TOWN OF WALKERSVILLE
FREDERICK COUNTY, MARYLAND

STORMWATER BMP IMPROVEMENTS
DEERFIELD BMP RETROFIT

UNDERGROUND UTILITY LINE PROTECTION ACT

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND STRUCTURES BEFORE COMMENCING THE WORK. CALL MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS IN ADVANCE OF WORK.

PROJECT SUMMARY

THE TOWN OF WALKERSVILLE IS PROPOSING TO REDESIGN AND RETROFIT AN EXISTING SWALE INTO A DRY SWALE LOCATED IN FREDERICK COUNTY. THE PROJECT WILL DECREASE NUTRIENT AND SEDIMENT LOADS AND THE TOWN OF WALKERSVILLE WILL RECEIVE CREDITS TOWARDS THEIR CHESAPEAKE BAY POLLUTION REDUCTION PLAN. THE RETROFIT WILL INVOLVE REGRADING THE SWALE, REPLACING RIP RAP, INSTALLING A PVC UNDERDRAIN WITH CLEANOUTS, PERMEABLE SOILS, AND SEDIMENT FOREBAY INSTALLATIONS. FLOW IS EXPECTED TO LEAVE THE SITE IN A SIMILAR PATTERN TO EXISTING CONDITIONS AND FLOWS TOWARD ISRAEL CREEK.

DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 0.739 ACRES (32,171 S.F.) AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 1775 CUBIC YARDS OF EXCAVATION AND APPROXIMATELY 153 CUBIC YARDS OF FILL.
(APPROX. ONLY – NOT FOR BID PURPOSES)
CUT AND FILL ARE TRENCH EXCAVATION AND BACKFILL ONLY.

EDWARD VAN ARSDALE, PE — 1/4/24
MD. PE NO. 38561 — DATE

ENGINEER/ARCHITECT DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01, AND 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

EDWARD VAN ARSDALE, PE — 1/4/24
MD. PE NO. 38561 — DATE

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREA" AND THE REQUIREMENTS OF THE FREDERICK SOIL CONSERVATION DISTRICT.

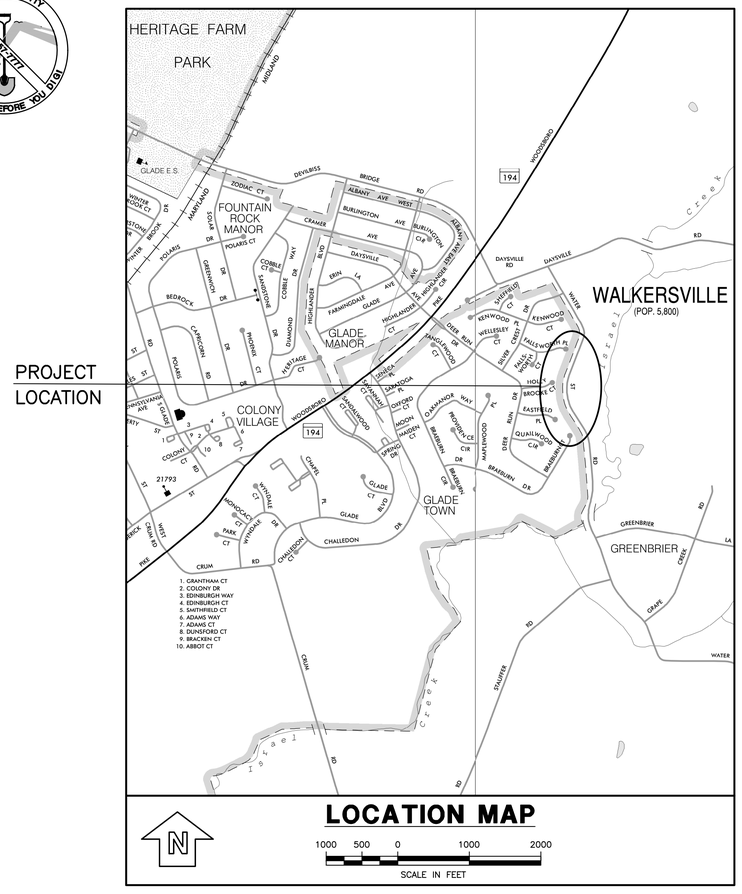
EDWARD VAN ARSDALE, PE — 1/4/24
MD. PE NO. 38561 — DATE

OWNERS/DEVELOPERS CERTIFICATION

I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL WILL BE IMPLEMENTED TO THE FULLEST EXTENT, AND ALL STRUCTURES WILL BE INSTALLED TO THE DESIGN AND SPECIFICATIONS AS SPELLED OUT IN THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION PF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE EVALUATION BY THE CATOCIN/FREDERICK SOIL CONSERVATION DISTRICT PERSONNEL AND COOPERATING AGENCIES.

XX — XX

XX



PROJECT LOCATION

LOCATION MAP

N

1000 500 0 1000 2000
SCALE IN FEET

DRAWING INDEX

GENERAL NOTES

1. DURING THE LAYOUT OF SEDIMENT CONTROL PRACTICES REQUIRED ON THIS PLAN, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE ARREST AND CONTROL OF ANY SEDIMENT BEFORE IT LEAVES THE CONSTRUCTION SITE. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING SEDIMENT RETENTION STRUCTURES, AND SURFACE WATER DIVERSIONS AS PART OF THE INITIAL PHASE OF CONSTRUCTION.
3. PREVENT THE TRACKING OF MUD FROM THE SITE ONTO PUBLIC ROADS BY PLACING CRUSHED STONE OVER EGRESS AREA OR BY EFFECTIVE MEANS. ALSO RESPONSIBLE FOR THE IMMEDIATE REPAIR OF ANY DAMAGE TO PUBLIC OR PRIVATE ROADS CAUSED BY THIS CONSTRUCTION.
4. CONTINUAL INSPECTION AND MAINTENANCE OF SEDIMENT CONTROL FACILITIES SHALL BE PERFORMED UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE SOIL CONSERVATION DISTRICT INSPECTOR.
5. NO WORK SHALL PROCEED IN THE STREAM (CLASS IV) CHANNEL DURING STREAM CLOSURE DATES FROM MARCH 1 THRU MAY 31.
6. DEPENDING ON SITE CONDITIONS, PHASING OR CONSTRUCTION SEQUENCING, AND STABILIZATION METHODS, ADDITIONAL SEDIMENT CONTROLS (OTHER THAN AS SHOWN HEREON) MAY BE REQUIRED BY THE INSPECTOR.
7. NO FEMA FLOODPLAINS OR WETLANDS WERE LOCATED ON SITE.

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee
Date: _____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

File #: WALKERSVILLE
A/P #: xx
Due Date:

TOWN OF WALKERSVILLE PLANNING COMMISSION

APPROVED

SUSAN HAUVER – TOWN PLANNER — DATE

NO	REVISION	DATE	BY	APP.

NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN	BCU	CHECKED	
DRAWN	CADD	CHECKED	
DATE	JANUARY 2023	SURVEY DATE	DECEMBER 2022
		FIELD BOOK	WEBER SURVEYORS

SEAL
STATE OF MARYLAND · EDWARD JOSEPH VAN ARSDALE · NO. 38561 · PROFESSIONAL ENGINEER
1/4/24

SEAL
PROFESSIONAL CERTIFICATION
I, EDWARD JOSEPH VAN ARSDALE, III, P.E. 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. 38561 Expiration Date: 3/31/2024

CLIENT & PROJECT
TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

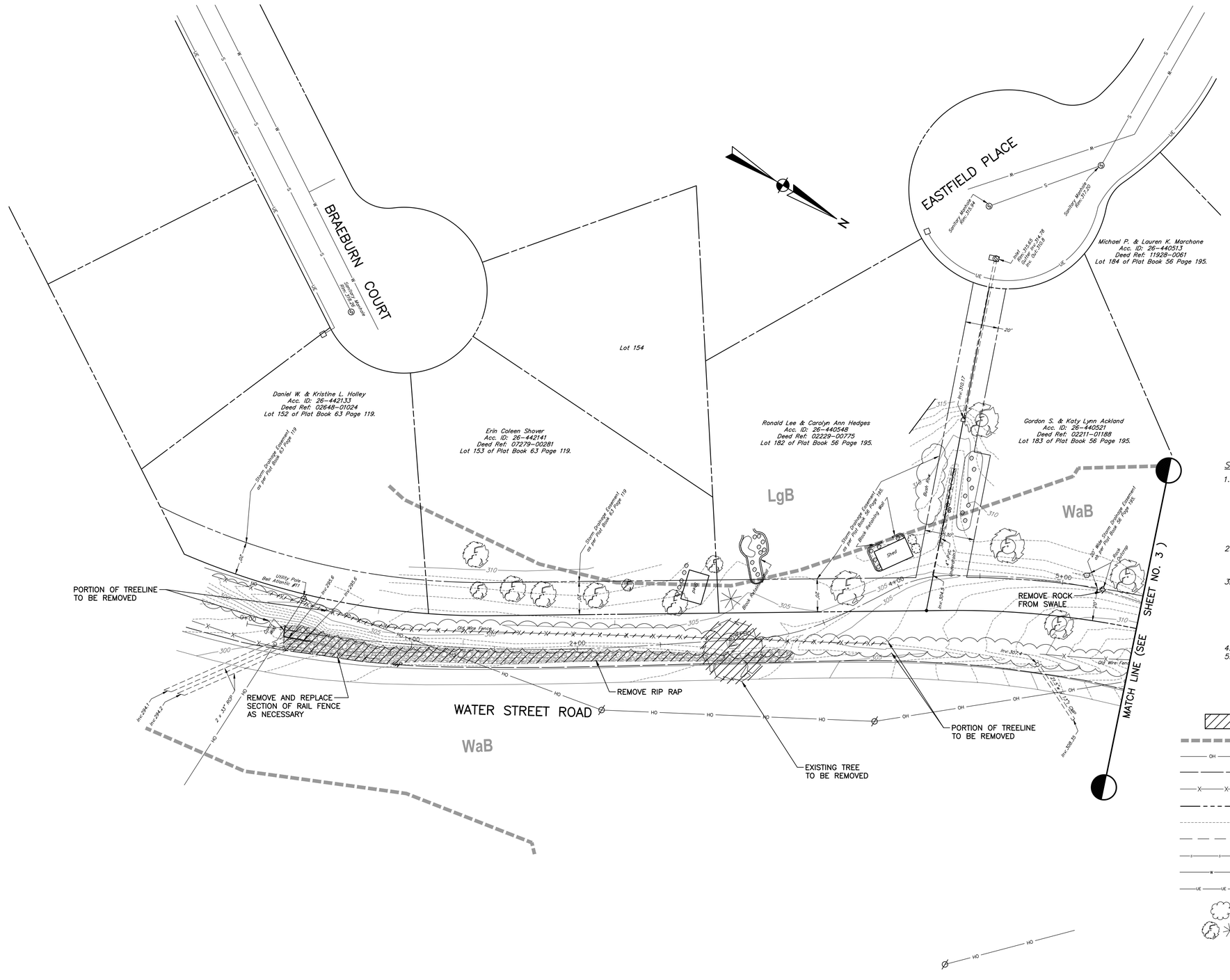
BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE: DEERFIELD BMP RETROFIT TITLE SHEET

SCALE: AS SHOWN			DWG. NO. S-1
PROJECT NO. 10827.37	SHEET NO. 1 OF 9	REV.	

Dwg. Name: 1082737-D01.DWG Plotted: 2/22/2024 8:29 AM



Survey Notes:

1. Topography and physical features shown hereon obtained from a field survey performed by WEBER SURVEYORS Completed on December 12, 2022.
   9.31 Stony Battery Road, Landisville, PA (717)-898-9466.
   Coordinate System: MD State Plane, Ref Frame: NAD83(2011) Epoch 2010.00.
   Vertical Datum: NAVD88 (established by GPS observation GEOID18)
   Benchmark: Storm Manhole in cul-de-sac of Fallsworth Place, See plan.
   Elevation: 322.41
   Contour Interval: 1 Foot
2. All deed lines, easements and right-of-ways are plotted from deeds of record and recorded subdivision plans for reference purposes only. A boundary survey was not performed as part of this survey and this survey was prepared without the benefit of a title search.
3. Underground utility have been shown according to surface evidence, markings provided by others, and or plans provided by the others. The actual location of these utilities have not been field verified and the locations are approximate. WEBER SURVEYORS does not make any representation, warranty, assurance or guarantee that the underground utility location information provided by others and reflected on these drawings is correct or accurate. WEBER SURVEYORS assumes no responsibility for a any damage as a result of underground utilities amitted or inaccurately shown.
4. All features shown are existing unless otherwise noted.
5. Any revisions made to these plans after the date of plan preparation or latest revision date shall not be the responsibility of WEBER SURVEYORS. Plan release date December 16, 2022.

LEGEND

- FEATURES TO BE DEMOLISHED
- SOILS BOUNDARY LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PAVEMENT
- EXISTING FENCE
- EXISTING RIGHT OF WAY
- EXISTING CONTOURS
- EXISTING STORM SEWER PIPES
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING UNDER GROUND ELECTRIC
- EXISTING BUSH
- EXISTING TREES
- EXISTING PROPERTY
- EXISTING UTILITY RIGHT OF WAY
- UTILITY POLE
- STORM WATER MANHOLE
- SANITARY MANHOLE
- EXISTING BUILDING
- PROPERTY CORNER
- RIP-RAP

SOILS

AfB – ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
LgB – LEGORE GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
LnD – LEGORE-MONTALTO GRAVELLY SILT LOAMS, 15 TO 25 PERCENT SLOPES, BOLDERY
WaB – WALKERSVILLE GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES

NO	REVISION	DATE	BY	APP.
NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN BCU	CHECKED
DRAWN CADD	CHECKED
DATE JANUARY 2024	SURVEY DATE DECEMEBER 2022
	FIELD BOOK WEBER SURVEYORS

SEAL
STATE OF MARYLAND — EDWARD JOSEPH VAN ARSDALE — No. 38561 — PROFESSIONAL ENGINEER
1/4/24

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21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE
DEERFIELD BMP RETROFIT
EXISTING CONDITIONS
STA 0+00 TO STA 5+50

SCALE 0 15' 30' 60' 90'
SCALE: 1" = 30'

DWG. NO. S-2

PROJECT NO. 10827.37
SHEET NO. 2 OF 9
REV.

Dwg. Name: 1082737-S03 WATER ST.DWG Plotted: 2/22/2024 8:29 AM

HOLLY BROOKE CT.

FALLSWORTH PLACE

WATER STREET ROAD

N

Michael P. & Lauren K. Marchione
Acc. ID: 26-440613
Deed Ref: 11928-0061
Lot 184 of Plat Book 56 Page 195.

Adam Paul & Rittory Marie Clay
Acc. ID: 26-438578
Deed Ref: 13771-00070
Lot 194 of Plat Book 46 Page 132.

David E. Bailey & Leigh A. Alexander
Acc. ID: 26-438586
Deed Ref: 11844-00449
Lot 195 of Plat Book 46 Page 132.

Amy J. McCabe
Acc. ID: 26-438584
Deed Ref: 14773-00197
Lot 196 of Plat Book 46 Page 132.

Walter T. & Sandra D. Blakeman
Acc. ID: 26-439019
Deed Ref: 10200-00406
Lot 214 of Plat Book 46 Page 40

Harry D. & Elizabeth M. Long
Acc. ID: 26-439021
Deed Ref: 01869-01170
Plot Book 46 Page 40, Lot 213

Lot 214

Lot 215

Lot 216

REMOVE SECTION OF PIPE, REUSE FES IF IN GOOD CONDITION

REMOVE RIP RAP

EXISTING TREE TO BE REMOVED

MATCH LINE (SEE SHEET NO. 2)

AfB

LnD

LgB

WaB

LEGEND

- FEATURES TO BE DEMOLISHED
- SOILS BOUNDARY LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PAVEMENT
- EXISTING FENCE
- EXISTING RIGHT OF WAY
- EXISTING CONTOURS
- EXISTING STORM SEWER PIPES
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
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- EXISTING PROPERTY
- EXISTING UTILITY RIGHT OF WAY
- UTILITY POLE
- STORM WATER MANHOLE
- SANITARY MANHOLE
- EXISTING BUILDING
- PROPERTY CORNER
- RIP-RAP

SOILS

AfB – ADAMSTOWN–FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
LgB – LEGORE GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
LnD – LEGORE–MONTALTO GRAVELLY SILT LOAMS, 15 TO 25 PERCENT SLOPES, BOLDERY
WaB – WALKERSVILLE GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES

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NO	REVISION	DATE	BY	APP.

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DATE JANUARY 2024	SURVEY DATE DECEMBER 2022
	FIELD BOOK WEBER SURVEYORS

SEAL
STATE OF MARYLAND · JOSEPH VAN ARSDALE · 38561 · PROFESSIONAL ENGINEER
1/4/24

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BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE
DEERFIELD BMP RETROFIT
EXISTING CONDITIONS
STA 5+50 TO STA 9+72

SCALE 0 15' 30' 60' 90'
SCALE: 1" = 30'

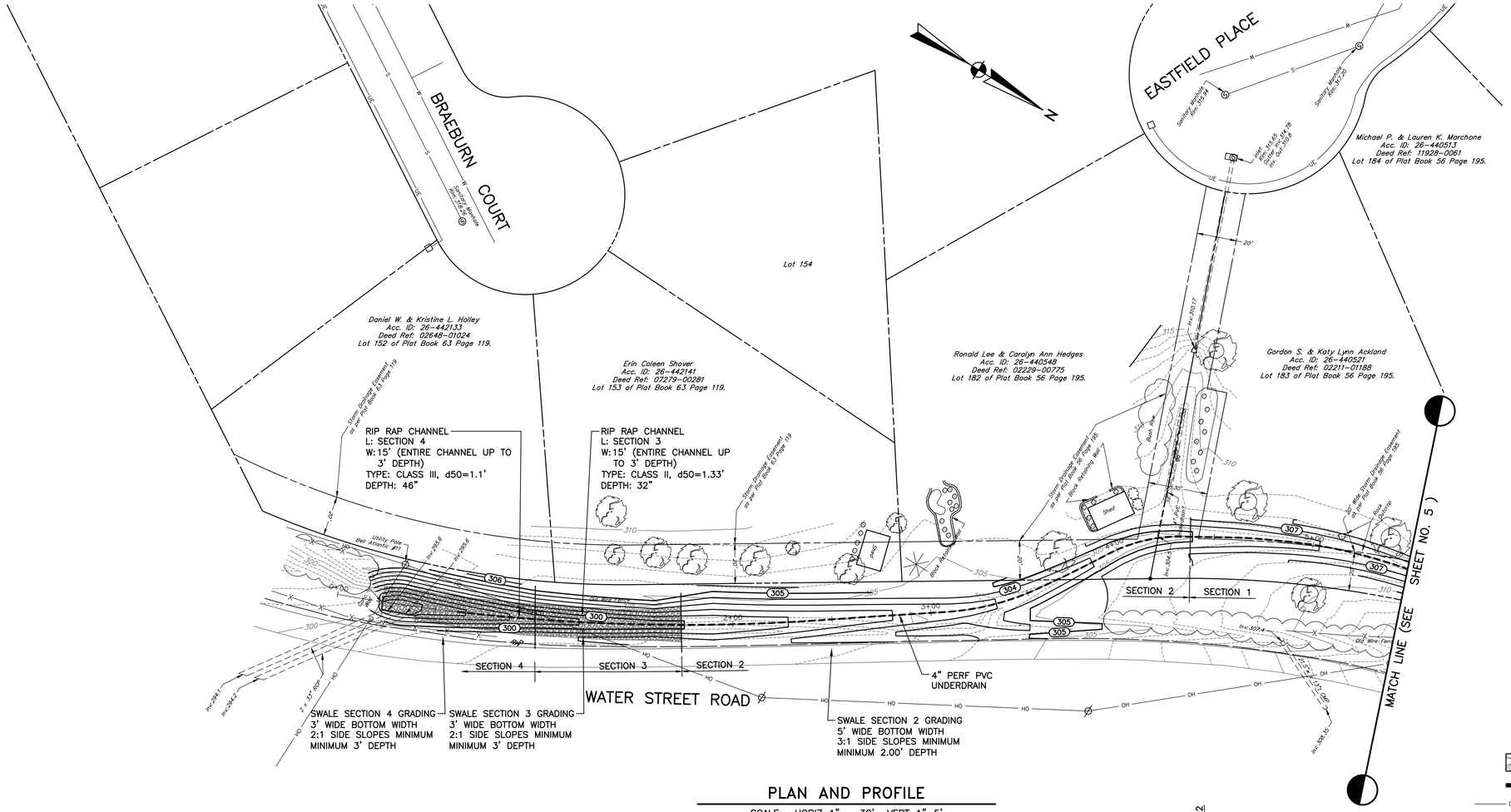
DWG. NO. S-3

PROJECT NO. 10827.37

SHEET NO. 3 OF 9

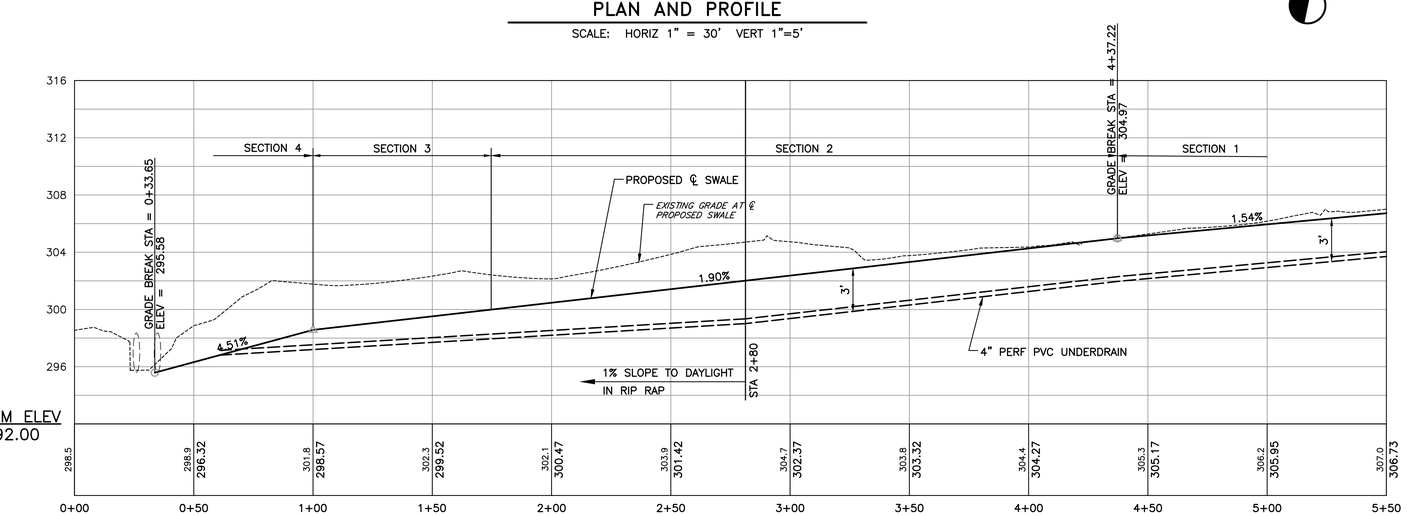
REV.

Dwg. Name: 1082737-S03 WATER ST.DWG Plotted: 2/22/2024 8:29 AM



PLAN AND PROFILE

SCALE: HORIZ 1" = 30' VERT 1"=5'



HORIZONTAL
0 15' 30' 60' 90'
SCALE: 1" = 30'

VERTICAL
0 2.5' 5' 10' 15'
SCALE: 1" = 5'

LEGEND

- RIP-RAP
- PROPOSED STORM
- EXISTING OVERHEAD ELECTRIC
- EXISTING PAVEMENT
- EXISTING FENCE
- EXISTING RIGHT OF WAY
- EXISTING CONTOURS
- EXISTING STORM SEWER PIPES
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING UNDER GROUND ELECTRIC
- EXISTING BUSH
- EXISTING TREES
- PROPOSED CONTOUR
- EXISTING PROPERTY
- EXISTING UTILITY RIGHT OF WAY
- UTILITY POLE
- STORM WATER MANHOLE
- SANITARY MANHOLE
- EXISTING BUILDING
- PROPERTY CORNER

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee
Date: _____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

NO	REVISION	DATE	BY	APP.
NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN BCU	CHECKED
DRAWN CADD	CHECKED
DATE JANAURY 2024	SURVEY DATE DECEMEBR 2022
	FIELD BOOK WEBER SURVEYORS

SEAL
STATE OF MARYLAND
EDWARD JOSEPH VAN ARSDALE III
No. 38561
PROFESSIONAL ENGINEER
1/4/24

SEAL
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CLIENT & PROJECT
TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

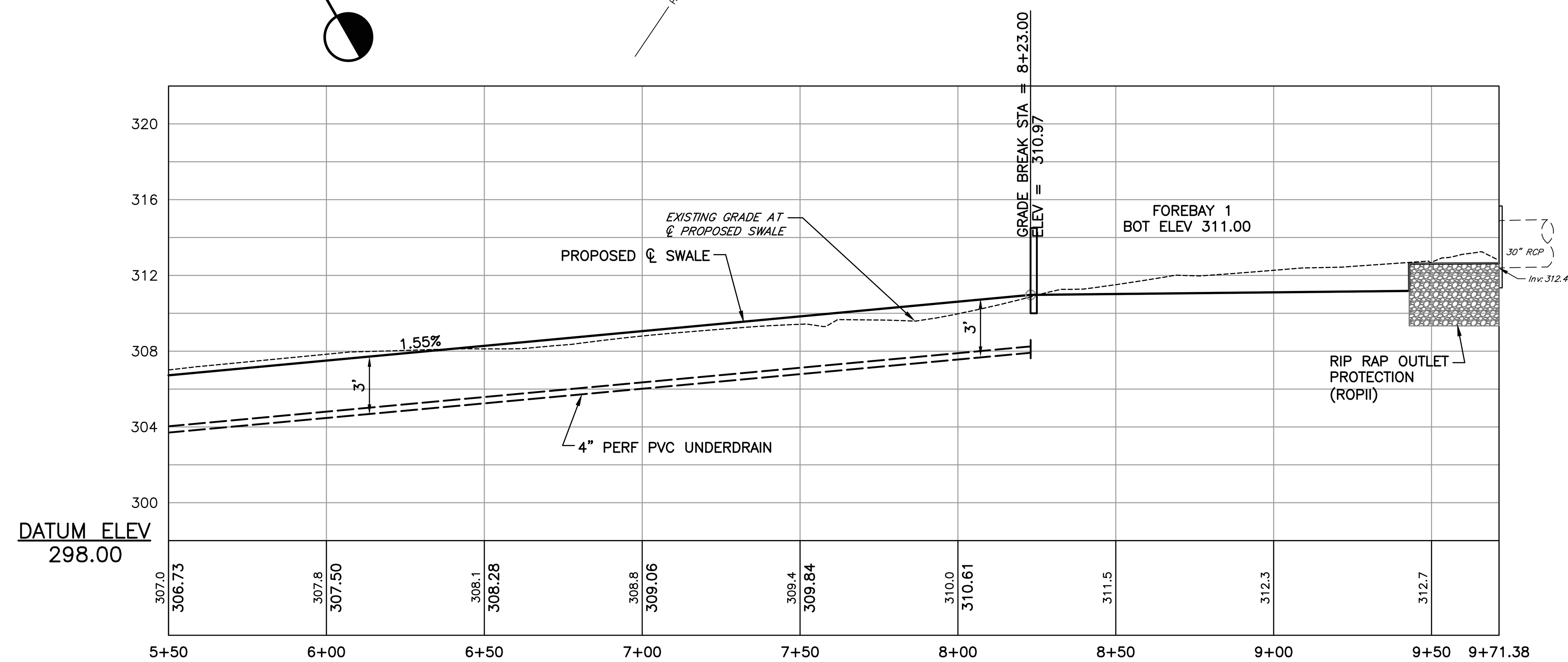
TITLE
DEERFIELD BMP RETROFIT
PROPOSED CONDITIONS
STA 0+00 TO STA 5+50

SCALE	DWG. NO.
AS SHOWN	S-4

PROJECT NO.	SHEET NO.	REV.
10827.37	4 OF 9	

Dwg. Name: 1082737-S03 WATER ST.DWG Plotted: 2/22/2024 8:29 AM


N
HOLLY BROOKE CT.
FALLSWORTH PLACE
WATER STREET ROAD
MATCH LINE (SEE SHEET NO. 4)
Michael P. & Lauren K. Marchone
Adam Paul & Brittany Marie Clay
David E. Bailey & Leigh A. Alexander
Amy J. McCabe
Walter T. & Sandra D. Blakeman
Harry D. & Elizabeth M. Long
Lot 214
Lot 215
Lot 216
Shed
RIP RAP OUTLET PROTECTION (ROPII)
L: 28'
W: 30.5'
TYPE: CLASS II, d50=1.1'
DEPTH: 32"
GABION WALL BERM
TOP: 314.50
FOREBAY 1
TOP OF WALL: 312.50
BOTTOM OF WALL: 310.00
BOTTOM OF FOREBAY: 311.00
4" PERF PVC
UNDERDRAIN
309.40'
SWALE SECTION 1 GRADING
5' WIDE BOTTOM WIDTH
3:1 SIDE SLOPES MINIMUM
MINIMUM 2.25' DEPTH
Old Wire Fence
4' Picket Wood Fence
4' Wood Split Rail Fence
20' Wide Storm Drainage Easement as per Plat Book 46 Page 132.
20' Wide Storm Drainage Easement as per Plat Book 48 Page 40.
30" RCP
Inv.312.4
312
310
307
315


GRADE BREAK STA = 8+23.00
ELEV = 310.97
FOREBAY 1
BOT ELEV 311.00
EXISTING GRADE AT ℄ PROPOSED SWALE
PROPOSED ℄ SWALE
1.55%
3'
4" PERF PVC UNDERDRAIN
RIP RAP OUTLET PROTECTION (ROPII)
30" RCP
Inv.312.4
320
316
312
308
304
300
DATUM ELEV
298.00
307.0 306.73
307.8 307.50
308.1 308.28
308.8 309.06
309.4 309.84
310.0 310.61
311.5
312.3
312.7
5+50
6+00
6+50
7+00
7+50
8+00
8+50
9+00
9+50
9+71.38

HORIZONTAL
0 15' 30' 60' 90'
SCALE: 1" = 30'

VERTICAL
0 2.5' 5' 10' 15'
SCALE: 1" = 5'

LEGEND

- RIP-RAP
- PROPOSED STORM
- EXISTING OVERHEAD ELECTRIC
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FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By:____________________
District Manager or Designee
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NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN	CHECKED
BCU	
DRAWN	CHECKED
CADD	
DATE	SURVEY DATE DECEMBER 2022
JANUARY 2024	FIELD BOOK WEBER SURVEYORS

SEAL: STATE OF MARYLAND — EDWARD JOSEPH VAN ARSDALE III — NO. 38561 — PROFESSIONAL ENGINEER — 1/4/24

SEAL
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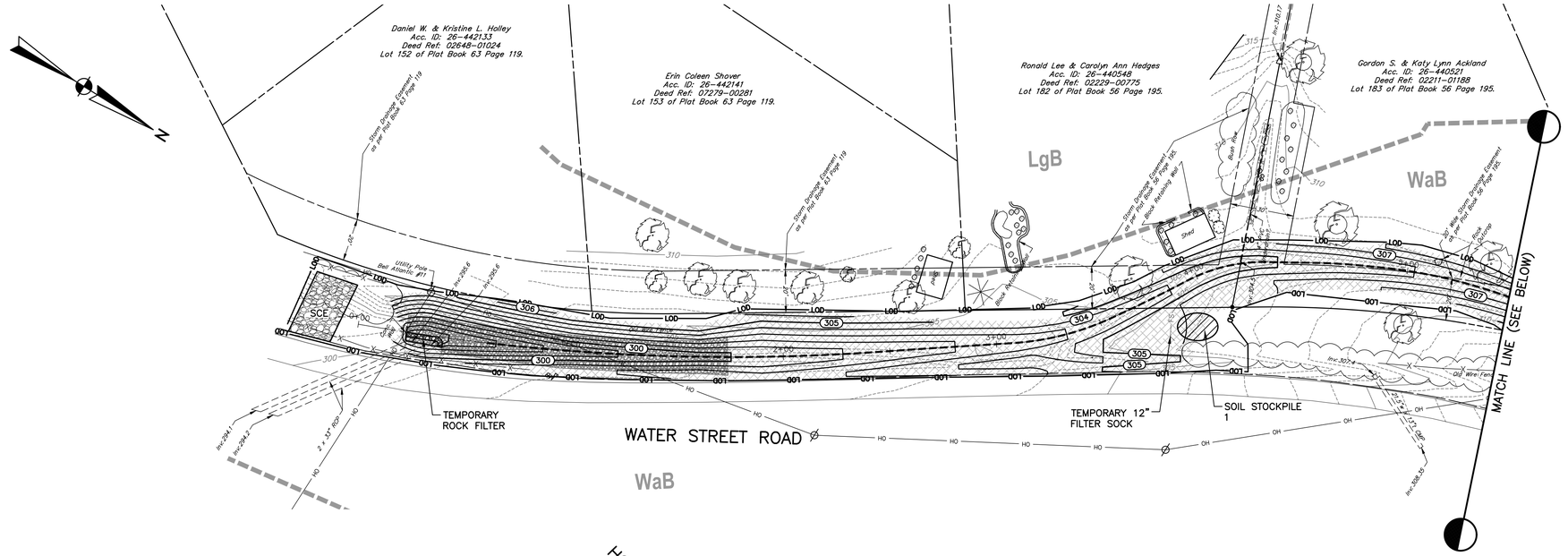
TITLE
DEERFIELD BMP RETROFIT
PROPOSED CONDITIONS
STA 5+50 TO STA 9+72

SCALE		DWG. NO.
AS SHOWN		S-5
PROJECT NO. 10827.37	SHEET NO. 5 OF 9	REV.

Dwg. Name: 1082737-S03 WATER ST.DWG Plotted: 2/22/2024 8:29 AM

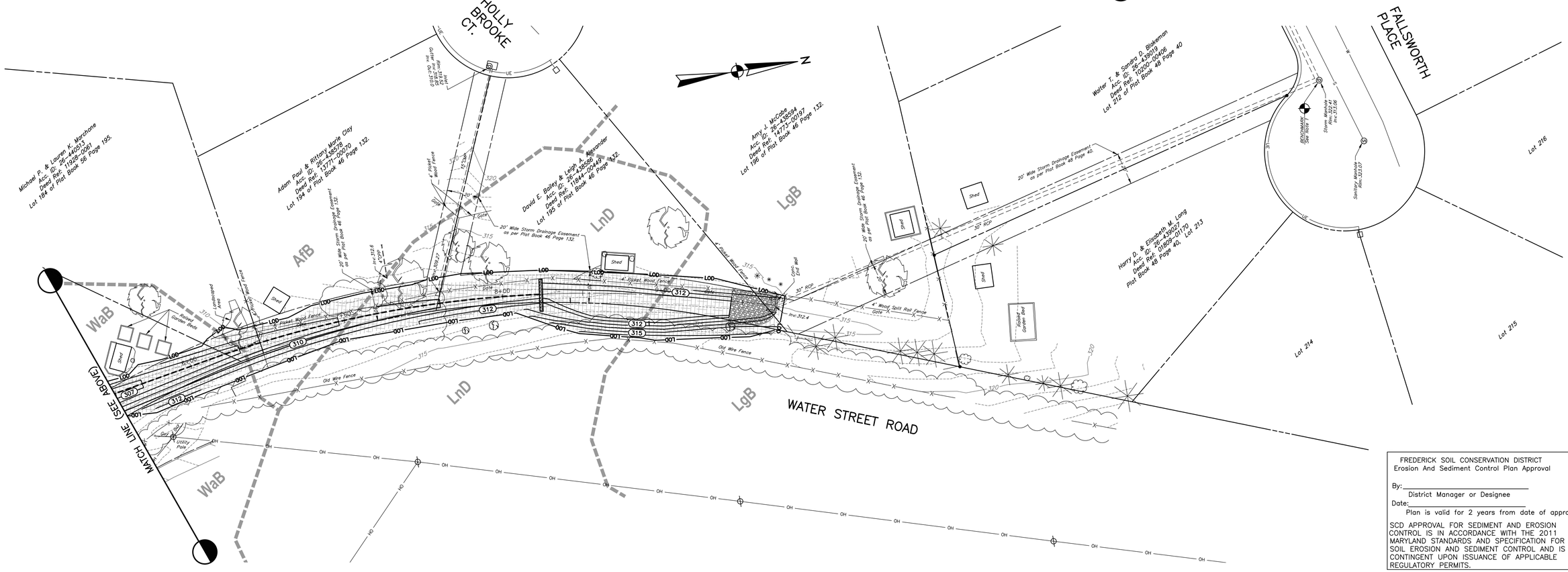


LEGEND

- SOIL BOUNDARY LINE
- TSSMS — TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION 2.25 PSF SHEAR STRESS (NAG C125) (DETAIL B-4-6-B)
- FL — 12" FILTER LOG (DETAIL E-6)
- LOD — LIMIT OF DISTURBANCE (34,207.83 SF, 0.79 AC)
- FS — TEMPORARY 12" FILTER SOCK
- SCE — STABILIZED CONSTRUCTION ENTRANCE (DETAIL B-1)
- MATERIAL STOCKPILE
- TEMPORARY ROCK FILTER

SOILS

AfB – ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
LgB – LEGORE GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
LnD – LEGORE-MONTALTO GRAVELLY SILT LOAMS, 15 TO 25 PERCENT SLOPES, BOLDERY
WaB – WALKERSVILLE GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES



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DATE JANAURY 2024	SURVEY DATE DECEMBER 2022
	FIELD BOOK WEBER SURVEYORS

SEAL
STATE OF MARYLAND · EDWARD JOSEPH VAN ARSDALE III · No. 38561 · PROFESSIONAL ENGINEER
1/4/24

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TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE
DEERFIELD BMP RETORFIT
EROSION AND SEDIMENT CONTROL PLAN

SCALE 0 15' 30' 60' 90'
SCALE: 1" = 30'

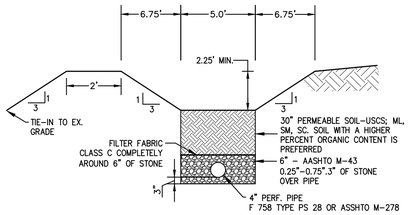
DWG. NO. S-6

PROJECT NO. 10827.37

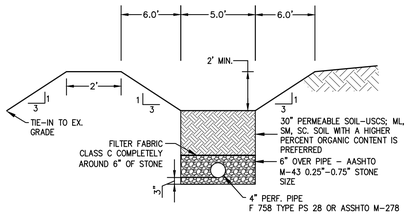
SHEET NO. 6 OF 9

REV.

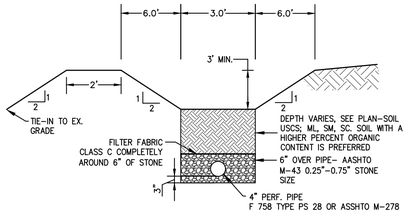
Dwg. Name: 1082737-S03 WATER ST.DWG Plotted: 2/22/2024 8:29 AM



SECTION 1



SECTION 2

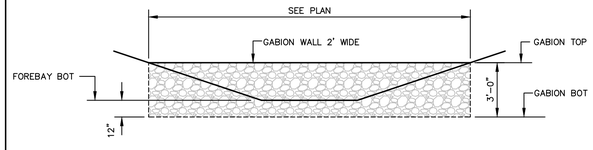


SECTION 3/4

SWALE SECTIONS

NO SCALE

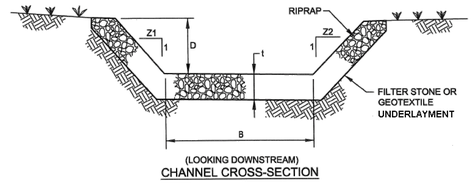
STORMWATER MANAGEMENT FACILITY SUMMARY TABLE												
SWM BMP	SITE AREA (AC.)	LOD (AC.)	DRAINAGE AREA (AC.)	IMPERVIOUS AREA (AC.)	% IMPERVIOUS	PE PROVIDED (IN)	ESDV/WQV REQUIRED (ACRE*FT)	ESDV/WQV PROVIDED (ACRE*FT)	SURFACE AREA PROVIDED (SF)	RCN	TC(MIN)	IMPERVIOUS CREDITS (ACRES)
DEERFIELD SWALE	0.7385	0.7385	36.06	6.92	19.18	1.00	0.1554	0.1556	11,078	71	21.7	6.92



FOREBAY NO.	FOREBAY BOTTOM ELEV	GABION TOP WALL ELEV	GABION BOT WALL ELEV	WALL LENGTH (FT.)	WALL HEIGHT (FT.)	WALL WIDTH (FT.)
1	311.00	312.50	310.00	AS SHOWN	2.5	2

GABION FOREBAY DETAIL

NO SCALE



(LOOKING DOWNSTREAM)
CHANNEL CROSS-SECTION

Section	Stations	B	D	Z1	Z2	Riprap Gradation	t	Underlayment	Underlayment Thickness
3	N/A	3'	3'	2:1	2:1	CLASS II	32"	NONWOVEN GEOTEXTILE FABRIC	N/A
4	N/A	3'	3'	2:1	2:1	CLASS III	46"	NONWOVEN GEOTEXTILE FABRIC	N/A

RIPRAP CHANNEL DETAIL

NO SCALE

NO	REVISION	DATE	BY	APP.

NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN	BCU	CHECKED	
DRAWN	CADD	CHECKED	
DATE	JANUARY 2023	SURVEY DATE	DECEMBER 2022
		FIELD BOOK	WEBER SURVEYORS

SEAL

STATE OF MARYLAND · EDWARD JOSEPH VAN ARSDALE III · No. 38561 · PROFESSIONAL ENGINEER

1/4/24

SEAL

PROFESSIONAL CERTIFICATION
I, EDWARD JOSEPH VAN ARSDALE, III, P.E. 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. 38561 Expiration Date: 3/31/2024

CLIENT & PROJECT

TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
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Tel 301.791.1100

TITLE
DEERFIELD BMP RETROFIT
DESIGN DETAILS

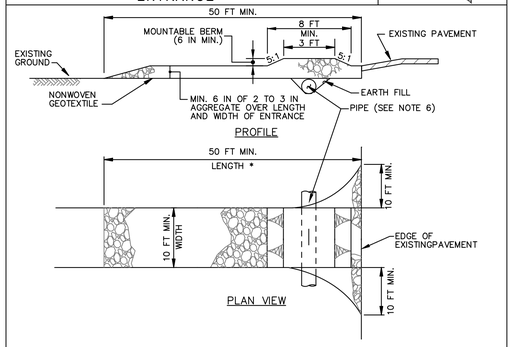
SCALE	DWG. NO.
AS SHOWN	S-7

PROJECT NO.	SHEET NO.	REV.
10827.37	7 OF 9	

Dwg. Name: 1082737-D01.DWG Plotted: 2/22/2024 8:29 AM

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

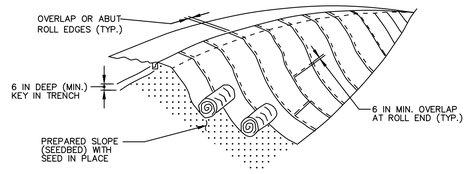
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. 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.
3. 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.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. 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.
7. 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.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

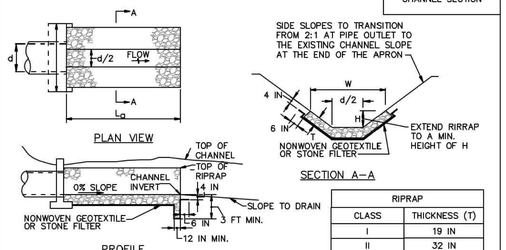
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

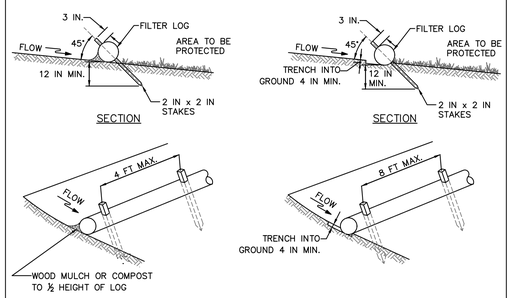
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STRUCTURE NAME	APRON LENGTH L (FT)	APRON WIDTH W (FT)	RIP-RAP TYPE R	APRON DEPTH D (IN)	PIPE DIAMETER (IN)
30" RCP (IN)	28	30.5	CLASS II (d_{50}=1.1')	32	30

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

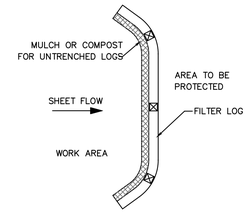
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



UNTRENCHED INSTALLATION OR ENTRENCHED INSTALLATION*

*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.

ISOMETRIC VIEW



PLAN

1 OF 2

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

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

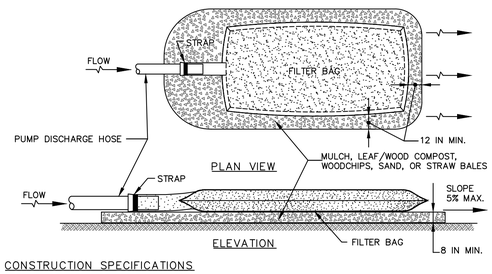
2 OF 2

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

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. 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.
3. 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.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN./FT²	ASTM D-4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee
Date: _____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

NO	REVISION	DATE	BY	APP.

NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN	CHECKED
BCU	
DRAWN	CHECKED
CADD	
DATE	SURVEY DATE
JANUARY 2023	DECEMBER 2022
	FIELD BOOK WEBER SURVEYORS

SEAL: STATE OF MARYLAND · EDWARD JOSEPH VAN ARSDALE · No. 38561 · REGISTERED PROFESSIONAL ENGINEER
1/4/24

SEAL
PROFESSIONAL CERTIFICATION
I, EDWARD JOSEPH VAN ARSDALE, III, P.E. 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. 38561 Expiration Date: 3/31/2024

CLIENT & PROJECT
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WALKERSVILLE, MARYLAND 21793

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TITLE
DEERFIELD BMP RETROFIT
EROSION AND SEDIMENT CONTROL
DETAILS

SCALE	DWG. NO.
AS SHOWN	S-8
PROJECT NO. 10827.37	SHEET NO. 8 OF 9
REV.	

Dwg. Name: 1082737-D01.DWG Plotted: 2/22/2024 8:29 AM

SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS.
2. ALL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE MAINTAINED IN GOOD WORKING ORDER WITH PERIODIC INSPECTIONS AND REPAIR IF NECESSARY. DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGETATIVE COVER.
3. ANY TEMPORARY STRUCTURES SHALL BE REMOVED WHEN THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
4. IF THE COUNTY SEDIMENT CONTROL INSPECTOR FINDS THAT ADDITIONAL SEDIMENT CONTROL MEASURES ARE NECESSARY, HE MAY DIRECT THE CONTRACTOR TO EITHER INSTALL THE ADDITIONAL MEASURES, OR SUBMIT A REVISED GRADING PLAN TO THE FCSD FOR APPROVAL.
5. ALL DISTURBED AREAS SHALL BE STABILIZED BY GRASS, GRAVEL, PAVEMENT, CROWN VETCH, OR OTHER APPROVED MEANS AS SOON AS POSSIBLE UPON COMPLETION OF EXCAVATION.
6. THE FREDERICK COUNTY SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD TO, DELETE, OR MODIFY ANY OR ALL SEDIMENT CONTROL MEASURES AS SHOWN HEREON AS NEEDED TO ESTABLISH PROPER SOIL STABILIZATION AND EROSION AND SEDIMENT CONTROL ANYTIME THROUGHOUT THE LIFE OF THE PROJECT.
7. REFERENCE IS HEREBY MADE TO THE "STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS", USDA–USC, 1994 FOR STANDARDS AND REQUIREMENTS.
8. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AS APPROVED BY THE FREDERICK COUNTY SOIL CONSERVATION DISTRICT.
9. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. SEVEN (7) 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; AND
   B. FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
10. APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR IS NEEDED TO REMOVE SEDIMENT CONTROL STRUCTURES.
11. ALL SOIL STOCKPILES SHALL BE TEMPORARILY SEEDED AND SILT FENCE PLACED AROUND THE BASE. THE STOCKPILES SHOULD BE PLACED WITHIN THE LIMITS OF THE DISTURBED AREAS.
12. ALL UTILITIES, SUCH AS STORM DRAIN, PUBLIC WATER, SANITARY SEWER, ELECTRIC POWER, TELEPHONE, CABLE, AND GAS LINES THAT ARE NOT IN PAVED AREAS ARE NOT UNDERGOING ACTIVE GRADING SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 3 DAYS OF INITIAL DISTURBANCE.

FOR UTILITY WORK ONLY OR FOR OFF–SITE UTILITY WORK

1. PLACE ALL EXCAVATED MATERIAL ON THE HIGH SIDE OF THE TRENCH, SILT FENCE ON THE LOW SIDE.
2. ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, SEEDING AND MULCHING CAN OCCUR.
3. ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED ON THE SAME DAY.

STOCKPILE NOTES

1. NO STOCKPILING ALLOWED ON ASPHALT.
2. ALL STOCKPILES LEFT AT THE END OF THE DAY NEED TO BE STABILIZED UNTIL THE NEXT REDISTURBANCE.

VEGETATIVE SPECIFICATIONS AND NOTES

1. DISTURB AS SMALL OF THE PRESENT COVER AS POSSIBLE WHILE PERFORMING GRADING.
2. ESTABLISH PERMANENT VEGETATIVE COVER IMMEDIATELY AFTER FINAL GRADING IS COMPLETED. (THIS INCLUDES ALL GRADING ON OR OFF THE SITE THAT IS AFFECTED BY THIS CONSTRUCTION). IF FINA;L GRADING IS COMPLETED AT A TIME OTHER THAN THE SEEDING SEASON, A TEMPORARY GROUND COVER SUCH AS MULCHING WILL BE USED TO STABILIZE THE BARE SOIL.
3. TEMPORARY SEEDING REQUIREMENTS:

   SEED: BALBOA RYE AT 150 LBS/AC.
   MULCH: STRAW AT 1.5 TON/AC.
   ASPHALT: SS–1 OR EQUIVALENT, 150 GAL./AC.

4. PERMANENT SEEDING AND SODDING REQUIREMENTS: SEE SPECIFICATIONS.

CHECKLIST FOR REQUIRED INSPECTIONS

YOU MUST NOTIFY THE ENVIRONMENTAL PRESERVATION BRANCH AT 301–694–1132 BEFORE 9 A.M. TWENTY–FOUR HOURS BEFORE THE REQUIRED INSPECTION. FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN THE FREDERICK COUNTY CODES.

NOTICE
THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THIS OFFICE RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

TYPE OF INSPECTION	INITIALS
1) PRECONSTRUCTION MEETING	
2) COMPLETION OF SEDIMENT CONTROL MEASURES	
3) PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL	

SEQUENCE OF CONSTRUCTION

1. NOTIFY SEDIMENT CONTROL INSPECTOR 24 HOURS PRIOR TO START OF CONSTRUCTION. CALL 301–748–7263 & 301–600–3507 TO CONTACT FREDERICK COUNTY EC FOR PRECONSTRUCTION MEETING.
2. PERFORM CLEARING AND GRUBBING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS.
3. INSTALL FILTER LOG AND SCE PER PLAN AND DETAILS. NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL BEFORE PROCEEDING FURTHER.
4. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY, THE DISTURBED AREA SHALL BE TEMPORARILY SEEDED.
5. INSTALL ALL IMPROVEMENTS, INCLUDING SEDIMENT FOREBAYS, UNDERDRAIN, RIP–RAP, AND ENDWALLS, PER THE CONSTRUCTION PLANS.
6. COMPLETE FINAL GRADING, PERMANENT STABILIZATION, NAG C125 LINING, AND LANDSCAPING.
7. NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL TO REMOVE SEDIMENT AND EROSION CONTROL DEVICES.

REVISED UTILITY NOTE FOR SECONDARY UTILITY WORK

1. ALL DISTURBANCES FROM SECONDARY UTILITY'S SUCH AS PHONE, CABLE, ELECTRIC CABLE, TV CABLE, ETC., WILL BE CONTRACTORS RESPONSIBILITY TO BRING WORK AREA BACK TO GRADE LEVEL THAT WAS EXISTING AND SEED AND MULCH ANY DISTURBANCES FROM INSTALLATION OF LINES OR CONDUIT.
2. CONTRACTOR WILL BE RESPONSIBLE FOR RE–INSTALLING OR REPAIRING ANY SILT LOG OR SEDIMENT CONTROLS THAT WERE EXISTING TO MAINTAIN PROPER SEDIMENT CONTROL THAT MIGHT HAVE BEEN DAMAGED.

SOIL STOCKPILE NOTES:

CRITERIA

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B–3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON–EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL. AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B–4–1 INCREMENTAL STABILIZATION AND STANDARD B–4–4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE

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

BMP INSPECTION & MAINTENANCE

INSPECTION:

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
- DURING EXCAVATION TO SUBGRADE.
- DURING PLACEMENT OF BACKFILL AND OBSERVATION WELL.
- DURING PLACEMENT OF FILTER FABRIC, SOIL, AND GRAVEL MEDIA.
- DURING CONSTRUCTION OF APPURTENANT CONVEYANCE STRUCTURES.
- UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

MAINTENANCE:

1. DURING THE FIRST YEAR OF OPERATION, INSPECT AFTER MAJOR STORMS AND REVEGETATE POORLY ESTABLISHED AREAS.
2. SEDIMENT ACCUMULATION ON THE SURFACE SHALL BE REMOVED AND TOP TWO TO THREE INCHES OF SURFACE LAYER REPLACED AS NEEDED.
3. THE TOP FEW INCHES OF THE PLANTING SOIL SHALL BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN 48 HOURS OR THERE IS ALGAL GROWTH ON THE SURFACE.
4. IF STANDING WATER PERSISTS AFTER FILTER MEDIA HAS BEEN MAINTAINED, THE GRAVEL, SOIL, AND SAND MAY NEED TO BE CLEANED AND/OR REPLACED.
5. OCCASIONALLY PRUNE AND REPLACE DEAD VEGETATION. IF PLANTS ARE NOT SURVIVING RE–PLANT WITH APPROPRIATE SPECIES. WATER AS NEEDED DURING PROLONGED DRY PERIODS.
6. MOW AS NEEDED DURING GROWING SEASON TO MAINTAIN HEIGHTS OF AROUND 4–6 INCHES.
7. SEDIMENT SHALL BE REMOVED FROM THE FOREBAYS' WHEN FILLED UP TO 50% CAPACITY. SEDIMENT SHALL BE REMOVED FROM THE CHANNEL WHEN IT REACHES 25% CAPACITY.

PERMANENT SEEDING & SODDING

GENERAL

1. SCOPE: PLANTING PERMANENT, LONG–LIVED VEGETATIVE COVER ON GRADED OR CLEARED AREAS.
2. STANDARDS: PERMANENT SEEDING SHALL CONFORM TO ALL REQUIREMENTS OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND STATE SOIL CONSERVATION COMMITTEE.

SPECIFICATIONS

1. SITE PREPARATION
   A) PRIOR TO SEEDING INSTALL ALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES.
   B) FINE GRADING REQUIRED FOR PERMANENT SEEDING.
2. SOIL AMENDMENTS
   A) FERTILIZER SHALL BE APPLIED AT THE RATE OF 1000 LBS/ACRE USING 10–10–10 OR EQUIVALENT.
3. SEEDBED PREPARATION
   A) SOIL SHALL BE LOOSENED TO A DEPTH OF 3" BY RAKING, DICING, OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
   B) APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER ON A FIRM, MOIST SEEDBED). MAXIMUM SEEDING DEPTH SHOULD BE 1/4" ON CLAYEY SOILS AND 1/2 INCH ON SANDY SOILS. WHEN USING OTHER THAN HYDROSEEDER METHOD OF APPLICATION. NOTE: IF HYDROSEEDING IS USED AND THE SEED FERTILIZER IS MIXED, THEY WILL BE MIXED ON SITE AND THE SEEDING SHALL BE IMMEDIATE WITHOUT INTERRUPTION.

PERMANENT STABILIZATION WITH SOD

1. ALL SPECIFICATIONS, SITE PREPARATION, INSTALLATION AND MAINTENANCE OF SOD FOR PERMANENT, LONG–LIVED VEGETATIVE COVER SHALL CONFORM TO SECTION G–20 OF "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.

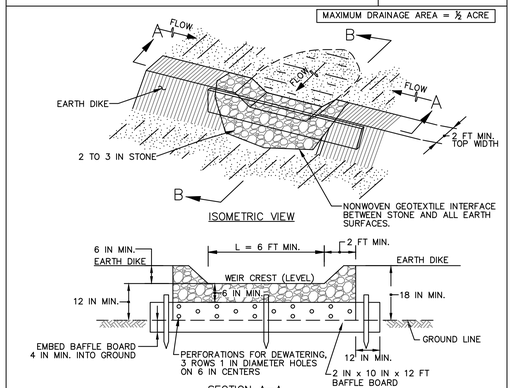
PERMANENT SEEDING SUMMARY

SEED MIXTURE (FOR HARDINESS ZONE 6B) (FROM TABLE 25)					FERTILIZER RATE (10–20–20)			LIME RATE	UREA–FORM (46–0–0)
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20		
3	TALL FESCUE	125	3/1 TO 5/15 8/15 TO 10/15	1"–2"	90 lb/ac (2.0 lb/ 1000 sf)	175 lb/ac (4.0 lb/ 1000 sf)	175 lb/ac (4.0 lb/ 1000 sf)	2 tons/ac (100 lb/ 1000 sf)	150 lb/ac
3	PERENNIAL RYEGRASS	15	3/1 TO 5/15 8/15 TO 10/15	1"–2"					
3	KENTUCKY BLUEGRASS	10	3/1 TO 5/15 8/15 TO 10/15	1"–2"					

TEMPORARY SEEDING WITH ANNUAL RYEGRASS, MILLET, OATS, AND/OR RYE CONFORMING TO SCS, 1994 MANUAL.

NATIVE DETENTION AREA MIX SEEDING SUMMARY

SEED MIXTURE (FOR HARDINESS ZONE 6B) (FROM TABLE 25)					FERTILIZER RATE (10–20–20)			LIME RATE	UREA–FORM (46–0–0)
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20		
–	ERNMX–183 DEERTONGUE 47% VIRGINIA WILDRYE 25% FOX SEDGE 20% AUTUMN BENTGRASS 5% TICKLEGRASS 2% PATH RUSH 1%	22	3/1 TO 5/15 8/15 TO 10/15	1"–2"	NONE	NONE	NONE	NONE	NONE



DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

STANDARD SYMBOL: TSOS

1 OF 2

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

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

STANDARD SYMBOL: TSOS

CONSTRUCTION SPECIFICATIONS

1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
2. USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.
3. PERFORATE BAFFLE BOARD WITH 3 ROWS OF 1 INCH DIAMETER HOLES 6 INCHES ON CENTER, EMBED A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BAFFEL BOARD MINIMUM OF 12 INCHES INTO EARTH DIKE.
4. USE CLEAN 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOFILAMENT GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6 INCHES OF ADDITIONAL STONE.
5. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.
6. SET WEIR CREST OF STONE 6 INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 6 FEET FOR WEIR CREST.
7. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN. MAINTAIN LINE, GRADE, AND CROSS SECTION.
8. UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

2 OF 2

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

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By:_____
District Manager or Designee

Date:_____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

NO	REVISION	DATE	BY	APP.
NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE
RELEASED BY

DESIGN	CHECKED
BCU	
DRAWN	CHECKED
CADD	
DATE	SURVEY DATE
JANUARY 2023	DECEMBER 2022
	FIELD BOOK WEBER SURVEYORS

SEAL: STATE OF MARYLAND · EDWARD JOSEPH VAN ARSDALE · No. 38561 · PROFESSIONAL ENGINEER · 1/4/24

SEAL

PROFESSIONAL CERTIFICATION. I, EDWARD JOSEPH VAN ARSDALE, III, P.E. 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. 38561 Expiration Date: 3/31/2024

CLIENT & PROJECT

TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRO
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE: DEERFIELD BMP RETROFIT EROSION AND SEDIMENT CONTROL NOTES

SCALE	DWG. NO.
AS SHOWN	S–9
PROJECT NO. 10827.37	SHEET NO. 9 OF 9
REV.	

Dwg. Name: 1082737–D01.DWG Plotted: 2/22/2024 8:29 AM