

#### Messick & Associates

Consulting Engineers, Planners, Surveyors & Landscape Architects "Designing Success Since 1951"

April 8, 2024 Ms. Sterling Seay, Zoning Administrator Anne Arundel County Planning & Zoning 2664 Riva Road Annapolis, MD 21401

Re: Variance Application: Katz Property (2023-0153-V)

343 Kingsberry Drive, Annapolis Maryland 21409 (the "Property")

Tax Map 46, Grid 3, Parcel 384, Lot 19

**Explanation Letter** 

Dear Ms. Seay:

Attached for your review and processing is a revised variance application for the above referenced Property. The Property is in the St. Margarets Farm subdivision on the east side of Kingsberry Drive approximately 250' south of the intersection with Bantry Court in St. Margarets, Annapolis, Anne Arundel County. St. Margaret's Farm is a subdivision created in the early 1970's, with roughly 33 single family residences, most of which sit on a lot of at least 2 acres. The Property is one of the few in the subdivision where most of the land area is in the Chesapeake Bay Critical Area (both the Intense Development Area and the Resource Conservation Area overlay zones). The Property consists of 2.0 acres (87,289 sq.ft.) of land zoned RLD and OS and the lot is served by private well and septic utilities.

The applicant's original variance application (submitted 7/7/23) proposed the demolition of the existing structure and reconstructing a significantly larger house on the property. In an effort to minimize their variance request, they are adding a partial second story addition and renovating the existing structure instead of demolishing and reconstructing a new one. The existing dwelling has been left vacant for nearly 27 years and is uninhabitable, having been cited for its unsafety by the County on multiple occasions prior to the applicant's ownership.

Specifically, the applicant is requesting the following variances:

- 1. A variance of 5 feet to the 50' front yard setback in the RLD zone (Article 18-4-401(a)(1)).
- 2. A variance to reconstruct/renovate a principal structure within 50' of the crest of "steep slopes" (Article 18-4-401(b)).
- 3. A variance to allow disturbance within the 100' Chesapeake Bay Critical Area Expanded Buffer (Article 18-13-104(b)(1)).

Based on the ongoing, more than 27-year deterioration of the existing residence, a renovation of the existing dwelling is required. The condition of the existing home is viewed as a blight on the community and attracted unsafe conditions. More importantly, the proposed reconstructed structure is consistent with the character of the community and the variances being requested are the minimum necessary to afford relief, as further outlined below.

We believe the proposed variance meets all applicable criteria in accordance with the Anne Arundel County Code. Specifically:



#### Requirements for critical area variances (Art. 18-16-305):

(b)(1) Because of certain unique physical conditions, such as exceptional topographical conditions peculiar to and inherent in the particular lot or irregularity, narrowness, or shallowness of lot size and shape, strict implementation of the County's critical area program would result in unwarranted hardship.

The Property is a legally buildable grandfathered irregular lot with exceptional topographic conditions including steep slopes, steep slope buffers, a perennial stream and stream buffer and existing drainage easements with an existing, unoccupiable dwelling which does not meet the current front yard setback or slope setback (resulting from the zoning of the Property being changed from R-1 to RLD since original subdivision was platted and the enactment of the Critical Area Legislation after same). Currently, the Property is a legally buildable RLD/OS zoned grandfathered lot but it is unable to be improved in strict conformance with the County's Critical Area and Zoning regulations that were enacted after its creation. Without a variance, the Applicant will not be able to obtain permits required in accordance with reasonable and significant use of the Property (a single-family detached residential house consistent with the neighborhood as permitted in the RLD zone by right) which in turn will deny reasonable use of the Property. Perhaps most importantly, the Applicant has a family of 5 dependents, and the real estate market in Anne Arundel County, Maryland and Nationally, is extremely limited for affordable, sizable residences for such similar sized family. Housing inventory is at an historical low, with pricing and financing costs at a 40-year high. As a result, requested variances, especially those requesting relief, which was once permitted for the existing lot, should be given significant deference by the County in its review.

(b)(2) A literal interpretation of the County's critical area program and related ordinances will deprive the applicant of rights commonly enjoyed by other properties in similar areas.

The Property is a legally buildable grandfathered lot in the Chesapeake Bay Critical Area and a literal interpretation of the critical area program would deny the Applicant reasonable and significant use of the Property consistent with the character of the neighborhood.

(b)(3) The granting of a variance will not confer on an applicant any special privilege that would be denied by the County's critical area program to other lands or structures within the County critical area.

Granting of a variance to allow the improvement of the Property for residential purposes will not grant any special privileges that are not enjoyed by all residential lot owners within the neighborhood and the critical area. Most importantly, reconstruction of the existing dwelling will result in the removal of the existing septic system within the expanded steep slope buffer, which system will be replaced by a BAT septic system, which will be located outside of the expanded buffer. This will result in a much more favorable environmental condition than currently exists and advance the environmental goals and agendas of the County in removing these old systems from buffers related to the Critical Area.



(b)(4) The variance request is not based on conditions or circumstances that are the result of the actions by the applicant, including the commencement of development before an application for a variance was filed and does not arise from any condition relating to land or building use on any neighboring property.

The conditions and circumstances that gave rise to this variance application are the result of the existing lot configuration, the existing environmental constraints, the rezoning of the Property and existing house location. They are not in any way based on actions caused by the Applicant, and do not arise from conditions relating to land or building use on any neighboring property. Moreover, the requests outlined herein are consistent with the character of the neighborhood in that most, if not all of the homes, would require similar variances given that each was developed under the previous, applicable R1 bulk regulation standards.

(b)(5) The granting of a variance will not adversely affect water quality or adversely impact fish, wildlife, or plant habitat within the County's critical area and will be in harmony with the spirit and intent of the County's critical area program.

The Applicant proposes a single-family residential house, which is similar to and typical of the existing houses within the neighborhood. The storm water management ESD requirement is being provided with rooftop and non-rooftop disconnect credits, sheet flow to buffer areas and additional buffer plantings are being proposed on-site in addition to the ESD water quality improvements; therefore, the variance will have no adverse impact to water quality or fish, wildlife, or plant habitat. It is also in harmony with the spirit and intent of the critical area program to allow reasonable use of a legally buildable grandfathered lot in the critical area that predate the critical area law and regulations (Plat approved 11/22/1974). If fact, the requested variance will confer a positive benefit on water quality in that the reconstruction of the existing dwelling will result in the removal of the existing septic system within the expanded steep slope buffer, which system will be replaced by a BAT septic system, which will be located outside of the expanded buffer. This will result in a much more favorable environmental condition that currently exists and advance the environmental goals and agendas of the County in removing these old systems from buffers related to the Critical Area.

(b)(6) The applicant for a variance to allow development in the 100-foot upland buffer has maximized the distance between the bog and each structure.

Nearly the entire lot is located in the critical area expanded buffer and the existing house is being reconstructed within the existing cleared area on site (no clearing is required). The proposed development envelope is reasonably small for a lot within this community and the distance between the steep slopes and the proposed house is maximized in so far as possible given the location of the existing cleared areas on-site and Health Department setbacks.

(b)(7) The applicant, by competent and substantial evidence, has overcome the presumption contained in Natural Resources Article, § 8-1808.

For reasons set forth herein and the evidence presented in the attached application, the Applicant has overcome the presumption contained in Natural Resources Article  $\S$  8-1808.



(b)(8) The applicant has evaluated and implemented site-planning alternatives.

The applicant's original variance application (submitted 7/7/23) proposed the demolition of the existing structure and reconstructing a significantly larger house on the property. In an effort to minimize their variance request, they are adding a partial second story addition and renovating the existing structure instead of demolishing and reconstructing a new one. Therefore, site planning alternatives have been considered and the variance requests have been minimized in so far as possible; however, reasonable and significant development of the site is impossible in strict conformance with the zoning and critical area criteria. The applicant is proposing a house which is consistent with the other houses in the neighborhood.

#### Requirements for all variances:

(c)(1) The variance is the minimum variance necessary to afford relief.

The site is a legally buildable, grandfathered single-family residential lot that predates the Chesapeake Bay Critical Area regulations and the zoning was down zoned from R-1 to RLD. The proposed house footprint is typical for the neighborhood and the variance is the minimum necessary to afford relief. The Applicant is only seeking reasonable use of the lot for residential purposes.

(c)(2) The granting of a variance will not (i) alter the essential character of the neighborhood or district in which it is located; (ii) substantially impair the appropriate use or development of adjacent property; (iii) reduce forest cover in the limited development and resource conservation areas of the critical area; (iv) be contrary to acceptable clearing and replanting practices required for development in the critical area; nor (v) be detrimental to the public welfare.

Granting of the variance will allow the Property to be used in a manner that is consistent with similar surrounding properties in the neighborhood. It will have no impact on the use or development of adjacent properties. Storm water management is achieved by rooftop and non-rooftop disconnect credits, sheet flow to buffer areas and additional plantings are proposed so it will have no impact on forest cover or be contrary to acceptable clearing and replanting practices. Granting of the variance will not be detrimental to the public health, safety, or welfare.

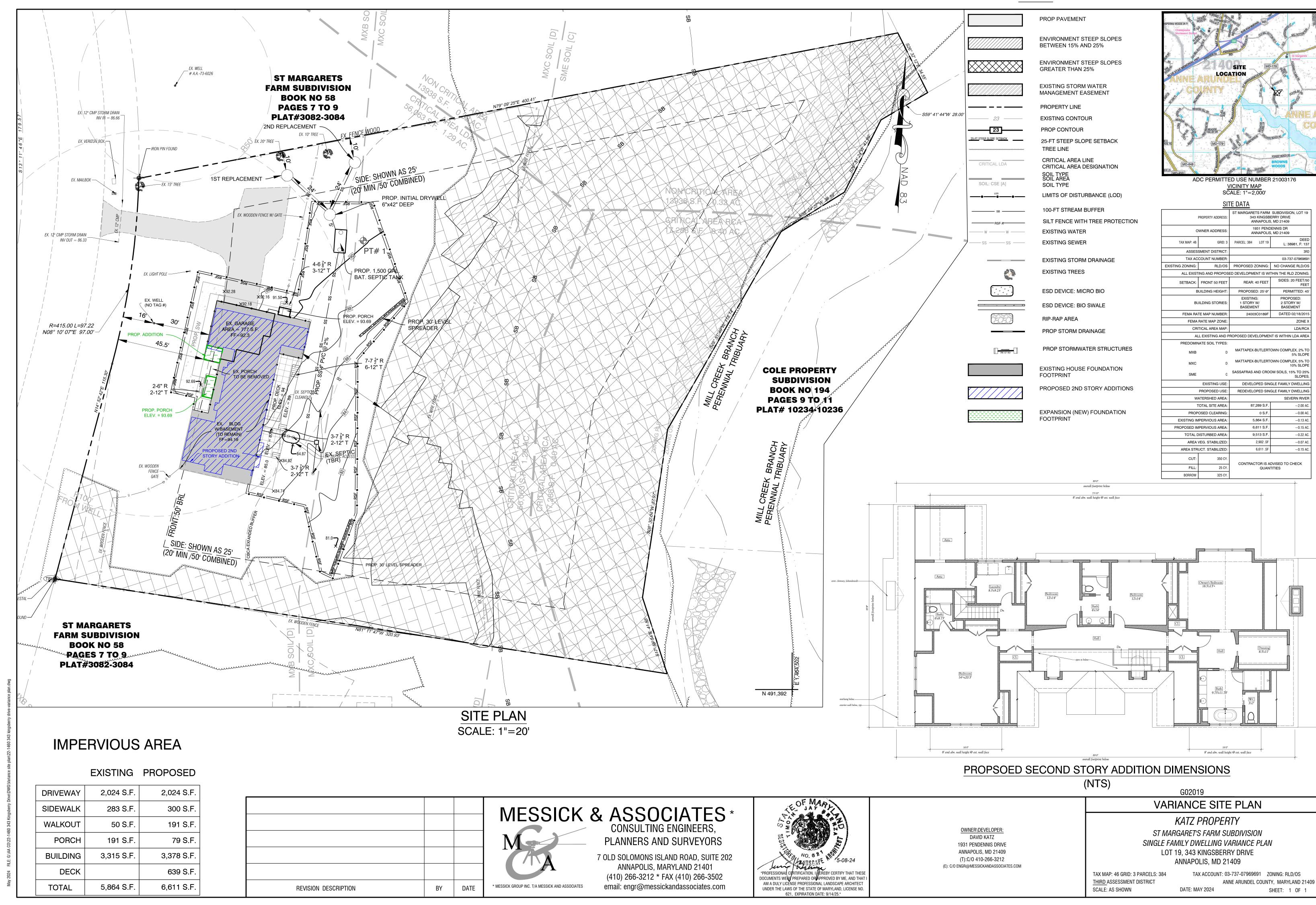
If there are any questions concerning this application, please do not hesitate to contact me.

Sincerely,

MESSICK GROUP, INC.

T/A MESSICK & ASSOCIATES

Γimoth∦ Brenza, Vice Presiden



# Critical Area Narrative Statement For: 343 Kingsberry Drive Annapolis, Md. 21409 AACo. Tax Map 46, Grid 3, Parcel 384, Lot 19

August 17, 2023 (Revised April 8th, 2024)

PREPARED BY:
MESSICK AND ASSOCIATES.
7 OLD SOLOMONS ISLAND ROAD, SUITE 202
ANNAPOLIS, MARYLAND 21401
410-266-3212

PREPARED FOR: DAVID AND JOANNE KATZ 1931 PENDENNIS DRIVE ANNAPOLIS, MD 21409



In accordance with the Anne Arundel County's Critical Area Report Criteria for a variance application, attached is a description of the subject property, proposed use, description of existing vegetation, proposed development, mitigation requirements, impervious area calculation and description of the habitat protection areas on-site.

#### A. Project Location, Use and Relevant History:

The site is located on the east side of Kingsberry Drive approximately 250' south of the intersection with Bantry Court in central Anne Arundel County. Most of the site is located in the Chesapeake Bay Critical Area (both the Intense Development Area and Resource Conservation overlay zones. The site consists of 2.00 acres (87,289 sq.ft.) of land zoned RLD and OS and the lot is served by private well and septic utilities. The site is legally buildable grandfathered lot in the Critical Area. The existing site is improved with a 1-story/with basement single family residential structure which has a non-conforming front yard or RLD setback to 15% slopes (as a result of the property being changed from R-1 to RLD since it was originally platted in 1976 before the Chesapeake Bay Critical Area Regulations were created). The applicant is seeking a permit to demolish the existing single–family detached residential dwelling and reconstruct a new single-family dwelling on the property.

#### B. Description of Vegetative & Proposed Disturbance:

Approximately 55,218 sq.ft. of the site is vegetated by aerial extent (75.3% of the critical area portion of the property). The existing vegetation consists primarily of deciduous hardwood species typical of the Tulip Poplar Forest association. Soils on site consist primarily of Mattapex-Butlertown soils (MxB, MxC) with an area of Sassafras and Croom soils on the east side of the site. These soils are not hydric or highly erodible. The existing house is located on a small ridgeline with the front yard draining to Kingsberry Drive and the rear yard draining toward a tributary stream off Mill Creek.

The proposed disturbance is limited the minimum area necessary to remove and re-construct the existing house on-site so it is in consistent with the character of the neighborhood. Storm water management is being provided by providing ESD rooftop and non-rooftop disconnect credits, and sheet flow to wooded buffer areas.

#### C. Potential Impacts and Mitigation:

The proposed rooftop disconnect credits, non-rooftop disconnect credits and sheet flow to wooded buffer credits exceed the ESD to the MEP storm water management requirements for the proposed redevelopment of the property. Native trees and shrubs are proposed within the 50' buffer to steep slopes in addition to the minimum storm water management requirement.

#### D. Site Data and Critical Area Coverage and Clearing:

The following data apply to the Critical Area Portion of the site:

CBCA/Limited Development Area: 56,063 sq.ft. (1.287 ac.)
CBCA/Resource Conservation Area: 17,288 sq.ft. (0.397 ac.)
Total CBCA Site Area: 73,351 sq.ft. (1.684 ac)

**Existing Conditions:** 

Total existing coverage= 5,865 sq.ft. (8.00% of the CBCA)
Existing wooded area= 55,218 sq.ft. (75.3%% of the CBCA)

**Proposed Conditions:** 

Total existing coverage= 6,612sq.ft. (9.01% of the CBCA) Existing wooded area= 55,218 sq.ft. (75.3% of the CBCA)

(i.e., no clearing proposed)

#### E. Description of Habitat Protection Areas:

The majority of the site is located within the Critical Area Expanded Buffer. The eastern portion of the site abuts a tributary stream off Mill Creek and the abutting slopes are in excess of 15%. Therefore, the CBCA expanded buffer includes the 100' buffer to the tributary stream, adjacent 15% contiguous slopes and 15' from the top of the steep slopes. The Chesapeake Bay Critical Area Project Notification Application Form, Site Plan, Topographic map and associated supporting documents are attached. The attached narrative statement was prepared by Timothy Brenza, RLA of Messick and Associates on May 10, 2023.

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

#### PROJECT NOTIFICATION APPLICATION

#### GENERAL PROJECT INFORMATION

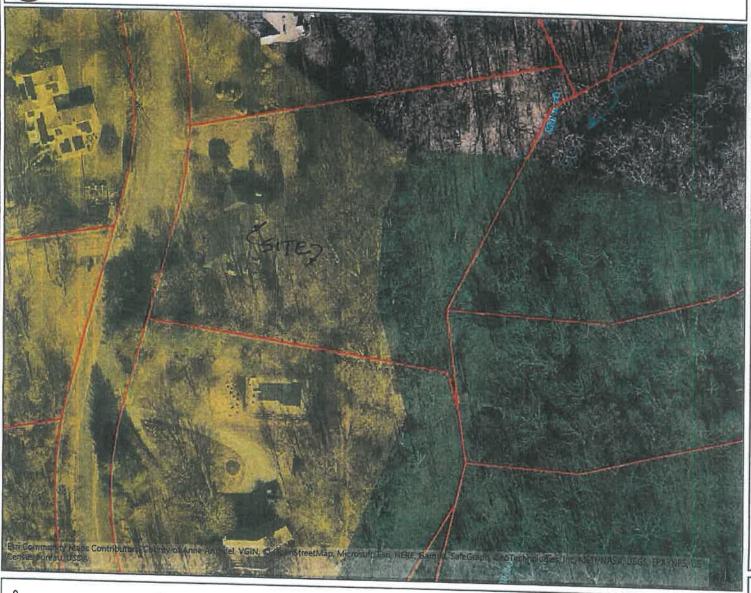
Jurisdiction: AHHE ARUNDEL COUNTY MARYLAND Date: MAY 2023
Tax Map # Parcel # Block # Lot # Section  44 384 3 19 HA  Redesign No Change
Tax ID: 3-737-07969691  *Complete Only Page 1 General Project Information
Project Name (site name, subdivision name, or other) KATZ PROPERTY  Project location/Address 343 KIHASBERRY DRIVE
City ANNA POLIS, MARTLAND Zip 21409
Local case number
Applicant: Last name KATZ First name DAID & LEATHE
Company (NA)
Application Type (check all that apply):
Building Permit
Local Jurisdiction Contact Information:
Last name First name
Phone # Response from Commission Required By
Fax # Hearing date

#### SPECIFIC PROJECT INFORMATION

Describe Proposed use							
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Existing Forest/Woodland		1.208	55218	Existing Lot Coverage		0,135	5865
Created Forest/Woodland/		0		New Lot Coverage		4.017	747
Removed Forest/Woodlan	d/Trees	a	0	Removed Lot Coverag	e	- 0	. 0-
				Total Lot Coverage		9.152	6612
VARIANCE INFORM	ATION (	Check all th	at apply)	3			•
		Acres	Sq Ft			Acres	Sq Ft
Buffer Disturbance		0.146	8,520		g	0	4
Non-Buffer Disturbance		0.330	14386	Mitigation			
Variance Type	<b>3</b> -		,	Structure	<b>_</b>		
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Forest Clearing	_		Ba				
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## Critical Area Map





#### Legend

Foundation Addressing

Parcels



City of Annapolis Parcels



Planning

Planning

IDA - Intensely Developed Area

LDA - Limited

Development Area

RCA - Resource

Conservation Area FED - Federal Land

Labeling

Basemap Label

Notes

) 150 300 ft

This map is a user generated static output from an internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION



#### CRITICAL AREA REPORT CRITERIA

If your property is located within the Chesapeake Bay Critical Area, you will need to provide the Zoning Office with more information in order to process your request. In reviewing your application, the Office of Planning and Zoning must determine the impact your proposal will have on stormwater management and plant and animal habitat in conformance with Critical Area Law.

You are responsible for submitting 4 copies of a Critical Area Report with your Zoning Application. Each copy of the Critical Area Report should include:

- 1. Project Notification Application Form
- 2. A Site Plan The site plan of the property should be drawn to an engineers scale (1"=20', 30' or 40') showing the applicable features of the subject property; steep slopes, existing tree line, wetlands (tidal and non-tidal), mean high water line, floodplain, proposed landscaping, all buffers, and all existing structures.
- 3. A topographic map to scale (available in the mapping office on the 4<sup>th</sup> floor of building 2664 Riva Rd)
- 4. A narrative statement (a paragraph or less) on a separate sheet addressing each point listed below:
  - A. Describe the proposed use of the subject property and include if the project is residential, commercial, industrial, or maritime.
  - B. Describe the type of predominant trees and shrubs on the subject property. Include a statement addressing the square footage of the property that is vegetated with trees and shrubs, how much of the property will be disturbed by the proposed development, and how the disturbance will be mitigated.
  - C. Describe the methods to minimize impacts on water quality and habitat from proposed construction (i.e. stormwater management, sediment control, and silt fence).
  - D. Calculate the impervious surface before and after construction, including all structures, gravel areas, driveways, and concrete areas.
  - E. If applicable, describe any habitat protection areas on the subject property including expanded buffers, steep slopes of 15% or greater, rare and endangered species, anadromous fish propagation waters, colonial water bird nesting sites, historic waterfowl stating and concentration areas, riparian forests, natural heritage areas, and plant and wildlife habitats of local significance.

#### **GRADING & SEDIMENT CONTROL PLAN**

#### STORMWATER MANAGEMENT REPORT

For

343 Kingsberry Drive ANNAPOLIS, MARYLAND 21409

May 8, 2024

#### Developer:

David and Leanne Katz 1931 Pendennis Drive Annapolis, Maryland 21409

#### **Engineering Firm:**

Messick Group, Inc. T/A Messick and Associates 7 Old Solomons Island Road Suite 202 Annapolis, Maryland 21401

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional Landscape Architect under the laws of the State of Maryland, License No. 621, Expiration Date: 9/14/25."



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#### 343 KINGSBERRY DRIVE GRADING & SEDIMENT CONTROL PLAN STORMWATER MANAGEMENT REPORT

#### INTRODUCTION

The total site area consists of 2.00 acres and is zoned RLD & Open Space. The site is partially located within the Chesapeake Bay Critical Area (both LDA and RCA classifications on the eastern half of the site). The site is developed with a one story house, a garage, and a paved driveway. The remaining ground cover is lawn in good condition. Site frontage and access is located on Kingsberry Road (a County owned public local road) which abuts the site to the west. There are developed single family detached residential lots adjacent to the site to the north and south and a Floodplain to the east. The purpose of this plan is to add a small addition and add a second story to the existing house and in its current location.

The site drains from the Northwest corner of the property to the southeast and into the Mill Creek Floodplain. The slopes on the western portion of the site generally average 2-10% slopes. And there are steep (15% or greater) slopes located on the eastern half of the property.

The majority of soils on site consist of Downer-Hammonton Urban Land Complex Soils (DwB) and Patapsco-Evesboro-Fort Mott Complex soils with a hydrologic soil classification "D" and "C" respectively. These soils generally consist of loam soils of the uplands and are not considered hydric or susceptible to accelerated erosion ("K" factor greater than 0.35).

This report is to provide information and documentation to the review agency to show that the stormwater management is feasible at the site and the proposed improvements will not cause any adverse impacts to the surrounding environment. This report and design calculations were compiled utilizing approved methodologies as found in the following publications listed below:

- 1) Stormwater Management Practices and Procedures Manual, Nov. 2010, Anne Arundel County.
- 2) 2000 Maryland Stormwater Design Manual, Volumes I and II, Maryland Department of the Environment and supplement 1 (ESD Design).
- 3) Urban Hydrology for Small Watersheds (TR-55), June 1986, USDA, NRCS.

#### Proposed Conditions/Protection of Natural Resources

The property owners plan to add a small addition and add a second story to the existing house in its current location. There are no areas of non-tidal or tidal wetlands located on the site. A small area of non-tidal floodplain is located along the eastern property line. The site is not located in the FEMA floodplain.

#### Site Imperviousness/minimization

The impervious footprint of the proposed house is typical for similar single family detached homes in the area. The existing house, garage and existing asphalt driveway will remain in the existing location and a small addition and second story will be added to the existing house as required to minimize additional impervious areas. Rooftop Disconnect & Non-Rooftop Disconnect credits, and sheet flow to buffer areas will be utilized to provide the required water quality treatment for the proposed house and site improvements.

#### SITE DRAINAGE DESIGN METHODOLOGY

Runoff generated within the project area will be conveyed to the outfall using overland sheet flow. The use of storm drain pipe is not proposed.

#### STORMWATER MANAGEMENT DESIGN METHODOLOGY

Stormwater management must be provided for this project. It is required that, in accordance with code, stormwater management for each project shall be based on the five unified sizing criteria (water quality, recharge, channel protection, overbank flood protection, and extreme flood protection). The five criteria can either be reduced or eliminated by implementing environmental site design (ESD) techniques. These techniques will reduce runoff by promoting infiltration in the subsoils. Below is a step by step process.

- 1. Provide Layout of Proposed Improvements
- 2. Determine Applicable Environmental Site Design Practices.
  - a. Alternative Surfaces
    - i. Porous Pavement
    - ii. Reinforced Turf
  - b. Non-Structural Practices
    - i. Rooftop Disconnect
    - ii. Non-Rooftop Disconnect
    - iii. Sheet Flow to Conservation Area
  - c. Micro-scale Practices
    - i. Rain Harvesting (Rain Barrels)
    - ii. Infiltration Berms
    - iii. Drywells
    - iv. Micro-bioretentions
    - v. Swales
- 3. Determine Reduced Runoff Curve Number (if applicable)
- 4. Determine Hydrologic Data (TR-55 Data)
- 5. Compute 5 Unified Sizing Criteria using any applicable reductions.
- 6. Design BMP Practices if required

#### Environmental Site Design

ESD techniques are broken down into three distinct categories: Alternative Surfaces, Non-structural Practices, and Micro-scale Practices. These practices were evaluated for this project, see below.

	Alternative Surfaces	
Practice Type	Description	Applicable (Y/N)
Green Roofs	The typical asphalt shingle roof will be used. Therefore, green roofs will not be applied.	N
Pervious Concrete	Pervious Concrete will not be utilized for any non-heavy load bearing areas (i.e. sidewalks, driveways, and driveway aprons)	N
Reinforced Turf	Will not be applied.	N

	Non-Structural Practices						
Practice Type	Practice Type Description						
Rooftop Disconnect	All rooftops will receive this credit in accordance with the flow path length. Downspouts are limited to drain 1000 square feet of rooftop.	Υ					
Non-Rooftop Disconnect	Non-rooftop area disconnection is proposed.	Υ					
Sheet Flow to Conservation Area	This proposed impervious areas does drain to the existing woodland on-site. Therefore, this credit can be used.	Υ					

	Micro-scale Practices					
Practice Type	Practice Type Description Rainwater Harvesting Can be utilized, but the ESD Volume is met without them.					
Rainwater Harvesting	Y					
Submerged Gravel Wetlands	N					
Landscape Infiltration	Landscape infiltration will not be used based on infiltration rate.	N				
Infiltration Berm						
Drywells	N					
Micro-Bioretention	N					
Rain Gardens	A Rain Garden will not be used as the ESD Practice for this site because the site topography is too steep.	N				
Swales	Grass-swales will not be utilized to convey runoff in the road side ditches. Overland Sheet Flow will convey runoff.	N				
Enhanced Filter	Primarily utilized in commercial and multi-residential applications. Therefore, was not utilized in this subdivision.	N				

Based on drainage patterns and the use of ESD practices to the maximum extent possible, the site was evaluated to determine the comprehensive effect of ESD practices on the total parcel. The results of the sizing criteria analysis are found on the next page. All calculations are located in the appendices.

#### **PROPOSED BMPs**

As stated above, ESDs were utilized to maximum extent possible. Physical feasibility, topography, environmental, watershed, community and stormwater treatment suitability factors were considered in determining the type and location of the best management practice to store and treat storm runoff for the improvements proposed on this site. However, the soils are not conducive for infiltration. According to the Natural Resource Conservation Service, formerly the Soil Conservation Service, the soils are primarily classified as type "C" and "D" soils.

Given design factors and the soil types, rooftop & non-rooftop disconnect credits and sheet flow to buffer areas are proposed as the Environmental Site Design methods for this project.

#### **ENVIRONMENTAL SITE DESIGN**

#### **ESD Design Summary**

ESD was utilized to the maximum extent possible throughout the site. Data/analysis is included in the appendices. However, please find below a summary of the results.

	Total	Total	al Total		Requ	ired	Provi	ded	
Outfall Area ID	Area (sq. ft.)	Impervious (sq. ft.)	% Impervious	ESDv (cu. ft.)	Pe (in.)	ESDv (cu. ft.)	Pe (in.)	Reduced RCN	
Site Outfall	87,289	6,611	7.57	860	1.0	870	1.00	74	

Since ESD volume provided exceeds the ESD volume required for the outfall the design provides the necessary water quality, recharge, and channel protection volumes.

Since ESD volume provided exceeds the ESD volume required for the site outfall, the design provides the necessary water quality, recharge, and channel protection volumes is achieved.

#### Peak Flow Design Summary

Existing RCN	Existing Q10 (cfs)	Proposed RCN	Proposed Q10 (cfs)	Reduced RCN	Reduced RCN Q10 (cfs)
76	5.27	76	5.27	70	4.12

Peak Management is provided by reducing the Proposed Q10 to a rate below the pre-development level.

#### CONCLUSION

#### PRIVATE SYSTEM

Based on the design provided in this report, the proposed ESD will provide the required management to satisfy groundwater recharge, water quality, and channel protection stormwater management sizing criteria. Of the 860 cubic feet of ESD volume required to be treated, 870 cubic feet of actual ESD volume is designed to be treated by rooftop disconnect & non-rooftop disconnect credits, sheet flow to buffer credits. Overbank Flood Control Volume is provided by reducing the Proposed Q10 to a rate at or below the pre-development level.

APPENDIX A VICINTIY MAP



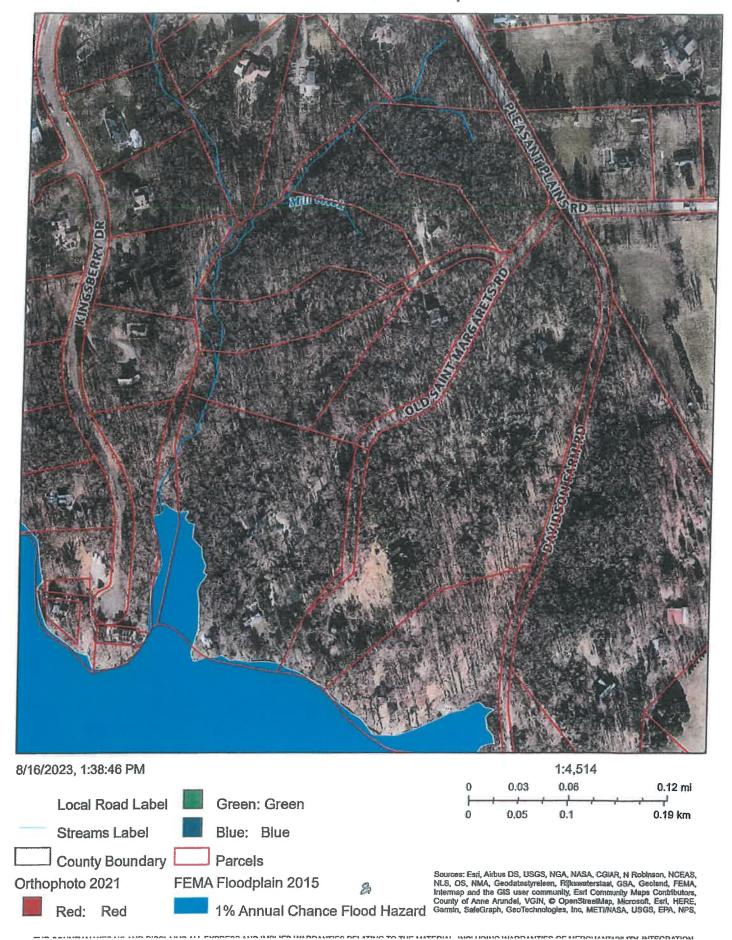
ADC PERMITTED USE NUMBER 21003176

VICINITY MAP

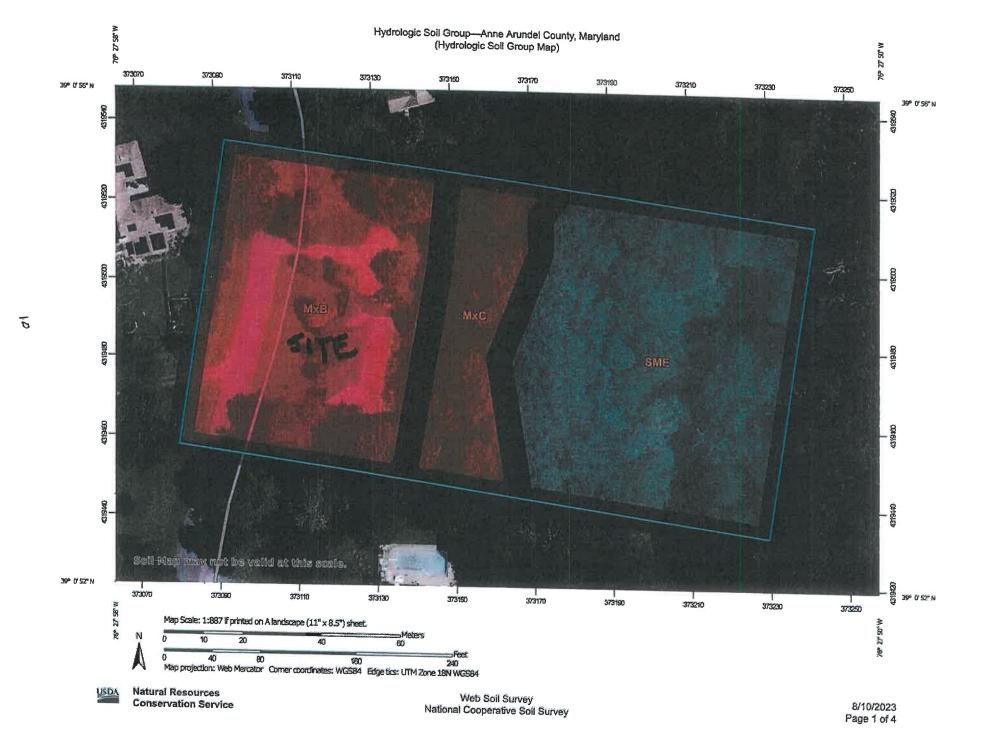
SCALE: 1"=2,000

## APPENDIX B FEMA FIRMETTE & FIRM MAP

## **FEMA Flood Map**



## APPENDIX C SOILS SURVEY



#### MAP LEGEND

#### Area of Interest (AOI) C Area of Interest (AOI) C/D Soils D 腊 Soil Rating Polygons Not rated or not available A Water Features A/D Streams and Canals Transportation B/D Rails 1-1-1 C Interstate Highways C/D **US Routes** Major Roads -Not rated or not available Local Roads Soil Rating Lines Background Aerial Photography AD C C/D Not rated or not available Soll Rating Points AVD В B/D

#### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale,

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Anne Arundel County, Maryland Survey Area Data: Version 21, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) serial images were photographed: Jun 20, 2022—Aug 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## **Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MxB	Mattapex-Buttertown complex, 2 to 5 percent slopes	О	1.1	38,0%
MxC	Mattapex-Buttertown complex, 5 to 10 percent slopes	D	0.5	15.7%
SME	Sassafras and Croom soils, 15 to 25 percent slopes	С	1.4	46.3%
Totals for Area of Intere	est		3,0	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.

### **Rating Options**

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

## APPENDIX D STORMWATER MANAGEMENT COMPUTATIONS

**ENVIRONMENTAL SITE DESIGN** 

#### STEP 1: Determine Stormwater Management Requirements (Overall Site)

Initial Site Data: 343 Kingsberry Drive Annapolis, Md.

Existing Conditions: Total Drainage Area, (sf): 87,289 sf 2.00 (ac)

Land use: Residential

Soll Types	HSG	Area (sf)
	A	0 sf
Ī	В	0 sf
Ī	С	38,961 sf
1	D	48,328 sf
	Total	87,289 sf

#### Proposed Layout

Total Impervious Coverage, (sf):

kem/HSG	A	В	C	D	Totals
Buildings				3,378 st	3,378 sf
Driveways				2,024 sf	2,024 sf
Patio/pool/walks		-		1,209 sf	1,209 sf
			1000		0 sf
	-				0 sf
Total	0 sf	0 s.f.	0 sf	6,611 sf	6,611 sf

#### Determine RCN for Wooded Condition:

The goal for implementing ESD on all new development projects is to mimic forested runoff characteristics. Therefore, calculated the RCN for "Woods in Good Condition" for the the

$$RCN_{\text{proofs}} = \frac{\{A_{\text{A}} \times 38\} + \{A_{\text{B}} \times 55\} + \{A_{\text{C}} \times 70\} + \{A_{\text{D}} \times 77\}}{A_{\text{foul}}}$$

$$RCN_{\text{proofs}} = \frac{\{0 \text{ sf} \times 38\} + \{0 \text{ sf} \times 55\} + \{38961 \text{ sf} \times 70\} + \{48328 \text{ sf} \times 77\}}{87,289 \text{ sf}}$$

RCN<sub>woods</sub> = 74

Determine Environmental Site Design (ESD) Targets:

Compute Percent Imperviousness

$$I = \frac{\text{Impervious Area (sf)}}{\text{Total Area (sf)}} \times 100\% = \frac{6,611 \text{ sf}}{87,289 \text{ sf}} \times 100\% = 7.57\%$$

Use:

Compute Target Pe using Table 5.3 of the State Manual.

HSG	5%	10%		Pe
A	0.0"	0,0"	$\rightarrow \rightarrow \rightarrow$	0.B" ← Pea
В	0.0"	0.0"	$\rightarrow \rightarrow \rightarrow$	0.0" ← Pe <sub>a</sub>
C	1.0™	1.0"	<del>&gt;&gt;&gt;</del>	1.0" ←P₽C
D	1.0"	1.0"	→→→	1.0" ← Pe <sub>0</sub>

$$Pe = \frac{(A_A \times Pe_A) + (A_B \times Pe_B) + (A_C \times Pe_C) + (A_D \times Pe_D)}{A_{Total}}$$

1.0"

Compute Target Runoff Depth, Qe.

The Environment Site Design (ESD) Targets for this project are:

By using ESD practices that meet these targets, WQv, Rev, & Cpv requirements will be satisfied.

Determine the ESDv required for the project;

$$ESD_v = \frac{(Pe)(Rv)(A)}{12} = \frac{(1 \text{ in.})(0.12)(87289 \text{ sf})}{12} = 860 \text{ cf}$$

#### Step 2 - Preliminary ESD Options

"ESD requirements must be addressed for the entire site area (87,289 s.f.). This corresponds to an ESDv of 962 cubic feet of runoff that must be captured and treated. A combination of non-structural techniques, and/or micro-scale practices may be used to treat the runoff from 1.0 inche of rainfall over the entire site. Below is a evaluation of each ESD with respect to this project."

	Alte	ernate Surfaces
Item	Applicable	Comment
Green Roofs	N	The typical house will have a sloped roof, therefore, green roofs are not an option.
Permeable Pavements	N	Soils on site are HSG "D" soils and are not suitable for infiltration practices
Reinforced Turf	N	Primarily used for overflow parking for commercial applications.

	Nons	tructural Practices
łtem	Applicable	Comment
Disconnection of Rooftop Runoff	γ	Disconnection of rooftop runoff works well in residential settings. All rooftop downspouts will be disconnected in so far as possible to comply with the design criteria in the State Manual.
Disconnection of Non-Rooftop Runoff	Y	Disconnection of non-rooftop runoff works well in residential settings. All runoff from driveways and sidewalks will be disconnected in so far as possible to comply with the design criteria in the State Manual.
Sheetflow to Conservation Areas	Y	The proposed impervious areas drains toward the existing forested area on- site.

	Micr	o-Scale Practices
Item	Applicable	Comment
Rainwater Harvesting ( Rain barrels)	Y	Rain barrels can be utilized, but the ESD volume is met without the implementtion of rain barrels
Submerged Gravel Wetlands	N	Primarily used on flat sites, less than 2% slope. This site exceeds that slope constraint
Landcape Infiltration	N	Landscape infilatration works well in residential settings but the soils on site are HSG "D" soils not suitable for landscape infiltration.
Infiltration Berms	N	Primarily used as pretreatment. Therefore, was not utilized on this project
Dry Wells	N	Implementation of this Device is necessary as all required volumes beyond those being treated by disconnects are being managed herein
Micro-bioretention	N	Implementation of this Device is not necessary as all required volumes have been accounted for in the above practices.
Rain Gardens	N	Implementation of this Device is appropriate for resdiential settings but soils on site are HSG "D" soils and are not suitable for rain gardens.
Swales (Bio, Grass, & Wet)	Y	Implementation of this Device can be used, but are not necessary as all required volumes have been accounted for in the above practices.
Enhanced Filters	N	Implementation of this Device is not necessary as all required volumes have been accounted for in the above practices.

Non-structural techinques like disconnection of rooftop and non-rooftop runoff work well in residential settings, as well as sheet flow to buffer areas. Additional micro-scale practices may be utilitized in combination with the non-structural techniques to address the ESD requirements. As seen above, the micro-scale practices that provide the most benefit for this residential application are rain barrells and swales (bio, grass, or wet). For this design, treatment will be provided using a combination of disconnection of rooftop and rooftop runoff, and sheet flow to buffer areas.

Draktage Area ID:

343 Kingsbury Drive

Drainage Area Description:

The drainage area includes the entire development area.

Site Data:

Total Drainage Area, (sf):

87,289 sf = 2,00 ac.

Land use: Residential

Soil Types:

HSG	Area (sf)
A	0 sf
В	0 sf
С	38,961 sf
D	48,328 sf
Total	87,289 sf

Proposed Layout
Total Impervious Coverage, (sf):

item/HSG	A	В	С	D	Tot	als
House				3,378 #	3,378 sf	0.08 ac.
Driveways				2,024 sf	2,024 sf	0.05 ac.
Patio/Pool/Walks				1,209 sf	1,209 sf	0.03 ac.
				1-2		0.00 ac.
					0 sf	0.00 ac.
Total	0 sf	0 sf	Ðsf	6,511 sf	6,611 sf	0.15 ac.

Determine RCN for Wooded Condition:

The goal for implementing ESD on all new development projects is to mimic forested runoff characteristics. Therefore, calculated the RCN for "Woods in Good Condition" for the the project.

$$RCN_{ecocls} = \frac{\{A_8 \times 38\} + \{A_8 \times 55\} + \{A_6 \times 70\} + \{A_9 \times 77\}}{A_{7ectsl}}$$

$$RCN_{ecocls} = \frac{\{0.5f \times 38\} + \{0.5f \times 55\} + \{38961.5f \times 70\} + \{48328.5f \times 77\}}{87,289.5f}$$

$$RCN_{ecocls} = 74$$

Determine Environmental Site Design (ESD) Targets:

Compute Percent Imperviousness

Use:

Compute Target Pe using Table 5.3 of the State Manual.

	HSG	5%	10%	]	Pe	1
Г	Α	0.0"	0.0"	>>>	0.0**	← Pe
Г	В	0.0"	0.0"	$\rightarrow \rightarrow \rightarrow$	0.0"	← Peg
	¢	1.0"	1.0"	>>>	1.0"	←Pe <sub>c</sub>
	D	1.0"	1.0"	$\rightarrow \rightarrow \rightarrow$	1.0"	← Pep

$$Pe = \frac{\{A_A \times Pe_A\} + \{A_B \times Pe_B\} + \{A_C \times Pe_C\} + \{A_D \times Pe_D\}}{A_{Total}}$$

Pe ≈

Compute Target Rainfall Depth, Qe.

Where:

re = 1.0 Rv = 0.05 + {0.009}t; where ! = 7.57% Rv = 0.05 + {0.009}t = 0.05 + {0.009}x 7.57369198868128}

Rv = 0.12

Qe = 1 x 0.12 = 0.12"

The Environment Site Design (ESD) Targets for this project are:

By using ESD practices that meet these targets, WQv, Rev, & Cpv requirements will be satisfied.

Determine the ESDy required for the project:

$$ESD_e = \frac{Pe}{12} = \frac{12}{12} = \frac{(1 \text{ in.} (0.12)(87289 sf)}{12} = 860 \text{ cf}$$

#### Concept Design Permeable Pavements (Alternate Surfaces) Enter the Permeable Pavement Area [st] & Sub-base Thickness (in.) for each HSG group; Hydrologic Soil Group Item Area (sf) Area (sf) Thickness 16".9". or Thickness (6" Thickness (6", 9", or 12") ESD,/ft1 ESD, ESD //t2 ESD, ESD,/ft2 (sf) Roads 0.000 0 cf 0.000 ٥ď 0.000 0 d O sf Oriveways 12" 0.206 0 cf 0.196 0 cf 0.000 0 cf Sidewalks 0.000 0 ಧ 0.000 0 cf 0.000 0 cf Others 0.000 0.000 0 cf 0 ci 0,000 0 d Totals 0 df 0 sf 0 cf ESD, = ESD<sub>v</sub>A + ESD<sub>v</sub>B + ESD<sub>v</sub>C = 0d+0d+0d= 0d $\leftarrow$ Total volume of water captured and treated by permeable pavements in this drainage area. Rooftop Disconnect (Non-Structural) Enter the following Data Disconnected Rooftop Area (sf) Total Rooftop Disconnection Lengths Total Area (sf) (in.) Disconnected 15' - 29' 30' - 44' (Pe 45' - 59' 60' - 74' Rooftop Area (sf) (Pe = 0.2)= 0.4) $\{Pe = 0.6\}$ (Pe = 0.8)(Pe = 1.0)3,378 sf 295 sf 544 sf 0,89 ESD<sub>v</sub> = (Pe)(Rv)(A) Rv = 0.05 + (0.009); where I = 100 for rooftops Rv = 0.05 + (0.009)! = $0.05 + (0.009 \times 100)$ Rv = 0.95 $ESD_{\psi} = \frac{(0.89)(0.95)(1980 \text{ sf})}{12}$ 139 cf ← Total volume of runoff treated by rooftop disconnects in this drainage area. Non-Rooftop Disconnect (Non-Structural) Comment: Enter the following Data Disconnected Non-rooftop Area (sf) Total Impervious Ratio of Disconnect Length to Contributing Length Total Average Non-Rooftop Area (in.) (sf) Disconnected 0.6:1 0.8:1 0.2:1 0.4;1 (Pe = 1:1 0.4) Area (sf) (Pe = 0.6)(Pe = 0.8)= 1.0)

2,024 sf

Rv = 0.05 + (0.009)t; where t = 100 for Non rooftops Rv =  $0.05 + (0.009)t = 0.05 + (0.009 \times 100)$ Rv = 0.95

2,024 sf

160 cf ← Total volume of runoff treated by non-rooftop disconnects in this drainage area.

1.00

2,024 sf

ESD<sub>v</sub> = (Pe)(Rv)(A)

ESD<sub>v</sub> = (1)(0,95)(2024 sf)

Sheetflow to Conservation Area (Non-Structural) Enter the following Data Impervious Area Draining to Area Draining to Conservation Conservation Area Conservation Area Area Effective Рe (sf) Width, ft (sf) 19,257 sf 6.611 sf 46,000 sf 146 ft. 1  $ESD_e = \frac{(Pe)(Rv)(A)}{12}$ Ry = 0.05 + (0.009)1; where ! =  $Rv = 0.05 + (0.009)1 = 0.05 + (0.009 \times 34)$ Ry = 0.36ESD<sub>a</sub> = (1)(0.36)(19257 sf) 571 cf — < Total volume of runoff treated by sheet flow to conservation area in this drainage area,

Rainwater Harvesting (Micro-scale Practice)

Comment:

The typical rain barrel is approximately 55 gals or 7 cf in volume

# of Rain Barrels
Provided
Volume

7 cf

ESD<sub>v</sub> = (# of Rain Barrels) x (7 cf) = 0 cf 

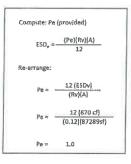
C Total volume of runoff treated by rain barrels in this drainage area.

Drywells (Micro-Scale) Enter the following Data Drywel Size Volume Provided In Total No. of Drywells Length (ft) Width, (ft) Stone Depth, (ft) Drywells ← Volume  $\{cf\}$  ≈  $V_{storie}$   $\{cf\}$  +  $V_{bottom stand layer}$   $\{cf\}$ V<sub>stone</sub> = (Length, ft) x (Width, ft) x (Depth, ft) x void ratio (0.4) 0 cf  $V_{\text{bottom sand layer}} = \{\text{Length, ft}\} \times (\text{Width, ft}) \times (1 \text{ ft}) \times \text{void ratio (0.3)}$ Drywell Size Total No. of Volume Provided in Drywells Length (ft) Width, (ft) Stone Depth, (ft) Drywells ← Volume (cf) = V<sub>store</sub> (cf) + V<sub>septions</sub> sand layer (cf)  $V_{stone}$  = (Length, ft) x (Width, ft) x (Depth, ft) x void ratio (0.4) con sand layer = (Length, ft) x (Width, ft) x (1 ft) x void ratio (0.3) Drywell Size Total No. of me Provided in Drywells Length (ft) Width, (ft) Stone Depth, (ft) Drywells (- Volume (cf) = V<sub>stone</sub> (cf) + V<sub>bottom sand layer</sub> (cf) V<sub>store</sub> = (Length, ft) x (Width, ft) x (Depth, ft) x void ratio (0.4)  $V_{\text{bottom-speed layer}} = (\text{Length, ft}) \times (\text{Width, ft}) \times (1 \text{ ft}) \times \text{void ratio } (0.3)$ ESD, = (# of Drywells) x (0 cf) = 0 cf ← Total volume of runoff treated by drywells in this drainage area.

	Swales (Micro-scal		
inter the following	Data		
Swale Type (Grass, Bio, or Wet)	Swale Filter Area (sf)	Drainage Area to Swale (sf)	Pe
			0.00
ESD <sub>w</sub> = <del>Pe</del>	Rv)(A)		5 + (0.009); \( \shape \text{three } \text{i} =  7.57\( \text{i} \) \$ + (0.009); = 0.05 + (0.009 \text{i} 7.57) \\ 2
ESD <sub>v</sub> =	(0)(0,12)( sf)	= 0 cf	← Total volume of runoff treated by swale flow in this drainage area.

Landscape infiltrat	ion (Micro-scale Pra	ictices)	
nter the following	Data		
Landscape Area (sf)	Drainage Area to Landscape Area (sf)	Pe	
		0,00	
	(Rv)(A)	where:	Rv = 0.05 + (0.009)!  where  i = 100.00% $Rv = 0.05 + (0.009)! = 0.05 + (0.009 \times 100)$ Rv = 0.95
ESD, =	(0)(0.95)( sf)	<b>3</b>	0 cf

E:	Dv Summary for Dra	iinage Area
Practice Type	Practice	ESDv
Alternate Surfaces	Permeable Pavement	0 cf
27.75	Rooftop Disconnect	139 đ
Von-Structura Practices	Non-Rooftop Disconnect	160 cf
Non-S	Sheet Flow to Conservation Area	571 cf
53	Rainwater Harvesting	0 cf
Micro-Scale Practices	Drywells	0 cf
cale P	Rain Gardens	0 cf
floro-5	5wales	0 cf
2	Landscape Infiltration	0 cf
Total ES	Dv (provided)	870 cf



#### SUMMARY

			ESD Sumn	nary				
Drainage	Area	Impervious	Required		ired	Provided		
Area ID	(sf)	(sf)	Impervious	ESDv (cf)	Pe (in.)	ESDv (cf)	Pe (in.)	
Site	87,289 sf	6,611 sf	7.57%	860 cf	1.0 in.	870 cf	1.0	
Total	87,289 sf	6,611 sf	7.57%	860 sf	1.0 in.	870 cf	1.0	

	0	verall Pe
Compute: I	e (provide	ed)
	ESDv =	(Pe)(Rv)(A)
Re-arrange	:	
	Pe =	12 (ESDv) (Rv)(A)
	Pe=	12 (870 cf) (0.12)(87289sf)
	Pe =	1.0

Since the total ESDv provided (870 cf) is greater than the total ESDv required (860 cf), further structural BMPs are not required.

Compute Reduced RCN:

RCN = 
$$\frac{(A_A \times RCN_A) + (A_B \times RCN_B) + (A_C \times RCN_C) + (A_D \times RCN_D)}{A_{Total}}$$
RCN = 
$$\frac{(0 \text{ sf} \times 38) + (0 \text{ sf} \times 55) + (38961 \text{ sf} \times 70) + (48328 \text{ sf} \times 77)}{87,289 \text{ sf}}$$
 = 74

**HYDROLOGIC DATA** 

**EXISTING CONDITION** 

#### TR-55 General Input

Answer the following questions for the project. (fill in the blue blanks on each sheet)  1. Enter project designer's initials.  TJB	
2. Enter the month and year. Aug-23	
3. What is the projects name?   LOT 19 343 KINGSBERRY DR	
4. What city/town and state is the project located? ANNAPOLIS	
5. What county is the site located in?  ANNE ARUNDEL	
6. What type of project? (public or private) PRIVATE	
7. What type of development?, choose one of the following: Present  a. Present	
b. Developed	
8. Drainage Area Identification? DA A (Existing)	
9. What is the drainage area's total area in acres?	
10. Percentage of area that is a pond or swamp? 0.00 %	
11. Fill in the design storm data below.	
Storm Number 1 2 3 4 5 6	
Frequency (yr) WQv 1 2 10 50 100	
24-hour Rainfall, P (in) 1.0 2.7 3.3 5.2 6.5 7.4	
12. What is the Rainfall Distribution according to Figure B-2 of the TR-55 manual?:	11

- a. I (Parts of California and Alaska)
- b. IA (Northwest part of Californa and the western portions of Oregon and Washington)
- c. II (most of the U.S.)
- d. III ( Parts of the US near the Gulf and most of the Coastal Areas along the Eastern U.S except Maryland and Delaware)

## Runoff Curve Number and Runoff Worksheet

Project: Location: County:	LOT 19 343 KINGSBERRY DR ANNAPOLIS ANNE ARUNDEL			y: TJB d:	_ Date	e:Aug-23
Development Type:	Present	Drainage	Area ID:	DA A		
1. Runoff Curve Num	ber					
Soil Name and Hydrologic Group	Cover Description	Tab. 2-2	CN Fig. 2-3	Fig. 2.4	Area	Product
Type D	Lawn	80	Fig. 2-3	Fig. 2-4	(Acres) 0.60	CN x Area 48.00
					-	
Type D	Impervious	98			0.13	12.74
Type D	Wooded	77			0.38	29.26
				THE BY		0.00
Туре С	wooded	70			0.89	62.30
						0.00
						0.00
						0.00
						0.00
						0.00
				T EV		0.00
						-
				Totals =	2.00	152.30
CN (Weighted) =	<u>total Product</u> = total area	152.3 2.00	=	76.15	Use CN =	76.00
2. Runoff						
	Storm Number	1	2	3	4	5
	Frequencyyr	WQv	1	2	10	50
	Rainfall, P (24-hour)in Runoff, Qin	1.0 0.04	2.7 0.82	3.3 1.22	5.2 2.70	6.5
1	runon, QIII	0.04	0.02	1.22	2.70	3.82

# Time of Concentration (Tc) / Time of Travel (Tt) Worksheet

Project: Location: County;	LOT 19 343 KINGSBERRY DR ANNAPOLIS ANNE ARUNDEL				By: TJB Chk'd:	Date: Aug-23 Date:
Development Type: Circle One: To or Tt through	Pre	esent		Drainage	e Area ID: DA A	
Sheet Flow	ii Supaiea					
Segment	A-B			1		
Surface Description	GRASS					
Mannings Coefficient	0.41					
Flow Length	75					
two-yr 24-hr rainfall	3.3	3.3	3.3			
land slope	0.01	0.095	0.0			
time of travel	0.34	0.00	0.00	=	0.339 hr	
une or daver	0.54	0,00	0.00	_	0.559	
Shallow Concentrated Flow						
Segment	B-C	C-D	E-F			
Surface Description	Grass	WOODS				
Flow Length	50	170				
Watercourse Slope	0.12	0.37				
Average Velocity	7.04	12.37				
Time of Travel	0.002	0.004		6.6	0.006 hr	
Ohannal Flaur				U		
Channel Flow						
Segment						
Channel Type						
Cross Sectional Area						
Wetted Perimter	0.00	0.00	0.00			
Hydraulic Radius	0.00	0.00	0.00			
Channel Slope						
Manning's Roughness Coeff	0.50	0.50	0.50			
Velocity (fps)	3.50	3.50	3.50			
Flow Length		REAL PROPERTY.	1.12.1.11			
Time of Travel	0.00	0.00	0.00	=	0.00 hr	
				Total =	0.35 hr	

### Graphical Peak Discharge Worksheet

Project:	LOT 19 343 KINGSBERRY DR		By	TJB_	Date:	Aug-23	
Location:	ANNAPOLIS	_	Chk'd:				
County:	ANNE ARUNDEL	-		70			
Development	Present	Drainage	Area ID:	DA A			
	Data		_				
	Drainage AreaAm	0.0031	mi <sup>2</sup>	(acres/640	))		
	Runoff Curve NumberCN	76	]				
	Time of ConcentrationTc	0.00	hr				
	Time of ConcentrationTc	0.35	hr				
	Rainfall Distribution Type	l II	(I, IA, II, o	r III)			
	Pond and Swamp AreasFp	0.00	percent of	Am			
	Storm Number	1	2	3	4	5	6
	Frequencyyr	WQv	1	2	10	50	100
	Rainfall, P (24-hour)in	1.0	2.7	3.3	5.2	6.5	7.4
	Initial Abstraction, lain	0.632	0.632	0.632	0.632	0.632	0.632
	Compute, la/P	0.63	0.23	0.19	0.12	0.10	0.09
	Unit Peak Discharge, qucsm/in	275	568	587	624	635	635
	Runoff, Qin	0.04	0.82	1.22	2.70	3.82	4.62
	Pond and Swamp Adjustment Factor, Fp	1.00	1.00	1.00	1.00	1.00	1.00
[	Peak Discharge, qpcfs	0.03	1.45	2.24	5.27	7.57	9.15

PROPOSED CONDITION

#### TR-55 **General Input**

Answer the following  1. Enter project design			in the blue	e blanks on	each shee	t)	
2. Enter the month an	d year.	Aug-23					
3. What is the projects	s name?	Lot 19 343 Kir	gsberry Re	oad			
4. What city/town and	state is the	project located?		Annapolis	6 L B		
5. What county is the	site located	in?	ANNE AF	RUNDEL			
6. What type of project	t? (public o	r private)	PRIVATE				
7. What type of develo a. Present b. Develope		oose one of the	following:	Deve	loped		
8. Drainage Area Ident	ification?	DAA	Developed	d			
9. What is the drainage	area's tota	l area in acres?		2.0	00		
10. Percentage of area	that is a po	nd or swamp?		0.00	%		
11. Fill in the design st	orm data be	elow.					
Storm Number	1	2	3	4	5	6	
Frequency (yr)	WQv	1	2	10	50	100	
24-hour Rainfall, P (in)	1.0	2.7	3.3	5.2	6.5	7.4	
[40 14th 12 th Park P	D: 12 - 12		D.C.	70.75	10		- 11
12. What is the Rainfall			gure B-2 of	the TR-55	manual?:		П
a. I (Parts of		and Alaska)					,

- b. IA (Northwest part of Californa and the western portions of Oregon and Washington)
- c. II (most of the U.S.)
- d. III ( Parts of the US near the Gulf and most of the Coastal Areas along the Eastern U,S except Maryland and Delaware)

## Runoff Curve Number and Runoff Worksheet

Project: Location: County:	Lot 19 343 Kingsberry Road  Annapolis  ANNE ARUNDEL				Date	Aug-23
Development Type:	Developed	<del></del> _ Drainage	Area ID:	DA A		
1. Runoff Curve Num	her					
Soil Name and Hydrologic Group	Cover Description	Tab. 2-2	CN Fig. 2-3	Fig. 2-4	Area (Acres)	Product CN x Area
Type D	Lawn	80			0.58	46.40
Type D	Impervious	98			0.15	14.70
Type 0	Woods	77			0.38	29.26
						0.00
Туре С	Woods	70			0.89	62.30
						0.00
						0.00
						0.00
						0.00
	Part at Justice 1					0.00
						0.00
				Totals =	2.00	152.66
CN (Weighted) =	total Product = total area	<u>152.66</u> 2.00	<del>=</del>	76.33	Use CN =	76.00
2. Runoff	Storm Number	1	2	3	4	5
	Frequencyyr	WQv	1	2	10	50
	Rainfall, P (24-hour)in	1.0	2.7	3.3	5.2	6.5

## Time of Concentration (Tc) / Time of Travel (Tt) Worksheet

Project:		LOT 19 343 KINGSBERRY DR			By: TJB	Date: Aug-23
Location:	ANNAPOLIS				Chk'd:	Date:
County:	ANNE AR	RUNDEL				
Development Type:	Deve	eloped		Drainage	Area ID: DA A	
Circle One: To or Tt throug	h subarea		30			-
01 - 1 5						
Sheet Flow	1 40					
Segment	A-B					
Surface Description	GRASS					
Mannings Coefficient	0.41					
Flow Length	75					
two-yr 24-hr rainfall	3.3	3.3	3.3			
land slope	0.01	0.095	0			
time of travel	0.34	0.00	0.00	_ =	0.339 hr	
Shallow Concentrated Flow						
Segment	B-C	C-D	E-F			
Surface Description	Grass	WOODS				
Flow Length	50	170				
Watercourse Slope	0.12	0.37				
Average Velocity	7.04	12.37		1		
Time of Travel	0.002	0.004		6.6	0.006 hr	
720 92				1		
Channel Flow						
Segment						
Channel Type						
Cross Sectional Area						
Wetted Perimter						
Hydraulic Radius	0.00	0.00	0.00	1		
Channel Slope			1			
Manning's Roughness Coeff						
Velocity (fps)	3.50	3.50	3.50			
Flow Length	- C	ELECTED S				
Time of Travel	0.00	0.00	0.00	=	0.00 hr	
rate of flavor	0.00	0.00	0.00		3.00	
				Total =	0.35 hr	

#### Graphical Peak Discharge Worksheet

Project:	LOT 19 343 KINGSBERRY DR		Ву	TJB	Date:	Aug-23	
Location:	ANNAPOLIS				Date:		1g/milys/gm; right
County:	ANNE ARUNDEL	-:: -::					
Development	Developed	Drainage	Area ID:	DA A			
	Data						
	Drainage AreaAm	0.0031	mi <sup>2</sup>	(acres/640	)		
	Runoff Curve NumberCN	76					
	Time of ConcentrationTc	0.00	hr				
	Time of ConcentrationTc	0.35	hr				
	Rainfall Distribution Type	- 11	(I, IA, II, o	r III) [	1		-
	Pond and Swamp AreasFp	0.00	percent of	Am			
[	Storm Number	1	2	3	4	5	6
	Frequencyyr	WQv	1	2	10	50	100
	Rainfall, P (24-hour)in	1.0	2.7	3.3	5.2	6.5	7.4
	Initial Abstraction, lain	0.632	0.632	0.632	0.632	0.632	0.632
	Compute, la/P	0.63	0.23	0.19	0.12	0.10	0.09
	Unit Peak Discharge, qucsm/in	275	568	587	624	635	635
[1	Runoff, Qin	0.04	0.82	1.22	2.70	3.82	4.62
	Pond and Swamp Adjustment Factor, Fp	1.00	1.00	1.00	1.00	1.00	1.00
Ī	Peak Discharge, qpcfs	0.03	1.45	2.24	5.27	7.57	9.15

REDUCED RCN CONDITION

#### REDUCE RUNOFF CURVE NUMBER

Determine the reduced runoff curve number per section 7.2.3 of the County SWM Procedures and Practices Manual based on the storage in the other SWM practices provided.

Enter the total volume of storage (cu. ft.) provided in the SWM practices, V<sub>stored</sub>:

870 cu. ft.

Compute the runoff depth stored in the SWM practices, Q<sub>stored</sub>:

$$Q_{stored} = \frac{V_{stored} X 12}{A_t} = \frac{870 \times 12}{19,257 \text{ sq. ft.}} = 0.54 \text{ in.}$$

Compute the post development runoff depth for the 10-year 24 hour design storm Q<sub>dev</sub>:

$$Q_{dev} = \frac{[P_{10} - (0.2 \times S)]^2}{[P_{10} + (0.8 \times S)]}$$
 Where:  $P_{10} = 10$ -year Rainfall (in.) 
$$S = \frac{1,000}{RCNp} - 10 = \frac{1,000}{77} - 10 = 3.0$$

#### Enter 10-Year rainfall amount: P<sub>10</sub>:

5.20 in.

Enter the post-development RCN before other SWM practices are applied, RCNp:

$$Q_{dev} = \frac{(P_{10} - 0.2 \text{ S})^2}{(P_{10} + 0.8 \text{ S})} = \frac{[5.2\text{in.} - (0.2 \times 2.99)]^2}{[5.2\text{in.} + (0.8 \times 2.99)]} = \frac{21.18}{7.592} = 2.79 \text{ in.}$$

Determine the total runoff not being stored, Q: Q = Q<sub>dev</sub> - Q<sub>stored</sub> = 2.79 in. - 0.54 in =

Compute Reduce RCN:

$$CN_{10} = \frac{200}{[(P_{10} + 2Q + 2) - sqrt](5P_{10}Q + 4Q^2)]}$$

$$CN_{10} = \frac{200}{[(5.2 \text{ in.} + 2 \times 2.25 \text{ in.} + 2) - SQRT](5 \times 5.2 \text{ in.} \times 2.25 \text{ in.} + 4 \times 2.252)]}$$

$$CN_{10} = \frac{200}{[(11.7) - (8.87)]} = \frac{200}{2.83} = 70.7$$

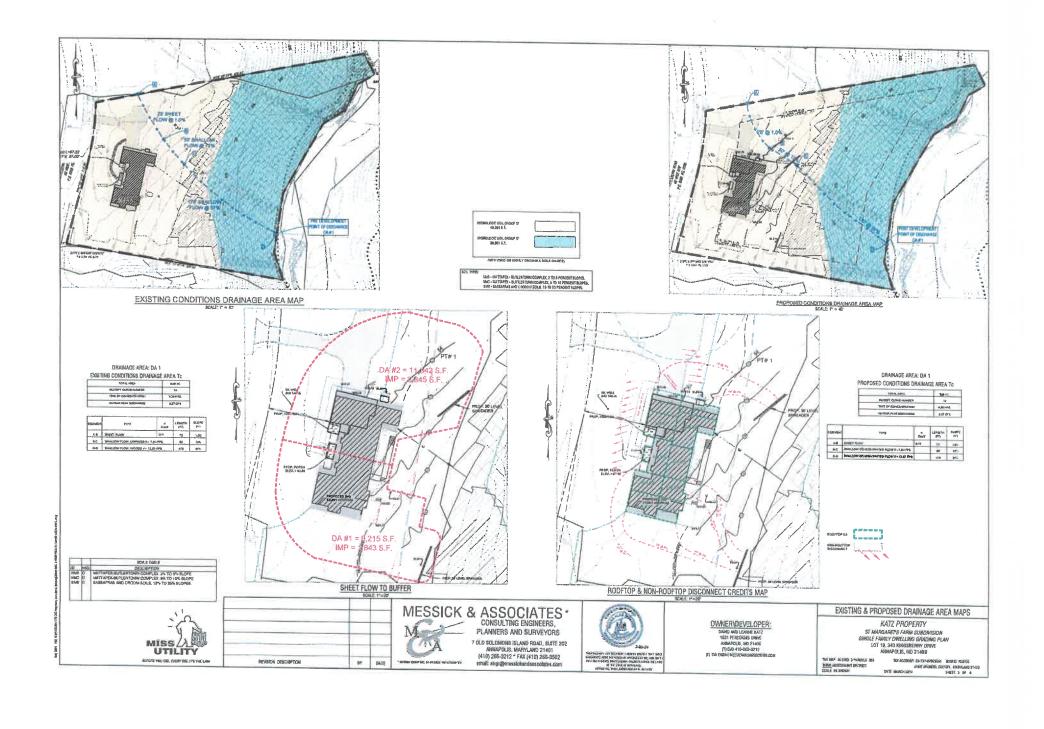
$$CN \text{ Reduced: (71)}$$

Use a RCN of 71 for the site area (0.44 ac.).

#### Graphical Peak Discharge Worksheet

Project: Location: County:	LOT 19 343 KINGSBERRY DR ANNAPOLIS ANNE ARUNDEL	-		TJB	-	Aug-23	
Development	Reduced CN	Drainage	Area ID:	DA A			
	Data		24				
	Drainage AreaAm	0.0031	mi <sup>2</sup>	(acres/640	))		
	Runoff Curve NumberCN	71					
	Time of ConcentrationTc	0.00	hr				
	Time of ConcentrationTc	0.34	hr				
	Rainfall Distribution Type	П	(I, IA, II, o	r III)			
	Pond and Swamp AreasFp	0.00	percent of	Am			
	Storm Number	1	2	3	4	5	6
	Frequencyyr	WQv	1	2	10	50	100
4	Rainfall, P (24-hour)in	1.0	2.7	3.3	5.2	6.5	7,4
	Initial Abstraction, lain	0.817	0.817	0.817	0.817	0.817	0.817
	Compute, la/P	0.82	0.30	0.25	0.16	0.13	0.11
	Unit Peak Discharge, qucsm/in	275	535	563	608	624	624
	Runoff, Qin	0.01	0.59	0.94	2.27	3.31	4.06
	Pond and Swamp Adjustment Factor, Fp	1.00	1.00	1.00	1.00	1.00	1.00
	Peak Discharge, qpcfs	0.01	0.99	1.65	4.31	6.45	7.92

APPENDIX E DRAINAGE AREA MAPS





(

#### OFFICE OF PLANNING AND ZONING

#### **CONFIRMATION OF PRE-FILE (2024-0037-P)**

DATE OF MEETING: 4/25/2024

	7/20/2021
	P&Z STAFF: <u>Sara Anzelmo, Kelly Krinetz, Habtamu Zeleke</u>
APPLICANT/REPRESENTATIVE:David Katz/Tim Brenza	EMAIL: <u>dkatz@katzday.com, engr@messickandassociates.com</u>
SITE LOCATION: <u>343 Kingsberry Drive, Annapolis</u>	LOT SIZE: <u>2 acres</u> ZONING: <u>RLD/OS</u>
CA DESIGNATION: <u>LDA/RCA</u> BMA: N/A or BUFF	ER: Yes APPLICATION TYPE: Variance

The applicant's original variance application (submitted 7/7/23) proposed the demolition of the existing structure and reconstructing a significantly larger house on the property. In an effort to minimize their variance request, they are adding a partial second story addition and renovating the existing structure instead of demolishing and reconstructing a new one. The existing dwelling has been left vacant for nearly 27 years and is uninhabitable, having been cited for its unsafety by the County on multiple occasions prior to the applicant's ownership.

Specifically, the applicant is requesting the following variances:

- 1. A variance of 5 feet to the 50' front yard setback in the RLD zone (Article 18-4-401(a)(1)).
- 2. A variance to reconstruct/renovate a principal structure within 50' of the crest of "steep slopes" (Article 18-4-401(b)).
- 3. A variance to allow disturbance within the 100' Chesapeake Bay Critical Area Expanded Buffer (Article 18-13-104(b)(1)).

Based on the ongoing, more than 27-year deterioration of the existing residence, a renovation of the existing dwelling is required. The condition of the existing home is viewed as a blight on the community and attracted unsafe conditions. More importantly, the proposed reconstructed structure is consistent with the character of the community and the variances being requested are the minimum necessary to afford relief.

#### **COMMENTS**

The **Critical Area Team** has no objection to the proposed second story addition. However, the applicant will need to demonstrate compliance with the variance approval criteria for the proposed deck.

The **Engineering Division** reviewed the development proposal for stormwater management and utility issues and provided a list of items that need to be addressed. The list is attached as Page 2 of these pre-file comments.

The **Zoning Administration Section** notes that the variance site plan must label the dimensions, height, and number of stories of the proposed structures. While the second story over the existing dwelling is reasonable, the applicant must demonstrate that the long deck meets all of the Critical Area variance standards and that the request is the minimum necessary to afford relief.

#### **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.

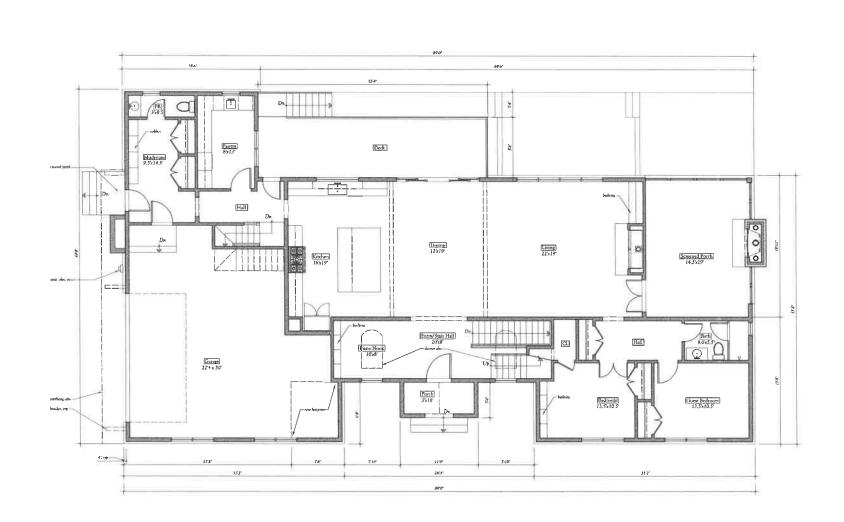
Section 18-16-301 (c) Burden of Proof. The applicant has the burden of proof, including the burden of going forward with the production of evidence and the burden of persuasion, on all questions of fact. The burden of persuasion is by a preponderance of the evidence.

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.

#### 2024-0037-P

r/(2011)	Cancel	Help		
Task I and P Enginee Assigned to D Engineering Action by Depa Engineering Start Time Billable No	epartment	Due Date 04/18/2024 Assigned to Hablamu Zeleke Action By Hablamu Zeleke End Time Overtime No	3. A variance to allow disturbance within the 100-comments.  1. This reviewer is unclear what type of SWM pra and Procedures manual, SWM facilities shall not resources including steep slopes and buffers.  2. Please review existing vegetation (or lack thereplanting buffers with native vegetation should be. Show and label clearly the proposed SWM pra	structure within 50° of the crest of "steep slopes" (8-4-401(b) foot Chesapeake Bay Critical Area Expanded Buffer 18-13-104(b)(1).  ctice (s) are proposed. Per 6.1.4 (G) of the County Stormwater Practices be located in areas that are off-limits to development, e.g., natural soft) within the steep slopes; opportunities to supplement vegetation or e reviewed and provided to enhance water quality.
			boring information including verification of the suit 5. The site includes a County or FEMA floodplain floodplain is not currently dedicated, it will need to	bility, and siting of proposed SVM practices should be reviewed. Soil ability of in-situ soils for infiltration shall be submitted.  (Mill Creek). Submit the Plat that shows the floodplain dedications. If the bedicated before approval of the grading permit, property will be served by a private septic and well.
			<ol> <li>The stormwater management, utility/Engineering stage.</li> <li>The above is provided as courtesy review commadditional reviews and detailed reviews are at the</li> </ol>	ng design review approval for the site shall occur at the grading permit ments at the pre-file stage to review and consider the design plan.
Time Tracking S Display E-mail		Est. Completion Date  Display Comment in AC.	In Possession Time (hrs) Comment Display in ACA	
No			All ACA Users  Record Creator  Licensed Professional  Contact  Owner	
Estimated Hour 0.0	rs	Action Updated	Workflow Calendar	
Task Specific Inform	ation		The particular because in the particular of	
Expiration Date Reviewer Phon			Review Notes Reviewer Email	Reviewer Name





202 Legion Avenue Suite 1 Annapola, MD 21401

The Kutz Residence 343 Kingsberry Drive Annapolis, Maryland 21409

Proposed First Floor Plan

A2

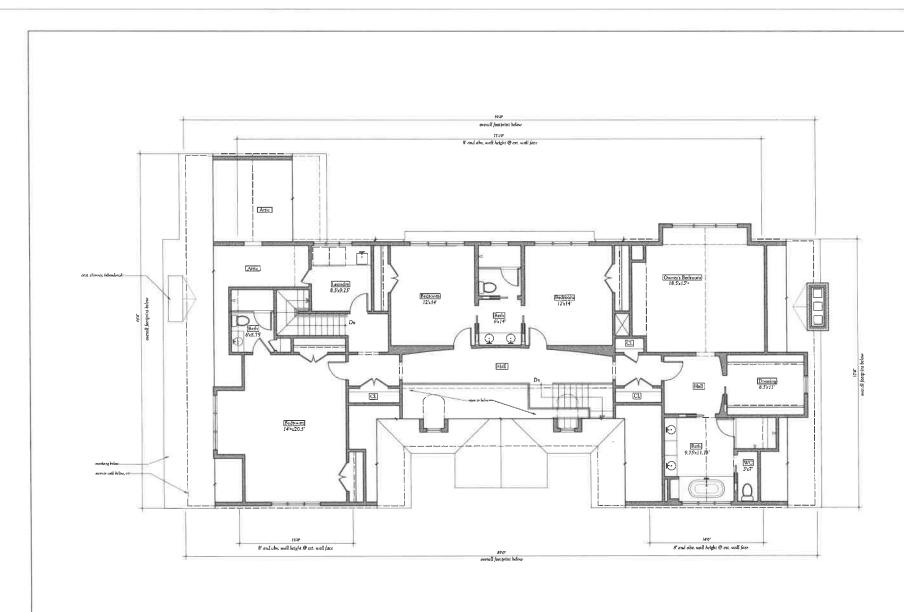
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© 2024 SSAI

CONSTRUCTION

PROPOSED FIRST FLOOR PLAN





PROPOSED SECOND FLOOR PLAN



202 Lenon Avenue Suite 3 Annapolis, MD 2140

> The Katz Residence

343 Kingsberry Drive Annapolis, Maryland 71409 Inte 03.25.2

Proposed

Proposed Second Floor Plan

A3

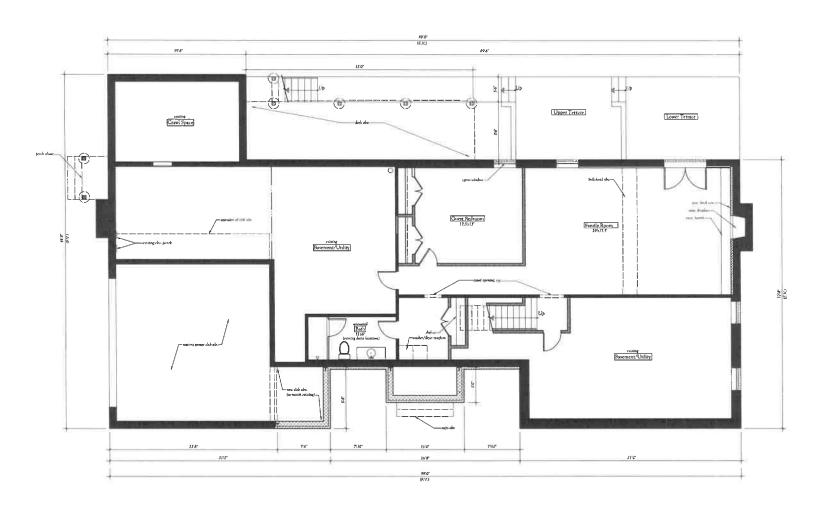
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of pursula or prosentation.

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PROPOSED BASEMENT/FOUNDATION PLAN

- 1. All illinearisms are to first of finals, under notal otherwise.
  2. All interior solls with plock about hall be framed as Leb susiau noted informatic.
  3. All interior solls with coard goings paid for framed as Leb sules unted otherwise.
  4. All enterior safes to grade hall be final workful with final gual.
  5. See removable servine for soldilineal noting, materials, and for the contraction of the

#### 2018 VEGETATIVE ESTABLISHMENT

WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED

A. SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING OR AS RECOMMENDED BY THE SEDIMENT CONTROL CONDITIONS WHERE PRACTICE APPLIES:

INSPECTOR. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR. WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED. OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 A. SOIL PREPARATION INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL, NO STOCKPILING OF MATERIAL IS ALLOWED. IF 1. TEMPORARY STABILIZATION NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF

## THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

a. SOIL PHISHALL BE BETWEEN 6.0 AND 7.0. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM)

THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL. > 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZA IS TO BE PLANTED. THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE. d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT

f IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SOIL PREPARATION. TOPSOILING AND SOIL AMENDMENTS FROM THE 2011 SEEDBED PREPARATION: AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3-5 INCHES. THE

TOP LAYER SHALL BE LOOSENED BY RAKING. DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES. APPLY 100 POUNDS DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3-5 INCHES ON

SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE 1/4 INCH IN CLAYEY SOILS AND 1/2 INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD, IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED. MUI CH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MUI CH SHALL BE UNROTTED, UNCHOPPED SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALES). APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE B. IS NOT EXPOSED. IF A MUI CH-ANCHORING TOOL IS USED. APPLY 2.5 TONS PER ACRE. MUI CH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES

SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER THE FOLLOWING METHODS ARE PERMITTED: a. USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH, HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY. b. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT

c. LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALUEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION BINDERS LISTED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL FROSION AND 5 SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS. d. LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS

OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS

TEMPORARY SEEDING 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET

SAME AS 1 D AND E ABOVE.

PERMANENT SOD:

1. I (We) certify that:

commencing work.

Signature of Developer/Owner

Title: Owner

Telephone Number: (443) 801-328 Email Address: <u>dkatz@katzday.com</u>

PERENNIAL RYE - 0.92 POUNDS PER 1,000 SQUARE FEET (FEBRUARY) THROUGH APRIL 30 OR AUGUST 15 THROUGH OCTOBER 31) MILLER -0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15)

NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. FACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL COMPACTION REQUIREMENTS ARE IN ACCORDANCE TO ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS THE DESIGN MANUAL AND STANDARD DETAILS. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND BOLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1. AS SHOWN, ARE TO BE PERMANENTLY SODDED OR C. PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL. IRRIGATION SHOULD BE PERFORMED TO INSURE ESTABLISHED SOD

SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES. FOR SEEDING DATES OF FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31. USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERICEA LESPEDEZA AT THE MINIMUM RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET. TODGOIL SHALL BE ADDITED

AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL USE OF THESE VEGETATIVE ESTABLISHMENT SPECIFICATION DOES NOT PRECLUDE THE PERMITEE OR CONTRACTIOR FROM MEETING ALL OF THE REQUIREMENTS SET FORTH IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING

STANDARD RESPONSIBILITY NOTES

a. All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundel Soil Conservation District (AASCD) Board of

b. Any responsible personnel involved in the construction project will have a certificate of attendance from the Maryland

c If applicable, the appropriate enclosure will be constructed and maintained on sediment basin(s) included in this plan.

The developer is responsible for the acquisition of all easements, right, and/or rights-of-way that may be required for the

sediment and erosion control practices, storm water management practices and the discharge of storm water onto or across

For initial soil disturbance or re-disturbance, permanent and/or temporary stabilization per the AASCD Vegetative Establishment shall be

completed within three calendar days for the surface of all controls, dikes, swales, ditches, perimeter slopes and all slopes greater

he approval of this plan for sediment and erosion control does not relieve the developer/consultant from complying with Federal,

installation of erosion and sediment controls prior to proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until the initial approval by the sediment and erosion control inspector is given. Inspection and Permits may also require that an inspection and certification of the installation of sediment control also be performed by a

The developer must request that the sediment and erosion control inspector approve work completed in accordance with the

First phase inspection and approval of the sediment and erosion control inspector shall be required upon completion of the

Approval from the inspector must be requested on final stabilization of all sites prior to removal of sediment and erosion

Existing topography must be field verified by responsible personnel to the satisfaction of the sediment control inspector prior to

Responsible personnel on site: (TO BE ASSIGNED AT PRE-CONSTRUSCTION MEETING)

than 3 horizontal to 1 vertical (3:1); and seven days for all other disturbed or graded areas on the project site. The grading and sediment control approval on this plan extends only to those areas within the limits of disturbance

Such structure(s) will be in compliance with the Anne Arundel County Code

approved erosion and sediment control plan, the grading or building permit, and the ordinance. All material shall be taken to a site with an approved sediment and erosion control plan.

adjacent or downstream properties included in the plan.

State or County requirements pertaining to environmental issues.

Department of the Environment's approved training program for the control of sediment and erosion before beginning the

## STANDARD SPECIFICATIONS FOR TOPSOIL

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH

a) SEEDED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 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 TRACKED WITH RIDGES RUNNING PARALLEL TO THE b) APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c) INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. 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 II SOLLIBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)

III SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY)TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

iv SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT v SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION

b) 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 5 INCHES.

e) MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. BAKE LAWN AREAS. TO SMOOTH THE SURFACE, REMOVED LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDED LOOSENING MAY BE

TOPSOIL IS PLACED OVER PREPARED SURSOIL PRIOR TO ESTARI ISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FIR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT. LOW

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

a. THE TEXTURE OF THE EXPOSED SUBSOIL-PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. d. THE SOIL IS SO ACIDIC THAT TREATMENT 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

a. 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 NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, TOOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER. b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON

GRASS, NUT SLEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED. c. 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 a FROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL

). UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF  $^{\prime}$ 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

. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED

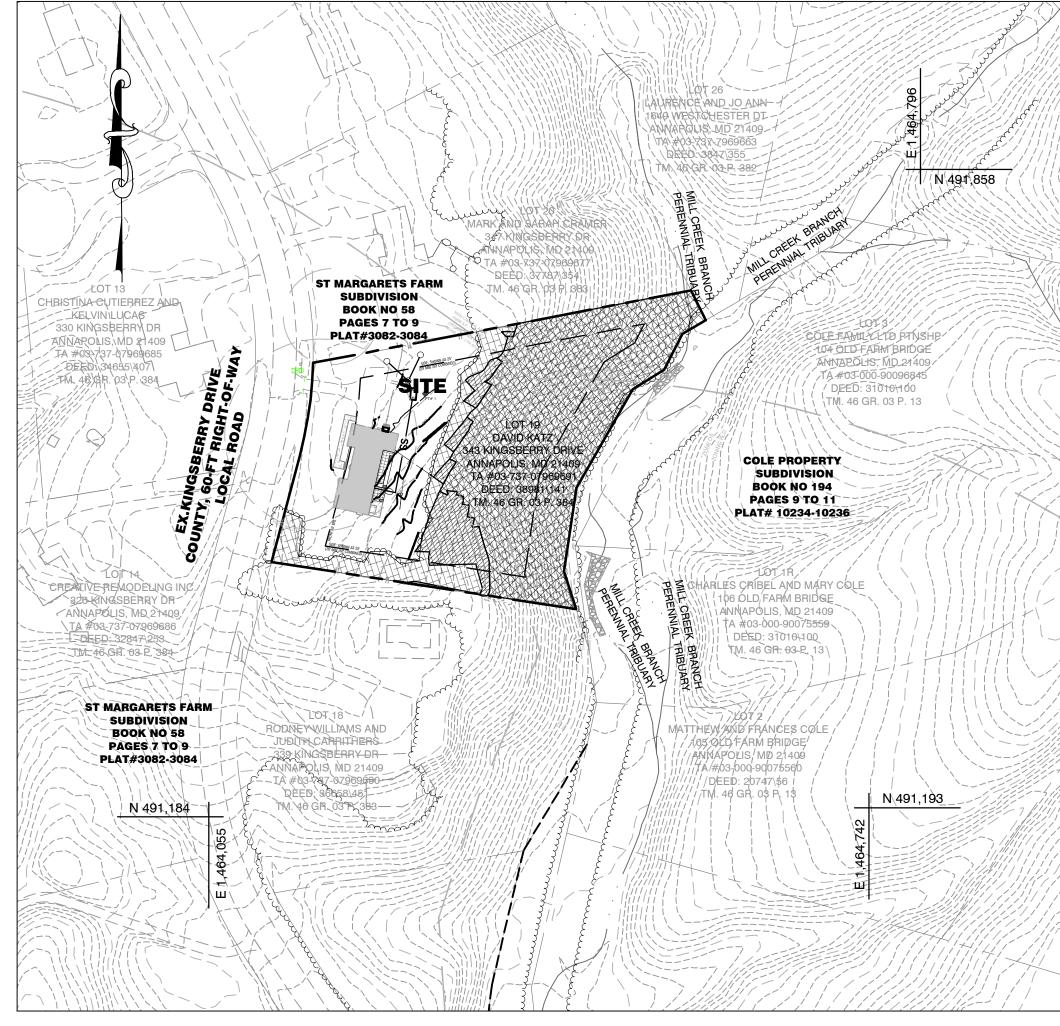
SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

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 PLIRPOSES MAY ALSO RE

APPROPRIATE EQUIPMENT, MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL ALITHORITY, FFRTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME. TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN NG) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXID 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.

OR OTHER SUITABLE MEANS WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS. SPREAD GROUND LIMESTONE A THE RATE OF 4 TO 8 TONS/ACRE (200 -400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT

# KATZ PROPERTY SINGLE LOT GRADING PLAN



NORTHING: 528,003,6100

ELEVATION: 98.92'

1,411,776.8050

EASTING:

BENCHMARK DATA FIELD SURVEYED. HORIZONTAL DATUM IS REFERENCED TO

MARYLAND STATE PLAN COORDINATES NAD 83/91 DATUM. VERTICAL DATUM IS REFERENCED TO MARYLAND STATE PLAN COORDINATES NAVD 88 DATUM. B-2: BEING A IRON REBAR FOUND IN A GRASSY AREA.

B-1: BEING A IRON REBAR FOUND WITHIN THE WEST SIDE NEW CUT ROAD RIGHT OF WAY NORTHING: 527.845.7830 1,412,198.3530 EASTING:

BENCHMARK DATA

ELEVATION: 104.75

ELEVATION: 89.50 B-3: BEING A IRON REBAR FOUND IN A GRASSY AREA ALONG THE EXISTING DRIVEWAY OF THE CHURCH. NORTHING: 528,008.6680 EASTING: 1.411.956.3900

CONSULTANT'S CERTIFICATION

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND

SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER. MD LAND SURVEYOR LICENSE #:

WAYNE A NEWTON

FIRM NAME: MESSICK GROUP, INC. (T/A MESSICK & ASSOCIATES) ADDRESS: 7 OLD SOLOMONS ISLAND ROAD - STE 203 CITY: ANNAPOLIS STATE MD ZIP CODE 21401

## Drainage Area: DA A STORMWATER MANAGEMENT DATA FORM v1.1/2020

Permit Number	G020	1
Project Number		
Project Name	Katz Property	١.
StructureAddress	343 Kingsberry Road	
Structure City	Annapolis	;
State	MD	4
Structure Zip	21409	
Total Drainage Area (Acres)	2	ļ
RCN - Pre Construction	76	
RCN - Post Construction	68	
RCN - Woods		
Total Number of BMPs	3	
PE Required (see Note 1)	1.00	
PE Addressed (see Note 2)	1.20	
MD 8-Digit HUC (see Note 4)	O2131002	
USGS 12-Digit HUC		
COMBINED: Drainage Area DA A	2 AC.	
11	l l	

**Project Table for Each Drainage Area** 

1. Rainfall target (from Table 5.3, Design Manual pp.5.21-22) used to determine ESD goals and size practices (for new development or redevelopment). If practice is for 2. Rainfall addressed (using both ESD techniques and practices, and structural practices) by the BMPs within the drainage area.

3. Equals Impervious Area Draining to Device when PE\_ADR = 1 inch (for restoration only)

4. Maryland 8-Digit HUC (Hydrologic Unit Code) can be found by using the map at: https://data.maryland.gov/Energy-and-Environment/Maryland-s-8-Digit-Sub-Watersheds/e9j9-vuxg

5. Water Quality volume, the smaller of the volume of the actual storage volume in the device or the volume from the 1-year 24-hour storm for the drainage area to the device

MDP Code

STRU_NAME	MDE BMP CLASS	MDE BMP TYPE	CONSTRUCTION PURPOSE	ON or OFF SITE	LAND USE	DEVICE DRAINAGE AREA (acres)	AREA DRAINING TO DEVICE	ACRES RESTORED (See Note 3)	MD NORTH COORD (NAD83 - FT)		<u> </u>	Maintenance Responsibility	Comments
Rooftop Disconnect	E	NDRR	NEWD	ON		0.09	0.09		491,545	1,464,213	0.0068	Owner	
Non-Rooftop Disconnect	E	NDNR	NEWD	ON		0.05	0.05		491,545	1,464,213	0.0042	Owner	
Sheet Flow to Buffer	E	NSCA	NEWD	ON		0.43	0.18		491,545	1,464,213	0.0157	Owner	

## ST MARGARETS FARM SUBDIVISION, LOT 19 L: 38981, F: 137 03-737-0796969 NO CHANGE RLD/OS ALL EXISTING AND PROPOSED DEVELOPMENT IS WITHIN THE RLD ZONING SIDES: 20 FEET/50 FEE PERMITTED: 4 PROPOSED: STORY W/ BASEMENT DATED 02/18/201

LDA/RCA

~0.00 AC

~0.13 AC.

~0.15 AC.

~0.22 AC

~0.15 AC.

—ONGOING

SITE DATA

PARCEL: 384 LOT 19

PROPOSED ZONING:

REAR: 40 FEET

ALL EXISTING AND PROPOSED DEVELOPMENT IS WITHIN LDA AREA

87.289 S.F.

5.864 S.F.

9,513 S.F.

6.611 .SF

CONTRACTOR IS ADVISED TO CHECK QUANTITIES

0 S.F.

MATTAPEX-BUTLERTOWN COMPLEX, 2% TO 59

MATTAPEX-BUTLERTOWN COMPLEX, 5% TO 109

SASSAFRAS AND CROOM SOILS, 15% TO 259

DEVELOPED SINGLE FAMILY DWELLING

REDEVELOPED SINGLE FAMILY DWELLING

PROPOSED: 25'-9

STORY W/ BASEMENT

OWNER ADDRESS:

ASSESSMENT DISTRICT

TAX ACCOUNT NUMBER

SETBACK: FRONT 50 FEET

FEMA RATE MAP NUMBER

PREDOMINATE SOIL TYPES

BUILDING HEIGHT

BUILDING STORIES

FEMA RATE MAP ZONE:

CRITICAL AREA MAP:

**FXISTING USF** 

PROPOSED USE

WATERSHED AREA

PROPOSED CLEARING:

**EXISTING IMPERVIOUS AREA** 

PROPOSED IMPERVIOUS AREA:

TOTAL DISTURBED AREA

AREA STRUCT, STABILIZED

325 CY.

PRIOR TO START OF CONSTRUCTION. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE

PERSONNEL HAVE MET ON-SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE

THE PERMITEE OR CONTRACTOR SHALL NOT COMMENCE WITH CLEARING OR ANY EARTH DISTURBANCE

CLEARING AND GRUBBING ACTIVITIES SHALL BE FOR THE INSTALLATION AND STABILIZATION OF THE THE

INSTALL STABILIZED CONSTRUCTION ENTRANCE AND ALL SEDIMENT CONTROLS AS SHOWN ON PLAN. NO

CLEARING OR GRADING IS TO BE DONE EXCEPT WHERE NECESSARY FOR THE INSTALLATION OF SEDIMENT

INSPECTION AND PERMITS MAY REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF

CLEAR. GRUB AND ROUGH GRADE SITE ONLY AS SHOWN WITHIN THE LIMITS OF DISTURBANCE. DEMOLISH

INSTALL SEPTIC SYSTEM, WELL, OR OTHER UTILITIES AT THIS TIME IF THE ACCESS WILL BE BLOCKED BY

CONSTRUCT PROPOSED FOUNDATION AND ASSOCIATED IMPROVEMENTS. CONSTRUCTION OF THE FIRST FLOOR

WALLS OF ANY BUILDING OR STRUCTURE MAY NOT PROCEED UNTIL FOUNDATION HAS BEEN BACKFILLED AND

STABILIZED. A CERTIFICATE IS TO BE PROVIDED BY THE ENGINEER TO THE INSPECTOR VERIFYING THE GRADES

AND DRAINAGE PATTERNS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN

ONCE THE SITE IS STABILIZED. WITH THE GRADING INSPECTORS APPROVAL, FRAMING MAY COMMENCE ABOVE THE GROUND FLOOR, DURING BUILDING CONSTRUCTION BEYOND THE GROUND FLOOR, ALL DISTURBED AREAS MUST BE STABILIZED AT THE END OF EACH BUSINESS DAY. ALL AREAS ARE TO BE VEGETATIVELY STABILIZED PER THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT'S DETAILS AND SPECIFICATIONS FOR VEGETATIVE

ONCE UPSTREAM AREAS ARE 95% STABILIZED, INSTALL SWM. (SEDIMENT IS TO BE PREVENTED FROM ENTERING SWM SYSTEMS DURING CONSTRUCTION) THE ENGINEER MUST CERTIFY SWM INSTALLATION————1 WEEK I. FINE GRADE AND STABILIZE ALL DISTURBED AND AFFECTED AREAS. INSTALL DRIVEWAY TO FINAL SURFACE AND

STABILIZE ACCESS WITH CR-6 GRAVEL OR PAVEMENT FROM ACCESS ROAD OR RIGHT-OF-WAY TO THE SURFACE

ALL DISTURRED AREAS WITHIN THE LIMITS OF DISTURBANCE HAVE BEEN PERMANENTLY OR TEMPORARY

BUILDING CONSTRUCTION, ANY SEDIMENT CONTROLS DAMAGED MUST BE REPLACED BY THE END OF TH

CONTACT THE SEDIMENT CONTROL INSPECTOR FOR APPROVAL OF SEDIMENT CONTROL INSTALLATION.

SEDIMENT CONTROLS ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION

EXISTING HOUSE ON-SITE AND HAUL ALL DEBRIS TO AN APPROVED SITE.

WITH GRADING INSPECTOR'S APPROVAL, REMOVE REMAINING CONTROLS—

MAINTENANCE—

ACTIVITIES ON THE SITE DURING OR BEFORE PREDICTED WET WEATHER EVENTS. ONCE SITE WORK BEGINS,

BORROW

PERIMETER EROSION CONTROL MEASURES ONLY—

TOTAL SITE AREA:

GRID: 3

RLD/OS

TAX MAP: 46

**FXISTING ZONING:** 

343 KINGSBERRY DRIVE ANNAPOLIS, MD 21409

1931 PENDENNIS DE

ANNAPOLIS, MD 21409

#### CONSTRUCTION NOTES

NO SEDIMENT AND EROSION CONTROL DEVICES MAY BE REMOVED WITHOUT PRIOR APPROVAL FROM THE ANNE ARUNDEL COUNTY INSPECTOR ALL SOIL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

THE CONTRACTOR SHALL CALL "MISS LITHITY" 1-800-257-7777 A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION. BORING. AND/OR DIGGING TO DETERMINE THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS. (410) 222-7780, TWO (2) DAYS PRIOR TO BEGINNING ANY CONSTRUCTION.

STABILIZE ANY DISTURBED AREA AS SOON AS POSSIBLE BY PERMANENT OR TEMPORARY MEANS. ALL TEMPORARY STOCK PILES AND EXCESS MATERIAL SHALL BE REMOVED TO AN APPROVED SPOIL SITE. AL BORROW MATERIAL SHALL BE OBTAINED FROM AN APPROVED SITE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION TO THESE PLANS PRIOR TO ANY CHANGE BEING MADE. ANY CHANGE IN THESE PLANS WITHOUT THE WRITTEN AUTHORIZATION FOR SAID CHANGE FROM THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE

LITH ITIES SHOWN ON THESE PLANS ARE IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE FOR THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING SERVICE: AND MAINS (PUBLIC OR PRIVATE). THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A PRIVATE UTILITY LOCATOR TO LOCATE ALL EXISTING PRIVATE SERVICES AND MAINS. THE OWNERS AND ENGINEER ASSUME NO RESPONSIBILITY FOR ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. EXISTING MAINS AND SERVICES SHALL B CAREFULLY PROTECTED AND ANY DAMAGE TO THEM CAUSED BY THE WORK SHALL BE IMMEDIATELY REPAIRED TO

THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, USING MATERIALS OF 9. THE CONTRACTOR SHALL GRADE ALL AREAS WITHIN THE AREA OF CONSTRUCTION AND SHALL WARP PAVING AS NECESSARY TO INSURE POSITIVE DRAINAGE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF HIS CONSTRUCTION WITH TH CONSTRUCTION BY OTHER CONTRACTORS AND SUBCONTRACTORS.". 11. FAILURE TO SPECIFICALLY MENTION ITEMS WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE WORK AND DEVELOP THIS SITE IN ACCORDANCE WITH THE APPROVED PLANS, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH WORK. THIS WORK SHALL BE PART OF THE CONTRACTORS BASE BID.

12. CONSTRUCTION ON THIS PROJECT SHALL BE UNDERTAKEN IN ACCORDANCE WITH ALL SAFETY REGULATIONS PERTINENT TO THIS PROJECT (LATEST EDITION) JOB SITE SAFETY AND CONSTRUCTION MEANS AND METHODS SHALL BE THE CONTRACTORS' RESPONSIBILITY. MESSICK AND ASSOCIATES ASSUMES NO RESPONSIBILITY FOR THE SAFETY OF THE WORKERS ON SITE OR THE MEANS AND METHODS IMPLEMENTED FOR THE WORKERS AND PUBLIC'S

13. COORDINATES SHOWN ON THESE DRAWINGS ARE BASED ON THE MARYLAND PLANE COORDINATE SYSTEM 1983 DATUM PROJECTED BY THE PLANNING AND ZONING COMMISSION OF ANNE ARUNDEL COUNTY, MARYLAND. ELEVATIONS SHOWN ON THESE DRAWINGS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 PROJECTED BY THE PLANNING AND ZONING COMMISSION OF ANNE ARLINDEL COLINTY MARYLAND.

WATER SERVICE - BROADNECK / NO FUTURE SERVICE / MAP W-7 / PRIVATE WELL

15 TOPOGRAPHY & ROUNDARY FIFLD RUN IN JUNE OF 2022 AND PERFORMED BY MESSICK & ASSOCIATES

SEWER SERVICE - BROADNECK / FUTURE SERVICE / MAP S-7 / PRIVATE SEPTIC

## **INDEX OF SHEETS**

NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING SITE CONDITIONS & RESOURCE MAPPI
3	EXISTING & PROPOSED DRAINAGE AREA MAPS
4	DEMOLITION PLAN
5	GRADING, EROSION & SEDIMENT CONTROL PLAN

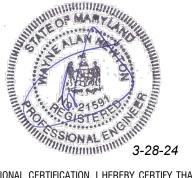
6 | EROSION & SEDIMENT CONTROL DETAIL & NOTES

ANNE ARUNDEL SOIL CONSERVATION DISTRICT SEDIMENT AND EROSION CONTROL APPROVAL AASCD#



MESSICK & ASSOCIATES \* CONSULTING ENGINEERS, PLANNERS AND SURVEYORS

7 OLD SOLOMONS ISLAND ROAD, SUITE 202 ANNAPOLIS, MARYLAND 21401 (410) 266-3212 \* FAX (410) 266-3502 email: engr@messickandassociates.com



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THES DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAW OF THE STATE OF MARYLAND, LICENSE NO. 21591, EXPIRATION DATE: 05/14/25"

## OWNER\DEVELOPER DAVID AND LEANNE KATZ

1931 PENDENNIS DRIVE ANNAPOLIS, MD 21409 (T):C/O 410-266-3212 (E): C/O ENGR@MESSICKANDASSOCIATES.COM

# **COVER SHEET**

## KATZ PROPERTY

ST MARGARET'S FARM SUBDIVISION SINGLE FAMILY DWELLING GRADING PLAN LOT 19, 343 KINGSBERRY DRIVE ANNAPOLIS, MD 21409

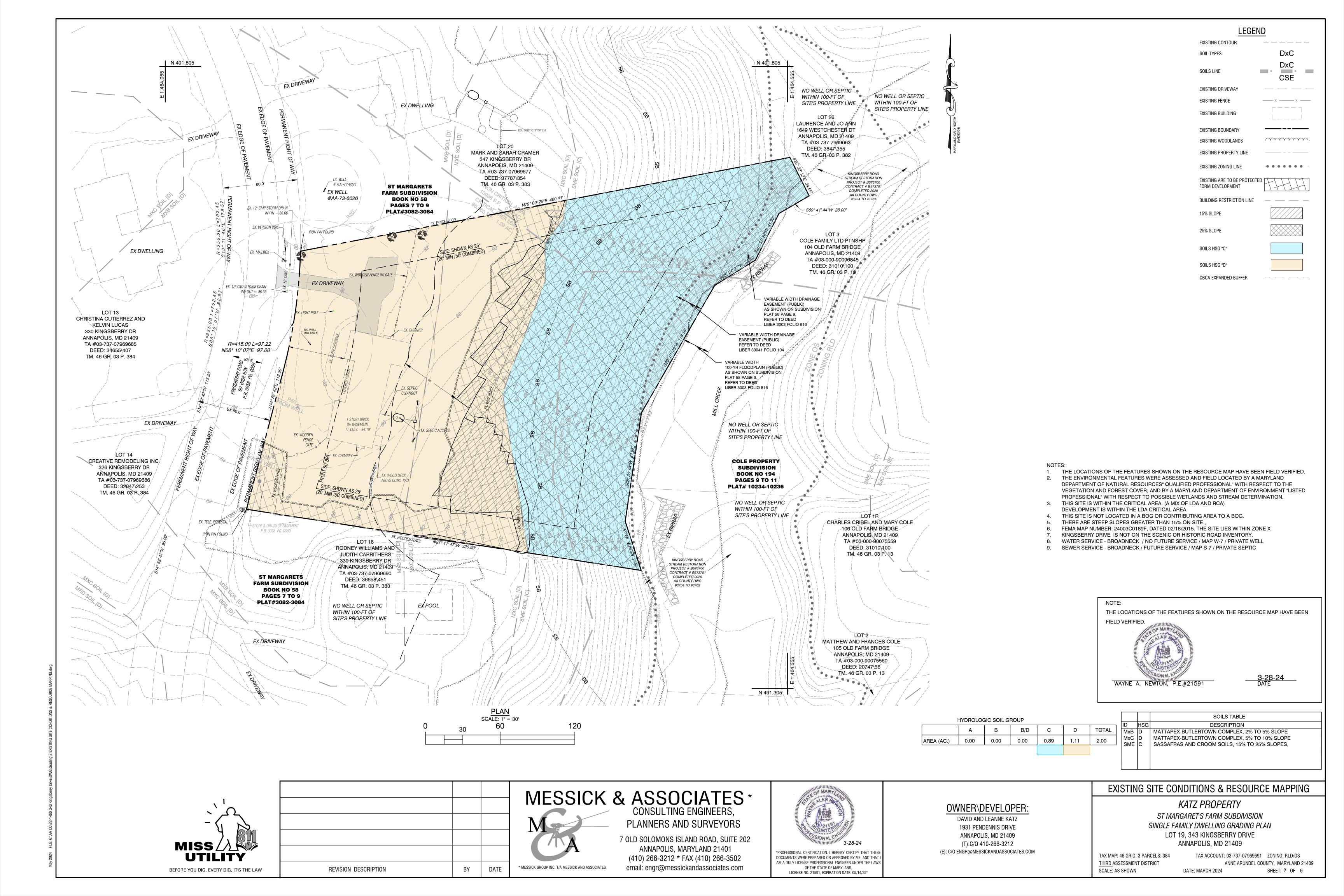
TAX MAP: 46 GRID: 3 PARCELS: 384 THIRD ASSESSMENT DISTRICT SCALE: AS SHOWN

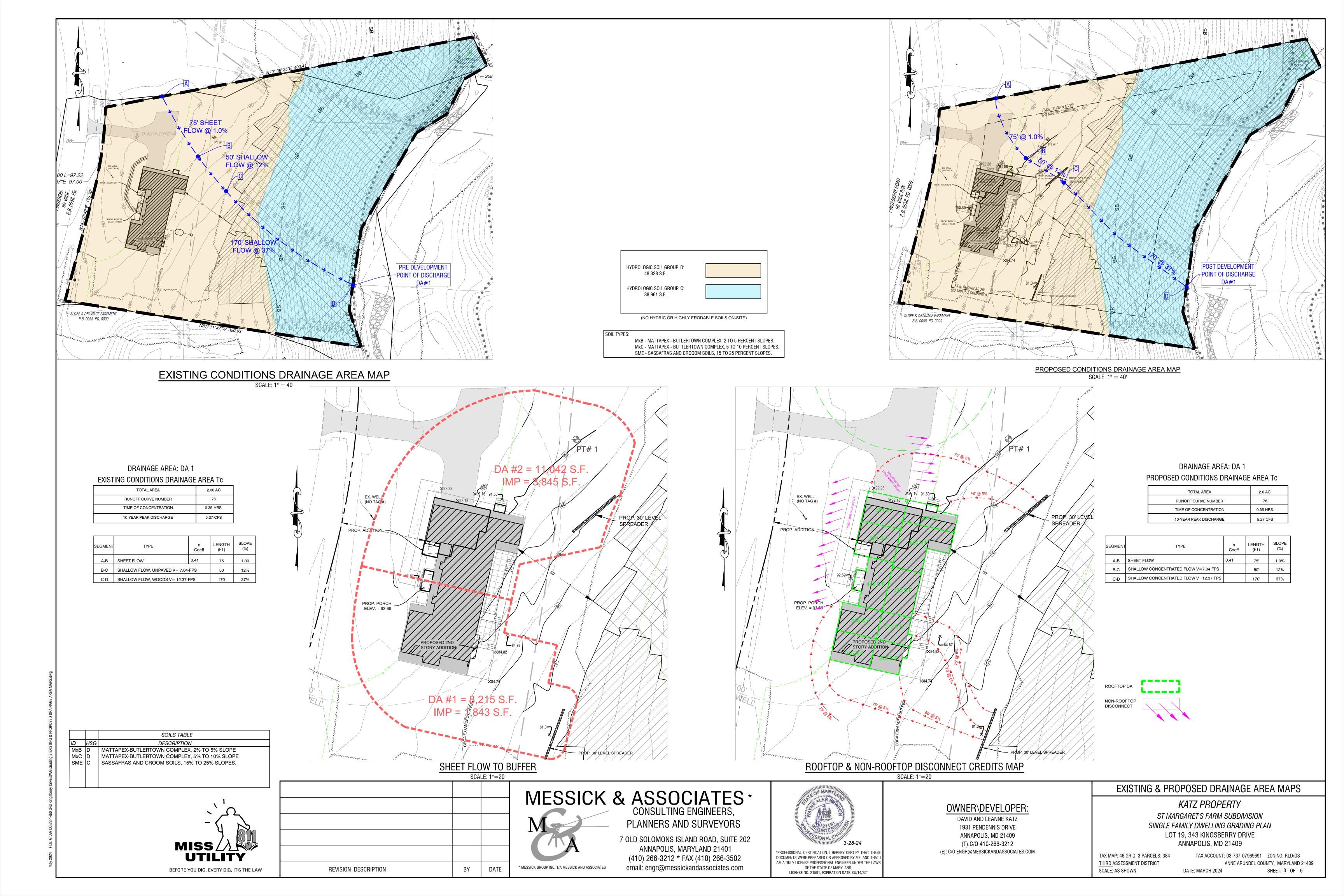
TAX ACCOUNT: 03-737-07969691 ZONING: RLD/OS ANNE ARUNDEL COUNTY, MARYLAND 21409 SHEET: 1 OF 6 DATE: MARCH 2024

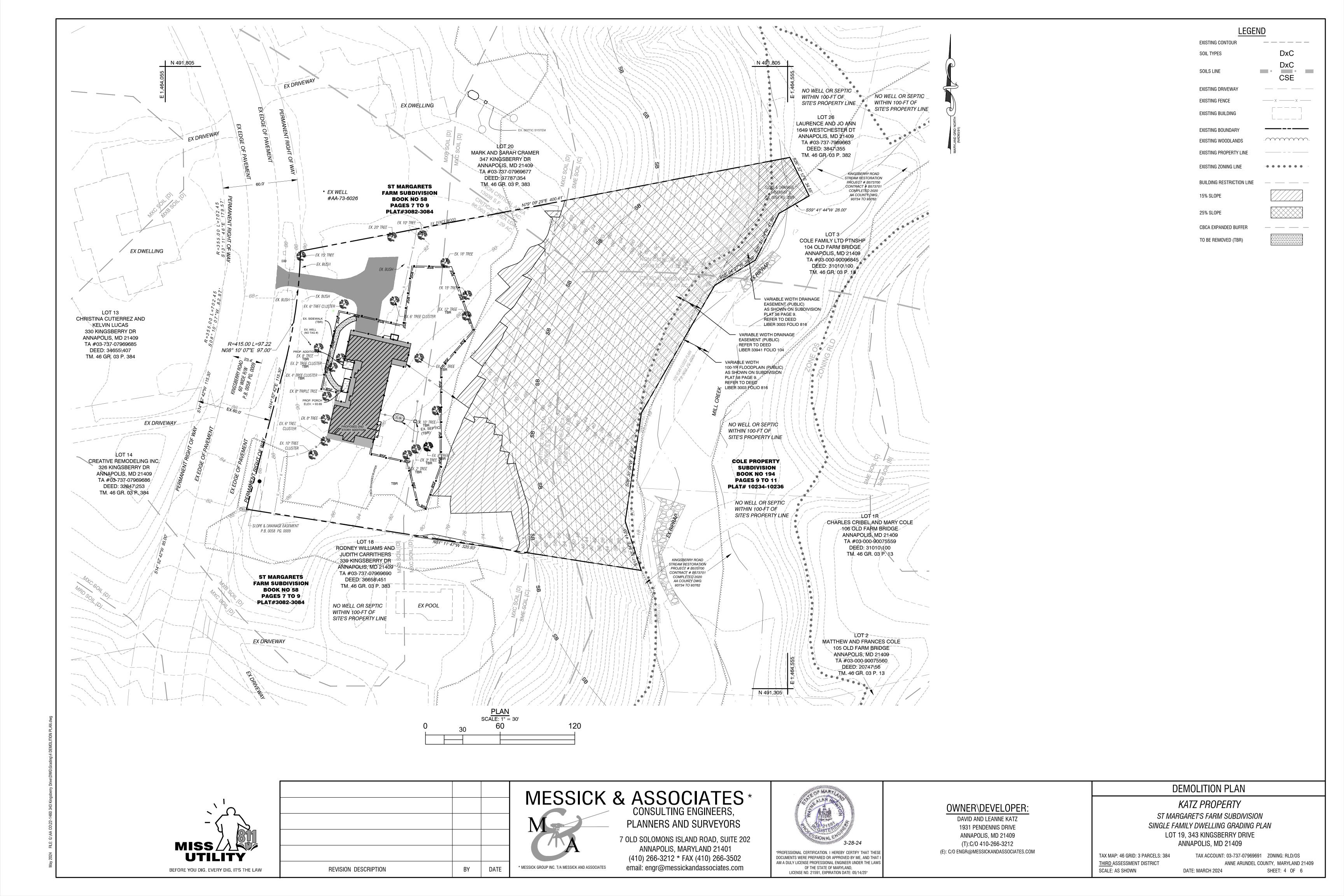
BEFORE YOU DIG. EVERY DIG. IT'S THE LAW

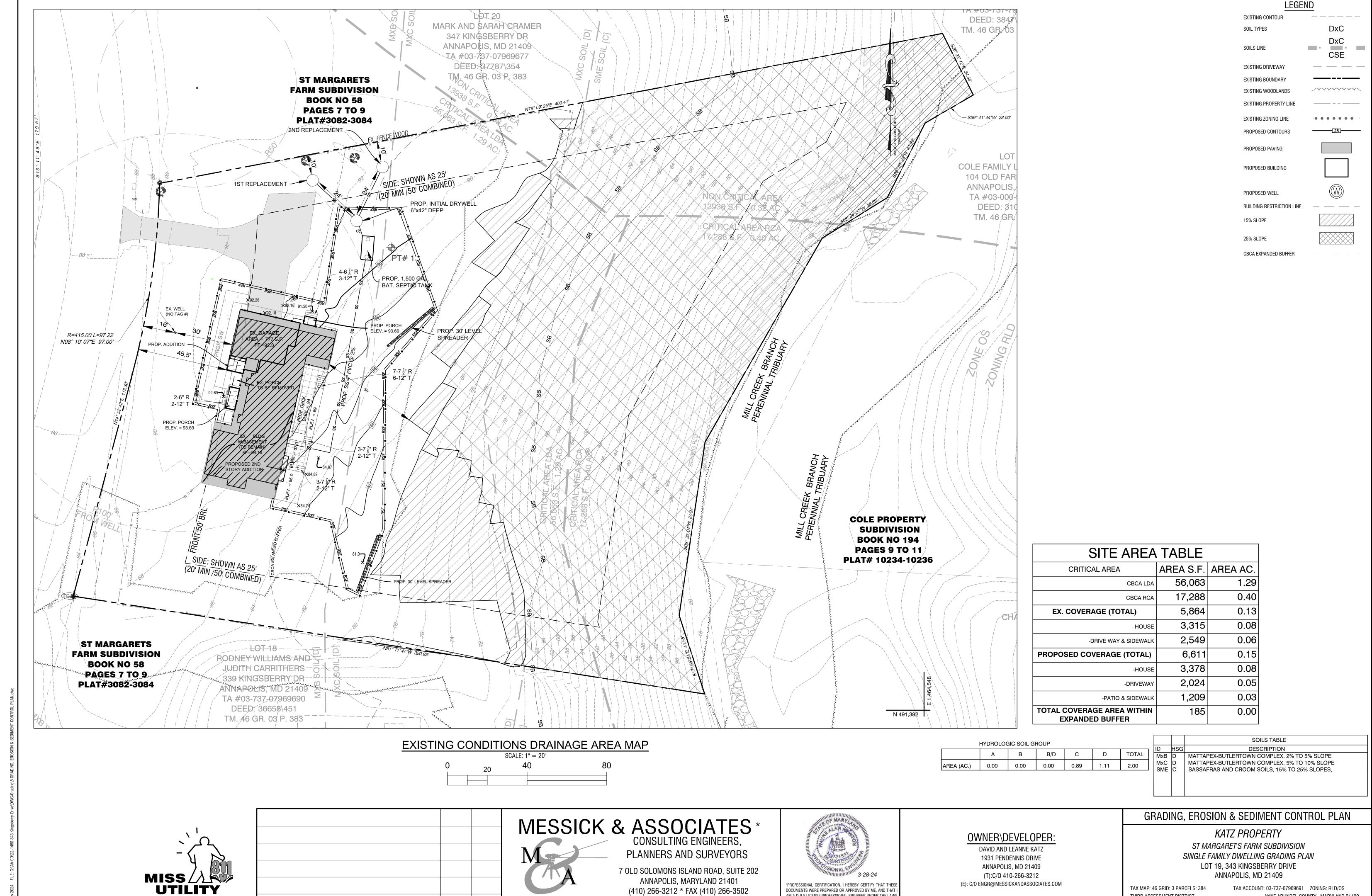
REVISION DESCRIPTION

DATE









email: engr@messickandassociates.com

\* MESSICK GROUP INC. T/A MESSICK AND ASSOCIATES

DATE

REVISION DESCRIPTION

DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS

OF THE STATE OF MARYLAND,

LICENSE NO. 21591, EXPIRATION DATE: 05/14/25"

THIRD ASSESSMENT DISTRICT

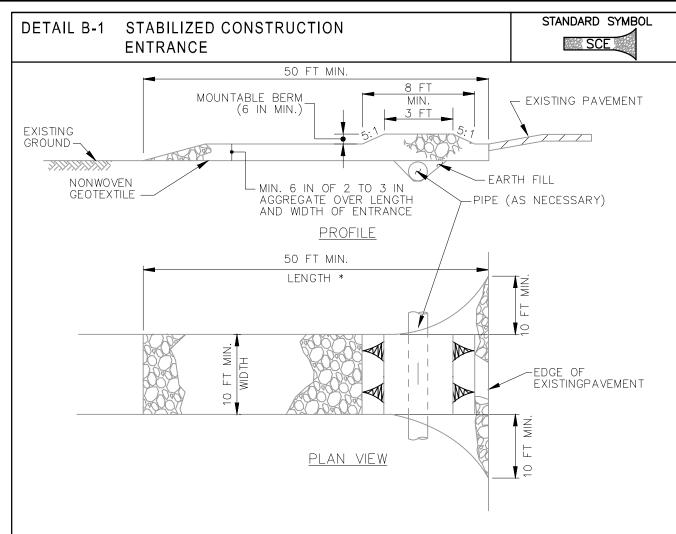
SCALE: AS SHOWN

ANNE ARUNDEL COUNTY, MARYLAND 21409

SHEET: 5 OF 6

DATE: MARCH 2024

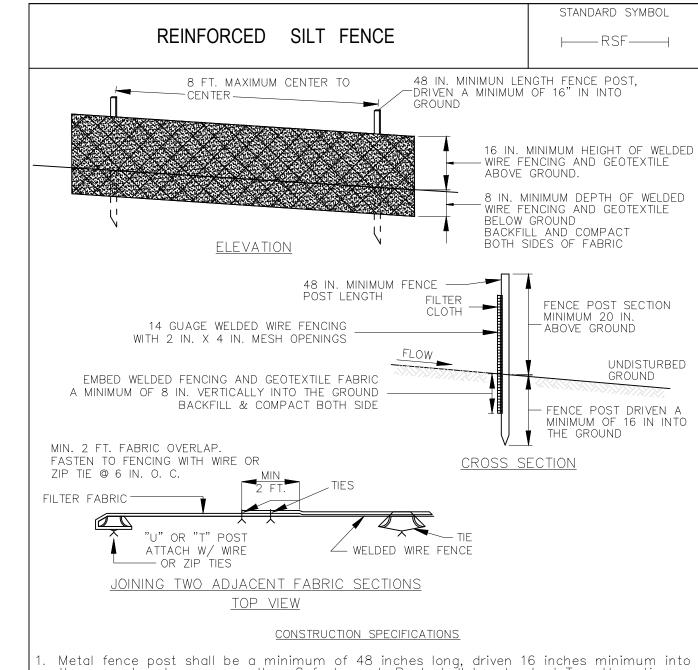
BEFORE YOU DIG. EVERY DIG. IT'S THE LAW



CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



Metal fence post shall be a minimum of 48 inches long, driven 16 inches minimum into the ground and nore more than 8 feet apart. Post shall be standard T or U section weighting not less than 1.00 pound per linear foot. Reinforcement shall be 14 guage welded wire fencing with 2 inch x 4 inch mesh openings.

. Geotextile shall be fastened securely to each fence post with wire ties or zip ties at top and mid section. Where ends of geotextile fabric come together they shall be overlapped. Folded and wire tied or zip tied to post to prevent sediment bypass.

. Use a woven geotextile, as specified in section H—1 materials, and fasten to the upslope side of the fence posts with wire or zip ties at top and midsection. The manufacturer's certification that the fabric meets the requirements in section H-1 must be made available to the inspection/enforcement authority.

. Extend both ends of reinforced silt fence a minimum of five (5) horizontal feet upslope at 45 degrees to the main fence alignment to prevent runoff from going around the

Removeaccumulated sediment and debris when bulges develop in the reiforced silt fence fabric or when sediment reaches 25% of the fence height. Replace geotextile if torn. If underminimg occurs, reinstall fence.

ANNE ARUNDEL SOIL CONSERVATION DISTRIC 2015

## REINFORCED SILT FENCE

Design Criteria Reinforced Silt Fence Design Constraints

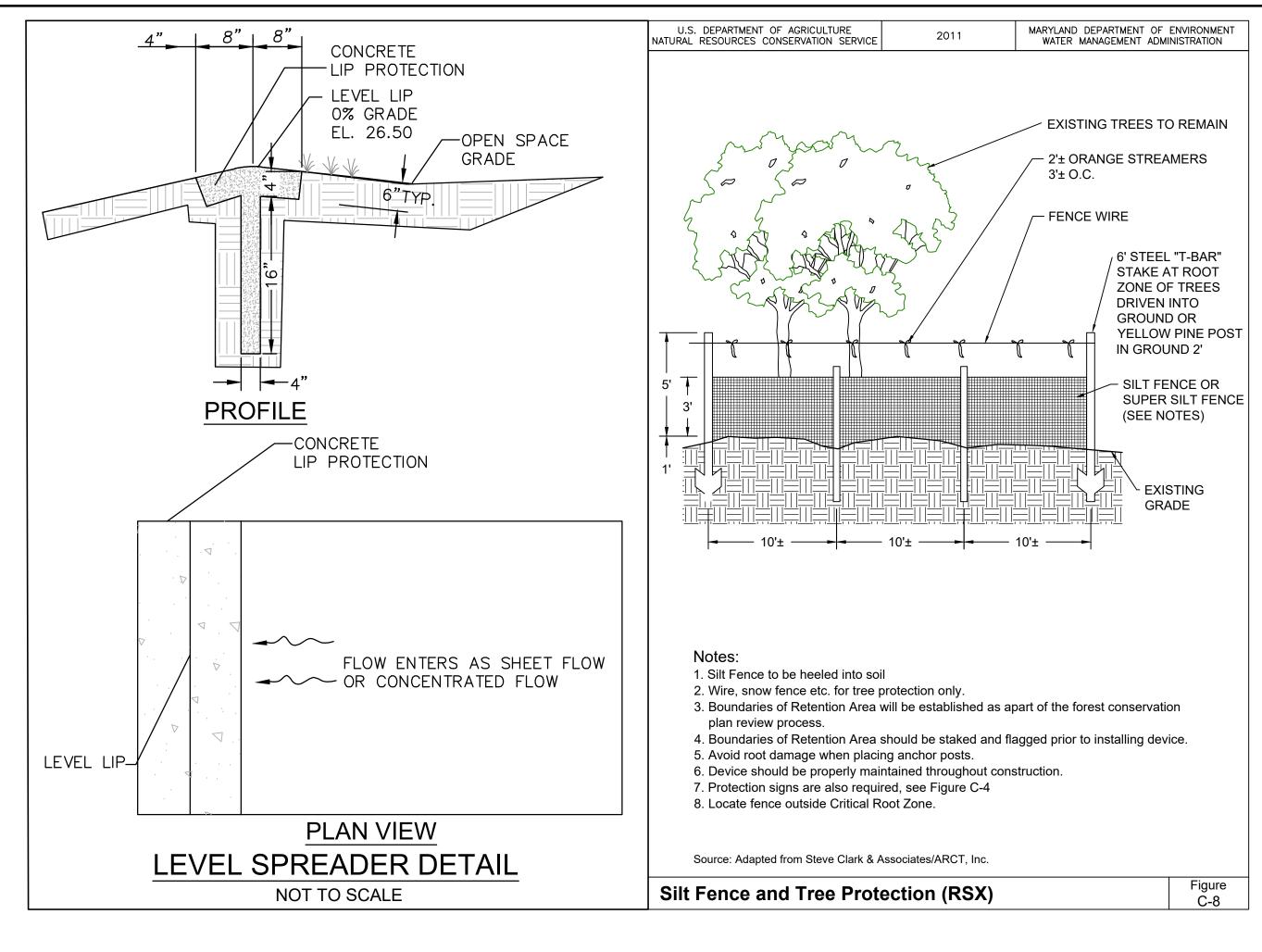
Average Slope Steepness	Maximum Slope Length	Maximum Silt Fence Length
Flatter than 50:1 (<2%)	300 feet*	Unlimited
50:1 to 10:1 (2-10%)	125 feet	1,000 feet
10:1 to 5:1 (10-20%)	100 feet	750 feet
5:1 (>20%)	40 feet	250 feet

1. The use of Reinforced Silt Fence must confrom to the design constraints listed

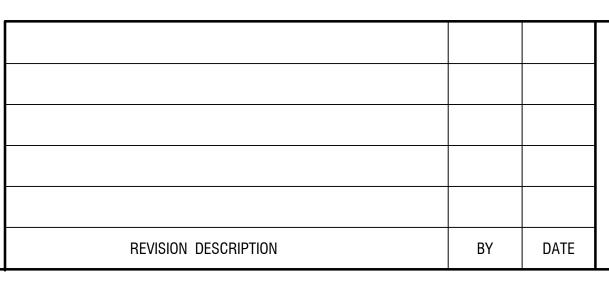
\*Maximum slope length is unlimited on the Hydrolic Soil Group (HSG) "A" Soils

- 2. The area downgrade of the Reinforced Silt Fence must be undisturbed ground.
- 3. Reinforced Silt Fence must be placed along the contour.
- 4. Reinfoced Silt Fence should be used with caution in areas where rocky soils may prevent trenching.
- 5. Extend both ends of Reinforced Silt Fence a minimum of five (5) horizontal feet upslope and 45 degrees to the main fence alignment to prevent runoff from aning around the edges

going around	tire eages.		
Anne Aruno Conservation		2015	



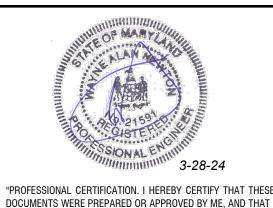






MESSICK & ASSOCIATES \* CONSULTING ENGINEERS, PLANNERS AND SURVEYORS

7 OLD SOLOMONS ISLAND ROAD, SUITE 202 ANNAPOLIS, MARYLAND 21401 (410) 266-3212 \* FAX (410) 266-3502 email: engr@messickandassociates.com



AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS

OF THE STATE OF MARYLAND,

LICENSE NO. 21591, EXPIRATION DATE: 05/14/25"

OWNER\DEVELOPER: DAVID AND LEANNE KATZ 1931 PENDENNIS DRIVE ANNAPOLIS, MD 21409 (T):C/O 410-266-3212 (E): C/O ENGR@MESSICKANDASSOCIATES.COM

## **EROSION & SEDIMENT CONTROL DETAIL & NOTES**

KATZ PROPERTY

ST MARGARET'S FARM SUBDIVISION SINGLE FAMILY DWELLING GRADING PLAN LOT 19, 343 KINGSBERRY DRIVE ANNAPOLIS, MD 21409

TAX MAP: 46 GRID: 3 PARCELS: 384 THIRD ASSESSMENT DISTRICT SCALE: AS SHOWN

TAX ACCOUNT: 03-737-07969691 ZONING: RLD/OS ANNE ARUNDEL COUNTY, MARYLAND 21409 SHEET: 6 OF 6 DATE: MARCH 2024