX MAP:29 GRID:13 PARCEL:25 5TH ELECTION DISTRICT

DPZ REFERENCE: HO-10-03E/ECP-16-030
ZONED: RC-DEO-RURAL COMSERVATION
HOWARD COUNTY, MARYLAND

# **VOGEL ENGINEERING**

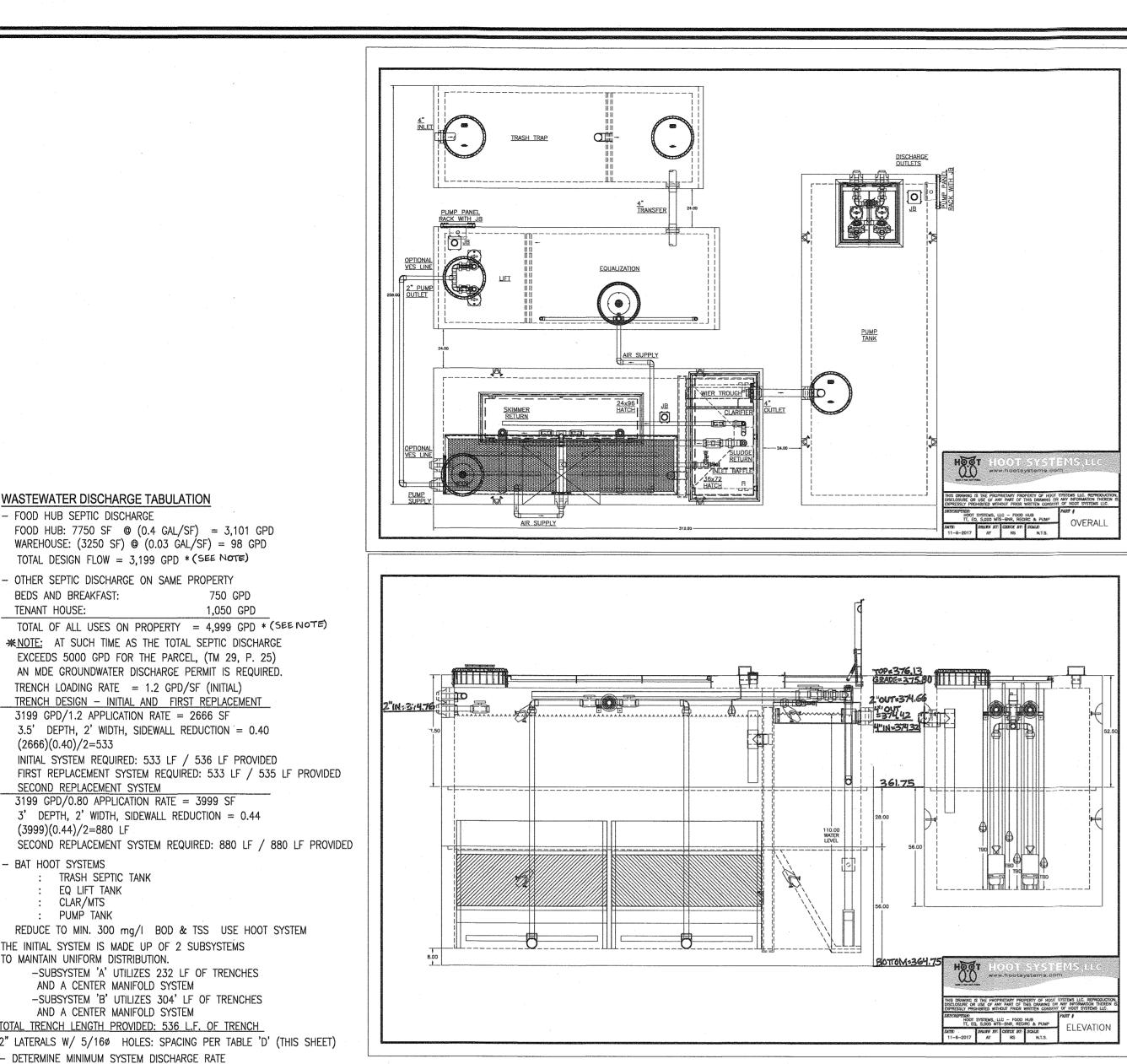
**TIMMONS GROUP** 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



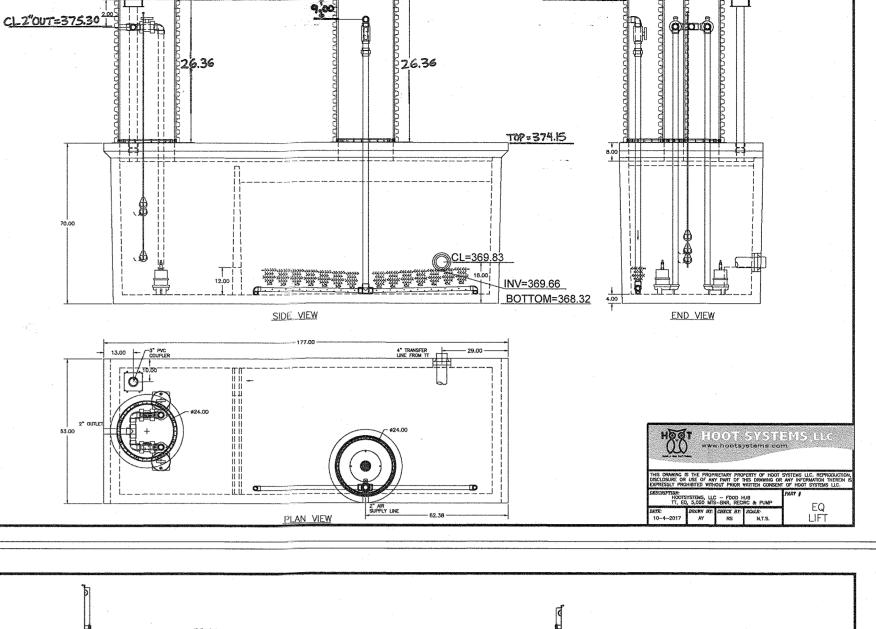
DESIGN BY: \_\_\_\_GAH DRAWN BY: CHECKED BY: DATE: NOVEMBER, 2019 SCALE: \_\_\_\_AS SHOWN W.O. NO.:

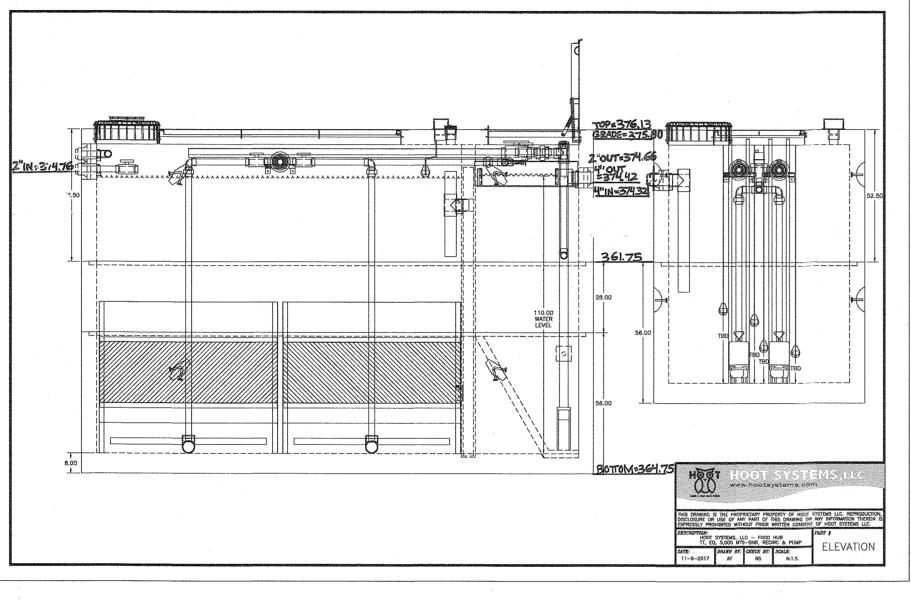
I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AND
THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2020 \_\_ SHEET \_\_\_\_\_\_10

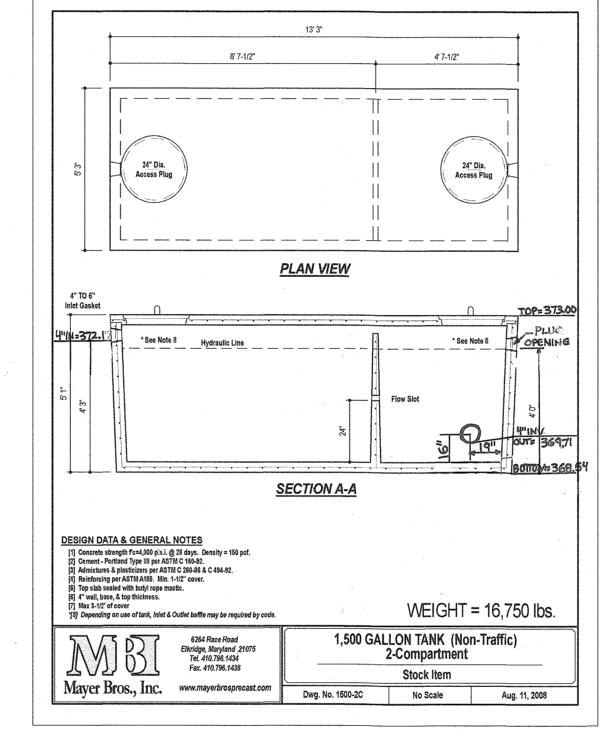
SCALE 1"=30"



0 2 or 374 13 04"IN=374.32 BOTTOM=367.11 BOTTOM=367.11 SIDE VIEW END VIEW Krawing is the proprietary property of hoot systems i.i.c. reproducti Issure or use of any part of this drawing or any information therem SSLY provisited without prior written consent of hoot systems i.i.c. PLAN VIEW







1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS

THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S

THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE

THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED

SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE

6. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED

7. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED

8. START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO

MAIN THAT DISCHARGES TO A DEFINED SUBSYSTEM.

BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS

10. CHECK VALVES MAY ONLY BE INSTALLED ON THE FORCE MAINS INSIDE THE PUMP TANK BETWEEN THE PUMP AND A WEEP HOLE. THE FORCE

WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT

ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS

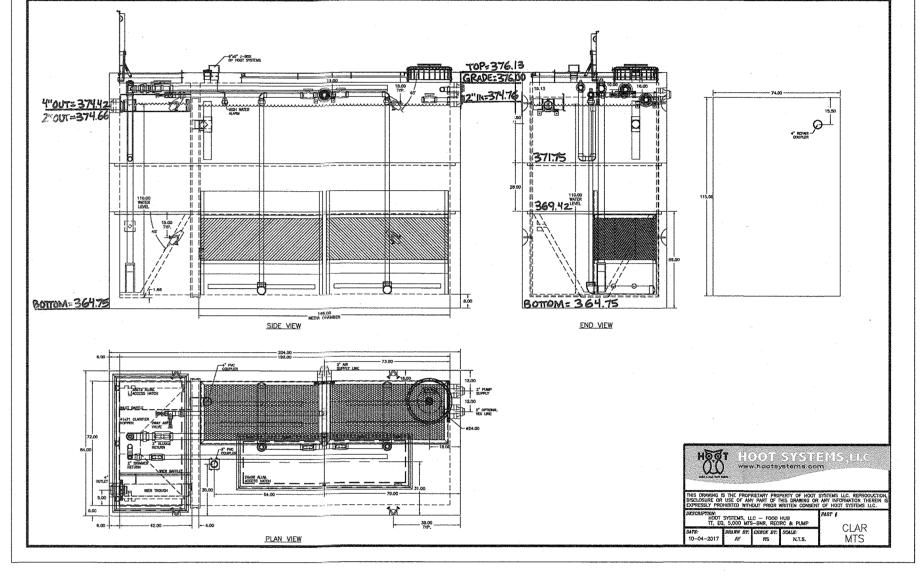
IN THE SEPTIC SYSTEM TO BE INSTALLED, EACH PUMPHAS A DEDICATED FORCE

MAINS SHALL BE DESIGNED TO DRAIN THROUGH THE WEEP HOLE.

11. A WATERTIGHT TEST WILL BE REQUIRED ON THE TANKS IN THE FIELD.

MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY

HEALTH DEPARTMENT PRIOR TO INSTALLATION, A REVISED SITE PLAN



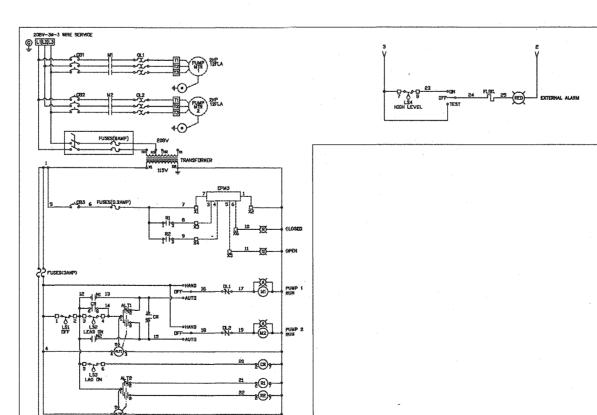
MINIMUM DOSE (SYSTEM 'A') - MINIMUM DOSE (SYSTEM 'B') 5 x LATERAL VOLUME + MÁNIFOLD VOLUME + FORCE MAIN 5 x LATERAL VOLUME + MÁNIFOLD VOLUME + FORCE MAIN 2" LATERAL VOLUME=230 LF x 17.4/100)x5=200 GALLONS 2" LATERAL VOLUME=300 LF  $\times$  17.4/100) $\times$ 5=261 GALLONS 3" FORCE MAIN VOLUME=(405 LF x 40.9/100)=166 GALLONS 3" FORCE MAIN VOLUME=(415 LF x 40.9/100)=170 GALLONS 3" MANIFOLD VOLUME= $(12 \text{ LF } \times 40.9/100)=5 \text{ GALLONS}$ 3" MANIFOLD VOLUME=(12 LF x 40.9/100)=5 GALLONS MINIMUM DOSE = 371 GALLONS MINIMUM DOSE = 436 GALLONS 1/6 DESIGN FLOW=533 GALLONS (USED) 1/6 DESIGN FLOW=533 GALLONS (USED) CALCULATE TDH - CALCULATE TDH 1. FRICTION LOSS FOR 3"\( \phi\) PVC @ 80.5 GPM = 1.38/100 FT. CALCULATE LOSS THROUGH FORCE MAIN + MAINFOLD (1.38/100)(417) = 5.75(1.73/100)(427) = 7.392. FITTINGS

1. FRICTION LOSS FOR 3"\( \text{PVC} \) 90.8 GPM = 1.73/100 FT. CALCULATE LOSS THROUGH FORCE MAIN + MAINFOLD FITTINGS

DISCONNECT  $1 \times 3.0 = 3.0$  $10 \times 6.0 = 60.0$ 

GATE VALVES  $1 \times 2.0 = 2.0$ 90° (PUMP CHAMBER)  $4 \times 10 = 40.0$ 105 L.F. @ 1.73/100 LF = 1.82' ASSUME 1.5' FRICTION LOSS IN LATERALS (REF. MDE GUIDELINES)

TOTAL FRICTION LOSS = 7.39' + 1.82' = 9.21'STATIC HEAD: 404-369.18 = 34.82TOTAL HEAD: STATIC + FRICTION +DISTAL END 9.21 + 1.5' + 34.82 + 2.0 = 47.53'



2007-36-1 MIRE SDRMOE  (B) 1.13.23.3  (C) 1.13.23.3		3 V	ę Y
40 W		7 & 0 DT E4 FL	ST. 25 (SD) EXTERNAL ALAS
FUSES(GAMP) 209V  III JUN 181			
	CLOSED		
10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	PUMP 1 PUMP 1 PUMP 2 PUMP 2		
1			

ALTERNATING SWITCH SCHEMATIC

2001-38-1 NRE SERVICE (1.12.13)		3 Y		Y
10 10 10 10 10 10 10 10 10 10 10 10 10 1		7 & 8 LS4 HIGH LEVEL	DFF 24	FLSC. 25 PED
FUSSS(GAMP) 2009 TRANSFORMER  1 115V M				
3 CBS 6 FUSEE(0.2MP) 7 3 4 5 6 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10				
FISSEXCAMP)  12   MI 13   OFF AUTO   OFF AUT				
1				
1⊕5	*			

			TABLE 'D' - LATERAL INFO.								-				
				TRENCH	SUBSYSTEM	RELATIVE ELEVATION (FT.)	TRENCH LENGTH (FT.)	LATERAL LENGTH (FT.)	ASSUMED HEAD (FT.)	ORIFICE DIAMETER (IN.)	ORIFICE FLOW RATE (GPM)	ORIFICE SPACING (FT.)	NUMBER OF ORIFICES	TRENCH FLOW RATE (GPM)	TRENCH FLOW RATE (GPM/LF)
TO H	BOTTOM OF TRENCH	EXISTING GROUND		A1	А	405.15		**47.25		5/16	1.63	4.5	*11	17.9	0.38
5	401.65	407.65		A2	Α	405.15	50'x1	47.25	2.0	5/16	1.63	4.5	*11	17.9	0.38
5	401.65	407.65		A3/A4	Α	403.38	33'x2	<sup>**</sup> 62.25	3.77	5/16	2.23	6.5	*10	22.3	0.36
8	399.88	405.88		A5/A6	Α	403.38		**62.2 <b>5</b>		5/16	2.23	6.5	*10	22.3	0.36
8	399.88	405.88		A7/A8	В	404.00	38'x2	**73.17	2.0	5/16	1.63	5.42	*14	22.8	0.31
0	398.00	404.00		A9/A10	В	404.00	38'x2	**73.17	2.0	5/16	1.63	5.42	*14	22.8	0.31
0	398.00	404.00	-	A11/A12	В	402.15		**72.2	3.85	5/16	2.26	7.60	*10	22.6	0.31
5	396.15	402.15	-	A13/A14	В	402.15	38'x2	<sup>₩</sup> 72.2	3.85	5/16	2.26	7.60	*10	22.6	0.31
5	396.15	402.15							TO	TAL TRENC	H FLOW RA	TE (GPM)	171.	2 2.7	72
	*NUMBER OF ORIFICES IS FOR ENTIRE LENGTH OF CENTER-FED TRENCH														

**GENERAL NOTES:** 

MAY BE REQUIRED.

LIFE OF THE SYSTEM.

SERVICE PROVIDER.

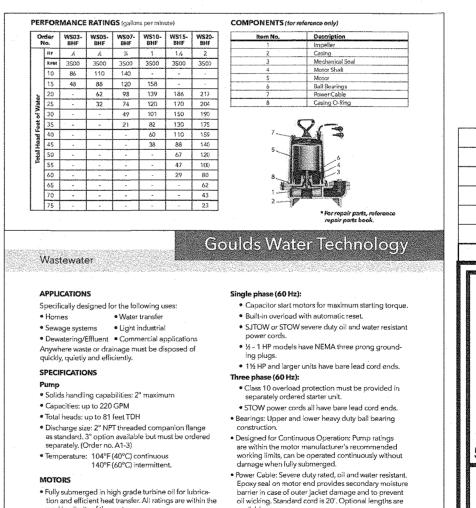
SPECIFICATION IS 3 FEET.

BY A LICENSED ELECTRICIAN.

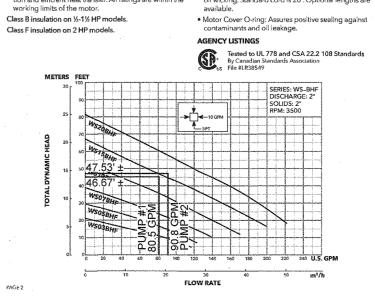
OF HOWARD COUNTY.

AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.

FINAL APPROVAL OF THE INSTALLATION.



RISER-376.35



OWNER/DEVELOPER: GRATIA PLENA, LLC. 11140 HOMEWOOD ROAD ELLICOTT CITY, MD 21042 PHONE: 443-677-4612

SITE DEVELOPMENT PLAN BAT / SEPTIC INSTALLATION NOTES AND DETAILS

REVISION

**CUNNINGHAM PROPERTY - FOOD HUB** 4979 SHEPPARD LANE L.15767/F.426

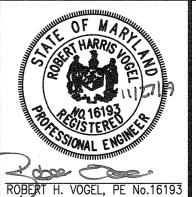
TAX MAP:29 GRID:13 PARCEL:25 5TH ELECTION DISTRICT

DPZ REFERENCE: HO-10-03E/ECP-16-030 ZONED: RC-DEO-RURAL CONSERVATION HOWARD COUNTY, MARYLAND

## **VOGEL ENGINEERING**

## **TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



ESIGN BY: GAH
RAWN BY: GAH
HECKED BY: RHV
ATE: NOVEMBER, 2019
CALE: AS SHOWN
/.O. NO.: 14-62

PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020 \_\_\_SHEET \_\_\_\_\_10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 12/23/19 CHIEF, DEVELOPMENT ENGINEERING DIVISION

INITIAL SYSTEM

DISCONNECT

GATE VALVES

SUBSYSTEM A: 80.5 GPM>171.3 GPM SUBSYSTEM B: 90.8 GPM

 $1 \times 3.0 = 3.0$ 

 $1 \times 2.0 = 2.0$ 

90° (PUMP CHAMBER)  $4 \times 10 = 40.0$ 

TOTAL FRICTION LOSS = 5.75' + 1.45' = 7.20'

TOTAL HEAD: STATIC + FRICTION +DISTAL END

STATIC HEAD: 405.15-369.18 = 35.97

10' SPACING/12' C/C

INITIAL & 1ST RÉPLACÉMENT

TRENCH DETAIL

NOT TO SCALE

105 L.F. @ 1.38/100 LF = 1.45'

 $10 \times 6.0 = 60.0$ 

ASSUME 1.5' FRICTION LOSS IN LATERALS (REF. MDE GUIDELINES)

7.20 + 1.5' + 35.97 + 2.0 = 46.67'

2/27/2020 DATE CHIEF, DIVISION OF LAND DEVELOPMENT DIRECTOR ON-2/27/240 DATE

10' SPACING/12' C/C 2ND REPLACEMENT TRENCH DETAIL NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

0.5' BLOCK | | 367.11 (BOTTOM)

(DOSE 533 GALLONS)

HOWARD COUNTY HEALTH DEPARTMENT

5,000 GALLON PUMP CHAMBER

OUTSIDE TO OUTSIDE DIMENSION = 17.0' x 7.0'

INSIDE TO INSIDE DIMENSION = 16' x 6.0'

INSIDE CROSS SECTION = 96 PM

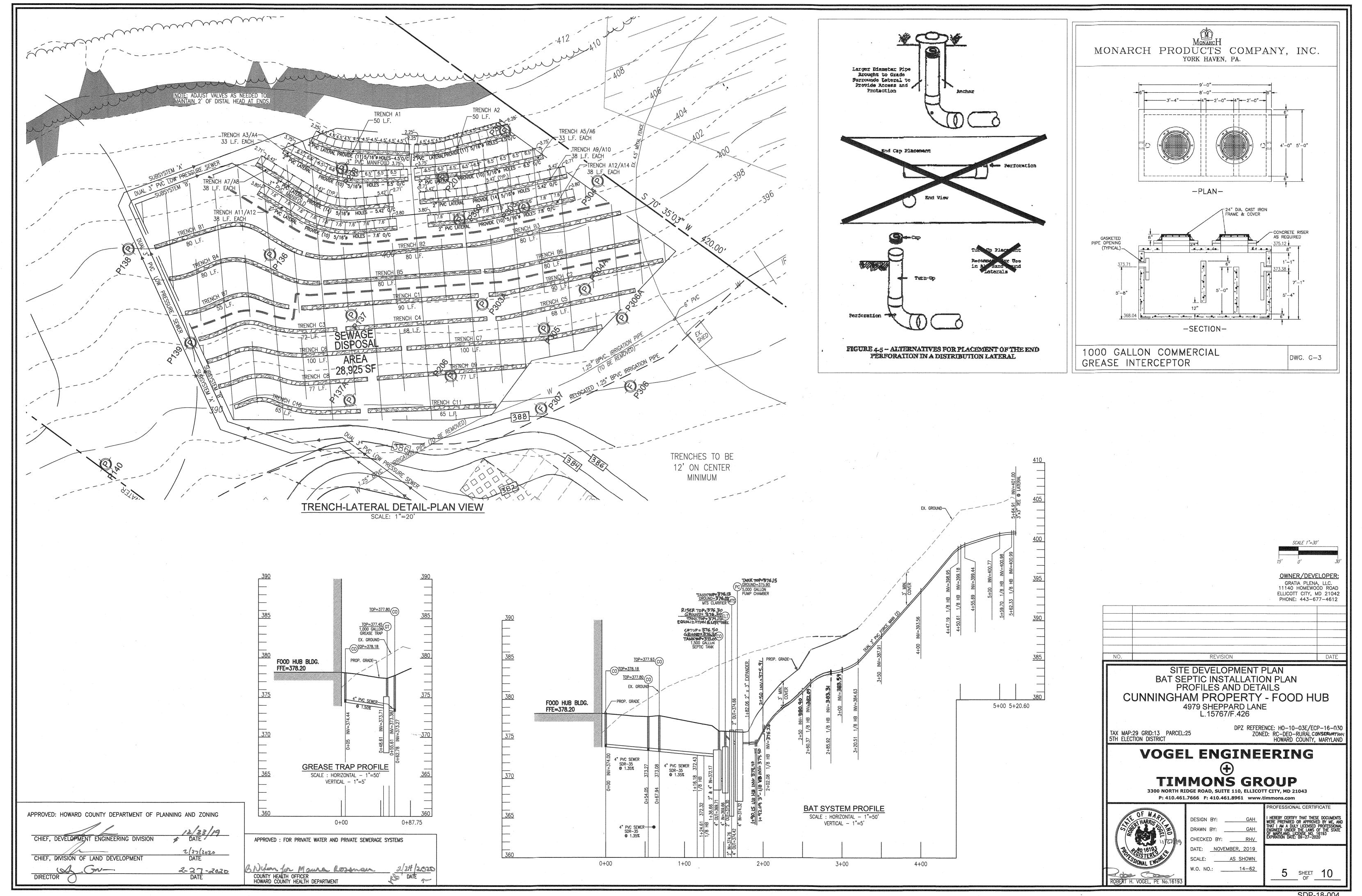
ONE DAY STORAGE 3199 GALLONS

ONE DAY STORAGE 3199 GALLONS ONE DAY STORAGE: 3199/7.48 GAL/FT 3= 427.7 FT 3 427.7/96 = 4.45' DOSE: 533/7.48 GAL/FT<sup>3</sup> = 71.26 FT<sup>3</sup> 71.26/96 = 0.74' USE TWO (2) GOULDS WS20BHF OR EQUAL PROVIDE ALTERNATING SWITCH (SEE SCHEMATIC) Bilifon for Maura Rozenan 2/24/2022 COUNTY HEALTH OFFICER DATE 92

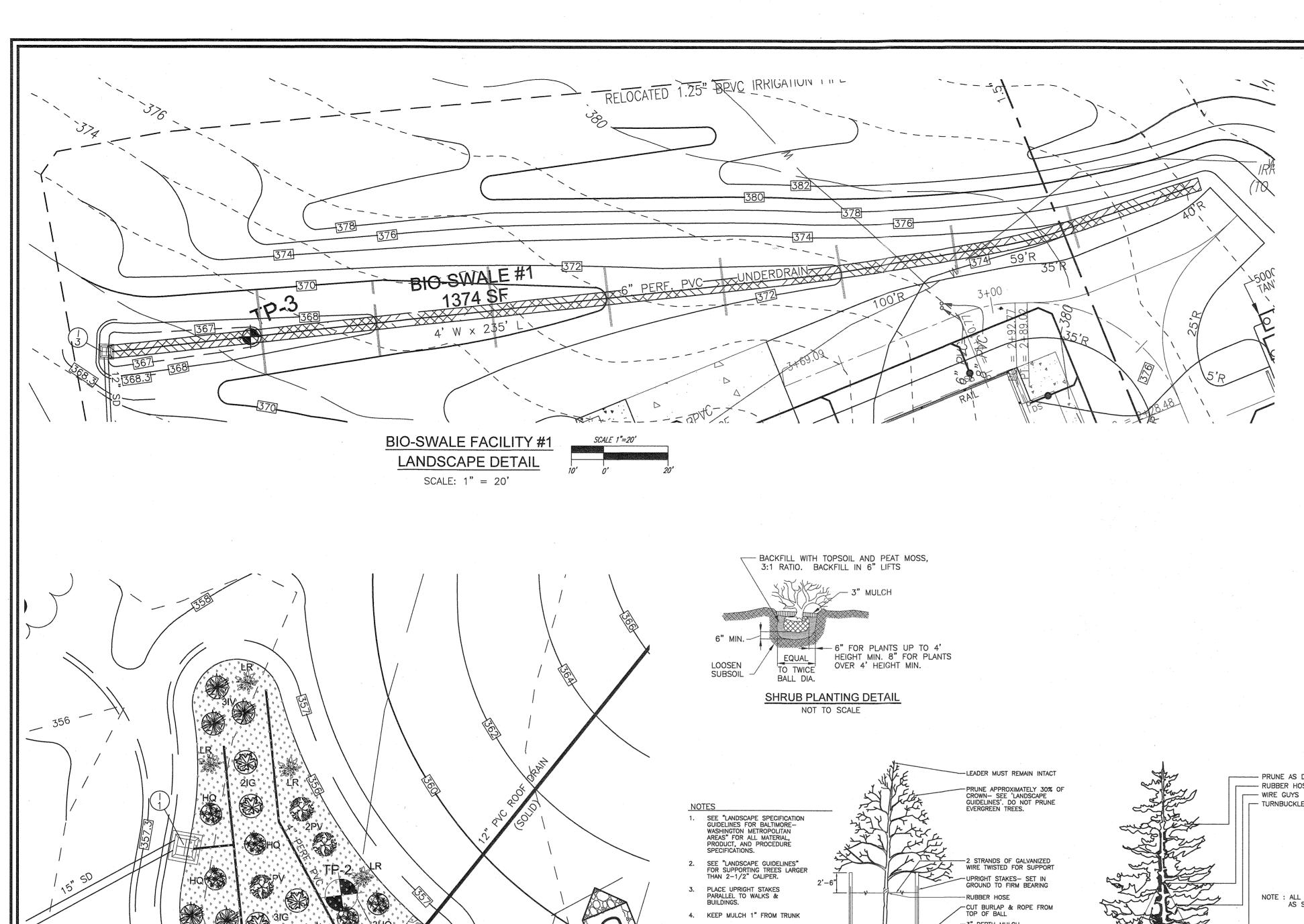
TRENCH INFO. 405.15 405.15 A2 \* A3/A4 \* A5/A6 \* A7/A8 \* A9/A10 \* A11/A12 | 76' | 2' | 3.5' | \* A13/A14 | 76' | 2' | 3.5' | 399.65 \* CENTER-FED TRENCH

6.5 \*10 22.3 0.36 5.42 \*14 22.8 0.31 5.42 \*14 22.8 0.31 7.60 \*10 22.6 0.31 7.60 \*10 22.6 0.31 RATE (GPM) 171.2 2.72 CENTER-FED TRENCH \*\* FROM MANIFOLD TEE

DATE



SDP-18-004



5'X5' @ 0.00% D<sub>50</sub>=9.5" D<sub>100</sub>=15" THICKNESS=19"

MICRO-BIORETENTION FACILITY #1

LANDSCAPE DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

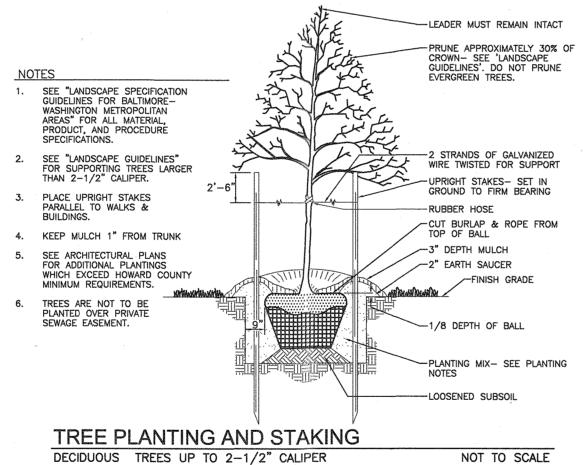
CHIEF, DIVISION OF LAND DEVELOPMENT

SCALE: 1" = 10"

12/23/19 DATE

2/27/2020 DATE

2.272020 DATE



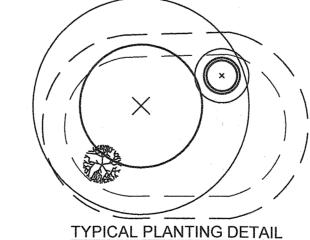
----- PRUNE AS DIRECTED ---- RUBBER HOSE --- WIRE GUYS - TURNBUCKLES NOTE : ALL MATERIALS AS SPECIFIED - PLANT SAUCER - REMOVE BURLAP FROM TOP - 1/3 OF BALL 2"X4"X3" WOOD STAKES - BACKFILL MATERIAL - COMPACTED BACKFILL MATERIAL 6" MIN. - 1'-0" ALL SIDES

TYPICAL EVERGREEN TREE PLANTING DETAIL NOT TO SCALE

### "MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:

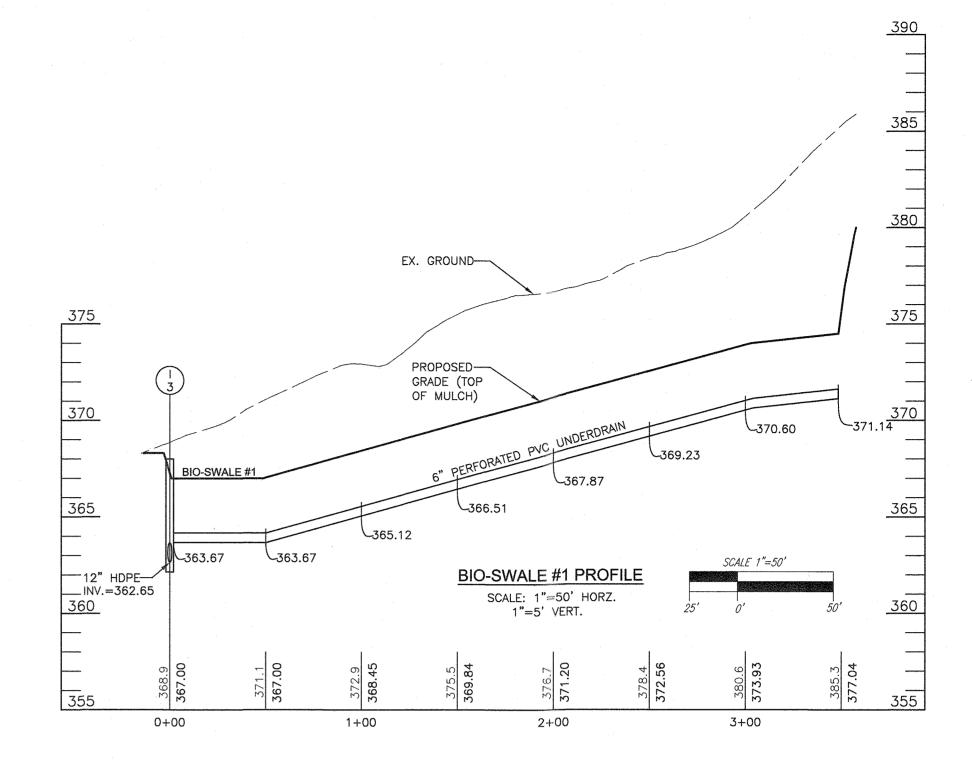
- 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS.
- TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- SEE THIS SHEET FOR TYPICAL PLANTING SPECIFICATIONS AND DETAILS. MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000

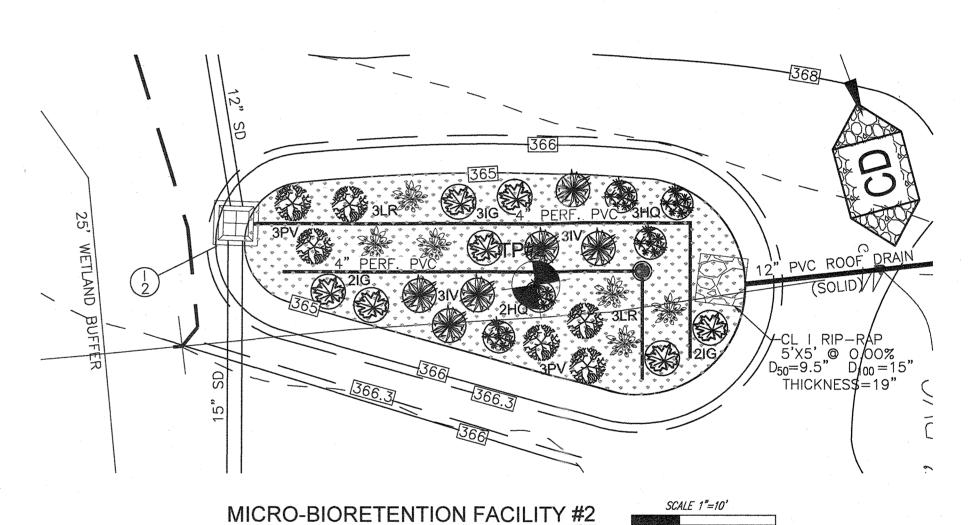
STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDV SUMMARY.



FOR MICRO BIO-RETENTION NTS 50% COVERAGE AT FULL GROWTH REQUIRED

STORMWATER MANAGEMENT TEST PIT DATA									
BORING	NODTHING	FACTING	SURFACE	BORING DEPTH AT COMPLETION			1		
NO.	NORTHING EASTING	ELEV.	PROPOSED	DRILLED	WATER (ft)	CAVE-IN (ft)	ROCK (ft)		
1	N 571,506	E 1,329,601	367.23	4'x8'x11'	8'	8	8'		
2	N 571,466	E 1,329,366	359.80	4'x16'x9'	9'	7.5	_	9'	
3	N 571,492	E 1,329,646	370.83	4'x10'x14'	14'	-		_	





LANDSCAPE DETAIL

SCALE: 1" = 10'

MBR FACILITY	SURFACE AREA	REQUIRED PLANTINGS	PLANTINGS PROVIDED
MBR #1	1150 SF	26	2 WINTERBERRY 5 ARROWWOOD VIBERNUM 5 NEW ENGLAND ASTER 2 CARDINAL FLOWER 2 MOUNTAIN LAUREL
MBR #2	1390 SF	32	2 WINTERBERRY 5 ARROWWOOD VIBERNUM 5 NEW ENGLAND ASTER 2 CARDINAL FLOWER 2 MOUNTAIN LAUREL
BIOSWALE #1	1374 SF	32	2 WINTERBERRY 5 ARROWWOOD VIBERNUM 5 NEW ENGLAND ASTER 2 CARDINAL FLOWER 2 MOUNTAIN LAUREL

		ILE			
KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS	
IG IG	1:3	ILEX VERTICILLATA "WINTERBERRY"	1 GALLON	18" O.C.	
IV.	1.4	VIBURNUM DENTATUM ARROWWOOD VIBURNUM	1 GALLON	18" O.C.	
НО	11	ASTER NOVAE-ANGLIAE NEW ENGLAND ASTER	1 GALLON	30" O.C.	
LR	12	LOBELIA CARDINALIS CARDINAL FLOWER	4' HT	SPECIMIN QUALITY STRAIGHT LEADER	
PV	11	KALMIA LATIFOLIA MOUNTAIN LAUREL	4' HT	SPECIMIN QUALITY STRAIGHT LEADER	

PERENNIALS/GROUNDCOVER PLANTING SCHEDULE							
LEGEND	LEGEND QTY BOTANICAL NAME/COMMON NAME SIZE			REMARKS			
	79	RUDBECKIA HIRTA BLACK EYED SUSAN	4" POT	12"-15" O.C. FOR SIDE AND BOTTOM OF MBR, MIX ALL VARIETIES IN A NATURALIZED RANDOM			
and the second s	79	PHLOX STOLONIFERA CREEPING PHLOX	1 QT.	PATTERN THROUGHOUT, PLANT IN GROUPS OF NO LESS THAN 9 PLANT PER CLUMP			

OWNER/DEVELOPER: GRATIA PLENA, LLC. 11140 HOMEWOOD ROAD ELLICOTT CITY, MD 21042 PHONE: 443-677-4612

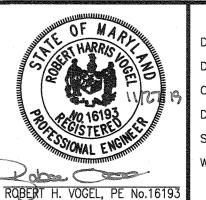
REVISION SITE DEVELOPMENT PLAN **DETAILS AND SCHEDULES** FOR MICRO-BIORETENTION AND LANDSCAPING **CUNNINGHAM PROPERTY - FOOD HUB** 4979 SHEPPARD LANE L.15767/F.426

TAX MAP:29 GRID:13 PARCEL:25 5TH ELECTION DISTRICT

DPZ REFERENCE: HO-10-03E/ECP-16-030 ZONED: RC-DEO-RURAL CONSERVATION HOWARD COUNTY, MARYLAND

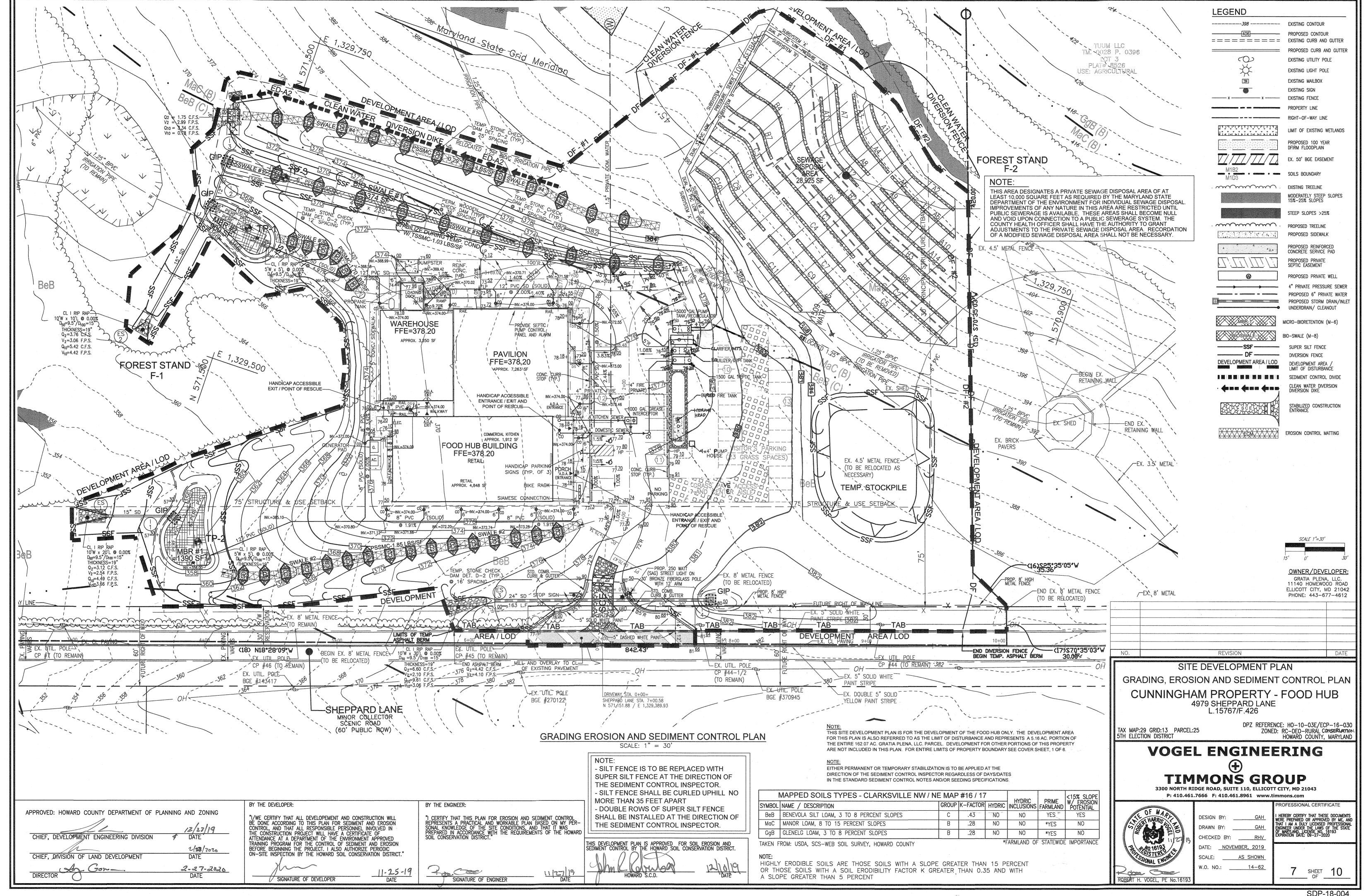
# **VOGEL ENGINEERING**

**TIMMONS GROUP** 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: GAH  DRAWN BY: GAH  CHECKED BY: RHV	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020
DATE: NOVEMBER, 2019	
SCALE: AS SHOWN	
W.O. NO.: 14-62	6 SHEET 10

SHEET 10 OF



ANOTHER GRADING UNIT,

D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS
INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL
PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH
THIS PLAN.

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 MARYLA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.

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

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 ALONE 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 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

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.

TOTAL AREA OF SITE AREA DISTURBED (DEVELOPMENT AREA)
AREA TO BE ROOFED OR PAVED
AREA TO BE VEGETATIVELY STABILIZED

AREA TO BE VEGETATIVELY STABILIZED

AREA TO BE VEGETATIVELY STABILIZED

OFFSITE WASTE/BORROW AREA LOCATION

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

\* INSPECTION DATE \* INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
\* NAME AND TITLE OF INSPECTOR

\* WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION \* BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES EVIDENCE OF SEDIMENT DISCHARGES
DENTIFICATION OF PLAN DEFICIENCIES

\* IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE

\* IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS

\* COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS \* MONITORING/SAMPLING

\* MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED \* OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

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 ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED O THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY TH CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE. 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE. 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION. 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS

(INCLUSIVE): \* USE | AND IP MARCH 1 - JUNE 15 \* USE III AND IIIP OCTOBER 1 - APRIL 30 \* USE IV MARCH 1 - MAY 31 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN

ESTIMATE ONLY: CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION. TO BE DETERMINED BY CONTRACTOR, WITH PRE—APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, WITH AN APPROVED AND ACTIVE GRADING PERMIT

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS.
FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

**CRITERIA** 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 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 ND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT . FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON. APPLY SEED ND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND

TEMPORARY SEEDING SUMMARY											
	HARDINESS Z SEED MIXTUR	FERTILIZER RATE	LIME RATE								
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)						
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC	MAR 1 TO MAY 15 AUG 1 TO OCT 15	1/2 IN.	436 LB/AC (10 LB PER 1000 SF )	2 TONS/AC (90 LB PER 1000 SF )					
2	WARM SEASON FOXTAIL MILLET OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.							
	ON LYONE				<u></u>						

		OR EQUA	L										
ANTENNA TIES			PERMANENT SEEDING SUMMARY										
NO SERVICE SERVICES		HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3): 9					FERTILIZER RATE (10–20–20)						
erentzian tantu	NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P <sub>2</sub> 0 <sub>5</sub>	к <sub>2</sub> 0	LIME RATE				
	1	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	T.F. 60 LB / AC K.B. 40 LB / AC		1/4-1/2 IN.	(1 LB PER	(2 LB PER	(2 LB PER	2 TONS/AC (90 LB PER 1000 SF )				
SPIRITE SANDERS STATES							-						

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

<u>DEFINITION</u>
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE TO USE LONG—LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.  $\begin{array}{c} \underline{\text{CONDITIONS}} \ \ \underline{\text{WHERE}} \ \ \underline{\text{PRACTICE}} \ \ \underline{\text{APPLIES}} \\ \underline{\text{EXPOSED}} \ \ \underline{\text{SOILS}} \ \ \underline{\text{WHERE}} \ \ \underline{\text{GROUND}} \ \ \underline{\text{COVER}} \ \ \underline{\text{IS}} \ \ \underline{\text{NEEDED}} \ \ \underline{\text{FOR}} \ \ \underline{\text{6}} \ \ \underline{\text{MONTHS}} \ \ \underline{\text{OR}} \ \ \underline{\text{MONTHS}} \ \ \underline{\text{OR}} \ \ \underline{\text{MONTHS}} \ \ \underline{\text{COVER}} \ \ \underline{\text{NEEDED}} \ \ \underline{\text{FOR}} \ \ \underline{\text{6}} \ \ \underline{\text{MONTHS}} \ \ \underline{\text{OR}} \ \ \underline{\text{MONTHS}} \ \ \underline{\text{COVER}} \ \ \underline{\text{COVER}}$ 

SENERAL USE A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE

IHE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. 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 GUIDE, SECTION 342 — CRITICAL AREA PLANTING.

C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY URFA FORM FERTILIZER (46—0—0) D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 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

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 ITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND EEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED

SEEDING DATES IN THE PERMANENT SEEDING SUMMART. THE SUMMART IS TO BE FORCED ON THE PLAN.

1. 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 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED. V. 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: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET. 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

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

- WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A) - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) - 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 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES. B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

 GENERAL SPECIFICATIONS

 CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR

 MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TOM 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. LAY 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 UNDTLETTED THE LANDERGES OF WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF E NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE E OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

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 OTHERWISE SPECIFIED.

> B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

<u>DEFINITION</u> A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND

<u>PURPOSE</u> TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL

THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.

THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A

DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT 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.

IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 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.

R-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

<u>DEFINITION</u> THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. <u>CONDITIONS WHERE PRACTICE APPLIES</u> WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

A. 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.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

C. INCORPORATE LIME AND EFSTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. PERMANENT STABILIZATION

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE

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.

V. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT. V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET 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.

E. 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.

SFEDRED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
1. SOIL PH BETWEEN 6.0 AND 7.0.

B. TOPSOILING I. 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 CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

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— 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.

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING 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 APPROPUED 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, TRASLE OR OTHER MATERIAL APPEAR THAN 14 MINISTERS DANGET BY AND COMPANY. TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA 3, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS FECIFIED.

AS SPECIFIED.

C. 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. ROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
B. 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.
C. 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.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

I. 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.

2. 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. 3. 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 #100 MESH SIEVE.

4. 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.

5. 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)

PERMANENT SOIL

STABILIZATION MATTING

· ISOMETRIC VIEW

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. CHECALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VECETATION 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 PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

CHANNEL APPLICATION

PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

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

 $\begin{array}{ll} \underline{\text{DEFINITION}} \\ \text{THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER} \end{array}$ 

 $\frac{2 \text{URPOSE}}{10}$  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

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 ROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND 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 EFFECTIVE. 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.

A. 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 8.1, PERMANENT SEEDING TABLE 8.3, 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 PLANTING.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING 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 NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (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 HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

I. MULCH MATERIALS (IN ORDER OF PREFERENCE)

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, 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 FACTORS. III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOL 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 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.

IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

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 FROSION HAZARD: . A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH NTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT S LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS I. 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 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 3,000 FEET

DETAIL C-1 EARTH DIKE

CROSS SECTION

SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

2:1 SLOPE OR FLATTER-

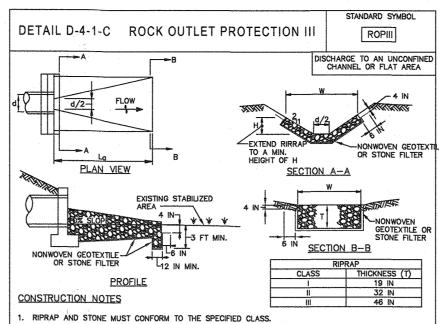
CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

V V V V V V V V

PLAN VIEW

FLOW CHANNEL STABILIZATION

CONSTRUCTION NOTES



2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.

PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.

5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES, PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.

CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT: AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

NONWOVEN GEOTEXTILE

SPACING, X

CHANNEL PROFILE

CROSS SECTION

2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE. CONSTRUCT THE CHECK DAM WITH WASHED 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) WITH SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM TOP WIDTH OF 12 INCHES. PLACE THE STONE SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL AND CHANNEL BANKS. FORM THE WEIR SO THAT TOP OF THE OUTLET CREST IS APPROXIMATELY 6 INCHES LOWER THAN THE OUTER EDGES. LINE THE UPSTREAM

SET THE HEIGHT FOR THE WEIR CREST EQUAL TO ONE—HALF THE DEPTH OF THE CHANNEL OR DITCH. TO AVOID SCOUR THE MAXIMUM HEIGHT OF THE WEIR CREST MUST NOT EXCEED 2.0 FEET.

. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE—HALF OF THE HEIGHT OF THE WEIR CREST. MAINTAIN LINE, GRADE, AND CROSS SECTION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

FACE OF THE DAM WITH A 1 FOOT THICK LAYER OF WASHED AGGREGATE (3/4 TO 1/2 INCH)

STANDARD SYMBOL

CEOTEXTILE 6 IN

SCE

- EXISTING PAVEMENT

122

T4 TO 7 IN STONE (TYP.)

12 IN MIN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION 2011

DETAIL D-2 STONE CHECK DAM

8 IN GEOTEXTILE 6 IN

L4 TO 7 IN STONE

CONSTRUCTION SPECIFICATIONS

TOP OF BANK-

2 FT MAX

DETAIL C-9 DIVERSION FENCE --- DF ------MAXIMUM DRAINAGE AREA = 2 ACRES 10 FT MAX. 34 IN MIN. GROUND SURFACE---/ 2% IN DIAMETER GALVANIZED STEE OR ALUMINUM POSTS -- CHAIN LINK FENCE COVERED WITH IMPERMEABLE SHEETING **ELEVATION** FLOW -SECTION CONSTRUCTION SPECIFICATIONS USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2% INCH MAXIMUM OPENING). . USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE. . FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.

STANDARD SYMBOL

GIP

EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM

KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL 2011

GROUND SURFACE---/

CONSTRUCTION NOTES

DETAIL E-3 SUPER SILT FENCE

CHAIN LINK FENCING -

CROSS SECTION

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE,

WOVEN SLIT FILM GEOTEXTILE -

EMBED GEOTEXTILE AND — CHAIN LINK FENCE 8 IN MIN. INTO GROUND

FLOW

DETAIL E-9-7 GABION INLET PROTECTION MAXIMUM DRAINAGE AREA = 1% ACRE ABION BASKETS PLAN VIEW EX. GROUND PROPOSED / EXISTING INLET

CONSTRUCTION SPECIFICATIONS USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER. WRAP 3 FEET x 3 FEET GABION BASKETS (LENGTH VARIABLE) WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVERLAPPING AT THE TOP AND FASTEN THE GEOTEXTILE AT THE TOP OF THE BASKET WITH WIRE FASTENERS (HOG RINGS) AT A MAXIMUM OF 1 FOOT INTERVALS ALONG THE SEAM.

AVOID TEARING OR DAMAGING GEOTEXTILE 4. ENTRENCH GABION BASKETS TO A DEPTH OF 6 INCHES

PLACE AND INTERLOCK GABION BASKETS WITH NO GAPS. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR MESH.

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 CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
TURAL RESOURCES CONSERVATION SERVICE

OBTAIN GRADING PERMIT. (1 DAY) CONTROLS. (1 DAY)

FENCE, DIVERSION FENCE, TEMPORARY ASPHALT BERM AND EARTH DIKE AS SHOWN HEREON OR AS DIRECTED BY SEDIMENT CONTROL INSPECTOR. (1 WEEK)
UPON COMPLETION OF ABOVE, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR & GRUB SITE. (3 DAYS)
THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY
MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS (1 DAY) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, INSTALL CULVERT ACROSS DRIVEWAY ENTRANCE FROM ES-3 TO I-4. GRADE WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, ROUGH GRADE SITE, BRING BUILDING PAD AND DRIVEWAY TO SUBGRADE AND

THE END OF EACH WORKING DAY MAY BE EXCAVATED. (DAILY) INSTALL STONE SUBBASE AND BASE COURSE PAVING FOR DRIVEWAY

BEGIN CONSTRUCTION OF FOOD HUB BUILDING. (6MONTHS)

MIXTURE AND STRAW MULCH. (1 WEEK) NOTE: ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR

PROCEEDING WITH CONSTRUCTION

DETAIL E-7 TEMPORARY STONE OUTLET **₹** STRUCTURE ISOMETRIC VIEW L = 6 FT MIN. 6 IN MIN.----EARTH DIKE 371.50 WEIR CREST (LEVEL) 37<u>1.00</u>₹ 12 IN MIN. 370.00 \$7877X7X7X Legislations for dewatering, 12 in Min. 3 rows 1 in diameter holes on 6 in centers L2 IN x 10 IN x 12 FT BAFFLE BOARD SECTION A-A WEIR CREST-C TO 3 IN STONE STORAGE VOLUME --EXCAVATE AS NECESSAR 2 TO 3 IN STONE - WOVEN MONOFILAMENT 4 IN EMBEDMENT 6 IN MIN. NONWOVEN GEOTEXTILE --/ POST 2 IN x 2 IN x 18 IN MIN. SECTION B-B MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

STANDARD SYMBOL

├──SSF──I

-36 IN MIN

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

SEQUENCE OF CONSTRUCTION

DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (1 DAY)
NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. STAKEOUT LIMITS OF DISTURBANCE. (3 DAYS)
INSTALL STABILIZED CONSTRUCTION ENTRANCE, AS SHOWN HEREON. CLEAR AND GRUB ONSITE AREA FOR THE INSTALLATION OF PERIMETER

INSTALL STSBILIZED CONTRUCTION ENTRANCE, PERIMETER SUPER SILT AS REQUIRED FOR INSTALLATION AND STABILIZE. PROVIDE GABION INLET PROTECTION AND REPAIR STABILIZED CONSTRUCTION ENTRANCE.

GRADE SWALES/BERMS. COMPLETE THE INSTALLATION OF THE PRIVATE WATER, WELL, SEWER AND SEPTIC FIELD TO SERVICE THE PROJECT SITE. ONLY THAT PORTION OF SEWER AND STORM DRAIN WORK THAT CAN BE COMPLETED, BACKFILLED AND STABILIZED AT

AND PARKING AREAS. (3 DAYS) XVIL. EFRIMETER DEVICES, SUPER SILT FENCE, EARTH DIKE, DIVERSION FENCE, ETC SHALL BE INSPECTED AND REPAIRED AS REQUIRED ON A DAILY BASIS.

(3 WEFKS)

OWNER/DEVELOPER: GRATIA PLENA, LLC. 11140 HOMEWOOD ROAD ELLICOTT CITY, MD 21042 PHONE: 443-677-4612

DATE SITE DEVELOPMENT PLAN GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN **NOTES AND DETAILS CUNNINGHAM PROPERTY - FOOD HUB** 

TAX MAP:29 GRID:13 PARCEL:25 5TH ELECTION DISTRICT

DPZ REFERENCE: H0-10-03E/ECP-16-030 ZONED: RC-DEO-RURAL CONSERVATION HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING** 

4979 SHEPPARD LANE

L.15767/F.426

TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com

> ROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2020 \_\_\_\_GAH GAH RHV

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 12/22/19 CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/27/2020 DATE CHIEF, DIVISION OF LAND DEVELOPMENT

2-27-2820 DATE

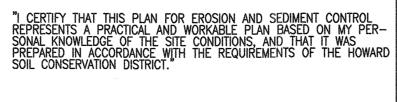
Wh. Gov-

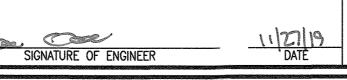
BY THE DEVELOPER: "I/WE CERTIFY THAT ALL DEVELOPEMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING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

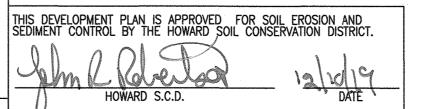
11-25-19 DATE SIGNATURE OF DEVELOPER

BY THE ENGINEER:

CONSTRUCTION NOTES







5. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WRE 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 SHAPE AT THE BOTTOM. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED. . 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 3. COMPACT FILL. . 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. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN. . OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL END:
BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. . STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION. . 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 TAMPING TO SECURE THE MAT END IN THE KEY. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. S. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.

UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

A-1

PLACE DESIGNATION (a.g. A-1)
ON FLOW CHANNEL SIDE OF DIKE

DIKE TYPE

a - DIKE HEIGHT 18 IN MIN. 30 IN MIN.

b - DIKE WIDTH 24 IN MIN. 36 IN MIN.

c - FLOW WIDTH 4 FT MIN. 6 FT MIN.

d -- FLOW DEPTH 12 IN MIN. 24 IN MIN.

ANOTA . -EARTH FILL NONWOVEN GEOTEXTILE ~ MIN. 6 IN OF 2 TO 3 IN AGGREGATE OVER LENGTH AND WIDTH OF ENTRANCE PIPE (SEE NOTE 6) **PROFILE** 50 FT MIN. LENGTH 4 PLAN VIEW CONSTRUCTION NOTES

DETAIL B-1 STABILIZED CONSTRUCTION

ENTRANCE

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011

STANDARD SYMBOL

PSSMC - \* 3.0 lb/ft?
(\* include shear stress)

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

AS BUILDING NEARS COMPLETION, INSTALL REMAINING STORM DRAIN AND STORMWATER MANAGEMENT FACILITIES, INCLUDING MICRO—BIORETENTION, BIO—SWALE AND ASSOCIATED ROOF DRAINS AND UNDERDRAINS. FACILITIES SHALL BE PROTECTED FROM RECEIVING SEDIMENT LADEN WATER UNTIL SITE IS FULLY STABILIZED BY INSTALLATION OF INLET PROTECTION AND SILT FENCE WHERE SHOWN. INSTALL REINFORCED CONCRETE TRASH PAD/LOADING DOCK, SIDEWALL SURFACE PAVING, AND STRIPING. (1 WEEK DAYS)
WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING IN ACCORDANCE WITH STORMWATER MANAGEMENT CRITERIA, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON, AND STABILIZE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH (1 WEEK) INSTALL LANDSCAPING AND SIĞNAGE (3 DAYS) AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING PERIMETER E/S CONTROLS AND STABILIZE THESE DISTURBED AREAS WITH PERMANENT SEEDING

DESIGN BY: DRAWN BY:

THE HARRO DOG Lan Com ROBERT H. VOGEL, PE No.16193

CHECKED BY: DATE: NOVEMBER, 2019 AS SHOWN SCALE: W.O. NO.:

SHEET 10

