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**BOYD & DOWGIALLO, P.A.**  
Engineers, Surveyors & Planners  
Maryland Professional Engineering Firm License No. 47570

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September 21, 2023

Anne Arundel County  
Office of Planning and Zoning  
2664 Riva Road  
Annapolis, MD 21401

Re: Lot 758, Sunrise Beach  
Crownsville, MD 21032  
Tax #2748-0425-9250

Attn: Mr. Rob Konowal

Dear Mr. Konowal,

On behalf of our client, Sikora Properties, LLC, owner & developer of the above-referenced property, we are submitting herein a variance request to Article 17-8-201(a) of the Anne Arundel County Code.

The subject property is known as Lot 758 of Sunrise Beach, recorded among the Land Records of Anne Arundel County in Plat Book 18, page 23. The site is an existing legally buildable lot containing 19,942 square feet (sq.ft.) of land zoned R2. Adjacent lots in the neighborhood are improved with single family dwellings of similar size as the proposed dwelling and improvements. Public water and sewer service are not available in this area, so the structure would be served by private well and septic. The subject property is a waterfront lot located along the north side of Echo Cove Road in Crownsville, MD 21032. The site is located within an area designated LDA on the Chesapeake Bay Critical Area Maps, and subject to a "Modified Buffer" as shown on the County's Buffer Modification Map. The narrow lot is vacant, predominantly wooded, and contains existing 15%+ steep slopes along the waterfront. However, as noted by the environmental consultant for the project, the lot does not contain any historic waterfowl staging areas or colonial water bird nesting sites. The lot is also impacted by the 100-year tidal floodplain for the Severn River per current FEMA maps, but due to the existing topography, all improvements on-site are well above the flood elevation.

The location of the proposed dwelling and improvements is away from the steepest slopes and shoreline. In response to the pre-file comments dated July 29, 2022, environmental impacts were reduced by decreasing the size (finished area) of the proposed dwelling from 4,000+ sq.ft. to 2,500 sq.ft., which also allowed a reduction in the size of the proposed septic system. Additionally, this allowed the dwelling location to be shifted towards Echo Cove Road and away from the shoreline and steeper slopes existing nearer to the water. The proposed development would largely occur within the buffer to steep slopes, and not on the steep slopes themselves. The adjusted location of the home is consistent with the immediately adjacent properties in terms of its distance from the water, and accordingly no variance to the "relatively in line" provisions of the County Code is required. Given the minimum required setbacks to the existing shallow wells on the opposite side of Echo Cove Road, the proposed dwelling cannot be moved any closer to Echo Cove Road. Further reduction of the size of the dwelling would make the property out of character with the nearby waterfront lots in the neighborhood. The topography of the site makes avoiding steep slopes and their buffer impossible, but the proposed home has been sized and sited to reduce the disturbance to the slopes and maximize distance to the mean high water of the river.

The decrease in the house size and its required septic system reduced the total proposed disturbance on-site to 9,230 sq.ft. The proposed steep slope and steep slope buffer disturbance is 4,806 sq.ft. and represents the least impactful disturbance while still allowing the lot to be developed. The total proposed lot coverage has also been reduced and is well below the maximum permitted under Critical Area requirements. Any proposed clearing on-site will address reforestation via off-site mitigation (due to the lack of any clear area on-site for reforestation). The requested relief is the minimum possible and is necessary to construct a single-family dwelling on this legal lot.

Therefore, on behalf of our client, we are requesting a variance to Article 17-8-201(a) of the County Code, to allow the disturbance of 6,300 square feet of steep slopes and their associated buffer within an area designated LDA.

In accordance with Article 18-16-305(b), it is our professional opinion that the requested variance is the minimal possible to allow construction of the proposed improvements, and area consistent with the abutting developed lots in the subdivision, based on the following:

- (1) Unique physical conditions, including the wooded steep slope encumbering the narrow lot and the existing wells across Echo Cove Drive, would result in unwarranted hardship if the requested relief is not granted. Given that the portion of the lot abutting Echo Cove Road is the only location on-site which can accommodate a private septic system, the dwelling must be located within the steep slopes and their buffer. Without a variance to permit slope disturbance the legal lot would be rendered unbuildable.
- (2) A literal interpretation of the critical area program would deprive the applicant of rights commonly enjoyed by other properties in similar areas. Denial of a variance to permit slope disturbance will preclude the construction of any dwelling on the property, denying the owner the ability to utilize the property for construction of a dwelling, consistent all of the abutting waterfront lots along the roadway with similar sized dwellings.
- (3) Granting of the variance will not confer any special privilege. The applicant seeks to build a reasonably sized single-family dwelling on a legal lot consistent with the existing homes in the neighborhood. The abutting Lot 757 to the south was developed under a variance in 2015, and the applicant's proposed home will be of a comparable size and location to the surrounding development.
- (4) The variance request is not based on actions or circumstances that are the result of actions by the applicant. Due to the steep slopes on-site and the existing shallow wells on the opposite side of Echo Cove Road, the septic area and dwelling locations on-site are limited; therefore, the variance is not a result of any actions by the applicant.
- (5) The issuance of a variance for the proposed development and slope disturbance will not affect water quality or fish and wildlife habitat, since the proposed house and driveway address stormwater management via ESD practices. Reforestation is required at a 1:1 basis for any clearing on-site and will be provided as set forth in the attachments.
- (6) The location of the dwelling is not in an area deemed bog; therefore, the house has no impact on the bog or its 100' upland buffer.
- (7) As explained above, the issuance of a variance is consistent with the intentions of the critical area program, and overcomes the presumption in Natural Resources Article Sec. 8-1808 of the Maryland Code. The development includes stormwater management, a BAT septic system, and reforestation, and will not be detrimental to the environment.
- (8) The applicant has evaluated and implemented site planning alternatives, and the proposed dwelling and improvements are reduced to the greatest extent possible following the initial feedback from the pre-file meeting.
- (9) As explained herein, the variance requested is the minimum variance necessary to afford relief. The granting of the variance to allow the proposed dwelling will not alter the essential character of the neighborhood as the size and location is consistent with the neighboring waterfront dwellings along Echo Cove Road. The proposed project would not impair the use and development of adjacent property; there are no setback variances required and the homes would be relatively in line with each other and the shoreline. Any trees that would be removed would be reforested and thus the proposed development would not reduce forest cover, nor would it be contrary to the acceptable clearing and replating practices in the critical area. Lastly, as described above, the proposed development would not be detrimental to the public welfare.

The applicant respectfully submits that this legally buildable lot would not be able to be reasonably developed without the relief requested.

**In accordance with the Variance Instructions on-line at AACounty.org, we are submitting the following:**

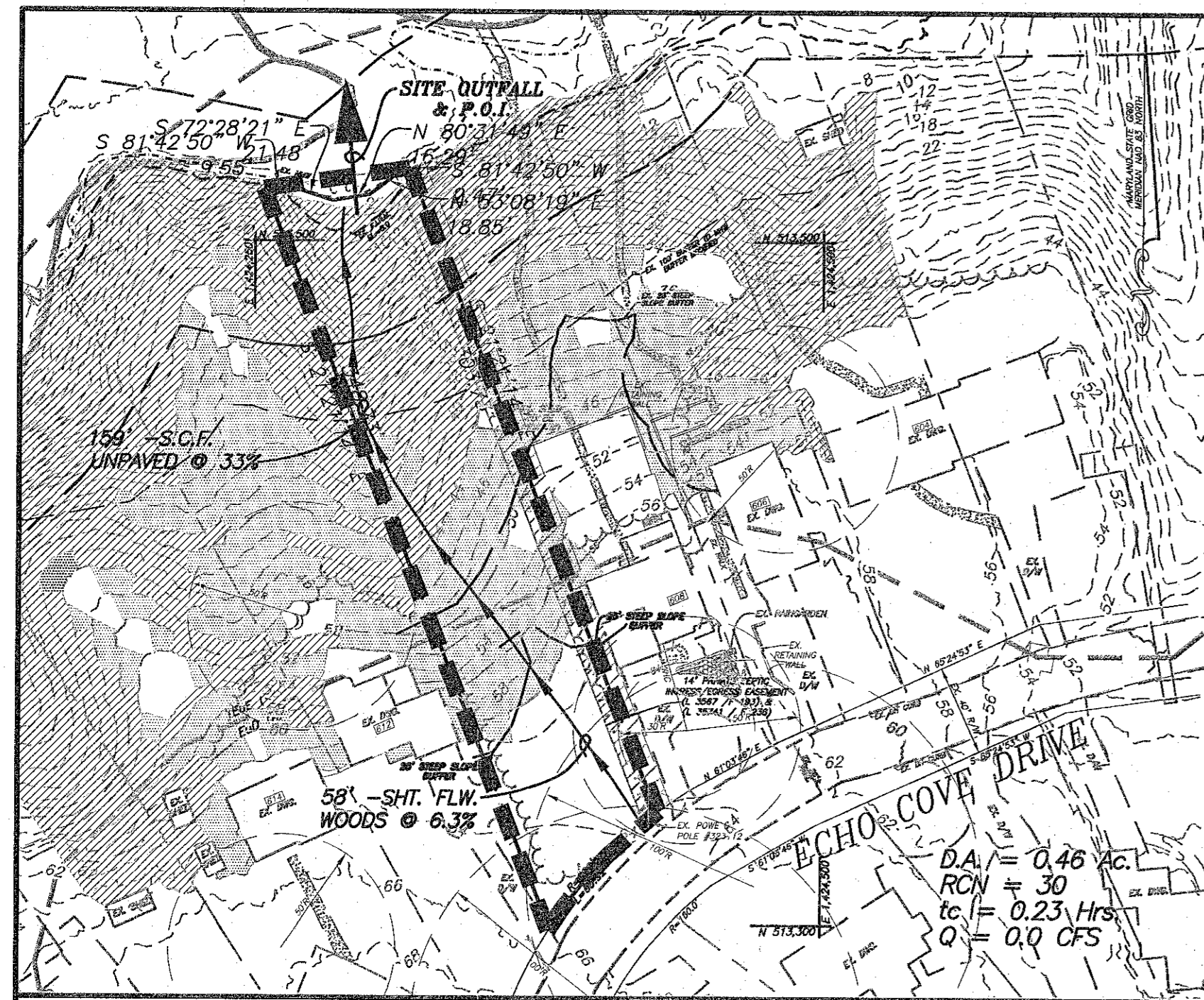
1. Two (2) signed, original Variance Applications.
2. Nine (9) copies of the explanation letter and accompanying statement of justification.
3. Nine (9) copies of the Site Plan, one copy of the architectural plans and one (1) copy of the Site Plan Checklist. An electronic copy of the Site Plan in a pdf format will be emailed to the County upon request.
4. One (1) copy of the current deed and record plat.
5. A list of names & addresses of all property owners within 300 feet.
6. A Filing Fee in the amount of \$250 for the Variance fee and two signs.
7. a.) Four copies of the Critical Area report by Penn Marr Environmental Services, LLC, including the existing and developed plan views, one copy of the project notification application, one copy of the County topography map at 200 scale showing the property location.  
b.) One copy of the pre-file form the Zoning reviewer. Please note that the plan has been revised to show a reduction in steep slope disturbance as noted above.  
c.) Three copies of the single-family engineering checklist, including one copy of the Stormwater Management Report.

We appreciate your attention in this matter, and if you have any questions or require any additional information regarding this request, please do not hesitate to contact our office.

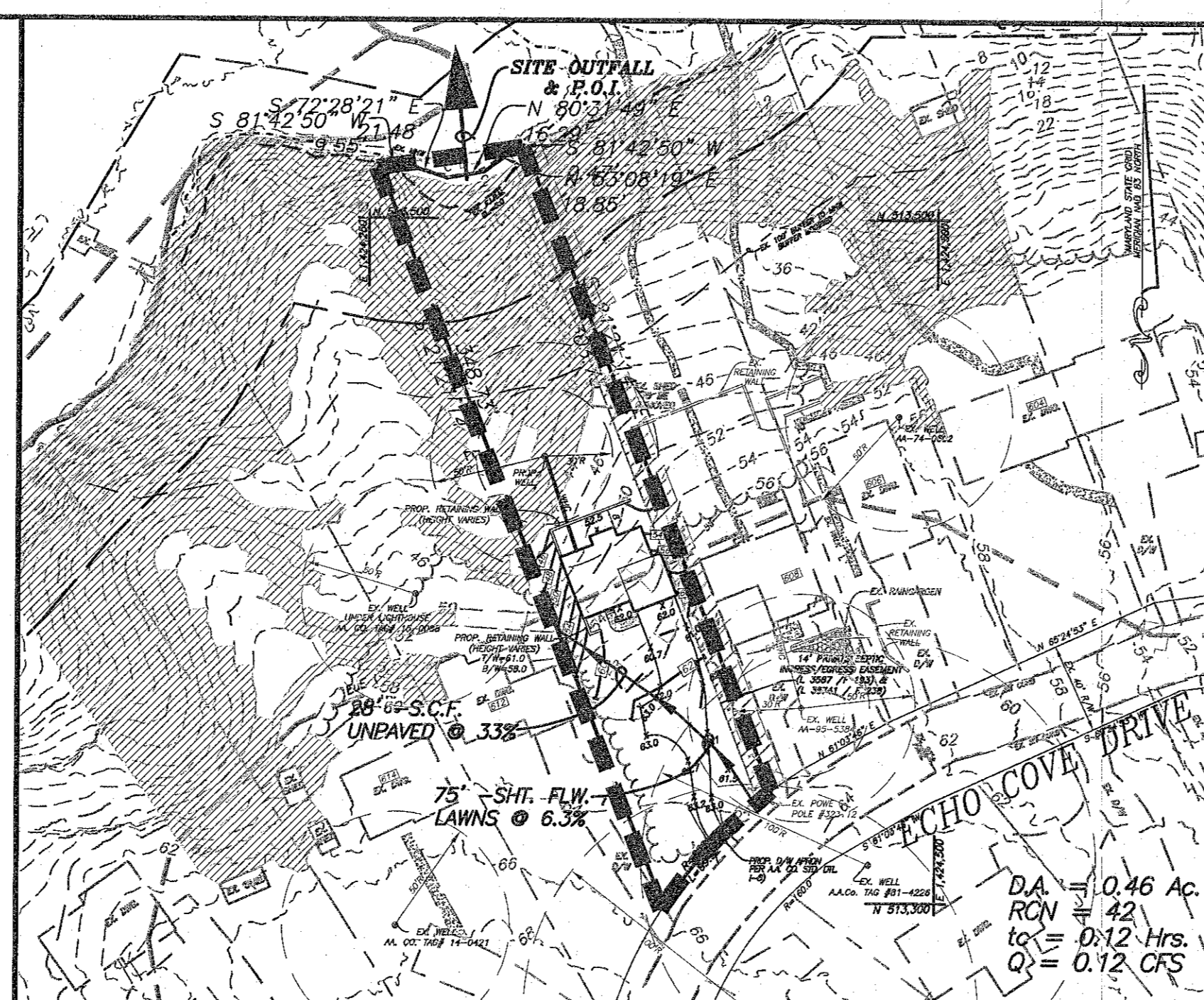
Very truly yours,  
Boyd & Donigiallo, P.A.

By:   
Jerry Tolodziecki, P.E.

cc: file  
enclosures



**EXISTING DRAINAGE AREA MAP**  
SCALE: 1" = 50'



**PROPOSED DRAINAGE AREA MAP**  
SCALE: 1" = 50'



**RESOURCE/PRE DEVELOPMENT PLAN VIEW**  
SCALE: 1" = 30'

**ADJOINING OWNERS**

- TAX MAP 31, BLOCK 8, PARCEL 142 LOT 760 GIANCARLO SERAFINI BARBARA SERAFINI 606 ECHO COVE DRIVE CROWNSVILLE, MD 21032 TAX # 02-748-09572650 ZONING R2 L 31344 / F 489
- TAX MAP 31, BLOCK 8, PARCEL 142 LOT 761 FRANCIS T. RAFFERTY LOUISE R. PASTERNAK 604 ECHO COVE DRIVE CROWNSVILLE, MD 21032 TAX # 02-748-0775700 ZONING R2 L 4308 / F 844
- TAX MAP 31, BLOCK 8, PARCEL 142 LOT 758 POGO PROPERTIES LLC 608 ECHO COVE DRIVE CROWNSVILLE, MD 21032 TAX # 02-748-04259250 ZONING R2 L 23244 / F 300
- TAX MAP 31, BLOCK 8, PARCEL 142 LOT 830 SUE CAROL RISTON TRUSTEE 14482 SE 45TH CT SUMMERFIELD, FL 34491 TAX # 02-748-0674720 ZONING R2 L 32894 / F 315
- TAX MAP 31, BLOCK 8, PARCEL 142 LOT 831 & 832 ALBERT R. DODD SHARON DODD 813 ECHO COVE DRIVE CROWNSVILLE, MD 21032 TAX # 02-748-03351500 ZONING R2 L 4479 / F 434

**LEGEND**

- Existing Curb
- Existing Contour
- Existing Wire Fence
- Existing Wood Fence
- Existing Gas Line
- Existing Gas Valve
- Existing Stormdrain Inlet
- Existing Stormdrain Manhole
- Existing Sewer Manhole
- Existing Sewer Cleanout
- Existing Telephone Manhole
- Existing Utility Pole
- Existing Water Valve
- Existing Water Meter
- Resource to be Protected
- Pre/Post Development Discharge Point
- Flow Direction Arrow
- Mean High Tide Line
- Ex. 15% to 25% Slopes Highly Erodible Soils
- Ex. 25% Slopes Highly Erodible Soils
- FEMA Flood Line

- B-2 STANDARDS AND SPECIFICATIONS**
- SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**
- Definition: The process of preparing the soils to sustain adequate vegetative stabilization.
- Purpose: To provide a suitable soil medium for vegetative growth.
- Criteria: Where vegetative stabilization is to be established.
- Soil Preparation
    - Soil Preparation
      - Seeded preparation consists of loosening soil to a depth of 1 to 3 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be cracked with ridges running parallel to the contour of the slope.
      - Apply fertilizer and lime as prescribed on the plans.
    - Permanent Stabilization
      - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
        - Soil pH between 6.0 and 7.0.
        - Soluble salts less than 500 parts per million (ppm).
        - Soil contains less than 40 percent clay (not enough fine grained material greater than 75 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: If organic will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
        - Soil contains 1.5 percent minimum organic matter by weight.
        - Soil contains sufficient pore space to permit adequate root penetration.
      - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
      - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 3 inches.
  - Topsoiling
    - Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soil of concern has low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptably soil gradation.
    - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
    - Topsoiling is limited to areas having 2:1 or flatter slopes where:
      - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
      - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish containing supplies of moisture and plant nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The original soil to be treated with limestone is not feasible.
  - Areas having slopes steeper than 2:1 require special consideration and design.
  - Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
    - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
    - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut edge, poison ivy, thistle, or others as specified.
    - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
  - Topsoil Application
    - Division and uniform control practice must be maintained when applying topsoil.
    - Uniformly distribute topsoil to a 1 to 2 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
    - Topsoil must not be placed if the topsoil or subsoil is in a frozen or unsuitable condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
- Soil Amendments (Fertilizer and Lime Specifications)
  - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the applicable laws and must bear the name, trade name or trademark, and net weight of the product.
  - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 30 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
  - Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
  - Where the subsoil is either highly acidic or composed of heavy clay, spread ground limestone at the rate of 4 to 8 tons/acre (300-600 pounds per 1,000 square feet) prior to the placement of topsoil.

**SOILS LEGEND**

- EuE: Evesboro-Calestown-urban land complex, 15 to 25 percent slopes (A), Soil Erodible (K)=0.05
- EuD: Evesboro-Calestown-urban land complex, 5 to 15 percent slopes (A), Soil Erodible (K)=0.05

NOTE: The property shown hereon is located within flood Zone AE E1=5.0 as shown on F.E.M.A Flood Insurance Rate Map, Community Panel No.24003C0153F of Anne Arundel County, Maryland. (Unincorporated Areas) dated 2/8/15.

**HYDROLOGIC SOIL PROPERTIES CLASSIFIED BY SOIL TEXTURE\***

TEXTURE CLASS	EFFECTIVE WATER CAPACITY (Cv) (INCH PER INCH)	MINIMUM INFILTRATION RATE (f) (INCHES PER HOUR)	HYDROLOGIC SOIL GROUPING
Sand	0.35	8.27	A
Loamy Sand	0.31	2.41	A
Sandy Loam	0.25	1.02	B
Loam	0.19	0.52	B
Silt Loam	0.17	0.27	C
Sandy Clay Loam	0.14	0.17	C
Clay Loam	0.14	0.09	D
Silty Clay Loam	0.11	0.06	D
Sandy Clay	0.09	0.05	D
Silty Clay	0.09	0.04	D
Clay	0.08	0.02	D

\* Taken from the Maryland Department of Natural Resources, Water Resources Administration, Stormwater Management Division Standards and Specifications for Infiltration Practices.

**BQG PROTECTION NOTE**

This site is not located within a bag, a bag buffer area or within a contributing drainage area of a bag, as determined by the Anne Arundel County Bag Protection Area Guidance Map, dated December, 2006.

**SCENIC & HISTORIC ROAD NOTE**

This site does not derive access from or abut a scenic or historic road as shown on Anne Arundel County Scenic and Historic Roads Map, dated 2006.

**WATER & SEWER SERVICE AREA**

WATER SERVICE AREA: NO EXISTING SERVICE  
SEWER SERVICE AREA: NO EXISTING SERVICE

**HISTORICAL, ARCHAEOLOGICAL & CEMETARY NOTE**

This site does not contain any historical or archaeological items, based upon a field observation by Boyd & Dowgiallo, P.A. and is not part of an existing cemetery.

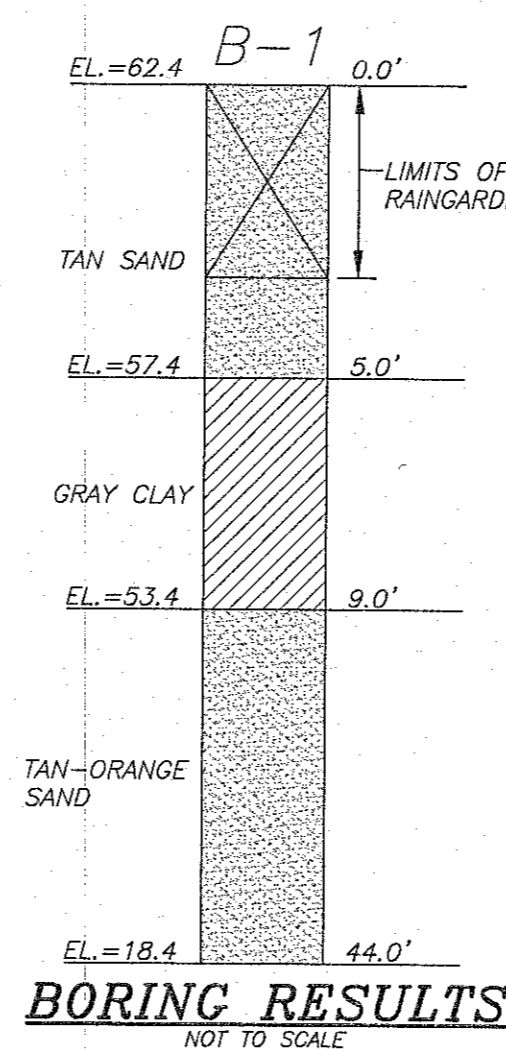
**ZONING NOTE**

This site is located within an R2 zoning district and a Limited Development Area (LDA) of the Chesapeake Bay Critical Area.

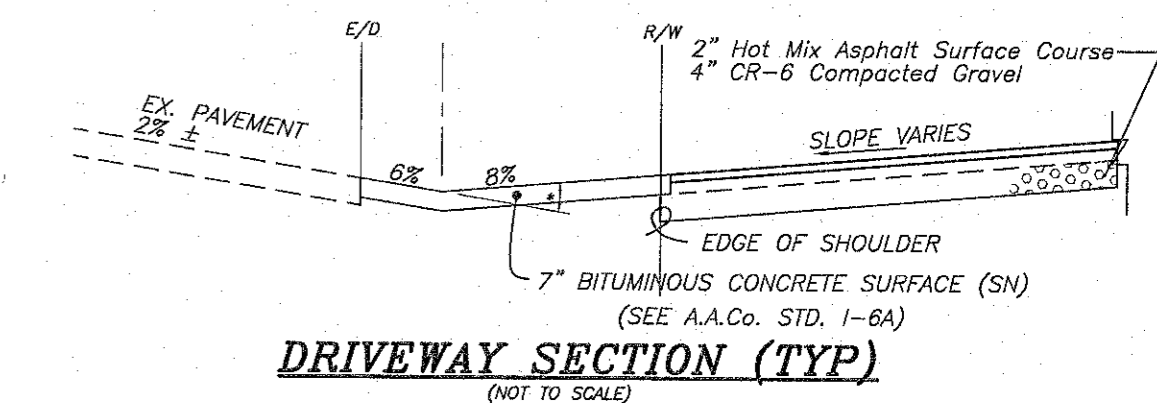
**RESOURCE MAP CERTIFICATION NOTE**

The property and topographic information shown hereon is based on surveys performed by Boyd & Dowgiallo, P.A. and the A.A.Co. GIS has been field verified.

Jerry E. Toole, P.E. #19577



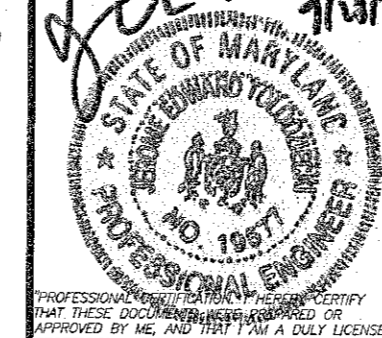
**BORING RESULTS**  
NOT TO SCALE



- NOTE: 1. FOR THE MINIMUM PAVING FOR DRIVEWAYS IN THE COUNTY RIGHT OF WAY, SEE LOCAL ROAD PAVING SECTIONS, DETAIL P-8.  
2. DITCH LINING AND VELOCITY DISSIPATORS TO BE PROVIDED AS REQUIRED.  
3. ALLOWING SURFACE DRAINAGE TO CROSS A PAVED DRIVEWAY ON THE SURFACE IS SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.  
4. MAXIMUM ALGEBRAIC GRADE DIFFERENCE IS 14%.

**OWNER/DEVELOPER**  
SIKORA PROPERTIES LLC  
108 STONE POINT RD.  
UNIT 22  
ANNAPOLIS, MD 21401  
786-391-5569  
SIKORAINVESTMENT@GMAIL.COM

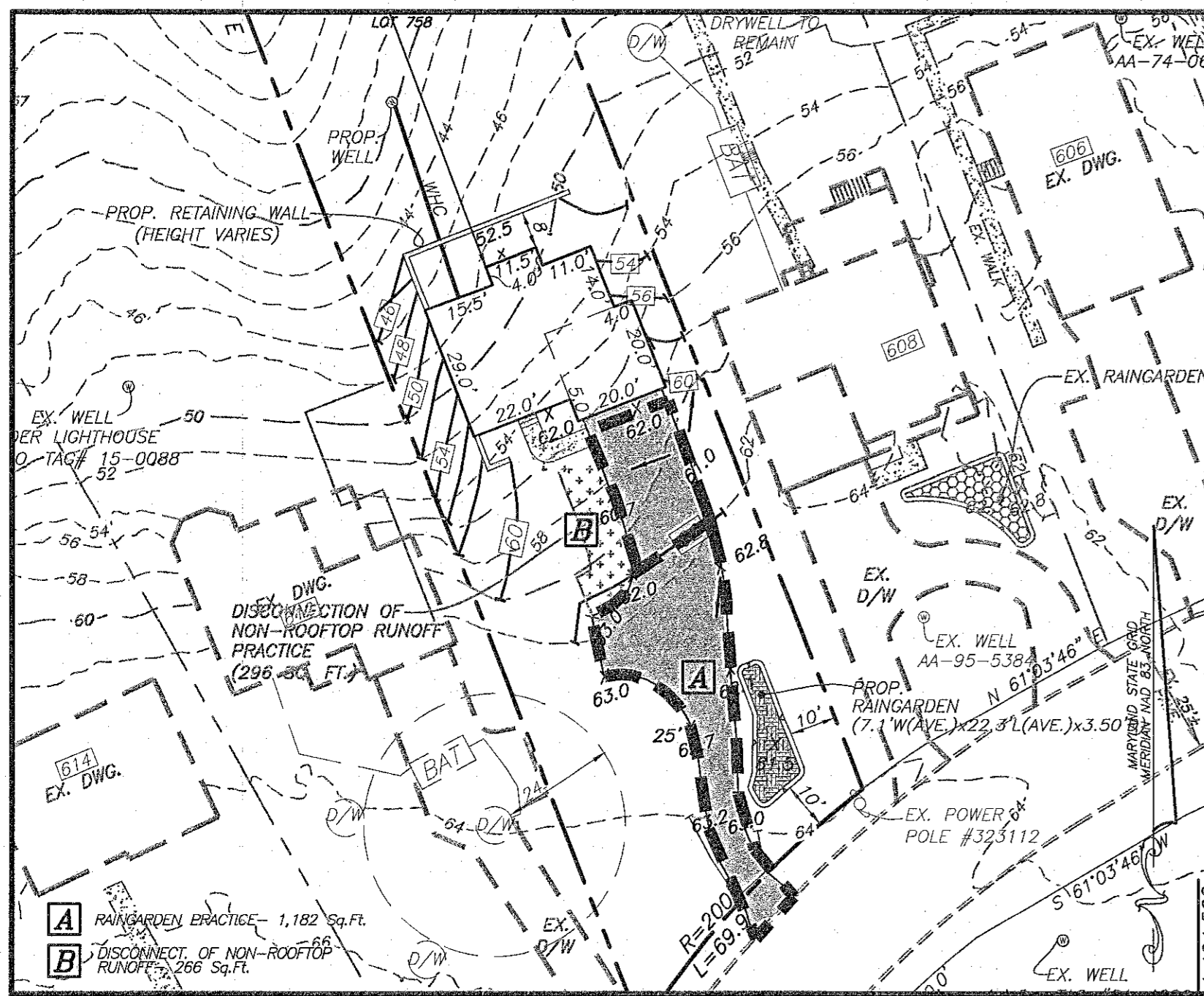
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**VARIANCE & GRADING & SEDIMENT CONTROL PLAN**  
**LOT 758, SUNRISE BEACH**  
PLAT BOOK 23, PAGE 18  
TAX MAP 31 BLOCK 8, PARCEL 142  
ZONED R2

Sheet No.: 2 of 4  
Checked By: JET  
Date: SEPT, 2023  
Permit #G0201  
Prof. No. SECOND DISTRICT

ANNE ARUNDEL COUNTY, MD 21032  
JOB# 20-006



**ESD PRACTICE MAP**  
SCALE: 1" = 30'

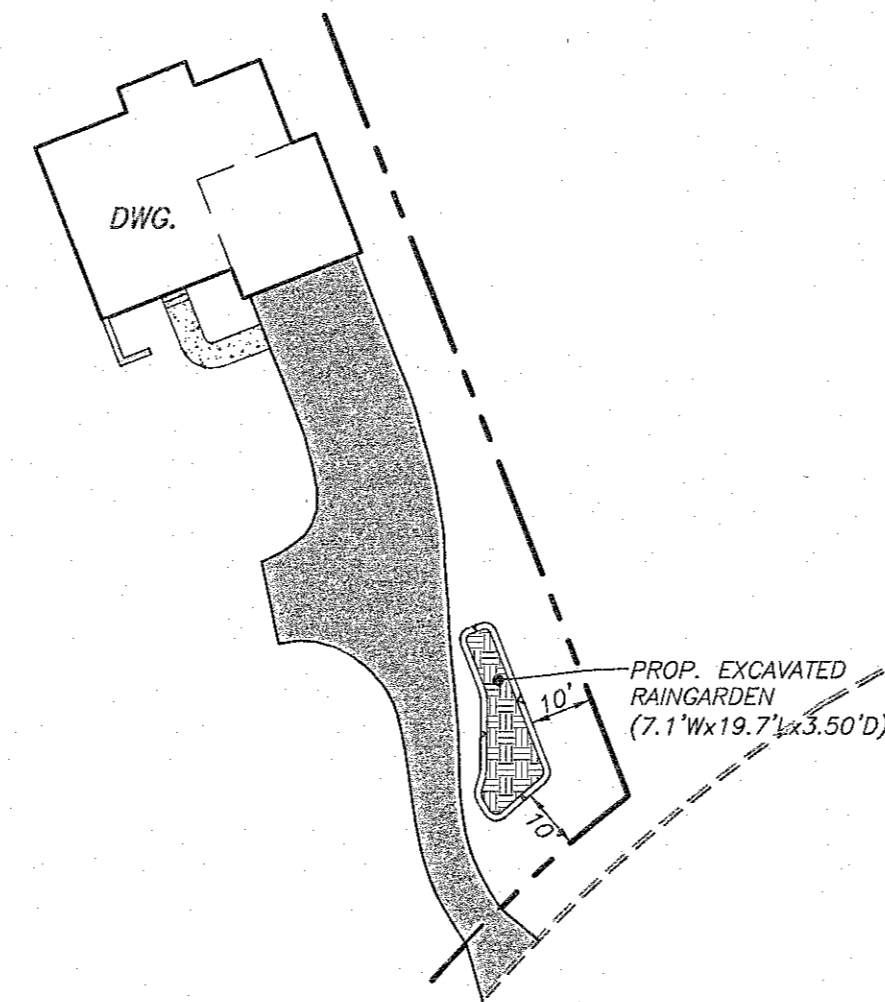
**SETBACKS  
(ZONED R5)**

Front ..... N/A  
Rear ..... 20'  
Side ..... 7'  
\*Established by existing dwellings

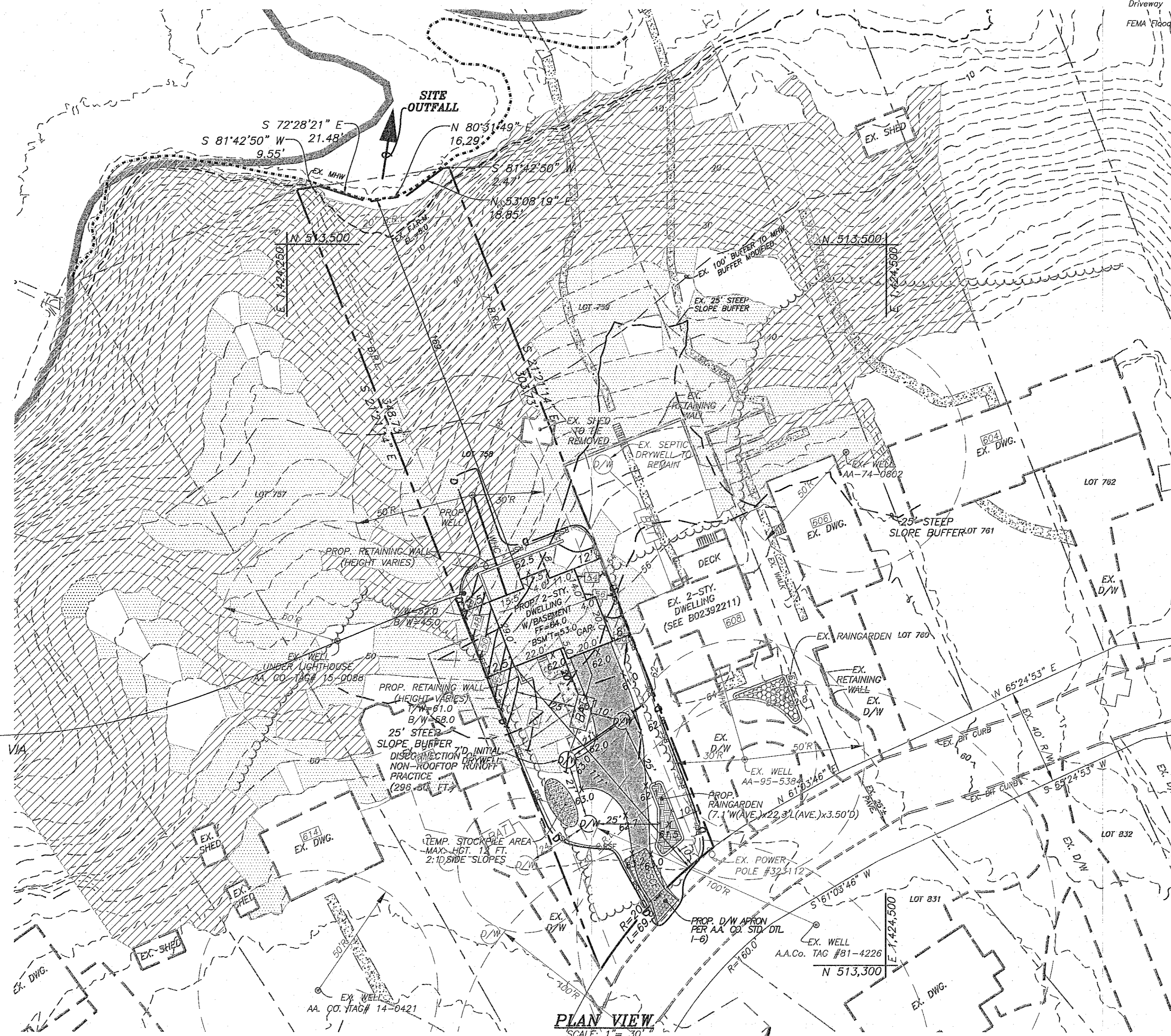
**CRITICAL AREA TABULATION**

Zoning	R2
Critical Area Classification	LDA, Modified Buffer
Total Site Area	19,942 Sq.Ft.± (0.46 Ac.±)
Total Critical Area	19,942 Sq.Ft.± (0.46 Ac.±)
Existing Developed Woodlands (Within C.A.)	18,454 Sq.Ft.±
Maximum Clearing Allowed (Within C.A.)	Minimum necessary to accommodate development
Proposed Developed Woodlands Clearing (Within C.A.)	7,893 Sq.Ft.±
Required Reforestation	7,893 Sq.Ft.± (to be provided by off-site mitigation)
Steep Slopes (15%)	14,336 Sq.Ft.±
Steep Slope (15%+) Disturbance	4,806 Sq.Ft.±
Existing Lot Coverage	122 Sq.Ft. (Ex. Shed)
Existing Lot Coverage To be Removed	122 Sq.Ft. (Ex. Shed)
Maximum Lot Coverage (Within C.A.)	6,231 Sq.Ft.± (31.25%)
Proposed Lot Coverage (On-Site)	2,961 Sq.Ft.± (1,308 Sq.Ft. House + 1,653 Sq.Ft. D/W + S/W)
Total Proposed Lot Coverage (Within C.A.)	2,961 Sq.Ft.± (1,308 Sq.Ft. House + 1,653 Sq.Ft. D/W + S/W)
Ex. Lot Coverage Within 100' Buffer	0 Sq.Ft.
Prop. New Lot Coverage Within 100' Buffer	0 Sq.Ft.
Prop. Buffer Mitigation Planting Requirement	0 Sq.Ft.

NOTE: TO MINIMIZE EROSION AND DEPOSITION OF SEDIMENT OFF-SITE, ALL DISTURBANCE WITHIN THE 15% SLOPES ARE TO BE STABILIZED VIA SEED, MULCH & CURLEX AT THE END OF THE WORK DAY.



**RAINGARDEN SCHEMATIC**  
NOT TO SCALE



**PLAN VIEW**  
SCALE: 1" = 30'

**LEGEND**

Existing Curb	---
Existing Contour	---S1---
Existing Wire Fence	---
Existing Wood Fence	---
Existing Woods Line	---
Existing Gas Line	---
Existing Gas Valve	---
Existing Stormdrain Inlet	---
Existing Stormdrain Manhole	---
Existing Sewer Manhole	---
Existing Sewer Cleanout	---
Existing Telephone Manhole	---
Existing Utility Pole	---
Existing Water Valve	---
Existing Water Meter	---
Proposed Contour	---
Proposed Reinforced Silt Fence	---
Proposed Limit of Disturbance	---
Stabilized Construction Entrance	---
Boring Location	---
Mean High Tide Line	---
Ex. 15% to 25% Slopes	---
Ex. 25% Slopes	---
Driveway	---
FEMA Flood Line	---

**M-7. Rain Gardens**

A rain garden is a shallow, excavated landscape feature or a saucer-shaped depression that temporarily holds runoff for a short period of time. Rain gardens typically consist of an absorbent-planted soil bed, a mulch layer, and planting materials such as shrubs, perennials, and flowers. An overflow conveyance system is included to pass larger flows. Captured runoff from downspouts, roof drains, pipes, swales, or curb openings temporarily soaks and slowly filters into the soil over 24 to 48 hours.

**Applications:**

Rain gardens can be primary or secondary practices on residential, commercial, industrial, or institutional sites. This practice is typically used to treat runoff from small impervious areas like rooftops, driveways, and sidewalks. Rain gardens can also be used to retrofit and redevelopment applications and in areas where existing slopes require energy dissipation.

**Performance:**

The  $P_t$  values determined by Equation 5.3 may be applied to the ESD siting criteria when rain gardens are designed according to the guidance provided below.  $P_t$  requirements are also met when the  $P_t$  from Equation 5.3 meets or exceeds the soil specific exclusion factor listed in Section 2.2.

**Constraints:**

- The following constraints are critical when considering the use of rain gardens to capture and treat stormwater runoff:
  - Topography:** Rain gardens require relatively flat slopes (< 5%) to accommodate runoff filtering through the system. Some design modifications can address this constraint through the use of infiltration basins, terracing, and berms or block retaining walls on moderate slopes.
  - Soils:** Clayey soils or soils that have been compacted by construction equipment greatly reduce the effectiveness of this practice. Loosening of compacted soils may improve drainage capability.
  - Drainage Area:** The drainage area to a rain garden should be relatively small, typically less than 2,000 square feet.
  - Infrastructure:** The location of existing and proposed buildings and utilities (e.g., water supply wells, sewer, storm drains, electricity) will influence rain garden design and installation. Landscape features should also consider overhead electric and telecommunication lines when selecting trees to be planted.

Supp. 1 5.104

**Location:**

- Lot-by-lot use of rain gardens is not recommended in residential subdivisions due to runoff by homeowners. If used on a lot-by-lot basis, ensuring the homeowners will be needed to prevent removal.
- Rain garden excavation in areas with heavy tree cover may damage adjacent tree root systems.

**Design Guidance:**

- The following conditions should be considered when designing rain gardens:
  - Conveyance:** Runoff shall enter, flow through, and exit rain gardens in a safe and non-erosive manner. Energy dissipation shall be provided for downspout discharge using a plunge area, rocks, splash blocks, stone dams, etc. Runoff shall enter a rain garden at the surface through grass swales and/or gravel beds. A minimum internal slope of one percent should be maintained and a shallow berm surrounding the rain garden is recommended to avoid short-circuiting. For steep applications, a series of rain gardens can be used as "stepped" terraces to convey water non-erosively.
  - Treatment:** Rain gardens shall meet the following conditions:
    - The drainage area to a rain garden serving a single lot in a residential subdivision shall be 2,000  $P_t$  or less. The maximum drainage area to a rain garden for all other applications shall be 10,000  $P_t$ . Micro-turbulence (M-6) or bio-retention (I-9) should be considered when these requirements are exceeded.
    - The surface area (A) of rain gardens shall be at least 2% of the contributing drainage area. A  $P_t$  value based on Equation 5.3 shall be applied to the contributing drainage area. Temporary storage of the ESD may be provided above the facility with a surface ponding depth of 6 inches or less.
  - $P_t = 10' \cdot \frac{A}{A_d}$  (Equation 5.3)
  - Excavated rain gardens work best where HSG A and B are prevalent. In areas of HSG C and D, no-grade applications or soil amendments should be considered.
  - A minimum six to twelve inch layer of planting soil shall be provided.
  - A mulch layer one to three inches deep shall be applied to the planting soil to maintain soil moisture and to prevent premature clogging.
  - The planting soil and mulch shall conform to the specifications found in Appendix B.
- Landscape:** Landscaping plans shall clearly specify how vegetation will be established and managed. A rain garden should be located in full to partial sun, at least two feet above the natural high water table and be 12 to 18 inches deep. Plants selected for use in a rain garden should tolerate both saturated and dry conditions and be native or adapted to

5.105 Supp.1

**Construction Criteria:**

- The following items should be addressed during the construction of projects with rain gardens:
  - Erosion and Sediment Control:** Rain gardens shall not be constructed until the contributing drainage area is stabilized. During construction, runoff should be diverted and the use of heavy equipment avoided to minimize compaction.
  - Planting Soil:** Planting soil should be mixed on-site prior to installation. If poor soils are encountered beneath the rain garden, a four-inch layer of washed gravel (4 to 1/2 inch gravel preferred) may be used below the planting soil.
  - Landscape Installation:** The optimum planting time is during the Fall. Spring planting is also acceptable but may require watering.
- Inspection:**
  - Regular inspections shall be made during the following stages of construction:
    - During excavation to subgrade and placement of planting soil.
    - Upon completion of final grading and establishment of permanent stabilization.
- Maintenance Criteria:** The following items should be addressed to ensure proper maintenance and long-term performance of rain gardens:
  - Properly sited practices shall have a maintenance plan and be protected by easement, deed restrictions, ordinance, or other legal measures preventing its neglect, adverse alteration, and removal.
  - Rain garden maintenance is generally no different than that required of other landscaped areas.
  - The top few inches of the planting soil should be removed and replaced when water ponds for more than 48 hours. Silt and sediment should be removed from the surface of the bed as needed.
  - Where practices are used to treat areas with higher concentrations of heavy metals (e.g., parking lots, roads), mulch should be replaced annually. Otherwise, the top two to three inches should be replaced as necessary.
  - Occasional pruning and replacement of dead vegetation is necessary. If specific plants are not surviving, more appropriate species should be used. Watering may be required during prolonged dry periods.

Supp. 1 5.106

**RAINGARDEN CONSTRUCTION SPECIFICATIONS**

NO.	DATE	BY	REVISION	APPROVED	DATE

**OWNER/DEVELOPER**  
SIKORA PROPERTIES LLC  
108 STONE POINT RD.  
UNIT 221  
ANNAPOLIS, MD 21401  
786-391-5569  
SIKORAINVESTMENT@GMAIL.COM

Maryland Professional Engineering Firm License No. 47570  
**BOYD & DOWGIALLO, P.A.**  
ENGINEERS-SURVEYORS-PLANNERS  
412 Headquarters Drive, Suite 5  
Millersville, Maryland 21108  
(410) 729-1234 (P)  
(410) 729-1243 (F)  
JERRY@BNDPA.COM

STATE OF MARYLAND  
PROFESSIONAL ENGINEERING BOARD  
APPROVED BY ME AND AFFIDAVIT FILED UNDER  
PROFESSIONAL ENGINEERING BOARD NO. 19377  
OF THE STATE OF MARYLAND LICENSE NO. 19377  
EXPIRES ON 03/31/2024

**VARIANCE & GRADING & SEDIMENT CONTROL PLAN**

Job No.: 20-006  
Sheet No.: 3 of 4  
Checked By: JET  
DATE: SEPT., 2023  
Permit #G0201  
Proj. No. SECOND DISTRICT

**LOT 758, SUNRISE BEACH**  
PLAT BOOK 23, PAGE 18  
TAX MAP 31 BLOCK 8, PARCEL 142  
ZONED R2

ANNE ARUNDEL COUNTY, MD 21032  
**JOB# 20-006**

**SPECIFIC PROJECT INFORMATION**

Describe Proposed use of project site:

CONSTRUCTION OF NEW SINGLE-FAMILY DWELLING & REPO. SITE IMPROVEMENTS

Intra-Family Transfer   
 Grandfathered Lot

Growth Allocation   
 Buffer Exemption Area

**Project Type (check all that apply)**

Commercial   
 Consistency Report   
 Industrial   
 Institutional   
 Mixed Use   
 Other

Recreational   
 Redevelopment   
 Residential   
 Shore Erosion Control   
 Water-Dependent Facility

**SITE INVENTORY (Enter acres or square feet)**

	Acres	Sq Ft
IDA Area	0	0
LDA Area	0.96	19,942
RCA Area	0	0
Total Area	0.96	19,942

Total Disturbed Area 

Acres	0.21
Sq Ft	9230

# of Lots Created . 0

	Acres	Sq Ft		Acres	Sq Ft
Existing Forest/Woodland/Trees	0.92	18,459	Existing Lot Coverage	0.03	122
Created Forest/Woodland/Trees	0	0	New Lot Coverage	0.07	2971
Removed Forest/Woodland/Trees	0.18	7,893	Removed Lot Coverage	0.03	122
			Total Lot Coverage	0.07	2,971

**VARIANCE INFORMATION (Check all that apply)**

	Acres	Sq Ft		Acres	Sq Ft
Buffer Disturbance	0	0	Buffer Forest Clearing	0	0
Non-Buffer Disturbance	0.07	3230	Mitigation	0	0

Variance Type

Buffer   
 Forest Clearing   
 HPA Impact   
 Lot Coverage   
 Expanded Buffer   
 Nontidal Wetlands   
 Setback   
 Steep Slopes   
 Other

Structure

Acc. Structure Addition   
 Barn   
 Deck   
 Dwelling   
 Dwelling Addition   
 Garage   
 Gazebo   
 Patio   
 Pool   
 Shed   
 Other

CRITICAL AREA COMMISSION  
 CHESAPEAKE AND ATLANTIC COASTAL BAYS  
 1804 WEST STREET, SUITE 100  
 ANNAPOLIS, MD 21401

PROJECT NOTIFICATION APPLICATION

**GENERAL PROJECT INFORMATION**

Jurisdiction: ANNE ARUNDEL COUNTY

Date: \_\_\_\_\_

Tax Map #	Parcel #	Block #	Lot #	Section
31	142	8	758	5

**FOR RESUBMITTAL ONLY**

- Corrections
- Redesign
- No Change
- Non-Critical Area

\*Complete Only Page 1  
 General Project Information

Tax ID: 2748-0925-9250

Project Name (site name, subdivision name, or other) LOT 758, SUNRISE BEACH

Project location/Address \_\_\_\_\_

City 610 ECHO COVE RD, CROWNSVILLE Zip 21032

Local case number \_\_\_\_\_

Applicant: Last name SILOMA First name KENNETH

Company SILOMA PROPERTIES, LLC

**Application Type (check all that apply):**

- |  |  |
|--|--|
| Building Permit <input type="checkbox"/>           | Variance <input checked="" type="checkbox"/> |
| Buffer Management Plan <input type="checkbox"/>    | Rezoning <input type="checkbox"/>            |
| Conditional Use <input type="checkbox"/>           | Site Plan <input type="checkbox"/>           |
| Consistency Report <input type="checkbox"/>        | Special Exception <input type="checkbox"/>   |
| Disturbance > 5,000 sq ft <input type="checkbox"/> | Subdivision <input type="checkbox"/>         |
| Grading Permit <input type="checkbox"/>            | Other <input type="checkbox"/>               |

**Local Jurisdiction Contact Information:**

Last name KRUMHOLTZ First name KELLY

Phone # 410-222-7961 Response from Commission Required By \_\_\_\_\_

Fax # \_\_\_\_\_ Hearing date \_\_\_\_\_

***Pen Mar Environmental Services, LLC***

P.O. Box 6809  
Annapolis, MD 21401  
[rdmusser1@gmail.com](mailto:rdmusser1@gmail.com)  
443.875.3955

**CHESAPEAKE BAY CRITICAL AREA REPORT with NARRATIVE  
DESCRIPTION**

PROPERTY: Lot 758, Sec. 5, Plat 1, Sunrise Beach Subdivision  
610 Echo Cove Road, Crownsville, MD 21032  
CURRENT OWNER: Sikora Development, LLC  
20 Hoyle Lane  
Severna Park, MD 21146  
DESCRIPTION: 19,942 Square Feet  
Tax Map 31, Grid 08, Parcel 142  
Tax ID#2748-0425-9250  
ZONING: R2 – Residential  
CRITICAL AREA: LDA – Limited Development Area  
DATE: March 6, 2023  
REVISED: August 8, 2023

**Introduction and Site Description:**

This Chesapeake Bay Critical Area Report is being prepared to meet Anne Arundel County standards for development in the Chesapeake Bay Critical Area. The 19,942 sq. ft. (0.46 ac) site is located in the Sunrise Beach community of Crownsville, Maryland in central Anne Arundel County (Fig. 1). The subject property is currently zoned as R2 – Residential (Fig. 2) and is located within the Severn River Watershed (8 Digit #02131002). The site is currently undeveloped and but exhibits 122 square feet existing impervious area in the form of an existing shed. It is located within existing developed woodlands with a canopy cover of 18,140 square feet which is 91% of the site area. The entire 19,942 sq. ft. site has been designated as a Limited Development Area (LDA) within the Chesapeake Bay Critical Area (Fig. 3).

The property is located along the north side of Echo Cove Road. It is bordered on both the east and west sides by developed residential property. It is bordered along its' north property boundary by the Severn River. The property lies at the top of a north facing "steep-slope", draining towards the Severn River. Onsite topographic elevations range from 0' above sea level (a.b.s.) along the shores of the Severn River up to 64' a.b.s. along the south property line/Echo Cove Road (Fig. 4).

Public sewer and water service is not available in this area so any proposed new residential structures would be served by private well and septic.



**Existing Vegetation:**

This undeveloped lot is almost entirely forested with developed woodland as it is bordered in three directions by residential single-family homes. Of the 19,942 square-foot lot, 18,140 square feet (91%) are considered to include developed woodland (Fig. 5). The developed woodland that exists on the property is dominated by mature, upland deciduous trees with a moderately dense understory. The overstory trees on the property are dominated by chestnut oak (*Quercus prinoides*), red maple (*Acer rubrum*) and southern red oak (*Quercus falcata*). The understory includes American holly (*Illex opaca*), flowering dogwood (*Cornus florida*), mountain laurel (*Kalmia latifolia*) and deerberry (*Vaccinium stamineum*). Partridge berry (*Mitchella repens*) was noted as a groundcover. Many of the chestnut oaks on the site are in decline or standing dead. No trees over 30-inches in diameter were found on the property.

**Environmental Features and Habitat Protection Areas:**

According to a review of Maryland's Environmental Resources and Land Information Network (MERLIN), the site is considered to be on the edge of Forest Interior Bird Dwelling species (FIDs) habitat which is considered to be a habitat protection area (Fig. 6). Additionally, steep slopes over 15% and their associated buffers are located on the property. No non-tidal wetlands or their associated 25-foot buffer were found to exist on the subject property (Fig. 7 and Fig. 8). The property is waterfront and the 100-foot buffer to tidal waters expands across the bulk of the property. A small portion of the 100-year floodplain is located along the north shoreline of this property (Fig. 9). Additionally, the review identified no historic waterfowl staging areas or colonial water bird nesting sites.

**Soils:**

The USDA Natural Resources Conservation Service identifies one soil type is found on site which is the Evesboro-Galesville-Urban land complex (EuD/EuE) on 5% - 25% slopes (Fig.10). The Evesboro-Galesville-Urban land complex is a loamy sand down to 80-inches. It is excessively drained and does not have a hydric soil rating. The Annapolis fine sandy loam has a whole soil erosion "K" factor rating of 0.05 and is not considered to be highly erodible.

**Proposed Use:**

The property owner is proposing to construct a two-story home with built in garage and driveway creating 2,961 square feet of impervious surface (14.8% of site area) as identified on the attached Pre-File Variance Plan prepared by Boyd and Dowgiallo, P.A. (Fig. 11). Construction of the home will require 8,030 square feet of developed woodland clearing which is 44.3% of the existing 18,140 square feet of on-site developed woodlands. On-site reforestation is being proposed to the maximum practicable degree.

Sikora Development, LLC

8/8/2023

Page 3

Stormwater management will be in compliance with the AACO Stormwater Management Practices and Procedures Manual updated 10-1-2017 and will utilize Environmental Site Design (ESD) to the Maximum Extent Possible (MEP).

**Minimization of Impacts:**

The proposed structure is being located near Echo Cove Drive to avoid the steep slopes but will be in the buffer to steep slopes which encompasses the bulk of the property. Additional constraints from the Health Department in regards to the septic system will also limit the size of any proposed structure on the lot.

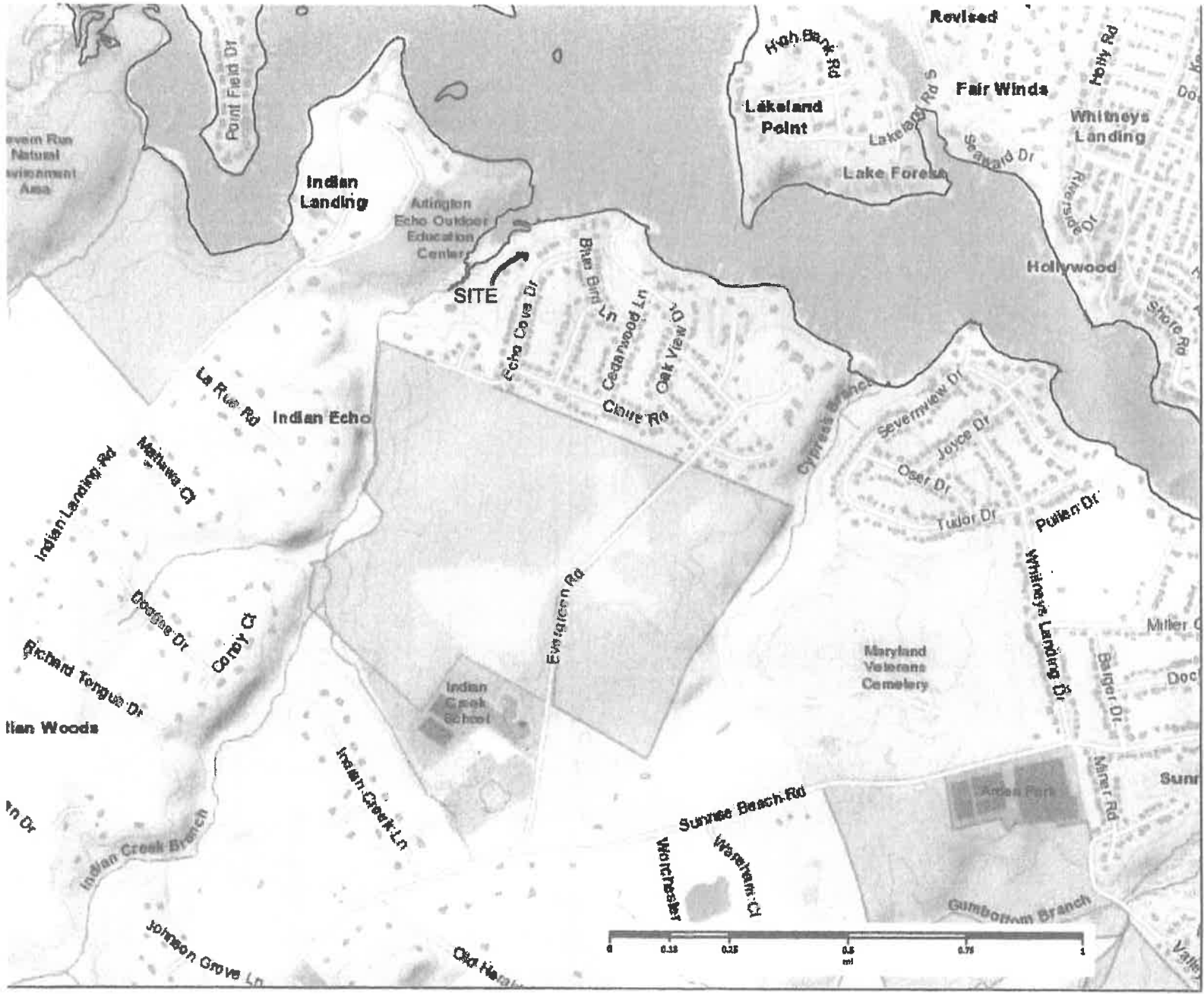
**Conclusions:**

The site is located in a Buffer Modification Area along the shores of the Severn River. Based upon the field review it was determined the no significant or endangered vegetation exists on the property. While steep slopes exist on the site, the proposed new structure is generally outside of the steep slopes but inside of the buffer to the steep slopes. No hydric soils are mapped on the project area. Other than the steep slopes, 100-foot buffer to tidal water and FIDs edge habitat, no other habitat protection areas were found to exist.

Proposed new impervious area within the LDA Critical Area is 2,961 square feet (14.8% of site area) for a new single-family home with attached garage and driveway which is below the maximum 31.25% permitted. Forest area to be removed will be mitigated in accordance with County reforestation standards. Currently there is no onsite stormwater management on the site and modern stormwater management techniques will be implemented, limiting the amount of stormwater exiting the property.

List of Figures

- Fig. 1 – Vicinity Map
- Fig. 2 - AACO Zoning Map
- Fig. 3 – Critical Areas Map
- Fig. 4 – Topography Map
- Fig. 5 - Aerial Photo
- Fig. 6 – MD MERLIN Habitat Protection Areas
- Fig. 7 – MD MERLIN Wetland Areas
- Fig. 8 - USFWS – NWI Map
- Fig. 9 – MD MERLIN 100-Year Floodplain
- Fig. 10 – USDA Soil Survey
- Fig. 11 – Pre-File Variance Plan



**Features**

County Boundary

**Paper Map DISCLAIMER:**  
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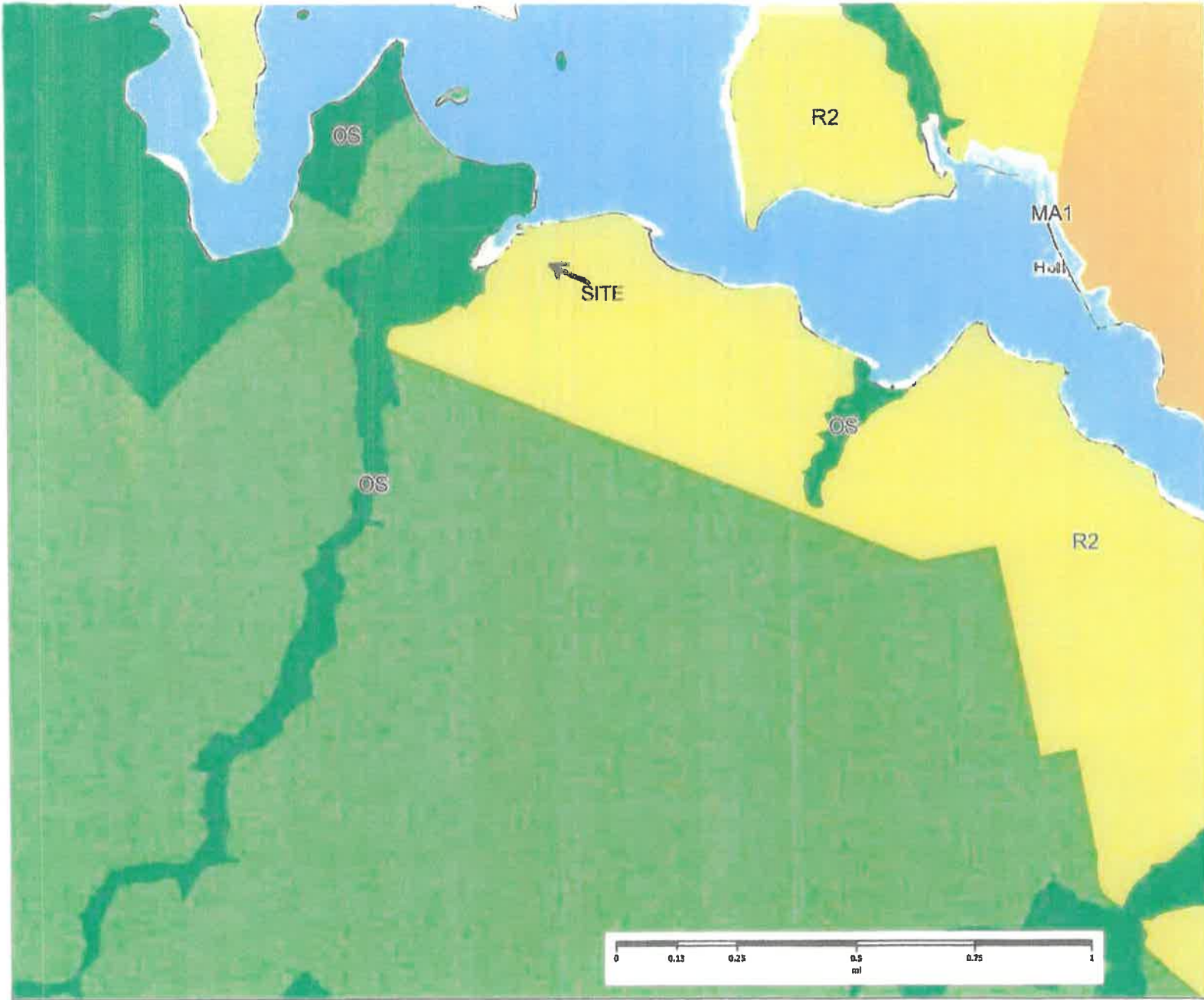
**Vicinity Map - 610 Echo Cove Dr.**

Date: 3/4/2023

Time: 2:59 PM

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

Fig 1



- Features**
- Zoning**
- C1 Commercial - Local
  - C2 Commercial - Office
  - C3 Commercial - General
  - C4 Commercial - Highway
  - City of Annapolis
  - MA1-Community Marina
  - MA2-Light Commercial Marina
  - MA3-Yacht Club
  - MB-General Commercial Marina
  - MC-Heavy Commercial Marina
  - JMXD-C Mixed Use Commercial
  - MXD-R Mixed Use Residential
  - MXD-T Mixed Use Transit
  - MXD-E Mixed Use Employment
  - C-D-ODD Odenton Core
  - C-D-EDD East Odenton
  - O-S-ID-HIS Odenton Historic
  - O-S-ID-IND Odenton Industrial
  - O-S-ID-NOD North Odenton
  - O-S-TRA Odenton Transition
  - OS Open Space
  - R1 Residential
  - R1B Residential
  - R1S Residential
  - R2 Residential
  - R2J Residential
  - R5 Residential
  - RA Rural Agricultural
  - RLD Residential Low Density
  - JSB Small Business
  - TC Town Center
  - W1 Industrial Park
  - W2 Industrial - Light
  - W3 Industrial - Heavy
  - Water
  - County Boundary

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*Fig. 7*



# Zoning Map - 610 Echo Cove Dr.

MARYLAND

Date: 3/4/2023

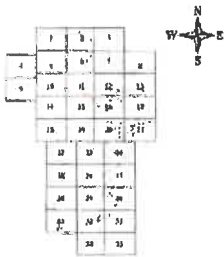
Time: 3:07 PM

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

# Anne Arundel County Critical Area Map

## Legend

- Road Edge
  - Building Footprint
  - Water
- Critical Areas
- RCA - Resource Conservation Area
  - LDA - Limited Development Area
  - IDA - Intensely Developed Area



Sheet No. 11



Draw: January 23, 2007  
 File: P:\Projects\2007\1079 Map Documents\Public\2007 Anne Arundel County\Sheet11.mxd  
 Map Produced: Office of Environmental and Cultural Resources  
 Copyright 2007

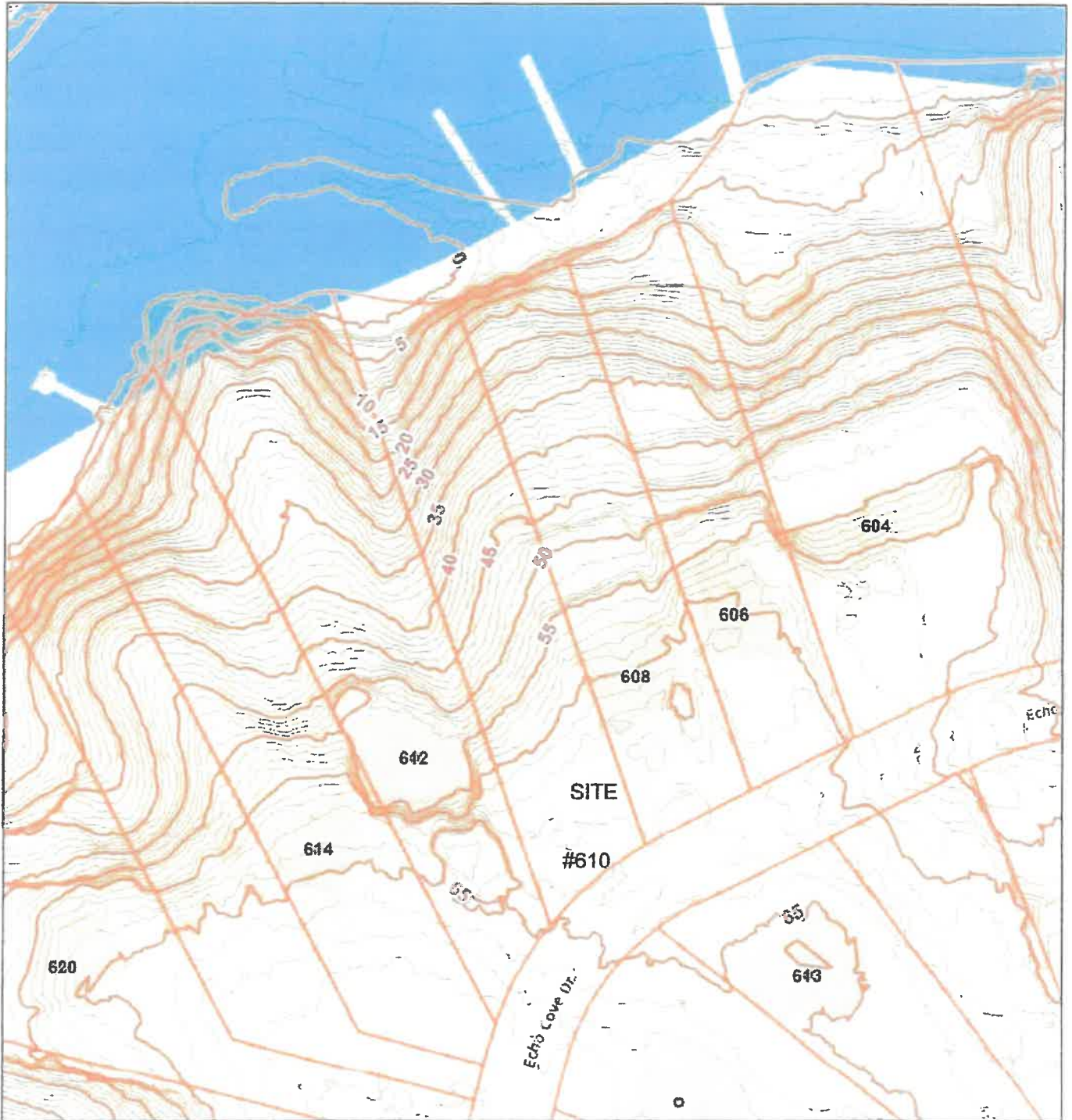
2004 Properties Area and Boundaries (Aerial Imagery) Revised February 27, 2004  
 \*North Arrow is valid in U.S.C. except within the Office of Planning and Design



CRITICAL AREA MAP  
 610 Echo Cove Road

Fig. 3

# Topo Map - 610 Echo Cove Dr.



3/4/2023, 3:16:52 PM

1:1,128

- Structure Address
- ▭ Parcels
- Topography 2017 - 1ft contours
- Index

Intermediate  
Topo 2017 Labels

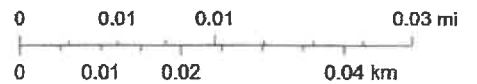
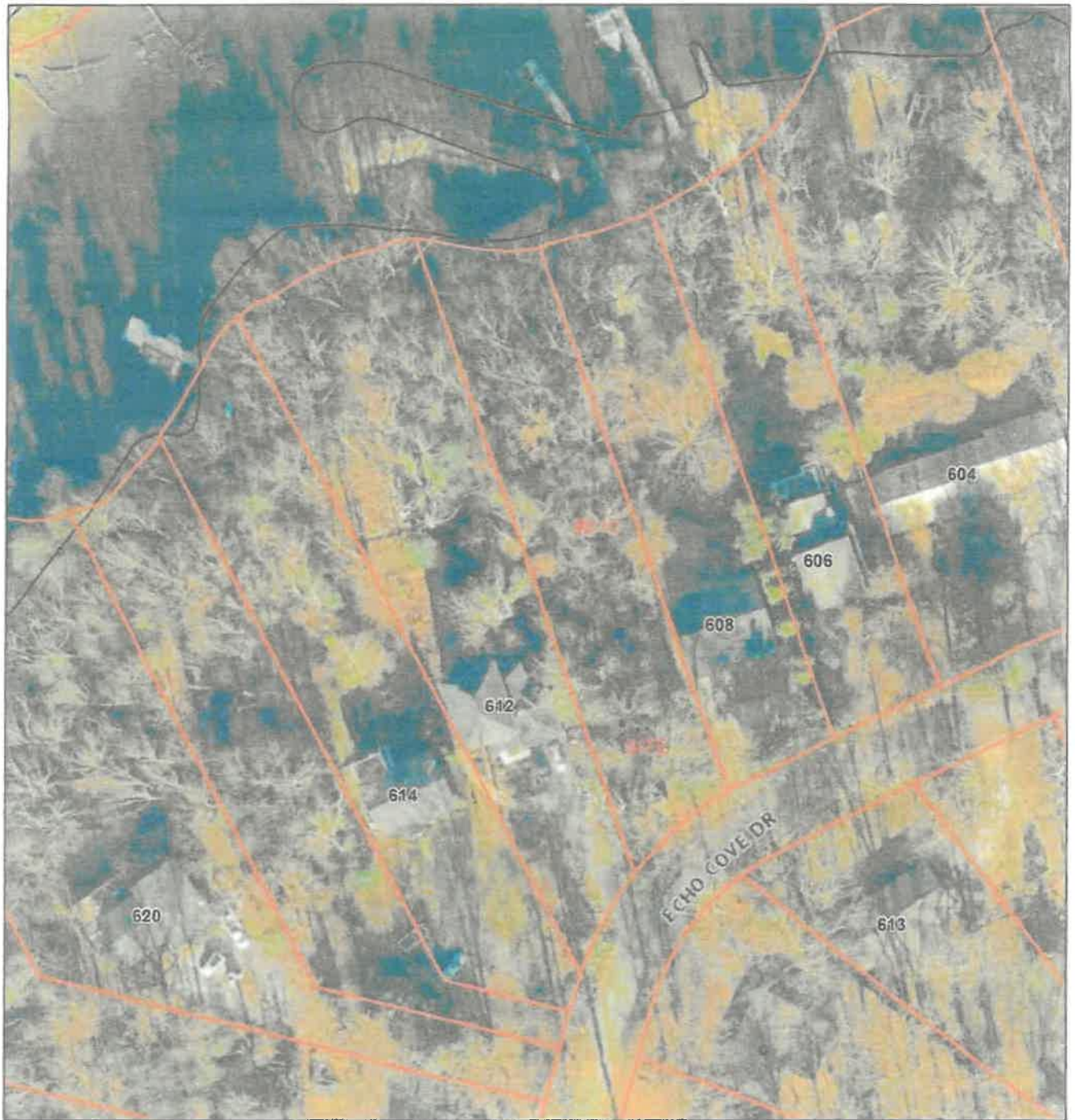


Fig. 4

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastyrrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, County of Anne Arundel, VGIN, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS,

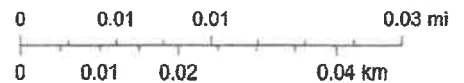
# Aerial Photo - 610 Echo Cove Dr.



3/4/2023, 3:11:44 PM

1:1,128

- Local Road Label
- County Boundary
- Orthophoto 2021
- Green: Green
- Blue: Blue
- Red: Red
- Parcels
- Structure Address

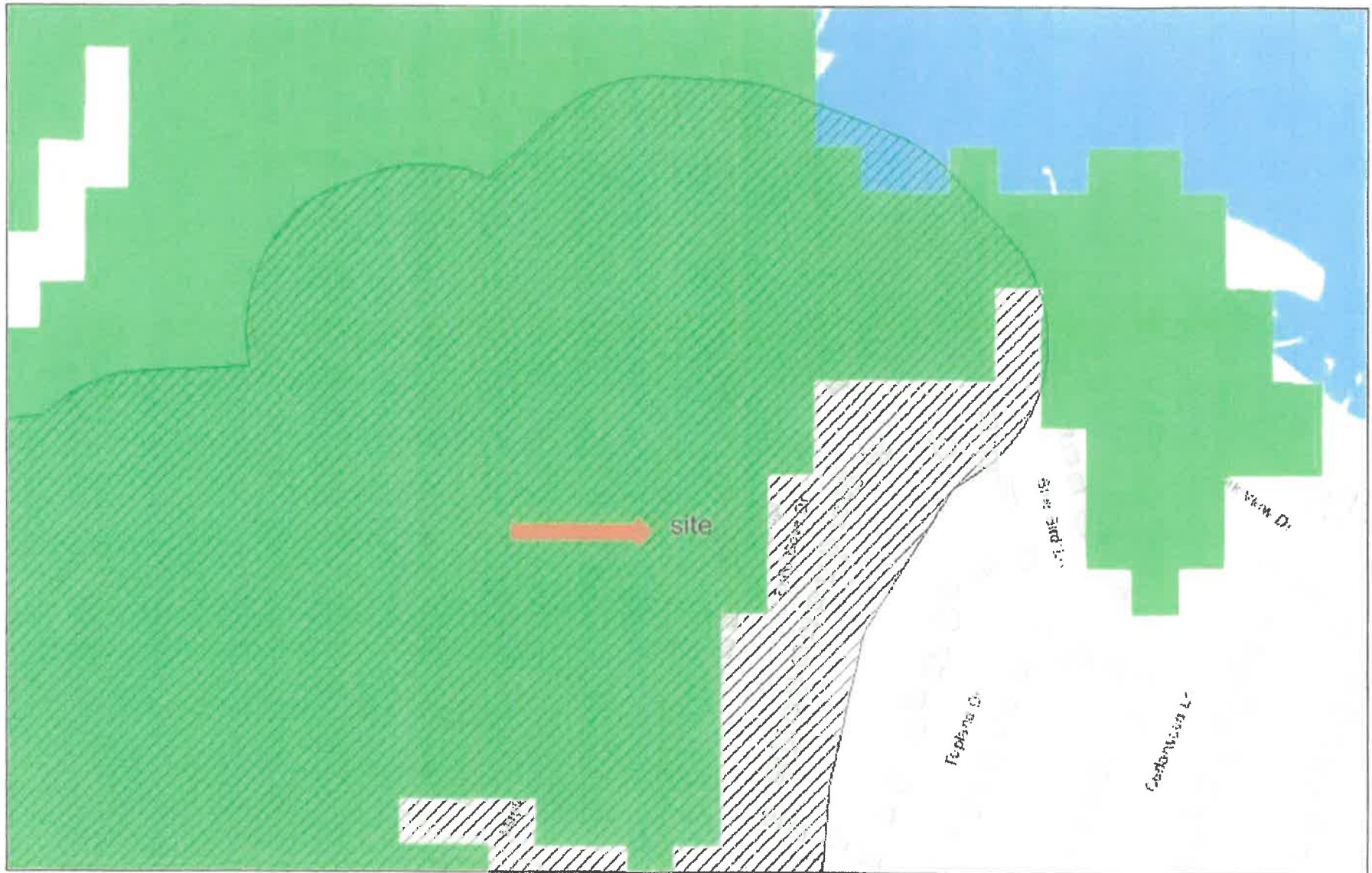


Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodataatvrijheid, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri Community Maps Contributors, County of Anne Arundel, VGIN, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METWASA, USGS, EPA, NPS.

Fig. 5

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# MERLIN Living Resources Map - 610 Echo Cove Dr.



3/4/2023, 3:51:44 PM

- |                                  |  |                                       |
|----------------------------------|--|---------------------------------------|
| Forest Interior Dwelling Species | Waterfowl Areas                        | Coastal Bays Horseshoe Crab Habitat   |
| Coastal Bays Shorebirds          | Sensitive Species Project Review Areas | Chesapeake Bay Horseshoe Crab Habitat |
| Natural Heritage Areas           | MD Amphibian and Reptile Atlas Grid    | beach                                 |

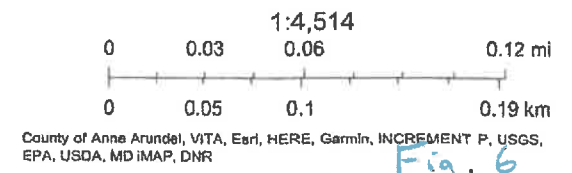


Fig. 6

Maryland Department of Natural Resources

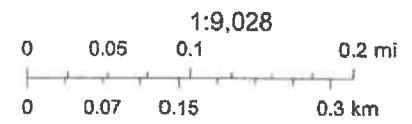


# MERLIN Wetlands Map - 610 Echo Cove Dr.



3/5/2023, 9:25:55 AM

- |  |  |            |
|--|--|------------|
| Wetlands - Linear - Special State Concern  | Wetlands - National Wetlands Inventory | Marine     |
| Wetlands - Polygon - Special State Concern | Estuarine                              | Palustrine |
|  | Lacustrine                             | Riverine   |



MD IMAP, DNR, USFW, County of Anne Arundel, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Maryland Department of Natural Resources

FIG. 7



U.S. Fish and Wildlife Service









# National Wetlands Inventory

## NWI Map - 610 Echo Cove Dr.



March 5, 2023

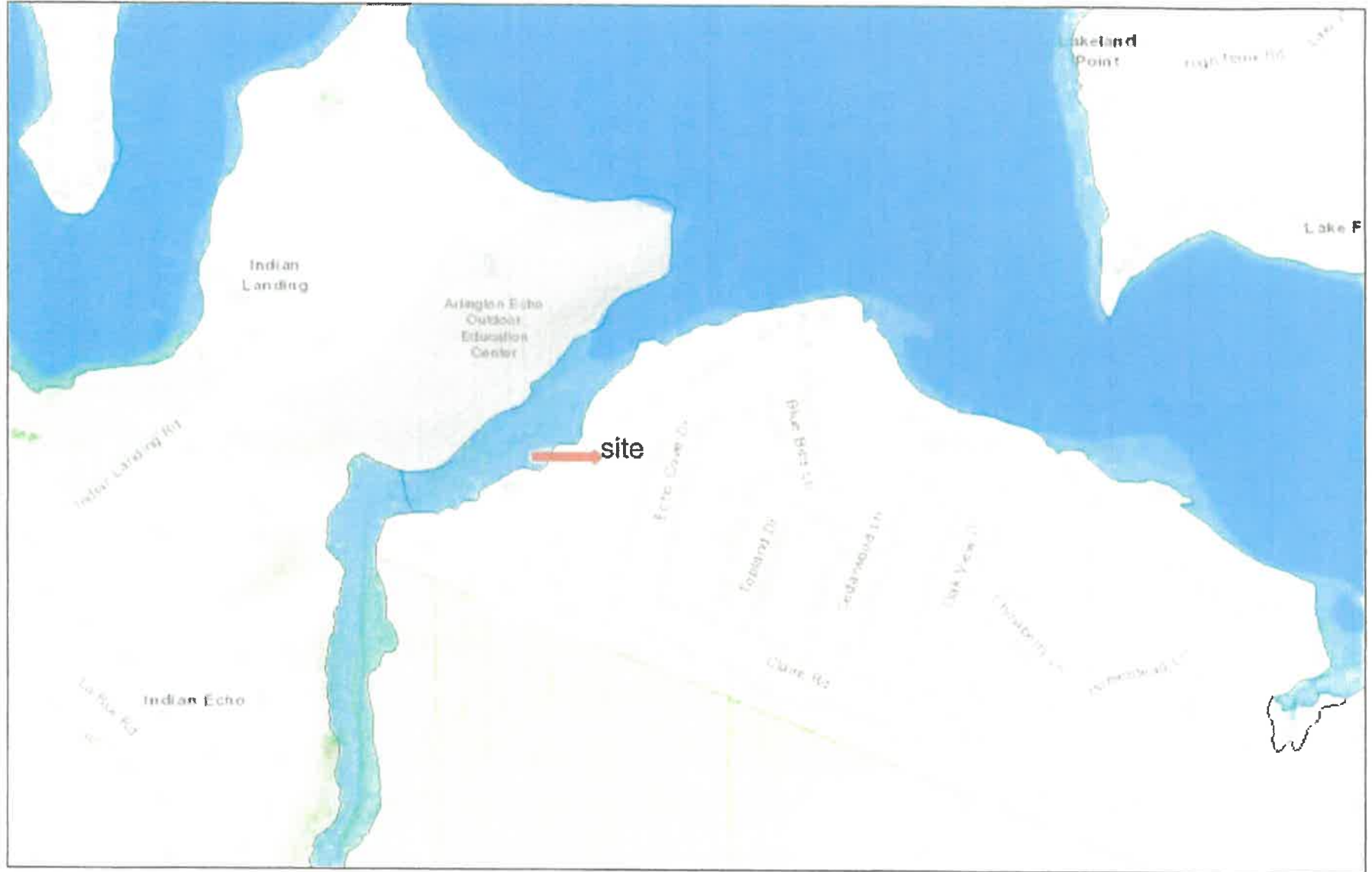
### Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Fig. 8

# MERLIN Floodplain Map - 610 Echo Cove Dr.



3/5/2023, 9:27:31 AM

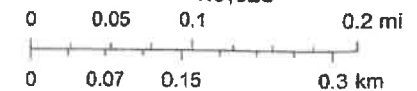
Preliminary FENA Floodplain

- 100 Year Floodplain (1% Chance)
- 500 Year Floodplain (0.2% Chance)

Floodway (1% Chance) Effective FEMA Floodplain

- Upland (Zone X)
- 100 Year Floodplain (1% Chance)
- 500 Year Floodplain (0.2% Chance)

1:9,028



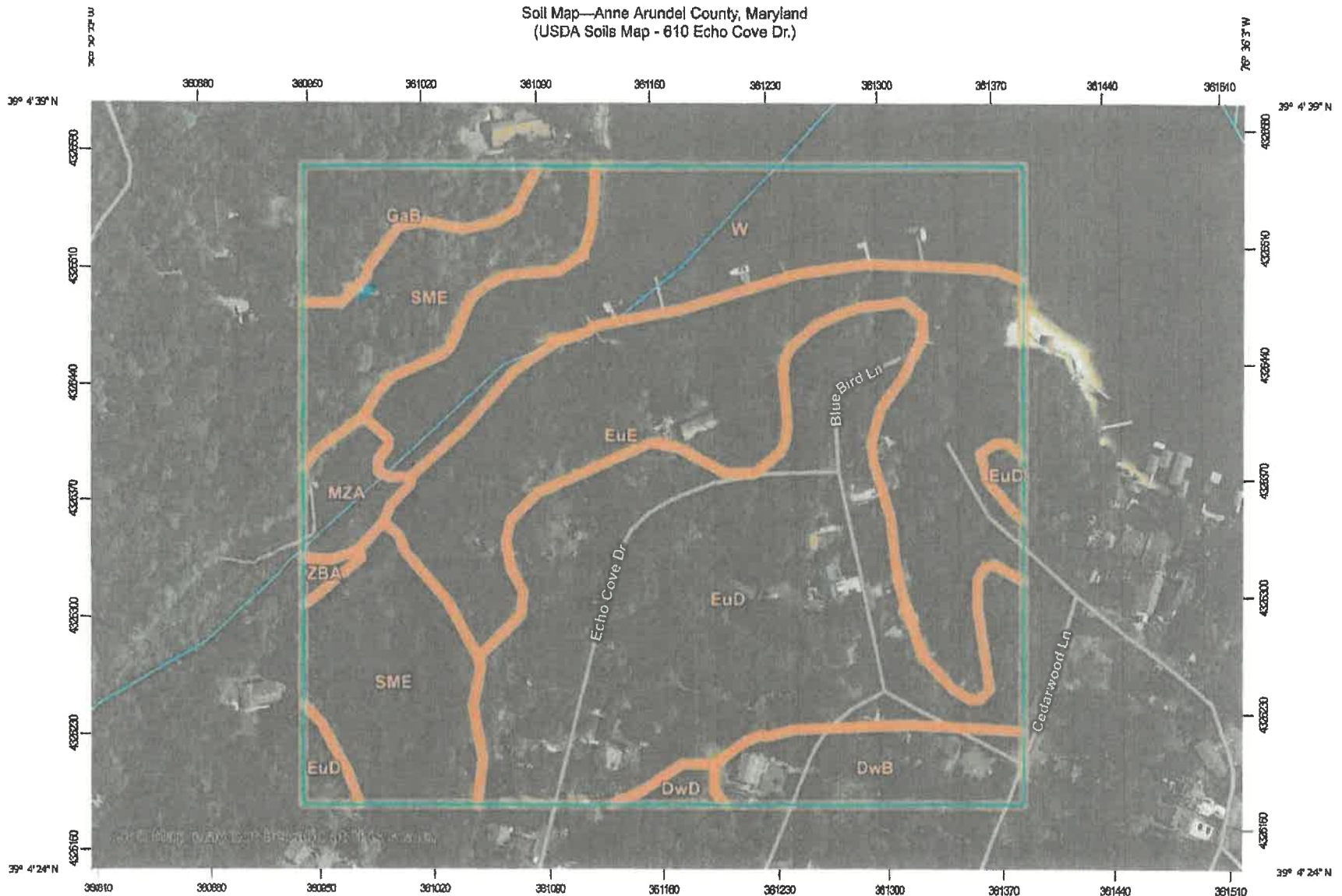
MD IMAP, MDE, County of Anne Arundel, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, MET/NASA, EPA, USDA

Maryland Department of Natural Resources

County of Anne Arundel, VITA, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, MET/NASA, EPA, USDA | MD IMAP | MD IMAP, DoIT | MD IMAP, USDA | MD IMAP, USGS | MD IMAP, COMMERCE, DHCD, MDP, MHT, MDOT, MDOT SHA, USDOT, FHWA

Fig. 9

Soil Map—Anne Arundel County, Maryland  
(USDA Soils Map - 610 Echo Cove Dr.)



Map Scale: 1:3,250 if printed on A landscape (11" x 8.5") sheet

0 45 90 180 270 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ties: UTM Zone 18N WGS84



*Fig. 10*

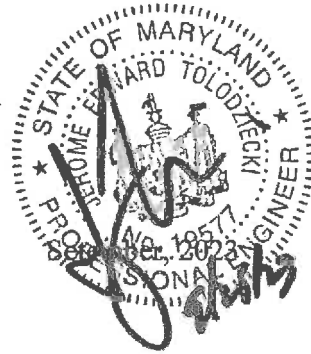
**STORMWATER MANAGEMENT  
COMPUTATIONS**

For

***LOT 758, SUNRISE BEACH  
P. B. 10, P. 9***

Tax Map 31, Block 8, Parcel 142  
***CROWNSVILLE, MD 21032***

***To accompany Variance Submittal***



***"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY  
THAT THESE DOCUMENTS WERE PREPARED OR APPROVED  
BY ME, AND THAT I AM A DULY LICENSED  
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE  
OF MARYLAND, LICENSE NO. 19577,  
EXPIRATION DATE 3-16-2024"***

by

***Boyd & Dowgiallo, P.A.***  
412 Headquarters Drive  
Suite 5  
Millersville, MD 21108  
410/729-1234

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Recharge Volume	9
Channel Protection Volume	10
Overbank Flood Protection Volume	10
Extreme Flood Protection Volume	10
Vicinity Map & Soils Map	11
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## **STORMWATER MANAGEMENT STATEMENT**

As stated in Article 16 of the Anne Arundel County Code, the purpose of Stormwater Management is “to protect and promote public health, safety and general welfare through the management of stormwater, to protect public and private property from damage, to reduce the effects of land use changes on stream channel erosion, to maintain and assist in the improvement of water quality, to preserve and enhance the environmental quality of streams and stream valleys, and to minimize adverse impacts on water quality and conserve plant, fish, and wildlife habitat.”

In accordance with the General Performance Standards, outlined in the 2010 Anne Arundel County Stormwater Practices and Procedures Manual, the use of Environmental Site Design Practices (ESD) shall be provided as necessary to address the required performance standards, to prevent adverse impacts from stormwater runoff.

As defined, in Chapter 6, Section 6.1.5, the MEP standard is met when:

- I. channel stability is maintained and
- II. predevelopment groundwater recharge is replicated and
- III. nonpoint source pollution is maintained and
- IV. regenerative step pool conveyance systems are employed wherever practicable on all public stormwater systems.

## **INTRODUCTION**

The subject site is known as Lot 758, Sunrise Beach, as shown on the plat entitled "Sunrise Beach", recorded in plat book 23, at page 18, and is located on Echo Cove Drive in Crownsville, Maryland 21032. The site is zoned R5 and contains 19,942 sq. ft. (0.46 ac.) of land. The property is also located within a Limited Development Area (LDA) of the Chesapeake Bay Critical Area. The site in its existing condition is vacant and is entirely wooded.

Ground slopes on the site vary from 3.3% to over 25% along the site's property line with the Severn River. The site drains from the northern right-of-way of Echo Beach Drive, northwesterly to the Severn River. The property is impacted by a FEMA floodplain at elevation 5.0, as shown on the F.I.R.M. Map# 24003C0153F. The site is also impacted by a 100 ft. buffer to the M.H. tide line but the lot is within a modified buffer area. The site does not contain any wetlands or their buffers and is not located within a bog protection area or one of its buffers. The property is not known to contain any rare, threatened or endangered species of plants, animals, and no wildlife habitat areas have been identified. The site is not known to contain any historical or archaeological artifacts or other items of historical or archaeological interest.

Planned development of the site includes the construction of a single-family residential dwelling, sidewalk, stormwater management devices, connection to public sewer and installation of a well. The proposed improvements will result in the disturbance of approximately 9,230 sq. ft. and introduce approximately 2,971 sq. ft. of new impervious cover.

## **CONSIDERATION OF SWM PRACTICES & ALTERNATIVES**

Stormwater design for the proposed improvements was provided in accordance with Chapter 5 of the 2009 M.D.E. where three general types of stormwater methods are used to provide the required ESD volume at a site:

### *1. Alternative Surfaces*

Listed under Section 5.3, these surfaces include green roofs, permeable pavements and reinforced turf. Given that the development being proposed is a residential single-family dwelling, the feasibility of using a green roof for the structure is impractical given the maintenance and/potential replacement obligations associated with a green roof, which are beyond the capability of a typical homeowner. Therefore, a green roof was not chosen as a stormwater management practice. The second and third alternatives, permeable pavements and reinforced turf were not viable due to location of the proposed septic system serving the dwelling, which would conflict with either practice. Therefore, for this project, an alternative surface was not chosen for as a stormwater management ESD practice.

### *2. Non-structural Practices*

Listed under Section 5.4.2 of the 2009 M.D.E. Manual, these practices include disconnection of rooftop runoff, disconnection of non-rooftop runoff, and sheetflow to conservation area. Due to the gentle ground slopes present near the driveway, a disconnection of non-rooftop runoff practice was used to provide a portion of the required ESDv. A disconnection of rooftop runoff practice was not used due to the presence of steep slopes and a sheetflow to conservation area practice could not be utilized for the same reason. Therefore, for this project, only a disconnection of non-rooftop practice was used to provide a portion of the required ESDv.



### 3. *Micro-scale Practices*

Listed under Section 5.4.3 of the 2009 M.D.E. Manual, these practices include small water quality treatment devices to capture runoff from small, discrete areas. Out of the nine options listed under this category, those that provided the most effective treatment was the use of a microscale raingarden practice. This practice was utilized to capture and treat runoff from the proposed rooftop area and driveway of the lot.

### **PROTECTION OF NATURAL RESOURCES**

Through the use of minimal grading techniques, the disturbed area will remain small and the existing slopes will not be significantly impacted.

### **RETENTION OF NATURAL FLOW PATTERNS**

Through the use of grading techniques that mimic the existing site grades, no disturbance to existing flow patterns will occur and the direction of rainwater runoff will remain largely unaffected.

### **REDUCTION OF IMPERVIOUS SURFACES**

Through the use of a relatively modest house footprint, the amount of impervious cover proposed meets the County's law & the Critical Area Commission's requirements regarding the amount of impervious cover.

### **POLLUTANT REDUCTION & REMOVAL**

Given that the site is located within a LDA critical area, it is not mandatory that the proposed stormwater management techniques address the "Critical Area 10% Rule Guidance Manual" and provide for 10% pollutant removal reduction. However, the stormwater practices proposed will provide some pollutant removal and reduce the amount of downstream pollutants from reaching the tidal waters of the Severn River.

### **IMPLEMENTATION OF SEDIMENT & EROSION CONTROL**

Given the relatively small size of the site, it is not possible to implement sediment control measures to help provide in the stormwater management design of the site. The only sediment control measures used are those provided to capture sediment laden runoff from leaving the site.

### **SOIL & FACILITY INVESTIGATION**

The Anne Arundel County Soil Survey indicates that the site is underlain by soils of the Evesboro-Urban land complex (EuB/EuD). These soil types have a hydrologic rating of "A" and are typically considered to have good infiltration rates depending on the absence/presence of any clay layers. These soils have a soil erodibility factor of 0.05, and are not considered "highly erodible" by themselves; however, any areas where the existing slopes exceed 15% are recognized as "highly erodible."

A test pit taken for the proposed septic system and conducted by a Sanitarian with A. A. County Department of Health revealed tan sand from 0 to 5 feet below, clay from 5 to 17 feet and tan-orange sand from 17 to 45 feet. The results of the soil boring indicate that infiltration as

a means of providing stormwater management for the proposed improvements seems to be a viable option.

### **SUMMARY OF CONCLUSIONS**

In accordance with the 2009 Maryland Department of the Environment (M.D.E.) Stormwater Design Manual and the 2012 Anne Arundel County Storm Water Management Practices and Procedures Manual, the water quality, recharge, channel protection, overbank flood protection, and extreme flood protection volumes were considered in the overall stormwater management design for this site.

Water quality volume is required in the amount of in the amount of 299 cu. ft. and will be provided by an excavated raingarden. The recharge volume is required in the amount of 126 cu. ft. and is automatically provided through the utilization of the ESD practices being utilized on-site. The channel protection volume is being provided since the environmental site design target rainfall amount is being provided through the use of ESD practices, in accordance with the 2009 M.D.E. Manual. The overbank flood protection volume is being provided by a direct tidal discharge to the Severn River. Extreme flood protection volume is not required since the site has a direct tidal discharge to the Severn River.

### **OUTFALL STATEMENT**

Runoff from site discharges northerly over lawns and woodlands to the northern property line of the lot and the tidal water line of the Severn River. Given that sufficient proposed development is a residential lot and has an adequate outfall, the site outfall and P.O.I. is the northern property line where the lot meets the Severn River.

The property was visited by an employee of Boyd & Dowgiallo, P.A. in July, 2020 to inspect the site outfall and the P.O.I. It was noted that the site outfall was found to be stabilized by woodlands and grass and did not show any signs of erosion. Given that management of the 10-year storm is being provided, there should not be an increase in erosion or downstream flooding as a result of the proposed development.

***STORMWATER MANAGEMENT  
COMPUTATIONS***

## I. ENVIRONMENTAL SITE DESIGN

In Section 5.2.2 of the revised Chapter 5 of the 2000 M.D.E. Stormwater Design Manual, it is stated, “the criteria for sizing ESD practices are based on capturing and retaining enough rainfall so that the runoff leaving a site is reduced to a level equivalent to a wooded site in good condition as determined using U.S.D.A’s Natural Resource Conservation Service methods...”the goal is to provide enough treatment using ESD practices to address  $C_p$  requirements by replicating an RCN for woods in good condition for the 1-year rainfall event. In accordance with the “Stormwater Management Act of 2007” and Table 5.3 of the revised Chapter 5 M.D.E. Manual, the environmentally sensitive runoff volume,  $ESD_v$ , is equal to,

$$ESD_v = P_E \times R_v$$

Where,  $P_E$  = the rainfall target from Table 5.3

$R_v$  = the volumetric runoff coefficient

Site area = 19,942 sq. ft. (0.46 ac.)

Total Proposed Impervious Cover = 2,971 sq. ft.

$\%I = 2,971/19,942 = 14.9\%$  (proposed)

$R_v = 0.05 + 0.009(14.9) = 0.18$

Existing soil types present = HSG “A”

*From Table 5.3 of Chapter 5 of the M.D.E. Manual, the target rainfall based upon the impervious cover proposed and the soil types present is equal to 1.0”.*

and the  $ESD_v$  volume becomes,

$$ESD_v = (1.0'')(0.18)(19,942)/12 = 299 \text{ cu. ft.}$$

**This is the *total*  $ESD_v$  volume required for the proposed improvements to return the site back to a state of “woods in good condition”.**

This volume will be provided on-site within ESD practices as described below.

***STORMWATER  
MANAGEMENT DESIGN  
With  
ESD, PRACTICES***

## NON-STRUCTURAL PRACTICES

### Disconnection of Non-Rooftop Runoff Practice - Section 5.4.2, N-2

Section 5.4.2 N-2 of Chapter 5 of the 2009 M.D.E. Stormwater Design Manual states that non-rooftop disconnections may be used to direct flow from impervious surfaces to vegetated areas where it can soak into or filter over the ground. This disconnects these surfaces from the storm drain system, reducing both runoff volume and pollutants from entering downstream receiving waters.

This practice can be used to disconnect a portion of the proposed driveway surface to an adjacent lawn area.

### Prop. Driveway

An area of proposed driveway that can be disconnected is 296 sq. ft. The PE values provided in Table 5.7 can be used when the contributing area is adequately disconnected. Rev requirements are also met when the PE provided by the practice meets or exceeds the sites' soil specific recharge factor.

The ESD volume provided by this disconnected area is equal to,

$$ESD_v = (1.0'' \times 296/12) = 25 \text{ cu. ft.}$$

---

## MICRO-SCALE PRACTICES

### Microscale Practices – Raingardens- Section 5.4.3 M-7

In accordance with Section 5.4.3 M-7, raingardens can be used to capture stormwater runoff and temporarily hold it until it filters into the underlying soil. Rainwater is stored initially, filters through the planting soil and gravel media below, and then infiltrates into native soils.

This practice can be used to capture runoff from a portion of the proposed driveway surface. An area of approximately 983 sq. ft. drains to the raingarden (see ESDv D.A. Map on plan sheet 3). The amount of cover within the area also equals 1,223 sq. ft. Using a target rainfall value of 2.7'' over this area, the maximum ESDv volume that can be captured equals  $(2.7'')(1,223)/12 = 275$  cu. ft.

Using a raingarden with a 3'' mulch layer, a 27'' planting soil layer, a 12'' sand layer, and a 6'' deep ponding depth, the required area, A can be found from the following equation:

$$ESD_v = (0.5 \times A) + (3.50 \times 0.40 \times A) = 275 \text{ cu. ft.}$$

Solving for "A" yields, A = 158 sq. ft.

**Therefore, provide an excavated raingarden with the dimensions of 7.1'W x 22.3'L x 3.50'D to provide 275 cu. ft. of ESDv volume.**

---

### **SUMMARY OF ESD VOLUMES**

*Total Required ESD volume* = **299 cu.ft.**

*Non-Structural Practice – Disconnection of Non-Rooftop  
Runoff* ESD volume prov'd. = 25 cu. ft.

*Microscale Practice – Excavated Raingarden*  
ESD volume prov'd. = 275 cu. ft.

Total ESD volume prov'd. = 300 cu.ft.

Total ESD volume surplus = **0 cu.ft.**

## **II. RECHARGE VOLUME**

The required recharge volume ( $Re_v$ ) for the proposed development is determined in accordance with the following equation, as stated in Section 2.2 of the MDE Stormwater Design Manual:

$$Re_v = \frac{(S)(R_v)(A)}{12} \text{ ac-ft, where A and } R_v \text{ are as defined above, and}$$

S = soil specific recharge factor;  
= 0.42 for type "A" soil.

The required volume is calculated as follows:

$$Re_v = (0.42)(0.18)(19,942)/12 = 126 \text{ ac.-ft.}$$

**This is the required recharge volume required for the proposed improvements. The recharge volume will be provided through the use of environmental site design practices, as described below.**



### **III. CHANNEL PROTECTION VOLUME**

The channel protection volume for this lot is being provided through the use of environmental site design practices that provide the target rainfall value of 1.2", as specified in Table 5.3 of the revised M.D.E. Manual and return the site back to a "pre-development state of woods in good condition".

### **V. OVERBANK FLOOD PROTECTION VOLUME**

The overbank flood protection volume is not required since the site has a direct tidal discharge to the Severn River.

### **V. EXTREME FLOOD PROTECTION**

The extreme flood protection volume is not required since the site has a direct tidal discharge to the Severn River.

***SOILS & VICINITY MAPS***  
***(See GSC Plans)***

***TR-55 COMPUTATIONS***

WinTR-55 Current Data Description

--- Identification Data ---

User: TFJ Date: 8/30/2023  
 Project: LOT 758 SUNRISE BEACH Units: English  
 SubTitle: 10 Yr. Computations Areal Units: Acres  
 State: Maryland  
 County: ANNE ARUNDEL  
 Filename: C:\TR55\20-006 10 yr LOT 758.w55

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
PRE		Outlet	0.46	30	.228
POST		Outlet	0.46	42	.119

Total area: .92 (ac)

--- Storm Data ---

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.3	.0	5.2	.0	.0	7.4	.0

Storm Data Source: User-provided custom storm data  
 Rainfall Distribution Type: Type II  
 Dimensionless Unit Hydrograph: <standard>

TFJ

LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.3	.0	5.2	.0	.0	7.4	.0

Storm Data Source: User-provided custom storm data  
Rainfall Distribution Type: Type II  
Dimensionless Unit Hydrograph: <standard>

TFJ

LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)
-----	
SUBAREAS	
PRE	.00
POST	0.12
REACHES	
OUTLET	0.12

TFJ

LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period	
	10-Yr (cfs)	(hr)

---

SUBAREAS

PRE	.00	n/a
-----	-----	-----

POST	0.12	12.05
------	------	-------

REACHES

OUTLET	0.12	
--------	------	--

TFJ

LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
PRE	.46	0.228			
POST	.46	0.119	30	Outlet	
Total Area:	.92 (ac)		42	Outlet	



TFJ

LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Sub-Area Time of Concentration Details

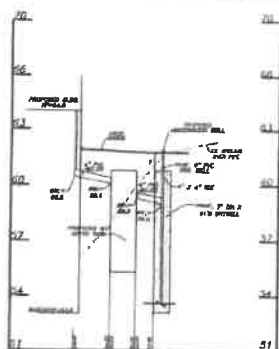
Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
-----							
PRE							
SHEET	100	0.0625	0.400				0.223
SHALLOW	159	0.3300	0.050				0.005
					Time of Concentration		.228
							=====
POST							
SHEET	75	0.0630	0.240				0.118
SHALLOW	28	0.3300	0.050				0.001
					Time of Concentration		.119
							=====

TFJ

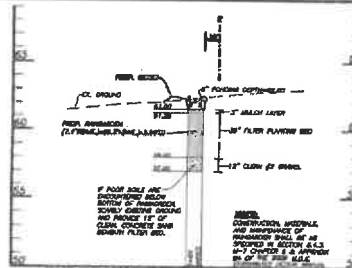
LOT 758 SUNRISE BEACH  
10 Yr. Computations  
ANNE ARUNDEL County, Maryland

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
PRE	Woods	(good) A	.457	30
	Total Area / Weighted Curve Number		.46	30
			===	==
POST	Open space; grass cover > 75%	(good) A	.126	39
	Paved parking lots, roofs, driveways	A	.062	98
	Woods	(good) A	.273	30
	Total Area / Weighted Curve Number		.46	42
			===	==

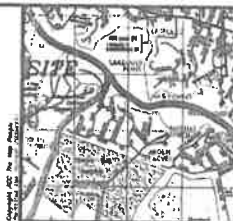


**SEPTIC SYSTEM PROFILE**  
SCALE: 1" = 3' (V)  
1" = 30' (H)



**TYP. RAINGARDEN CROSS-SECTION**  
SCALE: 1" = 40' (H)

**SETBACKS (ZONED R2)**



**VICINITY MAP**  
SCALE: 1" = 200'

**LEGEND**

- Existing Centerline
- Proposed Centerline
- Fire Hydrant Location (FHSD)
- Existing Manhole
- Prop. Improvement Cylinders
- Prop. 30" Dia. Cylinders
- Prop. 36" Dia. (Traffic Signals)
- Ex. 30" Deep Street Light
- Ex. 18" Deep Street Light
- Ex. 36" Deep Street Light

**CRITICAL AREA TABULATION**

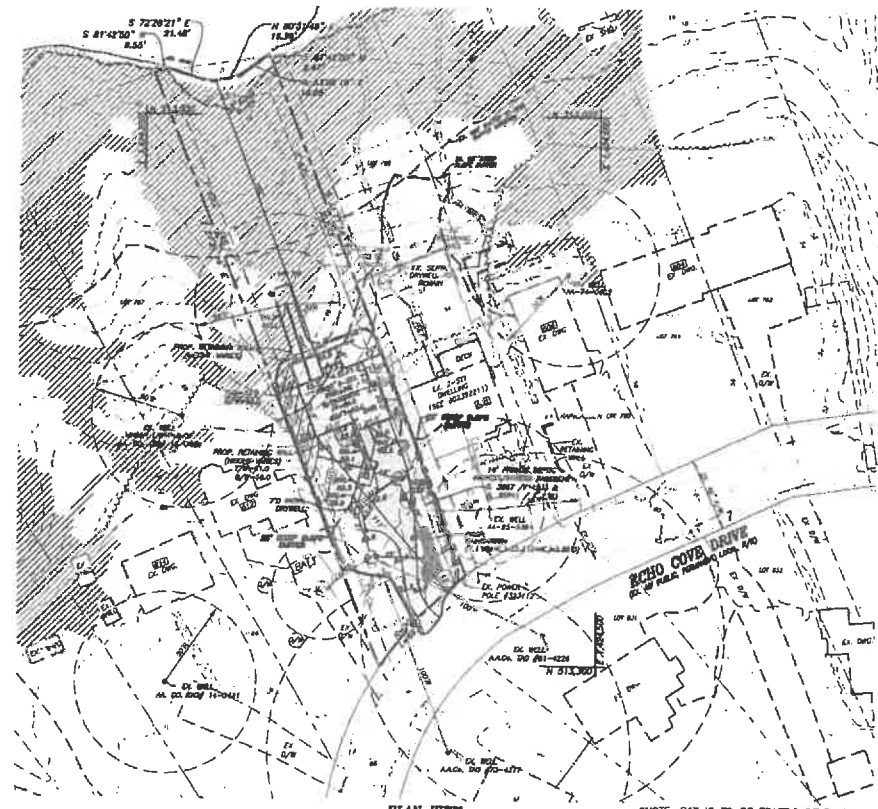
Category	Value
Critical Area Classification	CA
Total Site Area	124,000 Sq.Ft. (2.86 AC)
Residential Area	18,000 Sq.Ft. (0.41 AC)
Existing (Single-Family) (THRU CA)	18,000 Sq.Ft.
Maximum Allowed (THRU CA)	18,000 Sq.Ft. (Maximum allowable to accommodate development)
Proposed (Single-Family) (THRU CA)	18,000 Sq.Ft.
Residential (THRU CA)	2,000 Sq.Ft. (To be provided by off-site mitigation)
Street (THRU CA)	14,000 Sq.Ft.
Street (THRU CA) (Other)	4,000 Sq.Ft.
Existing Lot Coverage	120 Sq.Ft. (0.27 AC)
Existing Lot Coverage To be Retained	120 Sq.Ft. (0.27 AC)
Maximum Lot Coverage (THRU CA)	4,500 Sq.Ft. (0.10 AC)
Proposed Lot Coverage (THRU CA)	1,000 Sq.Ft. (1,000 Sq.Ft. House + 1,000 Sq.Ft. Driv + 500)
Total Proposed Lot Coverage (THRU CA)	2,000 Sq.Ft. (1,000 Sq.Ft. House + 1,000 Sq.Ft. Driv + 500)
Ex. Lot Coverage Within 100' Buffer	0 Sq.Ft.
Prop. New Lot Coverage Within 100' Buffer	0 Sq.Ft.
Prop. Buffer Mitigation Planting Requirement	0 Sq.Ft.

**VARIANCE NOTES**

I, the undersigned, with address 17, Section 2-201(1) of the Anne Arundel County Code, in witness hereunto, do hereby certify that I am a duly licensed Professional Engineer in the State of Maryland and I am duly licensed in the State of Maryland. I am duly licensed in the State of Maryland and I am duly licensed in the State of Maryland.

**BUILDING PERMIT SITE DATA**

Lot	Area (Sq. Ft.)	Prop. Cover (Sq. Ft.)	Prop. Cover (Percentage)	Prop. Max. (Sq. Ft.)	Prop. Min. (Sq. Ft.)
758	18,000 Sq.Ft.	1,000 Sq.Ft. (5.5%)	1,000 Sq.Ft. (5.5%)	< 2,000 Sq.Ft.	N/A



**PLAN VIEW**  
SCALE: 1" = 30'

\*NOTE: BAT IS TO BE TRAFFIC BEARING.



ARUNDEL COUNTY  
MARYLAND  
DEPARTMENT OF HEALTH  
2000 E. BROADWAY  
ANNE ARUNDEL COUNTY, MD 21018  
410-261-1100  
www.arundel.org

This map has been prepared by the undersigned as a preliminary plan for the subject of the Anne Arundel County Department of Health and is not intended to be used for any other purpose. The undersigned does not warrant or represent that the information contained herein is true, accurate, or complete. The undersigned does not warrant or represent that the information contained herein is true, accurate, or complete. The undersigned does not warrant or represent that the information contained herein is true, accurate, or complete.

**Notes:**  
1. All work shall be in accordance with the latest edition of the International Building Code and the International Plumbing Code.  
2. All work shall be in accordance with the latest edition of the International Building Code and the International Plumbing Code.  
3. All work shall be in accordance with the latest edition of the International Building Code and the International Plumbing Code.

**SEPTIC SYSTEM REQUIREMENTS**

Minimum Septic System	Replacement Septic System
1' Diameter	1' Diameter
Depth = 36"	Depth = 36"
Separation = 21"	Separation = 21"

**OWNER/DEVELOPER**  
SKORA DEVELOPMENT, LLC  
20 HOTEL LANE  
SEVERNA PARK, MD 21146  
789-391-5589  
SKORAINVESTMENT@GMAIL.COM

**HOYD & DONICIALE, P.A.**  
ENGINEERS/SURVEYORS/PLANNERS  
412 Headquarters Drive Suite 5  
Millersville, Maryland 21108  
(410) 726-1234

**SEPTIC & VARIANCE SITE PLAN**  
**LOT 758, SUNRISE BEACH, SECTION 5**  
Plot Sheet 23, Page 75  
TAX MAP 51 BLOCK 8 PARCEL 142  
ZONED R2

PERM PAT02050785

SECOND DISTRICT

ANNE ARUNDEL COUNTY, MD 21032

**JOB# 20-006**



## OFFICE OF PLANNING AND ZONING

### CONFIRMATION OF PRE-FILE MEETING

DATE OF MEETING July 29, 2022

P&Z STAFF R Konowal, K Krinetz, J Bory

APPLICANT/REPRESENTATIVE Danny Boyd of Boyd and Dowgiallo PA EMAIL \_\_\_\_\_

SITE LOCATION 610 Echo Cove Drive LOT SIZE 19,942 sf ZONING R2

CA DESIGNATION LDA BMA X or BUFFER \_\_\_\_\_ APPLICATION TYPE CA Variance

#### PROPOSAL

New dwelling and associated facilities on vacant lot. Variance required to disturb slopes greater than 15% and relatively in line provision.

#### COMMENTS

**Critical Area team** advised the well information shown on this plan is significantly different than the information shown on the grading permit for the development of the adjacent site, 608 Echo Cove Dr. An approved septic and well design must be submitted before this site can be fully evaluated. In addition, the applicant must demonstrate that SWM can be addressed. The proposal will also need a relatively in line variance.

The applicant will need to demonstrate that the site is in fact buildable and not just a legal lot.

**Engineering** - This office has reviewed the additional information provided for the subject pre-file and has the following comments. These comments will need to be addressed under the formal variance request application:

**Site Outfalls:** The site drainage crosses the property boundary at two points versus what is shown on the existing and proposed drainage area map as one outfall point. As a reminder, a site outfall is defined as the point at which runoff leave the property line, while the POI is the point through which the SO's flow is 10% or less than the flow at its confluence with upstream watershed as described in the procedure manual section 7.2.1. Please label the SOs and POIs properly. All computations and delineations of the drainage area and drainage path segmentation must be provided for the SOs and POIs. The proposed development as shown will impact the swale flow that is shared by the adjacent property (612 Echo Cove). A right to discharge permission will be required.

**ESD design:** The existing condition plan must show all existing natural and environmental resources and include all areas to be protected. The plan must clearly show the "developable envelope outside of these areas. These areas include steep slopes, wetlands, streams, buffers, floodplains, highly erodible soils, specimen trees, soils (A, B, C, and D), hydric soils, etc.

**Consideration of alternative surfaces:** The provided information ruling out the use of green roofs and permeable pavement for the driveway is not sufficient. Cost should not be a justification for ruling out ESD to the MEP design in the critical area when considering issuing a modification for the construction of a new single family dwelling.

**Soil investigation:** No information was provided on the elevation of the water table and the ability to maintain adequate clearance for the proposed rain gardens. It is also not specified whether under drains will be needed or not and their discharge point. The soil edibility index must be added to the plan. Highly and potentially highly erodible soils must be considered for enhanced stabilization during construction.

**Outfall stability statement:** No photographs of the steep slopes along the drainage path or the site outfall were provided to corroborate the stability statement

**Setback requirements:** The submitted plan must show clearly with dimensions the setback provided from the proposed Stormwater facilities to the proposed house, the adjacent property lines, the top of the 15% steep slope, the proposed well, etc.

**Zoning-** Must demonstrate location of dwelling results in the minimum variances necessary.

### INFORMATION FOR THE APPLICANT

Section 18-16-201 (b) Pre-filing meeting required. Before filing an application for a variance, special exception, or to change a zoning district, to change or remove a critical area classification, or for a variance in the critical area or bog protection area, an applicant shall meet with the Office of Planning and Zoning to review a pre-file concept plan or an administrative site plan. For single lot properties, the owner shall prepare a simple site plan as a basis for determining what can be done under the provisions of this Code to avoid the need for a variance.

\*\*\* A preliminary plan checklist is required for development impacting environmentally sensitive areas and for all new single-family dwellings. A stormwater management plan that satisfies the requirements of the County Procedures Manual is required for development impacting environmentally sensitive areas OR disturbing 5,000 square feet or more. State mandates require a developer of land provide SWM to control new development runoff from the start of the development process.

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.



Mark Wedemeyer, Director

## Memorandum

**To:** Robert Konowal, Planner, Zoning Administration Section, Office of Planning and Zoning

**From:** Hala Flores, Engineer Manager, Department of Inspections and Permits

**Date:** September 28, 2023

**Subject:** 610 Echo Cove Drive  
2023-0168-V

---

### Request – Allow disturbance on slopes greater than 15% in LDA BMA

**Review** - This office has reviewed the subject variance application. Prefile comments that were not addressed with the variance application are listed below.

**Site Outfalls:** The site drainage crosses the property boundary at two points versus what is shown on the existing and proposed drainage area map as one outfall point. As a reminder, a site outfall is defined as the point at which runoff leave the property line, while the POI is the point through which the SO's flow is 10% or less than the flow at its confluence with the upstream watershed as described in the procedure manual section 7.2.1. Please label the SOs and POIs properly. All computations and delineations of the drainage area and drainage path segmentation must be provided for the SOs and POIs. The proposed development, as shown, will impact the swale flow shared by the adjacent property (612 Echo Cove). A right to discharge permission will be required.

**ESD design:** The designer provided an existing resource map and delineated the resources to be protected. However, the proposed layout encroaches within the resource protection area, does not consider alternative surfaces and provides no room for allowance to meet SWM ESD to the MEP treatment volume requirements. No ESD map was submitted, and the roof as proposed, does not receive any SWM runoff or quality treatment. Oversizing a rain garden for proposed drainage that the facility is not actually receiving is not acceptable.

**Consideration of alternative surfaces:** The provided information rules out the use of green roofs. Cost should not be a justification for ruling out ESD to the MEP design in the critical area when considering issuing a modification for the construction of a new single-family dwelling with steep slope disturbances.

**Outfall stability statement:** No photographs of the steep slopes along the drainage path or the site outfall were provided to corroborate the stability statement

**Setback requirements:** The submitted plan must show clearly with dimensions the setback provided from the proposed Stormwater facilities to the proposed house, the adjacent property lines, the top of the 15% steep slope, the proposed well, etc.

**Determination:**

This office does not recommend approval of this variance request. First, the requested information regarding the condition assessment for the steep slope and outfall was not provided. In addition, the engineer did not show the required right to discharge from the adjacent property owner (612 Echo Drive). Further, the designer has not demonstrated that ESD to the MEP is met. The roof drains were not shown on the plan, and no SWM treatment was provided for them. Given the steep slopes and the proposed site layout, this office feels that the development of this site, as shown, will have detrimental impacts on the neighboring properties and slope stability. It also does not meet the regulatory minimum SWM ESD to the MEP.

Anne Arundel County Engineering Record Drawing and Monuments



Esri Community Maps Contributors, County of Anne Arundel, VGIN © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeG

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9:11 AM 9/25/2023

A.A.CO. TOP MAPS





**SUNRISE BEACH**  
SECTION 5  
PLAT I

2ND DISTRICT A.A. CO., MD.

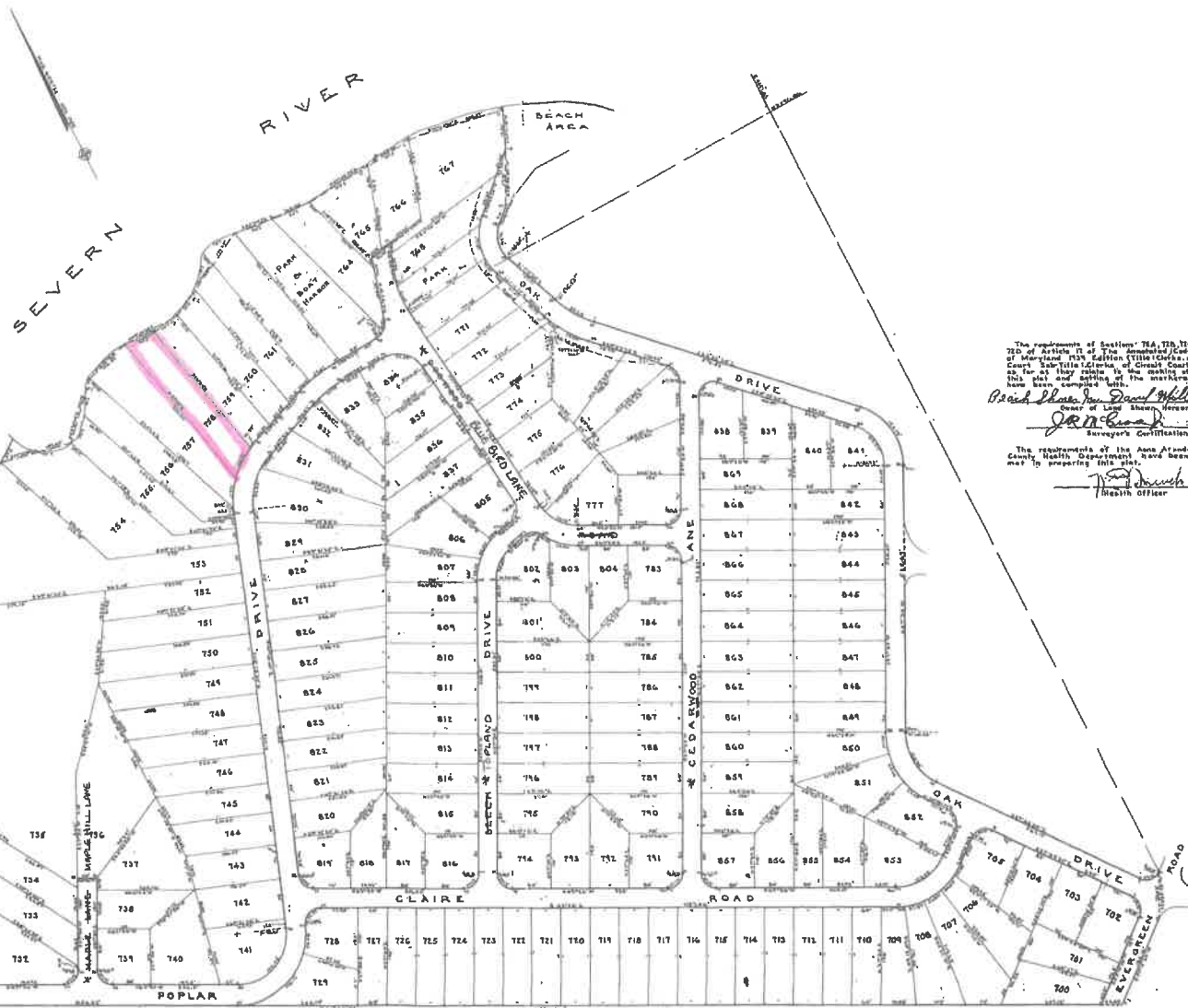
Scale: 1"=100'

April 1952

J.R. Mc Crane, Jr., C.E.  
Annapolis, Maryland

**COORDINATES**

LINE	START	END	START	END	MARK
1	6705.20	3705.48	818.20	321.06	
2	6695.34	3715.32	818.20	321.06	
3	6685.48	3725.16	818.20	321.06	
4	6675.62	3735.00	818.20	321.06	
5	6665.76	3744.84	818.20	321.06	
6	6655.90	3754.68	818.20	321.06	
7	6646.04	3764.52	818.20	321.06	
8	6636.18	3774.36	818.20	321.06	
9	6626.32	3784.20	818.20	321.06	
10	6616.46	3794.04	818.20	321.06	
11	6606.60	3803.88	818.20	321.06	
12	6596.74	3813.72	818.20	321.06	
13	6586.88	3823.56	818.20	321.06	
14	6577.02	3833.40	818.20	321.06	
15	6567.16	3843.24	818.20	321.06	
16	6557.30	3853.08	818.20	321.06	
17	6547.44	3862.92	818.20	321.06	
18	6537.58	3872.76	818.20	321.06	
19	6527.72	3882.60	818.20	321.06	
20	6517.86	3892.44	818.20	321.06	
21	6508.00	3902.28	818.20	321.06	
22	6498.14	3912.12	818.20	321.06	
23	6488.28	3921.96	818.20	321.06	
24	6478.42	3931.80	818.20	321.06	
25	6468.56	3941.64	818.20	321.06	
26	6458.70	3951.48	818.20	321.06	
27	6448.84	3961.32	818.20	321.06	
28	6438.98	3971.16	818.20	321.06	
29	6429.12	3981.00	818.20	321.06	
30	6419.26	3990.84	818.20	321.06	
31	6409.40	4000.68	818.20	321.06	
32	6399.54	4010.52	818.20	321.06	
33	6389.68	4020.36	818.20	321.06	
34	6379.82	4030.20	818.20	321.06	
35	6369.96	4040.04	818.20	321.06	
36	6360.10	4049.88	818.20	321.06	
37	6350.24	4059.72	818.20	321.06	
38	6340.38	4069.56	818.20	321.06	
39	6330.52	4079.40	818.20	321.06	
40	6320.66	4089.24	818.20	321.06	
41	6310.80	4099.08	818.20	321.06	
42	6300.94	4108.92	818.20	321.06	
43	6291.08	4118.76	818.20	321.06	
44	6281.22	4128.60	818.20	321.06	
45	6271.36	4138.44	818.20	321.06	
46	6261.50	4148.28	818.20	321.06	
47	6251.64	4158.12	818.20	321.06	



The requirements of Sections 78A, 78B, 78C, 78D of Article II of The Annotated Code of Maryland 1951 Edition (Title 10, Chapter 28, Subtitle 1, Section 28-28.1) of the Code of Maryland as far as they relate to the marking of this plat and setting of the markers have been complied with.

*John R. Crane, Jr.*  
Surveyor's Certification

The requirements of the Anne Arundel County Health Department have been met in preparing this plat.

*John R. Crane, Jr.*  
Health Officer

\* Changed per Order of Court 3/12/53  
# 2164464 E. Aubrey, Collector

771AA SHM

MSA 554-1935-675 P. 18 1952

ANNE ARUNDEL COUNTY COURSE CORRECTION PLAT NO. 1090 BOOK NO. 23 FOLIO 18 SPEED 22