GENERAL NO IES-ROADS	
1. Construction shall be performed in accordance with latest editions of the following, including all addenda, supplements or updates: a. Design Manual - Volume One - Roads and Storm Drains, 1994 edition, of the Carroll	
County Department of Public Works. b. Design Guide for Flexible Pavement, 2004, of the Carroll County Department of Public Works.	
c. <u>Book of Standards, Highway and Incidental Structures</u> of the Maryland Department of Transportation, State Highway Administration. d. Standard Specifications for Construction and Materials, 2008 edition, of the Maryland	
Department of Transportation, State Highway Administration. e. <u>Maryland Manual on Uniform Traffic Control Devices</u> (MdMUTCD) 2009 Edition of the Map land Department of Transportation, State Highway, Administration	
f. <u>Maryland Schadards and Specifications for Soil Erosion and Sediment Control</u> , 1994 edition, published jointly by Water Resources Administration, Soil Conservation Service and State Soil Conservation Committee	
All of the above noted publications are included by reference as part of these construction plans.	
 The Contractor shall notify the Carroll County Department of Public Works, Construction Inspection Division (410-386-2157) a minimum of three (3) working days before beginning work. 	
3. Contractor shall furnish, place and maintain traffic control measures as shown in these plans and as specified in the MdMUTCD. Contractor shall immediately remove and replace devices which are damaged, do not function properly, or are determined by Construction Inspector to be unsuitable	
for their purpose. Traffic control devices may be removed only upon approval of Construction Inspector.	5th ELE
4. Locations of existing utilities are shown only as notification to Contractor of the presence of underground utilities. Carroll County and the design engineer do not warrant or guarantee correctness or completeness of information shown. Contractor is responsible for contacting Miss Utility at 1-800-257-7777 for verifying existence and location of all utilities prior to beginning work. Any damage to existing utilities due to Contractors operation shall be repaired immediately	
at Contractors expense. 5. Developer is responsible in all regards for relocation of any existing utilities.	
6. In case of discrepancy between scaled and figured dimensions, figured dimensions shall govern.	
7. If for any reason proposed facilities cannot be constructed in accordance with approved plans, Contractor must immediately inform Construction Inspector or Construction Inspection Division (410-386-2157) and shall not begin or continue work on those items. If the Department of Public Works determines plan revisions are necessary, no work shall be performed on the item(s) in question until revised plans issued by the design engineer are approved and issued for construction by the Bureau of Development Review.	
8. Failure to mention specifically the provision of any item(s), or performance of any work or procedure which would normally be required to complete the project, shall not relieve the	
Contractor of his responsibility to provide such item(s) or to perform such work or procedure. 9. Construct earth fills for roads, embankments, and structures in accordance with Section 204	
EMBANKMENT AND SUBGRADE of the MD SHA Standard Specifications for Construction and Materials. Compact the material that is 1 foot below the top of subgrade to at least 92.0% of maximum dry density using AASHTO T-180 method. Compaction of top one foot of fill shall not	13 30 0
be less than 97.0% of maximum dry density using the same method.	ш N 636125
A certified technician must be onsite at all times during fill operations. Compaction testing. A certified by a Professional Engineer registered in the State of Maryland. Copies of soil compaction	
test results must be provided to, and approved by, the Construction Inspection Division prior to placement of curbs and/or base aggregate. Copies of base aggregate compaction test results must be provided to, and approved by, the Construction Inspection Division prior to placement of base	
hot mix asphalt. 11. Inlet grates in sumps shall be constructed level at elevation given in structure schedule. Inlets on	
grade shall be adjusted so that slope of grate matches finished flow line of curb. Top elevation shall apply to centerline of grate at flow line of curb. Cross slope of the grate shall match the road cross slope.	
12. Pipe elevations shown on storm drain profiles are invert elevations unless otherwise noted.	
13. Where ditch or waterway stabilization matting of any type is specified, installation shall be in accordance with manufacturers recommendations. Matting shall be placed on bottom and side	
siopes to provide either 1.09 stabilized depth, unless otherwise indicated on plans. 14. All existing paving disturbed by utility cuts shall be replaced in accordance with Carroll County	
Standard Plate 47, Option 1 or Option 3 in the Design Manual, Volume 1 or as noted in the Utility Permit.	
15. Once begun, road construction shall be continued until full depth of aggregate base and paving as shown on the typical section are placed, including the finished surface course. Aggregate base course and hot mix asphalt base course shall not remain uncovered for more than five working days.	
16. Off-site borrow material to be imported for embankment construction and support of pavement is to meet the minimum subgrade soil specifications in Table 3 of the Design Guide for Flexible Pavements, CBR testing of off-site borrow material shall be completed and the test results	
submitted to and approved by the Bureau of Development Review prior to delivery of the material. The paving design sections shown on the approved plans shall be reviewed and evaluated using the	
CDK testing results of the borrow material. Any changes to the pavement design sections based on the CBR test results shall be incorporated through the red-line revision process.	
17. The design Equivalent Single Axle Loads (ESAL) and the design CBR value shall be noted on the construction plans.	
18. Permanent signage and striping shall be furnished and installed by the Carroll County Bureau of Roads Operations. Contractor shall notify the Bureau of Roads Operations at 410-386-6717 a minimum of three (3) weeks prior to starting work and then again 48 hours prior to completion of	
work. 19 Construction vehicles contractor or private or construction materials or optiment shall not be	3300 25
parked, placed, or stored within any public right-of-way.	
20. Topography shown hereon is a combination of Carroll County GIS topography and field run topography, Dated August 2020, and prepared by CLSI.	
21. Lots 1-4 contain private Stormwater Management Facilities. A "Stormwater Management Easement and Maintenance Agreement" is to be granted to the County Commissioners of Carroll County as an easement of access to the County Commissioners or authorized representatives by a deed intended	
to be recorded simultaneously herewith. 22. The standard street name sign must be installed for UIC driveways serving 3 or more lots by the	THIS SITE IS LOCATED WIT
Department of Public Works at the expense of the owner/ developer. The owner/ developer must contact Carroll County Roads at 410-386-6717 to request installation of the street sign.	AREA. IF HAZARDOUS OR TRANSFERRED OR STORE
	COUNTY WATER RESOURCE
	THERE ARE NO TIER II WAT "MARYLAND'S TIER II HIGH
	ENGINEER
ENGINEER'S "AS-BUILT" CERTIFICATION	I CERTIFY THAT THIS PLAN OF SEDIM
we hereby centry that the facility/facilities shown on this/these plan(s) was constructed as shown on the "As-Built" plans and meets the approved plans and specifications. I also certify that this/these facilities were inspected in accordance with Sections 151.095 and 151.096 of the Code of Public Local Laws and Ordinances of Carroll County and I hereby certify that these	WITH MY PERSONAL KNOWLEDGE (HAS BEEN DEGIGNED TO THE STANK
aocuments were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the state of Maryland. SIGNED DATE	ADOPTED BY THE CARROLL SOIL CO
LICENSE NO EXPIRATION DATE	
ENGINEER'S DESIGN CERTIFICATION	m nal
I hereby certify that these plans have been designed according to Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County and I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional	BA
engineer under the laws of the state of Maryland.	Braton D. Moore Professional Engineer Registration No. 512
SIGNED OATE OIZ 1/2023 LICENSE NO. 51285 EXPIRATION DATE 12/7/2025	
BENCHMARKS:	DEVELOPER'S/LANDOW
B.M.#1 N 634454.08, E 1333298.75, ELEV. 560.164' C.C. MONUMENT BENNETT AZI	plans. I/We also understand that it is my/ou "As-Built" plans certified by a Registered Pi days of completion of work on the stormwa management facility/facilities will be inspecte Surveyor, as appropriate, in accordance wi Carroll County
B.M.#2 N 634978.0186, E 1334065.2031, ELEV. 574.18	
CLSI PT # LCRF15 STONE FOUND	SIGNED:
1	

BYRON HILLS





PIPE OUTLET SEDIMENT TRAP ST-	I, TRAP NO.	1
DRAINAGE AREA - INITIAL	3.4	ACRES
DRAINAGE AREA - INTERIM	3.4	ACRES
DRAINAGE AREA - FINAL	3.4	ACRES
TOTAL STORAGE REQUIRED	1 1,880	CF
TOTAL STORAGE PROVIDED	13,380	CF
WET STORAGE REQUIRED	5,940	CF
WET STORAGE PROVIDED	6,147	CF
DRY STORAGE REQUIRED	5,940	CF
DRY STORAGE PROVIDED	7,233	CF
TRAP BOTTOM ELEVATION	557.75	FT
TRAP BOTTOM DIMENSIONS	VARIES	FT × FT
RISER CREST (DRY STORAGE) ELEVATION	559.50	FT
OUTLET (WET STORAGE) ELEVATION	56 1.00	FT
CLEANOUT ELEVATION	558.75	FT
TOP OF EMBANKMENT ELEVATION	56 1.00	FT
SIDE SLOPE	3: 1	H:V RATIO
EMBANKMENT TOP WIDTH	6	FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER)	CONCRETE	
RISER DIAMETER	43.5 × 78.5	IN
BARREL DIAMETER	15	IN
TRASH RACK DIAMETER	44 × 79	IN
TRASH RACK HEIGHT	22	IN
ANTI-SEEP COLLAR DIMENSIONS	N/A	FT
OUTLET PROTECTION - LENGTH	N/A	FT
OUTLET PROTECTION - WIDTH	N/A	FT
OUTLET PROTECTION - DEPTH	N/A	IN

LEGEND

SEDIMENT CONTROL DRAINAGE AREA PROPERTY BOUNDARY EXISTING TREELINE PROPOSED STORM DRAIN **F S**IP STANDARD INLET PROTECTION TYPE 'B' MEDIAN SUMP INLET PROTECTION MSIP LIMIT OF DISTURBANCE STABILIZED CONSTRUCTION ENTRANCE SCE





RIP-RAP INFLOW PROTECTION

MOUTABLE BERM

NOTE: ALL STANDARD INLET PROTECTION FOR THIS PROJECT TO BE TYPE 'B' UNLESS OTHERWISE NOTED.



County File No. FX-22-0003

SEDIMENT CONTROL PLAN BYRON HILLS STH ELECTION DISTRICT * CARROLL COUNTY, MARYLAND BLOCK: 2 PARCEL: 355 NOT FOR CONSTRUCTION MORE MARYLAND

www.clsi-civileng.com ^{(g} & Enviro ONAL 439 East Main Street Westminster, MD 21157-5539 (410) 848-1790 FAX (410) 848-1791 16/27/2025 Braton D. Moore, P.E. PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285, EXPIRATION DATE: DECEMBER 7, 2025 Drawn By: MM, JW, BH Revisions ADDRESS COMMENTS Designed By: Reviewed By: ADDRESS COMMENTS ADDRESS COMMENTS Date: JAN., 2023 ADDED CURB AND GUTTER ALONG OKLAHOMA RD Scale: 1"=30' ADDRESS COMMENTS Job No.: 2013044 Sheet: 2 OF 19

SEDIMENT & EROSION CONTROL NOTES

- 1. All erosion/sediment control measures shall comply with the "Maryland Standards and Specifications for Soil Erosion and Sediment Control" by the Maryland Department of the Environment, Water Management Administration in association with the Natural Resources Conservation Service and Maryland Association of Soil Conservation Districts (referenced as the 2011 Standards and Spec's).
- 2. Areas that have been cleared and/or graded, but will not be constructed on or permanently vegetated for more then 5 days (3 days for sediment control measures (steep slopes) must be stabilized with mulch or temporary stabilization. Any areas that are in temporary vegetation for over 6 months will need to be permanently vegetated.
- 3. For specifications on permanent or temporary stabilization see B-4-4 and B-4-5.
- 4. Mulching can only be used on disturbed areas as a temporary cover where vegetation Is not feasible or where seeding germination cannot be completed because of weather conditions. For specifications see B-4-3, A.1.B.
- 5. For specifications on the stabilization of cut and fill slopes greater than 3 horizontal to 1 vertical, see Incremental Stabilization B-4-1.
- 6. The existing topsoil from on or off site that is used must meet the minimum
- specifications in B-4-2. 7. The required sequence of construction must be followed during site development. Any change in the sequence of construction must be approved by the Soil
- Conservation District. 8. Any revisions to the sediment control plan, not covered under the list of plan modifications that can be approved by the sediment control inspector, need to be submitted to the Soil Conservation District for approval.
- 9. No proposed slope that is seeded and/or mulched shall be greater than 2:1. Slopes greater that 2:1 shall require an engineered design for stabilization.
- 10. All sediment control structures will be inspected once a week and after each rainfall and will be repaired, as needed, so that the structure meets the minimum
- specifications as shown in the 2011 Standards and Spec's. 11. The contractor is responsible for maintaining all sediment and erosion control
- measures until the disturbed areas are permanently stabilized. 12. The district approval for this sediment control plan is good for 2 years. At the end of 2 years, if construction of the plan has not started, the plan will need to be
- resubmitted to the soil conservation district for review and re-approval. Any plans that are currently under construction after 2 years may be required to be re-submitted to the soil conservation district by the sediment control inspector.

DUST CONTROL SCHEDULE

May-October - All graded areas not being immediately stabilized as noted in the "Required Sequence of Construction" shall be watered on a continuing basis as necessary to provide for dust proofing. Contractor shall provide tank truck with spray bar

on site at any time the disturbed area exceeds three (3) acres.

REQUIRED SEQUENCE OF CONSTRUCTION

- 1. NOTIFY THE CARROLL COUNTY BUREAU OF SEDIMENT CONTROL (410-386-2210) 24 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. ALL PROTECTION FENCING AND PERMANENT SIGNS REQUIRED UNDER THE CARROLL COUNTY CODE OF PUBLIC LAWS AND ORDINANCES, FOREST CONSERVATION (CHAPTER 150) AND WATER RESOURCE MANAGEMENT (CHAPTER 154) SHALL BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE CARROLL COUNTY SEDIMENT INSPECTOR.
- 2. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE PER PLAN. 3. INSTALL ALL SILT FENCE PER PLAN.
- 4. EXCAVATE SEDIMENT TRAP # 1.
- 5. CONSTRUCT STORM DRAIN M-3 TO EX I-25 AND POND OUTFALL FROM R-1 TO M-3. CONSTRUCT CONCRETE CRADLE FROM R-1 TO M-4. 6. CONSTRUCT EMBANKMENT, BACKFILL AND COMPACTION OF EMBANKMENT MUST CONFORM TO COMPACTION NOTES ON SHEET 9. SIMULTANEOUSLY WITH EMBANKMENT, INSTALL RISER R-1. SEE SHEET 11 FOR RISER DETAILS
- CONSTRUCTION OF EMBANMKMENT, RISER, BARREL, AND CRADLE MUST BE INSPECTED BY CERTIFYING PROFESSIONAL ENGINEER OR APPROVED REPRESENTATIVE. 7. CONSTRUCT MOUNTABLE BERM, AND ALL EARTH DIKES AND RIP-RAP INFLOWS. 8. GRADE SITE. INSTALL WATER, SEWER AND STORM DRAINS.
- 9. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE MOUNTABLE BERM.
- 10. GRADE AND PAVE USE-IN-COMMON DRIVEWAY. INSTALL WIDE SHOULDERS PER DETAILS ON SHEET 13 AND SEQUENCE OF CONSTRUCTION ON SHEET 9.
- 1 1. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR CONVERT
- SEDIMENT TRAP NO. 1 INTO THE EXTENDED DETENTION BASIN. SEE CONSTRUCTION SEQUENCE AND INSPECTION CHART ON SHEET 10
- 12. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL MEASURES. FINAL STABILIZE ALL DISTURBED AREAS
- 13. CONSTRUCT INDIVIDUAL HOUSES AND DRYWELLS. WIDE SHOULDERS (LOTS 1 \pounds 3) AND GRASS SWALES (LOTS 1 AND 4) ON LOTS TO BE INSTALLED PER DETAILS ON SHEETS 9 AND 13 AND SEQUENCES OF CONSTRUCTION ON SHEET 9 INDIVIDUAL LOTS TO BE CONSTRUCTED.

SITE ANALYSIS

- 1. TOTAL AREA OF SITE: 3.9427 AC.
- 2. AREA DISTURBED: 198,049 S.F.
- 3. TOTAL CUT: 33869 C.Y.
- 4. TOTAL FILL: 225 C.Y.

NOTE: EARTHWORK CUT AND FILL QUANTITIES INDICATED ON THIS PLAN ARE SHOWN FOR PURPOSES OF OBTAINING SEDIMENT CONTROL PLAN APPROVAL AND NOT TO BE USED FOR CONTRACTUAL OBLIGATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY QUANTITIES.

NOTE:

ALL SEDIMENT CONTROL MEASURES SHOWN HEREON ARE TEMPORARY UNLESS OTHERWISE NOTED.

NOTE:

ALL STOCKPILE AREAS SHALL BE CONFINED WITHIN PERIMETER CONTROLS. IN THE EVENT THAT STOCKPILE AREAS MUST BE LOCATED OUTSIDE OF DISTURBED AREAS, THE LOCATION SHALL BE AS DIRECTED BY THE INSPECTOR IN THE FIELD.

STABILIZATION SPECIFICATIONS TEMPORARY SEEDING NOTES

<u>Scope:</u> Planting short term (no more than 6 Months) vegetation to temporarily stabilize any areas where soil disturbance has occurred, until the area can be permanently stabilized with vegetative or non-vegetative practices.

Standards: The following notes shall conform to Section B-4 of the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts.

- 1. The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and incorporating the lime and fertilizer into this loosened layer of soil. See section B-4-2. 2. For temporary stabilization, fertilizer shall consist of a mixture of 10-20-20 and be applied at a rate of 436 lb. per acre (10 lb. per 1000 sq. ft.) and will meet the
- requirements in section B-4-2. Lime shall be applied at a rate of 2 tons per acre (90 lb. per sq. ft.) and shall meet the requirements in section B-4-2 and B-4-4. 3. Seed type and application shall meet the requirements in section B-4-3 Seed tags shall
- be made available to the inspector to verify the type and rate of seed used. Mulch type and its application will meet the requirements in section B-4-3 a, b and c and will be applied along with the seed or immediately after seeding
- 4. Seeding mixtures shall be selected from or will be equal to those on Table B. 1 (page B. 20). Temporary Seeding Summary

The seeding chart below will need to be placed on and filled in on the sediment control plan.

	Hardiness Zo Seed Mixture	ne (from Figure E e (from Table B. 1	3. 3): 6B 1):		Fertil
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	(10.
1	Annual Ryegrass (Lolium perenne ssp. multiflorum)	40 lb/ac	3/15 - 5/31 8/1- 9/30	0.5"	
2	Foxtail Millett (Setaria italica)	30 lb/ac	5/16-7/31	0.5"	436 b/ 1

PERMANENT SEEDING NOTES

Scope: Planting permanent, long lived vegetative cover on graded and/or cleared areas and areas that have been in temporary vegetation for more than 6 months.

Standards: The following notes shall conform to Section B-4 of the "2011 MARYLAND

STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts.

The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and incorporating the lime and fertilizer into this loosened layer of soil. See section B-4-2.

For sites over 5 ac. soil tests will be performed. Soil tests will be conducted by the University of Maryland or a recognized commercial laboratory. Minimum soil conditions shall meet the requirements of section B-4-2-A-2-a, otherwise soil amendments or topsoil will need to be applied. Topsoiling may occur when soil conditions meet the minimum requirements as stated in section B-4-2-B. Soil amendments must meet the requirements as set forth in section B-4-2-C and must be applied as indicated by the solls tests.

For sites of 5 ac. or less of disturbance, the following fertilizer and lime rates shall apply. Fertilizer shall consist of a mixture of 10-20-20 and be applied at the following rates:

N = 45 lb. per acre (1 lb. per 1000 sq.ft.) P205 = 90 lb. per acre (2 lb. per 1000 sq.ft.) K20 = 90 lb. per acre (2 lb. per 1000 sq.ft.) Lime shall be applied at a rate of 2 tons per acre (90 lb. per 1000 sq.ft.)

Seed type, turfgrass or sod application shall meet the requirements in section B-4-5. Seed tags shall be made available to the inspector to verify the type and application rate of seed used. Mulch type and its application will meet the requirements in section B-4-3 a, b and c, and will be applied along with seed or immediately after seeding.

Seeding mixtures shall be selected from or will be equal to those on Table B-3. The seeding chart below will need to be placed on and filled in on the sediment control plan.

	Hardiness Zone (fi Seed Mixture (fro	rom Figure B. 3): m Table B. 3):	6B			Fertilizer Rate (10-20-20)		Lime
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K ₂ O	Rate
*9	Improved Tall Fescue (Lolium arundinaceum)	60 lb/ac	3/1-5/15 8/1-10/15	1/4 - 1/2 In	4.5 nounds	90 lb/ac		2 tons/ac
	Improved Kentucky Bluegrass	40 lb/ac	3/1-5/15 8/1-10/15	1/4 - 1/2 in	per acre (1.0 b / 1000 sf)	(2.0 lb / 1000 sf)	(2.0 lb / 1000 sf)	(90 10/00 sf)
	Improved Perenial Ryegrass	20 lb/ac	3/1-5/15 8/1-10/15	1/4 - 1/2 in	,	,	,	,
* 1	Switch Grass (Panicum virgatum)	10 lb/ac	3/1 - 5/15 5/16 - 6/15	1/4 - 1/2 in	15 nounda	90 lb/cc		2 tors/as
	Creeping Red Fescue (Festuca rubra)	15 lb/ac	3/1 - 5/15 5/16 - 6/15	1/4 - 1/2 in	per acre (1.0	(2.0 b / 1000 sf)	(2.0 b / 1000 sf)	(90 1000 sf)
	Partridge Pea (Chamaecrista fascicuata)	4 lb/ac	3/1 - 5/15 5/16 - 6/15	1/4 - 1/2 in]			

*9 -use 1 variety on the MD/VA recommended list (TT-77)

*1 -use 2-4 varieties on the MD/VA recommended list (TT-77)

Tracking note:

On areas where the slope is 3:1 or steeper and the height is 8' or greater, contractor shall track the slope using cleated dozer prior to placing asphalt binder. Dozer shall run up-and-down so that cleat marks are horizontal. Where tracking is required, it shall be done from existing grade level to finished grade level within the limits established by the $\mathcal B'$ height criteria.

UTILITY CONSTRUCTION NOTES

- 1. Place all excavated material on the high side of the trench.
- 2. Only do as much work as can be done in one day so backfilling, final grading, and permanent stabilization can occur.
- 3. Any sediment control measures disturbed by the utility construction will be repaired the same day.

STOCKPILE/TOPSOIL NOTES

- 1. Stockpiling will not be allowed on any impervious area.
- 2. All stockpiles left at the end of the day will need to be temporarily stabilized until they are again disturbed, unless they are within existing perimeter sediment controls.
- 3. All stockpile areas shall be confined within perimeter controls. In the event that stockpile areas must be located outside disturbed areas, the location shall be as directed by the inspector in the field.





County File No. FX-22-0003

OWNER/ DEVELOPER

BURKARD HOMES, LLC.















N 635200

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38-

- EX. DRAINAGE & UTILITY EASEMEN⁻ P.B. 37 PAGE 144

586

N 634700

CHRISTOPHER & LAURA GROCHMAL 2030 ADVISORY COURT

SYKESVILLE, MD 21784 L. 09307, F. 00146

566

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE CURRUGATED, SMOOTH INTERIOR, HIGH-DENSITY POLYETHYLENE PIPE (HDPE), NOTED AS 'D'. AASHTO M-294, ASTM F-2306. ALL PIPE, FITTINGS, AND CONSTRUCTION TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.





4. THESE GEOTEXTILES ARE AVAILABLE IN FINKSBURG @ ES & G DISTRIBUTORS 2601 EMORY RD, BLDG 8, 866-744-5001, ANY EQUIVALENT GEOTEXTILE IS ACCEPTABLE

STAGE	CERTIFYING PROFESSIONAL'S APPROVAL		
		DATE	INSPECTING AGENT
1. TRAVEL LANE(S) AND WIDE SHOULDER(S) GRADED PER PLAN.			CLSI
2. SUBGRADE DRAIN(S) AND OUTFALL(S) CONSTRUCTED PER PLAN			CLSI
3. GRADED AGGREGATE BASE EXTENDED OVER SUBGRADE DRAIN PER PLAN			CLSI
4. TRAVEL LANES CONSTRUCTED			CLSI
5. FINE GRADING, TOPSOILING, SEEDING AND MULCHING OF WIDE SHOULDERS AND SUPPORTING SLOPES. FINISH WIDE SHOULDER ELEVATION 2 1/2 INCHES BELOW EDGE OF TRAVEL LANE.			CLSI
6. ALL UTILITIES AND DRIVEWAYS ALONG TRAVEL LANES COMPLETED. ANY DAMAGED AREAS REPAIRED AND 2 INCH STAND OF DENSE GRASS ESTABLISHED OVER ALL DISTURBED AREAS.			CLSI
7. SIGNED AND CERTIFIED AS-BUILT SUBMITTED TO C.C. BUREAU OF RESOURCE MANAGEMENT WITHIN 30 DAYS OF STEP 6.			CLSI

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION* ENGINEER'S NAME: CLSI

PHONE NUMBER: (410) 848-1790

SWM SEQUENCE OF CONSTRUCTION AND INSPECTION CHART FOR LOT 1 WIDE SHOULDER

STAGE	CERTIFYING PROFESSIONAL' APPROVAL		
	INITIALS	DATE	INSPECTING AGENT
1. TRAVEL LANE(S) AND WIDE SHOULDER(S) GRADED PER PLAN.			CLSI
2. SUBGRADE DRAIN(S) AND OUTFALL(S) CONSTRUCTED PER PLAN			CLSI
3. GRADED AGGREGATE BASE EXTENDED OVER SUBGRADE DRAIN PER PLAN			CLSI
4. TRAVEL LANES CONSTRUCTED			CLSI
5. FINE GRADING, TOPSOILING, SEEDING AND MULCHING OF WIDE SHOULDERS AND SUPPORTING SLOPES. FINISH WIDE SHOULDER ELEVATION 2 1/2 INCHES BELOW EDGE OF TRAVEL LANE.			CLSI
6. ALL UTILITIES AND DRIVEWAYS ALONG TRAVEL LANES COMPLETED. ANY DAMAGED AREAS REPAIRED AND 2 INCH STAND OF DENSE GRASS ESTABLISHED OVER ALL DISTURBED AREAS.			CLSI
7. SIGNED AND CERTIFIED AS-BUILT SUBMITTED TO C.C. BUREAU OF RESOURCE MANAGEMENT WITHIN 30 DAYS OF STEP 6.			CLSI
* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMP	MENCING (RUCTION*

ENGINEER'S NAME: CLSI PHONE NUMBER: ____(410) 848-1790

SWM SEQUENCE OF CONSTRUCTION AND INSPECTION CHART FOR LOT 3 WIDE SHOULDER

	STAGE	CERTIFYI	NG PRO APPRO	OFESSIONAL'S DVAL
	57,02	INITIALS	DATE	INSPECTING AGENT
1. TRAVEL LANE(S) A	ND WIDE SHOULDER(S) GRADED PER PLAN.			CLSI
2. SUBGRADE DRAIN	(S) AND OUTFALL(S) CONSTRUCTED PER PLAN			CLSI
3. GRADED AGGREG, PER PLAN	ATE BASE EXTENDED OVER SUBGRADE DRAIN			CLSI
4. TRAVEL LANES CO	DNSTRUCTED			CLSI
5. FINE GRADING, TO SHOULDERS AND ELEVATION 2 1/2	PSOILING, SEEDING AND MULCHING OF WIDE SUPPORTING SLOPES. FINISH WIDE SHOULDER INCHES BELOW EDGE OF TRAVEL LANE.			CLSI
6. ALL UTILITIES AND ANY DAMAGED AF GRASS ESTABLISH	DRIVEWAYS ALONG TRAVEL LANES COMPLETED. REAS REPAIRED AND 2 INCH STAND OF DENSE 1ED OVER ALL DISTURBED AREAS.			CLSI
7. SIGNED AND CERT RESOURCE MANAC	IFIED AS-BUILT SUBMITTED TO C.C. BUREAU OF JEMENT WITHIN 30 DAYS OF STEP 6.			CLSI
* PLEASE NOTIFY C	ERTIFYING ENGINEER 48 HOURS PRIOR TO COMM		CONST	RUCTION*
ENGINEER'S NAME:	CLSI			
PHONE NUMBER:	(410) 848-1790			

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION* ENGINEER'S NAME: CLSI PHONE NUMBER: (410) 848-1790

SEE SHEET 13 FOR WIDE

SHOULDER TYPICAL SECTION.

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STORMWATER MAINTENANCE SCHEDULE SURFACE SAND FILTER

MONTHLY INSPECTION

nspection Item	Inspection Requirements	Remedial Action
Debris and Trash	Check for trash and debris in facility	Remove all trash and debris and dispose in an
	including inlets, forebay, outlets, conveyance	acceptable manner.
	systems, and area around facility.	Unclog all openings.
egetative Cover	Check for channelizing, erosion, and bare	Remove or cut back vegetation around inlet and outlet
	spots.	structures.
	Check for vegetation blocking inlets and	Mow grass on filter and side slopes when grass exceeds
	outlet.	12 inches in height.
		Remove grass clippings.
		Re-seed or re-plant in accordance with approved
	SEASONAL INSPECTION AND A	FTER A MAJOR STORM
nspection Item	Inspection Requirements	Remedial Action
Dewatering	Check ponding levels. Forebay must dewater	Clean sediment from forebay and wash /replace
	within 36 hours. Surface storage above filter	drawdown device.
	bed must dewater within 72 hours of rainfall.	Remove and replace grass/stone and top few inches of
	Check observation wells for water level.	sand on filter bed.
	Noticeable odors, stained water on the niter	Confirm adequate dewatering with follow up
	surface of at the outlet, of the presence of	Inspections.
	angerohic conditions and inadequate	above action the entire system including the underdrain
	dewatering of the facility.	may need refurbishing.
rosion	Check inlets, forebay, filter bed, outlets, and	Re-grade if concentrated flow is causing rills or
	side slopes for erosion, rills, gullies, and	gullying through the facility.
	runoff channelization.	Grade, vegetate, and/or armor to provide stable
		conveyance in accordance with approved plans.
ediment	Check for accumulated sediment in	When the forebay depth is less than half the approved
coumulation	Check for experimental and forebay.	design, remove sediment.
	Check for accumulated sediment on filter bed.	when sediment accumulation on filter bed exceeds 1
	Check for clogged openings.	Remove sediment from clogged openings
		Dispose of all sediment in an acceptable location
lockages	Check overflow inlet (riser), piping, and	Clear out any blockages.
	underdrain for blockages.	
	Check observation wells for water level,	
	ANNUAL INSPE	CTION
nspection Item	Inspection Requirements	Remedial Action
faintenance	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and
ccess		obstructions on access way.
low Conveyance	Check overflow inlet, piping, and bypass for	Repair any broken or faulty piping.
ystem	misalignments, breakage, and blockage.	Clear out any blockages.
tructural	Check for evidence of structural deterioration,	Repair to good condition according to specifications or
omponents	spalling, or cracking.	the approved plans.
	inter and outlet structures as well as riprap	
warall Eurotion	Chack that practice is functioning so	Papair to good condition according to an -ifti
f Facility	designed	the approved plane
rracinty	designed.	ine approved plans.

Compaction

	LOT 1 GRASS SWALE			
	ENGINEER'S Approval			
	INITIALS	DATE		
ECTION				
D AND NAGEMENT.				

SCALE: 1"= 20'

LOT 4 GRASS SWALE ENGINEER'S APPROVAL STAGE INITIALS DATE EXCAVATE SWALE TO APPROPRIATE DIMENSIONS. 2. STABILIZE SWALE WITH SOLID SODDING. SEE TYPICAL SECTION FOR SPECIFICS ONCE 2" STAND OF GRASS ESTABLISHED, SUBMIT SIGNED AND CERTIFIED AS-BUILT TO C.C. BUREAU OF RESOURCE MANAGEMENT.

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION* ENGINEER'S NAME: CLSI

PHONE NUMBER: (410) 848-1790

CARROLL COUNTY-PUBLIC FACILITY CONSTRUCTED BY THE DEVELOPER STORMWATER MANAGEMENT MAINTENANCE AGREEMENT SCHEDULE

- The Stormwater Management Facility/Facilities shown on these plans shall be constructed by the developer.
- The developer shall be responsible for continuing maintenance of the facility/facilities which shall include such items as mowing, cleaning, removing sediment, trees, shrubs, and debris and repairing any structural damage until it is accepted by Carroll County. Requirements and schedules for specific types of facilities and practices as listed on the plans are hereby included.
- The developer shall be responsible for any structural damage or failure which may occur as a result of negligence, accident or misuse. In the event of structural damage, the developer is responsible to make repairs as quickly as possible (30 day maximum). If after 30 days, Carroll County Government performs the necessary work to place the facility in proper working condition, the developer of the facility shall be assessed the cost of the work and any penalties. These monies shall first be collected from a bond, which the developer is required to post with the County to cover such expenses. Should the bond be insufficient, the remaining monies may be collected by placing a lien on the property or by including the costs and penalties on the property tax bill and collecting them as ordinary taxes. The bond and/or lien and/or tax bill will be used until such time as the County takes the facility into its system.
- nance of the facility shall be until accepted for maintenance by the County which will be no sooner than two years after completion of the facility at which time the Carroll County Bureau of Resource Management shall certify that the facility is in proper working condition. "After completion of the facility" is construed to mean that all contributory drainage areas are paved or supporting a 2" stand of dense grass and that all buildings are constructed and that the Carroll County Bureau of Resource Management has inspected construction and a registered professional engineer has certified that the "As-Built" plans meet the plans and specifications for construction.
- The developer shall provide in a deed, an in-fee parcel for the site of the facilities and an in-fee access from the facility to a public right-of-way.

First Effective January 21, 2004 Revised after Carroll County Surveyor's Meeting May 19, 2010 Effective Date: July 29, 2010

Revised to include specifics for ESD Distributed for comments at the Carroll County Surveyor's Meeting October 15, 2018 Effective Date: November 15, 2018

12 Amended

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CARROLL COUNTY, HAMPSTEAD, WESTMINSTER, MT AIRY, NEW WINDSOR, SYKESVILLE, MANCHESTER PRIVATE FACILITIES CONSTRUCTED BY THE DEVELOPER STORMWATER MANAGEMENT MAINTENANCE AGREEMENT SCHEDULE

- The Stormwater Management Facility/Facilities shown on these plans shall be constructed and maintained by the owner(s).
- Owner/his heirs or assigns shall be responsible for continuing maintenance of the facility/facilities, which shall include such items as mowing, cleaning and removing sediment, trees, shrubs and debris. Requirements and schedules for specific types of facilities and practices as listed on the plans are hereby included. The time period for this continuing maintenance shall be on "as-needed" basis but shall not be delayed longer than thirty (30) days.
- Owner, his heirs or assigns shall be responsible for any structural damages or failure which may occur as a result of negligence, accident or misuse. In the event of structural damage, owner shall be responsible to make the necessary repairs as quickly as possible but in any case within thirty (30) days.
- 4. If after notice by the County/Town/City to correct a violation requiring nance work, satisfactory corrections are not made by the owner(s) with (30) days the County/Town/City may perform all necessary work to place the facility in proper working condition. The owners of the facility shall be assessed the cost of the work and any penalties. These monies shall be collected from a bond, which the developer is required to post with the County/Town/City to cover such expenses until "completion of the facility". "Completion of the facility" is construed to mean that all contributory drainage areas are paved or supporting a " stand of dense grass and that the Carroll County Bureau of Resource Management has inspected construction and a registered professional engineer has certified that the "As-Built" plans meet the plans and specifications for construction. After "completion of the facility" the moneys may be collected by placing a lien on the property, or by including the costs and penalties on the
- property tax bill and collecting them as ordinary taxes by the County/Town/City. 5. Owner(s) shall grant right of entry to authorized County/Town/City personnel for purposes of inspection monitoring and/or repair. Site visits for inspection and/or monitoring shall be conducted only during normal County working hours (8:00 a.m. to 5:00 p.m. Monday - Friday).

OWNER/ DEVELOPER BURKARD HOMES, LLC,

6. This agreement including right-of entry for inspection/maintenance and repair shall be recorded in the Land Records of the County.

Updated April 15, 2003 Revised and distributed at the Carroll County Surveyors Meeting on December 20, 2006 Revised after Carroll County Surveyor's Meeting May 19, 2010 Effective Date: July 29, 2010 Revised to include specifics for ESD Distributed for comments at the Carroll County Surveyor's Meeting October 15, 2018 Effective Date: November 15, 2018

The minimum required density shall not be less than

95% of maximum dry density with a moisture content within plus or minus 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

VERTICAL RIZONTAL	NOTE: COMPACTED MATERIAL TO BE BEST AVAILABLE MATERIAL ON-SITE, AT LEAST GC, SC, SM, MH, ML, CH, OR CL SOIL APPROVED BY GEOTECH. COMPACTION SHALL FOLLOW GUIDELINES FOR COMPACTION ON THIS SHEET.

COMPACTION DETAIL NOT TO SCALE

POND STANDARDS/ SPECIFICATIONS (NRCS-MD CODE MD-378)

<u>GENERAL</u> All construction materials, procedures, standards, and specifications shall be in accordance with the "Storm Water Management Pond Design Manual" published by by the Maryland Association of Soil Conservation Districts, june 1975 and any addenda thereto. These standards shall apply to permanent storm water management ponds and to temporary sediment basins.

Where storm water management ponds are being used as sediment basins during construction contractors attention is directed to those methods which are temporary and to the clean-out elevation. If and when sediment accumulates in the pond or basin up to the clean-out level it shall be removed and the pond shaped to planned dimensions. Removed sediment shall be placed in non critical areas and spread out. This sediment must be placed in an area which is protected by sediment control devices. Contractors attention is directed to the "Sequence of Construction" and "Pond Conversion Notes" which specify procedures for converting the sediment basin to a permanent storm water management pond.

The embankment and emergency spillway areas shall be stabilized immediately upon completion of their grading - see "Method of soil stabilization".

SPECIFICATIONS These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and

AASHTO specifications apply to the most recent version. Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoll. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry

stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared. All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other

materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion

of the embankment.

Placement Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy eauipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within $\pm 2\%$ of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench

The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be adverned by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be

placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of

the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal lavers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the

conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits All pipes shall be circular in cross section. Corrugated Metal Pipe All of the following criteria shall apply for corrugated metal pipe: 1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

structural backfill (flowable fill) zone shall be of the type and quality

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO

Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soll and/or water conditions warrant for increased durability, shall be fully bituminous coated per

requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9. 2 Coupling bands anti-seep collars end sections etc. must be composed of the same material and coatings as the pipe. Metals

must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections - All connections with pipes must be co watertight. The drain pipe or barrel connection to the r be welded all around when the pipe and riser are meta collars shall be connected to the pipe in such a manne completely watertight. Dimple bands are not considered watertight. All connections shall use a rubber or neop when joining pipe sections. The end of each pipe shall be adequate number of corrugations to accommodate the The following type connections are acceptable for pipe 24 inches in diameter: flanges on both ends of the pipe circular 3/8 inch closed cell neoprene gasket, pre-pun flange bolt circle, sandwiched between adjacent flange wide standard lap type band with 12-inch wide by 3/8closed cell circular neoprene gasket; and a 12-inch wic type band with o-ring gaskets having a minimum diame inch greater than the corrugation depth. Pipes 24 inch and larger shall be connected by a 24 inch long annular band using a minimum of 4 (four) rods and lugs, 2 on e pipe end. A 24-inch wide by 3/8-inch thick closed cell neoprene gasket will be installed with 12 inches on the pipe. Flanged joints with 3/8 inch closed cell aaskets t of the flange is also acceptable. Helically corrugated p

either continuously welded seams or have lock seams caulking or a neoprene bead. 4. Bedding - The pipe shall be firmly and uniformly bedd its entire length. Where rock or soft, spongy or other encountered, all such material shall be removed and rep suitable earth compacted to provide adequate suppor-

5. Backfilling shall conform to "Structure Backfill". 6. Other details (anti-seep collars, valves, etc.) shall b the drawings. Reinforced Concrete Pipe

- All of the following criteria shall apply for reinforced 1. Materials - Reinforced concrete pipe shall have bell joints with rubber gaskets and shall equal or exceed A 2. Bedding - Reinforced concrete pipe conduits shall b concrete bedding /cradle for their entire length. This shall consist of high slump concrete placed under the p sides of the pipe at least 50% of its outside diameter thickness of 6 inches. Where a concrete cradle is not structural reasons, flowable fill may be used as describ "Structure Backfill" section of this standard. Gravel b

3. Laying pipe - Bell and spigot pipe shall be placed wi upstream. Joints shall be made in accordance with rea of the manufacturer of the material. After the joints of the entire line, the bedding shall be placed so that all the pipe are filled. Care shall be exercised to prevent a from the original line and grade of the pipe. The first ja located within 4 feet from the riser. 4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall b the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1 conforming to ASTM D-1785 or ASTM D-2241. Cor High Density Polyethylene (HDPE) pipe, couplings and conform to the following: 4" - 10" inch pipe shall meet t requirements of AASHTO M252 Type S, and 12" thra shall meet the regularements of AASHTO M294 Type 2. Joints and connections to anti-seep collars shall be watertight

3. Bedding -The pipe shall be firmly and uniformly bedd its entire length. Where rock or soft, spongy or other encountered, all such material shall be removed and re suitable earth compacted to provide adequate support

4. Backfilling shall conform to "Structure Backfill". 5. Other details (anti-seep collars, valves, etc.) shall b the drawinas.

Drainage Diaphragms - When a drainage diaphragm is used, a registered pro engineer will supervise the design and construction ins

Concrete

Concrete shall meet the requirements of Maryland De Transportation. State Highway Administration Standa for Construction and Materials, Section 414, Mix No.

Rock Riprap Rock riprap shall meet the requirements of Maryland I Transportation, State Highway Administration Standar for Construction and Materials, Section 311. Geotext placed under all riprap and shall meet the requirement Department of Transportation. State Hiahway Admini Specifications for Construction and Materials, Section Class C

Care of Water during Construction

All work on permanent structures shall be carried out from water. The Contractor shall construct and mainte dikes, levees, cofferdams, drainage channels, and stre necessary to protect the areas to be occupied by the he contractor shall also furnish, install, operate, and necessary pumping and other equipment required for from various parts of the work and for maintaining the foundation, and other parts of the work free from wa directed by the engineer for constructing each part o having served their purpose, all temporary protective v removed or leveled and graded to the extent required obstruction in any degree whatsoever of the flow of v spillway or outlet works and so as not to interfere in

operation or maintenance of the structure. Stream di maintained until the full flow can be passed through th The removal of water from the required excavation an shall be accomplished in a manner and to the extent t stability of the excavated slopes and bottom required will allow satisfactory performance of all construction During the placing and compacting of material in regul the water level at the locations being refilled shall be the bottom of the excavation at such locations which the water sumps from which the water shall be pumpe

Stabllzation All borrow areas shall be graded to provide proper dra

a sightly condition. All exposed surfaces of the emban and borrow areas, and berms shall be stabilized by se fertilizing and mulching in accordance with the Natural Conservation Service Standards and Specifications for Planting (MD-342) or as shown on the accompanying

Erosion and Sediment Control Construction operations will be carried out in such a r erosion will be controlled and water and air pollution m State and local laws concerning pollution abatement w Construction plans shall detail erosion and sediment a

SWM FACILITY D

- 1. STORMWATER MANAGEMENT FACILITY ON THESE PLANS IS PUBLIC. THEREFO
- BE CONSTRUCTED BY THE DEVELOPER
- MAINTAINED BY CARROLL COUNTY. 2. POND TYPE: EXTENDED DETENTION FA
- (NON MD 378) 3. DRAINAGE AREA TO FACILITY = 3.41.
- 4. EMBANKMENT HEIGHT = 5.84 FT. TOP WIDTH OF EMBANKMENT = 6.0° 5. FACILITY DISCHARGES INTO AN UNNAM
- TRIBUTARY TO SNOWDENS RUN USE I
- DRAINAGE BASIN: 02130907
- 6. FACILITY PROVIDES: QUANTITY MANAGEMENT Q 2 & Q 10

STRUCTURE HYDRAULIC PERFORMANCE SU

STORM	Q OUT CFS	WATER SURFACE FT	STORAGE (AC-FT)
2 YR	0.05	559.11	0. 175
10 YR	3.40	559.62	0. 222

7. CENTROID: N - 635099 E - 1333640

DRAINAGE AREA A PREDEVELOPED DEVELOPE 2.36 CFS 3.01 CFS 2-YR 10-YR 5.81 CFS 5.80 CFS

LOT 1 DRYWE INSPECTION CHART FOR DRY	'LL 'A' WELL INSTALLA'	TION
	ENGIN	NEER'S
	APPR	ROVAL
STAGE	INITIALS	DAT
I. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.		
2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.		
3. PLACEMENT OF SAND		
4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE		
5. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.		
5. WRAP TOP OF STONE WITH FILTER FABRIC.		
7. INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE THIS POINT)		
3. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING		

LOT 1 DRYWEI INSPECTION CHART FOR DRY	LL 'B' WELL INSTALLA'	TION
	ENGIN	NEER'S
	APPR	ROVAL
SIAGE	INITIALS	D
ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.		
EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.		
. PLACEMENT OF SAND		
. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE		
PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.		
. WRAP TOP OF STONE WITH FILTER FABRIC.		
INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE THIS POINT)		
FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING		

LOT 1 DRYWE INSPECTION CHART FOR DRY	ELL 'C' WELL INSTALLA'	TION
	ENGI	NEER'S
	APPR	ROVAL
STAGE	INITIALS	DAT
1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.		
2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.		
3. PLACEMENT OF SAND		
4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE		
5. PLACEMENT OF 4" PVC PIPE \$ COMPLETE PLACEMENT OF STONE.		
6. WRAP TOP OF STONE WITH FILTER FABRIC.		
7. INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE THIS POINT)		
8. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL		

IGINEER'S NAME :	CLSI	
HONE NUMBER:	410 - 848-1790	

LOT 1 DRYWELL 'A' INSPECTION CHART FOR DRYWELL INSTALLATION	LOT 2 DRYWELL 'A' INSPECTION CHART FOR DRYWELL INSTALLATION	LOT 3 DRYWELL 'A' INSPECTION CHART FOR DRYWELL INSTALLATION	STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 1, DRYWELL A	STORMWATER MANAGEMENT SUMMARY DAT, FOR: LOT 1, DRYWELL B
ENGINEERS APPROVAL	ENGINEER'S APPROVAL STAGE	ENGINEER'S APPROVAL	 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) 	 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS)
INITIALS DATE 1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND	INITIALS DATE	INITIALS DATE 1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND	 WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9 X 9 X 6 ESDV PROVIDED: 174 CF 	 WATERSHED: LIBERTY RESERVOIR, 02130907, USE II STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF
FINAL GRADING IS COMPLETE.	FINAL GRADING IS COMPLETE.	FINAL GRADING IS COMPLETE. 2. EXCAVATION OF DRYWELL PRIOR TO GAND DI ACEMENT INSTALLEI TEP	7. COORDINATES: N 635059; E 1333686	7. COORDINATES: N 635094; E 1333755
FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWFLL DIT	FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT	FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT	FOR: LOT 1, DRYWELL C 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED	FOR: LOT 1, DRYWELL D 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED
3. PLACEMENT OF SAND	3. PLACEMENT OF SAND	3. PLACEMENT OF SAND	 DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOR. 02130907. USE III-P 	 DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR. 0.2.130907. USE II
A. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC PIPE \$	4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC PIPE \$	 4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC PIPE \$ 	 STONE RESERVOIR: 9 X 9 X 6 ESDV PROVIDED: 174 CF 	 STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF
COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	7. COORDINATES: N 635071; E 1333787 STORMWATER MANAGEMENT SUMMARY DATA	5. COORDINATES: N 635028; E 1333667 STORMWATER MANAGEMENT SUMMARY DAT.
TILLER FABRIC. 7. INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE	7. INSTALLATION OF ROOF LEADERS.	7. INSTALLATION OF ROOF LEADERS.	FOR: LOT 2, DRYWELL A 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED 2. DRYWELL M 5	FOR: LOT 2, DRYWELL B 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED 2. DRYWELL M. F.
THIS POINT) 3. FINE GRADE & STABILIZATION OF	THIS POINT) 8. FINE GRADE & STABILIZATION OF	THIS POINT) 8. FINE GRADE & STABILIZATION OF	 BRIWELL (19) 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P 	 BRTWELL 112 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE I
CONSTRUCTION OF DRYWELL	CONSTRUCTION OF DRYWELL	CONSTRUCTION OF DRYWELL	 5. STONE RESERVOIR: 9 X 9 X 6 6. ESDV PROVIDED: 174 CF 7. COORDINATES: N 634999; E 1333974 	 5. STONE RESERVOIR: 9 X 9 X 6 6. ESDV PROVIDED: 174 CF 7. COORDINATES: N 634988; E 1334005
* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *		SEQUENCE OF
ENGINEER'S NAME : CLSI PHONE NUMBER: 410 - 848-1790	_ ENGINEER'S NAME : CLST _ PHONE NUMBER: 410 - 848-1790	ENGINEER'S NAME : CLST PHONE NUMBER: 410 - 848-1790		CHART FOR EXTEN
LOT 1 DRYWELL 'B'	LOT 2 DRYWELL 'B' INSPECTION CHART FOR DRYWELL INSTALL ATION	LOT 3 DRYWELL 'B' INSPECTION CHART FOR DRYWELL INSTALLATION	1. CONTACT MISS UTILITY AT L PRIOR TO BEGINNING WORK	DIAGE I - DEL EAST 3 DAYS AND UTILITY OWNERS AT LEAST 5 DAYS PRIOR TO AT 410-386-2210 FOR A PRE- CONSTRUCTION MEETING.
			2. EXCAVATE SEDIEMENT TRAF 3. CONSTRUCT FACILITY EMBA	P PER GRADING SHOWN ON SHEET 3. INSTALL CAST IN PLACE RIS NEMENT AND RISER BARREL PER DETAILS ON SHEETS 9 AND 11. E
STAGE INITIALS DATE	STAGE APPROVAL INITIALS DATE	STAGE INITIALS DATE	SPECIFICATIONS SHOWN ON 4. INSTALL CONCRETE CRADLE	N COMPACTION DETAIL ON SHEET 9. E FOR 15" RCCP BARREL PER DETAILS ON SHEET 11.
HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	5. ONCE ALL PAVEMENT IS CO	STAGE 2 - EXTEND NSTRUCTED AND A 2" STAND OF DENSE GRASS IS ESTABLISHED
2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE	2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE	2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE	6. CONTACT CARROLL COUNT TRAP NO.1 INTO THE EXTEND 7. EXCAVATE BOTTOM OF PON	Y SEDIMENT CONTROL INSPECTOR FOR APPROVAL OF SEDIMENT ED DETENTION BASIN. CONTRACTOR TO FOLLOW ALL CONDITION ID AND SUBGRADE TRENCH FOR STONE UNDER SAND FILTER.
Drywell pit. Drywell pit. 3. PLACEMENT OF SAND	DRYWELL PIT. 3. PLACEMENT OF SAND	PIPE DECONTINUTE CENTER OF THE DRYWELL PIT. 3. PLACEMENT OF SAND	8. INSTALL FILTER FABRIC ON 9 9. INSTALL 4:1:1 SAND/SOIL/WG	BIDES ONLY, NO. 57 STONE AND UNDERDRAIN PER PLAN. UNDERD DODCHIP MIX AND ALL STILLING BASINS PER PLAN.
4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE	4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE	4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE	10. INSTALL STORMDRAIN AND 11. STABILIZE ALL REMAINING D	FINE GRADE AROUND ENDWALLS EW-1 AND EW-2.
2. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.	5. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.	5. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.	12. WITH PERMISSION OF SEDIM 13. FORWARD SIGNED INSPECT	ENT CONTROL INSPECTOR, REMOVE PERIMETER SEDIMENT CONTROL INSPECTOR, REMOVE PERIMETER SEDIMENT CONTROL CHART CLASS CHART SEDIMENT CONTROL CHART CLASS CHART SEDIMENT CONTROL CHART SEDIMENT
WKAP TOP OF STONE WITH FILTER FABRIC.	6. WRAP TOP OF STONE WITH FILTER FABRIC.	6. WRAP TOP OF STONE WITH FILTER FABRIC.		OTE: INSPECTION CHART SHALL BE SIGNED BY CERTIFYING PROF
(MAY OCCUR AT ANY TIME BEFORE THIS POINT)	(MAY OCCUR AT ANY TIME BEFORE THIS POINT)	(MAY OCCUR AT ANY TIME BEFORE THIS POINT)		S NUTEL ABOVE, FLEASE NOTIFY CERTIFYING ENGINEER 48-HOU ENGINEER'S NAME: CLSI
AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL	O. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL	0. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL		FRUNE NUMBER: (410) 848-1790
* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 43 HRS PRIOR TO CONSTRUCTION *	STORMWATE	R MAINTENANCE SCHEDULE DRYWELL
ENGINEER'S NAME : CLSI PHONE NUMBER: 410 - 848-1790	CLSI 410 - 848-1790	ENGINEER'S NAME : CLSI PHONE NUMBER: 410 - 848-1790	мс	ONTHLY INSPECTION
LOTIDRYWELLC	LOT 2 DRYWELL IC	LOT 3 DRYWELL G	Inspection Item Inspection Requirements Vegetative Cover Check overflow area for channel and Fraction	Remedial Action nelizing and Re-seed or re-plant in accordance with approved landscaping plane Indexed or re-plant in accordance with approved
			and Erosion bare spots.	Re-grade if concentrated flow is causing rills or gullying over the facility.
STAGE INITIALS DATE	STAGE	STAGE INITIALS DATE	SEASONAL INSPEC Inspection Item Inspection Requirements	CTION AND AFTER A MAJOR STORM Remedial Action
ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.	Leaves and Debris Check that gutters and downsp of leaves and debris.	Souts are clear Clean out gutters and downspouts and dispose of leaves and debris in an acceptable manner. Provide gutter drain filters in high foliage areas.
EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY PLACE	2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY PLACE	2. EXCAVATION OF DRYWELL PRIOR TO SAND PLACEMENT. INSTALL FILTER EABRIC ON SIDES ONLY PLACE	Inflow and Check for misalignments, brok Overflow blockages. Inlet pipe and surch pipe must be in good condition	ken pipes, and Repair any broken or faulty piping. Clear out any blockages. h. blockages.
PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.	PADRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.	PABRIC ON SIJES ONLT. PLACE PIPE BLOCK IN THE CENTER OF THE DRYWELL PIT.	Dewatering Check observation wells for w Water stored in media must de hours of rainfall. Noticeable o	ater level. Excavate, remove, clean, and replace media in accordance with approved plans.
3. PLACEMENT OF SAND 4. PLACEMENT OF WASHED NO. 2/57	3. PLACEMENT OF SAND 4. PLACEMENT OF WASHED NO. 2/57	3. PLACEMENT OF SAND 4. PLACEMENT OF WASHED NO. 2/57	presence of algae or stained wa indicators of anaerobic conditi inadequate dewatering of the f	ater are ons and beility
5. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.	5. PLACEMENT OF 4" PVC PIPE \$ COMPLETE PLACEMENT OF STONE.	5. PLACEMENT OF 4" PVC PIPE & COMPLETE PLACEMENT OF STONE.	Inspection Item Inspection Requirements	NNUAL INSPECTION Remedial Action
6. WRAP TOP OF STONE WITH FILTER FABRIC.	6. WRAP TOP OF STONE WITH FILTER FABRIC.	6. WRAP TOP OF STONE WITH FILTER FABRIC.	Maintenance Check for accessibility to facil Access	ity. Prevent excessive vegetative growth, erosion, and obstructions on access way.
. INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE THIS POINT)	7. INSTALLATION OF ROOF LEADERS. (MAY OCCUR AT ANY TIME BEFORE THIS POINT)	7. INSTALLATION OF ROOF LEADERS. (May occur at any time before this point)	Overall Function of Facility Check that flow conveyance is designed	s operating as Repair to good condition according to specifications on the approved plans.
3. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING	8. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING	8. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING	STORMWATE WIDE S	R MAINTENANCE SCHEDULE HOULDER DISCONNECT
· PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS	· PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS	MO	NTHLY INSPECTION Remedial Action
PRIOR TO CONSTRUCTION * ENGINEER'S NAME :CLSI	PRIOR TO CONSTRUCTION * _ ENGINEER'S NAME :CLSI	PRIOR TO CONSTRUCTION * ENGINEER'S NAME :CLSI	Inspection Requirements Debris and Trash Check for trash and debris in faincluding inlets, outlets, convergence	acility Remove all trash and debris and dispose in an acceptable manner.
PHONE NUMBER: 410 - 848-1790	_ PHONE NUMBER:410 - 848-1790	PHONE NUMBER: 410 - 848-1790	and area around facility. Vegetative Cover Check grass. Check for channelizing, erosion	Unclog all openings. Mow grass to maintain a height of 4 to 6 inches. n, and bare Remove clippings.
LOT 1 DRYWELL 'D' INSPECTION CHART FOR DRYWELL INSTALLATION	LOT 2 DRYWELL 'D' INSPECTION CHART FOR DRYWELL INSTALLATION	LOT 3 DRYWELL 'D' INSPECTION CHART FOR DRYWELL INSTALLATION	spots. Check for vegetation blocking and outlet.	inlets, weirs, Re-vegetate with topsoil, seed, and matting. Remove or cut back vegetation around inlets, weirs, and outlet structure.
ENGINEER'S APPROVAL	ENGINEER'S STAGE APPROVAL	ENGINEER'S APPROVAL	SEASONAL INSPECTION Item Inspection Requirements	CTION AND AFTER A MAJOR STORM Remedial Action
INITIALS DATE INITIALS DATE	INITIALS DATE 1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND	INITIALS DATE 1. ONCE THE INDIMIDUAL HOUSE HAG BEEN CONSTRUCTED AND	Erosion Check inlets, channel, outfall, a for evidence of erosion, rills, g	and side slopes Re-grading may be required when concentrated flow causes rills or gullying through the facility.
FINAL GRADING IS COMPLETE. 2. EXCAVATION OF DRYWELL PRIOR TO	FINAL GRADING IS COMPLETE. 2. EXCAVATION OF DRYWELL PRIOR TO	FINAL GRADING IS COMPLETE. 2. EXCAVATION OF DRYWELL PRIOR TO	runoff channelization. Sediment Check for accumulated sedime	Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans. nt in When sediment accumulates to 1 inch depth, remove
SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRYNGLL DIT	SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE DRAVEL DIT	SAND PLACEMENT. INSTALL FILTER FABRIC ON SIDES ONLY. PLACE PIPE BLOCK IN THE CENTER OF THE	Accumulation conveyance systems and in swa Check for clogged openings.	ale. sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
3. PLACEMENT OF SAND	3. PLACEMENT OF SAND	3. PLACEMENT OF SAND	Underdrain and OverflowCheck for misalignments, brok blockages.StructuresCheck observation well for wat	en pipes, and Repair any broken or faulty piping. Clear out any blockages. ter levels.
4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC PIPE #	4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC. PIPF #	4. PLACEMENT OF WASHED NO. 2/57 STONE AND PIPE 5. PLACEMENT OF 4" PVC PIPE #		NNUAL INSPECTION
COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	COMPLETE PLACEMENT OF STONE. 6. WRAP TOP OF STONE WITH	Inspection ItemInspection RequirementsMaintenanceCheck for accessibility to facility	Remedial Action ity. Prevent excessive vegetative growth, erosion, and
FILTER FABRIC.	FILTER FABRIC. 7. INSTALLATION OF ROOF LEADERS. (Max occlup at any time refore	FILTER FABRIC. 7. INSTALLATION OF ROOF LEADERS. (May occur at any time seeder	Access Structural Check for evidence of structura Components spalling. or cracking	obstructions on access way. al deterioration, Repair to good condition according to specifications on the approved plans.
THIS POINT) B. FINE GRADE & STABILIZATION OF	(INT OCCURATION THIS DEFORE THIS POINT) 8. FINE GRADE & STABILIZATION OF	THIS POINT) 8. FINE GRADE & STABILIZATION OF	Overall Function Check that flow conveyance or	ell as riprap tion. Id bypasses are Repair to good condition according to specifications on
AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL	AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL	AREAS DISTURBED DURING CONSTRUCTION OF DRYWELL	of Facility functioning as designed.	the approved plans.
* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *	* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *		
ENGINEER'S NAME : CLSI PHONE NUMBER: 410 - 848-1790	_ CLSI _ PHONE NUMBER:	ENGINEER'S NAME : CLSI PHONE NUMBER: 410 - 848-1790		
STORMWATER MANAG FOR: UIC WI	SEMENT SUMMARY DATA DE SHOULDER FOR: LOT 3 WIDE SHOULDE	IARY DATA		
 FACILITY TO BE PRIVATE NON-ROOFTOP DISCONN 1, 104 S.F. DRAINAGE A 	LT OWNED AND MAIN LAINED 1. FACILITY TO BE PRIVATELY OWNED AND N IECT: N-2 2. NON-ROOFTOP DISCONNECT: N-2 REA (100% IMPERVIOUS) 3. 620 S.F. DRAINAGE AREA (100% IMPERV			
4. WATERSHED: LIBERTY RI 5. ESDV PROVIDED: 74 CF	ESERVOIR, 02130907, USE III-P 4. WATERSHED: LIBERTY RESERVOIR, 02130 5. ESDV PROVIDED: 49 CF 88: E 1333788	9907, USE III-P		
AGEMENT SUMMARY DATA STORMWATER MANAG	EMENT SUMMARY DATA STORMWATER MANAGEMENT SUMM			
+ GKADD DWALE FOR: LOT 1 V TELY OWNED AND MAINTAINED 1. FACILITY TO BE PRIVATE 1 2. NON-ROOFTOP DISCONN	VILE STUULLEK FOR: LOT 1 GRASS SWAL LY OWNED AND MAINTAINED 1. FACILITY TO BE PRIVATELY OWNED AND N JECT: N-2 2. GRASS SWALE: M-8. 1	E MAINTAINED		OWNER/ DEVEL
BE AREA (25% IMPERVIOUS) 3. 1,620 S.F. DRAINAGE A RESERVOIR, 02130907, USE III-P 4. WATERSHED: LIBERTY RI CE 5. 1,020 J.200 J.	REA (100% IMPERVIOUS) ESERVOIR, 02130907, USE III-P 4. WATERSHED: LIBERTY RESERVOIR, 02130 ESERVOIR, 02130907, USE III-P	RVIOUS) 0907, USE III-P		BURKARD HOMES, 612 THIRD STRE
4779; E 1333661 5. ESDV PROVIDED: 84 CF 6. COORDINATES: N 6349	5. ESUV PROVIDED: 416 CF 68; E 1333777 6. COORDINATES: N 635066; E 1333842			SUITE 4C ANNAPOLIS, MD 2
				410-992-22

STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 1, DRYWELL B	STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 2, DRYWELL C	STC	RMWATER I FOR	MANAGEM : LOT 2, D	IENT SUMMARY RYWELL D	DATA	
 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 & 75 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF COORDINATES: N 635094; E 1333755 	 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF COORDINATES: N 634913; E 1333915 	1. F, 2. D 3. 8 4. W 5. 5 6. E 7. C	ACILITY TO BE RYWELL: M-5 .75 S.F. DRAIN VATERSHED: LIE STONE RESERV ESDV PROVIDE OORDINATES:	PRIVATELY (AGE AREA (BERTY RESER /OIR: 9' X 9') D: 174 CF N 634899;	DWNED AND MAINT. 100% IMPERVIOUS) RVOIR, 02130907, K 6' E 1333945	AINED USE III-P	
STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 1, DRYWELL D	STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 3, DRYWELL A	STC	RMWATER I FOR	MANAGEM : LOT 3, D	IENT SUMMARY RYWELL B	DATA	
 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF COORDINATES: N 635028; E 1333667 	 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9'X 9'X 6' ESDV PROVIDED: 174 CF COORDINATES: N 634876; E 1333911 	1. F, 2. D 3. 8 4. W 5. 5 6. E 7. C	ACILITY TO BE RYWELL: M-5 75 S.F. DRAIN VATERSHED: LIE STONE RESER ESDV PROVIDE OORDINATES:	PRIVATELY (AGE AREA (BERTY RESEF /OIR: 9' X 9') D: 174 CF N 634862;	DWNED AND MAINT. 100% IMPERVIOUS) RVOIR, 02130907, K 6 E 1333940	AINED USE III-P	
STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 2, DRYWELL B	STORMWATER MANAGEMENT SUMMARY DATA FOR: LOT 3, DRYWELL C	STC	RMWATER I FOR	MANAGEM LOT 3, D	IENT SUMMARY RYWELL D	DATA	
 FACILITY TO BE PRIVATELY OWNED AND MAINTAINED DRYWELL: M-5 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P STONE RESERVOIR: 9' X 9' X 6' ESDV PROVIDED: 174 CF COORDINATES: N 634988; E 1334005 	FOR: LOT 2, DRTWELL B FOR: LOT 3, DRTWELL C 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED 1. FACILITY TO BE PRIVATELY OWNED AND MAINTAINED 2. DRYWELL: M-5 3. 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) 4. WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P 3. 875 S.F. DRAINAGE AREA (100% IMPERVIOUS) 4. WATERSHED: LIBERTY RESERVOIR, 02130907, USE III-P 5. STONE RESERVOIR: 9' X 9' X 6' 6. ESDV PROVIDED: 174 CF 6. ESDV PROVIDED: 174 CF						
SEQUENCE OF CO CHART FOR EXTENDE	ONSTRUCTION & INSPECTION D DETENTION BASIN FACILITY	Υ A					
STAGE 1 - SEDIME	ENT CONTROL		INITIALS	DATE	INSPECTION ENGINEER		
T 3 DAYS AND UTILITY OWNERS AT LEAST 5 DAYS PRIOR TO BEGIN H0-386-2210 FOR A PRE- CONSTRUCTION MEETING.	NING WORK. NOTIFY CARROLL COUNTY SEDIMENT CONTROL 24 HOUR	ŝ			CLSI		
R GRADING SHOWN ON SHEET 3. INSTALL CAST IN PLACE RISER (R-1).				CLSI		
ENT AND RISER BARREL PER DETAILS ON SHEETS 9 AND 11. EMBANK MRACTION DETAIL ON SHEET 9	EMNT AND TRENCH FOR RISER BARREL TO BE COMPACTED TO				CLSI		
2 15" RCCP BARREL PER DETAILS ON SHEET 11					GLSI		
STAGE 2 - EXTENDED	DETENTION BASIN				CLSI		
RUCTED AND A 2" STAND OF DENSE GRASS IS ESTABLISHED, CONV	ERSION OF SEDIMENT TRAP TO STORMWATER FACILITY CAN BEGIN.				CLSI		
DIMENT CONTROL INSPECTOR FOR APPROVAL OF SEDIMENT CONTR DETENTION BASIN. CONTRACTOR TO FOLLOW ALL CONDITIONS SET	OL DEVICES BEFORE PROCEEDING AND PERMISSION TO CONVERT SE FORTH BY CARROLL COUNTY SEDIMENT CONTROL INSPECTOR.	DIMENT			CLSI		
ND SUBGRADE TRENCH FOR STONE UNDER SAND FILTER.					CLSI		
3 ONLY, NO. 57 STONE AND UNDERDRAIN PER PLAN. UNDERDRAIN M	IUST BE INSPECTED PRIOR TO BACKFILL.				CLSI		
CHIP MIX AND ALL STILLING BASINS PER PLAN.					CLSI		
GRADE AROUND ENDWALLS EW-1 AND EW-2.					CLSI		
RBED AREAS.					CLSI		
CONTROL INSPECTOR, REMOVE PERIMETER SEDIMENT CONTROL ME	AGURES.				CLSI		
CHART TO CL9I. WITHIN 30 DAYS OF RECEIVING SIGNED INSPECTION APPROVAL. MYLARS TO BE SUBMITTED C.C. BUREAU OF RESOURCE	I CHART, CLSI WILL PREPARE AND SUBMIT PAPER AS- BUILT PRINTS TO MANAGEMENT UPON APPROVAL OF AS-BUILT.				CLSI		

FESSIONAL AS WORK PROGRESSES. ONCE CERTIFYING PROFESSIONAL HAS GIVEN APPROVAL, PROCEED RS PRIOR TO COMMENCING CONSTRUCTION

ENGINEER'S NAME: _____ ENGINEER'S NAME: _____

 PHONE NUMBER:

STORMWATER MAINTENANCE SCHEDULE DRY SWALE

	MONTHLY INSP	ECTION					
Inspection Item	Inspection Requirements	Remedial Action					
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.					
Vegetative Cover	Check grass. Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets, weirs, and outlet.	Mow grass to maintain a height of 4 to 6 inches. Remove clippings. Re-vegetate with topsoil, seed, and matting. Remove or cut back vegetation around inlets, weirs, and outlet structure.					
	SEASONAL INSPECTION AND A	FTER A MAJOR STORM					
Inspection Item	Inspection Requirements	Remedial Action					
Dewatering	Facility must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove top three inches of soil and replace with soil material as per plan specifications. Follow up inspections must confirm adequate dewatering. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.					
Erosion	Check inlets, channel, outfall, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-grading may be required when concentrated flow causes rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.					
Check Dams	Check for evidence of flow cutting around the structure and evidence of erosion at the downstream toe.	Re-grade and repair with topsoil, seed and matting. Provide stone at downstream toe.					
Sediment Accumulation	Check for accumulated sediment in conveyance systems and in swale. Check for clogged openings.	When sediment accumulates to 1 inch depth, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.					
Underdrain and Overflow Structures	Check for misalignments, broken pipes, and blockages. Check observation well for water levels.	Repair any broken or faulty piping. Clear out any blockages.					
	ANNUAL INSPE	CTION					
Inspection Item	Inspection Requirements	Remedial Action					
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.					
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.					
Overall Function of Facility	Check that flow conveyance and bypasses are functioning as designed.	Repair to good condition according to specifications on the approved plans.					

STORMWATER MANAGEMENT NOTES BYRON HILLS 5TH ELECTION DISTRICT * CARROLL COUNTY, MARYLAND TAX MAP: 74 BLOCK: 2 PARCEL: 355 NOT FOR CONSTRUCTION ineers · Surveyo www.clsi-civileng.cor ng & Environ 439 East Main Street Westminster, MD 21157-5539 6/27/2025 (410) 848-1790 FAX (410) 848-1791 Braton D. Moore, P.E. PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285, EXPIRATION DATE: DECEMBER 7, 2025 Revisions Drawn By: BH Date ADDRESS COMMENTS 1/2024 Designed By: ADDRESS COMMENTS Reviewed By: BH 3/2025 ADDRESS COMMENTS Date: JAN., 2023 4/2025 ADDED CURB AND GUTTER ALONG OKLAHOMA RD 6/2025 Scale: AS SHOWN ADDRESS COMMENTS Job No.: 2013044 6/2025 Sheet: 10 OF 19

LOPER LLC. EΤ 21403

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561.33

- 8. ALL PIPES TO BE CAST INTO RISER WITH A PIPE JOINT WITHIN 4' OF RISER.

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						4+12	.36					
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REINFORCED CONCRETE PIPE.

PROFILE SCALE: HORIZ. 1"= 30'

VERT. 1"= 5'

PIPE DENOTED WITH A REFERENCE TO 'RCCP' SHALL BE ASTM C-361 CLASS B-25 WATERTIGHT

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE CURRUGATED, SMOOTH INTERIOR, HIGH-DENSITY POLYETHYLENE PIPE (HDPE), NOTED AS 'D'. AASHTO M-294, ASTM F-2306. ALL PIPE, FITTINGS, AND CONSTRUCTION TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

						S	ТО	RM	1 D	RA	IN	ΤA	BU	LA			5		
STRU	CTURE		CONTRIBU	ITING AREA	`			RUNOFF									PIPE		
FROM	то	C AREA NO.	A AREA (ACRES)	RUNOFF COEF.	A CA	ΣΑ	ΣርΑ	t _c TIME OF CONC. (MIN.)	IIF RAINFALL INTENS. (IN/HR.)	Q QUANT. (CFS)	SIZE IN.	TYPE	n MANNING'S COEF.	So SLOPE %	L LENGTH FT.	Vø VEL. FT./SEC.	TIME IN PIPE MIN.	CAPAC. FULL (CFS)	REMARKS
I-1	I-2	A	0.39	0.36	0.14	0.39	0.14	5.00	7.00	1.0	15	HDPE	0.012	0.50	114-	3.2	0.6	5.0	
I-2	M-1	A,B	1.40	0.35	0.49	1.79	0.63	5.60	6.86	4.3	18	HDPE	0.012	0.51	65	4.7	0.2	8.7	
M-1	M-2A	A,B	-	-	-	1.79	0.63	5.80	6.81	4.3	18	HDPE	0.012	4.16	207	10.0	0.4	23.2	
I-3	M-2A	с	0.44	0.30	0.13	0.44	0.13	5.00	7.00	0.9	15	HDPE	0.012	0.50	13	3.1	0.1	5.0	
M-2A	M-2	A-C	-	-	-	2.23	0.76	6.20	6.72	5.1	18	HDPE	0.012	0.50	22	4.8	0.1	8.1	
M-2	EW-1	A-C	-	-	-	2.23	0.76	6.30	6.70	5.1	18	HDPE	0.012	0.00	23	3.3	0.1	5.1	
-4	M-5	D	0.76	0.34	0.26	0.76	0.26	5.00	7.00	1.8	15	HDPE	0.012	20.37	41	13 <i>.9</i>	0.1	31.6	
M-5	EW-2	D	-	-	-	0.76	0.26	5.10	6.98	1.8	18	HDPE	0.012	0.00	10	1.3	0.1	2.0	
R-1	М-З	-	-	-	-	-	-	-	-	3.2*	15	RCCP	0.013	10.38	24	12.3	0.0	22.6	$*Q_{10}$ FROM SWM TR-20 ANALYSIS
М-З	I-5	-	-	-	-	-	-	-	-	3.2*	15	HDPE	0.012	8.29	24	12.0	0.0	20.2	$*Q_{10}$ FROM SWM TR-20 ANALYSIS
I-5	M-4	E	0.09	0.21	0.02	-	-	5.00	7.00	3.3*	15	HDPE	0.012	15.76	34	15.2	0.0	27.8	*Q ₁₀ = 3.2 CFS + 0.1 CFS
I-7	M-6	н	1.04	0.43	0.45	-	-	11.40	5.64	2.5	15	HDPE	0.012	2.61	253	7.4	0.6	11.3	
1-6	M-6	F	0.61	0.39	0.24	-	-	5.00	7.00	1.7	15	HDPE	0.012	0.54	13	3.8	0.1	5.1	
M-6	M-4	H,F	-	-	-	1.74	0.71	12.00	5.54	3.9	18	HDPE	0.012	0.50	30	4.5	0.1	8.1	
M-4	EX 1-25	H,F, SWM	-	-	-	1.74	0.71	12.10	5.52	*7.2	18	HDPE	0.012	4.10	31	11.5	0.0	23.0	*Q ₁₀ = 3.9 CFS + 3.3 CFS
C-1	EX 1-25	G	0.04	0.50	0.02	-	-	5.00	7.00	0.1									
EX 1-25	EX M-20	H,F,G, SWM	-	-	-	1.78	0.73	12.10	5.52	*7.3	18	HDPE	0.012	5.00	10	12.4	0.0	25.4	*Q ₁₀ = 4.0 CFS + 3.3 CFS

	ST	OR	MS	5TRL	JCT	URE	5	HE	DUL	E
STRUCT. NO.	TYPE	PLATE	INVERT IN ELEV.	INVERT IN ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.	TOP ELEV.	NORTH COORD.	EAST COORD.	REMARKS
M-1	48" DIAMETER PRECAST MANHOLE	CC 94	567.75	-	-	567.55	576.58	634905	1333762	
M-2	48" DIAMETER PRECAST MANHOLE	CC 94	557.40	557.40	-	555.90	561.00	635055	1333617	
M-2A	48" DIAMETER PRECAST MANHOLE	CC 94	558.93	557.68		557.43	564.00	635039	1333603	
M-3	48" DIAMETER PRECAST MANHOLE	CC 94	554.63	-	_	549.99	558.50	635145	1333630	
M-4	48" DIAMETER PRECAST MANHOLE	CC 94	542.44	542.44	543.19	542.24	545 <i>.</i> 94	635193	1333597	
M-5	43" DIAMETER PRECAST MANHOLE	CC 94	557.40	-	_	555.90	561.15	635123	1333689	
M-6	48" DIAMETER PRECAST MANHOLE	CC 94	542.57	-	_	542.32	546.84	635165	1333585	
I-1	K INLET	CC 61	-	-	_	568.90	572.65	634830	1333654	WEIR ELEVATION 571.40
I-2	K INLET	CC 61	568.33	-		568.08	573.75	634840	1333767	WEIR ELEVATION 572.50
I - 3	K INLET	CC 61	-	-	_	557.75	561.50	635029	1333595	WEIR ELEVATION 560.25
I-4	K INLET	CC 61	-	-	_	565.75	569.50	635125	1333730	WEIR ELEVATION 568.25
I-5	PRECAST STANDARD TYPE S DOUBLE GRATE TANDEM	CC 66	548.00	-	_	547.80	551.50	635164	1333616	
1-6	PRECAST STANDARD TYPE S DOUBLE GRATE TANDEM	CC 66	-	-	_	542.64	546.14	635171	1333572	
1-7	PRECAST STANDARD TYPE S DOUBLE GRATE TANDEM	CC 66	-	-	-	549.17	552.67	634943	1333464	
R-1	-	-	-	-	_	557.12	559.50	635125	1333644	SEE SHEET 11 FOR RISER DETAILS
EW-1	STANDARD TYPE C ENDWALL	CC 79	-	-	_	555.90	-	635065	1333610	
EW-2	STANDARD TYPE C ENDWALL	CC 79	-	-	_	555.90	-	635122	1333679	
C-1	PRECAST COG OPENING	SHA MD 374.68	-	-		-	-	635224	1333602	

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FOREST PROTECTION PLAN

The limit of disturbance (L.O.D.) for construction will be marked by the contractor along the L.O.D. as shown on the plan sheet. The edge of the tree line to remain will be field checked by a qualified professional. After the edge is checked the Critical Root Zone will be flagged using the formula 1" of D.B.H. equals 1' of radius for the critical root zone. During the flagging of the C.R.Z., a tree by tree evaluation will be made along the edge, not only for the root zone establishment but for the trees overall condition as well as survival potential. For Specimen

Forest Conservation Technical Manual. Once the C.R.Z. is established, the L.O.D. will be re-adjusted to conform with the field flagging. At this time the contractor will install the following protection devices, see details. The temporary protection device will be (see detail), three wire fence. It will be accompanied by "Retention Forest" signs every 100'. The fence will be installed once the C.R.Z. has been established and the L.O.D. located, as mentioned previously. This protection device will be installed prior to any construction activity.

The metal fence posts will be installed 1/3 into the ground just outside the C.R.Z. or Limit of Disturbance (L.O.D.), as shown on

No equipment, machinery, vehicle, materials or excessive pedestrian traffic will be allowed in the Critical Root Zone Area. Therefore, no openings through the fence will be allowed. Entrance to the protected area will occur only if necessary for repair of accidental injury to the tree. This protective tree device will remain in place and will be maintained throughout the life of the construction project.

To help reduce the possibility of disturbance within an identified forest protection area, a pre-construction meeting will take place after the boundaries of the L.O.D. have been staked and flagged and the forest protection devices have been installed. The employees of the construction crew will be informed of the importance of the tree slated for retention. During the pre-construction meeting the temporary parking location, stockpile area, staging and fueling area will be shown

NOTE: Concrete Wash-Out will be performed where indicated.

- 2. Attachment of signs or any other object, to trees is prohibited. 3. No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed in conservation areas.
- 4. Retention Forest signs and specimen tree signs to be posted as
- 5. All protective devices must be in place prior to any grading which includes Retention Forest Signs, Specimen tree signs and fencing. 6. Pre-Construction meeting; Before any disturbance, the developer, contractor or project manager and local inspector shall attend.
- Temporary parking, stockpile, staging and fueling area will be shown 7. Any changes made to the Forest Conservation Plan due to On-Site conditions shall be made in consultation with a Representative of the Bureau of Resource Management
- 8. Retentions, Reforestation and afforestation areas will be placed in a Forest Conservation Easement in perpetuity. 9. No burial of discarded materials will occur on-site within the forest
- conservation areas or planting areas. 10. No open burning within 100 feet of a wooded area.

VICINITY MAP Scale: 1"=2000'

FOREST CONSERVATION WORKSHEET (ZONING: RESIDENTIAL)

Input Data

- A. Proposed Forest Area Removed: 1.73 Acres
- Required Reforestation = All forest area removed is to be reforested/ afforested at a ratio of one acre planted for every acre of portion thereof removed
- Afforestation Calculation B. Total Net Tract Area: 3.77 Acres C. Threshold Required: (20%) 0. 75 Acres D. Existing Forested Area 1.73 Acres Minus Forest Cleared: 1.73 Acres Plus Reforestation: 1.73 Acres (if applicable) 1.73 Acres Equals Forest Credit: E. C minus D: -0.98 Acres
- (If C minus D > O, this is required of afforestation. If C minus D < O, no afforestation is required.) No Afforestation is Required 1.73 Acres of reforeatation to be met at an off-site forest bank

- GENERAL NOTES
- 1. OWNER: BURKARD HOMES LLC. DEED REFERENCE: LIBER 10860 FOLIO 304
- 2. THE OUTLINE SHOWN HEREON IS BASED ON A
- 3. TOPOGRAPHY SHOWN HEREON IS BASED ON
- CARROLL COUNTY TOPOGRAPHY & FEILD

- WATERSHED NO. 02130907
- 2. SOILS SHOWN ARE FROM USDA NRCS WEB SOIL SURVEY. 3. NO RARE, THREATENED OR ENDANGERED PLANT, ANIMAL
- THE SITE VISIT.

ADDRESS COMMENTS

ADDRESS COMMENTS

ADDED CURB AND GUTTER ALONG OKLAHOMA RD

Bontanical Name	CONDITION	CRZ	RETENTION
Acer rubra	POOR	35	NO
Acer rubra	FAIR	42.5	NO
Acer saccharinum	POOR	42'	NO
Gymnocladus dioicus	FAIR	38'	NO
Gymnocladus dioicus	FAIR	30.5'	NO
Quercus rubra	FAIR	30'	NO
Quercus velutina	FAIR	30 [.]	NO
	Bontanical Name Acer rubra Acer rubra Acer saccharinum Gymnocladus dioicus Gymnocladus dioicus Quercus rubra Quercus velutina	Bontanical NameCONDITIONAcer rubraPOORAcer rubraFAIRAcer saccharinumPOORGymnocladus dioicusFAIRGymnocladus dioicusFAIRQuercus rubraFAIRQuercus velutinaFAIR	Bontanical NameCONDITIONCRZAcer rubraPOOR35'Acer rubraFAIR42.5'Acer saccharinumPOOR42'Gymnocladus dioicusFAIR38'Gymnocladus dioicusFAIR30.5'Quercus rubraFAIR30'Quercus velutinaFAIR30'

OWNER/ DEVELOPER BURKARD HOMES, LLC 612 THIRD STREET ANNAPOLIS, MD 21403 410-992-2221

3/2025

4/2025

5/2025

5/2025

ADDRESS COMMENTS Sheet: 19 OF 19 County File No. FX-22-0003

Reviewed By:

Scale:

Date: JAN., 2023

Job No.: 2013044

1" = *30*'

- RUN TOPO BY CLSI

FIELD SURVEY PERFORMED BY CLSI 4. SITE IS ZONED AS R - 20,000 5. TOTAL AREA OF SITE: 3.77 AC

ENVIRONMENTAL SITE NOTES

1. WATERSHED DRAINAGE BASIN: LIBERTY RESERVOIR

SPECIES OR HABITAT WERE OBSERVED DURING

4. NO FEMA FLOODPLAIN IS ON SITE.