FINDINGS AND RECOMMENDATION OFFICE OF PLANNING AND ZONING ANNE ARUNDEL COUNTY, MARYLAND

APPLICANT: Tonya Tennile Brewer ASSESSMENT DISTRICT: 3rd

CASE NUMBER: 2023-0166-V COUNCILMANIC DISTRICT: 5th

HEARING DATE: January 18, 2023 **PREPARED BY**: Jennifer Lechner

Planner

REQUEST

The applicant is requesting variances to allow a lot with less width and area than required and greater density than allowed, and to allow a dwelling with less setbacks than required on property located at 1422 Brewer Road in Annapolis.

LOCATION AND DESCRIPTION OF SITE

The subject site consists of 1.253 acres of land, identified as Lots 1 and 2 of Parcel 263 in Block 13 on Tax Map 41, and 0.413 acres of land, identified as Lot 2 ½ of Parcel 78 in Block 13 on Tax Map 41 both in the George Hayes Tract. The property has a total of 95.5 feet of road frontage on the northern side of Brewer Road.

The property is zoned R1 – Residential District, as adopted by the comprehensive zoning for Council District 5, effective January 29 2012. It is currently improved with a two-story dwelling, attached garage with living space above, sheds, and associated facilities.

APPLICANT'S PROPOSAL

The applicant is proposing to subdivide the property to create two new lots; Lot 1 (the front lot) consisting of 32,825 square feet, for the existing single family dwelling to remain, and Lot 2 (the rear lot) consisting of 40,000 square feet for a proposed two-story single family dwelling with basement. Lot 2 would gain access to Brewer Road via a proposed easement through Lot 1.

REQUESTED VARIANCES

§ 18-4-501 of the County Code states that, in the R1 District, the minimum lot size is 40,000 square feet; the minimum lot width at the front building restriction line is 125 feet; the minimum setbacks for principal structures is 40 feet from the front lot line, 35 feet from the rear lot line, 15 feet from the side lot line, and 40 feet from the combined side lot lines; and, the maximum net density is one dwelling unit per 40,000 square feet.

1. Proposed Lot 1 will be 32,825 square feet, necessitating a variance of 7,175 square feet.

- 2. Proposed Lot 1 will be 95.5 feet wide and Lot 2 will be 96.2 feet wide, necessitating variances of 29.5 feet and 28.8 feet, respectively.
- 3. The proposed single family dwelling on Lot 2 will be as close as 21.54 feet from the west side lot line, 14.76 feet from the east side lot line, and 36.3 feet combined, necessitating variances of 4 feet, 1 foot, and 4 feet, respectively.
- 4. The density of proposed Lot 1 (for the existing dwelling) will be 1.22 dwelling units per 40,000 square feet, necessitating a variance of 0.22 dwelling units per 40,000 square feet.

FINDINGS

This Office finds that the subject property is generally rectangular in shape, exceeds the minimum area requirement of 40,000 square feet, but is undersized with regard to the minimum width requirement of 125 feet for a lot in the R1 District.

The existing coverage by structures is 4,268 square feet for the entire property. If subdivided, the proposed post-construction coverage by structures for Lot 1 will be 3,968 square feet, which is well below the 25% (8,206.25 square feet) maximum coverage by structures allowed under §18-4-501; and, the proposed post-construction coverage by structures for Lot 2 will be 2,636 square feet, which is well below the 25% (10,000 square feet) maximum coverage by structures allowed under §18-4-501. A review of the County 2023 aerial photography shows an eclectic mix of dwellings and lots in this community.

The applicant intends to reconfigure and subdivide the existing parcels in order to create two lots: one lot for the existing dwelling, and one lot for a new dwelling, so that she may assist with the needs of her elderly parents.

The applicant believes that the proposed variance is in keeping with the overall nature of the community, does not impose any hardship or undue imposition on the surrounding properties, and is the least restrictive measure to proceed with her proposed construction.

The applicant further asserts that without a variance to the minimum lot size requirement and the setbacks as requested, an undue hardship will be imposed. The applicant believes the narrowness of the lots as originally subdivided renders the property uniquely configured, and causes extreme difficulty in building or erecting any structure that would conform to the current setbacks. In addition, the applicant notes that the property was originally zoned R2. As such, the applicant believes the change in density and minimum lot size requirements should be considered in the request for further development of the parcel.

Agency Comments

The **Residential Section of the Development Division** has no comment and defers to the Zoning Division with regard to this Variance. Their division also notes that any future development, including a Minor Subdivision, must adhere to all applicable County Code requirements as referenced in Article 17-3, including, but not limited to access to the future lots,

bulk restrictions, topography, environmental and forestation guidelines and adequate public facilities. Approval granted by the Hearing Officer does not guarantee an approval of the submitted development plan or subdivision.

The Engineering Section of the Department of Inspections and Permits, per their comments memo, does not recommend approval.

The **Health Department** does not have an approved plan for this project, but has no objection to the variance request as long as a plan is submitted and approved by their Department.

The **Recreation and Parks Department** indicates that the proposed development is consistent with the spirit of the Green Infrastructure Master Plan.

The **Transportation Section** notes that the proposed shared portion of the driveway does not appear to meet the minimum 18' width. The applicant must address the shared driveway width as well as parking for the existing house during the subdivision process.

The **Cultural Resource Section** indicates that any grading permits will be reviewed for compliance with Article 17-6-502 (Archaeological Sites). A site visit by their office will be required in order to complete a review for any grading permit applications.

Variance Criteria

For the granting of a zoning variance, a determination must be made as to whether, because of certain unique physical conditions peculiar to or inherent in the particular lot or, because of exceptional circumstances other than financial considerations, strict implementation of the Code would result in practical difficulties or an unnecessary hardship, and prevent the applicant from developing the lot. Variances should only be granted if in strict harmony with the spirit and intent of the zoning regulations, and the need sufficient to justify a variance must be substantial and urgent, and not merely for the convenience of the applicant.

In this particular case, the property is not unique with regards to the shape and size of the lot. As seen on Plat #2 - Partition of the George Hayes 5.0 Tract (JHH 238, Folio 90 - attached), the subject property is similar in size and shape to the other developed lots on Brewer Road (the subject property - #1422 consists of lots 1, 2 & 2½; #1424 consists of lots 3 & 4; #1430 consists of lots 5 & 6). Each of these residential properties, including the subject property, has been developed with a dwelling and other associated improvements.

With regards to the subject property not meeting the density or lot size requirements in order to subdivide, the applicant did not offer adequate justification as to why those variances should be granted. Past zoning classifications have no bearing on future development. If the request is based on a desire to meet the family needs or to accommodate multi-generational living, there are opportunities to renovate the existing dwelling, or to add an accessory dwelling unit (ADU) to the property, without the need for variances. Because design alternatives exist, the requested density and lot size variances cannot be considered the minimum necessary to afford relief.

With regards to the proposed dwelling not meeting the required setbacks, the applicant did not offer justification as to why those variances should be granted. Assuming the property is subdivided, the proposed two-story dwelling with basement can be accommodated by reorienting it on the lot. Alternatively, because there is ample room to the front and rear setbacks, the proposed dwelling could be designed to be deeper rather than wider on the lot. Because design alternatives exist which would accommodate a dwelling on the proposed lot, rather than making the lot accommodate the proposed dwelling, the requested setback variances cannot be considered the minimum necessary to afford relief.

There is nothing unique about the subject property as it relates to other nearby residential lots with similar zoning; and, there are no unique circumstances or practical difficulties preventing the applicant from complying with the Code. Without a variance, the applicants would not be denied reasonable use of the residential property, as the property is already developed with an existing single family dwelling and other associated facilities.

Allowing a lot that does not meet the minimum area or density requirements may alter the essential character of the neighborhood, may impair the appropriate use of adjacent properties, and may be detrimental to the public welfare.

The restrictions of the Code do not have a disproportionate impact on the subject property as compared to any other residentially zoned property, as the other nearby lots are similarly sized and developed. As such, this Office cannot support the variance request.

RECOMMENDATION

Based upon the standards set forth in § 18-16-305 of the County Code under which a variance may be granted, this Office recommends *denial* of zoning variances to § 18-4-501 to allow, in the R1 District:

- 1. A lot (Lot 1) with an area of 32,825 square feet (7,175 square feet less than the minimum lot area required);
- 2. A lot (Lot 1) with a 95 foot width at the front building restriction line (30 feet less than required), and a lot (Lot 2) with a 96 foot width at the front building restriction line (29 feet less) than required;
- 3. A principal structure on Lot 2 as close as 21 feet from the west side lot line, 14 feet from the east side lot line, and 36 feet combined; and,
- 4. A lot (Lot 1) with 0.22 greater net density than the minimum required.

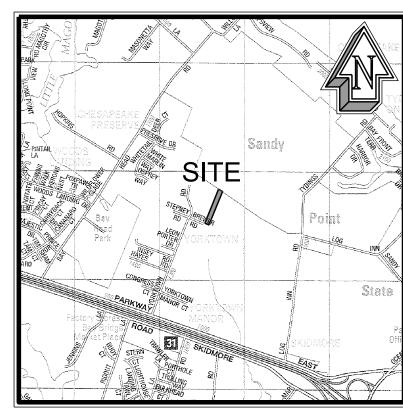
DISCLAIMER: This recommendation does not constitute a building permit. In order for the applicant to construct the structure(s) as proposed, the applicant shall apply for and obtain the necessary building permits, and obtain any other approvals required to perform the work described herein. This includes but is not limited to verifying the legal status of the lot, resolving adequacy of public facilities, and demonstrating compliance with environmental site design criteria.

Partition of the George Hayes 5.0 Tract, Plat #2 - JHH 238, Folio 90

| N | HAyes + Commell + Stavens to Hayes | € 5,03 | NOTE - Pipe Set at all lot corners | 5 29° 54° W 764.53° | a ^ | LOT NO 2 NOVOVE TALAS PERRY HAYES 0.42 Activitying | NOZH KASALE YARANT HAYES OFUS A | LOT NO 3 NADOLE 740 ST. KERNIT HAYES O.833 Acees | | LOT HOS N30'0'E 723.33' EVELYN HAYES OBSSACRES BING | LOT NO 6 KATERINE STEVENS OB33 MCRES 8 | PLAT SHOWING PARTITION OF THE GRONGE HANES SOTONEY | NEAR SKIDMORE 3RD DIST, A.A.COUNTY, MO | APRIL 1941. SCALE 1"= 100" | J. Revell Corr. Surveyor Annapolis. Md. | | |
|----|------------------------------------|--------|------------------------------------|---------------------|-----|--|---------------------------------|--|---------------------------------------|---|--|--|--|----------------------------|---|----------------|--|
| 90 | | | 31.0 fe ea | | | PA | PLA | 47 | 49.13 0AD 5 60° No 2 0N A | | 50.2 | y Original Stone | | | 7 | Title American | |

2023 AERIAL





VICINITY MAP

SCALE: 1" = 2,000' COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NO. 08301200

GENERAL NOTES

CLIENT: TONYA BREWER 1422 BREWER ROAD ANNAPOLIS, MD 21409 PHONE: 410.570.7498 EMAIL: tonyabrewer@hotmail.com

THE PROPERTIES ARE KNOWN AS:

ENGINEER:
BAY ENGINEERING INC.
2661 RIVA ROAD, BUILDING 800 ANNAPOLIS, MD 21401 410.897.9290 C/O MIKE GILLESPIE

- TAX MAP 41, GRID 13, PARCEL 263; TOTAL AREA = 55,329 SQ. FT. OR 1.270 AC.; DEED REF: 2574 / 598 TAX MAP 41, GRID 13, PARCEL 78; TOTAL AREA = 18,443 SQ. FT. OR 0.423 AC.; DEED REF: 10395 / 295
- EXISTING ZONING OF THE SITE IS R1 (RESIDENTIAL DISTRICT)
- THE SITE ADDRESS IS: 1422 BREWER ROAD, ANNAPOLIS, MD 21409
- TAX ACCOUNT NOs: 03-000-02637700 / 03-000-90212937
- EXISTING BOUNDARY AND FEATURES SHOWN HEREON WERE TAKEN FROM DEEDS AND PLATS OF RECORD AUGMENTED WITH GIS DATA. A FIELD RUN BOUNDARY/TOPOGRAPHICAL SURVEY WAS NOT PERFORMED AT THIS
- THIS DATA WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT, WHICH MAY SHOW ADDITIONAL CONVEYANCES, EASEMENTS, COVENANTS, RIGHT OF WAYS OR MORE STRINGENT BUILDING RESTRICTIONS NOT SHOWN HEREON.
- THE SITE IS NOT LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
- THE PROPERTY DESCRIBED HEREON IS LOCATED IN THE FLOOD HAZARD ZONE "X" (AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DELINEATED ON THE FIRM FLOOD INSURANCE MAP #24003C0195F DATED FEBRUARY 18, 2015 FOR ANNE ARUNDEL COUNTY AND DISTRIBUTED BY THE FEDERAL EMERGENCY MANAGEMENT
- 10. WATER AND SEWER CATEGORIES

WATER - NO PUBLIC SERVICE PROVIDED - (W-7, BROADNECK) SEWER - EXISTING SERVICE - (S-7, BROADNECK)

11. NO STEEP SLOPES PRESENT ON THIS SITE.

SURVEY CONTROL NOTE

THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED ON RTK (REAL TIME KINEMATIC) OBSERVATIONS UTILIZING KEYNET GPS NETWORK. THE HORIZONTAL DATUM IS REFERENCÉD TO MARYLAND STATE PLANE NAD (83/91) AND THE VERTICAL DATUM IS REFERENCED TO NAVD 88.

| EXISTING LOT COVERAGE SUMMARY | | | | |
|--|--------------------------------|--|--|--|
| DESCRIPTION | AREA | | | |
| TOTAL SITE AREA | 72,825 SQ. FT. ± (1.672 AC. ±) | | | |
| MAXIMUM LOT COVERAGE ALLOWED (25%) | 18,206 SQ. FT. ± (0.417 AC. ±) | | | |
| EXISTING IMPERVIOUS AREA (ON-SITE ONLY) | 15,702 SQ. FT. ± (0.360 AC. ±) | | | |
| EX. DWELLING | 3,726 SQ. FT. ± (0.085 AC. ±) | | | |
| EX. PAVED D/W | 9,719 SQ. FT. ± (0.223 AC. ±) | | | |
| EX. GAZEBO & SHEDS | 542 SQ. FT. ± (0.012 AC. ±) | | | |
| EX. CONC., BRICK, WALLS & WALKS | 1,715 SQ. FT. ± (0.039 AC. ±) | | | |
| EXISTING DEVELOPED WOODLANDS (ON-SITE) | 13,496 SQ. FT. ± (0.309 AC. ±) | | | |
| EXISTING DEVELOPED WOODLANDS - TBR (25.8%) | 3,484 SQ. FT. ± (0.079 AC. ±) | | | |
| REMAINING DEVELOPED WOODLANDS (74.2%) | 10,012 SQ. FT. ± (0.230 AC. ±) | | | |

- * DOES NOT INCLUDE PORTION OF DRIVEWAY WITHIN R/W.

 ** EXISTING WOODLANDS / CANOPY COVER SHOWN HEREON, ARE BASED UPON FIELD LOCATED TREES & WOODS LINE AND AUGMENTED WITH A.A. CO. AERIAL & GIS IMAGERY. *** ALL EXISTING IMPERVIOUS COVERAGE TO REMAIN.

SOILS TABLE

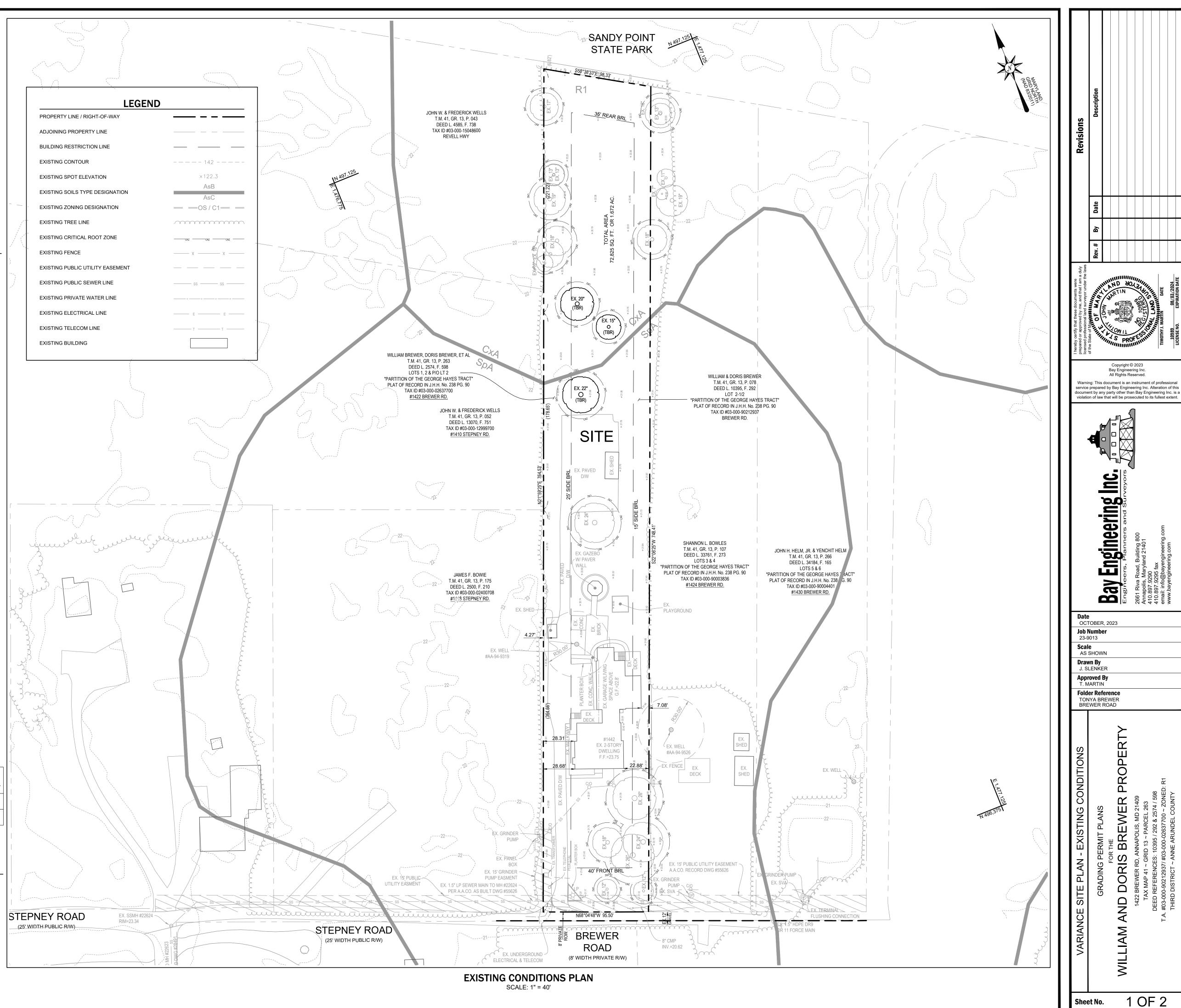
| SYMBOL | NAME | HYDROLOGIC SOIL TYPE | PERCENT COVERAGE | HYDRIC SOIL | HIGHLY ERODABLE SOIL |
|--------|--|-------------------------|---------------------|----------------|-------------------------|
| СхА | CUMBERSTONE-MATTAPEX COMPLEX (0 TO 2% SLOPES) | "C/D" | 34.7% | YES | NO |
| SpA | SHADYOAK-ELKTON COMPLEX (0 TO 5% SLOPES, FREQUENTLY PONDED) | "B/D" | 65.3% | YES | NO |

VARIANCE REQUEST

18-4-501. BULK REGULATIONS.

- 1. STATES IN PART THAT THE MINIMUM LOT SIZE IS 40,000 SQUARE FEET.
- 2. STATES IN PART THAT THE MAXIMUM COVERAGE BY STRUCTURES SHALL BE LIMITED TO 25% OF GROSS AREA. FURTHER STATED IN PART, THAT THE MAXIMUM NET DENSITY IS ONE DWELLING UNIT PER 40,000 SQUARE FEET.
- 3. STATES IN PART THAT THE MINIMUM WIDTH AT FRONT BUILDING RESTRICTION LINE SHALL BE 125 FEET AND THAT THE SETBACKS FOR PRINCIPAL STRUCTURES SHALL BE 15 FEET MEASURED FROM THE SIDE LOT LINE.





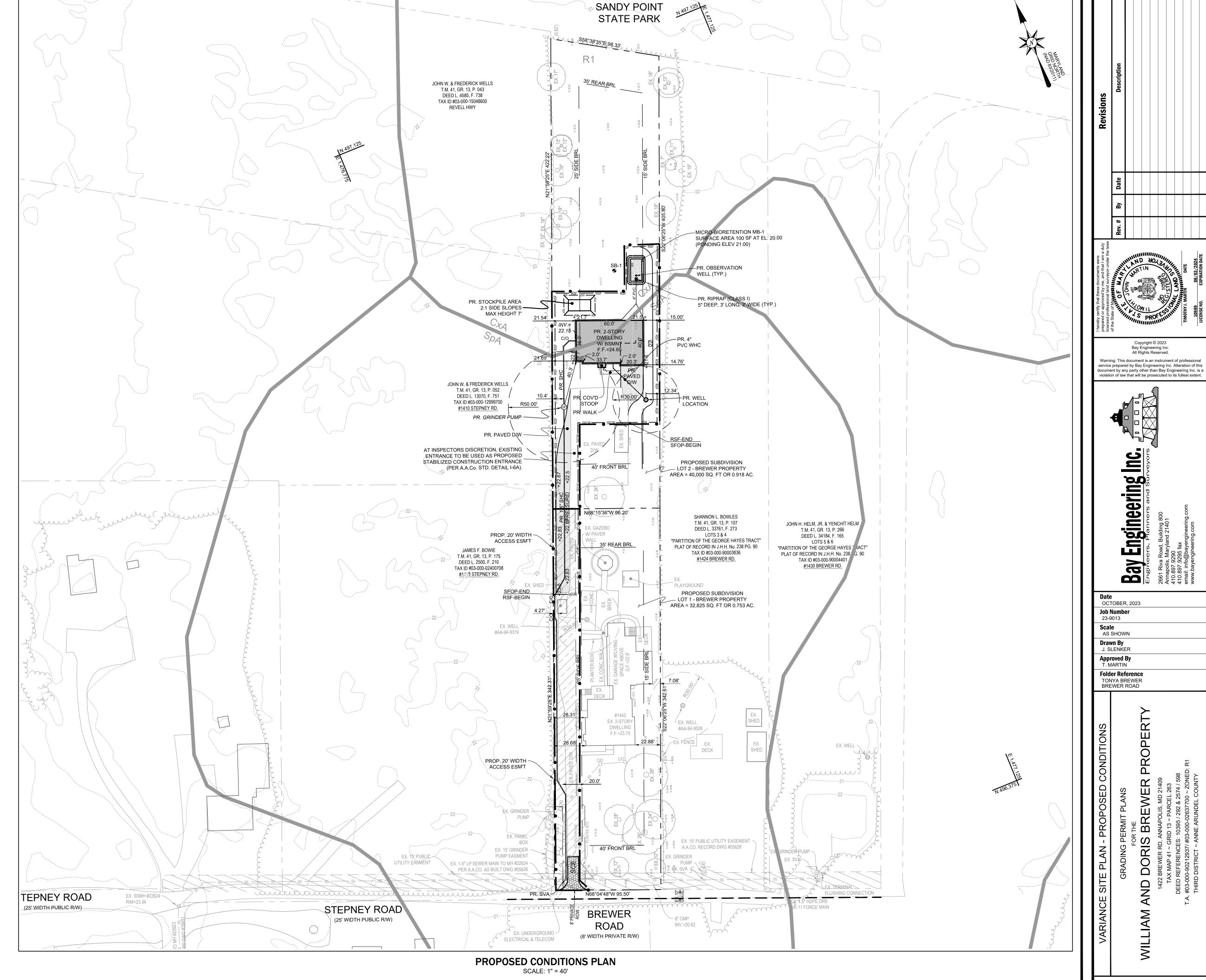
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Bay Enginee

| PROPOSED SUBDIVISION A | AREA TABULATION |
|------------------------------------|-------------------------------|
| DESCRIPTION | AREA |
| TOTAL SITE AREA | 72,825 SQ. FT. ± (1.672 AC. ± |
| MAXIMUM LOT COVERAGE ALLOWED (25%) | 18,206 SQ. FT. ± (0.417 AC. ± |
| PROPOSED ACCESS EASEMENT | 6,923 SQ. FT. ± (0.158 AC. ± |
| LOT 1 - PROPOSED LOT SIZE | 32,825 SQ. FT. ± (0.753 AC. ± |
| ALLOWABLE LOT COVERAGE (25%) | 8,206 SQ. FT. ± (0.188 AC. ± |
| 1% LOT COVERAGE | 328 SQ. FT. ± (0.007 AC. ± |
| EXISTING LOT COVERAGE | 11,000 SQ. FT. ± (0.213 AC. ± |
| EX. DWELLING | 3,726 SQ. FT. ± (0.085 AC. ± |
| EX. PAVED D/W | 5,317 SQ. FT. ± (0.122 AC. ± |
| EX. GAZEBO & SHED | 242 SQ. FT. ± (0.005 AC. ± |
| EX. CONC., BRICK, WALLS & WALKS | 1,715 SQ. FT. ± (0.039 AC. ± |
| PROPOSED LOT COVERAGE | 928 SQ. FT. ± (0.021 AC. ± |
| PR. PAVED D/W | 928 SQ. FT. ± (0.021 AC. ± |
| TOTAL PROPOSED LOT COVERAGE | 11,928 SQ. FT. ± (0.273 AC. ± |
| PROPOSED LIMIT OF DISTURBANCE | 1,817 SQ. FT. ± (0.041 AC. ± |
| LOT 2 - PROPOSED LOT SIZE | 40,000 SQ. FT. ± (0.918 AC. ± |
| ALLOWABLE LOT COVERAGE (25%) | 10,000 SQ. FT. ± (0.229 AC. ± |
| 1% LOT COVERAGE | 400 SQ. FT. ± (0.009 AC. ± |
| EXISTING LOT COVERAGE | 4,702 SQ. FT. ± (0.108 AC. ± |
| EX. PAVED D/W | 4,402 SQ. FT. ± (0.101 AC. ± |
| EX. SHED | 300 SQ. FT. ± (0.007 AC. ± |
| PROPOSED LOT COVERAGE | 3,989 SQ. FT. ± (0.097 AC. ± |
| PR. DWELLING | 2,336 SQ. FT. ± (0.053 AC. ± |
| PR. PAVED D/W | 1,586 SQ. FT. ± (0.036 AC. ± |
| PR. CONCRETE | 64 SQ. FT. ± (0.001 AC. ± |
| TOTAL PROPOSED LOT COVERAGE | 8,688 SQ. FT. ± (0.199 AC. ± |
| PROPOSED LIMIT OF DISTURBANCE | 13,822 SQ. FT. ± (0.317 AC. ± |

| PROPOSED PROPERTY LINE | |
|---|-------------------|
| ADJOINING PROPERTY LINE | |
| PROPOSED BUILDING RESTRICTION LINE | |
| EXISTING CONTOUR | 142 |
| EXISTING SPOT ELEVATION | ×122.3 |
| EXISTING SOILS TYPE DESIGNATION | AsB |
| EXISTING ZONING DESIGNATION | AsC — OS / C1 — — |
| EXISTING TREE LINE | |
| EXISTING FENCE | х х |
| EXISTING PUBLIC UTILITY EASEMENT | |
| EXISTING PUBLIC SEWER LINE | ss ss |
| EXISTING PRIVATE WATER LINE | |
| EXISTING BUILDING | |
| PROPOSED SPOT ELEVATION | + 5.00 |
| PROPOSED CONTOUR LINE | |
| PROPOSED LIMIT OF DISTURBANCE | • |
| PROPOSED REINFORCED SILT FENCE | RSF RSF |
| PROPOSED ACCESS EASEMENT | |
| PROPOSED UTILITY EASEMENT | |
| PROPOSED BUILDING | |
| PROPOSED STABILIZED CONSTRUCTION ENTRANCE | |
| PROPOSED DRIVEWAY | |
| PROPOSED STORMWATER MANAGEMENT (M-6) | MB-1 |



CALL BEFORE YOU DIG!

MARYLAND LAW REQUIRES 48 HOURS NOTICE
BEFORE PLANNED WORK TO MARK
UNDERGROUND UTILITIES PRIOR TO EXCAVATION
MISS UTILITY: 1-800-257-7777

PROPOSED PRIVATE WATER LINE

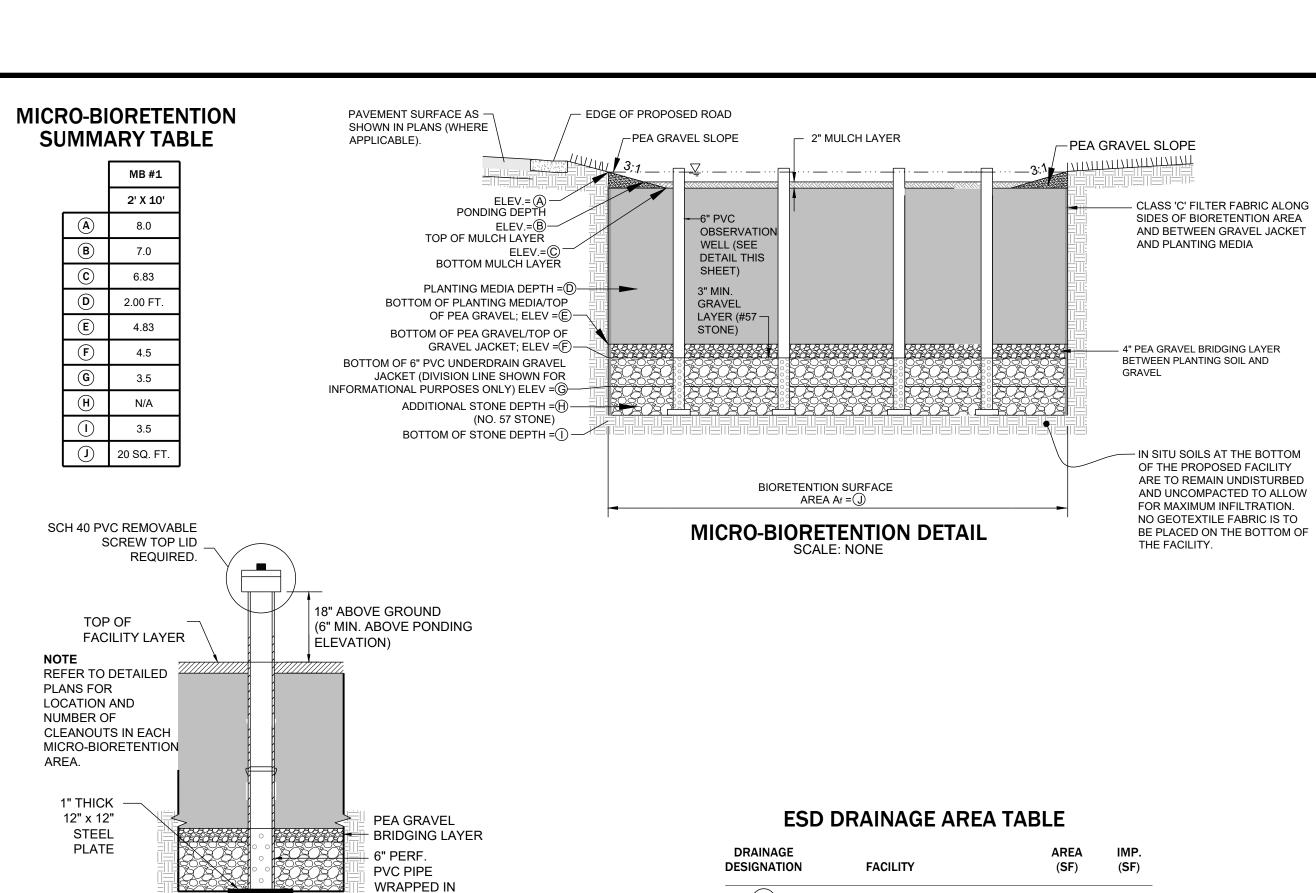
PROPOSED PRIVATE SEPTIC LINE

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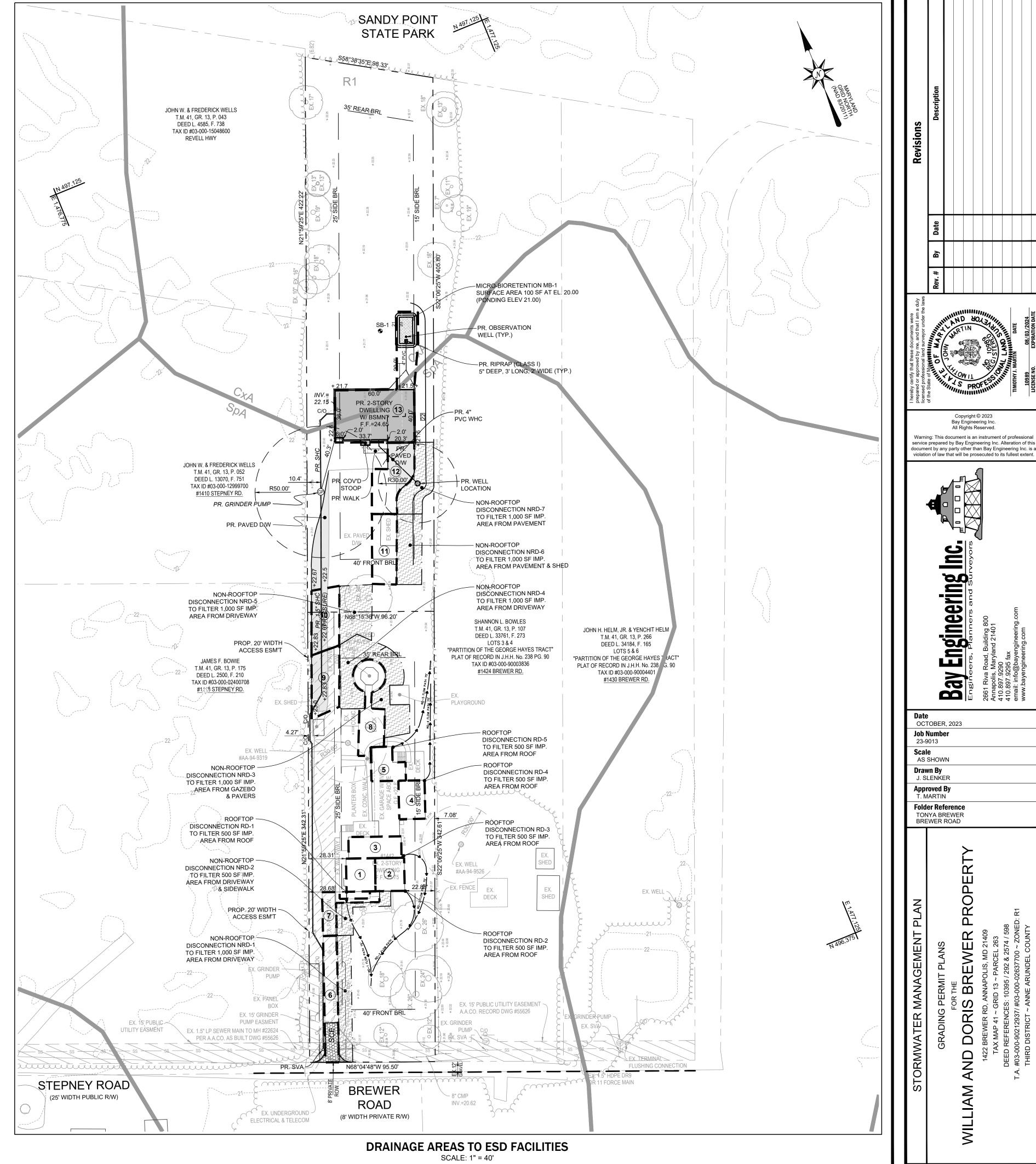
Bay Engineers and Surveyors

Lengineers, Planners and Surveyors

2661 Riva Road, Building 800
Annapolis, Maryland 21401
410.897.9295 fax
email: info@bavendineering.com



| DRAINAGE DESIGNATION | FACILITY | AREA (SF) | IMP. (SF) |
|-------------------------|-------------------------------|--------------|--------------|
| 1 ROOF | TOP DISCONNECTION (RD-1) | 500 | 500 |
| 2 ROOF | FTOP DISCONNECTION (RD-1) | 500 | 500 |
| 3 ROOF | FTOP DISCONNECTION (RD-1) | 500 | 500 |
| 4 ROOF | FTOP DISCONNECTION (RD-1) | 500 | 500 |
| 5 ROOF | FTOP DISCONNECTION (RD-1) | 500 | 500 |
| 6 NON-R | ROOFTOP DISCONNECTION (NRD-1) | 1,000 | 1,000 |
| 7 NON-R | ROOFTOP DISCONNECTION (NRD-2) | 500 | 500 |
| 8 NON-R | ROOFTOP DISCONNECTION (NRD-3) | 1,000 | 1,000 |
| 9 NON-R | ROOFTOP DISCONNECTION (NRD-4) | 1,000 | 1,000 |
| 10 NON-R | ROOFTOP DISCONNECTION (NRD-5) | 1,000 | 1,000 |
| 11 NON-R | ROOFTOP DISCONNECTION (NRD-6) | 1,000 | 1,000 |
| (12) NON-R | ROOFTOP DISCONNECTION (NRD-7) | 1,000 | 1,000 |
| (13) MIC | CRO-BIORETENTION (MB-1) | 3,055 | 2,336 |
| | | | |



CALL BEFORE YOU DIG! MARYLAND LAW REQUIRES 48 HOURS NOTICE BEFORE PLANNED WORK TO MARK UNDERGROUND UTILITIES PRIOR TO EXCAVATION MISS UTILITY: 1-800-257-7777

BOTTOM OF

MICRO-BIORETENTION AREA

STANDARD MICRO-BIORETENTION AREA

OBSERVATION WELL DETAIL

FILTER FABRIC

3 OF 3

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Bay Engineering Inc.



Matthew S. Evans, III Owner
Gary Damico Partner
Jonathon Scruggs Partner
Caterina Sorrento Associate
Jessica Chandler Paralegal
Geniya Seager-Gilliam Paralegal

113 Cathedral Street Annapolis, MD 21401 410.626.6009 msevanslaw.com

October 30, 2023

Via US Mail Anne Arundel County Department of Planning and Zoning 2664 Riva Road Annapolis, MD 21401

Re: Variance Application

Requested Deviation from Lot Size Req. and Side of Lot Setbacks

Letter of Explanation

Sir or Madam,

My office has been retained to assist Ms. Tonya T. Brewer with a request for a variance to the minimum lot size requirement of an R1 single-family residential property, as well as a variance to side lot line setbacks to both sides of the property located at 1422 Brewer Road Lot #2 containing approximately .42 acres.

Specifically, the property herein referenced is identified as follows:

Legal Description:

Lot 1 and Lot 2 (1.25) Acres County Lot 1 1422 Brewer Road, Annapolis, MD 21409

Tax Map: 41 Grid: 13 Lot: 1 Parcel: 263

Legal Description Lot 2 ½ (.42 acres)

County Lot 2 Brewer Rd

Annapolis, MD 21409

Tax Map: 41 Grid: 13 Lot: 2 Parcel: 78

By way of background, the property located at 1422 Brewer Road is comprised of two lots. Lot 1 comprises roughly 1.25 acres whereas Lot 2 comprises roughly .42 acres. There is an existing single-family dwelling on Lot 1 which is the home of Mr. William Brewer and Mrs. Doris Brewer. Lot 2 runs vertically along the length of Lot 1.

Ms. Brewer intends to develop the existing lots and ultimately subdivide 1422 Brewer Road into new lots for the erection of a single-family home. Ms. Brewer intends this to be her principal residence to assist with the needs of her elderly parents.

As indicated on the attached site plans, the indicated size of the proposed new Lot 1 shall be 32,825 sq ft. while the proposed square footage of the new Lot 2 will be 40,000 sq. ft. This requires a downward deviation of approximately 7,175 sq ft. for Lot 1 to comply with the 40,000 sq ft. minimum lot size requirement for an R1 zoned property. As stated previously there is an existing structure on what will be identified as the new Lot 1.

Further, the erection of said single-family residence on Lot 2 will require deviation from the side lot setback requirement. Currently, the combined side setback is established at 40 feet, with a minimum of 15 ft per setback. As indicated on the attached site plan, Ms. Brewer is requesting a downward deviation to the combined side set back to 36.54 ft at the rear of the proposed structure and 36.45 ft at the front of the proposed structure. Moreover, Ms. Brewer is requesting a downward deviation of .24 ft. to the front right of the proposed structure.

The proposed variance is in keeping with the overall nature of the community, does not impose any hardship or undue imposition on the surrounding properties, and is the least restrictive measure to allow for the Applicant to proceed with her proposed construction.

The applicant further asserts that without a variance to the minimum lot size requirement and the setbacks as requested, an undue hardship will be imposed. Specifically, there exists a hardship pursuant to Article 18-16-305 (a) and (c) of the Anne Arundel County Code.

First, the narrowness of the lots as originally subdivided renders the property uniquely configured. This causes extreme difficulty in building or erecting any structure that would need to conform to the setbacks as currently indicated by code. Secondly, it is worth mentioning that when the property was first platted and developed, the land was designated as R2. Since that time, the property has been redesignated as R1. This change in density requirements and minimum lot yield requirements should be noted in the request for further development of the parcel.

All relevant documents, including the application for a variance, the attendant site plan, the list of adjoining properties, and the deed to the subject property have been attached for your review and reference.

Please direct all correspondence regarding this matter directly to my office at my attention.

Sincerely,

Jonathon C. Scruggs

Jonathon C. Scruggs

Attorney at Law

cc: Client



STORMWATER MANAGEMENT REPORT

FOR THE

BREWER PROPERTY

1422 Brewer Road Annapolis, MD 21409 Tax Map 41, Grid 13, Parcel 263, Lot 1 Tax ID: #03-000-02637700

Provided by:
Bay Engineering, Inc.
2661 Riva Road, Building 800
Annapolis, MD 21401

Date: October 25, 2023 Revised:

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I. Narrative

I. Narrative

A. Introduction

This report contains an analysis that outlines the stormwater management obligations for this site. We evaluated management obligations, using Environmental Site Design (ESD), for Water Quality (WQ $_v$), Recharge (Re $_v$), and Channel Protection (Cp $_v$). For each of the requirements, we offer an assessment regarding the need for management, as well as the type of practice if management is required.

B. General Site Information

The site is known as 1422 Brewer Road, Annapolis, MD 21409. It is located on Tax Map 41, Grid 13, Parcel 263, Lot 1 and contains 1.672 acres \pm (72,825 square feet). The site is currently zoned R1. The site is <u>not</u> located in the Chesapeake Bay Critical Area. The limit of the proposed area to be disturbed is approximately 0.505 acres \pm 21,990 square feet.

Existing Conditions

The site is currently developed with an existing house and driveway. The site is accessed from Brewer Road. The site consists primarily of open lawn and developed woods. Slopes on site within the limit of disturbance are primarily between 0% and 5%. The predominant soil types are CxA (Cumberstone-Mattapex Complex), 0-2% slopes, hydrologic soil group "C/D" and SpA (Shadyoak-Elkton Complex), 0-5% slopes, hydrologic soil group "B/D". Slopes on site outside of the limit of disturbance are primarily between 0% and 5%. The predominant soil types are CxA (Cumberstone-Mattapex Complex), 0-2% slopes, hydrologic soil group "C/D" and SpA (Shadyoak-Elkton Complex), 0-5% slopes, hydrologic soil group "B/D".

Existing topography dictates a drainage pattern generally towards the southern corner of the property. The conveyance is stable and should not be affected by development on site.

Developed Conditions

The existing house and driveway will remain on the proposed lot 1 and a new house and driveway will be constructed on the new proposed lot 2. A new private well and public sewer house connection will be installed on lot 2 and tied into the proposed house.

The site has been designed to provide the least amount of environmental impacts. Due to ESD utilizing, a micro-bioretention area. A smaller quantity of water will reach the outfall points at the property lines. Flow paths have been maintained and the time of concentration increased. The runoff from the existing house roof surfaces will be collected by downspouts and will flow to rooftop disconnection. The runoff from the entirety of the new house roof surfaces will be collected by downspouts and will flow to the stormwater devise and shown on the Stromwater Management plan (page 5 of 6). Runoff from the driveway, parking pad and pavers will be directed to non-rooftop disconnection.

C. Stormwater Management Design

The Stormwater Management concept for this project was designed to meet the requirements of the Stormwater Management Act of 2007.

This stormwater management plan was developed with all treatment options in mind. The total ESD volume required will be achieved utilizing only micro-scale practices from Chapter 5 of the Maryland Stormwater Design Manual. The impervious areas will be treated via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6) with the locations shown on the Stormwater Management Plan (page 5 of 6).

Erosion and sediment control has been integrated into the stormwater management strategy by using non-structural and micro-scale treatment techniques and limiting grading and disturbance which produce sediment and erosion.

D. Unified Stormwater Sizing Criteria

Methodology

In accordance with the 2007 Maryland Stormwater Design Manual, Volumes I & II, the site was designed implementing Environmental Site Design (ESD) to the maximum extent practicable (MEP). As a minimum, ESD shall be used to address both Recharge (Re_v) and Water Quality (WQ_v) requirements. Channel Protection (Cp_v) obligations are met when ESD practices are designed according to the Runoff Curve Number Method where developed conditions return the site to an RCN of "woods in good condition". ESD techniques utilized are via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6).

Water Quality Requirements (WQ_v)

The site has been analyzed for Water Quality obligations based on the proposed development. Water quality volume (WQv) obligations will be met on this site by the successful implementation of ESD practices, specifically, via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6).

Recharge Requirements (Re_v)

The site has been analyzed for Recharge Volume obligations based on the proposed development. Recharge Volume (REv) obligations will be met on this site by the successful implementation of ESD practices, specifically, via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6).

Channel Protection Requirements (Cp_v)

The site has been analyzed for Channel Protection obligations based on the proposed developments and grading. Channel Protection volume (CPv) obligations will be met on this site by the successful implementation of ESD practices, specifically, via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6).

Overbank Flood Protection Volume Requirements (Qp10)

Overbank flood protection obligations will be met on this site by the successful implementation of ESD practices, specifically, via five (5) rooftop disconnects (N-1), seven (7) non-rooftop disconnects (N-2) and one (1) Micro-Bioretention (M-6).

Extreme Flood Volume Requirements (Qf)

No downstream flooding or erosion should occur as a result of this development.

E. Environmental Site Design (ESD)

Title 4, Subtitle 201.1(B) of the "Stormwater Management Act of 2007" defines ESD as using microscale practices, non-structural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources.

ESD was implemented in this project to the maximum extent practicable (MEP) to mimic "woods in good condition." In addition, the proposed development minimizes disturbance to existing environmental features. The site was analyzed based on the proposed impervious coverage and each impervious feature was analyzed to meet the ESD Sizing Criteria. Computations can be found in Section II.

F. Outfall Statement

The site sheet flows from a high point at the middle of the northwestern property line southward towards the southwestern corner of the property. It then enters the public storm drain system. The conveyance is stable, and should not be affected by this development due to minimization of impervious coverage, and due to storm water management provided on site.

Stormwater Management Requirements

| Project: | Brewer Proper | ty | | | |
|----------|---------------|-------|----------|--|--|
| Job No.: | 23-9013 | | | | |
| County: | Anne Arundel | | | | |
| Ву: | J. Slenker | Date: | 10/25/23 | | |
| Check: | XXX | Date: | XX/XX/XX | | |

Site Data

| | - | 40.0 | |
|---------|-------|-------|-----|
| Existin | g (O | nditi | ons |
| | | | |

| Site Area | 1.67 | ACRES | OR | 72,825 | SF |
|----------------------|------|-------|----|--------|----|
| Limit of Disturbance | 0.50 | ACRES | OR | 21,990 | SF |

Design Area used for ESD computations is Limit of Disturbance

Soils Types

| HSG 'A' | 0.00 | ACRES | OR | 0_ S F |
|---------|------|-------|----|-------------------|
| HSG 'B' | 0.00 | ACRES | OR | 0 S F |
| HSG 'C' | 0.00 | ACRES | OR | 0 SF |
| HSG 'D' | 0.50 | ACRES | OR | 21,990 S F |

| | 3 |
|--------|----------------|
| 0.0% | of design area |
| 0.0% | of design area |
| 0.0% | of design area |
| 100.0% | of design area |

Impervious Cover

| Buildings | 0.10 | ACRES | OR | 4,268 | SF |
|-----------|------|-------|----|--------|----|
| Paving | 0.20 | ACRES | OR | 8,719 | SF |
| TOTAL | 0.30 | ACRES | OR | 12,987 | SF |

| F | | - | | | | |
|---|------|-------|-----|------|----|------|
| | 1773 | 277 | r | , . | | |
| | 100 | 9.665 | ot: | aesi | an | area |

Proposed Conditions

Impervious Cover

Determine Target ESD_V (Total Site)

| Buildings | 0.05 | ACRES | OR | 2,336 | SF |
|-----------------------|------|-------|----|-------|----|
| Drives | 0.12 | ACRES | OR | 5,377 | SF |
| Paving | 0.00 | ACRES | OR | 64 | SF |
| Alternative Surfaces* | 0.00 | | | 0 | SF |
| TOTAL | 0.18 | ACRES | OR | 7,777 | SF |

Target RCN for "Woods in Good Condition"

| HSG | Area (SF) | % Site | RCN |
|-----|-----------|--------|-----|
| Α | 0 | 0% | 38 |
| В | 0 | 0% | 55 |
| С | 0 | 0% | 70 |
| D | 21,990 | 100% | 77 |

| RCN _{WOODS} = | 77 | 7 |
|------------------------|----|---|
|------------------------|----|---|

Compute Percent Imperviousness, I (Total Site)

I = Impervious Area / Site Area

Existing Impervious Area= 12,987 SF
Proposed Impervious Area= 7,777 SF

I = 59.1% of site I = 35.4% of site

Based on % Site Development Category is :

Redevelopment

^{35.4%} of design area

^{*} Alternative Surfaces include Permeable Pavers (A-2 ESD Device)

Stormwater Management Requirements

Project: Brewer Property 23-9013 Job No.: Anne Arundel County: By: J. Slenker 10/25/23

Check:

Date: XXX Date: XX/XX/XX

Determine Target ESD_V

Percent Imperviousness

I = Impervious Area / Site Area 35.4 %

Where:

21,990 ft² Site Area =

Dimensionless Runoff Coefficient

$$R_v = 0.05 + 0.009(I)$$
 $R_v = 0.368$

Where:

35.4 %

Target Pe

Using Table 5.3 with the Percent Imperviousness and Soil Type above, determine the Target Pe.

| HSG | Area (ft ²) | % SITE | Pe (in) |
|-----|-------------------------|---------|---------|
| Α | 0 | 0.00% | 1.8 |
| В | 0 | 0.00% | 1.8 |
| С | 0 | 0.00% | 1.8 |
| D | 21.990 | 100.00% | 1.6 |

Where:

% 40.0

Target ESDv

$$ESD_{V} = \frac{(P_{e})(R_{V})(A)}{12}$$

Where:

21,990 ft²

ESDv Runoff Depth

$$Q_e = (P_e)(R_v)$$
ESD Runoff Depth, QE (in):

Where:

Pe=

0.589

1.60 in.

Water Quality Volume

$$WQ_{V} = \frac{(P_{e})(R_{V})(A)}{12}$$

Where:

Pe= 1.00 in.

WQv= 674.90 ft³

Required Recharge Volume

Re
$$_V = \frac{(S)(R_V)(A)}{12}$$

S = HSG % of site =

0.06

$$Re_{V} = \frac{(S)(R_{V})(A)}{12}$$

Rev=

0.0009 ac-ft or

40.49 cf

| *S Facto | ors from MDE 2001 Ma | nual |
|----------|----------------------|------|
| HSG | Recharge Factor |] |
| Α | 0.38 | 1 |
| В | 0.26 |] |
| С | 0.13 | |
| D | 0.06 | 1 |

| Drainage / Treatec (acres) (0.011 0.011 0.011 0.011 0.023 0.023 0.023 0.023 0.023 0.023 | | | STORM | WATER MA | ANAGEMENT | T STRUCTUI | STORMWATER MANAGEMENT STRUCTURE SUMMARY TABLE | TABLE | | | |
|--|---------------|---|---------------|------------|-----------|---------------|---|--|---|---|----------------------|
| ractice Structure No. Disconnect Type Location (acres) Treated (acres) Disconnect RD-1 N-1 N496550 E1446776 0.011 Disconnect RD-3 N-1 N496559 E144682 0.011 Disconnect RD-3 N-1 N496559 E144685 0.011 Disconnect RD-5 N-1 N496606 E144685 0.011 Disconnect RD-5 N-1 N496606 E144685 0.011 Disconnect NRD-1 N-2 N496676 E144685 0.023 top Disconnect NRD-3 N-2 N496676 E144686 0.023 top Disconnect NRD-3 N-2 N496710 E144686 0.023 top Disconnect NRD-6 N-2 N496776 E144686 0.023 top Disconnect NRD-6 N-2 N496776 E144686 0.023 top Disconnect NRD-6 N-2 N496776 E1446896 0.023 top Disconnect | Project | Name: Brewer Property | | | | Project No.: | | Subdiv. No.: | | | |
| Practice Structure No. Type Location Rooftop Disconnect RD-1 N-1 N496550 E1446776 Rooftop Disconnect RD-3 N-1 N496559 E1446829 Rooftop Disconnect RD-4 N-1 N49659 E1446829 Rooftop Disconnect RD-5 N-1 N49659 E1446865 Non-Rooftop Disconnect RD-5 N-1 N49653 E1446865 Non-Rooftop Disconnect NRD-1 N-2 N496531 E1446865 Non-Rooftop Disconnect NRD-3 N-2 N496531 E1446865 Non-Rooftop Disconnect NRD-4 N-2 N496575 E1446865 Non-Rooftop Disconnect NRD-5 N-2 N496575 E1446865 Non-Rooftop Disconnect NRD-6 N-2 N4966775 E1446865 Non-Rooftop Disconnect NRD-7 N-2 N4966775 E1446865 Non-Rooftop Disconnect NRD-7 N-2 N4966775 E1446865 Non-Rooftop Disconnect NRD-7 N4966775< | Bay Eng | 1, No.: 23-9013 | | J. Slenker | Date: | 10/24/2023 | Tax | Tax Map/Grid/Parcel: 0041/0013/0263 | 0041/0013/02 | 63 | |
| RD-1 N-1 N496550 E1446776 RD-2 N-1 N496533 E1446820 RD-3 N-1 N496559 E1446829 RD-4 N-1 N496606 E1446865 RD-5 N-1 N496638 E1446865 NRD-1 N-2 N496531 E1446769 NRD-2 N-2 N496531 E1446845 NRD-4 N-2 N496770 E1446845 NRD-5 N-2 N496776 E1446845 NRD-6 N-2 N496776 E1446945 NRD-7 N-2 N496776 E1446942 NRD-7 N-2 N496776 E1446949 NRD-7 N-2 N496914 E1446949 NRD-7 N-2 N496927 E1446949 | Overall DA | | Structure No. | Туре | Loca | ation | Drainage Area Treated (acres) | Maximum Volume for 1-Yr 24-Hr. Storm (Cu. Ft.) | Water Quality Volume (Cu. Ft.) | Actual Device Volume (Cu. Ft.) | Pe Provided (in.) |
| RD-2 N-1 N496533 E1446820 RD-3 N-1 N496569 E1446829 RD-4 N-1 N496606 E1446865 RD-5 N-1 N496638 E1446852 NRD-1 N-2 N496480 E1446749 NRD-2 N-2 N496675 E1446769 NRD-3 N-2 N496675 E1446865 NRD-4 N-2 N496710 E1446845 NRD-5 N-2 N496776 E1446865 NRD-6 N-2 N496776 E1446865 NRD-7 N-2 N496776 E1446845 NRD-7 N-2 N496814 E1446949 NRD-7 N-2 N496814 E1446949 MB-1 M-6 N496927 E1446949 | | Rooftop Disconnect | RD-1 | N-1 | N496550 | E1446776 | 0.011 | 106.88 | 39.58 | 39.58 | 1.00 |
| RD-3 N-1 N496559 E1446829 RD-4 N-1 N496606 E1446865 RD-5 N-1 N496638 E1446645 NRD-1 N-2 N496480 E1446749 NRD-2 N-2 N496675 E144678 NRD-3 N-2 N496675 E1446865 NRD-4 N-2 N496710 E1446865 NRD-5 N-2 N496774 E1446865 NRD-6 N-2 N496775 E1446895 NRD-7 N-2 N496814 E1446949 NRD-7 N-2 N496814 E1446949 MB-1 M-6 N496927 E1446949 | | Rooftop Disconnect | RD-2 | N-1 | N496533 | E1446820 | 0.011 | 106.88 | 39.58 | 39.58 | 1.00 |
| RD-4 N-1 N496606 E1446865 RD-5 N-1 N496638 E1446652 RD-5 N-2 N496480 E1446749 RD-2 N496531 E1446769 RD-3 N-2 N496675 E1446769 RD-4 NRD-4 N-2 N496710 E1446865 RD-5 N-2 N496775 E1446865 RD-7 N-2 N496914 E1446849 RD-7 N-2 N496914 E1446949 RD-7 N-2 N496927 E1446949 RD-4 R | | Rooftop Disconnect | RD-3 | N-1 | N496559 | E1446829 | 0.011 | 106.88 | 39.58 | 39.58 | 1.00 |
| NRD-5 N-1 N496638 E1446652 NRD-1 N-2 N496480 E1446749 NRD-2 N-2 N496531 E1446769 E1446769 NRD-3 N-2 N496675 E1446865 NRD-4 N-2 N496770 E1446845 NRD-6 N-2 N496775 E1446849 NRD-7 N-2 N496814 E1446849 NRD-7 N-2 N496814 E1446849 MB-1 M-6 N496927 E1446892 E1446892 MB-1 M-6 N496927 E1446892 E1446892 E146892 E1446892 E146892 E1446892 E146892 E1446892 E146892 E1446892 | | Rooftop Disconnect | RD-4 | N-1 | N496606 | E1446865 | 0.011 | 106.88 | 39.58 | 39.58 | 1,00 |
| NRD-2 N-2 N496480 E1446749 NRD-2 N-2 N496531 E1446769 E1446769 NRD-3 N-2 N496675 E1446858 NRD-4 N-2 N496710 E1446865 E1446865 NRD-6 N-2 N496775 E1446849 NRD-7 N-2 N496914 E1446949 MB-1 M-6 N496927 E1446982 E146982 E1446982 E1446 | | Rooftop Disconnect | RD-5 | N-1 | N496638 | E1446852 | 0.011 | 106.88 | 39.58 | 39.58 | 1.00 |
| NRD-2 N-2 N496531 E1446769 NRD-3 N-2 N496675 E1446845 NRD-4 N-2 N496710 E1446845 NRD-6 N-2 N496775 E1446865 NRD-6 N-2 N496775 E1446922 NRD-7 N-2 N496927 E1446949 MB-1 M-6 N496927 E1446982 Total | | Non-Rooftop Disconnect | NRD-1 | N-2 | N496480 | E1446749 | 0.023 | 213.75 | 79.17 | 79.17 | 1.00 |
| NRD-4 N-2 N496675 E1446858 RAD-4 N-2 N496710 E1446845 RAD-5 N-2 N496744 E1446865 RAD-6 N-2 N496775 E1446922 RAD-7 NRD-7 N-2 N496977 E1446949 RAD-7 N-2 N496927 E1446982 RAD-6 | - | Non-Rooftop Disconnect | NRD-2 | N-2 | N496531 | E1446769 | 0.011 | 106.88 | 39,58 | 39.58 | 1,00 |
| NRD-5 N-2 N496710 E1446845 NRD-5 N-2 N496744 E1446865 NRD-7 N-2 N496875 E1446922 NRD-7 N-2 N496914 E1446949 MB-1 M-6 N496927 E1446982 Total | | Non-Rooftop Disconnect | NRD-3 | N-2 | N496675 | E1446858 | 0.023 | 213.75 | 79.17 | 79.17 | 1,00 |
| NRD-6 N-2 N496744 E1446865 NRD-6 N-2 N496775 E1446922 NRD-7 N-2 N496814 E1446949 MB-1 M-6 N496927 E1446982 TOTAL | | Non-Rooftop Disconnect | NRD-4 | N-2 | N496710 | E1446845 | 0.023 | 213,75 | 79.17 | 79,17 | 1.00 |
| NRD-6 N-2 N49675 E1446922 NRD-7 N-2 N496814 E1446949 MB-1 M-6 N496927 E1446982 Total Total | | Non-Rooftop Disconnect | NRD-5 | N-2 | N496744 | E1446865 | 0.023 | 213.75 | 79,17 | 79.17 | 1.00 |
| MB-1 M-6 N496927 E1446982 Total | | Non-Rooftop Disconnect | NRD-6 | N-2 | N496775 | E1446922 | 0.023 | 213,75 | 79,17 | 79.17 | 1.00 |
| MB-1 M-6 N496927 E1446982 Total | | Non-Rooftop Disconnect | NRD-7 | N-2 | N496814 | E1446949 | 0.023 | 213.75 | 79.17 | 79.17 | 1,00 |
| | | Micro-Bioretention | MB-1 | M-6 | N496927 | E1446982 | 0.070 | 507.41 | 480.00 | 480.00 | 2,55 |
| ESD. Required | | G | | | R | Total | | 2,431.16 | 1,192.50 | 1,192.50 | |
| | | A 100 CO | 1 | | ES | ESD, Required | | | 1,079.84 | | |

Total Site Pe Provided:

SWM Provided for:

Where:

New Development Conditions

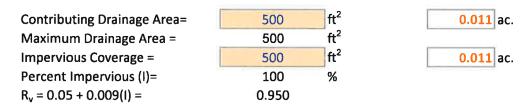
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 $ESD_v = 1,192.50 \quad \text{ft} \\ R_v = 0.37 \\ A \text{(LOD Area)} = 21,990 \quad \text{ft}^2 \\ \text{Note: These values taken from the} \\ \text{Stormwater Management Requirements sheet} \\ \text{of these computations.} \\$

| N-1 | Disconnection o | Rooftop Runoff | |
|----------------|--------------------------|----------------|------|
| Drainage Area: | Lot 2 - House Front Left | Device Name: | RD-1 |

Concept Design:



ESDv Provided:

Disconnection Length= 75 ft. (Per Table 5.6 (page 5.59)
Pe Provided = 1.0 in. MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 39.58 | ft ³ |
|-------|-------|-----------------|
|-------|-------|-----------------|

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

| | | Disconnecti | on Flow Pat | h Length (ft.) | |
|-----------|-----|-------------|-------------|----------------|-----|
| Western | ř | | | | 75 |
| Shore | 15 | 30 | 45 | 60 | 75 |
| Eastern | 12 | 24 | 36 | 48 | 60 |
| Shore | 12 | 24 | 30 | 40 | 00 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{\nu} = \frac{(2.7)(A)(R_{\nu})}{12}$$

| Max. ESDv= | 106.88 | ft ³ |
|------------|--------|-----------------|
|------------|--------|-----------------|

| N-1 | Disconnection of Rooftop Runoff | | | |
|----------------|---------------------------------|--------------|------|--|
| Drainage Area: | Lot 2 - House Front Right | Device Name: | RD-2 | |

Concept Design:

| Contributing Drainage Area= | 500 | ft ² | 0.011 ac. |
|-----------------------------|-------|-----------------|-----------|
| Maximum Drainage Area = | 500 | ft ² | , |
| Impervious Coverage = | 500 | ft ² | 0.011 ac. |
| Percent Impervious (I)= | 100 | % | |
| $R_v = 0.05 + 0.009(1) =$ | 0.950 | | |

ESDv Provided:

| Disconnection Length= | 75 | ft. | (Per Table 5.6 (page 5.59) |
|-----------------------|-----|-----|----------------------------|
| Pe Provided = | 1.0 | in. | MD State SWM Manual |

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 39.58 | ft ³ |
|-------|-------|-----------------|
|-------|-------|-----------------|

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

| | Disconnection Flow Path Length (ft.) | | | | | |
|-----------|--------------------------------------|-----|-----|-----|-----|--|
| Western | 15 | 30 | 45 | 60 | 75 | |
| Shore | 13 | 30 | 43 | 00 | /3 | |
| Eastern | 12 | 24 | 36 | 48 | 60 | |
| Shore | 12 | 24 | 30 | 40 | 60 | |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.
$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 106.88 | ft ³ |
|------------|--------|-----------------|
| | | |

| N-1 | Disconnection of Rooftop Runoff | | | |
|----------------|---------------------------------|--------------|------|--|
| Drainage Area: | Lot 2 - House Rear | Device Name: | RD-3 | |

Concept Design:

Contributing Drainage Area=

Maximum Drainage Area =

Impervious Coverage =

Percent Impervious (I)=

R_v = 0.05 + 0.009(I) =

| 500 | ft² |
|-------|-----------------|
| 500 | ft ² |
| 500 | ft ² |
| 100 | % |
| 0.950 | |



ESDv Provided:

Disconnection Length= Pe Provided =

| 75 | ft. |
|-----|-----|
| 1.0 | in. |

(Per Table 5.6 (page 5.59) MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ECD | 20.50 | - 3 |
|-------|-------|-----|
| ESDv= | 39.58 | ft |

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

| Disconnection Flow Path Length (ft.) | | | | | |
|--|-----|-----|-----|-----|-----|
| Western Shore 15 30 45 60 75 | | | | | |
| Eastern Shore | 12 | 24 | 36 | 48 | 60 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) =

2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 106.88 | ft ³ |
|------------|--------|-----------------|
| | | |

| N-1 | Disconnection of Rooftop Runoff | | | | |
|----------------|---------------------------------|--------------|------|--|--|
| Drainage Area: | Lot 2 - Garage Right | Device Name: | RD-4 | | |

Concept Design:

| Contributing Drainage Area- | F00 | ft ² | 0.011 |
|-----------------------------|-------|-----------------|-----------|
| Contributing Drainage Area= | 500 | | 0.011 ac. |
| Maximum Drainage Area = | 500 | ft ² | |
| Impervious Coverage = | 500 | ft ² | 0.011 ac. |
| Percent Impervious (I)= | 100 | % | - |
| $R_v = 0.05 + 0.009(I) =$ | 0.950 | | |

ESDv Provided:

Disconnection Length= 75 ft. (Per Table 5.6 (page 5.59)
Pe Provided = 1.0 in. MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 39.58 | ft ³ |
|-------|-------|-----------------|
| 2001 | 05.50 | 16 |

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

| Disconnection Flow Path Length (ft.) | | | | | |
|--------------------------------------|-----|-----|-----|-----|-----|
| Western Shore | 15 | 30 | 45 | 60 | 75 |
| Eastern Shore | 12 | 24 | 36 | 48 | 60 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in. $(2.7)(A)(R_{-1})$

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 106.88 | ft ³ |
|------------|--------|-----------------|
|------------|--------|-----------------|

| N-1 | Disconnection of Rooftop Runoff | | | | |
|----------------|---------------------------------|--------------|------|--|--|
| Drainage Area: | Lot 2 - Garage Rear | Device Name: | RD-5 | | |

Concept Design:

| Contributing Drainage Area= | 500 | ft ² | 0.011 ac. |
|-----------------------------|-------|-----------------|-----------|
| Maximum Drainage Area = | 500 | ft ² | 0.011 ac. |
| Impervious Coverage = | 500 | ft ² | 0.011 ac. |
| Percent Impervious (I)= | 100 | % | , |
| $R_v = 0.05 + 0.009(I) =$ | 0.950 | | |

ESDv Provided:

| Disconnection Length= | 75 | ft. | (Per Table 5.6 (page 5.59) |
|-----------------------|-----|-----|----------------------------|
| Pe Provided = | 1.0 | in. | MD State SWM Manual |
| | | | |

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 39.58 | ft ³ |
|-------|-------|-----------------|
| 2000 | 03.50 | - 16 |

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

| 3 | | | | | | |
|------------------|--------------------------------------|-----|-----|-----|-----|--|
| | Disconnection Flow Path Length (ft.) | | | | | |
| Western Shore | 15 | 30 | 45 | 60 | 75 | |
| Eastern Shore | 12 | 24 | 36 | 48 | 60 | |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.
$$ESD_{v} = \frac{(2.7)(A)(R_{V})}{12}$$

| 106.88 | ft ³ |
|--------|-----------------|
| | 106.88 |

| N-2 | Disconnection of Non-Rooftop Runoff | | | | |
|----------------|-------------------------------------|--------------|-------|--|--|
| Drainage Area: | Driveway | Device Name: | NRD-1 | | |

Concept Design:

| Contributing Drainage Area= | 1000 ft ² | 0.023 ac. |
|-----------------------------|----------------------|-----------|
| Maximum Drainage Area = | 1000 ft ² | |
| Impervious Coverage = | 1000 ft ² | 0.023 ac. |
| Percent Impervious (I)= | 100 % | |
| $R_v = 0.05 + 0.009(I) =$ | 0.95 | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

ft. Max. Contributing Pervious length = 150-ft

t. Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) in. MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDV- | 79 17 | £43 |
|--------|-------|-----|
| IE3DA- | 19.11 | π |

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 213.75 | ft ³ |
|------------|--------|-----------------|
|------------|--------|-----------------|

| N-2 | Disconnection of | of Non-Rooftop Runoff | |
|----------------|---------------------|-----------------------|-------|
| Drainage Area: | Driveway & Sidewalk | Device Name: | NRD-2 |

Concept Design:

| Contributing Drainage Area= | 500 | ft ² | 0.011 ac |
|-----------------------------|------|-----------------|----------|
| Maximum Drainage Area = | 1000 | ft ² | U.S. |
| Impervious Coverage = | 500 | ft ² | 0.011 ac |
| Percent Impervious (I)= | 100 | % | • |
| $R_v = 0.05 + 0.009(I) =$ | 0.95 | | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

50 ft. 20 ft. 1:1 0.5:1 1.0 in. 45

. Max. Contributing Pervious length = 150-ft

. Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 39.58 | ft ³ |
|-------|-------|-----------------|
|-------|-------|-----------------|

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| F | Ratio of Disconnection Length to Contributing Length | | | | |
|----------------------|--|-----------------------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 0.6:1 0.8:1 1:1 | | | |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| | Max. ESDv= | 106.88 | ft ³ |
|--|------------|--------|-----------------|
|--|------------|--------|-----------------|

| N-2 | Disconnectio | n of Non-Rooftop Runoff | |
|----------------|-----------------|-------------------------|-------|
| Drainage Area: | Gazebo & Pavers | Device Name: | NRD-3 |

Concept Design:

| Contributing Drainage Area= | 1000 ft ² | 0.023 ac. |
|-----------------------------|----------------------|-----------|
| Maximum Drainage Area = | 1000 ft ² | 0.023 |
| Impervious Coverage = | 1000 ft ² | 0.023 ac |
| Percent Impervious (I)= | 100 % | 1 |
| $R_v = 0.05 + 0.009(I) =$ | 0.95 | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

Max. Contributing Pervious length = 150-ft

Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDV- | 70.17 | c. 3 |
|-------|-------|------|
| E2DA- | /9.1/ | _π |

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 213.75 | ft^3 |
|------------|--------|--------|
|------------|--------|--------|

| N-2 | Disconnection of Non-Rooftop Runoff | | | |
|----------------|-------------------------------------|--------------|-------|--|
| Drainage Area: | Driveway | Device Name: | NRD-4 | |

Concept Design:

| Contributing Drainage Area= | 1000 ft ² | 0.023 ac. |
|-----------------------------|----------------------|-----------|
| Maximum Drainage Area = | 1000 ft ² | |
| Impervious Coverage = | 1000 ft ² | 0.023 ac. |
| Percent Impervious (I)= | 100 % | |
| $R_{v} = 0.05 + 0.009(1) =$ | 0.95 | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

50 ft. 20 ft. 1:1 0.5:1 1.0 in. 45

. Max. Contributing Pervious length = 150-ft

t. Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| 677 | | |
|-------|-------|-----------------|
| ESDv= | 79.17 | ft ³ |

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= 21 | 3.75 ft ³ |
|---------------|----------------------|
|---------------|----------------------|

| N-2 | Disconnection of Non-Rooftop Runoff | | | |
|----------------|-------------------------------------|--------------|-------|--|
| Drainage Area: | Driveway | Device Name: | NRD-5 | |

Concept Design:

| Contributing Drainage Area= | 1000 ft ² | 0.023 ac. |
|-----------------------------|----------------------|-----------|
| Maximum Drainage Area = | 1000 ft ² | |
| Impervious Coverage = | 1000 ft ² | 0.023 ac. |
| Percent Impervious (I)= | 100 % | |
| $R_v = 0.05 + 0.009(1) =$ | 0.95 | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

| 50 | ft. |
|-------|-----|
| 20 | ft. |
| 1:1 | |
| 0.5:1 | |
| 1.0 | in. |
| 45 | |

. Max. Contributing Pervious length = 150-ft

Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| P | | |
|-------|-------|-----------------|
| ESDv= | 79.17 | ft ³ |

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 213.75 | ft ³ |
|------------|--------|-----------------|
|------------|--------|-----------------|

| N-2 | N-2 Disconnection of Non-Rooftop Runoff | | | |
|----------------|---|--------------|-------|--|
| Drainage Area: | Pavement & Shed | Device Name: | NRD-6 | |

Concept Design:

| Contributing Drainage Area= | 1000 | ft ² | 0.023 ac. |
|-----------------------------|------|-----------------|-----------|
| Maximum Drainage Area = | 1000 | ft ² | |
| Impervious Coverage = | 1000 | ft ² | 0.023 ac. |
| Percent Impervious (I)= | 100 | % | |
| $R_v = 0.05 + 0.009(I) =$ | 0.95 | | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

ft. Max. Contributing Pervious length = 150-ft

. Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) in. MD State SWM Manual

$$ESD_{\nu} = \frac{(P_E)(A)(R_{\nu})}{12}$$

| ESDv= | 79.17 | ft ³ |
|-------|-----------|-----------------|
| L3DV- | , , , , , | 11 |

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 213.75 | ft ³ |
|------------|--------|-----------------|
|------------|--------|-----------------|

| N-2 | Disconnection of Non-Rooftop Runoff | | |
|----------------|-------------------------------------|--------------|-------|
| Drainage Area: | Pavement | Device Name: | NRD-7 |

Concept Design:

| Contributing Drainage Area= | 1000 | ft ² | 0.023 ac. |
|-----------------------------|------|-----------------|-----------|
| Maximum Drainage Area = | 1000 | ft ² | 1 |
| Impervious Coverage = | 1000 | ft ² | 0.023 ac. |
| Percent Impervious (I)= | 100 | % | |
| $R_v = 0.05 + 0.009(I) =$ | 0.95 | | |

ESDv Provided:

Pervious Length=
Contributing Imp. Length =
Impervious Ratio=
Pervious Ratio =
Pe Provided =
Required Length =

Max. Contributing Pervious length = 150-ft

. Max. Contributing Imp. Length = 75-ft.

(Per Table 5.7 (page 5.62) in. MD State SWM Manual

$$ESD_{v} = \frac{(P_{E})(A)(R_{V})}{12}$$

| ESDv= | 79.17 | ft ³ |
|-------|-------|-----------------|
|-------|-------|-----------------|

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

| Ratio of Disconnection Length to Contributing Length | | | | | |
|--|-------|-------|-------|-------|-------|
| Imperviou s Ratio | 0.2:1 | 0.4:1 | 0.6:1 | 0.8:1 | 1:1 |
| Pervious Ratio | 0.1:1 | 0.2:1 | 0.3:1 | 0.4:1 | 0.5:1 |
| Pe (in.)= | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 |

Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

| Max. ESDv= | 213.75 | ft ³ |
|------------|--------|-----------------|
| | | |

| M-6 | Micro-Bioretention | | | |
|----------------|--------------------|--------------|------|--|
| Drainage Area: | House | Device Name: | MB-1 | |
| | | | | |

Concept Design:

ESD_v Required

 $ESD_{V,Req.} = (P_E \times R_V \times A) / 12 =$ 301 CF Pe Reqired = 1.60 in. 75% of ESDV,Req. = 225.515 CF

ESD_v Provided

Media Depth, df = 5.50 FT. Mulch = 2 in. Planting Soil = 48 in. Pea Gravel= 4 in. Gravel = 12 in. Surface Area, Af = 100 SF 62 2% of Drainage Area Surface Area Required = Planting Media Porosity, n = 0.4 Ponding Depth, D = 1.00 FT.

| Ponding Storage | | | | | | | | | |
|-----------------|-------|-----------|-----------|--------|---------|---------|--|--|--|
| | | | Avg. | Total | Net | Total | | | |
| | ∆ WSE | Surface | Surface | Volume | Storage | Storage | | | |
| WSE | (FT) | Area (SF) | Area (SF) | (CF) | (CF) | (CF) | | | |
| 20.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| 20.50 | 0.50 | 100.00 | 100.00 | 50.00 | 50.00 | 50.00 | | | |
| 21.00 | 0.50 | 100.00 | 100.00 | 50.00 | 50.00 | 100.00 | | | |

Total Storage Volume Provided = 100.00 CF

PE?

Depth of Enhanced Filter = 48.00 in.

Total Combine Storage:

Ponding Storage = 100.00 cf

Media Storage = 220.00 cf (n x Af x Media depth (df)) = Media Storage

Enhanced Filter = 160.00 cf

ESDv provided = 480.00 cf

Pe Prov. = 2.55 in.

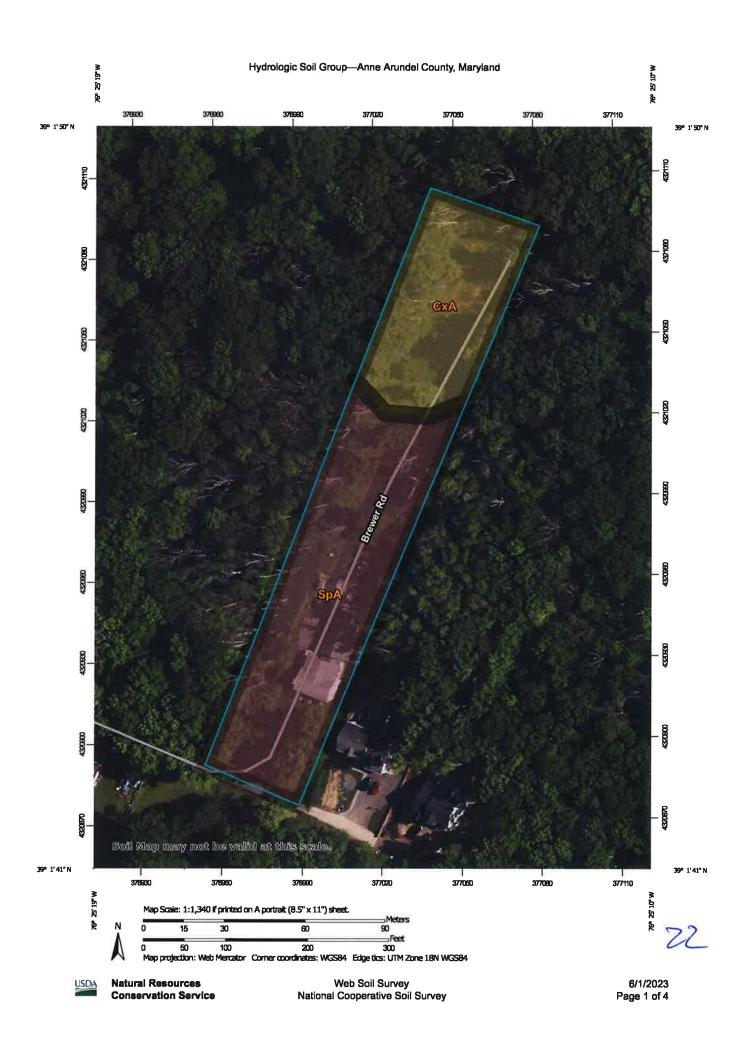
Maximum ESDv Allowed:

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_{v} = \frac{(2.7)(A)(R_{v})}{12}$$

Max. ESDv= 507.41 ft³

0.490998



Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|-----------------------------|--|--------|--------------|----------------|
| СхА | Cumberstone-Mattapex complex, 0 to 2 percent slopes | C/D | 0.8 | 36.1% |
| SpA | Shadyoak-Eikton complex, 0 to 2 percent slopes, frequently ponded | B/D | 1.5 | 63.9% |
| Totals for Area of Interest | | | 2.3 | 100.0% |

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Natural Resources

Conservation Service

Anne Arundel County Office of Planning and Zoning Individual Single Family Dwelling (SFD) Engineering Review Checklist

| Project Name-Number | Brower Property | | | | | |
|--|---|--|--|--|--|--|
| Design Professional | Design Professional Certification (Seal, Signature and expiration information) | Seal | | | | |
| Instructions: | | | | | | |
| 1. The checklist must be submitted | | | | | | |
| | ompleted checklist will not be reviewed and will be returned to the applicant. | | | | | |
| | insert into each box either of the following: | | | | | |
| a. √ This item has been address | | | | | | |
| b. N This item does not apply to 4. All boxes must be checked. | uns project | | | | | |
| | on review of the plans verify by inserting either of the following: | | | | | |
| | ely addressed or agree that it does not apply. | - | | | | |
| | quately addressed. (Use the remarks column to indicate via letter designation, which item needs to be | | | | | |
| | onse is required then indicate in the remarks column that the item is addressed in the comment letter). | | | | | |
| 6. A copy of the checklist will be | eturned to the applicant with the comment letter. | | | | | |
| 7. The checklist must be returned | with the second submittal utilizing the same check format indicated in item 3 above | | | | | |
| | | | | | | |
| | | | | | | |
| | as a general guide for identifying the minimum features that should be addressed prior to submitting the has a general guide for the site development plan checklist for Single Family Dwellings (SFD). | e plans for engineering revie lt is | | | | |
| ► The design consultant by assig | The design consultant by assigning his/her seal and signature certifies that the plans were completed in accordance with all currently applicable design standards. | | | | | |
| Plans that are incomplete as considered a first submittal i | per the checklist items will result in an incomplete review and will be returned to the consultant n the review process. | . The resubmittal will be | | | | |
| | The Stormwater Management Concept items will be reviewed with the first submittal. If based on the review, this office determines that SWM is being addressed usin Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP), then the engineering review of the final details will be completed. | | | | | |
| | VM is NOT being addressed using Environmental Site Design (ESD) to the Maximum Extent Practicable completed. The applicant will then address the comments that are required to demonstrate that ESD to review | | | | | |

04-01-12

1 of 5

| | First S | ubmittal | 100 | cond mittal | Engineering Review for Single Lot Grading Permit Plans | Remarks |
|----|----------|----------|------|----------------|---|---------|
| | Des. | Rev. | Des. | Rev. | | |
| | | | | | Stormwater Management Concept Review | |
| 1 | | | | | Drainage Area Maps | |
| 2 | V | | | | Provide the following drainage area maps: A) Entire drainage area to site and or affecting site. B) On site drainage areas to SWM devices | |
| 3 | | | | | All Drainage area maps: A) Contours numbered with legible letteringB) contour lines extend at least 200' beyond drainage area boundariesC) Travel path for Tc shown with segments labeled (distance, slope and "n" factor) D) Hydrologic soil groups delineated and shadedE) Acreage shown for entire drainage area and each sub area used in computations for curve number or "C" factorF) North arrow shown G) Scale shown. | |
| 4 | | | | | Soils: A) Labeled and shaded based on Hydrologic Soil Group (A, B, C, D). B) Indicate highly erodible soils by separate shading. | |
| 5 | | | | | If all of the required information required to be shown, such as soil and zoning etc. cannot be shown on the overall map then the information may be shown on a separate map. These maps must be shown at same scale as overall map. | |
| 6 | | | | | Scale shall be 1" = 100' for sites with acreage ≤ 25 acres, or 1" = 200' for sites with acreage > 25 acres. | |
| 7 | | | | | On Site Plans | |
| 8 | | | | | North arrow/NAD 83; | |
| 9 | ./ | | | | Benchmark- BM NO., description and elevation. (Indicate vertical control used, NAVD 1929 or NAVD 1988); | |
| 10 | | | | | Pre Development | |
| 11 | | pitst) | | | Site outline showing bearings and distances. | |
| 12 | | | | | Resource Mapping: Provide a composite map which allows clear depiction of the existing site resources and conditions. | |
| 13 | ' | | | | Site resources include but are not limited to: A) Mature trees B) Tidal and Non tidal Wetlands (based on report) C) Floodplains D) Streams labeled as (Perennial, Intermittent, etc.), E) Slopes greater than 25% (15% in critical areas), F) Buffers to streams and wetlands, G) Historical and or archaeological resources | |
| 14 | | | | | Highlight and shade the areas that should be protected from development: This includes site resources listed above and sensitive features such as steep slopes, flood plains, etc. | |

| | First S | ubmittal | | ond mittal | Engineering Review for Single Lot Grading Permit Plans | Remarks |
|----|---------|----------|------|---------------|--|---------|
| | Des. | Rev. | Des. | Rev. | | |
| 15 | / | | | | Certification Note: Provide a note certifying that the location of features shown on the Resource map has been field verified. Note must be signed by design consultant. | |
| 16 | V | | | To y | Pre and Post development discharge points from the site shown and labeled | |
| 17 | nia | | | | Indicate if site is within any Bog Drainage or impact areas | |
| 18 | / | | | | Provide a tabulation of sub drainage areas that provides a linkage with information used in computations. (i.e. any number used in curve number computations should be included in this table and clearly shown on the map.) | |
| 19 | | | | | Provide the names of public or private roads that abut or traverse the site. B) Show right of way limits C) Indicate if road is on the scenic and historic road inventory. | |
| 20 | 1 | | | | Location of existing structures, septic areas, and water wells within 100 feet of site located on abutting and adjacent properties, as applicable; labeled "remain:, "to be removed", or "to be abandoned". | |
| 21 | | | | | Property ownership and info- including the tax # for abutting and adjacent properties. | |
| 22 | nle | | | | Limits of Critical Area designations- LDA, RCA, IDA; | |
| 23 | , | | | | Proposed Development Plan | |
| 24 | | | | - V | Site layout meets the criteria listed below: | |
| 25 | V | | | | Proposed imperviousness and disturbance is minimized to the maximum extent practicable | |
| 26 | 1 | | | | Protects conservation areas, <u>and areas delineated in line 14 above</u> , to the maximum extent practicable | |
| 27 | i/ | | | | SWM is addressed by utilizing non structural practices, natural areas, landscape features and micropractices to manage runoff from impervious surfaces. | |
| 28 | | | | | Site graded so that runoff flows from impervious areas directly to pervious areas or natural conveyance systems | |
| 29 | | | | | Natural flow paths between the site and upstream and downstream systems are maintained | |
| 30 | | | | | Sheet flow and natural overland flow processes maintained wherever it is feasible | |
| 31 | / | | | 200 | Stable conveyance of runoff provided to offsite areas. | |
| 32 | nja | | | | Structural BMPs are used only where absolutely necessary | |
| 33 | V | | | | Show and label proposed contour lines. | |
| 34 | n/a | 122 | | | Easements provided for any work proposed on private offsite properties. | |
| | 100 | 8 3 3 | 177 | | End of Preliminary Plan Review | |

| | First S | ubmittal | | cond mittal | Engineering Review for Single Lot Grading Permit Plans | Remarks | | |
|----|-------------------|----------|------|----------------|--|---------------|--|--|
| | Des. Rev. | Des. | Rev. | | Contention of the Control | | | |
| | Final Plan Review | | | | | | | |
| 36 | | | | | | | | |
| 37 | | | | | All computations are provided in a booklet that is A) Bound B) Sheets numbered C) Signed and Sealed by design professional D) Contains a table of contents. | | | |
| 38 | | | | | Provide a narrative that describes A) How natural features are protected and enhanced, B) How natural flow patterns are maintained, C) Measures taken to reduce impervious coverage. | | | |
| 39 | | | | | Address how the 10% pollutant reduction will be achieved if required. | | | |
| 40 | | | | | Study points: Provide pre and post development runoff for all study points. | | | |
| 41 | | | | | The same method of computation used when comparing runoff (i.e. if TR-55 used for post development runoff, it must be used for pre development as well) | | | |
| 42 | | | | | Compute rainfall amount treated in each facility and provide a table that shows the volume treated for each nonstructural method, micro practice and structural device and includes a summary of the total volume required and provided. | | | |
| 43 | | | | | Roads | NA SERVICE DE | | |
| 44 | | | | 1000 | Road plan checklist included for any proposed road improvements. | | | |
| 45 | | | Us | se this s | section of the checklist only for plans where road improvements are not required. | | | |
| 46 | | | | | If road is not improved based on current classification and no improvements are proposed, then provide modification decision information on the plan. | | | |
| 47 | | | | | Bearing and distances shown on plan and plat | | | |
| 48 | | | | | Right of way bearing and distances shown on both sides of each proposed or existing road that is part of contract shown in plan view; Limits defined via bearings and distance and/or complete curve information; Show maximum and minimum widths if ROW is variable. | | | |
| 49 | | | | | Existing roads that abut or traverse the site (improved and unimproved) show: A) Road name; classification of road; B)Ownership (SHA, County, Private; C) Surface type: D) Show curb and gutte or edge of pavement E) Indicate if road is scenic and historic. | | | |
| 50 | | | | | ROW labeled A) As Temporary or Permanent B) Public or Private | | | |
| 51 | | | | | Proposed right of way widths shown if applicable | | | |
| 52 | | | | J | Clear sight triangle at intersections | | | |
| 53 | | | | | Existing substandard roads: Based on road classification, either provide right-of-way dedication and/or frontage road improvements (as applicable) or, submit for a modification to current Article 17 Section 2-103; | | | |

| | First Su | ubmittal | 1971 200 | ond mittal | Engineering Review for Single Lot Grading Permit Plans | Remarks |
|----|----------|----------|----------|---------------|--|----------|
| _ | Des. | Rev. | Des. | Rev. | | |
| 54 | | | | | Storm Drainage - Stormwater Management | |
| 55 | | | | | Storm Drainage checklist is required for any proposed public storm drainage improvements. | |
| | | | | | Right to Discharge: Determine if any rights-to-discharge, on-site or off-site, are required. | |
| | | | | | Provide all necessary computations and plans to show how SWM is addressed. If disconnections are used, show the flow path on a plan that includes labeled contours. | |
| 56 | | | | | All SWM treatments must be covered under a Private SWM agreement to be executed with the grading permit. | |
| 57 | A J.MIL | 327 | 11.00 | UZ. | Water and Sewer | |
| 58 | | | | | If public water and or sewer is being extended then please supply the completed water and sewer checklist with the necessary public plans. | |
| 59 | | | | 2007 | This portion of the checklist is to be used only if water and or sewer system extensions are not | proposed |
| 60 | | | | | Label all existing mains along the property frontage showing A) Sizes and types, B) As-built tracing numbers. | |
| 61 | | | | | Meters, cleanouts etc. located outside of driveways. | |
| 62 | | | | N. | Easement provided where: A) Water meter, B) Cleanout, C) Fire hydrant, D) Grinder pump, and or E) Mayo tank, is not located within public right-of-way | |
| 63 | | | | | Indicate current water and sewer service areas and category (existing, panned, no-planned service, etc.). | |
| 64 | | | | | Mains extended to limits of property and through the property frontage, if lot is located within the required extension distance (RED) as per the current water and sewer master plan. | |
| 65 | | | | | If site is within existing or planned service and utilities are not being extended, indicate the distance between the property line and the closest public utility. | |
| 66 | | | | | Show location of water and sewer connections to public utilities. | |
| 67 | | | | | Flood Plain | |
| 68 | | | | | Flood plain: A) Determine if flood plain exists on site. B) If flood plain exists use simplified method to determine water surface elevations on site | |
| 69 | | | | | For previously platted flood plain: Flood plain limits shown, and flood plain source referenced. | |
| 70 | | | | | For flood plains computed with this project: A) Cross sections shown and labeled on the site development plan B) Q100, Elevation and station shown for each cross section | |
| 71 | | | | | Floodplain drainage area information used in computations clearly depicted on drainage area maps. | |
| 72 | | | | | Runoff computations for flood plains based on ultimate development of the drainage area based on zoning. No reductions based on storage in ponds, oversized pipes and undersized culverts. | |
| 73 | | | | Part La | Miscellaneous | |
| 74 | | 11175 | | | Provide any necessary plats for easements, dedication etc. | |

| Project Name-Number | Brewer Property | |
|---|--|--|
| Design Professional | Design Professional Certification (Seal, Signature and expiration information) | Seal |
| Instructions: | | |
| 1. The checklist must be submitted w | vith the first submittal. | |
| | ompleted checklist will not be reviewed and will be returned to the applicant. | |
| | insert into each box either of the following: | |
| a. √ This item has been addresse | | |
| b. N This item does not apply to t | this project | |
| 4. All boxes must be checked. | | |
| | on review of the plans verify by inserting either of the following: | |
| | ely addressed or agree that it does not apply. | |
| b. A This item has not been aded | juately addressed. (Use the remarks column to indicate via letter designation, which item needs to be conse is required then indicate in the remarks column that the item is addressed in the comment letter). | |
| 6 A copy of the checklist will be re | eturned to the applicant with the comment letter. | |
| | with the second submittal utilizing the same check format indicated in item 3 above | |
| | Will the sessing submitted deniating the same shock format indicated in item 5 above | |
| | | |
| This checklist is being provided to be used in conjunction with | as a general guide for identifying the minimum features that should be addressed prior to submitting the the site development plan checklist for Single Family Dwellings (SFD). | ne plans for engineering revie ₩ is |
| ► The design consultant by assign | ning his/her seal and signature certifies that the plans were completed in accordance with all currently a | applicable design standards. |
| Plans that are incomplete as considered a first submittal in | per the checklist items will result in an incomplete review and will be returned to the consultant in the review process. | . The resubmittal will be |
| The Stormwater Management C Environmental Site Design (ESI | Concept items will be reviewed with the first submittal. If based on the review, this office determines the D) to the Maximum Extent Practicable (MEP), then the engineering review of the final details will be con | at SWM is being addressed using mpleted. |
| If this office determines that SW of the final details will NOT be of to commencement of final plan | /M is NOT being addressed using Environmental Site Design (ESD) to the Maximum Extent Practicable completed. The applicant will then address the comments that are required to demonstrate that ESD to review. | e (MEP), then the engineering revie the MEP has been addressed pric |

| | First Su | iubmittal Rev | 1000 | cond mittal | Engineering Paview for Single Let Conding San 't St | |
|----|----------|------------------|------|----------------|---|---------|
| | Des. | Rev. | Des. | Rev. | | Remarks |
| | | | | | Stormwater Management Concept Review | |
| 1 | | | | | Drainage Area Maps | |
| 2 | L | | | | Provide the following drainage area maps: A) Entire drainage area to site and or affecting site. B) On site drainage areas to SWM devices | |
| 3 | 1 | | | | All Drainage area maps: A) Contours numbered with legible letteringB) contour lines extend at least 200' beyond drainage area boundariesC) Travel path for Tc shown with segments labeled (distance, slope and "n" factor) D) Hydrologic soil groups delineated and shadedE) Acreage shown for entire drainage area and each sub area used in computations for curve number or "C" factorF) North arrow shown G) Scale shown. | |
| 4 | V | | | | Soils: A) Labeled and shaded based on Hydrologic Soil Group (A, B, C, D). B) Indicate highly erodible soils by separate shading. | |
| 5 | | | | | If all of the required information required to be shown, such as soil and zoning etc. cannot be shown on the overall map then the information may be shown on a separate map. These maps must be shown at same scale as overall map. | |
| 6 | li- | | | | Scale shall be 1" = 100' for sites with acreage ≤ 25 acres, or 1" = 200' for sites with acreage > 25 acres. | |
| 7 | | | | | On Site Plans | |
| 8 | | | | | North arrow/NAD 83; | |
| 9 | | | | | Benchmark- BM NO., description and elevation. (Indicate vertical control used, NAVD 1929 or NAVD 1988); | |
| 0 | | | | | Pre Development | |
| 1 | V | | | | Site outline showing bearings and distances. | |
| 2 | V | | | | Resource Mapping: Provide a composite map which allows clear depiction of the existing site resources and conditions. | |
| 3 | | | | | Site resources include but are not limited to: A) Mature trees B) Tidal and Non tidal Wetlands (based on report) C) Floodplains D) Streams labeled as (Perennial, Intermittent, etc.), E) Slopes greater than 25% (15% in critical areas), F) Buffers to streams and wetlands, G) Historical and or archaeological resources | |
| 14 | | | | | Highlight and shade the areas that should be protected from development: This includes site resources listed above and sensitive features such as steep slopes, flood plains, etc. | |

| | First Submittal | HEROCAL AND A | cond mittal | Engineering Review for Single Lot Grading Permit Plans | Remarks | |
|----|-----------------|---------------|----------------|--|--|----|
| | Des. | Rev. | Des. | Rev. | 2 Inginioning Novicia for Cingle Lot Grading 1 Chille 1 Idne | |
| 15 | V | | | | Certification Note: Provide a note certifying that the location of features shown on the Resource map has been field verified. Note must be signed by design consultant. | |
| 16 | V | | | | Pre and Post development discharge points from the site shown and labeled | |
| 17 | nla | | | | Indicate if site is within any Bog Drainage or impact areas | |
| 18 | / | | | | Provide a tabulation of sub drainage areas that provides a linkage with information used in computations. (i.e. any number used in curve number computations should be included in this table and clearly shown on the map.) | |
| 19 | / | | | | Provide the names of public or private roads that abut or traverse the site. B) Show right of way limits C) Indicate if road is on the scenic and historic road inventory. | |
| 20 | / | | | | Location of existing structures, septic areas, and water wells within 100 feet of site located on abutting and adjacent properties, as applicable; labeled "remain:, "to be removed", or "to be abandoned". | 5€ |
| 21 | / | | | | Property ownership and info- including the tax # for abutting and adjacent properties. | |
| 22 | nk | | | | Limits of Critical Area designations- LDA, RCA, IDA; | |
| 23 | 1: | | XIII I | | Proposed Development Plan | |
| 24 | - / | | | | Site layout meets the criteria listed below: | |
| 25 | 11 | 1 | | | Proposed imperviousness and disturbance is minimized to the maximum extent practicable | |
| 26 | 1 | | | | Protects conservation areas, and areas delineated in line 14 above, to the maximum extent practicable | |
| 27 | V | | | | SWM is addressed by utilizing non structural practices, natural areas, landscape features and micropractices to manage runoff from impervious surfaces. | |
| 28 | | | | | Site graded so that runoff flows from impervious areas directly to pervious areas or natural conveyance systems | |
| 29 | | | | | Natural flow paths between the site and upstream and downstream systems are maintained | |
| 30 | | | | | Sheet flow and natural overland flow processes maintained wherever it is feasible | |
| 31 | V | | | V mis | Stable conveyance of runoff provided to offsite areas. | |
| 32 | n/9 | | | | Structural BMPs are used only where absolutely necessary | |
| 33 | 0 | | | | Show and label proposed contour lines. | |
| 34 | MIG | | | | Easements provided for any work proposed on private offsite properties. | |
| | TO SEE | NE C | | 1000 | End of Preliminary Plan Review | |

| | First Su | ubmittal | 100,000 000,000 | ond mittal | Engineering Review for Single Let Creding Result Bland | | | | |
|----|----------|----------|-----------------|---------------|--|---------|--|--|--|
| | Des. | Rev. | Des. | Rev. | Engineering Review for Single Lot Grading Permit Plans | Remarks | | | |
| | | | | | Final Plan Review | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | All computations are provided in a booklet that is A) Bound B) Sheets numbered C) Signed and Sealed by design professional D) Contains a table of contents. | | | | |
| 38 | | | | | Provide a narrative that describes A) How natural features are protected and enhanced, B) How natural flow patterns are maintained, C) Measures taken to reduce impervious coverage. | | | | |
| 39 | | | | 37/1 | Address how the 10% pollutant reduction will be achieved if required. | | | | |
| 40 | | | | | Study points: Provide pre and post development runoff for all study points. | | | | |
| 41 | | | | | The same method of computation used when comparing runoff (i.e. if TR-55 used for post development runoff, it must be used for pre development as well) | | | | |
| 42 | | | | | Compute rainfall amount treated in each facility and provide a table that shows the volume treated for each nonstructural method, micro practice and structural device and includes a summary of the total volume required and provided. | | | | |
| 43 | | | | | Roads | | | | |
| 44 | | | | | Road plan checklist included for any proposed road improvements. | | | | |
| 45 | | | Us | e this s | ection of the checklist only for plans where road improvements are not required. | | | | |
| 46 | | | | | If road is not improved based on current classification and no improvements are proposed, then provide modification decision information on the plan. | | | | |
| 47 | | | | | Bearing and distances shown on plan and plat | | | | |
| 48 | | | | | Right of way bearing and distances shown on both sides of each proposed or existing road that is part of contract shown in plan view; Limits defined via bearings and distance and/or complete curve information; Show maximum and minimum widths if ROW is variable. | | | | |
| 49 | | | | | Existing roads that abut or traverse the site (improved and unimproved) show: A) Road name; classification of road; B)Ownership (SHA, County, Private; C) Surface type: D) Show curb and gutte or edge of pavement E) Indicate if road is scenic and historic. | | | | |
| 50 | | | | | ROW labeled A) As Temporary or Permanent B) Public or Private | | | | |
| 51 | | | | | Proposed right of way widths shown if applicable | | | | |
| 52 | | | | | Clear sight triangle at intersections | | | | |
| 53 | | | | | Existing substandard roads: Based on road classification, either provide right-of-way dedication and/or frontage road improvements (as applicable) or, submit for a modification to current Article 17 Section 2-103; | | | | |

| | First S | ubmittal | | cond mittal | Engineering Review for Single Lot Grading Permit Plans | THE REAL PROPERTY. |
|----|---------|----------|------|----------------|--|--|
| | Des. | Rev. | Des. | | 2 - Ingineering review for onigle Lot Grading Permit Plans | Remarks |
| 54 | | | | | Storm Drainage - Stormwater Management | |
| 55 | | | | | Storm Drainage checklist is required for any proposed public storm drainage improvements. | |
| | | | | 1 | Right to Discharge: Determine if any rights-to-discharge, on-site or off-site, are required. | |
| | | | | | Provide all necessary computations and plans to show how SWM is addressed. If disconnections are used, show the flow path on a plan that includes labeled contours. | |
| 56 | | | , | | All SWM treatments must be covered under a Private SWM agreement to be executed with the grading permit. | |
| 57 | | | 100 | | Water and Sewer | ATTACA STATE OF THE PARTY OF TH |
| 58 | | | | | If public water and or sewer is being extended then please supply the completed water and sewer checklist with the necessary public plans. | |
| 59 | | | | | This portion of the checklist is to be used only if water and or sewer system extensions are not | proposed |
| 60 | | | | | Label all existing mains along the property frontage showing A) Sizes and types, B) As-built tracing numbers. | |
| 61 | | | | | Meters, cleanouts etc. located outside of driveways. | |
| 62 | | | | | Easement provided where: A) Water meter, B) Cleanout, C) Fire hydrant, D) Grinder pump, and or E) Mayo tank, is not located within public right-of-way | |
| 63 | | | | | Indicate current water and sewer service areas and category (existing, panned, no-planned service, etc.). | |
| 64 | | | | | Mains extended to limits of property and through the property frontage, if lot is located within the required extension distance (RED) as per the current water and sewer master plan. | |
| 65 | | | | | If site is within existing or planned service and utilities are not being extended, indicate the distance between the property line and the closest public utility. | |
| 66 | | | | | Show location of water and sewer connections to public utilities. | |
| 67 | | | | | Flood Plain | |
| 68 | | | | | Flood plain: A) Determine if flood plain exists on site. B) If flood plain exists use simplified method to determine water surface elevations on site | |
| 69 | | | | | For previously platted flood plain: Flood plain limits shown, and flood plain source referenced. | |
| 70 | | | | | For flood plains computed with this project: A) Cross sections shown and labeled on the site development plan B) Q100, Elevation and station shown for each cross section | |
| 71 | | | | | Floodplain drainage area information used in computations clearly depicted on drainage area maps. | |
| 72 | | | | | Runoff computations for flood plains based on ultimate development of the drainage area based on zoning. No reductions based on storage in ponds, oversized pipes and undersized culverts. | |
| 73 | | AS ST | | | Miscellaneous | MAN WE WELLEN |
| 74 | | | | HELES | Provide any necessary plats for easements, dedication etc. | |



Jenny B. Jarkowski, Planning and Zoning Officer

MEMORANDUM

TO: Lori Allen, Planning Administrator

FROM: Diane Windell, OPZ, Planning Technician II

SUBJECT: Variance #2023-0166-V

DATE: November 7, 2023

This memo is in response to the Zoning Division request for comments regarding a Variance to allow a Lot with less than the required square footage and less than the required side setbacks.

The Office of Planning and Zoning, Residential Division has no comment and defers to the Zoning Division with regard to this Variance.

Please be aware that any future development, including a Minor Subdivision, must adhere to all applicable County Code requirements as referenced in Article 17-3, including, but not limited to access to the future lots, bulk restrictions, topography, environmental and forestation guidelines and adequate public facilities. Approval granted by the Hearing Officer does not guarantee an approval of the submitted development plan or subdivision.

cc: File



Mark Wedemeyer, Director

Memorandum

TO: Sumner Handy, OPZ Zoning Division

FROM: Hala Flores, P.E., Engineer Manager, Department of Inspections and Permits

SUBJECT: 1422 Brewer Road

2023-0166-V

DATE: October 23, 2023

Engineering and Utility Review

The above-referenced pre-file has/have been reviewed for Engineering and Utility issues, and the following comments apply:

<u>Project Information:</u> The property is located at 1422 Brewer Road. The applicant is proposing to merge two lots and then re-subdivide. There is a single-family dwelling on Lot 1. Lot 2 runs vertically along the length of lot 1. The applicant intends to merge the two lots and subdivide them into two new lots for building a second single-family dwelling. The new lot to be created will be below the minimum lot size requirement for an R1-zoned property. The construction of a new single-family residence on lot 2 will require deviation from the side lot setback requirement from 40 feet to 36.54 feet at the rear of the proposed structure and from 40 feet to 36.45 feet at the front of the proposed structure.

This office provided comments during the pre-file phase. Additional comments are indicated below:

- The pre-file comments were not addressed. A SWM concept plan that addresses ESD to the MEP through site fingerprinting and reliance on conservation or nonstructural SWM practices for the entire site was not performed to show that the subdivision of the site can be achieved without reliance on micro-structural practices.
- A minor subdivision application is required for subdividing this lot. A minor subdivision would require frontage improvements/ROW dedication.
- This subdivision would create a private road that is in excess of 150 feet in length with no emergency/fire turnaround and does not meet the minimum standards for a private road.
- A low-pressure sewer system serves this property and proposes to discharge into a private low-pressure sewer connection. Capacity has not been verified. Further, if other properties in the area are granted the same variance to increase the density, the current 1.5-inch low-pressure sewer may not be adequate.

<u>Determination:</u> Due to the comments above, this office does not recommend approval of the variance.



J. Howard Beard Health Services Building 3 Harry S. Truman Parkway Annapolis, Maryland 21401 Phone: 410-222-7095 Fax: 410-222-7294 Maryland Relay (TTY): 711 www.aahealth.org

Tonii Gedin, RN, DNP Health Officer

MEMORANDUM

TO:

Sadé Medina, Zoning Applications

Planning and Zoning Department, MS-6301

FROM:

Brian Chew, Program Manager

Bureau of Environmental Health

DATE:

October 31, 2023

RE:

Jonathon Scruggs 1422 Brewer Road

Annapolis, MD 21409

NUMBER:

2023-0166-V

SUBJECT:

Variance/Special Exception/Rezoning

The Health Department has reviewed the above referenced variance to allow a lot with less width and area than required and greater density than allowed and a dwelling with less setbacks than required.

The Health Department does not have an approved plan for this project. The Health Department has no objection to the above referenced variance request as long as a plan is submitted and approved by the Health Department.

If you have further questions or comments, please contact Brian Chew at 410-222-7413.

cc:

Sterling Seay



STEUART PITTMAN, COUNTY EXECUTIVE JESSICA LEYS, DIRECTOR RECREATION AND PARKS 1 HARRY S. TRUMAN PKWY ANNAPOLIS, MD 21401 AACOUNTY.ORG/RECPARKS



MEMORANDUM

TO: Sadé Medina, Zoning Division

Office of Planning and Zoning

FROM: Pat Slayton

Capital Projects Division

SUBJECT: Variance Case 2023-0166-V

DATE: October 25, 2023

The Department of Recreation and Parks has reviewed the above plans to determine if there may be impacts to the Anne Arundel County Green Infrastructure Network, parks, and trails. Please note our recommendations according to those findings below.

- This site is south of and contiguous to Sandy Point State Park.
- A portion of this site lies within the Anne Arundel County Green Infrastructure Network, a
 proposed preservation area considered in the Anne Arundel County Green Infrastructure
 Master Plan in the Severn River watershed. The proposed development is consistent with
 the spirit of the Green Infrastructure Master Plan.

The Department of Recreation and Parks has no further comments.

cc: File

2023-0166-V

Cancel Help Menu Due Date 11/09/2023 Assigned to Sarah Fowler Task
OPZ Transportation Assigned Date 10/19/2023 Assigned to Department
OPZ Transportation Planning Status Complete w/ Comments Action by Department
OPZ Transportation Planning Action By Status Date Sarah Fowler 10/23/2023 Start Time **End Time Hours Spent** 0.0 Billable Overtime Comments The proposed shared portion of the driveway does not appear to meet the minimum 18' width. The applicant must address No No the shared driveway width as well as parking for the existing house with the subdivision process. Time Tracking Start Date Est. Completion Date In Possession Time (hrs)
Display E-mail Address in ACA Display Comment in ACA Comment Display in ACA
No All ACA Users All ACA Users Record Creator Licensed Professional Contact Owner **Estimated Hours** Action Workflow Calendar Updated Task Specific Information

Review Notes

Reviewer Phone Number

2023-0166-V

Cancel Help Menu Due Date 11/09/2023 Assigned to Stacy Poulos Task
OPZ Cultural Resources Assigned Date 10/19/2023 Assigned to Department
OPZ Cultural Resources Status Complete w/ Comments Action by Department OPZ Cultural Resources Action By Stacy Poulos Status Date 10/27/2023 Start Time End Time **Hours Spent** 0.0 Billable Overtime Comments Cultural Resources will need to review grading permits for compliance with Article 17-6-502 (Archaeological Sites). A site Time Tracking Start Date Est. Completion Date Display E-mail Address in ACA Display Comment in ACA Comment Display in ACA No No All ACA Users Record Creator Licensed Professional Contact Owner **Estimated Hours** Action Workflow Calendar Updated Task Specific Information

Reviewer Phone Number

Review Notes Reviewer Email

Reviewer Name



OFFICE OF PLANNING AND ZONING

CONFIRMATION OF PRE-FILE

PRE-FILE #: 2023-0040-P
DATE: 10/06/2023
OPZ STAFF: Joan A. Jenkins

Diane Windell

I & P STAFF: Hala Flores

APPLICANT/REPRESENTATIVE: Jonathan Scruggs

EMAIL: jscruggs@msevanslaw.com

SITE LOCATION: 1422 Brewer Rd (P. 263) & P. 78 **LOT SIZE:** P. 263=1.25ac & P. 78=0.41 ac

ZONING: R1 **CA DESIGNATION:** n/a **BMA:** n/a **or BUFFER:** n/a **APPLICATION TYPE:** Variance

DESCRIPTION

The applicant wishes to combine the two parcels and subdivide into two lots. There is an existing dwelling on proposed lot 1 (40,000 sf). Lot 2 (32,825 sf) would be below the minimum lot size requirement for an R1 zoned property. Variances are required for lot size, lot width, density and setbacks as shown on the site plan for the proposed dwelling. In addition, the existing dwelling must meet the R1 setbacks when a subdivision is created. The existing dwelling does not meet the required setbacks and will require a variance as well.

COMMENTS

Residential Team: The Office of Planning and Zoning, Residential Division has no comment and defers to the Zoning Division with regard to this Variance.

Please be aware that any future development, including a Minor Subdivision, must adhere to all applicable County Code requirements as referenced in Article 17-3, including, but not limited to access to the future lots, bulk restrictions, topography, environmental and forestation guidelines and adequate public facilities.

Engineering: This office has received the subject application and has the following comments that should be addressed with the formal variance application:

SWM must meet ESD to the MEP based on the overall site. Based on COMAR criteria, the site is defined as continuous parcels that are owned by the same entity or being considered as part of a development plan. The SWM report, which will be required to approve the new proposed lot reconfiguration, needs to provide site fingerprinting and explore conservation first, then minimization of imperviousness, then non-structural practices (alternative surfaces, disconnections, and sheet flow to the protected area". Reliance on micro-practices changes the sheet flow pattern and places a maintenance burden on future homeowners and should be avoided to the extent practical.

The site area is defined in COMAR Title 26, Part 3, Subtitle 17 02 Definitions as follows:

3) "Site" means any tract, lot, parcel of land, or combination of tracts, lots, or parcels of land that are in one ownership, or are contiguous and in diverse ownership where development is to be performed as part of a unit, subdivision, or project.(34) "Site development plan" means the second of three required plan approvals that include the information necessary to allow a detailed evaluation of a proposed project.

Determination: This office cannot recommend approval of the variance until the prefile comment is addressed adequately with the variance application.

Zoning Administration Section:

- Site plan: Indicate the height of the proposed dwelling on the site plan in the area of the dwelling footprint.
- There is ample room on the proposed Lot 2 to locate a dwelling in compliance with the R1 District bulk regulations without requiring a variance to setbacks.
- The applicant must indicate in the letter of explanation how the proposal meets <u>Article 18-16-305</u> (a) and (c). In particular the letter should address the hardship in complying with the Code, the justification for the orientation of the dwelling as proposed, and how this application meets the minimum variance necessary.
- The applicant is reminded that if the variance is approved the site plan submitted becomes part of the decision. Any deviation from the site plan aside from changes made that are necessary by comments or requirements that arise during plan review or construction, provided those minor changes doe not exceed any variance granted, may require a new variance application.

INFORMATION FOR THE APPLICANT

Section 18-16-301 (c) Burden of Proof. The applicant has the burden of proof, including the burden of going forward with the production of evidence and the burden of persuasion, on all questions of fact. The burden of persuasion is by a preponderance of the evidence.

A variance to the requirements of the County's Critical Area Program may only be granted if the Administrative Hearing Officer makes affirmative findings that the applicant has addressed all the requirements outlined in Article 18-16-305. Comments made on this form are intended to provide guidance and are not intended to represent support or approval of the variance request.