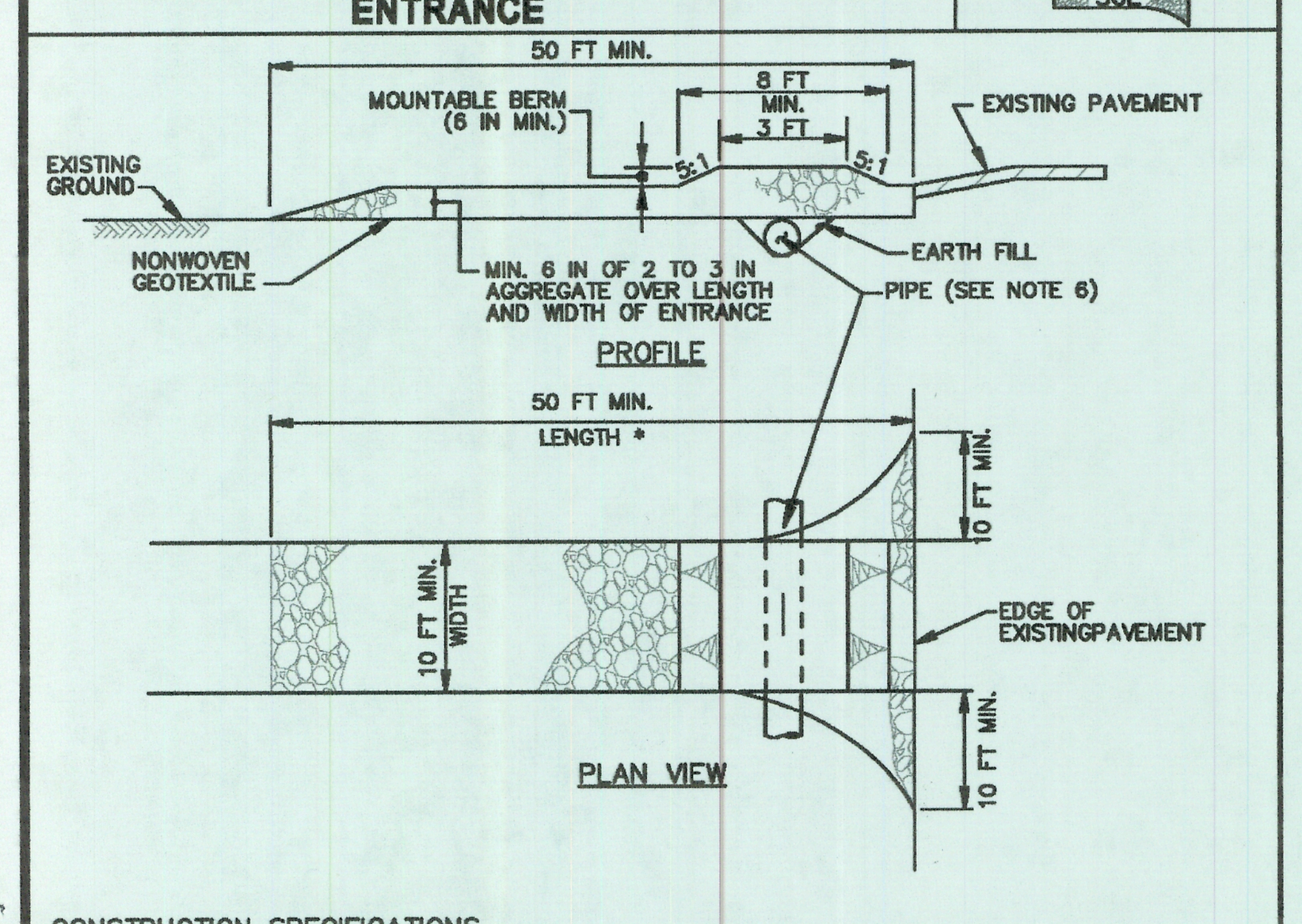
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

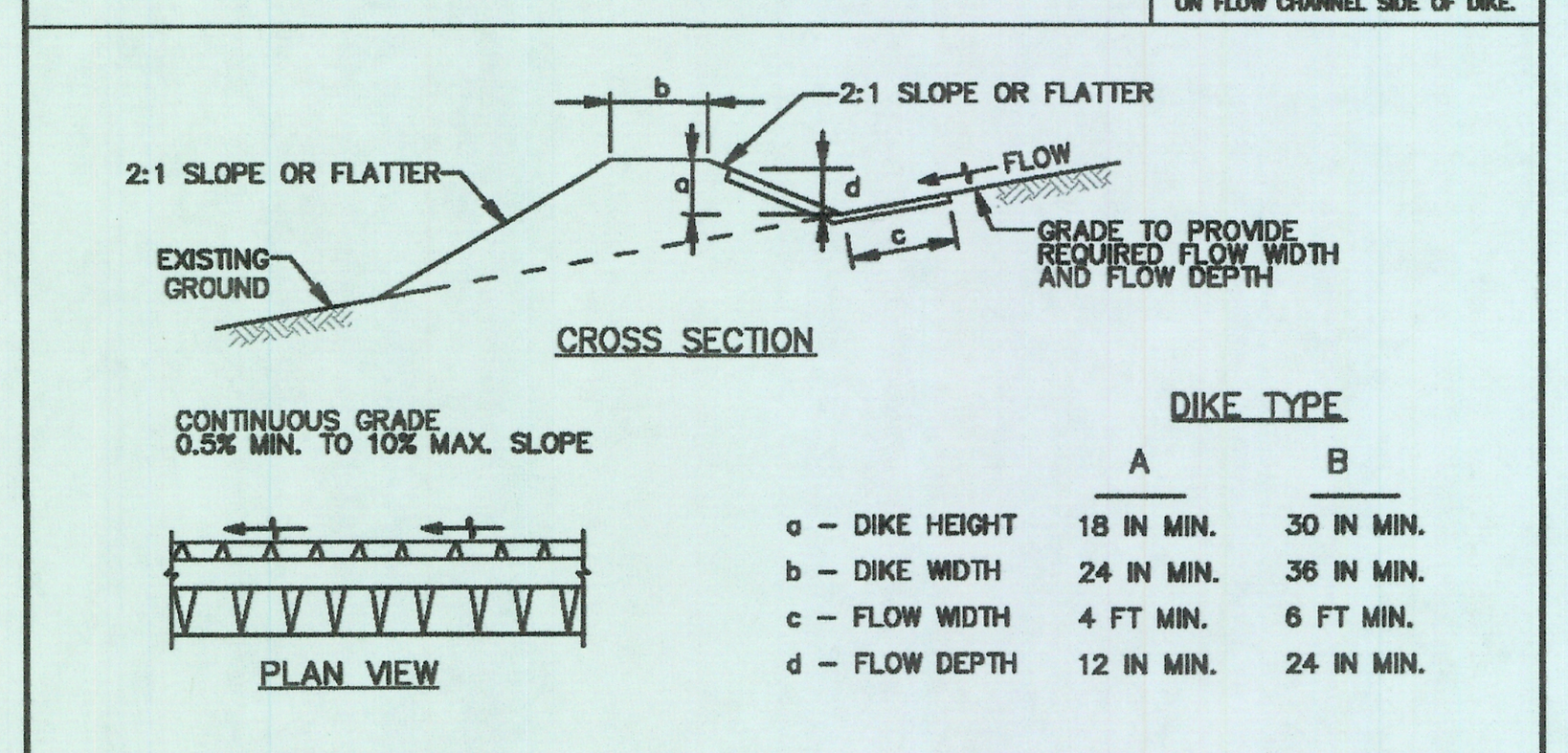
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING 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 C-1 EARTH DIKE

STANDARD SYMBOL: A-1 — PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DIKE.



DIKE TYPE	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A-1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A-2/B-2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A-3/B-3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

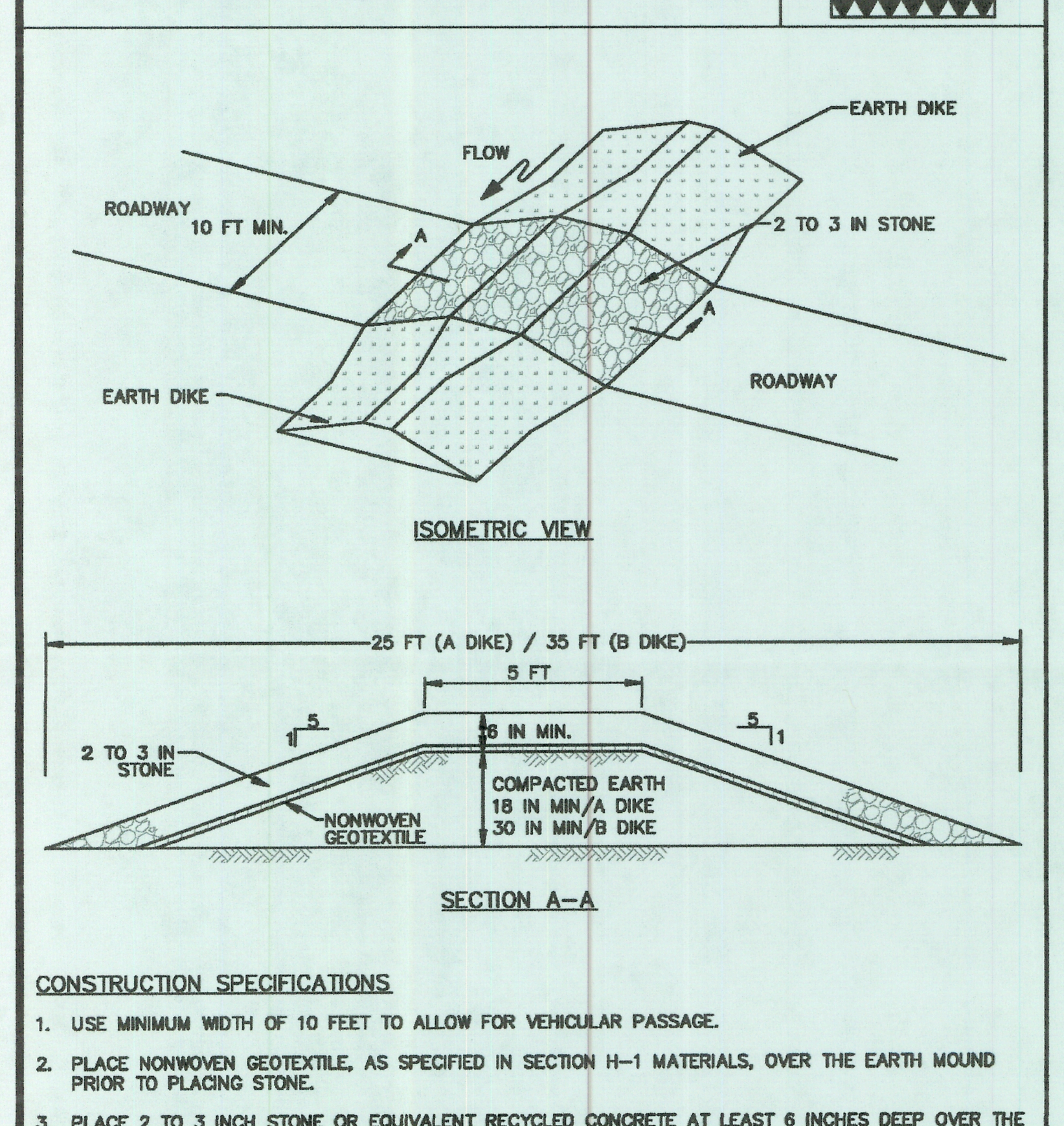
1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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 C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB



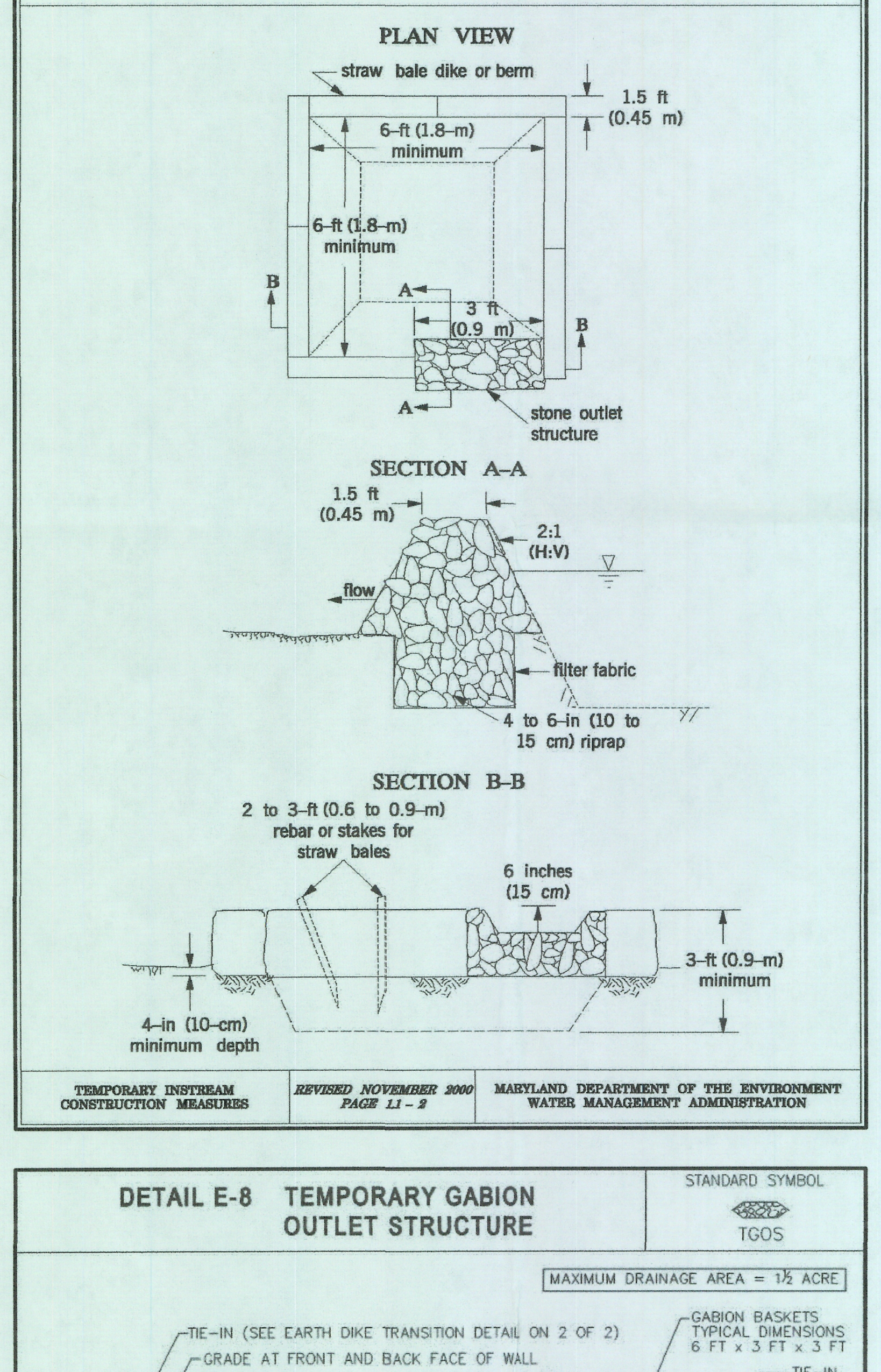
CONSTRUCTION SPECIFICATIONS

1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

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

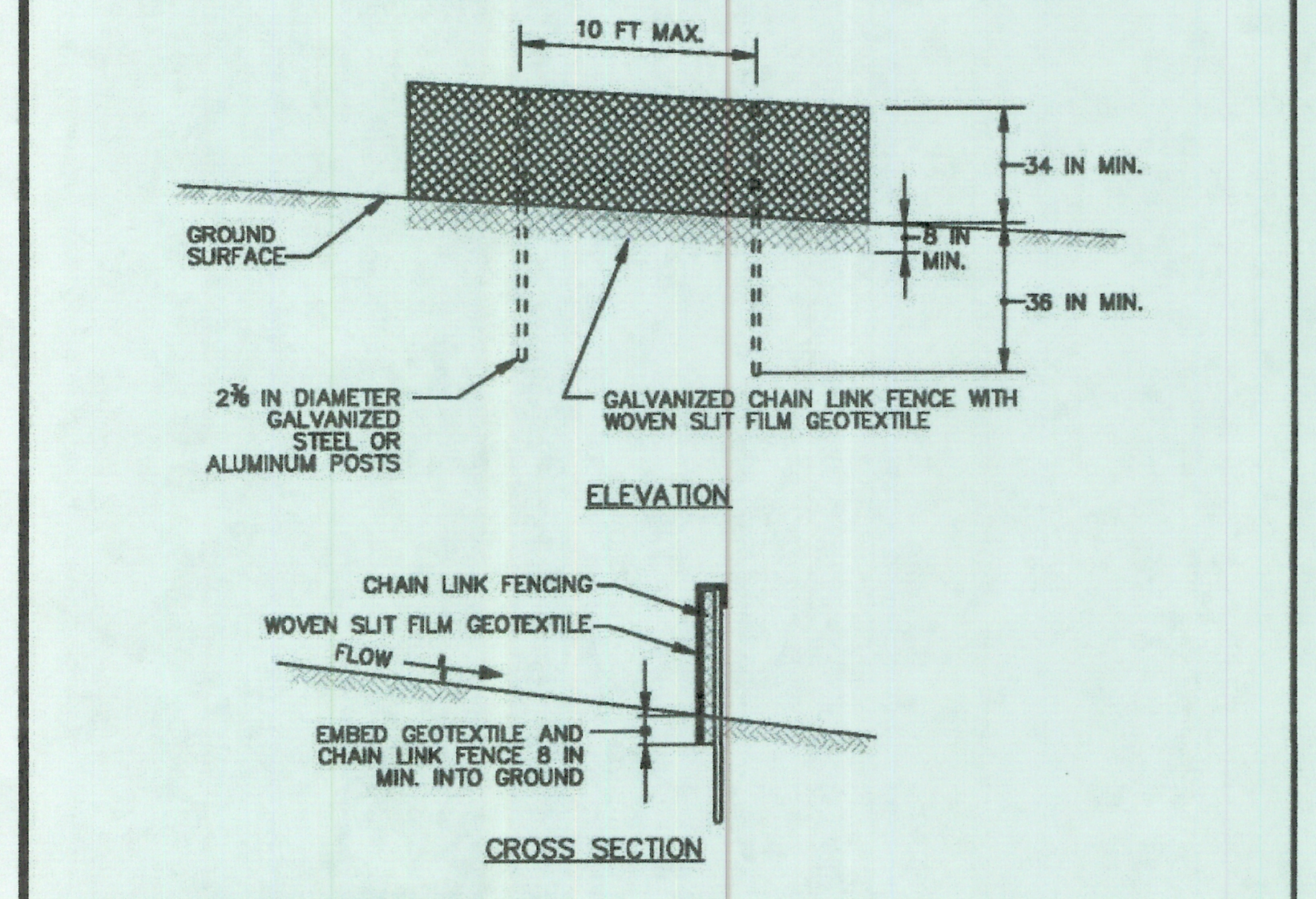
Maryland's Guidelines To Waterway Construction
DETAIL 1.1: DEWATERING BASINS



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.1 - 2	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

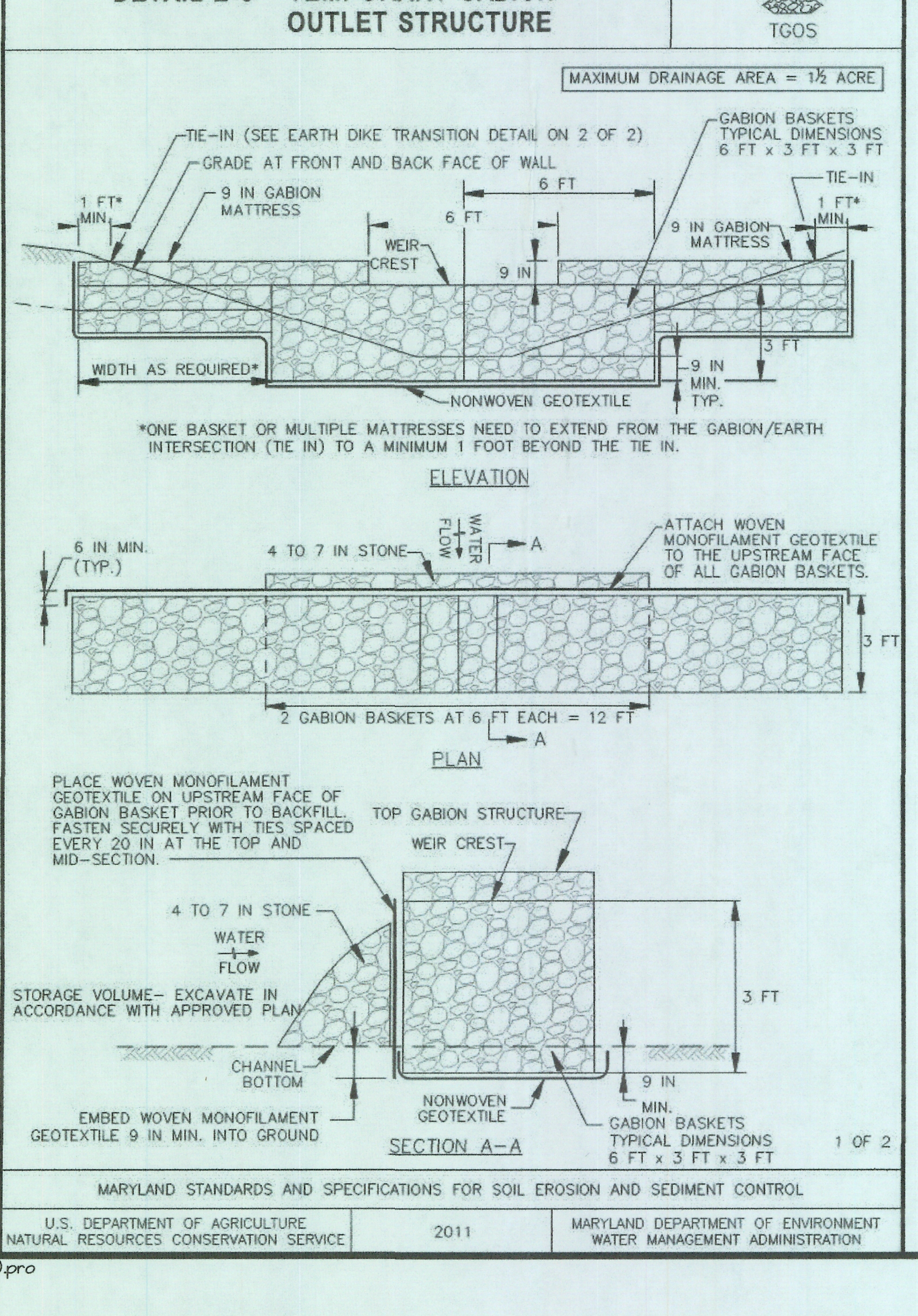
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL: TGOS

MAXIMUM DRAINAGE AREA = 1½ ACRE



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

F:\PROJECTS\PROJ2024\0031-24 KDJ OldVillage Rd\BUILDING PERMITS\LOT 1\BP LOT 1 REVISED (NO GARAGE).pro

GENERAL NOTES

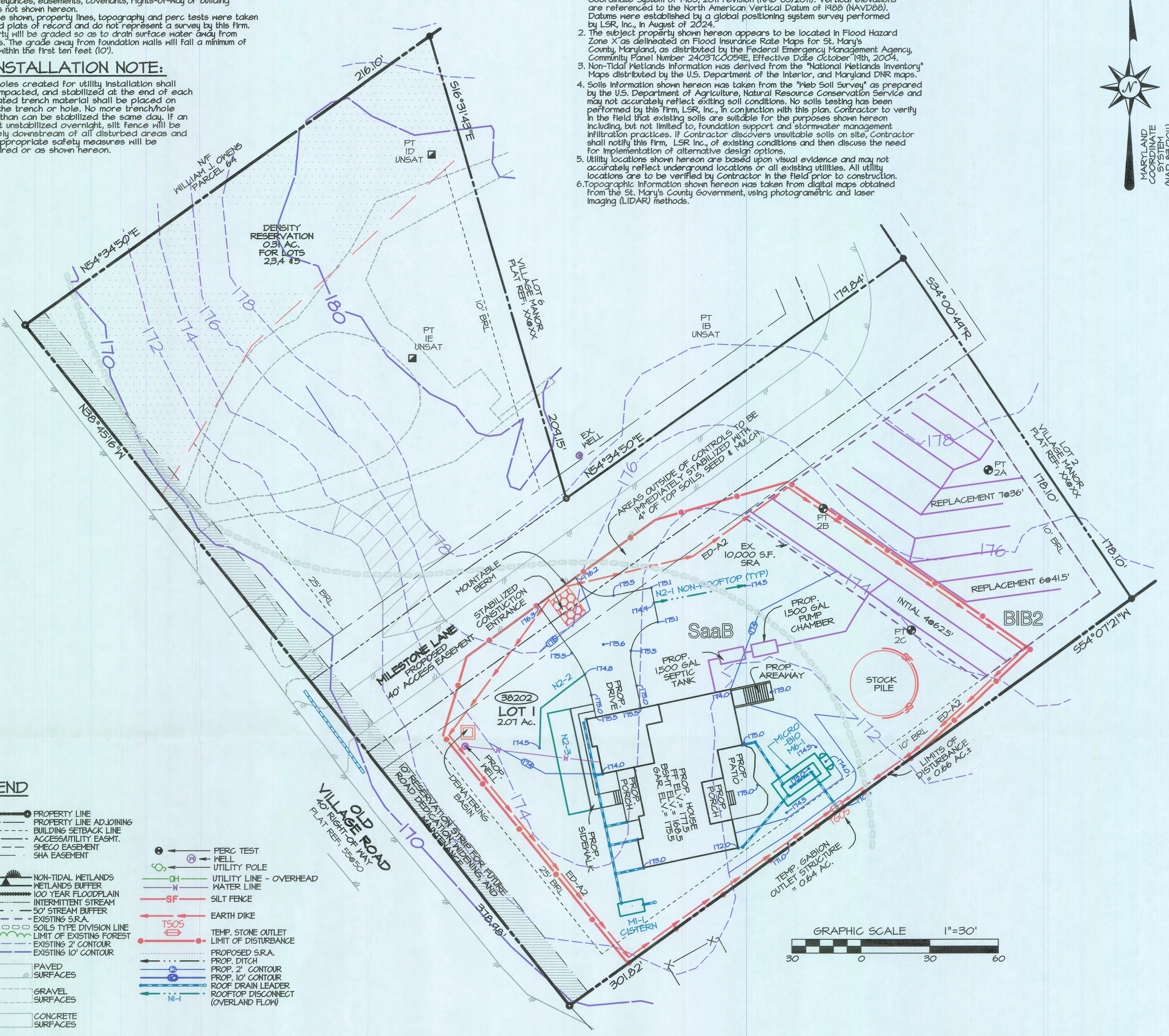
1. Subject property appears to lie within the RL zoning district.
2. This plat was prepared without the benefit of a Title Report which may show additional conveyances, easements, covenants, rights-of-way or building restriction lines not shown hereon.
3. Unless otherwise shown, property lines, topography and perc tests were taken from deeds and plats of record and do not represent a survey by this firm.
4. Subject property will be graded so as to drain surface water away from foundation walls. The grade away from foundation walls will fall a minimum of six inches (6") within the first ten feet (10').

UTILITY INSTALLATION NOTE:

All trenches or holes created for utility installation shall be backfilled, compacted, and stabilized at the end of each work day. Excavated trench material shall be placed on the high side of the trench or hole. No more trench/hole shall be opened than can be stabilized the same day. If an area must be left unstabilized overnight, silt fence will be placed immediately downstream of all disturbed areas and stockpiles, and appropriate safety measures will be installed as required or as shown hereon.

SOURCE NOTES

1. Bearings and coordinates shown hereon are referenced to the Maryland Coordinate System of 1983, 2011 revision (NAD 83/2011). Vertical elevations are referenced to the North American Vertical Datum of 1988 (NAVD88). Datums were established by a global positioning system survey performed by LSR, Inc., in August of 2024.
2. The subject property shown hereon appears to be located in Flood Hazard Zone X as delineated on Flood Insurance Rate Maps for St. Mary's County, Maryland, as distributed by the Federal Emergency Management Agency, Community Panel Number 24037C0059E, Effective Date October 19th, 2004.
3. Non-Tidal Wetlands information was derived from the "National Wetlands Inventory" Maps distributed by the U.S. Department of the Interior, and Maryland DNR maps.
4. Soils information shown hereon was taken from the "Web Soil Survey" as prepared by the U.S. Department of Agriculture, Natural Resource Conservation Service and may not accurately reflect exiting soil conditions. No soils testing has been performed by this firm, LSR, Inc., in conjunction with this plan. Contractor to verify in the field that existing soils are suitable for the purposes shown hereon including, but not limited to, foundation support and stormwater management infiltration practices. If Contractor discovers unsuitable soils on site, Contractor shall notify this firm, LSR Inc., of existing conditions and then discuss the need for implementation of alternative design options.
5. Utility locations shown hereon are based upon visual evidence and may not accurately reflect underground locations or all existing utilities. All utility locations are to be verified by Contractor in the field prior to construction.
6. Topographic information shown hereon was taken from digital maps obtained from the St. Mary's County Government, using photogrametric and laser imaging (LIDAR) methods.



GRAPHIC SCALE 1"=30'

LEGEND

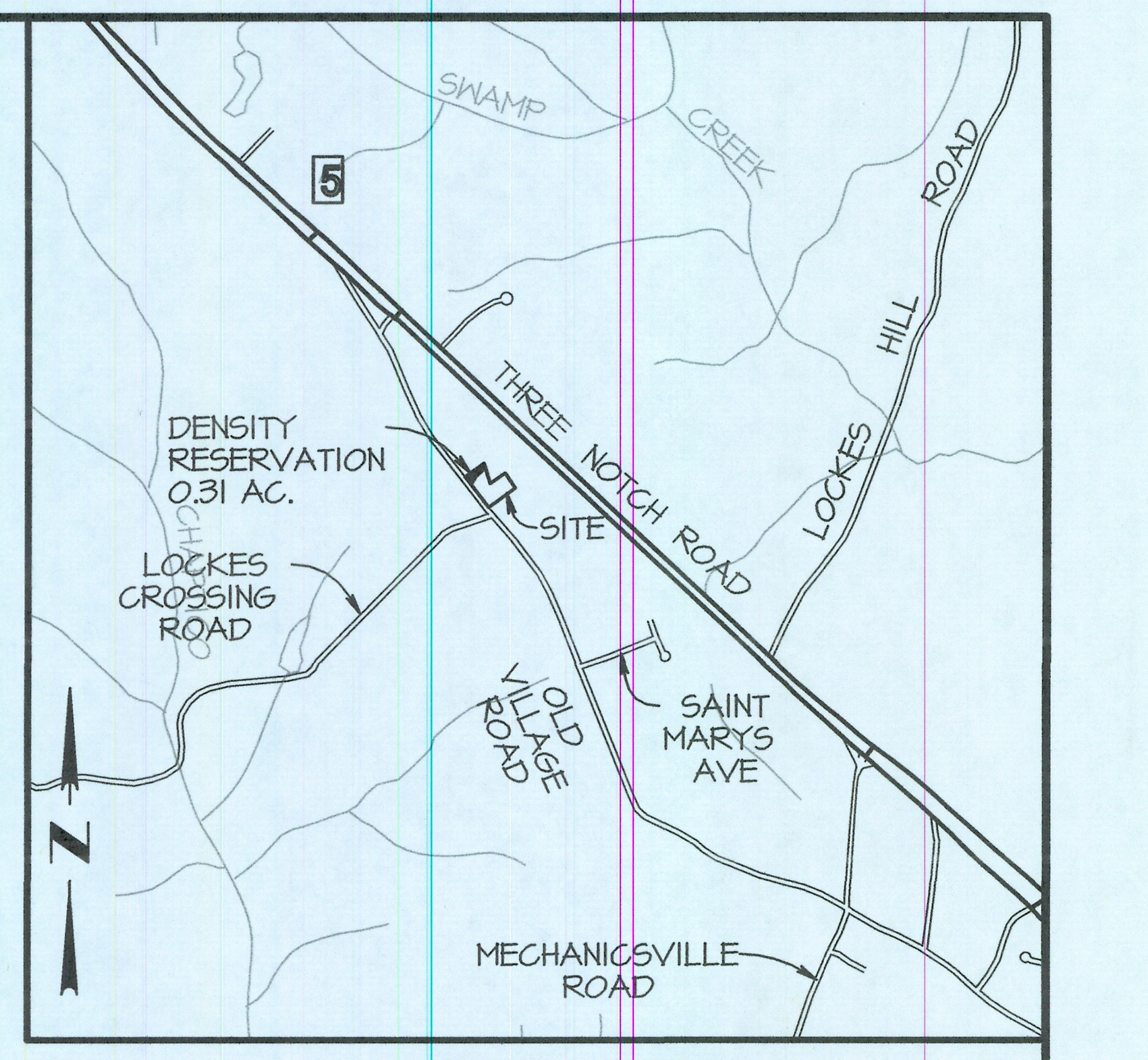
- PROPERTY LINE
- PROPERTY LINE ADJOINING
- BUILDING SETBACK LINE
- ACCESS/UTILITY EASMT.
- SMECO EASEMENT
- SHA EASEMENT
- NON-TIDAL WETLANDS
- WETLANDS BUFFER
- 100 YEAR FLOODPLAIN
- INTERMITTENT STREAM
- 50' STREAM BUFFER
- EXISTING S.R.A.
- SOILS TYPE DIVISION LINE
- LIMIT OF EXISTING FOREST
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- PAVED SURFACES
- GRAVEL SURFACES
- CONCRETE SURFACES
- RIP-RAP
- HIGHLY ERODIBLE SOIL TYPES
- HYDRIC SOIL TYPES
- STEEP SLOPES (25% - +)
- STEEP SLOPES (15% - 25%)
- PERC TEST
- WELL
- UTILITY POLE
- OH — UTILITY LINE - OVERHEAD
- W — WATER LINE
- SF — SILT FENCE
- EARTH DIKE
- TSOS — TEMP. STONE OUTLET
- LIMIT OF DISTURBANCE
- PROPOSED S.R.A.
- PROP. DITCH
- PROP. 2' CONTOUR
- PROP. 10' CONTOUR
- ROOF DRAIN LEADER
- NI-1 — ROOFTOP DISCONNECT (OVERLAND FLOW)

HEALTH DEPARTMENT GENERAL NOTES

a. Tax Map 08, Grid 06, Parcel 62, Lot 1
b. This septic system is designed for 500 Gallons Per Day.
c. The property owner shall maintain and operate all new and existing BAT systems for the life of the system.
d. There shall be a 10 foot Utility Easement along all lot lines. These easements are to include use by the St. Mary.s County Metropolitan Commission, its successors and assigns, for construction, maintenance, repair, inspection and operation of public water and sewer facilities, should such facilities ever be installed.
e. This approval by the St Mary.s County Health Department certifies that the lots shown herein are in consonance with current Maryland laws and regulations concerning sewage disposal as of the approval date; however, this approval may be voided in the event of future changes in such laws and regulations. The designated sewage disposal areas are the only areas approved by the St. Mary.s County Health Department for sewage disposal purposes. Each approved lot includes an approved area of at least 10,000 square feet reserved exclusively for sewage disposal purposes as required by current Maryland laws and regulations. Improvements of any nature including, but not limited to, the installation of other utility lines or structures in this area may render the lots undevelopable. Changes in topography may void this approval. To determine the exact areas of the lots approved for sewage disposal purposes or to establish a different area for such purposes contact the St. Mary.s County Health Department, Division of Environmental Health.
f. The applicant has obtained a waiver or deferral to connect to the public (water/sewer) System, and subsequently the resulting private (water/sewer) service shall be:
  i. approved by the Office of Environmental Health; and
  ii. designed for future connection to a public system when the Metropolitan Commission determines that a connection is feasible and the private Water/Sewer service shall be discontinued and the property shall be connected to the public system. (this note is required when a waiver from water and sewer connection is required.
g. There are no existing wells or sewage easements within 100 feet of the proposed wells or sewage easements, unless otherwise shown.
h. Water supply shall be from an individual deep drilled well that is drilled to an approved confined aquifer.
i. Sewage flow shall be to an individual septic system.
j. Water Category =- W-6D - Sewer Categories = S-6D.

APPROVED
JUL 07 2026
STORMWATER MANAGEMENT
ST. MARY'S COUNTY
LAND USE & GROWTH MANAGEMENT

Received
JUL 22 2026
St. Mary's County
Land Use & Growth Management



VICINITY MAP

SCALE: 1" = 2000'

SOIL CONSERVATION GENERAL NOTES

1. The Contractor shall notify M.D.E., Environment Division at telephone number 410-537-3510 at least 48 hours after pre-construction meeting has been held and sediment controls have been installed. The Contractor may mail notice to MDE, Sediment and Stormwater Administration, 1800 Washington Blvd, Suite 440, Baltimore, MD 21230-1708.
2. Approval of the Inspection Agency shall be requested upon completion for installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
3. Approval shall be requested upon final stabilization of all sites before removal of sediment controls.
4. Specifications for erosion control practices shall be the "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" by the Maryland Department of the Environment.
5. Site is exempt from Forest Conservation Requirements per Section 75.2.2.h of the St. Mary's County Comprehensive Zoning Ordinance (CZO) 02-01 (disturbance of less than 20,000 square feet of forested area).
6. Site is subject to the Environmental Site Design (3 step process) for Stormwater Management and Erosion and Sediment Control hereon.

TEMPORARY & PERMANENT STABILIZATION

1. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within:
   i. Three (3) calendar days for all perimeter controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3:1) and
   ii. Seven (7) days as to all disturbed or graded areas in the project site.
2. Temporary Seeding Schedule:

Species*	Minimum Seeding Rates lbs/acre	Minimum Seeding Rates lbs/1,000 sf	Planting Depth (in)	2/1- 4/30	5/1- 8/14	8/15- 11/30
Barley	122	2.80	1/4-1/2	X	-	by 10/15
Oats	96	2.21	1/4-1/2	X	-	--
Rye	140	3.22	1/4-1/2	X	-	X
Barley/Rye + Foxtail Millet	150	3.45	1/4-1/2	X	X	X

10-10-10 fertilizer shall be applied at 600 lbs per acre. *
Lime shall be applied at 2 tons per acre or 100 lbs/1,000 SF. *
**

3. Permanent Seeding Schedule:

Species*	Minimum Seeding Rates lbs/acre	Minimum Seeding Rates lbs/1,000 sf	Planting Depth (in)	Recommended application dates
Tall fescue 75% Canada bluegrass 10% KY bluegrass 10% red top 5%	150	3.40	1/4-1/2	03/01 - 05/15 08/15 - 11/15
Weeping lovegrass 17% Serecia lespedeza 83%	4 20	0.09 0.46	1/4-1/2	03/01 - 05/15 05/16 - 08/14

Fertilizer application rate: 10-20-20: N 90 lbs/ac or 2.0 lbs/1,000 SF. *
P205 175 lbs/ac or 4.0 lbs/1,000 SF.
K20 175 lbs/ac or 4.0 lbs/1,000 SF.
Lime application rate: 2 tons/ac. or 100 lbs/1,000 SF. *
**

* Other mixes may be used as recommended by the Soil Conservation District.
** Soil preparation shall comply with Section B-4 of the "2011 MD STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL"

SEQUENCE OF CONSTRUCTION

1. Contractor shall arrange a Pre-Construction Meeting with the St. Mary's Soil Conservation District (301-475-8402: ext. 3) at least 5 days in advance of disturbances of any land on Site. -	1 to 2 days
2. Clear and grub those areas necessary for the installation of the perimeter control devices. Install perimeter control devices concurrently with clearing and grubbing. -	1 to 2 days
3. Request approval of perimeter control devices by MDE prior to other land disturbance or grading. -	2 days +/-
4. Clear, grub and rough grade the remainder of the site. Surround areas to be used for stormwater management structures with blaze orange fence to protect it from machinery during construction.-	2 to 3 days
5. Construct house and appurtenances. For appurtenances outside of perimeter controls, no more area shall be disturbed than can be stabilized the same day (See Utility Installation Note). -	3 to 6 months
6. Final grading, landscaping & permanent stabilization of site with a minimum 4 inches topsoil, seed, and mulch. -	1 to 2 days
7. Install Stormwater Management devices once all contributing areas have been stabilized. -	3 to 5 days
8. Remove sediment control devices upon MDE inspector's approval. -	2 days +/-

CONSULTANT'S CERTIFICATION

I hereby certify that the plans have been designed in accordance with approved erosion and sediment control ordinances, regulations, standards, and criteria.

[signature] 7/20/2026
Steven M. Vaughan — Date
Prof. Land Surveyor, MD # 21596
Expires January 17, 2027

STATE OF MARYLAND ★ STEVEN M. VAUGHAN ★ No. 21596 ★ PROFESSIONAL LAND SURVEYOR

SCD INFORMATION

Lot / Parcel Area: 2.07 Acres	OWNER: KDJ DEVELOPMENT LLC. 29433 HORSE RANGE FARM LN. MECHANICSVILLE MD 20659 PHONE: 301-938-0088
Total Disturbed Area: 0.66 Acres	
Site Impervious Area: 0.13 Acres	DEVELOPER: LITZ CUSTOM HOMES INC. 29433 HORSE RANGE FARM LN, MECHANISCVILLE MD 20659 PHONE: 301-938-0088
Area to be Vegetatively Stabilized: 0.53 Acres	APPLICANT: LITTLE SILENCES REST, INC. P.O. BOX 2340 - LEONARDTOWN, MD 20650 PHONE: 301-475-2236
Earthwork Quantities: Cut = 450 cy Fill = 450 cy	

LUGM No.: 25-2025

ST. MARY'S COUNTY HEALTH DEPARTMENT APPROVAL BLOCK

LEHS ________ DATE: ________

DIRECTOR ________ DATE: ________

REVISIONS

11/24/25 hd

OWNER'S/DEVELOPER'S CERTIFICATION

Any clearing, grading, construction, development, stormwater management construction, or all of these, will be done pursuant to this plan, and that all responsible personnel involved in the construction project will have a "Certificate of Training" from a Maryland Department of the Environment approved training program before beginning the Project.

[signature] 7/20/2026
Owner/Developer Authorized Representative — Date

LSR
LAND SURVEYING PLANNING
ENGINEERING * PERMITS
ENVIRONMENTAL SERVICES
LITTLE SILENCES REST, INC.
41650 COURT HOUSE DRIVE - SUITE 101 - P.O. BOX 2340
LEONARDTOWN, MD 20650
PHONE: (301) 475-2236 ~ WWW.LSRCORP.COM

DATE	9/17/2025
JOB#	0031-24
FOLDER	M08B06
SCALE	1" = 30'
DRAWN	MS
CHECKED	SV
DATE PLOTTED	7/20/2026

BUILDING PERMIT PLAT

LOT 1
TAX MAP 08 GRID 06 PARCEL 62
VILLAGE MANOR
PLAT REF: 83 @ 42

5th ELECTION DISTRICT - ST. MARY'S COUNTY, MARYLAND
FOR: KEITH LITZ

SHEET: 1 OF 2

MICRO BIORETENTION DESIGN AND INSTALLATION:

* - Materials and construction shall be in accordance with the 2000 Maryland Stormwater Design Manual including, but not limited to, Appendix "B.4" Section B.4.C for construction specifications (see hereon).
* - Structure to be located at least 10' away from foundation walls and 25' from septic easements, and 50' away from confined water supplies.
* - During site construction, structures shall be delineated with highly visible stakes. Runoff shall be diverted away from and use of heavy equipment avoided on top of proposed structures.
* - Installation may not begin until all contributing drainage areas are stabilized.
* - Gravel for the underdrain system shall be clean, washed, and free of fines. The upstream end of the pipe should be capped.
* - Planting soil should be mixed on-site prior to installation.
* - Optimum planting time for landscaping is during the fall. Spring planting is acceptable, with watering.
* - Micro Bioretention will be inspected at a minimum:
  1) during excavation to subgrade and installation of underdrain,
  2) during placement of filter media,
  3) during construction of appurtenant conveyance, and
  4) upon completion of final grading and establishment of permanent stabilization.

MICRO BIORETENTION INSPECTION AND MAINTENANCE:

* - Regular inspections shall be made bi-annually and after each major storm event to ensure device is properly storing and infiltrating rain water.
* - The top few inches of filter media should be removed and replaced when water ponds for more than 48 hours. Silts and sediments should be removed from the surface of the filter bed when accumulation exceeds one inch.
* - Where practices are used to treat areas with higher concentrations of heavy metals (e.g., parking lots, roads), mulch should be replaced annually. Otherwise, the top two to three inches should be replaced as necessary.
* - Occasional pruning and replacement of dead vegetation is necessary. If specific plants are not surviving, more appropriate species should be used. Watering may be required during prolonged dry periods.

SECTION B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS & LANDSCAPE INFILTRATION

1.MATERIAL SPECIFICATIONS
-The allowable materials to be used in these practices are detailed in Table B.4.1 of the 2000 Maryland Stormwater Management Design Manual.

2.FILTERING MEDIA OR PLANTING SOIL
-The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda Grass, Quackgrass, Johnson Grass, or other noxious weeds as specified under COMAR 15.08.01.05.
-The planting soil shall be tested and shall meet the following criteria:
*Soil Component - Loamy Sand or Sandy Loam (USDA Soil Classification)
*Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60 - 65%) and compost (35 - 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
*Clay Content - Media shall have a clay content of less than 5%.
*pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.
-There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional test of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3.COMPACTION
-It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If biorention areas are excavated using a loader, contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.
-Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12"compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.
-Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.
-When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of topsoil to final grade.
-When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or dozer/loader with marsh tracks.

4.PLANT MATERIAL
-Recommended plant material for stormwater bioretention practices can be found in APPENDIX "A", SECTION A.2.3 of the Maryland Stormwater Design Manual (Available online at http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx

5.PLANT INSTALLATION
-Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding areas to a minimum thickness of 3". Shredded or chipped hardwood mulch is the only acceptable mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.
-Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.
-Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.
-Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.
-The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill area fertilizer at a rate of 2 pounds per 1000 square feet.

6.UNDERDRAINS
-Underdrains should meet the following criteria:
*Pipe - Should be 4 - 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
*Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped in 1/4" (No. 4 or 4x4) galvanized hardware cloth.
*Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
*The main collector pipe shall be at a minimum 0.5% slope.
*A rigid, non-perforated observation well must be provided (one per every 1,000 s.f.) to provide a cleanout port and monitor performance of the filter.
*A 4" layer of pea gravel (1/8" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24 inches.
-The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or cleanout pipes must be provided (one minimum per every 1000 s.f. of surface area).

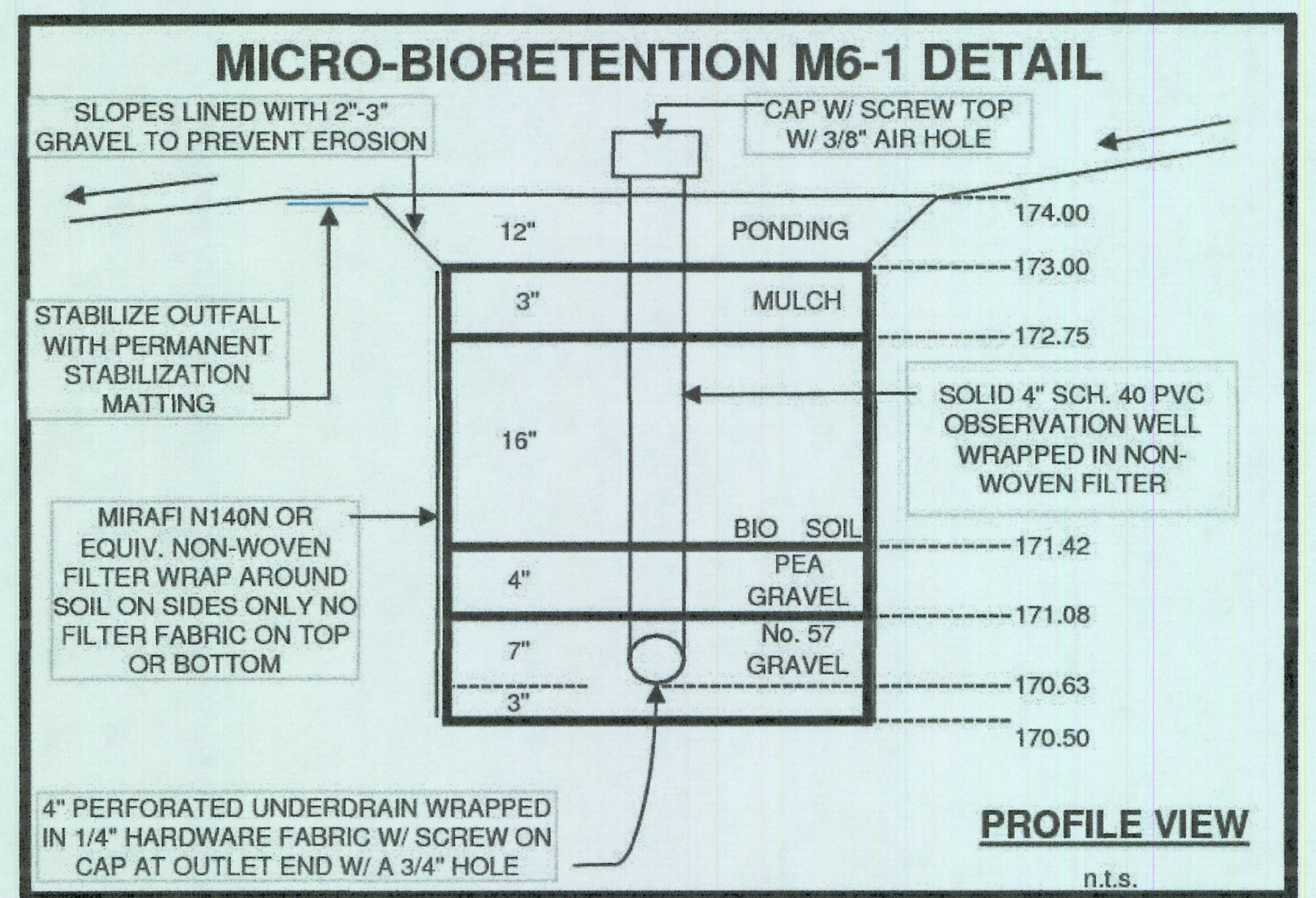
7.MISCELLANEOUS
-These practices may not be constructed until all contributing drainage area has been stabilized.

TABLE B.4.1 MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS & LANDSCAPE INFILTRATION

MATERIAL	SPECIFICATION	SIZE	NOTES
Plantings	acceptable species listed hereon	N/A	See Appendix A, Table A.4 for additional species
Planting soil (2' TO 4' deep)	Loamy sand (60 - 65%) & Compost (35 - 40%) or Sandy loam (30%) & Coarse sand (30%)& Compost (40%)	N/A	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	Shredded hardwood		Aged 6 months minimum; no pine or wood chips
Pea gravel diaphragm	Pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" or 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		N/A	PE Type I nonwoven
Gravel (underdrains & infiltration berms)	AASHTO M-43	No. 57 or No. 6 Aggregate (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" Sch. 40 or SDR35 PVC	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4" hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air entrained; reinforcing to meet ASTM-615-60	N/A	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast in place or pre-cast) not using previously approvedState or local standards requires design drawings sealed and approved by a structural engineer licensed in the State of Maryland. Design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

F:\PROJECTS\PROJ2024\0031-24 KDJ OldVillage Rd\BUILDING PERMITS\LOT 1\BP LOT 1 REVISED (NO GARAGE).pro

MICRO-BIORETENTION M6-1 DETAIL

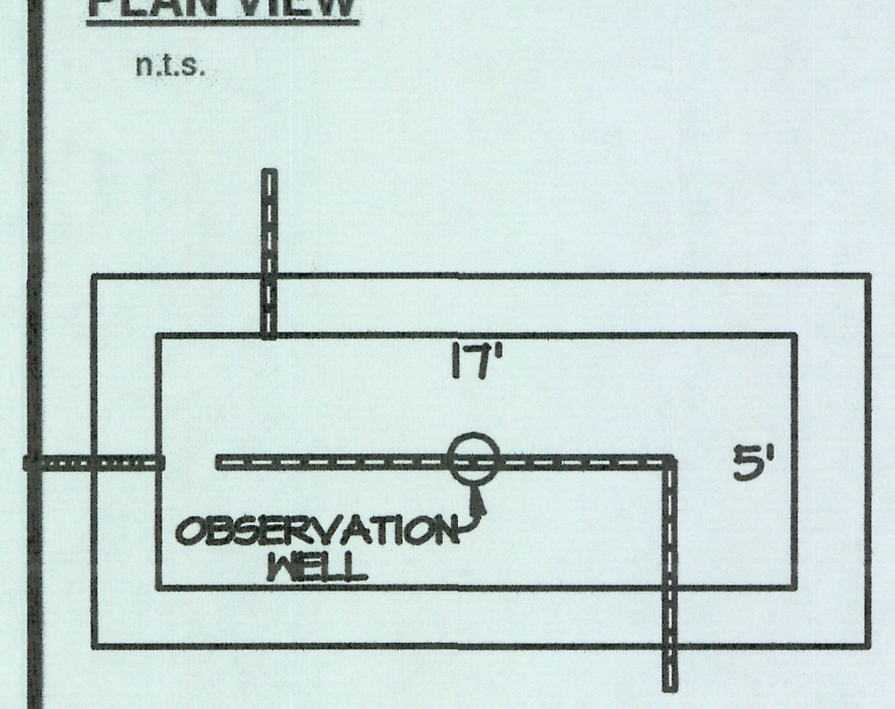


PROFILE VIEW

n.t.s.

PLAN VIEW

n.t.s.



TARGET VALUES

ESDv = (Target Pe * Rv * A) / 12
= (1.13506868131868*0.83*2000)/12
= 158 c.f.
Af = ESDv / ((Min. DF * 0.4) + hf)
= 158 / [2*(0.4)+ 1]
= 243 s.f.

ACTUAL VALUES

ESDv = ((Af+AfP)/2)*hf)+(Af*df*0.4)
= 204.0 c.f.
I = Impervious (I) / Area (A)
= 87.2 %
Rv = (0.05 + 0.009 * I)
= 0.83
Pe = (12 * ESDv / Rv * A)
= 1.47"

TREES = 1
SHRUBS = 1
GRASSES = 12

Bed Length	Bed Width	Depth Pond (hf)	Surface Area (Af)	Ponding Area (AfP)	Media Depth (df)	Area Rec'd (A)	Imp. Area	Pe
17'	6'	1'	102 s.f.	102 s.f.	2.50	2000 s.f.	1744 s.f.	1.47"

NON-ROOFTOP DISCONNECT (N-2) NOTES

DESIGN & INSTALLATION:

* Erosion and sediment control devices (e.g., sediment traps) shall not be located in vegetated areas receiving disconnected runoff.
* Runoff from impervious areas shall drain in a safe and non-erosive manner through vegetated areas to the property line or down stream BMP.
* Non-rooftop impervious areas shall be disconnected as follows:
  a. GRASS FILTER STRIPS-
  Where impervious areas intersect the topographic contours at a maximum of 45 degrees, an unlimited area may drain from the impervious area in sheet flow provided the average slope is 5% or less for a distance equivalent to the longest drainage distance over the impervious area. Flow concentrations must be avoided for this practice to work effectively.
  b. VEGETATED CHANNELS-
  Where impervious areas intersect the topographic contours at an angle which exceeds 45 degrees, up to 1,000 square feet of impervious area may discharge in concentrated flow provided that the average slope is 5% or less for a distance equivalent to the longest drainage distance over the impervious area.
  c. ALL PRACTICES -
  The flow path or "disconnection" through vegetated areas shall be a minimum length of 10 feet; shall not exceed 75 feet in length; shall be located on an average slope of 5% or less; and shall be at least 10 feet from the nearest impervious surface of similar or lower elevation to prevent reconnection. The maximum contributing flow path shall be 150 feet.
* If areas to be used for disconnection are disturbed during construction, they shall be roto-tilled to a depth of 4" - 6" prior to establishing vegetation to increase soil permeability.

INSPECTION AND MAINTENANCE:

* A final inspection shall be conducted before use and occupancy approval to ensure that adequate treatment areas and permanent stabilization have been established.
* Maintenance of areas receiving disconnected runoff is no different than that required for lawn or landscaped areas.
* Areas receiving disconnected runoff should be protected from compaction, such as vehicle traffic.

NON-ROOFTOP DISCONNECTS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

N-2	NON-ROOFTOP DISCONNECTS						
No.	IMP. AREA	IMP. DIST.	BUFFER	Pe	ESDv Prov.	SLOPE	Rev (% AREA)
N2-1	1,000 s.f.	10.0 ft.	10.0 ft.	1.00 in.	79.2 c.f.	< 5%	1,000 s.f.
N2-2	650 s.f.	10.0 ft.	10.0 ft.	1.00 in.	51.5 c.f.	< 5%	650 s.f.
N2-3	224 s.f.	10.0 ft.	10.0 ft.	1.00 in.	17.7 c.f.	< 5%	224 s.f.

SITE DATA:

SOIL TYPE		A	B	C	D	TOTAL/AVG.
Drainage Area (A)	=	s.f.	19,666 s.f.	9,454 s.f.	s.f.	29,120 s.f.
Impervious Area	=	s.f.	5,932 s.f.	s.f.	s.f.	5,932 s.f.
Pervious Area	=	0 s.f.	13,734 s.f.	9,454 s.f.	0 s.f.	23,188 s.f.
% Impervious (I)	=					20 %
Pre-Devel. RCN	=	38	55	70	77	60
Target Pe	=	0	1.20	1.00	0	1.14

DEVELOPMENT CRITERIA:

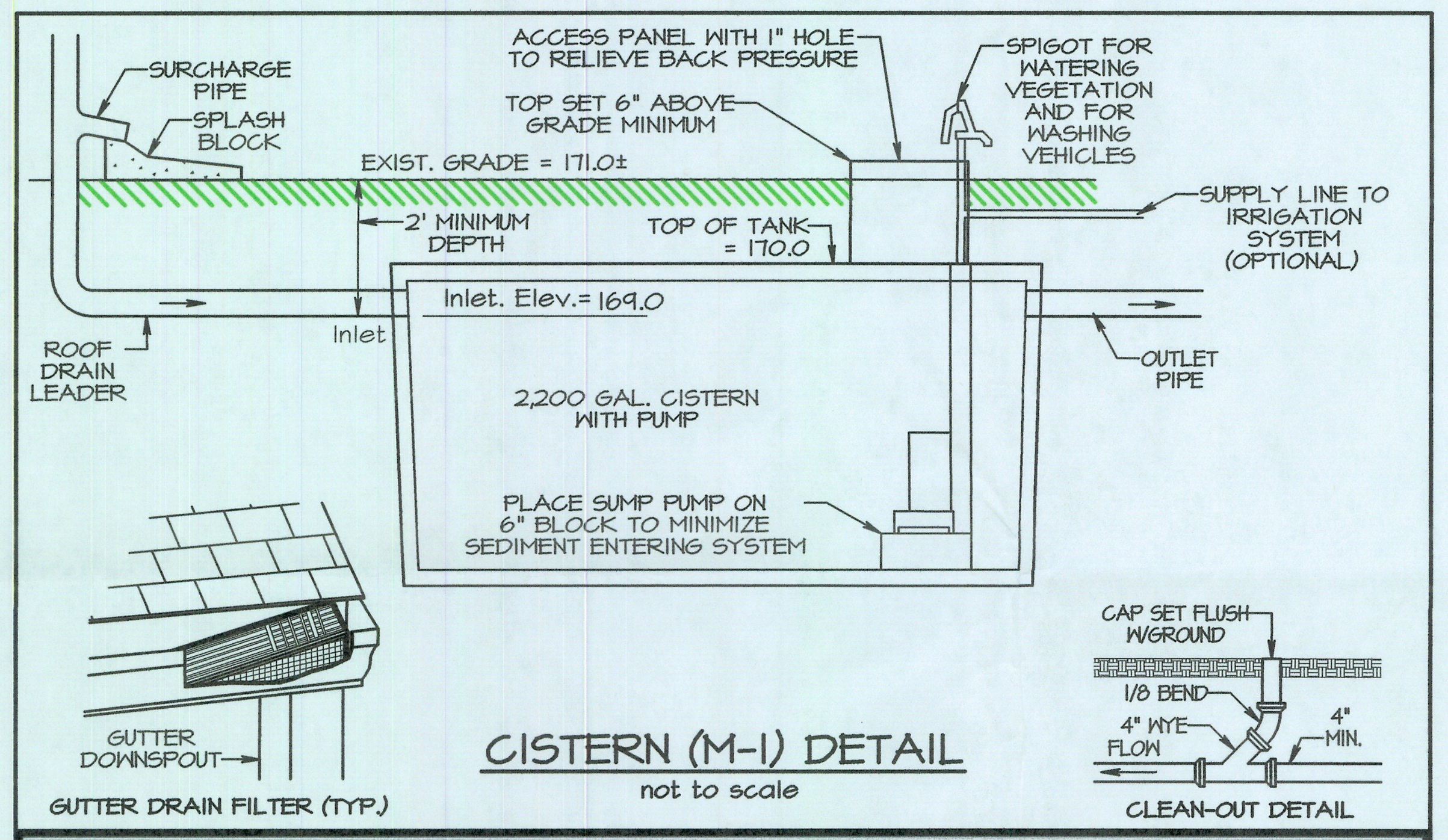
Direct Tidal Discharge? NO — If YES, Pe = 1.0
Parcel Area = s.f. — Parcel Impervious Area = s.f.
Redevelopment Project (>40% IMP.) NO — If YES, Pe = 1.0 for impervious areas
ReDev. New Impervious Area = 5,932 s.f. & I = 100%
ReDev. Exist. Impervious Area = s.f.
ReDev. Exist. Impervious TBR = s.f.
Exist. Imp. to be treated with ESD = 0 s.f. * 50% = 0 s.f.

DESIGN REQUIREMENTS:

				PROPOSED DEVELOPMENT		RE- DEVELOPMENT
Rv	=	0.05 + 0.009 * I	=	0.23	=	0.00
Qe	=	Pe * Rv	=	0.26 in.	=	0.00 in.
ESDv	=	(Pe * Rv * A) / 12	=	**643 c.f.**	=	**0 c.f.**
WQv	=	(1" * Rv * A) / 12	=	566 c.f.	=	0 c.f.
CPv	=	ESDv - WQv	=	76	=	0
S	=	Weighted Recharge Factor	=	0.22	=	0.00
Rev	=	(S * Rv * A) / 12	=	0.0028 ac.ft.	=	0.0000 ac.ft.
(% Volume)	=		=	123 c.f.	=	0 c.f.
Rev	=	(S * A)	=	0.0297 ac.	=	0.0000 ac.
(%Area)	=		=	1,292 s.f.	=	0 s.f.

DESIGN PROVISIONS:

ESDv Required = 643 c.f. — **ESDv Provided** = 646 c.f.
ESDv Untreated = ✓ -4 c.f.
(12*ESDv/Rv*A) — Pe Provided = 1.14
Rev Required = 1,292 s.f. (% Area) — Rev Provided = 5,392 s.f.
Rev Untreated = ✓ -4,100 s.f.



CISTERN (M-1) DETAIL

not to scale

M-1	RAINWATER HARVESTING (RAIN BARREL / CISTERN)					
No.	IMP. AREA	SIZE	Max ESDv	Pe Prov.	ESDv Prov.	Rev (% AREA)
M1-1	1,774 s.f.	2,200 gal.	393.2 c.f.	2.09 in.	294.1 c.f.	1,774 s.f.

CISTERN DESIGN AND INSTALLATION:

* - Storage tanks shall be watertight, and the top of the tank shall be located beneath the frost line.
* - Gutter Screens are required to remove leaves and other debris from runoff for pre-treatment.
* - In line clean-outs shall be installed in roof leaders at twenty-five foot (25') minimum intervals.
* - Storage tanks shall capture at least 0.2 inches of rainfall from the contributing rooftop area.
* - Overflow from storage tanks shall be safely directed to a stable vegetated outfall to down gradient areas.
* - Cistern Access panels/ manholes shall be secured to prevent unauthorized access.
* - Sump pump shall have a vertical float shut-off switch set at 1" minimum above pump inlet elevation, or approved equivalent, to protect pump from running dry.
* - A pressure tank with cut-off switch and backflow preventer, or approved equivalent, shall be provided to protect pump from excessive loads.
* - At a minimum, storage tanks will be inspected prior to operation and certified that the constructed system meets the conditions specified on the approved plans.

CISTERN INSPECTION AND MAINTENANCE:

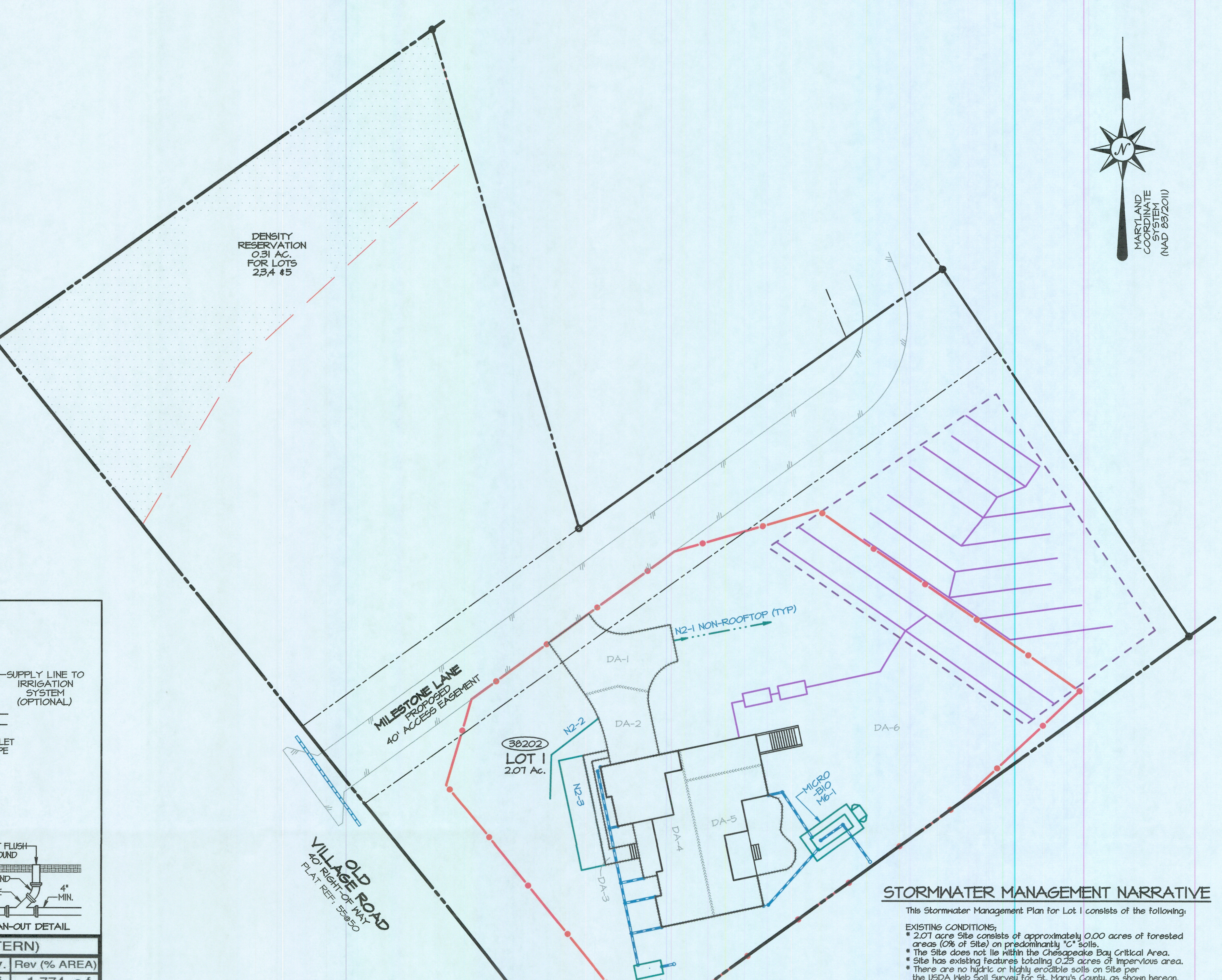
* - Access shall be provided for cleaning, inspection, and maintenance in cisterns.
* - At a minimum, storage tanks and conveyance systems should be inspected yearly.
* - Underground system connections should be checked for frozen lines and ice blockages during winter.
* - Leaf screens, gutters, and downspouts should be cleaned out to prevent clogging.
* - Any sedimentation deeper than 6" should be cleaned out of the stilling well and storage tank.

CISTERN OPERATION:

* - Storage tanks must be maintained and operated throughout the year when the temperature is above 32° F.
* - As much stored water as possible should be utilized between storm events.
* - Approximately 24 hours after each rain event, at least half of the water stored in the cistern shall be used to irrigate the lawn areas. The balance of the water stored in the cistern will be used to irrigate plant beds and to wash vehicles.

STORMWATER MANAGEMENT SUMMARY TABLE

No.	AREA	IMPERV. AREA	PERVIOUS AREA	% IMPRV.	% OF SITE	TARGET ESDv	MAXIMUM ESDv	ACTUAL ESDv	ACTUAL Pe	ACTUAL Rev (% AREA)	STRUCT-URE No.	PRACTICE DESCRIPTION
DA-1	1,000 s.f.	1,000 s.f.	0 s.f.	100%	3.4%	89.9 c.f.	221.7 c.f.	79.2 c.f.	1.00	1000.0 s.f.	N2-1	10' NON-ROOFTOP DISC.
DA-2	650 s.f.	650 s.f.	0 s.f.	100%	2.2%	58.4 c.f.	144.1 c.f.	51.5 c.f.	1.00	650.0 s.f.	N2-2	10' NON-ROOFTOP DISC.
DA-3	224 s.f.	224 s.f.	0 s.f.	100%	0.8%	20.1 c.f.	49.7 c.f.	17.7 c.f.	1.00	224.0 s.f.	N2-3	10' NON-ROOFTOP DISC.
DA-4	1,774 s.f.	1,774 s.f.	0 s.f.	100%	6.1%	159.4 c.f.	393.2 c.f.	294.1 c.f.	2.09	1774.0 s.f.	M1-1	2200 GAL. RAIN BARREL
DA-5	2,000 s.f.	1,744 s.f.	256 s.f.	87%	6.9%	157.9 c.f.	389.6 c.f.	204.0 c.f.	1.47	1744.0 s.f.	M6-1	102 S.F. MICRO-BIO
SUB	5,648 s.f.	5,392 s.f.	256 s.f.	95%	19.4%	485.7 c.f.	1198.3 c.f.	646.4 c.f.	1.51	5,392 s.f.	-	-
DA-6	23,472 s.f.	540 s.f.	22,932 s.f.	2%	80.6%	158.1 c.f.	389.9 c.f.	0.0 c.f.	0.00	0 s.f.	-	UNTREATED
TOTAL	29,120 s.f.	5,932 s.f.	23,188 s.f.	20%	100.0%	642.7 c.f.	1585.5 c.f.	646.4 c.f.	1.14	5,392 s.f.	-	-



STORMWATER MANAGEMENT NARRATIVE

This Stormwater Management Plan for Lot 1 consists of the following:

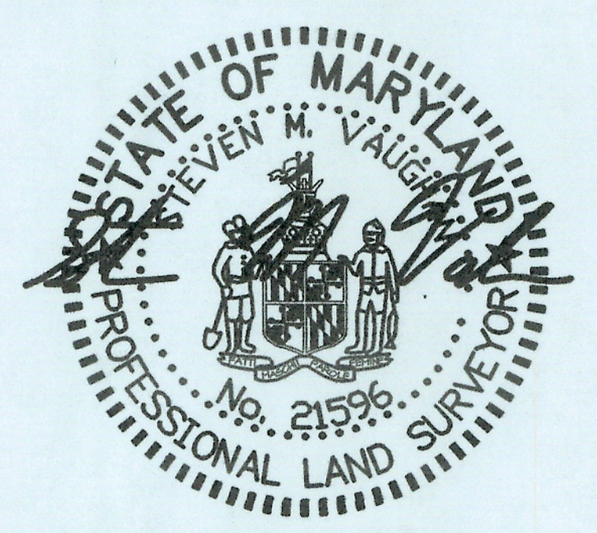
EXISTING CONDITIONS;
* 2.07 acre Site consists of approximately 0.00 acres of forested areas (0% of Site) on predominantly "C" soils.
* The Site does not lie within the Chesapeake Bay Critical Area.
* Site has existing features totaling 0.23 acres of impervious area.
* There are no hydric or highly erodible soils on Site per the USDA Web Soil Survey for St. Mary's County, as shown hereon.
* There are no slopes greater than 15% on Site.
* There are no wetlands on Site as shown on DNR & NWI Wetland Maps.
* There are no intermittent or perennial Streams, per USGS quadrangle maps, running through the Site.
* There are no 1% annual chance (100 year) flood plains on Site per FEMA Flood Maps.
* no Wetlands, springs or seeps were observed in the area proposed to be developed on subject site.

PROPOSED DEVELOPMENT:
* Site is being developed in such a manner as to allow the proper use and enjoyment of the land with minimal impacts to sensitive areas.
* Proposed development will be limited to an envelope of 0.66 acres, which will omit impact to Resource Protection areas.
* Proposed development will include an 3,092 square foot house, with moderate decks and walks, accessed by a 10' driveway (the minimum required) and a turnaround area.
* Total proposed impervious area is 5,932 square feet, or 0.13 acres, which is 20% of the Site area and 10% of the Lot area.
* Proposed house has been located in the proximity of the proposed septic system to minimize clearing.

ENVIRONMENTAL SITE DESIGN:
* Site development will divert upstream flows around subject property to allow proper disconnection of proposed improvements.
* Rooftop runnoff shall be disconnected by directing individual down spouts draining 500 square feet of roof area, or less, through a vegetated area of at least 75 feet with a grade of less than 5%.
* Non rooftop runoff (driveway) shall be disconnected by directing impervious runoff to vegetated areas equal in length to the contributing impervious length and with a grade of less than 5%.
* Disconnects shall be directed away from buildings and shall be located at least 10 feet away from other impervious areas.
* Care shall be taken to limit compaction of soils in vegetated areas to be used for disconnects.
* Areas to be used for disconnection shall be roto-tilled prior to establishing vegetation to increase soil permeability.
*Due to site grade restraints - not all impervious areas can be treated with non-structural practices. Rain garden and micro-bioretention area will be used to meet remaining ESDv requirements.
* During site construction, areas to be used for rain gardens or micro-bioretention shall be field delineated with highly visible stakes set at all corners. Care shall be taken during construction to avoid compaction of these areas with heavy equipment. Upstream runoff to these areas shall be diverted during construction.

OUTFALL CONDITIONS:
* Site will discharge to an existing channel which appears to be stable and able to withstand anticipated flows from development.

EROSION AND SEDIMENT CONTROL DESIGN:
* Site entrance will require a stabilized construction entrance (with mountable berm)(Detail B-1).
* Existing slopes within disturbed areas range from 2% to 12%.
* Runoff from disturbed areas within non-erosive soil types and on slopes less than 2% grade (and on slopes less than 10% grade which are less than 125 feet long) shall be controlled with Silt Fence (Detail E-1).
* Runoff from all other areas shall be controlled by earth dikes (Detail C-1) and temporary stone outlet structures (Detail E-7).
* Discharge from outlet structures shall be to stable, vegetated areas.



Steven M. Vaughan
Prof. Land Surveyor, MD # 21596
Expires January 17, 2027

LSR LAND SURVEYING PLANNING
ENGINEERING * PERMITS
ENVIRONMENTAL SERVICES
LITTLE SILENCES REST, INC.
41650 COURT HOUSE DRIVE - SUITE 101 - P.O. BOX 2340
LEONARDTOWN, MD 20650
PHONE: (301) 475-2236 ~ WWW.LSRCORP.COM

DATE	9/17/2025
JOB#	0031-24
FOLDER	M08B06
SCALE	1" = 30'
DRAWN	MS
CHECKED	SV
DATE PLOTTED	7/20/2026

LUGM No.: 25-2025

BUILDING PERMIT PLAT

LOT 1

TAX MAP 08 GRID 06 PARCEL 62
VILLAGE MANOR
PLAT REF: 83 @ 42

5th ELECTION DISTRICT - ST. MARY'S COUNTY, MARYLAND
FOR: KEITH LITZ