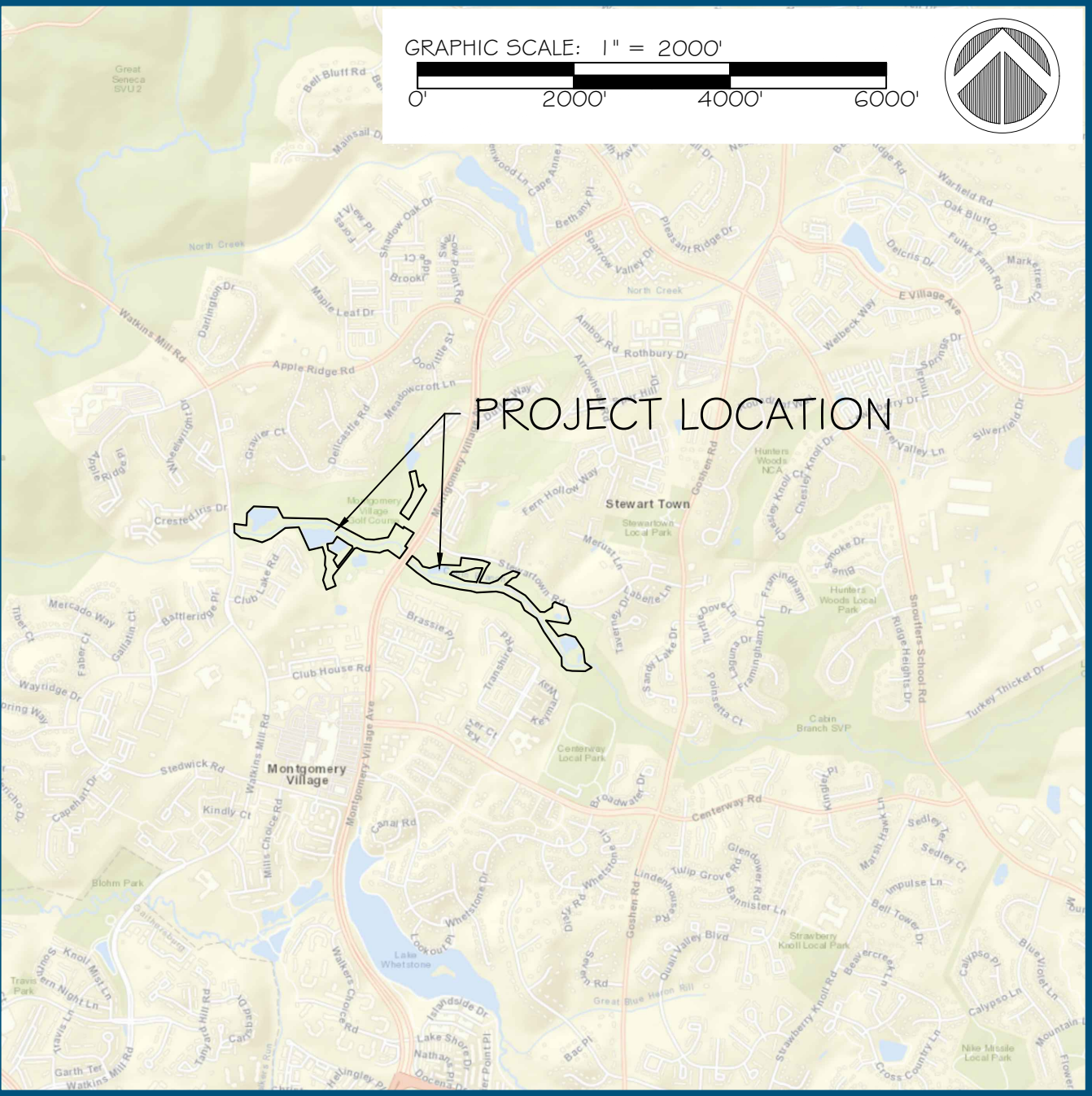
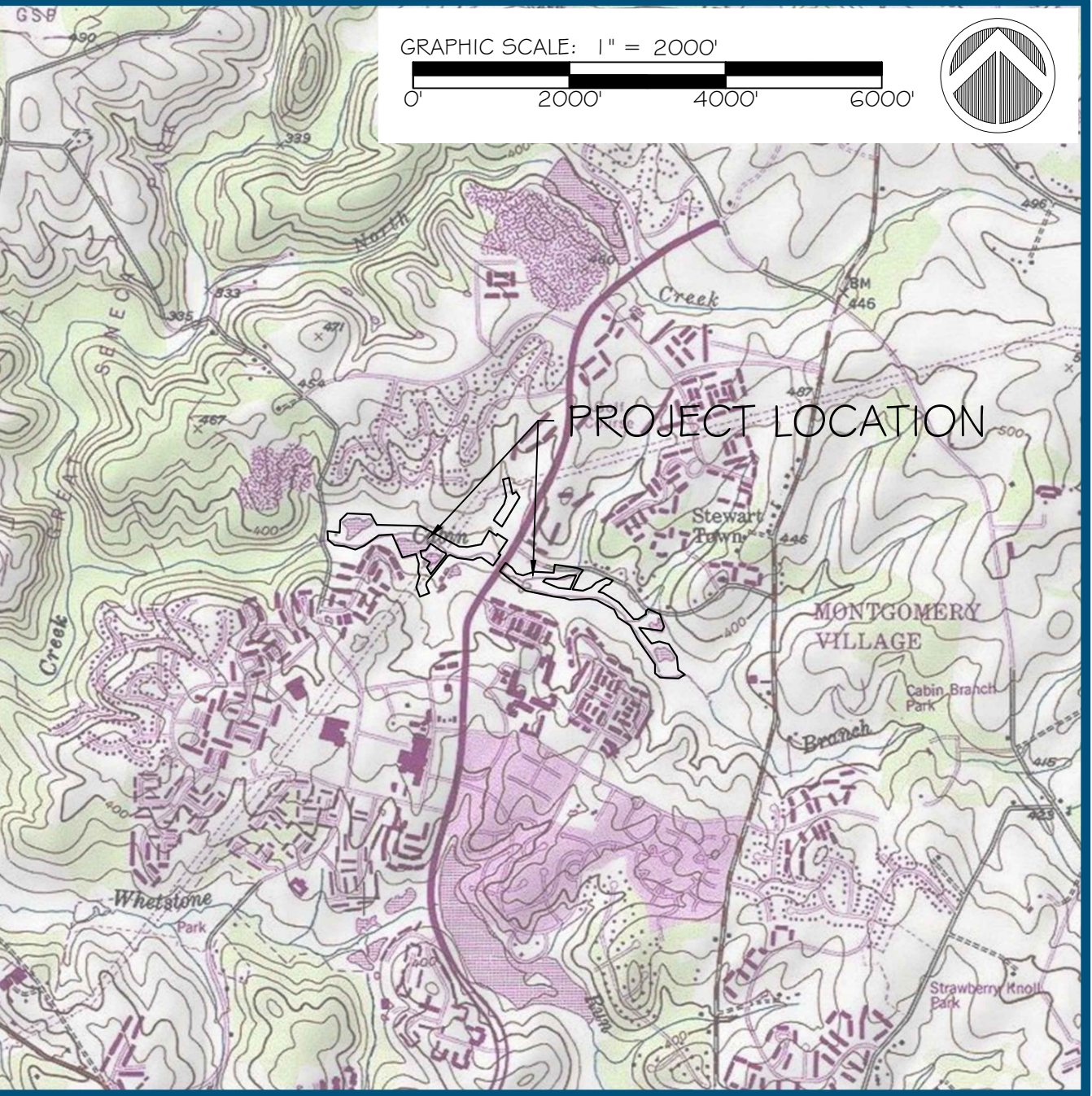


# RFP-2 CABIN BRANCH STREAM RESTORATION AND WETLAND MITIGATION PHASE II EROSION & SEDIMENT CONTROL PLAN MONTGOMERY COUNTY, MARYLAND

VICINITY MAP

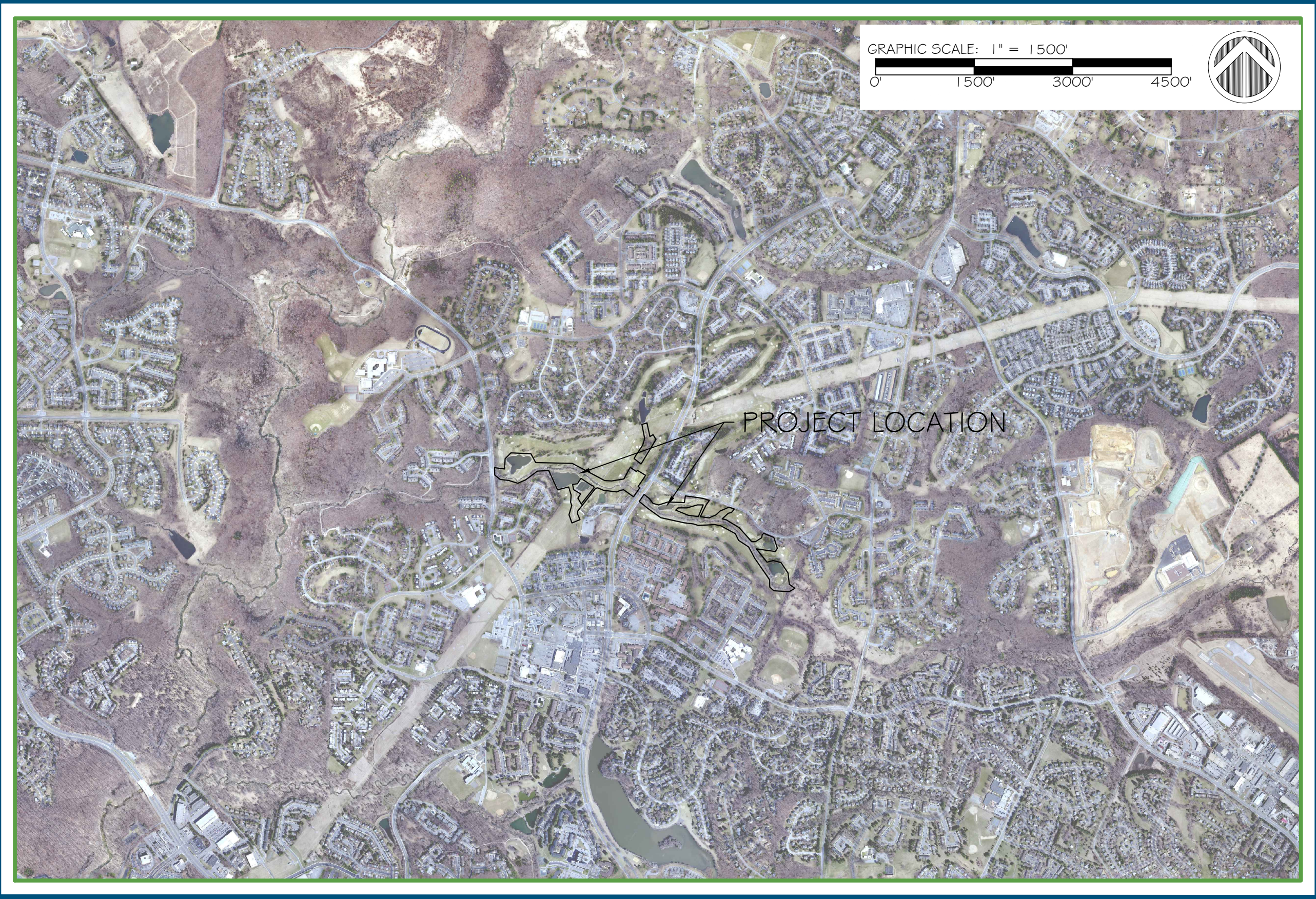


LOCATION MAP



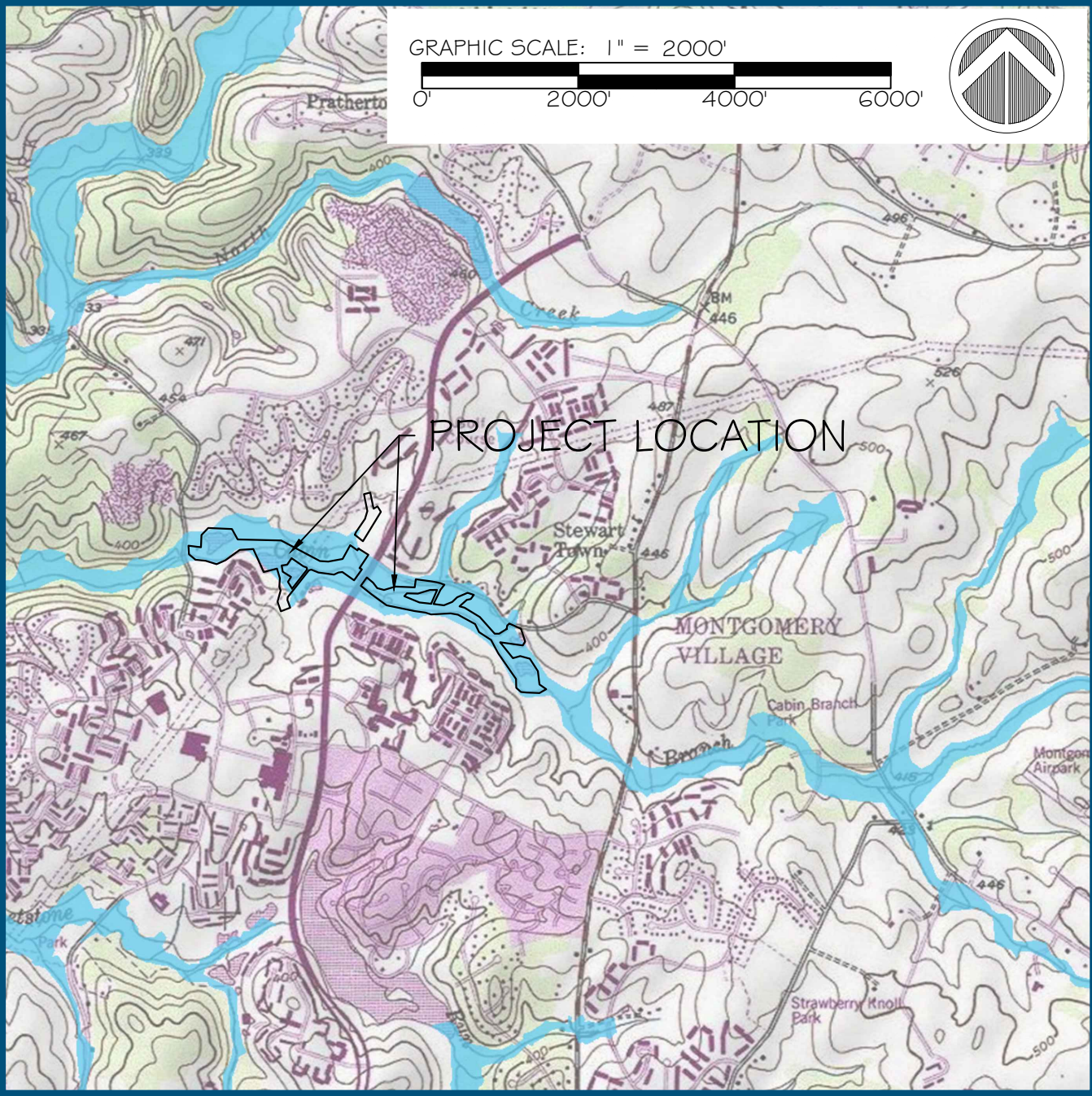
LATITUDE: N 39° 10' 43"  
LONGITUDE: W 77° 12' 08"

AERIAL PHOTOGRAPH-PROJECT OVERVIEW



**SHEET INDEX:**  
1 - COVER SHEET  
2 - KEY SHEET  
3 - COMPOSITE SHEET  
4 - DRAINAGE AREA MAP  
5-14 - EROSION & SEDIMENT CONTROL PLAN  
15 - ESC NOTES  
16-18 - ESC DETAILS

FEMA FIRMETTE



REFERENCE FEMA MAP: 24031C0187D

**APPLICANT/AGENT:**  
NAME: HGS, LLC A RES COMPANY  
ADDRESS: 5367 TELEPHONE ROAD  
WARRENTON, VIRGINIA 20187

**PROPERTY OWNER #1:**  
NAME: USL2 MR MONT VILLAGE BUSINESS TR  
ADDRESS: 19550 MONTGOMERY VILLAGE AVE  
ZONING: TLD, CRN-0.55  
ACREAGE: 111.87

**PROPERTY OWNER #2:**  
NAME: POTOMAC ELECTRIC POWER CO  
ADDRESS: C/O CORP TAX DEPT STE 5617 701  
9TH ST NW WASHINGTON, DC 20068  
ZONING: R-200  
ACREAGE: 16.52

RELATED REQUIRED PERMITS					
TYPE OF PERMIT	REQD	NOT REQD	PENDING	APPROVED	NOTES
U.S. ARMY CORP OF ENGINEERS	X				
MARYLAND DEPARTMENT OF THE ENVIRONMENT	X				
LOCAL JURISDICTION (CITY/COUNTY)					
SPECIAL USE		X			
ZONING		X			
LAND DISTURBANCE	X				
FLOODPLAIN	X				
NRJ	X			X	#4-20170430
FCP	X				

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:				NOTE: MDGPS APPROVAL DOES NOT NEGATE THE NEED FOR A MDGPS ACCESS PERMIT	
Stormwater Management:		Sediment Control Technical Requirements:		Administrative Requirements:	
				Reviewed                      Date	
				SEDIMENT CONTROL PERMIT NO.	
Reviewed                      Date		Reviewed                      Date			
Approved                      Date		Approved                      Date			
SM FILE #		MDGPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.			
DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.					

FOR ALL WORK WITHIN THE LIMITS OF THE PARCELS OWNED BY POTOMAC ELECTRIC POWER COMPANY THE FOLLOWING NOTES SHALL APPLY:

- GRANTOR'S PROPERTIES Workspace Notes**
- A. Notify GRANTOR at least seventy-two (72) hours prior to start of work on GRANTOR's PROPERTIES. Notify GRANTOR again at the completion of work. Failure to notify GRANTOR may trigger a stop work order.
- B. Remove all construction debris from GRANTOR's PROPERTIES at the completion of the work.
- C. Stabilize all disturbed areas by grading, seeding and/or mulching.

PROFESSIONAL CERTIFICATION:  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 52852, EXPIRATION DATE: 6/14/2022

**NOT FOR CONSTRUCTION**

PROJECT STATUS	
DATE	DESCRIPTION
2/15/2021	65% MITIGATION PLAN
9/8/2021	65% MITIGATION PLAN REV.
3/10/2022	65% MITIGATION PLAN REV. 1

RFP-2 CABIN BRANCH

PROJECT MANAGER:

JOB NUMBER:

DESIGNED:

DESIGN TYPE:

DRAWN:

PLAN DATE:

RC


PRJ102054

KH

404 MITIGATION

KH

11/22/2021



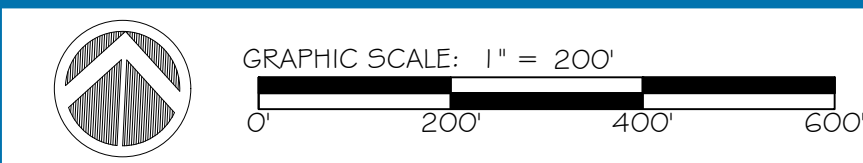
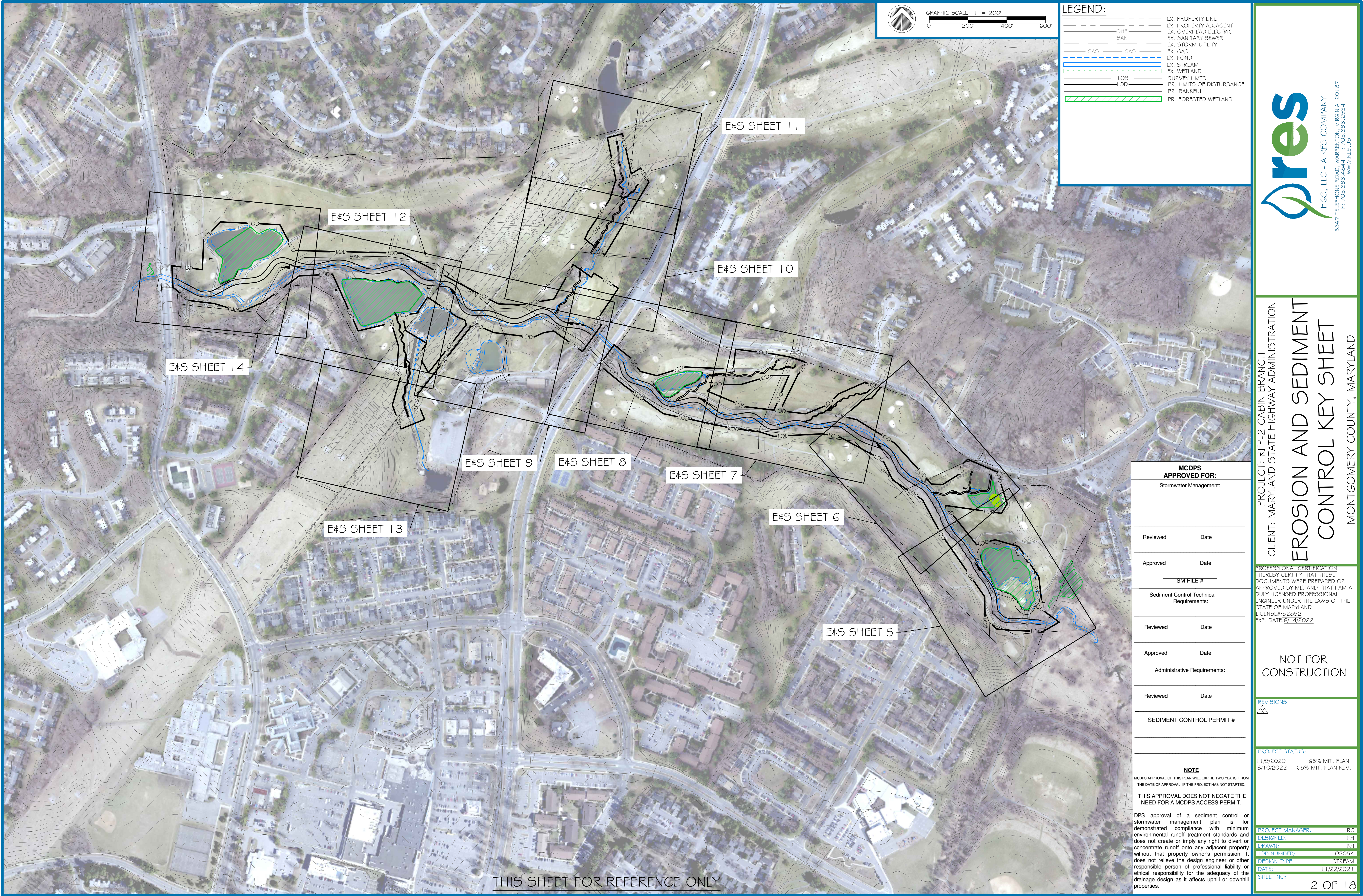
HGS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.393.4644 | F: 703.393.2934  
WWW.RES.US

JOB NUMBER:  
PRJ102054

RFP-2 CABIN BRANCH





LEGEND:	
---	EX. PROPERTY LINE
---	EX. PROPERTY ADJACENT
---	EX. OVERHEAD ELECTRIC
---	EX. SANITARY SEWER
---	EX. STORM UTILITY
---	EX. GAS
---	EX. POND
---	EX. STREAM
---	EX. WETLAND
---	SURVEY LIMITS
---	PR. LIMITS OF DISTURBANCE
---	PR. BANKFULL
---	PR. FORESTED WETLAND



HGS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187

F: 703.555.1234 WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

EROSION AND SEDIMENT  
CONTROL KEY SHEET

MONTGOMERY COUNTY, MARYLAND

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**  
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LICENSE#52852  
EXP. DATE: 6/14/2022

NOT FOR  
CONSTRUCTION

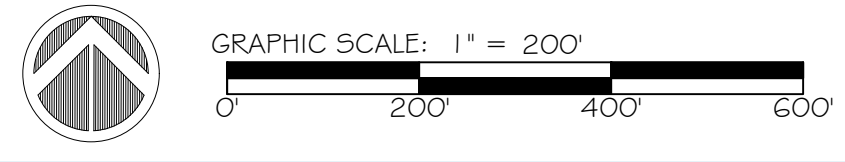
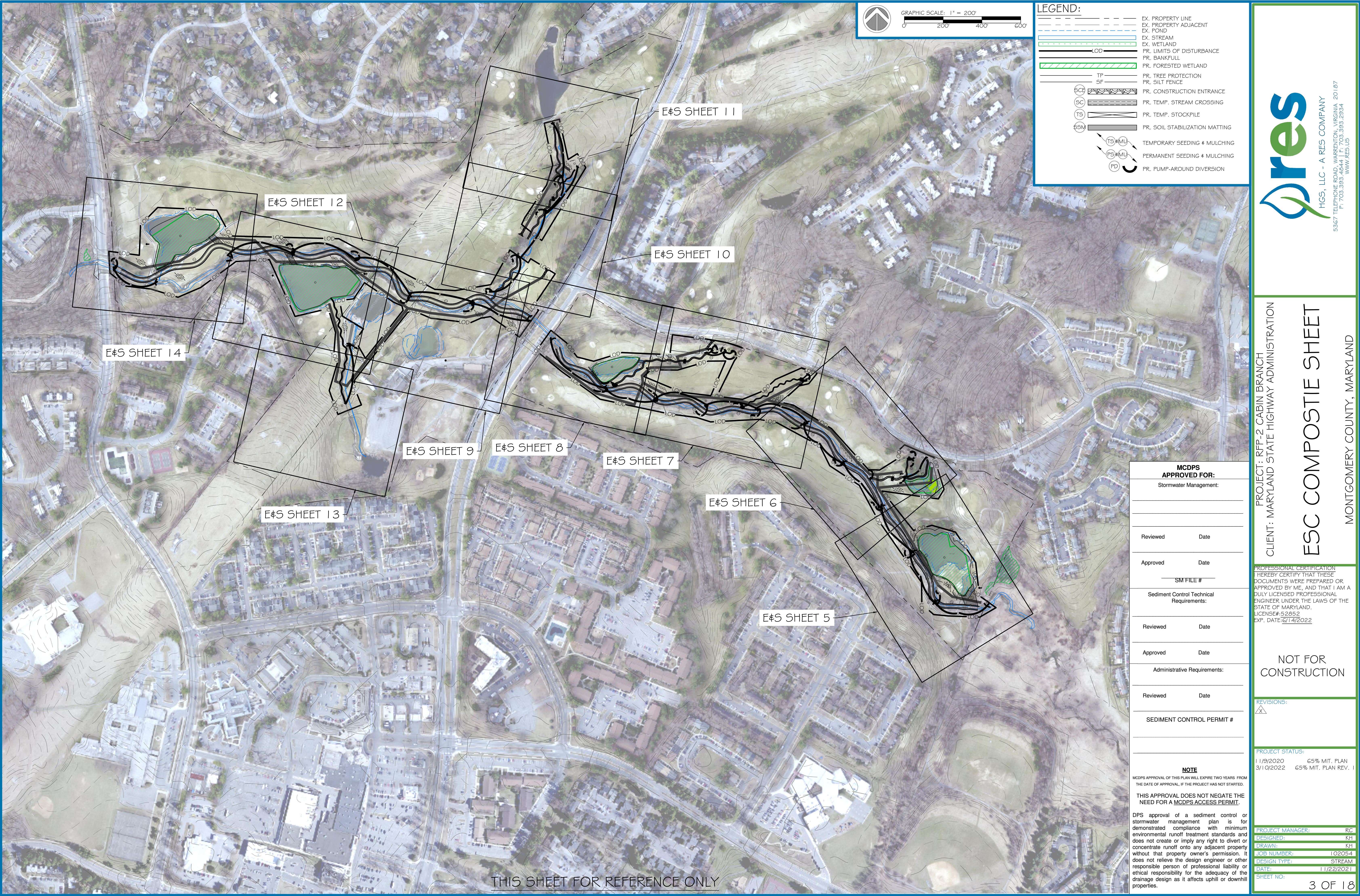
REVISIONS:  
△

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN  
3/10/2022 65% MIT. PLAN REV. I

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	2 OF 18

THIS SHEET FOR REFERENCE ONLY





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. POND
	EX. STREAM
	EX. WETLAND
	PR. LIMITS OF DISTURBANCE
	PR. BANKFULL
	PR. FORESTED WETLAND
	PR. TREE PROTECTION
	PR. SILT FENCE
	PR. CONSTRUCTION ENTRANCE
	PR. TEMP. STREAM CROSSING
	PR. TEMP. STOCKPILE
	PR. SOIL STABILIZATION MATTING
	TEMPORARY SEEDING & MULCHING
	PERMANENT SEEDING & MULCHING
	PR. PUMP-AROUND DIVERSION



HGS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, OREGON 97146

F: 703.555.4000, 703.555.2554

WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH

CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

ESC COMPOSITE SHEET

MONTGOMERY COUNTY, MARYLAND

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**  
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LICENSE# 52852  
EXP. DATE: 6/14/2022

NOT FOR CONSTRUCTION

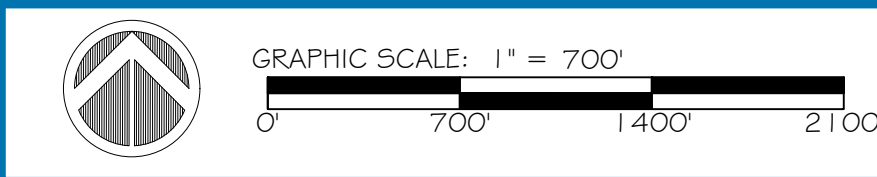
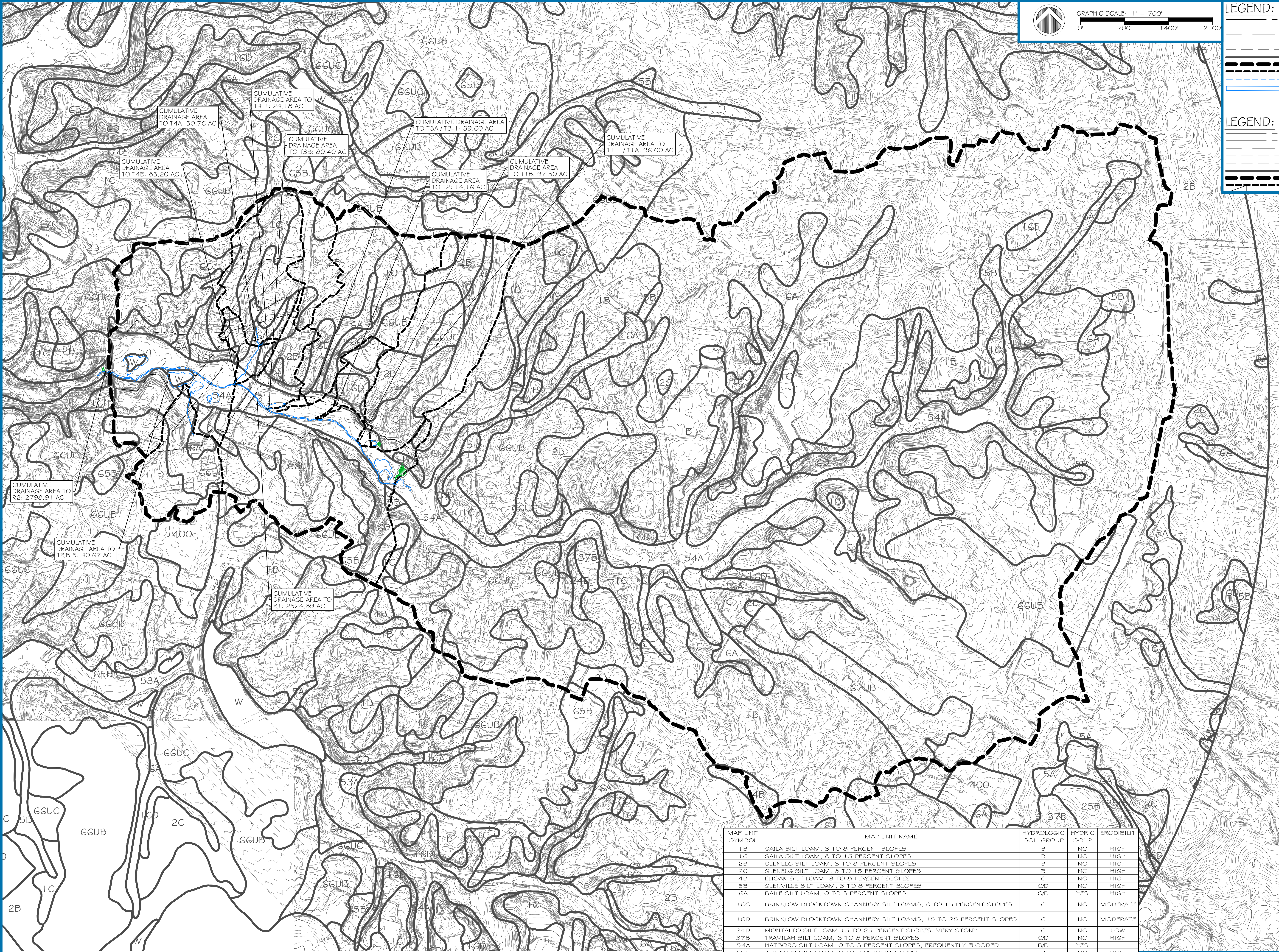
REVISIONS:

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN  
3/10/2022 65% MIT. PLAN REV. I

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	3 OF 18

THIS SHEET FOR REFERENCE ONLY





**LEGEND:**  
--- EX. PROPERTY LINE  
--- EX. PROPERTY ADJACENT  
--- EX. MAJOR CONTOUR  
--- EX. MINOR CONTOUR  
--- EX. EDGE OF PAVEMENT  
--- EX. SOILS BOUNDARY  
--- EX. DRAINAGE DIVIDE  
--- EX. SUB DRAINAGE DIVIDE  
--- EX. POND  
--- EX. STREAM

**LEGEND:**  
--- EX. PROPERTY LINE  
--- EX. PROPERTY ADJACENT  
--- EX. MAJOR CONTOUR  
--- EX. MINOR CONTOUR  
--- EX. EDGE OF PAVEMENT  
--- EX. SOILS BOUNDARY  
--- EX. DRAINAGE DIVIDE  
--- EX. SUB DRAINAGE DIVIDE

**MCDPS  
APPROVED FOR:**  
Stormwater Management:

Reviewed

Date

Approved

Date

SM FILE #

**Sediment Control Technical  
Requirements:**

Reviewed

Date

Approved

Date

Administrative Requirements:

Reviewed

Date

SEDIMENT CONTROL PERMIT #

**NOTE**  
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MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP	HYDRIC SOIL?	ERODIBILITY
1B	GAILA SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	HIGH
1C	GAILA SILT LOAM, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
2B	GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	HIGH
2C	GLENELG SILT LOAM, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
4B	FLIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	HIGH
5B	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C/D	NO	HIGH
6A	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	HIGH
1 1G	BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS, 8 TO 15 PERCENT SLOPES	C	NO	MODERATE
1 1GD	BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS, 15 TO 25 PERCENT SLOPES	C	NO	MODERATE
24D	MONTALTO SILT LOAM, 15 TO 25 PERCENT SLOPES, VERY STONY	C	NO	LOW
37B	TRAVILAH SILT LOAM, 3 TO 8 PERCENT SLOPES	C/D	NO	HIGH
54A	HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES, FREQUENTLY FLOODED	B/D	YES	HIGH
65B	WHEATON SILT LOAM, 0 TO 8 PERCENT SLOPES	B	NO	HIGH
66UB	WHEATON-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B	NO	HIGH
66UC	WHEATON-URBAN LAND COMPLEX, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
67UB	URBAN LAND-WHEATON COMPLEX, 0 TO 8 PERCENT SLOPES	D	NO	-
1 1 1GD	BLOCKTOWN CHANNERY SILT LOAM, 15 TO 25 PERCENT SLOPES, VERY ROCKY	D	NO	MODERATE
1 1 1GE	BLOCKTOWN CHANNERY SILT LOAM, 25 TO 45 PERCENT SLOPES, VERY ROCKY	D	NO	MODERATE
400	URBAN LAND	D	NO	-

NOTES:  
1. TOPOGRAPHY SHOWN IS BASED ON GIS, CONTOUR INTERVAL 5'.  
2. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.555.1254  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

**DRAINAGE AREA MAP**

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE# 52852  
EXP. DATE: 6/14/2022

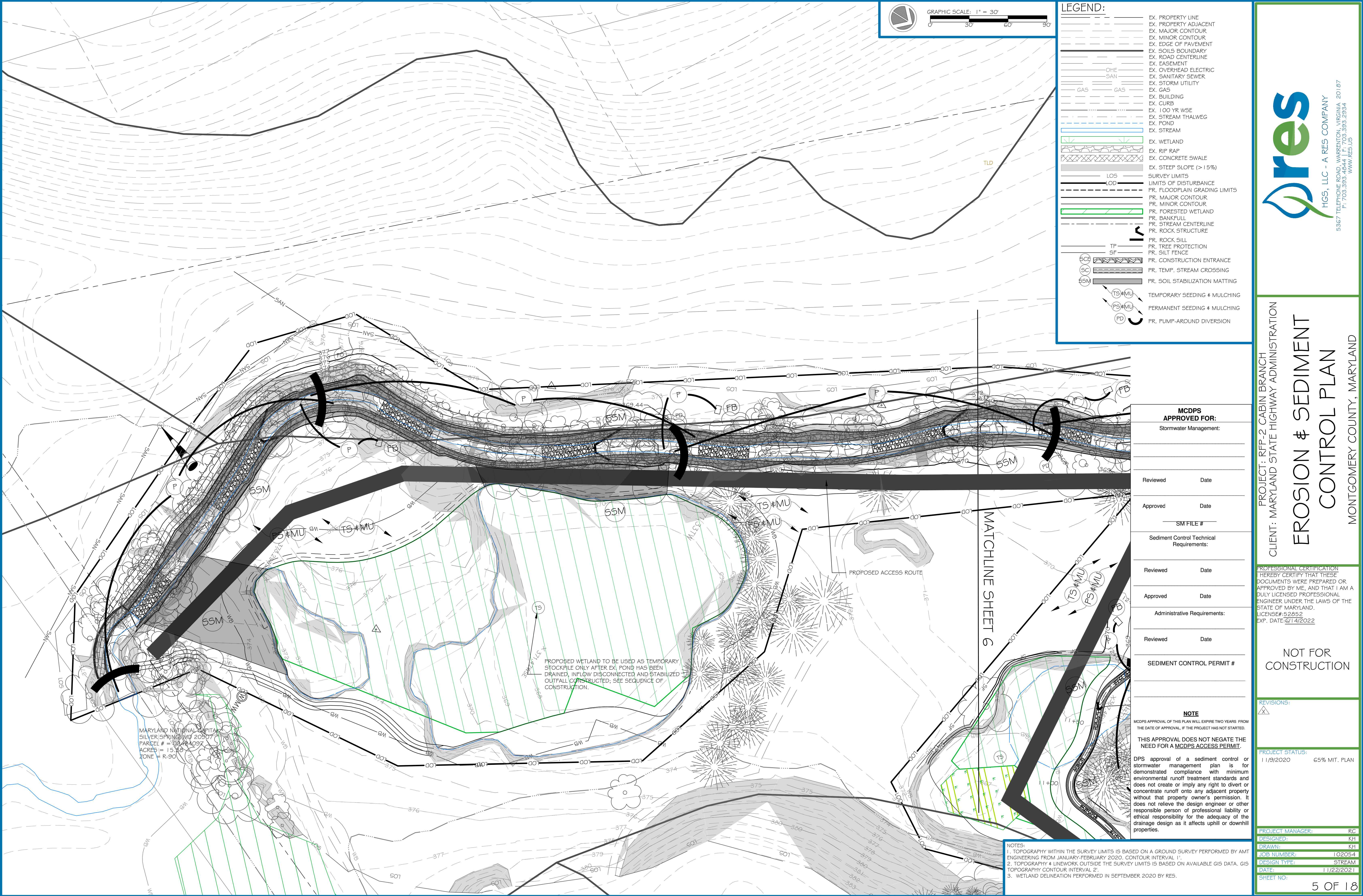
NOT FOR  
CONSTRUCTION

REVISIONS:  
△

PROJECT STATUS:  
11/9/2020 65% MIT, PLAN  
3/10/2022 65% MIT, PLAN REV. 1

PROJECT MANAGER: RC  
DESIGNED: KH  
DRAWN: KH  
JOB NUMBER: 102054  
DESIGN TYPE: STREAM  
DATE: 11/22/2021  
SHEET NO:





PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION  
**EROSION & SEDIMENT  
CONTROL PLAN**  
MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION  
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STATE OF MARYLAND.  
LICENSE# 52852  
EXP. DATE: 6/14/2022

**NOT FOR  
CONSTRUCTION**

REVISIONS:  
1. [Symbol]

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN

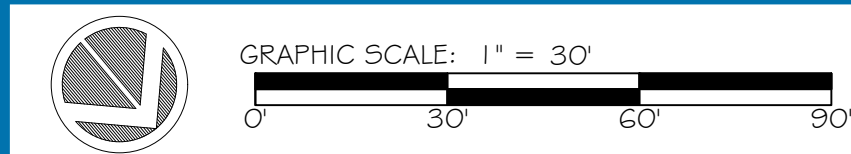
PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	5 OF 18

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**  
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM  
THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED.  
  
**THIS APPROVAL DOES NOT NEGATE THE  
NEED FOR A MCDPS ACCESS PERMIT.**  
  
DPS approval of a sediment control or  
stormwater management plan is for  
demonstrated compliance with minimum  
environmental runoff treatment standards and  
does not create or imply any right to divert or  
concentrate runoff onto any adjacent property  
without that property owner's permission. It  
does not relieve the design engineer or other  
responsible person of professional liability or  
ethical responsibility for the adequacy of the  
drainage design as it affects uphill or downhill  
properties.

**NOTES:**  
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY AMT  
ENGINEERING FROM JANUARY-FEBRUARY 2020. CONTOUR INTERVAL 1'.  
2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA. GIS  
TOPOGRAPHY CONTOUR INTERVAL 2'.  
3. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.





LEGEND:

- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF PAVEMENT
- EX. SOILS BOUNDARY
- EX. ROAD CENTERLINE
- EX. EASEMENT
- EX. OVERHEAD ELECTRIC
- EX. SANITARY SEWER
- EX. STORM UTILITY
- EX. GAS
- EX. BUILDING
- EX. CURB
- EX. 100 YR WSE
- EX. STREAM THALWEG
- EX. POND
- EX. STREAM
- EX. WETLAND
- EX. RIP RAP
- EX. CONCRETE SWALE
- EX. STEEP SLOPE (> 1:5%)
- SURVEY LIMITS
- LIMITS OF DISTURBANCE
- PR. FLOODPLAIN GRADING LIMITS
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. FORESTED WETLAND
- PR. BANKFULL
- PR. STREAM CENTERLINE
- PR. ROCK STRUCTURE
- PR. ROCK SILL
- PR. TREE PROTECTION
- PR. SILT FENCE
- PR. CONSTRUCTION ENTRANCE
- PR. TEMP. STREAM CROSSING
- PR. SOIL STABILIZATION MATTING
- TEMPORARY SEEDING & MULCHING
- PERMANENT SEEDING & MULCHING
- PR. PUMP-AROUND DIVERSION

**MCDPS  
APPROVED FOR:**  
Stormwater Management:

Reviewed	Date
Approved	Date
SM FILE #	

Sediment Control Technical Requirements:

Reviewed	Date
Approved	Date
Administrative Requirements:	

Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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  2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA. GIS TOPOGRAPHY CONTOUR INTERVAL 2'.
  3. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.



PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION  
**EROSION & SEDIMENT  
CONTROL PLAN**  
MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION  
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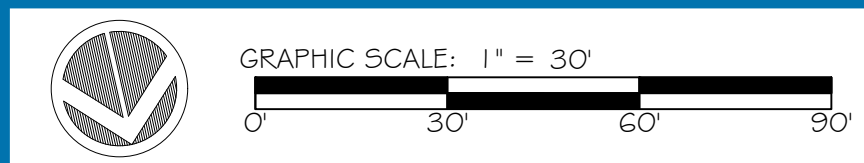
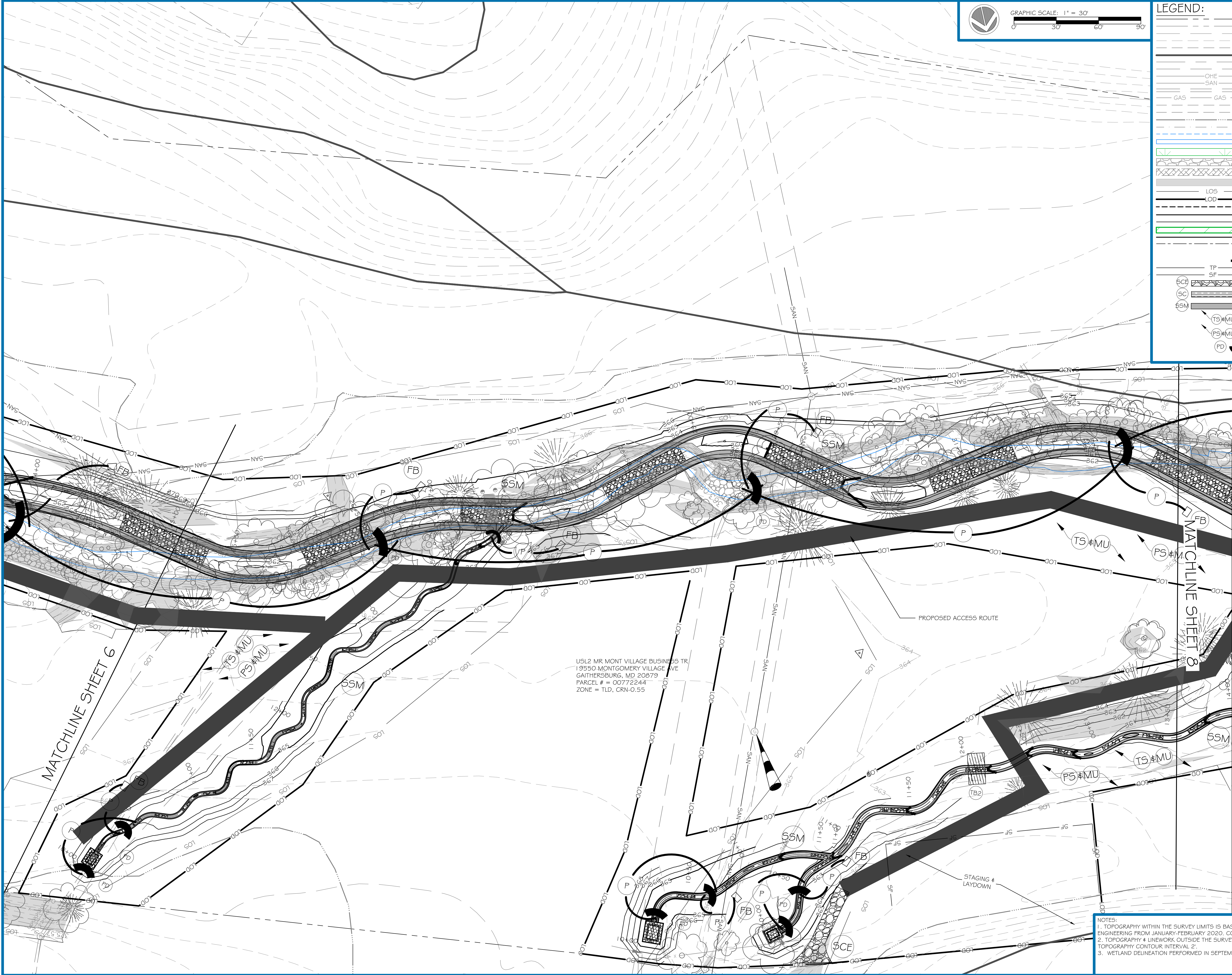
**NOT FOR  
CONSTRUCTION**

REVISIONS:

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	6 OF 18





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. EDGE OF PAVEMENT
	EX. SOILS BOUNDARY
	EX. ROAD CENTERLINE
	EX. EASEMENT
	EX. OVERHEAD ELECTRIC
	EX. SANITARY SEWER
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	SURVEY LIMITS
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	PR. ROCK SILL
	PR. TREE PROTECTION
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	TEMPORARY SEEDING & MULCHING
	PERMANENT SEEDING & MULCHING
	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**

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2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA. GIS TOPOGRAPHY CONTOUR INTERVAL 2'.
3. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.555.1234  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

# EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

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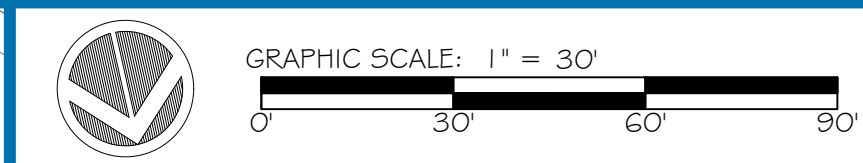
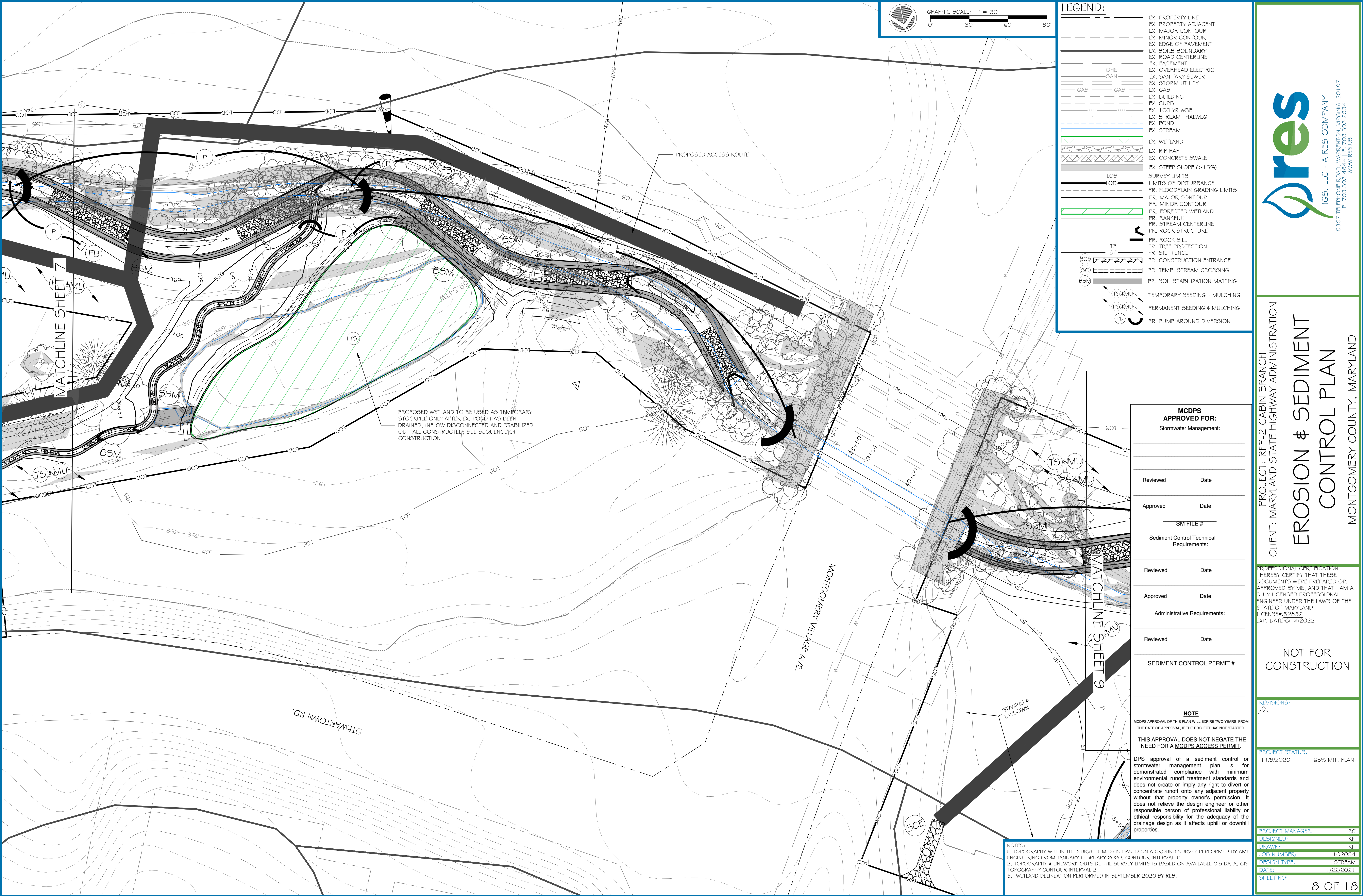
## NOT FOR CONSTRUCTION

REVISIONS:

1	1/9/2020	65% MIT. PLAN
---	----------	---------------

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	7 OF 18





LEGEND:	
[Symbol]	EX. PROPERTY LINE
[Symbol]	EX. PROPERTY ADJACENT
[Symbol]	EX. MAJOR CONTOUR
[Symbol]	EX. MINOR CONTOUR
[Symbol]	EX. EDGE OF PAVEMENT
[Symbol]	EX. SOILS BOUNDARY
[Symbol]	EX. ROAD CENTERLINE
[Symbol]	EX. EASEMENT
[Symbol]	EX. OVERHEAD ELECTRIC
[Symbol]	EX. SANITARY SEWER
[Symbol]	EX. STORM UTILITY
[Symbol]	EX. GAS
[Symbol]	EX. BUILDING
[Symbol]	EX. CURB
[Symbol]	EX. 100 YR WSE
[Symbol]	EX. STREAM THALWEG
[Symbol]	EX. POND
[Symbol]	EX. STREAM
[Symbol]	EX. WETLAND
[Symbol]	EX. RIP RAP
[Symbol]	EX. CONCRETE SWALE
[Symbol]	EX. STEEP SLOPE (> 15%)
[Symbol]	LO5 SURVEY LIMITS
[Symbol]	LOD LIMITS OF DISTURBANCE
[Symbol]	PR. FLOODPLAIN GRADING LIMITS
[Symbol]	PR. MAJOR CONTOUR
[Symbol]	PR. MINOR CONTOUR
[Symbol]	PR. FORESTED WETLAND
[Symbol]	PR. BANKFULL
[Symbol]	PR. STREAM CENTERLINE
[Symbol]	PR. ROCK STRUCTURE
[Symbol]	PR. ROCK SILL
[Symbol]	PR. TREE PROTECTION
[Symbol]	PR. SILT FENCE
[Symbol]	PR. CONSTRUCTION ENTRANCE
[Symbol]	PR. TEMP. STREAM CROSSING
[Symbol]	PR. SOIL STABILIZATION MATTING
[Symbol]	TEMPORARY SEEDING & MULCHING
[Symbol]	PERMANENT SEEDING & MULCHING
[Symbol]	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**  
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- NOTES:
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  2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA. GIS TOPOGRAPHY CONTOUR INTERVAL 2'.
  3. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.555.1234  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

# EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION  
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LICENSE# 52852  
EXP. DATE: 6/14/2022

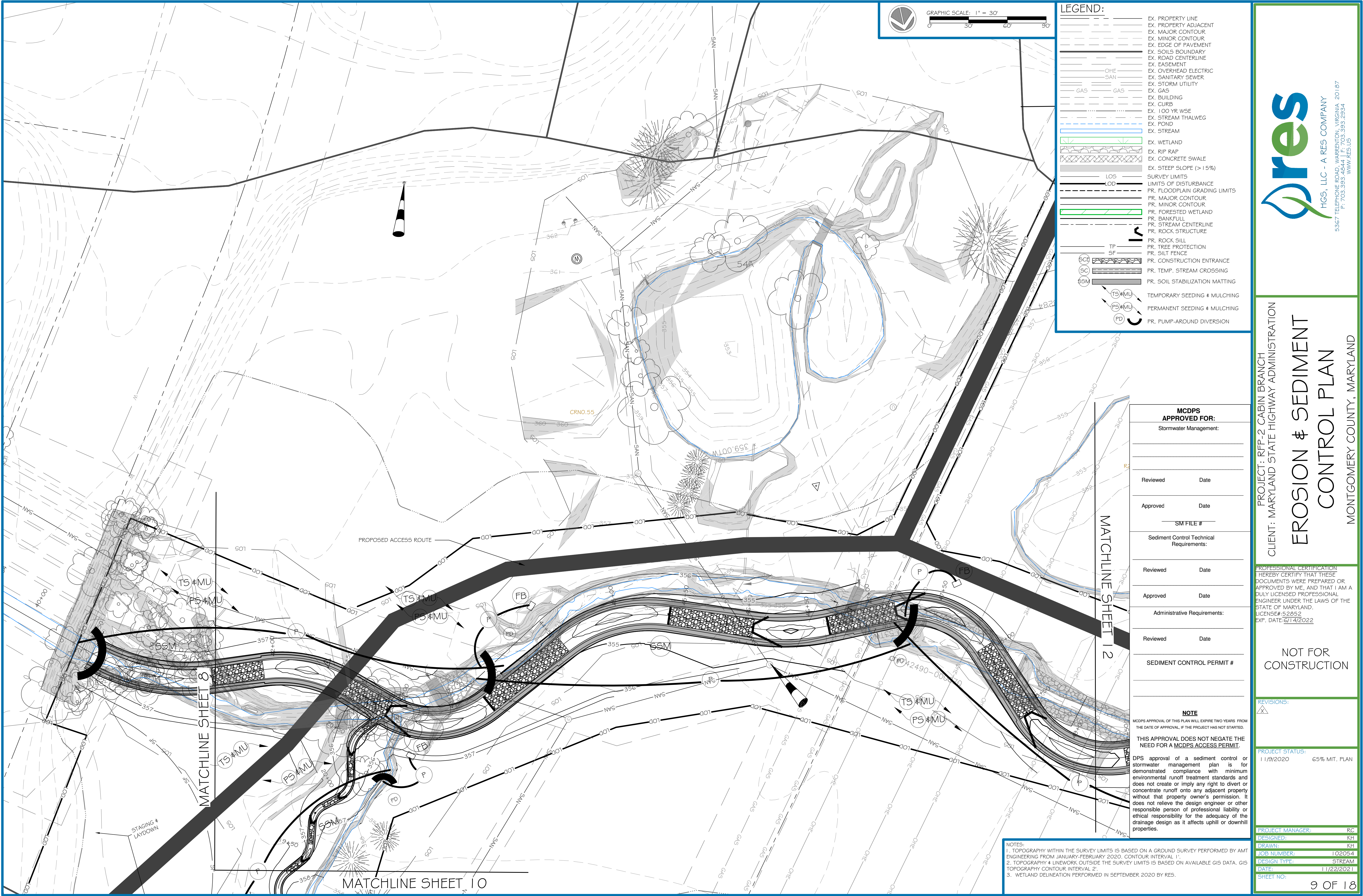
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REVISIONS:

PROJECT STATUS:	11/9/2020	65% MIT. PLAN
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PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	8 OF 18





**LEGEND:**

- EX. PROPERTY LINE
- EX. PROPERTY ADJACENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. EDGE OF PAVEMENT
- EX. SOILS BOUNDARY
- EX. ROAD CENTERLINE
- EX. EASEMENT
- EX. OVERHEAD ELECTRIC
- EX. SANITARY SEWER
- EX. STORM UTILITY
- EX. GAS
- EX. BUILDING
- EX. CURB
- EX. 100 YR WSE
- EX. STREAM THALWEG
- EX. POND
- EX. STREAM
- EX. WETLAND
- EX. RIP RAP
- EX. CONCRETE SWALE
- EX. STEEP SLOPE (> 1:5%)
- LOD SURVEY LIMITS
- LOD LIMITS OF DISTURBANCE
- PR. FLOODPLAIN GRADING LIMITS
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. FORESTED WETLAND
- PR. BANKFULL
- PR. STREAM CENTERLINE
- PR. ROCK STRUCTURE
- PR. ROCK SILL
- PR. TREE PROTECTION
- PR. SILT FENCE
- PR. CONSTRUCTION ENTRANCE
- PR. TEMP. STREAM CROSSING
- PR. SOIL STABILIZATION MATTING
- TEMPORARY SEEDING & MULCHING
- PERMANENT SEEDING & MULCHING
- PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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**PROJECT:** RFP-2 CABIN BRANCH

**CLIENT:** MARYLAND STATE HIGHWAY ADMINISTRATION

**PROJECT MANAGER:** RC

**DESIGNED:** KH

**DRAWN:** KH

**JOB NUMBER:** 102054

**DESIGN TYPE:** STREAM

**DATE:** 11/22/2021

**SHEET NO:** 9 OF 18

**PROFESSIONAL CERTIFICATION**

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**NOT FOR CONSTRUCTION**

**REVISIONS:**

1	11/22/2021	65% MIT. PLAN
---	------------	---------------

**PROJECT STATUS:**

11/9/2020 65% MIT. PLAN

**EROSION & SEDIMENT CONTROL PLAN**

MONTGOMERY COUNTY, MARYLAND

**dres**

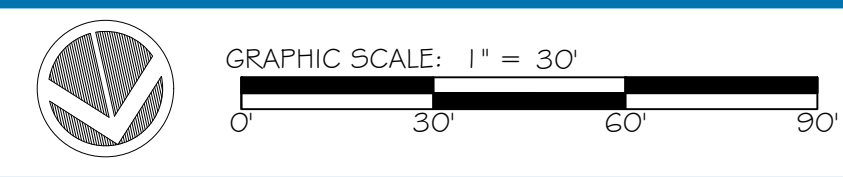
HGS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187

F: 703.555.0393

WWW.RES.US





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. EDGE OF PAVEMENT
	EX. SOILS BOUNDARY
	EX. ROAD CENTERLINE
	EX. EASEMENT
	EX. OVERHEAD ELECTRIC
	EX. SANITARY SEWER
	EX. STORM UTILITY
	EX. GAS
	EX. BUILDING
	EX. CURB
	EX. 100 YR WSE
	EX. STREAM THALWEG
	EX. POND
	EX. STREAM
	EX. WETLAND
	EX. RIP RAP
	EX. CONCRETE SWALE
	EX. STEEP SLOPE (> 15%)
	SURVEY LIMITS
	LIMITS OF DISTURBANCE
	PR. FLOODPLAIN GRADING LIMITS
	PR. MAJOR CONTOUR
	PR. MINOR CONTOUR
	PR. FORESTED WETLAND
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	PR. STREAM CENTERLINE
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	TEMPORARY SEEDING & MULCHING
	PERMANENT SEEDING & MULCHING
	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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HGS, LLC - A RES COMPANY

5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187

F: 703.955.2254

WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH

CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

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LICENSE#52852

EXP. DATE:6/14/2022

NOT FOR CONSTRUCTION

REVISIONS:

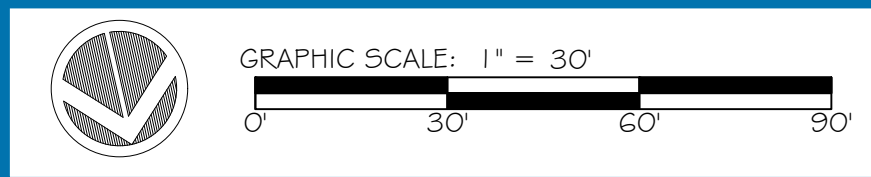
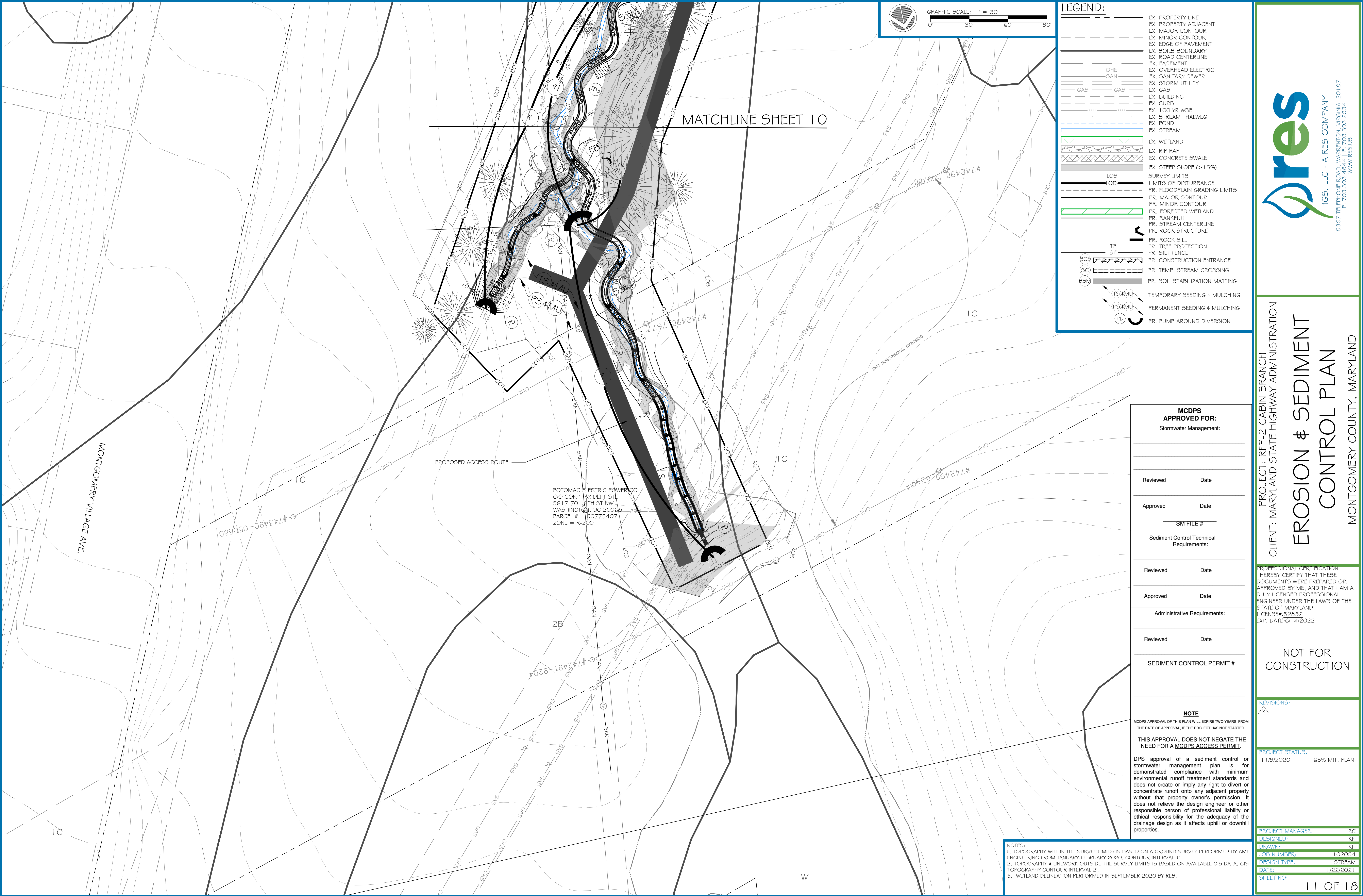
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PROJECT STATUS:

1/19/2020 65% MIT. PLAN

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	10 OF 18





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. EDGE OF PAVEMENT
	EX. SOILS BOUNDARY
	EX. ROAD CENTERLINE
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	EX. 100 YR WSE
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	EX. WETLAND
	EX. RIP RAP
	EX. CONCRETE SWALE
	EX. STEEP SLOPE (> 1:5%)
	SURVEY LIMITS
	LIMITS OF DISTURBANCE
	PR. FLOODPLAIN GRADING LIMITS
	PR. MAJOR CONTOUR
	PR. MINOR CONTOUR
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	TEMPORARY SEEDING & MULCHING
	PERMANENT SEEDING & MULCHING
	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.955.1234  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

# EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

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LICENSE# 52852  
EXP. DATE: 6/14/2022

## NOT FOR CONSTRUCTION

REVISIONS:

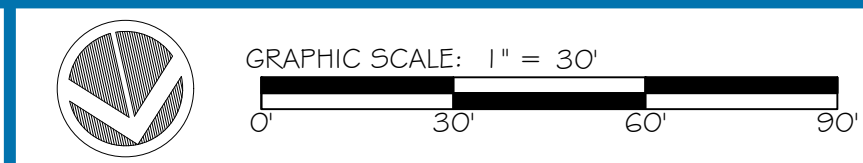
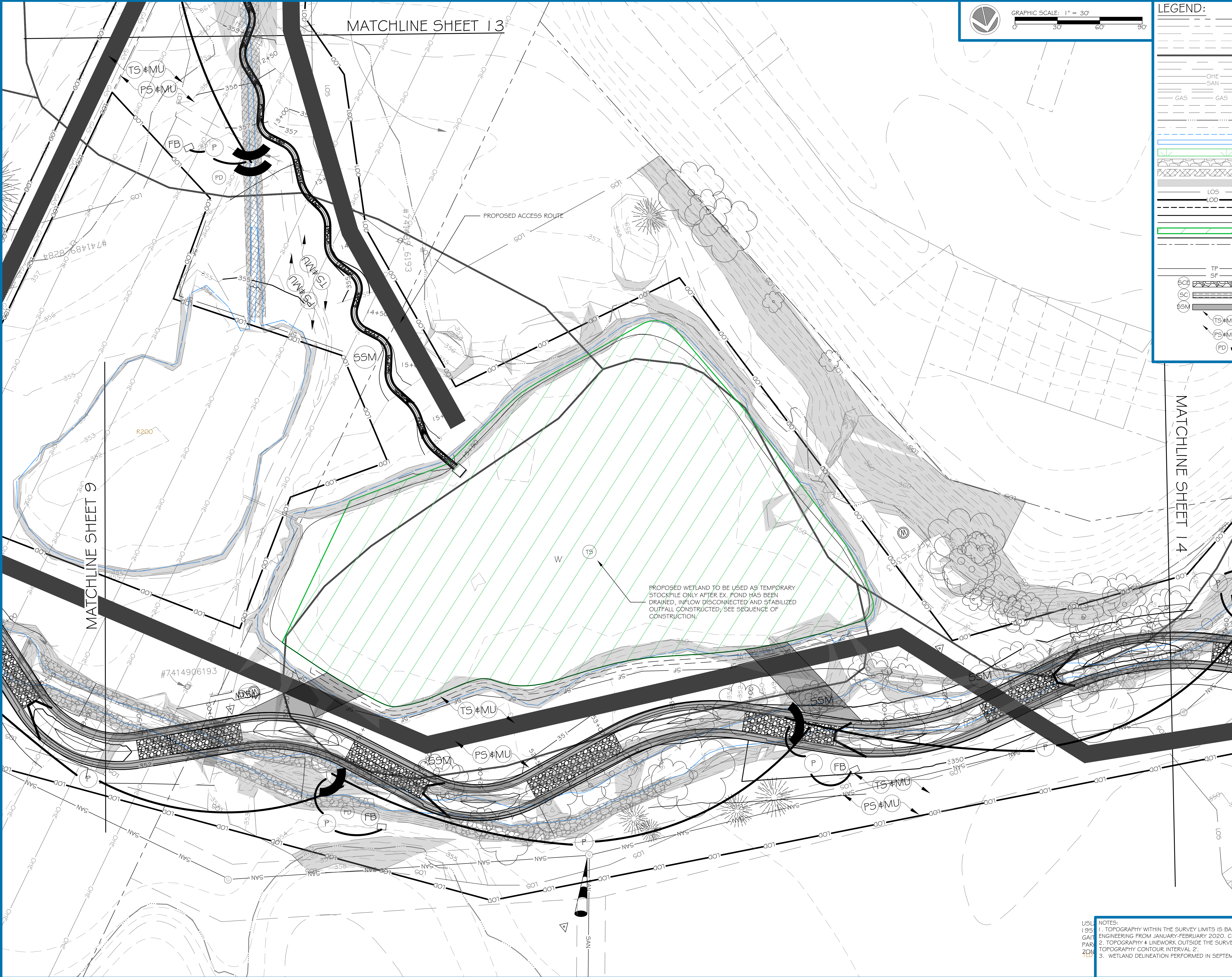
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PROJECT STATUS:

11/9/2020 65% MIT. PLAN

PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	11 OF 18





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	EX. EDGE OF PAVEMENT
	EX. SOILS BOUNDARY
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	SURVEY LIMITS
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	PR. FLOODPLAIN GRADING LIMITS
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	TEMPORARY SEEDING & MULCHING
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	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
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Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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P: 703.555.1234  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

## EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

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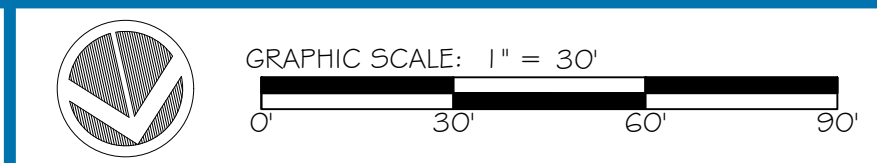
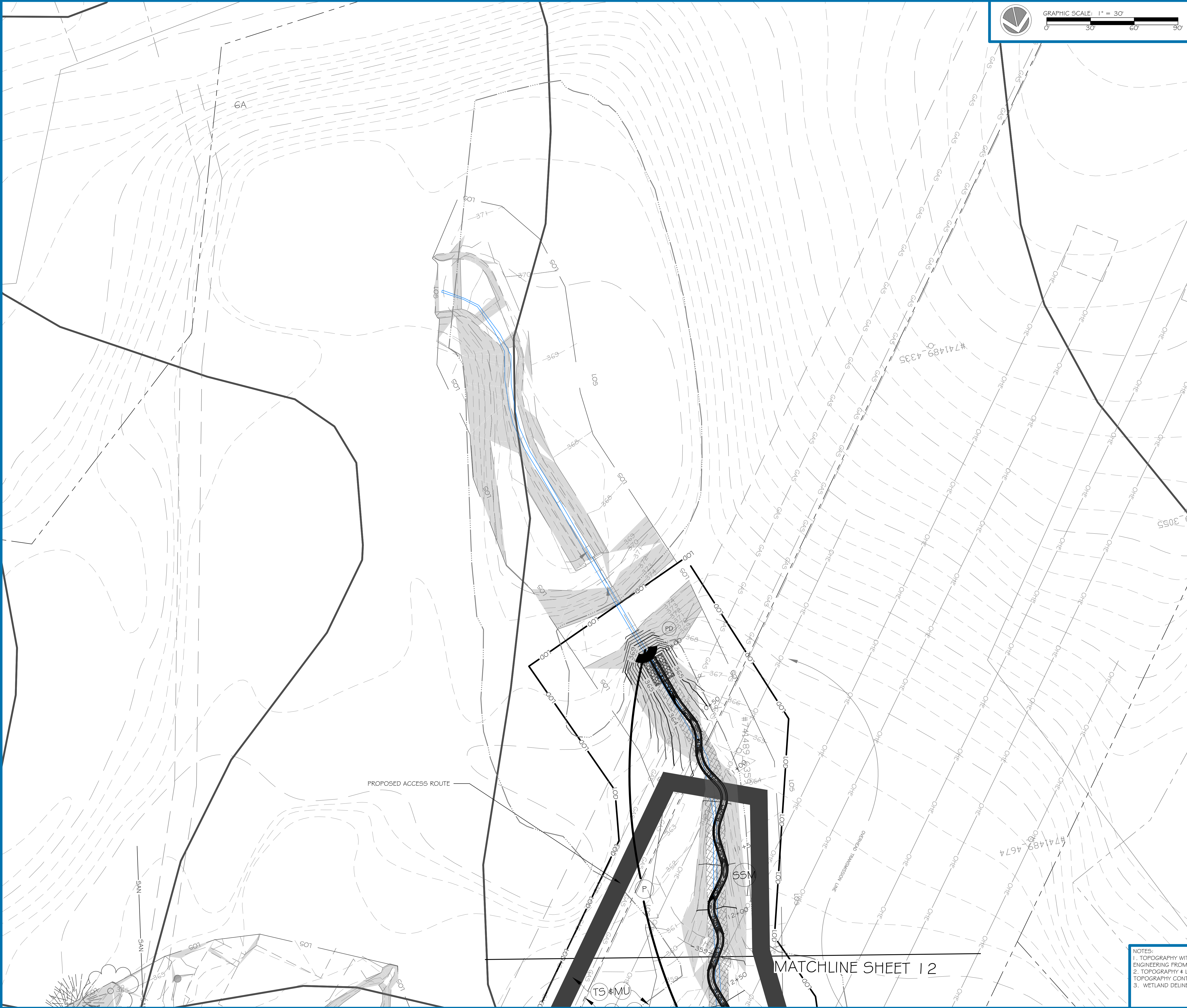
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REVISIONS:

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PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	12 OF 18





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
	EX. MAJOR CONTOUR
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MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
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P: 703.955.4030  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

# EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

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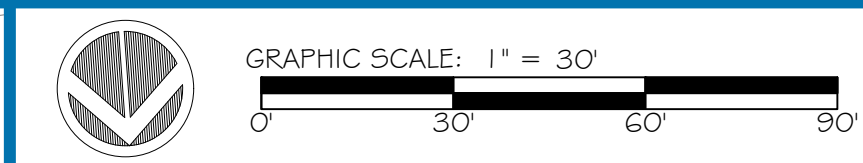
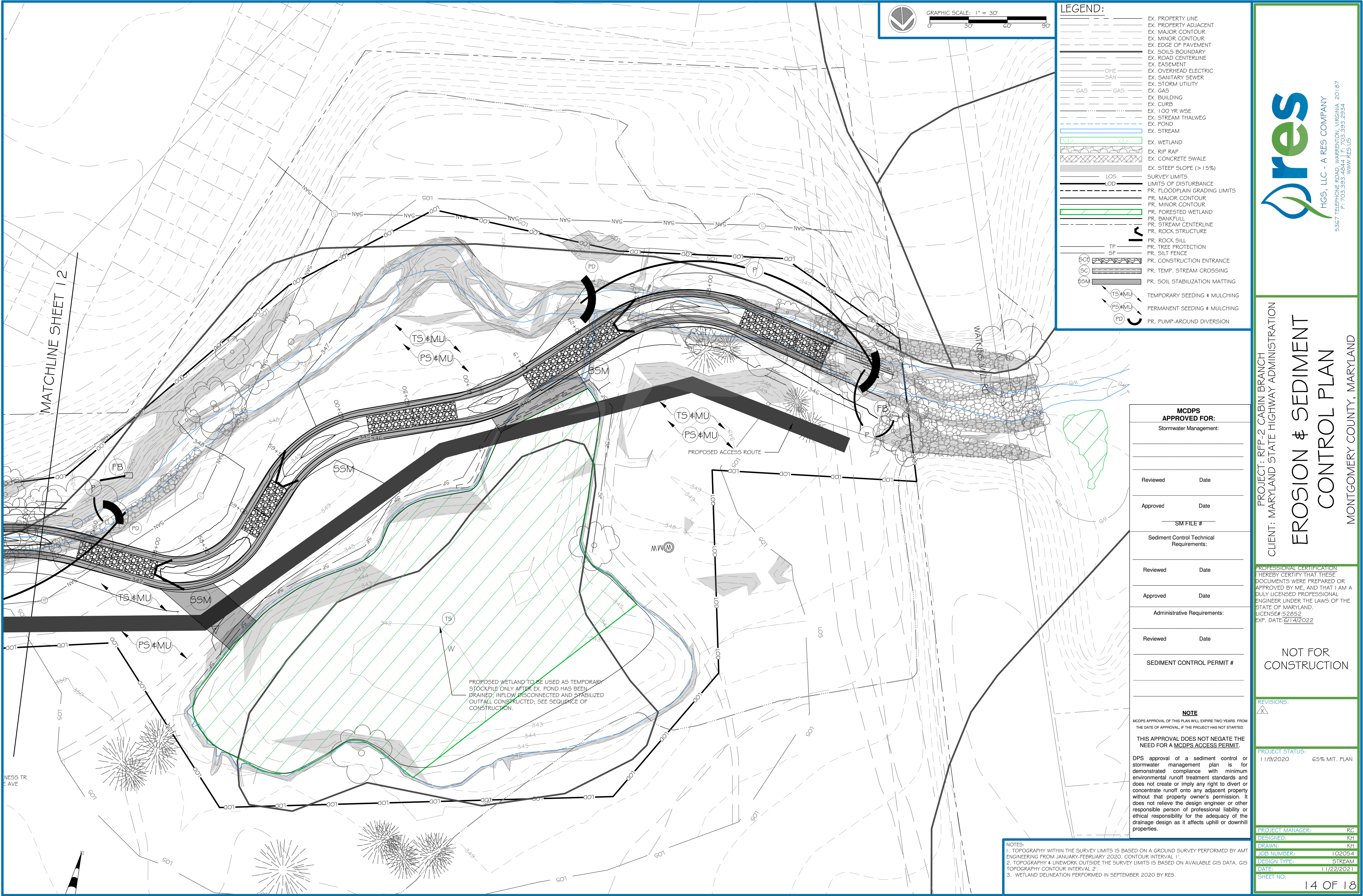
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REVISIONS:

PROJECT STATUS:	1/9/2020	65% MIT. PLAN
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PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	1/12/2021
SHEET NO:	13 OF 18





LEGEND:	
	EX. PROPERTY LINE
	EX. PROPERTY ADJACENT
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	PR. FLOODPLAIN GRADING LIMITS
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	PR. TREE PROTECTION
	PR. SILT FENCE
	PR. CONSTRUCTION ENTRANCE
	PR. TEMP. STREAM CROSSING
	PR. SOIL STABILIZATION MATTING
	TEMPORARY SEEDING & MULCHING
	PERMANENT SEEDING & MULCHING
	PR. PUMP-AROUND DIVERSION

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED.

**THIS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.**

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

- NOTES:
1. TOPOGRAPHY WITHIN THE SURVEY LIMITS IS BASED ON A GROUND SURVEY PERFORMED BY AMT ENGINEERING FROM JANUARY-FEBRUARY 2020. CONTOUR INTERVAL 1'.
  2. TOPOGRAPHY & LINEWORK OUTSIDE THE SURVEY LIMITS IS BASED ON AVAILABLE GIS DATA. GIS TOPOGRAPHY CONTOUR INTERVAL 2'.
  3. WETLAND DELINEATION PERFORMED IN SEPTEMBER 2020 BY RES.

HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.953.1254  
WWW.RES.US

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

# EROSION & SEDIMENT CONTROL PLAN

MONTGOMERY COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE# 52852 EXP. DATE: 6/14/2022

NOT FOR CONSTRUCTION

REVISIONS:

PROJECT STATUS:	11/9/2020	65% MIT. PLAN
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PROJECT MANAGER:	RC
DESIGNED:	KH
DRAWN:	KH
JOB NUMBER:	102054
DESIGN TYPE:	STREAM
DATE:	11/22/2021
SHEET NO:	14 OF 18



E&S NARRATIVE:

PROJECT DESCRIPTION:  
THE PURPOSE OF THIS PROJECT IS TO CREATE A PERMITTEE RESPONSIBLE MITIGATION BANK FOR THE I-270/495 EXPANSION. THE PROJECT SITE IS LOCATED OFF OF MONTGOMERY VILLAGE AVE IN MONTGOMERY COUNTY, MARYLAND. THE CONSTRUCTION OF THIS PROJECT WILL DISTURB 33.32 ACRES.

EXISTING SITE CONDITIONS:  
THE EXISTING SITE IS ON AN ABANDONED GOLF COURSE. THE PROJECT SITE IS BISECTED BY MONTGOMERY VILLAGE AVENUE AND TERMINATES AT WATKINS MILL ROAD. DUE TO THE PREVIOUS DEVELOPMENT OF THE SITE, THE SITE CONSISTS MOSTLY OF OPEN FIELDS, WITH LARGE TREES LINING THE EXISTING STREAM AND NINE GOLF COURSE PONDS IN VARIOUS CONDITIONS. THE SITE IS MOSTLY WITHIN THE FLAT VALLEY FLOODPLAIN, SURROUNDED BY STEEP VALLEY WALLS.

ADJACENT AREAS:  
THE PROPERTY IS SURROUNDED BY EXISTING AND PROPOSED URBAN RESIDENTIAL AREAS.

OFFSITE AREAS:  
NO OFFSITE AREAS WILL BE DISTURBED FOR THIS PROJECT.

SOILS:  
REFER TO ESC PLAN SHEET FOR SOILS MAP; THE SOILS WITHIN THE LIMITS OF DISTURBANCE ARE SUMMARIZED BELOW:

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP	HYDRIC SOIL?	ERODIBILITY
1B	GAILA SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	HIGH
1C	GAILA SILT LOAM, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
2B	GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES	B	NO	HIGH
2C	GLENELG SILT LOAM, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
4B	ELIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	HIGH
5B	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	CD	NO	HIGH
6A	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	CD	YES	HIGH
16C	BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS, 8 TO 15 PERCENT SLOPES	C	NO	MODERATE
16D	BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS, 15 TO 25 PERCENT SLOPES	C	NO	MODERATE
24D	MONTALTO SILT LOAM 15 TO 25 PERCENT SLOPES, VERY STONY	C	NO	LOW
37B	TRAVILAH SILT LOAM, 3 TO 8 PERCENT SLOPES	C/D	NO	HIGH
54A	HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES, FREQUENTLY FLOODED	B/D	YES	-
65B	WHEATON SILT LOAM, 0 TO 8 PERCENT SLOPES	B	NO	HIGH
66UB	WHEATON-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B	NO	HIGH
66UC	WHEATON-URBAN LAND COMPLEX, 8 TO 15 PERCENT SLOPES	B	NO	HIGH
67UB	URBAN LAND-WHEATON COMPLEX, 0 TO 8 PERCENT SLOPES	D	NO	-
116D	BLOCKTOWN CHANNERY SILT LOAM, 15 TO 25 PERCENT SLOPES, VERY ROCKY	D	NO	MODERATE
116E	BLOCKTOWN CHANNERY SILT LOAM, 25 TO 45 PERCENT SLOPES, VERY ROCKY	D	NO	MODERATE
400	URBAN LAND	D	NO	-

CRITICAL AREAS:  
THERE ARE CRITICAL ENVIRONMENTAL AREAS LOCATED WITHIN THE PROJECT AREA. THESE AREAS INCLUDE STREAMS, FLOODPLAINS, PONDS, AND STEEP SLOPES (> 15%). ADDITIONALLY, THERE ARE EXISTING WETLANDS ADJACENT TO THE WORK AREA. THESE AREAS WILL EXPERIENCE SERIOUS DEGRADATION IF SEDIMENT LEAVES THE SITE AND DRAINS INTO THESE FEATURES. THEREFORE, EXTRA CARE WILL BE TAKEN TO MINIMIZE THE EXPOSURE OF THESE WATER FEATURES TO SEDIMENT AND TO PREVENT EROSION OF THE ADJACENT BANK. ADDITIONALLY, THESE AREAS SHOULD BE INSPECTED MORE FREQUENTLY FOR SIGNS OF EROSION.

EROSION & SEDIMENT CONTROL MEASURES:  
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. THE MINIMUM STANDARD OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION AND SEDIMENT CONTROL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE. THE E&S INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE E&S CONTROLS AS NECESSARY IN THE FIELD AS SITE CONDITIONS CHANGE. IN ADDITION, NO E&S CONTROLS, INCLUDING SEDIMENT BASINS OR TRAPS, CAN BE REMOVED WITHOUT WRITTEN AUTHORIZATION. ADDITIONALLY, NO EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UNTIL ALL UPSLOPE AREAS HAVE BEEN STABILIZED.

SAFETY FENCE:  
SAFETY FENCING EITHER POLYETHYLENE SECURED TO CONVENTIONAL METAL T OR U POSTS OR CHAIN LINK METAL SAFETY FENCING SHALL BE INSTALLED AS SHOWN ON THE PLANS. SIGNS NOTING POTENTIAL HAZARDS SHALL BE USED AND POSTED SUCH THAT THEY ARE EASILY VISIBLE TO ANYONE APPROACHING THE PROTECTED AREA. FENCES AND GATES SHOULD BE CHECKED REGULARLY TO ENSURE STABILITY AND LOCKS USED WHEN THE SITE IS CLOSED.

STABILIZED CONSTRUCTION ENTRANCE (B-1):  
A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE INDICATED ON THE PLANS. IT WILL BE NEEDED TO CLEAN THE TIRES OF VEHICLES AND EQUIPMENT DURING WET CONDITIONS IN ORDER TO PREVENT MUD/ROCKS/DEBRIS FROM BEING TRACKED OFF SITE OR INTO PUBLIC ROADWAYS.

SILT FENCE (E-1):  
SILT FENCE SEDIMENT BARRIERS WITHOUT WIRE BACKING SHALL BE INSTALLED ON THE DOWNSLOPE SIDE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW.

CULVERT INLET PROTECTION:  
CULVERT INLETS WILL NEED TO BE PROTECTED TO PREVENT SEDIMENT-LADEN RUNOFF FROM DRAINING INTO THE CULVERT DURING CONSTRUCTION. CULVERT INLET PROTECTION SHOULD BE USED AT EACH INLET UNTIL UPLAND AREAS ARE STABILIZED.

PUMP-AROUND PRACTICE (THE MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION; MGWC 1.2):  
A PUMP-AROUND SYSTEM SHALL BE INSTALLED TO TEMPORARILY DIVERT FLOW AROUND IN-STREAM CONSTRUCTION SITES. THIS FORM OF DIVERSION IS NECESSARY WHEN RESTORATION PRACTICES SPAN THE ENTIRE WIDTH OF THE STREAM CHANNEL AND/OR A LINEAR REACH OF STREAM SEGMENT IS TO BE SIMULTANEOUSLY WORKED ON. THIS PRACTICE ALSO LIMITS POTENTIAL FOR DOWNSTREAM DEBRIS CAUSE IN-STREAM WORK WILL BE COMPLETED IN THE DRY AND ALL DENIED AREAS WILL BE STABILIZED BEFORE RE-INTRODUCTION OF WATER BACK INTO STREAM CHANNEL. THE TOTAL WORK AREA OF THE PUMP-AROUND SHOULD NOT EXCEED THE LENGTH OF AREA THAT CAN BE COMPLETED AND STABILIZED IN ONE (1) WORKING DAY. THE PUMP-AROUND LOCATIONS SHOWN ON THE PLAN ARE SCHEMATIC AND SHOULD BE PLACED IN THE FIELD BASED ON THE CONSTRUCTION SCHEDULE. THE COFFERDAM RESTRICTING BASEFLOW SHOULD BE REMOVED AT THE END OF EACH DAY; IF TIME TO COMPLETE WORK AREA WILL EXCEED ONE (1) DAY ALTERNATIVE PRACTICES SHOULD BE USED. THIS PRACTICE SHOULD ALSO BE LIMITED TO BASE OR LOW FLOW CONDITIONS WERE APPLICABLE TO ENSURE ADEQUACY OF PUMP EQUIPMENT. PRACTICE IS MOST APPLICABLE IN SMALL TO MEDIUM WATERSHEDS WITH RELATIVELY SMALL BASE FLOW DISCHARGES. THIS ALLOWS FOR MULTIPLE PUMPING OPTIONS AND EQUIPMENT TO SUFFICIENTLY HANDLE NECESSARY PUMP CAPACITY. USE OF PRACTICE NOT LIMITED TO WATERSHED SIZE BUT BY CAPACITY OF PUMP AND HEIGHT OF IN-STREAM BARRIERS. PUMP SELECTION SHALL BE SIZED TO ADEQUATELY PUMP BASE FLOW AT A HEAD GREATER THAN THE IN-STREAM BARRIER HEIGHT. DOWN-STREAM GEOTEXTILE LINED FLOW TRANSITION POINT MAY BE USED. THIS FEATURE ALLOWS FOR DISPERSION OF PUMP DISCHARGE TO A NON-EROSIVE VELOCITY WITHIN THE EXISTING STREAM CHANNEL. ALL OTHER APPLICABLE ESC MEASURES SHALL BE USED IN CONJUNCTION WITH PUMP AROUND.

TEMPORARY ACCESS BRIDGE (H-4-1):  
TEMPORARY ACCESS BRIDGE SHOULD BE INSTALLED WHEN IT IS NECESSARY FOR CONSTRUCTION TRAFFIC TO CROSS A WATERCOURSE. A STRUCTURAL CROSSING IS NECESSARY TO PREVENT VEHICLES FROM DAMAGING STREAMBANKS AND CONTINUALLY TRACKING SEDIMENT AND OTHER POLLUTANTS INTO THE FLOW REGIME. HOWEVER, THESE STRUCTURES ARE CONSIDERED CHANNEL CONSTRUCTIONS AND SHOULD BE PLANNED TO BE IN SERVICE FOR THE SHORTEST PRACTICAL PERIOD OF TIME AND REMOVED AS SOON AS THEIR FUNCTION IS COMPLETED.

VEGETATIVE STABILIZATION (B-4):  
ALL DISTURVED AREAS OUTSIDE OF THE STREAM AREA TO BE PERMANENTLY SEEDED UPON THE REMOVAL OF TEMPORARY STABILIZATION PRACTICES. PERMANENT SEEDING PER B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING AND IN ACCORDANCE WITH B-4-5 PERMANENT SEEDING SHALL BE UTILIZED IN UPLAND AREAS. STREAM BANKS SHALL BE STABILIZED WITH A RIPARIAN SEED MIX PER THE TABLE PROVIDED.

COIR 700 SOIL STABILIZATION BLANKETS & MATTING (B-4-6):  
SOIL STABILIZATION BLANKETS/MATTING SHALL BE INSTALLED WHERE INDICATED ON THE PLANS TO AID IN CONTROLLING EROSION IN CRITICAL AREAS AS WELL AS AIDING IN THE ESTABLISHMENT OF VEGETATION FOR PERMANENT STABILIZATION ON PREVIOUSLY DISTURBED SLOPES. BLANKETS/MATTING SHALL BE INSTALLED PER SPECIFICATION B-4-6.

TREE PROTECTION:  
A FENCE BARRIER IS TO BE PLACED AROUND THE TREES AND VEGETATED AREAS WHICH WILL NOT BE DISTURBED TO PROTECT THE TREES AND OTHER VEGETATION FROM CONSTRUCTION EQUIPMENT AND SOIL COMPACTION.

MANAGEMENT STRATEGIES:  
1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.  
2. SEDIMENT TRAPPING / DIVERTING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED & MULCHED IMMEDIATELY FOLLOWING INSTALLATION.  
3. TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.  
4. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.  
5. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.  
6. AFTER ACHIEVING ADEQUATE STABILIZATION OF PERMANENT SEEDING, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

PERMANENT STABILIZATION:  
ALL DISTURBED AREAS ARE TO BE STABILIZED WITH PERMANENT SEEDING AND MULCHING IN ACCORDANCE WITH THE SITE SPECIFIC PLANTING PLAN AFTER LAND DISTURBING ACTIVITIES ARE COMPLETED.

MAINTENANCE:  
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNICANT RAINFALL. THE SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER. FILTERING DEVICES WILL BE INSPECTED FREQUENTLY AND REPAIRED/REPLACED ONCE THE SEDIMENT BUILD-UP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED. ALL SOIL STABILIZATION MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING THE DAMAGE TO THE SLOPE OR DITCH. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

CONSTRUCTION SEQUENCE:  
1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR (48 HOURS' NOTICE REQUIRED), THE OWNER'S REPRESENTATIVE, AN MDE NON-TIDAL REPRESENTATIVE AND THE ENGINEER.  
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.  
3. WITH APPROVAL OF THE MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR STEPS 3-8 CAN BE PHASED ACROSS THE LIMITS OF DISTURBANCE.  
4. CLEAR AND GRUB AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS.  
5. CONSTRUCT AND STABILIZE PERIMETER CONTROLS.  
6. CLEAR, GRUB, AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES.  
7. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING, OR GRADING.  
8. PERFORM REMAINING CLEARING/GRUBBING AS NECESSARY TO INSTALL REMAINING EROSION & SEDIMENT (E&S) MEASURES AND PERFORM CONSTRUCTION OPERATIONS.  
9. STAKE OUT THE PROPOSED ALIGNMENT OF THE STREAM CHANNEL IN THE FIELD AND REVIEW WITH THE ENGINEER PRIOR TO GROUND DISTURBANCE. THE DOWNSTREAM &UPSTREAM TIE-IN TO THE EXISTING STREAM SHOULD BE REVIEWED TO DETERMINE IF MODIFICATIONS ARE REQUIRED TO ADJUST THE DESIGN TO CURRENT STREAM CONDITIONS.  
10. WETLAND AND STREAM RESTORATION COORDINATION:  
a. STREAM RESTORATION AND WETLAND RESTORATION ARE EXPECTED TO HAPPEN SIMULTANEOUSLY.  
b. SOIL STOCKPILES ARE SHOWN WITHIN THE PROPOSED WETLAND FOOTPRINTS, THESE STOCKPILES CAN NOT BE UTILIZED UNTIL THE COMPLETION OF STEP 10.D FOR ANY GIVEN STOCKPILE/PROPOSED WETLAND LOCATION.  
11. PERFORM WETLAND RESTORATION OPERATION:  
NOTE: THE FOLLOWING SEQUENCE SHOULD BE REPEATED FOR EACH WETLAND LOCATION. ALL WETLAND CONSTRUCTION MUST BE COMPLETED "IN THE DRY."  
a. INSTALL DEWATERING PUMP AND SILT BAG TO DEWATER EXISTING POND.  
b. DISCONNECT UPSTREAM STORMWATER INFLOWS, CONNECT TO PROPOSED STREAM CHANNELS.  
c. DEWATER POND AND EXCAVATE SUMP HOLE IN WETLAND CELL ADJACENT TO STABILIZED OVERFLOW WEIR TO PLACE PUMP FOR MAINTENANCE OF DEWATERED CONDITION OF THE WETLAND CELL DURING CONSTRUCTION.  
d. RIP CLAY BOTTOM OF POND TO DEPTH NECESSARY TO RESTORE FREE GROUNDWATER MOVEMENT; WETLAND DESIGNER TO PROVIDE APPROVAL PRIOR TO FILLING WITHIN THE PROPOSED WETLAND.  
e. FILL POND BOTTOM WITH SOIL SALVAGED FROM ON SITE TO ACHIEVE SUBGRADE ELEVATIONS 6" BELOW FINAL GRADE ELEVATION IN THE WETLAND PLANTING ZONES. ALL OTHER AREAS TO BE FILLED/EXCAVATED AND GRADED TO FINAL ELEVATIONS.  
f. PROVIDE WETLAND DESIGNER WITH SURVEY OF SUB GRADE ELEVATIONS OF THE WETLAND PLANTING ZONES PRIOR TO SPREADING OF TOPSOIL AND INCORPORATION OF ORGANIC COMPOST INTO THE SOIL.  
g. CONSTRUCT AND STABILIZE PASSIVE OVERFLOW WEIRS TO ELEVATIONS SHOWN ON THE PLANS / CONNECT WITH ADJACENT STREAM RESTORATION AND GRADING.  
h. UPON APPROVAL OF SUB GRADES BY WETLAND DESIGNER, PLACE 6" OF CLASS A TOPSOIL ACROSS THE WETLAND PLANTING ZONES TO ACHIEVE FINAL GRADE. ONLY LOW-GROUND PRESSURE EQUIPMENT TO BE USED TO SPREAD TOPSOIL.  
i. SPREAD ORGANIC COMPOST ON SURFACE OF WETLAND PLANTING ZONES AT A QUANTITY OF 60 CY PER ACRE, AND INCORPORATE INTO THE SOIL TO A MINIMUM DEPTH OF 8" BY DISKING OR RIPPING, USING ONLY LOW GROUND PRESSURE EQUIPMENT.  
j. PLACE LARGE WOODY DEBRIS IN THE WETLAND CELL AS SHOWN IN THE DESIGN PLANS.  
k. IF CONSTRUCTION IS COMPLETED OUTSIDE OF THE RECOMMENDED PLANTING SEASON, ALL AREAS OF DISTURBED SOIL ARE TO BE SEEDED WITH TEMPORARY SEED MIXES SPECIFIED IN THE PLANTING PLANS. NO SEEDING OF THE PERMANENT WETLAND SEED MIX OR PLANTING OF THE WETLAND PLANTS SHALL BE CONDUCTED UNTIL THE APPROPRIATE SEASON, AS APPROVED BY THE WETLAND DESIGNER.  
l. WETLAND PLANTING AND PERMANENT SEEDING NOTES AND DETAILS ARE INCLUDED IN THE DESIGN PLANS.  
m. IF CONSTRUCTION IS COMPLETED OUTSIDE OF THE RECOMMENDED PLANTING SEASON, ALL AREAS OF DISTURBED SOIL ARE TO BE SEEDED WITH TEMPORARY SEED MIXES SPECIFIED IN THE PLANTING PLANS. NO SEEDING OF THE PERMANENT WETLAND SEED MIX OR PLANTING OF THE WETLAND PLANTS SHALL BE CONDUCTED UNTIL THE APPROPRIATE SEASON, AS APPROVED BY THE WETLAND DESIGNER.  
n. WETLAND PLANTING AND PERMANENT SEEDING NOTES AND DETAILS ARE INCLUDED IN THE DESIGN PLANS.  
12. PERFORM STREAM RESTORATION OPERATION:  
NOTE: THE FOLLOWING SEQUENCE SHOULD BE REPEATED DAILY ALONG A SECTION OF STREAM THAT CAN BE COMPLETED WITHIN ONE DAY. ALL STREAM CONSTRUCTION MUST BE COMPLETED "IN THE DRY," WHEN POSSIBLE NEW SEGMENTS OF CHANNEL SHALL BE CONSTRUCTED OFF-LINE AND STREAM FLOW WILL BE MAINTAINED IN THE ORIGINAL STREAM CHANNEL WHILE THE PROPOSED CHANNEL IS BEING CONSTRUCTED. THE PROPOSED STREAM CHANNEL MUST BE GRADED, SEEDED AND MATTED TO CONTROL EROSION PRIOR TO INTRODUCTION OF FLOW INTO THE PROPOSED CHANNEL. THE CONSTRUCTION OF THE PROPOSED CHANNEL SHALL GENERALLY FOLLOW THE SEQUENCE BELOW:  
a. SETUP PUMP-AROUND DIVERSION: INSTALL PUMP AROUND DIVERSION FOR THE SECTION OF STREAM UNDER ACTIVE CONSTRUCTION. DIVERTING ONLY THE NECESSARY PORTION OF THE STREAM AS NEEDED TO EXPOSE THE CONSTRUCTION AREA. THE PUMP INTAKE MUST BE FLOATED ABOVE THE STREAM BOTTOM AT ALL TIMES, THE OUTFALL OF THE PIPE MUST BE STABILIZED AND ALL SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE. WORK SHALL BE PLANNED SUCH THAT PUMP-AROUNDS ARE SET UP BEFORE WORK EACH DAY AND TAKEN OUT AFTER ALL WORK HAS BEEN COMPLETED FOR THAT DAY, SO THAT FLOW MAY RETURN TO A STABILIZED CHANNEL.  
b. SALVAGE TOPSOIL: STRIP TOPSOIL FROM AREA TO BE GRADED AND STOCKPILE FOR REUSE ACROSS THE DISTURBED STREAM BANKS & RIPARIAN AREAS.  
c. CHANNEL EXCAVATION: EXCAVATE THE CHANNEL PER THE PLANS. DURING EXCAVATION OF THE CHANNEL ANY ACCUMULATION OF GROUND WATER SHALL BE PUMPED OUT OF THE CHANNEL THROUGH AN APPROVED FILTERING DEVICE ONTO A STABILIZED AREA ENSURING NO EROSION OCCURS AROUND THE OUTFALL OF THE FILTERING DEVICE.  
d. INSTALLATION OF STRUCTURES (LOG OR ROCK): USING LOGS (SALVAGED FROM SITE CLEARING IF AVAILABLE) OR ROCKS INSTALL THE STRUCTURES PER THE PLANS, ENSURING THAT THE TOP OF THE LOG/HEADER ROCK EXPOSED IN THE CHANNEL IS EVEN WITH THE INVERT OF THE STREAM CHANNEL.  
e. BANK STABILIZATION: INSTALL TOPSOIL, SEEDING & COIR MATTING ON THE STREAM BANKS, AS SHOWN IN THE PLANTING/STREAM DETAILS SECURING THE MATTING AS SHOWN.  
f. CHANNEL STABILIZATION: STABILIZE THE STREAM BED WITH STONE AS INDICATED IN THE PLANS, ENSURING THAT THE SURFACE OF THE STONE MATCHES THE PROFILE ELEVATION.  
g. DOWNSTREAM TIE-IN: COMPLETE THE GRADING OF THE CHANNEL ON THE DOWNSTREAM END, ENSURING A GRADUAL TRANSITION INTO THE DIMENSIONS OF THE EXISTING STREAM CHANNEL. INSTALL TOPSOIL, SEEDING, COIR MATTING & BED MATERIAL TO STABILIZE CHANNEL TIE-IN.  
h. UPSTREAM TIE-INS: AFTER THE COMPLETION ALL OTHER DOWNSTREAM GRADING, GRADE THE STREAM CHANNEL UPSTREAM TO THE EXISTING STREAM CHANNEL (OR PREVIOUSLY COMPLETED SECTION), ENSURING A GRADUAL TRANSITION FROM THE DIMENSIONS OF THE EXISTING STREAM CHANNEL TO THE PROPOSED CHANNEL. INSTALL TOPSOIL, SEEDING, COIR MATTING & BED MATERIAL TO STABILIZE CHANNEL TIE-IN.  
i. RETURNING FLOW TO CHANNEL: AFTER THE ENTIRE STREAM CHANNEL (OR SECTION) HAS BEEN CONSTRUCTED AND STABILIZED, AND ALL TIE-INS COMPLETED, OPEN THE PROPOSED CHANNEL TO STREAM FLOW REMOVING COFFERDAMS AND STREAM DIVERSION PUMPS.  
j. TOPSOILING AND SEEDING FLOODPLAIN: APPLY SALVAGED TOPSOIL, SPREAD SEEDING AS SPECIFIED ON THE PLANTING PLAN, AND INSTALL MATTING WHERE SHOWN TO THE DISTURBED RIPARIAN & UPLAND AREA.  
k. PLANTING: IN THE APPROVED PLANTING SEASON, INSTALL ADDITIONAL TREE/SHRUB PLANTINGS AS INCLUDED IN THE PLANTING PLAN.  
13. INSPECT AND PERFORM MAINTENANCE (AS REQUIRED) OF E&S CONTROLS ON A WEEKLY BASIS AND THE NEXT DAY AFTER EACH RAIN EVENT.  
14. OBTAIN WRITTEN APPROVAL OF MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR TO REMOVE E&S CONTROLS.  
15. INSTALL PERMANENT SEEDING AND MULCH IN DISTURBED AREAS NOT ALREADY STABILIZED.  
16. DAILY INSPECTION AND MAINTENANCE OF PERMANENT SEEDING AND MULCHING IS REQUIRED UNTIL PERMANENT SEEDING IS ESTABLISHED, AND A GOOD STAND IS MAINTAINED.  
\*CONCURRENT WORK IN DIFFERING AREAS MAY TAKE PLACE AS LONG AS THE CONSTRUCTION SEQUENCE IS FOLLOWED PROPERLY FOR ALL WORK SITES AND THE NECESSARY PERMITS ARE OBTAINED AND ABIDED BY.  
\*\*ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

MAINTENANCE:  
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNICANT RAINFALL. THE SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE

REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER. FILTERING DEVICES WILL BE INSPECTED FREQUENTLY AND REPAIRED/REPLACED ONCE THE SEDIMENT BUILD-UP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED. ALL SOIL STABILIZATION MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING THE DAMAGE TO THE SLOPE OR DITCH. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

DISTURBED SURFACE AREA: 33.32 AC  
VEGETATIVELY STABILIZED AREA: 33.32 AC  
VOLUME OF SPOIL MATERIAL: 12,672.28 CY  
VOLUME OF CUT: 21,454.29 CY  
VOLUME OF BORROW MATERIAL: 0 CY  
VOLUME OF FILL: 34,126.57 CY

SEDIMENT CONTROL/STORMWATER MANAGEMENT CERTIFICATIONS

CERTIFICATIONS ON THIS SHEET MUST BE ON EVERY SEDIMENT CONTROL/STORMWATER MANAGEMENT PLAN.

OWNER'S/DEVELOPER'S CERTIFICATION

I/We hereby certify that all clearing, grading, construction, and or development will be done pursuant to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project.

Signature

Date

Printed Name and Title

DESIGN CERTIFICATION

I hereby certify that this plan has been prepared in accordance with the "2011 Maryland Standards and Specification for Soil Erosion and Sediment Control", Montgomery County Department of Permitting Services Executive Regulations 5-90, 7-02AM and 36-90, and Montgomery County Department of Public Works and Transportation "Storm Drain Design Criteria" dated August 1988.

Design Engineer Signature

Date

Printed Name

Registration Number

CERTIFICATION OF THE QUANTITIES

I hereby certify that the estimated total amount of excavation and fill as shown on these plans has been computed to \_\_\_\_\_cubic yards of excavation, \_\_\_\_\_cubic yards of fill and the total area to be disturbed as shown on these plans has been determined to be \_\_\_\_\_square feet.

Signature

Date

Printed Name and Title

Registration Number

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIALS FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:  
ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:  
A. USE I WATERS (WITHOUT YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.  
B. USE I WATERS (WITH YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD FEBRUARY 15 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.  
C. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THORUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.  
D. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	
NOTE	
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED.	
THIS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.	
DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.	

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

NOTES

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE#52852  
EXP. DATE:6/14/2022

NOT FOR CONSTRUCTION

REVISIONS:  
A

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN  
3/10/2022 65% MIT. PLAN REV. I

PROJECT MANAGER: RC  
DESIGNED: KH  
DRAWN: KH  
JOB NUMBER: 102054  
DESIGN TYPE: STREAM  
DATE: 11/22/2021  
SHEET NO:



MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to [Detail 1.2](#)):

- Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
- The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
- The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
- Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATERWAY CONSTRUCTION GUIDELINES  
REVISED NOVEMBER 2000

PAGE 1.2 - 1

MGWC 1.2: PUMP-AROUND PRACTICE

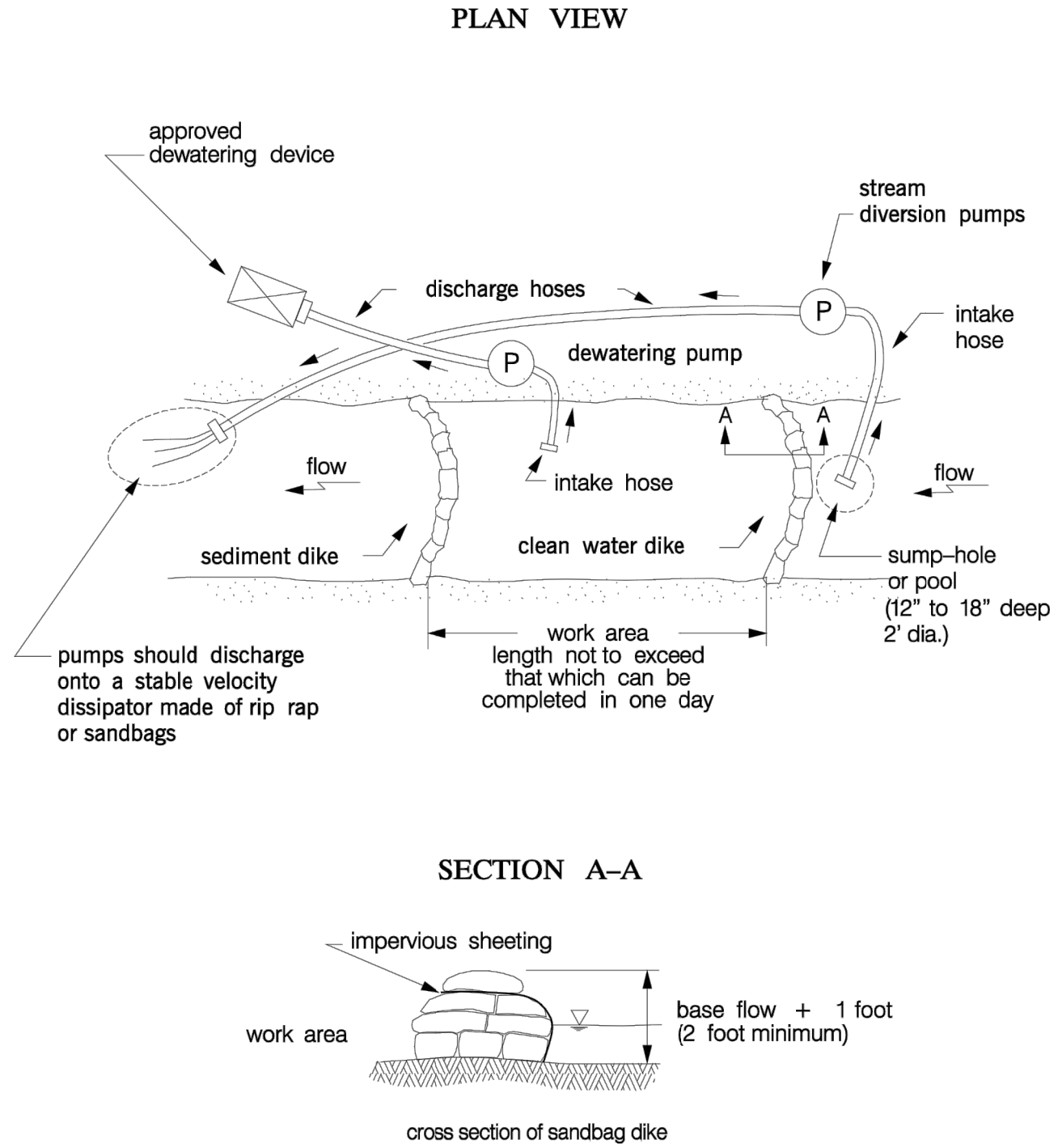
- Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
- Traversing a channel reach with equipment 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](#)).
- 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.
- 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.
- 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.
- 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.
- The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATERWAY CONSTRUCTION GUIDELINES  
REVISED NOVEMBER 2000

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Maryland's Guidelines To Waterway Construction  
DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INSTREAM CONSTRUCTION MEASURES

REVISED NOVEMBER 2000  
PAGE 1.2 - 3

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

B-3 STANDARDS AND SPECIFICATIONS

FOR

LAND GRADING

Definition

Reshaping the existing land surface to provide suitable topography for building facilities and other site improvements.

Purpose

To provide erosion control and vegetative establishment for extreme changes in grade.

Conditions Where Practice Applies

Earth disturbances or extreme grade modifications on steep or long slopes.

Design Criteria

The grading plan should be based on the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, adjacent properties, drainage patterns, measures for water removal, and vegetative treatment, etc.

Many jurisdictions have regulations and design procedures already established for land grading that must be followed. The plan must show existing and proposed contours for the area(s) to be graded including practices for erosion control, slope stabilization, and safe conveyance of runoff (e.g., waterways, lined channels, reverse benches, grade stabilization structures). The grading/construction plans are to include the phasing of these practices and consideration of the following:

- Provisions to safely convey surface runoff to storm drains, protected outlets or stable water courses to ensure that surface runoff will not damage slopes or other graded areas.
- Cut and fill slopes, stabilized with grasses, no steeper than 2:1. (Where the slope is to be mowed, the slope should be no steeper than 3:1, but 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes steeper than 2:1 require special design and stabilization considerations to be shown on the plans.
  - Provide benches with a minimum width of six feet for ease of maintenance.
  - Design benches with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Grade the longitudinal slope of the bench between 2 percent and 3 percent, unless accompanied by appropriate design and computations.

B.5

- The maximum allowable flow length within a bench is 800 feet unless accompanied by appropriate design and computations.
- Diversion of surface water from the face of all cut and fill slopes using earth dikes or swales. Convey surface water down slope using a designed structure, and:
    - Protect the face of all graded slopes from surface runoff until they are stabilized.
    - Do not subject the slope's face to any concentrated flow of surface water such as from natural drainage ways, graded swales, downspouts, etc.
    - Protect the face of the slope by special erosion control materials to include, but not be limited to, approved vegetative stabilization practices, riprap or other approved stabilization methods.
  - Serrated slope as shown in Detail B-3-2. The steepest allowable slope for ripable rock is 1.5:1. For non rock surfaces, the slopes are to be 2:1 or flatter. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization.
  - Subsurface drainage provisions. Provide subsurface drainage where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
  - Proximity to adjacent property. Slopes must not be created close to property lines without adequate protection against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.
  - Quality of fill material. Fill material must be free of brush, rubbish, logs, stumps, building debris, and other objectionable material. Do not place frozen materials in the fill nor place the fill material on a frozen foundation.
  - Stabilization. Stabilize all disturbed areas structurally or vegetatively in compliance with Section B-4 Standards and Specifications for Stabilization Practices.

Maintenance

The line, grade, and cross section of benching and serrated slopes must be maintained. Benches and serrated slopes must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization.

B.6

B-4 STANDARDS AND SPECIFICATIONS

FOR

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

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

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

**Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.**

Adequate Vegetative Establishment

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

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

B.9

MCDPS APPROVED FOR:	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

**NOTE**  
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED.

**THIS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.**

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

ESC DETAILS

MONTGOMERY COUNTY, MARYLAND

**ores**  
HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WAREHOUT, VIRGINIA 20187  
P: 703.555.4444 F: 703.555.2954  
WWW.RES.US

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE# 52852  
EXP. DATE: 6/14/2022

NOT FOR  
CONSTRUCTION

REVISIONS:



PROJECT STATUS:

11/9/2020 65% MIT, PLAN  
3/1/2022 65% MIT, PLAN REV. I

PROJECT MANAGER: RC  
DESIGNED: KH  
DRAWN: KH  
JOB NUMBER: 102054  
DESIGN TYPE: STREAM  
DATE: 11/22/2021  
SHEET NO:

16 OF 18



DETAIL H-4-1 TEMPORARY ACCESS BRIDGE			STANDARD SYMBOL	DETAIL H-4-1 TEMPORARY ACCESS BRIDGE			STANDARD SYMBOL	DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION			STANDARD SYMBOL
											TSSMS — * lb/ft² (* INCLUDE SHEAR STRESS)
<p>NOTE: TIME OF YEAR RESTRICTIONS DO NOT APPLY TO THE CONSTRUCTION OR REMOVAL OF A TEMPORARY ACCESS BRIDGE UNLESS THERE IS DISTURBANCE TO THE STREAM CHANNEL.</p>				<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"><li>CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.</li><li>PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.</li><li>CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.</li><li>USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.</li><li>SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.</li><li>SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.</li><li>INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.</li><li>ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.</li><li>AREAS DISTURBED DURING BRIDGE INSTALLATION AND/OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.</li><li>STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.</li><li>AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.</li></ol>				<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"><li>USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.</li><li>USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.</li><li>SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ 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 A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.</li><li>PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDED 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 &amp; SEDIMENT CONTROL PLAN.</li><li>UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.</li><li>OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.</li><li>KEY IN THE UPSLOPE 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.</li><li>STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.</li><li>ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.</li></ol>			
1 OF 2				2 OF 2							
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL				MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL				MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION		U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION		U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE			STANDARD SYMBOL	DETAIL E-1 SILT FENCE			STANDARD SYMBOL	DETAIL E-1 SILT FENCE			STANDARD SYMBOL	DETAIL F-4 FILTER BAG			STANDARD SYMBOL																																						
								<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"><li>USE WOOD POSTS 1½ X 1½ X ½ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.</li><li>USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.</li><li>USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.</li><li>PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.</li><li>EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.</li><li>WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.</li><li>EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.</li><li>REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.</li></ol>																																													
<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"><li>PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 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.</li><li>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.</li><li>PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.</li><li>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.</li><li>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.</li></ol>				<p>CONSTRUCTION SPECIFICATIONS</p> <ol style="list-style-type: none"><li>TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.</li><li>PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.</li><li>CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.</li><li>REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. 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<b>MCDPS APPROVED FOR:</b>	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	
<b>NOTE</b>	
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED.	
THIS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.	

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.	
PROJECT MANAGER: RC	
DESIGNED: KH	
DRAWN: KH	
JOB NUMBER: 102054	
DESIGN TYPE: STREAM	
DATE: 11/22/2021	
SHEET NO: 17 OF 18	

PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE# 52852  
EXP. DATE: 6/14/2022

NOT FOR  
CONSTRUCTION

REVISIONS:

PROJECT STATUS:  
11/9/2020 65% MIT, PLAN  
3/10/2022 65% MIT, PLAN REV. 1

DESIGNED: KH  
DRAWN: KH  
JOB NUMBER: 102054  
DESIGN TYPE: STREAM  
DATE: 11/22/2021  
SHEET NO: 17 OF 18

**ores**  
HGS, LLC - A RES COMPANY  
5367 TELEPHONE ROAD, WARRENTON, VIRGINIA 20187  
P: 703.953.1234  
WWW.RES.US

MONTGOMERY COUNTY, MARYLAND



Table H.3: Compost

Parameters <sup>1</sup>	Acceptable Range
pH	5.0 - 8.5
Moisture content	30% - 60%, wet weight basis
Organic matter content	25% - 65%, dry weight basis
Particle size	% passing a selected mesh size, dry weight basis  3 in (75 mm), 100% passing 1 in (25 mm), 90 – 100% passing 0.75 in (19 mm), 70 – 100% passing 0.25 in (6.4 mm), 30 – 60% passing 0.04 in (1 mm), 30% min. passing
Physical contaminants (manmade inerts)	<1% dry weight basis

Adapted from AASHTO Standards Specs for Compost Filter Socks and EPA Example Compost Filter Parameters.

<sup>1</sup> Recommended test methodologies are provided in Test Methods for the Examination of Composting and Compost (TMEC, The U.S. Composting Council).

Table H.2: Stone Size

TYPE	SIZE RANGE	d <sub>50</sub>	d <sub>100</sub>	AASHTO	MIDSIZE WEIGHT <sup>3</sup>
NUMBER 57 <sup>1</sup>	3/8 to 1 ½ inch	½ in	1 ½ in	M-43	N/A
NUMBER 1	2 to 3 inch	2 ½ in	3 in	M-43	N/A
RIPRAP <sup>2</sup> (CLASS 0)	4 to 7 inch	5 ½ in	7 in	N/A	N/A
CLASS I	N/A	9 ½ in	15 in	N/A	40 lb
CLASS II	N/A	16 in	24 in	N/A	200 lb
CLASS III	N/A	23 in	34 in	N/A	600 lb

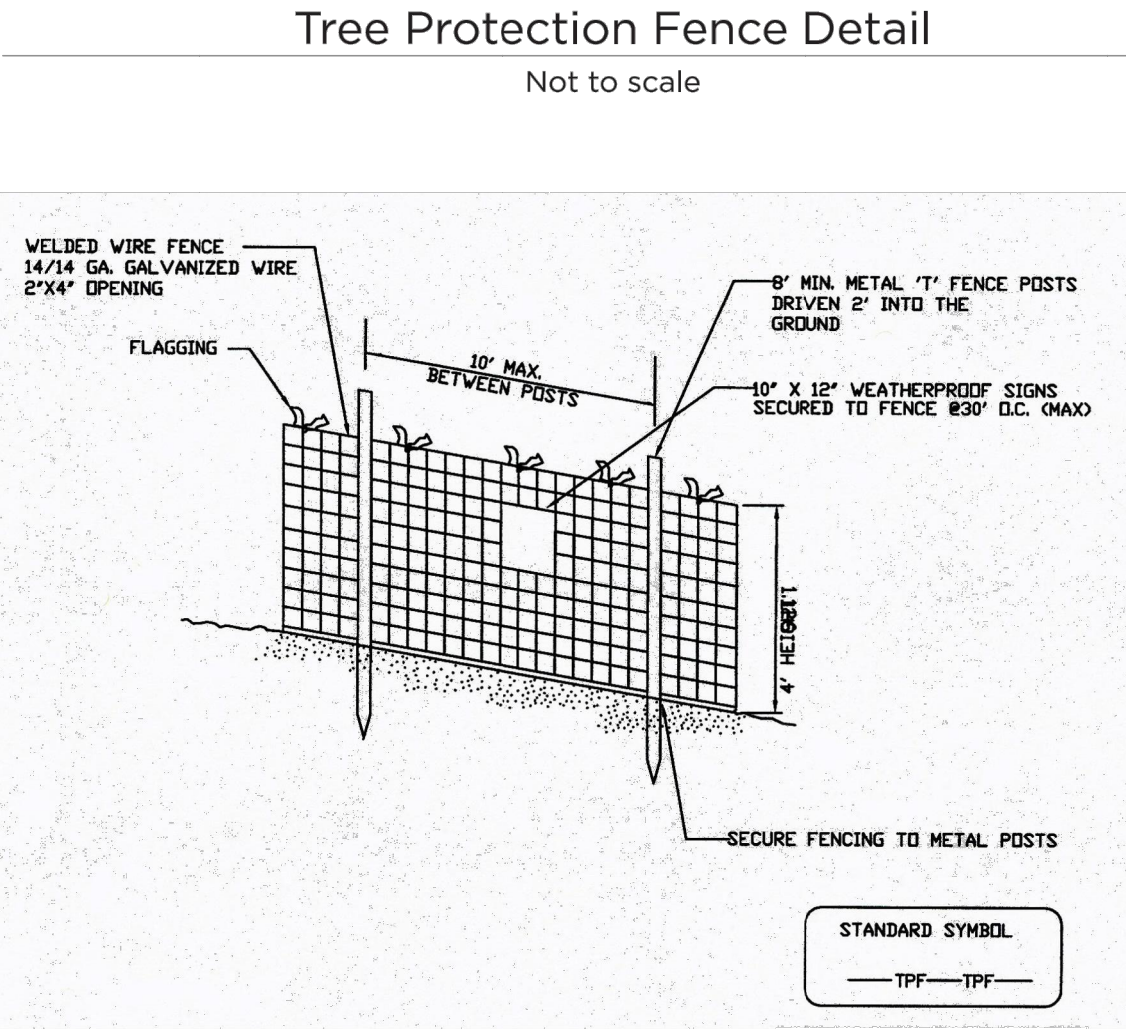
<sup>1</sup> This classification is to be used on the upstream face of stone outlets and check dams.

<sup>2</sup> This classification is to be used for gabions.

<sup>3</sup> Optimum gradation is 50 percent of the stone being above and 50 percent below the midsize.

Stone must be composed of a well graded mixture of stone sized so that fifty (50) percent of the pieces of weight are larger than the size determined by using the charts. A well graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone in such a mixture must not exceed the respective d<sub>100</sub> selected from Table H.2. The d<sub>50</sub> refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.

**Note:** Recycled concrete equivalent may be substituted for all stone classifications for temporary control measures only. Concrete broken into the sizes meeting the appropriate classification, containing no steel reinforcement, and having a minimum density of 150 pounds per cubic foot may be used as an equivalent.



- NOTES**
- Practice may be combined with sediment control fencing.
  - Location and limits of fencing should be coordinated in field with arborist.
  - Boundaries of protection area should be staked prior to installing protective device.
  - Root damage should be avoided.
  - Protection signage is required.
  - Fencing shall be maintained throughout construction.

Montgomery County Planning Department ▪ M-NCPPC  
MontgomeryPlanning.org

H-1 STANDARDS AND SPECIFICATIONS

FOR  
MATERIALS

Table H.1: Geotextile Fabrics

PROPERTY	TEST METHOD	WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size <sup>2</sup>	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec <sup>-1</sup>		0.28 sec <sup>-1</sup>		1.1 sec <sup>-1</sup>	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

<sup>1</sup> All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

<sup>2</sup> Values for AOS represent the average maximum opening.

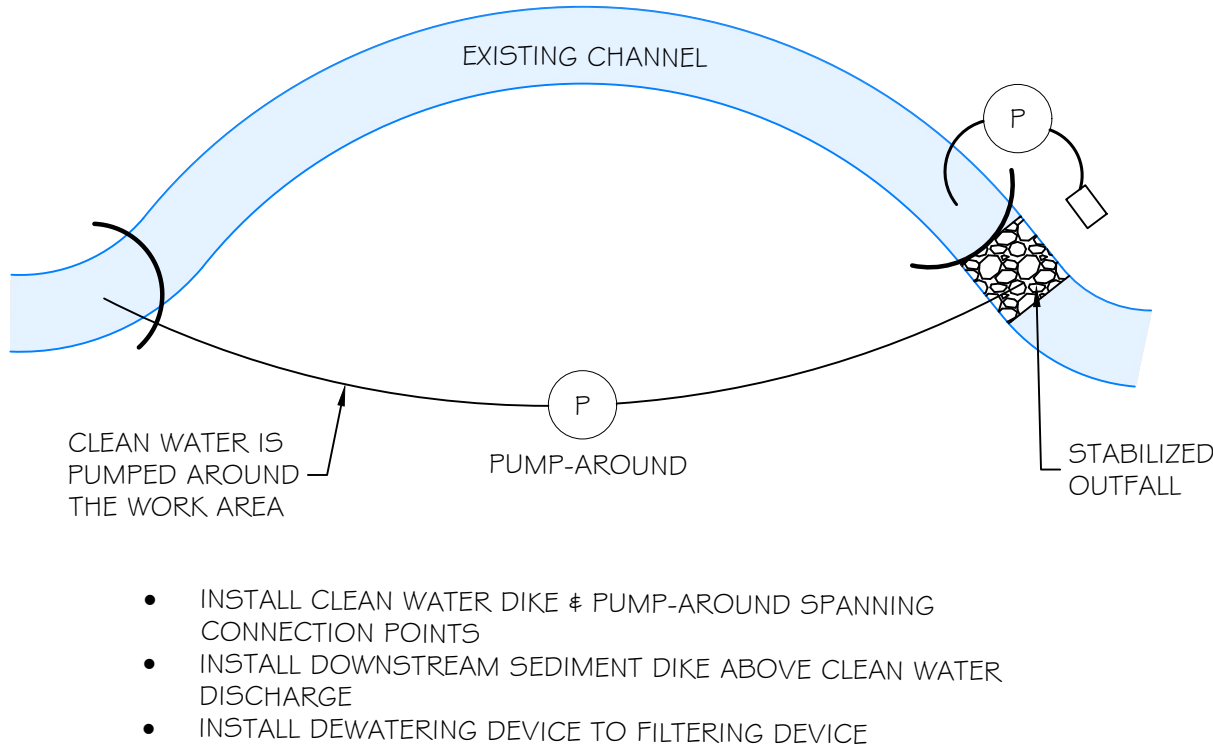
Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

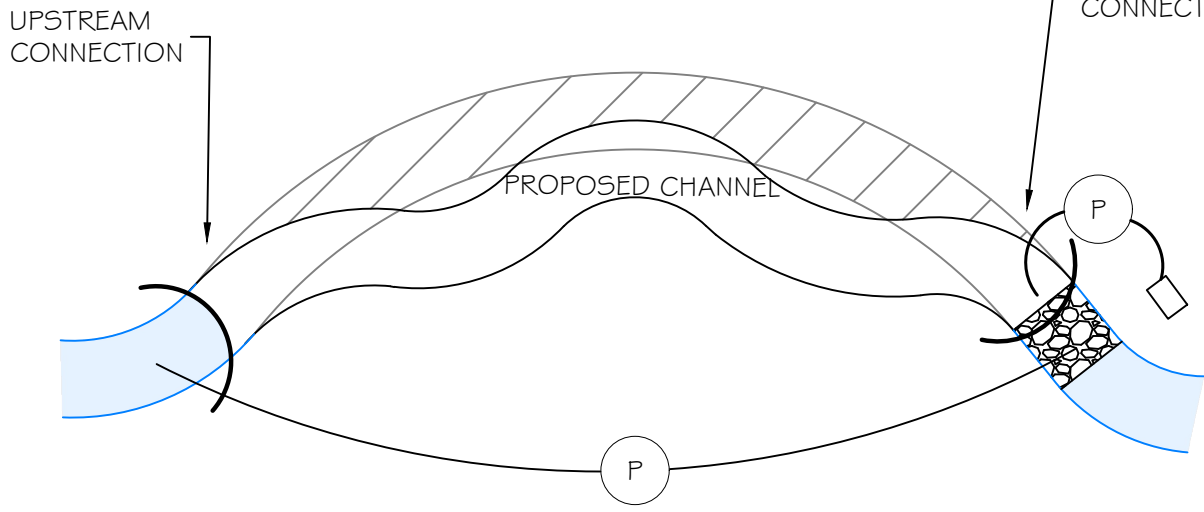
ON-LINE CONSTRUCTION

STEP 1 - SET UP



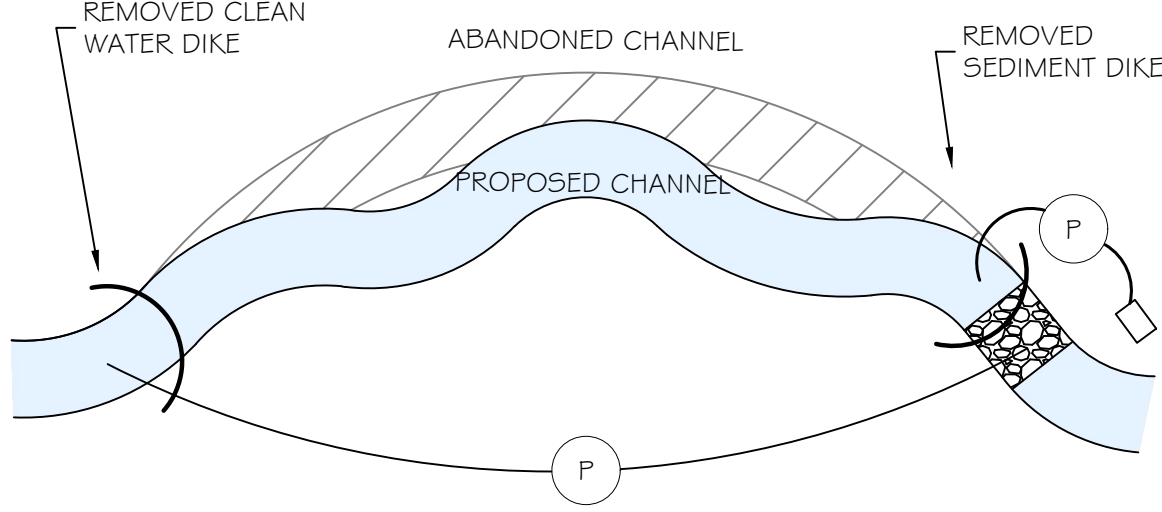
- INSTALL CLEAN WATER DIKE & PUMP-AROUND SPANNING CONNECTION POINTS
- INSTALL DOWNSTREAM SEDIMENT DIKE ABOVE CLEAN WATER DISCHARGE
- INSTALL DEWATERING DEVICE TO FILTERING DEVICE

STEP 2- CONSTRUCT CHANNEL



- CONSTRUCT SECTION OF PROPOSED CHANNEL WITHIN WORK AREA ENSURING A TRANSITION BACK TO THE EXISTING CHANNEL DOWNSTREAM
- FILL ABANDONED CHANNEL
- STABILIZE THE PROPOSED CHANNEL AND TRANSITION WITH COIR MATTING, RIFFLE MIX, ETC PER PLAN

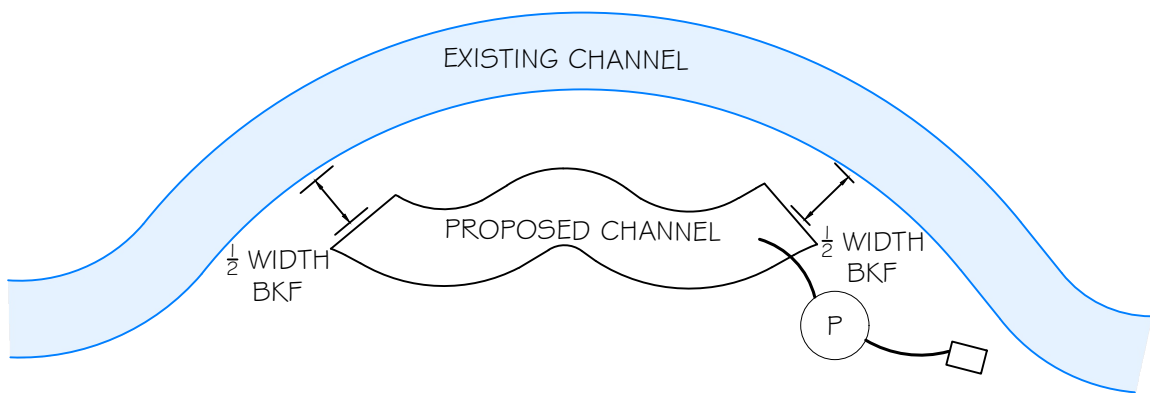
STEP 3- INTRODUCE FLOW



- REMOVE DOWNSTREAM DIKE, UPSTREAM DIKE AND PUMP-AROUND, INTRODUCING FLOW TO THE NEW CHANNEL
- PERFORM ANY REMAINING FLOODPLAIN GRADING OUTSIDE THE STREAM CHANNEL

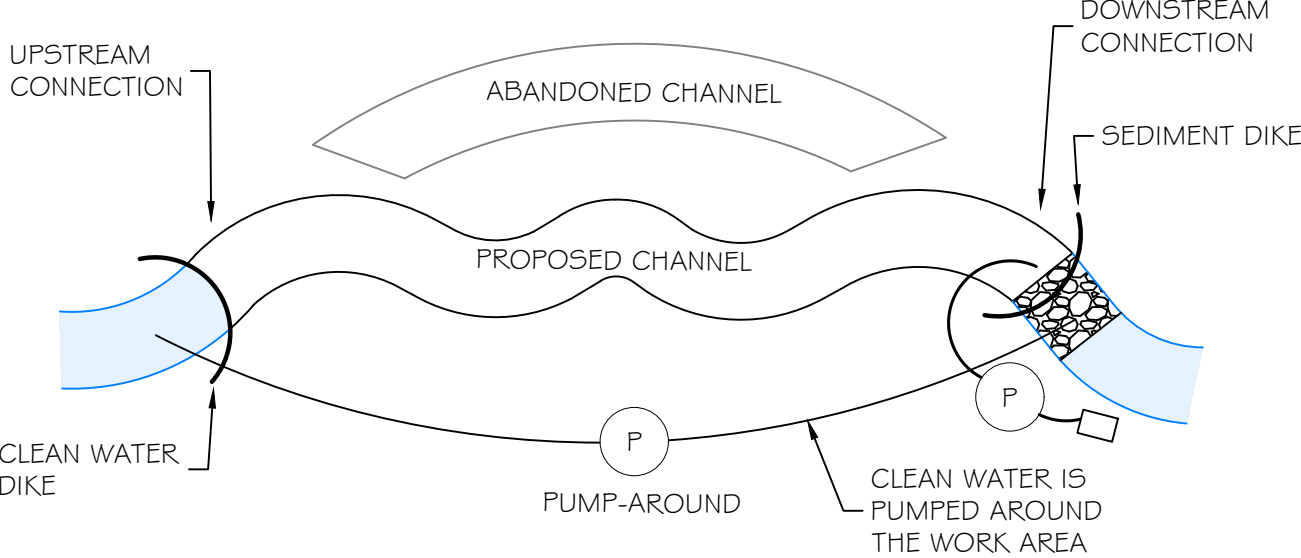
OFF-LINE CONSTRUCTION

STEP 1 - CONSTRUCT CHANNEL



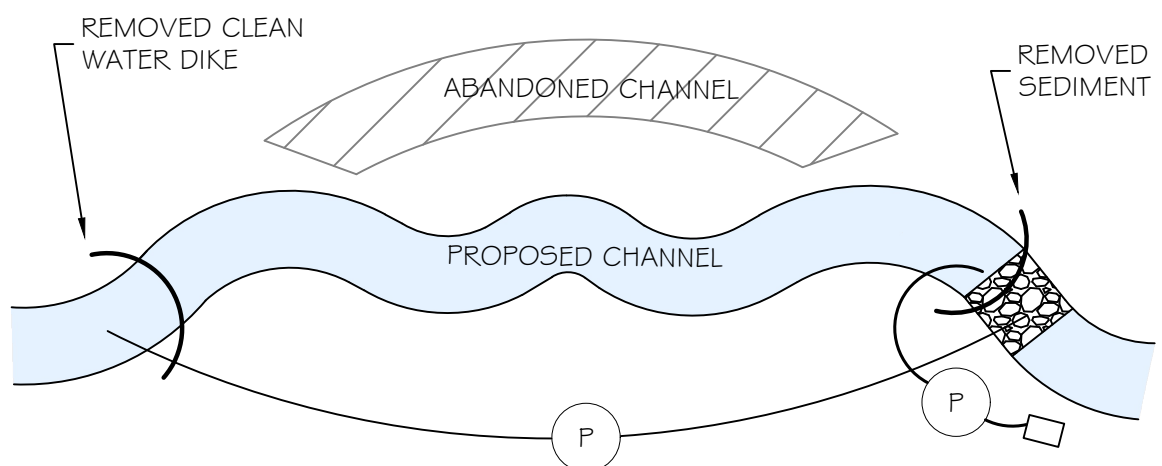
- EXCAVATE PROPOSED CHANNEL SEGMENT OFF-LINE STOPPING AT LEAST ½ BANKFULL WIDTH FROM EX. CHANNEL
- ANY GROUNDWATER IN PROPOSED CHANNEL SHOULD BE PUMPED OUT THROUGH A FILTERING DEVICE

STEP 2- CONNECT CHANNEL



- INSTALL CLEAN WATER DIKE & PUMP-AROUND SPANNING CONNECTION POINTS
- INSTALL DOWNSTREAM SEDIMENT DIKE ABOVE CLEAN WATER DISCHARGE
- CONSTRUCT & STABILIZE DOWNSTREAM AND UPSTREAM CONNECTIONS

STEP 3- INTRODUCE FLOW



- REMOVE DOWNSTREAM DIKE, UPSTREAM DIKE AND PUMP-AROUND, INTRODUCING FLOW TO THE NEW CHANNEL
- GRADE THE FLOODPLAIN AND FILL THE ABANDONED CHANNEL PER THE PLANS.

1 ONLINE/OFFLINE CONSTRUCTION  
NOT TO SCALE

<b>MCDPS APPROVED FOR:</b>	
Stormwater Management:	
Reviewed	Date
Approved	Date
SM FILE #	
Sediment Control Technical Requirements:	
Reviewed	Date
Approved	Date
Administrative Requirements:	
Reviewed	Date
SEDIMENT CONTROL PERMIT #	

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PROJECT: RFP-2 CABIN BRANCH  
CLIENT: MARYLAND STATE HIGHWAY ADMINISTRATION

ESC DETAILS

MONTGOMERY COUNTY, MARYLAND



PROFESSIONAL CERTIFICATION  
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# 52852  
EXP. DATE: 6/14/2022

NOT FOR  
CONSTRUCTION

REVISIONS:  
1

PROJECT STATUS:  
11/9/2020 65% MIT. PLAN  
3/10/2022 65% MIT. PLAN REV. I

PROJECT MANAGER: RC  
DESIGNED: KH  
DRAWN: KH  
JOB NUMBER: 102054  
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SHEET NO: 18 OF 18