Planning Commission
MEETING AGENDA

Thursday, July 20, 2023 - 1:00 PM
Council Chambers, Easton Town Office
14 S Harrison Street

1. Call to Order

2. Approval of Minutes.

a. Approval of the Draft Decision Summary from the June 15, 2023 meeting.

b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.

3. Old Business

4. New Business

a.

Applicant:	Saints Peter and Paul Church
File No.:	2023-962
Location:	1212 S. Washington Street - Saints Peter and Paul School Tax Map 108, Grid 000, Parcel 2678F, Lot 4
Zoning District:	R-10A
Nature of Request:	Architectural approval of a proposed storage building.

b.

Applicant:	Robert S. Collison, P.A.
File No.:	2023-963
Location:	9719 Ocean Gateway Tax Map 0025, Grid 0006, Parcel 0113,
Current County Zoning District:	GC
Requested Town Zoning District:	CG
Nature of Request:	**The Petition for the Annexation of property located at 9719 Ocean Gateway has been withdrawn from the July 20, 2023 Planning Commission agenda.**

c.

Applicant:	DMS & Associates, LLC
File No.:	2023-959

Location:	Elliott Road Tax Map 109, Parcel 2849, Lot 4
Zoning District:	CG
Request:	Site Plan and Architectural approval of a proposed climate-controlled self storage facility.

5. Discussion Item

6. Adjournment.

Town of Easton Planning Commission
Draft Decision Summary
Thursday, June 15, 2023 at 1:00 p.m.
Town Hall Chamber 2
14 S. Harrison Street, Easton

Archived video of the meeting is available at:
Town of Easton Agendas and Minutes (eastonmd.gov)

Attendance:

Commission Members:
Jennifer Dindinger, Chairperson
Philip Toussaint, Vice Chairperson
Victoria McAndrews
William Ryall
Paul Weber
Tom Klein, Alternate

Staff:
Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas, Town Planner
Joseph Mayer, Plan Reviewer
Nicholas Johnson, Planner
Sharon VanEmburgh Esq, Town Attorney
Rick VanEmburgh, Town Engineer
Samantha Smith, Administrative Specialist

1. **Call to Order**—Chairperson Dindinger called the meeting to order at 1:00 pm.

2. **Decision Summary Review**—

   a. May 18, 2023- The Commission noted the following corrections to the draft decision summary:

      i. Item 3a.: Rephrasing of motions for clarity and additional detail.
      ii. Item 3a.: Modification to roll call vote.
      iii. Item 4b.: Rephrasing of motion for clarity.
      iv. Item 4c.: Correction to Applicant Request.

Vice Chairperson Toussaint moved to approve the May 18, 2023 Decision Summary with amendments. Commissioner Ryall seconded the motion.

Vote	5-0
FOR:	5- Dindinger, Toussaint, McAndrews, Ryall, Weber
AGAINST:	0
ABSTAIN:	0
ABSENT:	0

3. **Old Business**

a. **Applicant:** **Lane Engineering, LLC**
File No.: **21-561**
Agent: Ryan D. Showalter, Esq.
Location: Oxford Road - Poplar Hill
Tax Map 042, Grid 0004, Parcel 0057
Zoning: R-10A
Request: The applicant is requesting a continuance of the application to address all topics discussed at the May 18, 2023 Planning Commission meeting.

Staff Presentation:
Miguel Salinas, Director of Planning and Zoning
Lynn Thomas, Town Planner
Sharon VanEmburgh, Town Attorney
Rick VanEmburgh, Town Engineer

Applicant Presentation:
Ryan D. Showalter, Esq.

Commissioner Klein moved to continue the Planning Commission's consideration of the request for the granting of Supplemental Growth Allocation to the August 17, 2023 Planning Commission meeting. Chairperson Dindinger seconded the motion.

Vote	5-0-1
FOR:	5- Dindinger, Toussaint, Klein, McAndrews, Weber
AGAINST:	0
RECUSE:	1- Ryall
ABSENT:	0

4. **New Business** — None

5. **Discussion Items**

a. 2022 Annual Report — Mr. Lynn Thomas presented a draft of the 2022 Easton Planning Commission Annual Report. The Commission is required to make a formal approval of the Report to be submitted to the Maryland Department of Planning, with a copy to be filed with the Town Council. The Commission examined a section of the report that involves Adequate Public Facility Ordinance Restrictions (APFO) which evaluates whether adequate capacity is met by new development projects with regards to public facilities such as transportation, water and sewer, and school capacity. The Commission looked at eight (8) Priority Development Areas as mentioned in the Comprehensive Plan, examining

improvements to be made in the development process for estimating the capacity for residential development within the Town boundaries. Commissioner Weber recommended additional language to the increased estimate of residential development capacity that includes: " [the increase is] attributable to our zoning changes, where Middle Housing types are permitted to promote housing affordability and denser development". Commissioner McAndrews advocated for the quantitative number of units estimated in the PUD approved section of Waterside Village to be included in the Table of Priority Development Areas of the Report. The Commission examined Section V of the Annual Report: Measures and Indicators, which includes the quantitative number of Residential Units approved (PFA and Non - PFA) for the 2022 calendar year.

Commissioner McAndrews moved to approve the Annual Report with the recommended amendments. Commissioner Ryall seconded the motion.

Vote	5-0
FOR:	5 - Dindinger, Toussaint, McAndrews, Ryall, Weber
AGAINST:	0
AGAINST:	0
ABSENT:	0

b. Subdivision Regulation Street Standards — The Commission revisited a recent recommendation to the Town Council involving proposed changes to the street standards in the Subdivision Regulations. A proposal was made to increase the residential roadway width from 26' to 36'. Mr. Rick VanEmburgh advocated for keeping the current proposal, and suggested alternative design concepts. The Commission favored the traffic calming effects of narrow streets, and suggested adding language to the current proposal that includes: "[with] appropriate traffic calming modifications as determined by the Town". The Planning and Zoning Department in partnership with the Engineering Department is in the early stages of conceptualizing a Master Transportation Plan using the development and growth scenarios in the Comprehensive Plan. The Town Council will hold a workshop on the proposed Subdivision Regulation update before opening to a public hearing.

c. Zoning Requirements for Adult-Use Cannabis Dispensaries — Ms. Sharon VanEmburgh Esq. summarized the zoning requirements for medical cannabis that were adapted in the 2021 Zoning Ordinance update. At that time, a definition for "Medical Cannabis" was adapted, and a determination was made for their Permitted Uses. A discussion was held to reconsider language for the appropriate use and regulation of Recreational Cannabis facilities in the Ordinance:

   i. Cannabis Dispensary;
   ii. Cannabis Growing Facility;
   iii. Cannabis Processing Facility; and

iv. On-Site Consumption Establishment.

Mr. Miguel Salinas advised the Commission that any established zoning requirements cannot unreasonably burden a cannabis licensee; or impose any licencing restrictions, fees, or other operating requirements that may disproportionately provide a greater burden on the licensee. However, the Town may choose to permit or prohibit On-Site Consumption Establishments.

6. **Adjournment**– Commissioner Ryall moved to adjourn. Commissioner McAndrews seconded the motion. The meeting was adjourned at 2:56 p.m.

Talbot County Planning Commission
Town of Easton Planning Commission
Joint Hearing Draft Decision Summary
Tuesday, April 4, 2023 at 5:30 p.m.
Avalon Theater - 40 E. Dover Street, Easton

Archived video of this meeting is available at the MCTV YouTube channel:
youtube.com/midshorecommunitytelevision

Attendance:

County Commission Members:
Chip Councell, Chairperson
Michael Strannahan, Vice Chairperson
James Corson
William Boicourt
Paul Spies

Town Commission Members:
Jennifer Dindinger, Chairperson
Philip Toussaint, Vice Chairperson
Paul Weber

Absent:
Town Commission Members:
Victoria McAndrews

Recused:
Town Commission Members:
William Ryall

County Staff:
Brennan Tarleton, Planning Officer
Elisa Deflaux, Planner II
Bryce Yelton, Planner II
Andy Meehan, County Attorney
Mike Mertaugh, Assistant County Engineer

Town Staff:
Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas, Town Planner
Joseph Mayer, Plan Reviewer
Nicholas Johnson, Planner
Sharon VanEmburgh, Town Attorney
Rick VanEmburgh, Town Engineer
Samantha Smith, Administrative Specialist

1. **Introductions**— County Chairperson Councell and Town Chairperson Dindinger called the meeting to order at 5:30 p.m.

2. **Hearing Session** —

A joint hearing was called between the Town and County Planning Commission on behalf of 5001 SHR, L.C. to formally request the granting of Supplemental Growth Allocation from Talbot County for the purpose of reclassifying approximately 65.977 acres of land located in the Critical Area, designated as Resource Conservation Area

(RCA) to be reclassified as Intensely Developed Area (IDA). Mr. Ryan D. Showalter, Esq. gave a brief introduction to their presentation of the project, responded to the criteria of the Allocation Standards and Factors under the Critical Area Commission, and the processes involved within the Planned Unit Development Review. Mr. Showalter's responses to the Standards and Factors are below:

a. **Growth Allocation Standards —** The Growth Allocation Standards are defined under State law in Natural Resources Article § 8-1808.1 and under COMAR 27.01.01.06-3 and are implemented in the Town of Easton Code § 28-501.81 and Talbot County Code § 190-15.3.

    i. *A new intensely developed area shall be at least 20 acres:* the applicant is proposing an IDA of 65.977 acres.

    ii. *No more than 50% of the County's growth allocation may be utilized on lands located in the RCA, unless all Critical Area Commission-approved alternate standards are met:* Talbot County currently has approximately 1,872.28 acres of available allocation, and the 65.977 acres of proposed reallocation is below the 50% threshold.

    iii. *Locate a new Intensely Developed Area to an existing Intensely Developed Area:* the proposed IDA is adjacent to existing IDA properties located at Easton Club, Papermill Crossing, Easton Bypass, and Mallard Ridge.

    iv. *Locate a new Intensely Developed Area in a manner that minimizes impacts to habitat protection areas as defined in COMAR 27.01.09, and enhances water quality and impacts to the defined land uses of the RCA:* the applicant has proposed a Buffer Management Plan with an established 100' shoreline buffer, and includes a 200' planting buffer.

    v. *Locate a new Intensely Developed Area in a Resource Conservation Area at least 300' beyond the landward boundary of tidal wetlands or tidal waters:* In addition to the proposed Buffer Management Plan, the applicant has also proposed pollution reduction measures through a Stormwater Management Plan and a Forest Conservation Plan that will enhance the water quality within the 10% pollutant reduction.

b. **Growth Allocation Factors —** the Growth Allocation Factors are organized under consideration by the Critical Area Commission staff for reviewing Growth Allocation requests.

    i. *Consistency with the jurisdiction's adopted Comprehensive Plan:* Staff reports from the respective Town and County Planning and Zoning Departments concluded that the proposed project conforms to the goals and objectives outlined in the adopted Comprehensive Plan.

ii. *For a new Intensely Developed Area, the development will be served by a public wastewater system; have a density of at least 3.5 units per acre; be located in a Priority Funding Area for a new intensely developed area greater than 20 acres:* the property is located within the Town of Easton limits and will be served by Easton Utilities, and is expected to receive service from the Town's wastewater treatment plant. The average density of the proposed property will be 3.80 units per acre. The proposed Intensely Developed Area is located in a Municipal Priority Funding Area, and is 65.977 acres.

iii. *Consistency with State and regional environmental policies and the environmental impacts associated with stormwater and wastewater management:* the proposed Stormwater Management Plan is expected to conform under the 10% pollutant reduction requirement. The proposed property will not cause an increased risk of flooding as it is not located in a coastal hazard area.

iv. *The Intensely Developed Area is not to exceed 5% of the Resource Conservation Area lands:* the proposed allocation of 65.977 acres is less than the 5% of RCA land in the County.

Applicant Presentation:
Ryan D. Showalter, Esq.
Brett Ewing, Lane Engineering
Jarret Byer, Lane Engineering
Kevin Sills, Mid-Atlantic Real Estate Investments, Inc.
Michael Lenhart, Lenhart Traffic Consulting, Inc.

Public Comment:
John Farehall
Tom Ledvina, Papermill Crossing HOA
Phil Livingston
Reggie Taylor
Betty Manche
John Pepe
Bruce Harrington
Jim Wilcox
Karen Starr
Owen Bailey, Eastern Shore Land Conservation
Matt Pluta, Shore Rivers
Tom Alspach, Talbot Preservation Alliance
Marc Ebersberger

3. **Adjournment**– Town Chairperson Dindinger moved to adjourn. The meeting was adjourned at 7:25 p.m.

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

Date of Hearing: July 20, 2023

4a

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**1212 South Washington Street - Saints Peter & Paul School - Storage Building**
ELECTION WARD:	Ward 2
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
APPLICANT:	Brent Dutten % Saints Peter and Paul Church

DOCUMENT CREATED ON: July 10, 2023

PURPOSE: The applicant is seeking site plan and architectural approval from the Planning Commission.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended condition (see below).

APPLICATION INFORMATION:	
APPLICANT: Brent Dutten % Saints Peter and Paul Church	**REPRESENTATIVE:** SSPP: Brent Dutten

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 108, Grid 0000, Parcel 2678F, Lot 4	40.443

ACCEPTANCE DATE: June 7, 2023	**LOCATION:** 1212 South Washington Street
EXISTING ZONING R-10A	**EXISTING LAND USE:** Athletic Field.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Residential

CONTEXT:

Location/Site Access – The subject property is located along South Washington Street, fronting on the West side of the road.

Existing Conditions – The subject property is currently a vacant field.

Surrounding Properties

- 1200 S. Washington Street - R-10A
- 7330 Glen Ridge Road - Talbot County, Maryland
- 7305 Ocean Gateway - Talbot County, Maryland
- 7295 Ocean Gateway - Talbot County, Maryland
- 7285 Ocean Gateway - Talbot County, Maryland
- 7273 Ocean Gateway - Talbot County, Maryland
- 29142 Woodridge Drive - Talbot County, Maryland
- 7215 Ocean Gateway - R-10A
- Holly Road, Parcel 2726 - R-10A
- 29118 Holly Road - R-10A
- 7111 Ocean Gateway - A1
- 7053 Ocean Gateway - A1
- 7018 Ocean Gateway - CG
- Jasper Lane, Parcel 268 - PUD
- 7080 Lauren Lane - R-10A
- 7166 Lauren Lane - R-10A
- 7199 Tristan Lane - R-10A

- Oxford Road, Parcel 57 - R-10A

Figure 1: **Vicinity Map**

PROPOSAL: The applicant is proposing to construct a 2,400 square foot, one-story storage building instead of the proposed Maintenance/Concession Building approved by the Planning Commission on October 15, 2020. Associated parking, stormwater management and landscaping were installed per the approved Site Plans dated July 2, 2021.

BACKGROUND: The applicant has submitted multiple applications to the Planning Commission for various approvals; original Site Plan approval on October 3, 2017, architectural approval on October 19, 2017, Site Plan and architectural revision approval on April 18, 2019, architectural revisions approved on May 21, 2020, architectural revision approval to the concession building on October 15, 2020, and approval of an additional freestanding sign and two oversized signs on the clock tower on August 19, 2021. The applicant has also obtained a Special Exception (#SE-786) from the Board of Zoning Appeals for the use of the school.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 103.7 R-10A

312	Schools, Colleges, & Universities	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE

Analysis –The proposed project is presented and described by the Applicant as a one-story storage building for the school. The project is categorized as a *"Schools, Colleges, & Universities"*. The proposed use is permitted via Special Exception by the Zoning Ordinance.

B. Off-Street Parking

For the purposes of off-street parking calculations, the use is considered "*Warehouse*" and has the following requirements:

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Industrial Buildings				
40	Warehouse	1 per 2,000 sf GFA	1 per 350 sf GFA	--	

Total Site Parking Required:

Warehouse - 2,400 SF: 1 Space/2,000 SF GFA; 2 Spaces Required - Minimum
1 Space/350 SF GFA; 7 Spaces Required - Maximum

Total Site Parking Provided: 5

Analysis- The applicant has provided four (5) off-street parking spaces. The owner does not foresee a demand for more parking spaces in the future, due to the nature of their use for the storage building.

C. Development Standards

Table 1. Development Standards		
R-10A Zoning District	**Standard**	**Proposed**
Setbacks	Front = 15 feet Side = 8 feet Rear = 30 feet	Front = 15 feet Side = 8 feet Rear = 30 feet
Lot Size (min.)	10,000 square feet	1,761,697 square feet
Lot Frontage (min.)	35 feet	1,900 feet
Building Envelope (min.)	55 feet x 30 feet	850 feet X 1,900 feet
Lot Coverage (max.)	100% (Building Envelope)	3.5% (Building Envelope)
Height (max.)	35 feet	22.5 feet
Bufferyard	Per the provisions of Section 28-1014 of the Zoning Ordinance.	Provided per the approved 7/2/2021 Site Plan.

§ 303.2 of the Zoning Ordinance states that development within the Industrial District shall also meet these additional requirements:

- ***Off-Street Parking shall be provided for all uses in accordance with the standards of Section 28 – 1001.***

Analysis - The site falls under the R-10A Residential District Area and meets the 28-303 Development Standards. Any comments or concerns will be addressed during the Grading Permit Site Plan review.

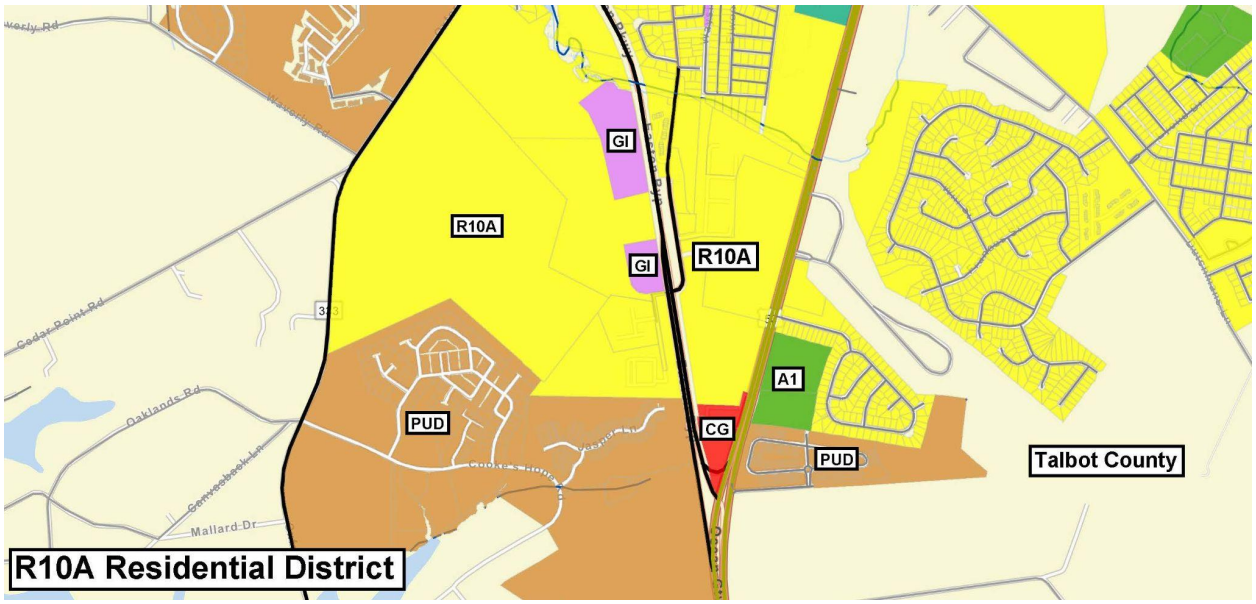
C. Forest Conservation

The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1 *Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.*

Analysis - The site is located within the Saints Peter and Paul School complex. The Revised Forest Stand Delineation & Forest Conservation Plan was approved on February 24, 2020.

POLICY ANALYSIS:

Figure 2: Zoning Map



The submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:

1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.

Analysis -

Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable- Applicant's response: *This development proposal builds on previous concepts to establish a mixed use church, school, community center and recreational facilities on one master-planned campus.*

Staff notes that the proposed development fits within the master-planned campus.

(Principle #2) Natural features should determine design – *Applicant's response: No compelling natural features constrain development of this site; site layout oriented to take advantage of natural drainage patterns and to orient the school and in an appropriate context to the church.*

Staff notes that there are no compelling natural features on site. Forest Conservation was approved on February 24, 2020.

(Principle #3) Automobiles should not determine design – *Applicant's response: Parking located internally and accessible to uses requiring it, but does not dominate the site layout or views from public ways.*

Staff notes that the applicant has provided adequate off-street parking.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: Usable recreation space is an integrated component of this project; other green space and campus wide open space integrated throughout..*

Staff notes that open space has been provided.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: The high school architecture proposes a contemporized take on agricultural and institutional rural architectural character used in many communities to integrate rural character within a more suburban development pattern.*

Staff notes that the proposed storage building is architecturally compatible with adjacent buildings.

(Principle #6) Signs should inform but not dominate – *Applicant's response: Signage will be simple and per the code and will be proposed in conjunction with sketch plan application.*

Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. Signs should inform but not dominate the area.

(Principle #7) Neighbors should contain a diversity of housing types – *Applicant's response: Not applicable.*

(Principle #8) Residential neighborhoods should be interesting places – *Applicant's response: Not applicable.*

(Principle #9) Neighborhoods should connect – *Applicant's response: Not applicable.*

2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.

Analysis - The proposed site is not within the Historic District or the Critical Area. This project would provide one storage building with improved existing amenities; adequate parking, stormwater management facilities and landscaping.

3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.

Analysis - The proposed use and activity will not increase traffic hazards in the surrounding area. Adequate off-street parking is provided.

4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and

Analysis - There would be no adverse impacts. The existing site is located within the school campus. Proposed use would provide a storage building with adequate parking, landscaping features and stormwater management facilities.

5. ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

Analysis - The proposed building would meet required design practices for stormwater management. This building is 53% smaller than the originally proposed footprint.

RECOMMENDED CONDITION:

Staff recommends the Planning Commission approve the sketch site plan with the following condition:

- The Applicant is required to obtain a Grading Permit and all applicable Building Permits.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Condition of Approval.

OR

2. I move that the Planning Commission table the application to the June 15th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2023-06-08 St. Peter & Paul School - Architectural Renderings, paper copy & PDF
2. 2023-06-08 St. Peter & Paul School - Floor Plans & Elevations, paper copy & PDF
3. 2023-06-08 St. Peter & Paul School - PC Application, paper copy & PDF
4. 2023-06-08 St. Peter & Paul School - Site Plan, paper copy & PDF

Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

RECEIVED
JUN 0 7 2023
TOWN OF EASTON

Planning Commission Concept, Use, and Design Application

Site Information

Structure's Floor Area	2400 sqFT	Structure's Square Feet	2400
Area of Disturbance	75'x55'	Number of Dwelling Units	
Property Size	Acres 40.44	Square Feet	
Address	1212 S WASHINGTON ST EASTON MD 21601		
Tax Map	108	Grid 0000	Parcel 267BF	Lot 41
Zoning District	R10A	Historic District Y ☐ N ☒	PRD Y ☐ N ☒
Other Information			
Existing Use	ATHLETIC FIELD		

Owner

Name	SS PETER & PAUL CHURCH		
Mailing Address	900 HIGH ST. EASTON. MD. 21601		
Telephone No.	410829 7054	Email	BOUTTEN@SSPPEASTON.ORG

Applicant / Agent

Name	BRENT OUTTEN		
Mailing Address	900 HIGH ST EASTON MD. 21601		
Telephone No.	410 829 7054	Email	BOUTTEN@SSPPEASTON.ORG

General Information:

REQUEST for ARCHITECTUAL APPROVAL
for 40 x 60 STORAGE bldg.

Any modifications during review shall warrant an updated application.
I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.

Signature of Applicant or Agent: WM Brent Outten
Date: 6/6/22
Printed Name of Applicant or Agent: WM BRENT OUTTEN

For Office Use Only

Planned Commission Meeting Date	07/20/2023
Review Fee Amount	$250.00
Review Fee Paid Date	06/07/2023
ESDR Y / N Date	

NAV: 2023-962

Revised 02-2019

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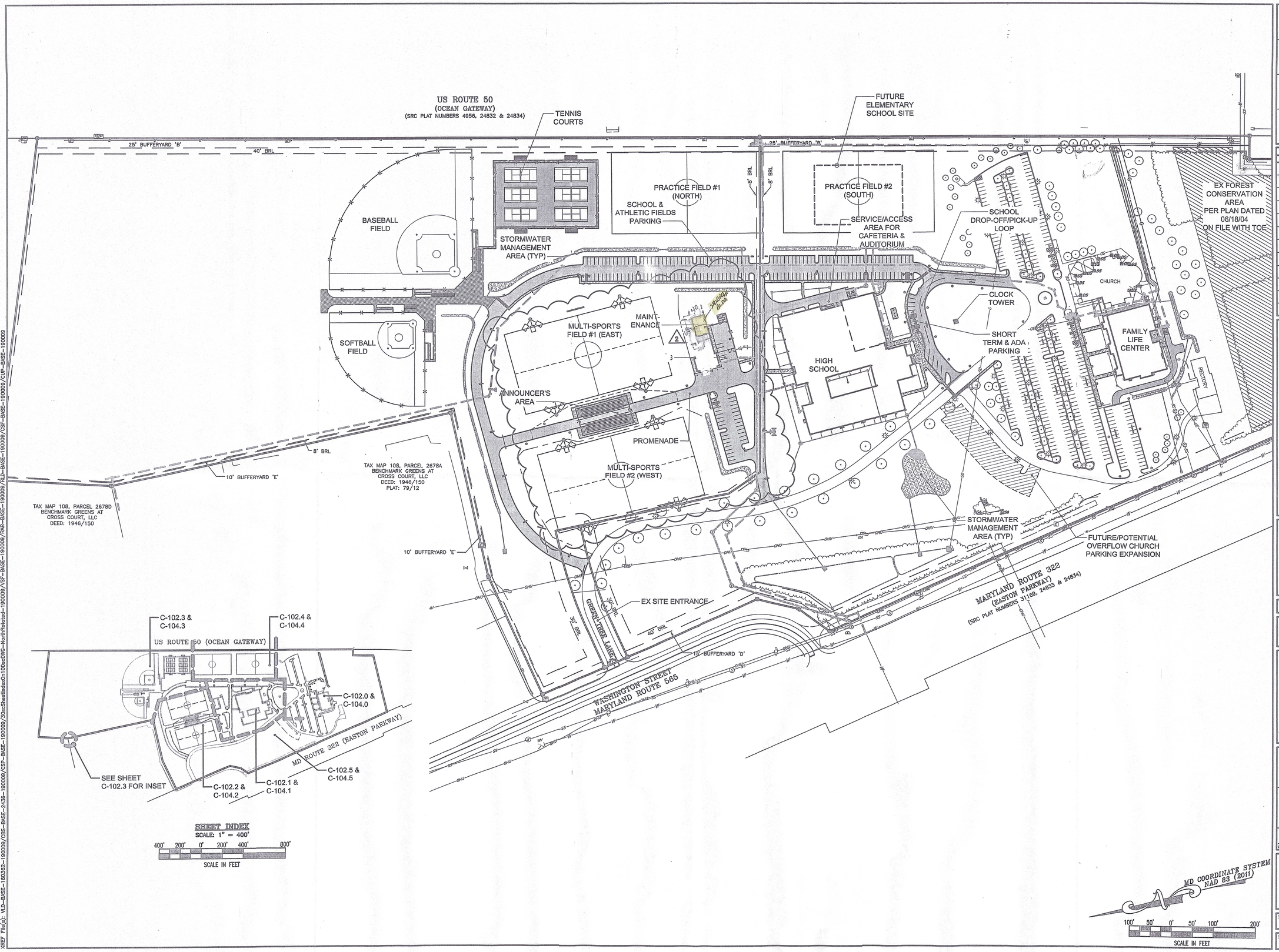


APPROVED:
DocuSigned by: Lynn D. Thomas 7/1/2021
TOWN OF EASTON – PLANNING & ZONING DATE

APPROVED:
DocuSigned by: Rick Van Emburgh 7/1/2021
TOWN OF EASTON – TOWN ENGINEER DATE

APPROVED:
DocuSigned by: Paul Moffatt 7/2/2021
EASTON UTILITIES – MANAGER OF ENGINEERING DATE

REVISIONS TO APPROVED PLANS ONLY

No.	DATE	DESCRIPTION	BY
1	02/21/20	LOD EXPANSION & TEMP SWALE FROM SWM #4 TO EX SWM	JMC
2	08/12/20	SHIFT IN CONCESSIONS, MAINTENANCE & MULTI-SPORTS FIELDS	JMC

THESE PLANS WERE ORIGINALLY PREPARED OR APPROVED BY WAQAR A. CHEEMA, P.E., LICENSE NO. 48165. I HEREBY CERTIFY THAT MODIFICATIONS TO THESE DOCUMENTS TO REFLECT THE CHANGES AS DESCRIBED IN DETAIL AS REVISION #2 ON SHEET C-101 WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23152, EXPIRATION DATE: 07/05/2021.

STATE OF MARYLAND WAQAR A. CHEEMA 23152 PROFESSIONAL ENGINEER
5.12.21

WARNING!!
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE QUANTITIES SHOWN ON THIS PLAN ARE FOR INFORMATIONAL AND PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS OWN SATISFACTION PRIOR TO BEGINNING CONSTRUCTION.
THE CONTRACTOR SHALL TEST PIT AND LOCATE EXISTING UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK ON-SITE. THE CONTRACTOR SHALL NOTIFY DEPT. OF PUBLIC WORKS OF ANY POSSIBLE CONFLICT AND REQUEST THE RELOCATION OF THE EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING ANY WORK ON-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RELOCATION EXPENSE.

MISS UTILITY
BEFORE YOU DIG CALL 1-800-441-8355 OR 811 PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE

Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@lanei.com
117 Bay St. Easton, MD 21601 (410) 822-8003
15 Washington St. Cambridge, MD 21613 (410) 221-0818
354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095

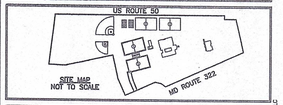
PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48165, Expiration Date: 12/28/2019.

SEAL
STATE OF MARYLAND WAQAR A. CHEEMA 48165 PROFESSIONAL ENGINEER
11/25/2019
DATE

OVERALL CONTEXT SITE PLAN & SHEET INDEX

SAINTS PETER & PAUL PARISH & SCHOOL

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 108 GRIDS 8&13 TAX PARCELS 2678 F&H



SHEET No. C-101	
SCALE: AS NOTED	JOB No. 190009
	FILE No. 5006

G:\LANE CONSULTING, LLC

Date: 05/12/2021 – 12:41pm User: jcarroll Project Manager: BFG
Drawing Path: J:\2019\0000\190009\Civil3D-190009\Dwg\Plots\CSP-PLT3-190009.dwg | C-101
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NEW BUILDING FOR

SAINTS PETER AND PAUL SCHOOL

1212 S. WASHINGTON STREET
EASTON, MARYLAND

W. F. HORN ARCHITECT, INC.
LEWES, DELAWARE

CODE INFORMATION

CODE INFORMATION

BUILDING AREA –2,400 SQUARE FEET

I. INTERNATIONAL BUILDING CODE – 2018
- A. OCCUPANCY CLASSIFICATION –
  MODERATE HAZARD STORAGE GROUP S–1
- B. INCIDENTAL USE AREAS
  1. BOILER AND FURNACE ROOMS – NOT APPLICABLE
  2. STORAGE ROOMS OVER 100 SQ. FT. – NOT APPLICABLE
- C. GENERAL BUILDING HEIGHTS AND AREAS
  1. HEIGHT –
     GROUP S–1 – 1 STORY, 40' PERMITTED
     HEIGHT MODIFICATIONS NOT REQUIRED
  2. AREA –
     GROUP S–1 – 9,000 SQUARE FEET PERMITTED
     AREA MODIFICATIONS NOT REQUIRED
- D. TYPE OF CONSTRUCTION – CONSTRUCTION TYPE VB
  1. STRUCTURAL FRAME – 0 HOUR
  2. BEARING WALLS, EXTERIOR – 0 HOUR
  3. BEARING WALLS, INTERIOR – 0 HOUR
  4. NONBEARING WALLS, EXTERIOR – 0 HOUR
  5. NONBEARING WALLS, INTERIOR – 0 HOUR
  6. FLOOR CONSTRUCTION – 0 HOUR
  7. ROOF CONSTRUCTION – 0 HOUR
  8. FIRE SEPARATION DISTANCE,
     GREATER THAN 30 FT. – 0 HOUR
  9. UNPROTECTED WALL OPENING,
     GREATER THAN 30 FT. – UNLIMITED AREA
- E. INTERIOR FINISHES –
  1. WALLS AND CEILINGS –
     EXIT ACCESS CORRIDORS – CLASS C
     ROOMS AND ENCLOSED SPACES – CLASS C
  2. FLOOR FINISH – CLASS II
  3. DECORATIONS AND TRIM – FLAME RESISTANT
- F. MEANS OF EGRESS
  1. OCCUPANT LOAD –
     WAREHOUSE –
     500 SQUARE FEET PER OCCUPANT = 5 PEOPLE
  2. EGRESS WIDTH –
     STAIRWAYS – .3" PER OCCUPANT
     OTHER EGRESS COMPONENTS – .2" PER OCCUPANT
  3. ACCESSIBLE MEANS OF EGRESS –
     TWO REQUIRED
     TWO PROVIDED
  4. SPACES WITH ONE MEANS OF EGRESS –
     MAXIMUM OCCUPANT LOAD – 50
     MAXIMUM TRAVEL DISTANT – 75'
  5. LENGTH OF EXIT ACCESS TRAVEL –
     200 FEET MAXIMUM ALLOWED
     50 FEET MAXIMUM PROVIDED
  6. SIZE OF DOORS – 32 " MINIMUM
     EGRESS WIDTH PER OCCUPANT = .2"/PERSON, 34 X .2" =
     170 PEOPLE PER DOOR
  7. PANIC HARDWARE – NOT REQUIRED
  8. LIGHTED EXIT SIGNS REQUIRED

II. NFPA 101 – 2018
- A. CLASSIFICATION OF OCCUPANCY –
  STORAGE
- B. CLASSIFICATION OF HAZARD OF CONTENTS – ORDINARY HAZARD
- C. MINIMUM CONSTRUCTION REQUIREMENTS – NO REQUIREMENT
- D. OCCUPANT LOAD – 5 PEOPLE
- E. MEANS OF EGRESS –
  1. ALL EXITS LOCATED AT LEVEL OF EXIT DISCHARGE
  2. TWO EXITS REQUIRED
  2. DOORS
     a. 32" MINIMUM CLEAR WIDTH
     b. MAXIMUM FLOOR VARIATION BOTH SIDES OF DOOR – 1/2"
     c. SWING IN DIRECTION OF EGRESS TRAVEL
  3. PANIC HARDWARE AT EXIT DOORS FROM BUILDING NOT REQUIRED
  4. TRAVEL DISTANCE TO EXITS – 150 FEET MAXIMUM
  5. EMERGENCY LIGHTS AND LIGHTED EXIT SIGNS REQUIRED
- F. PROTECTION –
  1. INTERIOR WALL AND CEILING CLASS A, CLASS B OR CLASS C
  2. SMOKE DETECTORS AND FIRE ALARM SYSTEM REQUIRED

III MARYLAND ACCESSIBILITY CODE

IV INTERNATIONAL STANDARD PLUMBING CODE – 2018

V NATIONAL ELECTRICAL CODE NFPA 70 – 2018

VI INTERNATIONAL ENERGY CONSERVATION CODE – 2018

VII. ADA STANDARDS FOR ACCESSIBLE DESIGNS – 2010
- A. ACCESSIBLE SITES –
  1. AT LEAST ONE ACCESSIBLE ROUTE PROVIDED
  2. ACCESSIBLE PARKING SPACES – TO BE PROVIDED
- B. ACCESSIBLE BUILDING –
  1. ONE ACCESSIBLE ROUTE TO ACCESSIBLE SPACES PROVIDED
  2. FLOOR SURFACES TO BE SLIP RESISTANT
     a. CARPET IF PROVIDED – LEVEL LOOP, GLUED INSTALLATION
  3. STAIRS – NOT APPLICABLE
  4. DOORS –
     a. CLEAR WIDTH – 32" MINIMUM PROVIDED
     b. MANEUVERING CLEARANCES – PROVIDED
     c. THRESHOLDS – 1\2" MAXIMUM HEIGHT PROVIDED
     d. HARDWARE – LEVER TYPE HARDWARE TO BE PROVIDED
     e. 50% OF ENTRANCES MUST BE ACCESSIBLE – 100% PROVIDED
  5. DRINKING FOUNTAINS – NOT REQUIRED
  6. TOILET FACILITIES – NOT REQUIRED

INDEX OF DRAWINGS

T1.1 TITLE SHEET, INDEX AND CODE INFORMATION

A1.1 FLOOR PLAN AND NOTES

A2.1 ELEVATIONS
A2.2 ELEVATIONS

A3.1 WALL SECTIONS

STATE OF MARYLAND
WILLIAM FREDERICK HORN
12319
ARCHITECT

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 12319, EXPIRATION DATE 1/6/2024.

THE PROFESSIONAL SERVICES OF THE ARCHITECT ARE UNDERTAKEN FOR AND ARE PERFORMED IN THE INTEREST OF DIAMOND STATE POLE BUILDINGS. NO CONTRACTUAL OBLIGATION IS ASSUMED BY THE ARCHITECT FOR THE BENEFIT OF ANY OTHER PERSON INVOLVED IN THE PROJECT.

DIAMOND STATE POLE BUILDINGS
7288 S. DUPONT HWY.
FELTON, DELAWARE

W.F.HORN ARCHITECT, INC.
30093 W. BARRIER REEF BLVD., LEWES, DELAWARE
PHONE 302.674.1620-DOVER 302.231-2176-LEWES

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TITLE SHEET, INDEX AND CODE INFORMATION

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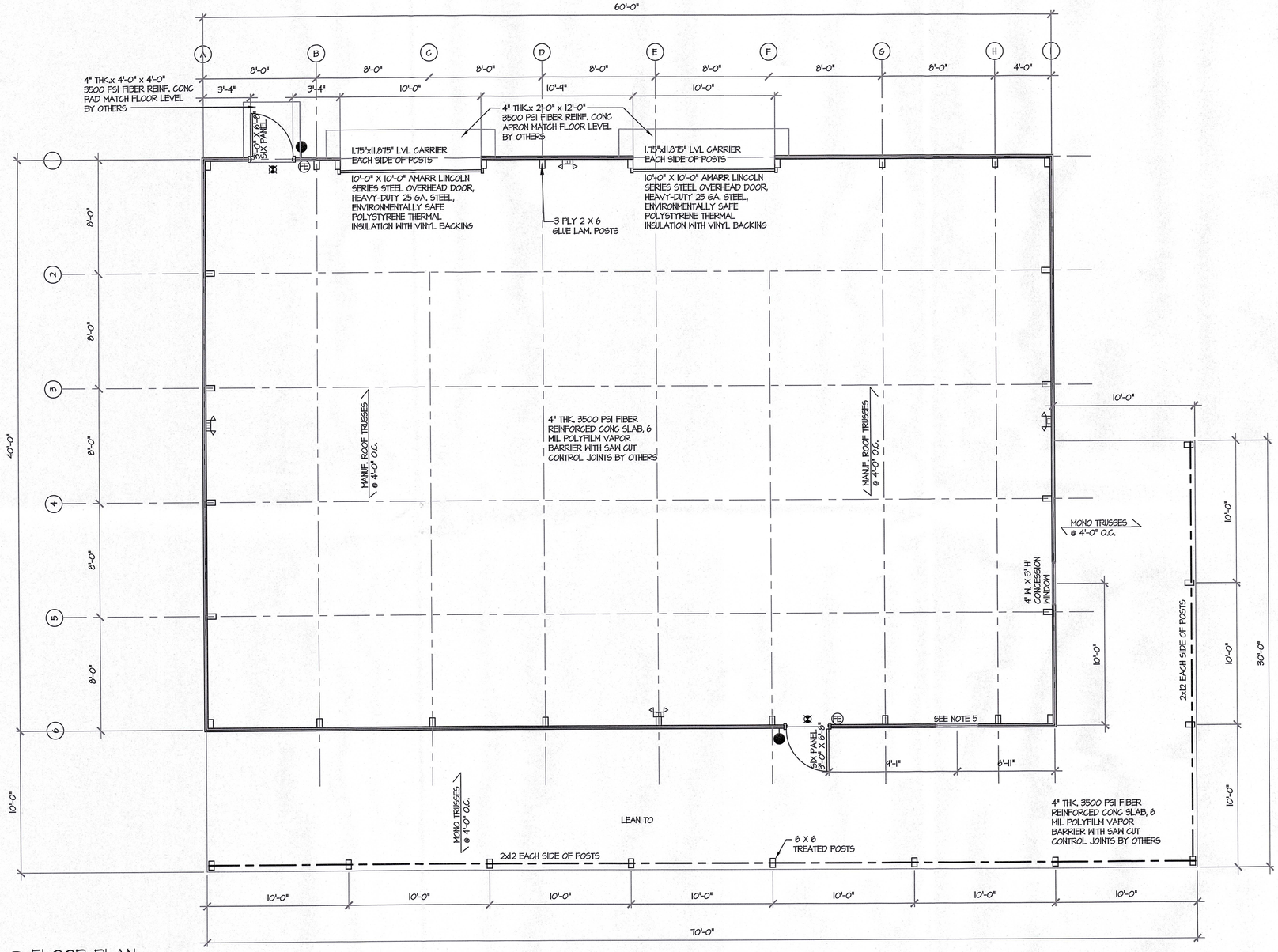

1 FLOOR PLAN
1/4" = 1'-0"

FOUNDATIONS

1. PRESUMPTIVE BEARING CAPACITY: 2000 PSF

2. FOUNDATION DESIGN IS BASED ON SHALLOW SPREAD FOOTINGS BEARING ON SUITABLE NATURAL SOILS AND/OR NEW COMPACTED STRUCTURAL FILL.

3. ALL ORGANIC MATERIALS EXCESSIVELY SOFT OR LOOSE SOILS, TREES, ASPHALT, CONCRETE, DEBRIS AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED. UNSUITABLE AREAS SHALL BE REMOVED AND REPLACED.

4. AREAS REQUIRING UNDERCUT AND FILL MATERIAL DUE TO THE PRESENCE OF UNSUITABLE MATERIAL SHALL BE BACKFILLED TO THE DESIGN FOOTING SUBGRADE WITH NEW COMPACTED STRUCTURAL FILL.

5. COMPACTED STRUCTURAL FILL FOR BUILDING SUPPORT UTILIZING MATERIAL APPROVED FOR USE INCLUDE:

ON-SITE GRANULAR SOILS INCLUDING GM , GP, GW, SW, SP, ND. SM, CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOLID CLASSIFICATION SYSTEM (USCS). FURTHERMORE, THE MATERIAL TO BE UTILIZED AS STRUCTURAL FILL SHOULD HAVE A PLASTICITY INDEX (PI) LESS THAN 20.

6. COMPACTED STRUCTURAL FILL BENEATH ALL FOUNDATIONS, SLABS ON GRADE AND ADJACENT TO FOUNDATION WALLS SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND BE COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D-1557 MODIFIED PROCTOR TEST.

7. SOILS EXPOSED AT THE BASES OF ALL FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION. SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHOULD BE DRAINED AWAY FROM THE EXCAVATIONS AND NOT BE ALLOWED TO POND. FOUNDATION EXCAVATIONS SHOULD BE PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. SLOPE FOOTINGS EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFTY OR PROVIDED SHEETING OR SHORING IN ACCORDANCE WITH OSHA REQUIREMENTS IN THE EVENT THAT THE CONTRACTOR DETERMINES THAT SHEETING OR SHORING IS REQUIRED FOR ESCALATION. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER FOR DESIGN AND DOCUMENTATION OF ALL SHEETING AND SHORING REQUIRED FOR THE WORK.

8. UTILITY LINES SHALL NOT PASS UNDER FOOTINGS, STEP FOOTINGS BELOW UTILITY LINES AND SLEEVE WALL.

9. TRENCHES WHICH RUN ADJACENT TO FOOTINGS AND ARE LOWER THAN THE FOOTING BOTTOM AND ARE WITHIN A HORIZONTAL DISTANCE OF 1.5 TIMES THE ELEVATION DIFFERENCE SHALL BE BACKFILLED WITH 1500 PSI CONCRETE TO THE FOOTING BOTTOM.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318 (LATEST EDITION).

2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE:

FOUNDATION: 3500 PSI
GARAGE FLOOR SLABS: 3500 PSI
EXTERIOR WALKS, STEPS, PADS,
RAMPS AND CURBS: 3500 PSI
ALL CONCRETE SHALL BE AIR-ENTRAINED (6+/-1)%.

3. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.

4. CALCIUM CHLORIDE ADMIXTURES ARE PROHIBITED, USE OF ADMIXTURES SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT.

GENERAL NOTES

1. EXTERIOR WALLS SHALL BE 2x4 WOOD GIRTS @ 2'-0" O.C. HORIZ. W/ 29 GAUGE GALVALUM PAINTED METAL PANELS.

2. ALL DIMENSIONS ARE TO FACE AND/OR CENTER OF STRUCTURE.

3. 12" OVERHANG EAVE AND GABLE.

4. ENTRANCE DOORS TO BE INSULATED 6 PANEL FIBERGLASS PREHUNG WITH COMPOSITE JAMBS WITH GRADE 2 STAINLESS STEEL LOCKSET

5. WINDOWS TO BE 3'-0" x 4'-0" WINCORE WINDOW DOUBLE HUNG WITH TILT SASHES, MAINTENANCE FREE VINYL FRAMES AND SASHES, ARGON GAS INSULATED DUAL PANE LOW-E GLASS, GRIDS BETWEEN GLASS, FULL SCREEN.

SYMBOLS

FE DENOTES FIRE EXTINGUISHER LOCATION. FIRE EXTINGUISHER SHALL BE 2A:10B:C MOUNTED AT 48" TO TOP.

DENOTES EMERGENCY LIGHT WITH BATTERY BACK UP

DENOTES LIGHTED EXIT SIGNS

DENOTES EXTERIOR EMERGENCY LIGHT WITH BATTERY BACK UP

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12319
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7238 S. DUPONT HWY.
FELTON, DELAWARE

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NEW BUILDING FOR
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FLOOR PLAN AND NOTES

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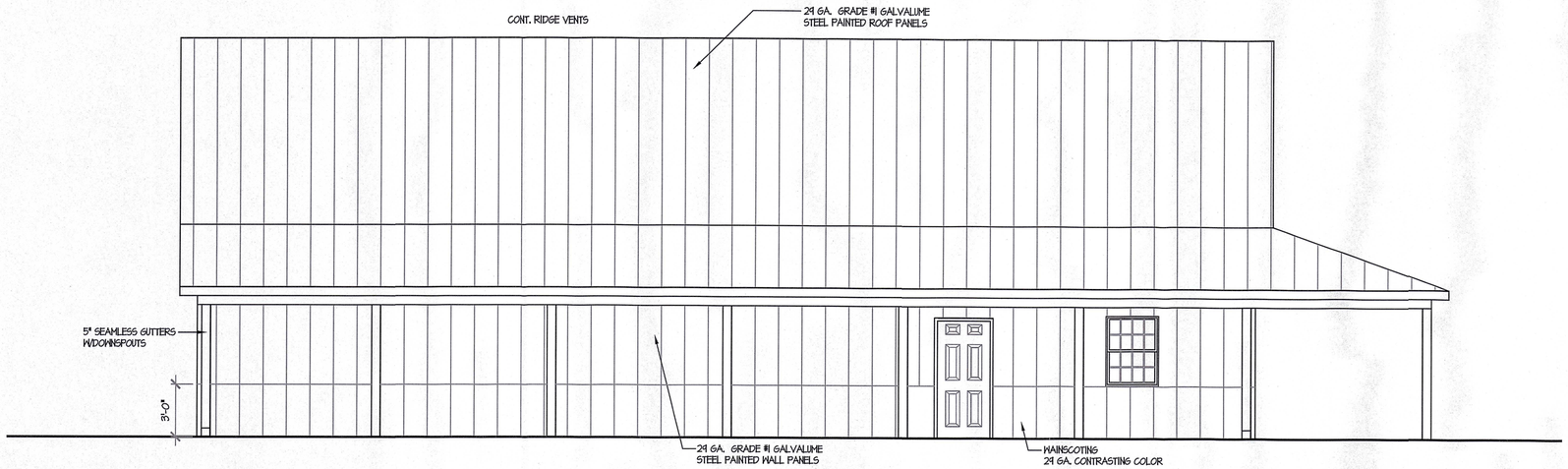
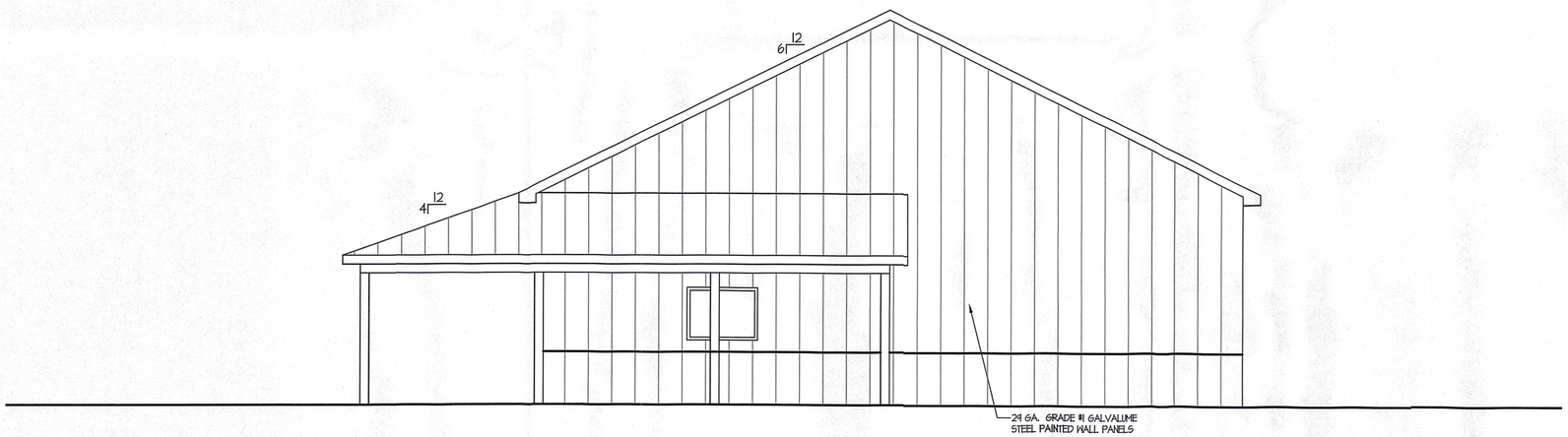


1 FRONT ELEVATION
1/4" = 1'-0"



2 RIGHT SIDE ELEVATION
1/4" = 1'-0"

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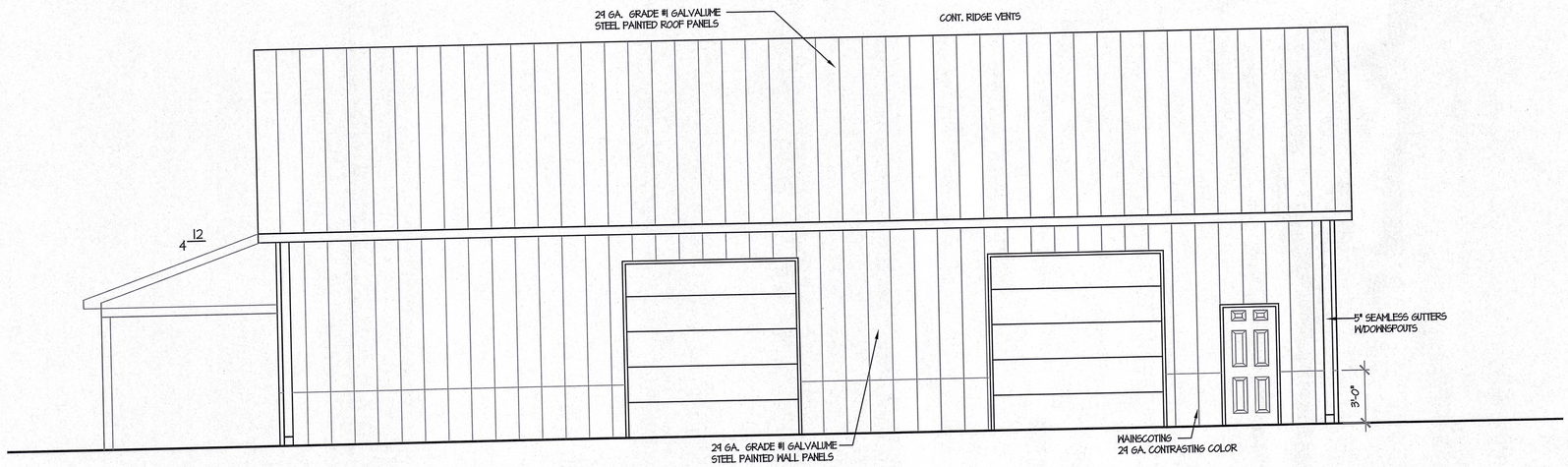
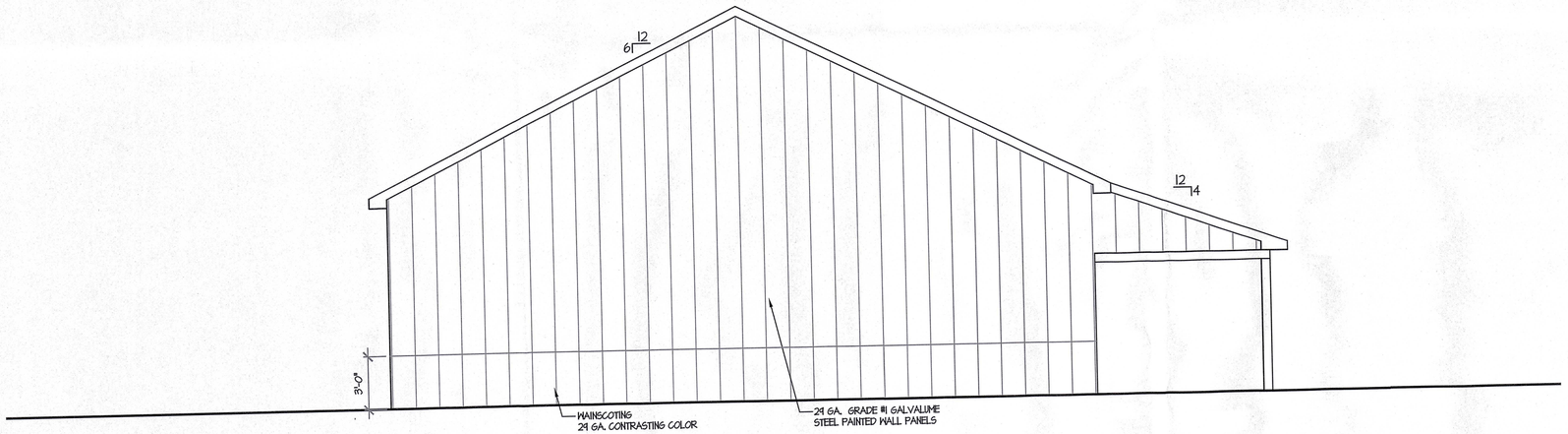


3 REAR ELEVATION
1/4" = 1'-0"



2 LEFT SIDE ELEVATION
1/4" = 1'-0"

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ELEVATIONS

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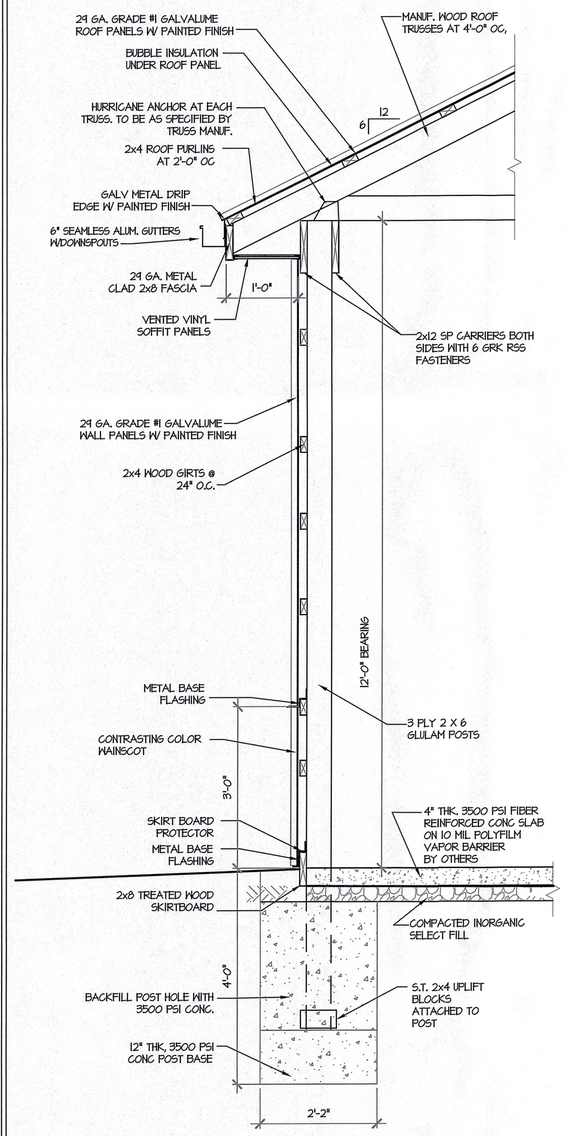
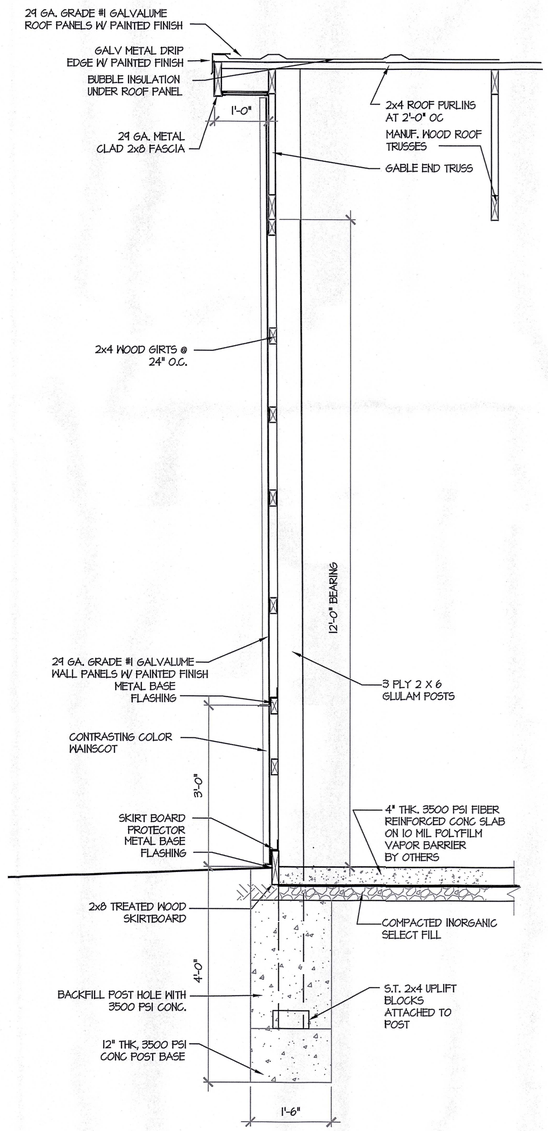
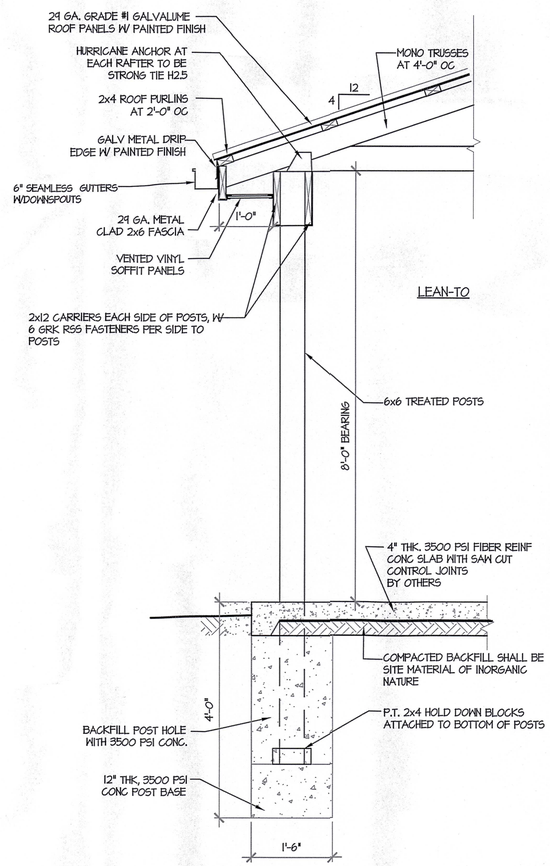


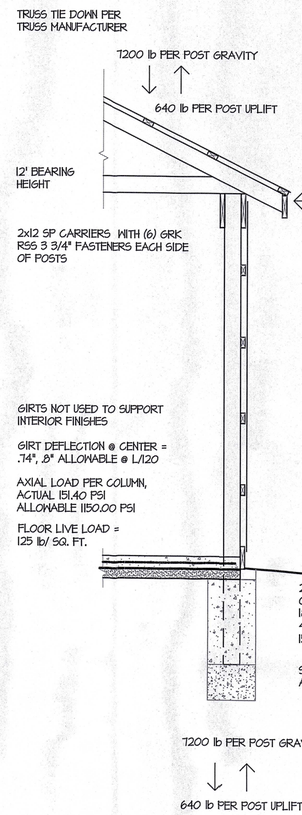
1 EAVE WALL SECTION
3/4" = 1'-0"



2 GABLE WALL SECTION
3/4" = 1'-0"



3 LEAN TO WALL SECTION
3/4" = 1'-0"



FREMANUFACTURED WOOD ROOF TRUSSES AT 4'-0" OC

GROUND SNOW LOAD =
30 lb./ SQ. FT.
5 lb/ SQ. FT DEAD
5 lb / SQ.FT COLLATERAL

ROOF AND WALL PANELS TO BE ATTACHED AT 9" OC HORIZ., 2'-0" OC VERT., 1" MIN. FASTENER PENETRATION

WIND LOAD

125 MPH, EXPOSURE B
18 PSF

3 PLY 2x6 GLULAM POSTS AT 8'-0" OC
Fb = 2210 PSI
Sx = 22.65 in3

LATERAL TRIB. AREA = 12'x8' = 96 SF

WIND FORCE = 18 PSF x 96 SF = 1728 lb
W/ CENTROID @ H/2 = 6'

BUILDING OVERTURNING MOMENT = 1728 lb x 6' = 10368 ft-lb

BENDING MOMENT @ 1 POST = M/2= 5184 ft-lb

BENDING MOMENT @ BASE OF POST = 1728 lb / 2 = 864 x 6 = 5184 ft-lb = 62208 in-lb

MAX. BENDING STRESS IN POST = M/S = 62208 in-lb / 22.65 in3 = 2746 PSI

MAX. STRESS IN POSTS ALLOWED = 4151 PSI

26" DIA. CONCRETE CONSTRAINED EMBEDMENT DEPTH PER 1805.7.2.2 = 4 FT. WITH LATERAL SOIL BEARING OF 150 PSF/F (1804.2)

SOIL BEARING CAPACITY - 2,000 PSF ASSUMED

4 STRUCTURAL SECTION
3/4" = 1'-0"

STATE OF MARYLAND
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TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

July 5, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, July 20, 2023 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that a Concept, Use and Design application has been filed on behalf of Saints Peter and Paul School at 1212 S. Washington Street to request site plan and architectural approval for a proposed 2,400 sqft. storage building.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies are also available for review via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith
Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov

APG Media of Chesapeake, LLC **06/29/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:		Creation Date:	**06/29/23**
		Ad Date:	**07/05/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	**3027623**
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**219**
		Lines:	**42**
		Agate Lines:	**198**
Telephone:	**(410) 822-2525**	Depth:	**5.5**
Email:		Inserts:	**2**
Description:	**Planning Comm Meeting**	Blind Box:	

Other Charges:		Total:	
Discount:			
Surcharge:		Paid Amount:	
Credits:			
Bill Depth:		Amount Due:	

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	07/05/23	07/05/23	1	

Planning Commission
MEETING AGENDA
Thursday, July 20, 2023 - 1:00 **PM** Council
Council Chambers, Easton Town Office
14 S Harrison Street

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Draft Decision Summary from the June 15, 2023 meeting.
   b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Saints Peter and Paul Church
      File No.: 2023-962
      Location: 1212 S. Washington Street - Saints Peter and Paul School
      Tax Map 108, Grid 000, Parcel 2678F, Lot 4
      Zoning District: R-10A
      Nature of Request: Architectural approval of a proposed storage building.
   b. **Applicant:** Robert S. Collison, P.A.
      File No.: 2023-963
      Location: 9719 Ocean Gateway
      Tax Map 0025, Grid 0006, Parcel 0113,
      Current County Zoning District: GC
      Requested Town Zoning District: CG
      Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate Zoning classification.
   c. **Applicant:** DMS & Associates, LLC
      File No.: 2023-959
      Location: Elliott Road
      Tax Map 109, Parcel 2849, Lot 4
      Zoning District: CG
      Request: Site Plan and Architectural approval of a proposed climate-controlled self storage facility.
5. **Discussion Item**
6. **Adjournment.**

3027623 SD 7/5/2023

Ad Note:

Sign posted on July 3, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

July 5, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, July 20, 2023 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that the Easton Planning Commission will meet to discuss a Petition for Annexation application filed on behalf of Basi Brothers, LLC for the annexation of the property located at 9719 Ocean Gateway, Easton, Maryland; Tax Map 0025; Parcel No. 0113.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies are also available for review via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith
Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov

APG Media of Chesapeake, LLC **06/29/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:		Creation Date:	**06/29/23**
		Ad Date:	**07/05/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	**3027623**
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**219**
		Lines:	**42**
		Agate Lines:	**198**
Telephone:	**(410) 822-2525**	Depth:	**5.5**
Email:		Inserts:	**2**
Description:	**Planning Comm Meeting**	Blind Box:	

Other Charges:		Total:	
Discount:			
Surcharge:		Paid Amount:	
Credits:			
Bill Depth:		Amount Due:	

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	07/05/23	07/05/23	1	

Ad Note:

Sign posted on July 3, 2023

Customer Note:

Planning Commission
MEETING AGENDA
Thursday, July 20, 2023 - 1:00 **PM** Council
Council Chambers, Easton Town Office
14 S Harrison Street

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Draft Decision Summary from the June 15, 2023 meeting.
   b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Saints Peter and Paul Church
      File No.: 2023-962
      Location: 1212 S. Washington Street - Saints Peter and Paul School
      Tax Map 108, Grid 000, Parcel 2678F, Lot 4
      Zoning District: R-10A
      Nature of Request: Architectural approval of a proposed storage building.
   b. **Applicant:** Robert S. Collison, P.A.
      File No.: 2023-963
      Location: 9719 Ocean Gateway
      Tax Map 0025, Grid 0006, Parcel 0113,
      Current County Zoning District: GC
      Requested Town Zoning District: CG
      Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate Zoning classification.
   c. **Applicant:** DMS & Associates, LLC
      File No.: 2023-959
      Location: Elliott Road
      Tax Map 109, Parcel 2849, Lot 4
      Zoning District: CG
      Request: Site Plan and Architectural approval of a proposed climate-controlled self storage facility.
5. **Discussion Item**
6. **Adjournment.**

3027623 SD 7/5/2023

We Appreciate Your Business!
Thank You Joanne Drummer!

TOWN OF EASTON
PLANNING & ZONING
14 S Harrison Street, Easton MD 21601

Date of Hearing: July 20, 2023

4c

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT:	**Elliott Road, Parcel 2849 - Climate Controlled Storage**
ELECTION WARD:	Ward 2
CRITICAL ACTION DATE:	At the pleasure of the Commission
STAFF CONTACTS:	Joseph Mayer, Plan Reviewer Miguel Salinas, Director of Planning and Zoning
APPLICANT:	Friel Storage LLC

DOCUMENT CREATED ON: June 30, 2023

PURPOSE: The applicant is seeking site plan approval from the Planning Commission.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan subject to staff's recommended condition (see below).

APPLICATION INFORMATION:	
APPLICANT: Fink Whitten, LLC.: Elizabeth Fink	**REPRESENTATIVE:** Fink Whitten, LLC.: Elizabeth Fink Friel Storage LLC.: Jay Friel
PARCELS/ACREAGE:	

Parcel Information	Acreage
Map 109, Grid 0000, Parcel 2849, Lot 4	1.776

ACCEPTANCE DATE: July 3, 2023	**LOCATION:** Elliott Road, Parcel 2849, Lot 4
EXISTING ZONING CG	**EXISTING LAND USE:** Vacant parcel.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Business Commercial

CONTEXT:
Location/Site Access – The subject property is located along Elliott Road, fronting on the West side of the road.

Existing Conditions – The subject property is currently unimproved.

Surrounding Properties
- Parcel 2850, Elliott Road - CG
- 8133 Elliott Road - CG
- 8155 Elliott Road - CG
- 8171 Elliott Road - CG
- 8168 Elliott Road - CG
- 8175 Ocean Gateway - CG
- 8163 Ocean Gateway - CG
- 8147 Ocean Gateway - CG

Figure 1: **Vicinity Map**

PROPOSAL: The applicant is proposing to construct three one-story climate controlled storage buildings with associated parking, stormwater management facilities and landscaping.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on June 28, 2023.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 103.7							**CG**					
515	Climate-controlled self storage*	SE	--	--	--	SE	P	P	P	P		

Analysis –The proposed project is presented and described by the Applicant as three one-story climate -controlled storage buildings. The project is categorized as a *"Climate-controlled self storage"*. The proposed use is permitted by-right within Table 2.1 Table of Permissible Uses.

B. Off-Street Parking

For the purposes of off-street parking calculations, the use is considered "*Mini-warehouses or self storage*" and has the following requirements:

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Industrial Buildings				
39	Mini-warehouse or self storages	4 spaces plus 2 for manager's quarters.	--	--	

Total Site Parking Required:

Mini-warehouses or self storage: 4 spaces plus 2 for manger's quarters required- Minimum
No requirements - Maximum
Total spaces provided: 5

Analysis- The applicant has provided five (5) off-street parking spaces. The owner does not foresee a demand for more parking spaces in the future, due to the nature of their business operations.

C. Commercial General District Development Standards

Table 1. Development Standards		
I Zoning District	**Standard**	**Proposed**
Setbacks	Front = 25 feet Side = 10 feet Rear = 15 feet	Front = 25 feet Side = 10 feet Side – 15 feet
Lot Size (min.)	20,000 square feet	77,372 square feet
Lot Frontage (min.)	60 feet	176 feet
Building Envelope (min.)	20 feet x 30 feet	156 feet X 438 feet
Lot Coverage (max.)	50% (Lot Area)	45.24% (Lot Area)
Height (max.)	50 feet	13 feet
Bufferyard	Per the provisions of Section 28-1014 of the Zoning Ordinance.	To be provided along Elliott Road.

§ 306.2 of the Zoning Ordinance states that development within the Commercial General District shall also meet these additional requirements:

- ***Off-Street Parking shall be provided for all uses in accordance with the standards of Section 28 – 1001.***
- ***All storage areas shall be adequately screened and landscaped in accordance with provisions of Section 28 – 1014 of this Ordinance.***

- ***All on-site lighting unless approved otherwise by the Planning and Zoning Commission shall be low cut-off shielded luminaries at 18' height and light shall not shine off-site at levels greater than 1-foot candle.***

- ***All off-street loading and unloading areas shall be screened from view by permanent decorative screens or natural planting, either of which shall be a minimum of eight (8) feet in height.***

- ***All areas not devoted to buildings or parking areas shall be landscaped and maintained in a suitable manner, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***

Analysis - The site falls under the CG - Commercial General District Area and meets the 28-306 Development Standards. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

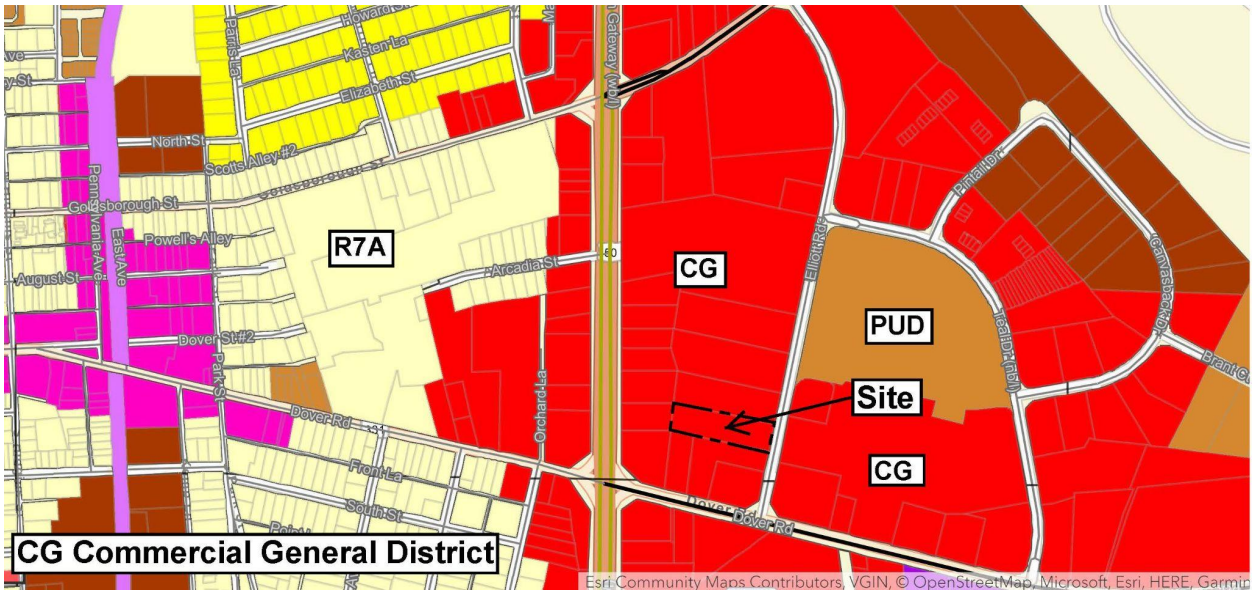
D. Forest Conservation

The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1 *Relevance, states that the requirements are applicable to any person making application for a subdivision, project plan, grading, or sediment and erosion control approval on units of land 40,000 square feet or greater after the effective date of the Ordinance.*

Analysis - The site is within the priority funding area and is an existing vacant lot between two established businesses. The overall site area is 1.776 acres with three climate-controlled buildings and associated parking, stormwater management and landscaping. Required Forest Conservation would be 0.266 acres or 11,604 square feet. The intent of the project is to maximize density within the infill area of this established business corridor and provide adequate facilities to accommodate the site. The applicant has provided a landscape plan with thirty-two deciduous-shade/canopy trees and twenty-six evergreen trees that is greater than the required forest conservation area, almost double the required amount. The applicant has provided a Forest Conservation Application and proposes afforestation on-site. Based on the existing conditions and priority funding area, the staff supports the use of landscape plantings required in Section 28-1014.5.B.1 thru 3 as credit for afforestation.

POLICY ANALYSIS:

Figure 2: Zoning Map



The submission of a site plan for a proposed use or development activity shall not be approved unless it meets the factors below:

1. The site plan meets the design principles and standards and required improvements set forth in this Ordinance, the Town Comprehensive Plan, the Town of Easton Subdivision Regulations, and other ordinances, regulations, and policies established by the Town of Easton.

Analysis -

Town of Easton 2010 Comprehensive Plan Design Principles (Principle #1) Integrated uses are desirable- Applicant's response: *As this development is located within a commercial zoned district, this element is not particularly applicable to this site. The site is considered infill development, as the lot is currently unimproved. Located within an established commercial corridor, the proposed new structures(s) will serve as climate controlled storage.*

Staff notes that the proposed development fits within the general commercial nature of this business park.

(Principle #2) Natural features should determine design – *Applicant's response: This element refers to the planning of sites based on the environmental resources present. In this case, the site is unimproved but bordered by developed lots on either side. This lot shall be an infill development, to be improved with (3) climate controlled storage buildings with associated drive*

aisles and parking. There is little to no topographic relief. The site is designed to complement the surrounding developed lots.

Staff notes that there are no compelling natural features on site. Forest Conservation was approved at the original Subdivision Plat (Plat KMD 87/124).

(Principle #3) Automobiles should not determine design – *Applicant's response: Per the zoning code and with the uses existing and proposed within the site, 4 parking spaces are required as well as one unloading space, all which have been satisfied..*

Staff notes that the applicant has provided adequate off-street parking.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: As the site is located in a commercial zone and is not located near to neighborhoods, this is not applicable..*

Staff notes that open space is not applicable.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: As the proposed building(s) is climate controlled storage, the architecture will adhere to all guidelines associated with the use. No exterior storage is proposed and entry into the storage units is interior only (i.e., no outside entry into individual units).*

(Principle #6) Signs should inform but not dominate – *Applicant's response: Any and all proposed signage shall be compatible with applicable signage regulations. Any freestanding sign shall be landscaped at its base.*

Staff notes that any proposed monument sign will require a Signage Application to be submitted prior to installation. Signs should inform but not dominate the area.

(Principle #7) Neighborhoods should contain a diversity of housing types – *Applicant's response: This principle is not applicable to our request.*

(Principle #8) Residential neighborhoods should be interesting places – *Applicant's response: This principle is not applicable to our request.*

(Principle #9) Neighborhoods should connect – *Applicant's response: This principle is not applicable to our request.*

Staff notes that although this Principle is primarily directed towards residential subdivisions, Elliott Road provides connectivity for the surrounding business park to access Matthewstown Road (MD 328) and Dover Road.

2. The site plan avoids or minimizes adverse impacts upon features (whether on-site or off-site) of historical, cultural or ecological significance.

Analysis - The proposed site is not within the Historic District or the Critical Area. This project would provide three climate controlled storage units with improved amenities; adequate parking, stormwater management facilities and landscaping.

3. The proposed use or development activity will not substantially increase traffic hazards due to traffic generated by the proposed use, the location of curb cuts or the layout of internal traffic circulation.

Analysis - The proposed use and activity will not increase traffic hazards in the surrounding area. Adequate off-street parking is provided.

4. The site plan and the proposed use or uses do not cause any adverse impact upon the health or safety of persons residing or working in the area surrounding the site or upon the character of the neighborhood surrounding the site; and

Analysis - There would be no adverse impacts. The existing property is located within a commercial general zoned business park. Proposed use would provide three climate controlled storage buildings with adequate parking, landscaping features and stormwater management facilities.

5. ***The site plan improves the water quality of the Chesapeake Bay or its tributaries.***

Analysis - The proposed site would meet required design practices for stormwater management.

RECOMMENDED CONDITION:

Staff recommends the Planning Commission approve the sketch site plan with the following condition:

- The Applicant is required to relocate the canopy and understory trees out of the site triangle at the proposed drive aisle and Elliott Road.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sketch site plan subject to staff's Condition of Approval.

OR

2. I move that the Planning Commission table the application to the June 15th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:

1. 2023-06-07 Friel Storage ESDR Application, paper copy & PDF
2. 2023-06-07 Friel Storage Site Plan Application, paper copy & PDF
3. 2023-06-28 ESDR Determination Letter-Ellott Road-Lot 4, paper copy & PDF
4. 2023-07-03 Friel Storage Architecture, paper copy & PDF
5. 2023-07-03 Friel Storage Forest Conservation Application, paper copy & PDF
6. 2023-07-03 Friel Storage Preliminary Site Plan, paper copy & PDF
7. 2023-Friel Storage Resubmittal Cover Letter, paper copy & PDF
8. 2023-07-03 Friel Storage SWM Report, paper copy & PDF
9. 2023-07-07 sketch Site Plan Review for PC(ElliotRDlot4), paper copy & PDF

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**July 7th, 2023**
TO:	**Ebie Fink – Fink, Whitten and Associates** **Jay Friel, Friel Storage LLC – Owner**
Cc:	**Rick Van Emburgh – Town Engineer** **Miguel Salinas – Planning and Zoning Department** **Aaron Goller – EUC**
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Elliot Road Parcel 2849 Storage Units – ESDR#2 Sketch Site Plan Review Comments**

The subject application was first reviewed at the 6/22/2022 ESDR Meeting. A meeting was held with Brandon Davis on 11/21/2022 to review the comments and discuss the entrance off of Elliot Road. I have reviewed the application for the subject project received on 7/3/2023. I have the following comments.

Sketch Site Plan:

The **Sketch Site Plan** is acceptable to the Engineering Department with the following comments:

1. We recommend using the TOE-R-4.02 entrance detail.
2. **SHEET C6** – Confirm Chesapeake & Potomac Telephone Company will allow the proposed Stormwater Management Structure in the existing Easement.
3. Please label a visibility triangle at the entrance to the site.
4. Bollards or other protective devices will be required adjacent to the handicap parking stall and the Micro-Bioretention Area #3.

Please address the comments above and submit a Preliminary Site Plan.

Stormwater Management:

The **Sketch Stormwater Management Plan** is **Approved.** Please note that additional ESD volume does not equate directly to a reduced flow rate. Please revise the design to ensure the 10- year post-development flow (cfs) is less than or equal to the pre-development 10 year flow rate (cfs). Please submit a Preliminary Stormwater Management Plan.

Please contact me if you have any questions. Thank you.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

TOWN OF EASTON
Planning & Zoning Department
14 South Harrison Street
P.O. Box 520
Easton, Maryland 21601

Easton Staff Development Review Worksheet

Date: June 28, 2023
Project: Elliott Road, Parcel 2849 - Climate Controlled Storage Units
To: Elizabeth Fink - Fink, Whitten & Associates, LLC.
Brandon Davis - Davis, Moore, Shearon & Associates, LLC.
Jay Friel - Friel Storage, LLC.

The Easton Staff Development Review (ESDR) Committee meeting was held on June 28th at 11:00 am. Staff reviewed the Site Sketch Plan for the three proposed climate controlled buildings on the property located at Elliott Road, Parcel 2849, also known as Tax Map 109, Parcel 2849, Lot 4.

The project will need to address all agency comments as specified in the attached review letters and at ESDR. Specific areas discussed at the meeting included providing Quality/Quantity Stormwater Calculations, adequate drive aisles and access requirements.

The Committee determined that the application may be scheduled for Planning Commission review pending the Town Engineer's approval of an updated Sketch Stormwater Management Plan and a revised Site Plan depicting adequate drive aisles and access into all entrance areas. Please address all comments and submit an updated application.

The next Planning Commission meeting is scheduled for **Thursday, July 20, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **July 3rd**. Files for presentation at the Planning Commission need to be provided on a flash drive. In addition, provide a digital submittal (via email) of the Planning Commission Application and its supporting documents, including **ten paper copies**.

Based on the ESDR sketch plan submission, the Staff did not identify constraints which require action by the Board of Zoning Appeals.

Please contact the Planning & Zoning Department at 410 822-1943 with any questions.

Sincerely,

Joseph A. Mayer
Plan Reviewer - Planning and Zoning

TOWN OF EASTON
PLANNING & ZONING DEPARTMENT
P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: **June 14, 2023**
TO: **Elizabeth Fink – Lane Engineering, LLC, Jay Friel – Friel Storage, LLC**
Cc: **Miguel Salinas –** Director of Planning & Zoning Department
Rick Van Emburgh – Town Engineer, Department of Engineering

FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: Elliott Road, Parcel 2849 Lot 4 – Climate Controlled Storage

We reviewed the **June 7, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #2

1. Building labels on Site Plans do not match building labels on architectural floor plans. Please revise.

2. Per Chapter 28-1007.3 A(2)e of the Zoning Code*, internal driveway aisles shall be a minimum width of thirty (30) feet. A driveway aisle where access to storage units is only on one side of the aisle may be reduced to twenty (20) feet.* Remove or relocate the exit door for Building #B along the main drive aisle to provide a minimum width of twenty (20) feet for vehicular access. Adjust the distance between Building A & B to provide a minimum width of thirty (30) feet between the exit door landing pads. Please see attached markup.

3. Per Chapter 28-1008.2 of the Zoning Code,*clear unobstructed visions at intersecting streets shall be limited to a height of not over three feet above the established elevation of the nearest curb, for a distance of forty (40) feet along both flowlines of curb, measured from the point of intersection of the projected flowline of curb of said intersecting flowlines. No natural plantings or construction shall be permitted at a height over three (3) feet within the isosceles triangle formed by connecting the ends of the respective forty (40) foot distances. The unobstructed view shall be maintained for all spaces between three (3) and ten (10) feet in height.* Relocate the canopy and understory trees out the sight triangle at the proposed drive aisle and Elliott Road.

4. Providing an adequate sight triangle at the entrance will require an additional

extension of the evergreen shrub hedge at Building A & B. Please see attached markup.

5. Any natural plantings used for screening off-street loading and unloading shall be a minimum of eight feet in height. Please revise the Landscape Stock Legend on sheet L-1 to reflect the required height. However, an option is provided to utilize an evergreen tree buffer planting, minimum 7' height at installation, staggered to create a solid screen at installation. See Chapter 28-1014.6 F(2)d of the Zoning Code.

6. Dimension the offset distances from Building B to the property line adjacent to Elliott Road.

7. Will there be on-site lighting? Any outdoor lighting shall be shielded to direct light and glare only onto the mini-warehouse facility and may be of sufficient intensity to discourage vandalism and theft. Said lighting and glare shall be deflected, shaded, and focused away from all adjoining property.

8. The proposed 45' x 10' loading areas need an accessible route to the building entrances. Relocate proposed parking to accommodate access. See attached markup.

9. Provide an ADA access aisle and route from ADA parking to Building B. In addition, provide a minimum width of twenty (20) feet for vehicular access on the west side of Building B. Please see attached markup. Provide bollards between access route and loading area.

10. The exit door area on the south side of Building C interferes with a minimum width of twenty (20) feet for vehicular access. Please revise.

11. The two parking spaces outside the security fence will require an adequate path to the building entrances.

12. Indicate the type of fencing and its minimum height.

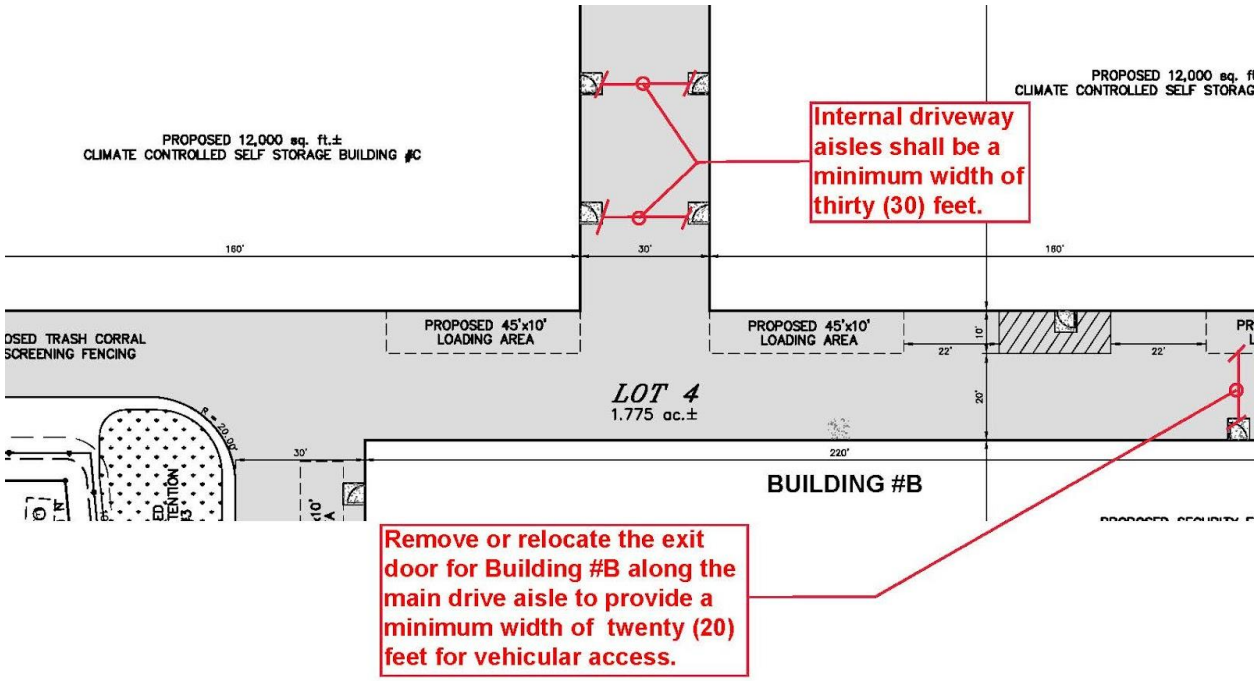
13. Define and quantify the selected type of plant species on sheet L-1.

14. Provide applicable Bufferyard 'D' along Elliott Road and Bufferyard 'E' along exterior property lines adjoining the site or submit a Supplemental Waiver Request Application for Landscaping & Buffering.

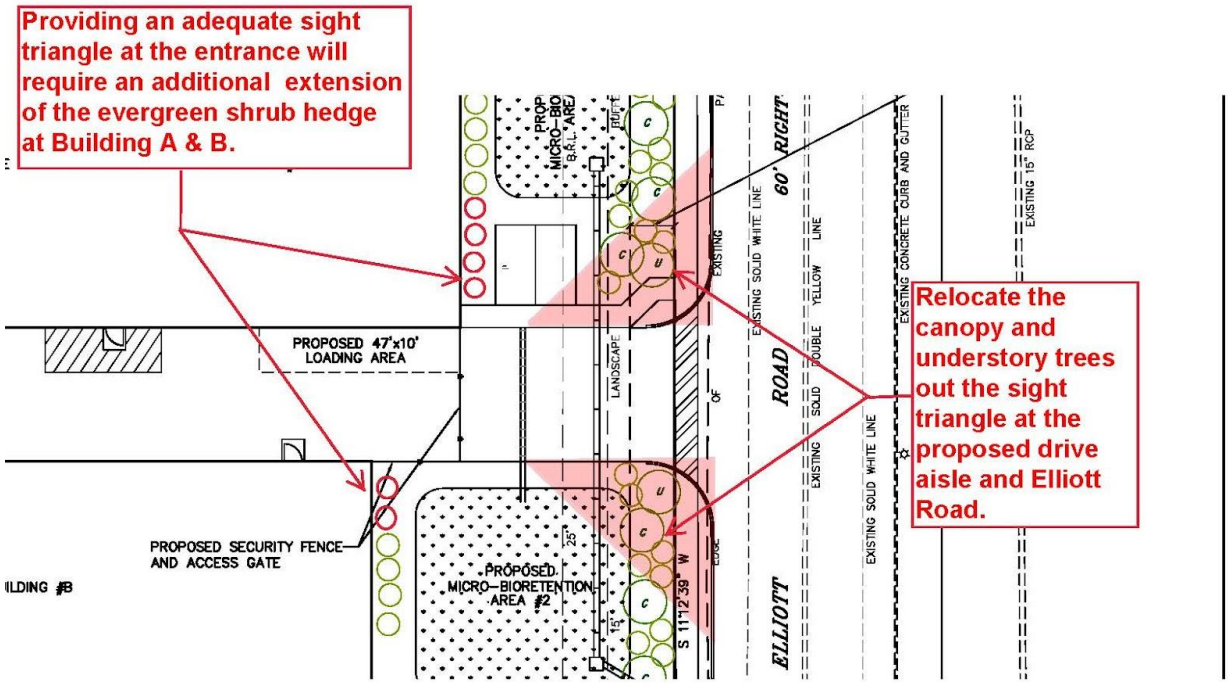
15. Submit a revised Forest Conservation Application with current owner information.

16. Show zoning district boundaries on the Vicinity Map.

Review Comment #2



Review Comment #3 &#4



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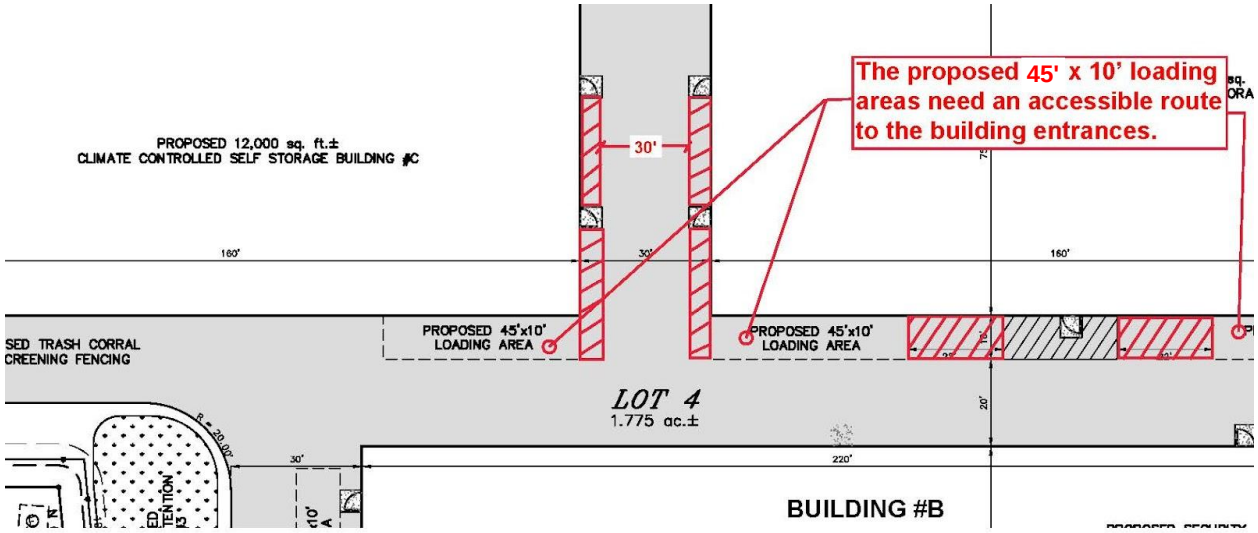
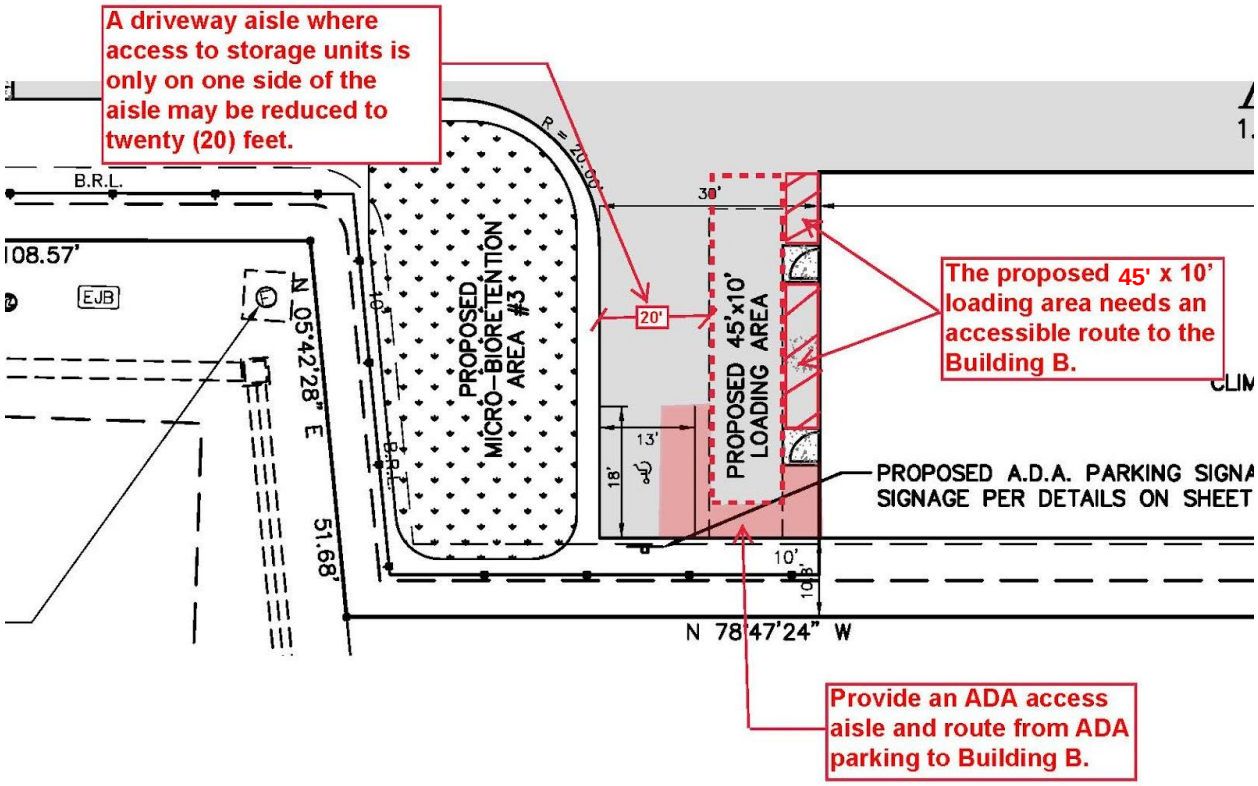
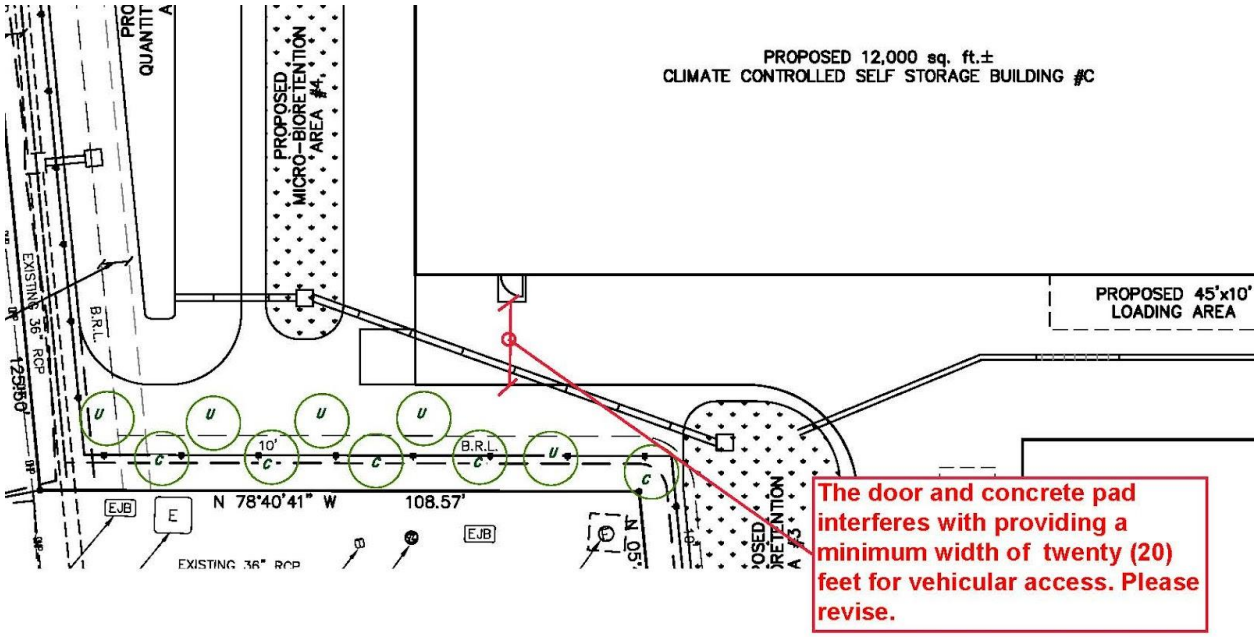


Review Comment #9



Review Comment #10



Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐ Y	☒ N	Please review any outstanding comments from the Engineering Department and Easton Utilities.

Forest Stand Delineation & Forest Conservation Plan	
☒ Required ☐ Submitted ☒ Approved	**Submit a revised application with the current owner.**

Please contact me if you have any questions. Thank you.

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **June 28th, 2023**

TO: **Ebie Fink – Fink, Whitten and Associates**
Jay Friel, Friel Storage LLC – Owner
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **Elliot Road Parcel 2849 Storage Units – ESDR#2 Sketch Site Plan Review Comments**

The subject application was first reviewed at the 6/22/2022 ESDR Meeting. A meeting was held with Brandon Davis on 11/21/2022 to review the comments and discuss the entrance off of Elliot Road. I have reviewed the application for the subject project received on 6/7/2023. I have the following comments.

Sketch Site Plan/Plat:

The **Sketch Site Plan** should be revised to address the following comments:

1. We recommend using the TOE-R-4.02 entrance detail.
2. **SHEET C6** – Confirm Chesapeake & Potomac Telephone Company will allow the proposed Stormwater Management Structure in the existing Easement.
3. Please label a visibility triangle at the entrance to the site.
4. The two parking stalls in front of the building and adjacent to Micro-Bioretention #1 should be labeled, the material clarified (it appears to be concrete right now) and curb stops should be included.

Please address the comments above and submit a Preliminary Site Plan.

Stormwater Management:

The **Sketch Stormwater Management Plan** should be revised to address the following comments:

1. Provide a Quality Management summary table (similar to TOE-SWM-7.01) indicating ESD Volume Required and Provided for each Drainage Area as well as the entire site. Provide this type of table on both the Plans and in the Stormwater Management Report. It is recommended to add this to sheet C-5.
2. Provide a Quantity Management summary table (similar to TOE-SWM-7.02) indicating flows for each Drainage Area as well as the entire site. Provide this type of table on both the Plans and in the Stormwater Management Report. It is recommended to add this to sheet C-5.

Please address the comments above and submit a revised Sketch Stormwater Management Plan.

Please contact me if you have any questions. Thank you.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

EASTON UTILITIES

Life. Made better.™

Easton Utilities Commission

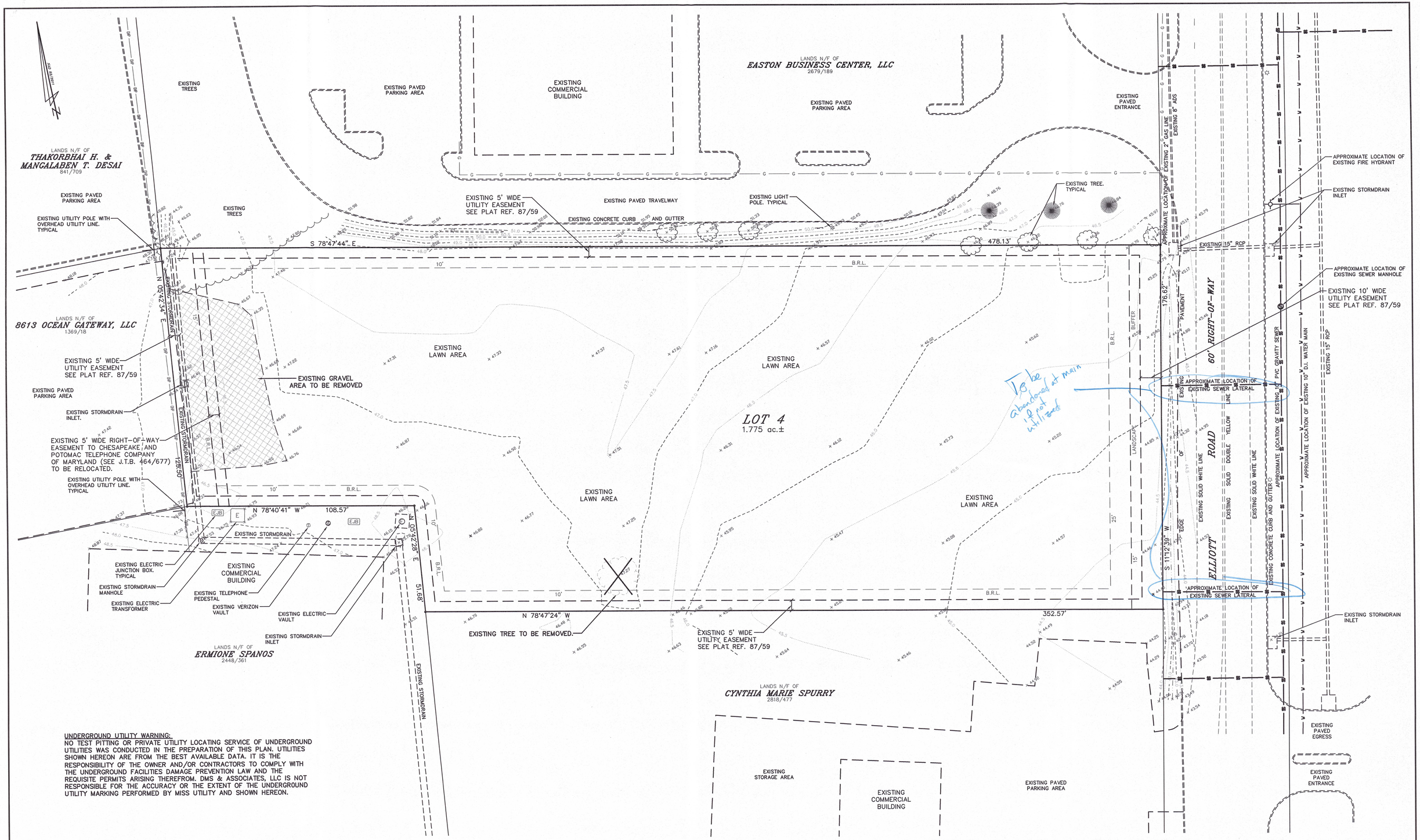
Plan Review Comments

Date:	Monday, June 26, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	**No. of Pages:**	1
Regarding:	Elliot Road Lot 4 - Friel Storage	**Phase:**	Sketch Site Plan
Review Type:	**SUBM:** 2	**Status:**	Approved as Noted

Easton Utilities Commission has reviewed the above referenced plans and have provided the following comments. Please provide your corrections as listed below. Additional reviews will be required to ensure comments have been addressed. Items or documents not provided on initial submission will be subject to further review. Please contact Kia Gibbs, Admin Support at kgibbs@eucmail.com should you have any questions.

ITEM:	DRAWING / PAGE	COMMENTS:
1	General	Contact Easton Utilities Commision for electric design
2	General	Size service for metering
3	General	Cable to follow electric design
4	General	It is noted that water and wastewater is not required. If building department indicates that w/ww is required, resubmission of site plans would be required.
5	General	Sewer lateral to be abandoned is not utilized.

201 N. Washington Street | Easton, Maryland 21601
Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com



UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS & ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

GRAPHIC SCALE
20 0 10 20 40
1 inch = 20 ft.

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
FAX : 1-443-262-9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. – C-2	
CADD FILE – 22009C02	

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TOWN OF EASTON

PO Box 520
Easton, Maryland 21601
(410)-822-2526 Fax (410)-822-8738
Office of Building Inspection.

ACCREDITED

ESDR- Building Inspection and Permit Department Comments

Date: June 21, 2022

Project; Parcel 2849 - Lot 4 Elliott Road

A Town of Easton Building Permit is required for all new construction.

The following lists items required on the construction drawings in order to apply for a Building Permit.

- Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.
- Construction Documents (3 sets) for any new construction will be required. Documents must be prepared by a registered Maryland Registered Architect, with original plans signed and sealed. A code analysis completed by a Registered Maryland Architect including, classification (use group), construction type, and occupant loads must be completed and included with the application materials. (See Maryland Architectural Act- Comar sect. 3-101, 102, 103)
- The Town of Easton, in accordance with the International Building Code Chapter 17, establishes a building inspections procedure that utilizes qualified, third-party professionals in addition to the Town's Building Inspectors. The purpose of this document is to establish the policy and guidelines for the construction process in accordance with the Building Code requirements and to:
    - Define the responsibility of all parties.
    - Standardize code application.
    - Provide for an orderly and systematic approach for updating standards that apply to the Special Inspections.
    - Set forth a guideline for Special Inspections.

  A copy of this can be found on the Towns Web Site
- Items that must be addressed by the construction documents will be structural strength, means of egress (include travel distance), facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment, **Accessibility**, and other safety requirements for public access.

- All mechanical, electrical, and plumbing permits as required must include construction documents signed and sealed by a professional engineer and by a responsible party for the contractor receiving the permit. Be sure the Town of Easton modifications are included. Section 6-16 of the Town Code.
- Pursuant to Town of Easton Ordinance 477, Chapter 9 Fire Protection, Article VII Security Key Lock Boxes, a lockbox shall be provided on the exterior of the building and shall be located as required by the chief of the Easton Volunteer Fire Department, Inc. (410-822-4848).
- An appointment may be set up with this department to review your permit application materials prior to permit application submission.

- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.

RECEIVED
JUN 0 7 2023
TOWN OF EASTON

Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

Easton Staff Development Review

Property Information

Address	Elliott Road						
Tax Map	109	Grid	EA	Parcel	2849	Lot	4
Deed Refernce:	Liber	3052	Folio	169			
Plat Reference:	Liber	87	Folio	59			
Base Zoning District	CG	Historic District Y ☐ N ☒		Planning Redevelopment Y ☐ N ☒			

Purpose of Application / Description of Work:

Construction of 3 climate controlled self storage buildings w/ associatied parking and improvements

Owner

Name	Friel Storage LLC c/o Jay Friel
Mailing Address	47 Prospect Bay Drive W.
Telephone No.	410 827 8811
Email	jay@sewfriel.com

Applicant / Agent

Name	Fink Whitten + Assoc. c/o Elizabeth Fink
Mailing Address	113 E. Dover St. Unit "C"
Telephone No.	410 822 8484
Email	efink@finkwhitten.com

Surveyor / Engineer

Name	DMS + Assoc., Brandon Davis	License No.	37235	Expiration Date	06/2024
Mailing Address	po Box 80 Centreville MD 21617				
Telephone No.	443 262 9130	Email	bdavis@dmsandassociates.com		

Any modifications during review shall warrant an updated application.

I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.

Signature of Applicant or Agent Engineer — Date 06/07/2023

Printed Name of Applicant or Agent — Brandon Davis engineer w/ DMS + Assoc.

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 06/28/2023

ESDR: 2023-12
Application No.: 23-959

Completeness Check Date

Revisions/Resubmissions Required Y ☐ N ☐

Resubmission Date

Documents Received Y ☐ N ☐

Staff Determination

Planning Commission Requir Y ☒ N ☐ Planning Commission Meeting Date: 07/20/2023

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☐ N ☐

Staff Signature Date

Revised 02-2019

Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

Site Plan, PUD, Planned Healthcare Application

Application Type

Planned Unit Development ☐ Amendment ☐ Health Care (HC) ☐ Site Plan ☒

Subdivision Information

Name					
Original Property Size	Acres		Square Feet		
Telephone No.		Email			

Site Plan Information

Property Size	Acres	1.775	Square Feet		
Structure's Floor Area	35,000	Structure's Square Feet	35,000	total (3 buildings)	
Area of Disturbance	1.80	Number of Dwelling Units	0		

Property Information

Address	Elliott Road						
Tax Map	109	Grid	EA	Parcel	2849	Lot	4
Deed Refernce:	Liber	3052	Folio	169			
Plat Reference:	Liber	87	Folio	59			
Base Zoning District	CG	Historic Y ☐ N ☒		Planned Redevelopment Y ☐ N ☒			
Source of Electricity	Easton Utilities						

Owner

Name	Friel Storage LLC c/o Jay Friel		
Mailing Address	47 Prospect Bay Drive W., Grasonville MD 21638		
Telephone No.	410 827 8811	Email	jay@sewfriel.com

Applicant or Agent

Name	Fink Whitten & Assoc. c/o Elizabeth Fink		
Mailing Address	113 E. Dover St., Unit C, Easton MD 21601		
Telephone No.	410 822 8484	Email	efink@finkwhitten.com

Surveyor / Engineer

Name	DMS + Asso. Brandon Davis	License No.	37235	Expiration Date	06/2024
Mailing Address	Po Box 80 Centreville MD 21617				
Telephone No.	443 262 9130	Email	bdavis@dmsandassociates.com		

Any modifications during review shall warrant an updated application.

I hereby certify that I have reviewed and satisfied the Town of Easton Development Standards and that submission of an incomplete application will be returned for correction prior to processing.

Signature of Applicant or Agent Engineer	
Date	6/7/2023
Printed Name of Applicant or Agent	Brandon Davis engineer w/ DMS + Assoc

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	07/20/2023		
Sketch Approval Date		Project No.	
Prelim/Dev. Approval Date		Application No.	
Final Approval Date		Sketch Fee Paid	
Recordation Date		Develop. Fee Paid	

Revised 02-2019

RECEIVED
JUN 0 7 2023
TOWN OF EASTON

ESDR: 2023-12
Application No.: 23-959

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

July 5, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, July 20, 2023 at 1:00 p.m**. in the Easton Town Council Chambers located on the second floor of 14 South Harrison Street. The Town of Easton Zoning Ordinance requires that owners of property located within 400 feet of a parcel on which certain types of applications are pending be given notice of upcoming meetings or hearings. If you are a tenant in or an owner of a multi-unit building, please distribute or post this notice in a visible location for all other tenants or owners to view. If you are a tenant of a rental property, please notify the property owner that this notice letter has been distributed to their property. Notice has also been sent to the Star Democrat, a sign has been posted at the subject property and the hearing agenda has been posted on the Town of Easton website: http://eastonmd.gov/.

This letter is sent to inform you that a Site Plan Review application has been filed on behalf of Friel Storage to request site plan and architectural approval for three proposed climate-controlled storage facilities on the property located at Elliott Road, Parcel 2849, also known as Tax Map 109, Parcel 2849, Lot 4.

Copies of the proposed application are on file and available for public review in the Town's Planning Office at 14 South Harrison Street between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday. **In addition, digital copies are also available for review via the Town's website at** https://www.eastonmd.gov/129/Agendas-Minutes. If you have any questions regarding this application, please contact the Planning Office at (410) 822-1943 or via e-mail at ssmith@eastonMD.gov.

Samantha N. Smith

Samantha N. Smith
Administrative Specialist
Planning & Zoning Department
410-822-1943 ssmith@eastonMD.gov

APG Media of Chesapeake, LLC **06/29/23**
29088 Airpark Drive
Easton, MD 21601

Phone: Fax:
http://www.chespub.com

Cust. AcctID:		Creation Date:	**06/29/23**
		Ad Date:	**07/05/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	**3027623**
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**219**
		Lines:	**42**
		Agate Lines:	**198**
Telephone:	**(410) 822-2525**	Depth:	**5.5**
Email:		Inserts:	**2**
Description:	**Planning Comm Meeting**	Blind Box:	

Other Charges:		Total:	
Discount:			
Surcharge:		Paid Amount:	
Credits:			
Bill Depth:		Amount Due:	

CREDIT CARD DETAILS

PT	CT	CN	Number	Exp.	Amnt.

Publication	Start	Stop	Inserts	Cost
The Star Democrat	07/05/23	07/05/23	1	

Planning Commission
MEETING AGENDA
Thursday, July 20, 2023 - 1:00 **PM** Council
Council Chambers, Easton Town Office
14 S Harrison Street

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Draft Decision Summary from the June 15, 2023 meeting.
   b. Approval of the Draft Decision Summary from the April 4, 2023 Poplar Hill Supplemental Growth Allocation joint public hearing.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Saints Peter and Paul Church
      File No.: 2023-962
      Location: 1212 S. Washington Street - Saints Peter and Paul School
      Tax Map 108, Grid 000, Parcel 2678F, Lot 4
      Zoning District: R-10A
      Nature of Request: Architectural approval of a proposed storage building.
   b. **Applicant:** Robert S. Collison, P.A.
      File No.: 2023-963
      Location: 9719 Ocean Gateway
      Tax Map 0025, Grid 0006, Parcel 0113,
      Current County Zoning District: GC
      Requested Town Zoning District: CG
      Nature of Request: Petition for the Annexation of 3.25 acres of property located at 9719 Ocean Gateway, Easton, Maryland with a formal recommendation to the Town Council on the Annexation and the appropriate Zoning classification.
   c. **Applicant:** DMS & Associates, LLC
      File No.: 2023-959
      Location: Elliott Road
      Tax Map 109, Parcel 2849, Lot 4
      Zoning District: CG
      Request: Site Plan and Architectural approval of a proposed climate-controlled self storage facility.
5. **Discussion Item**
6. **Adjournment.**

3027623 SD 7/5/2023

Ad Note:

Sign posted on July 3, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

RECEIVED
JUL 03 2023
TOWN OF EASTON

Town of Easton
Engineering, Planning and Zoning
14 South Harrison Street, Easton, MD 21601

Forest Conservation Application

Project Information

Project Name	Elliott Rd Climate Controlled Self Str.	Project Number	2023-959
Project Location	Elliott Road, Easton MD		
Project Description	Construction of three climate controlled self storage buildings w/ associated improvements		

Watershed Information

Watershed Name	Lower Choptank	Sub-watershed No.	02130403
County	Talbot	Municipality	Easton

Property Information

National Spatial Reference System (NSRS)
Alignment of passive control with the latest realization of the North American Datum of 1983:
NAD 83(2011), NAD 83(PA11), and NAD 83(MA11) Epoch 2010.00

Maryland Grid Coordinates centroid:			404322	ft. North		1580812	ft. East
ADC Map: Year	2012		Page	45	Grid	B2	
Tax Map:	109	Grid	EA	Parcel	2849	Block	–
District / Account Number	01-059793					Lot	4
Liber	3052	Folio	169				

Agent Information

Name	Elizabeth Fink	License No.		Expiration Date	
Firm Name	Fink Whitten & Assoc.				
Mailing Address	113 E. Dover St. Unit C Easton MD 21601				
Telephone No.	410 822 8484	Email	efink@finkwhitten.com		

Forest Stand Delineation Information

Details of Request (Acreage or portion thereof)

Total Tract Area	1.775 Ac.	*Net Tract Area*	1.775 Ac.
Area within 100-year Floodplain	0 Ac.	Area of Existing Forest	0 Ac.
Area Remaining in Agriculture	0 Ac.	Area of Existing NTW	0 Ac.
Other	0 Ac.	Sensitive Areas	0 Ac.

Forested Stream Buffers (minimum 50' wide): Yes / No

One Side		Both Sides	
Buffer Area Forested	Ac.	Length	Ft.
Steep Slopes		Yes	No
Threatened & Endangered Species		Yes	No
Dominant & Co-dominant Species		Yes	No

Forest Stand Delineation Prepared by:

Licensed Landscape Architect | Licensed Forester | Qualified Professional

Forest Conservation Plan Information

Details of Request (Acreage or portion thereof)

Existing Land Use (zone)	CIA	Proposed Land Use (zone)	CIA		
Afforestation Threshold	0.266	Conservation Threshold	0.266		
Proposed Area of Disturbance	1.775 ac.	in Sensitive Areas	0		
Proposed Forest Clearing	0	in Sensitive Areas	0	in NTW	0

Forest Retention:

Onsite	0.321	Offsite	0	in Long Term Protection	0.321
Forest Conservation Required			0.266	Forest Conservation Provided	0.321

Planting:

Onsite	0.321	Offsite	0	Sensitive Area Planting	0

Stream Buffer Established: Length N/A Width N/A

Other:

Offsite Location:

County		Municipality					
ADC Map:		Year		Page		Grid	
Tax Map:		Grid		Parcel		Block	
Maryland Grid:		North American Datum Year				Lot	
District / Account Number		Sub-watershed No.					
Planting Responsibility:		Contact #					
Maintenance Responsibility:		Contact #					
Long Term Protection		% in Sensitive Areas					
Long Term Protection Agreement Type							
Fee-in Lieu Amount		Acreage					
Forest Conservation Plan Prepared by							
Licensed Landscape Architect							
Licensed Forester							
Qualified Professional							

Subject to previous FCP? Y / N

If yes, please provide a copy of previous approved FCP.

Subject to ESDR? Y/ N

Required:

- ☐ Completed Form
- ☐ Written Statement
- ☐ Signature of Applicant
- ☐ Hardcopy of Drawings
- ☐ Digital Copy of Drawings
- ☐ Copies Hard / Digital of Any Previous FCP + Application
- ☐ Review Fee

Any modifications during review shall warrant an updated application.

I do hereby solemnly declare and affirm that the information provided by this application and the documents attached hereto accurately represent the conditions of the request and that submission of an incomplete application will be returned for correction prior to processing.

By signing below, the applicant certifies that he of she has the legal right to implement proposed planting, maintenance and or a long-term protection agreement. The applicant further certifies that the property, subject to a long-term protection agreement is not otherwise protected under Federal, State or local programs.

Signature of Applicant or Agent	
Date	7/3/2023
Printed Name of Applicant or Agent	Brandon Davis DMS

For Office Use Only

Planning Commission Meeting Date	07/20/2023		
Sketch Approval Date		Project No.	ESDR 23-12
Prelim/Dev. Approval Date		Application No.	23-959
Final Approval Date		Sketch Fee Paid	-
Recordation Date		Develop. Fee Paid	-
			Revised 02-2019

PRELIMINARY SITE PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, MARYLAND

SITE STATISTICS

CURRENT USE – COMMERCIAL/VACANT
PROPOSED USE – COMMERCIAL/CLIMATE CONTROLLED SELF STORAGE

GROSS SITE AREA	=	1.775 ac.± (77,341 sq. ft.±)
CRITICAL AREA	=	0.000 ac.± (0,000 sq. ft.±)
BASE SITE AREA	=	1.775 ac.± (77,341 sq. ft.±)
AREA IN BUFFERYARDS	=	0.061 ac.± (2,649 sq. ft.±)
AREA WITHIN FLOODPLAIN	=	0.000 ac.± (0,000 sq. ft.±)
LOT COVERAGE BY STRUCTURES (PERMITTED) (50%)	=	0.888 ac.± (38,670 sq. ft.±)
LOT COVERAGE BY STRUCTURES (EXISTING) (0.0%)	=	0.000 ac.± (0,000 sq. ft.±)
LOT COVERAGE BY STRUCTURES (PROPOSED) (45.3%)	=	0.803 ac.± (35,000 sq. ft.±)
IMPERVIOUS AREA (EXISTING) (4.7%)	=	0.084 ac.± (3,661 sq. ft.±)
IMPERVIOUS AREA (TO BE REMOVED)	=	0.076 ac.± (3,300 sq. ft.±)
IMPERVIOUS AREA (TOTAL) (64.4%)	=	1.143 ac.± (49,773 sq. ft.±)
IMPERVIOUS AREA (PROPOSED) (64.8%)	=	1.150 ac.± (50,104 sq. ft.±)
LANDSCAPE AREA (EXISTING) (95.3%)	=	1.691 ac.± (73,680 sq. ft.±)
LANDSCAPE AREA (PROVIDED) (35.2%)	=	0.625 ac.± (27,237 sq. ft.±)

PARKING REQUIREMENTS

PROPOSED: (SECTION 28–1001.3):
4 spaces/climate controlled self storage (mini–warehouse) site = 4 SPACES
2 spaces/managers quarters X 0 managers quarters = 0 SPACES

PARKING SPACES (REQUIRED) = 4 SPACES (1 HANDICAP)
PARKING SPACES (PROVIDED) = 5 SPACES (1 HANDICAP)

OFF–STREET LOADING REQUIREMENTS

PROPOSED: (SECTION 28–1002.A):
1 loading space/10,000 sq. ft. floor area X 35,000 sq. ft. FLOOR AREA = 3.5 or 4 SPACES

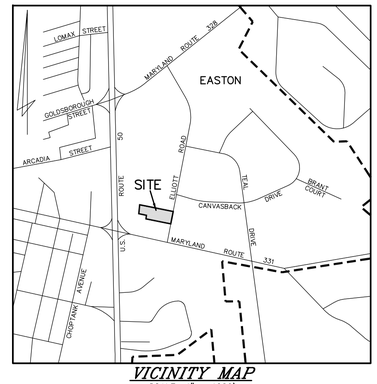
LOADING SPACES (REQUIRED) = 4 SPACES
LOADING SPACES (PROVIDED) = 6 SPACES

LEGEND

	DEED POINT
	EXISTING TREE
	EDGE OF EXISTING TREES
x 46.87	EXISTING SPOT ELEVATION
47.0	EXISTING CONTOUR
OHP	EXISTING UTILITY POLE OVERHEAD LINE
	EXISTING LIGHT POLE
D	PROPOSED DRAINAGE MANHOLE
	PROPOSED SIGN
	PROPOSED ACCESSIBLE PARKING SPACE
SS SS	EXISTING GRAVITY SEWER LINE
S	EXISTING SEWER MANHOLE
W W	EXISTING WATER LINE
	EXISTING FIRE HYDRANT
G G	EXISTING GAS LINE
SF	PERIMETER SILT FENCE
(CIP)	"CURB" INLET PROTECTION
(AGIP)	"AT GRADE" INLET PROTECTION
L.O.D.	LIMITS OF DISTURBANCE
	STABILIZED CONSTRUCTION ENTRANCE

NOTES

1. PROPERTY LINE INFORMATION SHOWN HEREON IS THE RESULT OF A FIELD RUN SURVEY BY FINK, WHITTEN AND ASSOCIATES, LLC IN NOVEMBER, 2021. HORIZONTAL DATUM IS NAD 83/2011.
2. FOR DEED REFERENCE, SEE LIBER K.M.D. 2932, FOLIO 143.
3. THE PROPERTY IS NOT LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
4. SITE IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS SCALED FROM FLOOD INSURANCE RATE MAP COMMUNITY PANEL No. 24041C0193C. (ZONE "X") (UNSHADED) DATED AUGUST 5, 2013.
5. SOILS ON SITE CONSIST OF "Up" (URBAN LAND) AS TAKEN FROM THE WEBSITE: http://websoilsurvey.nrcs.usda.gov FOR TALBOT COUNTY. NO HYDRIC SOILS EXIST ON THE SITE.
6. NO NATURAL RESOURCES (ie... WOODLANDS, NONTIDAL WETLANDS AND BUFFER, STREAM AND BUFFER, STEEP SLOPES, ENDANGERED SPECIES OR HABITATS) EXIST ON THE SITE.
7. EXISTING PUBLIC WATER SERVICES THE AREA, HOWEVER THE BUILDINGS WILL NOT HAVE ANY BATHROOMS, SPRINKLERS, SPIGOTS, etc..., THEREFORE NO WATER SERVICE IS PROPOSED.
8. EXISTING PUBLIC SEWER SERVICES THE AREA, HOWEVER THE BUILDINGS WILL NOT HAVE ANY BATHROOMS, SPRINKLERS, SPIGOTS, etc..., THEREFORE NO SEWER SERVICE IS PROPOSED.
9. EXISTING SPOT ELEVATIONS AND CONTOURS SHOWN HEREON ARE THE RESULT OF A FIELD RUN SURVEY BY FINK, WHITTEN AND ASSOCIATES, LLC IN NOVEMBER, 2021. VERTICAL DATUM IS NAVD 88.
10. STORMWATER MANAGEMENT FOR THE SITE WILL BEEN ADDRESSED VIA THE IMPLEMENTATION OF ENVIRONMENTAL SITE DESIGN (ESD) TO THE MAXIMUM EXTENT PRACTICABLE (MEP).
11. ALL ONSITE LIGHTING WILL CONSIST OF WALL MOUNTED LIGHTING.
12. THERE SHALL BE NO OUTDOOR STORAGE.
13. ONE FREESTANDING SIGN IS PERMITTED, NOT TO EXCEED 50 sq. ft. PER SIDE IN AREA, NOT TO EXCEED 10 ft. VERTICAL DIMENSION, SHALL BE SETBACK AT LEAST 10' FROM ANY PROPERTY LINE. A LANDSCAPE AREA EQUIVALENT EQUIVALENT TO THE AREA OF EACH SIDE OF A FREESTANDING SIGN SHALL BE PROVIDED. SEE ARTICLE XI OF THE TOWN CODE FOR ADDITIONAL SIGN REGULATIONS. SIGNS REQUIRED TO OBTAIN A SIGN PERMIT FROM THE TOWN.
14. WALL MOUNTED SIGNAGE IS PERMITTED WITH A MAXIMUM AREA OF 1 sq. ft. OF SIGNAGE PER 1 LINEAL FOOT OF STREET FRONTAGE OF THE BUILDING. SEE ARTICLE XI OF THE TOWN CODE FOR ADDITIONAL SIGN REGULATIONS. SIGNS REQUIRED TO OBTAIN A SIGN PERMIT FROM THE TOWN AS APPLICABLE.
    BUILDING #1 = 75 sq. ft. (ALLOWED)
    BUILDING #2 = 50 sq. ft. (ALLOWED)
    BUILDING #3 = 0 sq. ft. (ALLOWED)
15. CURRENT ZONING CLASSIFICATION IS "CG" (GENERAL COMMERCIAL)
16. SITE REQUIREMENTS:
    BUILDING SETBACKS
    (SECTION 28.306.2):
    FRONT = 25'
    REAR = 15'
    SIDE = 10'
    MAXIMUM BUILDING HEIGHT:
    PRINCIPAL = 50' (ALLOWED)
    PRINCIPAL = <50' (PROPOSED)



VICINITY MAP
SCALE 1" = 1000'

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SHEET C–4	–	PRELIMINARY STORMWATER MANAGEMENT AND SEDIMENT & EROSION CONTROL PLAN
SHEET C–5	–	STORMWATER MANAGEMENT DETAILS AND SPECIFICATIONS
SHEET C–6	–	PRELIMINARY UTILITY PLAN & EMERGENCY SITE ACCESS PLAN
SHEET C–7	–	SITE DETAILS
SHEET C–8	–	SEDIMENT & EROSION CONTROL DETAILS AND SPECIFICATIONS
SHEET LS–1	–	PRELIMINARY LANDSCAPE PLAN
SHEET FCP	–	PRELIMINARY FOREST CONSERVATION PLAN

OWNER & APPLICANT
FRIEL STORAGE, LLC.
c/o JAY FRIEL
47 PROSPECT BAY DR W
GRASONVILLE, MARYLAND 21638
PHONE No. 1–410–827–8811

ENGINEER:
DMS & ASSOCIATES, LLC
c/o BRANDON DAVIS, P.E.
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE No. 1–443–262–9130

PRIOR OWNER & APPLICANT
DENNIS P. DULEY
27967 JARBOE DRIVE
EASTON, MARYLAND 21632
PHONE No. 1–443–786–3266

SURVEYOR:
FINK, WHITTEN & ASSOCIATES, LLC
c/o ELIZABETH FINK
113 E. DOVER ROAD, UNIT C
EASTON, MARYLAND 21601
PHONE No. 1–410–822–8484

GENERAL NOTES

1. THE EXISTING UTILITIES SHOWN WERE TAKEN FROM THE BEST AVAILABLE RECORDS. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE INCURRED TO SUCH UTILITIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL TEST PIT AS TO VERIFY THE LOCATION AND INVERT OF EXISTING UTILITIES.
2. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL COORDINATE CONSTRUCTION WITH THE UTILITY COMPANIES INVOLVED:

DELMARVA POWER & LIGHT COMPANY	1–800–375–7117
MISS UTILITY	1–800–441–8355
DMS & ASSOCIATES, LLC	1–443–262–9130
DEPARTMENT OF ENVIRONMENT	1–410–901–4020
TALBOT SOIL CONSERVATION DISTRICT	1–410–822–1577
TOWN OF EASTON ENGINEERING	1–410–820–8822
TOWN OF EASTON DEPARTMENT OF PUBLIC WORKS	1–410–822–0513
EASTON UTILITIES	1–410–822–6110

3. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, LABOR, AND MATERIALS FOR ANY MISCELLANEOUS OR TEST PIT EXCAVATIONS REQUIRED BY THE ENGINEER.
4. ALL CONSTRUCTION SHALL BE MARKED FOR TRAFFIC AND PEDESTRIAN SAFETY. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH SECTION VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOWN OF EASTON STANDARDS AND SPECIFICATIONS.
6. THE CONTRACTOR ASSUMES ALL RESPONSIBILITIES FOR ANY DEVIATIONS FROM THESE PLANS, UNLESS SAID DEVIATION IS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL RECEIVE WRITTEN PERMISSION FROM THE ENGINEER IF A DEVIATION OF THE PLAN IS NECESSARY.
7. ALL DISTURBED AREAS SHALL BE SMOOTHLY GRADED TO PROVIDE POSITIVE DRAINAGE IN THE DIRECTION OF FLOW ARROWS HEREIN AND STABILIZED WITH TOPSOIL, SEED, AND MULCH. IF SETTLEMENT OCCURS, TOPSOIL, SEEDING AND MULCHING SHALL BE REPEATED UNTIL SETTLEMENT SUBSIDES (SEE EROSION AND SEDIMENT CONTROL SPECIFICATIONS).
8. ALL TRASH, TREES, AND UNDERBRUSH ARE TO BE CLEARED AND REMOVED OFF SITE TO AN APPROVED DUMP SITE
9. ANY EXCESS EXCAVATED MATERIAL SHALL BE REMOVED OFF SITE BY THE CONTRACTOR OR MATERIAL SHALL BE PLACED ON SITE AS DIRECTED BY THE ENGINEER AND/OR OWNER.
10. ANY EXISTING SURVEY MONUMENTATION THAT IS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
11. ALL FILL AREAS WITHIN LIMITS OF ROADWAY CONSTRUCTION AND OTHER AREAS AS DESIGNATED ON THESE PLANS SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY AND LAID AND COMPACTED IN 8" LIFTS MAXIMUM.
12. TRENCHES SHALL NOT REMAIN OPEN OVERNIGHT. IF IT IS NECESSARY FOR TRENCHES TO REMAIN OPEN, STEEL PLATES, CAPABLE OF TRAFFIC BEARING, SHALL BE USED TO COMPLETELY COVER THE TRENCH.
13. ALL SEWER VALVES, BOXES AND FRAMES & COVERS SHALL BE SET AND ADJUSTED TO FINISHED GRADE.
14. CONTRACTOR MUST PROVIDE MONUMENTED SURVEY MARKERS PER PUBLIC WORKS AGREEMENT.
15. THE DEVELOPER SHALL COORDINATE WITH THE TOWN OF EASTON TO SCHEDULE INSTALLATION OF ALL NECESSARY ROADWAY SAFETY SIGNAGE AND ROAD NAME BLADES. SIGNAGE SHALL BE INSTALLED AT THE START OF CONSTRUCTION AND MAINTAINED BY THE TOWN OF EASTON THROUGHOUT THE COMPLETION OF THE WORK AT THE EXPENSE OF THE DEVELOPER. THE DEVELOPER SHALL PAY INVOICES UPON RECEIPT FROM THE TOWN OF EASTON.
16. ALL PVC, PE, AND HDPE PIPE, OTHER THAN PIPE RUNS BETWEEN GRAVITY SEWER MANHOLES, SHALL HAVE A CONTINUOUS, SINGLE STRAND, 8–GAUGE UNCOATED COPPER TRACER WIRE LOCATED BENEATH THE PIPE. THE WIRE SHALL BE STUBBED INTO ALL METER PITS, VACUUM VALVE PITS, CLEANOUTS, AND DIVISION VALVE BOXES.
17. ONCE CONSTRUCTION IS COMPLETE, AS–BUILT PLAN CERTIFICATION SHALL BE SUBMITTED BY EITHER A PROFESSIONAL ENGINEER OR PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MARYLAND TO ENSURE ALL CONSTRUCTION IS IN COMPLIANCE WITH THE SPECIFICATIONS AND APPROVED PLANS.

STATEMENT OF PURPOSE AND INTENT

THE SITE IS LOCATED ON THE WEST SIDE OF ELLIOTT ROAD IN THE TOWN OF EASTON. THE SITE IS CURRENTLY VACANT. THREE (3) NEW CLIMATE CONTROLLED SELF STORAGE BUILDINGS ARE PROPOSED FOR THIS DEVELOPMENT.

THE PURPOSE OF THIS PRELIMINARY SITE PLAN IS TO OBTAIN APPROVAL FROM THE TOWN OF EASTON PLANNING AND ZONING AND TOWN OF EASTON PLANNING COMMISSION FOR THE PROPOSED DEVELOPMENT.

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND · WILLIAM THOMAS DAVIS · No. 17660 · PROFESSIONAL ENGINEER

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN,
ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1–443–262–9130
FAX : 1–443–262–9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

TITLE SHEET
FOR THE DEVELOPMENT OF
CLIMATE CONTROLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE AS SHOWN
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109–2022009	DESIGNED BY BD
SHEET No. – C–1	
CADD FILE – 22009C01	

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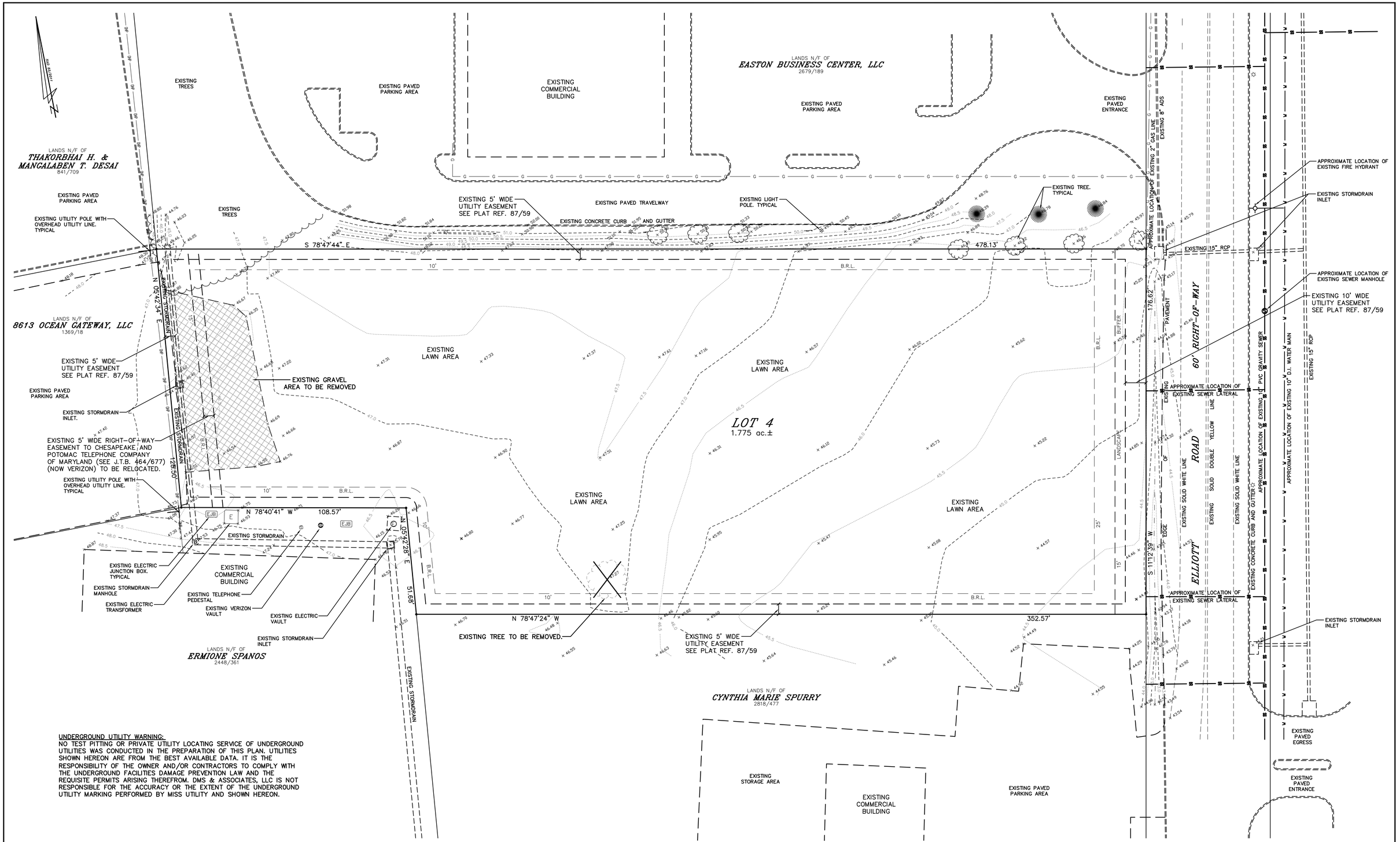

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS & ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 ft.

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES - ENGINEER

PROFESSIONAL CERTIFICATION:
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STATE OF MARYLAND
WILLIAM JAMES DAVIS
No. 17660
7/31/2023
PROFESSIONAL ENGINEER

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN,
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FAX : 1-443-262-9148

DATE	REVISION
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7/3/2023	PER 06/23 ESDR MTG

EXISTING CONDITIONS AND DEMOLITION PLAN

FOR THE DEVELOPMENT OF

CLIMATE CONTROLLED SELF STORAGE

ON THE LANDS OF

FRIEL STORAGE, LLC.

IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND

TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
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CADD FILE – 22009C02	

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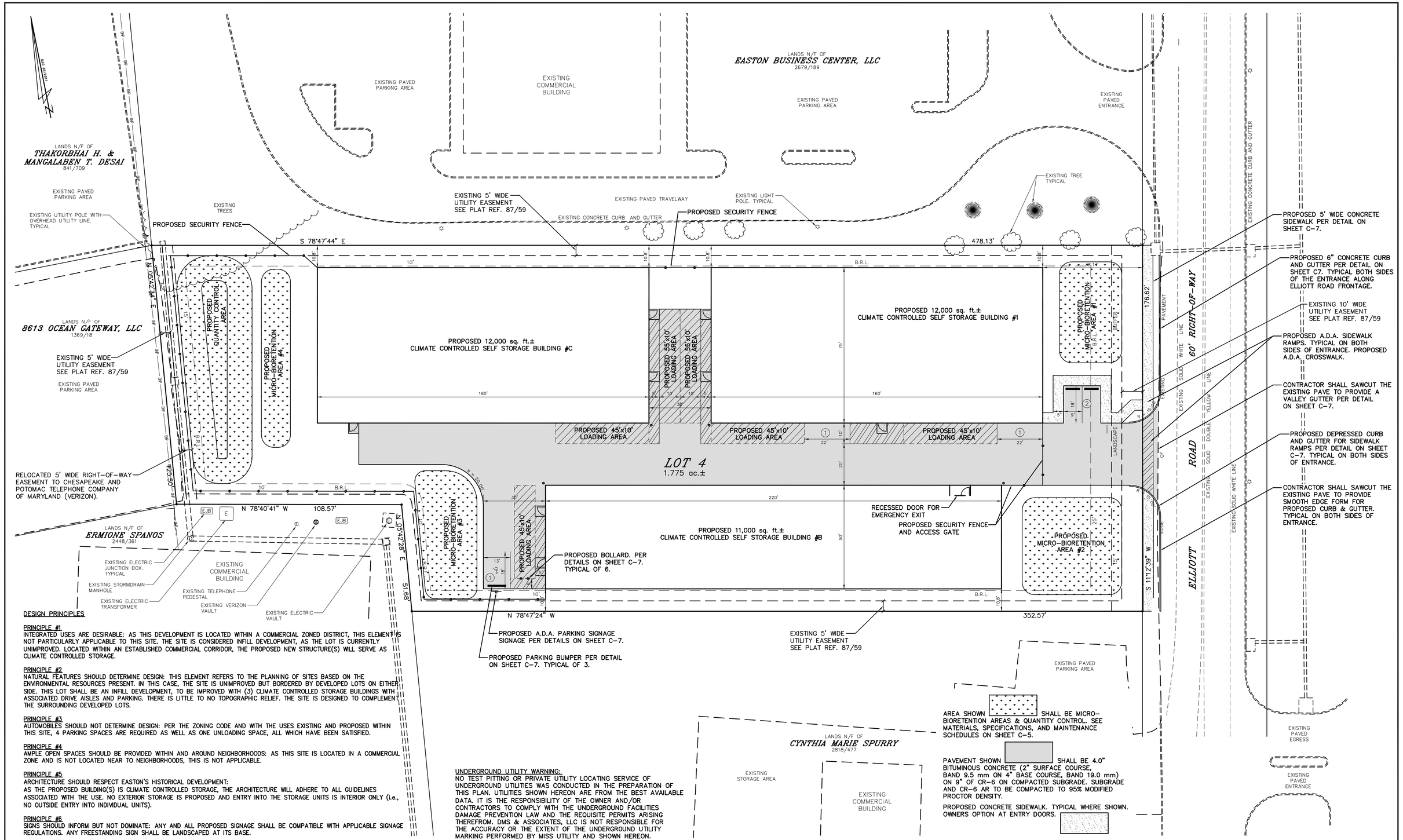

DESIGN PRINCIPLES

PRINCIPLE #1
INTEGRATED USES ARE DESIRABLE: AS THIS DEVELOPMENT IS LOCATED WITHIN A COMMERCIAL ZONED DISTRICT, THIS ELEMENT IS NOT PARTICULARLY APPLICABLE TO THIS SITE. THE SITE IS CONSIDERED INFILL DEVELOPMENT, AS THE LOT IS CURRENTLY UNIMPROVED. LOCATED WITHIN AN ESTABLISHED COMMERCIAL CORRIDOR, THE PROPOSED NEW STRUCTURE(S) WILL SERVE AS CLIMATE CONTROLLED STORAGE.

PRINCIPLE #2
NATURAL FEATURES SHOULD DETERMINE DESIGN: THIS ELEMENT REFERS TO THE PLANNING OF SITES BASED ON THE ENVIRONMENTAL RESOURCES PRESENT. IN THIS CASE, THE SITE IS UNIMPROVED BUT BORDERED BY DEVELOPED LOTS ON EITHER SIDE. THIS LOT SHALL BE AN INFILL DEVELOPMENT, TO BE IMPROVED WITH (3) CLIMATE CONTROLLED STORAGE BUILDINGS WITH ASSOCIATED DRIVE AISLES AND PARKING. THERE IS LITTLE TO NO TOPOGRAPHIC RELIEF. THE SITE IS DESIGNED TO COMPLEMENT THE SURROUNDING DEVELOPED LOTS.

PRINCIPLE #3
AUTOMOBILES SHOULD NOT DETERMINE DESIGN: PER THE ZONING CODE AND WITH THE USES EXISTING AND PROPOSED WITHIN THIS SITE, 4 PARKING SPACES ARE REQUIRED AS WELL AS ONE UNLOADING SPACE, ALL WHICH HAVE BEEN SATISFIED.

PRINCIPLE #4
AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN AND AROUND NEIGHBORHOODS: AS THIS SITE IS LOCATED IN A COMMERCIAL ZONE AND IS NOT LOCATED NEAR TO NEIGHBORHOODS, THIS IS NOT APPLICABLE.

PRINCIPLE #5
ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT:
AS THE PROPOSED BUILDING(S) IS CLIMATE CONTROLLED STORAGE, THE ARCHITECTURE WILL ADHERE TO ALL GUIDELINES ASSOCIATED WITH THE USE. NO EXTERIOR STORAGE IS PROPOSED AND ENTRY INTO THE STORAGE UNITS IS INTERIOR ONLY (i.e., NO OUTSIDE ENTRY INTO INDIVIDUAL UNITS).

PRINCIPLE #6
SIGNS SHOULD INFORM BUT NOT DOMINATE: ANY AND ALL PROPOSED SIGNAGE SHALL BE COMPATIBLE WITH APPLICABLE SIGNAGE REGULATIONS. ANY FREESTANDING SIGN SHALL BE LANDSCAPED AT ITS BASE.

PRINCIPLE #7
NEIGHBORHOODS SHOULD CONTAIN A DIVERSITY OF HOUSING TYPES: THIS PRINCIPLE IS NOT APPLICABLE TO OUR REQUEST.

PRINCIPLE #8
RESIDENTIAL DEVELOPMENT SHOULD BE INTERESTING PLACES: THIS PRINCIPLE IS NOT APPLICABLE TO OUR REQUEST.

PRINCIPLE #9
NEIGHBORHOODS SHOULD CONNECT: THIS PRINCIPLE IS NOT APPLICABLE TO OUR REQUEST.

GRAPHIC SCALE
20 0 10 20 40
1 inch = 20 ft.

UNDERGROUND UTILITY WARNING:
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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES - ENGINEER

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND
WILLIAM THOMAS DAVIS
No. 17660
7/3/2023
PROFESSIONAL ENGINEER

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN,
ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
FAX : 1-443-262-9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

PRELIMINARY SITE PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP - 109, PARCEL - 2849

DATE MAY '22	SCALE 1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. - C-3	
CADD FILE - 22009C03	

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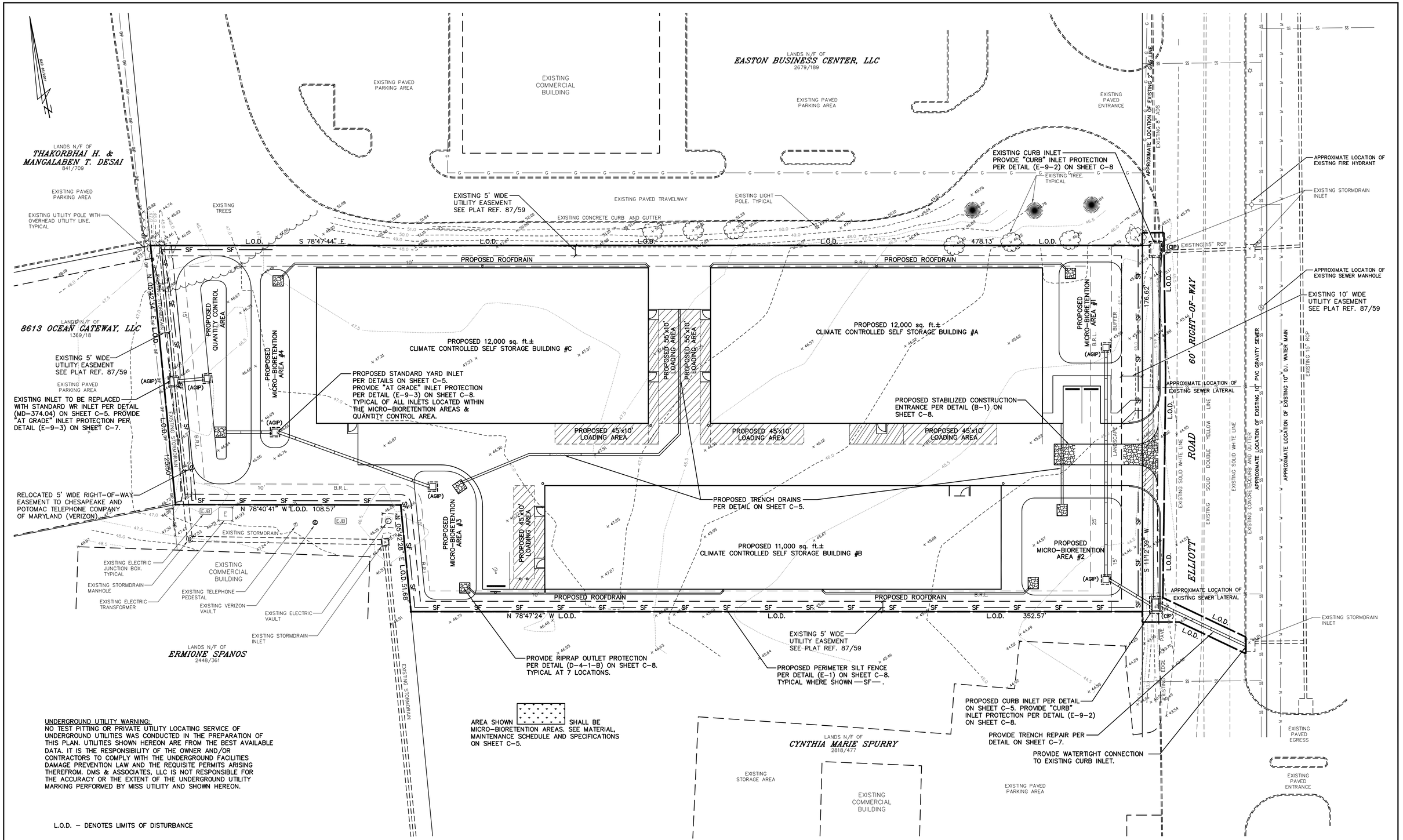

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L.O.D. – DENOTES LIMITS OF DISTURBANCE

NOTE:
SEDIMENT AND EROSION CONTROL WILL BE STRICTLY ENFORCED

NOTE:
FOLLOWING INITIAL DISTURBANCE, PERMANENT OR TEMPORARY, STABILIZATION SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS ON ALL PERIMETER CONTROLS AND SLOPES GREATER THAN 3:1 AND 7 DAYS ON ALL OTHER DISTURBED AREAS ON THE SITE.

GRAPHIC SCALE
20 0 10 20 40
1 inch = 20 ft.

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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND · WILLIAM JAMES MOORE · No. 17660 · REGISTERED PROFESSIONAL ENGINEER

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
FAX : 1-443-262-9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

PRELIMINARY STORMWATER MANAGEMENT AND SEDIMENT & EROSION CONTROL PLAN

FOR THE DEVELOPMENT OF

CLIMATE CONTROLLED SELF STORAGE

ON THE LANDS OF

FRIEL STORAGE, LLC.

IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND

TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
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SHEET No. – C-4	
CADD FILE – 22009C04	

BIORETENTION MAINTENANCE SCHEDULE

DESCRIPTION	METHOD	FREQUENCY	TIME OF THE YEAR
SOIL			
INSPECT AND REPAIR EROSION REPLACEMENT OF SOILS IF PONDING TIME EXCEEDS 48 HOURS	VISUAL	MONTHLY	MONTHLY
ORGANIC LAYER			
RE-MULCH ANY VOID AREAS	BY HAND	WHENEVER NEEDED	WHENEVER NEED
REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER (OPTIONAL)	BY HAND	ONCE EVERY TWO TO THREE YEARS	SPRING
ADD FRESH MULCH LAYER	BY HAND	YEARLY	SPRING
PLANTS			
REMOVAL AND REPLACEMENT OF ALL DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	SEE PLANTING SPECS.	YEARLY	3/15 to 4/30
INSPECT FOR DISEASE/PEST PROBLEMS	VISUAL	ONCE A MONTH (AVERAGE)	INSPECT MORE FREQUENTLY IN WARMER MONTHS
DETERMINE IF TREATMENT IS WARRANTED. USE LEAST TOXIC TREATMENT APPROACH	BY HAND	N/A	VARIES, DEPENDS ON DISEASE OR INSECT INFESTATION
WATERING OF PLANT MATERIAL SHALL TAKE PLACE FOR FOURTEEN CONSECUTIVE DAYS AFTER PLANTING HAS BEEN COMPLETED UNLESS THERE IS SUFFICIENT NATURAL RAINFALL	BY HAND	IMMEDIATELY AFTER COMPLETION OF PROJECT	N/A
REMOVE STAKES AND WIRES AFTER 6 MONTHS	BY HAND	AFTER TREES HAVE TAKEN ROOT	REMOVE STAKES AND WIRES WHEN POSSIBLE, BUT AT LEAST BY SIX MONTHS TIME
REMOVE TAGS AFTER 6 MONTHS	BY HAND	AT END OF WARRANTEE PERIOD	

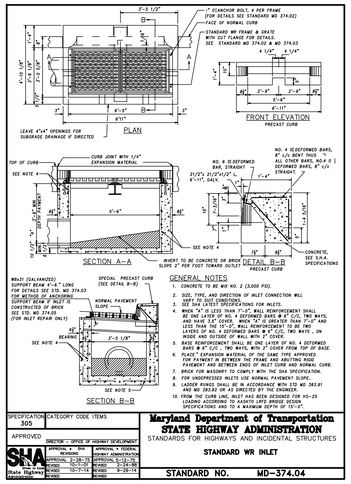
MATERIAL SPECIFICATIONS FOR BIORETENTION

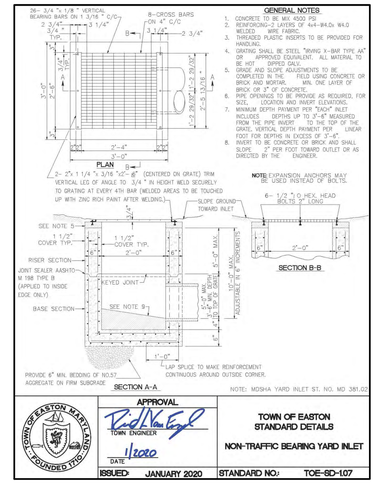
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	SEE PLAN	PLANTINGS ARE SITE-SPECIFIC – SEE LANDSCAPE PLAN FOR PLANT SPECIES
PLANTINGS SOILS (2' to 4' DEEP)	LOAMY SAND (60% to 65%) & COMPOST (35% to 40%) or SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	Min. 10% BY DRY WEIGHT (ASTM D 2974)		
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL; ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
CURRENT DRAIN	ORNAMENTAL STONE; WASHED COBBLES	STONE: 2" to 5"	
GEOTEXTILE (SIDES ONLY)	SEE APPENDIX A, TABLE A.4	N/A	PE TYPE 1 NONWOVEN
GRAVEL (UNDERDRAINS AND INFILTRATION BERMS)	AASHTO M-43	No. 57 or No. 6 AGGREGATE (3/8" to 3/4")	
UNDERDRAIN PIPING	F 758, TYPE PS 28 or AASHTO M-278	4" to 6" RIGID (SCH-40) PVC or SDR-35	SLOTTED OR PERFORATED PIPE; 3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MIX No. 3; f_c = 3500 psi @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND – DESIGN TO INCLUDE MEETING ACI CODE 350.R/89; VERTICAL LOADING [H-10 OR H-20]; ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
SAND	AASHTO M-6 or ASTM-C-33	0.02" to 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTION ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND

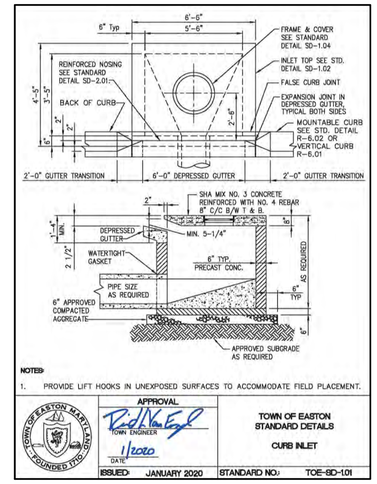
ESD SUMMARY CHART

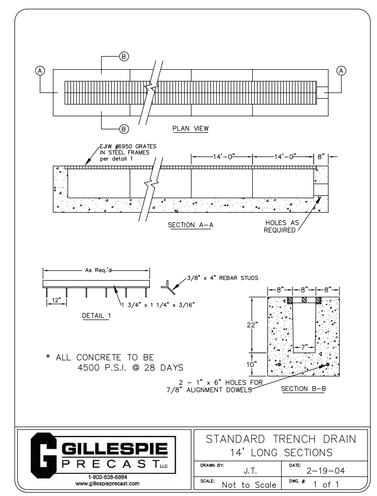
DRAINAGE AREA	TYPE OF ESD PRACTICE	NAME OF ESD PRACTICE (STRUCTURE NAME)	ON-SITE OR OFF-SITE STRUCTURE	RUNOFF CURVE NUMBER (RCN) WEIGHTED	MARYLAND GRID COORDINATE NAD 83 METERS NORTHING	MARYLAND GRID COORDINATE NAD 83 METERS EASTING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES)	SURFACE AREA OF ESD PRACTICE (ACRES)	TARGET PE (INCHES)	ACTUAL PE (INCHES)	TARGET ESDv (CU.FT.)	ACTUAL ESDv (CU.FT.)
1	MICRO-BIORETENTION (M-7)	MICRO BIO #1	ON	92	123240.31	481890.29	0.3286	0.2584	0.0235	1.8	2.53	1627	2287
2	MICRO-BIORETENTION (M-7)	MICRO BIO #2	ON	94	123206.64	481880.99	0.3273	0.2486	0.0392	1.8	4.28	1570	3730
3	MICRO-BIORETENTION (M-7)	MICRO BIO #3	ON	96	123225.45	481791.39	0.4581	0.3994	0.0268	1.8	1.88	2499	2608
4	MICRO-BIORETENTION (M-7)	MICRO BIO #4	ON	93	123256.89	481772.10	0.3138	0.2150	0.0145	1.8	2.05	1367	1556

TOWN OF EASTON STANDARD DETAILS - ESD SUMMARY CHART - STANDARD NO. TOE-SWM-7.01









B.4.C Specifications for Micro-Bioretention

1. Materials Specifications

The allowable materials to be used in bioretention area are detailed in Table B.4.1

2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet following criteria:

- –Soil Component – Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- –Organic Content – Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- –Clay Content – Media shall have a clay content of less than 5%.
- –pH Range – Should be between 5.5 – 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires,rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for micro-bioretention areas can be found in Appendix A.

5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". 3?. Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant materials shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

Underdrains should meet the following criteria:

- –Pipe–Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type PS 28, or AASHTO–M–278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- –Perforations–If perforated pipe is used, perforations should be 3" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a ¼" (No. 4 or 4x4) galvanized hardware cloth.
- –Gravel–The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- –The main collector pipe shall be at a minimum 0.5% slope.
- –A rigid, non–perforated observation well must be provided (one per every 1,0000 square feet) to provide a clean–out port and monitor performance of the filter.
- –A 4" layer of pea gravel (1/8" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean–out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

INSPECTION REQUIREMENTS DURING CONSTRUCTION

THE CONTRACTOR SHALL NOTIFY THE TOWN OF EASTON ENGINEERING DEPARTMENT AT 410–820–8822, THREE (3) DAYS IN ADVANCE OF BEGINNING CONSTRUCTION FOR THE FOLLOWING:

FOR MICRO–BIORETENTION AREA:
- (a) DURING EXCAVATION TO SUBGRADE
- (b) DURING PLACEMENT OF BACKFILL OF UNDERDRAIN SYSTEMS;
- (c) DURING PLACEMENT OF GEOTEXTILES AND ALL FILTER MEDIA
- (d) DURING CONSTRUCTION OF ANY APPURTENANT CONVEYANCE SYSTEMS SUCH AS STORMDRAIN SYSTEMS, INLETS, OUTLETS, AND FLOW DISTRIBUTION STRUCTURES.
- (e) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

FOR STORMDRAINS:
- (a) DURING EXCAVATION TO SUBGRADE
- (b) DURING PLACEMENT OF PIPES
- (c) DURING CONSTRUCTION OF ANY APPURTENANT CONVEYANCE SYSTEMS
- (d) DURING COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION

FOR QUANTITY CONTROL AREAS:
- (a) DURING EXCAVATION
- (b) DURING BERM INSTALLATION
- (c) DURING INSTALLATION OF PIPES, STRUCTURES, AND OVERFLOW WEIRS
- (d) DURING CONSTRUCTION OF ANY APPURTENANT CONVEYANCE SYSTEMS
- (e) DURING COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION

FINAL LOT GRADING TO ENSURE COMPLIANCE WITH ROOFTOP AND NON–ROOFTOP DISCONNECTION CREDIT CRITERIA

SWM QUANTITY SUMMARY CHART

PRACTICE	DA (ACRES)	IMPERVIOUS (ACRES)	RCN (POST)	Tc (MINUTES)	PRE 2-YEAR (cfs)	POST 2-YEAR (cfs)	W.S.E.	PRE 10-YEAR (cfs)	POST 10-YEAR (cfs)	W.S.E.	PRE 100-YEAR (cfs)	POST 100-YEAR (cfs)	W.S.E.
DETENTION POND (DA #1, BACK)	1.0097	0.6143	91	6 (MIN.)	1.04***	0.90***	45.9***	2.06***	1.75***	46.8***	4.21***	9.62***	47.1***
ESD DEVICES (DA #2, FRONT)	0.7665	0.5283	92	6 (MIN.)	1.16	1.15*	N/A**	2.40	2.61*^	N/A**	5.04	5.86	N/A**

TOWN OF EASTON STANDARD DETAILS - SWM QUANTITIY SUMMARY CHART - STANDARD NO. TOE-SWM-7.02

* POST PROJECT FLOW VALUES PRESENTED ARE BASED ON MDE REDUCED CURVE NUMBER COMPUTATOINS
** ESD TO THE MEP TREATMENT RESULTS IN REDUCED CURVE NUMBERS THAT ADDRESS QUANTITY CONTROL REQUIREMENT AND THEREFORE WATER SURFACE ELEVATIONS ARE NOT APPLICABLE
*** FROM TR-20
^ Extra Storage Provided in ESD Device to Address 10yr Quantity Control Requirement

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND WILLIAM THOMAS MOORE No. 17660 PROFESSIONAL ENGINEER

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1–443–262–9130
FAX : 1–443–262–9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

STORMWATER MANAGEMENT DETAILS AND SPECIFICATIONS
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 109, PARCEL – 2849

DATE	SCALE
MAY '22	AS SHOWN
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109–2022009	DESIGNED BY BD
SHEET No. – C–5	
CADD FILE – 22009C05	

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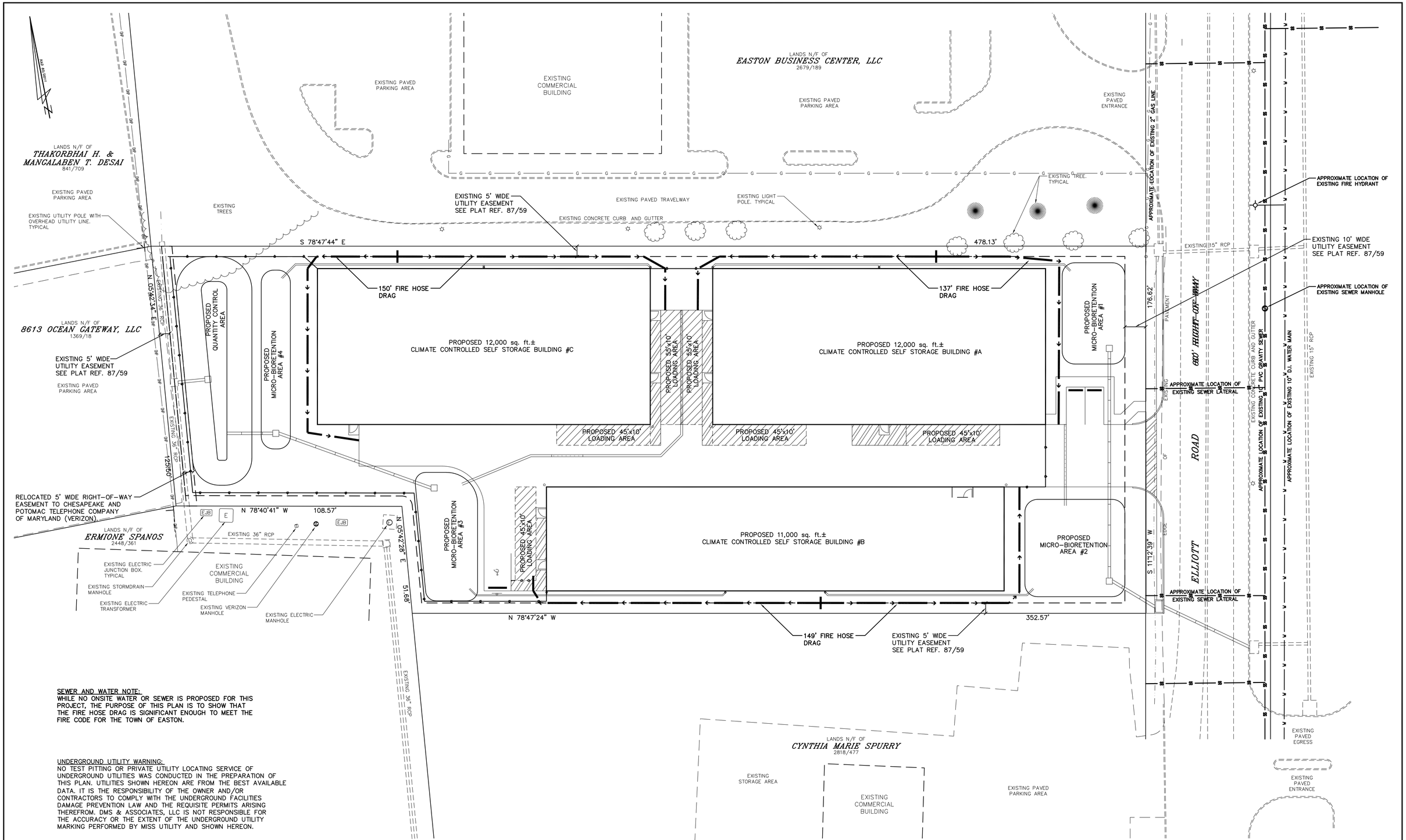

SEWER AND WATER NOTE:
WHILE NO ONSITE WATER OR SEWER IS PROPOSED FOR THIS PROJECT, THE PURPOSE OF THIS PLAN IS TO SHOW THAT THE FIRE HOSE DRAG IS SIGNIFICANT ENOUGH TO MEET THE FIRE CODE FOR THE TOWN OF EASTON.

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS & ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

GRAPHIC SCALE
20 0 10 20 40
1 inch = 20 ft.

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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND
WILLIAM THOMAS DAVIS
No. 17660
PROFESSIONAL ENGINEER

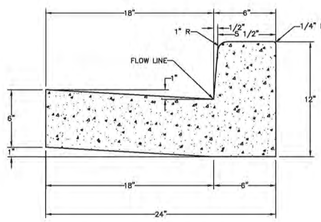
7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
FAX : 1-443-262-9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

PRELIMINARY UTILITY PLAN & EMERGENCY SITE ACCESS PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. – C-6	
CADD FILE – 22009C06	

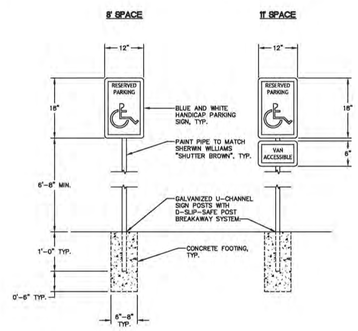


NOTES:

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE SHA MIX NO. 7.
2. CURB AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 40'-0". EXTRUDED CONCRETE AND GUTTER SHALL HAVE CONTRACTION JOINTS EVERY 10'-0", AND EXPANSION JOINTS EVERY 100'-0".
3. DEPRESSED CURB AND GUTTER SHALL BE UTILIZED AT HANDICAPPED RAMPS WHEN TRANSITIONING FROM STANDARD CURB AND GUTTER.
4. MAXIMUM GUTTER AND SLOPE ON CURB RETURNS SHALL BE 2% WHERE HANDICAPPED RAMPS ARE REQUIRED.

APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	STANDARD CURB AND GUTTER	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-6.01	

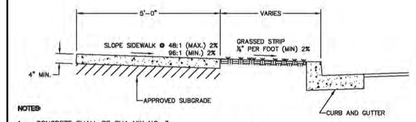
SIGN DETAILS FOR HANDICAP PARKING SPACES



NOTES:

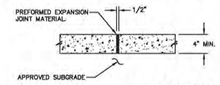
1. H/C PARKING SIGNS (US DOT STANDARD R7-8).

APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	SIGN DETAILS FOR HANDICAP PARKING SPACES	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SI-4.01	



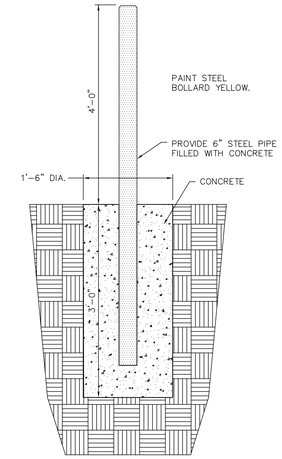
NOTES:

1. CONCRETE SHALL BE SHA MIX NO. 3.
2. CONTRACTION JOINTS SHALL BE TOOLED AT 5'-0" INTERVALS. (4' INTERVALS FOR 4' WIDE SIDEWALK)
3. EXPANSION JOINTS AT INTERVALS NOT GREATER THAN 20'-0".
4. ALL UNPAVED AREAS WITHIN STREET SIDELINES SHALL BE SEEDED OR SODDED PER SPECIFICATIONS.
5. SIDEWALKS AT DRIVEWAY LOCATIONS TO BE 8" THICK.
6. WHERE CONTINUOUS WIDTH OF TRAVEL IS LESS THAN 5'-0", PROVIDE PASSING ZONES AT AN INTERVAL NOT TO EXCEED 200' CENTER TO CENTER. ENTRANCES SHALL BE ACCEPTABLE PASSING ZONES PROVIDED PAVING WIDTH OF 5'-0" IS MAINTAINED AT 48:1 SLOPE.
7. GRASS STRIPS SHALL BE SLOPED AS TO PROVIDE POSITIVE DRAINAGE TOWARD STORMWATER FEATURES.
8. WHERE REVERSE SLOPES OF GRASS STRIPS AND SIDEWALKS ARE REQUIRED TO PROVIDE POSITIVE DRAINAGE TOWARDS A STORMWATER FEATURE, SPOT ELEVATIONS SHALL BE PROVIDED ON FRONT AND BACK OF SIDEWALK. (REVERSE SLOPES MUST BE APPROVED BY THE TOWN PRIOR TO CONSTRUCTION)
9. MAXIMUM SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 5% IN LOCATIONS WITHOUT HANDICAPPED RAMPS.
10. SIDEWALKS SHALL COMPLY WITH ADA REQUIREMENTS PER THE MOST UP TO DATE DEPARTMENT OF JUSTICE REGULATION 28CFR PART 36.



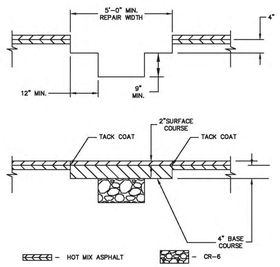
EXPANSION JOINT DETAIL

APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	CONCRETE SIDEWALK	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-7.01	



PIPE BOLLARD DETAIL

NOT TO SCALE

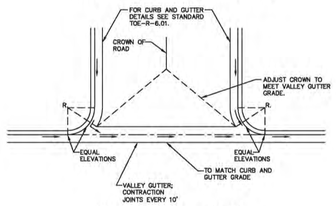


NOTES:

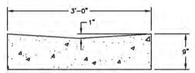
1. PAVEMENT SHALL BE SAW CUT FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. IF PATCH FALLS WITHIN 2' OF EXISTING CURB OR EDGE OF PAVING, CONTINUE RESTORATION TO EDGE OF PAVE.
3. SURFACE COURSE: 2" OF 9.5mm SUPERPAVE.
   BASE COURSE: 4" OF 9.5mm, 12.5mm OR 19.0 mm SUPERPAVE IN 2-2" LIFTS./NOTE: IF SC & BC ARE BOTH 9.5mm, THEY MAY BE DONE IN 2-3" LIFTS.
4. ADDITIONAL MILL AND OVERLAY MAY BE REQUIRED WHEN MULTIPLE PAVEMENT REPAIRS ARE LOCATED IN THE SAME RELATIVE VICINITY. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
5. WHEN SURFACE ARES OF REPAIR EXCEEDS 100 SF, THE 2" SURFACE COURSE SHALL EXTEND ENTIRE WIDTH OF TRAVEL LANE(S) AND/OR SHOULDER. LIMITS OF MILL AND OVERLAY, WHEN REQUIRED, WILL BE DETERMINED BY THE TOWN ENGINEER.
6. CONTRACTOR MUST CONFIRM LIMITS OF PAVEMENT REQUIRED WITH TOWN ENGINEER PRIOR TO START OF PAVEMENT WORK.

APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	PERMANENT ASPHALT PAVEMENT REPAIR FOR UTILITY TRENCHES	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-5.01-3	

VALLEY GUTTER AND INTERSECTION DETAIL



VALLEY GUTTER INTERSECTION DETAIL



VALLEY GUTTER DETAIL

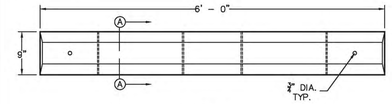
NOTES:

1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE MIX NO. 7.

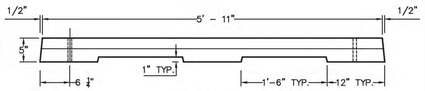
APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	VALLEY GUTTER AND INTERSECTION DETAIL	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-6.05	

NOTES:

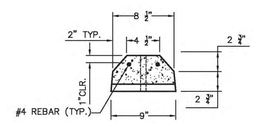
1. CONCRETE STRENGTH: 5000 PSI AT 28 DAYS.
2. REINFORCEMENT: ASTM A-615 GRADE 60.
3. PINS AVAILABLE: #5 REBAR AT 18" LONG.
4. WEIGHT: 170 LBS.



PLAN VIEW



FRONT VIEW



SECTION VIEW A-A

APPROVAL		
TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS	
DATE 1/2020	6" PRECAST CONCRETE WHEEL STOP	
ISSUED: JANUARY 2020	STANDARD NO.: TOE-SI-5.01	

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES - ENGINEER

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND — WILLIAM THOMAS BURKE — No. 17660 — PROFESSIONAL ENGINEER — REGISTERED

7/3/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
FAX : 1-443-262-9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

SITE DETAILS

FOR THE DEVELOPMENT OF

CLIMATE CONTROLLED SELF STORAGE

ON THE LANDS OF

FRIEL STORAGE, LLC.

IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND

TAX MAP - 109, PARCEL - 2849

DATE MAY '22	SCALE AS SHOWN
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. - C-7	
CADD FILE - 22009C07	

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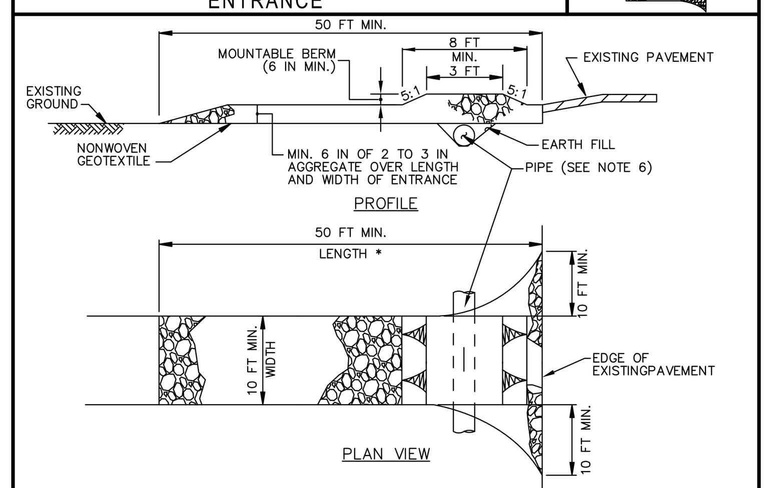
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

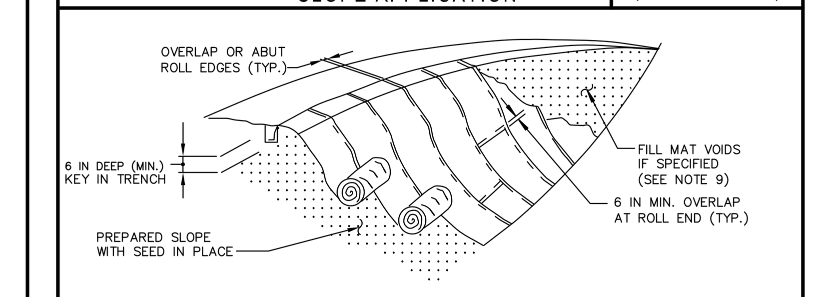
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: PSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

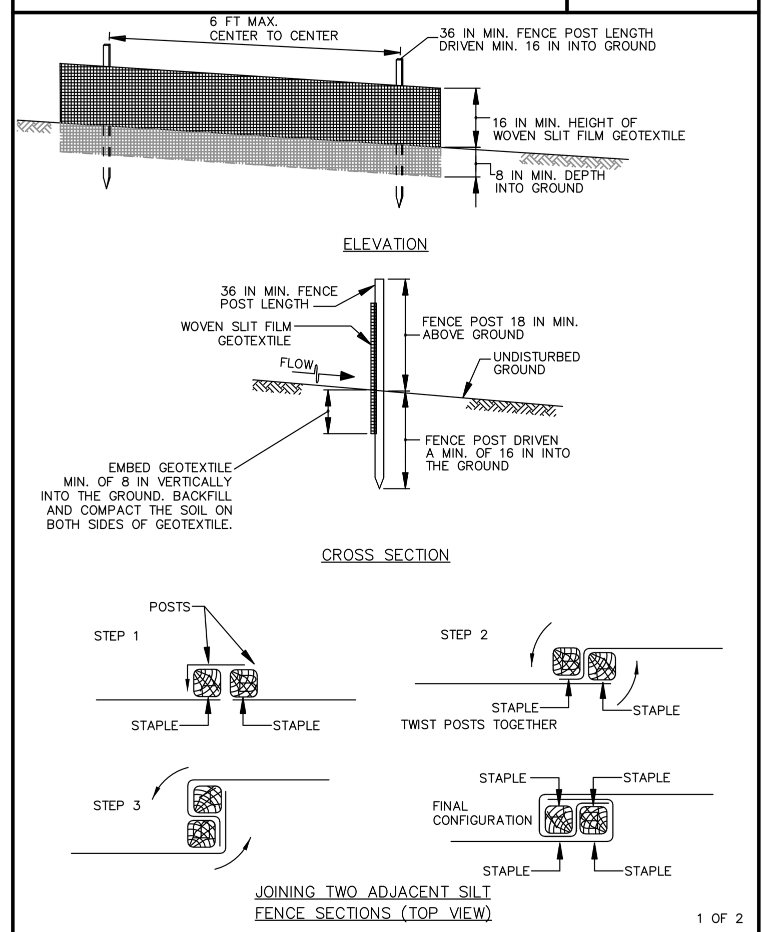
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON–DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON–LEACHING AND NON–TOXIC TO VEGETATION AND SEED GERMINATION AND NON–INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH–SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: ——SF——



1 OF 2

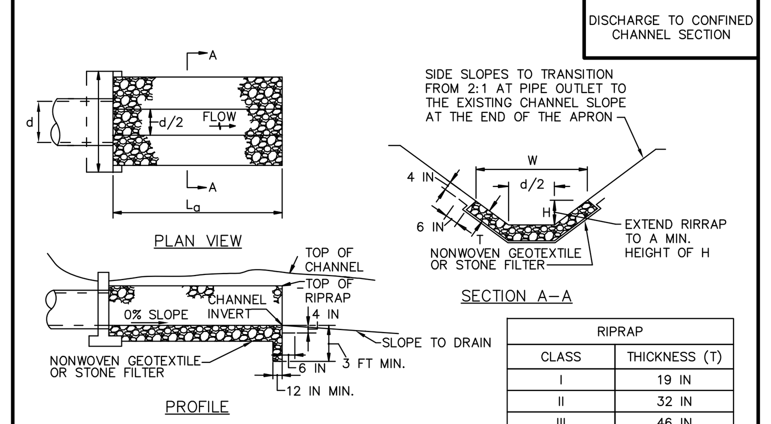
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL SECTION



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

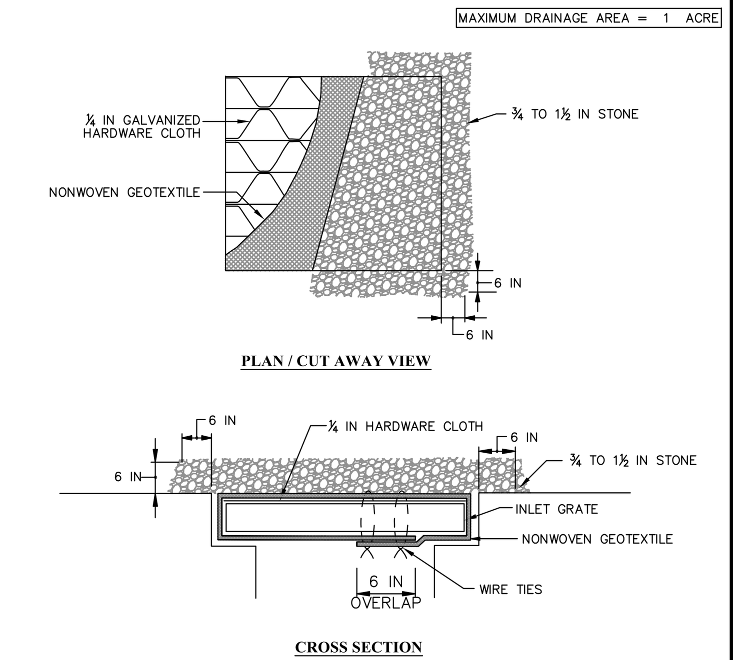
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

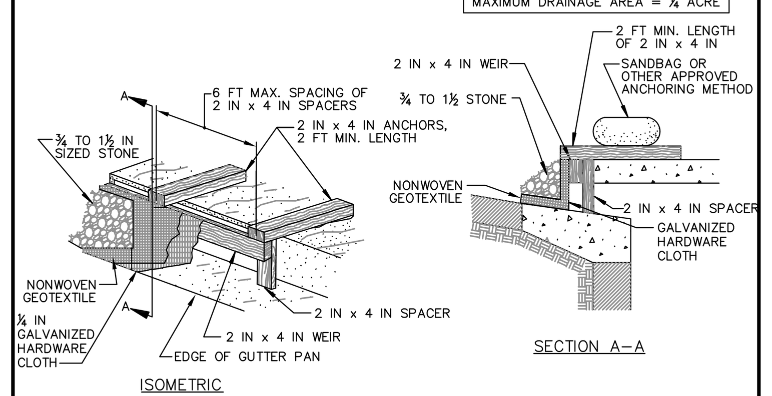
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON–SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: ——SF——

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

GENERAL NOTES

1. Notification of Talbot County Soil Conservation District (410–822–1577) at least five (5) days prior to the start of work.
2. Prior to the start of work, the Contractor is to obtain Town approval of any proposed plan changes and sequence of construction, specifically relating to installation, inspection, maintenance and removal of erosion and sediment control measures.
3. Sediment control measures are not to be removed until the areas served have established vegetative cover, or with the permission of the Talbot County Sediment Control Inspector.
4. When pumping sediment–laden water, the discharge must be directed to an approved sediment trapping measure prior to release from the site.
5. All temporary stockpiles are to be located within areas protected by sediment control measures, and are to be temporary stabilized.
6. All sediment control dikes, swales, basins and flow lines to basins will be temporarily seeded immediately upon installation to reduce the contribution to sediment loading.
7. Disposal of excess earth materials on State or Federal property requires MDE Approval, otherwise materials are to be disposed of at a location approved by the local authority.
8. Temporary soil erosion control and sediment control measures are to be provided as per the approved plan prior to grading operations. Location adjustments are to be made in the field as necessary. The minimum area practical shall be disturbed for the minimum possible time.
9. If grading is completed out of a seeding season, graded areas are to be temporarily stabilized by mulch and mulch anchoring. Mulch material shall be unweathered, unchopped small grain straw spread at the rate of 2 to 2–1/2 tons per acre. Mulch anchoring to be accomplished by an approved method, use of a mulch anchoring tool is recommended where possible.
10. Implementation of the sediment control plan shall be in accordance with the "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control", of the Department.
11. The Contractor is responsible for implementation and maintenance of the approved plan, and all other measures necessary to control, filter, or prevent sediment from leaving the site.
12. In case where stormwater management structures are a part of site development, removal of sediment control structures may not be accomplished before the contributing drainage area to the stormwater management structure is dewatered and stabilized.
13. On sites where infiltration techniques are utilized for the control of stormwater, extreme care must be taken to prevent all runoff from entering the structure during construction.
14. Sediment control for utility construction in areas outside of designed controls:
    (a) Excavated trench material shall be placed on the high side of the trench.
    (b) Immediately following pipe installation the trench shall be backfilled, compacted and stabilized at the end of each working day.
    (c) Temporary silt fence or straw bale dikes shall be placed immediately downstream of any disturbed area intended to remain disturbed longer than one working day.
15. All points on construction ingress and egress shall be protected to prevent tracking of mud onto public ways.
16. Site information:

Total Area of Site	1.775	Acres
Area Disturbed	1.80	Acres
Area to be Roofed or Paved	1.18	Acres
Total Cut	____	cy*
Total Fill	____	cy*

* CUT AND FILL AMOUNTS ARE APPROXIMATE
THE CONTRACTOR SHALL DO A SEPARATE TAKE–OFF

EROSION & SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

1.) Contractor shall install soil erosion and sediment control devices prior to any grading. Following initial disturbance or re–disturbance, permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes greater than three (3) horizontal to one (1) vertical (3:1) and seven days (7) as to all other disturbed or graded areas on the project site.

2.) All temporary erosion and sediment control devices are to be provided as indicated on this plan, with location adjustments to be made in the field as necessary, and to be maintained at the end of each working day until project completion. The minimum area practical shall be disturbed for the minimal amount of time possible.

3.) Clearing and grubbing shall include all trees, brush, debris, root mat and organic materials to be removed.

4.) Temporary seeding shall be accomplished between February 15th through April 30th, or August 15th through November 30th. During other times, temporary mulching shall be provided.

5.) Temporary seeding shall conform to the following applications: 436 lbs. per acre of 10–20–20; 4,000 lbs. per acre of ground limestone, to be incorporated into the soil by disking or other suitable means. Annual rye grass shall be applied at a rate of 50 lbs. per acre using suitable equipment. Mulching shall be accomplished immediately after seeding

Seed Mixture (For Hazard Zone 7a) (From Table B–1)					Fertilizer Rate (10–20–20)	Lime Rate
No.	Species	Appl. Rate (lbs./ac.)	Seeding Dates	Seeding Depths		
	ANNUAL RYE GRASS	50 lbs.	2/15–4/30 8/15–11/30	1/2"	436 lb/ac 10 lb/ 1000 sf	2 tons/ac 90 lb/ 1000 sf
	BARLEY OATS WHEAT CEREAL RYE	96 lbs. 72 lbs. 120 lbs. 112 lbs.	2/15–4/30, 8/15–11/30 2/15–4/30, 8/15–11/30 2/15–4/30, 8/15–11/30 2/15–4/30, 8/15–12/15	1" 1" 1" 1"		
	FOXTAIL MILLET PEARL MILLET	30 lbs. 20 lbs.	5/1–8/14 5/1–8/14	1/2"		

6.) Mulching shall be unchopped, unrotted, small grain straw applied at a rate of 2–2 1/2 tons per acre. Anchor mulch with a mulch anchoring tool on the contour. Wood cellulose fiber may be used for anchoring straw at 750 lbs. per acre mixed with water at a maximum of 50 lbs. of wood cellulose fiber per 100 gals of water, or with a synthetic liquid binder according to manufacture recommendations. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1,500 lbs. per acre. Mix wood cellulose fiber with water to attain a mixture with a maximum of 50 lbs. of wood cellulose fiber per 100 gals. of water.

7.) Permanent seeding shall be accomplished between March 1st through May 15th, or August 15th through October 15th. Permanent seeding at other than specified times will be allowed only upon written approval. Permanent seeding shall conform to the following applications: Permanent seeding for sites having disturbed over five (5) acres shall use fertilizer rates recommended by a soil testing agency and the recommendations provided in the Permanent Seeding Summary Table. Permanent seeding for conditions other than listed above shall be performed at the rates and dates as provided in the Permanent Seeding Summary Table below. Fertilizer and lime amendments shall be incorporated into the top 3" – 5" of the soil be disking or other suitable means. Mulching shall be accomplished as discussed in Item #6 of these specifications.

Seed Mixture (For Hazard Zone 7a) (From Table B–3)					Fertilizer Rate (10–20–20)			Lime Rate
No.	Species	Appl. Rate (lbs./ac.)	Seeding Dates	Seeding Depths	N	P205	K20	
7	CREEPING RED FESCUE KENTUCKY BLUEGRASS	60 lbs 15 lbs.	3/1–5/15 8/15–10/15	1/4" to 1/2"	45 lb/ac 1 lb/ 1000 sf	90 lb/ac 2 lb/ 1000 sf	90 lb/ac 2 lb/ 1000 sf	2 tons/ac 90 lb/ 1000 sf
8	TALL FESCUE	100 lbs.	3/1–5/15 8/15–10/15	1/4" to 1/2"				
9	TALL FESCUE KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	60 lbs 40 lbs. 20 lbs.	3/1–5/15 8/15–10/15	1/4" to 1/2"				

8.) Any spoil or borrow will be placed at a site approved by the Soil Conservation District.

9.) All areas remaining or intended to remain disturbed for longer than seven (7) days shall be stabilized in accordance with the USDA, Natural Resources Conservation Service Standards and Specifications for Soil Erosion and Sediment Control in developing areas for critical area stabilization.

10) It will be the responsibility of the Contractor or Subcontractor to notify the Engineer of any deviation from this plan. Any change made in this plan without written authorization from the Engineer will place responsibility of said change on the Contractor or the Subcontractor.

PHASE OF CONSTRUCTION

1. CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT AND EROSION CONTROL INSPECTOR AT 1–410–901–4020 AND TOWN OF EASTON AT 1–410–820–8822 A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRECONSTRUCTION MEETING.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN.
3. INSTALL PERIMETER SILT FENCE AT LOCATIONS SHOWN. MAINTAIN THROUGHOUT THE LIFE OF THE PROJECT.
4. STRIP TOPSOIL FROM THE LIMITS OF DISTURBANCE, REMOVE EXISTING GRAVEL AND DISPOSE OF OFF SITE AT AN APPROVED LANDFILL LOCATION.
5. IMPORT FILL FOR BUILDING PADS AND BEGIN BUILDING CONSTRUCTION.
6. INSTALL PROPOSED STORMDRAIN, ROOF LEADERS, AND REAR QUANTITY CONTROL SWM AREA WITH DEWATERING DEVICE FOR OUTFALL STRUCTURE. INSTALL INLET PROTECTION.
7. GRADE TRAVEL WAYS AND WALKWAYS WITH COMPACTED SUBBASE.
8. INSTALL CR–6 BASE FOR TRAVEL WAYS AND CONCRETE.
9. ONCE CONTRIBUTING DRAINAGE AREAS ARE ADEQUATELY STABILIZED AND AFTER NOTIFYING THE TOWN OF EASTON SWM INSPECTOR, INSTALL STORMWATER MANAGEMENT MICRO–BIRETENTION AREAS. INSTALL RIPRAP PROTECTION AND CONNECT ROOF LEADERS TO SWM AREA.INSTALL
10. INSTALL PROPOSED CURB AND GUTTER, CONCRETE PADS AND WALKS.
11. INSTALL BITUMINOUS CONCRETE BASE COURSE.
12. FINE GRADE ALL AREAS PER DESIGN GRADES AND REMOVE ALL EXCESS TOPSOIL AND OR FILL MATERIAL FROM THE SITE. STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED AND MULCH. INSTALL ALL LANDSCAPING AND SWM PLANTINGS.
13. INSTALL BITUMINOUS CONCRETE SURFACE COURSE.
14. UPON APPROVAL FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTOR, REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS PER PERMANENT STABILIZATION SPECIFICATIONS FOUND ON THIS SHEET.

THE FOLLOWING ITEMS HAVE BEEN ADDRESSED TO MEET THE REQUIREMENTS OF THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (NPDES NUMBER MDR10, STATE DISCHARGE PERMIT NUMBER 09GP).

1. UTILIZATION OF ENVIRONMENTAL SITE DESIGN.
2. MAINTENANCE OF LIMITS OF DISTURBANCE TO PROTECT NATURAL AREAS
3. CONTROL OF CONSTRUCTION EQUIPMENT AND VEHICLES
4. EVALUATION AND APPROPRIATE LIMITATION OF SITE CLEARING
5. EVALUATION AND DESIGNATION OF SITE AREA FOR PHASING AND SEQUENCING
6. IDENTIFICATION OF SOILS AT HIGH RISK FOR EROSION AND ADVANCED STABILIZATION TECHNIQUES TO BE USED
7. IDENTIFICATION OF STEEP SLOPES AND DESIGNATION OF LIMITATIONS ON CLEARING THEM
8. EVALUATION AND DESIGNATION OF STABILIZATION REQUIREMENTS AND TIME LIMITS AND PROTECTION MEASURES FOR DISCHARGES TO THE CHESAPEAKE BAY, IMPAIRED WATERS OR WATERS WITH AN ESTABLISHED TOTAL MAXIMUM DAILY LOAD (TMDL).

REVIEWED FOR THE TALBOT SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS

APPROVED:

SHAWN SMITH, DISTRICT MANAGER   DATE
TALBOT SOIL CONSERVATION DISTRICT

NOTE: THE TALBOT SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, DELETE, MODIFY OR OTHERWISE ALTER THE EROSION CONTROL PROVISIONS OF THIS PLAN IN THE EVENT ADDITIONAL PROTECTION BECOMES NECESSARY.

DEVELOPERS CERTIFICATION

I, JAY FRIEL, HEREBY CERTIFY THAT ALL THE DEVELOPMENT AND/OR CONSTRUCTION SHALL BE DONE ACCORDING TO THIS PLAN OF EROSION AND SEDIMENT CONTROL.

OWNERS SIGNATURE   DATE

OWNERS NAME: JAY FRIEL, FRIEL STORAGE, LLC.

OWNERS ADDRESS: 47 PROSPECT BAY DR W
GRASONVILLE, MARYLAND 21638

OWNERS PHONE: 1–410–827–8811

1. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN. ANY CHANGE MADE IN THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGE ON THE CONTRACTOR OR SUBCONTRACTOR.
2. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT.

CONSTRUCTION SPECIFICATIONS		
(MAXIMUM) SLOPE STEEPNESS LENGTH	(MAXIMUM) SLOPE LENGTH	SLOPE LENGTH
FLATTER THAN 50:1	UNLIMITED	UNLIMITED
50:1 to 10:1	125 ft.	1,000 ft.
10:1 to 5:1	100 ft.	750 ft.
5:1 to 3:1	60 ft.	500 ft.
3:1 to 2:1	40 ft.	250 ft.
2:1 AND STEEP	20 ft.	125 ft.

NOTE: IN AREAS LESS THAN 2% SLOPE AND SANDY SOILS (USDA FEDERAL CLASSIFICATION SYSTEM, SOIL CLASS A), MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS, SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.

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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILIITES – ENGINEER

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 17660 EXPIRATION DATE: 2024

STATE OF MARYLAND — WILLIAM THOMAS DAVIS, JR. — NO. 17660 — REGISTERED PROFESSIONAL ENGINEER

7/3/2023
DATE   SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, DRAFTING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 80
CENTREVILLE, MARYLAND 21617
PHONE : 1–443–262–9130
FAX : 1–443–262–9148

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG

SEDIMENT AND EROSION CONTROL DETAILS AND SPECIFICATIONS

FOR THE DEVELOPMENT OF

CLIMATE CONTROLLED SELF STORAGE

ON THE LANDS OF

FRIEL STORAGE, LLC.

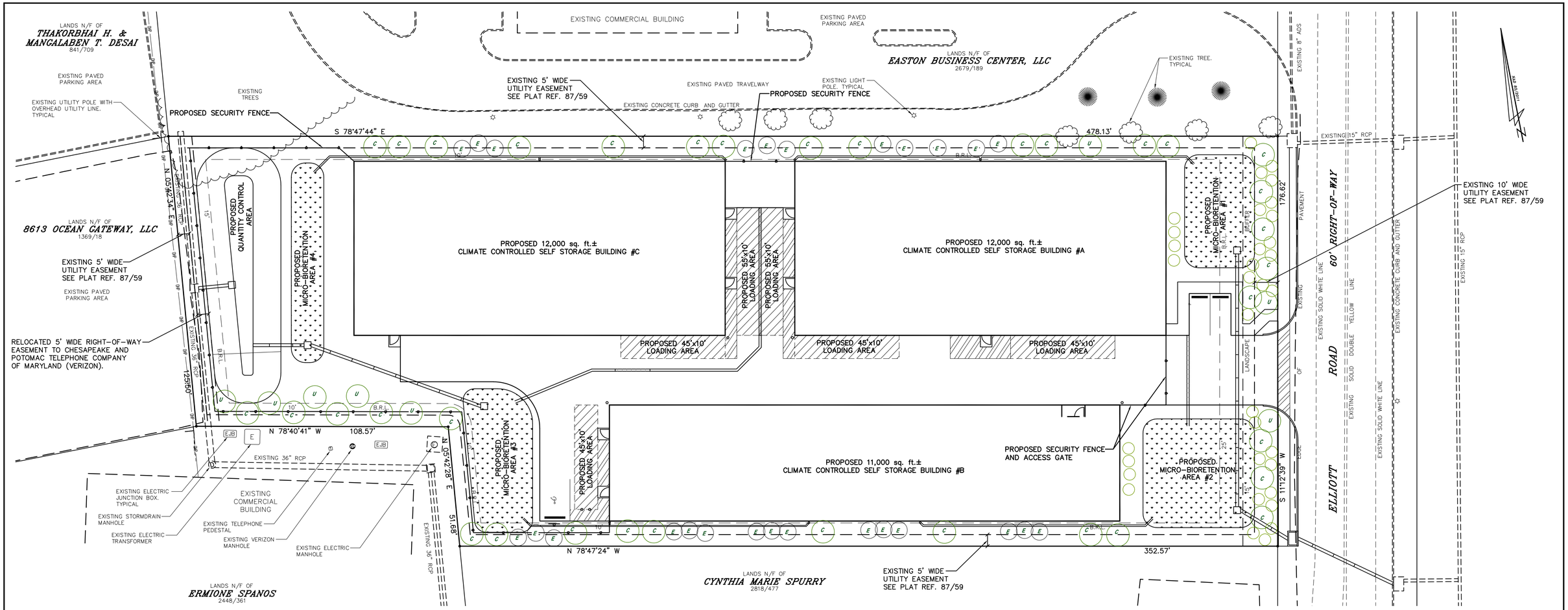
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND

TAX MAP – 109, PARCEL – 2849

DATE	SCALE
MAY '22	AS SHOWN
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109–2022009	DESIGNED BY BD

SHEET No. – C–8

CADD FILE – 22009C08



LANDSCAPE PLAN

NARRATIVE:

THIS SITE IS LOCATED WITHIN A COMMERCIAL ZONING DISTRICT, SURROUNDED BY DEVELOPED COMMERCIAL ESTABLISHMENTS. THERE IS CURRENTLY NO EXISTING FOREST ON SITE. THERE IS ONE DECIDUOUS TREE ON SITE, WHICH WILL BE REMOVED FOR CONSTRUCTION.

PER SECTION 28-1014.6 OF THE TOWN OF EASTON ZONING ORDINANCE, THE FOLLOWING LANDSCAPE PLANTINGS ARE REQUIRED IN THIS SECTION:

ONE (1) TREE PER 3,000 SF OF DISTURBED AREA PER SECTION 2-1017.6F
RESPONSE: DISTURBED AREA = 77,319 SQ.FT. (BUILDING AND PAVEMENT AREA), THUS 25 TREES REQUIRED AND PROVIDED.

ONE (1) INTERIOR PARKING LOT TREE PER SECTION 28-1014.6F(2)(a)
RESPONSE: SEVERAL TREES AND SHRUBS ARE PROVIDED LOCATED NEAR THE PARKING AREA.

PARKING LOT SCREENING WITH AN EVERGREEN SHRUB HEDGE WHICH WILL GROW TO A MINIMUM OF 42" HEIGHT WITHIN 5 YEARS ALONG ALL STREET FRONTAGES, AND ALONG ALL, OR PORTIONS OF SIDES VISIBLE FROM A STREET, EXCLUDING THE BUILDING OR FACILITY ACCESS SIDES PER SECTION 28-1014.6F(2)(b)
RESPONSE: THEIR IS NO INTERIOR PARKING LOT, AS PATRONS WILL ENTER THE BUILDING FROM AN INTERNAL ENTRY SYSTEM AND WILL NOT STAY FOR AN EXTENDED PERIOD OF TIME. THEIR IS EXTENSIVE SCREENING ALONG THE FRONT FACADE, BOTH WITH LANDSCAPE PLANTINGS AND STORMWATER MANAGEMENT PLANTINGS, AS WELL AS CANOPY AND UNDERSTORY TREES ALONG EITHER SIDE PROPERTY LINE.

ONE (1) DECIDUOUS SHADE / CANOPY TREE PER EVERY 20' OF BUILDING FACADE PERIMETER VISIBLE FROM STREET PER SECTION 28-1016.F(2)(C).
RESPONSE: THE CANOPY TREES PROVIDED ALONG THE FRONT OF THE LOT SATISFY THIS REQUIREMENT.

1.) LANDSCAPE INSTALLER SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. INSTALLER SHALL INSURE THAT FINAL GRADES HAVE BEEN ESTABLISHED AND THE SITE IS READY FOR LANDSCAPE INSTALLATION.

2.) LANDSCAPE INSTALLER SHALL MAINTAIN THE LANDSCAPE IMPROVEMENT AREAS IN A CLEAN CONDITION, REMOVING DEBRIS DAILY AND AT THE COMPLETION OF THE INSTALLATION.

3.) INSTALLER SHALL LAYOUT ALL BEDS AND POSITION PLANTS PER THE PLANS. ADJUST AS REQUIRED FOR FIELD CONDITIONS. REPORT SIGNIFICANT ADJUSTMENTS TO THE OWNER FOR APPROVAL PRIOR TO PLANT INSTALLATION. ALL BED AREAS SHALL BE SPRAYED WITH HERBICIDE AS NEEDED TO KILL AND/OR REMOVE ALL WEED OR GRASS VEGETATION.

4.) EXCEPT FOR TREE SPADE INSTALLATIONS, ALL TREE PITS SHALL BE EXCAVATED TO A DEPTH SO THAT THE ROOT BALL WILL REST ON SOLID S OIL AT THE PROPER HEIGHT. STREET TREES PLANTING PITS SHALL BE EXCAVATED AND WORKED IN A RECTANGULAR FORM WITH THE SMALL DIMENSION TWCE THE DIAMETER OF THE ROOT BALL AND THE LARGE DIMENSION AT LEAST THREE TIMES THE DIAMETER OF THE ROOT BALL. OPEN AREA TREE PITS SHALL BE EXCAVATED TO A MINIMUM DIMENSION OF TWCE THE ROOTBALL WIDTH. TREES PLANTED ON SLOPES OR SIDE SWALES SHALL BE INSTALLED AT A HEIGHT RELATING TO THE UP HILL SIDE OF THE PIT, AND MOUNDED WITH SOIL AROUND THE LOWER SIDE. ALL SIDES AND BOTTOM OF TREE PLANTING PITS SHALL BE SCARIFIED OR LOOSENED TO PERMIT ROOT GROWTH. EXCAVATED SOILS THAT HAVE BEEN PREVIOUSLY UNDISTURBED SHALL BE LOOSENED AND UTILIZED FOR BACKFILL. COMPACTED SOILS THAT CANNOT BE RESTORED TO A REASONABLE PLANTING SOIL SHALL BE REMOVED AND REPLACED WITH FRIABLE NATIVE SOILS FROM THE REGION.

5.) ALL SHRUB PLANTING PITS, LANDSCAPE BEDS AND PLANTING MASS AREAS SHALL BE WORKED TO A DEPTH OF 12" (OR RAISED SLIGHTLY TO ACHIEVE A 12" FRIABLE SOIL DEPTH). SHRUB PLANTING AREAS SHALL BE WORKED TO 12" MINIMUM OUTSIDE THE ROOT BALL.

6.) ALL LANDSCAPE BEDS SHALL BE "V" EDGED AND MULCHED WITH MINIMUM 3" DOUBLE SHREDDED HARDWOOD BARK MULCH, OR APPROVED EQUAL. MULCH TO FENCE LINES OR BACK OF CURBS WHERE APPROPRIATE TO ELIMINATE NARROW GRASS AREAS. AVOID MULCH PILED AGAINST TREE TRUNKS, ETC.

7.) ALL TREES TO BE STAKED AND GUYED WITH HARDWOOD STAKES, MINIMUM OF TWO (2) – 5' LONG, OR OTHER APPROVED GUYING SYSTEM. STAKES SHALL BE DRIVEN INTO STABLE SOILS. PROVIDE WIRE GUYS WITH RUBBER PROTECTANT OR OTHER APPROVED INDUSTRY PRACTICE.

8.) LANDSCAPE INSTALLER SHALL MAINTAIN ALL PLANT MATERIALS THROUGH THE COMPLETION OF THE LANDSCAPE INSTALLATION, AND THEN AS REQUIRED BY THE OWNER.

9.) AT THE COMPLETION OF THE LANDSCAPE INSTALLATION (OR BY PHASED COMPLETION IF PROVIDED FOR ON THE PLAN), THE OWNER, OR HIS DESIGNATED REPRESENTATIVE SHALL REQUEST AN INSPECTION BY TOWN OF EASTON.

LANDSCAPE STOCK LEGEND – SITE LANDSCAPING

PROPOSED LANSCAPE PLANTING:

C = NATIVE CANOPY TREE (MIX)

U = NATIVE UNDERSTORY TREE (MIX)

E = NATIVE EVERGREEN TREE (MIX)

=NATIVE LARGE SHRUB (MIX)

AREA SHOWN SHALL BE MICRO-BIORETENTION AREAS WITH NATIVE WATER TOLORANT PLANTINGS.

GRAPHIC SCALE

20 0 10 20 40

1 inch = 20 ft.

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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

6/7/2023
DATE SEAL

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Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS

PRELIMINARY LANDSCAPE PLAN

FOR THE DEVELOPMENT OF

CLIMATE CONTROLLED SELF STORAGE

ON THE LANDS OF

FRIEL STORAGE, LLC.

IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND

TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. – L-1	
CADD FILE – 22009-L1	

ENVIRONMENTAL FEATURES / SENSITIVE AREAS
CHECK LIST CHART

FEATURE	YES	NO
CONTIGUOUS FOREST		X
WETLANDS		X
STREAMS		X
FLOODPLAINS		X
HYDRIC SOILS		X
PRIME AGRICULTURE SOILS		X
SOILS WITH K-FACTOR ABOVE .35		X
SLOPES GREATER THAN 25%		X
HISTORICAL AND CULTURAL FEATURES		X
TREES >30" DBH		X
STATE CHAMPION TREES		X
TREES >75% STATE CHAMPION		X
RARE, THREATENED OR ENDANGERED FLORA		X
RARE, THREATENED OR ENDANGERED FAUNA HABITAT		X

SIMPLE FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN

NARRATIVE:

THIS SITE IS LOCATED WITHIN A COMMERCIAL ZONING DISTRICT WHERE LITTLE TO NO NATIVE VEGETATION EXISTS. THERE IS CURRENTLY NO FOREST ON SITE. ONE MATURE HARDWOOD TREE EXISTS ON SITE, WHICH WILL BE REMOVED FOR DEVELOPMENT. THE REMAINDER OF THE SITE IS IN OPEN LAWN AREA.

NO SPECIAL HABITAT OR PROTECTED ENVIRONMENTAL FEATURES ARE KNOWN TO BE PRESENT ON THE SITE.

OWNERS OBJECTIVES: THE FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN FOR THE SITE PLAN IS INTENDED TO COMPLY WITH THE FOREST CONSERVATION REGULATIONS FOR THE TOWN OF EASTON.

PROPOSED DEVELOPMENT / USE: THE LOT WILL BE IMPROVED WITH (3) CLIMATE CONTROLLED STORAGE BUILDINGS WITH ASSOCIATED PAVED PARKING AND DRIVE AISLES.

FOREST SOIL TYPES: Up – URBAN LAND

TOPOGRAPHY: THE SITE HAS NO SIGNIFICANT CHANGES IN ELEVATION.

CRITICAL HABITAT AREAS OR RARE, THREATENED AND ENDANGERED SPECIES OF PLANTS AND ANIMALS: A REQUEST WAS SUBMITTED TO MARYLAND DEPARTMENT OF NATURAL RESOURCES (DNR) REQUESTING INFORMATION REGARDING THE PRESENCE OF RARE, THREATENED AND ENDANGERED SPECIES, HISTORIC SITES, AND CRITICAL HABITATS. ON XXXXX XX, 2022, DNR RESPONDED STATING THAT THERE ARE NO OFFICIAL STATE OR FEDERAL RECORDS FOR LISTED PLANT OR ANIMAL SPECIES WITHIN THE DELINEATED PROJECT AREA.

ADJACENT LAND USE: COMMERCIAL

HYDROLOGY, WETLANDS, STREAMS AND BUFFERS: THE SITE DOES NOT CONTAIN ANY HYDROLOGIC FEATURES, WETLANDS, STREAMS OR BUFFERS OF ANY KIND.

THE SITE IS LOCATED ENTIRELY OUTSIDE OF THE CHESAPEAKE BAY CRITICAL AREA.

CULTURAL FEATURES: NONE

FOREST CONSERVATION REQUIRED: .266 ACRES
FOREST CONSERVATION PROVIDED: .266 ACRES USING CREDITS FOR LANDSCAPE PLANTINGS
35 DECIDUOUS CANOPY TREES PROVIDED AT 400 SQ.FT. CREDIT EACH = .321 ACRES

LOCATION AND TYPES OF PROTECTIVE DEVICES: FOREST RETENTION AREAS ARE TO BE PROTECTED FROM CONSTRUCTION ACTIVITIES. PLACEMENT OF HIGHLY VISIBLE SIGNAGE SHALL BE PLACED PRIOR TO ANY LAND CLEARING OR GRADING. THESE DEVICES SHALL BE MAINTAINED THROUGH OUT THE ENTIRE CONSTRUCTION PHASE OF THE PROJECT. ATTACHMENT OF SIGNS OR OTHER OBJECTS TO TREES IS PROHIBITED AND NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THE PROTECTED AREAS. SIGNS ON THE EDGES OF FOREST CONSERVATION AREAS ARE TO REMAIN ON SITE IN A HIGHLY VISIBLE PLACEMENT AND BE MAINTAINED FOR NOT LESS THAN FIVE YEARS AFTER CONCLUSION OF DEVELOPMENT ACTIVITIES.

M. STARK MCLAUGHLIN
FORESTER RPF#159

FOREST CONSERVATION NOTES:

PRIOR TO THE COMMENCEMENT OF ANY DEVELOPMENT ACTIVITIES AND IF THESE ACTIVITIES ARE TO OCCUR WITHIN 25' OF THE FOREST CONSERVATION RETENTION AREA(S), NOTIFY THE TOWN OF EASTON DEPARTMENT OF PLANNING & ZONING (410–822–1943, FOREST CONSERVATION COORDINATOR) TO DETERMINE IF TEMPORARY PROTECTIVE DEVICES (SILT, BLAZE, WIRE &/OR WOOD FENCING) ARE REQUIRED. IF REQUIRED, DEVICES ARE TO BE INSTALLED AND INSPECTED BY THIS OFFICE PRIOR TO THE COMMENCEMENT OF ANY DEVELOPMENT ACTIVITIES. OWNER MAY BE SUBJECT TO INSTALLATION OF PROTECTIVE DEVICES.

PROTECTIVE DEVICES MUST BE SURVEY LOCATED, OR AS DIRECTED BY THE TOWN OF EASTON FOREST CONSERVATION COORDINATOR. THE TOWN RESERVES THE RIGHT TO MAKE ON–SITE TREE–BY–TREE DECISIONS WHEN INSPECTING RETENTION AREAS FOR CRITICAL ROOT ZONE PROTECTION.

MATERIALS AND STOCKPILE AREAS SHALL BE LOCATED OUTSIDE, AND AT LEAST 25' AWAY FROM THE BOUNDARY OF THE FOREST CONSERVATION AREA(S).

PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, NOTIFY THE TOWN OF EASTON DEPARTMENT OF PLANNING & ZONING (410–822–1943, FOREST CONSERVATION COORDINATOR) TO DETERMINE PROTECTIVE DEVICE REMOVAL. FENCING SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED. SIGNAGE AND OTHER PERMANENT PROTECTIVE DEVICES ARE TO REMAIN IN PERPETUITY.

LONG TERM PROTECTION: THE FOREST CONSERVATION AREA(S) AS SHOWN ON THIS PLAT, ARE SUBJECT TO A LONG TERM PROTECTION AGREEMENT ENTITLED FOREST CONSERVATION EASEMENT DOCUMENT; RECORDED IN THE TALBOT COUNTY LAND RECORDS LIBER ____ FOLIO ____. THIS AGREEMENT, WHICH IS IN COMPLIANCE WITH THE TOWN OF EASTON FOREST CONSERVATION ORDINANCE, AND UNLESS OTHERWISE SPECIFICALLY NOTED, PRECLUDES MOWING, TRIMMING, CLEARING, REMOVAL OR OTHERWISE DESTRUCTION OF ANY FOREST PLANTS. THIS AGREEMENT IS UNDER THE JURISDICTION OF THE TOWN OF EASTON DEPARTMENT OF PLANNING AND ZONING. THIS AGREEMENT RUNS PERPETUAL WITH THE PROPERTY, AND IS BINDING UPON THE OWNER(S), OCCUPANTS, AND THEIR PERSONAL REPRESENTATIVES, HEIRS, SUCCESSORS AND ASSIGNS. THIS AGREEMENT MUST BE DISCLOSED IN ANY SUBSEQUENT SALE, CONTACT, LEASE, MORTGAGE, DEED OR OTHER LEGAL PROPERTY INSTRUMENT.

THE TOWN OF EASTON DEPARTMENT OF PLANNING & ZONING RESERVES THE RIGHT TO INSPECT THE FOREST CONSERVATION AREA(S) AT ANY FUTURE DATE, WITH PRE–NOTIFICATION OF THE PROPERTY OWNER OR THEIR REPRESENTATIVE, AND TO ENFORCE THE PROVISIONS OF THE PLANTING AGREEMENT AND/OR THE LONG TERM PROTECTIVE DEED OF FOREST CONSERVATION EASEMENT AT ANY TIME.

FOREST CONSERVATION CALCULATIONS:

TOTAL SITE AREA	=	1.775	ACRES
NET TRACT AREA	=	1.775	ACRES
EXISTING FOREST ON SITE	=	0.000	ACRES
FOREST TO BE CLEARED	=	0.000	ACRES
FOREST TO BE RETAINED	=	0.000	ACRES
FOREST CONSERVATION AREA REQUIRED	=	0.266	ACRES
TOTAL FOREST CONSERVATION PROVIDED (LANDSCAPE PLANTINGS)	=	0.321	ACRES

NOTE: PER SECTION 28–1014.5B OF THE TOWN OF EASTON ZONING ORDINANCE, LANDSCAPE PLANTINGS REQUIRED IN THIS SECTION AND MEETING THE SIZE AND SPECIFICATION REQUIREMENTS OF THIS SECTION, MAY BE CREDITED AGAINST AFFORESTATION OR REFORESTATION REQUIREMENTS OF A RELATED FOREST CONSERVATION PLAN FOR THE SAME SITE, IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: (1) DECIDUOUS, SHADE/CANOPY TREES, 400 SQ. FT. AREA; (2) EVERGREEN TREES, 250 SQ. FT. AREA AND (3) UNDERSTORY TREES, 125 SQ. FT. AREA.

DECIDUOUS CANOPY TREES SHOWN HEREON SHALL COUNT TOWARDS FOREST CONSERVATION REQUIREMENT; EVERGREEN TREES SHALL NOT AND ARE PROVIDED TO MEET LANDSCAPE REQUIREMENTS (BUFFER YARD) ONLY.

35 DECIDUOUS CANOPY TREES PROPOSED @ 400 S.F. CREDIT = .321 ACRES (14,000 S.F.); SEE LANDSCAPE PLAN FOR LOCATION
TOTAL CREDIT PROVIDED TOWARDS FOREST CONSERVATION = .321 ACRES
TOTAL REQUIRED FOREST CONSERVATION = .266 ACRES

THIS FOREST CONSERVATION PLAN IS ACCEPTED BY THE PROPERTY OWNER:

JAY FRIEL, FRIEL STORAGE, LLC. DATE

THIS FCP PLAN HAS BEEN REVIEWED AND APPROVED:

FOREST CONSERVATION AGENT, TOWN OF EASTON DATE

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

7/3/2023
DATE SEAL

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PRELIMINARY FOREST CONSERVATION PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
FRIEL STORAGE, LLC.
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 109, PARCEL – 2849

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SHEET No. – FCP	
CADD FILE – 22009–FCP	

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Davis, Moore, Shearon & Associates, LLC

July 3, 2023

Mr. Joe Mayer
Town of Easton Planning & Zoning Dept.
PO Box 520
Easton, MD 21601

RE: RESUBMITTAL FOR ELLIOTT ROAD, LOT 4 – CLIMATE CONTROLLED SELF STORAGE FRIEL STORAGE, LLC. SITE PLAN 2023-959 DMS & ASSOCIATES PROJECT #2023084

Dear Joe:

Please accept this letter, revised plans, architectural information, site plan application, and SWM report as a formal resubmittal following up our ESDR meeting held on June 28th and request we be considered for the July Planning Commission meeting agenda. At that ESDR meeting there were some minor layout comments that we have since worked out through coordination with you and Sierra Clem. Also at the meeting we discussed that if we can turn in a resubmittal by today, Monday July 3rd, we can still be considered for that July Planning Commission agenda.

The enclosed plans and supporting documentation include the revisions per our meeting and coordination:

- The accessible route and protection bollards for the ADA parking space
- Addition of parking bumpers where applicable
- Flipping the eastern most parallel parking space and loading area with one another
- Make the Building B's side door recessed and an emergency exit only
- Making the sidewalk go behind the two parking spaces that are adjacent to Elliott Rd and outside the gate
- Reconfiguring the area between Buildings A and C to make it loading and pedestrian area rather than a drive aisle
- Add SWM compliance tables to the plans on sheet C-5 and in the SWM report

P.O. Box 80 Centreville, MD 21617
Phone: (443) 262-9130
Email: email@dmsandassociates.com

We believe that all issues and staff comments have been addressed that relate to sketch/preliminary approval and our ability to be recommended for the Planning Commission. We are hopeful that with this submittal we can be considered for that July Planning Commission meeting.

We look forward to obtaining planning commission approval and moving forward with detailed technical design and working out final concerns and detail with staff to complete the site plan approval. If you should have any questions or need any additional information, please do not hesitate to contact me at (443) 262-9130 or bdavis@dmsandassociates.com.

Sincerely,
DMS & Associates, LLC

Brandon A. Davis, PE

STORMWATER MANAGEMENT NARRATIVE AND CALCULATIONS

FOR

PRELIMINARY SITE PLAN

FOR

CLIMATE CONTROLLED SELF STORAGE

LOT 4 OF ELLIOTT ROAD
EASTON, MARYLAND 21601

PREPARED FOR:

FRIEL STORAGE, LLC.
C/O JAY FRIEL
47 PROSPECT BAY DR W
GRASONVILLE, MD 21638

AND

FINK, WHITTEN & ASSOCIATES, LLC.
C/O ELIZABETH FINK
113 E. DOVER ST., UNIT C
EASTON, MD 21601

STATE OF MARYLAND
BRANDON A. DAVIS
No. 37235
PROFESSIONAL ENGINEER
exp 6/5/2024

Date: 7/3/2023

Davis, Moore, Shearon & Associates, LLC

PREPARED BY:
DMS & ASSOCIATES, LLC
P.O BOX 80
CENTREVILLE, MD 21617
DMS JOB# 2022009
PRELIMINARY PLAN DATE: JUNE, 2022
REVISED: JUNE, 2023
REVISED: JULY, 2023

DMS

P.O. Box 80 Centreville, MD 21617
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STORMWATER MANAGEMENT NARRATIVE
PRELIMINARY PLAN
ELLIOTT ROAD – LOT 4

The subject property is located on Elliott Road in Easton, Maryland. The lot is a vacant lawn area and is commercially zoned. The lot is south of the Staples strip center, east of MyDocsIn, northeast of Aldi's, north of Spurry's Auto Center, and west of Elliott Road. This 1.775 acre lot is covered in lawn. There is a drainage swale along the southern portion of the Elliott Road frontage and storm drain at the northeast corner of the property along Elliott Road. There is a storm drain system running along the rear of the property also. The drainage from the subject property is general spilt equally in the existing conditions to the front and rear of the site. The soils inherent to the subject property are classified as Urban Land (Up) by the USDA-NRCS soil survey. These soils are thereby considered hydrologic soil group "D".

Project Description

The proposed project will construct three climate controlled self storage buildings with required access, parking, and associated improvements. The three buildings are elongated in shape to mimic the property shape. The roof lines of the buildings will run down the middle of their long axis and drain equally north and south for each building. Roof leaders will be applied as needed to direct runoff to appropriate treatment areas. Trench drains and storm drain in the middle of the site will collect roof and pavement runoff and direct it to stormwater treatment areas. Front and rear treatment areas will connection to nearby existing stormdrain.

Quality Control

The proposed project will result in approximately 1.79 acres of disturbance with 1.15 acres of impervious area (or 64.2% imperviousness). Water quality measures will be provided to meet the requirements of the Town of Easton Stormwater Management Ordinance and chapter 5 of the Maryland Department of the Environment (MDE) Stormwater Management Design Manual. Per chapter 5 of the MDE SWM Design Manual, Environmental Site Design (ESD) will be implemented to the Maximum Extent Practicable. The resulting ESD volume requirement for this project is 7,350 c.f. and recharge volume requirement (Rev) of 286 c.f. Two micro-bioretention devices in the front of the property and two in the rear of the property will provide water quality treatment to address ESD and Rev requirements. The micro-bioretention areas will meet the restrictions inherent to their respective drainage areas. They will filter runoff, allow it to infiltrate where possible, and will direct it to quantity control areas or storm drain system. The proposed treatment will provide 10,181 c.f. of ESD volume and 4,229 c.f. of Rev volume. The site will mimic woods in good condition as these measures provide ESD to the MEP, and thereby address water quality, ESD, recharge, and channel protection requirements.

Quantity Control

NRCS USDA TR-55 methodology was utilized to compute pre project and post project runoff curve numbers, times of concentration, and peak flow values (without consideration for ESD treatment). ESD is provided to the MEP for the project. That ESD treatment is taken into consideration using the MDE Stormwater Design Guidance – Addressing Quantity Control Requirements supplement. The calculation procedure of determining a reduced curve number for both the 2 and 10 year storms was completed for each outfall drainage area. Those reduced curve

numbers are utilized in TR-55 and TR-20 to determine the positive effects that the ESD treatment has on the peak discharges at the outfall locations.

Rear Outfall to Existing Stormdrain – Drainage Area #1

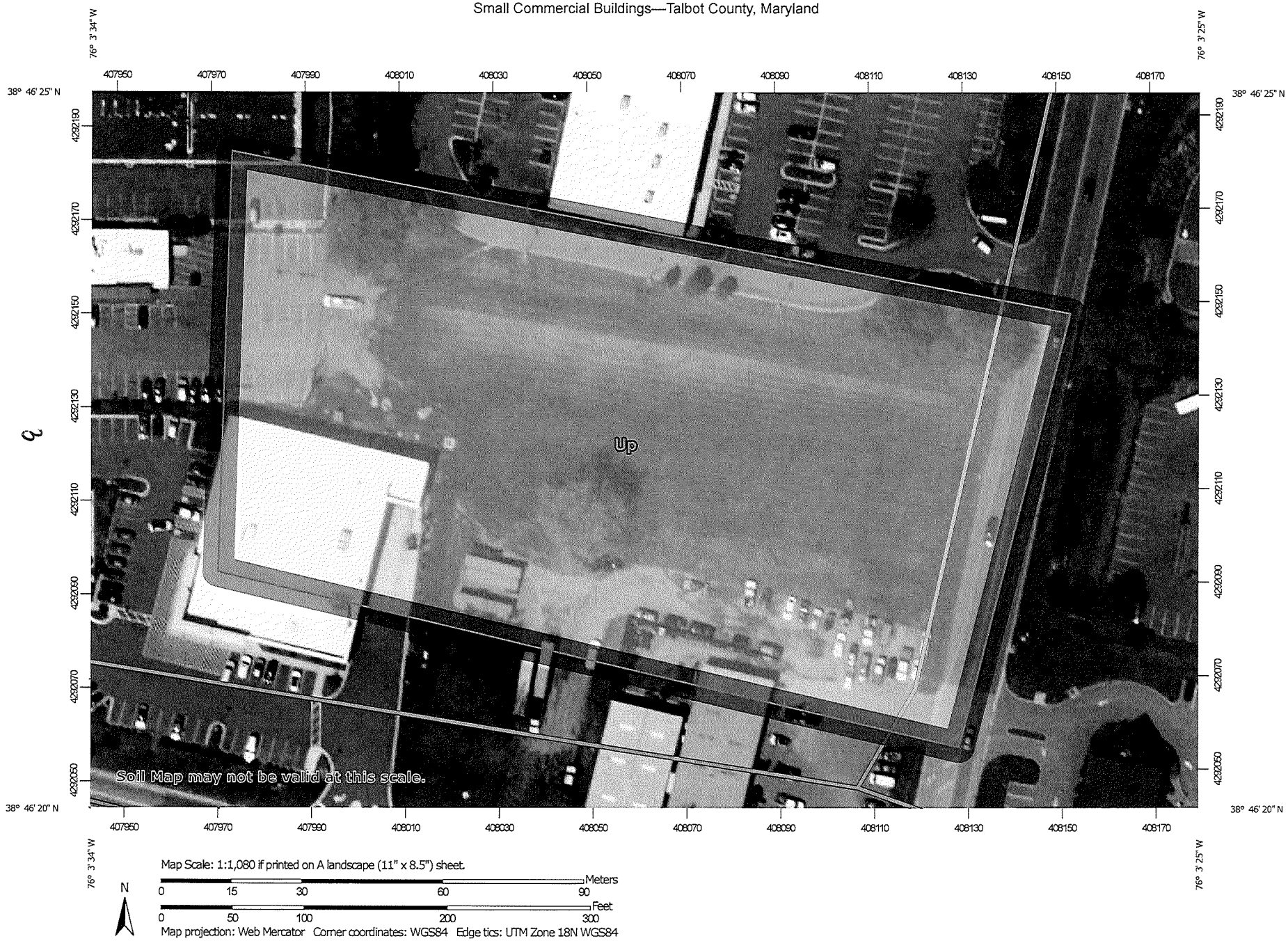
A quantity control treatment area is provided in the rear of the property to address quantity treatment requirements for the rear outfall. The provided calculations currently do not consider the reduced curve numbers calculated based on the provided ESD to the MEP treatment, and therefore currently considered conservative. TR-20 methodology has been utilized using non-reduced CNs, stage storage analysis, and outfall structure routing. The analysis shows the post project peak flows for the 2 year and 10 year storms do not exceed pre project, therefore, quantity control for the increase to runoff and drainage area to the rear of the site is addressed.

Front Outfall at Elliott Road Existing Stormdrain – Drainage Area #2

Two micro bioretentions in the front of the property will provide required water quality treatment for the portion of the site that will drain towards Elliott Road to address ESD to the MEP. The post project drainage area towards Elliott Road is reduced from pre project conditions. Both Micro-Bioretentions in this outfall drainage area provide substantially more volume than what the target ESD volumes are for each device based on their respect P_E values. The volume overage provides extra storage for the overall front drainage area and assists with quantity treatment requirements. Given that ESD is met to the MEP, the 2 year storm is addressed fully by the reduced curve number created. The 10 year storm is addressed partially by the reduced curve number with the remainder addressed by the volume overage provided. TR-55 quantity control volume calculations determine a requirement of 1,549 c.f. The volume overage provided is 2,820 c.f., thereby addressing any remaining quantity control requirements. The reduction to drainage area, reduced curve number provided by ESD to the MEP, and added volume provided over ESD targets result in the reduction of post project peak flows versus pre project and quantity control volume addressed to address quantity control requirements for this drainage area.

The combination of ESD treatment and quantity control storage for the project will allow it to mimic the pre project outfall peak flows. The proposed water quality and quantity measures collect, store, filter and discharge runoff in a responsible manner. The piping, storm drain structures, rip rap protection, and storm drain connections will provide controlled release of treated stormwater to the existing downstream conveyance systems. Neighboring properties will not be negatively impacted as side drainage is captured in roof leader systems and directed towards outfalls even though the southern and southwestern neighbors receive direct runoff in the pre project conditions.

In conclusion, we feel that this preliminary site plan and associated SWM calculations support that this project abides by all Town and MDE SWM requirements for recommendation of preliminary SWM approval.


76° 3' 34" W
76° 3' 25" W
38° 46' 25" N
38° 46' 20" N
407950
407970
407990
408010
408030
408050
408070
408090
408110
408130
408150
408170
4292190
4292170
4292150
4292130
4292110
4292090
4292070
4292050
Up
Soil Map may not be valid at this scale.
Map Scale: 1:1,080 if printed on A landscape (11" x 8.5") sheet.
Meters
0 15 30 60 90
Feet
0 50 100 200 300
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Lines

Very limited

Somewhat limited

Not limited

Not rated or not available

Soil Rating Points

Very limited

Somewhat limited

Not limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

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: Talbot County, Maryland
Survey Area Data: Version 18, Aug 27, 2021

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

Date(s) aerial images were photographed: Apr 1, 2021—Oct 1, 2021

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.

Small Commercial Buildings

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Up	Urban land	Not rated	Urban land (90%)		3.9	100.0%
Totals for Area of Interest					**3.9**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Null or Not Rated	3.9	100.0%
Totals for Area of Interest	**3.9**	**100.0%**

Description

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification of the soil). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

DMS

Davis, Moore, Shearon, & Assocates, LLC
Engineering, Drafting/Design, Environmental Services & Surveying

Site Name: Duley - Climate Controlled Storage **Designed By:** B.A.D.
Date: Jul-23 **Checked By:** W.T.D
Description: Development Conditions

Determine ESD Implementation:

Site Data Redeveloped Site= **No**

$$ESDv = \frac{(P_E)(Rv)(A)}{12.00}$$

Area A =	**1.793**	acres	**LOD**
Prop. Hard Surfaces =	**1.150**	acres	
Alternative Surfaces =	**0.000**		
Net Imp. Area =	**1.150**		
% Impervious =	64.2	%	
Rv =	0.627		
Zone =	eastern		
P_E=	**1.80**	inches	

A = Site Area
I = % Imperviousness
Rv = 0.05 + 0.009(I)

P_E= Rain Fall Target From Tbl. 5.3 (RCN Reductions)
(Total P_ExArea)/Area = Weighted P_E

ESD_V = Runoff Volume for ESD design

ESD_V =	0.169	ac-ft
or	7,350	cf

$ESD_{V\ redev}$ = ESD Volume for redevelopment site

A_{redev} = (0.50)(Ex. Imp. Area) - (Ex. Imp. Area - Prop. Imp. Area)
A_{redev} = 0 acres

Ex. Imp. Area _____ acres

$ESD_{V\ redev}$ =	0.000	ac-ft
or	0	cf

Compute Recharge Volume (Rev)

HSG	RCN (woods)	P_E Table 5.3	P_E x Area	RCN xArea	Recharge factor (S)	Area	%
A	38	**0.00**	0.00	0	0.38	**0.000**	0.00%
B	55	**0.00**	0.00	0	0.26	**0.000**	0.00%
C	70	**0.00**	0.00	0	0.13	**0.000**	0.00%
D	77	**1.80**	3.23	138	0.07	**1.793**	100.00%
TOTALS			**3.23**	**138**		**1.793**	100.00%

S = 0.07

a.) *Rev =* [(S)(Rv)(A)]/12
(percent volume method)

Rev =	0.007	ac-ft
or	286	cf

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Table 5.3 Runoff Curve Number Reductions used for Environmental Site Design

Hydroligic Soil Group D										
%I	RCN*	P_E = 1"	1.2"	1.4"	1.6"	1.8"	2.0"	2.2"	2.4"	2.6"
0%	80									
5%	81									
10%	82									
15%	83									
20%	84	**77**								
25%	85	78								
30%	85	78	**77**	**77**						
35%	86	79	78	78						
40%	87	82	75	79	**77**					
45%	88	82	76	79	78					
50%	89	83	76	80	78					
55%	90	84	76	80	78					
60%	91	85	78	81	78					
65%	92	85	80	81	78					
70%	93	86	80	81	78					
75%	94	86	81	81	78					
80%	94	86	82	82	79					
85%	95	86	82	82	79					
90%	96	87	83	82	79	**77**				
95%	97	88	85	82	80	78				
100%	98	89	86	83	80	78	**77**			

Cpv Addressed (RCN = Woods in Good Condition

RCN Applied to Cpv Calculations

9

NON-STRUCTURAL

AND

ESD PRACTICES

CRITERIA & DESIGN PARAMETERS MET FOR SELECTED PRACTICE

M-6 Micro-Bioretention (page 5.96 of the MDE SWM design manual):

Performance Criteria:

- Equation 5.2 is applied during the sizing criteria to ensure that the device is had an adequate area and volume provided. Recharge requirements are not required in a redevelopment criteria situation.

Constraints:

- Space – the provided area aligns with the site shape and is adequate area for the contributing impervious area and overall drainage area.
- Topography – the site is less than 5% and will be flat in the treatment area. Runoff will enter the SWM area using sheet flow, or piped with riprap protection.
- Soils – the developed nature of the site and associated soils have led us to this practice since undisturbed high infiltrating soils are not available. An underdrain will be provided to avoid ponding water.
- Drainage Area – the drainage areas meets the constraints.
- Hotspot Runoff – this site is not considered a hotspot
- Infrastructure – the selected locations avoid conflicts with existing utilities and is in a convenient location to easily tie into existing stormwater conveyance system.

Design Guidance:

- Conveyance – the SWM is located off line and not in series with other conveyance paths. Runoff will enter the treatment area in a stable manner. The proposed underdrain will convey treated runoff to existing storm drain system.
- Treatment – the device meets within reason the maximum drainage area, capture volume, surface area minimum, filter bed depth, groundwater avoidance, media layering, and material spec. requirements.
- Setbacks – the SWM area meets all MDE recommended setbacks from buildings, wells, and utilities.
- Landscaping – plantings are provided in the SWM area to provide nutrient uptake, filtration surface stabilization and gel with landscaping.

Construction Criteria:

- Sediment and Erosion Control – the construction sequencing requires drainage areas to be stabilized before SWM is installed.
- Soil Compaction – the SWM area is set off to the sides of the LOD to avoid construction traffic and associated compaction.
- Underdrain Installation – gravel and drain specifications are shown on the plans per MDE recommendations.
- Filter Media Installation – soils specifications are shown on the plans per MDE recommendations.
- Landscaping – plantings should be installed at the optimum seasonal timing, otherwise provisions should be made to ensure their health

Inspection and Maintenance Criteria:

- Inspection and Maintenance procedures are provided on the plans.

DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Duley - Climate Controlled Storage

Micro-Bioretention

Device: MB #1

Filter Bed Requirements

Device Drainage Area =	14313	sq. Ft.
Minimum Af (2% of DA) =	286	sq. Ft.

ESDv Targets

DA Impervious Area =	11257	sq. Ft.	% Site Area =	22.5%
Device DA %I =	78.65	%		
Device DA Rv =	0.758			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	904	cu.Ft.		
ESDv burden per % Site Area =	1651	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2441	cu.Ft.		

Provided

Af Provided =	1023	sq. Ft.	d_{mulch} =	3	inches
			d_{soil} =	12	inches
			d_{pea} =	4	inches
			d_{stone} =	12	inches
			porosity =	0.40	
Temp Pond. Area Prov. =	1437	sq. Ft.	$D_{temp.\ Stor.}$ =	12	inches
Media Storage Provided =	1057	cu.Ft.			
Temp Pond. Stor. Prov. =	1230	cu.Ft.			
Total ESDv Provided =	2287	cu.Ft.			

Re_v

Soils S Factor =	0.07		
P_E Achieved	1.072	inches	(Equation 5.2)
P_E Achiev. > Soil S Factor (yes/no):	yes		
Re_v Credit:	955	cu.Ft.	

Additional Considerations

Underdrain Provided (yes/no): yes

Notes: Device will have perforated underdrain and tie to stormdrain

DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Duley - Climate Controlled Storage

Micro-Bioretention

Device: MB #2

Filter Bed Requirements

Device Drainage Area =	14257	sq. Ft.
Minimum Af (2% of DA) =	285	sq. Ft.

ESDv Targets

DA Impervious Area =	10831	sq. Ft.	% Site Area =	21.6%
Device DA %I =	75.97	%		
Device DA Rv =	0.734			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	872	cu.Ft.		
ESDv burden per % Site Area =	1589	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2355	cu.Ft.		

Provided

Af Provided =	1709	sq. Ft.	d_{mulch} =	3	inches
			d_{soil} =	12	inches
			d_{pea} =	4	inches
			d_{stone} =	12	inches
			porosity =	0.40	
Temp Pond. Area Prov. =	2219	sq. Ft.	$D_{temp.\ Stor.}$ =	12	inches
Media Storage Provided =	1766	cu.Ft.			
Temp Pond. Stor. Prov. =	1964	cu.Ft.			
Total ESDv Provided =	3730	cu.Ft.			

Re_v

Soils S Factor =	0.07		
P_E Achieved	1.798	inches	(Equation 5.2)
P_E Achiev. > Soil S Factor (yes/no):	yes		
Re_v Credit:	1595	cu.Ft.	

Additional Considerations

Underdrain Provided (yes/no): yes

Notes: Device will have perforated underdrain and tie to stormdrain

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DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Duley - Climate Controlled Storage

Micro-Bioretention

Device: MB #3

Filter Bed Requirements

Device Drainage Area =	19953	sq. Ft.
Minimum Af (2% of DA) =	399	sq. Ft.

ESDv Targets

DA Impervious Area =	17396	sq. Ft.	% Site Area =	34.7%
Device DA %I =	87.18	%		
Device DA Rv =	0.835			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	1388	cu.Ft.		
ESDv burden per % Site Area =	2552	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	3749	cu.Ft.		

Provided

Af Provided =	1167	sq. Ft.	d_{mulch} =	3	inches
			d_{soil} =	12	inches
			d_{pea} =	4	inches
			d_{stone} =	12	inches
			porosity =	0.40	
Temp Pond. Area Prov. =	1636	sq. Ft.	$D_{temp.\ Stor.}$ =	12	inches
Media Storage Provided =	1206	cu.Ft.			
Temp Pond. Stor. Prov. =	1402	cu.Ft.			
Total ESDv Provided =	2608	cu.Ft.			

Re_v

Soils S Factor =	0.07		
P_E Achieved	0.877	inches	(Equation 5.2)
P_E Achiev. > Soil S Factor (yes/no):	yes		
Re_v Credit:	1089	cu.Ft.	

Additional Considerations

Underdrain Provided (yes/no): yes

Notes: Device will have perforated underdrain and tie to stormdrain

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DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Duley - Climate Controlled Storage

Micro-Bioretention

Device: MB #4

Filter Bed Requirements

Device Drainage Area =	13667	sq. Ft.
Minimum Af (2% of DA) =	273	sq. Ft.

ESDv Targets

DA Impervious Area =	9364	sq. Ft.	% Site Area =	18.7%
Device DA %I =	68.52	%		
Device DA Rv =	0.667			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	760	cu.Ft.		
ESDv burden per % Site Area =	1374	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2051	cu.Ft.		

Provided

Af Provided =	632	sq. Ft.	d_{mulch} =	3	inches
			d_{soil} =	12	inches
			d_{pea} =	4	inches
			d_{stone} =	12	inches
			porosity =	0.40	
Temp Pond. Area Prov. =	1173	sq. Ft.	$D_{temp.\ Stor.}$ =	12	inches
Media Storage Provided =	653	cu.Ft.			
Temp Pond. Stor. Prov. =	903	cu.Ft.			
Total ESDv Provided =	1556	cu.Ft.			

Re_v

Soils S Factor =	0.07		
P_E Achieved	0.694	inches	(Equation 5.2)
P_E Achiev. > Soil S Factor (yes/no):	yes		
Re_v Credit:	590	cu.Ft.	

Additional Considerations

Underdrain Provided (yes/no): yes

Notes: Device will have perforated underdrain and tie to stormdrain

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Device #	Type	Provided ESDv	Provided Rev
MB #1	Micro-Bioretention	2287	955
MB #2	Micro-Bioretention	3730	1595
MB #1	Micro-Bioretention	2608	1089
MB #2	Micro-Bioretention	1556	590
Total		**10181**	**4229**

Summary

Step	Requirement	Volume Required (cft)	Volume Provided (cft)	Notes
1	ESD_V =	7350	**10181**	Micro-Bioretention
2	Recharge (Rev)	286	**4229**	Micro-Bioretention
3	Channel Protection (CPv)	N/A	**N/A**	ESD to MEP and overflow volume storage
4	Overbank Flood (Qp)	5783	**8506**	Quantity Control Area and MicroBio Ponding Storage
5	Extreme Flood (Qf)	N/A	N/A	N/A

Worksheet 2: Runoff curve number and runoff

Project: Duley - Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Check one: Present [x] Developed [ ]

Notes: Existing Conditions DA 1 - Western Outfall (Back)

1. Runoff curve number (CN)

Soil name and hydrologic group (appendix A)	**Cover description** (cover type, treatment,and hydroogic condition)	CN Table 2-2	CN Fig.2-3	CN Fig.2-4	Area acres mi^2 %	Product of CN x area
D	Lawn	80			0.6862	54.898072
D	IMPERVIOUS	98			0.0843	8.2656566
						0
						0
						0
						0
						0
1/ Use only one CN source per line				Totals =	0.7706	63.163728

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{63.16372819}{0.77056933} = 81.97$$

Use CN = 82

2. Runoff

		Storm #1	Storm #2	Storm #3
Frequency.....	yr	2	10	100
Rainfall, P (24-hour).....	in	3.33	5.20	8.98
Runoff, Q.....	in	1.643	3.259	6.79

(Use P and Cn with table 2-1, fig. 2-1 or equ. 2-3 and 2-4)
(210-VI-TR-55, Second Ed., June 1986)

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Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: Duley - Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present [x] Developed [ ]

Circle one: Tc [x] Tt [ ] through subarea [ ] Notes: Existing Conditions DA 1 - Western Outfall (Back)

Sheet flow (Applicable to Tc only)		Segment ID	AB			
1	surface description (table 3-1)		LAWN			
2	Manning's roughness coeff., n (table 3-1)		0.15			
3	Flow length, L (total L $\leq$ 300 ft)	ft	100			
4	two-yr 24-hr rainfall, P_2	in	3.33			
5	Land slope, s	ft/ft	0.0092			
6	$T_t = 0.007(nL)^{0.8} / P_2^{0.5} s^{0.4}$	hr	0.22	+	=	0.218

Shallow concentrated flow		Segment ID	BC			
7	Surface description (paved(P) or unpaved(UP))		UP			
8	Flow length, L	ft	103			
9	Watercourse slope, s	ft/ft	0.01			
10	Average Velocity, V (figure 3-1)	ft/s	1.61			
11	$T_t = L / 3600 V$	hr	0.018	+ 0	=	0.018

Channel Flow		Segment ID	CD			
12	Cross sectional flow area, a	ft^2	3.142			
13	Wetted perimeter, Pw	ft	6.28			
14	Hydraulic radius, r = a / Pw compute r	ft	0.50			
15	Channel slope, s	ft/ft	0.005			
16	Manning's roughness coeff. , n		0.013			
17	$V = 1.49 r^{2/3} s^{1/2} / n$	ft/s	5.11			
18	Flow length , L	ft	240			
19	$T_t = L / 3600 V$	hr	0.013	+ 0	=	0.013
20	Watershed or subarea Tc or Tt (add Tt in steps 6,11,and 19)					0.249

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Worksheet 2: Runoff curve number and runoff

Project: Duley-Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Check one: Present ☐ Developed ☒

Notes: Proposed Conditions DA 1 - Western Outfall (Back)

1. Runoff curve number (CN)

Soil name and hydrologic group (appendix A)	**Cover description** (cover type, treatment,and hydroogic condition)	CN			Area acres mi^2 %	Product of CN x area
		Table 2-2	Fig.2-3	Fig.2-4		
D	**Lawn**	**80**			**0.3953**	31.627181
D	**IMPERVIOUS**	**98**			**0.6143**	60.203857
						0
						0
						0
						0
						0
1/ Use only one CN source per line				Totals =	1.0097	91.831038

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{91.83103765}{1.00966483} = 90.95$$

Use CN = 91

2. Runoff

		Storm #1	Storm #2	Storm #3
Frequency.....	yr	2	10	100
Rainfall, P (24-hour).....	in	3.33	5.20	8.98
Runoff, Q.....	in	2.38	4.17	7.89

(Use P and Cn with table 2-1, fig. 2-1 or equ. 2-3 and 2-4)
(210-VI-TR-55, Second Ed., June 1986)

Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: Duley-Self Storage By: WTD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present ☐ Developed ☒

Circle one: Tc ☒ Tt ☐ rough subarea ☐ Notes: Proposed Conditions DA 1 - Western Outfall (Back)

Sheet flow (Applicable to Tc only)		Segment ID	AB			
1	surface description (table 3-1)		Smooth			
2	Manning's roughness coeff., n (table 3-1)		0.011			
3	Flow length, L (total L ≤ 300 ft)	ft	26			
4	two-yr 24-hr rainfall, P_2	in	3.33			
5	Land slope, s	ft/ft	0.005			
6	$T_t = 0.007(nL)^{0.8} / P_2^{0.5} s^{0.4}$	hr	0.01	+	+ =	0.012

Shallow concentrated flow		Segment ID				
7	Surface description (paved(P) or unpaved(UP))					
8	Flow length, L	ft				
9	Watercourse slope, s	ft/ft				
10	Average Velocity, V (figure 3-1)	ft/s				
11	$T_t = L / 3600 V$	hr	0	+	=	0.000

Channel Flow		Segment ID	BC			
12	Cross sectional flow area, a	ft^2	1.227			
13	Wetted perimeter, Pw	ft	3.93			
14	Hydraulic radius, r = a / Pw compute r	ft	0.31			
15	Channel slope, s	ft/ft	0.005			
16	Manning's roughness coeff. , n		0.013			
17	$V = 1.49 r^{2/3} s^{1/2} / n$	ft/s	3.73			
18	Flow length , L	ft	383			
19	$T_t = L / 3600 V$	hr	0.029	+	+ =	0.029
20	Watershed or subarea Tc or Tt (add Tt in steps 6,11,and 19)					0.041

0.1

20

Worksheet 2: Runoff curve number and runoff

Project: Duley - Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Check one: Present [x] Developed [ ]

Notes: Existing Conditions DA 2 - Eastern Outfall (Front)

1. Runoff curve number (CN)

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment,and hydroogic condition)	CN Table 2-2	CN Fig.2-3	CN Fig.2-4	Area acres mi^2 %	Product of CN x area
D	Lawn	80			1.0049	80.393021
D	IMPERVIOUS	98			0	0
						0
						0
						0
						0
						0
1/ Use only one CN source per line				Totals =	1.0049	80.393021

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{80.39302112}{1.004912764} = 80.00$$

Use CN = 80

2. Runoff

		Storm #1	Storm #2	Storm #3
Frequency.....	yr	2	10	100
Rainfall, P (24-hour).....	in	3.33	5.20	8.98
Runoff, Q.....	in	1.503	3.068	6.55

(Use P and Cn with table 2-1, fig. 2-1 or equ. 2-3 and 2-4)
(210-VI-TR-55, Second Ed., June 1986)

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Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: Duley - Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present [x] Developed [ ]

Circle one: Tc [x] Tt [ ] through subarea [ ] Notes: Existing Conditions DA 2 - Eastern Outfall (Front)

Sheet flow (Applicable to Tc only)			Segment ID	AB			
1	surface description (table 3-1)			LAWN			
2	Manning's roughness coeff., n (table 3-1)			0.15			
3	Flow length, L (total L $\leq$ 300 ft)	ft		100			
4	two-yr 24-hr rainfall, P_2	in		3.33			
5	Land slope, s	ft/ft		0.02			
6	$T_t = 0.007(nL)^{0.8} / P_2^{0.5} s^{0.4}$	hr		0.16	+	=	0.160

Shallow concentrated flow			Segment ID	BC			
7	Surface description (paved(P) or unpaved(UP))			UP			
8	Flow length, L	ft		192			
9	Watercourse slope, s	ft/ft		0.011			
10	Average Velocity, V (figure 3-1)	ft/s		1.69			
11	$T_t = L / 3600 V$	hr		0.032	+ 0	=	0.032

Channel Flow			Segment ID				
12	Cross sectional flow area, a	ft^2					
13	Wetted perimeter, Pw	ft					
14	Hydraulic radius, r = a / Pw compute r	ft					
15	Channel slope, s	ft/ft					
16	Manning's roughness coeff. , n						
17	$V = 1.49 r^{2/3} s^{1/2} / n$	ft/s					
18	Flow length , L	ft					
19	$T_t = L / 3600 V$	hr		#VALUE	+ 0	=	
20	Watershed or subarea Tc or Tt (add Tt in steps 6,11,and 19)						0.192

22

Worksheet 2: Runoff curve number and runoff

Project: Duley-Self Storage By: BD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Check one: Present ☐ Developed ☒

Notes: Proposed Conditions DA 2 - Eastern Outfall (Front)

1. Runoff curve number (CN)

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment,and hydroogic condition)	CN Table 2-2	CN Fig.2-3	CN Fig.2-4	Area acres mi^2 %	Product of CN x area
D	Lawn	80			0.2382	19.054178
D	IMPERVIOUS	98			0.5283	51.773967
						0
						0
						0
						0
						0
				Totals =	0.7665	70.828145

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{70.82814509}{0.766483012} = 92.41$$

Use CN = 92

2. Runoff

		Storm #1	Storm #2	Storm #3
Frequency.....	yr	2	10	100
Rainfall, P (24-hour).....	in	3.33	5.20	8.98
Runoff, Q.....	in	2.51	4.33	8.06

(Use P and Cn with table 2-1, fig. 2-1 or equ. 2-3 and 2-4)
(210-VI-TR-55, Second Ed., June 1986)

Worksheet 3: Time of concentration (Tc) or travel time (Tt)

Project: Duley-Self Storage By: WTD Date: July-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present ☐ Developed ☒

Circle one: Tc ☒ Tt ☐ rough subarea ☐ Notes: Proposed Conditions DA 2 - Eastern Outfall (Front)

Sheet flow (Applicable to Tc only)		Segment ID	AB			
1	surface description (table 3-1)		Smooth			
2	Manning's roughness coeff., n (table 3-1)		0.011			
3	Flow length, L (total L ≤ 300 ft)	ft	44			
4	two-yr 24-hr rainfall, P_2	in	3.33			
5	Land slope, s	ft/ft	0.005			
6	$T_t = 0.007(nL)^{0.8} / P_2^{0.5} s^{0.4}$	hr	0.02	+	+ =	0.018

Shallow concentrated flow		Segment ID				
7	Surface description (paved(P) or unpaved(UP))					
8	Flow length, L	ft				
9	Watercourse slope, s	ft/ft				
10	Average Velocity, V (figure 3-1)	ft/s				
11	$T_t = L / 3600 V$	hr	0	+	=	0.000

Channel Flow		Segment ID	BC			
12	Cross sectional flow area, a	ft^2	1.227			
13	Wetted perimeter, Pw	ft	3.93			
14	Hydraulic radius, r = a / Pw compute r	ft	0.31			
15	Channel slope, s	ft/ft	0.005			
16	Manning's roughness coeff. , n		0.013			
17	$V = 1.49 r^{2/3} s^{1/2} / n$	ft/s	3.73			
18	Flow length , L	ft	217			
19	$T_t = L / 3600 V$	hr	0.016	+	+ =	0.016
20	Watershed or subarea Tc or Tt (add Tt in steps 6,11,and 19)					0.034

0.1

24

Stormwater Design Guidance - Addressing Quantity Control Requirements

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to reduce the volume of runoff from the one-year design storm to levels equivalent to woods in good condition. This will address the groundwater recharge, water quality, and channel protection volumes (Re_v, WQ_v, and Cp_v, respectively) as described in Chapter 2 of the **2000 Maryland Stormwater Design Manual**[1] (the Manual). However, the ESD to the MEP mandate may not completely address overbank flood protection volume (Qp_2 or Qp_{10}) requirements for peak management of the two or ten-year design storm where locally required. In these situations, the volume of runoff that is captured using ESD techniques and practices (ESD_v) may contribute to meeting these requirements.

As described above and in Chapter 5 (see p. 5.19 of the Manual), the volume of storage within various ESD practices, or ESD_v, may be considered when determining Qp_2 and/or Qp_{10} requirements. There are several methods that may be used and designers are encouraged to consult with the local approval authority to find out which are acceptable. The Maryland Department of the Environment (MDE) recommends using the "Change in Runoff Curve Number Method"[2] as an acceptable approach for this purpose.

The "Change in Runoff Curve Number Method" was developed to be used with TR-20[3] to model how capturing runoff in small-scale, uniformly distributed practices would effect the hydrograph for a given drainage area. The method uses Equation 1 below to calculate a storm-specific runoff curve number, CN^*, that reflects the runoff volume stored by ESD techniques and practices. In this equation, P is the rainfall depth in inches for the specific design storm (e.g., 10 year 24 hour design storm). The second variable, Q, is the difference between the post-development runoff depth (e.g., Q_{10}) and Q_E, the runoff depth stored in ESD techniques and practices[‡] (e.g., $Q = Q_{10} - Q_E$). The resulting CN^* is used with either the TR-20 or TR-55[4] programs to develop downstream hydrographs that account for the difference in runoff from the two and/or ten-year design storms and the runoff already treated using ESD.

Equation 1. $$CN^* = \frac{200}{(P + 2Q + 2) - \sqrt{5PQ + 4Q^2}}$$

MDE offers the following examples for using the "Change in Runoff Curve Number Method" to address Qp_2 and Qp_{10} using ESD. These examples are based on the Reker Meadows and Claytor Community Center designs found in both Chapters 2 and 5 of the Manual. In each example, the existing and proposed conditions reflect the Unified Sizing Criteria and structural approach to stormwater management design described in Chapter 2 of the Manual while the ESD goals reflect newer design requirements found in Chapter 5.

Example 1 – Reker Meadows

Using the Reker Meadows design examples found in Chapters 2 and 5 (see pp. 2.14 - 2.21 and 5.23 - 5.27), the effect of ESD on ten-year peak discharge control could be determined as follows:

‡ NOTE: According to the Design Manual (see p. 5.18), Q_E is the depth of runoff treated using ESD practices and is equal to the product of P_E and the volumetric runoff coefficient, R_V. Because ESD requirements are based on the 1-year rainfall event, Q_E is limited to the runoff from the 1 year, 24 hour design storm.

Site Data:

Existing Conditions

Total Drainage Area:	38 acres
Soil Types:	60% B, 40% C
Land Use:	Residential
Runoff Curve Numbers	
Pre-Development:	63
Wooded Conditions:	61
Time of Concentration (t_c):	0.35 hours
Ten-Year Peak Discharge:	50.4 cubic feet per second (cfs)

Proposed Conditions

Impervious Cover (I):	13.8 acres; %I = 13.8/38 or 36.3%	
Lot Size:	½ acre lots	
Runoff Curve Number:	78	
Time of Concentration:	0.19 hours	
Qp_{10} Criteria (see pp. 2.14 - 2.21 of the Manual)		
Ten-Year Rainfall (P_{10}):	5.0 inches	(see Table 2.2, p. 2.11)
Ten-Year Runoff (Q_{10}):	2.71 inches	(from TR-55, see p. 2.21)
Ten-Year Peak Discharge:	130 cfs	(from TR-55, see p. 2.21)
ESD Criteria (see pp. 5.23 - 5.27 of the Manual)		
One-Year Rainfall (P_1):	2.5 inches	
P_E:	1.8 inches	(see p. 5.25)
Q_E:	0.68 inches	($Q_E = P_E \times R_v$; see pp. 5.18 and 5.25)
ESD_v:	2.15 ac-ft or 93,800 ft^3 (see pp. 5.18 and 5.25)	

This example assumes that the ESD targets shown in Chapter 5 for the Reker Meadows project have been met. For the ten-year design storm, the design rainfall depth, or P_{10}, is 5.0 inches, Q_{10} (the post-development runoff depth) is 2.71 inches and Q_E (the runoff depth stored in ESD practices) is 0.68 inches. Q, (Q_{10} minus Q_E) is 2.03 inches. Using these values and Equation 1 (see above), the revised post-development RCN (CN^*) is determined as follows:

$$CN^* = \frac{200}{(P_{10} + 2Q + 2) - \sqrt{5P_{10}Q + 4Q^2}} = \frac{200}{[5 + (2 \times 2.03) + 2] - \sqrt{(5 \times 5 \times 2.03) + (4 \times 2.03^2)}} = 70$$

The revised CN^* of 70 is used with either the TR-20 or TR-55 models to determine a revised runoff depth and peak discharge that reflect the effect of ESD on peak discharge controls. However, for this example, the impact of ESD on Qp_{10} requirements is summarized below. Please recognize that steps in the process may be missing as this is not meant as an example of how to use TR-55.

To be conservative, this example assumes that there is no change in the post-development time of concentration (t_c). The example also uses an initial abstraction (I_a) of 0.857 inches (see Table 4-1, p. 4-1 of TR-55 for an RCN of 70), a P_{10} of 5.0 inches, and using Exhibit 4-II (p. 4-6, TR-55), the unit peak discharge (q_u) is 750 cfs/mi^2/in. Using these values, the post-development peak discharge or q_{p10} may be calculated as follows:

$q_{p10} = q_u A_m Q F_p$ (Equation 4-1, TR-55)

where A_m is the site area in square miles (38 acres/640 acres per mile^2 or 0.0594), Q is the 10-year post-development runoff depth for an RCN of 70 (2.03 inches), and F_p is an adjustment for ponds or swamps

within the watershed (in this case, $F_p = 1.0$). Using these values, the post-development peak discharge is:

$$q_{p10} = q_u A_m Q F_p = 750 \times 0.0594 \times 2.04 \times 1 = 90.8\, cfs$$

Using Figure 6-1 (see p. 6-2 of TR-55), for a inflow rate (q_{in}) of 90.8 cfs and an allowable outflow rate (q_{out}) of 50.4 cfs, the storage volume (V_s) necessary for control is 1.68 acre-ft (73,180 ft^3). This is almost 50,000 ft^3 less than the 123,275 ft^3 storage volume needed to address Qp_{10} without ESD.

Example 2 – Claytor Community Center

Using the Claytor Community Center design examples found in Chapters 2 and 5 (see pp. 2.22 - 2.27 and 5.28 - 5.31 of the Manual), the effect of ESD on two-year peak discharge control might be determined as follows:

Site Data:

Existing Conditions		
Total Drainage Area:	3 acres	
Soil Types:	100% B	
Land Use:	Commercial	
Runoff Curve Numbers		
Pre-Development:	57	
Wooded Conditions:	55	
Time of Concentration (t_c):	0.42 hours	
Two-Year Peak Discharge:	0.58 cfs	
Proposed Conditions		
Impervious Cover:	1.9 acres; I = 1.9/3 or 63.3%	
Runoff Curve Number:	83	
Time of Concentration:	0.16 hours	
Qp_2 Criteria (see pp. 2.22 - 2.27 of the Manual)		
Two-Year Rainfall (P_2):	3.4 inches	(see Table 2.2, p. 2.11)
Two-Year Runoff (Q_2):	1.77 inches	(from TR-55, see p. 2.27)
Two-Year Peak Discharge:	7.11 cfs	(from TR-55, see p. 2.27)
Storage Volume (V_s):	10,630 ft^3	(see p. 2.25)
ESD Criteria (see pp. 5.28 - 5.31)		
One-Year Rainfall (P_1):	2.8 inches	
Target P_E:	2.0 inches	(see p. 5.29)
Design P_E:	1.6 inches	(see p. 5.30)
Target Q_E:	1.24 inches	(see pp. 5.18 and 5.29)
Design Q_E:	0.99 inches	(see p. 5.30)
Target ESD_V:	13,505 ft^3	(see pp. 5.18 and 5.29)
Design Cp_V[§]:	3,265 ft^3	

This example assumes that the ESD targets shown above have not been met. When this occurs, the CN^* should be determined using the P_E and Q_E provided, which for this example are 1.6 inches and 0.99 inches respectively. For the two-year design storm, the design rainfall depth or P_2 is 3.4 inches, Q_2 is 1.77 inches, Q_E is 0.99 inches, and Q is 0.78 inches. Using these values and Equation 1, CN^* is determined as follows:

[§] Because the ESD targets have not been met, structural practices (see Chapter 3 of the Manual) must be used to capture and treat the difference in the 1 year design storm runoff from the achieved RCN of 65 (0.42 inches, see Manual, pp. 5.30 -5.31) and that for woods in good condition (runoff for an RCN =55 is 0.12 inches). Therefore, Cp_V is equal to [(0.42"– 0.12")x3 acres]/12", or approximately 3,265 ft^3.

$$CN^{*} = \frac{200}{(P_2 + 2Q + 2) - \sqrt{5P_2Q + 4Q^2}} = \frac{200}{[3.4 + (2 \times 0.78) + 2] - \sqrt{(5 \times 3.4 \times 0.78) + (4 \times 0.78^2)}} = 66$$

The revised CN* of 66 is used with either the TR-20 or TR-55 models to determine a revised runoff depth and peak discharge that reflect the effect of ESD on peak discharge controls. However, the impact of ESD on Qp_2 requirements is also summarized below. Again, to be conservative, the calculations assume that there is no change in the post-development time of concentration (t_c). The example also uses initial abstraction (I_a) of 1.03 inches (see Table 4-1, p. 4-1 of TR-55 for an RCN of 66), the 2-year rainfall depth (P_2) of 3.4 inches, and the unit peak discharge (q_u) is 775 cfs/mi^2/in (see Exhibit 4-II, TR-55). The site area (A_m) is 0.00468 square miles (3 acres/640 acres per mile^2), the 2-year post-development runoff depth (Q) for a RCN of 66 is 0.78 inches, and F_p is 1.0. Using these values, the post-development peak discharge or q_{p2} may be calculated using Equation 4-1 from TR-55 as follows:

$$q_{p2} = q_u A_m Q F_p = 775 \times 0.00468 \times 0.75 \times 1 = 2.7\ cfs$$

Using Figure 6-1 (see p. 6-2 of TR-55), for a q_{in} of 2.7 cfs and an allowable q_{out} of 0.58 cfs, the storage volume (V_s) necessary for control is 3,595 ft^3. This is almost 7,000 ft^3 less than the 10,630 ft^3 storage volume needed to address Qp_2 without ESD.

Conclusion

The primary purpose of the overbank flood protection criteria is to prevent increases in the frequency and magnitude of out-of-bank flooding attributed to new development. In Maryland, controlling overbank flooding is required only if the local approval authority determines that additional stormwater management is necessary because there are historical flooding problems and downstream floodplain development cannot be controlled. While designers should consult with the local approval authority for acceptable methods, MDE recommends using the "Reduced Runoff Curve Number Method" for determining the effect of ESD when determining Qp_2 and/or Qp_{10} requirements. As shown in the two examples above, meeting the ESD to the MEP mandate does not necessarily mean that overbank flood protection requirements are addressed as well. Where needed to manage peak discharges, additional storage may be provided by increasing the size of ESD practices, adding structural practices, or using some combination of ESD and structural practices.

Resources

[1] 2000 Maryland Stormwater Design Manual, Volumes I and II, MDE, October 2000 (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)

[2] "Modeling Infiltration Practices Using the TR-20 Hydrologic Program", McCuen, R., MDE 1983 (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/SoilErosionandSedimentControl/Documents/Modeling%20Infiltration%20wTR%2020.pdf)

[3] "Technical Release 20 - Computer Program for Project Formulation Hydrology", United States Department of Agriculture – Natural Resources Conservation Service, 1964, 1986, & 1992

[4] "Technical Release 55 – "Urban Hydrology for Small Watersheds", United States Department of Agriculture – Natural Resources Conservation Service, 1986

Reduced Curve Number Computations per MDE Stormwater Design Guidance - Addressing Quantity Control Requirements

Frequency	2	10
P	3.33	5.20

	Q (TR-55)	
DA1	2.38	4.17
DA2	2.51	4.33

	Q*	
DA1	1.25	3.04
DA2	1.38	3.20

	P + (2 x Q*) + 2	
DA1	7.8328	13.2828
DA2	8.0928	13.6028

SQRT [(5 x P x Q*) + (4 x Q^2)]	
5.205748538	10.77389697
5.534742437	11.14595208

200
(P + 2 x Q* + 2) - SQRT (5 x P x Q* + 4 x Q^2)

CN*	DA1	76.1	79.7
	DA2	78.2	81.4

Rounded CN*	DA1	77	80
	DA2	79	82

A	CN
1.0097	91
0.7665	92

PE	Rv	QE
1.8	0.627	1.1286

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WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Duley-Self Storage
SubTitle: DA 1 (Western) (Back)
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\22009-Duley-Miniwarehouses\SWM\07-2023\TR-55 Analysis

Date: 6/30/2023
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
DA1 Ex	Existing Conditions	Outlet	0.77	82	0.249
DA1 Pr	Proposed Conditions	Outlet	1.01	91	0.100
DA1 RCN2	Reduc. CN 2 yr	Outlet	1.01	77	0.100
DA1 RCN10	Reduc. CN 10 yr	Outlet	1.01	80	0.100

Total area: 3.80 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.33	4.33	5.2	6.52	7.73	8.98	2.74

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: NOAA_C
Dimensionless Unit Hydrograph: delmarva

Duley-Self Storage
DA 1 (Western) (Back)
Talbot NOAA-C County, Maryland

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
DA1 Ex							
User-provided							0.249
					Time of Concentration		0.249
DA1 Pr							
User-provided							0.100
					Time of Concentration		0.100
DA1 RCN2							
User-provided							0.100
					Time of Concentration		0.100
DA1 RCN10							
User-provided							0.100
					Time of Concentration		0.100

Duley-Self Storage
DA 1 (Western) (Back)
Talbot NOAA-C County, Maryland

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
DA1 Ex	CN directly entered by user	-	.77	82
	Total Area / Weighted Curve Number		.77	82
DA1 Pr	CN directly entered by user	-	1.01	91
	Total Area / Weighted Curve Number		1.01	91
DA1 RCN2	CN directly entered by user	-	1.01	77
	Total Area / Weighted Curve Number		1.01	77
DA1 RCN10	CN directly entered by user	-	1.01	80
	Total Area / Weighted Curve Number		1.01	80

bdavis

Duley-Self Storage
DA 1 (Western) (Back)
Talbot NOAA-C County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	10-Yr (cfs)	100-Yr (cfs)
SUBAREAS			
DA1 Ex	0.86	1.71	3.51
DA1 Pr	2.47	4.22	7.69
DA1 RCN2	1.36		
DA1 RCN10		3.25	

DMS

Davis, Moore, Shearon, & Associates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

DATA FOR ELEVATION - STORAGE CURVE

JOB NAME: Clem - Brooks Drive - Lot 11

DESCRIPTION: Cumulative Storage

STORAGE: Proposed Conditions

ELEV. (FT)	SURFACE AREA (SQ.FT)	AVERAGE SURFACE AREA (SQ.FT.)	DIFF. IN ELEV. (FT)	INCREMENT STORAGE (CU.FT.)	STORAGE (CU. FT.)	STORAGE (ACRE FT.)
42.50	56				0	0.0000
		136	0.50	68		
43.00	215				68	0.0016
		338	0.50	169		
43.50	461				237	0.0054
		542	0.30	162		
43.80	622				399	0.0092
		677	0.20	135		
44.00	732				535	0.0123
		788	0.20	158		
44.20	844				692	0.0159
		930	0.30	279		
44.50	1,016				971	0.0223
		1,166	0.50	583		
45.00	1,315				1,554	0.0357
		1,471	0.50	736		
45.50	1,627				2,289	0.0526
		1,758	0.40	703		
45.90	1,888				2,992	0.0687
		1,921	0.10	192		
46.00	1,954				3,185	0.0731
		2,125	0.50	1,062		
46.50	2,295				4,247	0.0975
		2,401	0.30	720		
46.80	2,507				4,967	0.1140
		2,579	0.20	516		
47.00	2,650				5,483	0.1259
		2,835	0.50	1,418		
47.50	3,020				6,900	0.1584
		3,212	0.50	1,606		
48.00	3,403				8,506	0.1953

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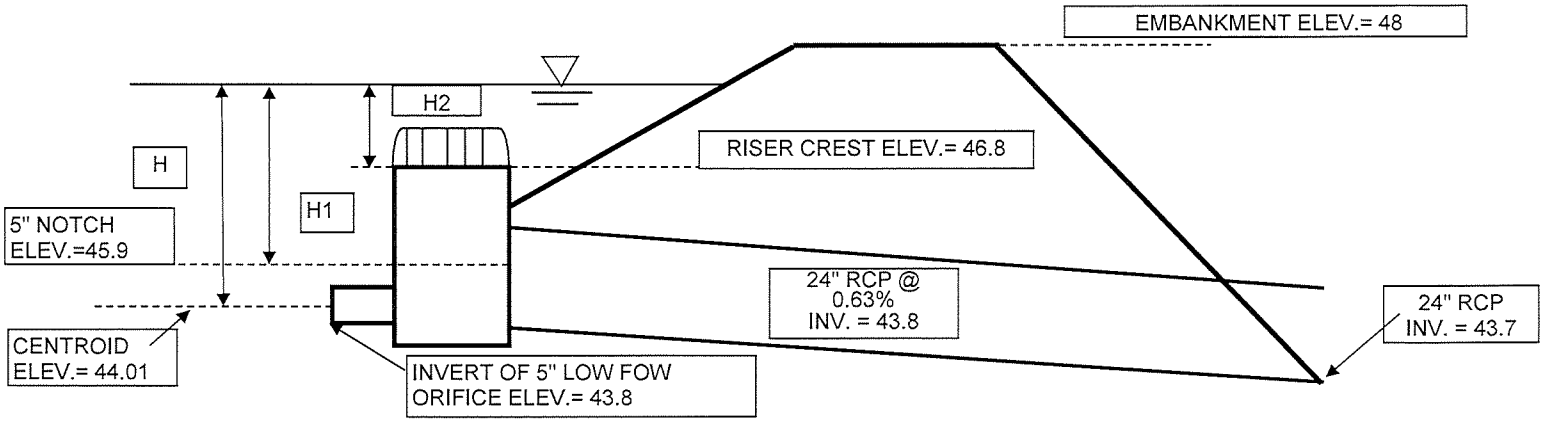
DMS & Associates

BY: B. DAVIS

7/1/23

ELLIOTT ROAD POND
SWM POND OUTLET STRUCTURE
HYDRAULICS SUMMARY



WATER in Pond Elev	ORIFICE		RISER NOTCH		STRUC. TOP		OVERFLOW WEIR		24" ADS CAPACITY.				FLOW Q	ACTUAL STORAGE VOLUME
	H	Q	H1	Q2	H2	Q3	H3	Q4	Inlet Control *		Outlet Control			
	CL =	**44.01**	CL	**45.90**	Crest=	46.80	Crest=	0.00	H1	Q1	H3	Q3		
	Size(ft) =	**0.41667**	Size(ft) =	**0.41667**	Length=	13.55	Length=	0	Cl Elev.=	**44.8**	Cl Elev=	**44.7**		
	Area =	0.136	Area =	0.136					Size(ft)=	**2.00**	Kp=	0.0106		
ft	ft	cfs	ft	cfs	ft	cfs	ft	cfs	ft.	cfs	ft	cfs	cfs	ac. ft.
42.50	-1.51	0.00	**0**	**0**	**0**	0	**0**	0	-2.30	**0.00**	-2.20	**0.00**	0.00	**0.0000**
43.00	-1.01	0.00	**0**	**0**	**0**	0	**0**	0	-1.80	**0.00**	-1.70	**0.00**	0.00	**0.0016**
43.50	-0.51	0.00	**0**	**0**	**0**	0	**0**	0	-1.30	**0.00**	-1.20	**0.00**	0.00	**0.0054**
43.80	-0.21	0.00	**0**	**0**	**0**	0	**0**	0	-1.00	**0.00**	-0.90	**0.00**	0.00	**0.0092**
44.00	-0.01	0.01	**0**	**0**	**0**	0	**0**	0	-0.80	**0.10**	-0.70	**0.10**	0.01	**0.0123**
44.20	0.19	0.29	**0**	**0**	**0**	0	**0**	0	-0.60	**0.20**	-0.50	**0.20**	0.29	**0.0159**
44.50	0.49	0.46	**0**	**0**	**0**	0	**0**	0	-0.30	**0.30**	-0.20	**0.30**	0.46	**0.0223**
45.00	0.99	0.65	**0**	**0**	**0**	0	**0**	0	0.20	**6.76**	0.30	**9.37**	0.65	**0.0357**
45.50	1.49	0.80	**0**	**0**	**0**	0	**0**	0	0.70	**12.65**	0.80	**15.30**	0.80	**0.0526**
45.90	1.89	0.90	**0**	**0**	**0**	**0.00**	**0**	**0**	1.10	**15.86**	1.20	**18.74**	0.90	**0.0687**
46.00	1.99	0.93	0.10	**0.21**	**0**	**0.00**	**0**	**0**	1.20	**16.56**	1.30	**19.51**	1.13	**0.0731**
46.50	2.49	1.04	0.60	**0.51**	**0**	**0.00**	**0**	**0**	1.70	**19.71**	1.80	**22.95**	1.54	**0.0975**
46.80	2.79	1.10	0.90	**0.62**	**0**	**0.00**	**0**	**0**	2.00	**21.38**	2.10	**24.79**	1.72	**0.1140**
47.00	2.99	1.14	1.10	**0.69**	0.20	**3.76**	**0**	**0**	2.20	**22.43**	2.30	**25.95**	5.58	**0.1259**
47.50	3.49	1.23	1.60	**0.83**	0.70	**24.60**	**0**	**0**	2.70	**24.84**	2.80	**28.63**	26.66	**0.1584**
48.00	3.99	1.31	2.10	**0.95**	1.20	**55.22**	**0**	**0**	3.20	**27.05**	3.30	**31.08**	57.48	**0.1953**

NOTES: Q1 = 0.6 A [(2gH)^1/2] Q2= 3.1(L)(H3/2) Q3 =3.1(L)(H3/2)

(1) Weir flow Q = CLH3/2 C = 3.1

Roughness Coefficient n=	**0.012**	PIPE AREA(ft^2)=	**3.140**
PIPE DIA.(in)=	**24.00**	PIPE LEGTH=	**16.00**

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*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20                      FULLPRINT           SUMMARY   NOPLOTS
TITLE 001 SCS ANALYSIS FOR DULEY - ELLIOTT ROAD, EASTON
TITLE 002 TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009
 4 DIMHYD
 8          0.000       0.111       0.356       0.655       0.896
 8          1.000       0.929       0.828       0.737       0.656
 8          0.584       0.521       0.465       0.415       0.371
 8          0.331       0.296       0.265       0.237       0.212
 8          0.190       0.170       0.153       0.138       0.123
 8          0.109       0.097       0.086       0.076       0.066
 8          0.057       0.049       0.041       0.033       0.027
 8          0.024       0.021       0.018       0.015       0.013
 8          0.012       0.011       0.009       0.008       0.008
 8          0.006       0.006       0.005       0.005       0.000
 9 ENDTBL
 3 STRUCT      01
 8                      42.50       0.001       0.0000
 8                      43.00       0.002       0.0016
 8                      43.50       0.003       0.0054
 8                      43.80       0.004       0.0092
 8                      44.00       0.01        0.0123
 8                      44.20       0.29        0.0159
 8                      44.50       0.46        0.0223
 8                      45.00       0.65        0.0357
 8                      45.50       0.80        0.0526
 8                      45.90       0.90        0.0687
 8                      46.00       1.13        0.0731
 8                      46.50       1.54        0.0975
 8                      46.80       1.72        0.1140
 8                      47.00       5.58        0.1259
 8                      47.50       26.66       0.1584
 8                      48.00       57.48       0.1953
 9 ENDTBL
 6 RUNOFF 1    01     1 0.00120     82.0        0.249       1 1   1 1 1
 6 RUNOFF 1    01     2 0.00158     91.0        0.100       1 1   1 1 1
 6 RESVOR 2    01 2   3 42.50                               1 1 1 1 1 1
   ENDATA
 7 INCREM 6             0.1
 7 COMPUT 7    01    01 0.0         3.33        1.0         2 2  01  02
   ENDCMP 1
 7 COMPUT 7    01    01 0.0         5.20        1.0         2 2  01  10
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   ENDCMP 1
 7 COMPUT 7    01    01 0.0         8.98        1.0         2 2  01  99
   ENDCMP 1
   ENDJOB 2
0*******************************END OF 80-80 LIST*******************************
1


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 EXECUTIVE CONTROL OPERATION INCREM                                                                          RECORD ID

+                                     MAIN TIME INCREMENT =   .10 HOURS


 EXECUTIVE CONTROL OPERATION COMPUT                                                                          RECORD ID

+                                     FROM STRUCTURE  1
+                                                        TO STRUCTURE  1
         STARTING TIME =   .00    RAIN DEPTH =  3.33    RAIN DURATION=  1.00    RAIN TABLE NO.= 2    ANT. MOIST. COND= 2
         ALTERNATE NO.= 1         STORM NO.= 2    MAIN TIME INCREMENT =   .10 HOURS


 OPERATION RUNOFF   STRUCTURE  1
           OUTPUT HYDROGRAPH=  1
           AREA=    .00 SQ MI   INPUT RUNOFF CURVE= 82.    TIME OF CONCENTRATION=   .25 HOURS
           INTERNAL HYDROGRAPH TIME INCREMENT=  .0332 HOURS

 *** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE =         .03 CFS.

           PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
              23.70                            .03                        (RUNOFF)
              12.10                           1.04                        (RUNOFF)

 TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
    9.00    DISCHG         .00       .00       .00       .00       .00       .00       .01       .01       .01       .01
   10.00    DISCHG         .01       .01       .01       .01       .01       .02       .02       .02       .03       .03
   11.00    DISCHG         .03       .04       .04       .05       .06       .07       .10       .19       .30       .57
   12.00    DISCHG         .91      1.04       .87       .71       .57       .47       .39       .33       .28       .24
   13.00    DISCHG         .20       .18       .16       .14       .13       .12       .11       .10       .10       .09
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14.00	DISCHG	.09	.08	.08	.08	.07	.07	.07	.06	.06	.06
15.00	DISCHG	.06	.06	.06	.06	.05	.05	.05	.05	.05	.05
16.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.04	.04
17.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
18.00	DISCHG	.04	.04	.03	.03	.03	.03	.03	.03	.03	.03
19.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
20.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.02
21.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
22.00	DISCHG	.02	.02	.02	.02	.03	.03	.03	.03	.03	.03
23.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.02	.02
24.00	DISCHG	.02	.02	.01	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 1.64 WATERSHED INCHES, 1.27 CFS-HRS, .10 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 2, ADDED TO OUTPUT HYDROGRAPH FILE ---

OPERATION RUNOFF STRUCTURE 1
OUTPUT HYDROGRAPH= 2
AREA= .00 SQ MI INPUT RUNOFF CURVE= 91. TIME OF CONCENTRATION= .10 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0133 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
11.99	2.90	

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TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

5.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
6.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
7.00	DISCHG	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02
8.00	DISCHG	.02	.02	.02	.03	.03	.03	.03	.03	.04	.04
9.00	DISCHG	.04	.04	.04	.05	.05	.05	.05	.05	.06	.06
10.00	DISCHG	.06	.06	.07	.07	.08	.08	.10	.11	.12	.13
11.00	DISCHG	.14	.16	.17	.18	.21	.23	.57	.84	1.28	2.33
12.00	DISCHG	2.88	1.91	1.11	.73	.49	.39	.33	.30	.28	.25
13.00	DISCHG	.23	.21	.20	.19	.17	.17	.15	.14	.14	.13
14.00	DISCHG	.13	.12	.12	.11	.11	.10	.10	.09	.09	.09
15.00	DISCHG	.09	.09	.09	.09	.08	.08	.08	.08	.08	.08

16.00	DISCHG	.08	.08	.08	.08	.08	.08	.07	.07	.06	.06
17.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
18.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
19.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04
20.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
21.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
23.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.03
24.00	DISCHG	.03	.01	.01	.00						

RUNOFF VOLUME ABOVE BASEFLOW = 2.37 WATERSHED INCHES, 2.42 CFS-HRS, .20 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 2, ADDED TO OUTPUT HYDROGRAPH FILE ---

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 3
SURFACE ELEVATION= 42.50

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED 64 TIMES STARTING WITH POINT 2

*** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .04 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
23.70	.04	44.02
12.30	.90	45.90

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

10.00	DISCHG	.00	.00	.00	.00	.01	.01	.01	.01	.05	.09
10.00	ELEV	42.00	42.00	42.00	42.00	43.85	43.89	43.94	43.99	44.03	44.05
11.00	DISCHG	.11	.13	.15	.16	.18	.20	.29	.37	.49	.63
11.00	ELEV	44.07	44.09	44.10	44.11	44.12	44.13	44.20	44.35	44.57	44.96
12.00	DISCHG	.78	.87	.90	.90	.89	.86	.84	.81	.78	.74
12.00	ELEV	45.43	45.76	45.89	45.90	45.84	45.75	45.65	45.55	45.43	45.31
13.00	DISCHG	.71	.67	.63	.58	.54	.50	.46	.40	.35	.31
13.00	ELEV	45.19	45.08	44.96	44.83	44.71	44.60	44.50	44.39	44.30	44.23
14.00	DISCHG	.24	.19	.15	.13	.12	.11	.11	.10	.10	.09

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14.00	ELEV	44.17	44.13	44.10	44.09	44.08	44.07	44.07	44.06	44.06	44.06
15.00	DISCHG	.09	.09	.09	.09	.09	.08	.08	.08	.08	.08
15.00	ELEV	44.06	44.06	44.06	44.06	44.05	44.05	44.05	44.05	44.05	44.05
16.00	DISCHG	.08	.08	.08	.08	.08	.08	.07	.07	.07	.07
16.00	ELEV	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.04	44.04	44.04
17.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
17.00	ELEV	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04
18.00	DISCHG	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05
18.00	ELEV	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03
19.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
19.00	ELEV	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03
20.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
20.00	ELEV	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02
21.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
21.00	ELEV	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
22.00	ELEV	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02
23.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
23.00	ELEV	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02	44.02
24.00	DISCHG	.03	.03	.02	.01	.01	.01	.01			
24.00	ELEV	44.02	44.01	44.01	44.00	44.00	43.99	43.98			

RUNOFF VOLUME ABOVE BASEFLOW = 2.22 WATERSHED INCHES, 2.26 CFS-HRS, .19 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 2, ADDED TO OUTPUT HYDROGRAPH FILE ---

EXECUTIVE CONTROL OPERATION ENDCMP RECORD ID

\+ COMPUTATIONS COMPLETED FOR PASS 1

1

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EXECUTIVE CONTROL OPERATION COMPUT RECORD ID

\+ FROM STRUCTURE 1

```
+                                                    TO STRUCTURE  1
        STARTING TIME =   .00    RAIN DEPTH =  5.20    RAIN DURATION=  1.00    RAIN TABLE NO.= 2    ANT. MOIST. COND= 2
        ALTERNATE NO.= 1         STORM NO.=10    MAIN TIME INCREMENT =   .10 HOURS


OPERATION RUNOFF   STRUCTURE  1
          OUTPUT HYDROGRAPH=  1
          AREA=    .00 SQ MI   INPUT RUNOFF CURVE= 82.    TIME OF CONCENTRATION=   .25 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0332 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             12.09                           2.06                        (RUNOFF)

TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
   7.00    DISCHG         .00       .00       .00       .01       .01       .01       .01       .01       .01       .01
   8.00    DISCHG         .01       .01       .01       .01       .01       .02       .02       .02       .02       .02
   9.00    DISCHG         .02       .02       .03       .03       .03       .03       .03       .04       .04       .04
  10.00    DISCHG         .04       .05       .05       .05       .06       .06       .07       .08       .08       .09
  11.00    DISCHG         .10       .11       .13       .14       .16       .18       .26       .46       .69      1.22
  12.00    DISCHG        1.85      2.06      1.70      1.38      1.11       .90       .75       .62       .52       .44
  13.00    DISCHG         .37       .33       .29       .26       .24       .22       .20       .19       .18       .17
  14.00    DISCHG         .16       .15       .14       .14       .13       .13       .12       .11       .11       .11
  15.00    DISCHG         .10       .10       .10       .10       .10       .09       .09       .09       .09       .09
  16.00    DISCHG         .09       .09       .09       .09       .09       .09       .08       .08       .08       .08
  17.00    DISCHG         .07       .07       .07       .07       .07       .07       .07       .07       .07       .07
  18.00    DISCHG         .06       .06       .06       .06       .06       .06       .06       .06       .06       .06
  19.00    DISCHG         .06       .06       .06       .06       .06       .06       .06       .06       .06       .05
  20.00    DISCHG         .05       .05       .05       .05       .04       .04       .04       .04       .04       .04
  21.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  22.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  23.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  24.00    DISCHG         .04       .03       .02       .02       .01       .01       .01       .00

  RUNOFF VOLUME ABOVE BASEFLOW =  3.26 WATERSHED INCHES,      2.52 CFS-HRS,      .21 ACRE-FEET;   BASEFLOW =    .00 CFS

                     --- HYDROGRAPH FOR STRUCTURE  1, ALTERNATE  1, STORM 10, ADDED TO OUTPUT HYDROGRAPH FILE ---


OPERATION RUNOFF   STRUCTURE  1
          OUTPUT HYDROGRAPH=  2
          AREA=    .00 SQ MI   INPUT RUNOFF CURVE= 91.    TIME OF CONCENTRATION=   .10 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0133 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             11.98                           4.93                        (RUNOFF)

TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
```

4.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.02	.02
5.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.03	.03

1

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6.00	DISCHG	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04
7.00	DISCHG	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05
8.00	DISCHG	.05	.06	.06	.07	.08	.08	.08	.08	.08	.09
9.00	DISCHG	.09	.09	.10	.10	.10	.11	.11	.12	.12	.12
10.00	DISCHG	.13	.13	.14	.15	.17	.17	.20	.22	.23	.26
11.00	DISCHG	.28	.31	.33	.35	.40	.43	1.05	1.53	2.28	4.04
12.00	DISCHG	4.89	3.21	1.86	1.22	.80	.65	.54	.49	.46	.40
13.00	DISCHG	.38	.34	.32	.30	.28	.27	.25	.23	.22	.21
14.00	DISCHG	.21	.20	.19	.18	.17	.17	.16	.15	.14	.14
15.00	DISCHG	.14	.14	.14	.14	.13	.13	.12	.12	.12	.12
16.00	DISCHG	.12	.12	.12	.12	.12	.12	.11	.11	.10	.10
17.00	DISCHG	.10	.10	.10	.10	.10	.10	.10	.10	.10	.09
18.00	DISCHG	.09	.08	.08	.08	.08	.08	.08	.08	.08	.08
19.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.07
20.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
21.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
22.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
23.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.05
24.00	DISCHG	.04	.02	.01	.00						

RUNOFF VOLUME ABOVE BASEFLOW = 4.16 WATERSHED INCHES, 4.24 CFS-HRS, .35 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 10, ADDED TO OUTPUT HYDROGRAPH FILE ---

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 3
SURFACE ELEVATION= 42.50

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED 44 TIMES STARTING WITH POINT 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	1.75	46.80

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

42

8.00	DISCHG	.00	.00	.01	.01	.01	.01	.01	.03	.06	.07
8.00	ELEV	42.00	42.00	43.85	43.88	43.91	43.95	43.99	44.02	44.03	44.04
9.00	DISCHG	.08	.08	.09	.10	.10	.10	.11	.11	.12	.12
9.00	ELEV	44.05	44.05	44.06	44.06	44.06	44.07	44.07	44.07	44.08	44.08
10.00	DISCHG	.12	.13	.13	.14	.15	.16	.17	.19	.21	.23
10.00	ELEV	44.08	44.08	44.09	44.09	44.10	44.11	44.12	44.13	44.14	44.16
11.00	DISCHG	.25	.27	.29	.30	.32	.34	.42	.53	.67	.83
11.00	ELEV	44.17	44.19	44.20	44.22	44.25	44.28	44.42	44.69	45.07	45.64
12.00	DISCHG	1.35	1.65	1.74	1.70	1.64	1.57	1.45	1.33	1.22	1.10
12.00	ELEV	46.26	46.68	46.80	46.77	46.67	46.54	46.39	46.24	46.11	45.99
13.00	DISCHG	.89	.87	.84	.81	.78	.75	.71	.68	.64	.60
13.00	ELEV	45.87	45.76	45.66	45.55	45.44	45.32	45.20	45.09	44.98	44.86
14.00	DISCHG	.55	.51	.48	.44	.38	.34	.31	.25	.20	.17
14.00	ELEV	44.75	44.64	44.55	44.46	44.37	44.29	44.23	44.17	44.14	44.12
15.00	DISCHG	.16	.15	.15	.14	.14	.13	.13	.13	.12	.12

1

43

15.00	ELEV	44.11	44.10	44.10	44.10	44.09	44.09	44.09	44.08	44.08	44.08
16.00	DISCHG	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11
16.00	ELEV	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.07	44.07
17.00	DISCHG	.11	.10	.10	.10	.10	.10	.10	.10	.10	.10
17.00	ELEV	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.06
18.00	DISCHG	.09	.09	.09	.08	.08	.08	.08	.08	.08	.08
18.00	ELEV	44.06	44.06	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05
19.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
19.00	ELEV	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05
20.00	DISCHG	.07	.07	.07	.06	.06	.06	.06	.06	.06	.06
20.00	ELEV	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04
21.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
21.00	ELEV	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04
22.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
22.00	ELEV	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04
23.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
23.00	ELEV	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.04	44.03
24.00	DISCHG	.05	.04	.03	.02	.01	.01	.01			
24.00	ELEV	44.03	44.02	44.01	44.01	44.00	43.99	43.99			

RUNOFF VOLUME ABOVE BASEFLOW = 4.01 WATERSHED INCHES, 4.09 CFS-HRS, .34 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 10, ADDED TO OUTPUT HYDROGRAPH FILE ---

EXECUTIVE CONTROL OPERATION ENDCMP RECORD ID

+ COMPUTATIONS COMPLETED FOR PASS 2

1

TR20 XEQ 07-02-23 13:27 SCS ANALYSIS FOR DULEY - ELLIOTT ROAD, EASTON JOB 1 PASS
3
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE
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EXECUTIVE CONTROL OPERATION COMPUT RECORD ID

+ FROM STRUCTURE 1
+ TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 8.98 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 1 STORM NO.=99 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF STRUCTURE 1
OUTPUT HYDROGRAPH= 1
AREA= .00 SQ MI INPUT RUNOFF CURVE= 82. TIME OF CONCENTRATION= .25 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0332 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
12.08	4.21	

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

4.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
5.00	DISCHG	.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
6.00	DISCHG	.02	.02	.02	.03	.03	.03	.03	.03	.04	.04
7.00	DISCHG	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05
8.00	DISCHG	.05	.05	.06	.06	.07	.07	.08	.08	.08	.09
9.00	DISCHG	.09	.09	.10	.10	.11	.11	.11	.12	.13	.13
10.00	DISCHG	.13	.14	.15	.15	.16	.18	.19	.21	.23	.25
11.00	DISCHG	.28	.30	.33	.36	.40	.44	.64	1.07	1.55	2.64
12.00	DISCHG	3.86	4.19	3.44	2.76	2.21	1.79	1.47	1.22	1.02	.85
13.00	DISCHG	.72	.62	.55	.50	.45	.41	.38	.35	.33	.31

14.00	DISCHG	.30	.28	.27	.26	.25	.23	.22	.21	.20	.20
15.00	DISCHG	.19	.19	.19	.19	.18	.17	.17	.17	.16	.16
16.00	DISCHG	.16	.16	.16	.16	.16	.16	.16	.15	.14	.14
17.00	DISCHG	.14	.14	.13	.13	.13	.13	.13	.13	.13	.13
18.00	DISCHG	.12	.12	.11	.11	.11	.11	.11	.11	.11	.11
19.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10
20.00	DISCHG	.09	.09	.09	.08	.08	.08	.08	.08	.08	.08
21.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
22.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
23.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.07
24.00	DISCHG	.07	.06	.04	.03	.02	.01	.01	.01	.00	

RUNOFF VOLUME ABOVE BASEFLOW = 6.80 WATERSHED INCHES, 5.27 CFS-HRS, .44 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 99, ADDED TO OUTPUT HYDROGRAPH FILE ---

OPERATION RUNOFF STRUCTURE 1
OUTPUT HYDROGRAPH= 2
AREA= .00 SQ MI INPUT RUNOFF CURVE= 91. TIME OF CONCENTRATION= .10 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0133 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
11.98	8.96	

1

TR20 XEQ 07-02-23 13:27 SCS ANALYSIS FOR DULEY - ELLIOTT ROAD, EASTON JOB 1 PASS
3
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE
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TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

2.00	DISCHG	.00	.00	.00	.01	.01	.01	.01	.01	.02	.02
3.00	DISCHG	.02	.02	.02	.02	.03	.03	.03	.03	.03	.04
4.00	DISCHG	.05	.05	.05	.05	.06	.06	.06	.06	.06	.07
5.00	DISCHG	.07	.07	.07	.07	.07	.08	.08	.08	.08	.08
6.00	DISCHG	.08	.09	.10	.11	.11	.11	.11	.11	.12	.12
7.00	DISCHG	.12	.12	.12	.12	.12	.12	.13	.13	.13	.13
8.00	DISCHG	.13	.14	.15	.16	.18	.19	.19	.19	.20	.20
9.00	DISCHG	.20	.21	.22	.23	.23	.23	.25	.26	.27	.27
10.00	DISCHG	.27	.29	.30	.31	.35	.36	.42	.45	.48	.54
11.00	DISCHG	.56	.62	.66	.70	.80	.84	2.04	2.93	4.28	7.45
12.00	DISCHG	8.88	5.79	3.35	2.18	1.43	1.15	.97	.88	.82	.72

45

13.00	DISCHG	.68	.61	.57	.54	.50	.48	.44	.41	.40	.38
14.00	DISCHG	.37	.35	.33	.32	.30	.29	.27	.26	.26	.25
15.00	DISCHG	.25	.25	.25	.25	.23	.22	.22	.22	.22	.22
16.00	DISCHG	.22	.22	.22	.22	.22	.22	.20	.19	.18	.18
17.00	DISCHG	.18	.18	.18	.18	.18	.18	.18	.18	.18	.16
18.00	DISCHG	.15	.15	.15	.14	.14	.14	.14	.14	.14	.14
19.00	DISCHG	.14	.14	.14	.14	.14	.14	.14	.14	.14	.12
20.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
21.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
22.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
23.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.10	.09
24.00	DISCHG	.08	.04	.02	.01	.00					

RUNOFF VOLUME ABOVE BASEFLOW = 7.87 WATERSHED INCHES, 8.02 CFS-HRS, .66 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 99, ADDED TO OUTPUT HYDROGRAPH FILE ---

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 2 OUTPUT HYDROGRAPH= 3
SURFACE ELEVATION= 42.50

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED 25 TIMES STARTING WITH POINT 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.02	9.62	47.10

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .00 SQ.MI.

5.00	DISCHG	.00	.00	.00	.00	.00	.01	.01	.01	.01	.02
5.00	ELEV	42.00	42.00	42.00	42.00	42.00	43.86	43.89	43.93	43.97	44.00
6.00	DISCHG	.05	.07	.08	.09	.10	.10	.11	.11	.11	.11
6.00	ELEV	44.03	44.04	44.05	44.06	44.06	44.07	44.07	44.07	44.07	44.07
7.00	DISCHG	.12	.12	.12	.12	.12	.12	.12	.13	.13	.13
7.00	ELEV	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08	44.08
8.00	DISCHG	.13	.13	.14	.15	.16	.17	.18	.19	.19	.19
8.00	ELEV	44.08	44.09	44.09	44.10	44.11	44.11	44.12	44.13	44.13	44.13
9.00	DISCHG	.20	.20	.21	.22	.22	.23	.23	.24	.25	.26

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9.00	ELEV	44.13	44.14	44.14	44.15	44.15	44.16	44.16	44.17	44.17	44.18
10.00	DISCHG	.27	.27	.28	.29	.30	.31	.33	.35	.37	.40
10.00	ELEV	44.18	44.19	44.19	44.20	44.22	44.24	44.26	44.30	44.34	44.39
11.00	DISCHG	.43	.46	.48	.50	.53	.56	.66	.79	1.12	1.67
11.00	ELEV	44.44	44.50	44.55	44.61	44.68	44.77	45.02	45.45	46.00	46.72
12.00	DISCHG	9.36	6.41	4.13	2.57	1.72	1.68	1.63	1.57	1.49	1.39
12.00	ELEV	47.09	47.02	46.92	46.84	46.80	46.74	46.65	46.55	46.44	46.32
13.00	DISCHG	1.30	1.22	1.14	.94	.88	.86	.84	.82	.80	.77
13.00	ELEV	46.21	46.11	46.01	45.92	45.84	45.76	45.68	45.59	45.51	45.41
14.00	DISCHG	.75	.72	.69	.67	.64	.60	.56	.53	.50	.47
14.00	ELEV	45.32	45.23	45.14	45.05	44.96	44.86	44.77	44.69	44.61	44.54
15.00	DISCHG	.44	.40	.37	.35	.33	.31	.29	.25	.24	.23
15.00	ELEV	44.47	44.40	44.35	44.30	44.27	44.23	44.20	44.17	44.16	44.16
16.00	DISCHG	.22	.22	.22	.22	.22	.22	.21	.20	.20	.19
16.00	ELEV	44.15	44.15	44.15	44.15	44.15	44.15	44.15	44.14	44.13	44.13
17.00	DISCHG	.19	.18	.18	.18	.18	.18	.18	.18	.18	.17
17.00	ELEV	44.13	44.12	44.12	44.12	44.12	44.12	44.12	44.12	44.12	44.12
18.00	DISCHG	.16	.16	.15	.15	.15	.15	.15	.15	.14	.14
18.00	ELEV	44.11	44.10	44.10	44.10	44.10	44.10	44.10	44.10	44.10	44.10
19.00	DISCHG	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14
19.00	ELEV	44.10	44.10	44.10	44.10	44.10	44.10	44.10	44.10	44.10	44.09
20.00	DISCHG	.13	.12	.12	.11	.11	.11	.11	.11	.11	.11
20.00	ELEV	44.08	44.08	44.08	44.07	44.07	44.07	44.07	44.07	44.07	44.07
21.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
21.00	ELEV	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
22.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
22.00	ELEV	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
23.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10
23.00	ELEV	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.06
24.00	DISCHG	.09	.08	.05	.03	.02	.01	.01			
24.00	ELEV	44.06	44.05	44.03	44.02	44.01	44.00	43.99			

RUNOFF VOLUME ABOVE BASEFLOW = 7.59 WATERSHED INCHES, 7.74 CFS-HRS, .64 ACRE-FEET; BASEFLOW = .00 CFS

--- HYDROGRAPH FOR STRUCTURE 1, ALTERNATE 1, STORM 99, ADDED TO OUTPUT HYDROGRAPH FILE ---

EXECUTIVE CONTROL OPERATION ENDCMP RECORD ID

\+ COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID

1

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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 1 STORM 2													
+													
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	3.33	24.00	1.64	---	12.10	1.04	864.3
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	3.33	24.00	2.37	---	11.99	2.90	1834.7
STRUCTURE 1	RESVOR	.00	2	2	.10	.0	3.33	24.00	2.22	45.90	12.30	.90	569.4
ALTERNATE 1 STORM 10													
+													
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	5.20	24.00	3.26	---	12.09	2.06	1718.1
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	5.20	24.00	4.16	---	11.98	4.93	3118.2
STRUCTURE 1	RESVOR	.00	2	2	.10	.0	5.20	24.00	4.01	46.80	12.22	1.75	1106.4
ALTERNATE 1 STORM 99													
+													
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	8.98	24.00	6.80	---	12.08	4.21	3505.6
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	8.98	24.00	7.87	---	11.98	8.96	5670.1
STRUCTURE 1	RESVOR	.00	2	2	.10	.0	8.98	24.00	7.59	47.10	12.02	9.62	6091.5

1

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

```
 XSECTION/          DRAINAGE
 STRUCTURE            AREA       STORM NUMBERS..........
   ID               (SQ MI)            2        10        99

0 STRUCTURE   1          .00
+____________________________
    ALTERNATE    1                   .90      1.75      9.62
1END OF  1 JOBS IN THIS RUN
```

WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Duley-Self Storage
SubTitle: DA 2 (Eastern) (Front)
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\22009-Duley-Miniwarehouses\SWM\07-2023\TR-55 Analysis

Date: 6/30/2023
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
DA2 Ex	Existing Conditions	Outlet	1	80	0.192
DA2 Pr	Proposed Conditions	Outlet	0.77	92	0.100
DA2 RCN2	Reduc. CN 2 yr	Outlet	0.77	79	0.100
DA2 RCN10	Reduc. CN 10 yr	Outlet	0.77	82	0.100

Total area: 3.31 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.33	4.33	5.2	6.52	7.73	8.98	2.74

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: NOAA_C
Dimensionless Unit Hydrograph: delmarva

Duley-Self Storage
DA 2 (Eastern) (Front)
Talbot NOAA-C County, Maryland

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
DA2 Ex							
User-provided							0.192
					Time of Concentration		0.192
DA2 Pr							
User-provided							0.100
					Time of Concentration		0.100
DA2 RCN2							
User-provided							0.100
					Time of Concentration		0.100
DA2 RCN10							
User-provided							0.100
					Time of Concentration		0.100

bdavis

Duley-Self Storage
DA 2 (Eastern) (Front)
Talbot NOAA-C County, Maryland

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
DA2 Ex	CN directly entered by user	-	1	80
	Total Area / Weighted Curve Number		1	80
			=	==
DA2 Pr	CN directly entered by user	-	.77	92
	Total Area / Weighted Curve Number		.77	92
			===	==
DA2 RCN2	CN directly entered by user	-	.77	79
	Total Area / Weighted Curve Number		.77	79
			===	==
DA2 RCN10	CN directly entered by user	-	.77	82
	Total Area / Weighted Curve Number		.77	82
			===	==

bdavis

Duley-Self Storage
DA 2 (Eastern) (Front)
Talbot NOAA-C County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	10-Yr (cfs)	100-Yr (cfs)
SUBAREAS			
DA2 Ex	1.16	2.40	5.04
DA2 Pr	1.94	3.26	5.86
DA2 RCN2	1.15	2.39	
DA2 RCN10		2.61	

Worksheet 6A: Detention Basin Storage

Project: Duley-Self Storage By: B.D Date: July-23
Location: Elliott Rd, Easton
Checked: Date:
Check one: Present ☐ Developed [X]
Notes: Proposed Conditions DA 2 - Eastern Outfall (Front)

1. Data:
   Drainage area..... Am = 0.00120 mi^2
   Rainfall distribution
   Type(I,IA,II,III) II

	1st Freq.	2nd Freq.
2. Frequency.....yr	2	10
3. Peak inflow discharge, qi .....cfs	1.15	2.61
4. peak outflow discharge, qo.....cfs	**1.16**	**2.40**
5. Compute $\frac{qo}{qi}$	N/A	0.920

6. $\frac{Vs}{Vr}$ use figure 6-1		0.129
7. Runoff Q....in From wk-2		4.33
8. Runoff Volume, Vr.....ac-ft Vr=Q Am 53.33		0.28
9 Storage volume, Vs.....ac-ft Vs = Vr (Vs/Vr)		0.036
Vs.....c.f.		**1,549**
Provided SWM Volume Within DA .....c.f.		**2,820**

2 year Storm Addressed using Reduced CN. Storage Provided in Micro-Bio's Above Targe ESD Volumes Addresses 10 year Storm

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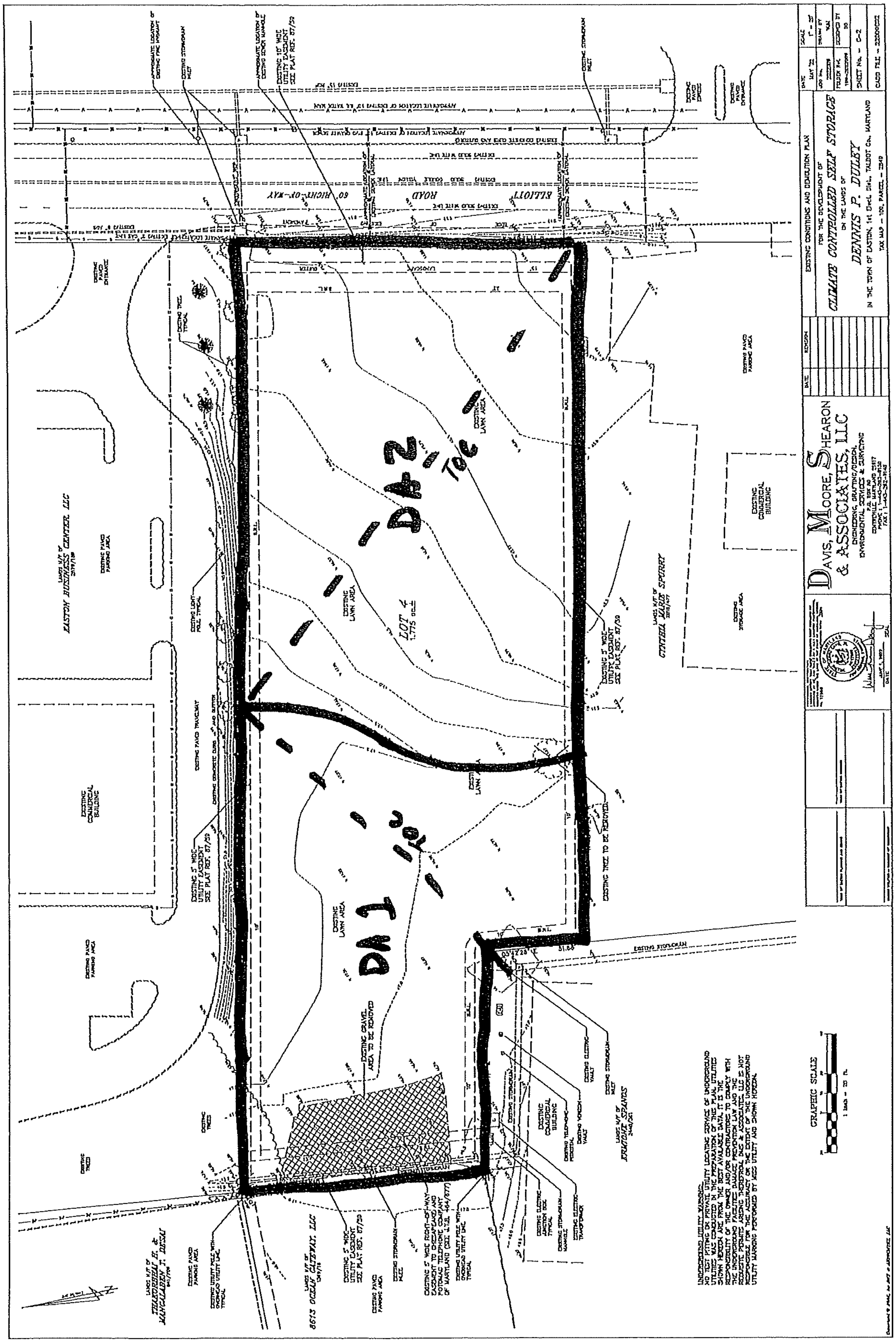
DA 1
TOC
DA 2
TOC
ELLIOTT ROAD
60' RIGHT-OF-WAY
LOT 4
EASTON BUSINESS CENTER, LLC
CYNTHIA MARIE SPURRY
EXISTING COMMERCIAL BUILDING
EXISTING LAWN AREA
EXISTING TREE TO BE REMOVED
EXISTING GRAVEL AREA TO BE REMOVED
GRAPHIC SCALE
EXISTING CONDITIONS AND DEMOLITION PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
DENNIS P. DULEY
DAVIS, MOORE, SHEARON & ASSOCIATES, LLC

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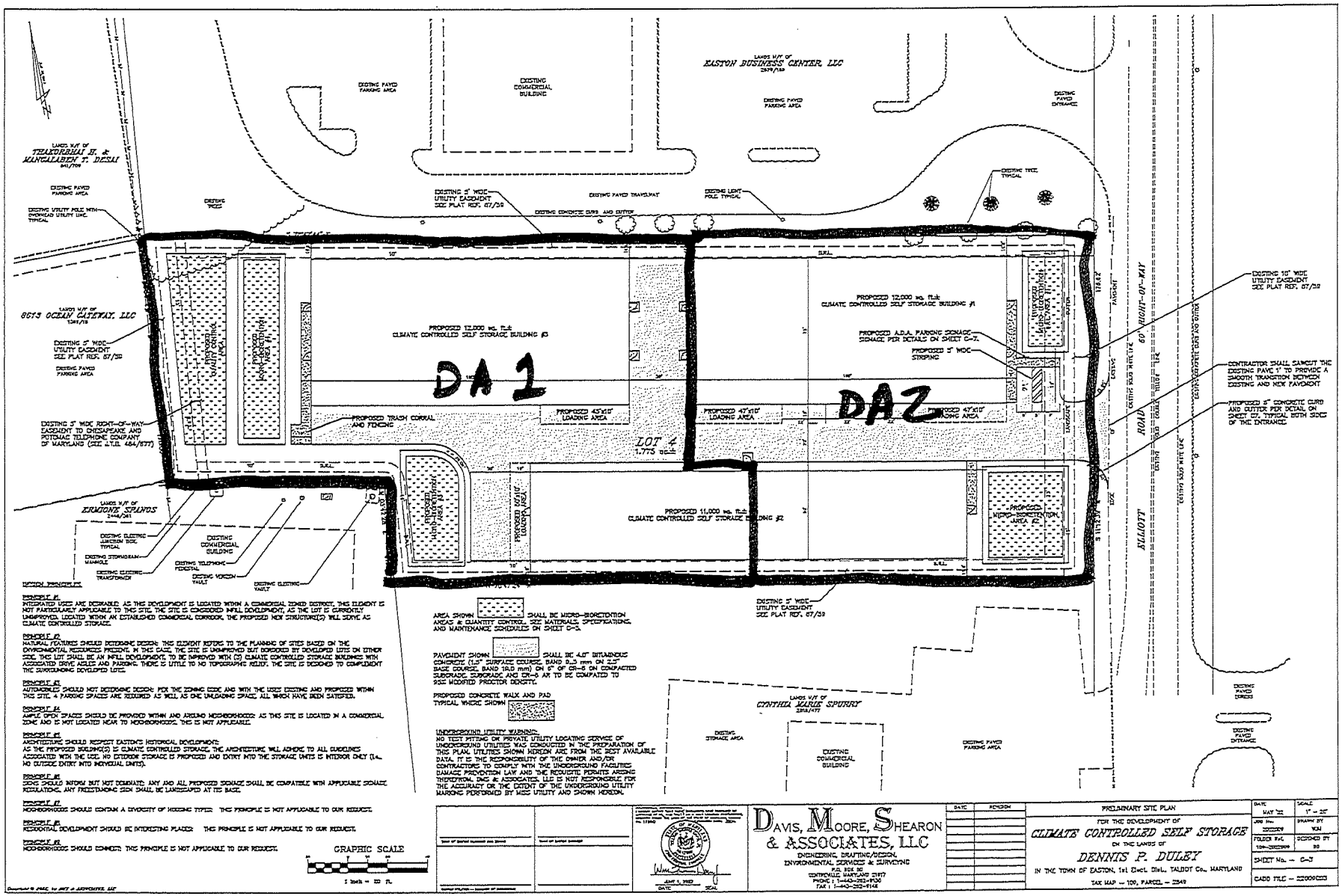

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TOC Assumed = 0.1 hr

ESD SUMMARY CHART													
DRAINAGE AREA	TYPE OF ESD PRACTICE	NAME OF ESD PRACTICE (STRUCTURE NAME)	ON-SITE OR OFF-SITE STRUCTURE	RUNOFF CURVE NUMBER (RCN) WEIGHTED	MARYLAND GRID COORDINATE NAD 83 METERS NORTHING	MARYLAND GRID COORDINATE NAD 83 METERS EASTING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES)	SURFACE AREA OF ESD PRACTICE (ACRES)	TARGET PE (INCHES)	ACTUAL PE (INCHES)	TARGET ESDv (CU.FT.)	ACTUAL ESDv (CU.FT.)
1	MICRO-BIORETENTION (M-7)	MICRO BIO #1	ON	92	123240.31	481890.29	0.3286	0.2584	0.0235	1.8	2.53	1627	2287
2	MICRO-BIORETENTION (M-7)	MICRO BIO #2	ON	94	123206.64	481880.99	0.3273	0.2486	0.0392	1.8	4.28	1570	3730
3	MICRO-BIORETENTION (M-7)	MICRO BIO #3	ON	96	123225.45	481791.39	0.4581	0.3994	0.0268	1.8	1.88	2499	2608
4	MICRO-BIORETENTION (M-7)	MICRO BIO #4	ON	93	123256.89	481772.10	0.3138	0.2150	0.0145	1.8	2.05	1367	1556

TOWN OF EASTON STANDARD DETAILS - ESD SUMMARY CHART - STANDARD NO. TOE-SWM-7.01

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SWM QUANTITY SUMMARY CHART													
PRACTICE	DA (ACRES)	IMPERVIOUS (ACRES)	RCN (POST)	Tc (MINUTES)	PRE 2-YEAR (cfs)	POST 2-YEAR (cfs)	W.S.E.	PRE 10-YEAR (cfs)	POST 10-YEAR (cfs)	W.S.E.	PRE 100-YEAR (cfs)	POST 100-YEAR (cfs)	W.S.E.
DETENTION POND (DA #1, BACK)	1.0097	0.6143	91	6 (MIN.)	1.04***	0.90***	45.9***	2.06***	1.75***	46.8***	4.21***	9.62***	47.1***
ESD DEVICES (DA #2, FRONT)	0.7665	0.5283	92	6 (MIN.)	1.16	1.15*	N/A**	2.40	2.61*^	N/A**	5.04	5.86	N/A**
						TOWN OF EASTON STANDARD DETAILS - SWM QUANTITIY SUMMARY CHART - STANDARD NO. TOE-SWM-7.02							

* POST PROJECT FLOW VALUES PRESENTED ARE BASED ON MDE REDUCED CURVE NUMBER COMPUTATOINS

** ESD TO THE MEP TREATMENT RESULTS IN REDUCED CURVE NUMBERS THAT ADDRESS QUANTITY CONTROL REQUIREMENT AND THEREFORE WATER SURFACE ELEVATIONS ARE NOT APPLICABLE

*** FROM TR-20

^ Extra Storage Provided in ESD Device to Address 10yr Quantity Control Requirement

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TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **July 7th, 2023**

TO: **Ebie Fink – Fink, Whitten and Associates**
Jay Friel, Friel Storage LLC – Owner
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **Elliot Road Parcel 2849 Storage Units – ESDR#2 Sketch Site Plan Review Comments**

The subject application was first reviewed at the 6/22/2022 ESDR Meeting. A meeting was held with Brandon Davis on 11/21/2022 to review the comments and discuss the entrance off of Elliot Road. I have reviewed the application for the subject project received on 7/3/2023. I have the following comments.

Sketch Site Plan:

The **Sketch Site Plan** is acceptable to the Engineering Department with the following comments:

1. We recommend using the TOE-R-4.02 entrance detail.
2. **SHEET C6** – Confirm Chesapeake & Potomac Telephone Company will allow the proposed Stormwater Management Structure in the existing Easement.
3. Please label a visibility triangle at the entrance to the site.
4. Bollards or other protective devices will be required adjacent to the handicap parking stall and the Micro-Bioretention Area #3.

Please address the comments above and submit a Preliminary Site Plan.

Stormwater Management:

The **Sketch Stormwater Management Plan** is **Approved.** Please note that additional ESD volume does not equate directly to a reduced flow rate. Please revise the design to ensure the 10- year post-development flow (cfs) is less than or equal to the pre-development 10 year flow rate (cfs). Please submit a Preliminary Stormwater Management Plan.

Please contact me if you have any questions. Thank you.

P.O. Box 520, Easton, Maryland 21601
410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

FRIEL SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

PROJECT INFORMATION

PROJECT :

3 NEW SELF STORAGE BUILDINGS

USE GROUP - 'S-1' STORAGE (PARTIALLY HEATED)
CONST. TYPE - 2-B NON-COMBUSTIBLE
UNSPRINKLERED - 1-STORY, 16' H.
'S-1' - ALLOWABLE AREA = 55' H., 17,500 SF FOR 2-STORY

AREA CALCULATION
BUILDING #1 = 12,000 SF
BUILDING #2 = 11,000 SF
BUILDING #3 = 12,000 SF
TOTAL BUILDING AREA = 35,000 SF

SPRINKLERS NOT REQUIRED PER IBC 903.2.9 - FIRE AREA DOES NOT EXCEED 12,000 SF.

THE BUILDINGS ARE NOT REQUIRED TO HAVE EMPLOYEE AND PUBLIC TOILET FACILITIES PER 2018 IBC 2902.3 EXCEPTION #2.

2. STRUCTURES AND TENANT SPACES INTENDED FOR QUICK TRANSACTIONS, INCLUDING TAKEOUT, PICKUP AND DROP-OFF, HAVING A PUBLIC ACCESS AREA LESS THAN OR EQUAL TO 300 SF.

CODE ANALYSIS

1. GENERAL DESCRIPTION
THIS SET OF DRAWINGS DEPICTS THE WORK REQUIRED FOR NEW PRE-ENGINEERED STEEL SELF STORAGE BUILDINGS.

2. APPLICABLE CODES FOR TALBOT COUNTY, MARYLAND
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FUEL GAS CODE
2020 NATIONAL ELECTRICAL CODE
2018 STATE FIRE PREVENTION CODE NFPA 1 AND NFPA 101

CONSTRUCTION ASSOCIATED WITH THIS APPLICATION SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES GOVERNING THIS PROPERTY.

3. IBC CHAPTER 3-USE AND OCCUPANCY CLASSIFICATION:
THIS BUILDING IS CLASSIFIED PER IBC SECTION 311.2, GROUP 'S-1' - UNSPRINKLERED.

5. IBC CHAPTER 5-GENERAL BUILDING HEIGHTS AND AREAS:
A) TABLE 506.2 ALLOWABLE BUILDING HEIGHT FOR TYPE II-B CONSTRUCTION:
GROUP 'S-1': 2 STORY - 55' FEET HIGH, 17,500 SF

ACTUAL BUILDING
BUILDING #1 = 12,000 SF
BUILDING #2 = 11,000 SF
BUILDING #3 = 12,000 SF
TOTAL BUILDING AREA = 35,000 SF

6. IBC CHAPTER 6 - TYPES OF CONSTRUCTION:
A) BUILDING IS CLASSIFIED AS TYPE II-B
TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS:

STRUCTURAL FRAME: 0 HR
EXTERIOR LOAD BEARING WALLS: 0 HR
INTERIOR LOAD BEARING WALLS: 0 HR
EXTERIOR NON-LOAD BEARING WALLS: 0 HR
INTERIOR NON-LOAD BEARING WALLS: 0 HR
FLOOR CONSTRUCTION: 0 HR
ROOF CONSTRUCTION: 0 HR

B) TABLE 602 FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE:
0 HRS-ENTIRE PERIMETER @ SEPARATION GREATER THAN 30'
C) SECTION 603 FIRE RETARDANT TREATED WOOD SHALL BE PERMITTED IN BLOCKING FOR HANDRAILS, CABINETS, WINDOW & DOOR FRAMES PER 603.1.

7. IBC CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES
A) 706.4 FIREWALL RESISTANCE RATING
FIRE WALLS REQUIRED - NONE

B) SECTION 707 FIRE BARRIERS
SHAFTS — 1 HR PER 713.4
INTERIOR EXIT STAIRWAY & RAMP — 1 HR PER 1023.2
EXIT ACCESS STAIRWAY — 1 HR PER 713.4
EXIT PASSAGEWAY — 1 HR PER 1024.3

8. IBC CHAPTER 8 - INTERIOR FINISHES:
A) TABLE 803.11 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY:

USE GROUP 'S-1' - UNSPRINKLERED	'S-1'
INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS AND EXIT PASSAGEWAYS:	CLASS B
CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND EXIT ACCESS RAMPS:	CLASS B
ROOMS AND ENCLOSED SPACES:	CLASS C

9. IBC CHAPTER 9 - FIRE PROTECTION SYSTEMS:
-AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS CONTAINING A GROUP S-1 OCCUPANCY WHERE ONE OF THE FOLLOWING CONDITIONS EXIST:
1. A GROUP S-1 FIRE AREA EXCEEDS 12,000 SQUARE FEET.
FIRE AREA DOES NOT EXCEED 12,000 SF - SPRINKLERS NOT REQUIRED

10. IBC CHAPTER 10 - MEANS OF EGRESS:
A) MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT
SELF STORAGE — 1 OCCUPANT PER UNIT
TOTAL DESIGN OCCUPANT LOAD = 90 OCCUPANTS

B) EGRESS WIDTH REQUIRED PER 1005.3.2
.2" PER OCCUPANT X 90 OCCUPANTS = 18"
EGRESS WIDTH REQUIRED = 3' MIN.
EGRESS WIDTH PROVIDED = 18'
C) NUMBER OF EXITS PER 1006
MINIMUM # OF EXITS REQUIRED 2
NUMBER OF EXITS PROVIDED 6
D) MAXIMUM TRAVEL DISTANCE TO AN EXIT PER 1017
UNSPRINKLERED
'S-1' 200'
E) CORRIDOR FIRE RESISTANCE RATING PER 1020.1
UNSPRINKLERED
'S-1' 0 HR (CORRIDORS SERVE 30 OR LESS OCCUPANTS)
F) MINIMUM CORRIDOR WIDTH PER 1020.2
'S-1' 44"
G) DEAD ENDS 1020.4
UNSPRINKLERED
'S-1' 20'

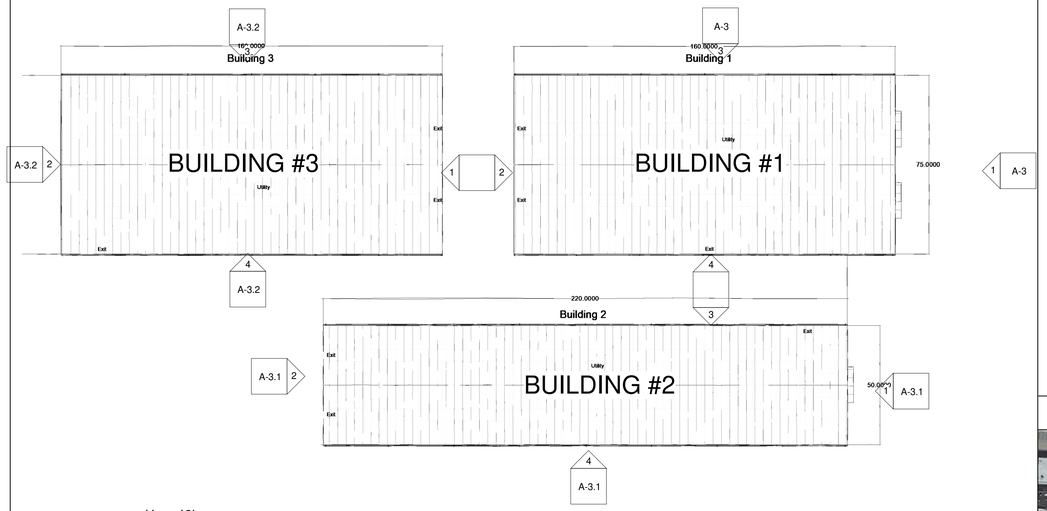
11. IBC CHAPTER 29 - PLUMBING SYSTEMS
THE BUILDINGS ARE NOT REQUIRED TO HAVE EMPLOYEE AND PUBLIC TOILET FACILITIES PER 2018 IBC 2902.3 EXCEPTION #2.

SELF-STORAGE ADA REQUIREMENTS

PROVIDE **4** ACCESSIBLE INDIVIDUAL SELF-STORAGE SPACE PER 2018 IBC TABLE 1108.3, DISPERSED THROUGHOUT EACH BUILDING

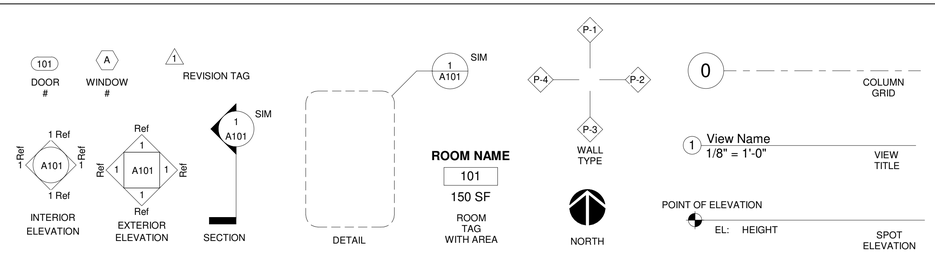
1. A PULL MUST BE INSTALLED ON THE DOOR EXTERIOR NO LOWER THAN 15" AND NO HIGHER THAN 48"
2. PULL MUST HAVE A LOOP LARGE ENOUGH FOR A FIST TO FIT INTO
3. A NYLON ROPE MUST BE INSTALLED ON THE BOTTOM BAR WHICH HANGS 15" – 48" INCHES WHEN DOOR IS OPEN
4. ROPE MUST ALSO CONTAIN A LOOP LARGE ENOUGH TO FIT A FIST AND REPLACES THE TRADITIONAL ROPE
5. AN ACCESSIBILITY PLAQUE WITH BRAILLE MUST BE CLEARLY DISPLAYED OUTSIDE OF UNIT
6. DOOR MUST BE TENSIONED AT 5LBS. MAXIMUM FORCE AS IT PERTAINS TO THE CONTINUOUS APPLICATION OF FORCE NECESSARY TO FULLY OPEN A DOOR, NOT THE INITIAL FORCE NEEDED TO OVERCOME THE INERTIA OF THE DOOR.
NOTE: JANUS DOORS MEET THIS REQUIREMENT.

KEY PLAN



1 Key Plan
1" = 30'-0"

SYMBOL KEY



ENERGY CODE

Climate Zone: 4A A=Moist
Building Envelope Requirements:

Roof, Metal Building	R-36 + R-5 Therm. Block
Roof, Insul. On Deck	R-30 Continuous
Walls, Metal Studs	R-13 + R-7.5 Contin.
Wall, CMU	R-9.5 Contin.
Frost Wall	R-10
Doors	U=0.70
Metal Door Frames	U=0.85
Windows	SHGC=0.40
Fixed Fenestration	U=0.38
Operable Fenestration	U=0.45
Entrance Doors	U=0.77
Skylights	U=0.5

SECTION C402 (IECC 2018)
BUILDING ENVELOPE REQUIREMENTS

C402.1 GENERAL (PRESCRIPTIVE)
BUILDING THERMAL ENVELOPE ASSEMBLIES FOR BUILDINGS THAT ARE INTENDED TO COMPLY WITH THE CODE ON A PRESCRIPTIVE BASIS, IN ACCORDANCE WITH THE COMPLIANCE PATH DESCRIBED IN ITEM 2 OF SECTION C401.2, SHALL COMPLY WITH THE FOLLOWING:

1. THE OPAQUE PORTIONS OF THE BUILDING THERMAL ENVELOPE SHALL COMPLY WITH THE SPECIFIC INSULATION REQUIREMENTS OF SECTION C402.2 AND THE THERMAL REQUIREMENTS OF EITHER THE *R*-VALUE-BASED METHOD OF SECTION C402.1.3; THE *U*-, *C*- AND *F*-FACTOR-BASED METHOD OF SECTION C402.1.3; OR THE COMPONENT PERFORMANCE ALTERNATIVE OF SECTION C402.1.5.
2. ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE SHALL COMPLY WITH SECTION C402.3.
3. FENESTRATION IN BUILDING ENVELOPE ASSEMBLIES SHALL COMPLY WITH SECTION C402.4.
4. AIR LEAKAGE OF BUILDING ENVELOPE ASSEMBLIES SHALL COMPLY WITH SECTION C402.5.

ALTERNATIVELY, WHERE BUILDINGS HAVE A VERTICAL FENESTRATION AREA OR SKYLIGHT AREA EXCEEDING THAT ALLOWED IN SECTION C402.4, THE BUILDING AND BUILDING THERMAL ENVELOPE SHALL COMPLY WITH SECTION C401.2, ITEM 1 OR SECTION C401.2, ITEM 3.
WALK-IN COOLERS, WALK-IN FREEZERS, REFRIGERATED WAREHOUSE COOLERS AND REFRIGERATED WAREHOUSE FREEZER SHALL COMPLY WITH SECTION C403.2.15 OR C403.2.16.

C402.4 FENESTRATION (PRESCRIPTIVE)
FENESTRATION SHALL COMPLY WITH SECTIONS C402.4 THROUGH C402.4.4 AND TABLE C402.4. DAYLIGHT RESPONSIVE CONTROLS SHALL COMPLY WITH THIS SECTION C405.2.3.1.
C402.4.1 MAXIMUM AREA.
THE VERTICAL FENESTRATION AREA (NOT INCLUDING OPAQUE SPANDREL PANELS) SHALL NOT BE GREATER THAN 30% OF THE GROSS ABOVE-GRADE WALL AREA. THE SKYLIGHT AREA SHALL NOT BE GREATER THAN 3 PERCENT OF THE GROSS ROOF AREA.

GENERAL NOTES

1. Contractor shall submit shop drawings for approval by architect & structural engineer.
2. Contractor shall verify conditions & dimensions prior to fabrication or ordering materials & necessary permits are obtained.

PLAN NOTES

1. Door handles shall be lever-type, non-locking from inside.
2. Provide exit and emergency lighting min. 1-ft candle at exterior exit.
3. Provide interior illuminated exit signs & battery backup emergency lighting as required.
4. Fire extinguishers located at time of field inspection.

FIRE PROTECTION NOTES

1. Means of egress shall be provided with signage in accordance with Section 7.10. Exits shall be marked by approved signage that is readily visible from any direction of exit access. (42.2.8, 7.8.1.2, 42.2.9, 42.2.10, 7.10.1)

2. Illumination of the means of egress shall be provided with continuous lighting during the time that the conditions of occupancies require that means of egress be available. Floors and walking surfaces within the egress path shall be illuminated in accordance with Section 7.8.1.3. Emergency lighting shall be provided in accordance with Section 7.9, and means of egress shall be provided with signage in accordance with Section 7.10. (42.2.8, 7.8.1.2, 42.2.9, 42.2.10)

3. Doors serving as portion of the required means of egress shall be arranged to be opened readily from the egress side whenever the building is occupied. Locks, if provided, shall not require the use of a key, a tool, or special knowledge or effort for operation from the egress side. A latch or a fastening device on a door shall be provided with a releasing device having an obvious method of operation that is readily operated under all lighting conditions. The releasing mechanism for any latch shall be located not less than 34 inches or more than 48 inches above the finished floor, and shall open the door with not more than one releasing operation. (38.2.2.2.1, 7.2.1.5.1, 7.2.1.5.2,

4. Interior finish shall be in accordance with Section 10.2. Interior walls and ceiling finish shall be of
Class A, Class B or Class C, and Interior Floor finish shall be Class I or Class II. (42.3.3)

SITE MAP

SHEET INDEX

Number	Sheet Title	Issue Date	Current Revision	Current Revision Date
A-1	Cover Sheet	06/07/23	1	06/28/23
A-1.1	Conceptual 3D View	06/07/23		
A-2	Floor Plan Building #1	06/07/23		
A-2.1	Floor Plan Building #2	06/07/23	1	06/28/23
A-2.2	Floor Plan Building #3	06/07/23		
A-3	Exterior Elevations Building #1	06/07/23		
A-3.1	Exterior Elevations Building #2	06/07/23		
A-3.2	Exterior Elevations Building #3	06/07/23		
A-4	Building Section, Insulation Detail, Door Schedule, Partitions	06/07/23	1	06/28/23
A-5	Roof Plans	06/07/23		

Paul J. Gorman Architects
3928 Washington Blvd. Suite 201
Baltimore, MD 21227
Email: gormanarchitects@erols.com

Consulting Architect: Paul Gorman
Architectural Statement: I certify that these documents were reviewed by and approved by me and I am a duly licensed architect under the laws of the state of Maryland

STATE OF MARYLAND · PAUL J. GORMAN · 7622 · ARCHITECT

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:
FRIEL SELF STORAGE
ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
06/07/23

No.	Description	Date
1	Revision 1	06/28/23

SHEET TITLE:
Cover Sheet

SHEET:
A-1

Scale
As indicated

1 CONCEPTUAL VIEW FROM ELLIOTT ROAD

Paul J. Gorman Architects

3928 Washington Blvd. Suite 201
Baltimore, MD 21227
Email: gormanarchitects@erols.com

Consulting Architect: Paul Gorman
Architectural Statement: I certify that these documents were reviewed by and approved by me and I am a duly licensed architect under the laws of the state of Maryland

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:

FRIEL
SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
06/07/23

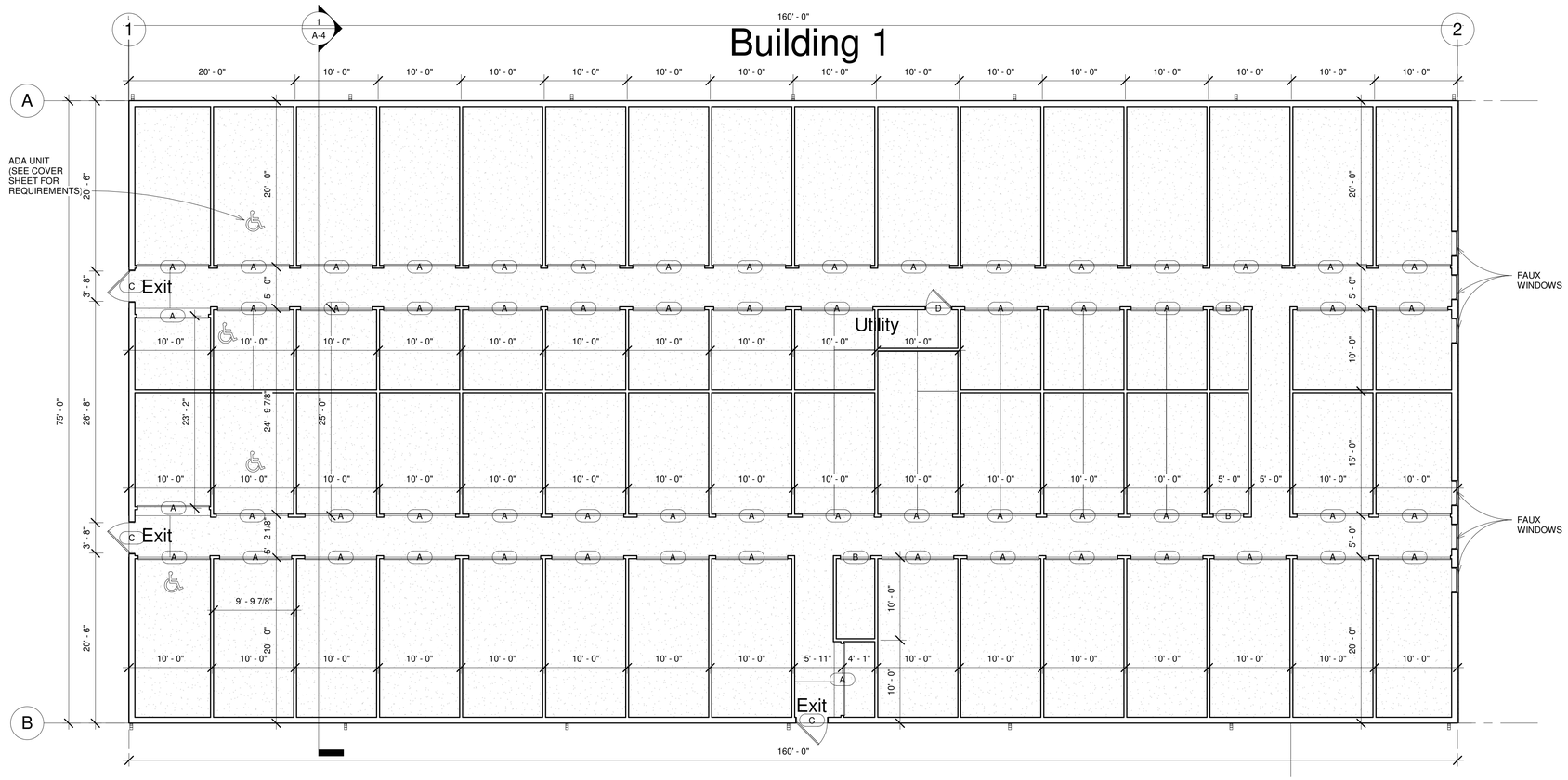
No.	Description	Date

SHEET TITLE:

Conceptual 3D View

SHEET:
A-1.1

Scale



1 Floor Plan - Building 1

1/8" = 1'-0"

Paul J. Gorman Architects

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License Number 7622
Expiration Date 5.11.25

PROJECT NAME:

FRIEL
SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
06/07/23

No.	Description	Date

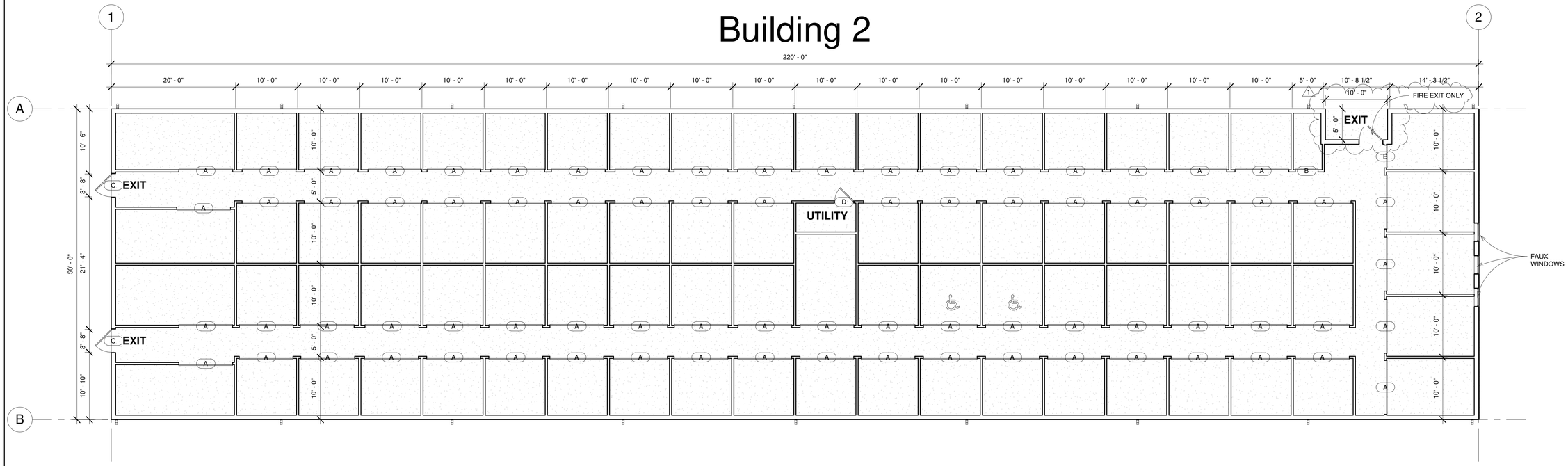
SHEET TITLE:

Floor Plan
Building #1

SHEET:
A-2

Scale
1/8" = 1'-0"

Building 2



1 Floor Plan - Building 2

1/8" = 1'-0"

Paul J. Gorman Architects

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PROJECT NAME:

FRIEL SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:

06/07/23

No.	Description	Date
1	Revision 1	06/28/23

SHEET TITLE:

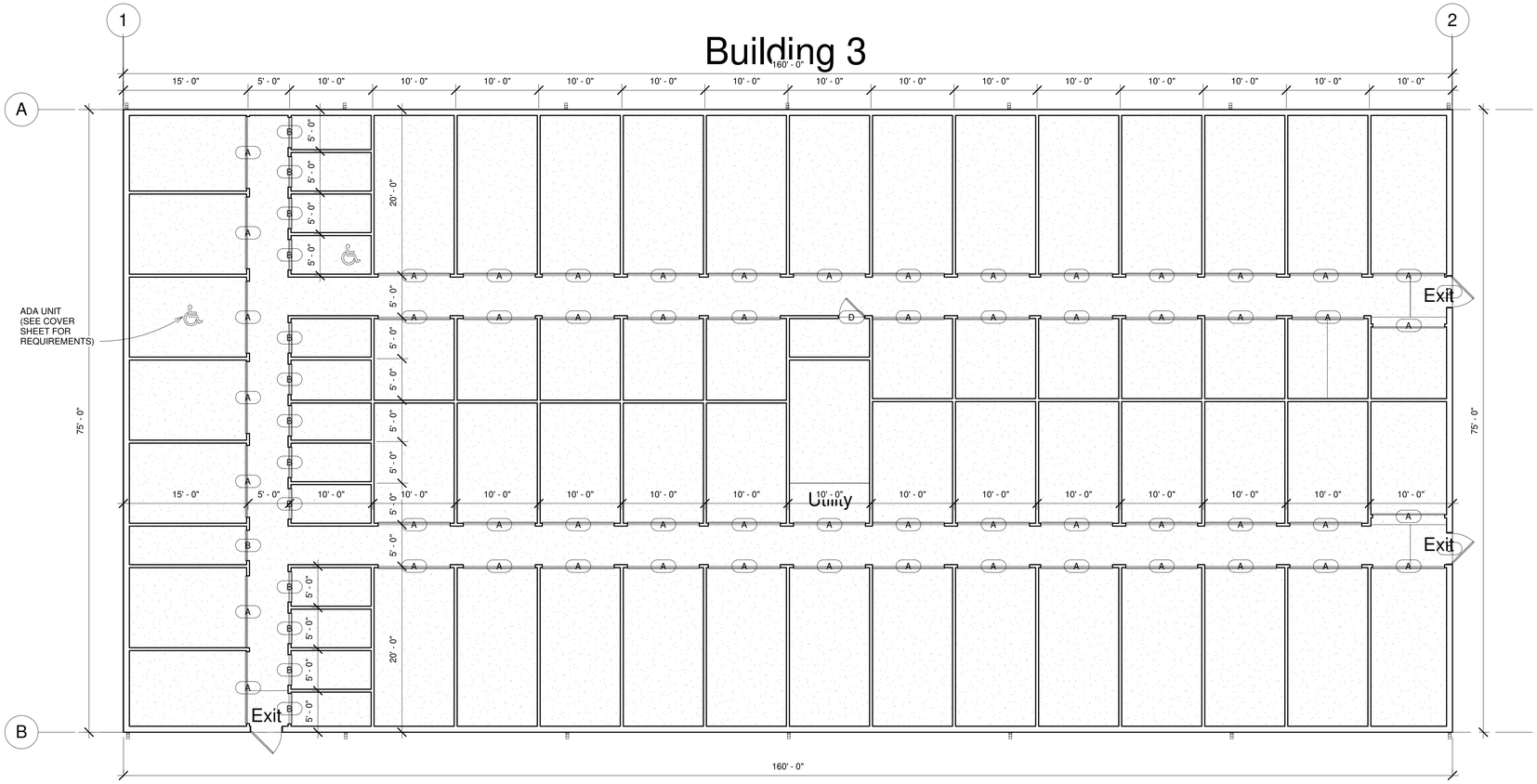
Floor Plan Building #2

SHEET:

A-2.1

Scale

1/8" = 1'-0"



1 Floor Plan - Building 3

1/8" = 1'-0"

Paul J. Gorman Architects

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Architectural Statement: I certify that these documents were reviewed by and approved by me and I am a duly licensed architect under the laws of the state of Maryland

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:

FRIEL
SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
06/07/23

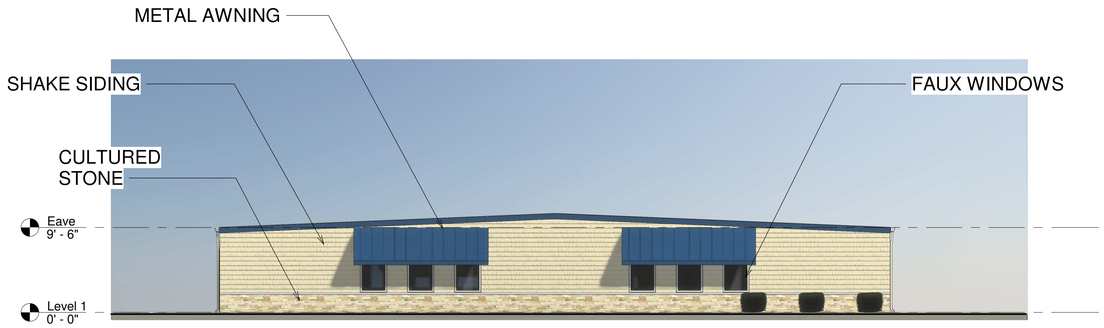
No.	Description	Date

SHEET TITLE:

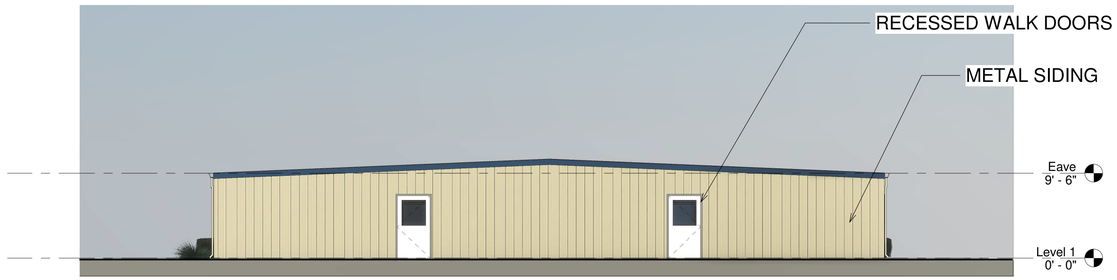
Floor Plan
Building #3

SHEET:
A-2.2

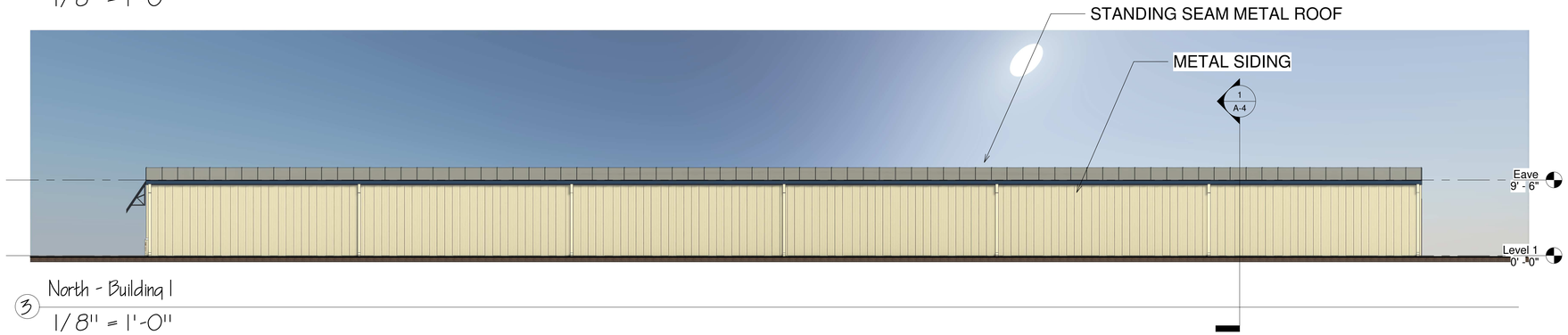
Scale
1/8" = 1'-0"



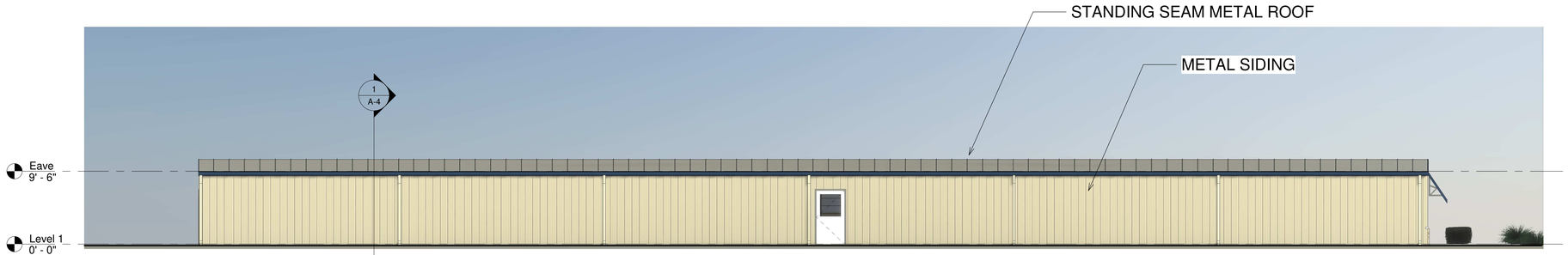
1 East - Building 1
1/8" = 1'-0"



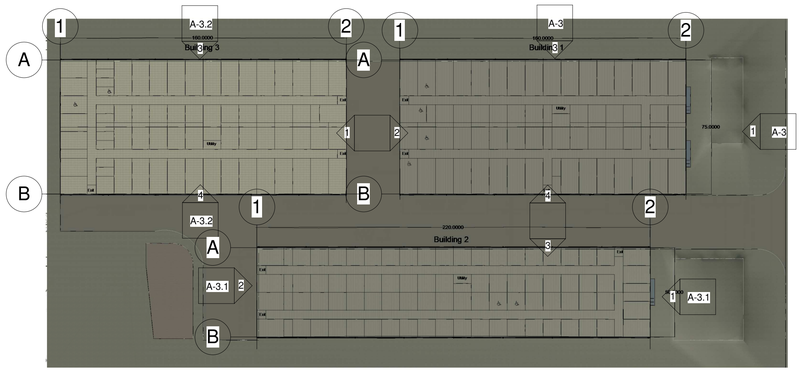
2 West - Building 1
1/8" = 1'-0"



3 North - Building 1
1/8" = 1'-0"



4 South - Building 1
1/8" = 1'-0"



5 KEY PLAN
1" = 40'-0"

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License Number 7622
Expiration Date 5.11.25

PROJECT NAME:
FRIEL SELF STORAGE
ELLIOTT RD., EASTON, MARYLAND

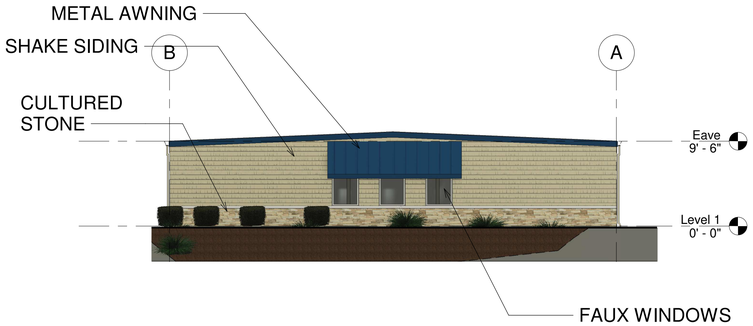
SHEET ISSUE DATE:
06/07/23

No.	Description	Date

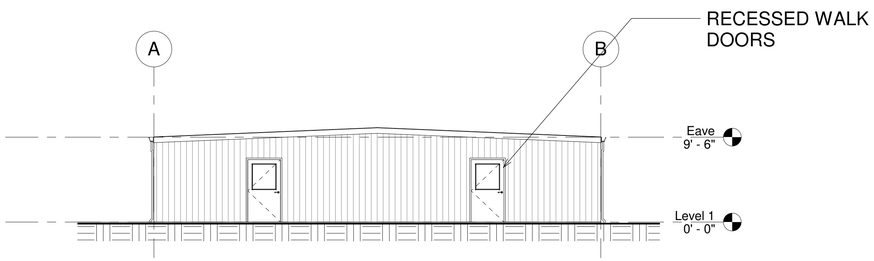
SHEET TITLE:
Exterior Elevations Building #1

SHEET:
A-3

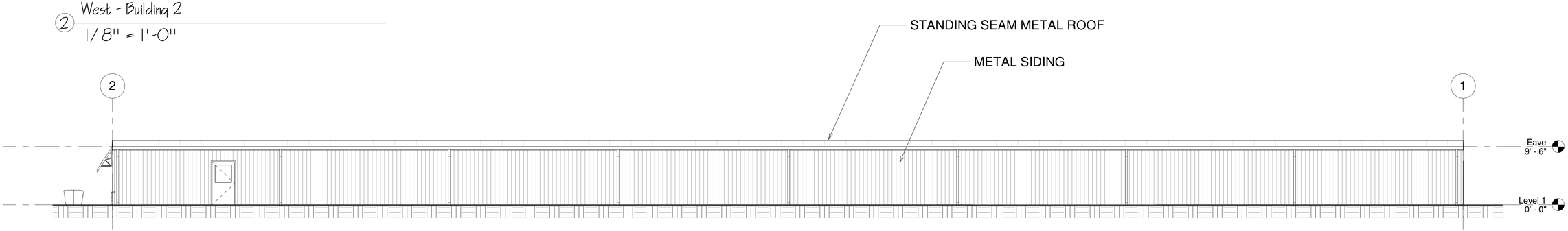
Scale
As indicated



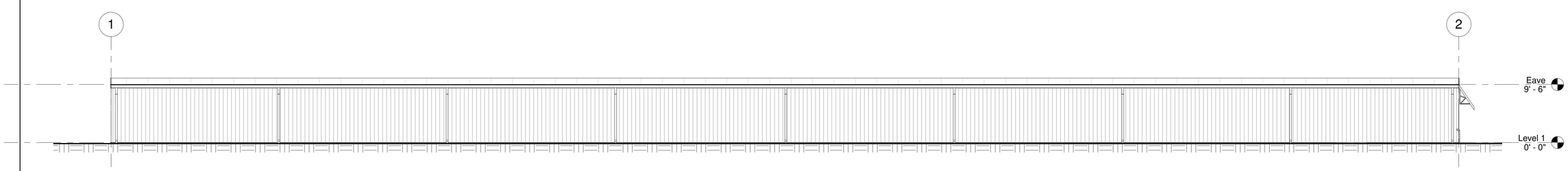
1 East - Building 2
1/8" = 1'-0"



2 West - Building 2
1/8" = 1'-0"



3 North - Building 2
1/8" = 1'-0"



4 South - Building 2
1/8" = 1'-0"

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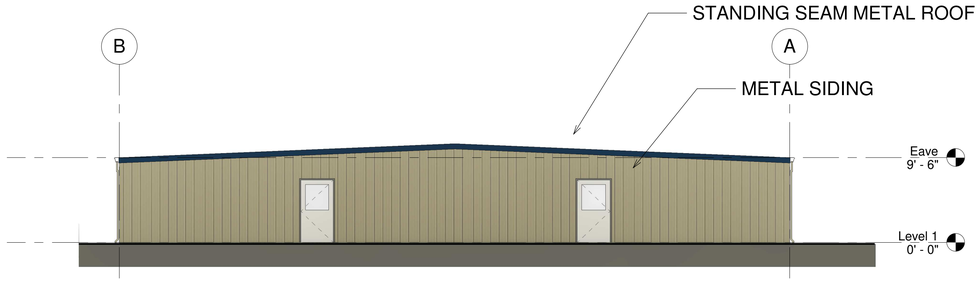
06/07/23

No.	Description	Date

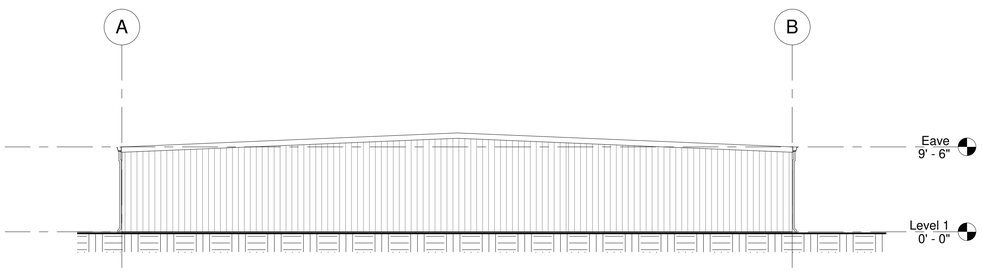
SHEET TITLE:
Exterior Elevations Building #2

SHEET:
A-3.1

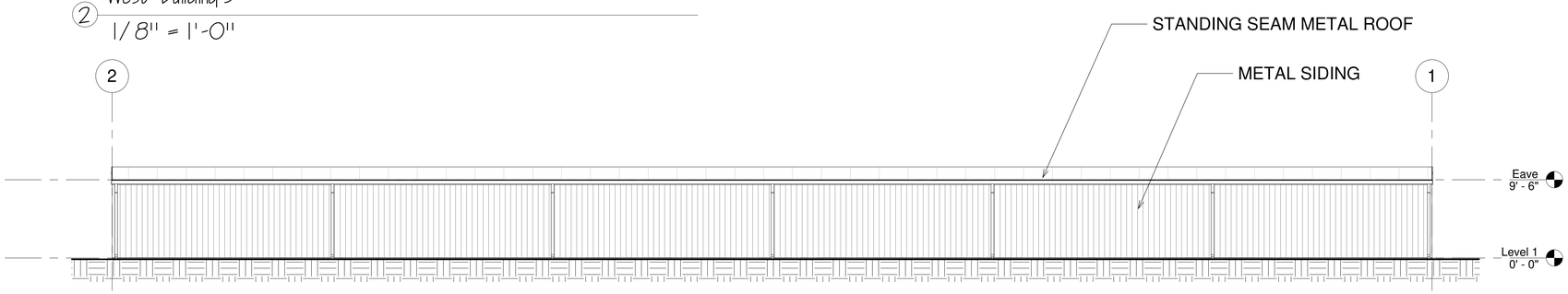
Scale
1/8" = 1'-0"



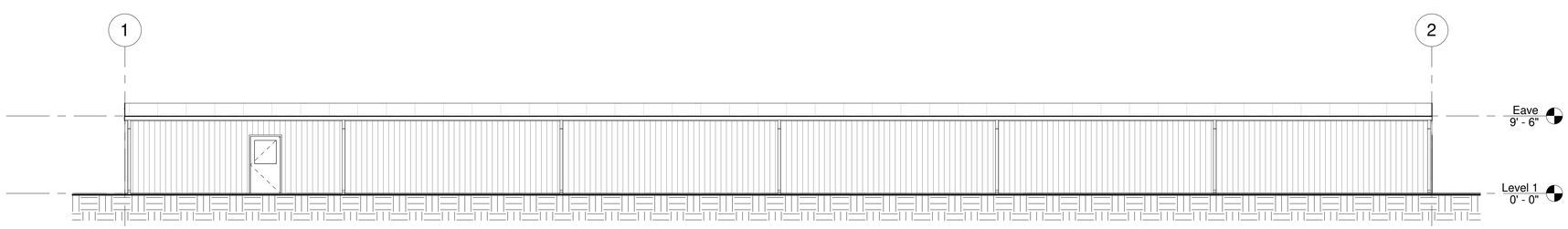
1 East - Building 3
1/8" = 1'-0"



2 West- Building 3
1/8" = 1'-0"



3 North - Building 3
1/8" = 1'-0"



4 South - Building 3
1/8" = 1'-0"

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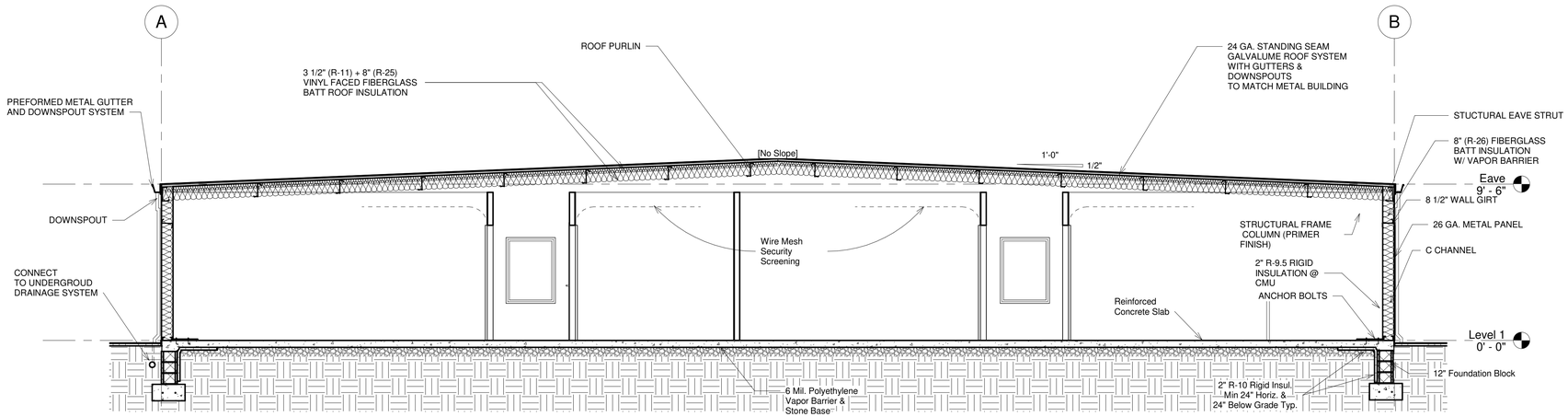
06/07/23

No.	Description	Date

SHEET TITLE:
Exterior Elevations Building #3

SHEET:
A-3.2

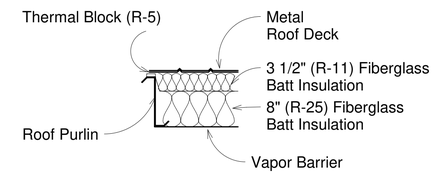
Scale
1/8" = 1'-0"



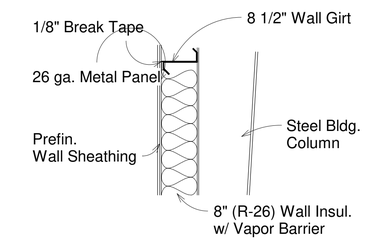
1 Section - Building 1

1/4" = 1'-0"

Roof Insulation



Wall Insulation - Insulated Panel



Insulation Facing:

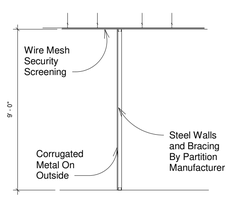
Flame Spread Rating 25 or Less
Smoke Develop Rating 450 or Less

3 1/2" R-11 Crushed + 8" R-25 Non-Compressed Fiberglass Batt Insulation PSK 50
R-5 Thermal Blocks on Purlins
+ Vapor Barrier = R-36 Total

DOOR SCHEDULE

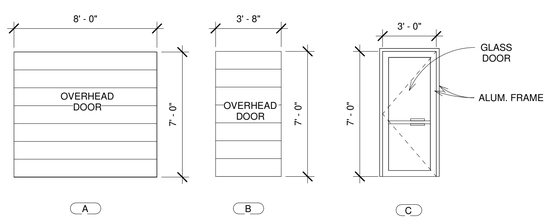
Mark	Type Mark	Door Size	Door Type	Frame Material	Hardware	Fire Rating	Comments	Count
C	35	3' - 8" X 7' - 0"	Glass Egress Door	Steel	Exit Lock / Egress Hardware		Closer	9
D	45	3' - 0" X 7' - 0"	Overhead Steel Door	Steel	Standard			3
A	A	8' - 8" X 7' - 0"	Overhead Steel Door	Steel	Standard			197
B	B	3' - 8" X 7' - 0"	Overhead Steel Door	Steel	Standard			19

Grand total: 228



P-1

STORAGE UNIT PARTITIONS



PARTITION TYPES

DOOR TYPES

HARDWARE DESCRIPTIONS

1. PS = PASSAGE SET = BOTH LEVERS ALWAYS UNLOCKED
SCHLAGE, MODEL 10S, 626 FINISH
2. PL = PRIVACY LOCK - PUSH BUTTON LOCKING. PUSH BUTTON LOCKS OUTSIDE LEVER UNTIL UNLOCKED w/ KEY OR ROTATING INSIDE LEVER.
SCHLAGE, MODEL 40S, 626 FINISH
3. EL = ENTRANCE LOCK = TURN / PUSH BUTTON LOCKING; PUSHING & TURNING BUTTON LOCKS OUTSIDE LEVER REQUIRING USE OF KEY UNTIL BUTTON IS MANUALLY UNLOCK, UNLOCKED w/ KEY, OR TURNING INSIDE LEVER
SCHLAGE, MODEL 53PD, 626 FINISH
4. SL = STORAGE LOCK = OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED
SCHLAGE, MODEL 53PD, 626 FINISH
5. XL = EXIT LOCK = INSIDE LEVER ALWAYS UNLOCKED.
SPECIFY DOOR THICKNESS
6. PUSH / PULL HARDWARE

DOOR NOTES

1) ALL HARDWARE TO BE BRUSHED CHROME FINISH = 32D
2) STEEL DOORS SHALL BE 3'-0" X 7'-0" COLD ROLLED STEEL, FACTORY PRIMED, w/ 18 GA. STEEL FRAMES, MITERED CORNERS, WELDED - NOT ASSEMBLED
3) WOOD DOORS SHALL BE 3'-0" X 7'-0" STAIN GRADE, SOLID CORED, w/ HOLLOW METAL FRAME
4) HINGES SHALL BE HAGAR FULL MORTISE TYPE, 1 1/2 PAIR PER DOOR, STAINLESS FINISH.
(3) 4 1/2" TWO BEARING HINGES ON 7'0"H DOORS
5) DOOR HARDWARE IS NON-LOCKING FROM INSIDE, LEVER TYPE HANDLES AT PERSONNEL DOORS, LEVER W/ PRIVACY LOCK HARDWARE AT TOILET ROOM, EGRESS HARDWARE AT ALL EXIT DOORS
US 26D STAINLESS FINISH
6) CLOSERS BY YALE SECURITY
7) PROVIDE ROCKWOOD BUMPERS AS REQUIRED
8) ALL LOCKS SHALL BE MASTER KEYED / COORDINATE w/ OWNER
9) DOOR SIGNAGE TO BE PROVIDED BY OWNER
10) ALL = SATURN LEVER, STANDARD DUTY.

IECC C402.1.1 LOW-ENERGY BUILDINGS

THE FOLLOWING LOW-ENERGY BUILDINGS, OR PORTIONS THEREOF SEPARATED FROM THE REMAINDER OF THE BUILDING BY BUILDING THERMAL ENVELOPE ASSEMBLIES COMPLYING WITH THIS SECTION, SHALL BE EXEMPT FROM THE BUILDING THERMAL ENVELOPE PROVISIONS OF SECTION C402.

1. THOSE WITH A PEAK DESIGN RATE OF ENERGY USAGE LESS THAN 3.4 BTU/H • FT2 (10.7 W/M2) OR 1.0 WATT PER SQUARE FOOT (10.7 W/M2) OF FLOOR AREA FOR SPACE CONDITIONING PURPOSES.

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STATE OF MARYLAND PAUL J. GORMAN 7622-A ARCHITECT

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:
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ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
06/07/23

No.	Description	Date
1	Revision 1	06/28/23

SHEET TITLE:
Building Section, Insulation Detail, Door Schedule, Partitions

SHEET:
A-4

Scale
As indicated