INDEX OF SHEETS

SHEET	
<u>NO.</u>	TITLE
1	TITLE SHEET
2	GEOMETRIC PLAN
3–4	TYPICAL ROADWAY SECTIONS AND DETAILS
5	ROADWAY PLANS
6	ROADWAY PROFILE STA. 100+00 TO STA. 108+00
7	ROADWAY PROFILE STA. 108+00 TO STA. 116+00
8–9	STORM DRAIN PROFILES
10–15	EROSION AND SEDIMENT CONTROL PLANS
16	FINAL GRADING PLAN
17	EROSION AND SEDIMENT CONTROL – GENERAL NOTES
18–22	EROSION AND SEDIMENT CONTROL – NOTES & DETAILS
23	GENERAL PLAN AND ELEVATION
24	ABUTMENT A – PLAN AND ELEVATION
25	ABUTMENT B – PLAN AND ELEVATION
26	WING WALL ELEVATION AND SECTION
27	MSE WALL ELEVATIONS
28	SUPERSTRUCTURE TYPICAL SECTION
29	LANDSCAPE PLAN
30	LANDSCAPE DETAILS

DESIGN DESIGNATION					
ROADWAY	SWALLOW	FALLS ROAD			
CONTROLS / YEARS	2019	2035			
AVERAGE DAILY TRAFFIC (A.D.T.)	434	465			
DESIGN HOURLY VOLUME					
DIRECTIONAL DISTRIBUTION	50 / 50	50 / 50			
% TRUCKS - A.D.T.	5%	5%			
% TRUCKS - D.H.V.					
DESIGN SPEED M.P.H.	30 MPH				
FUNCTIONAL CLASSIFICATION	RURAL / MINOR COLLECTOR				
CONTROL OF ACCESS	UNCON	TROLLED			
INTENSITY OF DEVELOPMENT	RURAL				
TERRAIN	ROLLING				
ANTICIPATED POSTED SPEED	25 MPH (EXISTING)				

PROPOSED MEDIAN BARRIER	<u>- + </u>
FLOW LINE	
STATE, COUNTY OR CITY LINES	
EXISTING TRAFFIC BARRIER	<u> </u>
PROPOSED FENCE LINE	XX
RIGHT OF WAY LINE	
EXISTING ROADWAY	. — 🐋
RAILROAD	
BASE OR SURVEY LINE FIRE HYDRANT	3] +50 3≥ F.H. ℃
HISTORIC BOUNDRY	<u> </u>

H.B. _____ \bigcirc ____ _x___x__ _____ \sim 31 +50 32 ғ.н. Ю

CONVENTIONAL SIGNS

PROPOSED PIPE/CULVERT EXISTING PIPE/CULVERT EXISTING DROP INLET	
UTILITY POLE	-
WEILAND	
STREAMS	
HEDGE /TREE LINE	
GROUND ELEVATION	9° NO DATUM LINE
GRADE ELEVATION	DATUM LINE

GRADE ELEVATION _____ ____

Garrett County ROADS DEPARTMENT Oakland MARYLAND

LACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-00 **OVER THE YOUGHIOGHENY RIVER**

CONTRACT NO. F.A.P. NO.



PROJECT LENGTH: 0.24 MILES

HORIZONTAL DATUM	NAD	83 /91	2000'	0	2000'	4000
VERTICAL DATUM	NAV[D 88		SCALE:	1" =2000'	



KYLE SMITH, P.E.

"PROFESSIONAL CERTIFICATION. I H PREPARED OR APPROVED BY ME, AN PROFESSIONAL ENGINEER UNDER TH LICENSE NO. 49811, EXPIRATION DATI



	SIGNATURE	
	TITLE POND APPROVAL:YES NO	DATE
	APPROVAL FOR STORM GARRETT COUNTY STORM	IWATER MANAGEMENT
	ENGINEER POND APPROVAL: YES NO	DATE
	DESIGN CERTIFI	ICATION
	I HEREBY CERTIFY THAT THIS PLAN O AND /OR POND DESIGN IS /ARE IN STANDARDS AND SPECIFICATIONS AN REQUIREMENTS. ANY STORMWATER ST ACCORDANCE WITH THE GARRETT CO ORDINANCE AND ACCEPTED STANDA	F EROSION & SEDIMENT CONTROL ACCORDANCE WITH THE 2011 D ANY OTHER LOCAL OR STATE RUCTURES ARE DESIGNED IN DUNTY STORMWATER MANAGEMENT RDS OF ENGINEERING PRACTICE.
	DATE	KYLE SMITH MD PE NO. 49811
ſ	OWNER'S / DEVELOPE	ER'S CERTIFICATION
	"WE HEREBY CERTIFY THAT A CONSTRUCTION AND /OR DEVELOPME PLAN AND THAT ANY RESPONSIBLE P CONSTRUCTION PROJECT WILL HAVE AT A MARYLAND DEPARTMENT OF TH PROGRAM FOR THE CONTROL OF SE BEGINNING THE PROJECT. I HEREBY A FOR PERIODIC ON-SITE EVALUATION DEPARTMENT OF THE ENVIRONMENT, (ALL CLEARING, GRADING, ENT WILL BE DONE PURSUANT TO THIS PERSONNEL INVOLVED IN THE A CERTIFICATION OF ATTENDANCE E ENVIRONMENT APPROVED TRAINING EDIMENT AND EROSION BEFORE UTHORIZE THE RIGHT OF ENTRY BY STATE OF MARYLAND, COMPLIANCE INSPECTORS."
	DATE PHONE NO. OWNEF PUBLIC SERVICE CENTER 2008 MARYLAND HWY MT. LAKE PARK, MD 21550 ADDRESS	DEVELOPER SIGNATURE , COUNTY ENGINEER GARRETT COUNTY ROADS DEPT. ENGINEERING DIVISION PRINTED NAME & TITLE
BY CERTIFY TI THAT I AM A E AWS OF THE S	DATE HESE DOCUMENTS ARE PULY LICENSED STATE OF MARYLAND,	
o/ 23/ 2024.		APPROVED
pinet.com		
		DIRECTOR GARRETT COUNTYS ROADS DEPARTMENT



BASELI	BASELINE CONSTRUCTION CONTROL COORDINATES					
BASELINE	STATION	NORTH	EAST			
	POB STA.100+00.00	674556.1823	629259.1182			
	PC STA. 100+23.29	674558.4252	629282.2985			
	PT STA. 102+20.74	674567.7171	629479.4517			
	PC STA. 103+37.92	674567.4514	629596.627			
	PT STA. 104+84.83	674581.0937	629742.6858			
SWALLOW FALLS RUAD	PC STA. 112+32.07	674721.1404	630476.6854			
	PT STA. 114+41.69	674805.5540	630666.5393			
	PC STA. 115+16.16	674850.5140	630725.9009			
	PT STA. 116+68.06	674926.4213	630857.038			
	POE STA. 117+90.00	674974.0414	630969.2920			

		CURVE DATA					
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL	
C-I	5^39'23.72", RT.	2^51′53.24"	2000.00	98.81	197.45	2.44	
C-2	10^55'55.49",LT.	7^26′27.64"	770.00	73.68	146.92	3.52	
C-3	26^20'16.22",LT.	12^33′53.51"	456.00	106.69	209.62	12.31	
C-4	14^09'08.52", RT.	9^18′58.99"	615.00	76.34	151.91	4.72	

CONSTRUCTION FOR NOT $\overline{\mathbf{O}}$ Ζ 4 Ω 60%



AVERSE POID	NI COORDINATES	
NORTH	EAST	ELEVATION
674579.5030	629355.4485	2315.19
674577.9503	629596.2956	2311.62
674557.0960	629716.6686	2313.60
674581.4176	629767.2401	2312.48
674606.5787	630015.1836	2295.99
674579.5435	630028.1490	2293.99
674706.4179	630228.1066	2267.69
674654.3329	630257.7253	2290.73
674756.4199	630292.2131	2288.82
674656.5557	630386.8153	2293.12
674730.1502	630530.8057	2299.33
674731.8776	630606.7064	2303.99
674904.9839	630790.4229	2314.80

		GARRE ROADS OAKLAN	TT COUNTY DEPARTMENT D. MARYLAND				
	REPLACEMENT	OF SWALLOW OVER THE YOU GEOME'	FALLS ROAD JGHIOGHENY	BRIDGE RIVER	NO. G-0020	C	
	TBD		TBD			2	of 30
PREL. TRAC. BY _		T.A.F. NO	FINAL TRAC. BY		3HEET NO		



	SWALLOW FALLS ROAD S	SUPERELEV	ATION TAE	BLE
		ROADWA	Y LEFT	ROADWA`
		CROSS SLOPE	FACTORS	CROSS SLOPE
STATION	DESCRIPTION	(%)	FT/FT	(%)
102+50	NORMAL CROWN – BEGIN S.E. TRANSITION	EX.(~-0.50%)		EX.(~-1.60%)
102+81.92	HALF LEVEL	-0.50%		0.00%
102+91.92	PLANE INCLINE	-0.50%		+0.50%
103+61.92	FIRST FULL S.E.	-4.00%	10-0.000300	+4.00%
104+60.83	LAST FULL S.E.	-4.00%		+4.00%
104+99.82	PLANE INCLINE	-2.00%	10-0.000313	+2.00%
105+38.80	HALF LEVEL	-2.00%		0.00%
105+77.79	NORMAL CROWN	-2.00%		-2.00%
111+30.07	NORMAL CROWN – BEGIN S.E. TRANSITION	-2.00%		-2.00%
111+67.81	HALF LEVEL	-2.00%		0.00%
112+05.54	PLANE INCLINE	-2.00%	$1_{C=0,000530}$	+2.00%
112+62.15	FIRST FULL S.E.	-5.00%		+5.00%
114+11.69	LAST FULL S.E.	-5.00%	$1_{C=0}$ 000985	+5.00%
114+36.06	PLANE INCLINE	-2.60%		+2.60%
114+62.45	HALF LEVEL	-2.60%		0.00%
115+00	NORMAL CROWN - END TRANSITION	EX.(~-2.60%)		EX.(~-3.70%)



NOT TO SCALE

GPI	www.gpinet.com	Revisions
Engineering Design Planning C	construction Management	
Greenman-Pedersen, Inc. 11000 Broken Land Parkwa Columbia, MD 21044 Tel: 410.880.3055	ay, Suite 500	

CONCRETE SIDEWALK DETAIL NOT TO SCALE

GARRETT COUNTY
ROADS DEPARTMENT
OAKLAND, MARYLAND
REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO.G-0020
OVER THE YOUGHIOGHENY RIVER
TYPICAL SECTIONS AND DETAILS
CONT. NOTBDF.A.P. NOTBDSHEET NO3 OF _30
PREL. TRAC. BY FINAL TRAC. BY



Tel: 410.880.3055

2:1	EXISTING	
V' DI' TO S'	CH, STA. 113 + 30 A. 115 + 00	
	GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G–0020 OVER THE YOUGHIOGHENY RIVER TYPICAL SECTIONS AND DETAILS	
	CONT. NO	30

- BYPASS BERM STA. 112 + 50 TO STA. 113 + 30 EXIST DITCH - EXISTING GROUND MEET EXISTING └─ TRAPEZOIDAL DITCH STA. 112+39 TO STA. 113 + 30, THEN TRANSITION TO 'V' DITCH ← ↓ DITCH, SEE PLAN FOR LOCATION /ELEV. - VARIES / MEET

Q DITCH, SEE PLAN

FOR LOCATION /ELEV.

- VARIES



NSTRUCTION CO 2 0 0 Z S Ζ 4 Ω 60%

	GARRETT COUNTY	
	NOADS DEPARTMENT	
REPLACEMENT OF S	SWALLOW FALLS ROAD E	3RIDGE NO. G-0020
OVER	THE YOUGHIOGHENY RI	IVER
	ROADWAY PLAN	
CONT. NO. TBD	F.A.P. NOTBD	
PREL. TRAC. BY	FINAL_TRAC. BY	

CUT LINE FILL LINE PROPOSED SIDEWALK PROPOSED FULL DEPTH PAVEMENT PROPOSED BRIDGE EXISTING WOODS LINE PROPOSED WOODS LINE EXISTING TRAFFIC BARRIER PROPOSED TRAFFIC BARRIER € PROPOSED DITCH 100 YR FLOODPLAIN WATERS OF THE US WETLAND BUFFER WETLAND RIPRAP PAVEMENT REMOVAL

SPECIMEN TREE TO BE REMOVED

LEGEND

---- F ----- - $\frown \frown \frown \frown \frown$ $\sim\sim\sim\sim\sim\sim$ _____ •__•_• — B — 26000 26000 20000

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— — c — — – -

CONSTRUCTION FOR NOT ANS Ч 60%





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Engineering Design Planning Construction Management		OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020		
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500		OVER THE YOUGHIOGHENY RIVER ROADWAY PROFILE STA. 100+00 TO STA. 108+00		
Columbia, MD 21044 Tel: 410.880.3055		CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 6 0F 30 PREL. TRAC. BY		



CONSTRUCTION FOR NOT NS 4 Δ 60%

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				1"		3		\/F		Г	

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Greenman-Pedersen, Inc. 11000 Broken Land Parkwa Columbia, MD 21044 Tel: 410.880.3055	y, Suite 500	

60% PLANS - NOT FOR CONSTRUCTION

c. 2322/24 N.\2013/2013221.00 - 2009 SHA Statewide Bridge Design Services\Task 54 Swallow Falls Rd Bridge\CADD\pDP-V00



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STORM DRAIN PROFILES

CONT. NOTBD	F.A.P. NOTBD	SHEET NO OF
PREL. TRAC. BY	FINAL_TRAC. BY	

60% PLANS - NOT FOR CONSTRUCTION

-D: 232024 NY2013/2013/2013221.00 - 2009 SHA Statewide Bridge Design Services/Task 54 Swallow Falls Rd Bridge/CADD/pDP-V00





1"	=	3'	VERT.	

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Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500		OVER THE YOUGHIOGHENY RIVER STORM DRAIN PROFILES
Columbia, MD 21044 Tel: 410.880.3055		CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 9 0F 30 PREL. TRAC. BY

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SAND BA	G DIVERSION	RIPRAP OU	TLET PROTECTION
SB 1–1		ROP 1-1	1^
TOP ELEV. = XXX BOTTOM ELEV. =	.± XXX ± 40 L.F.	ROP 1-2	3
SB 1-2		ROP 1–3	3
TOP ELEV. = XXX BOTTOM ELEV. =	± XXX± 54 L.F.	PIPE S	SLOPE DRAIN
SB 1-3		PSD 1–1 (12" HDF	PE) 20
BOTTOM ELEV. = XXX	.± XXX ± 11 L.F.	PSD 1-2 (12" HD	PE) 47
SB 1–4 TOP ELEV. = XXX	±	FIL	TER BAG
BOTTOM ELEV. =	XXX ± 16 L.F.	FB 1–1	
SB 1–5 TOP ELEV. = XXX	±	FB 1–2	
	XXX± 54 L.F.	FB 1–3	
TEMPORARY	ASPHALT BERM	MEDIAN IN	ILET PROTECTION
	27 L.I.	MIP 1-1	
SUN			
SP 1-1	1 EA.	N	N 674700
SP 1-3	1 EA		9500
SP 1-4	1 EA.		E 629
			N.Y.
TSOS 1-1	1 FA	$\mathbf{\hat{x}}$	Niz (
LE	GEND		
			TRO
300			
WUS	WATERS OF THE US		TAD ITI
	TREE LINES		
		102+00	+\$0
R			$\sum_{n=1}^{n} \sum_{n=1}^{n} \sum_{n$
		- 1 - /	T
	LIMIT OF DISTUBBANC	YE O	
A-2	EARTH DIKE		6295(³
A-2	TEMPORARY SWALE		<u>ш</u> N 674500
	SAND BAG DIKE		
SSF	SUPER SILT FENCE		
DF	DIVERSION FENCE		
	PIPE SLOPE DRAIN		
FL-18	FILTER LOG		
TA <u>B</u>	TEMPORARY ASPHALT	BERM	
*****	MOUNTABLE BERM		
SP	SUMP PIT		
Бев	FILTER BAG		
	TEMPORARY STONE C	OUTLET STRUCTURE	
,́, MIP	MEDIAN INLET PROTE	CTION	
	TEMPORARY SOIL STA	BILIZATION MATTING	à
	TEMPORARY 32" CON	CRETE BARRIER	
\sum	SPECIMEN TRFF TO	BE REMOVED	



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121 L.F.	
53 L.F.	
104 L.F.	

SUPER SILT FENCE

DIVERSION FENCE

SSF 1-1

11 S.Y.

3 S.Y.

FILTER LOG	
FL 1–1 18" DIA.	42 L.F.
FL 1–2 18" DIA.	16 L.F.
FL 1–3 18" DIA.	14 L.F.
FL 1–4 18" DIA.	10 L.F.
FL 1–5 18" DIA	83 L.F.
FL 1-6 18" DIA	18 L.F.
FL 1–7 18" DIA.	17 L.F.



CONT. NO	TBD	_ F.A.P. NO	TBD	_ SHEET NO	10	_ OF <u>30</u>)
PREL. TRAC. BY			FINAL TRAC. BY				

SAND BAG DIVERSION	
SB 1–6 TOP ELEV. = XXX± BOTTOM ELEV. = XXX±	105 L.F.
RIPRAP OUTLET PROTECTI	ON
ROP 1-4	3 SY.
PIPE SLOPE DRAIN	
PSD 1–2 (12" HDPE)	77 L.F.
FILTER BAG	
FB 1-4	1 EA.
SUMP PIT	
SP 1–5	1 EA.
TEMPORARY STONE OUTLET ST	RUCTURE
TSOS 1-2	XX TON
TSOS 1-3	XX TON
TEMPORARY SOIL STABILIZATION	MATTING
TSSMS 1-1	10 S.Y.

A-2 TEMPORARY SWA	E			
TS 1–1	21 L.F.			
A–2 EARTH DIKE				
ED 1–1	424 L.F.			
DIVERSION FENCE				
DF 1-3	84 L.F.			
FILTER LOG				
FL 1–8 18" DIA.	69 L.F.			
FL 1–9 18" DIA.	18 L.F.			
FL 1–10 18" DIA.	18 L.F.			
FL 1–11 18" DIA.	18 L.F.			
FL 1–12 18" DIA.	18 L.F.			
FL 1–13 18" DIA.	29 L.F.			

YOUGHIOGHENY RIVER

ROP 1-4

SB 1-6

FB 1-

FL 1–9



30

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9

<u>LEGEND</u>

LEG	
<u> </u>	EXISTING CONTOURS
300	PROPOSED CONTOURS
WUS	WATERS OF THE US EXISTING PIER TO BE REMOVI
	TREE LINES
	WETLAND
В	WETLAND BUFFER
	100-YEAR FLOODPLAIN
LOD	LIMIT OF DISTURBANCE
<u>A-2</u>	EARTH DIKE (DA = 0.16
<u>— A-2</u> —	EXIS TEMPORARY SWALE BRID
	SAND BAG DIKE TEMPORARY S
└──── \$\$F ────	SUPER SILT FENCE
⊢DF	DIVERSION FENCE
	PIPE SLOPE DRAIN
FL-18	FILTER LOG
<u> </u>	TEMPORARY ASPHALT BERM
*****	MOUNTABLE BERM
SP	SUMP PIT
J ↓ FB	FILTER BAG
TSOS	TEMPORARY STONE OUTLET STRUCTURE
С ¬́МIР	MEDIAN INLET PROTECTION
	TEMPORARY SOIL STABILIZATION MATTING
	TEMPORARY 32" CONCRETE BARRIER
	SPECIMEN TREE TO BE REMOVED
<i>i</i> 1	





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	UFI		ROADS DEPARTMENT OAKLAND, MARYLAND
30' 0 30' 60'	Engineering Design Planning Construction Management		REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
	SCALE: 1" = 30' Greenman-Pedersen, Inc. SCALE: 1" = 30' 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044 CONT. NOTBD		OVER THE YOUGHIOGHENY RIVER
SCALE: 1" = 30"		EROSION AND SEDIMENT CONTROL PLAN – PHASE 1	
			CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 11 OF 30
			PREL. TRAC. BY FINAL TRAC. BY



SAND BAG DIVERSIO	DN
SB 2–1 TOP ELEV. = XXX± BOTTOM ELEV. = XXX±	122 L.F.
SB 2–2 TOP ELEV. = XXX± BOTTOM ELEV. = XXX±	61 L.F.
FILTER LOG	
FL 2–1 18" DIA.	34 L.F.
FL 2–2 18" DIA.	95 L.F.
FL 2–3 18" DIA.	26 L.F.
FL 2–4 18" DIA.	18 L.F.
FL 2–5 18" DIA.	111 L.F.
FL 2–6 18" DIA.	97 L.F.
FL 2–7 18" DIA.	53 L.F.
FL 2–8 18" DIA.	119 L.F.

TEMPORARY S	TONE OUTLE	F PROTECTION
TSOS 2-1		XX TON
	FILTER BAG	
FB 2–1		1 EA.
	SUMP PIT	
SP 2-1		1 EA.
MC	OUNTABLE BEI	RM
MB 2-1		65 L.F.

<u>LLG</u>	
	EXISTING CONTOURS
300	PROPOSED CONTOURS
WUS	WATERS OF THE US
	TREE LINES
• • • • • • •	WETLAND
— В — —	WETLAND BUFFER
	100-YEAR FLOODPLAIN
LOD	LIMIT OF DISTURBANCE
A-2	EARTH DIKE
	TEMPORARY SWALE
	SAND BAG DIKE
└──── SSF ────	SUPER SILT FENCE
└──── DF ────	DIVERSION FENCE
	PIPE SLOPE DRAIN
FL-18	FILTER LOG
TAB	TEMPORARY ASPHALT BERM
	MOUNTABLE BERM
SP	SUMP PIT
FB	FILTER BAG
₹ ₹₹₹₹₹	TEMPORARY STONE OUTLET STRUCTURE
	MEDIAN INLET PROTECTION
	TEMPORARY SOIL STABILIZATION MATTING
	TEMPORARY 32" CONCRETE BARRIER
	SPECIMEN TREE TO BE REMOVED

60% PLANS - NOT FOR CONSTRUCTION

SCALE: |" = 30'

GARRETT COUNTY ROADS DEPARTMENT	
OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020 OVER THE YOUGHIOGHENY RIVER EROSION AND SEDIMENT CONTROL PLAN - PHASE 2A	
CONT. NO. I BD F.A.P. NO. TBD SHEET NO. 13 OF 3 PREL. TRAC. BY	30

- TEMPORARY 32" CONCRETE BARRIER

	SAND BAG DIVERSIO	N		DIVERSION
	SB 2–3 TOP FLEV – XXX +		DF 2–1	
	BOTTOM ELEV. = $XXX \pm$	38 L.F.		FILTER
	SB 2–4 TOP ELEV. = $XXX \pm$		FB 2–2	
	BOTTOM ELEV. = $XXX \pm$	2 L.F.	FB 2–3	
ſ				
	FILTER LOG			SUMP
	FL 2–7 18" DIA.	53 L.F.	SP 2-2	
	FL 2–8 18" DIA.	322 L.F.	SP 2-3	
	FL 2–9 18" DIA.	45 L.F.	SP 2-4	
	FL 2-10 18" DIA.	35 L.F.	L	

03+00

FB 2-3

SP 2-3

SB

FL-18

			N 674700
			29500
			е У Хух
LEG	<u>iend</u>		AN A
	EXISTING CONTOURS		An the Man
300	PROPOSED CONTOURS		the star
WUS	WATERS OF THE US		
	TREE LINES	TO HERRINGTON MA	
• • • • • • •	WETLAND		+)U
— В —	WETLAND BUFFER		
	100-YEAR FLOODPLAIN		
LOD	LIMIT OF DISTURBANCE		66200 B
A-2	EARTH DIKE		BZ
A -2	TEMPORARY SWALE		N 674500
	SAND BAG DIKE		~
⊢ SSF	SUPER SILT FENCE		
⊢DF	DIVERSION FENCE		
	PIPE SLOPE DRAIN		
FL-18	FILTER LOG		
TAB	TEMPORARY ASPHALT BERM	1	
**************************************	MOUNTABLE BERM		
SP	SUMP PIT		
FB	FILTER BAG		
₹ ₩₩₩	TEMPORARY STONE OUTLET	STRUCTURE	
Ľ – ́MIP	MEDIAN INLET PROTECTION		
	TEMPORARY SOIL STABILIZA	TION MATTING	

TEMPORARY 32" CONCRETE BARRIER

SPECIMEN TREE TO BE REMOVED

CONT. NOTBD	F.A.P. NO TBD	
PREL. TRAC. BY	FINAL TRAC. BY	

EROSION AND SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
- 2. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS PERMANENT STABILIZATION OF EXPOSED SOIL OCCURS.
- 3. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY APRIL 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
- 4. THE SITE'S APPROVED "EROSION AND SEDIMENT CONTROL PLANS" SHALL BE AVAILABLE AT THE SITE.
- 5. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS WHICH MAY BE REQUIRED.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 7. THE APPROVAL OF THIS PLAN MAKES NO REPRESENTATION AS TO THE EXISTENCE OR NONEXISTENCE OF ANY UTILITIES AT THIS SITE. IT IS THE RESPONSIBILITY OF THE LANDOWNERS OR OPERATORS AND CONTRACTORS TO ASSURE THAT NO HAZARD EXISTS OR DAMAGE WILL OCCUR TO UTILITIES. IT IS SUGGESTED THAT "MISS UTILITY" BE CONTACTED AT: PHONE 1-800-257-7777.

DAILY STABILIZATION NOTE

THIS NOTE SHOULD BE USED FOR MINIMAL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT DO NOT DRAIN TO A SEDIMENT CONTROL MEASURE AND/OR WHERE THE INSTALLATION OF CONTROL MEASURES IS NOT FEASIBLE. (ROAD WIDENING, SIDEWALK INSTALLATIONS, ETC.).

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORK DAY. STABILIZATION SHALL BE AS FOLLOWS:

- 1.) FOR AREAS TO BE PAVED, THE APPLICATION OF STONE.
- 2.) FOR AREAS TO BE VEGETATIVELY STABILIZED:
- A.) PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS AND SWALES.
- B.) PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

SITE INFORMATION * (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE AREA DISTURBED	2.60 2.60	_ ACRES _ ACRES
AREA TO BE ROOFED OR PAVED	0.83	_ ACRES
TOTAL CUT	2,230	_ CU. YDS.
TOTAL FILL	5,705	_ CU. YDS.
OFFSITE WASTE/BORROW	UNKNOWN	SQ.FT.
AREA OF LOCATION AREA OF LOCATION (IF KN	IOW)	_ ACRES

FILL SPECIFICATIONS

PREPARATION

1. PREPARE AREAS TO BE COVERED WITH BACKFILL OR FILL MATERIAL BY CLEARING AND GRUBBING. REMOVE ALL WET AND UNSATISFACTORY SOIL MATERIALS. DO NOT	PERIMETER O AND SLOPE
PLACE BACKFILL OR FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.	2. INSTALL ALL INSTALLED II
<u>PLACEMENT</u>	3. INSTALL CON CONTROLS I
2. PLACE BACKFILL OR FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE	FENCE, FILTE
DEPTH FOR MATERIAL COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS	4. CONSTRUCT
PLACE BACKFILL FILL MATERIALS ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS.	5. BUILD THE I
PLACE MATERIAL UNIFORMLY ALONG THE ENTIRE LENGTH OF EACH STRUCTURE. COMPACT THE TOP 12 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY (+/-) 2% OPTIMUM MOISTURE.	6. STABILIZE AL
	1. INSTALL ALL INSTALLED II
NOTES:	2. REMOVE SUF
1. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING THE LOCATIONS OF ALL UTILITIES IDENTIFIED IN THE FIELD PRIOR TO CONTRUCTION.	3. INSTALL CON IN THE RIVE PUMP AROU
2. THE CONTRACTOR SHALL BE COMPLETELY AND SOLELY RESPONSIBLE AND LIABLE FOR	4. REMOVE THE
ANY AND ALL UTILITY DAMAGES, PROPERTY DAMAGES, BODILY INJURIES, FINANCIAL LOSES AND INTERUPTIONS OF SERVICE THAT RESULT FROM OR ARE ATTRIBUTABLE TO HIS CONSTRUCTION ACTIVITIES	5. ONCE THE F TO THE WA
	6. REMOVE ALL
3. WORK IN VICINITY OF PUBLIC WATER AND SEWER LINES SHALL BE COORDINATED WITH THE GARRETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (310–334–6983).	
4. BURNING SHALL BE CONDUCTED IN ACCORDANCE WITH STATE AND LOCAL PERMIT.	1. INSTALL ALL
5. OFF-SITE DISPOSAL SHALL BE AT APPROVED LOCATIONS.	
6. MATERIAL STOCKPILING WILL BE DONE WITHIN CONSTRUCTION LIMITS.	INCLUDE SA
7. THIS PLAN IN IT'S ENTIRETY SHALL CONSTITUTE THE EROSION AND SEDIMENT	3. REMOVE THE
CONTROL PLAN.	4. REMOVE ALL

NOTE:

			
	www.gpinet.com	Revisions	GARRETT COUNTY
			ROADS DEPARTMENT
			OAKLAND, MARYLAND
Engineering Design Plannir	ng Construction Management		REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
Greenman Bodorson J	20		OVER THE YOUGHIOGHENY RIVER
11000 Broken Land Pa	rkway, Suite 500		EROSION AND SEDIMENT CONTROL – GENERAL NOTES
Columbia, MD 21044			CONT. NO. TBD E.A.P. NO. TBD SHEET NO. 17 OF 30
Tel: 410.880.3055			PREL TRAC. BY FINAL TRAC. BY

SEQUENCE OF CONSTRUCTION

<u>PHASE 1</u>

1. INSTALL ALL PERIMETER CONTROLS TO DIVERT CLEAN WATER AROUND THE WORK AREA. PERIMETER CONTROLS TO BE INSTALLED INCLUDE AN A-2 EARTH DIKE, DIVERSION FENCE, DRAIN.

> INTERIOR CONTROLS WITHIN THE PHASE 1 LOD. INTERIOR CONTROLS TO BE INCLUDE PIPE SLOPE DRAINS AND TSOS.

INTROLS TO ALLOW THE CONSTRUCTION OF EW-1, 24" RCP AND EW-2. THESE INCLUDE SANDBAG DIKES, SUMP PITS, FILTER BAGS, PUMP AROUNDS, SUPER SILT ER LOGS, DIVERSION FENCE AND A TEMPORARY ASPHALT BERM.

THE PIPE RUN BETWEEN EW-1 AND EW-2.

NEW ROADWAY AND BRIDGE STRUCTURE.

ALL DISTURBED AREAS.

<u>PHASE 2A</u>

L PERIMETER CONTROLS WITHIN THE PHASE 2A LOD. INTERIOR CONTROLS TO BE INCLUDE TSOS, FILTER LOGS AND A MOUNTABLE BERM. IPERSTRUCTURE.

INTROLS TO ALLOW THE REMOVAL OF THE EAST BRIDGE ABUTMENT AND THE PIER ER. THESE CONTROLS INCLUDE SANDBAG DIKES, SUMP PITS, FILTER BAGS, AND JNDS.

IE EAST BRIDGE ABUTMENT AND THE PIER IN THE RIVER.

PIER IN THE RIVER HAS BEEN REMOVED, RELOCATE THE SANDBAG DIKES BACK ATER'S EDGE.

PAVEMENT AND RESTORE ALL AREAS.

<u>PHASE 2B</u>

INTERIOR CONTROLS WITHIN THE PHASE 2B LOD. INTERIOR CONTROLS TO BE FILTER LOGS.

INTROLS TO ALLOW THE REMOVAL OF THE WEST BRIDGE ABUTMENT. THESE CONTROLS ANDBAG DIKES, SUMP PITS, FILTER BAGS, AND PUMP AROUNDS. HE WEST BRIDGE ABUTMENT.

PAVEMENT AND RESTORE ALL AREAS.

ALL OPEN SOIL NOT DRAINING TO A SEDIMENT CONTROL DEVICE WILL BE REQUIRED TO BE STABILIZED AT THE END OF EACH WORKDAY.

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, OPSOILING, AND AMENDMENTS

<u>Definintion</u>: The process of preparing the soils to sustain adequate vegetative stabilization.

<u>Purpose:</u> To provide a suitable soil medium for vegetative growth.

<u>Conditions Where Practice Applies:</u> Where vegetative stabilization is to be established.

<u>Criteria:</u> A. SoilPreparation

I. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agriculturalor construction equipment, such as disc harrows or chiselplows 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: lor 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 fertilizer into the top 3 to 5 inches of soilby disking or other suitable means.

2. Permanent Stabilization

a. A soiltest is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

- i. SoilpH 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 pelmit adequate root penetration.

b. Application of amendments or topsoilis required if on-site soils do not meet the above conditions.

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 soiltest.

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 soilby dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:lor 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.

B. Topsoiling

I. Topsoilis placed over prepared subsoilprior 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 soilgradation.

2. Topsoilsalvaged 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 2:1or flatter slopes where: a. The texture of the exposed subsoil/parent materialis not
- adequate to produce vegetative growth.
- b. The soilmaterialis so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
- c. The originalsoilto be vegetated contains materialtoxic to plant growth.
- d. The soil is so acidic that treatment with limestone is not feasible.
- 4. Areas having slopes steeper than 2: Irequire special consideration and design.
- 5. 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 approvalauthority. 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 IY: inches in diameter.

b. Topsoilmust 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.

c.Topsoilsubstitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approvalauthority, may be used in lieu of natural

6. Topsoil Application

a. Erosion and sediment controlpractices 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. Topsoilmust not be placed if the topsoilor subsoilis 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 commerciallaboratory. 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 approvalauthority. 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.

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, OPSOILING, AND AMENDMENTS CONT

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent totaloxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent willpass through a #100 mesh sieve and 98 to 100 percent willpass through a #20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soilby 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 per 1,000 square feet) prior to the placement of topsoil.

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

<u>Definintion</u>: The application of seed and mulch to establish vegetative cover.

Purpose: 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.

<u>Criteria:</u> A. Seeding

I. 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 falland 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 coolas possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soilsterilants or chemicals used for weed controluntil 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. I, 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. Drillor 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 rate in each direction.

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).

- 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; K2 0 (potassium), 200 pounds per acre.
- ii. Lime: Use only ground agriculturallimestone (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. iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching

I. 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 factors.
- 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 arowth of the grass seedlings.
- iv.WCFM materialmust 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 Imillimeter, 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 I to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soilsurface 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.

B.4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING CONT. 3.Anchoring

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 toolis 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 dly 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 equalmay 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. Nettina is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B.4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

<u>Definintion:</u> To stabilize disturbed soils with vegetation for up to 6 months.

<u>Purpose:</u> To use fast growing vegetation that provides cover on disturbed soils.

<u>Conditions Where Practice Applies:</u> Exposed soils where ground cover is needed for a period of6 months or less. For longer duration of time, permanent stabilization practices are required.

<u>Criteria</u>:

I. Select one or more of the species or seed mixtures listed in Table B.I 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. I 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.I.b and maintain until the next seeding season.

TEMPORARY SEEDING SUMMARY

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas tha receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommend Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging f

- 10 to 35 percent of the total mixture by weight. ii. Kentucky Bluegrass/PerennialRye: FullSun Mixture: For us in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive manageme Certified Perennial Ryegrass Cultivars/Certified Kentuck Bluegrass Seeding Rate: 2 pounds mixture per 1000 squar feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of th
- totalmixture 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 pe 1000 square feet. One or more cultivars may be blended
- iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use i 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 percen Seeding Rate: 1.5 to 3 pounds per 1000 square feet.

Notes: Select turfgrass varieties from those listed in the mos current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland".

Choose certified material. Certified materialis the best guarantee of cultivar purity. The certification program the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

c.IdealTimes of Seeding for Turf Grass Mixtures

Western MD: March 15 to June I, August 1 to October I (Hardiness Zones: 5b. 6a) Central MD: March I to May 15, August 15 to October 15 (Hardines

7one: 6b) Southern MD, Eastern Shore: March I 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 L. inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses willpose no difficulty.

e. If soilmoisture is deficient, supply new seedings with adequate water for plant growth (1/2 to Linch every 3 to 4 days dependi 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.

	Hard See	diness Zone (from F d Mixture (from Tab	Figure B.3): <u>6a</u> ble B.1):		Fertilizer		Ha Se	rdiness Zone (from f ed Mixture (from Tab	Figure B.3): <u>6a</u> ble B.1):		(1	Fertilizer 0-20-20)	Lime
No.	Species	Application Rate (Ib/ac)	Seeding	Seeding Depths	- Rate Lime Rate (10—20—20)	No.	Species	Application Rate (Ib/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂0	Line
	Annual Ryegrass	40	3/15 to 5/31	0.5"		9	SELECT <u>ONE</u> SPECIES OF FESCUE:							
	Barley	96	3/15 to 5/31	1.0"			(formerly Festuca arundianceum) OR	60	7 /15 + 5 /71					
	Foxtail Millet	30	6/1 to 7/31	0.5"	436 lb/ac 2 Tons/ac (10 lb/1000 sf) (90 lb/1000 sf)		Hard Fescue (Festuca trachyphylla) AND ADD:	40	8/1 to 9/30	0.25" -0.5"				
				0.0			Kentucky Bluegrass (Poa pratensis)	40						
	Pearl Millet	20	6/1 to 7/31	0.5"			Perennial Ryegrass (Lolium perenne)	20						
						5	SELECT <u>TWO</u> GRASSES:							
<u>B.</u> efic	<u>4-5 STANDARDS</u>	AND SPECIFICATIO	<u>DNS FOR PERMANEN</u>	T STABILIZA	<u>ION</u>		Creeping Red Fescue (Festuca rubra var. rubra)	20						
		a-lived perepriat	arasses and leaum	es to establ	Ish		<u>OR</u> Hard Fescue (Festuca trachyphylla)	20	3/15 to 5/31					
peri	manent ground c	over on disturbe	ed soils.		1211		Perennial Ryegrass (Lolium perenne)	10	8/1 to 9/30	0.25" -0.5"				
<u>ondi</u> nee	<u>tions Where Pra</u> ded for 6 month	<u>ctice Applies:</u> Ei is or more.	xposed soils where	ground cov	ver is		<u>OR</u> Redtop (Agrostis gigantean)	1						
rite	ria:						AND ADD THE FOLLOWING LEGUME: Flatpea (Lathyrus sylvestris)	15			45 lb/ac (1.0 lb/	90 lb/ac (2.0 lb/	90 lb/ac (2.0 lb/	2 T
A. S	eed Mixtures					1	SELECT <u>ONE</u> WARM-SEASON GRASS:				1000 sf	1000 sf	1000 sf	(30 10
	.GeneralUse	or more of the	species or mixture	s listed in			Switch Grass (Panicum virgatum)	10						
	Table B.3 for Figure B.3) and Table B.2. Ente seeding dates	the appropriate based on the s r selected mixtu in the Permanen	Plant Hardiness Zc ite condition or p ure(s), application r it Seeding Summary	one (from urpose four ates, and y. The Summa	d on ary		<u>OR</u> Costal Panic Grass (Panicum amarum var. amarulum)	10						
	b. Additional pla shorelines, stre	d on the plan. nting specificati eam banks,or du	ons for exception ines or for specia	alsites such Ipurposes s	as Joh		AND ADD: Creeping Red Fescue (Festuca rubra var. rubra)	15	3/15 to 5/31 6/1 to 6/15	0.25" -0.5"				
	Technical Field	Office Guide, Sec	tion 342 - Critical	Area Plantin	g.		PLUS <u>ONE</u> OF THE FOLLOWING LUGUMES: Partiridge Pea (Chamaecrista fasciculate)	4						
	c.For sites ha the rates rec	oving disturbed c ommended by the	area over 5 acres, e soiltesting agend	use and sh cy.	WC		Bush Clover (Lespedeza capitata)	2						
	d.For areas ro (46-0-0) at 3.5	eceiving low main pounds per 1000	square feet (150)	a form fer pounds per	tilizer acre)		Wild Indigo (Baptisia tinctoria)	2						
	at the time o in the Permane	f seeding in add ent Seeding Summ	ition to the soilar nary.	mendments s	hown	10	Orchardgrass (Dactylis glomerata)	25						
:	2.Turfgrass Mixt	ures					Creeping Red Fescue (Festuca rubra	10	7/15 - 5/74					
	a.Areas where playgrounds,ar high levelof ma	turfgrass may nd commercialsite aintenance.	be desired include es which willreceive	e lawns,park e a medium	5, to		Redtop (Agrostis gigantean)	1	8/1 to 9/30	0.25" -0.5"				
	b. Select one c	or more of the s	species or mixture	es listed belo	D W		Alsike Clover (frifolium hybridum) White Clover (Trifolium repens)	3						
	mixture(s), appl Permanent See	ication rates, an eding Summary. Th	d seeding dates in e summary is to b	the placed on		NC	DTE: FOR THE PERIOD BETWEEN 6/1 TO 8/14 PR WITH NOTE (1) LOCATED BELOW TEMPORARY	OVIDE NURSE CROPS	IN ACCORDANCE		L			1

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the plan.

в.	Sod:
1+	I. General Specifications
led to	a.Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
rom	b.Sod must be machine cut at a uniform soilthickness of 3/4 inch,plus or minus I/4 inch,at the time of cutting. Measurement for thickness must exclude top growth and thatch.Broken pads and torn or uneven ends willnot be acceptable.
ent. y e	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.
s ar I. N	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 soilscientist prior to its installation.
n	2. Sod Installation
) †.	a.During periods of excessively high temperature or in areas having dry subsoil,lightly irrigate the subsoilimmediately prior to laying the sod.
st	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 lateraljoints to promote more uniform growth and strength.Ensure that sod is not stretched or overlapped and that alljoints are butted tight in order to prevent voids which would cause air drying of the roots.
of	c.Wherever possible,lay sod with the long edges parallelto the contour and with staggering joints.Rolland tamp,peg or otherwise secure the sod to prevent slippage on slopes.Ensure solid contact exists between sod roots and the underlying soil surface.
S SS	d.Water the sod immediately following rolling and tamping until the underside of the new sod pad and soilsurface below the sod are thoroughly wet.Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
	3.Sod Maintenance
.5	a.In the absence of adequate rainfall,water daily during the first week or as often and sufficiently as necessary to maintain moist soilto a depth of 4 inches.Water sod during the heat of the day to prevent wilting.
e ing	b.After the first week,sod watering is required as necessary to maintain adequate moisture content.
У	c.Do not mow untilthe sod is firmly rooted.No more than I/3 of the grass leaf must be removed by the initialcutting or

unless otherwise specified.

subsequent cuttings. Maintain a grass height of at least 3 inches

PERMANENT SEEDING SUMMARY

			GARRE	TT COUNTY			
 ROADS DEPARTMENT							
			OAKLAN	D, MARYLAND			
	REPLACEM	ent o	F SWALLOW	FALLS ROAD	BRIDGE NC). G–0020	
		0	VER THE YOU	JGHIOGHENY I	RIVER		
	EROSION	AND	SEDIMENT	CONTROL -	NOTES &	DETAILS	
CONT. NO	TBD		F.A.P. NO	TBD		_ SHEET NO18	_ _{OF} _30 _
PREL. TRAC. BY _				FINAL TRAC. BY			

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ION MATTING	TSSMC - • ID/ft ² (• INCLUDE SHEAR STRESS)	DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION	TSSMS - • Ib/- (• INCLUDE SHEAR STI	DETAIL
Tom to		OVERLAP OR ABUT		
	6 IN MIN. DEPTH	ROLL EDGES (TYP.)		2:ISLOPE OR FLATTER
	END (TYP.)			
		6 IN DEEP (MIN.)	×	ALANA
				CONTINUOUS GRADE
/	I KEY TRENCH	PREPARED SLOPE (SEEDBED) WITH SEED IN PLACE		0.5% MIN. TO 10% MAX.
FOR UPPER ENE FOR UPPER ENE ROLL (TYP.)) OF DOWNSLOPE			
PREPARED SURFA	CE WITH	ISOMETRIC VIEW		
HEAR STRESS EQUAL TO OR	HIGHER THAN THE SHEAR	CONSTRUCTION SPECIFICATIONS		
ADE OF DEGRADABLE (LASTS	6 MONTHS MINIMUM) NATURAL	I. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR STRESS DESIGNATED ON APPROVED PLANS.	HIGHER THAN THE SHE	FLOW CHANNEL STABIL
JST HAVE UNIFORM THICKNESS T. CHEMICALS USED IN THE M	S AND DISTRIBUTION OF AT MUST BE NON-LEACHING	2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM	6 MONTHS MINIMUM) THICKNESS AND	A-I SEED WITH
AXIMUM MESH OPENING OF 2× DNGITUDINAL AXIS OF THE MA	2 INCHES AND SUFFICIENTLY TERIAL TO PREVENT	BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AN SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MES	NON-INJURIOUS TO SHOPENING OF 2×2 INC	THE CHES A-3/B-3 4 TO 7 INC
TERIAL.	NUVALENT STAPLES MUST	AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINA TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.	L AXIS OF THE MATER	
MUM GAUGE OF NO. II AND NO. S WIDE AND BE A MINIMUM OF	8 RESPECTIVELY. "U"	3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EC BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. II AND NO.	DUIVALENT.STAPLES MI 8 RESPECTIVELY."U"	UST I. REMOVE AND DISPOSE OF
A MINIMUM 8 INCH MAIN LEG 100D STAKES MUST BE ROUGI N. AND WEDGE SHAPED AT TH	G, A MINIMUM LINCH H-SAWN HARDWOOD, 12 TO IE BOTTOM.	6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG SECONDARY LEG. AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH	F G.A MINIMUM LINCH F-SAWN HARDWOOD.	MATERIAL SO AS NOT TO 2. EXCAVATE OR SHAPE FAI
EEDBED PREPARATION, AND P	ERMANENT SEEDING IN	12 TO 24 INCHES IN LENGTH, IX3 INCH IN CROSS SECTION, AND WEDGE SHAPED	AT THE BOTTOM.	PROJECTIONS OR OTHER
TION IS SPECIFIED ON THE A	PLETING SEEDING PPROVED EROSION AND	ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMP UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED ERC	PLETING SEEDING OPERA DSION & SEDIMENT CON	ATIONS NTROL 4. CONSTRUCT FLOW CHANN
CENTERING THE FIRST ROLL (ON THE CHANNEL	PLAN. 5 LINROLL MATTING DOWNSLOPE LAY MAT SMOOTHLY AND FIRMLY LIPON THE SEE	EDED SURFACE AVOID	TO FIELD CONDITIONS AS
HING THE MATTING.	EAT MAT SMOOTHET AND	STRETCHING THE MATTING.		6. STABILIZE EARTH DIKE WI
DIGGING A 6 INCH (MINIMUM) TH THE TRENCH, STAPLING THE CURE THE MAT END.	RENCH AT THE UPSTREAM MAT IN PLACE, REPLACING	6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVER 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DO	RLAP ROLL ENDS BY DWNSLOPE MAT.	WATER DIVERSION WITHIN 7. MAINTAIN LINE, GRADE, AN
ACTURER RECOMMENDATIONS.	OVERLAP ROLL ENDS BY 6	7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCA	PLACING THE MATTING AVATED MATERIAL, AND	POSITIVE DRAINAGE. KEEP MEET REQUIREMENTS FOR
(LAPPING ON TOP OF THE NE ON 4 FOOT (MAXIMUM) CENTEF	RS THROUGHOUT AND	8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTER	RS THROUGHOUT AND	8. UPON REMOVAL OF EART
S, AND ROLL ENDS. REQUIREMENTS FOR ADEQUATI	Ε VEGETATIVE	2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. 9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE	F VEGETATIVE	REMOVAL STABILIZE DIST PLAN.
DRDANCE WITH SECTION B-4 V	E GETATIVE STABILIZATION.	ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 V	EGETATIVE STABILIZAT	10N.
2011 MARYLAND	DEPARTMENT OF ENVIRONMENT	U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND	DEPARTMENT OF ENVIRON	IMENT U.S. DEPARTMENT OF AGRICU
AN VIEW AN VIEW AN VIEW AL SS SECTION TINUOUS GRADE. N DIMENSIONS OF A UNIFORM PLAN	PAVED SURFACE			
PLAN. TED SEDIMENT AND DEBRIS.	MAINTAIN POSITIVE			
) ORIGINAL CONDITIONS OR A	S SPECIFIED ON APPROVED		www.gpinet.com	Revisions
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S FOR SOIL EROSION AND S	EDIMENT CONTROL	Engineering Design Planning Construction	on Management	
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		I	1	

			STANDARD SYMBOL A-I				
LC-1 EARTHD	IKE		PLACE DE ON FLOW	SIGNATION (e.g. A-I) CHANNEL SIDE OF DIKE.			
CROSS SECT	2:I SLOPE OR FLATT	ER ADE TO QUIRED F D FLOW	PROVIDE FLOW WIDT DEPTH	H			
X. SLOPE		А		B			
<}	a - DIKE HEIGHT	18 IN I	MIN.	30 IN MIN.			
	ь - DIKE WIDTH	24 IN	MIN.	36 IN MIN.			
<u>VVVV</u>	c - FLOW WIDTH	4 F T	MIN.	6 FT MIN.			
<u>w</u>	d - FLOW DEPTH	12 IN 1	MIN.	24 IN MIN.			
A STRAW MULCH AND TACK A SOIL STABILIZATION MATT ACH STONE OR EQUIVALENT OF 7 INCHES AND FLUSH WI <u>ICATIONS</u> OF ALL TREES, BRUSH, STUI TO INTERFERE WITH PROPE ARTH DIKE TO LINE, GRADE R IRREGULARITIES ARE NOT NEL ON AN UNINTERRUPTE S NECESSARY TO MAINTAIL ECTION AS REQUIRED ON AU WITHIN THREE DAYS OF INS N 24 HOURS OF INSTALLAT	. (NOT ALLOWED FOR TING OR LINE WITH SO RECYCLED CONCRETE ITH GROUND. MPS, OBSTRUCTIONS, AI R FUNCTION OF EARTH , AND CROSS SECTION ALLOWED. D, CONTINUOUS GRADE N POSITIVE DRAINAGE. PPROVED PLAN. STALLATION. STABILIZE TION.	CLEAR D. PRESS ND OTHI IDIKE. AS SPE , ADJUS FLOW 0 MENT A	WATER D ED INTO ER OBJEC ECIFIED. B TING THE CHANNEL	IVERSION.) SOIL A CTIONABLE ANK LOCATION DUE FOR CLEAR			
ND CROSS SECTION. REMON P EARTH DIKE AND POINT DR ADEQUATE VEGETATIVE TON.	/E ACCUMULATED SEDI OF DISCHARGE FREE C ESTABLISHMENT IN AC	MENT A)F EROS CORDAN	ND DEBR SION, AND NCE WITH	IS, AND MAINTAIN CONTINUOUSLY SECTION B-4			
TH DIKE, GRADE AREA FLU: TURBED AREA WITH TOPSC	SH WITH EXISTING GRO HL, SEED, AND MULCH, H	UND. WI OR AS	ITHIN 24 SPECIFIED	HOURS OF ON APPROVED			

ANDARDS AND SI	PECIFICATIONS FOR SOIL EROS	SION AND SEDIMENT CONTROL
CULTURE ATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

			GARR	ETT COUNTY			
			ROADS	DEPARTMENT			
			OAKLAI	ND, MARYLAND			
	REPLACEM	ENT O	F SWALLOW	FALLS RO	AD BRIDGE N	O. G–0020	
		O	VER THE YO	UGHIOGHEN	IY RIVER		
	EROSION	AND	SEDIMENT	CONTROL	– NOTES &	DETAILS	
CONT. NO	TBD		F.A.P. NO	TBD		SHEET_NO19	_ _{OF} _30 _
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	CONT. NO PREL. TRAC. BY	REPLACEM EROSION CONT. NO	REPLACEMENT C O EROSION AND CONT. NO	GARR ROADS OAKLAN REPLACEMENT OF SWALLOW OVER THE YO EROSION AND SEDIMENT	GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROY OVER THE YOUGHIOGHEN EROSION AND SEDIMENT CONTROL CONT. NO	GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE N OVER THE YOUGHIOGHENY RIVER EROSION AND SEDIMENT CONTROL – NOTES & CONT. NO	GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020 OVER THE YOUGHIOGHENY RIVER EROSION AND SEDIMENT CONTROL - NOTES & DETAILS

TIONS FOR SOIL EROS	SION AND SEDIMENT CONTROL
2011	MARYLAND DEPARTMENT OF ENVIRONMEN

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Greenman-Pedersen, In 11000 Broken Land Parl	ic. kway, Suite 500		OVER THE YOUGHIOGHENY RIVER EROSION AND SEDIMENT CONTROL – NOTES & DETAILS
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Figure D-2

MGWC 1.2: PUMP-AROUND PRACTICE

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.

- 8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
- 9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
- 10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
- 11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
- 12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- 13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- 14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

1/2" DIA. FIBER OR NYLON ROP 2"X12" LUMBER - WIRE EYE BOLTS 5/8" MIN. INSIDE DIA. 4" MIN. OVERALL LENGTH GENERAL NOTES Wire eye bolts with a minimum inside eye diameter of 5/8" and minimum overall length of 4"should be placed into planks, Avoid damaging tree trunk. 2. Use 2"x10" by 12' lumber planks in sufficient number to protect all areas of main tree trunk exposed to construction. Tie with 1/2" diameter rope (fiber or nylon) securely fastened through the wire bolts. 4. Place rope every 3' alorg the length of the plank. 5. See plan for location. TREE PLANKING DETAIL

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			ROADS	DEPARTMENT			
			OAKLAN	ND, MARYLAND			
	REPLACEN	1ENT (OF SWALLOW	FALLS ROA	D BRIDGE N	IO. G-0020	
		C	OVER THE YO	UGHIOGHEN	Y RIVER		
	EROSION	AND	SEDIMENT	CONTROL	– NOTES &	DETAILS	
CONT. NO	TBD		F.A.P. NO	TBD		SHEET NO22	_ _{OF} _30
PREL. TRAC. BY				FINAL TRAC. BY			

CONSTRUCTION FOR NOT NS 4 Δ 60%

ROADS DEPARTMENT
OAKLAND, MARYLAND
REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
OVER THE YOUGHIOGHENY RIVER
FINAL GRADING PLAN

CONT. NO	TBD	F.A.P. NO	TBD	SHEET NO16	_ _{OF} _30
PREL. TRAC. BY			FINAL TRAC. BY		

NSTRUCTION 0 Ŭ Υ 0 NOT S Ζ 4 Ω 60%

	<u>GENERAL NOTES</u>
IFICATIONS:	- SHA SPECIFICATIONS DATED JULY, 2023 - REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.
DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS DATED 2007 INCLUDING ALL INTERIM SPECIFICATIONS.
	CONCRETE: LOAD AND RESISTANCE FACTOR DESIGN METHOD. THE DESIGN COMPRESSIVE STRENGTH SHALL BE f'c = 3000 PSI FOR ELEMENTS USING MIX NO. 3 CONCRETE AND f'c = 4000 PSI FOR ELEMENTS USING MIX NO. 6 CONCRETE
	REINFORCING STEEL: fy = 60 000 PSI.
	STRUCTURAL STEEL: LOAD AND RESISTANCE FACTOR DESIGN METHOD.
LOADING:	HL-93 WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE AND 15 Ibs/sq. ft.for use of steel bridge deck forms which remain in place.
CONCRETE:	ALL CONCRETE FOR ABUTMENT BACKWALLS, EXPANSION JOINT CROSS BEAM(S), TOP PORTION OF EXPANSION JOINT CROSS BEAM SUPPORT COLUMN(S), PARAPETS AT ABUTMENT WING WALLS AND ENTIRE SUPERSTRUCTURE(S) SHALL BE MIX. NO. 6 (4500 PSI). ALL OTHER STRUCTURE CONCRETE EXCEPT PRESTRESSED GIRDERS/SLABS SHALL BE MIX NO. 3 (3500 PSI).
EINFORCING	REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60.
JILL.	<u>ONLY GRADE 60 CAN BE USED ON THIS PROJECT.</u>
	ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE TOP OF PIERS AND BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.
	FOR TIES AND STIRRUPS: STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.
	ALL REINFORCING STEEL IN THE ENTIRE SUPERSTRUCTURE (INCLUDING PARAPETS), PARAPET PORTION OF WING WALLS, ABUTMENT BACKWALLS, ALL BEARING SEAT PADS, ABUTMENT BRIDGE SEAT AREAS, EXPANSION JOINT CROSS BEAMS AND EXPANSION JOINT CROSS BEAM SUPPORT COLUMNS SHALL BE EPOXY COATED.
RUCTURAL STEEL:	NEW STRUCTURAL STEEL SHALL CONFORM TO A 709, GRADE 50W, INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF M 270, FOR PRIMARY LOAD CARRYING MEMBERS.REFER TO SECTION 909.01.
KEYS:	ALL CONCRETE CONSTRUCTION KEYS ARE NOMINAL SIZE.
EXISTING TRUCTURE:	EXISTING STRUCTURE(S) SHOWN IN LONG DASHED LINES.
TIONS FOR AND USING IPMENT ON XISTING OR JCTURE/OR MATERIALS R AGAINST RUCTURES:	THERE ARE RESTRICTIONS ON PLACING EQUIPMENT ON EXISTING AND NEW STRUCTURE(S) AND STORING MATERIALS ON/OR AGAINST EXISTING AND NEW STRUCTURE(S) ELEMENTS. THE LIMITATIONS BASICALLY RELATE TO LOADS THAT ARE BEYOND MARYLAND'S LEGAL VEHICLES AND/OR POSTED LOAD LIMITS (WHERE APPLICABLE) AND MATERIALS STOCKPILED ON/OR AGAINST STRUCTURE'S OR STRUCTURES' ELEMENTS. FOR DETAILS OF SUCH RESTRICTIONS SEE SECTION TC 6.14 TITLED "RESTRICTIONS FOR PLACING AND USING EQUIPMENT ON STRUCTURES, OR STORING MATERIALS ON/OR AGAINST STRUCTURES" IN THE CONTRACT DOCUMENTS. IN ORDER TO COMPLY WITH THIS ARTICLE, THE CONTRACTOR SHALL READ SECTION TC 6.14 PRIOR TO COMMENCING ANY WORK ON STRUCTURE(S) IN THIS CONTRACT.
	430' VC
	PVC I08+21.09 ELEV 2297.72 BAD Add BAD ADD ADD ADD ADD ADD ADD ADD ADD ADD A
	ROADWAY PROFILE NOT TO SCALE

GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020 OVER THE YOUGHIOGHENY RIVER GENERAL PLAN AND ELEVATION

CONT. NOTBD	F.A.P. NO. TBD	SHEET NO. <u>23</u> OF <u>30</u>
PREL. TRAC. BY	FINAL TRAC. BY	

CONSTRUCTION OR LL NOT NS 4 Ω 60%

CONT. NOTBD	F.A.P. NO TBD	
PREL. TRAC. BY	FINAL TRAC. BY	

CONSTRUCTION OR LL NOT NS 4 Δ 60%

CONT. NO	TBD	F.A.P. NO	TBD	ę	SHEET NO	25	_{OF} <u>30</u>
PREL TRAC, BY			FINAL TRAC. BY				

NOTE: *ARCHITECTURAL FORMLINER FINISH SHALL EXTEND A MINIMUM OF I'-O" BELOW PROPOSED GRADE.

WING WALL IV ELEVATION

SCALE: $\frac{1}{4}^{"} = 1^{'} - 0^{"}$

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GARRETT COUNTY	
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OAKLAND, MARYLAND	
REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020	
OVER THE YOUGHIOGHENY RIVER	
WING WALL ELEVATION AND SECTION	
CONT. NOTBDF.A.P. NOTBDSHEET NO26	_{OF} <u>30</u>
REL. TRAC. BY FINAL TRAC. BY	

CONSTRUCTION FOR NOT SN 4 Δ 60%

ATION			
	c.pr www.gpinet.com	Revisions	GARRETT COUNTY
	UFI		ROADS DEPARIMENT OAKLAND, MARYLAND
٨' ٥ ٨' 8'	Engineering Design Planning Construction Management		REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
SCALE: 1/4" = 1'-0"	Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500		MSE WALL ELEVATIONS
	Columbia, MD 21044 Tel: 410.880.3055		CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 27 0F 30 PREL. TRAC. BY

MSE WALL II ELEVATION SCALE: $\frac{1}{4}^{"} = 1^{'} - 0^{"}$

60% PLANS - NOT FOR CONSTRUCTION

E: N:\2013\20132221.00 - 2009 SHA Statewide Bridge Design Services\Task 54 Swallow Falls Rd Bridge\CADD\pBR-TF

32'-2" OUT-TO-OUT SUPERSTRUCTURE

TYPICAL SECTION SCALE: 1/2" = 1'-0"

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2′	0	2′	4'	Greenman-Pedersen, 11000 Broken Land Pa	lnc. arkway, Suite 500	
	SCALE:	<mark>/</mark> 2"= '-0"		Tel: 410.880.3055		

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NOADS DEPARTIVIENT	
UAKLAND, MARYLAND	
REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO.G-0020	
OVER THE YOUGHIOGHENY RIVER	
SUPERSTRUCTURE TYPICAL SECTION	
CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 28 OF 30)
PREL. TRAC. BY FINAL_TRAC. BY	—

<u>NOTE:</u> SLIP FORMING OF PARAPETS WILL NOT BE ALLOWED.

_**⊳** | - 2³⁄4"

e′-0"

42" SINGLE SLOPE PARAPET 2-3" DIA. CONDUITS (TYP.) 60% PLANS - NOT FOR CONSTRUCTION

<u>LEGEND</u>

	WET MEADOW SEED MIX
	UPLAND MEADOW SEED
\bigcirc	PROPOSED SHRUB PLANTING (4' WIDTH)
AR	PROPOSED TREE PLANTING (25' CANOPY)

GARRETT COUNTY
ROADS DEPARTMENT
OAKLAND, MARYLAND
REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
OVER THE YOUGHIOGHENY RIVER
LANDSCAPE PLAN
CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 29 OF 30
PREL. TRAC. BY FINAL_TRAC. BY

WET MEADOW SEED MIX					
Scientific Name	Common Name	Pure Live Seed Ib/acre			
	Forbs				
Alleghany Monkey Flower	Mimulus ringens	0.4			
Crimsoneyed Rose Mallow	Hibiscus moscheutos	0.4			
Flat-top Goldenrod	Euthamia graminifolia	0.4			
New York Aster	Symphyotrichum novi-belgii	0.4			
New York Ironweed	Vernonia noveboracensis	0.4			
Swamp Milkweed	Asclepias incarnata	0.2			
Spotted Joe Pye Weed	Eutrochium maculatum	0.4			
Swamp Verbena	Verbena hastata	1.4			
	Grasses, Sedges, Rushes				
Common Rush	Juncus effusus	1.6			
Fox Sedge	Carex vulpinoidea	1.0			
Fowl Bluegrass	Poa palustris	2.0			
Longhair Sedge	Carex comosa	0.6			
Rattlesnake Mannagrass	Glyceria canadensis	1.0			
Shallow Sedge	Carex lurida	0.6			
Woolgrass	Scirpus cyperinus	0.6			
Notes: 1. The rate shown is Pure Live Seed. Use germination and purity data from the seed tag to calculate the actual seeding rate needed to obtain the seeding rate in Pure Live Seed					
 This table supersedes permanent seeding tables referenced in the Standards and Specification notes. For specific seeding seasons, fertilizer application rates, and additives reference 					
Section 707 of the SHA Standards and Specifications.					

PLANTING SCHEDULE							
Form	Symbol	Qty.	Scientific Name Common Name			Remarks	Spacing
Tree	TC	58	Tsuga canadensis	Eastern Hemlock	2"	CONT/B&B	AS SHOWN
Tree	QA	28	Quercus alba	White Oak	2"	CONT/B&B	AS SHOWN
Tree	QR	21	Quercus rubra	Red Oak	2"	CONT/B&B	AS SHOWN
Tree	PSt	7	Pinus strobus	White Pine	2"	CONT/B&B	AS SHOWN
Tree	PSe	11	Prunus serotina	Black Cherry	2"	CONT/B&B	AS SHOWN
Tree	Tree AR 19 Acer rubrum		Red Maple	2"	CONT/B&B	AS SHOWN	
Tree	CO	11	Carya ovalis	Sweet Pignut Hickory	2"	CONT/B&B	AS SHOWN
Shrub	CR	25	Cornus racemosa	Grey Stemmed Dogwood	3-4' Height	CONT	AS SHOWN
Shrub	RR	77	Rhododendron roseum	Mountain Azalea	3-4' Height	CONT	AS SHOWN
Shrub	KL	27	Kalmia latifolia	Mountain Laurel	3-4' Height	CONT	AS SHOWN
Shrub	rub VA 83 Viburnum alnifolium		Hobblebush	3-4' Height	CONT	AS SHOWN	
Shrub	rub SC 27 Sambucus canadensis		Common Elder 3-4' Height		CONT	AS SHOWN	
Shrub IV 36 Ilex verticillata		llex verticillata	Winterberry 3-4' Height		CONT	AS SHOWN	
Shrub HV 47 Hamamelis virginiana Witch Hazel		Witch Hazel	3-4' Height	CONT	AS SHOWN		

UPLAND MEADOW SEED MIX				
Scientific Name	Common Name	Pure Live Seed Ib/acre		
	Forbs			
Blackeyed Susan	Rudbeckia hirta	1.0		
Browneyed Susan	Rudbeckia triloba	1.0		
Eastern Purple Coneflower	Echinacea purpurea	2.4		
Gray Goldenrod	Solidago nemoralis	0.4		
Lanceleaf Tickseed	Coreopsis lanceolata	2.8		
Sundial Lupine	Lupinus perennis	2.8		
Smooth Blue Aster	Symphyotrichum laeve	0.4		
Foxglove Beardtongue	Penstemon digitalis	0.4		
Wild Bergamot	Monarda fistulosa	0.4		
Grasses, Sedges, Rushes				
Broomsedge Bluestem	Andropogon virginicus	1.0		
Deertongue	Dichanthelium clandestinum	2.0		
Hard Fescue	Festuca ovina	20.0		
Little Bluestem	Schizachyrium scoparium	2.0		
Purpletop	Tridens flavus	1.0		
Virginia Wildrye	Elymus virginicus	0.5		
Notes: 1. The rate shown is Pure Live Seed. Use germination and purity data from the seed tag to calculate the actual seeding rate needed to obtain the seeding rate in Pure Live Seed. 2. This table supersedes permanent seeding tables referenced in the Standards and				
Specification notes. 3. For specific seeding seasons, fertilizer application rates, and additives reference				

SHA TEMPORARY SEED MIX						
Mix %	Scientific Name	Pure Live Seed Ib/acre				
	One or more of t					
	Common Wheat, winter type	Triticum aestivum				
05	Common Barley, winter type	Hordeum vulgare	125			
95	Common Oat, winter type	Avena sativa	125			
	Cereal Rye, winter type	Secale cereale				
5	Foxtail Millet	Setaria italica				

			2				
Туріс	al Upright	Staking De	tail				
960		Et.					
STRANDS RE TWIST	OF GALY ED FOR SUPPORT	<u>k</u> 4		RL	IBBER HOSE		
L	JPRIGHT STAKES			RE FR	MOVE BURLAP & OM TOP 1/2 OF BA	ROPE	
			7-2	2	3" MULCH		
				— вА	CKFILL		
PLACE ST TO WALKS	AKES PARALLEL & & BUILDINGS			UF TO	RIGHT STAKES EX FIRM BEARING	(TENDE	Ð
Typic	al Tree Guy	ing Detail	1 A	7			
	×	-	V. V	/		0	
		1 de	PLAN V	IEW			-
		Jet.	VHE				
		E	VE.				
STRANDS	OF GALVANIZED	~			BBER HOSE		D5
RE TWISTE	D FOR SUPPORT			RE	MOVE BURLAP &	ROPE	
51	2-3" SAUCER				DEPTH OF BALL		
			A STATE	2-3	3" MULCH		2
	BACKFILL-			—— Gl	IYING STAKE		
			76		,	r	-
	Tree Size Height	Tree Size Caliper	Stake	#	Wire or Cable	Нове	
	6-10'	1" to 1-1/2"	5-6' upright	2	14 guage wire	1/2"	
	10-12'	2" to 2-1/2"	7-8' upright	2	14 guage wire	1/2"	
	12-14'	2-1/2" to 3"	2" guy	3	12 guage wire	1/2"	
	14-16'	3-4"	2" guy	3	12 guage wire	3/4".	
Seures: Ar	danted from Eorest C	openation Manual	1001				
Source, A	apted non roles. O		, 1381		?	10	
a later e		On a let at				T	
aking	and Guying	Specificati	ons				Figure D:20

Section 707 of the SHA Standards and Specifications.

NO. 14 GAUGE WIRE FABRIC WITH 2" x 4" OPENINGS AROUND INDIVIDUAL TREES AND SHRUBS OR SHRUB BED AND FASTEN TO STAKES. 6' HARDWOOD GUYING STAKE 2' INTO THE GROUND WITH A MINIMUM OF 2 STAKES PER CAGE.
NOTES:
 THIS DETAIL IS TO BE USED FOR INDIVIDUAL SHRUBS AND SHRUB BEDS. IN ADDITIC WILL BE USED FOR EVERGREEN TREES OR DECIDUOUS TREES WITH BRANCHES LOW 4' IN HEIGHT.
2. HEIGHT OF CAGE SHALL BE 4 FEET MINIMUM WITH A MAXIMUM DIAMETER OF 10 FE
 CAGE SHALL BE FASTENED TO STAKE WITH 3 (MIN.) TWIST TIE EVENLY SPACED W (MIN.) ABOVE THE GROUND.
4. CAGE SHALL SURROUND ALL SHRUBS AND TREES WITH A I FOOT SPACING FROM T OUTSIDE OF THE PLANT.

- 5. STAKES SHALL BE PLACED AT A MAXIMUM 5 FOOT SPACING.
- 6. CAGES TO BE REMOVED AT DIRECTION OF M-NCPPC CONSTRUCTION MANAGER.
- 7. HARDWOOD MULCH SHALL BE PLACED TO 2-3 INCH DEPTH WITHIN FENCING.

DEER PROTECTION CAGE

NOTES:

- 1. REMOVE ALL POTS AND WIRE AND CUT CONTAINER CLEANLY WAY FROM ROOTS.
- 2. REMOVE BURLAP.
- 3. CONTAINER PLANTINGS MAKE 4 TO 5 VERTICAL CUTS TO THE ROOT BALL BEFORE SETTING IN PLACE.
- 4. PRUNE ALL DAMAGED, DISEASED, OR WEAK LIMBS AND ROOTS.
- 5. CLEANLY PRUNE ALL DAMAGED ROOT ENDS TEASE ROOTS OF CONTAINER GROWN STOCK.
- 6. DO NOT ALLOW ROOTS TO DRY OUT DURING INSTALLLATION PROCESS.
- 7. DEEP WATER AFTER PLANTING.

LANDSCAPE SHRUB

GPT www.gpinet.com	Revisions	Revisions GARRETT COUNTY ROADS DEPARTMENT OAKLAND, MARYLAND REPLACEMENT OF SWALLOW FALLS ROAD BRIDGE NO. G-0020
Engineering Design Planning Construction Management		
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044 Tel: 410.880.3055		OVER THE YOUGHIOGHENY RIVER LANDSCAPE DETAILS
		CONT. NO. TBD F.A.P. NO. TBD SHEET NO. 30 OF 30 PREL. TRAC. BY

