Planning Commission
MEETING AGENDA

Thursday, September 21, 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 Decision Summary from the August 17, 2023 meeting.

3. Old Business

4. New Business

a.

Applicant:	Phillips Signs
File No.:	2023 - 1020
Location:	8133 Elliott Road Tax Map 109, Grid 000, Parcel 4582, Lot 1
Zoning District:	CG
Nature of Request:	Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.

b.

Applicant:	Far Eastern Shore Winery
File No.:	2023 - 989
Location:	8370 & 8374 Ocean Gateway Tax Map 103, Grid 0EA, Parcel 2952
Zoning District:	CG
Nature of Request:	Signage permit approval for multi-building property.

c.

Applicant:	Fink, Whitten & Associates, LLC c/o Elizabeth Fink
File No.:	2023 - 937
Location:	8685 Commerce Drive - Tuckahoe Hardwoods Tax Map 101, Grid 002, Parcel 0004, Lot 28
Zoning District:	BC

	Nature of Request:	Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
d.	**Applicant:**	DMS & Associates, LLC
	File No.:	2023 - 959
	Location:	Elliott Road - Friel Storage Tax Map 109, Grid 0000, Parcel 2849, Lot 4
	Zoning District:	CG
	Nature of Request:	Sketch Site Plan approval for two (2) proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft., and Building #2 is 11,000 sq.ft.
e.	**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.
f.	**Applicant:**	Lane Engineering, LLC
	File No.:	2023 - 998
	Location:	29533 Canvasback Drive - St. Vincent de Paul Tax Map 109, Grid 000, Parcel 4582, Lot 32
	Zoning District:	BC
	Nature of Request:	Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
g.	**Applicant:**	McAllister, DeTar, Showalter & Walker LLC
	File No.:	2023 - 997
	Location:	Corner of Elliott Road & MD RT 328 (Matthewstown Road)

		Tax Map 109, Grid 000, Parcel 2866, Lot 9
	Base Zoning District:	CG with PUD Overlay
	Nature of Request:	The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
h.	**Applicant:**	5001 SHR, L.C.
	File No.:	2023 -1024
	Location:	Oxford Road - Poplar Hill Tax Map 0042, Grid 0004, Parcel 057
	Nature of Request:	Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.

5. Discussion Item

6. Adjournment.

Town of Easton Planning Commission
Draft Decision Summary
Thursday, August 17, 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 - Long Range
Joseph Mayer, Plan Reviewer
Nicholas Johnson, Town Planner - Current
Sharon Van Emburgh Esq, Town Attorney
Rick Van Emburgh, 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. July 20, 2023 - The Commission noted the following corrections to the draft decision summary:

      i. Item 5a.: Rephrasing of language to include On-Site Consumption.
      ii. Item 5c.: Rephrasing of language to include Missing Middle Housing.
      iii. Item 5d.: Text amendment for the Park Advisory Board recommendation of Poplar Hill open space.

Vice Chairperson Toussaint moved to approve the July 20, 2023 Decision Summary with amendments. Commissioner Weber seconded the motion.

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

b. April 4, 2023 Poplar Hill Supplemental Growth Allocation Joint PC Public Hearing -

Commissioner Weber moved to approve the April 4, 2023 Poplar Hill Joint PC Public Hearing Summary. Vice Chairperson Toussaint seconded the motion.

Vote	4 - 0 - 1
FOR:	4 - Dindinger, Toussaint, McAndrews, Weber
AGAINST:	0
ABSTAIN:	1 - Ryall
ABSENT:	0

3. New Business

a. Applicant: **Easton Utilities Commission**
File No.: **2023 - 882**
Agent: Madeline Selick Barbalace
Location: 8670 Commerce Drive, Easton, MD 21601
Tax Map 101, Grid 002, Parcel 0004, Lot 3
Zoning: BC
Request: The applicant is seeking site plan approval to construct a new 6,103 square foot water treatment plant processing building.

Staff recommends the following condition:

1. The applicant is required to add the minimum/maximum parking spaces and provided parking spaces onto the cover sheet.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

Applicant Presentation:
Paul Mott, Easton Utilities Commission

Public Comment — None

Commissioner McAndrews moved to approve the site plan with the condition that the applicant shall detail the minimum/maximum quantity of parking spaces and outline all designated parking spaces on the cover sheet. Commissioner Ryall seconded the motion.

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

b. Applicant: Lane Engineering
File No.: 2023 - 976
Location: 29311 Cecil Drive, Easton, MD 21601
Tax Map 025, Grid 024, Parcel 0089, Lot 4
Zoning:
Request: The applicant is seeking site plan approval for a proposed 2,334 square foot building addition for storage space, with the interior fit-out for the sale and storage of medical supplies.

Staff recommends the following condition:

1. In the event that the Limit of Disturbance exceeds 5,000 square feet during construction, the applicant is required to address all stormwater management practices.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

Applicant Presentation:
Tim Glass, Lane Engineering
Lauren White, Fisher Architecture

Public Comment — None

Commissioner Weber moved to approve the site plan with the condition that in the event that the Limit of Disturbance exceeds 5,000 square feet during construction, the applicant shall address all stormwater management procedures. Vice Chairperson Toussaint seconded the motion.

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

c. Applicant: Basi Brothers, LLC
File No.: 2023 - 963
Agent: Robert S. Collison, P.A.
Location: 9719 Ocean Gateway, Easton, MD 21601

Tax Map 0025, Grid 0006, Parcel 0113

Current County Zoning: GC

Requested Town Zoning: CG

Request: The Petition for the Annexation of property located at 9719 Ocean Gateway has been withdrawn from the August 17, 2023 Planning Commission agenda.

d. Applicant: **Rise Up Dover Road LLC**

File No.: **2023 - 870**

Location: 625 Dover Road, Easton, MD 21601
Tax Map 103, Grid 0EA, Parcel 0990

Zoning: R-7A

Request: The applicant is seeking an Amendment to a previously approved Planned Unit Development (PUD) that would permit a shade structure to remain standing at 625 Dover Road on a seasonal basis without having to apply each year for a temporary use permit approval. The applicant is also seeking approval for the addition of a kitchen facility and walk-up cafe to the existing property at 625 Dover Road.

Staff recommends a favorable recommendation to the Town Council with the following conditions:

1. The shade structure shall be erected seasonally during the period of March 1st through November 30th, and shall be taken down and stored offsite on November 30th.

2. Upon disassembling, all tripping hazards shall be removed as deemed necessary by the Building Inspection Division.

3. Music or other amplified sounds from the loudspeakers shall not play prior to 8 a.m. or after 7 p.m.

4. The restroom, tables and chairs may all remain in place and ready for use.

5. The applicant shall obtain a building permit for the Mad-Eggs facility and walk-up cafe, and shall obtain additional approval from the Fire Marshal, Talbot County Health Department, and Easton Utilities Commission.

6. The applicant shall submit As-builts for review with the Town's Engineering Department to close out the grading permit.

7. Upon installation of the "Mad Eggs" kitchen facility, the Town Planner may determine that mechanical equipment screening at the top of the structure is necessary and shall retain the right to seek approval/denial

from the Planning Commission.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner
Miguel Salinas, Director of Planning and Zoning

Applicant Presentation:
Zachary A. Smith, Esq.
Ozzie Jimenez, Rise Up Coffee Roasters

Public Comment — None

Commissioner McAndrews moved for a positive recommendation to the Town Council with the following recommended conditions:

1. **The shade structure shall be erected seasonally during the period of March 1st through November 30th, and shall be taken down and stored offsite on November 30th.**

2. **Upon disassembling, all tripping hazards shall be removed as deemed necessary by the Building Inspection Division.**

3. **Music or other amplified sounds from the loudspeakers shall not play prior to 8 a.m. or after 7 p.m.**

4. **The restroom, tables and chairs may all remain in place and ready for use.**

5. **The applicant shall obtain a building permit for the Mad-Eggs facility and walk-up cafe, and shall obtain additional approval from the Fire Marshal, Talbot County Health Department, and Easton Utilities Commission.**

6. **The applicant shall submit As-builts for review with the Town's Engineering Department to close out the grading permit.**

7. **Upon installation of the "Mad Eggs" kitchen facility, the Town Planner may determine that mechanical equipment screening at the top of the structure is necessary and shall retain the right to seek approval/denial from the Planning Commission.**

8. **The applicant shall return to the Planning Commission after November 30th (December 21, 2023 Planning Commission meeting) to review and/or determine if a redesign of the graphics and/or additional screening of mechanical components is necessary.**

Commissioner Weber seconded the motion.

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

e. Ordinance No. 799 — A draft of the proposed Cannabis Use moratorium Ordinance No. 799 was introduced at the August 7, 2023 Town Council meeting. At that time, the Council referred the draft to the Planning Commission for a formal recommendation to enact a temporary moratorium on the "... application for, approval of, construction of, expansion of, processing of, or issuance of Building Permits for the operation of a business engaged in the growing, processing and/or selling of cannabis within the Town of Easton for a period of nine (9) months pending consideration and adoption of revised Zoning Ordinance provisions as the Town Council may consider advisable to promote the public health, safety and welfare." The Commission briefly discussed the language of the draft, and identified on-site consumption establishments as an operation of "selling" under the moratorium. The Town Council has scheduled a Public Hearing on the enactment of the Cannabis Use moratorium for September 18, 2023 at 5:35 p.m.

Vice Chairperson Toussaint moved to forward a favorable recommendation to the Town Council to adopt Ordinance No. 799 to enact a nine (9) month Cannabis Use moratorium. Commissioner McAndrews seconded the motion.

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

4. Old Business

a. Applicant: **Aspire Outdoors, LLC**
File No.: **2023 - 004**
Location: Camac Street, Easton, MD 21601
Tax Map 026, Grid 020, Parcel 0186
Zoning: R-10A
Request: The applicant is seeking site plan approval to construct a six-building apartment complex with a total of 162 units with associated parking, stormwater management facilities, and landscaping. The applicant is also seeking a recommendation of approval to the Board of Zoning Appeals (BOZA) for Special Exception and Variance approvals.

Staff recommends the following conditions:

1. Development Site Plan approval is contingent upon Easton Utilities determining that the development has adequate wastewater capacity to serve all 162 units.

2. Two (2) proposed buildings may be constructed to the existing Camac Street. Additional buildout will require the construction of the connection to the intersection of Eleanor Way in Gannon Estates, including improvement in the future Charlotte Lane right-of-way needed to make the physical connection. For additional buildings to be approved and permitted, the internal roads in Gannon Estates must also be constructed to connect to Matthewstown Road. In order to provide connectivity, the use of controlled access gates at any access point to a public road cannot be utilized.

Staff Presentation:
Joseph Mayer, Plan Reviewer
Lynn Thomas, Town Planner
Miguel Salinas, Director of Planning and Zoning

Applicant Presentation:
Paul Rogers, Rauch Engineering Inc.
Brian Fitzgerald, Rauch Engineering Inc.
Derrick Daly, Aspire Outdoors, LLC

Public Comment:
Keasha Haythe
Brandon Silverstein
Bob Freitag
Bob Mueller
John Franczak
Jamie Walter
George Durhan
Charlotte Moreland
Kendrick Daly
Joe Willis

Commissioner Weber moved for a positive recommendation to the Board of Zoning Appeals for Special Exception and Variance approval with the following recommended conditions:

1. **Two (2) proposed buildings may be constructed with access via the existing Camac Street upon construction of the first access point at Hunter's Mill; two (2) additional buildings to be approved and permitted shall require the**

second access point at Gannon Range, as shown on the Sketch Site Plan, to be constructed and operational; and the final two (2) additional buildings to be approved and permitted shall require a third access point to be constructed and operational.

2. **The use of a controlled access gates at any access point to a public road shall not be utilized.**

3. **Traffic calming shall be provided along Camac Street and with Aspire's private road and parking lot.**

4. **The applicant shall receive a determination by Easton Utilities that the development has adequate wastewater capacity to serve all 162 units.**

Vice Chairperson Toussaint seconded the motion.

Vote	4 - 1 - 0
FOR:	4 - Dindinger, Toussaint, McAndrews, Weber
AGAINST:	1 - Ryall
ABSTAIN:	0
ABSENT:	0

Vice Chairperson Toussaint moved to approve the Sketch Site Plan with the following conditions:

1. **Two (2) proposed buildings may be constructed with access via the existing Camac Street upon construction of the first access point at Hunter's Mill; two (2) additional buildings to be approved and permitted shall require the second access point at Gannon Range, as shown on the Sketch Site Plan, to be constructed and operational; and the final two (2) additional buildings to be approved and permitted shall require a third access point to be constructed and operational.**

2. **The use of controlled access gates at any access point to a public road shall not be utilized.**

3. **Traffic calming shall be provided along Camac Street and with Aspire's private road and parking lot.**

4. **The applicant shall receive a determination by Easton Utilities that the development has adequate wastewater capacity to serve all 162 units.**

5. **The applicant shall explore options to include an electric vehicle charger.**

6. **The applicant shall modify the proposed building color; shall improve details on the balcony design; and shall add landscaping to the parking bump out in**

the parking lot of Aspire properties.

7. **The applicant shall meet all State Highway Administration (SHA) requirements to reconfigure the lane assignment at the intersection of US 50 at MD 328 to provide additional left turn storage; and to address with SHA the timing of the street light at that intersection.**

Commissioner McAndrews seconded the motion.

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

5. **Discussion Items** — None

6. **Adjournment** — Commissioner Weber moved to adjourn. Vice Chairperson Toussaint seconded the motion. The meeting was adjourned at 5:42 p.m.

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

Date of Hearing: September 21, 2023

4a

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **8133 Elliott Road - Summit Community Bank**

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: Phillips Signs

DOCUMENT CREATED ON: September 7, 2023

PURPOSE: The applicant is seeking approval to allow four business wall signs to occupy a building with a common entrance.

RECOMMENDATION: Staff supports a Planning Commission approval with a condition (see below).

APPLICATION INFORMATION:	
APPLICANT: Phillips Signs: Matt Phillips	**REPRESENTATIVE:** Phillips Signs: Matt Phillips

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 109, Grid 0000, Parcel 4582, Lot 1	1.65

ACCEPTANCE DATE: August 28, 2023	**LOCATION:** 8133 Elliott Road, Map 109, Parcel 4582, Lot 1
EXISTING ZONING CG	**EXISTING LAND USE:** Office Building.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Commercial

CONTEXT:

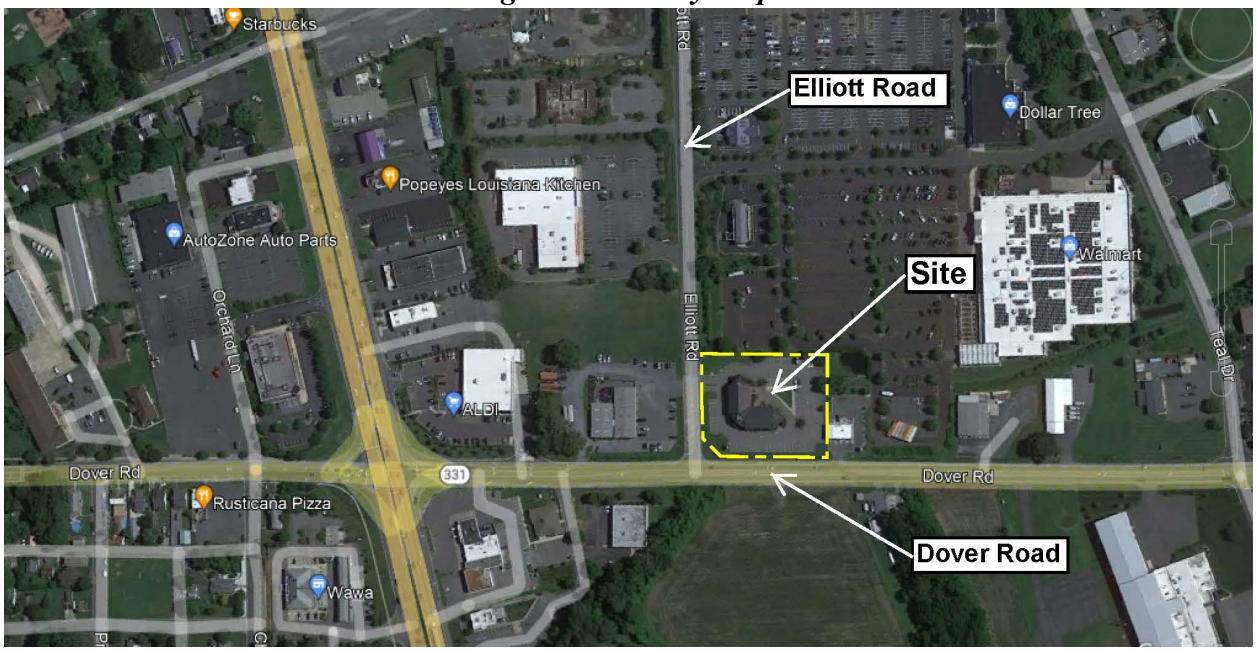
Location/Site Access – The subject property is located along the northeast corner of Elliott Road and Dover Road, fronting on both sides of the roads. Summit Community Bank is located on the east side of the building.

Existing Conditions – The subject property is currently an office building.

Surrounding Properties

- Parcel 2849, Elliott Road - CG
- Parcel 2844, Dover Road
- 8155 Elliott Road - CG
- 29328 Dover Road - CG
- 29344 Dover Road - CG
- 29394 Dover Road - CG
- 8132 Elliott Road - CG

Figure 1: Vicinity Map



PROPOSAL: The applicant is proposing two (2) 2'x3' directional signs, a 4'x 9' wall sign on the west side of the building (fronting Elliott Road), a 4' x 12' wall sign on the south side of the building (fronting Dover Road), an 18" x 54" ATM face sign, a 33.36" x 65" wall sign on the east side of the building, and a 38" x 138" freestanding sign. There's also an existing 72.19 square foot wall sign for Chesapeake Hearing facing Elliot. The applicant is seeking approval to allow four business wall signs to be occupied on a building with a common entrance.

BACKGROUND: This Applicant has submitted a Signage Application #23-18546 to the Easton Building Inspection Division on August 22, 2023 for review. Approval is pending the outcome of the Planning Commission Meeting.

OUTSTANDING ISSUES: None

ZONING ANALYSIS: The Sign Regulations chapter of the Zoning Code was one of the most extensively revised chapters in the new Code adopted in November 2021. Most of those changes addressed issues associated with assuring that our regulations aligned with recent Supreme Court Decisions, particularly with regards to temporary signs.

One change to the Sign Regulations that did not involve questions of constitutionality is one which applies to this application. The regulation of signage for buildings with multiple tenants has been a moving target of sorts for some time now. This has culminated (for now at least) with the provision copied below, which requires such signs to be approved by the Planning Commission. This benefits the applicant by allowing them flexibility in the design and placement of signs for this scenario while maintaining a safeguard as to the appropriateness of the signs by requiring Planning Commission approval. The applicable standard is:

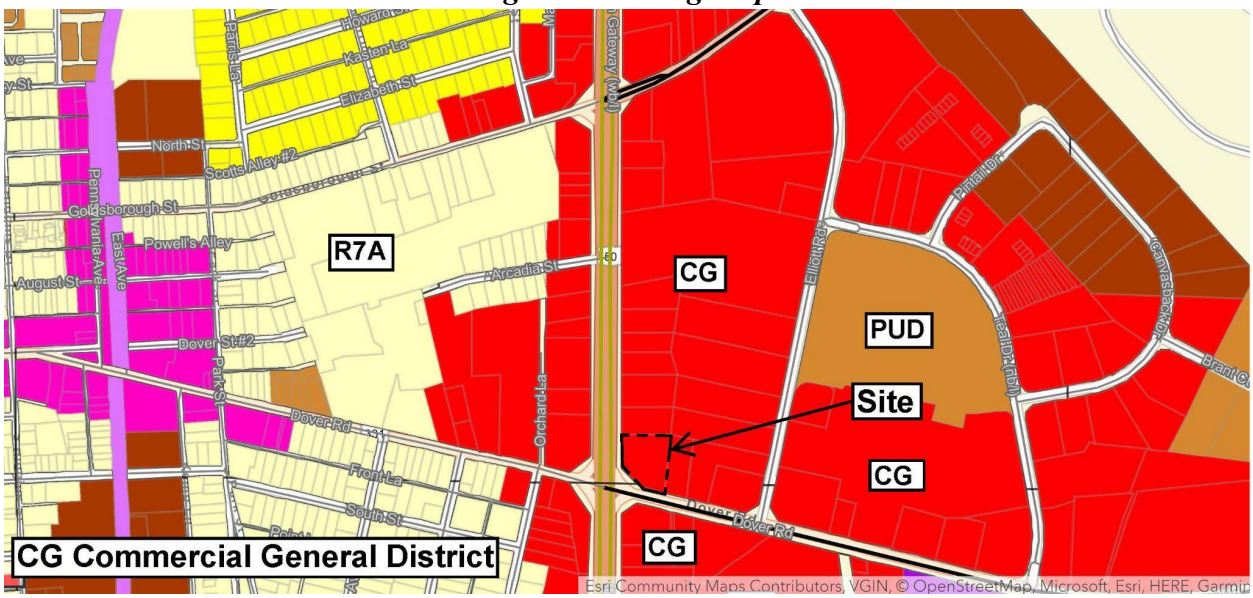
28-1101.7 (A).1.e DEVELOPMENT STANDARDS

When two (2) or more businesses occupy one (1) building with common entrances (i.e. without separate entrances) the permitted wall signage shall be approved by the Planning and Zoning Commission during the site plan review process, or as an item from staff by the Planning and Zoning Commission if site plan approval is not required.

Analysis- Per the Section of the Zoning Code cited above, the Commission is charged with reviewing and approving signs in this scenario of multiple businesses with common entrances. This is a new revision to the Code that we added due to the fact that it has historically proven difficult to prescribe standards for this scenario. Thus, in recognition of the fact that the Commission will almost always be reviewing a site plan, at least for new buildings, we added this as the process for review and consideration of such signage, giving the Commission the discretion to approve anything that you deem appropriate, consistent with the design of the building, or whatever reasonable criteria you want to employ. For existing buildings, we will simply have to bring the sign request to you as a standalone item.

POLICY ANALYSIS:

Figure 2: Zoning Map



RECOMMENDED CONDITION:

Staff recommends the applicant obtain building permit approval for the installation of the signs.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sign request and the applicant complete the building permit process for the installation of the sign.

OR

2. I move that the Planning Commission table the application to the October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 8133 Elliott Road - (2) 2'x3' Directional Signs, paper copy & PDF
2. 8133 Elliott Road - 4'x9' West Wall Dimension Drawing, paper copy & PDF
3. 8133 Elliott Road - 4'x12' Sign Cabinet Dimension Drawing, paper copy & PDF
4. 8133 Elliott Road - 18"x54" ATM Face Dimension Drawing, paper copy & PDF
5. 8133 Elliott Road - 33.36"x65" East Wall Dimension Drawing, paper copy & PDF
6. 8133 Elliott Road - 38"x138" Road Sign Dimension Drawing, paper copy & PDF
7. 8133 Elliott Road - 2023.08.22 Building Dept. Signage Application, paper copy & PDF
8. 8133 Elliott Road - PC Application, paper copy & PDF
9. 8133 Elliott Road - Property Owner Permission Letter, paper copy & PDF
10. 8133 Elliott Road - SDAT Information, paper copy & PDF

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

RECEIVED
AUG 28 2023
TOWN OF EASTON

Planning Commission Concept, Use, and Design Application

Site Information

Structure's Floor Area		Structure's Square Feet	14,067
Area of Disturbance		Number of Dwelling Units	
Property Size	Acres 1.65	Square Feet	
Address	8133 ELLIOTT ROAD		
Tax Map	0109	Grid		Parcel 4582	Lot 1
Zoning District	C	Historic District Y☐ N☒	PRD Y☐ N☐
Other Information			
Existing Use	MULTI TENANT		

Owner

Name	KAS INVESTMENT PROPERTIES LLC		
Mailing Address	29349 W. MAPLE AVE SUITE 6		
Telephone No.	443-496-0946	Email	wschumance redoak.properties

Applicant / Agent

Name	PHILLIPS SIGNS - MATT PHILLIPS		
Mailing Address	20874 SUSSEX HWY SEAFORD, DE 19973		
Telephone No.	302 629 3550	Email	matt@phillipssigns.biz

General Information:

REPLACE DECORATION ON (3) THREE WALL SIGNS AND REPLACE CHANNEL LETTERS WITH NEW CABINET SIGN

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

Date 8/28/23

Printed Name of Applicant or Agent MATTHEW S. PHILLIPS

For Office Use Only

Planned Commission Meeting Date	09/21/2023
Review Fee Amount	$250.00
Review Fee Paid Date	08/28/2023
ESDR Y / N Date	

Revised 02-2019

To Whom It May Concern,

We give permission to Matt Phillips to represent Wes Schuman (owner) of the KAS Investment Properties, LLC building, located at 8133 Elliott Road, Easton, MD 21601, at the upcoming meeting with the Planning & Zoning Commission meeting. If you should have any questions or concerns, please feel free to reach out.

Sincerely,

William E. Schuman III (Owner)

29349 W Maple Ave, Suite 6 Trappe, MD 21673
410-763-1133

Certificate of Occupancy Update & Signage Application for Commercial and Industrial Buildings

Town of Easton
Building Inspection Division
14 South Harrison Street
Easton, Maryland 21601
Telephone 410-822-2526
Fax 410-822-8738

APPLICANT INSTRUCTIONS: Complete all parts of this application, the Building Inspection Division can answer questions, regarding the completion of this application. This application is for the update of a Certificate of Occupancy only when no change occurs in the classification of the occupancy or the use within that classification. Additional Applications are required for construction activity. This application may need to be accompanied by a code analysis prepared by a registered design professional.

Signage Application should be accompanied by two sets of the signage construction documents prepared or detailing information provided within the application.

Office Use Only
Received Date 08 / 22 / 23
Building Permit Number 23-18546
Total Permit Fees $ _____

Part 1: Property Information

8/22/23	Update Application Date	009	Tax Map
			Grid
8133 ELLIOTT ROAD	Project's Address	4532	Parcel
	Project's Subdivision (if any)	1	Lot
	Project's City, State and Zipcode	C	Zoning

Part 2: Owner - Tenant Information

Owner

KAS INVESTMENTS PROPERTIES LLC	Name
29349 W. MAPLE AVE SUITE 6	Address
TRAPPE, MD 21673	City, State and Zip Code
	E-Mail Address and Telephone Number

Tenant Information
For a Multiple Occupancy Building Provide Tenants information by attaching additional sheets

SUMMIT COMMUNITY BANK	Name
P.O. BOX 179	Address
MOOREFIELD, WV 26836	City, State and Zip Code
azirk@summitfgi.com / 304-530-0644	E-Mail Address and Telephone Number
	Occupied Square Footage

Part 3: Certification

The applicant hereby certifies by completing this application as follows; (1) "I am the owner of record of the named property, or that the proposed update is authorized by the owner of record and that I have been authorized by the owner to make this application as their agent.", (2) "That the information contained in the application is a full disclosure of the update to the Certificate of Occupancy." and (3) "That the information contained in the application is in compliance with all applicable covenants and or deed restrictions.".

The applicant further certifies; (1) "That I will comply with all codes of the Town of Easton and the State of Maryland which are applicable thereto.", (2) "That I will perform no work on the above property without making the appropriate applications and acquiring the required permits." and (3) "That the Town Officials shall have the authority to enter areas covered by this application prior to issuance of the updated Certificate of Occupancy".

[signature]	MATTHEW S. PHILLIPS
Signature of Applicant	Printed Name of Applicant

302 629 3550	matteph.11@yahoo.com	owners agent
Telephone Number	E-Mail Address	Connection with Application

20374 SUSSEX HWY SEAFORD, DE 19973
Mailing Address of Applicant

Revised Dec. 2021

Part 10: Signage Information & Grid

Sign Application Type:

☒ Check if Application is for the replacement, restoration or re-facing of an existing sign

☐ Sidewalk ☒ Freestanding ☒ Wall ☐ Roof ☐ Freestanding ☐ Projecting/Suspending ☐ Master Sign Plan

☒ Marquee ☐ Institutional ☐ Awning or Canopy ☒ Directory ☐ Multiple Tenancy ☐ Other

☐ Check if signage selected above is to feature electronic or digital enhancements

Signage Contractor Information		Sign Information		
PHILLIPS SIGNS	Name	1. Length of façade sign serves		1a. Square Footage
MATT PHILLIPS	Contact	2. Location Zoning Classification	C	SEE BELOW
20874 SUSSEX HWY	Address	3. Location Zoning Classification		
SEAFORD, DE 19973	City, State and Zip Code	4. Historic District?	☐ Yes ☒ No	
302 629 3550	Telephone Number	5. Temporary Signage?	☐ Yes ☒ No	
matt@phillipssigns.biz	E-Mail Address	5a. Display Date		5b. Consecutive Days
		6. Signage Installation Completion Date	9/29/23	
		7. Cost of Sign	8,900	

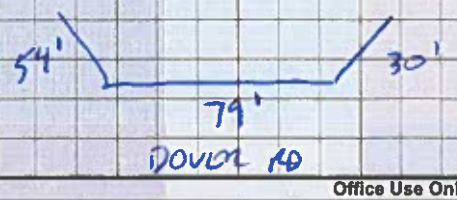
Summary of Request *(consider proposed signage special approvals, location, height, width, area, illumination, material(s) and color(s), lettering, number of faces, footer detail, total height from surface of road, nearest dimension from walking surface below, visibility triangle, reader-board, method of construction or attachment, clearance from objects, landscaping, electronic/digital display, etc.)*

REFACE / REPLACE EXISTING PSB SIGNS WITH NEW SUMMIT SIGNAGE - LIKE MATERIALS / SIZE

Additional Information Required

1. Attach site plan(s) and other details as necessary or required.
2. Attach dimmensioned drawing of the proposed sign or use grid below to sketch.
3. Include any relevant approvals/details.
4. If the applicant is other than the owner, include a letter of certification from the owner.

REPLACEMENT FACES:
DIF POND SIGN 38" x 138" - 34.5 ¢
WEST WALL - 48" x 109" - 36 ¢
EAST WALL - 33.36" x 65" - 15.4 ¢
(2) 2' x 3' DIRECTIONAL SIGNS - 6 ¢ EACH
ATM FACE - 18" x 54" - 6.3 ¢
REPLACE CHANNEL LETTERS WITH 4' x 12' CABINET - 48 ¢



Office Use Only

Building Inspection Division	Planning and Zoning	Planning Commission	Historic District Commission
General Information: Received Date ___/___/___; Permit Number _____; Permit Fee $ _____	General Information: Not Applicable; County Receipt Received	Application: Not Applicable; Yes - In Review; Yes - Approved	Application: Not Applicable; Yes - In Review; Yes - Approved
Approval: Date ___/___/___; BID Initials _____	Approval: Date ___/___/___; Town Impact $ _____; P&Z Initials _____	Approval: Date ___/___/___; PC Initials _____	Approval: Date ___/___/___; HDC Initials _____

Revised Dec 2021

Real Property Data Search ( )
Search Result for TALBOT COUNTY

View Map | View GroundRent Redemption | View GroundRent Registration

Special Tax Recapture: None

Account Identifier: District - 01 Account Number - 071912

Owner Information

Owner Name:	KAS INVESTMENT PROPERTIES LLC	**Use:**	COMMERCIAL
		Principal Residence:	NO
Mailing Address:	29349 W MAPLE AVE STE 6 TRAPPE MD 21673-	**Deed Reference:**	/01448/ 00128

Location & Structure Information

Premises Address:	8133 ELLIOTT RD EASTON 21601-0000	**Legal Description:**	LOT 1-1.65 AC ELLIOTT ROAD PC1-18AA CARLTON BUSINESS PARK

Map:	Grid:	Parcel:	Neighborhood:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0109	0000	4582	10500.21	0000			1	2022	Plat Ref:

Town: EASTON

Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use
1990	14,067 SF		1.6500 AC	

Stories	Basement	Type	Exterior	Quality	Full/Half Bath	Garage	Last Notice of Major Improvements
		OFFICE BUILDING	/	C3			

Value Information

	Base Value	Value As of 01/01/2022	Phase-in Assessments As of 07/01/2023	As of 07/01/2024
Land:	593,200	593,200		
Improvements	964,200	905,400		
Total:	1,557,400	1,498,600	1,498,600	1,498,600
Preferential Land:	0	0		

Transfer Information

Seller: CARLTON FAMILY LIMITED PARTNERSHIP	**Date:** 05/30/2006	**Price:** $1,600,000
Type: ARMS LENGTH IMPROVED	**Deed1:** /01448/ 00128	**Deed2:**
Seller: PYLES, DAVID L	**Date:** 12/30/1992	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /00741/ 00659	**Deed2:**
Seller: BURKE, MICHAEL W	**Date:** 08/30/1990	**Price:** $1,756,563
Type: NON-ARMS LENGTH OTHER	**Deed1:** /00692/ 00803	**Deed2:**

Exemption Information

Partial Exempt Assessments:	**Class**	07/01/2023	07/01/2024
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00|0.00	0.00|0.00

Special Tax Recapture: None

Homestead Application Information

Homestead Application Status: No Application

Homeowners' Tax Credit Application Information

Homeowners' Tax Credit Application Status: No Application **Date:**

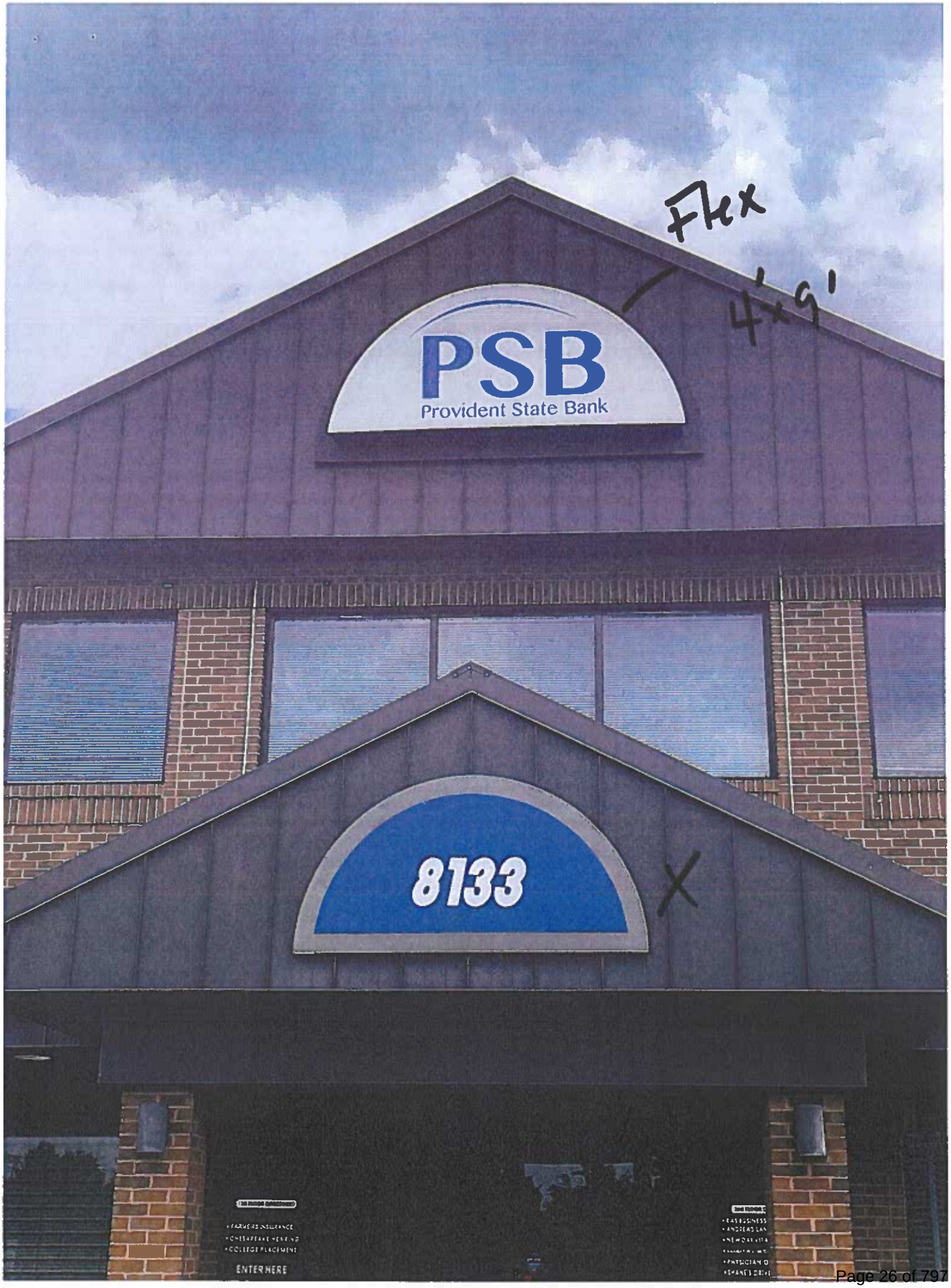
Summit®
COMMUNITY BANK

138 in

38 in

38x158
PSB
Provident State Bank
DRIVE THRU & ATM
Shane's DRIVING SCHOOL
443.786.9095
KAS
Business Centers
College Placement Consulting
DELMARVANORTH
443-539-8866
ANDREWS
LAND SURVEYING
410-820-5112
FARMERS
INSURANCE
NewDayVitality
Bioidentical Hormone Therapy
PHYSICIAN DIET CLINIC
Washington Home Mortgage
410-822-1007

Summit®
COMMUNITY BANK
48 in
108 in


Flex
4'x9'
PSB
Provident State Bank
8133
ENTER HERE

Summit®
COMMUNITY BANK

33.36 in

65 in

PSB
Provident State Bank
333/yr 65"

Summit®
COMMUNITY BANK

MAIN ENTRANCE &
DRIVE-THRU

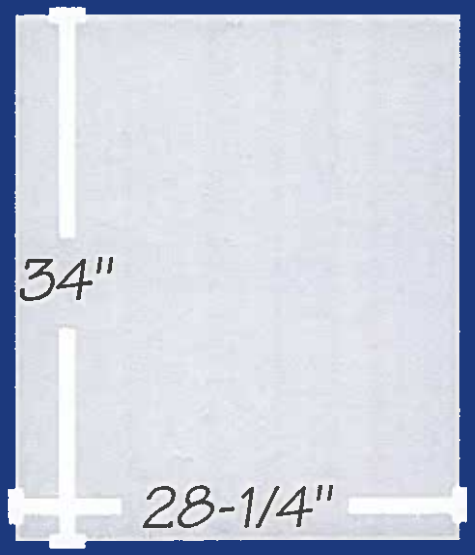
Summit®
COMMUNITY BANK

MAIN ENTRANCE &
DRIVE-THRU

2x3'
PSB
Provident State Bank
MAIN ENTRANCE &
DRIVE-THRU

PSB
Provident State Bank
MAIN ENTRANCE &
DRIVE-THRU

Summit®
COMMUNITY BANK



PSB
Provident
State Bank
18x54"
T1372567

144 in
48 in
Summit®
COMMUNITY BANK
"Service Beyond Expectations"

PROVIDENT STATE BANK
PSB
We treat you like family
PSB

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-1020 has been filed on behalf of KAS Investment Properties LLC at 8133 Elliott Road to request signage permit approval for a Building Sign where two (2) or more businesses occupy one (1) building with a common entrance.

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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:	Creation Date: **08/30/23**
	Ad Date: **09/06/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **522**
	Lines: **92**
	Agate Lines: **405**
Telephone: **(410) 822-2525**	Depth: **11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582, Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004, Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849, Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582, Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

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

Date of Hearing: September 21, 2023

4b

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **8374 Ocean Gateway - Far Eastern Shore Winery**

ELECTION WARD: Ward 1

CRITICAL ACTION DATE: At the pleasure of the Commission

STAFF CONTACTS: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

APPLICANT: Rejoyce LLC

DOCUMENT CREATED ON: September 6, 2023

PURPOSE: The applicant is seeking approval of a Master Sign Plan and to allow a non-conforming freestanding sign that is 19' tall with a 156" x 46.15" sign and a 108" x 18" readerboard sign to be installed in the exact location of the previously destroyed sign. An additional wall sign will occupy the front of the building, just above the first floor windows.

RECOMMENDATION: Staff recommends the applicant return to the Planning Commission for further discussion with an alternate design that is best suited within the Zoning Ordinance.

APPLICATION INFORMATION:	
APPLICANT: Far Eastern Shore Winery: Tien-Seng Chiu	**REPRESENTATIVE:** Far Eastern Shore Winery: Tien-Seng Chiu
PARCELS/ACREAGE:	

Parcel Information	Acreage
Map 103, Grid 000EA, Parcel 2952	0.757

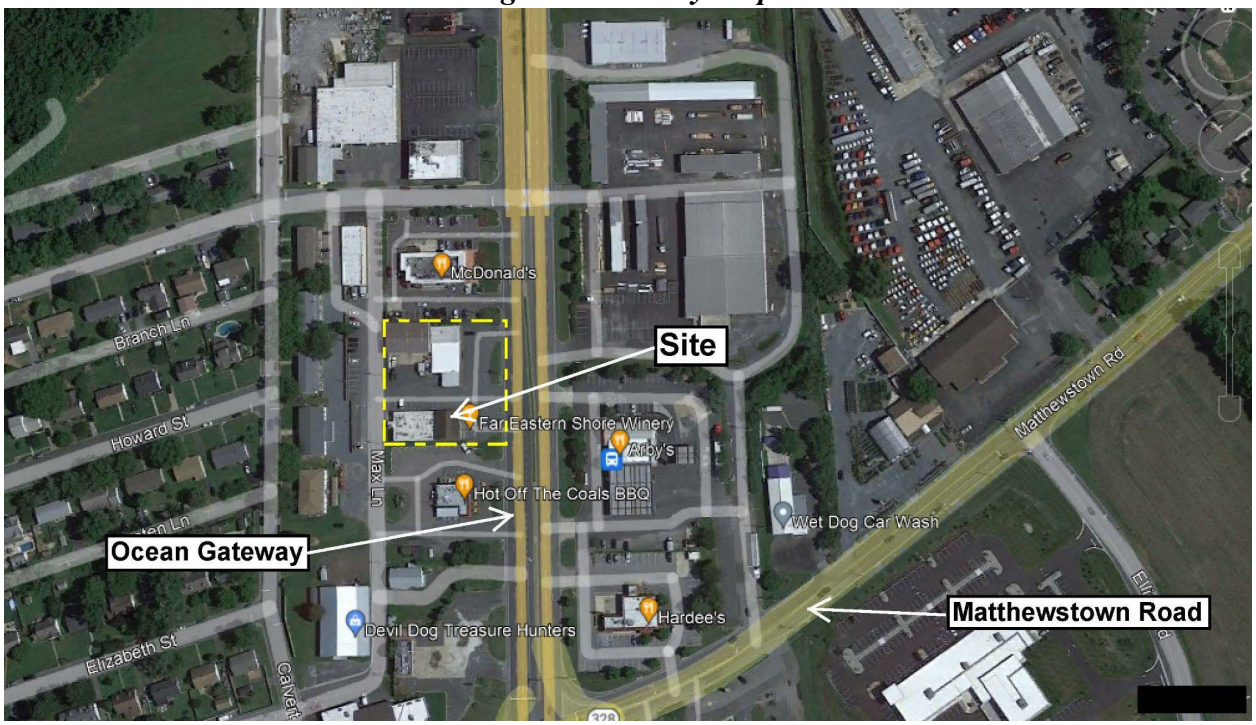
ACCEPTANCE DATE: August 28, 2023	**LOCATION:** 8370 & 8374 Ocean Gateway, Map 103, Parcel 2952
EXISTING ZONING CG	**EXISTING LAND USE:** Residential/Retail
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Commercial

CONTEXT:
Location/Site Access – The subject property is located along the Northwest side of Ocean Gateway, fronting on the southbound lane.

Existing Conditions – The subject property is currently a retail building.

Surrounding Properties
- 8394 Ocean Gateway - CG
- 8401 Ocean Gateway - CG
- 8359 Ocean Gateway - CG
- 8356 Ocean Gateway - CG
- 142 Calvert Street - R10A
- 144 Calvert Street - R10A
- 146 Calvert Street - R10A
- 150 Calvert Street - R10A

Figure 1: Vicinity Map



PROPOSAL: The applicant proposes to reconstruct an existing non-conforming sign with a 156" x 46.15" sign and a 108" x 18" readerboard sign that is 19' tall at the entrance of the building. An additional wall sign will occupy the front of the building, just above the first floor windows. They seek approval of a Master Signage Plan and proposed signs.

BACKGROUND: The original sign was destroyed in 2019 during a storm. It is the intent of the Applicant to replace the sign at the same location. The Applicant previously applied for a Board of Zoning Appeals Application on July 18, 2023 for a Variance from the requirement that a freestanding sign be placed on a solid base. The sign as proposed, would require variances from the minimum setback, height, and landscape area requirements. A field inspection was conducted on August 9, 2023 by the Planning & Zoning Department, Building Inspection Division, Mayor Cook and Mr. Tien-Seng Chiu. In conclusion, it was agreed that the Board of Zoning Appeals would not be able to grant all of the variances that the Applicant would require from the Zoning Ordinance. It was determined that the overall site is best categorized as a shopping center and is eligible for a master signage plan. Therefore, the Applicant is required to obtain approval for a Master Signage Plan from the Planning Commission.

OUTSTANDING ISSUES:
Staff recommends the Applicant consider alternate options if possible:

- Additional wall mounted signage that either conforms to the Zoning Code or obtains the pertinent variances from the Board of Zoning Appeals.
- A different type of sign (ie roof mounted signage) that conforms to the Zoning Code.

ZONING ANALYSIS:

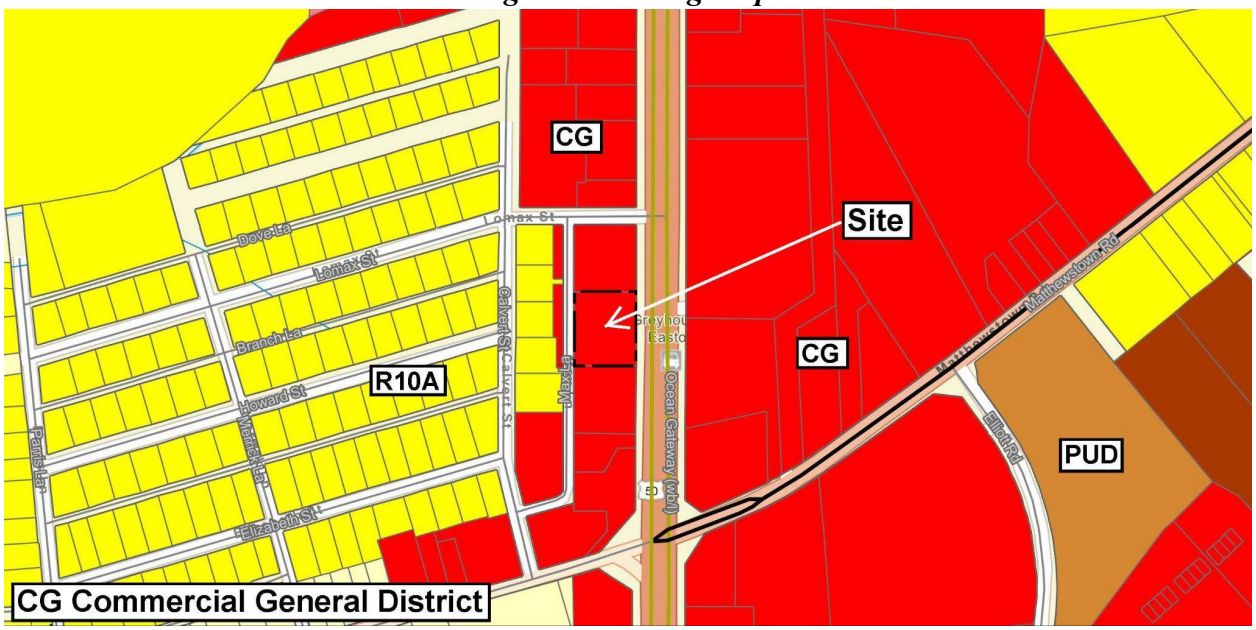
28-1007.2.A.26 (c) Commercial Uses

> ***The applicant or developer of a shopping center shall submit a General Signage Plan as part of the sketch PUD plan. Signage for shopping centers shall be consistent throughout the center and shall be designed as part of the architectural design of the building(s). Directional and information signs shall be adequately provided and design coordinated.***

Analysis- Per the Section of the Zoning Code cited above, the Commission is charged with reviewing and approving signs in this scenario of multiple businesses. For this existing building, the sign request is a standalone item. However, any additional signs to the business complex will require the creation of a Master Sign Plan and the Planning Commission's approval. Staff recognises the unique complexity of placing the freestanding sign within the original location. In order to maintain a drive aisle access to the adjacent parking spaces at the front of the building, the sign is proposed within proximity of the property line. If approved by the Planning Commission, the sign would remain as a nonconforming sign.

POLICY ANALYSIS:

Figure 2: Zoning Map



RECOMMENDED CONDITION:
Staff recognises the difficulty of sign placement based on the existing conditions; the building and parking spaces being within close proximity to Ocean Gateway's right-of-way. The Staff recommended the applicant to consider alternate designs, such as additional wall mounted signs and/or a roof mounted sign. However, due to the complexity of the existing conditions, the Planning Commission has the option to approve the proposed signs as submitted and Master Signage Plan.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sign request, Master Signage Plan and the applicant obtain appropriate building permits for the installation of the signs.

OR

2. I move that the Planning Commission table the application to the October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:

1. Far Eastern Shore Winery - (Attachment A) Master Signage Plan, paper copy & PDF
2. Far Eastern Shore Winery - (Attachment B) J&C Barber Shop at 8374 Ocean Gateway, paper copy & PDF
3. Far Eastern Shore Winery - (Attachment C) Delmar Vapor at 8374 Ocean Gateway, paper copy & PDF
4. Far Eastern Shore Winery - (Attachment D) Ram in the Bush at 8374 Ocean Gateway, paper copy & PDF
5. Far Eastern Shore Winery - (Attachment E) Rebuilt Sign 8374 Ocean Gateway, paper copy & PDF
6. Far Eastern Shore Winery - (Attachment F) First Floor Sign Plan with Dimensions, paper copy & PDF
7. Far Eastern Shore Winery - Boundary Survey, paper copy & PDF
8. Far Eastern Shore Winery - PC Application, paper copy & PDF
9. Far Eastern Shore Winery - Property Owner Permission Letter, paper copy & PDF
10. Far Eastern Shore Winery - Proposal Summary, paper copy & PDF

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

RECEIVED
AUG 28 2023
TOWN OF EASTON

Planning Commission Concept, Use, and Design Application

Site Information

Structure's Floor Area		Structure's Square Feet	15287
Area of Disturbance		Number of Dwelling Units	0
Property Size	Acres	Square Feet	33000
Address	8370+8374 Ocean Gateway		
Tax Map	0103	Grid 000 EA	Parcel 2952 Lot
Zoning District	CG	Historic District Y ☐ N ☒	PRD Y ☐ N ☒
Other Information	Sign Plan		
Existing Use	Commercial		

Owner

Name	Carol Prettyman / Rejoice LLC		
Mailing Address	30360 Kings Meadow Pl Easton MD 21601		
Telephone No.	410829 3993	Email	carolprettyman@~~yahoo~~ yahoo.com

Applicant / Agent

Name	Tien-Seng Chiu / Far Eastern shore winery		
Mailing Address	PO BOX 747 / 8370 ocean Gateway Easton MD 21601		
Telephone No.	410829 2119	Email	tschiu@feswinery.com

General Information:

Sign Plan

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: Tien Seng Chiu
Date: 8/27/23
Printed Name of Applicant or Agent: Tien-Seng Chiu

For Office Use Only

Planned Commission Meeting Date	09/21/2023
Review Fee Amount	$250.00
Review Fee Paid Date	08/28/2023
ESDR Y / N Date	

Revised 02-2019

orig

Sign Plan

Tien-Seng Chiu
Mesozoic Technologies, LLC dba Far Eastern Shore Winery
8370 Ocean Gateway, Suites 1-2
Easton, MD 21601
tschiu@feswinery.com
(410) 829 5305 office
(410) 829 5305 cell

Executive Summary

Sign plan for the multi-building property located at 8370-8374 Ocean Gateway, Easton MD 21601. Documents rebuild of a sign and other current (existing) signs on the property.

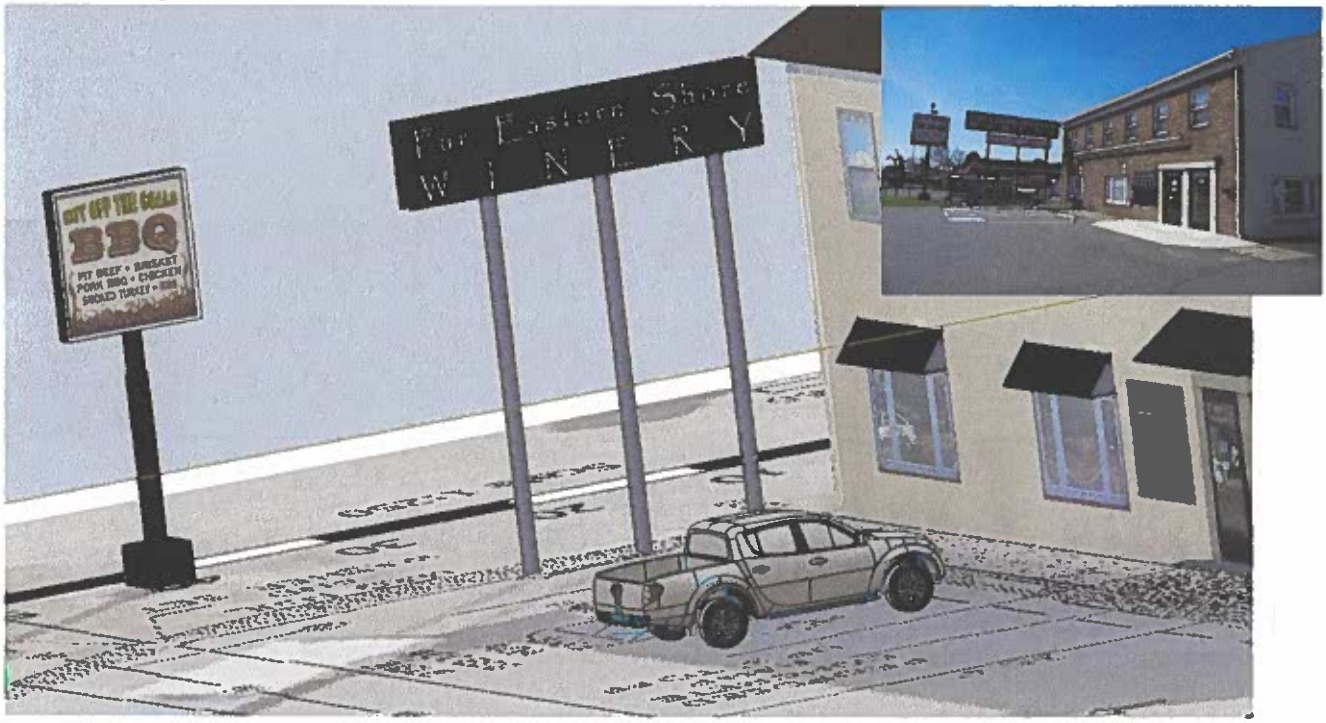
Property Characteristics

A property boundary scan was overlaid onto ortho-rectified overhead aerial imagery, and the property boundary, required setbacks, and building outlines notated. Please see Attachment A for details. The unique lot geometry precludes the installation of a pedestal-style sign, as this sign would have to be located in the middle of the paved parking lot area. The south end of the parking lot is where the water main connection is located.

The image below depicts the overall property showing an approximate 3D-model of the buildings on the property. Not modeled is a warehouse-style building that is located on the western end of the property, as there are no signs on that particular structure.

Previous Sign and Comparison to Proposed Sign

Previous Sign



Discussion:

Prior sign was roughly 75 square feet (18 ¾ feet x 4 feet) and stood approximately 22 feet high. It was illuminated from above with fluorescent light fixtures and was built out of an aluminum frame with plastic facing and vinyl lettering. It was supported with three pressure-treated wooden poles, each about 6.5" in diameter.

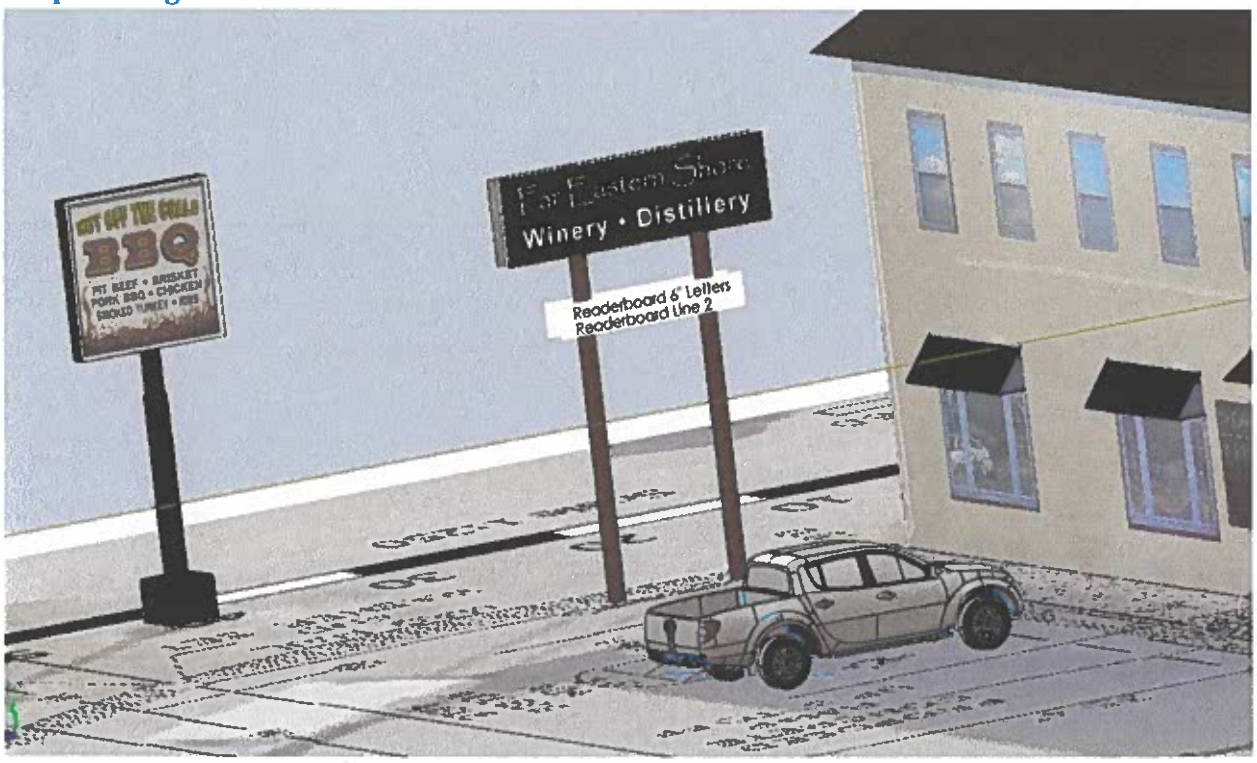
During a Nor'easter in December 2019, the outermost pole fractured at the base, allowing the sign to sway in the wind. We stabilized the sign, then had the sign facings removed the following day to prevent injuries or property damage from an uncontrolled collapse of the sign. The contractor failed to adequately compensate for the gusty wind conditions of the day and dropped the facings during removal, severely damaging them. Both the damage and winter weather conditions precluded repair of the sign within the 60-day window stipulated in Easton's Zoning code. Shortly afterwards, we entered the COVID global pandemic and the repair of the sign took a reduced priority.

Other Signs (no changes – documentation of as-is configuration)

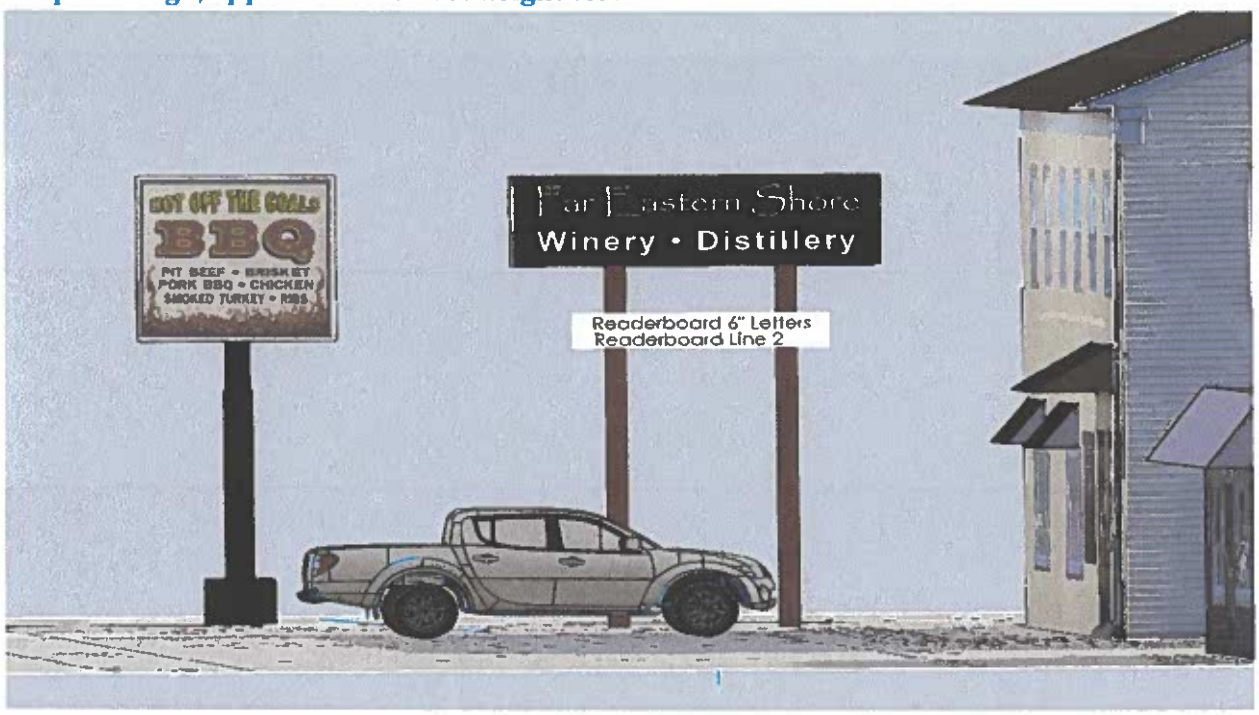
There is a separate building on the property, 8374 Ocean Gateway, located to the north of the Far Eastern Shore building.

For reference, the signs on the three (3) businesses located in this building are shown here. More detail is available in Attachment B (J & C Barber Shop), Attachment C (Delmar Vapor), and Attachment D (Ram In The Bush)

Proposed Sign



Proposed Sign, approximate street height view



Discussion on proposed sign:

Since this property faces both Ocean Gateway and Max Lane, we would like to combine the sign allowance for both streets into one unit with a maximum height of approximately 19 feet (to match that of the Hot Off The Coals BBQ sign to the south of the property).

Please see Attachment E for more detail. The upper section is 50 square feet and will be illuminated from within. As depicted, the sign is 13 feet across and 3.84 feet tall.

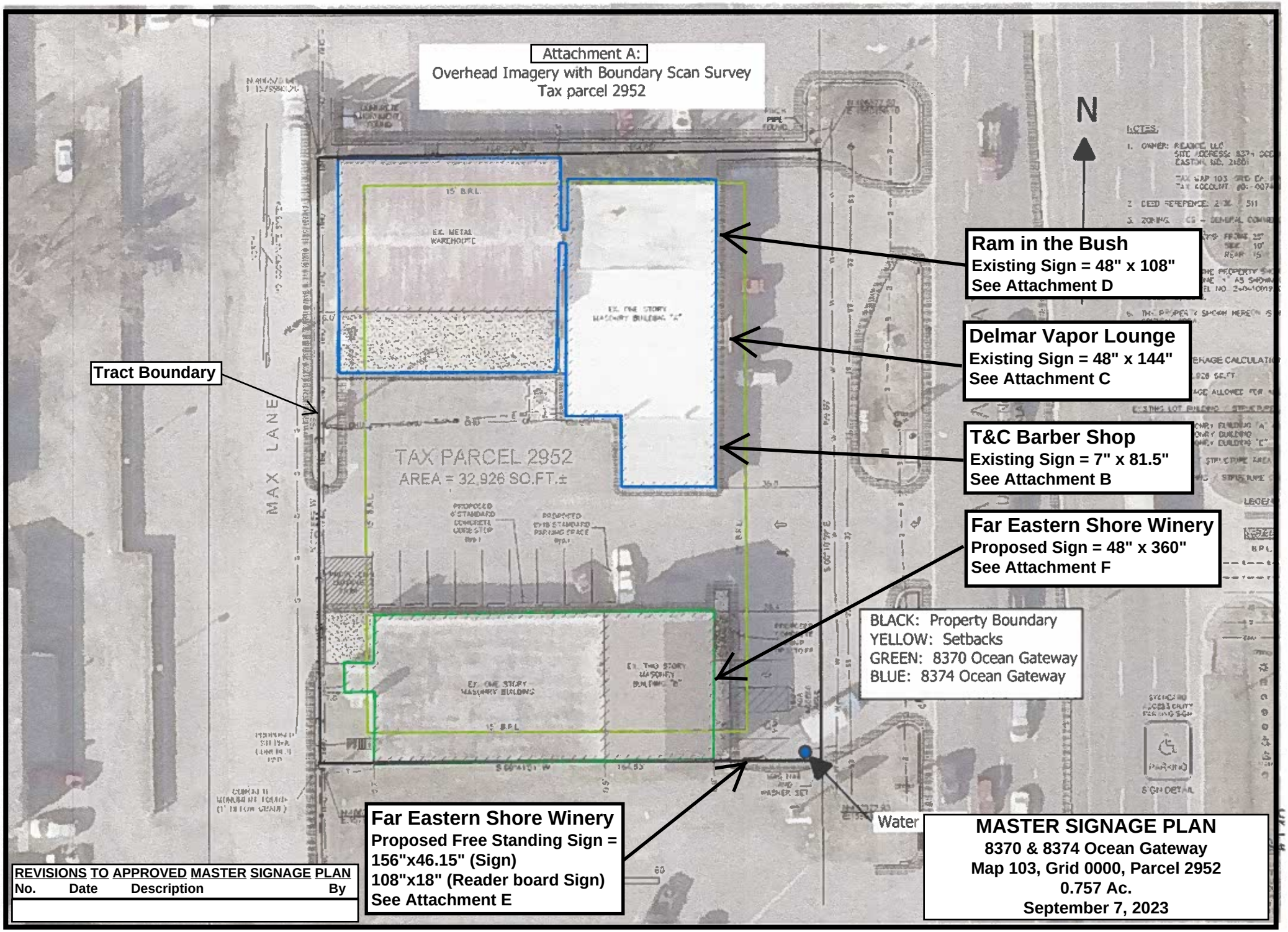
The lower section is approximately 13.5 square feet (9 feet across x 1.5 feet tall), and is a two-row readerboard, sized for 6" letters. This section will also be illuminated from within.

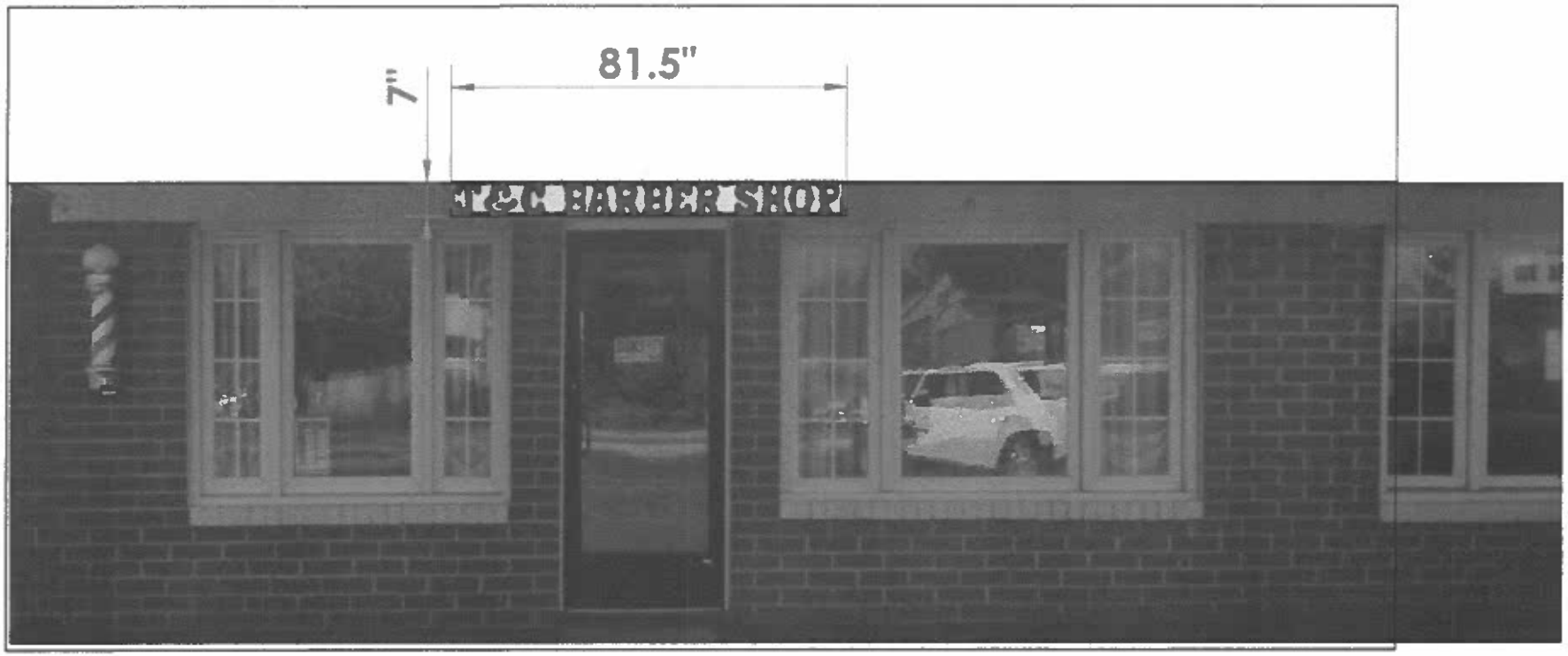
As depicted, the two poles are 8" diameter, Schedule 80 steel pipe, which, by our calculations, greatly exceed a nominal 150 mph wind rating. We have submitted the attached drawings to Selby Sign company of Pocomoke city (who build our original sign facings) for pricing and analysis. We would like the poles painted an oriental-red, similar to cinnabar.

Additional Building Exterior Modifications

These following modifications are within the zoning ordinances and are presented "for information" as we wish to make these changes in the same time interval as replacing the sign.

1. Paint building exterior brickwork to match colors with the existing siding, with dark brown accent trim on the windows to match current door frames.
2. Per diagrams previously, add decorative awnings over the lower front windows. These will be plain black fabric with no lettering.
3. Install a fiberglass decorative piece over the front door
4. Remove the (current non-functional) fluorescent light fixtures above the lower windows, and replace them with lettering. Actual wording may differ from that shown here and will comply with applicable zoning regulations.


Attachment A:
Overhead Imagery with Boundary Scan Survey
Tax parcel 2952
N
Ram in the Bush
Existing Sign = 48" x 108"
See Attachment D
Delmar Vapor Lounge
Existing Sign = 48" x 144"
See Attachment C
T&C Barber Shop
Existing Sign = 7" x 81.5"
See Attachment B
Far Eastern Shore Winery
Proposed Sign = 48" x 360"
See Attachment F
Tract Boundary
MAX LANE
TAX PARCEL 2952
AREA = 32,926 SQ.FT.±
BLACK: Property Boundary
YELLOW: Setbacks
GREEN: 8370 Ocean Gateway
BLUE: 8374 Ocean Gateway
Far Eastern Shore Winery
Proposed Free Standing Sign =
156"x46.15" (Sign)
108"x18" (Reader board Sign)
See Attachment E
Water
MASTER SIGNAGE PLAN
8370 & 8374 Ocean Gateway
Map 103, Grid 0000, Parcel 2952
0.757 Ac.
September 7, 2023
REVISIONS TO APPROVED MASTER SIGNAGE PLAN
No. Date Description By



		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN		
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		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

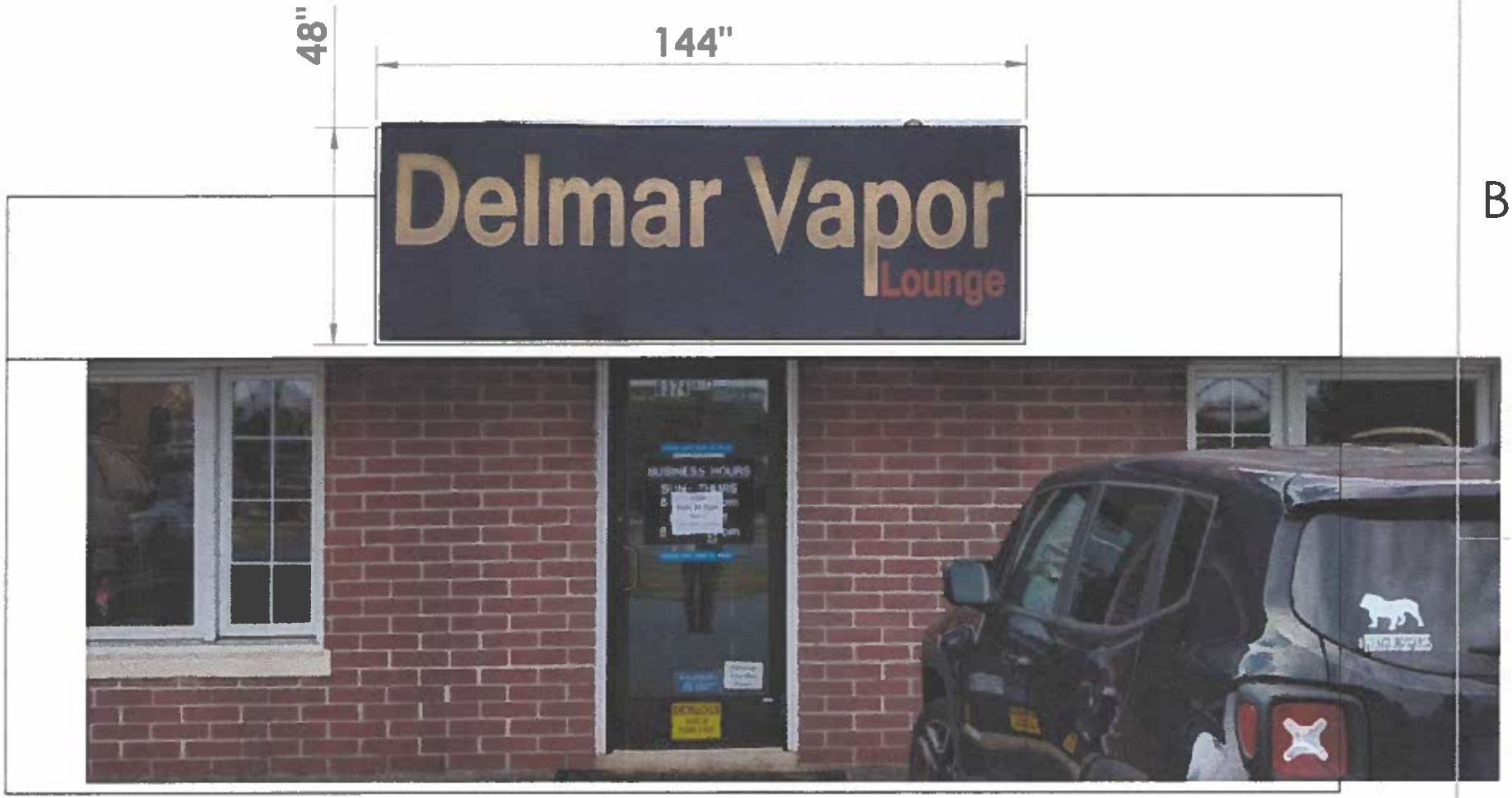
TITLE:
Attachment B:
J & C Barber Shop

SIZE | DWG. NO. | REV
A NorthBuilding

SCALE: 1:35 | WEIGHT: | SHEET 1 OF 2

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <INSERT COMPANY NAME HERE>. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <INSERT COMPANY NAME HERE> IS PROHIBITED.



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		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

TITLE:

Attachment C:
Delmar Vapor

SIZE DWG. NO. REV

A NorthBuilding

SCALE: 1:35 WEIGHT: SHEET 2 OF 2

PROPRIETARY AND CONFIDENTIAL

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
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		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

TITLE:

Attachment D: Ram In The Bush

SIZE	DWG. NO.	REV
A	NorthPortion	
SCALE: 1:40	WEIGHT:	SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL

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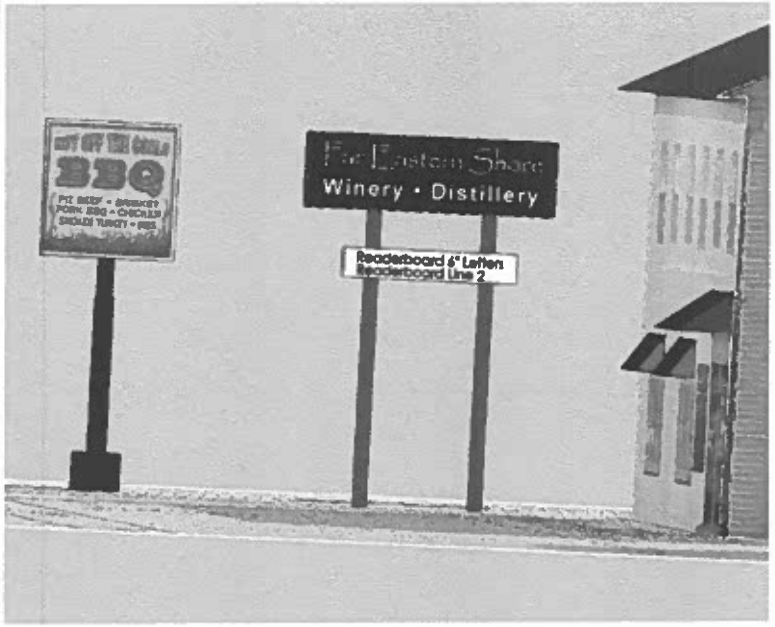

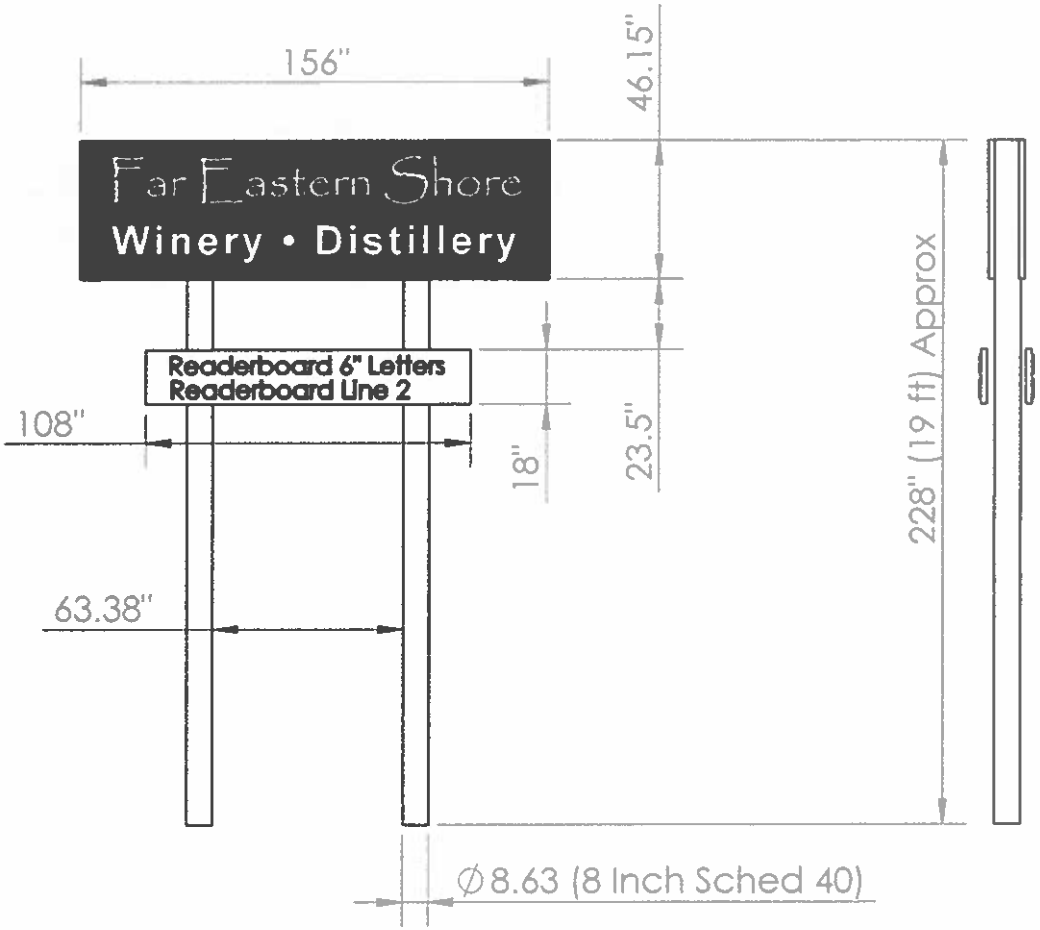

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
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			CHECKED		
			ENG APPR.		
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

TITLE:

Attachment E: Rebuilt sign

SIZE	DWG. NO.	REV
A	Sign 5	
SCALE: 1:64	WEIGHT:	SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <INSERT COMPANY NAME HERE>. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <INSERT COMPANY NAME HERE> IS PROHIBITED.

original

2023-989 / Attachment F: Building Front

Carol Prettyman
Rejoice, LLC
30360 Kings Meadow Place
Easton, MD 21601

The Mayor and Town Council of Easton
14 S. Harrison St
Easton, MD 21601

August 23, 2023

To Whom This May Concern,

Tien-Seng Chiu / Mesozoic Technologies, LLC dba Far Eastern Shore Winery has my permission to represent our interests regarding all signage at the Tax Parcel 2952 (properties of 8370-8374 Ocean Gateway, Easton MD 21601).

Carol Prettyman

Carol E. Prettyman

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-989 has been filed on behalf of Far Eastern Shore Winery LLC at 8374 Ocean Gateway to request signage permit approval for a multi-building property.

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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:	Creation Date: **08/30/23**
	Ad Date: **09/06/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **522**
	Lines: **92**
	Agate Lines: **405**
Telephone: **(410) 822-2525**	Depth: **11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC
      c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004,
      Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849,
      Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 29th, 2023**
TO:	**Johnny Dent – Owner**
	Ebie Fink – Fink, Whitten
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller – EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Tuckahoe Hardwood – Sketch Site Plan Review Comments**

The Engineering Department has reviewed the revised application for the subject project received on 8/29/2023. The **Sketch Plan** is **acceptable** and the **Sketch Stormwater Management Plan** is **Approved** with the following comments to be addressed at Preliminary Site Plan Review.

1. Please provide verification of SHA authorization for the LOD and outfall shown on SHA ROW.
2. The space between the building and the SWM feature, and the SWM feature and the southern property line is tight. Please verify vehicular access for construction and maintenance of the feature.

Please submit Preliminary Site Plan and Preliminary Stormwater Report. 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
14 S Harrison Street, Easton MD 21601

Date of Hearing: September 21, 2023

4c

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **8685 Commerce Drive - Tuckahoe Hardwoods**

ELECTION WARD: Ward 1

CRITICAL ACTION DATE: At the pleasure of the Commission

STAFF CONTACTS: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

APPLICANT: 8685 Commerce Drive LLC.c/o Johnny Dent

DOCUMENT CREATED ON: September 7, 2023

PURPOSE: The applicant is seeking site plan approval to construct a 3,920 square foot pole building to be used as a contractor's warehouse/storage 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 8685 Commerce Drive LLC.	**REPRESENTATIVE:** Fink Whitten, LLC.: Elizabeth Fink 8685 Commerce Drive LLC.: Johnny Dent

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 101, Grid 0002, Parcel 0004, Lot 28	1.00

ACCEPTANCE DATE: August 28, 2023	**LOCATION:** 8685 Commerce Drive
EXISTING ZONING BC	**EXISTING LAND USE:** Warehouse
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Business Commercial

CONTEXT:

Location/Site Access – The subject property is located along Commerce Drive, fronting on the east side of the road.

Existing Conditions – The subject property is currently a 4,581 square foot contractors storage building and a 1,454 square foot office building.

Surrounding Properties

- 8695 Commerce Drive - BC
- 8694 Commerce Drive - BC
- 8670 Commerce Drive - BC
- 8659 Commerce Drive - BC
- 8673 Commerce Drive - BC

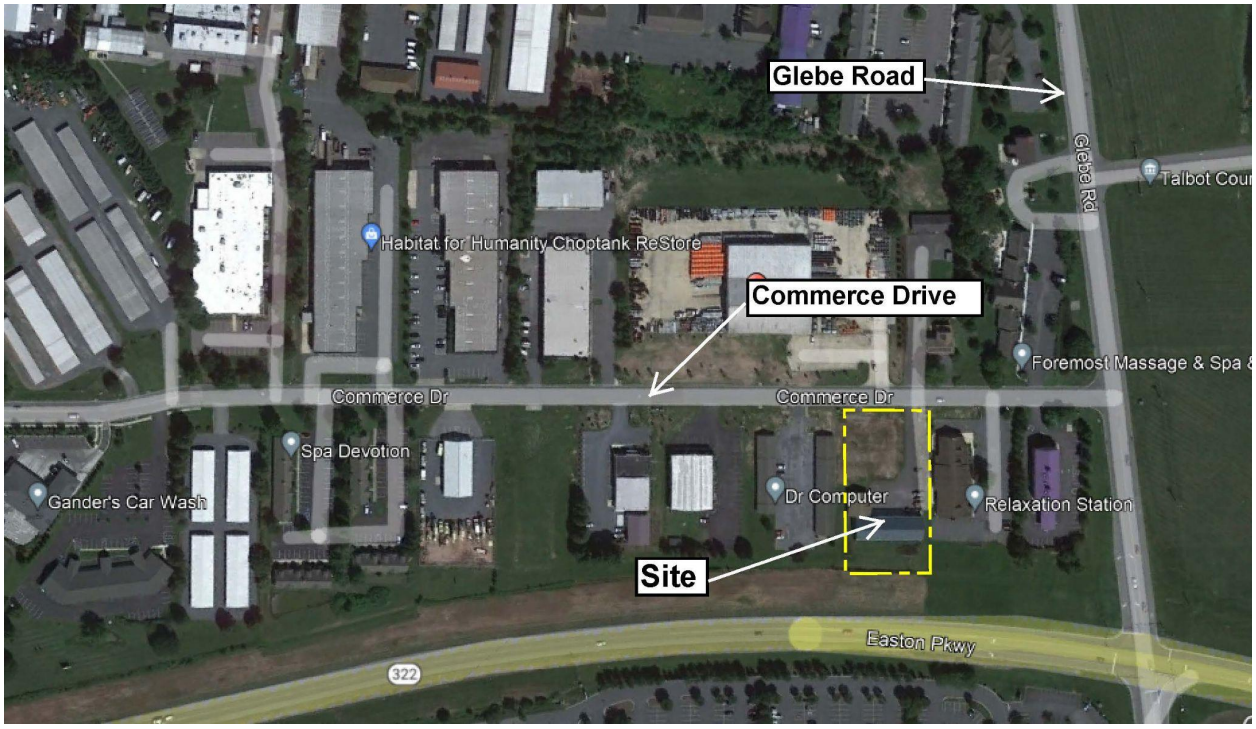


***Figure 1**: Vicinity Map*

PROPOSAL: The applicant is proposing to construct a 3,920 square foot pole building, with associated parking, stormwater management facilities and landscaping.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on May 24, 2023 and August 23, 2023.

OUTSTANDING ISSUES:

- The space between the building and the SWM feature, and the SWM feature and the southern property line is tight. Please verify vehicular access for construction and maintenance of the feature.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 Table 2.1						**BC**						
505	Contractor's Office w/ no outside storage	--	--	--	--	P	P	P	P	P		

Analysis –The proposed project is presented and described by the Applicant as an existing one-story office building with an associated warehouse for a construction related business. The

Applicant proposes an additional 3,920 square foot warehouse. The project is categorized as a *"Contractor's Office with no outside storage"*. The proposed use is permitted by-right within Table 2.1, Table of Permissible Uses. For the purpose of parking calculations, the use is considered a "Construction-related business."

B. Off-Street Parking

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Industrial Buildings				
38	Construction-related businesses	1 per 1,000 sf GFA	1 space per 200 sf GFA	--	

Total Site Parking Required:

Construction-related businesses: 1 Space /1,000 SF GFA; 10 Spaces Required- Minimum
1 Space /200 SF GFA; 50 Spaces Required- Maximum
Total spaces provided: 10

Analysis- The applicant has provided ten (10) 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. Business Commercial District Development Standards

Table 1. Development Standards		
BC Zoning District	**Standard**	**Proposed**
Setbacks	Front = 40 feet Side = 10 feet Rear = 30 feet	Front = 40 feet Side = 10 feet Rear – 30 feet
Lot Size (min.)	40,000 square feet	43,560 square feet
Lot Frontage (min.)	100 feet	162 feet
Building Envelope (min.)	30 feet x 80 feet	142 feet X 196.97 feet
Lot Coverage (max.)	50% (Lot Area)	23.3% (Lot Area)
Height (max.)	35 feet	23 feet +/-

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

- ***Off-Street Parking shall be provided in accordance with the provisions of Section 28 – 1001.***

- ***There shall be no open storage on any lot or open areas, nor shall any products be displayed in open areas. All outside storage 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, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***

- ***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 BC - Business Commercial 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 process.

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 development of this site has already been mitigated for Forest Conservation under the Forest Conservation Plan, recorded on 8/11/2016. Trees within Forest Conservation were removed to comply with the Obstruction Removal Program to meet FAA requirements. Mitigation has been provided as a fee in lieu payment into the Forest Conservation Account. The new site plan will require Forest Conservation. The applicant proposes landscape improvements to be credited for afforestation. The overall site area is 1.000 acres with an existing office building and warehouse. There's a proposed warehouse and associated parking, stormwater management and landscaping. Required Forest Conservation would be 0.15 acres or 6,534 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 proposes landscape improvements to be credited for afforestation. The applicant has provided a landscape plan with three deciduous-shade/canopy trees and sixteen evergreen trees that is greater than the amount credited for afforestation. 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:

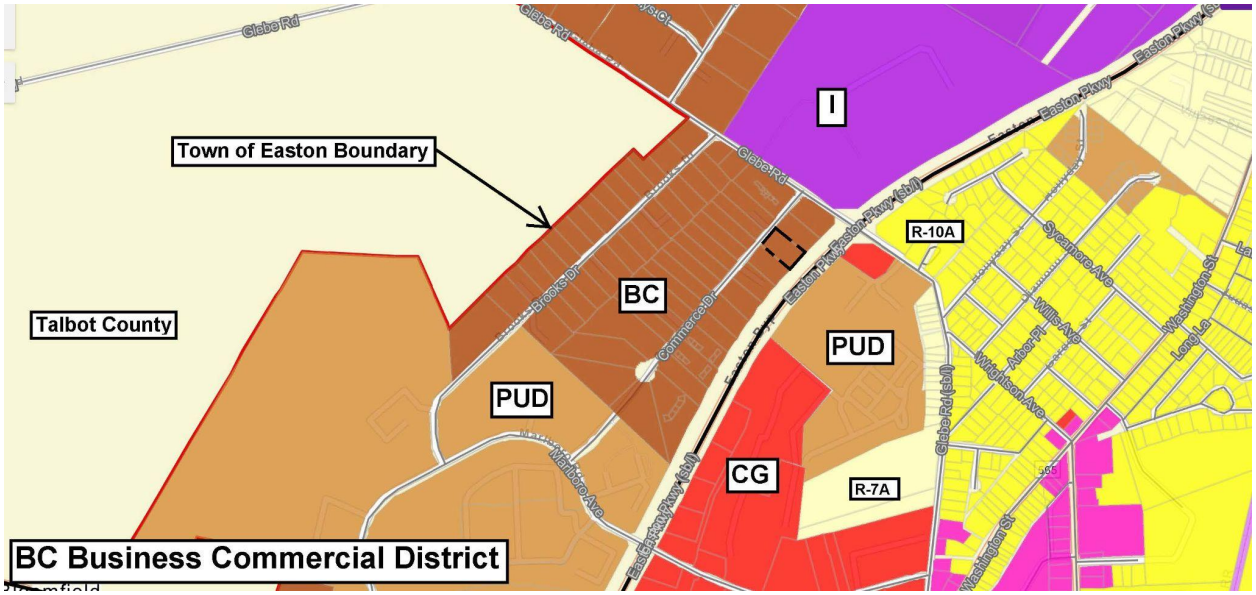


Figure 2: Zoning Map

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: *This development is located within an Industrial Zoned District. Although the site is not developed, the proposed contractor's storage building is compatible with the surrounding uses.*

(Principle #2) Natural features should determine design – *Applicant's response: This element refers to the planning of the site based on the environmental resources present. This is not a*

determining factor in the design of the new building as there are no natural resources in the area.

Staff notes that there are no compelling natural features on site.

(Principle #3) Automobiles should not determine design – *Applicant's response: Per the zoning code and past parking reduction approvals, and with the use of the site, parking and loading are required, all of which have been satisfied for the existing and proposed use. The layout is compatible with businesses in the area.*

Staff notes that the applicant has provided adequate off-street parking that is towards the lower end of the window of the requirement.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: The site and surrounding area is located within an industrial and commercialized area and is not located near 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: The proposed building is a contractor's storage building and architecture will mimic existing buildings onsite and coincide with the surrounding industrial/business park. This is not particularly relevant to our request.*

(Principle #6) Signs should inform but not dominate – *Applicant's response: At this time there is no additional signage posted.*

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.*

Staff notes that this is not a residential development so this Principle is not applicable.

(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.*

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 an additional contractor's storage building 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 business commercial zoned business park. Proposed use would provide an additional contractor's storage building with associated parking, stormwater management facilities and landscaping.
.

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 conditions:

- Add the interior parking lot planting, one (1) tree per 10 spaces.

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 October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:

1. 2023.05.08 Conceptual Plans & Elevations, paper copy & PDF
2. 2023.05.08 Conceptual Plans & Floor Plans, paper copy & PDF
3. 2023-08-23 ESDR Determination Letter 8685 Commerce Drive, paper copy & PDF
4. 2023-08-23 SWM report, PDF
5. 2023-08-23 Tuckahoe Hardwoods FC App, paper copy & PDF
6. 2023-08-23 Tuckahoe Hardwoods Plan Set , paper copy & PDF
7. 2023-08-29 SketchSitePlanReviewPC(TuckahoeHardwood), paper copy & PDF
8. 2023-08-10 SketchSitePlanReviewPC(CommerceWTP), paper copy & PDF

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

RECEIVED
MAY 03 2023
TOWN OF EASTON

Site Plan, PUD, Planned Healthcare Application

Application Type

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

Subdivision Information

Name	EASTON BUSINESS CENTER - 8685 COMMERCE DR				
Original Property Size	Acres	1.001	Square Feet	43,603	
Telephone No.	410 310 3937	Email	jdente@tuckahoehardwoods.com		

Site Plan Information

Property Size	Acres	1.001	Square Feet	43,603
Structure's Floor Area	3920 SF		Structure's Square Feet	3920
Area of Disturbance	28,314 SF		Number of Dwelling Units	0

Property Information

Address	8685 COMMERCE DRIVE						
Tax Map	101	Grid	EA	Parcel	4	Lot	28
Deed Refernce:	Liber	2350	Folio	133			
Plat Reference:	Liber	44	Folio	8			
Base Zoning District	BC	Historic Y ☐ N ☒		Planned Redevelopment Y ☐ N ☒			
Source of Electricity	EASTON UTILITIES						

Owner

Name	8685 COMMERCE DR, LLC - JOHNNY DENT		
Mailing Address	8685 COMMERCE DR EASTON 21601		
Telephone No.	410 310 3937	Email	jdente@tuckahoehardwoods.com

Applicant or Agent

Name	FINK, WHITTEN & ASSOC, LLC - 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	BRANDON DAVIS	License No.	37235	Expiration Date	2024
Mailing Address	DMS + ASSOCIATES, LLC PO BOX 80 CENTREVILLE 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: Elizabeth Fink FWA

Date: 5-3-23

Printed Name of Applicant or Agent: Elizabeth Fink

For Office Use Only

Planning Commission Required		Y ☐ N ☐		
Planning Commission Meeting Date		09/11/2023		
Sketch Approval Date		Project No.	ESDR	2023-10
Prelim/Dev. Approval Date		Application No.		2023-937
Final Approval Date		Sketch Fee Paid		05/03/2023
Recordation Date		Develop. Fee Paid		

Revised 02-2019

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

Easton Staff Development Review Worksheet

Date: August 23, 2023
Project: 8685 Commerce Drive - Tuckahoe Hardwoods
To: Elizabeth Fink - Fink, Whitten & Associates, LLC.

The Easton Staff Development Review (ESDR) Committee meeting was held on August 23rd at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed warehouse building on the property located at 8685 Commerce Drive, also known as Tax Map 101, Parcel 004, Lot 28.

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 Quantity & Quality Stormwater Calculations and completing a Forest Conservation Application with a review fee.

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. Please address all comments and submit an updated application.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, August 28th. 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
PO Box 520
Easton, Maryland 21601
(410)-822-2526

DATE: **August 14, 2023**
TO: **Elizabeth Fink -** Fink, Whitten & Associates, LLC.
Brandon Davis - Davis, Moore, Shearon & Associates, 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: **8685 Commerce Drive - Tuckahoe Hardwoods**

We reviewed the **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan

1. The applicant is requesting a Supplemental Waiver Request from Chapter 28-1014.6.F.2.a of the Zoning Code, *Interior Parking Lot Plantings- 1 tree per 10 spaces to be planted within the interior of the parking lot.* Please submit a Supplemental Waiver Request Application for Planning Commission review/approval.

2. Please submit a Forest Conservation Application and review fee.

3. Verify the applicant's name listed on the approval block for Forest Conservation.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☐Approved	**The development of this site has already been mitigated for Forest Conservation under the Forest Conservation Plan, recorded on 8/11/2016. Trees within Forest Conservation were removed to comply with the Obstruction Removal Program to meet FAA requirements. Mitigation has been provided as a fee in lieu payment into the Forest Conservation Account. The new site plan will require Forest Conservation. The applicant proposes landscape improvements to be credited for afforestation. All credited landscaping will require a bond prior to Grading Permit Approval.**
Other	
☒Required ☐ Submitted ☐ Approved	**Applicant to provide FAA Determination of no hazard to air shall be required prior to site plan Approval. In addition, obtain SHA Access Agreement for SWM outfall.** **IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate impact fee use category for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23rd, 2023**
TO:	**Johnny Dent – Owner**
	Ebie Fink – Fink, Whitten
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller – EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Tuckahoe Hardwood – Sketch Site Plan Review Comments**

I have reviewed the revised application for the subject project received on 8/2/2023. I have the following comments:

1. Please provide verification of SHA authorization for the LOD and outfall shown on SHA ROW.
2. The space between the building and the SWM feature, and the SWM feature and the southern property line is tight. Please verify vehicular access for construction and maintenance of the feature.
3. Provide a Water Quality Summary Table (TOE-SWM-7.01) on the site plan and in the SWM report.. Provide ESD required and provided for each DA.
4. Provide a Water Quantity Summary Table (TOE-SWM-7.02) on the site plan and in the SWM report.

The **Sketch Plan** is **acceptable** to the Engineering Department, but the **Sketch Stormwater Management Plan needs to be revised to address quantity prior to proceeding to the Planning Commission.** Please 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

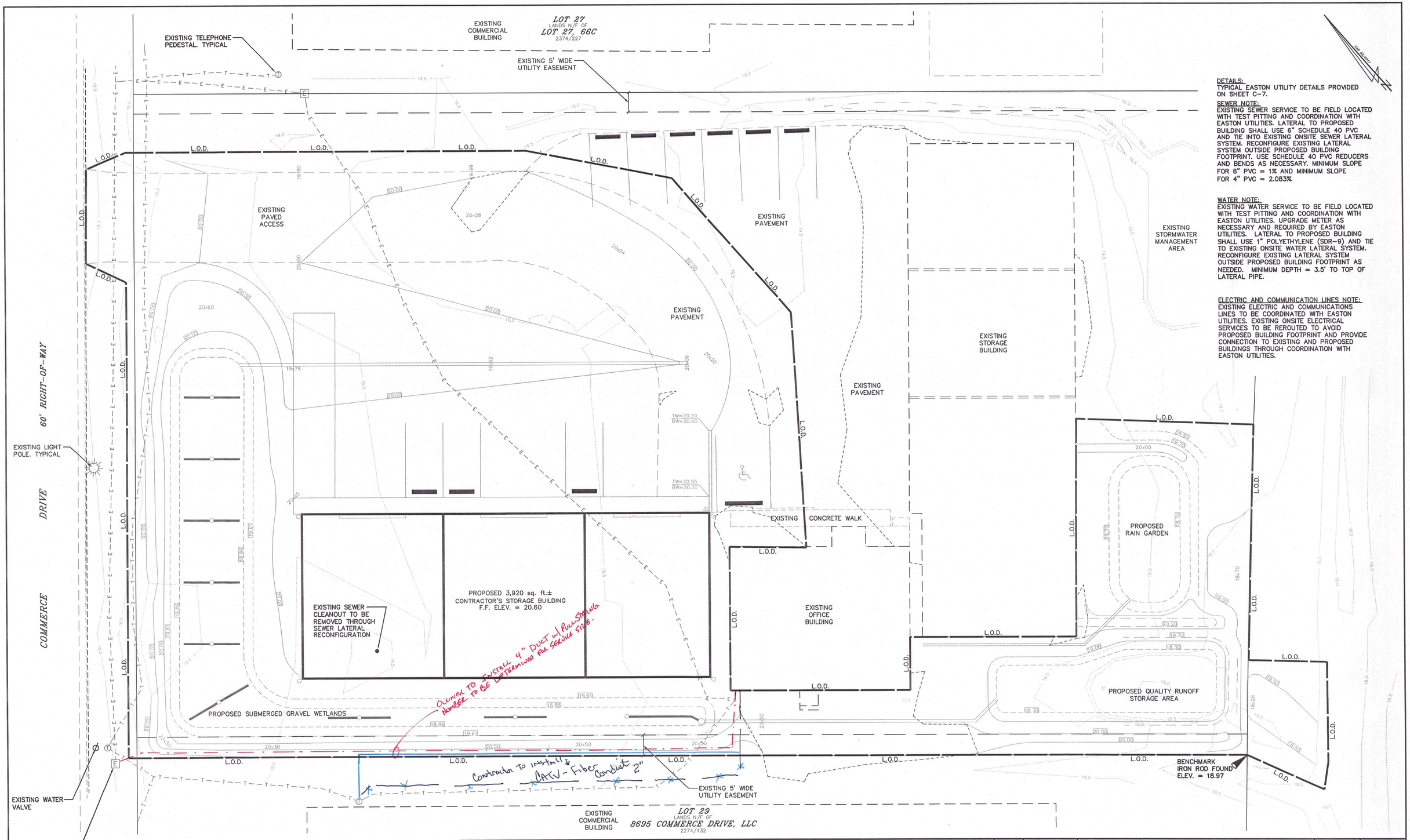
Plan Review Comments

Date:	Tuesday, August 15, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	No. of Pages:	1
Regarding:	8685 Commerce Drive - Tuckahoe Hardwoods		
Phase:	Sketch Site Plan	SUBM: 1	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	C-6	Please see electric comments
2	C-6	Install 2" conduit for service upgrade to office.
3	General	Water and sewer to be shown on next submission.

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



DETAILS:
TYPICAL EASTON UTILITY DETAILS PROVIDED ON SHEET C-7.

SEWER NOTE:
EXISTING SEWER SERVICE TO BE FIELD LOCATED WITH TEST PITTING AND COORDINATION WITH EASTON UTILITIES. LATERAL TO PROPOSED BUILDING SHALL USE 6" SCHEDULE 40 PVC AND TIE INTO EXISTING ONSITE SEWER LATERAL SYSTEM. RECONFIGURE EXISTING LATERAL SYSTEM OUTSIDE PROPOSED BUILDING FOOTPRINT. USE SCHEDULE 40 PVC REDUCERS AND BENDS AS NECESSARY. MINIMUM SLOPE FOR 6" PVC = 1% AND MINIMUM SLOPE FOR 4" PVC = 2.083%.

WATER NOTE:
EXISTING WATER SERVICE TO BE FIELD LOCATED WITH TEST PITTING AND COORDINATION WITH EASTON UTILITIES. UPGRADE METER AS NECESSARY AND REQUIRED BY EASTON UTILITIES. LATERAL TO PROPOSED BUILDING SHALL USE 1" POLYETHYLENE (SDR-9) AND TIE TO EXISTING ONSITE WATER LATERAL SYSTEM. RECONFIGURE EXISTING LATERAL SYSTEM OUTSIDE PROPOSED BUILDING FOOTPRINT AS NEEDED. MINIMUM DEPTH = 3.5' TO TOP OF LATERAL PIPE.

ELECTRIC AND COMMUNICATION LINES NOTE:
EXISTING ELECTRIC AND COMMUNICATIONS LINES TO BE COORDINATED WITH EASTON UTILITIES. EXISTING ONSITE ELECTRICAL SERVICES TO BE REROUTED TO AVOID PROPOSED BUILDING FOOTPRINT AND PROVIDE CONNECTION TO EXISTING AND PROPOSED BUILDINGS THROUGH COORDINATION WITH EASTON UTILITIES.

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

AUG. 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

UTILITY PLAN

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

ON LOT 28 IN THE

EASTON BUSINESS CENTER

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

TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 10'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD
SHEET No. – C-6	
CADD FILE – 20157C06	

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RECEIVED
MAY 05 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: 8685 COMMERCE DRIVE
Tax Map: 101 Grid: EA Parcel: 4 Lot: 28
Deed Refernce: Liber 2350 Folio 133
Plat Reference: Liber 44 Folio 8
Base Zoning District: BC Historic District Y ☐ N ☒ Planning Redevelopment Y ☐ N ☒
Purpose of Application / Description of Work:

Construction of 3,920 SF pole building to be used as contractors warehouse / storage, having (3) bays. Building will mimic existing pole building on site (height, color scheme etc). Additional pavement area proposed as well.

Owner

Name: 8685 COMMERCE DR, LLC % JOHNNY DENT
Mailing Address: 8685 COMMERCE DRIVE EASTON 21601
Telephone No.: 410 310 3937 Email: jdent@tuckahoehardwoods.com

Applicant / Agent

Name: FINK, WHITTEN & ASSOC, LLC - ELIZABETH FINK
Mailing Address: 113 E DOVER ST UNIT C EASTON 21601
Telephone No.: 410 822 8484 Email: efink@finkwhitten.com

Surveyor / Engineer

Name: BRANDON DAVIS License No. 37325 Expiration Date 2024
Mailing Address: c/o DMS + ASSOCIATES, LLC P.O. BOX 80 CENTREVILLE 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: [signature] FWA
Date: 5-3-23
Printed Name of Applicant or Agent: Elizabeth Fink

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 05/24/2023

ESDR: 2023-10
Application No.: 23-937

Completeness Check Date

Revisions/Resubmissions Required Y ☒ N ☐

Resubmission Date 08/02/2023

Documents Received Y ☒ N ☐

Staff Determination

Planning Commission Requir Y ☒ N ☐ **09/21/2023 Planning Commission**

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☒ N ☐

Staff Signature

Date

Revised 02-2019

SITE PLAN
FOR THE DEVELOPMENT OF
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, MARYLAND

SITE STATISTICS

CURRENT USE – COMMERCIAL/STORAGE/OFFICE
PROPOSED USE – COMMERCIAL/CONTRACTOR'S OFFICE AND WAREHOUSE (NO OUTSIDE STORAGE)

GROSS SITE AREA	=	1.001 ac.± (43,618 sq. ft.±)
CRITICAL AREA	=	0.000 ac.± (0,000 sq. ft.±)
AREA WITHIN FLOODPLAIN	=	0.000 ac.± (0,000 sq. ft.±)
COVERAGE BY BUILDINGS (PERMITTED) (50%)	=	0.501 ac.± (21,809 sq. ft.±)
COVERAGE BY BUILDINGS (EXISTING) (14.1%)	=	0.144 ac.± (6,264 sq. ft.±)
COVERAGE BY BUILDINGS (PROPOSED) (9.0%)	=	0.090 ac.± (3,920 sq. ft.±)
TOTAL COVERAGE BY BUILDINGS (23.3%)	=	0.234 ac.± (10,194 sq. ft.±)
IMPERVIOUS AREA (EXISTING)	=	0.355 ac.± (15,484 sq. ft.±)
IMPERVIOUS AREA (TO BE REMOVED)	=	0.005 ac.± (105 sq. ft.±)
IMPERVIOUS AREA (PROPOSED)	=	0.211 ac.± (9,188 sq. ft.±)
IMPERVIOUS AREA (TOTAL)	=	0.564 ac.± (24,567 sq. ft.±)

PARKING REQUIREMENTS

EXISTING:
5 SPACES PER APPROVED 2016 SITE PLAN
PROPOSED – CONSTRUCTION RELATED BUSINESS:
MINIMUM: 1 space/1000 sq. ft. GFA = 3,920 sq. ft. / 1 space/1000 sq. ft. = 3.92 or 4 SPACES
MAXIMUM: 1 space/200 sq. ft. GFA = 3,920 sq. ft. / 1 space/200 sq. ft. = 19.6 or 20 SPACES
TOTAL PROPOSED = 5 SPACES

PARKING SPACES (REQUIRED) = 5 EXISTING + 4 PROPOSED = 9 SPACES (1 ADA ACCESSIBLE)
PARKING SPACES (PROVIDED) = 10 SPACES (1 ADA ACCESSIBLE)

OFF-STREET LOADING REQUIREMENTS

PROPOSED: (SECTION 28-1002.1(28)(A):
1 space/10,000 sq. ft. floor area X 3,920 sq. ft. FLOOR AREA = 1 SPACES

LOADING SPACES (REQUIRED) = 1 SPACES
LOADING SPACES (PROVIDED) = 1 SPACES

REVIEWED FOR THE TALBOT SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS

APPROVED:

TALBOT SOIL CONSERVATION DISTRICT DISTRICT MANAGER _____ DATE _____

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, DENNIS DULEY, 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: _____

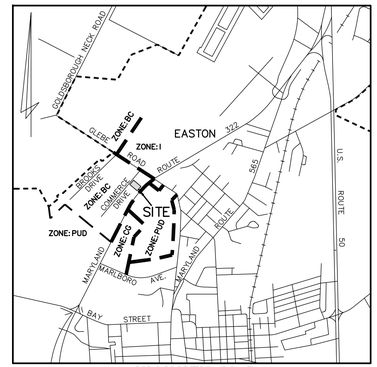
OWNERS ADDRESS: _____

OWNERS PHONE: _____

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.

SITE NOTES

1. PROPERTY LOCATED AT: 8685 COMMERCE DRIVE EASTON, MARYLAND 21601
2. PROPERTY LINE INFORMATION SHOWN HEREON IS TAKEN FROM A PLAT ENTITLED "FINAL PLAT, EASTON BUSINESS CENTER" PREPARED BY EVANS, HAGAN & HODEFER, INC. IN AUGUST, 1977. BEARINGS HAVE BEEN ROTATED TO MATCH HORIZONTAL DATUM NAD 83/2011. PLAT BOOK 44, PAGE 8..
3. FOR DEED REFERENCE, SEE LIBER M.A.S. 2350, FOLIO 133.
4. CURRENT ZONING CLASSIFICATION IS "BC" (BUSINESS COMMERCIAL DISTRICT)
5. THE PROPERTY IS NOT LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
6. SITE IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS SCALED FROM FLOOD INSURANCE RATE MAP COMMUNITY PANEL No. 24041C0187C. (ZONE "X") (UNSHADED) DATED AUGUST 5, 2013.
7. 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.
8. NO NATURAL RESOURCES (ie... WOODLANDS, NONTIDAL WETLANDS AND BUFFER, STREAM AND BUFFER, STEEP SLOPES, ENDANGERED SPECIES OR HABITATS) EXIST ON THE SITE.
9. EXISTING PUBLIC WATER WILL BE UTILIZED FOR POTABLE WATER SUPPLY.
10. EXISTING PUBLIC SEWER WILL BE UTILIZED FOR SEWAGE DISPOSAL. SUPPLY.
11. EXISTING SPOT ELEVATION AND CONTOURS SHOWN HEREON ARE THE RESULT OF A FIELD RUN SURVEY BY FINK, WHITTEN AND ASSOCIATES, LLC IN FEBRUARY, 2021. VERTICAL DATUM IS NAVD 88.
12. STORMWATER MANAGEMENT FOR THE SITE WILL BE ADDRESSED VIA THE IMPLEMENTATION OF ENVIRONMENTAL SITE DESIGN (ESD) TO THE MAXIMUM EXTENT PRACTICABLE (MEP).
13. ALL ONSITE LIGHTING SHALL BE TYPICAL BUILDING LIGHTING MIMICKING EXISTING BUILDINGS. NO PROPOSED POLE LIGHTS ARE PROPOSED AT THIS TIME.
14. SITE REQUIREMENTS:
    FRONT = 40'
    REAR = 30'
    SIDE = 10'
    MAXIMUM BUILDING HEIGHT:
    PRINCIPAL = 35' (ALLOWED)
    PRINCIPAL = <35' (EXISTING/PROPOSED)



VICINITY MAP
SCALE 1" = 2000'

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SHEET LS-1	–	LANDSCAPE & FOREST CONSERVATION PLAN

LEGEND

T	EXISTING TELEPHONE PEDESTAL		DEED POINT
T	EXISTING UNDERGROUND COMMUNICATION LINE		EDGE OF EXISTING TREES
	PROPOSED ACCESSIBLE PARKING SPACE	x 19.60	EXISTING SPOT ELEVATION
SS SS	EXISTING GRAVITY SEWER LINE	20x65	PROPOSED SPOT ELEVATION
S	EXISTING SEWER MANHOLE	19	EXISTING CONTOUR
W W	EXISTING WATER LINE	20	PROPOSED CONTOUR
	EXISTING WATER VALVE	E	EXISTING ELECTRIC TRANSFORMER
SF	PERIMETER SILT FENCE	E	EXISTING UNDERGROUND ELECTRIC LINE
L.O.D.	LIMITS OF DISTURBANCE		EXISTING LIGHT POLE

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. CONTRACTOR MUST PROVIDE MONUMENTED SURVEY MARKERS PER PUBLIC WORKS AGREEMENT.
14. THE DEVELOPER SHALL COORDINATE WITH THE TOWN OF EASTON TO SCHEDULE INSTALLATION OF ANY NECESSARY 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.
15. ALL PROPOSED SITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF EASTON AND EASTON UTILITIES CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR WATER, SEWER, AND STREETS ISSUES APRIL 12, 2011.
16. 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 SOUTHEAST SIDE OF COMMERCE DRIVE IN THE TOWN OF EASTON. THERE ARE CURRENTLY AN OFFICE BUILDING AND A CONTRACTORS STORAGE BUILDING LOCATED ON THE SITE. THE INTENT OF THIS SITE PLAN IS CONSTRUCT A NEW CONTRACTORS STORAGE BUILDING.

THE PURPOSE OF THIS SITE PLAN IS TO OBTAIN APPROVAL FROM THE TOWN OF EASTON FOR THE PROPOSED DEVELOPMENT.

OWNER/DEVELOPER:
8685 COMMERCE DRIVE, LLC
c/o JOHNNY DENT
8685 COMMERCE DRIVE
EASTON, MARYLAND 21632
PHONE No. 1-410-310-3937

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

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

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

STATE OF MARYLAND BRANDON A. DAVIS No. 37235 PROFESSIONAL ENGINEER

AUG. 28, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484 113 E. Dover St., Unit C Easton, Maryland 21601
410-228-8885 504 Maryland Avenue Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS
8/28/2023	PER 08/23 ESDR MTG

TITLE SHEET
FOR THE DEVELOPMENT OF A
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND
TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE AS SHOWN
JOB No. 2020157	DRAWN BY WJM
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CADD FILE – 20157C01	

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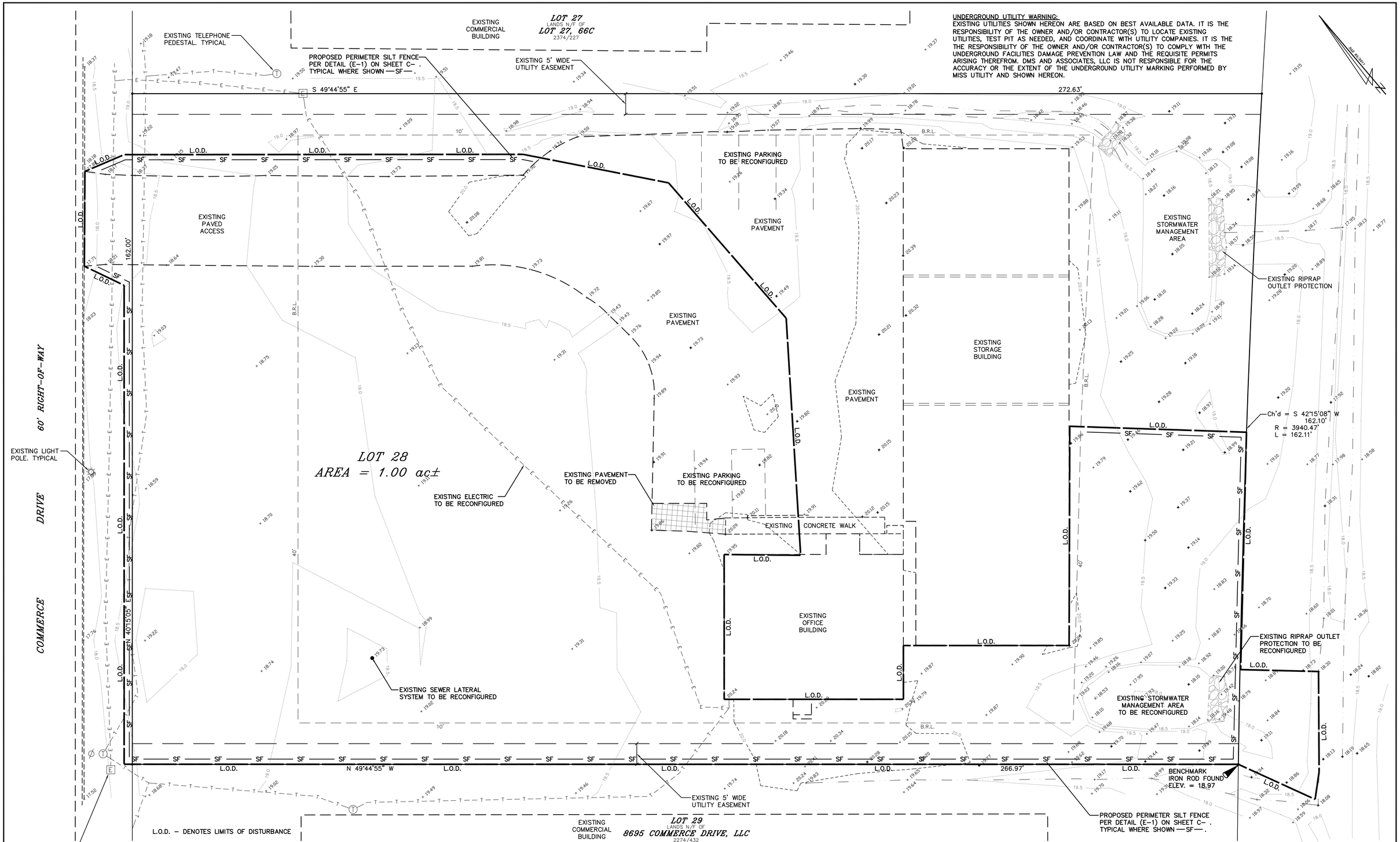

UNDERGROUND UTILITY WARNING:
EXISTING UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO LOCATE EXISTING UTILITIES, TEST PIT AS NEEDED, AND COORDINATE WITH UTILITY COMPANIES. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS AND ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

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.

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235
EXPIRATION DATE: 2024

STATE OF MARYLAND
BRANDON A. MULLIN
No. 37235
PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN
FOR THE DEVELOPMENT OF A
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND
TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 10'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD
SHEET No. – C-2	
CADD FILE – 20157C02	

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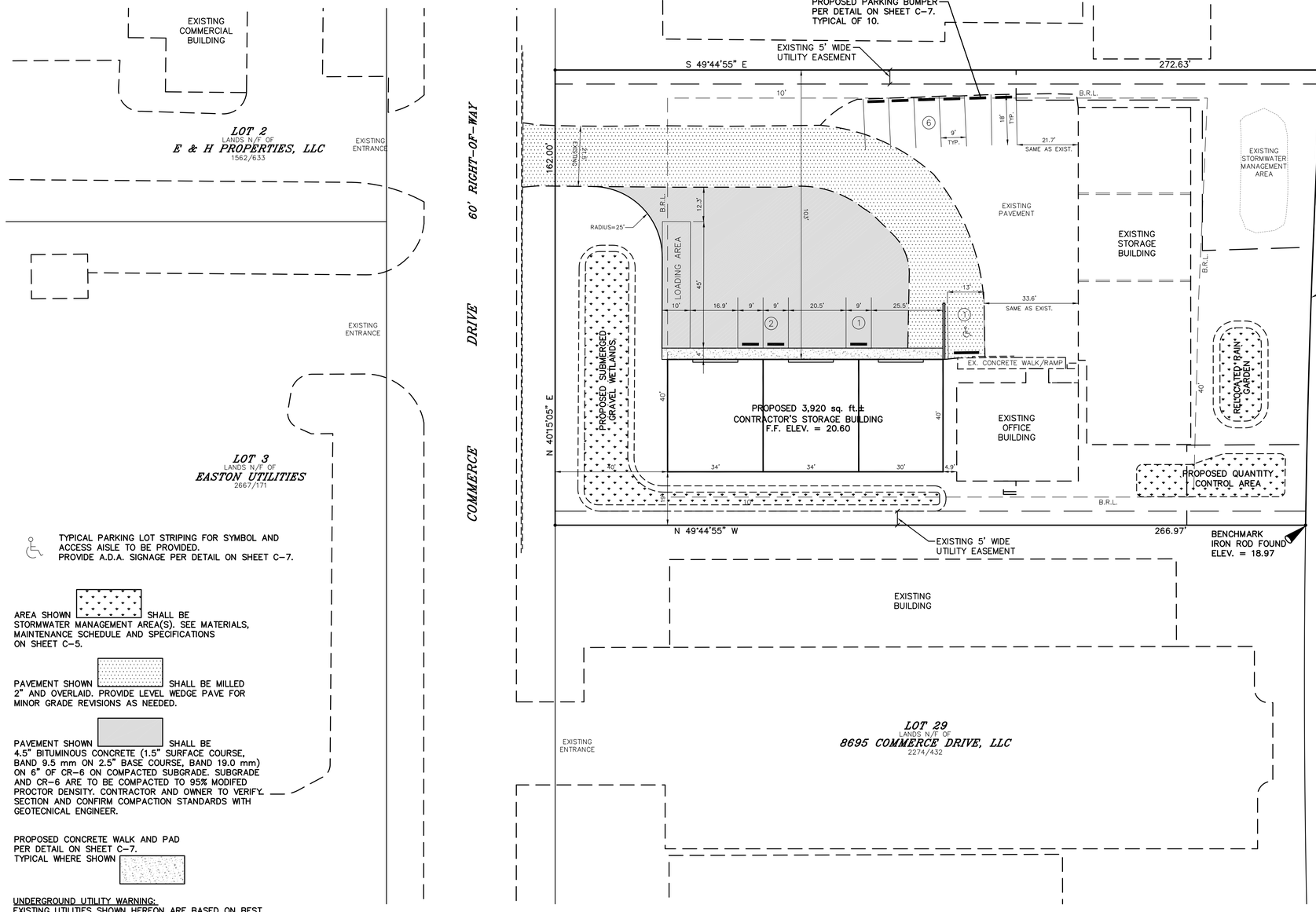
IMPACT STATEMENT(S)

PER 28-1007.3.A.3.(i)(1-5) FOR INDUSTRIAL PARK
PROJECT IS PROPOSED WITHIN AN EXISTING INDUSTRIAL PARK AND NOT THE CREATION OF A NEW INDUSTRIAL PARK. THE USE MIMICS THAT WHICH IS ALREADY LOCATED ON THE PROPERTY AND ONE THAT IS COMMON THROUGHOUT THE PARK.
ITEM #1:
THE PROPOSED ARCHITECTURE WILL MATCH THE EXISTING WAREHOUSE BUILDING ONSITE AND WILL FIT IN WITH THE NATURE AND THE VARIETY OF STRUCTURES WITHIN THE BUSINESS PARK. THE ARCHITECTURE OF THE NEW BUILDING WILL NOT HAVE NO ADVERSE IMPACTS.
ITEM #2:
HOURS OF OPERATION ARE ANTICIPATED TO MIMIC THOSE CURRENTLY UTILIZED BUT THE EXISTING OFFICE AND WAREHOUSE ONSITE AND THEREFORE WILL NOT CREATE AN ADVERSE IMPACT.
ITEM #3
THE PROPOSED USE IS NOT ANTICIPATED TO CREATE NEW NOXIOUS AND OR OFFENSIVE ODORS.
ITEM #4
THE PROPOSED USE IS NOT ANTICIPATED TO CREATE POLLUTION, WATER QUALITY OR NOISE ISSUES AS THE USE IS TYPICAL FOR THE BUSINESS PARK. STORMWATER MANAGMEENT WILL ADDRESS WATER QUALITY REQUIREMENTS.
ITEM #5
THE TYPE OF TRAFFIC FOR THE PROPOSED USE IS ANTICIPATED TO MIMIC THAT WHICH CURRENTLY VISITS THE SITE WITH SO SUBSTANTIAL FREQUENCY TO CAUSE ADVERSE IMPACTS TO THE AREA.

PER 28-1007.3.A.6.(a) FOR INDUSTRY, LIGHT
PROJECT IS PROPOSED WITHIN AN EXISTING INDUSTRIAL PARK AND THE USE IS ON WHICH ALREADY EXISTS ON THE PROPERTY AND ONE THAT IS COMMON THROUGHOUT THE PARK. THE NATURE OF THE PROPOSED USE IS CONTRACTORS WAREHOUSE AND IS NOT EXPECTED TO HAVE ADVERSE IMPACTS ON THE SURROUNDING AREA GIVEN ITS A USE ALREADY ON THE SITE AND ONE COMMON IN THE AREA. TRAFFIC VISITING THE SITE WILL MIMIC THE EXISTING CONDITIONS ON THE PROPERTY WITH FREQUENCY AND VEHICLE TYPE, AND THEREFORE ARE NOT EXPECTED TO CREATE ADVERSE IMPACTS. THE PROPOSED PAVE AREA IN FRONT OF THE NEW BUILDING WILL ENHANCE MANEUVERABILITY OF VEHICLES FOR THE PROPERTY.



TYPICAL PARKING LOT STRIPING FOR SYMBOL AND ACCESS AISLE TO BE PROVIDED. PROVIDE A.D.A. SIGNAGE PER DETAIL ON SHEET C-7.

AREA SHOWN SHALL BE STORMWATER MANAGEMENT AREA(S). SEE MATERIALS, MAINTENANCE SCHEDULE AND SPECIFICATIONS ON SHEET C-5.

PAVEMENT SHOWN SHALL BE MILLED 2" AND OVERLAID. PROVIDE LEVEL WEDGE PAVE FOR MINOR GRADE REVISIONS AS NEEDED.

PAVEMENT SHOWN SHALL BE 4.5" BITUMINOUS CONCRETE (1.5" SURFACE COURSE, BAND 9.5 mm ON 2.5" BASE COURSE, BAND 19.0 mm) ON 6" OF CR-6 ON COMPACTED SUBGRADE. SUBGRADE AND CR-6 ARE TO BE COMPACTED TO 95% MODIFED PROCTOR DENSITY. CONTRACTOR AND OWNER TO VERIFY SECTION AND CONFIRM COMPACTION STANDARDS WITH GEOTECNICAL ENGINEER.

PROPOSED CONCRETE WALK AND PAD PER DETAIL ON SHEET C-7. TYPICAL WHERE SHOWN

UNDERGROUND UTILITY WARNING:
EXISTING UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO LOCATE EXISTING UTILITIES, TEST PIT AS NEEDED, AND COORDINATE WITH UTILITY COMPANIES. IT IS THE THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS AND ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

STORAGE:
THERE SHALL BE NO OPEN STORAGE ON ANY OPEN SPACES. ALL OUTSIDE STORAGE SHALL BE ADEQUATELY SCREEN AND LANDSCAPED IN ACCORDANCE WITH PROVISIONS OF SECTION 1015 OF THE CODE FOR THE TOWN OF EASTON

LIGHTING:
PROPOSED LIGHTING SHALL CONSIST OF TYPICAL BUILDING LIGHTING.

SIGNAGE:
THERE IS NO PROPOSED SIGNAGE WITH THIS SITE PLAN.

DESIGN PRINCIPLES

PRINCIPLE #1:
INTEGRATED USES ARE DESIRABLE AS THIS DEVELOPMENT IS LOCATED WITHIN A INDUSTRIAL ZONED DISTRICT. ALTHOUGH THE SITE IS NOT DEVELOPED, THE PROPOSED CONTRACTORS STORAGE BUILDING IS COMPATIBLE WITH THE SURROUNDING USES.

PRINCIPLE #2
NATURAL FEATURES SHOULD DETERMINE DESIGN. THIS ELEMENT REFERS TO THE PLANNING OF THE SITE BASED ON THE ENVIRONMENTAL RESOURCES PRESENT. THIS IS NOT A DETERMINING FACTOR IN THE DESIGN OF THE NEW BUILDING AS THERE ARE NO NATURAL RESOURCES IN THE AREA.

PRINCIPLE #3
AUTOMOBILES SHOULD NOT DETERMINE THE DESIGN. PER THE ZONING CODE AND PAST PARKING REDUCTION APPROVALS, AND WITH THE USE OF THE SITE, PARKING AND LOADING ARE REQUIRED, ALL OF WHICH HAVE BEEN SATISFIED FOR THE EXISTING AND PROPOSED USE. THE LAYOUT IS COMPATIBLE WITH BUSINESSES IN THE AREA.

PRINCIPLE #4
AMPLE OPEN SPACES SHOULD BE PROVIDED WITHIN AND AROUND NEIGHBORHOODS. THE SITE AND SURROUNDING AREA IS LOCATED WITHIN A INDUSTRIAL AND COMMERCIALIZED AREA AND IS NOT LOCATED NEAR NEIGHBORHOODS. THIS IS NOT APPLICABLE.

PRINCIPLE #5
ARCHITECTURE SHOULD RESPECT EASTON'S HISTORICAL DEVELOPMENT: THE PROPOSED BUILDING IS A CONTRACTOR'S STORAGE BUILDING AND ARCHITECTURE WILL MIMIC EXISTING BUILDINGS ONSITE AND COINCIDE WITH THE SURROUNDING INDUSTRIAL/BUSINESS PARK. THIS IS NOT A PARTICULARLY RELEVANT TO OUR REQUEST.

PRINCIPLE #6
SIGNS SHOULD INFORM BUT NOT DOMINATE. AT THIS TIME THERE IS NO ADDITIONAL SIGNAGE PROPOSED.

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.

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37230 EXPIRATION DATE: 2024

STATE OF MARYLAND BRADON A. DUTT REG. No. 37230 PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

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504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

SITE PLAN
FOR THE DEVELOPMENT OF A
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND
TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 20'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD
SHEET No. – C-3	
CADD FILE – 20157C03	

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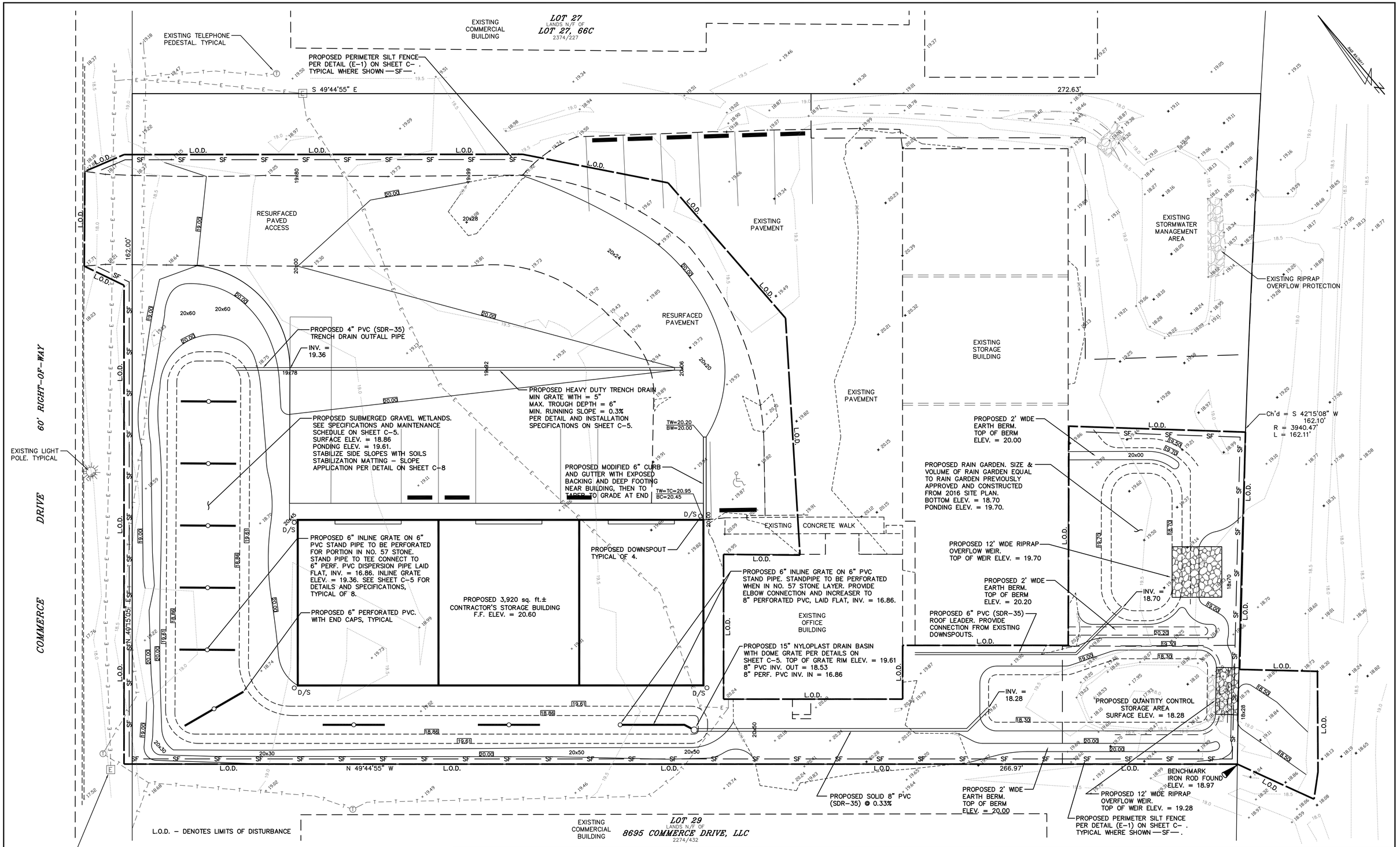

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NOTE:
SEDIMENT AND EROSION CONTROL WILL BE STRICTLY ENFORCED

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.

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

STATE OF MARYLAND BRIAN A. DAVIS No. 37235 PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

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504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

STORMWATER MANAGEMENT AND SEDIMENT & EROSION CONTROL PLAN

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

ON LOT 28 IN THE

EASTON BUSINESS CENTER

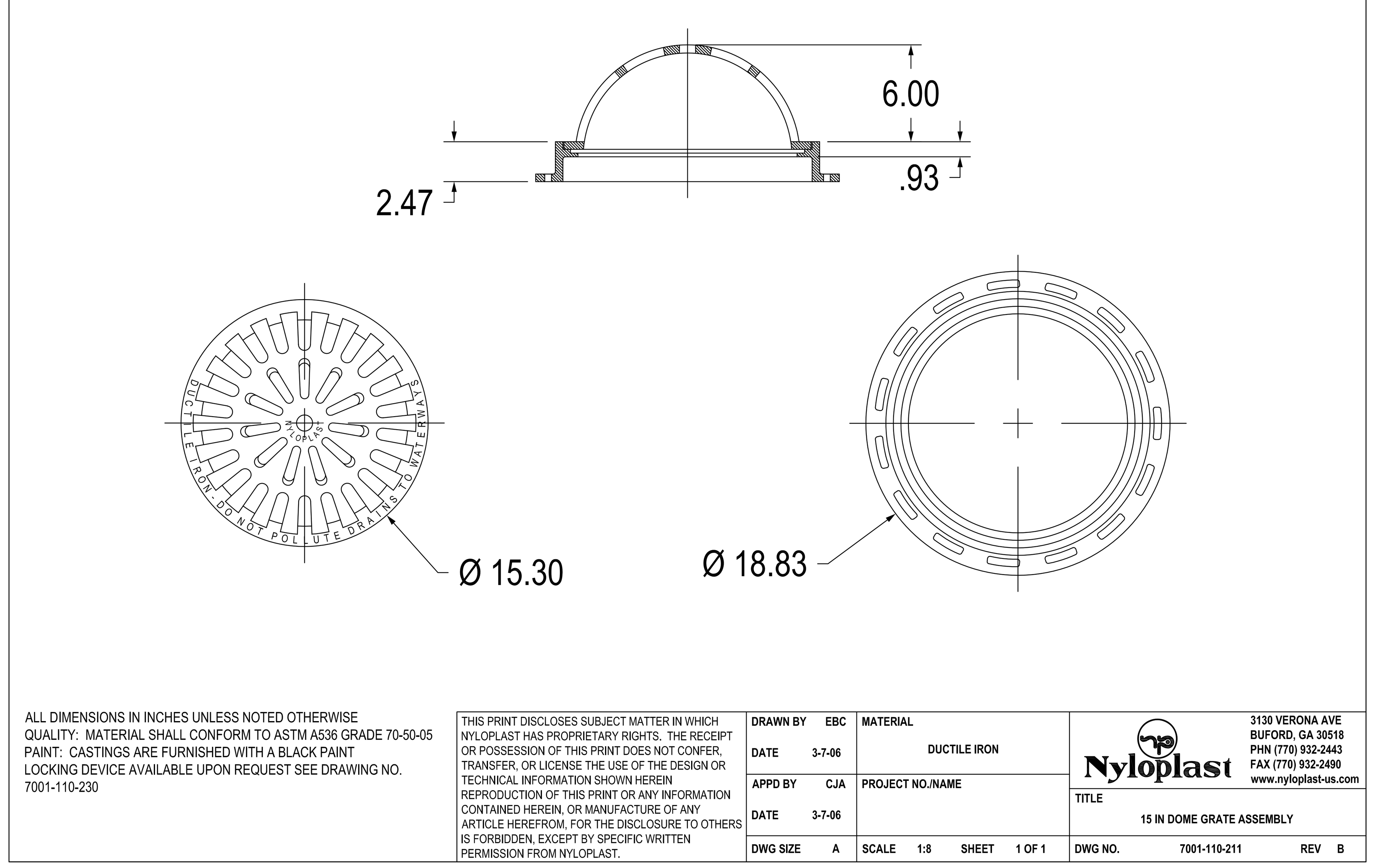
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND

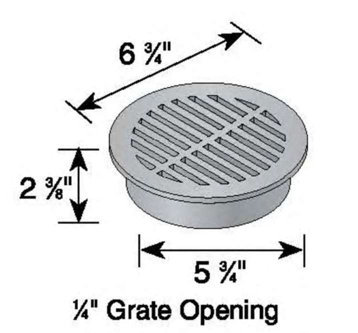
TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 10'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD
SHEET No. – C-4	
CADD FILE – 20157C04	

STORMWATER MANAGEMENT SYSTEM SCHEDULE

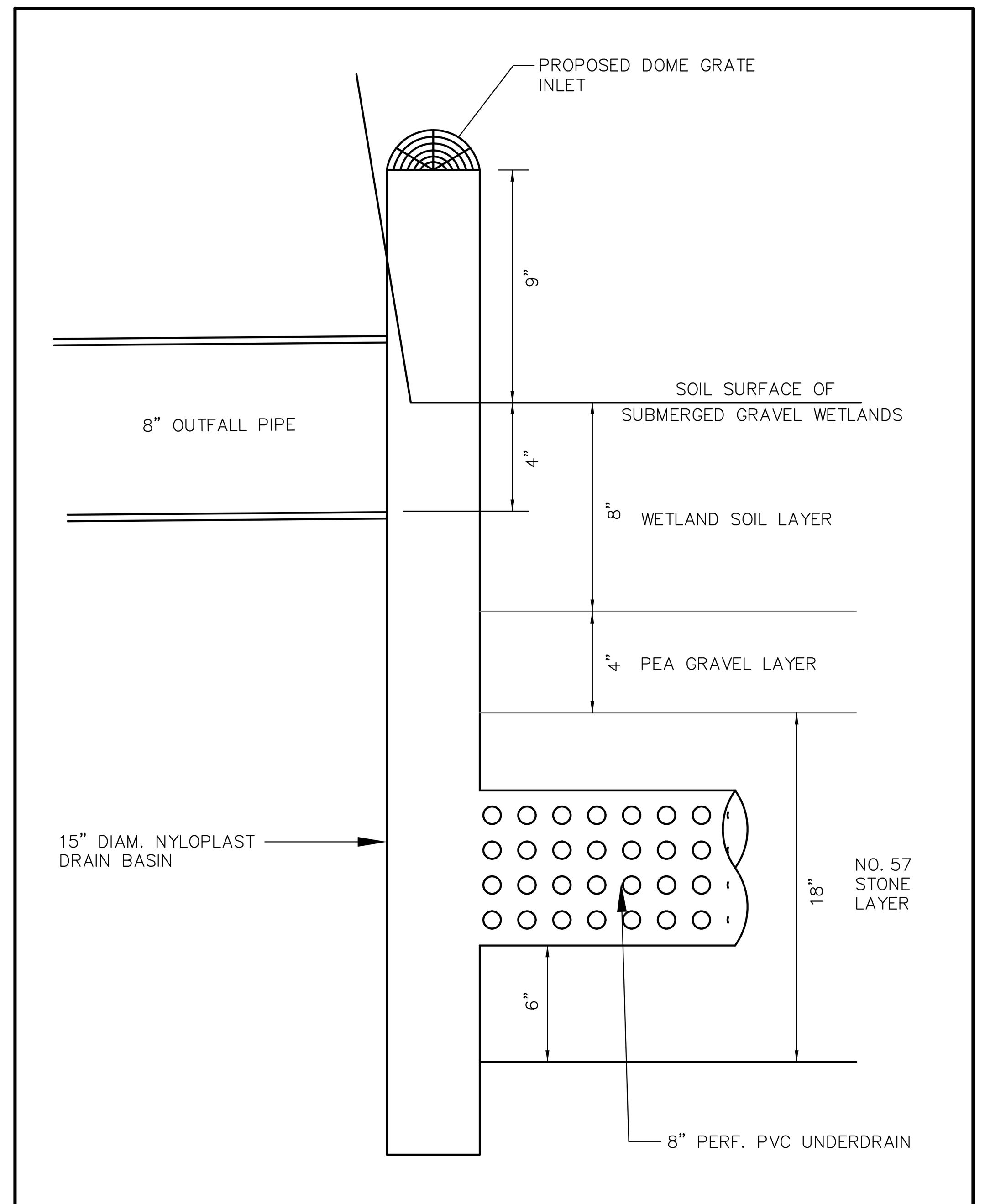
SYSTEM NUMBER	SURFACE ELEVATION	TOP WALL	PERFORATED PIPE SIZE	PIPE INVERT	TEMP. STORAGE DEPTH	FILTER THICKNESS W/ MULCH	PEA GRAVEL THICKNESS	# 57 STONE THICKNESS
BIO #1–A	13.75	N/A	6"	11.75	6"	15"	3"	12"
BIO #1–B	13.75	N/A	6"	11.75	6"	15"	3"	12"
BIO #2	13.75	N/A	6"	11.75	6"	15"	3"	12"
BIO #3–A	13.70	N/A	6"	11.71	6"	15"	3"	12"





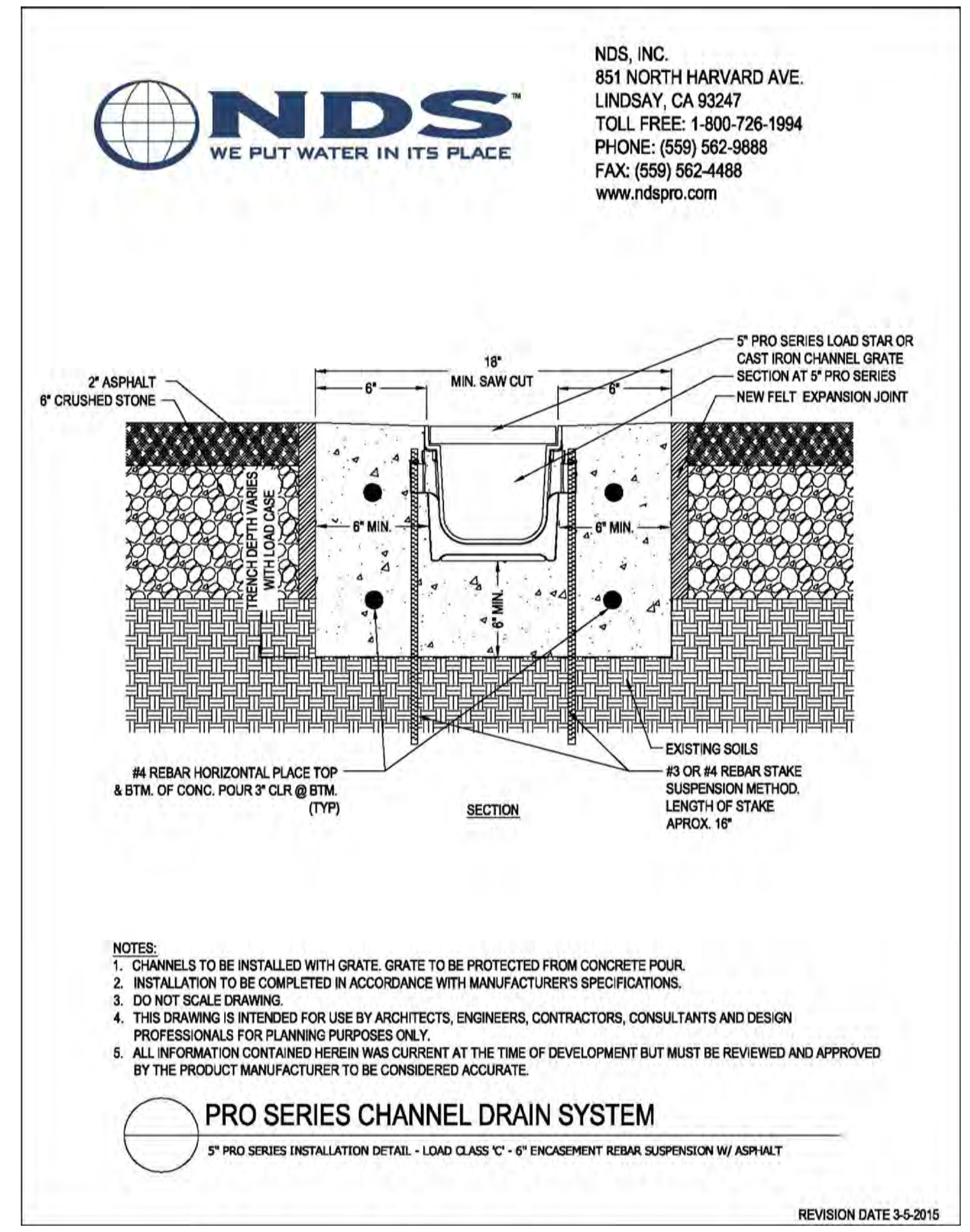
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. lbs.	Product Class	Specifications
40	6" Round Grate	Black	10	0.49	10ND	6" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 9.10 square inches. 27.84 GPM.
50	6" Round Grate	Green	10	0.49	10ND	
60	6" Round Grate	Gray	10	0.49	10ND	
60S	6" Round Grate	Sand	10	0.49	10ND	
	Fits Spee-D® Basin, 6" Sewer and Drain Pipe & Fittings and 6" Corrugated Pipe. (see page 74). ADA Compliant/Heel-proof.					

6" INLINE GRATE (OR EQUIVALENT)



SUBMERGED GRAVEL WETLANDS OUTFALL STRUCTURE SCHEMATIC

NOT TO SCALE



HEAVY DUTY TRENCH DRAIN (OR EQUIVALENT)

MAINTENANCE SCHEDULE

THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR ONGOING MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES.

SUBMERGED GRAVEL WETLANDS:
THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG–TERM PERFORMANCE OF SUBMERGED GRAVEL WETLANDS:

- DURING THE FIRST YEAR OF OPERATION, INSPECTIONS SHOULD BE CONDUCTED AFTER MAJOR STORMS FOR PONDING AND POORLY ESTABLISHED AREAS VEGETATION. SURFACE SOIL SHOULD BE LEVELED TO CORRECT PONDING AND VEGETATION REPLANTED.
- SEDIMENT ACCUMULATION/DEBRIS IN THE WETLAND CELL SHOULD BE CHECKED QUARTERLY. REMOVE DEBRIS/SEDIMENT AS NECESSARY.
- SIGNS OF UNEVEN FLOW DISTRIBUTION WITHIN THE WETLAND MAY MEAN THAT THE GRAVEL OR UNDERDRAIN IS CLOGGED. THE GRAVEL AND/OR UNDERDRAIN MAY NEED TO BE REMOVED, CLEANED, AND REPLACED. DURING HEAVY RAINFALL, WATER WILL SURGE OUT OF THE DRAIN BASIN WITHIN THE SYSTEM BEFORE DRAINING OUT.
- A DENSE STAND OF WETLAND VEGETATION SHOULD BE MAINTAINED THROUGH THE LIFE OF THE FACILITY WITH PLANTINGS REPLACED AS NEEDED.
- INLETS AND OUTLETS TO SUBMERGED GRAVEL WETLAND CELL SHOULD BE FREE FROM DEBRIS TO PREVENT CLOGGING.
- EROSION AT INFLOW POINTS SHOULD BE REPAIRED AS NEEDED.

BMP MATERIAL SPECIFICATIONS FOR SUBMERGED GRAVEL WETLANDS

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLAN	SEE PLAN	PLANTINGS ARE SITE–SPECIFIC – SEE LANDSCAPE PLAN FOR PLANT SPECIES
WETLAND MEDIA	LOAMY SAND COMPOST SANDY LOAM, COARSE SAND & COMPOST	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5% ORGANIC MATER CONTENT SHALL BE GREATER THAN 15% HYDRAULIC CONDUCTIVITY SHALL BE BETWEEN 0.01 AND 0.10 ft/day
PEA GRAVEL DIAPHRAGM	PEA GRAVEL; ASTM–D–448	No. 8 or No. 9 (1/8" to 3/8")	
UNDERDRAIN STONE	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	6" RIGID PVC (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

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	SUBMERGED GRAVEL WETLANDS (M-2)	SGW #1	ON	92	124,786	479,992	0.5135	0.3184	0.0439	1.8	1.80	2040	2042
2	RAIN GARDEN (M-7)	RG #1*	ON	93	124,834	479,943	0.1128	0.0801	0.0094	1.8	2.15	508	608

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

* RAIN GARDEN IS EXISTING ESD DEVICE FROM A PRIOR SITE PLAN THAT IS TO BE RELOCATED WITH THE SAME SIZE CONTRIBUTING DRAINAGE AREA

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.
DA #1, COMMERCE DRIVE	0.0656	0.0366	90	6 (MIN.)	1.25**	N/A***	N/A***	2.14**	N/A***	N/A***	3.89**	N/A***	N/A***
DA #2, BYPASS SIDE	0.4616	0.2795	91	10.02**	0.60**	0.49^	N/A^^	1.08^^^	0.79^^^	19.40^^^	2.01^^^	1.18^^^	20.49^^^

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

* VALUES DO NOT CONSIDER REDCUDED CURVE NUMBER COMPUTATIONS
** VALUES ARE FROM TR-55
*** DRAINAGE AREA TO OUTFALL SUBSTANTIALLY REDUCED RESULTING IN NEGLIGIBLE FLOWS. FLOODING ISSUES ARE KNOWN TO EXIST, THEREFORE FLOW DECREASED IN THAT DIRECTION
^ VALUES ARE FROM TR-55 AND CONSIDER REDUCED CURVE NUMBER COMPUTATIONS
^^ NOT APPLICABLE BECAUSE FLOW WAS REDUCED VIA REDUCED CURVE NUMBER PROVIDED BY ESD TO THE MEP
^^^ VALUES ARE FROM TR-20, CONSIDER REDUCED CURVE NUMBER CONTRIBUTION PROVIDED BY ESD TO THE MEP AND BY THE PROVIDED QUANTITIY CONTROL STORAGE AREA

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

PROFESSIONAL CERTIFICATION:
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STATE OF MARYLAND – BRANDON A. DAVIS – No. 37235 – PROFESSIONAL ENGINEER

AUG. 28, 2023
DATE SEAL

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504 Maryland Avenue
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DATE	REVISION
8/2/2023	PER 05–2023 ESDR COMMENTS
8/28/2023	PER 08–23 ESDR MTG

STORMWATER MANAGEMENT DETAILS AND SPECIFICATIONS

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

ON LOT 28 IN THE

EASTON BUSINESS CENTER

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

TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE AS SHOWN
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101–2020157	DESIGNED BY BD
SHEET No. – C–5	
CADD FILE – 20157C05	

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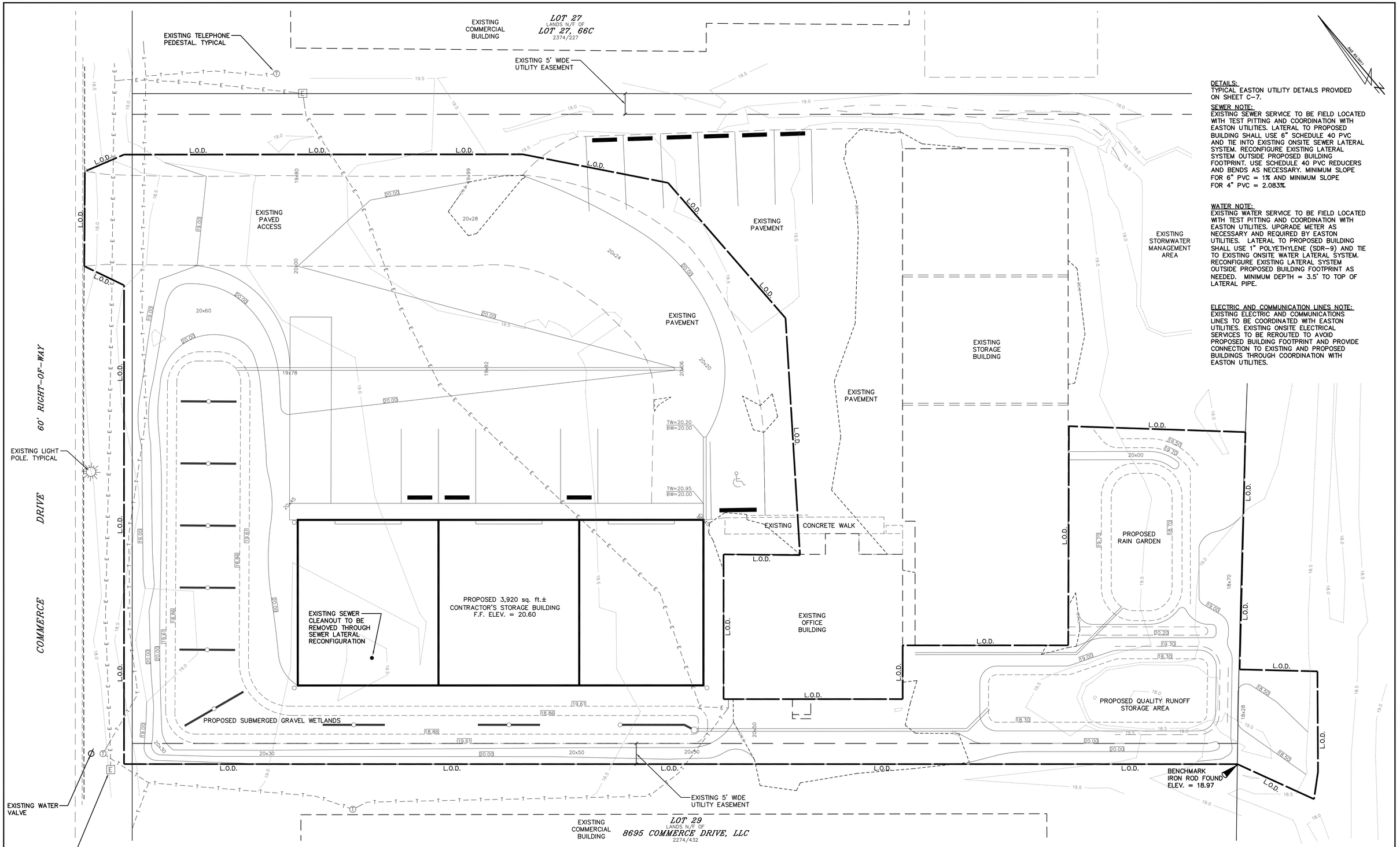

DETAILS:
TYPICAL EASTON UTILITY DETAILS PROVIDED ON SHEET C-7.

SEWER NOTE:
EXISTING SEWER SERVICE TO BE FIELD LOCATED WITH TEST PITTING AND COORDINATION WITH EASTON UTILITIES. LATERAL TO PROPOSED BUILDING SHALL USE 6" SCHEDULE 40 PVC AND TIE INTO EXISTING ONSITE SEWER LATERAL SYSTEM. RECONFIGURE EXISTING LATERAL SYSTEM OUTSIDE PROPOSED BUILDING FOOTPRINT. USE SCHEDULE 40 PVC REDUCERS AND BENDS AS NECESSARY. MINIMUM SLOPE FOR 6" PVC = 1% AND MINIMUM SLOPE FOR 4" PVC = 2.083%.

WATER NOTE:
EXISTING WATER SERVICE TO BE FIELD LOCATED WITH TEST PITTING AND COORDINATION WITH EASTON UTILITIES. UPGRADE METER AS NECESSARY AND REQUIRED BY EASTON UTILITIES. LATERAL TO PROPOSED BUILDING SHALL USE 1" POLYETHYLENE (SDR-9) AND TIE TO EXISTING ONSITE WATER LATERAL SYSTEM. RECONFIGURE EXISTING LATERAL SYSTEM OUTSIDE PROPOSED BUILDING FOOTPRINT AS NEEDED. MINIMUM DEPTH = 3.5' TO TOP OF LATERAL PIPE.

ELECTRIC AND COMMUNICATION LINES NOTE:
EXISTING ELECTRIC AND COMMUNICATIONS LINES TO BE COORDINATED WITH EASTON UTILITIES. EXISTING ONSITE ELECTRICAL SERVICES TO BE REROUTED TO AVOID PROPOSED BUILDING FOOTPRINT AND PROVIDE CONNECTION TO EXISTING AND PROPOSED BUILDINGS THROUGH COORDINATION WITH EASTON UTILITIES.

L.O.D. – DENOTES LIMITS OF DISTURBANCE

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TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

STATE OF MARYLAND · BRIAN A. DAVIS · No. 37235 · PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

UTILITY PLAN

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

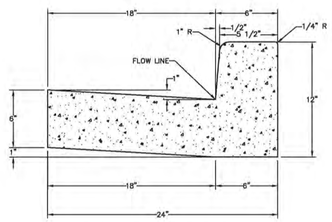
ON LOT 28 IN THE

EASTON BUSINESS CENTER

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

TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 10'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD
SHEET No. – C-6	
CADD FILE – 20157C06	

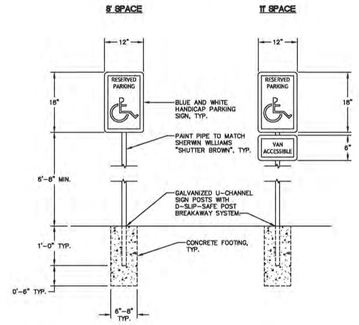


NOTES:

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

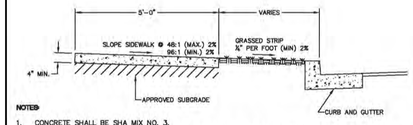
SIGN DETAILS FOR HANDICAP PARKING SPACES



NOTES:

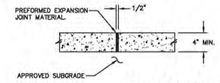
1. H/C PARKING SIGNS (US DOT STANDARD R7-8).

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



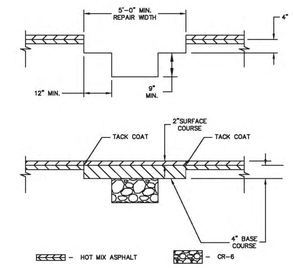
NOTES:

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



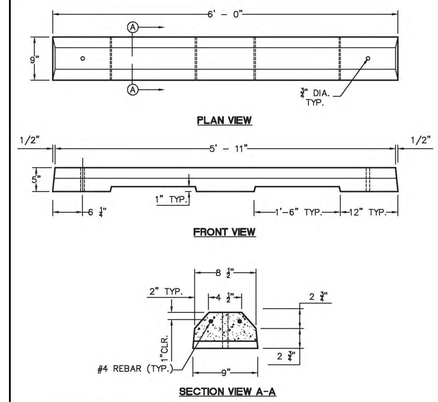
NOTES:

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 AREA 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.

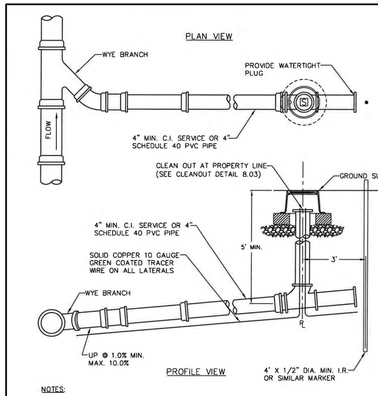
APPROVAL		
TOWN ENGINEER DATE 1/2020		TOWN OF EASTON STANDARD DETAILS PERMANENT ASPHALT PAVEMENT REPAIR FOR UTILITY TRENCHES
ISSUED: JANUARY 2020		STANDARD NO.: TOE-R-5.01-3

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.



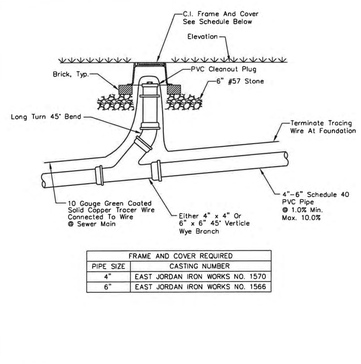
APPROVAL		
TOWN ENGINEER DATE 1/2020		TOWN OF EASTON STANDARD DETAILS 6' PRECAST CONCRETE WHEEL STOP
ISSUED: JANUARY 2020		STANDARD NO.: TOE-SI-5.01



NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING JAN 15, 2019 DATE	MAY 1, 89 AUG 1, 94 MAR 9, 95 FEB 1, 02 JAN 15, 19	EASTON UTILITIES STANDARD DETAILS SEWER COLLECTION SYSTEM SEWER HOUSE SERVICE
ISSUED: MAY 1, 1986		STANDARD NO. SS-8.00

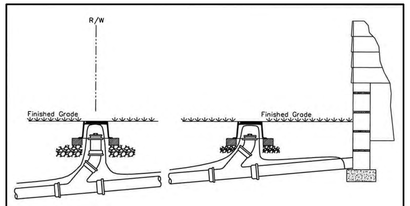


FRAME AND COVER REQUIRED	
PIPE SIZE	CASTING NUMBER
4"	EAST JORDAN IRON WORKS NO. 1570
6"	EAST JORDAN IRON WORKS NO. 1566

NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

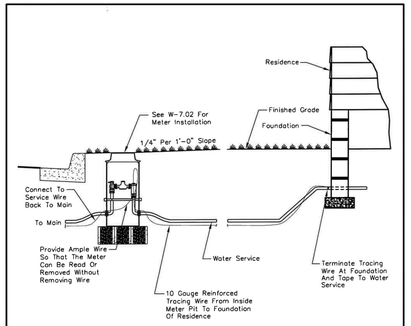
APPROVAL	REVISED	
EU MANAGER OF ENGINEERING JAN 15, 19 DATE		EASTON UTILITIES STANDARD DETAILS GRAVITY SEWER CLEANOUTS
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.03



NOTES:

1. SEE CLEANOUT DETAIL SS-8.03 FOR SPECIFICS ON ITS INSTALLATION.
2. TRACER WIRE TO BE 10 GAUGE, GREEN COATED, SOLID COPPER WIRE.
3. TRACER WIRE TO BE TAPED TO SERVICE LINE IMMEDIATELY ADJACENT TO FOUNDATION.
4. PLACE CLEANOUT IMMEDIATELY ADJACENT TO HOUSE, 3' TO 5' FROM FOUNDATION.
5. SECOND CLEANOUT AT PROPERTY LINE.
6. NO SPLICES ON TRACER WIRE; TAPED MECHANICAL CONNECTORS ONLY INSIDE CLEANOUT FRAME AND COVER.
7. PROVIDE 12" OF SLACK WIRE INSIDE OF CLEANOUT FRAME AND COVER.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING JAN 15, 19 DATE		EASTON UTILITIES STANDARD DETAILS SEWER SERVICE TRACER WIRE
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.04



Notes:

1. 10 Gauge Solid Copper Tracer Wire; Blue Jacket.
2. Thoroughly Tape Mechanical Connections With Electrical Tape.
3. Installation Of Water Service Into Foundation Per Town Of Easton Standards.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 8/16/19	JUN 23, 97 MAR 1, 98 MAR 1, 07 SEP 1, 09 SEP 15,14	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS WATER SERVICE CONNECTION
ISSUED: JUNE 5, 1997	AUG 6, 19	STANDARD NO. W-7.04

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

STATE OF MARYLAND · BRADLEY A. DAVIS · No. 37235 · PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
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410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05-2023 ESDR COMMENTS

SITE AND UTILITY DETAILS

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

ON LOT 28 IN THE

EASTON BUSINESS CENTER

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

TAX MAP – 101, GRID – 2, PARCEL – 4

DATE	SCALE
APRIL '23	AS SHOWN
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101-2020157	DESIGNED BY BD

SHEET No. – C-7

CADD FILE – 20157C07

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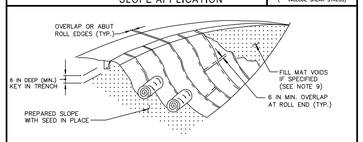
DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

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



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

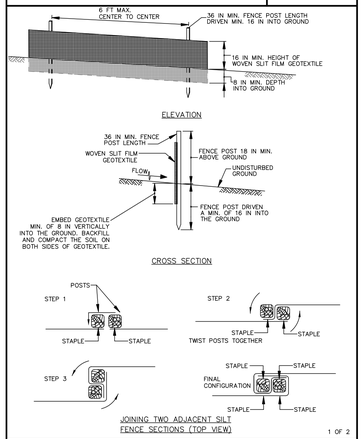
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN 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 SOUND, STRAIGHT 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 E-1 SILT FENCE

STANDARD SYMBOL
——SF——

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1½ X 1½ ± ¼ 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

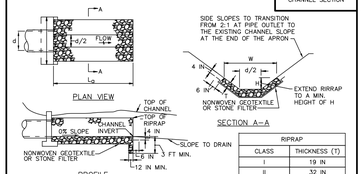
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

2 OF 2

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 (⅞ 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

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	1.001 Acres
Area Disturbed	0.65 Acres
Area to be Roofed or Paved	0.34 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, TOWN ENGINEER AT 1–410–820–8822, AND EASTON UTILITIES AT 1–410–822–6110 A MINIMUM OF TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRECONSTRUCTION MEETING.
2. INSTALL PERIMETER SILT FENCE AT LOCATIONS SHOWN. MAINTAIN THROUGHOUT THE LIFE OF THE PROJECT. POWER BRUSH AND SEDIMENT TRACKED ON TO ROADWAY FOR DURATION OF PROJECT.
3. CLEAR AND GRUB WITHIN THE LIMITS OF DISTURBANCE. DISPOSE OF ANY REMNANT ROOTMAT AND DEBRIS OFF SITE AT AN APPROVED LANDFILL LOCATION.
4. STRIP TOPSOIL FROM THE LIMITS OF DISTURBANCE AND DISPOSE OF OFF SITE AT AN APPROVED LANDFILL LOCATION. MAINTAIN ALL PERIMETER CONTROLS.
5. PERFORM UTILITY LOCATE REQUESTS AND TEST PIT FOR EXISTING UTILITIES AS NECESSARY THROUGH COORDINATION WITH EASTON UTILITIES. PERFORM WATER AND SEWER LATERALS RECONFIGURATION AND DRY UTILITY RELOCATION AS NECESSARY. PLACE MATERIAL FROM UTILITY TRENCHES ON THE HIGH SIDE AND BACKFILL AT THE END OF EACH DAY.
6. PREPARE BUILDING PAD TO GRADE.
7. BEGIN BUILDING CONSTRUCTION.
8. GRADE SITE TO SUBGRADE. MAINTAIN ALL PERIMETER CONTROLS.
9. MILL EXISTING PAVEMENT WHERE SHOWN.
10. BEGIN PLACEMENT OF CR–6 BASE IN NEW PAVEMENT AREAS AND WALKS.
11. ONCE CONTRIBUTING DRAINAGE AREAS ARE STABILIZED INSTALL RELOCATED RAIN GARDEN, QUANTITY CONTROL AREA, AND SUBMERGED GRAVEL WETLAND; AND ASSOCIATED PIPING, INLETS, BERMS, AND ROOF LEADERS. CONTRACTOR RESPONSIBLE FOR SCHEDULING INSPECTIONS WITH TOWN. CONTRACTOR RESPONSIBLE FOR ENSURING STORMWATER MANAGEMENT MEDIA MEETS SPECIFICATIONS AND IS APPROVED BY TOWN INSPECTOR. STABILIZE SIDE SLOPS WITH STABILIZATION MATTING.
14. INSTALL TRENCH DRAIN AND OUTFALL PIPE.
15. INSTALL CONCRETE CURB AND WALKS.
16. BEGIN PLACEMENT OF BITUMINOUS CONCRETE BASE COURSE.
17. INSTALL SURFACE COURSE OVER NEW BASE COURSE PAVE AND INSTALL SURFACE COURSE OVERLAY WITH LEVEL WEDGE WHERE NEEDED.
19. FINE GRADE ALL AREAS PER DESIGN GRADES AND STABILIZE WITH TOPSOIL, SEED AND MULCH.
20. INSTALL SITE LANDSCAPING AND SWM PLANTINGS.
21. STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED AND MULCH.
22. 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.

CONSTRUCTION SPECIFICATIONS

(MAXIMUM) SLOPE STEEPNESS	LENGTH (MAXIMUM) SLOPE LENGTH	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.

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).

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

STATE OF MARYLAND · BRADDON A. BLITZ · No. 37235 · PROFESSIONAL ENGINEER

AUG. 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410–822–8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410–228–8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05–2023 ESDR COMMENTS

SEDIMENT AND EROSION CONTROL DETAILS AND SPECIFICATIONS

FOR THE DEVELOPMENT OF A

CONTRACTOR'S STORAGE BUILDING

ON LOT 28 IN THE

EASTON BUSINESS CENTER

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

TAX MAP – 101, GRID – 2, PARCEL – 4

DATE	SCALE
APRIL '23	AS SHOWN
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101–2020157	DESIGNED BY BD

SHEET No. – C–8

CADD FILE – 20157C08

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SIMPLE FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN

NARRATIVE:

THIS SITE IS LOCATED WITHIN A COMMERCIAL BUSINESS PARK WHERE LITTLE TO NO NATIVE VEGETATION EXISTS. THERE IS CURRENTLY NO FOREST ON SITE.

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

OWNERS OBJECTIVE: 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.

PURPOSE STATEMENT: THIS PLAN IS PREPARED AS A REQUIREMENT IN SITE PLAN REVIEW. THE SITE IS CURRENTLY IMPROVED WITH AN OFFICE BUILDING AND CONTRACTORS WAREHOUSE. THE PROPOSED ADDITIONAL STRUCUTRE WILL PROVIDE MORE WAREHOUSE SPACE, WITH THE END USE BEING THAT OF OFFICE AND CONTRACTORS STORAGE AND/OR WAREHOUSE.

FOREST SOIL TYPES: EMA – ELKTON SILT LOAM, 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. DNR RESPONDED STATING THE WILDLIFE AND HERITAGE SERVICE DIVISION HAS DETERMINED THAT THERE ARE NO OFFICIAL STATE OR FEDERAL RECORDS FOR LISTED PLAT OR ANIMAL SPECIES WITHIN THE PROJECT AREA.

ADJACENT LAND USE: INDUSTRIAL / COMMERCIAL

HYDROLOGY, WETLANDS, STREAMS AND BUFFERS: THERE ARE NO WETLANDS, STREAMS OR BUFFERS ON SITE.

CULTURAL FEATURES: NONE

FOREST CONSERVATION REQUIRED: .150 ACRES
FOREST CONSERVATION PROVIDED: .150 ACRES (VIA LANDSCAPE STOCK, SEE CHART BELOW)

M. STARK MCLAUGHLIN
FORESTER RPF#159

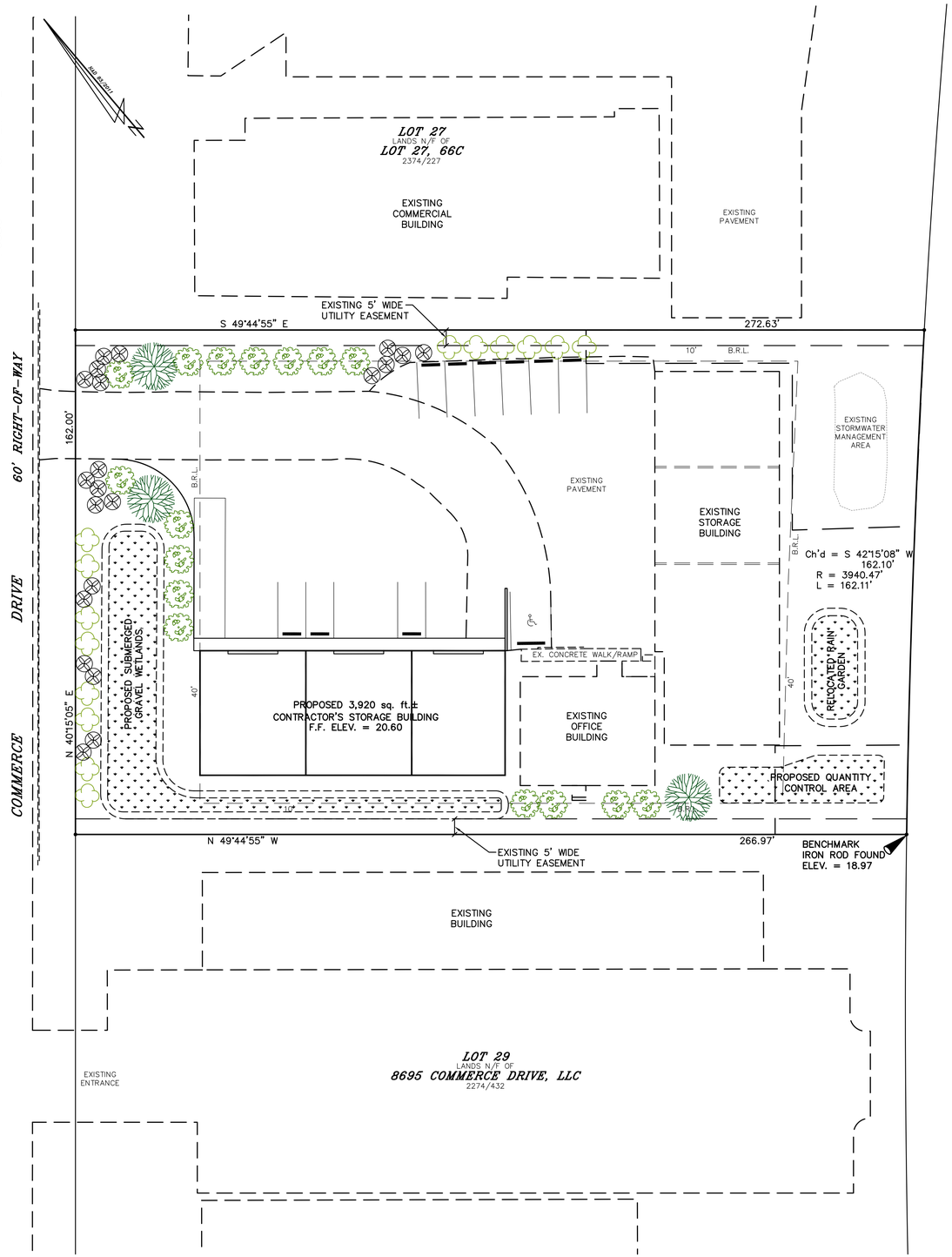
FOREST CONSERVATION CALCULATIONS:

TOTAL SITE AREA	=	1.001	ACRES
NET TRACT AREA	=	1.001	ACRES
EXISTING FOREST ON SITE	=	0.000	ACRES
AFFORESTATION AREA REQUIRED	=	0.150	ACRES
TOTAL PLANTING REQUIREMENT	=	0.150	ACRES
PLANTING PROVIDED	=	0.030	ACRES

LANDSCAPE USED IN FOREST CONSERVATION COMPLIANCE:

AFFORESTATION AREA REQUIRED = 0.150 ACRES (6,534 SF)
EXISTING EVERGREEN TREE (6) X 250 SF CREDIT = 1,500 SF
REMAINING AFFORESTATION AREA REQUIRED = 5,034 SF

LANDSCAPE STOCK PROVIDED
CANOPY TREE (3) X 400 SF CREDIT EACH = 1,200 SF
EVERGREEN TREE (16) X 250 SF CREDIT EACH = 4,000 SF
TOTAL AFFORESTATION LANDSCAPE PLANTING PROVIDED = 5,200 SF



LANDSCAPE PLAN & FOREST CONSERVATION PLAN

NARRATIVE:

THIS SITE IS LOCATED WITHIN AN ESTABLISHED BUSINESS PARK WHERE LITTLE TO NO NATIVE VEGETATION EXISTS. THERE IS CURRENTLY NO EXISTING FOREST ON SITE. THE MUNICIPAL AIRPORT, IN COOPERATION WITH TALBOT COUNTY, CLEARED ALL EXISTING FOREST AS AN AVIATION PRACTICE AND PAID THE TOWN OF EASTON A FEE IN LIEU FOR FOREST CONSERVATION. HOWEVER, UPON SITE RE–DEVELOPMENT, THE TOWN OF EASTON HAS DETERMINED THAT FOREST CONSERVATION IS APPLICABLE AND THUS, SHALL BE SATISFIED USING CREDITS ACCUMULATED THROUGH LANDSCAPE STOCK AS INDICATED WITHIN THE CHART SHOWN HEREON.

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 = 27,570 SQ.FT. (BUILDING AREA, PAVEMENT AREA AND RECONFIGURED SWM AREA), THUS NINE (9) TREES ARE REQUIRED. EIGHT (8) AMERICAN HOLLY EVERGREEN TREES AND (1) ONE LONDON PLANE TREE ARE PROPOSED TO PARTIALLY SATISFY THIS REQUIREMENT.

ONE (1) INTERIOR PARKING LOT TREE PER SECTION 28–1014.6F(2)(a)
RESPONSE: TWO (2) CANOPY TREES AND (2) UNDERSTORY TREES ARE PROPOSED AT THE ENTRANCE TO THE SITE. NO OTHER TREES ARE PROPOSED WITHIN THE INTERIOR DUE TO EXISTING SITE LAYOUT, LOCATION OF EXISTING AND PROPOSED STORMWATER FACILITIES AND EXISTING UTILITY EASEMENTS. A WAIVER OF THIS REQUIREMENT IS REQUESTED BY THE PLANNING COMMISSION DUE TO THE UNIQUE CIRCUMSTANCES.

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: THE PLANTINGS PROPOSED ALONG THE SIDE PROPERTY LINES SATISFY THIS REQUIREMENT FOR THE CONSTRUCTION OF THE NEW STORAGE / WAREHOUSE STRUCTURE.

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 PROPOSED STORAGE / WAREHOUSE STRUCTURE IS 40 LINEAR FEET IN WIDTH AT THE STREET FRONTAGE, THUS 2 TREES ARE REQUIRED. THREE (3) LONDON PLANE TREES ARE PROPOSED TO SATISFY THIS REQUIREMENT.

A MIX OF LARGE SHRUBS, SMALL SHRUBS AND UNDERSTORY TREES ARE USED TO SATISFY THE BUFFERYARD REQUIREMENTS ALONG COMMERCE DRIVE AND ALONG COMMON SIDE PROPERTY LINES, TO THE BEST EXTENT POSSIBLE GIVEN THE EXISTING SITE LAYOUT, PAVEMENT AND LOCATION OF UTILITY EASEMENTS.

LANDSCAPING NOTES:

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 SOIL AT THE PROPER HEIGHT. STREET TREES PLANTING PITS SHALL BE EXCAVATED AND WORKED IN A RECTANGULAR FORM WITH THE SMALL DIMENSION TWICE 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 TWICE 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.

10.) ALL TREES ON THIS PROPERTY SHALL BE MAINTAINED AT A MAXIMUM HEIGHT OF 53', PER AGREEMENT WITH EASTON AIRPORT.

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 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.

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

LEGEND & SCHEDULE

CANOPY TREES:
= 1 – LONDON PLANETREE (Platanus x acerifolia); 2' CAL, 6' HEIGHT MIN.

UNDERSTORY TREES:
= 4 – AMERICAN HOLLY (Ilexx opaca); 2" CAL, 6' HEIGHT MIN.

LARGE SHRUBS:
= 10 – INKBERRY 'JIM DANDY' (*ilex verticillata*); 18" HEIGHT MIN.

SMALL SHRUBS:
= 10 – VIRGINIA SWEETSPIRE (Itea virginica); 12" HEIGHT MIN.

AREA SHOWN SHALL BE STORMWATER MANAGEMENT AREA(S). PLANTS IN RAIN GARDEN TO BE WATER TOLERANT PLANS FOR A WET SOIL RAIN GARDEN TREATMENT TYPE.

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

UNDERGROUND UTILITY WARNING:
EXISTING UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO LOCATE EXISTING UTILITIES, TEST PIT AS NEEDED, AND COORDINATE WITH UTILITY COMPANIES. IT IS THE THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS AND ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.

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

TOWN OF EASTON – PLANNING AND ZONING

TOWN OF EASTON – TOWN ENGINEER

EASTON UTILITIES – MANAGER OF ENGINEERING

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. 37235 EXPIRATION DATE: 2024

AUGUST 2, 2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410–822–8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410–228–8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
8/2/2023	PER 05/2023 ESDR COMMENTS

LANDSCAPE & FOREST CONSERVATION PLAN
FOR THE DEVELOPMENT OF A
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND
TAX MAP – 101, GRID – 2, PARCEL – 4

DATE APRIL '23	SCALE 1" = 20'
JOB No. 2020157	DRAWN BY WJM
FOLDER Ref. 101–2020157	DESIGNED BY BD
SHEET No. – C–3	
CADD FILE – 20157C03	

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

RECEIVED
AUG 28 2023
TOWN OF EASTON

Forest Conservation Application

Project Information

Project Name	TUCKAHOE HARDWOODS	Project Number	23-937
Project Location	8685 COMMERCE DRIVE EASTON		
Project Description	NEW 3,920 SF CONTRACTORS STORAGE/ WAREHOUSE BUILDING W/ASSOCIATED PARKING & SWM		

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:				ft. North			ft. East
ADC Map: Year	2012	Page	33	Grid	E7		
Tax Map:	101	Grid	EA	Parcel	4	Block	—
District / Account Number	01-054775					Lot	28
Liber	2350	Folio	133				

Agent Information

Name	STALK McLAUGHLIN	License No.	159	Expiration Date	9-30-2024
Firm Name	FINK, WHITTEN + ASSOC, LLC				
Mailing Address	113 E DOVER ST UNIT C EASTON MD				
Telephone No.	410FWA 4108228484	Email	msm4trees@gmail.com		

Forest Stand Delineation Information

Details of Request (Acreage or portion thereof)

Total Tract Area	1.01 Ac.	*Net Tract Area*	1.01 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	1.01 Ac.	Sensitive Areas	0 Ac.

Forested Stream Buffers (minimum 50' wide): Yes [ ] No [X]

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	.150		Conservation Threshold	.150	
Proposed Area of Disturbance	.650		in Sensitive Areas	0	
Proposed Forest Clearing	0		in Sensitive Areas	0	in NTW 0

Forest Retention:

Onsite	.034	Offsite	0	in Long Term Protection	0
Forest Conservation Required			.150	Forest Conservation Provided	.153

Planting:

Onsite	.119	Offsite	0	Sensitive Area Planting	0

Stream Buffer Established: Length _____ Width _____

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: Elizabeth Fink / FWA agent

Date: 8/28/23

Printed Name of Applicant or Agent: Elizabeth Fink

For Office Use Only

Planning Commission Meeting Date		09/21/2023		
Sketch Approval Date		Project No.	ESDR	2023-10
Prelim/Dev. Approval Date		Application No.		2023-937
Final Approval Date		Sketch Fee Paid		05/03/2023
Recordation Date		Develop. Fee Paid		
			Revised 02-2019	

STORMWATER MANAGEMENT CALCULATIONS
FOR

TUCKAHOE HARDWOODS CONTRACTOR'S STORAGE BUILDING

LANDS OF 8685 COMMERCE DRIVE, LLC
TAX MAP 101, PARCEL 4, LOT 28

PREPARED FOR:
FINK, WHITTEN & ASSOCIATES, LLC
113 E. DOVER ST., UNIT C
EASTON, MARYLAND 21601

PREPARED BY:
DMS & ASSOCIATES, LLC
P.O BOX 80
CENTREVILLE, MARYLAND 21617

STATE OF MARYLAND
BRANDON A. DAVIS
No. 37235
PROFESSIONAL ENGINEER

CAP 6/5/24

DMS JOB #2020157
DATE: MAY, 2023
REVISED: AUGUST 2, 2023
REVISED: AUGUST 28, 2023

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

STORMWATER MANAGEMENT NARRATIVE
CONTRACTOR'S STORAGE BUILDING
TAX MAP 101, PARCEL 4, LOT 28

This property is located at 8685 Commerce Drive in the Town of Easton, Maryland. The property consists of approximately 1 acre with frontage on Commerce Drive and is immediately adjacent to the Easton Bypass. The site is developed with a small commercial building, access drive, and parking lot that predates 2016. In 2016 a contractor's storage building was approved and then constructed adjacent to the parking lot that is parallel to the Easton Bypass. That site plan also added minimal pavement around. Two rain gardens were approved and constructed that addressed water quality and quantity requirements for that project.

The property owner has been able to remove wooded areas that existed between the developed portion of the site and Commerce Drive through FAA tree clearing related provisions. The owners wish to construct a new contractor's building with associated parking and pavement parallel to the southern property line and next to the existing office building. The proposed pavement will extend off existing parking and access drive. The project will relocate the southeast rain garden approved in 2016 slightly to the north of its current location and have roof leaders direct the constructed contractor's storage building to it. The rain garden will match the size and depth specified in the 2016 approved site plan. A quantity control ponding area will be constructed in the general area of where that rain garden is currently situated. The new building and new impervious area will be treated by a submerged gravel wetland that will wrap around the proposed building and outfall to the new quantity control area. A trench grate in the pavement will capture some building runoff and new pavement runoff and direct it to the submerged gravel wetland.

The submerged gravel wetland will address water quality requirements for the new building and new impervious areas of 0.318 acres pavement and its front limits of disturbance of 0.514 acres. The quantity control areas will provide additional treatment to store overflowing runoff from larger storm events and responsibly discharge towards the Easton Bypass. Runoff will discharge from the relocated rain garden and quantity control area in a stable and filtered manner through riprap overflow/flow-thru outfalls for each.

The target Environmental Site Design (ESD) volume for the new impervious area and front limits of disturbance is 2,040 c.f. The submerged gravel wetland is sized to address the quality ESD requirement and provides 2,042 c.f. to exceed that volumetric requirement. The quantity control area provides storage and attenuation for larger storm events. When routing the drainage that leads to the outfall of the quantity control area in the pre and post project conditions, the 2 year storm is addressed via the reduced curve number resulting from the providing of ESD treatment to the MEP. Using TR-55, reduced curve number calculations, and then TR-20 for the 10 year storm event, we find that the quantity control area with being provided two 4 in PVC low flow pipes controls the 10 year storm. The submerged gravel wetland provides further temporary storage and attenuation for larger storm events that is not yet included in the TR-20 and stage storage routing. Water quality is addressed via ESD to the maximum extent practicable (MEP) with the submerged gravel wetlands. ESD to the MEP also addresses the 2

year storm event. The quantity control area treats the 10 year storm. Furthermore, the configuration of the proposed improvements, trench drain, wrap around submerged gravel wetland, piping to quantity control area, and discharge of the quantity control area all allow for a development and drainage configuration that directs runoff away from Commerce Drive and toward the bypass. There are known drainage concerns during large storm events along Commerce Drive, so this development seeks to avoid adding to that known issue. This project results in a decrease in runoff towards commerce drive.

DMS

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

Site Name: Tuckahoe Hardwoods Designed By: B.A.D.
Date: May-23 Checked By:
Description: Developed Conditions

Determine ESD Implementation:

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

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

Site Data	Redeveloped Site=	No
A =	0.514 acres	Front LOD
New Imp. Area	0.318 acres	New Impervious
% Impervious =	62.0 %	
Rv =	0.61	

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

Zone =	eastern	
P_E=	1.80	Inches

ESD_V = Runoff Volume for ESD design

ESD_V =	0.047	ac-ft
or	2,040	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 0.000 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	0.92	40	0.07	0.514	100.00%
TOTALS			0.92	40		0.514	100.00%

S = 0.07

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

Rev =	0.002	ac-ft
or	79	cf

DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Tuckahoe Hardwoods

Submerged Gravel Wetland

Device: SGW #1

ESDv Calculations for Drainage Area

Device Drainage Area =	22370	sq. Ft.
DA Impervious Area =	13870	sq. Ft.
Device DA %I =	62.00	%
Device DA Rv =	0.608	
Soil Type	D	
Device DA P_E Target =	1.80	inches
Device DA ESDv Vol. =	2040	cu.Ft.
Device DA 1yr PE =	2.70	inches
Device ESDv 1 yr Volume =	3060	cu.Ft.

Treatment Requirements

75% Minimum ESDv Volume Stored =	1530	cu.Ft.

Provided

Cell Filtration Area Provided =	1912	sq. Ft.	
Media Storage w/in 4" Wetland Soil Above Saturation Level =	252	cu.Ft.	(porosity = 0.4)
Max. Ponding Depth =	9	inches	(see stage vs. storage calculations)
Max Ponding Area Provided =	2860	sq. Ft.	
Total Temporary Storage Provided =	1790	cu.Ft.	(see stage vs. storage calculations)
Total Treatment Volume Provided =	2042	cu.Ft.	

Additional Considerations

Minimum ESDv Storage Met (yes/no): yes

DMS

Davis, Moore, Shearon, & Associates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

DATA FOR STAGE vs. STORAGE CURVE
JOB NAME: Tuckahoe Hardwoods
DESCRIPTION: Quantitiy Control Area

FOREBAY #1 STORAGE:

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.)
18.30	709				0	0.000
		918	1.00	918		
19.30	1,126				918	0.021

Worksheet 2: Runoff curve number and runoff

Project: Tuckahoe Hardwoods By: BD Date: August-23
Location: Commerce Drive
Checked: Date:

Check one: Present [x] Developed [ ]

Notes: DA 1 - towards Commerce Dr

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**			**0.4242**	33.935721
D	**IMPERVIOUS**	**98**			**0.0901**	8.8303489
						0
						0
						0
						0
						0
				Totals =	0.5143	42.76607

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{42.76606979}{0.514302112} = 83.15$$

Use CN = **84**

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	1.792	3.454	7.04

(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 2: Runoff curve number and runoff

Project: Tuckahoe Hardwoods By: BD Date: August-23
Location: Commerce Drive
Checked: Date:

Check one: Present ☐ Developed ☒

Notes: DA 1 - towards Commerce Drive

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**			**0.029**	2.3195592
D	**IMPERVIOUS**	**98**			**0.0366**	3.5883838
						0
						0
						0
						0
						0
				Totals =	0.0656	5.9079431

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{5.907943067}{0.065610652} = 90.05$$

Use CN = **90**

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	2.29	4.07	7.78

(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)

WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Tuckahoe Hardwoods
SubTitle: DA 1 (Commerce Dr)
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\20157 - 16024-Dent-Tuckahoe Hardwoods\SWM\TR-55 Analys

Date: 7/31/2023
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
DA1 Ex	Existing Conditions	Outlet	0.51	91	0.100
DA1 Pr	Proposed Conditions	Outlet	0.07	90	0.1

Total area: .58 (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

bdavis

Tuckahoe Hardwoods
DA 1 (Commerce Dr)
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	Open space; grass cover < 50%	(poor)	D	.424	89
	Paved parking lots, roofs, driveways		D	.09	98
	Total Area / Weighted Curve Number			.51	91
				===	==
DA1 Pr	Open space; grass cover > 75%	(good)	D	.029	80
	Paved parking lots, roofs, driveways		D	.037	98
	Total Area / Weighted Curve Number			.07	90
				===	==

bdavis

Tuckahoe Hardwoods
DA 1 (Commerce Dr)
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							
SHEET	34	0.0100	0.011				0.011
SHALLOW	125	0.0050	0.050				0.030
					Time of Concentration		0.100
DA1 Pr							
SHEET	85	0.0200	0.011				0.017
					Time of Concentration		0.1

Value (.00011) below acceptable minimum (.00015) for Sub-Area Drainage Area and
Sub-Area Identifier (DA1 Pr) of Data Section SUB-AREA: (3)

Worksheet 2: Runoff curve number and runoff

Project: Tuckahoe Hardwoods By: BD Date: August-23
Location: Commerce Drive
Checked: Date:

Check one: Present [x] Developed [ ]

Notes: DA 2 - towards South

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**			**0.12**	9.5977961
D	**IMPERVIOUS**	**98**			**0.1086**	10.641414
						0
						0
						0
						0
						0
				Totals =	0.2286	20.23921

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{20.23921028}{0.22855831} = 88.55$$

Use CN = 89

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	2.201	3.964	7.65

(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 2: Runoff curve number and runoff

Project: Tuckahoe Hardwoods By: BD Date: August-23
Location: Commerce Drive
Checked: Date:

Check one: Present ☐ Developed ☒

Notes: DA 2 - towards South

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			0.1821	14.565657
D	IMPERVIOUS	98			0.2795	27.393205
						0
						0
						0
						0
						0
				Totals =	0.4616	41.958861

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{41.95886134}{0.461593205} = 90.90$$

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	2.37	4.17	7.88

(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)

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)	
DA 2	2.37	4.17
	Q*	
DA 2	1.28	3.08

	P + (2 x Q*) + 2	
DA 2	7.8812	13.3512

SQRT [(5 x P x Q*) + (4 x Q^2)]	
5.267576429	10.85370266

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

CN*	DA 2	76.5	80.1

CN*	DA 2	77	81

A	CN
0.462	91

PE	Rv	QE
1.8	0.608	1.0944

WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Tuckahoe Hardwoods
SubTitle: DA 2 towards South
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\20157 - 16024-Dent-Tuckahoe Hardwoods\SWM\TR-55 Analys

Date: 8/2/2023
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
DA2 Ex	Existing Conditions	Outlet	0.23	93	0.100
DA2 Pr	Proposed Conditions	Outlet	0.46	91	.167
DA2 RCN2	Red. CN 2 Yr	Outlet	0.46	77	0.167
DA2 RCN10	Red. CN 01 Yr	Outlet	0.46	81	0.167

Total area: 1.61 (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

bdavis

Tuckahoe Hardwoods
DA 2 towards South
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							0.100
					Time of Concentration		0.100
DA2 Pr							
SHEET	45	0.0075	0.011				0.015
SHALLOW	204	0.0010	0.050				0.111
SHALLOW	57	0.0010	0.025				0.025
CHANNEL	108	0.0050	0.013	0.60	2.17	3.333	0.009
CHANNEL	72	0.0050	0.011	0.35	2.10	2.857	0.007
					Time of Concentration		.167
DA2 RCN2							
User-provided							0.167
					Time of Concentration		0.167
DA2 RCN10							
User-provided							0.167
					Time of Concentration		0.167

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Tuckahoe Hardwoods
DA 2 towards South
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	Open space; grass cover < 50%	(poor)	D	.12	89
	Paved parking lots, roofs, driveways		D	.109	98
	Total Area / Weighted Curve Number			.23	93
				===	==
DA2 Pr	Open space; grass cover > 75%	(good)	D	.182	80
	Paved parking lots, roofs, driveways		D	.28	98
	Total Area / Weighted Curve Number			.46	91
				===	==
DA2 RCN2	CN directly entered by user		-	.46	77
	Total Area / Weighted Curve Number			.46	77
				===	==
DA2 RCN10	CN directly entered by user		-	.46	81
	Total Area / Weighted Curve Number			.46	81
				===	==

bdavis

Tuckahoe Hardwoods
DA 2 towards South
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)
SUBAREAS		
DA2 Ex	0.60	0.99
DA2 Pr	0.90	1.55
DA2 RCN2	0.49	
DA2 RCN10		1.22

DMS

Davis, Moore, Shearon, & Associates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

DATA FOR ELEVATION - STORAGE CURVE

JOB NAME: Tuckahoe Hardwoods

DESCRIPTION: Quantity Control Area

STORAGE: Proposed Conditions

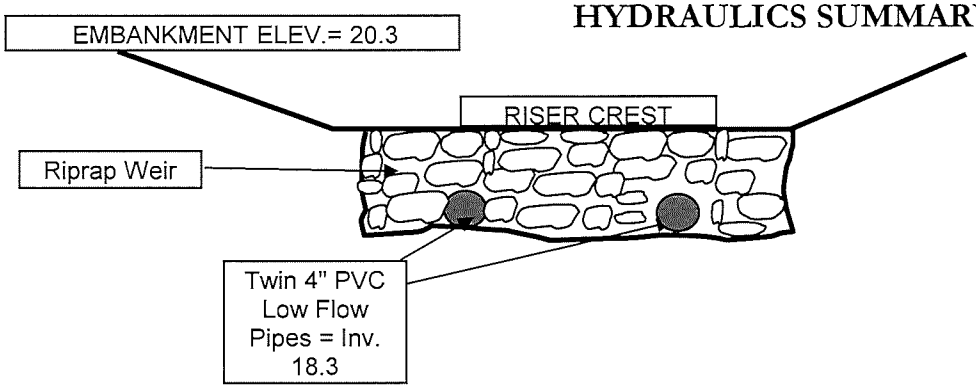
ELEV. (FT)	SURFACE AREA (SQ.FT)	AVERAGE SURFACE AREA (SQ.FT.)	DIFF. IN ELEV. (FT)	INCREMENT STORAGE (CU.FT.)	STORAGE (CU. FT.)	STORAGE (ACRE FT.)
18.30	709				0	0.0000
		749	0.20	150		
18.50	788				150	0.0034
		862	0.36	310		
18.86	936				460	0.0106
		966	0.14	135		
19.00	996				595	0.0137
		1,062	0.30	318		
19.30	1,127				914	0.0210
		1,222	0.20	244		
19.50	1,317				1,158	0.0266
		1,374	0.11	151		
19.61	1,430				1,309	0.0301
		1,562	0.39	609		
20.00	1,693				1,918	0.0440
		1,845	0.30	553		
20.30	1,996				2,472	0.0567

DMS & Associates

BY: B. DAVIS

7/1/23

Tuckahoe Hardwoods Quantity Control Area
SWM OUTLET STRUCTURE
HYDRAULICS SUMMARY



WATER in Pond Elev	ORIFICE		Stone		STRUC. TOP		OVERFLOW WEIR						FLOW Q	ACTUAL STORAGE VOLUME
	H CL = Size(ft) = Area =	Q **18.47** **0.33** 0.171	Crest= Size(ft) = Area =		Crest= Length=		Crest= Length=		Inlet Control * Cl Elev.= Size(ft)= **0.00**		Outlet Control Cl Elev= Kp= 0.0000			
ft	ft	cfs	ft	cfs	ft	cfs	ft	cfs	ft.	cfs	ft	cfs	cfs	ac. ft.
18.30	0.00	0.00											0.00	**0.0000**
18.50	0.04	0.15											0.15	**0.0034**
18.86	0.40	0.52											0.52	**0.0106**
19.00	0.54	0.60											0.60	**0.0137**
19.30	0.84	0.75											0.75	**0.0210**
19.50	1.04	0.84											0.84	**0.0266**
19.61	1.15	0.88											0.88	**0.0301**
20.00	1.54	1.02											1.02	**0.0440**
20.30	1.84	1.12											1.12	**0.0567**

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

JOB TR-20                     FULLPRINT           SUMMARY   NOPLOTS
TITLE 001 SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON
TITLE 002 TALBOT COUNTY  PREPARED BY BAD  07/2023  #2020157
 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                      18.30       0.001       0.0000
 8                      18.50       0.150       0.0034
 8                      18.86       0.520       0.0106
 8                      19.00       0.600       0.0137
 8                      19.30       0.750       0.0210
 8                      19.50       0.840       0.0266
 8                      19.61       0.880       0.0301
 8                      20.00       1.020       0.0440
 8                      20.30       1.120       0.0567
 9 ENDTBL
 6 RUNOFF 1    01     1 0.00036     89.0        0.100       1 1   1 1 1
 6 RUNOFF 1    01     2 0.00072     81.0        0.167       1 1   1 1 1
 6 RESVOR 2    01 2   3 18.30                               1 1 1 1 1 1
   ENDATA
 7 INCREM 6             0.1
 7 COMPUT 7    01    01 0.0         5.20        1.0         2 2  01  10
   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


 TR20 XEQ 07-31-23  16:19       SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON                    JOB  1   PASS   1
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  07/2023  #2020157                                PAGE   1


 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 =  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= 89.    TIME OF CONCENTRATION=   .10 HOURS
           INTERNAL HYDROGRAPH TIME INCREMENT=  .0133 HOURS

           PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
              11.98                           1.08                        (RUNOFF)

 TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
    6.00    DISCHG         .00       .00       .01       .01       .01       .01       .01       .01       .01       .01
    7.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
    8.00    DISCHG         .01       .01       .01       .01       .01       .01       .02       .02       .02       .02
    9.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
   10.00    DISCHG         .03       .03       .03       .03       .03       .04       .04       .04       .05       .05
   11.00    DISCHG         .06       .06       .07       .07       .08       .09       .22       .33       .49       .88
   12.00    DISCHG        1.08       .71       .41       .27       .18       .14       .12       .11       .10       .09
   13.00    DISCHG         .08       .08       .07       .07       .06       .06       .06       .05       .05       .05
   14.00    DISCHG         .05       .04       .04       .04       .04       .04       .03       .03       .03       .03
   15.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .03       .03       .03
   16.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .02       .02       .02
   17.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
   18.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
   19.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
   20.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
   21.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
   22.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
   23.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
   24.00    DISCHG         .01       .01       .00

   RUNOFF VOLUME ABOVE BASEFLOW =  3.93 WATERSHED INCHES,       .91 CFS-HRS,      .08 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= 81.    TIME OF CONCENTRATION=   .17 HOURS
           INTERNAL HYDROGRAPH TIME INCREMENT=  .0223 HOURS

           PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
              12.03                           1.45                        (RUNOFF)
1


 TR20 XEQ 07-31-23  16:19       SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON                    JOB  1   PASS   1
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  07/2023  #2020157                                PAGE   2


 TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
    8.00    DISCHG         .00       .01       .01       .01       .01       .01       .01       .01       .01       .01
```

9.00	DISCHG	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02
10.00	DISCHG	.02	.03	.03	.03	.03	.04	.04	.05	.05	.06
11.00	DISCHG	.06	.07	.08	.09	.10	.11	.21	.35	.52	1.01
12.00	DISCHG	1.43	1.33	.94	.70	.51	.39	.31	.25	.22	.19
13.00	DISCHG	.17	.15	.14	.13	.12	.11	.11	.10	.10	.09
14.00	DISCHG	.09	.08	.08	.08	.07	.07	.07	.06	.06	.06
15.00	DISCHG	.06	.06	.06	.06	.06	.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	.03
21.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
22.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
23.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.02
24.00	DISCHG	.02	.02	.01	.01	.00					

RUNOFF VOLUME ABOVE BASEFLOW = 3.16 WATERSHED INCHES, 1.47 CFS-HRS, .12 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= 18.30

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED 80 TIMES STARTING WITH POINT 2

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

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
23.70	.03	18.33
12.30	.79	19.40

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

8.00	DISCHG	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01
8.00	ELEV	18.30	18.30	18.30	18.30	18.30	18.31	18.31	18.31	18.31	18.31
9.00	DISCHG	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02
9.00	ELEV	18.31	18.31	18.32	18.32	18.32	18.32	18.32	18.32	18.32	18.33
10.00	DISCHG	.02	.02	.02	.03	.03	.03	.03	.04	.04	.04
10.00	ELEV	18.33	18.33	18.33	18.33	18.34	18.34	18.34	18.35	18.35	18.36
11.00	DISCHG	.05	.06	.06	.07	.08	.08	.11	.16	.26	.44
11.00	ELEV	18.37	18.37	18.38	18.39	18.40	18.41	18.44	18.51	18.61	18.78
12.00	DISCHG	.62	.74	.79	.79	.77	.72	.67	.61	.53	.43
12.00	ELEV	19.04	19.28	19.39	19.40	19.34	19.25	19.13	19.01	18.89	18.77
13.00	DISCHG	.34	.28	.23	.20	.17	.15	.14	.13	.12	.11
13.00	ELEV	18.69	18.62	18.58	18.55	18.52	18.50	18.49	18.47	18.46	18.45

1

14.00	DISCHG	.10	.10	.09	.09	.08	.08	.08	.07	.07	.07

14.00	ELEV	18.44	18.43	18.42	18.42	18.41	18.41	18.40	18.40	18.39	18.39
15.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.05	.05	.05
15.00	ELEV	18.39	18.38	18.38	18.38	18.38	18.38	18.37	18.37	18.37	18.37
16.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
16.00	ELEV	18.37	18.37	18.37	18.37	18.37	18.37	18.37	18.36	18.36	18.36
17.00	DISCHG	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
17.00	ELEV	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.35
18.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.03	.03	.03
18.00	ELEV	18.35	18.35	18.35	18.35	18.35	18.35	18.35	18.35	18.34	18.34
19.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
19.00	ELEV	18.34	18.34	18.34	18.34	18.34	18.34	18.34	18.34	18.34	18.34
20.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
20.00	ELEV	18.34	18.34	18.34	18.34	18.34	18.34	18.33	18.33	18.33	18.33
21.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
21.00	ELEV	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33
22.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
22.00	ELEV	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33
23.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
23.00	ELEV	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33
24.00	DISCHG	.02	.02	.02	.02	.01	.01	.01	.00		
24.00	ELEV	18.33	18.33	18.32	18.32	18.31	18.31	18.31	18.30		

RUNOFF VOLUME ABOVE BASEFLOW = 3.15 WATERSHED INCHES, 1.46 CFS-HRS, .12 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 1

1

TR20 XEQ 07-31-23 16:19 SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON JOB 1 PASS 2
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 07/2023 #2020157 PAGE 4

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= 89. TIME OF CONCENTRATION= .10 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0133 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
11.98	2.01	(RUNOFF)

```
TIME(HRS)          FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
   3.00    DISCHG         .00       .00       .00       .00       .00       .00       .00       .00       .01       .01
   4.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
   5.00    DISCHG         .01       .01       .01       .01       .01       .01       .01       .01       .01       .02
   6.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
   7.00    DISCHG         .02       .02       .02       .02       .02       .02       .03       .03       .03       .03
   8.00    DISCHG         .03       .03       .03       .03       .04       .04       .04       .04       .04       .04
   9.00    DISCHG         .04       .04       .05       .05       .05       .05       .05       .05       .06       .06
  10.00    DISCHG         .06       .06       .06       .07       .07       .08       .09       .10       .10       .12
  11.00    DISCHG         .12       .13       .14       .15       .17       .18       .45       .65       .95      1.66
  12.00    DISCHG        1.99      1.30       .75       .49       .32       .26       .22       .20       .18       .16
  13.00    DISCHG         .15       .14       .13       .12       .11       .11       .10       .09       .09       .08
  14.00    DISCHG         .08       .08       .08       .07       .07       .07       .06       .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       .04       .04       .04
  17.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  18.00    DISCHG         .03       .03       .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       .02       .02       .02       .02       .02       .02       .02       .02
  21.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
  22.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
  23.00    DISCHG         .02       .02       .02       .02       .02       .02       .02       .02       .02       .02
  24.00    DISCHG         .02       .01       .00

  RUNOFF VOLUME ABOVE BASEFLOW =  7.61 WATERSHED INCHES,      1.77 CFS-HRS,      .15 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= 81.    TIME OF CONCENTRATION=   .17 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0223 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             12.02                            2.99                        (RUNOFF)
1


TR20 XEQ 07-31-23  16:19       SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON                    JOB  1   PASS   2
     REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  07/2023  #2020157                                PAGE   5


TIME(HRS)          FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
   5.00    DISCHG         .00       .00       .01       .01       .01       .01       .01       .01       .01       .01
   6.00    DISCHG         .01       .01       .01       .02       .02       .02       .02       .02       .02       .02
   7.00    DISCHG         .02       .02       .02       .02       .03       .03       .03       .03       .03       .03
   8.00    DISCHG         .03       .03       .03       .04       .04       .04       .05       .05       .05       .05
   9.00    DISCHG         .05       .05       .06       .06       .06       .06       .07       .07       .07       .08
  10.00    DISCHG         .08       .08       .09       .09       .10       .11       .12       .13       .14       .16
  11.00    DISCHG         .18       .19       .21       .23       .25       .28       .50       .84      1.19      2.19
  12.00    DISCHG        2.96      2.70      1.89      1.39      1.02       .77       .60       .48       .42       .36
  13.00    DISCHG         .32       .29       .27       .25       .23       .22       .20       .19       .18       .17
  14.00    DISCHG         .16       .16       .15       .15       .14       .13       .13       .12       .12       .11
```

15.00	DISCHG	.11	.11	.11	.11	.10	.10	.10	.10	.10	.09
16.00	DISCHG	.09	.09	.09	.09	.09	.09	.09	.09	.08	.08
17.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.08	.07
18.00	DISCHG	.07	.07	.07	.06	.06	.06	.06	.06	.06	.06
19.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
20.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
21.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
22.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
23.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.04
24.00	DISCHG	.04	.03	.02	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 6.67 WATERSHED INCHES, 3.10 CFS-HRS, .26 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= 18.30

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED 52 TIMES STARTING WITH POINT 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.36	1.18	20.49

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	.01	.01	.01	.01
5.00	ELEV	18.30	18.30	18.30	18.30	18.30	18.30	18.31	18.31	18.31	18.31
6.00	DISCHG	.01	.01	.01	.01	.01	.01	.02	.02	.02	.02
6.00	ELEV	18.31	18.31	18.31	18.31	18.32	18.32	18.32	18.32	18.32	18.32
7.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.03	.03	.03
7.00	ELEV	18.32	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33	18.33
8.00	DISCHG	.03	.03	.03	.03	.03	.04	.04	.04	.04	.05
8.00	ELEV	18.34	18.34	18.34	18.34	18.34	18.35	18.35	18.35	18.36	18.36
9.00	DISCHG	.05	.05	.05	.05	.06	.06	.06	.06	.07	.07
9.00	ELEV	18.36	18.36	18.37	18.37	18.37	18.38	18.38	18.38	18.39	18.39
10.00	DISCHG	.07	.07	.08	.08	.09	.09	.10	.11	.12	.13
10.00	ELEV	18.40	18.40	18.40	18.41	18.41	18.42	18.43	18.44	18.46	18.47

1

11.00	DISCHG	.14	.15	.17	.19	.21	.23	.28	.42	.58	.76
11.00	ELEV	18.49	18.50	18.52	18.54	18.55	18.57	18.63	18.76	18.96	19.31
12.00	DISCHG	.94	1.07	1.15	1.18	1.18	1.16	1.13	1.10	1.06	1.01
12.00	ELEV	19.76	20.16	20.39	20.48	20.49	20.43	20.34	20.23	20.11	19.98
13.00	DISCHG	.96	.91	.85	.78	.71	.63	.56	.46	.37	.30
13.00	ELEV	19.83	19.68	19.54	19.38	19.22	19.06	18.93	18.80	18.71	18.65
14.00	DISCHG	.25	.22	.20	.18	.17	.16	.15	.14	.13	.13
14.00	ELEV	18.60	18.57	18.55	18.53	18.52	18.51	18.50	18.49	18.48	18.47
15.00	DISCHG	.12	.12	.12	.11	.11	.11	.11	.10	.10	.10
15.00	ELEV	18.46	18.46	18.45	18.45	18.45	18.44	18.44	18.44	18.43	18.43

16.00	DISCHG	.10	.10	.10	.10	.10	.09	.09	.09	.09	.09
16.00	ELEV	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.42	18.42	18.42
17.00	DISCHG	.09	.08	.08	.08	.08	.08	.08	.08	.08	.08
17.00	ELEV	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.40	18.40
18.00	DISCHG	.08	.07	.07	.07	.07	.07	.07	.06	.06	.06
18.00	ELEV	18.40	18.40	18.39	18.39	18.39	18.39	18.39	18.39	18.38	18.38
19.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
19.00	ELEV	18.38	18.38	18.38	18.38	18.38	18.38	18.38	18.38	18.38	18.38
20.00	DISCHG	.06	.06	.06	.05	.05	.05	.05	.05	.05	.05
20.00	ELEV	18.38	18.38	18.37	18.37	18.37	18.37	18.37	18.36	18.36	18.36
21.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
21.00	ELEV	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36
22.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
22.00	ELEV	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36
23.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
23.00	ELEV	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36	18.36
24.00	DISCHG	.04	.04	.04	.03	.02	.02	.01	.01	.01	.00
24.00	ELEV	18.36	18.35	18.35	18.34	18.33	18.32	18.31	18.31	18.31	18.30

RUNOFF VOLUME ABOVE BASEFLOW = 6.66 WATERSHED INCHES, 3.09 CFS-HRS, .26 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 2

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID
1

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 10													
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	5.20	24.00	3.93	---	11.98	1.08	3007.8
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	5.20	24.00	3.16	---	12.03	1.45	2014.1
STRUCTURE 1	RESVOR	.00	2	2	.10	.0	5.20	24.00	3.15	19.40	12.30	.79	1101.5

```
   ALTERNATE    1   STORM   99
+  ____________________________
 STRUCTURE  1  RUNOFF      .00      2      2     .10      .0     8.98    24.00     7.61       ---      11.98        2.01     5579.6
 STRUCTURE  1  RUNOFF      .00      2      2     .10      .0     8.98    24.00     6.67       ---      12.02        2.99     4155.9
 STRUCTURE  1  RESVOR      .00      2      2     .10      .0     8.98    24.00     6.66     20.49      12.36        1.18     1644.6
1
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 TR20 XEQ 07-31-23  16:19       SCS ANALYSIS FOR TUCKAHOE HARDWOODS-COMMERCE DRIVE, EASTON                    JOB  1   SUMMARY
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  07/2023  #2020157                                     PAGE   8
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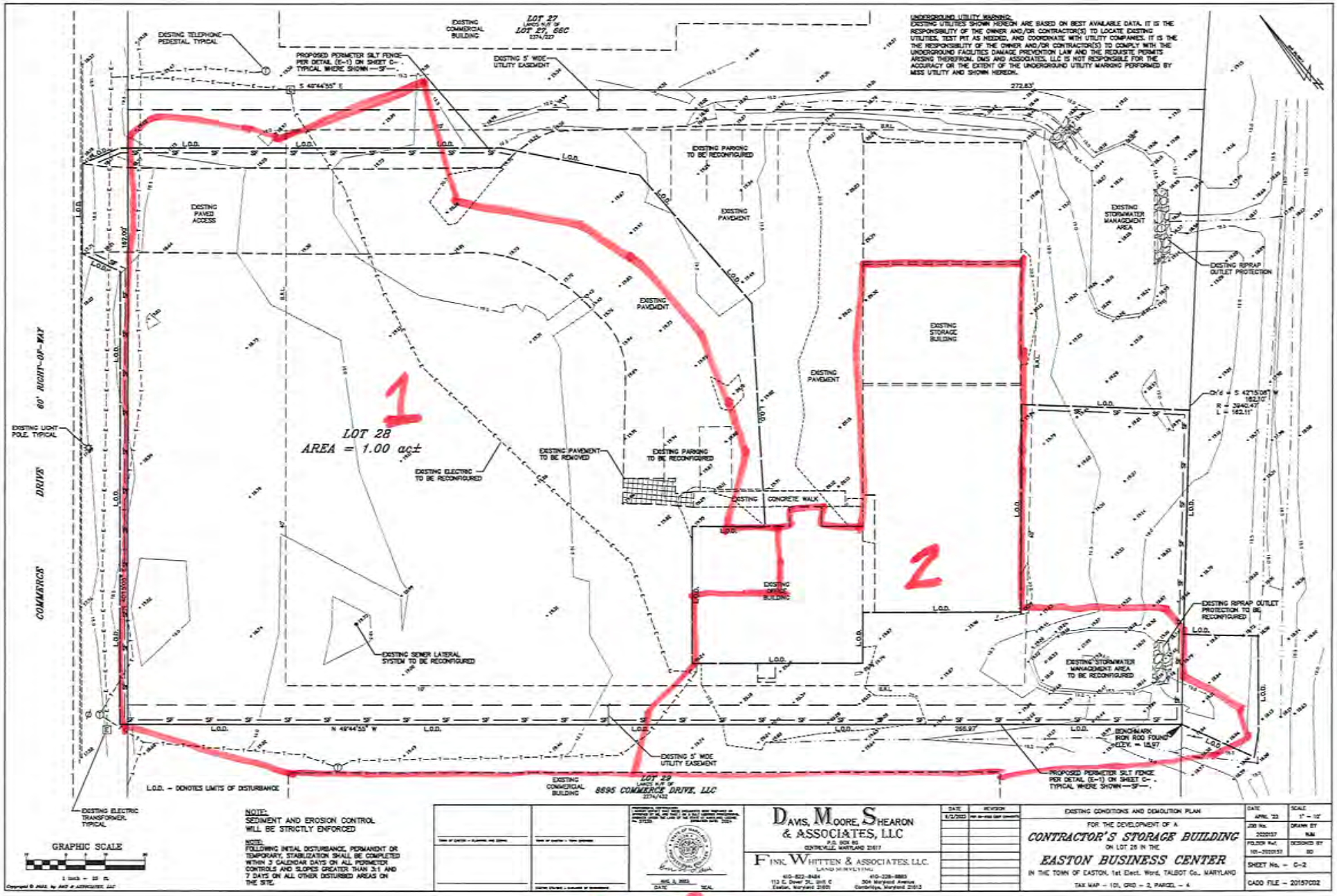
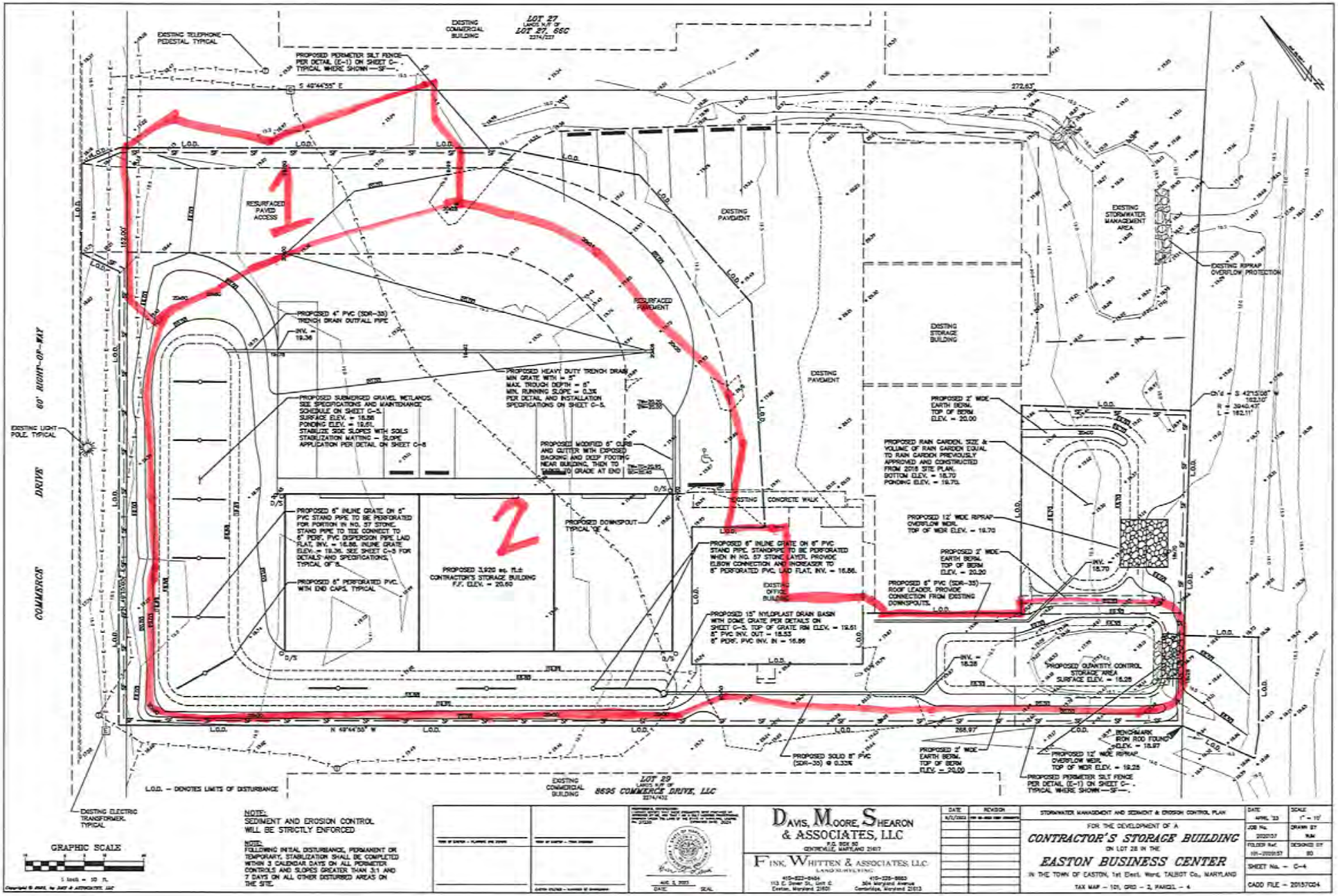
SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

```
 XSECTION/          DRAINAGE
 STRUCTURE            AREA       STORM NUMBERS..........
   ID               (SQ MI)           10        99

0 STRUCTURE   1          .00
+____________________________
    ALTERNATE    1                    .79      1.18
1END OF  1 JOBS IN THIS RUN
```


EXISTING COMMERCIAL BUILDING
LOT 27
LANDS N/F OF
LOT 27, 66C
EXISTING TELEPHONE PEDESTAL, TYPICAL
PROPOSED PERIMETER SILT FENCE PER DETAIL (E-1) ON SHEET C- TYPICAL WHERE SHOWN —SF—.
EXISTING 5' WIDE UTILITY EASEMENT
UNDERGROUND UTILITY MARKING:
EXISTING UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO LOCATE EXISTING UTILITIES, TEST PIT AS NEEDED, AND COORDINATE WITH UTILITY COMPANIES. IT IS THE THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR(S) TO COMPLY WITH THE UNDERGROUND FACILITIES DAMAGE PREVENTION LAW AND THE REQUISITE PERMITS ARISING THEREFROM. DMS AND ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY MISS UTILITY AND SHOWN HEREON.
S 48°44'55" E
272.83'
EXISTING PAVED ACCESS
EXISTING PARKING TO BE RECONFIGURED
EXISTING PAVEMENT
EXISTING STORMWATER MANAGEMENT AREA
EXISTING RIPRAP OUTLET PROTECTION
EXISTING STORAGE BUILDING
60' RIGHT-OF-WAY
COMMERCE DRIVE
EXISTING LIGHT POLE, TYPICAL
1
LOT 28
AREA = 1.00 ac±
EXISTING ELECTRIC TO BE RECONFIGURED
EXISTING PAVEMENT TO BE REMOVED
EXISTING PARKING TO BE RECONFIGURED
EXISTING CONCRETE WALK
2
EXISTING OFFICE BUILDING
EXISTING SEWER LATERAL SYSTEM TO BE RECONFIGURED
EXISTING RIPRAP OUTLET PROTECTION TO BE RECONFIGURED
EXISTING STORMWATER MANAGEMENT AREA TO BE RECONFIGURED
N 48°44'55" W
266.97'
BENCHMARK IRON ROD FOUND ELEV. = 18.97
EXISTING 5' WIDE UTILITY EASEMENT
LOT 29
LANDS N/F OF
8695 COMMERCE DRIVE, LLC
EXISTING COMMERCIAL BUILDING
PROPOSED PERIMETER SILT FENCE PER DETAIL (E-1) ON SHEET C- TYPICAL WHERE SHOWN —SF—.
L.O.D. – DENOTES LIMITS OF DISTURBANCE
EXISTING ELECTRIC TRANSFORMER, TYPICAL
GRAPHIC SCALE
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.
DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 60
CENTREVILLE, MARYLAND 21617
FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8883
304 Maryland Avenue
Cambridge, Maryland 21613
DATE
REVISION
EXISTING CONDITIONS AND DEMOLITION PLAN
FOR THE DEVELOPMENT OF A
CONTRACTOR'S STORAGE BUILDING
ON LOT 28 IN THE
EASTON BUSINESS CENTER
IN THE TOWN OF EASTON, 1st Elect. Ward, TALBOT Co., MARYLAND
TAX MAP – 101, GRID – 2, PARCEL – 4
DATE APRIL '23
SCALE 1" = 10'
JOB No. 2020157
DRAWN BY NJM
FOLDER Ref. 101-2020157
DESIGNED BY SD
SHEET No. – C-2
CADD FILE – 20157C02

Pre Project



Post Project

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	SUBMERGED GRAVEL WETLANDS (M-2)	SGW #1	ON	92	124,786	479,992	0.5135	0.3184	0.0439	1.8	1.80	2040	2042
2	RAIN GARDEN (M-7)	RG #1*	ON	93	124,834	479,943	0.1128	0.0801	0.0094	1.8	2.15	508	608

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

* RAIN GARDEN IS EXISTING ESD DEVICE FROM A PRIOR SITE PLAN THAT IS TO BE RELOCATED WITH THE SAME SIZE CONTRIBUTING DRAINAGE AREA

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.
DA #1, COMMERCE DRIVE	0.0656	0.0366	90	6 (MIN.)	1.25**	N/A***	N/A***	2.14**	N/A***	N/A***	3.89**	N/A***	N/A***
DA #2, BYPASS SIDE	0.4616	0.2795	91	10.02**	0.60**	0.49^	N/A^^	1.08^^^	0.79^^^	19.40^^^	2.01^^^	1.18^^^	20.49^^^
						TOWN OF EASTON STANDARD DETAILS - SWM QUANTITIY SUMMARY CHART - STANDARD NO. TOE-SWM-7.02							

* VALUES DO NOT CONSIDER REDCUDED CURVE NUMBER COMPUTATIONS
** VALUES ARE FROM TR-55
*** DRAINAGE AREA TO OUTFALL SUBSTANTIALLY REDUCED RESULTING IN NEGLIGIBLE FLOWS. FLOODING ISSUES ARE KNOWN TO EXIST, THEREFORE FLOW DECREASED IN THAT DIRECTION
^ VALUES ARE FROM TR-55 AND CONSIDER REDUCED CURVE NUMBER COMPUTATIONS
^^ NOT APPLICABLE BECAUSE FLOW WAS REDUCED VIA REDUCED CURVE NUMBER PROVIDED BY ESD TO THE MEP
^^^ VALUES ARE FROM TR-20, CONSIDER REDUCED CURVE NUMBER CONTRIBUTION PROVIDED BY ESD TO THE MEP AND BY THE PROVIDED QUANTITIY CONTROL STORAGE AREA

THE MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION (MDOT SHA)

615 Morgnec Road
Chestertown, Maryland 21620

District Office Permit

Permit Number: SHA-2-TA-0240-23-DO

U.C. Ref or Job ID#: N/A
Project Number:

Route No.: MD 322

Route Name (optional): EASTON PKWY - MD 322

Limits : GLEBE RD (SB/L) - MU 410 to MARLBORO AVE - MU 650

Mile Point : 3.810, 3.260

Issue Date : 9/8/2023

Expiration Date : 9/8/2024

So far as the MDOT State Highway Administration has the right and power to grant same, permission is hereby given to:

Permittee :
Tuckahoe Hardwoods
8685 Commerce Drive

Easton, MD 21601

Attention :
John Dent
Phone#: (410) 310-3937
Email: jdent@tuckahoehardwoods.com

Description of Work:
To work from the SHA right-of-way to access property located at 8686 Commerce Drive. Work to consist of minor grading and stormwater management. No work will be performed from MD 322. Access to the SHA right-of-way shall be from the above-mentioned address. This permit covers only the work to be performed within the SHA right-of-way.

The following Special Conditions apply to this permit.

✓ The permittee shall notify the Assistant Resident Maintenance Engineer, Marlin Hayman at 410-822-3525 and the District Utility Engineer, John Anderson at 410-810-3275 as to any changes or modifications or changes that are within the SHA right-of-way. Work hours shall be from 8:00am to 3:00pm Monday thru Friday. Permit will expire one year from date of issue. An onsite pre-construction meeting with the SHA Permit Inspector is required before any work starts. Permit covers only the work to be performed in the SHA right-of-way.

✓ The permittee shall be responsible for maintaining and ensuring that the right-of-way is kept neat and clean. The permittee shall be responsible for any damage to SHA property. The State Highway Administration shall have access to the right-of-way as needed. Closure of driveway entrances must be coordinated with the property owner at least one week in advance. All residential/commercial entrances

that are removed, damaged or disturbed shall be replaced in kind as soon as possible to avoid any disruption to the property owner. The contractor is responsible for coordinating with the local police, fire companies, schools and EMS as to the status of all lane closures that could affect public safety.

✓ The permit hereby agreed to shall be revocable by and at the pleasure of the SHA for any reason, including the lack of proper maintenance of the right-of-way.

✓ SHA may without any further liability revoke the permit and take possession of and use the entire right-of-way. Proper Erosion and Sediment controls must be in place at all times along with the use of matting for equipment/personnel.

✓ The permittee hereby agrees to indemnify, hold harmless and defend, at SHA's option, the State of Maryland, SHA and the Maryland Department of Transportation from and against all claims, actions, damages, liability and expenses, including but not limited to attorney's fees in connection with loss of life, personal injury and/or damage to property arising out of or in any way connected to the above-mentioned work.

✓ This permit does grant or create any permanent interest in the real property or the or the rights-of-way of the SHA. Before any excavation the permittee must contact "MISS UTILITY" for Talbot County at 1-800-441-8355. Work Zone Traffic Control Standard number(s) to be used for work being performed under this permit will be MD 104.02-01 and MD 104.02-09. You must apply for a Traffic Control Permit for the above referenced road from the SHA, District 2 Utilities, and it must be approved before starting work. The State Highway Administration reserves the right to modify or expand the methods of traffic control specified and to restrict the working hours if in the opinion of the SHA Engineer the contractor's operations are detrimental to the safe and efficient flow of traffic.

✓ The permittee shall not be entitled to any compensation for any reason as a result of the State Highway's decision to revoked this permit. Under no circumstances shall a revocation of this permit be considered a taking of any property or rights of the permittee. All areas that are disturbed as a result of the work being done under this permit must be stabilized at the end of each work day by seeding, topsoil and mulching. Any sidewalk/curb/gutter/asphalt that is damage or removed as a result of this work shall be replaced in kind from cold joint to cold joint. Any damage to the roadway or pavement markings will be replaced in kind. The permittee shall obtain the necessary approvals from SHA Highway Hydraulics Division, Remedial Bridge Repair Division, Office of Environmental Design, Maryland Department of Environment, Maryland Department of Natural Resources, local, state, federal and all other permits and approvals necessary to conform to the SHA District permit requirements.

Notifications:

a. Permittee must notify **JOHN ANDERSON JR**, the MDOT State Highway Administration **District Utility Engineer**, at **(410) 810-3275**, 48 hours prior to commencement of any activities related to this permit.

b. The permittee will designate the Traffic Manager for this permit and a 24 hour emergency number at the pre-construction meeting.

c. All work for this permit shall be in conformance with the above referenced documentation supplied by the utility company.

d. The Permittee is **requested** to provide Geographic Information System (GIS) coordinates of any of its

facilities, infrastructure, and appurtenances installed within the permitted area(s) to MDOT SHA District Office within Sixty (60) calendar days (or agreed upon timeline) of the completion of the Permittee's installation. The GIS coordinates should be provided on As Constructed Plans or other agreed upon mechanism. Please see the 2022 UTILITY PERMIT GENERAL PROVISIONS, Section 001.03.03.06 As Constructed Deliverables.

THIS PERMIT IS ISSUED WITH THE REQUIREMENT THAT IT WILL BE ENFORCED WITH THE UTILITY PERMIT GENERAL PROVISIONS. A COPY OF THE UTILITY PERMIT GENERAL PROVISIONS SHALL BE ATTACHED TO EACH AND EVERY INDIVIDUAL WORK ORDER PERMIT ALONG WITH ANY SPECIAL PROVISIONS, ATTACHMENTS, PLANS, AND ADDENDA IN ORDER TO CONSTITUTE A COMPLETE AUTHORIZED UTILITY PERMIT. THE COMPLETE AUTHORIZED UTILITY PERMIT OR DISTRICT OFFICE PERMIT WHICH MUST BE FOUND ON THE JOB SITE **AT ALL TIMES.**

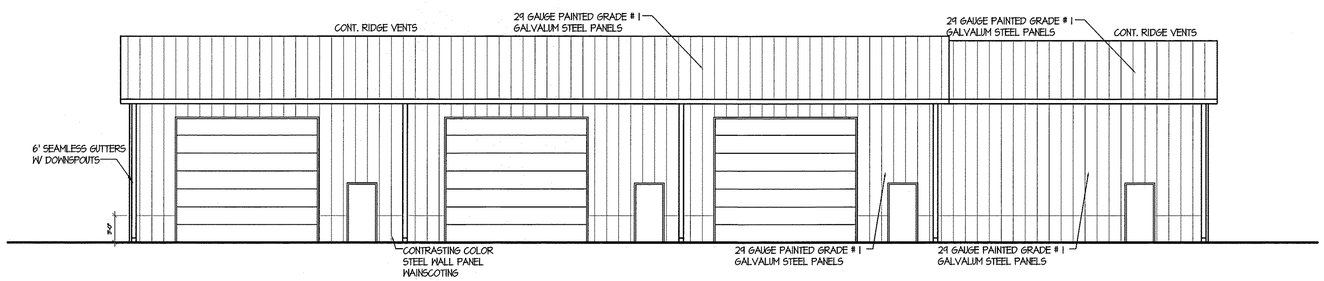
For

By: _____

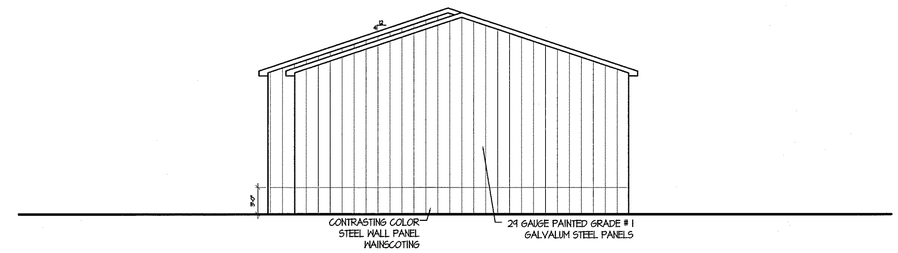
KENNETH FENDER

District Engineer

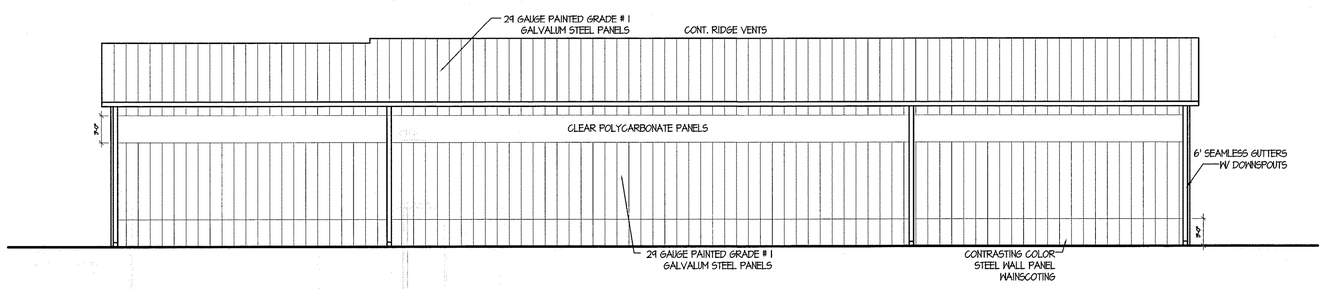
MDOT State Highway Administration



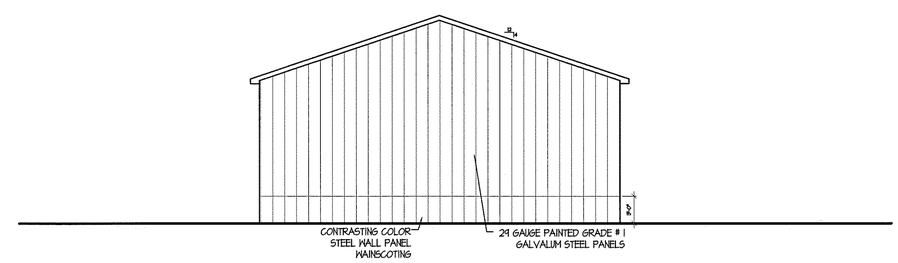
1 FRONT ELEVATION
1/8" = 1'-0"



2 RIGHT SIDE ELEVATION
1/8" = 1'-0"



3 REAR ELEVATION
1/8" = 1'-0"



4 LEFT SIDE ELEVATION
1/8" = 1'-0"

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 1/6/2018.

ARCHITECT LICENSE #12319 WILLIAM F. HORN STATE OF MARYLAND

PRINTED 01/25/16 – FOR CONSTRUCTION

DIAMOND STATE POLE BUILDINGS
P.O. BOX 163
MAGNOLIA, DELAWARE

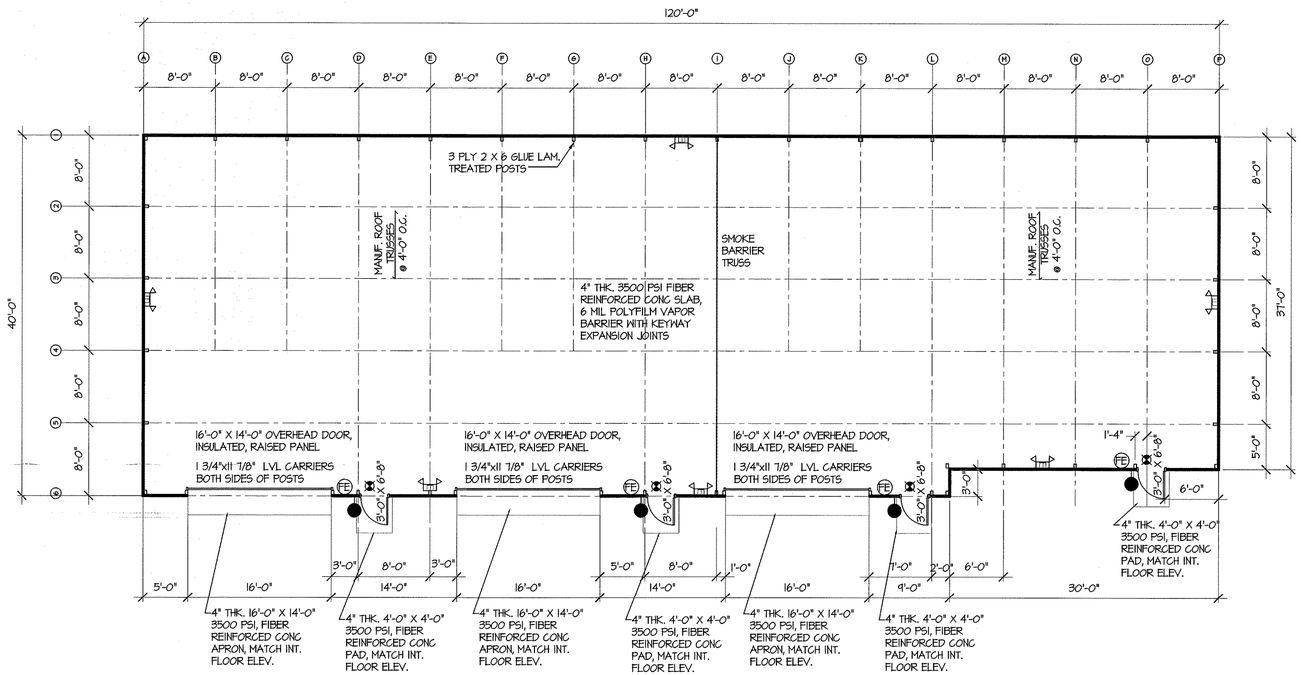
W.F.HORN ARCHITECT, INC.
30866 E. SALLIE ROSS BEND MILTON, DELAWARE
PHONE: 302-674-1620 302-231-2176

NEW BUILDING FOR
JOHNNY DENT
EASTON, MARYLAND

ELEVATIONS
-- --

DESIGNED	WFH
DRAWN	PAH
CHECKED	WFH
DATE	01/25/16
PROJ. NO.	31606
SCALE	AS NOTED
SHEET NO.	A2.1

COPYRIGHT © 2015 W.F. HORN ARCHITECT, INC.



1 FLOOR PLAN
1/8" = 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 GW , GP, GM, 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 PURLINS @ 2'-0" O.C. HORIZ. W/ 28 GAUGE EVERLAST PAINTED STEEL PANELS.

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

3. EXTERIOR STEEL FLUSH INSULATED DOOR W/ LEVER LOCKSET AND CLOSER.

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 REMOTE HEAD EXTERIOR EMERGENCY LIGHT

ARCHITECT LICENSE #12319 WILLIAM F. HORN STATE OF MARYLAND

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 1/6/2018.

PRINTED 01/25/16 – FOR CONSTRUCTION

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PHONE: 302-674-1620 302-231-2176

NEW BUILDING FOR
JOHNNY DENT
EASTON, MARYLAND

FLOOR PLAN AND NOTES

DESIGNED	WFH
DRAWN	PAP
CHECKED	W
DATE	01/
PROJ. NO	
SCALE	
SHE	
NO	

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-937 has been filed on behalf of 8685 Commerce Drive, LLC at 8685 Commerce Drive to request Sketch Site Plan approval for a proposed 3,920 square foot contractor's warehouse 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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:	Creation Date: **08/30/23**
	Ad Date: **09/06/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **522**
	Lines: **92**
	Agate Lines: **405**
Telephone: **(410) 822-2525**	Depth: **11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**

   a. **Applicant:** Philips Signs
   File No.: 2023 - 1020
   Location: 8133 Elliott Road
   Tax Map 109, Grid 000, Parcel 4582,
   Lot 1
   Zoning District: CG
   Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.

   b. **Applicant:** Far Eastern Shore Winery
   File No.: 2023 - 989
   Location: 8370 & 8374 Ocean Gateway
   Tax Map 103, Grid 0EA, Parcel 2952
   Zoning District: CG
   Nature of Request: Signage permit approval for multi building property.

   c. **Applicant:** Fink, Whitten & Associates, LLC
   c/o Elizabeth Fink
   File No.: 2023 - 937
   Location: 8685 Commerce Drive - Tuckahoe Hardwoods
   Tax Map 101, Grid 002, Parcel 0004,
   Lot 28
   Zoning District: BC
   Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.

   d. **Applicant:** OMS & Associates, LLC
   File No.: 2023 - 959
   Location: Elliott Road - Friel Storage
   Tax Map 109, Grid 0000, Parcel 2849,
   Lot 4
   Zoning District: CG
   Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.

   e. **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.

   f. **Applicant:** Lane Engineering, LLC
   File No.: 2023 - 998
   Location: 29533 Canvasback Drive - St. Vincent de Paul
   Tax Map 109, Grid 000, Parcel 4582,
   Lot 32
   Zoning District: BC
   Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.

   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
   File No.: 2023 - 997
   Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
   Tax Map 109, Grid 000, Parcel 2866, Lot 9
   Base Zoning District: CG with PUD Overlay
   Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.

   h. **Applicant:** 5001 SHR, L.C.
   File No.: 2023 -1024
   Location: Oxford Road - Poplar Hill
   Tax Map 0042, Grid 0004, Parcel 057
   Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.

5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

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

Date of Hearing: September 21, 2023

4d

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: September 7, 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, Map 109, Parcel 2849, Lot 4
EXISTING ZONING CG	**EXISTING LAND USE:** Vacant parcel.
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** 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 two one-story climate controlled storage buildings with associated parking, stormwater management facilities and landscaping.

BACKGROUND: The applicant resubmitted an application to the Easton Staff Development Review Committee on August 23, 2023.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 Table 2.1							**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 manager's quarters required- Minimum
No requirements - Maximum
Total spaces provided: 8

Analysis- The applicant has provided five (8) 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. No manager's quarters are provided or anticipated to be added in the future.

C. Commercial General District Development Standards

Table 1. Development Standards		
CG 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 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.

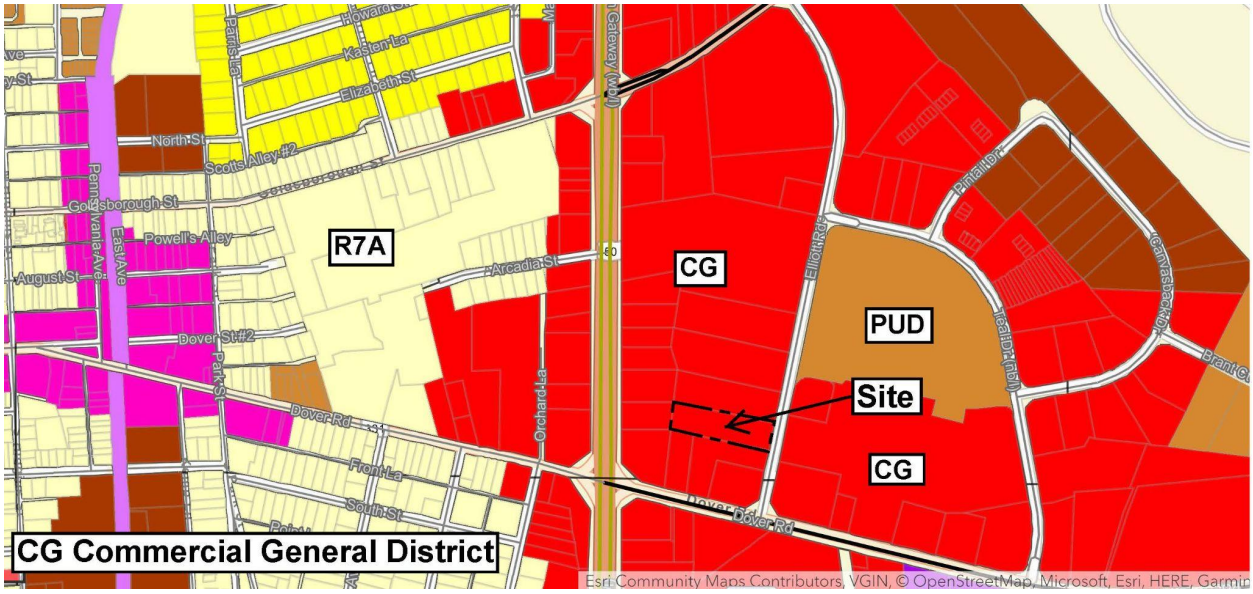
D. Forest Conservation

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 a 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/industrial nature of Elliott Road.

(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 four unloading spaces, all which have been satisfied.*

Staff notes that the applicant has provided 8 off-street parking spaces. There are 2 spaces for the manager's quarters and six parking spaces. Five unloading spaces have been provided.

(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 provide additional landscape buffering behind Building #1 on the northwest side of the building with native plant species that are best suited for being adjacent to the Stormwater Management Facility.

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 October 19th 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. 2023.08.02 Revised Forest Conservation Application, paper copy & PDF
4. 2023-07-28 Friel Storage_Updated Plans & Elevations, paper copy & PDF
5. 2023-08-01 Elevation, paper copy & PDF
6. 2023-08-02 SWM Report, paper copy & PDF
7. 2023-08-23 ESDR Determination Letter Elliott Road Parcel 2849, paper copy & PDF
8. 2023-08-28 Elliott Rd Self Storage Resubmittal, paper copy & PDF

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23th, 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#3 Sketch Site Plan Review Comments**

Our Department has reviewed the application for the subject project received on 8/23/2023 and have the following comments.

The **Sketch Stormwater Management Plan** is **Approved.** The **Sketch Site Plan** is **acceptable** and 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. A protective feature such as curb or bollards will need to be installed to protect the southwest stormwater feature.

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

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

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

Site Plan Number: 2023-959

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		37,244 s.f.
Structure's Floor Area	~~35,000~~	37,244	Structure's Square Feet	~~35,000~~	total (~~3~~ 2 buildings)
Area of Disturbance	~~1.80~~	1.84	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	[signature] E.D.
Date	6/7/2023 8/2/2023
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	09/21/2023		
Sketch Approval Date		Project No.	ESDR 23-12
Prelim/Dev. Approval Date		Application No.	2023-959
Final Approval Date		Sketch Fee Paid	06/01/2022
Recordation Date		Develop. Fee Paid	

Revised 02-2019

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

Easton Staff Development Review Worksheet

Date: August 23, 2023
Project: Elliott Road, Parcel 2849 - Climate Controlled Storage Units
To: Elizabeth Fink - Fink, Whitten & Associates, LLC.
Brandan Davis - Davis, Moore, Shearon & Associates, LLC.
Jay Friel - Friel Storage, LLC.

The Easton Staff Development Review (ESDR) Committee meeting was held on August 23rd at 11:00 am. Staff reviewed the Site Sketch Plan for the two 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 area discussed at the meeting included incorporating the drive aisle adjacent to the main entrance to the left of Building #1 into the loading area.

The Committee determined that the application may be scheduled for Planning Commission review pending the revised Site Plan depicting the updated loading area left of Building #1's entrance.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, August 28th. 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: **August 23, 2023**
TO: **Elizabeth Fink – Fink Whitten & Associates, LLC, Jay Friel – Friel Storage, LLC**
Brandon Davis - Davis, Moore, Shearon & Associates, 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 **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #3

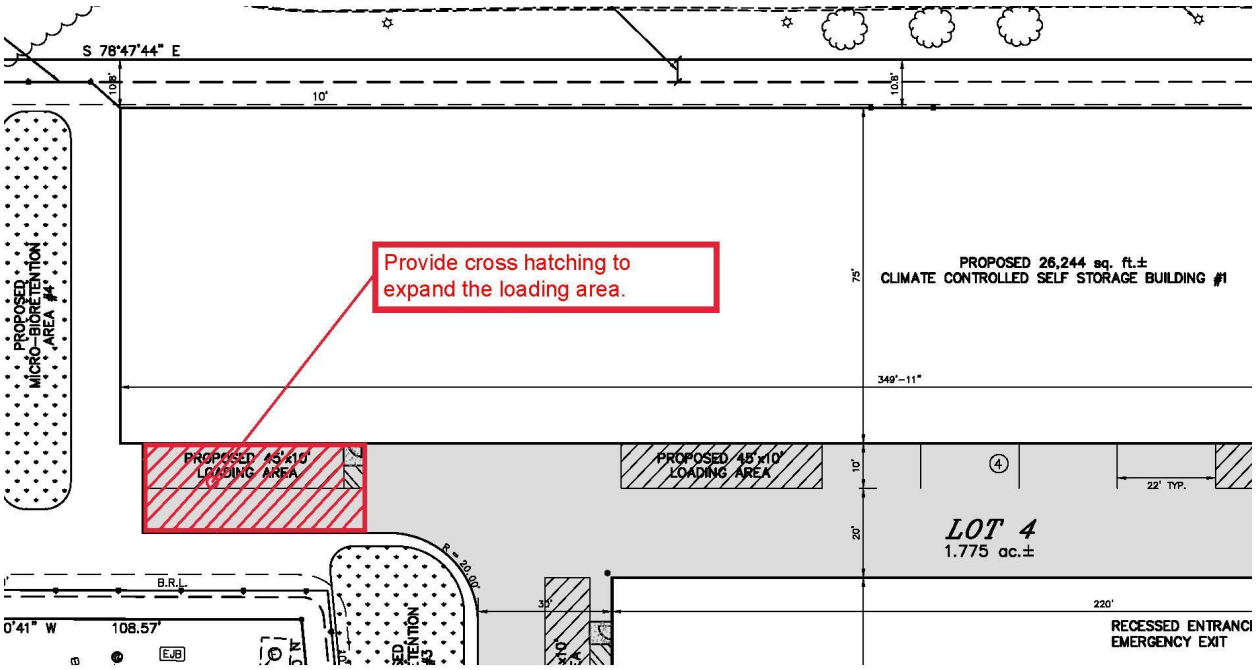
1. The main entrance to the left side of Building #1 has proposed 10’ wide by 45’ long loading areas. The rear loading area only provides a 10’ wide drive aisle. Crosshatch the 10’ wide drive aisle and incorporate into the loading area.

2. Dimension the offset distances from Building 2 to the property line adjacent to Elliott Road.

3. Provide additional landscape buffering behind Building #1 on the northwest side.

4. Show zoning district boundaries on the Vicinity Map.

Review Comment #1



Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☐Approved	**The applicant proposes landscape improvements to be credited for afforestation. All credited landscaping will require a bond prior to Grading Permit Approval.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate impact fee use category for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23rd, 2023**
TO:	**Johnny Dent – Owner**
	Ebie Fink – Fink, Whitten
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller – EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Tuckahoe Hardwood – Sketch Site Plan Review Comments**

I have reviewed the revised application for the subject project received on 8/2/2023. I have the following comments:

1. Please provide verification of SHA authorization for the LOD and outfall shown on SHA ROW.
2. The space between the building and the SWM feature, and the SWM feature and the southern property line is tight. Please verify vehicular access for construction and maintenance of the feature.
3. Provide a Water Quality Summary Table (TOE-SWM-7.01) on the site plan and in the SWM report.. Provide ESD required and provided for each DA.
4. Provide a Water Quantity Summary Table (TOE-SWM-7.02) on the site plan and in the SWM report.

The **Sketch Plan** is **acceptable** to the Engineering Department, but the **Sketch Stormwater Management Plan needs to be revised to address quantity prior to proceeding to the Planning Commission.** Please 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:	Tuesday, August 15, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	No. of Pages:	5
Regarding:	Elliott Road Parcel 2849 Lot 4 - Friel Self Storage		
Phase:	Sketch Site Plan SUBM: 4	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	C-1	Tracer wire shall be 10 gauge and coasted per EUC details
2	C-6	Sewer lateral to be schedule 40
3	C-6	Add valves to fire services
4	C-6	Fire hydrants in close proximity to each other. Is this required? Long 6" lateral will decrease flow available from hydrant
5	C-6	Existing sewer lateral on the south east corner of prcel to be abandoned
6	C- 7	Use new 1" meter and fire hydrant details. Email EUC for updated details
7	L-1	Canopy trees and Evergreens in utility easements
8	General	Capital charges due prior to connection to system in the amount of $15,298.50.

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

26,244 + 11,000 = 37,244 SF
37,244 x 0.015 gal/SF = 558.66 gallons/day
558.66 gal/day ÷ 250 gal/EDU
= 2.17 EDU's x $7,050
= $15,298.5

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) (48.2%)	=	0.855 ac.± (37244 sq. ft.±)
IMPERVIOUS AREA (EXISTING) (4.8%)	=	0.084 ac.± (3,674 sq. ft.±)
IMPERVIOUS AREA (TO BE REMOVED)	=	0.076 ac.± (3,312 sq. ft.±)
IMPERVIOUS AREA (PROPOSED) (65.7%)	=	1.167 ac.± (50,828 sq. ft.±)
IMPERVIOUS AREA (RESULTING) (66.2%)	=	1.175 ac.± (51,190 sq. ft.±)
LANDSCAPE AREA (EXISTING) (95.2%)	=	1.691 ac.± (73,667 sq. ft.±)
LANDSCAPE AREA (PROVIDED) (33.8%)	=	0.600 ac.± (26,151 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) = 6 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

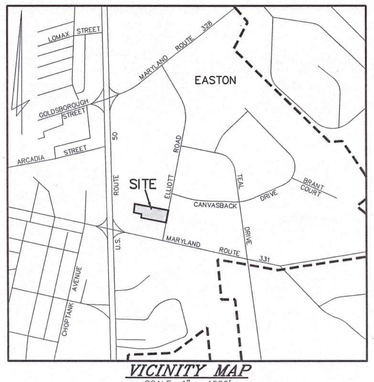
LOADING SPACES (REQUIRED) = 4 SPACES
LOADING SPACES (PROVIDED) = 4 SPACES

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	EXISTING GRAVITY SEWER LINE
S	EXISTING SEWER MANHOLE
W	EXISTING WATER LINE
	EXISTING FIRE HYDRANT
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 3052, FOLIO 169.
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.
8. EXISTING PUBLIC SEWER SERVICES THE AREA.
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)
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'

TABLE OF CONTENTS

SHEET C–1	–	TITLE SHEET
SHEET C–2	–	EXISTING CONDITIONS AND DEMOLITION PLAN
SHEET C–3	–	PRELIMINARY SITE PLAN
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

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

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

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.
    10 gauge coated
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. TWO (2) 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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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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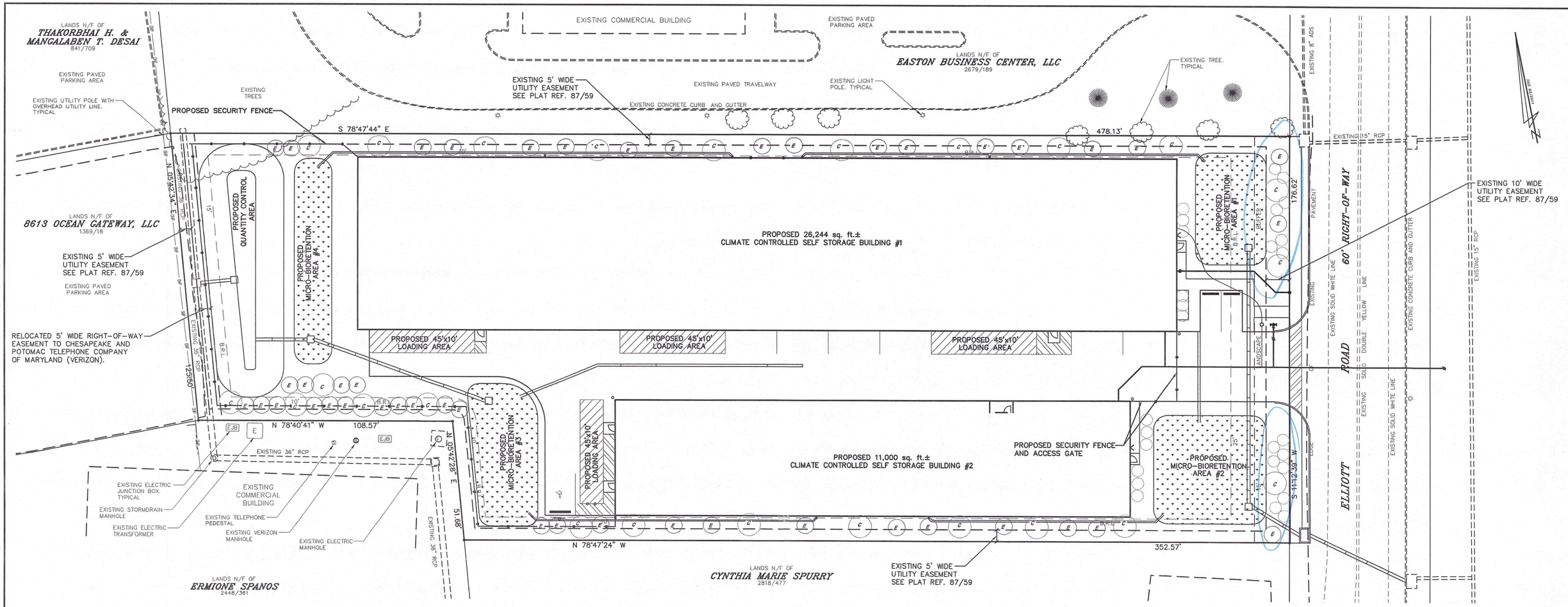

LANDSCAPE PLAN

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 28-1014.6.F.1.
RESPONSE: DISTURBED AREA = 77,319 SQ.FT. (BUILDING AND PAVEMENT AREA). THUS 26 TREES ARE REQUIRED AND PROVIDED AS CANOPY AND EVERGREEN TREES IN THE BACK OF THE SITE.

ONE (1) TREE PER 10 INTERIOR PARKING LOT TREE PER SECTION 28-1014.6.F.2.a.
RESPONSE: JUST 6 PARKING SPACES ARE SPREAD THROUGHOUT THE SITE WITH NO FORMAL PARKING LOT. 1 CANOPY TREE IS REQUIRED FOR PARKING AND IS PROVIDED ONSITE NEAR THE ADA PARKING SPACE.

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 28-1014.6.F.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 STREET BUFFER IN ADDITION TO STORMWATER FEATURES WITH PLANTINGS, AS WELL AS LANDSCAPE PLANTINGS ALONG EITHER SIDE PROPERTY LINES.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES AND OTHER FACADES VISIBLE FROM A STREET SHALL INCORPORATE TREE PLANTINGS WITHIN 50' OF THESE BUILDING FACADES PER SECTION 28-1014.6.F.2.c
RESPONSE: NO VISITOR ENTRANCES ARE FROM STREET VISIBLE FACADES AS THE ELLIOTT ROAD FACING ENTRANCES ARE FOR FIRE SPRINKLER ROOM ACCESS ONLY, EACH WITH STORMWATER MANAGEMENT FEATURES IN FRONT OF THEM AND THE FRONT LANDSCAPE BUFFER.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES PER SECTION 28-1014.6.F.2.c
ONE (1) DECIDUOUS SHADE / CANOPY TREE PER EVERY 20' OF BUILDING FACADE PERIMETER VISIBLE FROM STREET FOR MONOLITHIC BUILDING FACADES. THERE IS AN OPTION SUBSTITUTE 1.5 EVERGREEN TREES OR UNDERSTORY TREE FOR 1 SHADE/CANOPY TREE UP TO 50% OF REQUIRED MINIMUM.
RESPONSE: BUILDING #1 NORTHERN FACADE IS APPROXIMATELY 350 FT. 350 FT / 1 TREE PER 20 FT OF FACADE = 17.5 OR 18 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 18 X 50% X 1.5 = 13.5 OR 14 EVERGREEN OR UNDERSTORY TREES AND 9 CANOPY TREES. TREES ARE PROVIDED ALONG THE NORTHERN FACADE OF BUILDING #1.
BUILDING #2 SOUTHERN FACADE IS 220 FT. 220 FT / 1 TREE PER 20 FT OF FACADE = 11 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 11 X 50% X 1.5 = 8.25 OR 8 EVERGREEN OR UNDERSTORY TREES AND 6 CANOPY TREES. TREES ARE PROVIDED ALONG THE SOUTHERN FACADE OF BUILDING #2.

SERVICE/LOADING AREAS SCREEN PER 28-1014.6.F.2.d
RESPONSE: SERVICE/LOADING AREAS ARE ON THE INTERIOR OF THE SITE ALONG DRIVE AISLES MOSTLY AND WHEN VIEWABLE ARE SCREEN BY SITE PERIMETER PLANTINGS. NO TRASH RECEPTACLE AREA IS PROPOSED.

EARTH BERMING AND DRAINAGE/SWM FEATURES PER 28-1014.6.F.2.e
RESPONSE: SWM AREAS WILL BE LANDSCAPE WITH APPROPRIATELY WATER TOLERANT PLANT TYPES THAT ARE AESTHETICALLY PLEASING.

BUFFERYARDS - BUFFERYARD 'D' BASED ON 50' INCREMENT, PROVIDE A 15' WIDTH WITH 1 PLANT UNIT AS 1 SHADE/CANOPY TREES, 1 EVERGREEN TREES & 5 SHRUBS PER 28-1014.7.E.4.
RESPONSE: A FRONT BUFFER PER THE CODE IS PROVIDED WHILE AVOIDING A 25' CLEAR SITE TRIANGLE AND SUBTRACTING THE ENTRANCE WIDTH. 176.67 FT RIGHT OF WAY LENGTH - 30 FT WIDE ENTRANCE = 146.76 FT. 146.76 FT / 1 PLANTING UNIT PER 50 FT = 2.94. 2.94 PLANTING UNITS X 1 SHADE/CANOPY TREE, 1 EVERGREEN TREE & 5 SHRUBS = 3 CANOPY TREES, 3 EVERGREEN TREES, AND 15 SHRUBS

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 TWICE 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 TWICE 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)

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.

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

8/2/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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

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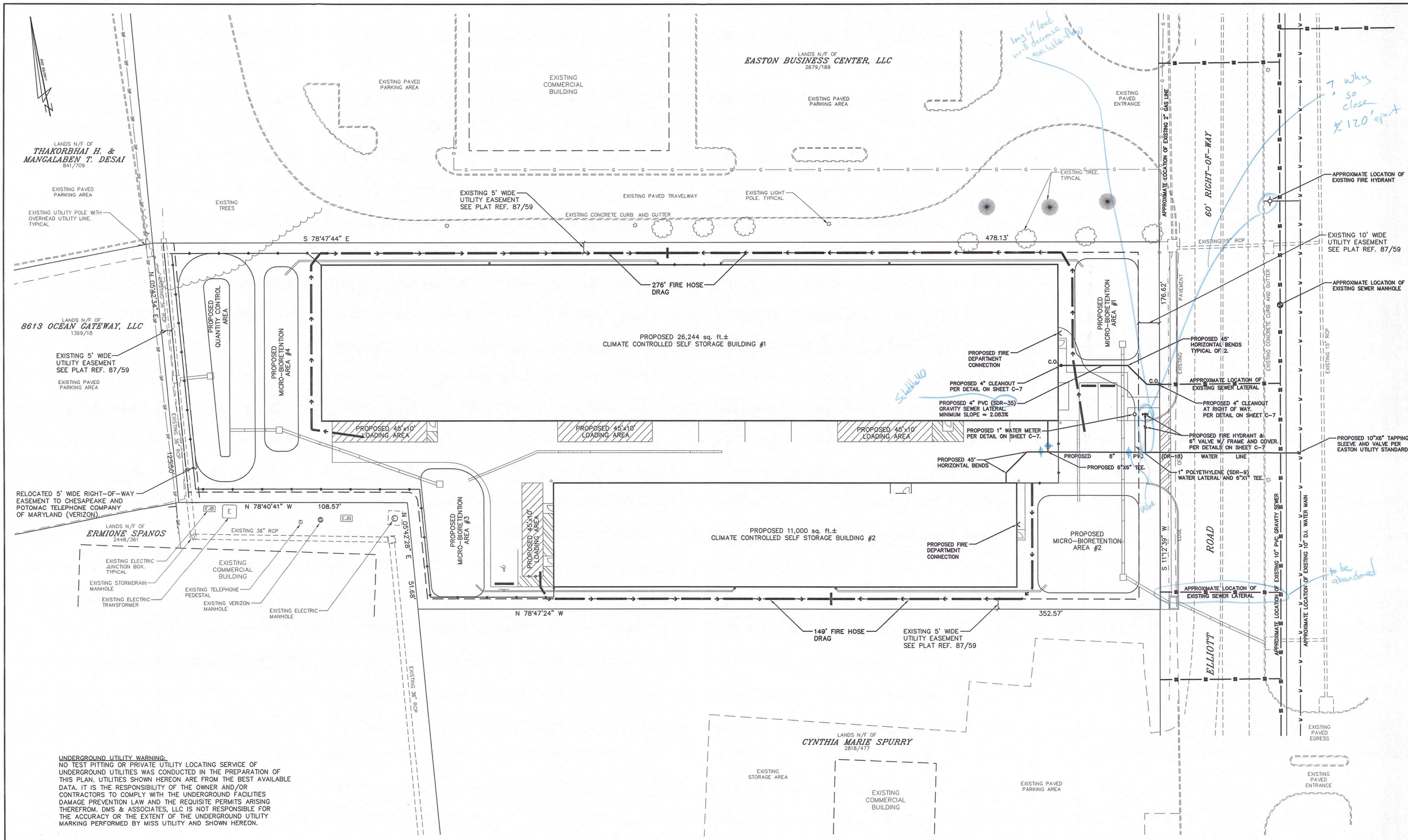

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES 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.

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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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	SCALE
MAY '22	1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD

SHEET No. – C-6

CADD FILE – 22009C06

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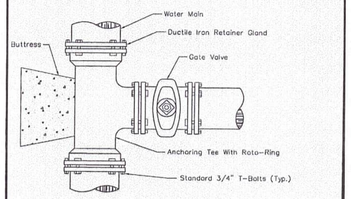
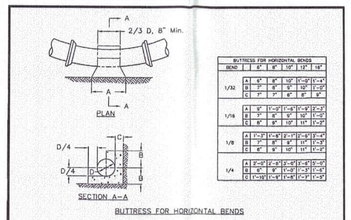


Note:

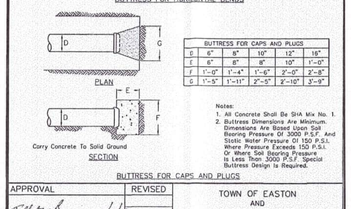
1. All Fittings Shall Be Mechanical Joint, With Ductile Iron Retainer Glands And Mega-Lug Or Equivalent Restraint.
2. Anchoring Tee Shall Be As Indicated And As Manufactured By Griffin Pipe Products, 1100 West Front St. Florence, N.J. 08518, Or An Approved Equal.
3. Retainer Gland Shall Be As Indicated And As Manufactured By Russell Pipe & Foundry Co. Inc., 910 Washington St., Alexander City, AL. 35010, Or An Approved Equal.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS ANCHORING TEE
EU MANAGER OF ENGINEERING DATE	AUG 1, 94 MAR 9, 95 MAR 1, 98	
ISSUED: MAY 1, 1986		STANDARD NO. W-2.01



BUTTRESS FOR HORIZONTAL BENDS

BUTTRESS FOR HORIZONTAL BENDS					
BEND	6"	8"	10"	12"	18"
1/32	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 1'	1'	1'	1'	1'
	C 1'	1'-0"	1'-0"	1'-0"	1'-0"
1/16	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 2'	1'-6"	1'-6"	1'-6"	1'-6"
	C 1'	1'-0"	1'-0"	1'-0"	1'-0"
1/8	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 3'	2'-0"	2'-0"	2'-0"	2'-0"
	C 2'	1'-6"	1'-6"	1'-6"	1'-6"
1/4	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 4'	3'-0"	3'-0"	3'-0"	3'-0"
	C 1'-6"	1'-0"	1'-0"	1'-0"	1'-0"



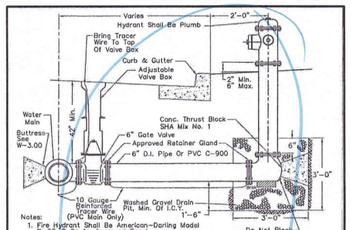
Notes:

1. All Concrete Shall Be SHA Mix No. 1.
2. Buttress Dimensions Are Minimum. Buttress Shall Be Poured To Bearing Pressure Of 3000 P.S.F. And Static Water Pressure Of 150 P.S.I. Where Pressure Exceeds 150 P.S.I. Or Where Soil Bearing Pressure Is Less Than 3000 P.S.F. Special Buttress Design Is Required.

BUTTRESS FOR CAPS AND PLUGS

BUTTRESS FOR CAPS AND PLUGS				
D	6"	8"	10"	12"	18"
E	8"	8"	10"	1'-0"	1'-0"
F	1'-0"	1'-4"	1'-6"	2'-0"	2'-8"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"

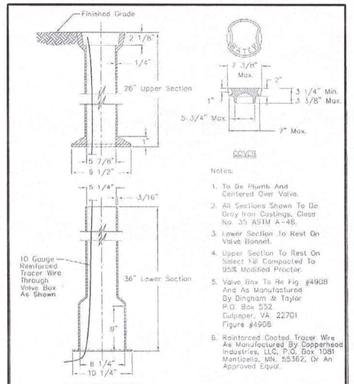
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS BUTTRESSES FOR CAPS AND HORIZONTAL BENDS
EU MANAGER OF ENGINEERING DATE		
ISSUED: MAY 1, 1986		STANDARD NO. W-3.00



Notes:

1. Fire Hydrant Shall Be American-Darling Model B-62-B Or An Approved Equal.
2. Fire Hydrant Specifications:
   Traffic Type, Painted Forest Green, Open Left Operating Nut – Hexagon 1 1/2" Flat To Flat Mechanical Joint Base – 6"
   Bronze Lined
   4" Steamer Nozzle – 6 Thds./Inch Style 60'V 4.783" Pitch Dia.
   2–2 1/2 – Hose Nozzles – Hose Thd. 3 1/32" Dia. 8 Thds/Inch
3. Gate Valve Specifications:
   Shall Conform To AWWA Standard C-500
   Shall Be Iron Body, Bronze Mounted Type And Have Non-Rising Stem, Opening By Turning Right (Clockwise).
   Resilient Seat Valve
4. Fire Hydrant Shall Be Installed As Shown At The Property Line Between Adjoining Lots.
5. Hydrant Spacing Shall Be 750' Max. As Measured On Improved Way For Single Family Res. 375' Max. For Multi-Family, Commercial, Etc.
6. When Indicated By EUC, Drain Port Shall Be Plugged By Contractor.
7. 10 Gauge Coated Solid Copper Tracer Wire Or An Approved Equal.
8. Thoroughly Tape Mechanical Connections With Electrical Tape.

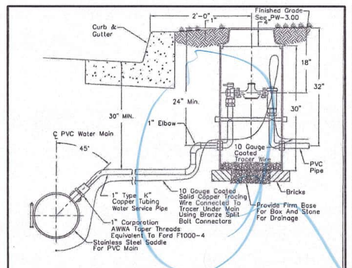
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS FIRE HYDRANT
EU MANAGER OF ENGINEERING DATE	MAR 1, 94 AUG 1, 94 MAR 9, 95 MAR 1, 98 SEP 1, 09 APR 4, 16	
ISSUED: MAY 1, 1986		STANDARD NO. W-4.00



Notes:

1. To Be Plumb And Centered Over Valve.
2. All Sections Shown To Be Gray Iron Castings, Class No. 35 ASTM A-48.
3. Lower Section To Rest On Valve Bonnet.
4. Upper Section To Rest On Select Fill Compacted To 95% Modified Proctor.
5. Valve Box To Be Fig. #4905 And As Manufactured By Dingham & Taylor P.O. Box 552 Culpeper, VA. 22701 Figure #4905
6. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081 Monticello, MN. 55362, Or An Approved Equal.

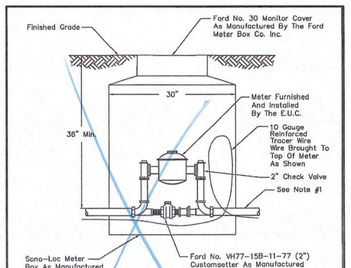
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS ADJUSTABLE VALVE BOX
EU MANAGER OF ENGINEERING DATE	AUG 1, 94 MAR 1, 98 SEP 1, 09	
ISSUED: MAY 1, 1986		STANDARD NO. W-6.00



Notes:

1. Stainless Steel Saddle Shall Be Equivalent To Ford FS303 Or PowerSeal 3412AST.
2. PVC Main Shall Be Tapped With A Shell Type Cutter (Hole Cutter) That Will Retain The Coupon In Accordance With UNI-BELL Plastic Pipe Association UNI-B-3.
3. Meter Box (Ford No. PSBHC-488-20-36-18) Or An Approved Equal Furnished And Installed By Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type A (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Iron 100W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
4. Backfill And Tamp With Select Material To Pad Pipe. See Detail W-1.00.
5. 10 Gauge Coated Solid Copper Tracer Wire (Blue Jacket).
6. Thoroughly Tape Mechanical Connections With Electrical Tape.

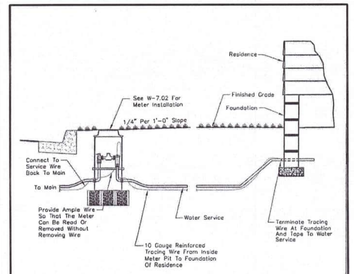
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS 1" WATER SERVICE INSTALLATION – PVC WATER MAIN
EU MANAGER OF ENGINEERING DATE	MAR 9, 95 MAR 1, 98 SEP 1, 09 NOV 1, 10 JUL 20, 11	
ISSUED: AUG 1, 1994	MAR 18, 19	STANDARD NO. W-7.02



Notes:

1. Meter Pit, Frame And Cover, And Customsetter Shall Be Furnished And Installed By The Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type-A (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Iron 60W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
2. 2" Corporation AWWA Taper Threads Shall Be Installed As Detailed On Standard No. W-7.01.
3. Mueller Part Numbers For 1" And 2": B-2423-1-2-01.
4. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081, Monticello, MN. 55362, Or An Approved Equal.
5. Thoroughly Tape Mechanical Connections With Electrical Tape.

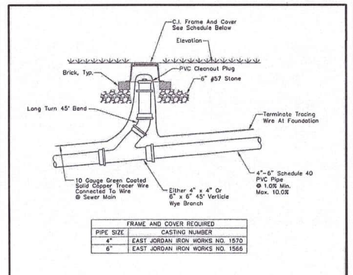
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS 1" AND 2" METER INSTALLATION
EU MANAGER OF ENGINEERING DATE	MAR 1, 98 FEB 1, 06 MAR 1, 07 SEP 1, 09 NOV 1, 10	
ISSUED: MAY 1, 1986	JUL 20, 11	STANDARD NO. W-7.03



Notes:

1. 10 Gauge Solid Copper Tracer Wire, Blue Jacket.
2. Thoroughly Tape Mechanical Connections With Electrical Tape
3. Installation Of Water Service Into Foundation Per Town Of Easton Standards.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS WATER SERVICE CONNECTION
EU MANAGER OF ENGINEERING DATE	JUN 23, 97 MAR 1, 98 MAR 1, 07 SEP 1, 09 SEP 15,14	
ISSUED: JUNE 5, 1997	AUG 6, 19	STANDARD NO. W-7.04

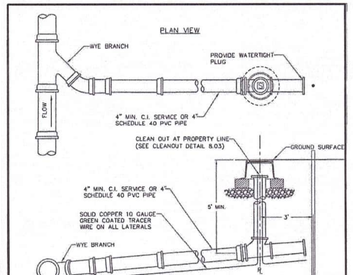


FRAME AND COVER REQUIRED	
PIPE SIZE	CASTING NUMBER
4"	EAST JORDAN IRON WORKS NO. 1570
6"	EAST JORDAN IRON WORKS NO. 1566

NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

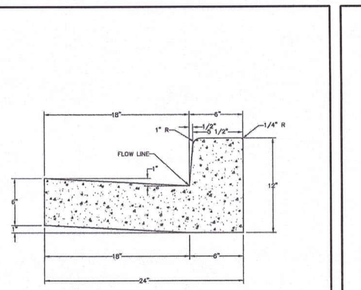
APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS GRAVITY SEWER CLEANOUTS
EU MANAGER OF ENGINEERING JAN 15, 19 DATE		
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.03



NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS SEWER COLLECTION SYSTEM SEWER HOUSE SERVICE
EU MANAGER OF ENGINEERING JAN 15, 2019 DATE	MAY 1, 89 AUG 1, 94 MAR 9, 95 FEB 1, 02 JAN 15, 19	
ISSUED: MAY 1, 1986		STANDARD NO. SS-8.00

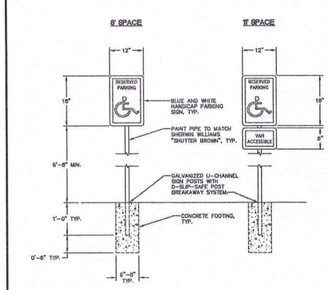


NOTES:

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 5% WHERE HANDICAPPED RAMPS ARE REQUIRED.

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

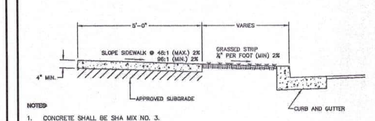
SIGN DETAILS FOR HANDICAP PARKING SPACES



NOTES:

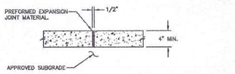
1. H/C PARKING SIGNS (US DOT STANDARD R7-8).

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



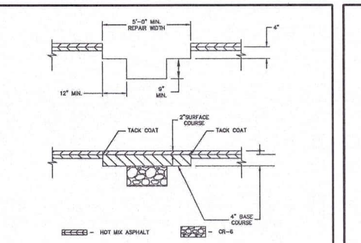
NOTES:

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 35.



EXPANSION JOINT DETAIL

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

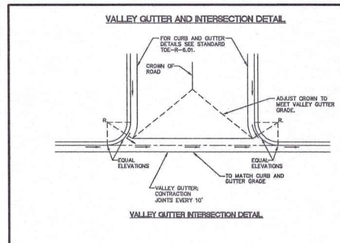


NOTES:

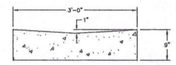
1. PAVEMENT SHALL BE SAW CUT FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. 8" PATCH FALLS WITHIN 2' OF EXISTING CURB OR EDGE OF PAVING, CONTINUE RESTORATION TO EDGE OF PAVE.
3. SURFACE COURSE: 2" OF 9.5mm SUPERPAVE.
   BASE COURSE: 4" OF 9.5mm, 12.5mm OR 19.0 mm SUPERPAVE IN 2–3" 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 AREA 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 OF EASTON STANDARD DETAILS PERMANENT ASPHALT PAVEMENT REPAIR FOR UTILITY TRENCHES
TOWN ENGINEER 1/2020 DATE	
ISSUED: JANUARY 2020	STANDARD NO: TOE-R-5.01-3

VALLEY GUTTER AND INTERSECTION DETAIL



VALLEY GUTTER INTERSECTION DETAIL



VALLEY GUTTER DETAIL

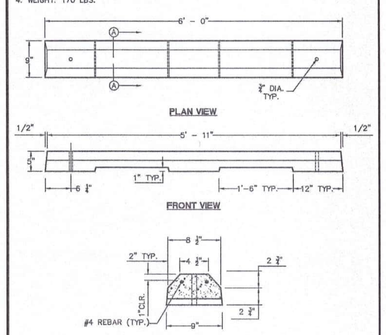
NOTES:

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

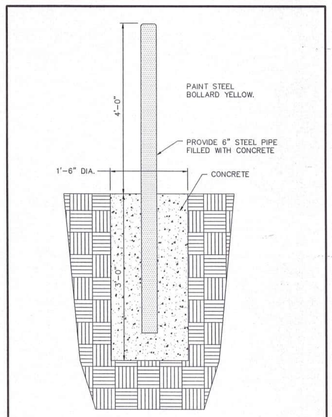
APPROVAL	TOWN OF EASTON STANDARD DETAILS VALLEY GUTTER AND INTERSECTION DETAIL
TOWN ENGINEER 1/2020 DATE	
ISSUED: JANUARY 2020	STANDARD NO: TOE-R-6.05

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.



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



PIPE BOLLARD DETAIL

NOT TO SCALE

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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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	SCALE
MAY '22	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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TOWN OF EASTON
PLANNING & ZONING DEPARTMENT
P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: **August 23, 2023**
TO: **Elizabeth Fink – Fink Whitten & Associates, LLC, Jay Friel – Friel Storage, LLC**
Brandon Davis - Davis, Moore, Shearon & Associates, 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 **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #3

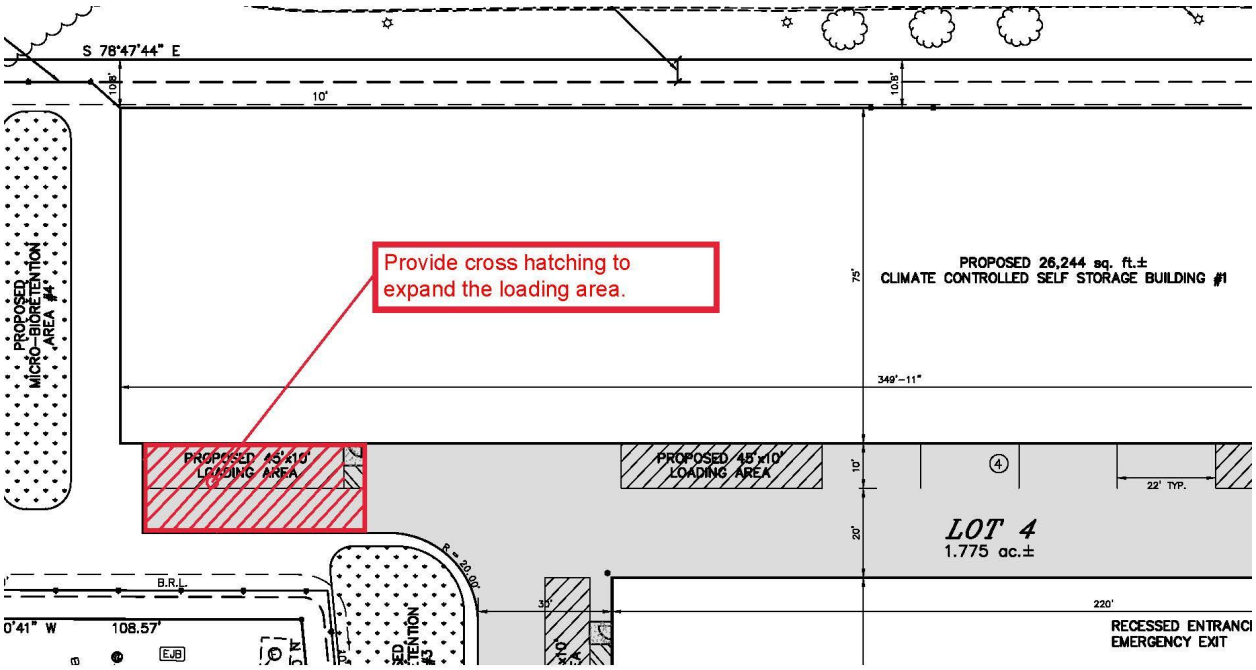
1. The main entrance to the left side of Building #1 has proposed 10’ wide by 45’ long loading areas. The rear loading area only provides a 10’ wide drive aisle. Crosshatch the 10’ wide drive aisle and incorporate into the loading area.

2. Dimension the offset distances from Building 2 to the property line adjacent to Elliott Road.

3. Provide additional landscape buffering behind Building #1 on the northwest side.

4. Show zoning district boundaries on the Vicinity Map.

Review Comment #1



Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☐Approved	**The applicant proposes landscape improvements to be credited for afforestation. All credited landscaping will require a bond prior to Grading Permit Approval.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate impact fee use category for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23rd, 2023**
TO:	**Johnny Dent – Owner**
	Ebie Fink – Fink, Whitten
Cc:	**Rick Van Emburgh – Town Engineer**
	Miguel Salinas – Planning and Zoning Department
	Aaron Goller – EUC
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Tuckahoe Hardwood – Sketch Site Plan Review Comments**

I have reviewed the revised application for the subject project received on 8/2/2023. I have the following comments:

1. Please provide verification of SHA authorization for the LOD and outfall shown on SHA ROW.
2. The space between the building and the SWM feature, and the SWM feature and the southern property line is tight. Please verify vehicular access for construction and maintenance of the feature.
3. Provide a Water Quality Summary Table (TOE-SWM-7.01) on the site plan and in the SWM report.. Provide ESD required and provided for each DA.
4. Provide a Water Quantity Summary Table (TOE-SWM-7.02) on the site plan and in the SWM report.

The **Sketch Plan** is **acceptable** to the Engineering Department, but the **Sketch Stormwater Management Plan needs to be revised to address quantity prior to proceeding to the Planning Commission.** Please 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:	Tuesday, August 15, 2023		
To:	Joe Mayer; Nicholas Johnson; Sierra Clem		
From:	Kia Gibbs on behalf of Aaron Goller, PE	No. of Pages:	5
Regarding:	Elliott Road Parcel 2849 Lot 4 - Friel Self Storage		
Phase:	Sketch Site Plan SUBM: 4	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	C-1	Tracer wire shall be 10 gauge and coasted per EUC details
2	C-6	Sewer lateral to be schedule 40
3	C-6	Add valves to fire services
4	C-6	Fire hydrants in close proximity to each other. Is this required? Long 6" lateral will decrease flow available from hydrant
5	C-6	Existing sewer lateral on the south east corner of prcel to be abandoned
6	C- 7	Use new 1" meter and fire hydrant details. Email EUC for updated details
7	L-1	Canopy trees and Evergreens in utility easements
8	General	Capital charges due prior to connection to system in the amount of $15,298.50.

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

26,244 + 11,000 = 37,244 SF
37,244 x 0.015 gpd/SF = 543.66 gallons/day ÷ 250 gpd/EDU
= 2.17 EDU's x $7,050
= $15,298.5

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) (48.2%)	=	0.855 ac.± (37244 sq. ft.±)
IMPERVIOUS AREA (EXISTING) (4.8%)	=	0.084 ac.± (3,674 sq. ft.±)
IMPERVIOUS AREA (TO BE REMOVED)	=	0.076 ac.± (3,312 sq. ft.±)
IMPERVIOUS AREA (PROPOSED) (65.7%)	=	1.167 ac.± (50,828 sq. ft.±)
IMPERVIOUS AREA (RESULTING) (66.2%)	=	1.175 ac.± (51,190 sq. ft.±)
LANDSCAPE AREA (EXISTING) (95.2%)	=	1.691 ac.± (73,667 sq. ft.±)
LANDSCAPE AREA (PROVIDED) (33.8%)	=	0.600 ac.± (26,151 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) = 6 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

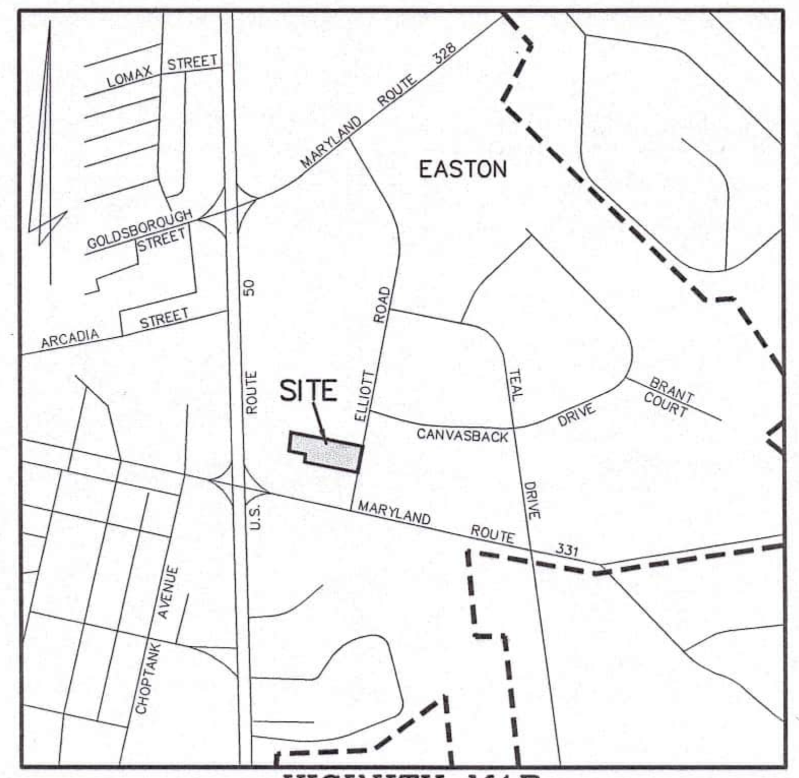
LOADING SPACES (REQUIRED) = 4 SPACES
LOADING SPACES (PROVIDED) = 4 SPACES

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
- PROPOSED DRAINAGE MANHOLE
- PROPOSED SIGN
- PROPOSED ACCESSIBLE PARKING SPACE
- SS — EXISTING GRAVITY SEWER LINE
- EXISTING SEWER MANHOLE
- W — EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- 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 3052, FOLIO 169.
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.
8. EXISTING PUBLIC SEWER SERVICES THE AREA.
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)
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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OWNER & APPLICANT
FRIEL STORAGE, LLC.
c/o JAY FRIEL
47 PROSPECT BAY DR W
GRASONVILLE, MARYLAND 21638
PHONE No. 1–410–827–8811

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

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

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.

10 gauge coated

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. TWO (2) 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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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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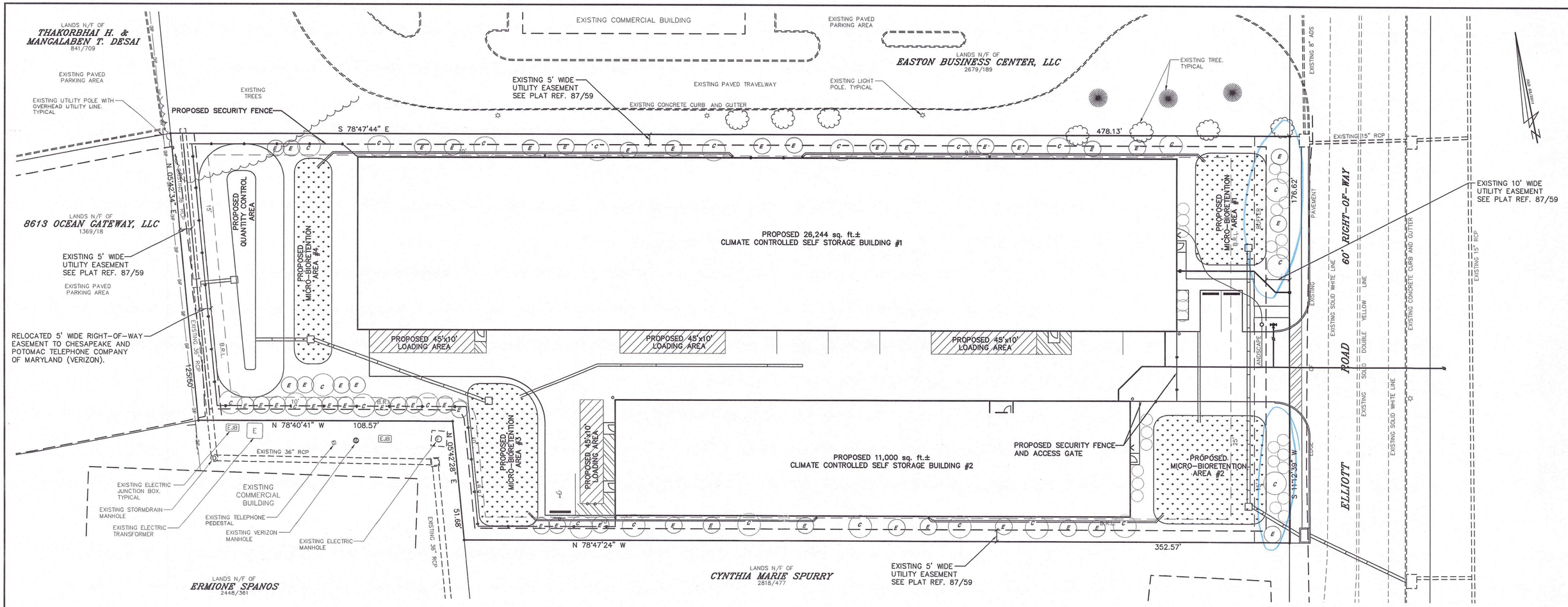

LANDSCAPE PLAN

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 28-1014.6.F.1.
RESPONSE: DISTURBED AREA = 77,319 SQ.FT. (BUILDING AND PAVEMENT AREA). THUS 26 TREES ARE REQUIRED AND PROVIDED AS CANOPY AND EVERGREEN TREES IN THE BACK OF THE SITE.

ONE (1) TREE PER 10 INTERIOR PARKING LOT TREE PER SECTION 28-1014.6.F.2.a.
RESPONSE: JUST 6 PARKING SPACES ARE SPREAD THROUGHOUT THE SITE WITH NO FORMAL PARKING LOT. 1 CANOPY TREE IS REQUIRED FOR PARKING AND IS PROVIDED ONSITE NEAR THE ADA PARKING SPACE.

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 28-1014.6.F.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 STREET BUFFER IN ADDITION TO STORMWATER FEATURES WITH PLANTINGS, AS WELL AS LANDSCAPE PLANTINGS ALONG EITHER SIDE PROPERTY LINES.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES AND OTHER FACADES VISIBLE FROM A STREET SHALL INCORPORATE TREE PLANTINGS WITHIN 50' OF THESE BUILDING FACADES PER SECTION 28-1014.6.F.2.c
RESPONSE: NO VISITOR ENTRANCES ARE FROM STREET VISIBLE FACADES AS THE ELLIOTT ROAD FACING ENTRANCES ARE FOR FIRE SPRINKLER ROOM ACCESS ONLY, EACH WITH STORMWATER MANAGEMENT FEATURES IN FRONT OF THEM AND THE FRONT LANDSCAPE BUFFER.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES PER SECTION 28-1014.6.F.2.c
ONE (1) DECIDUOUS SHADE / CANOPY TREE PER EVERY 20' OF BUILDING FACADE PERIMETER VISIBLE FROM STREET FOR MONOLITHIC BUILDING FACADES. THERE IS AN OPTION SUBSTITUTE 1.5 EVERGREEN TREES OR UNDERSTORY TREE FOR 1 SHADE/CANOPY TREE UP TO 50% OF REQUIRED MINIMUM.
RESPONSE: BUILDING #1 NORTHERN FACADE IS APPROXIMATELY 350 FT. 350 FT / 1 TREE PER 20 FT OF FACADE = 17.5 OR 18 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 18 X 50% X 1.5 = 13.5 OR 14 EVERGREEN OR UNDERSTORY TREES AND 9 CANOPY TREES. TREES ARE PROVIDED ALONG THE NORTHERN FACADE OF BUILDING #1.
BUILDING #2 SOUTHERN FACADE IS 220 FT. 220 FT / 1 TREE PER 20 FT OF FACADE = 11 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 11 X 50% X 1.5 = 8.25 OR 8 EVERGREEN OR UNDERSTORY TREES AND 6 CANOPY TREES. TREES ARE PROVIDED ALONG THE SOUTHERN FACADE OF BUILDING #2.

SERVICE/LOADING AREAS SCREEN PER 28-1014.6.F.2.d
RESPONSE: SERVICE/LOADING AREAS ARE ON THE INTERIOR OF THE SITE ALONG DRIVE AISLES MOSTLY AND WHEN VIEWABLE ARE SCREEN BY SITE PERIMETER PLANTINGS. NO TRASH RECEPTACLE AREA IS PROPOSED.

EARTH BERMING AND DRAINAGE/SWM FEATURES PER 28-1014.6.F.2.e
RESPONSE: SWM AREAS WILL BE LANDSCAPE WITH APPROPRIATELY WATER TOLERANT PLANT TYPES THAT ARE AESTHETICALLY PLEASING.

BUFFERYARDS - BUFFERYARD 'D' BASED ON 50' INCREMENT, PROVIDE A 15' WIDTH WITH 1 PLANT UNIT AS 1 SHADE/CANOPY TREES, 1 EVERGREEN TREES & 5 SHRUBS PER 28-1014.7.E.4.
RESPONSE: A FRONT BUFFER PER THE CODE IS PROVIDED WHILE AVOIDING A 25' CLEAR SITE TRIANGLE AND SUBTRACTING THE ENTRANCE WIDTH. 176.67 FT RIGHT OF WAY LENGTH - 30 FT WIDE ENTRANCE = 146.76 FT. 146.76 FT / 1 PLANTING UNIT PER 50 FT = 2.94. 2.94 PLANTING UNITS X 1 SHADE/CANOPY TREE, 1 EVERGREEN TREE & 5 SHRUBS = 3 CANOPY TREES, 3 EVERGREEN TREES, AND 15 SHRUBS

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 TWICE 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 TWICE 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)

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.

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

8/2/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410-822-8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410-228-8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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

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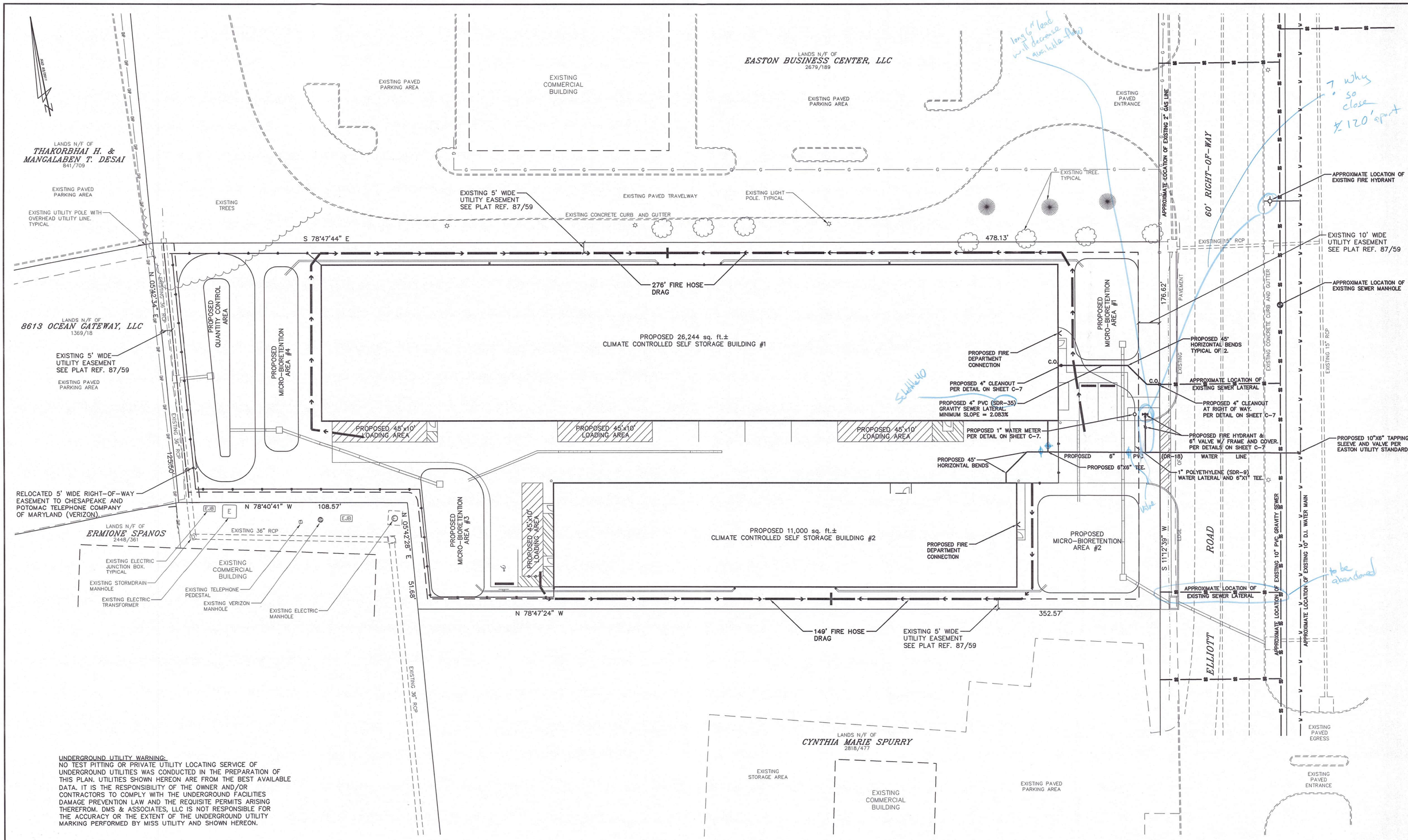

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES 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:
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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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	SCALE
MAY '22	1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD

SHEET No. – C-6

CADD FILE – 22009C06

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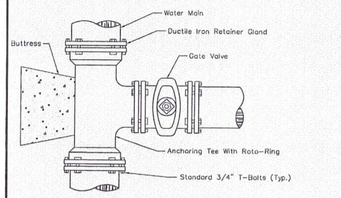
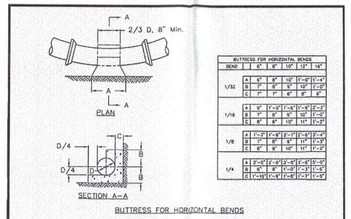


Note:

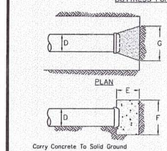
1. All Fittings Shall Be Mechanical Joint, With Ductile Iron Retainer Glands And Mega-Lug Or Equivalent Restraint.
2. Anchoring Tee Shall Be As Indicated And As Manufactured By Griffin Pipe Products, 1100 West Front St. Florence, N.J. 08518, Or An Approved Equal.
3. Retainer Gland Shall Be As Indicated And As Manufactured By Russell Pipe & Foundry Co. Inc., 910 Washington St., Alexander City, AL. 35010, Or An Approved Equal.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS ANCHORING TEE
EU MANAGER OF ENGINEERING DATE	AUG 1, 94	
	MAR 9, 95	
	MAR 1, 98	
ISSUED: MAY 1, 1986		STANDARD NO. W-2.01



BUTTRESS FOR HORIZONTAL BENDS

BUTTRESS FOR HORIZONTAL BENDS					
BEND	6"	8"	10"	12"	18"
1/32	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 1'	1'	1'	1'	1'
	C 1'	1'-0"	1'-0"	1'-0"	1'-0"
1/16	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 2'	1'-6"	1'-6"	1'-6"	1'-6"
	C 1'	1'-0"	1'-0"	1'-0"	1'-0"
1/8	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 3'	2'-0"	2'-0"	2'-0"	2'-0"
	C 2'	1'-6"	1'-6"	1'-6"	1'-6"
1/4	A1 1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	B 4'	3'-0"	2'-0"	2'-0"	2'-0"
	C 1'-6"	1'-0"	1'-0"	1'-0"	1'-0"



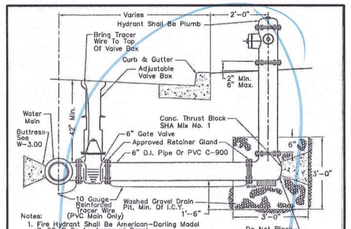
BUTTRESS FOR CAPS AND PLUGS				
D	6"	8"	10"	12"	18"
E	8"	8"	10"	1'-0"	1'-0"
F	1'-0"	1'-4"	1'-6"	2'-0"	2'-8"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"

Notes:

1. All Concrete Shall Be SHA Mix No. 1.
2. Buttress Dimensions Are Minimum. Buttress Shall Be Poured To Bearing Pressure Of 3000 P.S.F. And Static Water Pressure Of 150 P.S.I. Where Pressure Exceeds 150 P.S.I. Or Where Soil Bearing Pressure Is Less Than 3000 P.S.F. Special Buttress Design Is Required.

BUTTRESS FOR CAPS AND PLUGS

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS BUTTRESSES FOR CAPS AND HORIZONTAL BENDS
EU MANAGER OF ENGINEERING DATE		
ISSUED: MAY 1, 1986		STANDARD NO. W-3.00

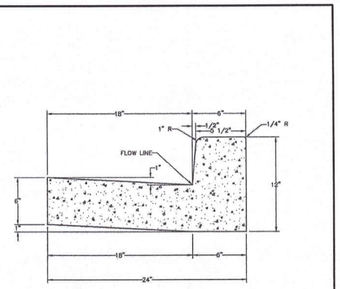


Notes:

1. Fire Hydrant Shall Be American-Darling Model B-62-B Or An Approved Equal.
2. Fire Hydrant Specifications:
   Traffic Type, Painted Forest Green, Open Left Operating Nut – Hexagon 1 1/2" Flat To Flat Mechanical Joint Base – 6"
   Bronze Lined
   4" Steamer Nozzle – 6 Thds./Inch Style 60'V 4.783" Pitch Dia.
   2–2 1/2 – Hose Nozzles – Hose Thd. 3 1/32" Dia. 8 Thds/Inch
3. Gate Valve Specifications:
   Shall Conform To AWWA Standard C-500
   Shall Be Iron Body, Bronze Mounted Type And Have Non-Rising Stem, Opening By Turning Right (Clockwise). Resilient Seat Valve
4. Fire Hydrant Shall Be Installed As Shown At The Property Line Between Adjoining Lots.
5. Hydrant Spacing Shall Be 750' Max. As Measured On Improved Way For Single Family Res. 375' Max. For Multi-Family, Commercial, Etc.
6. When Indicated By EUC, Drain Port Shall Be Plugged By Contractor.
7. 10 Gauge Coated Solid Copper Tracer Wire Or An Approved Equal.
8. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS FIRE HYDRANT
EU MANAGER OF ENGINEERING DATE	MAR 1, 94	
	AUG 1, 94	
	MAR 9, 95	
	MAR 1, 98	
	SEP 1, 09	
ISSUED: MAY 1, 1986	APR 4, 16	STANDARD NO. W-4.00

Email for detail

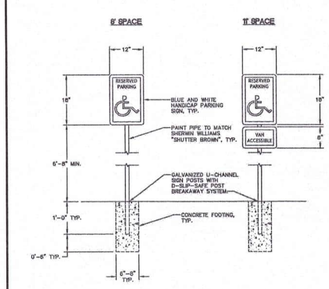


NOTES:

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 5% WHERE HANDICAPPED RAMPS ARE REQUIRED.

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

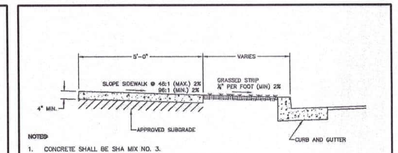
SIGN DETAILS FOR HANDICAP PARKING SPACES



NOTES:

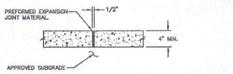
1. H/C PARKING SIGNS (US DOT STANDARD R7-8).

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



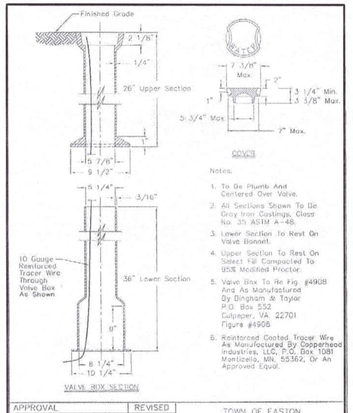
NOTES:

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 35.



EXPANSION JOINT DETAIL

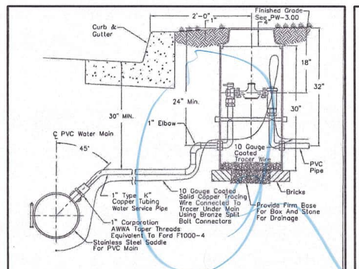
APPROVAL	TOWN OF EASTON STANDARD DETAILS CONCRETE SIDEWALK
TOWN ENGINEER DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO: TOE-R-7.01



Notes:

1. To Be Plumb And Centered Over Valve.
2. All Sections Shown To Be Gray Iron Castings, Class No. 35 ASTM A-48.
3. Lower Section To Rest On Valve Bonnet.
4. Upper Section To Rest On Select Fill Compacted To 95% Modified Proctor.
5. Valve Box To Be Fig. #4905 And As Manufactured By Dingham & Taylor P.O. Box 552 Culpeper, VA. 22701 Figure #4905
6. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081 Monticello, MN. 55362, Or An Approved Equal.

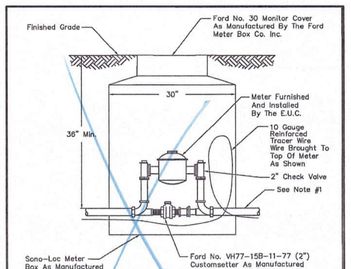
APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS ADJUSTABLE VALVE BOX
EU MANAGER OF ENGINEERING DATE	AUG 1, 94	
	MAR 1, 98	
	SEP 1, 09	
ISSUED: MAY 1, 1986		STANDARD NO. W-6.00



Notes:

1. Stainless Steel Saddle Shall Be Equivalent To Ford FS303 Or PowerSeal 3412AST.
2. PVC Main Shall Be Tapped With A Shell Type Cutter (Hole Cutter) That Will Retain The Coupon In Accordance With UNI-BELL Plastic Pipe Association UNI-B-3.
3. Meter Box (Ford No. PSBHC-488-20-36-18) Or An Approved Equal Furnished And Installed By Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type A (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Iron 100W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
4. Backfill And Tamp With Select Material To Pad Pipe. See Detail W-1.00.
5. 10 Gauge Coated Solid Copper Tracer Wire (Blue Jacket).
6. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS 1" WATER SERVICE INSTALLATION – PVC WATER MAIN
EU MANAGER OF ENGINEERING DATE	MAR 9, 95	
	MAR 1, 98	
	SEP 1, 09	
	NOV 1, 10	
	JUL 20, 11	
ISSUED: AUG 1, 1994	MAR 18, 19	STANDARD NO. W-7.02

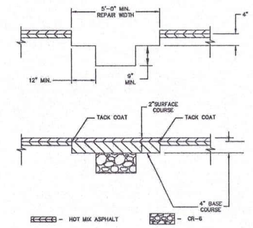


Notes:

1. Meter Pit, Frame And Cover, And Customsetter Shall Be Furnished And Installed By The Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type-A (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Iron 60W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
2. 2" Corporation AWWA Taper Threads Shall Be Installed As Detailed On Standard No. W-7.01.
3. Mueller Part Numbers For 1" And 2": B-2423--2-01.
4. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081, Monticello, MN. 55362, Or An Approved Equal.
5. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS 1" AND 2" METER INSTALLATION
EU MANAGER OF ENGINEERING DATE	MAR 1, 98	
	FEB 1, 06	
	MAR 1, 07	
	SEP 1, 09	
	NOV 1, 10	
ISSUED: MAY 1, 1986	JUL 20, 11	STANDARD NO. W-7.03

Email for detail

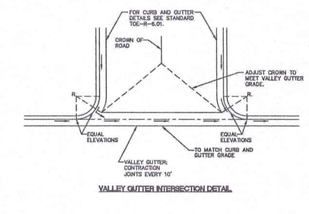


NOTES:

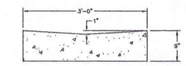
1. PAVEMENT SHALL BE SAW CUT FULL DEPTH OF THE EXISTING PAVEMENT SECTION. ALL CUTS SHALL BE MADE IN STRAIGHT LINES.
2. 8" PATCH FALLS WITHIN 2' OF EXISTING CURB OR EDGE OF PAVING, CONTINUE RESTORATION TO EDGE OF PAVE.
3. SURFACE COURSE: 2" OF 9.5mm SUPERPAVE.
   BASE COURSE: 4" OF 9.5mm, 12.5mm OR 19.0 mm SUPERPAVE IN 2–3" 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 AREA 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 OF EASTON STANDARD DETAILS PERMANENT ASPHALT PAVEMENT REPAIR FOR UTILITY TRENCHES
TOWN ENGINEER DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO: TOE-R-5.01-3

VALLEY GUTTER AND INTERSECTION DETAIL



VALLEY GUTTER INTERSECTION DETAIL



VALLEY GUTTER DETAIL

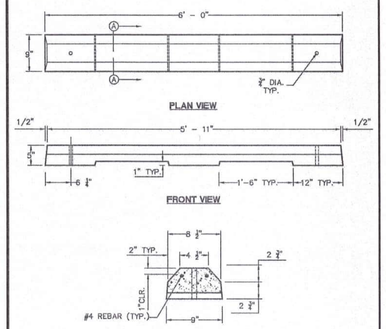
NOTES:

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

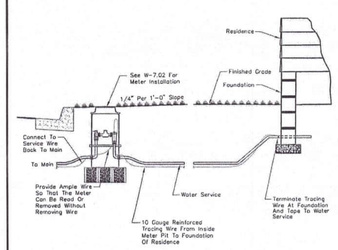
APPROVAL	TOWN OF EASTON STANDARD DETAILS VALLEY GUTTER AND INTERSECTION DETAIL
TOWN ENGINEER DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO: TOE-R-6.05

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.



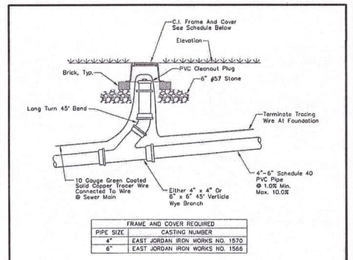
APPROVAL	TOWN OF EASTON STANDARD DETAILS 6" PRECAST CONCRETE WHEEL STOP
TOWN ENGINEER DATE 1/2020	
ISSUED: JANUARY 2020	STANDARD NO: TOE-SI-5.01



Notes:

1. 10 Gauge Solid Copper Tracer Wire, Blue Jacket.
2. Thoroughly Tape Mechanical Connections With Electrical Tape.
3. Installation Of Water Service Into Foundation Per Town Of Easton Standards.

APPROVAL	REVISED	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS WATER SERVICE CONNECTION
EU MANAGER OF ENGINEERING DATE	JUN 23, 97	
	MAR 1, 98	
	MAR 1, 07	
	SEP 1, 09	
	SEP 15,14	
ISSUED: JUNE 5, 1997	AUG 6, 19	STANDARD NO. W-7.04

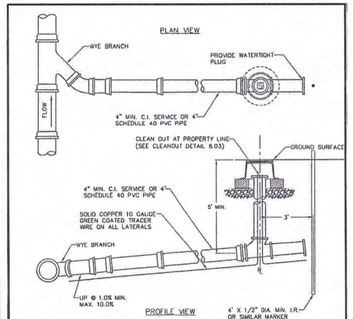


FRAME AND COVER REQUIRED	
PIPE SIZE	CASTING NUMBER
4"	EAST JORDAN IRON WORKS NO. 1570
6"	EAST JORDAN IRON WORKS NO. 1566

NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

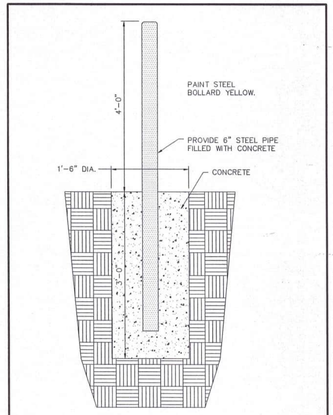
APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS GRAVITY SEWER CLEANOUTS
EU MANAGER OF ENGINEERING DATE JAN 15, 19		
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.03



NOTES:

1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	EASTON UTILITIES STANDARD DETAILS SEWER COLLECTION SYSTEM SEWER HOUSE SERVICE
EU MANAGER OF ENGINEERING DATE JAN 15, 2019	MAY 1, 89	
	AUG 1, 94	
	MAR 9, 95	
	FEB 1, 02	
	JAN 15, 19	
ISSUED: MAY 1, 1986		STANDARD NO. SS-8.00



PIPE BOLLARD DETAIL

NOT TO SCALE

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

8/2/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS

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	SCALE
MAY '22	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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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

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) (48.2%)	=	0.855 ac.± (37244 sq. ft.±)
IMPERVIOUS AREA (EXISTING) (4.8%)	=	0.084 ac.± (3,674 sq. ft.±)
IMPERVIOUS AREA (TO BE REMOVED)	=	0.076 ac.± (3,312 sq. ft.±)
IMPERVIOUS AREA (PROPOSED) (65.7%)	=	1.167 ac.± (50,828 sq. ft.±)
IMPERVIOUS AREA (RESULTING) (66.2%)	=	1.175 ac.± (51,190 sq. ft.±)
LANDSCAPE AREA (EXISTING) (95.2%)	=	1.691 ac.± (73,667 sq. ft.±)
LANDSCAPE AREA (PROVIDED) (33.8%)	=	0.600 ac.± (26,151 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) = 6 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

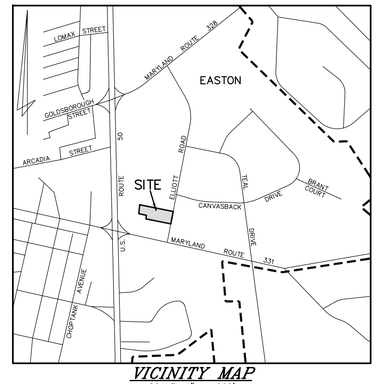
LOADING SPACES (REQUIRED) = 4 SPACES
LOADING SPACES (PROVIDED) = 5 SPACES

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 3052, FOLIO 169.
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.
8. EXISTING PUBLIC SEWER SERVICES THE AREA.
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)
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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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. TWO (2) 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

8/28/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 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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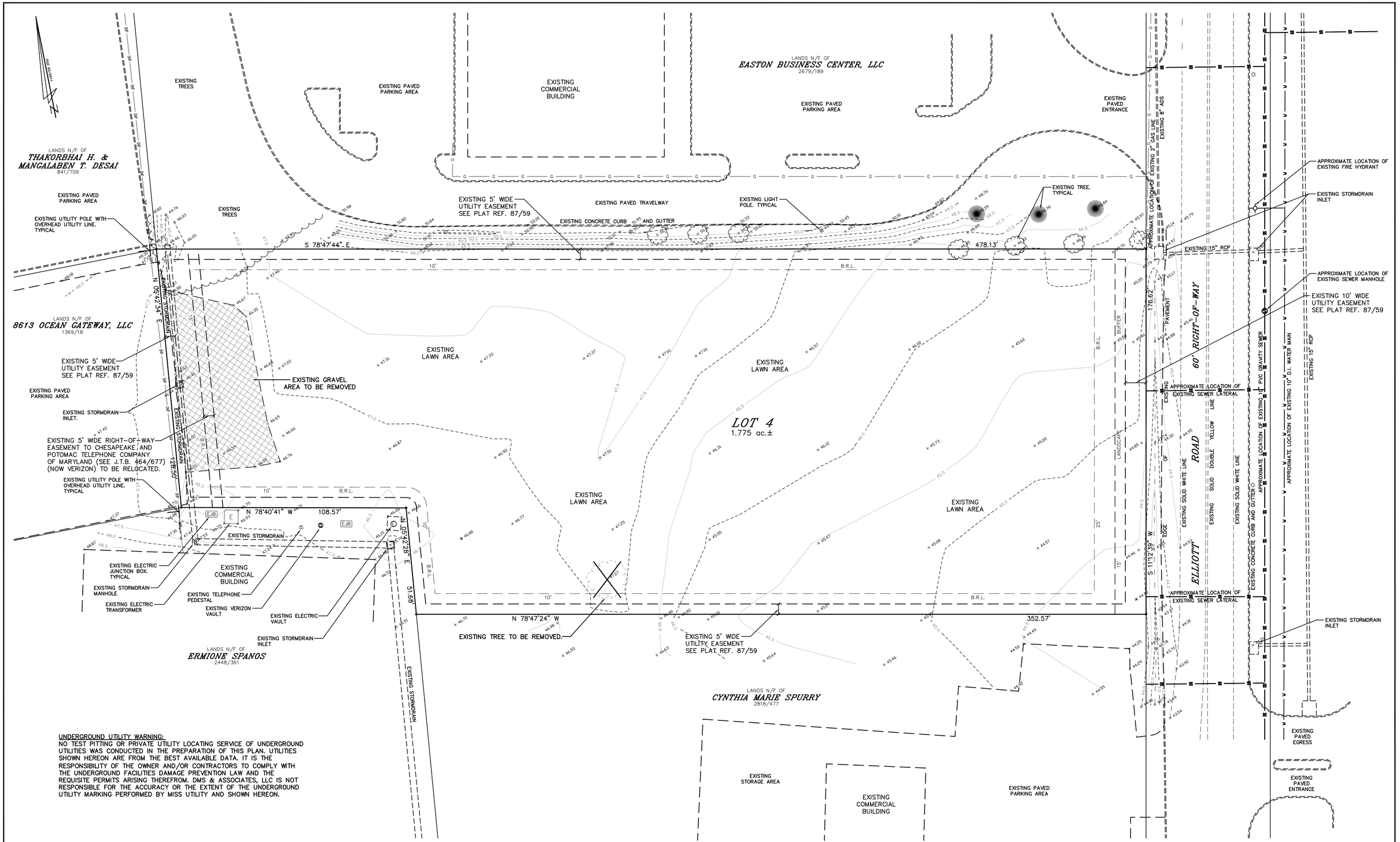

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES 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:
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 DENEY
No. 17660
AUGUST 8, 2023
PROFESSIONAL ENGINEER

8/28/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
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CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-9130
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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

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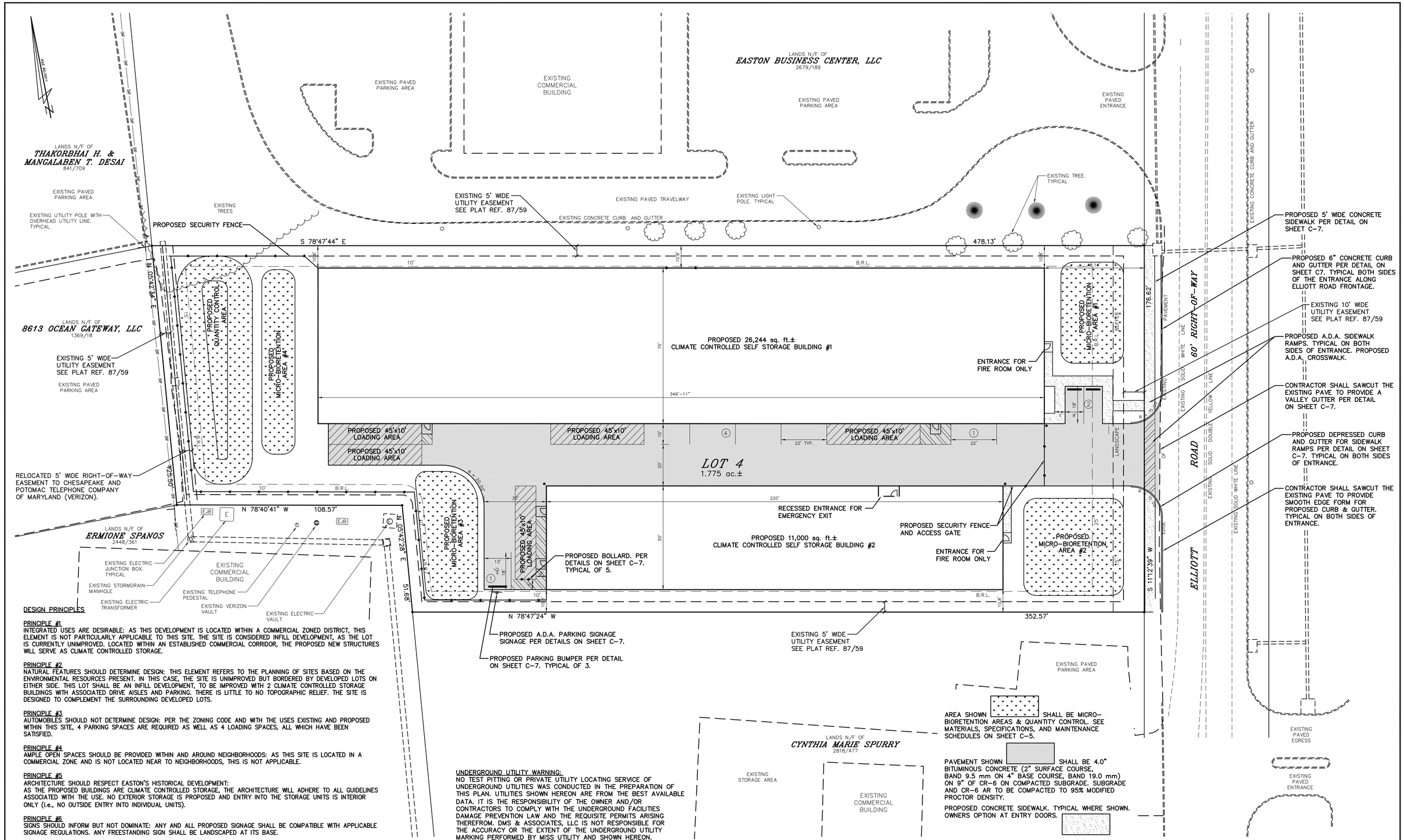

DESIGN PRINCIPLES

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 STRUCTURES 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 2 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 4 LOADING SPACES, 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 BUILDINGS ARE 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.

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.

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

8/28/2023
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
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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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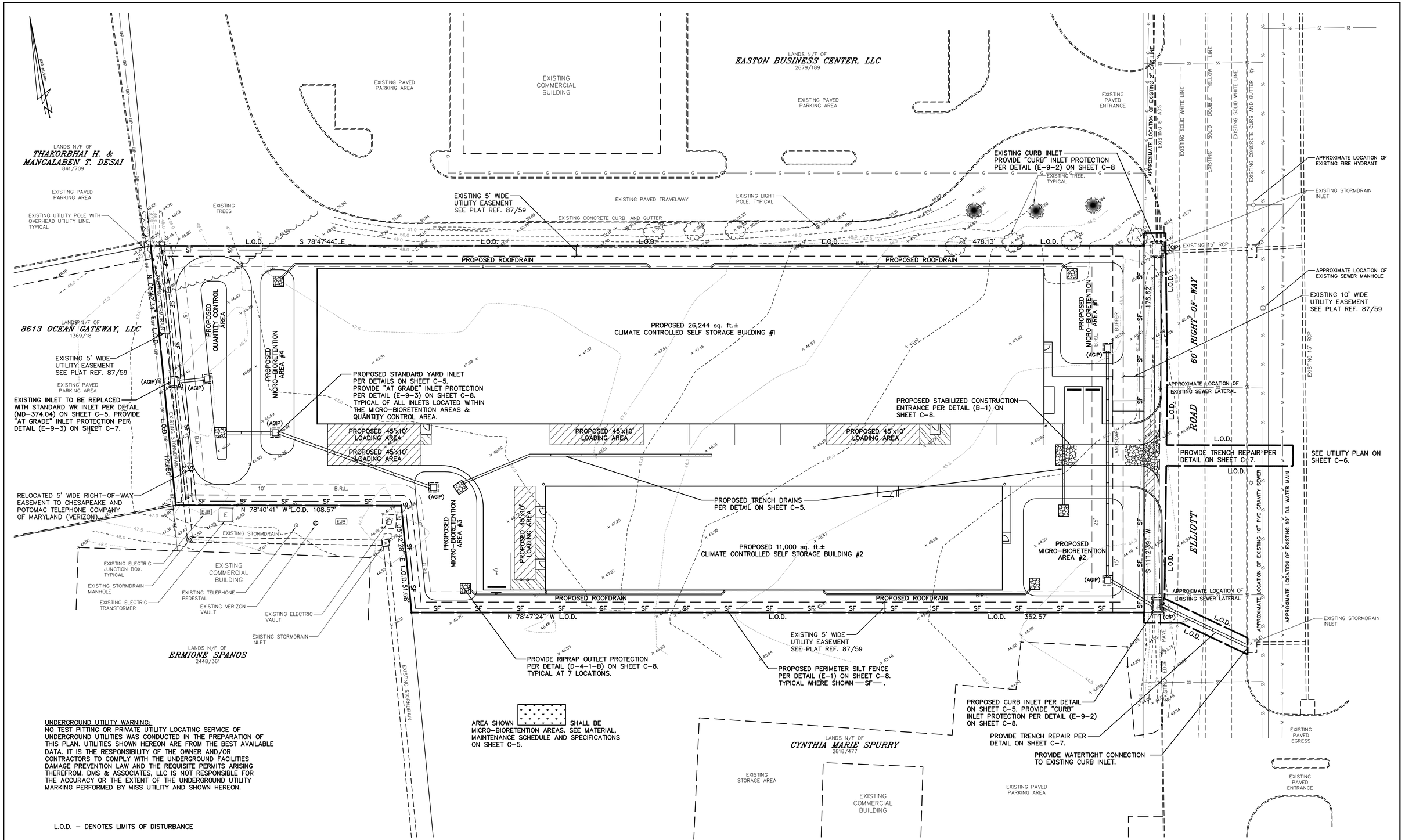

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L.O.D. – DENOTES LIMITS OF DISTURBANCE

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 JR. · No. 17660 · REGISTERED PROFESSIONAL ENGINEER

8/28/2023
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
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8/28/2023	PER 08/23 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'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
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	

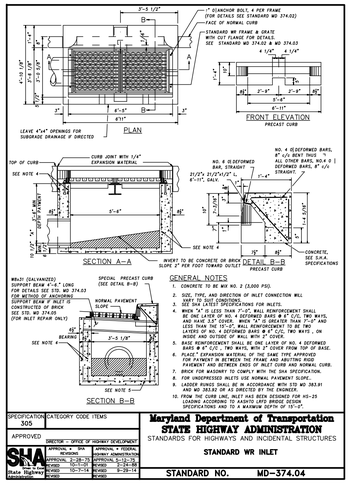
MATERIAL SPECIFICATIONS FOR BIORETENTION

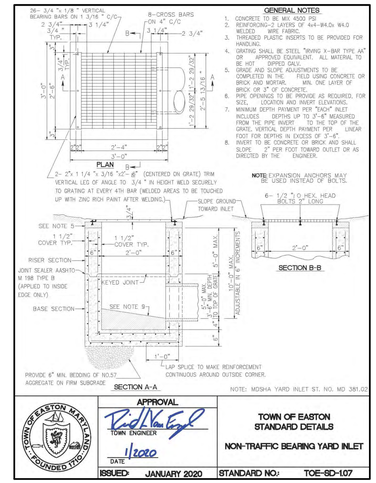
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	SEE PLAN	PLANTINGS ARE SITE-SPECIFIC – SEE LANDSCAPE PLAN FOR PLANT SPECIES
PLANTINGS SOILS (2' to 4' DEEP)	LOAMY SAND (60% to 65%) & COMPOST (35% to 40%) or SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY 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

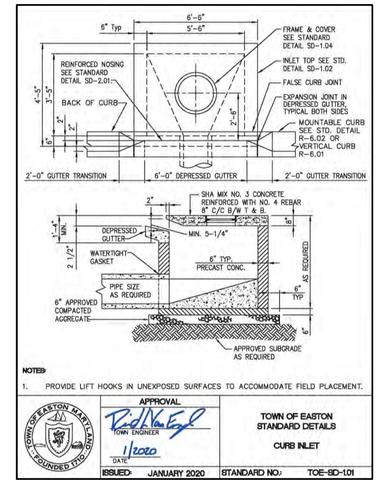
ESD SUMMARY CHART

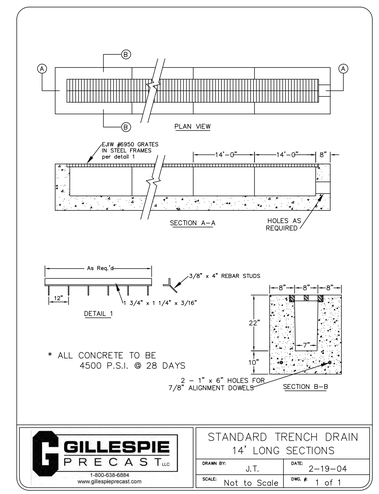
DRAINAGE AREA	TYPE OF ESD PRACTICE	NAME OF ESD PRACTICE (STRUCTURE NAME)	ON-SITE OR OFF-SITE STRUCTURE	RUNOFF CURVE NUMBER (RCN) WEIGHTED	MARYLAND GRID COORDINATE NAD 83 METERS NORTHING	MARYLAND GRID COORDINATE NAD 83 METERS EASTING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE 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	0.2617	0.0235	1.8	2.5	1670	2287
2	MICRO-BIORETENTION (M-7)	MICRO BIO #2	ON	94	123206.64	481880.99	0.3204	0.2443	0.0392	1.8	4.36	1558	3730
3	MICRO-BIORETENTION (M-7)	MICRO BIO #3	ON	96	123225.45	481791.39	0.4174	0.3660	0.0268	1.8	2.05	2335	2608
4	MICRO-BIORETENTION (M-7)	MICRO BIO #4	ON	93	123256.89	481772.10	0.3688	0.2752	0.0189	1.8	2.02	1755	1957

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

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)	1.0145	0.6412	91	6 (MIN.)	1.04*	1.00*	45.90*	2.07*	1.96*	46.75*	4.22*	9.55*	47.07*
ESD DEVICES (DA #2, FRONT)***	0.7596	0.5272	92	6 (MIN.)	1.39**	0.04**	45.84**	2.85**	2.56**	46.02**	6.02**	6.28**	46.20**

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

* VALUES ARE FROM TR-20 AND DO NOT CONSIDER REDUCED CURVE NUMBER COMPUTATIONS
** VALUES ARE FROM TR-20 AND CONSIDER REDUCED CURVE NUMBER COMPUTATIONS AND VOLUME PROVIDED IN ESD DEVICES FOR QUANTITY CONTROL
*** Extra Storage Provided in ESD Device to Address 10yr Quantity Control Requirement
**** VALUES DO NOT CONSIDER REDCUDED CURVE NUMBER COMPUTATIONS

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

8/28/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 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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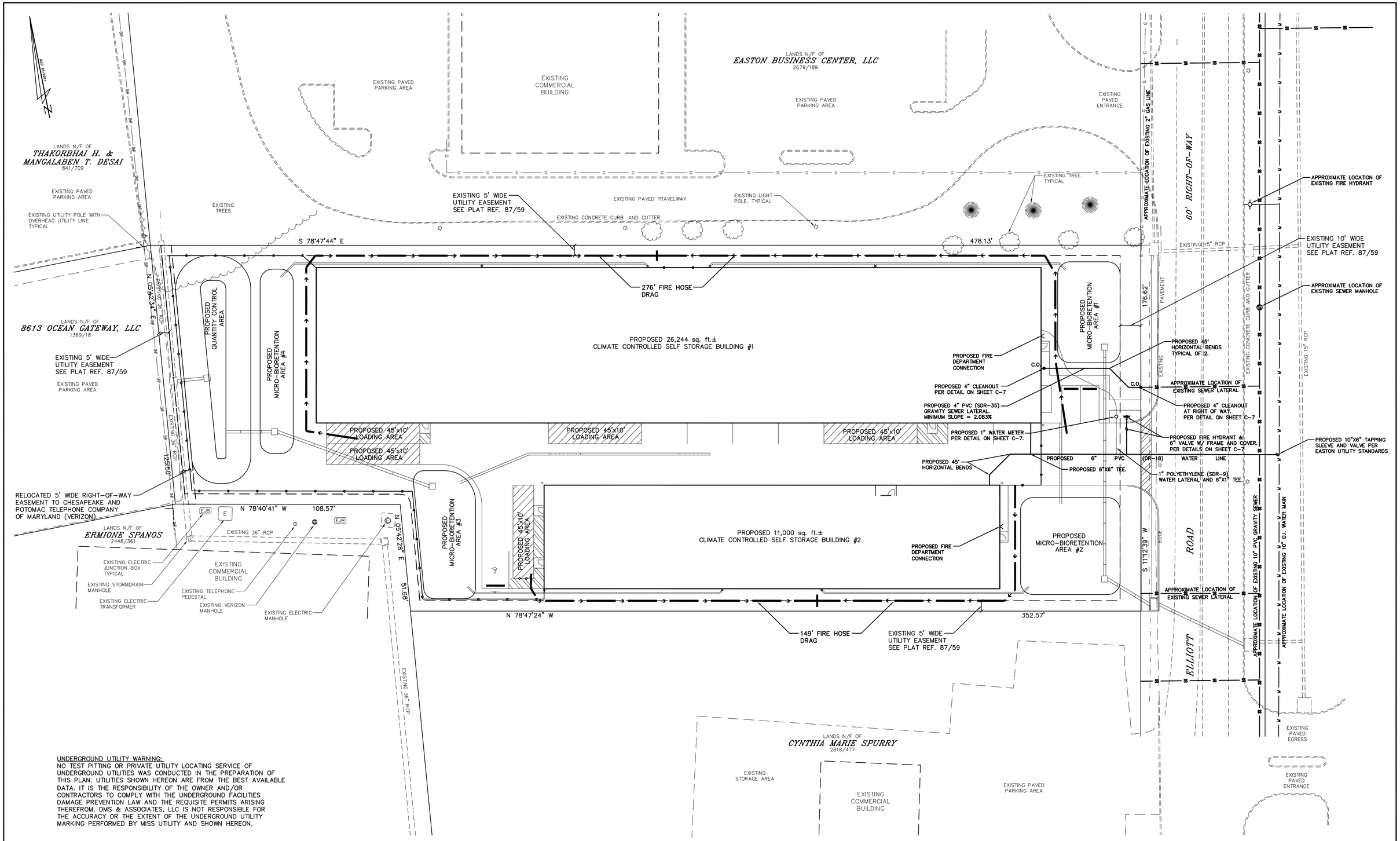

UNDERGROUND UTILITY WARNING:
NO TEST PITTING OR PRIVATE UTILITY LOCATING SERVICE OF UNDERGROUND UTILITIES WAS CONDUCTED IN THE PREPARATION OF THIS PLAN. UTILITIES SHOWN HEREON ARE FROM THE BEST AVAILABLE DATA. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTORS TO COMPLY WITH THE UNDERGROUND FACILITIES 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 MOORE JR. · No. 17660 · PROFESSIONAL ENGINEER

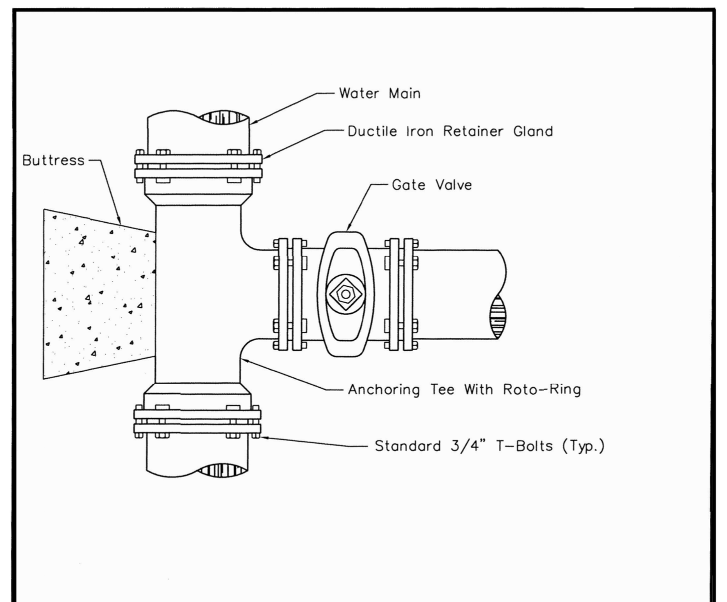
8/28/2023
DATE SEAL

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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 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

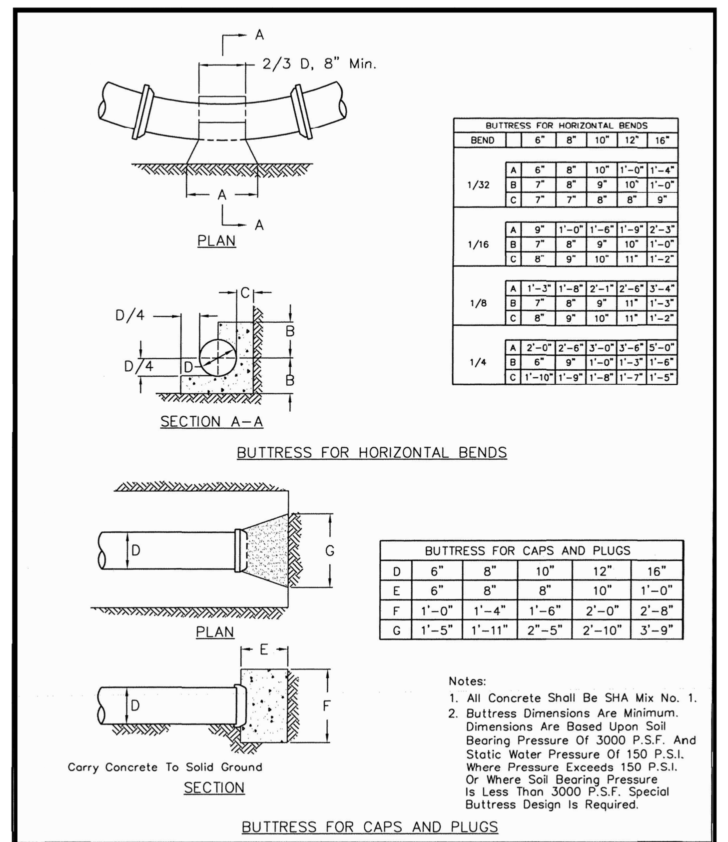
DATE MAY '22	SCALE 1" = 20'
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD
SHEET No. - C-6	
CADD FILE - 22009C06	



Note:

1. All Fittings Shall Be Mechanical Joint, With Ductile Iron Retainer Glands And Mega-Lug Or Equivalent Restraint.
2. Anchoring Tee Shall Be As Indicated And As Manufactured By Griffin Pipe Products, 1100 West Front St. Florance, N.J. 08518, Or An Approved Equal.
3. Retainer Gland Shall Be As Indicated And As Manufactured By Russell Pipe & Foundry Co. Inc., 910 Washington St., Alexander City, AL. 35010, Or An Approved Equal.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 4/25/06	AUG 1, 94	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	MAR 9, 95	ANCHORING TEE
	MAR 1, 98	
ISSUED: MAY 1, 1986		STANDARD NO. W-2.01



BUTTRESS FOR HORIZONTAL BENDS

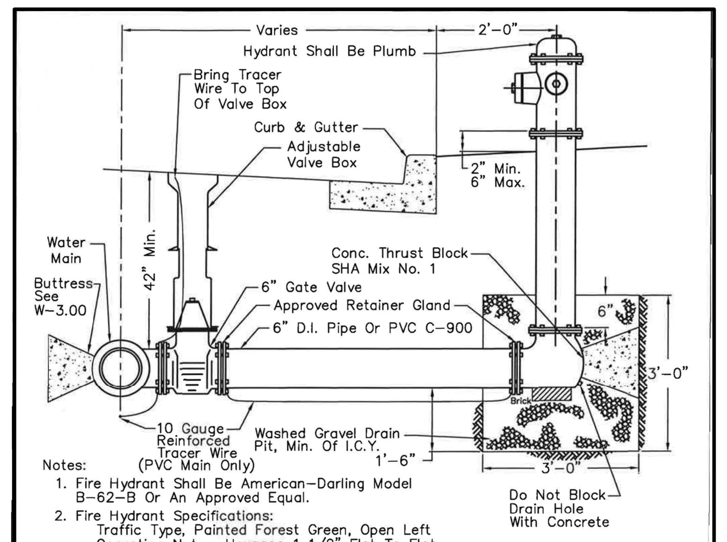
BEND		6"	8"	10"	12"	16"
1/32	A	6"	8"	10"	1'-0"	1'-4"
	B	7"	8"	9"	10"	1'-0"
	C	7"	7"	8"	8"	9"
1/16	A	9"	1'-0"	1'-6"	1'-9"	2'-3"
	B	7"	8"	9"	10"	1'-0"
	C	8"	9"	10"	11"	1'-2"
1/8	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"
	B	7"	8"	9"	11"	1'-3"
	C	8"	9"	10"	11"	1'-2"
1/4	A	2'-0"	2'-6"	3'-0"	3'-6"	5'-0"
	B	6"	9"	1'-0"	1'-3"	1'-6"
	C	1'-10"	1'-9"	1'-8"	1'-7"	1'-5"

BUTTRESS FOR CAPS AND PLUGS

D	6"	8"	10"	12"	16"
E	6"	8"	8"	10"	1'-0"
F	1'-0"	1'-4"	1'-6"	2'-0"	2'-8"
G	1'-5"	1'-11"	2"-5"	2'-10"	3'-9"

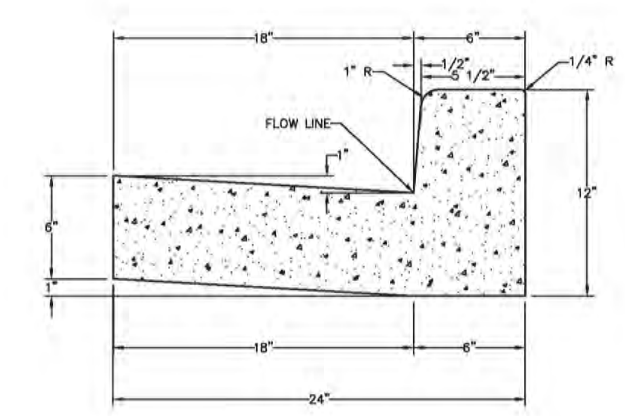
Notes:
1. All Concrete Shall Be SHA Mix No. 1.
2. Buttress Dimensions Are Minimum. Dimensions Are Based Upon Soil Bearing Pressure Of 3000 P.S.F. And Static Water Pressure Of 150 P.S.I. Where Pressure Exceeds 150 P.S.I. Or Where Soil Bearing Pressure Is Less Than 3000 P.S.F. Special Buttress Design Is Required.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 4/25/06		TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
		BUTTRESSES FOR CAPS AND HORIZONTAL BENDS
ISSUED: MAY 1, 1986		STANDARD NO. W-3.00



Notes:
1. Fire Hydrant Shall Be American-Darling Model B-62-B Or An Approved Equal.
2. Fire Hydrant Specifications:
   Traffic Type, Painted Forest Green, Open Left
   Operating Nut – Hexagon 1 1/2" Flat To Flat
   Mechanical Joint Base – 6"
   Bronze Lined
   4" Steamer Nozzle – 6 Thds./Inch Style 60°V
   4.793" Pitch Dia.
   2-2 1/2 – Hose Nozzles – Hose Thd. 3 1/32" Dia. 8 Thds/Inch
3. Gate Valve Specifications:
   Shall Conform To AWWA Standard C-600
   Shall Be Iron Body, Bronze Mounted Type And Have
   Non-Rising Stem, Opening By Turning Right (Clockwise).
   Resilient Seat Valve
4. Fire Hydrant Shall Be Installed As Shown At The Property Line Between Adjoining Lots.
5. Hydrant Spacing Shall Be 750' Max. As Measured On Improved Way For Single Family Res. 375' Max. For Multi-Family, Commercial, Etc.
6. When Indicated By EUC, Drain Port Shall Be Plugged By Contractor.
7. 10 Gauge Coated Solid Copper Tracer Wire Or An Approved Equal.
8. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 4/1/16	MAR 1, 94	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	AUG 1, 94	FIRE HYDRANT
	MAR 9, 95	
	MAR 1, 98	
	SEP 1, 09	
ISSUED: MAY 1, 1986	APR 4, 16	STANDARD NO. W-4.00

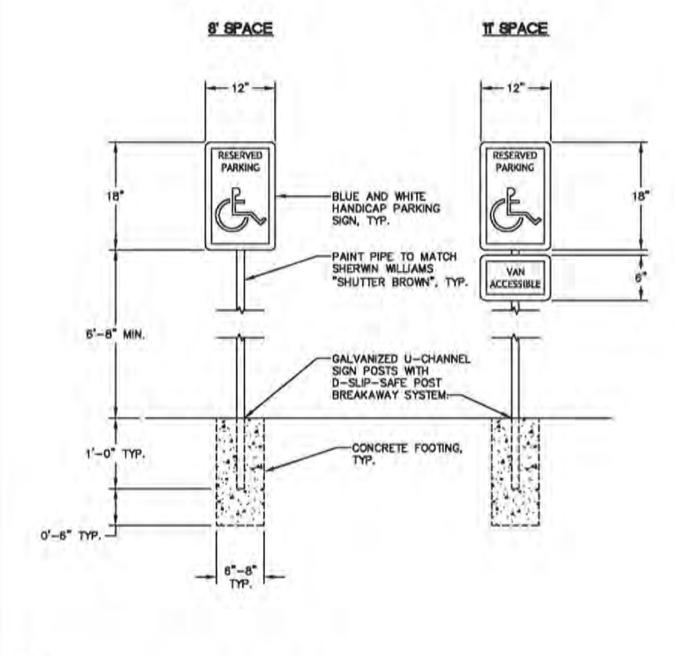


NOTES:

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.

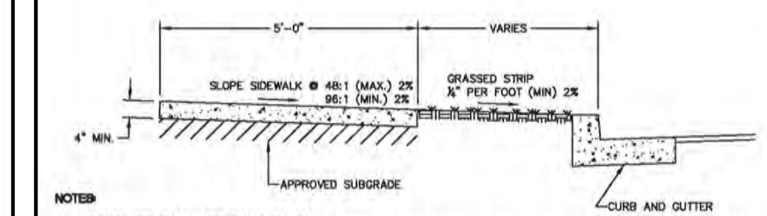
TOWN OF EASTON MARYLAND FOUNDED 1710	APPROVAL	
	TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS
	DATE 1/2020	STANDARD CURB AND GUTTER
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-6.01

SIGN DETAILS FOR HANDICAP PARKING SPACES

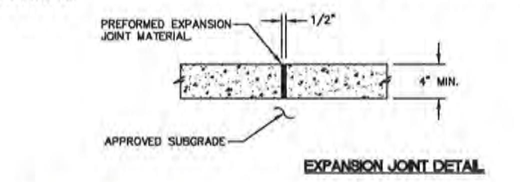


NOTES:
1. H/C PARKING SIGNS (US DOT STANDARD R7-8).

TOWN OF EASTON MARYLAND FOUNDED 1710	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

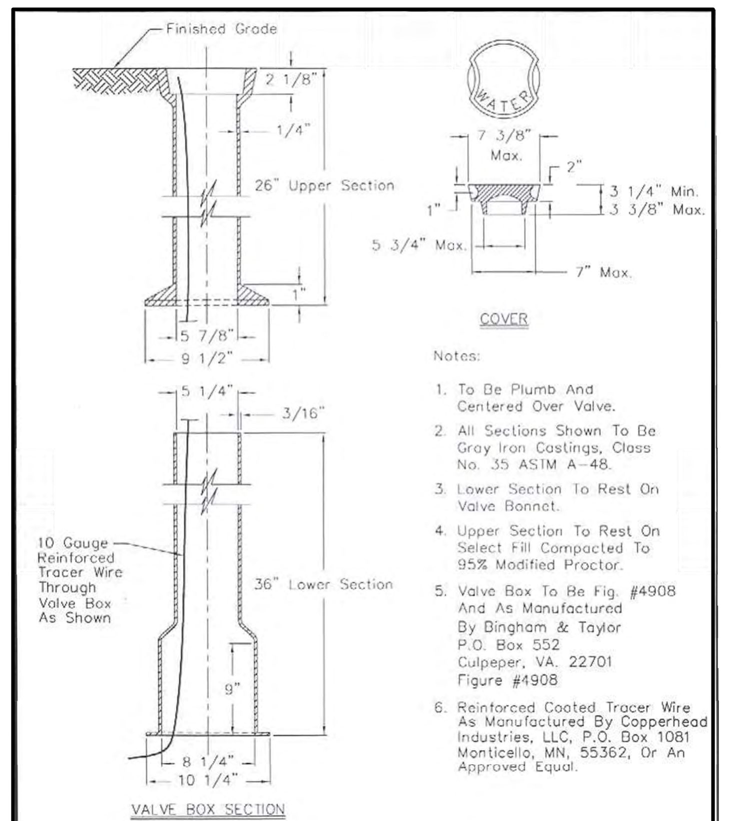


NOTES:
1. CONCRETE SHALL BE SHA MIX NO. 3.
2. CONTRACTION JOINTS SHALL BE TOOLED AT 5'-0" INTERVALS. (4' INTERVALS FOR 4' WIDE SIDEWALK)
3. EXPANSION JOINTS AT INTERVALS NOT GREATER THAN 20'-0".
4. ALL UNPAVED AREAS WITHIN STREET SIDELINES SHALL BE SEEDED OR SODDED PER SPECIFICATIONS.
5. SIDEWALKS AT 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

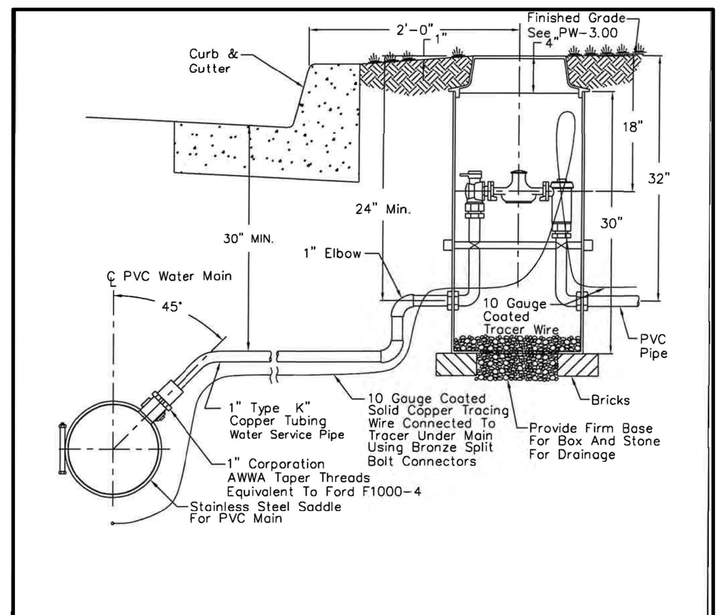
TOWN OF EASTON MARYLAND FOUNDED 1710	APPROVAL	
	TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS
	DATE 1/2020	CONCRETE SIDEWALK
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-R-7.01



VALVE BOX SECTION

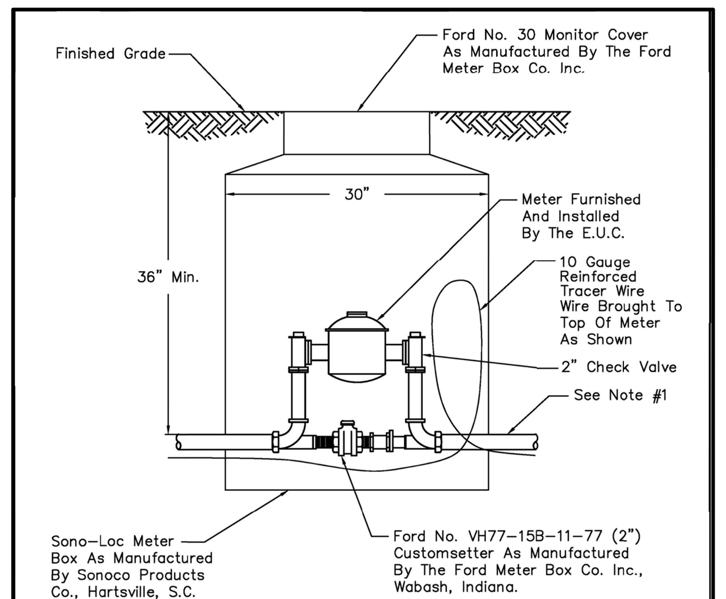
Notes:
1. To Be Plumb And Centered Over Valve.
2. All Sections Shown To Be Gray Iron Castings, Class No. 35 ASTM A-48.
3. Lower Section To Rest On Valve Bonnet.
4. Upper Section To Rest On Select Fill Compacted To 95% Modified Proctor.
5. Valve Box To Be Fig. #4908 And As Manufactured By Bingham & Taylor P.O. Box 552 Culpeper, VA. 22701 Figure #4908
6. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081 Monticello, MN, 55362, Or An Approved Equal.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 9/1/09	AUG 1, 94	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	MAR 1, 98	ADJUSTABLE VALVE BOX
	SEP 1, 09	
ISSUED: MAY 1, 1986		STANDARD NO. W-6.00



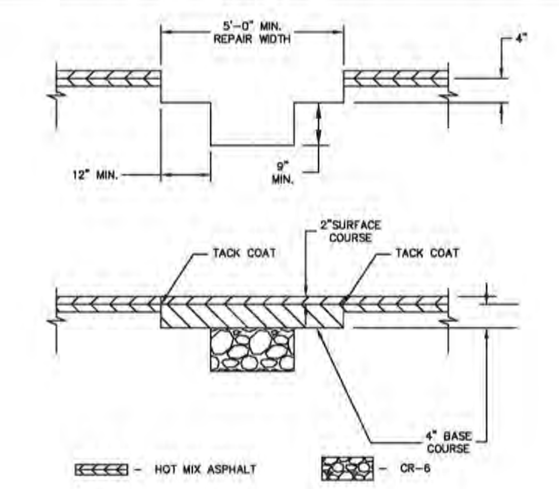
Notes:
1. Stainless Steel Saddle Shall Be Equivalent To Ford FS303 Or PowerSeal 3412AST.
2. PVC Main Shall Be Tapped With A Shell Type Cutter (Hole Cutter) That Will Retain The Coupon In Accordance With UNI-BELL Plastic Pipe Association UNI-B-3.
3. Meter Box (Ford No. PSBHC-488-20-36-18) Or An Approved Equal Furnished And Installed By Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type A (Read -Rite) Lid With Water Logo, Worm Gear And Bracket For Itron 100W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
4. Backfill And Tamp With Select Material To Pad Pipe. See Detail W-1.00.
5. 10 Gauge Coated Solid Copper Tracer Wire (Blue Jacket).
6. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 3/18/19	MAR 9, 95	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	MAR 1, 98	1" WATER SERVICE INSTALLATION – PVC WATER MAIN
	SEP 1, 09	
	NOV 1, 10	
	JUL 20, 11	
ISSUED: AUG 1, 1994	MAR 18, 19	STANDARD NO. W-7.02



Notes:
1. Meter Pit, Frame And Cover, And Customsetter Shall Be Furnished And Installed By The Contractor. Cover Must Be Polymer Nicor 12.25PWATI Type-A (Read-Rite) Lid With Water Logo, Worm Gear And Bracket For Itron 60W ERT Under Lid Or Equivalent. No Electronic Meter Reading Lid Hole.
2. 2" Corporation AWWA Taper Threads Shall Be Installed As Detailed On Standard No. W-7.01.
3. Mueller Part Numbers For 1" And 2": B-2423--2-01.
4. Reinforced Coated Tracer Wire As Manufactured By Copperhead Industries, LLC, P.O. Box 1081, Monticello, MN, 55362, Or An Approved Equal.
5. Thoroughly Tape Mechanical Connections With Electrical Tape.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 4/25/06	MAR 1, 98	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	FEB 1, 06	1" AND 2" METER INSTALLATION
	MAR 1, 07	
	SEP 1, 09	
	NOV 1, 10	
ISSUED: MAY 1, 1986	JUL 20, 11	STANDARD NO. W-7.03

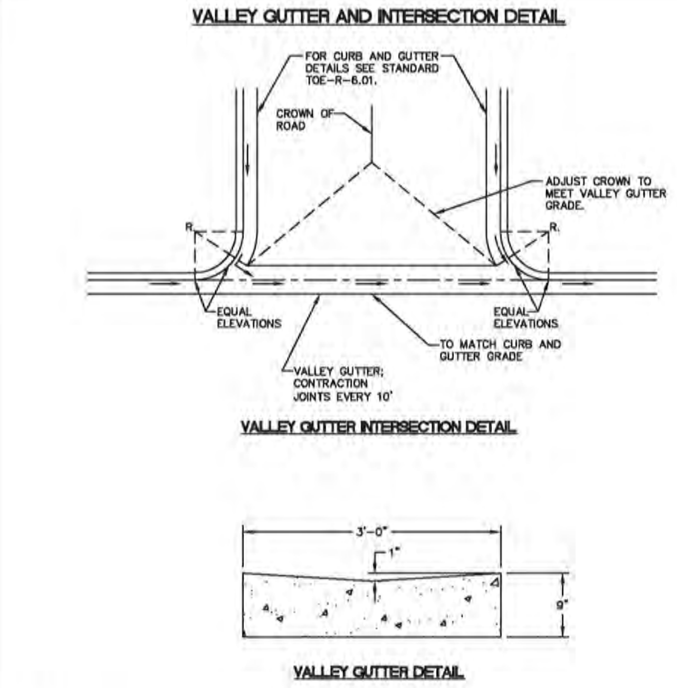


NOTES:

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.

TOWN OF EASTON MARYLAND FOUNDED 1710	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

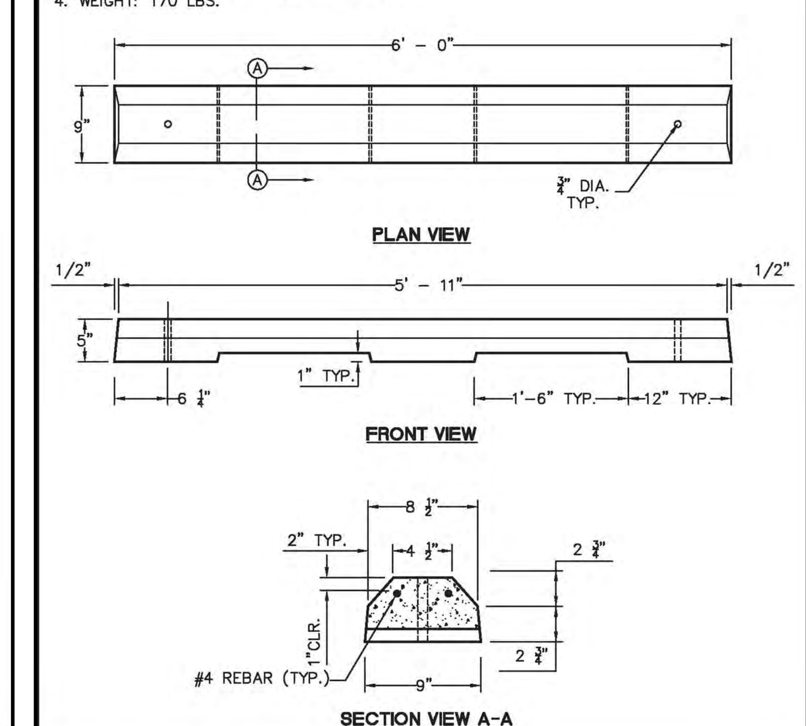
VALLEY GUTTER AND INTERSECTION DETAIL



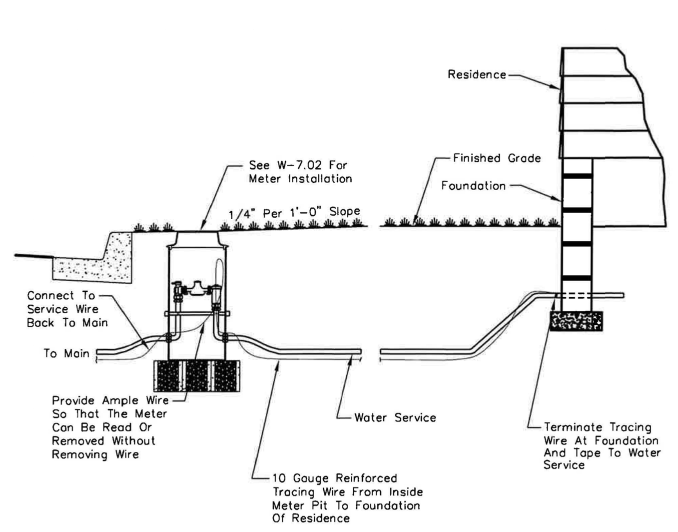
NOTES:
1. ALL CONCRETE USED FOR CURB AND GUTTER SHALL BE MIX NO. 7.

TOWN OF EASTON MARYLAND FOUNDED 1710	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.

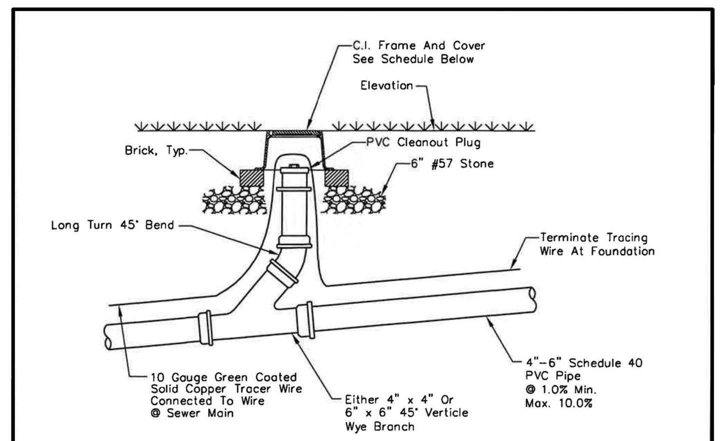


TOWN OF EASTON MARYLAND FOUNDED 1710	APPROVAL	
	TOWN ENGINEER	TOWN OF EASTON STANDARD DETAILS
	DATE 1/2020	6" PRECAST CONCRETE WHEEL STOP
	ISSUED: JANUARY 2020	STANDARD NO.: TOE-SI-5.01



Notes:
1. 10 Gauge Solid Copper Tracer Wire; Blue Jacket.
2. Thoroughly Tape Mechanical Connections With Electrical Tape.
3. Installation Of Water Service Into Foundation Per Town Of Easton Standards.

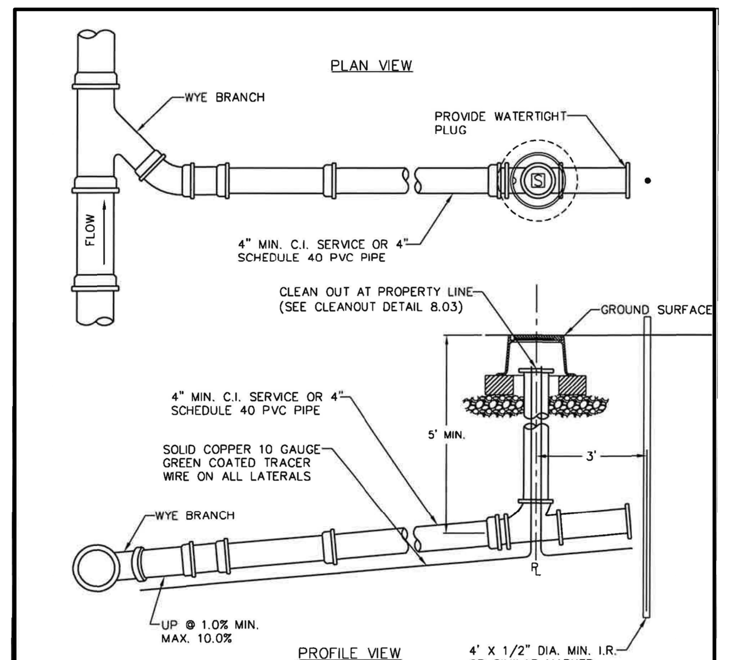
APPROVAL	REVISED	
EU MANAGER OF ENGINEERING DATE 8/6/19	JUN 23, 97	TOWN OF EASTON AND EASTON UTILITIES STANDARD DETAILS
	MAR 1, 98	WATER SERVICE CONNECTION
	MAR 1, 07	
	SEP 1, 09	
	SEP 15,14	
ISSUED: JUNE 5, 1997	AUG 6, 19	STANDARD NO. W-7.04



FRAME AND COVER REQUIRED	
PIPE SIZE	CASTING NUMBER
4"	EAST JORDAN IRON WORKS NO. 1570
6"	EAST JORDAN IRON WORKS NO. 1566

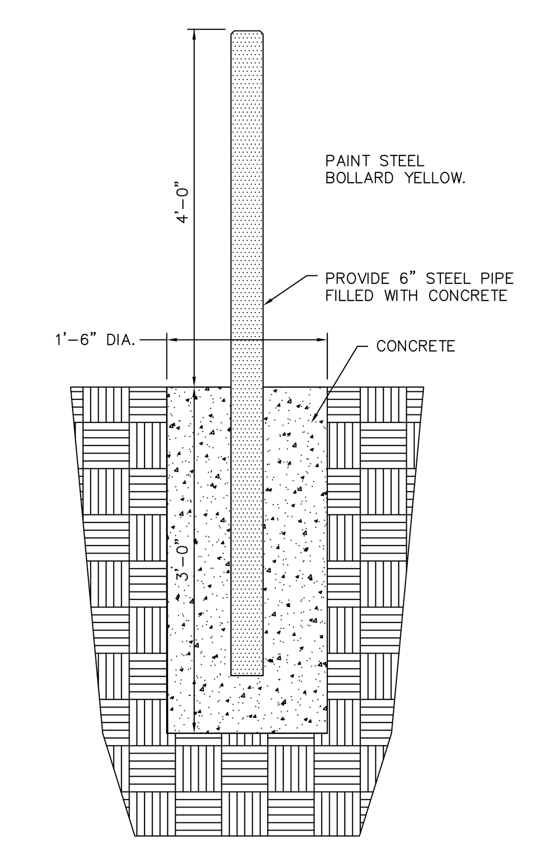
NOTES:
1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING		EASTON UTILITIES STANDARD DETAILS
JAN 15, 19 DATE		GRAVITY SEWER CLEANOUTS
ISSUED: JAN 15, 2019		STANDARD NO. SS-8.03



NOTES:
1. SERVICE CONNECTION SHALL BE PERPENDICULAR TO MAIN.
2. ADD DETECTOR TAPE TO ALL PIPE.
3. USE CLASS 50 DUCTILE IRON FOR SERVICES WITH LESS THAN 3' OF COVER.
4. NO SPLICES ON TRACER WIRE. MECHANICAL CONNECTORS ONLY IN CLEANOUTS.
5. EMBED PIPE IN #57 STONE FROM 6" BELOW INVERT TO 2" ABOVE CROWN.

APPROVAL	REVISED	
EU MANAGER OF ENGINEERING	MAY 1, 89	EASTON UTILITIES STANDARD DETAILS
	AUG 1, 94	SEWER COLLECTION SYSTEM SEWER HOUSE SERVICE
	MAR 9, 95	
	FEB 1, 02	
JAN 15, 2019 DATE	JAN 15, 19	
ISSUED: MAY 1, 1986		STANDARD NO. SS-8.00



PIPE BOLLARD DETAIL

NOT TO SCALE

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TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILIITIES – 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

8/28/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 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

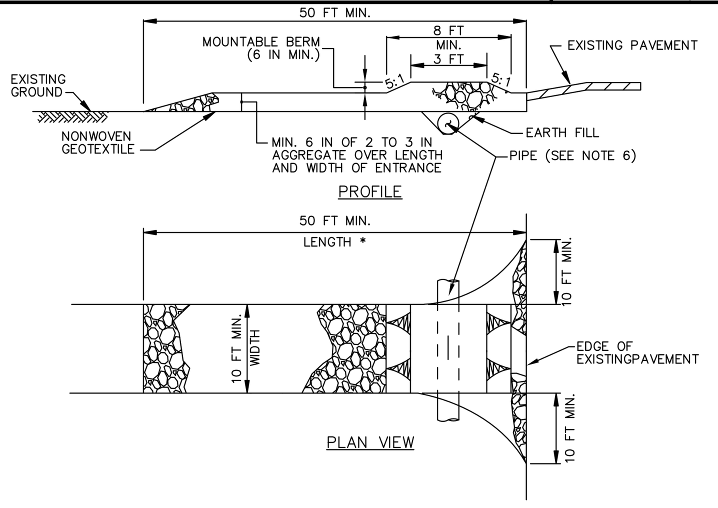
DATE	SCALE
MAY '22	AS SHOWN
JOB No. 2022009	DRAWN BY WJM
FOLDER Ref. 109-2022009	DESIGNED BY BD

SHEET No. – C-7

CADD FILE – 22009C07

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

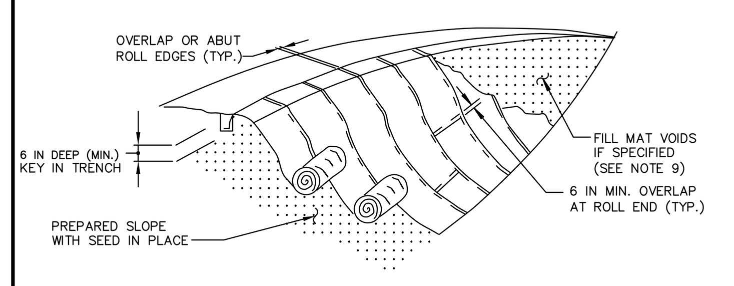
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING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



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

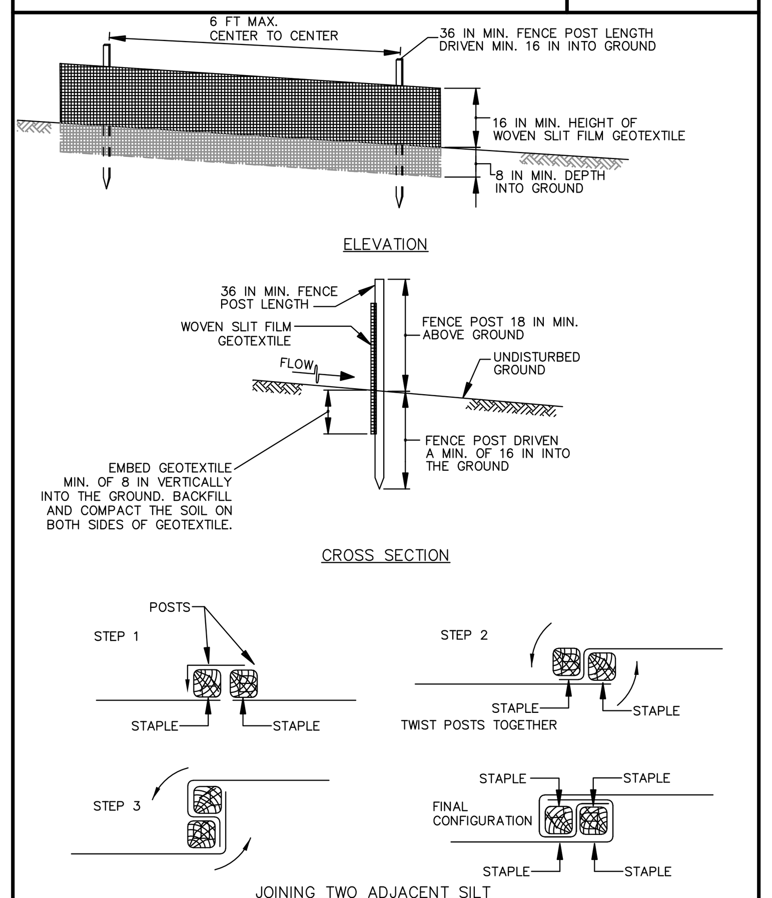
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON–DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN 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——



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

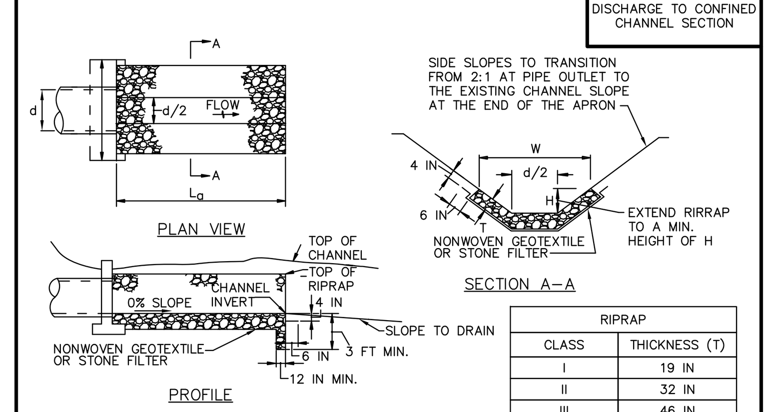
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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.

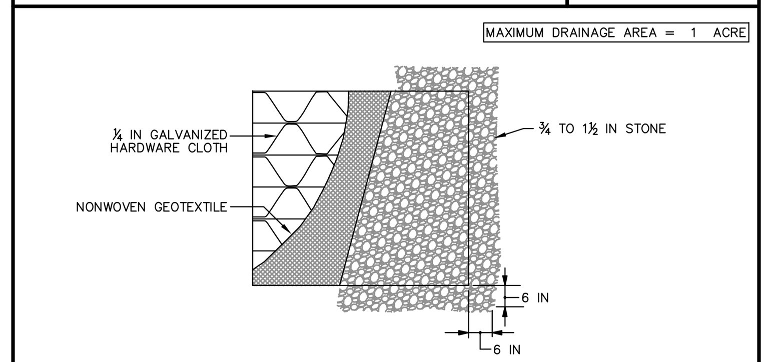
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

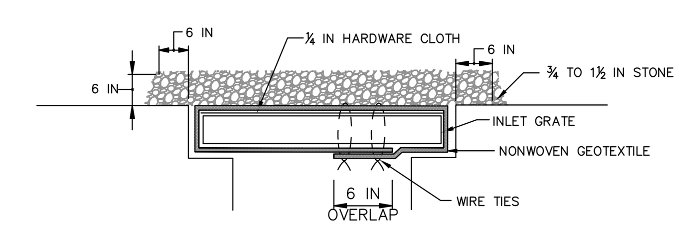
DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



PLAN / CUT AWAY VIEW



CROSS SECTION

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.

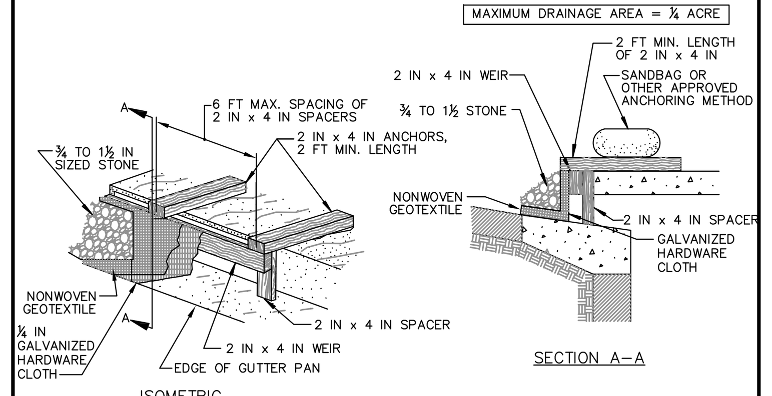
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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.

2 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

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	1.843 Acres
Area to be Roofed or Paved	1.17 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.

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.

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).

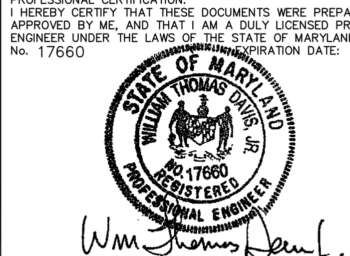
1. UTILIZATION OF ENVIRONMENTAL SITE DESIGN.
2. MAINTENANCE OF LIMITS OF DISTURBANCE TO PROTECT NATURAL AREAS
3. CONTROL OF CONSTRUCTION EQUIPMENT AND VEHICLES
4. EVALUATION AND APPROPRIATE LIMITATION OF SITE CLEARING
5. EVALUATION AND DESIGNATION OF SITE AREA FOR PHASING AND SEQUENCING
6. IDENTIFICATION 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).

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILIITIES – 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



8/28/2023
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
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 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: MAY '22	SCALE: AS SHOWN
JOB No.: 2022009	DRAWN BY: WJM
FOLDER Ref.: 109–2022009	DESIGNED BY: BD
SHEET No. – C–8	
CADD FILE – 22009C08	

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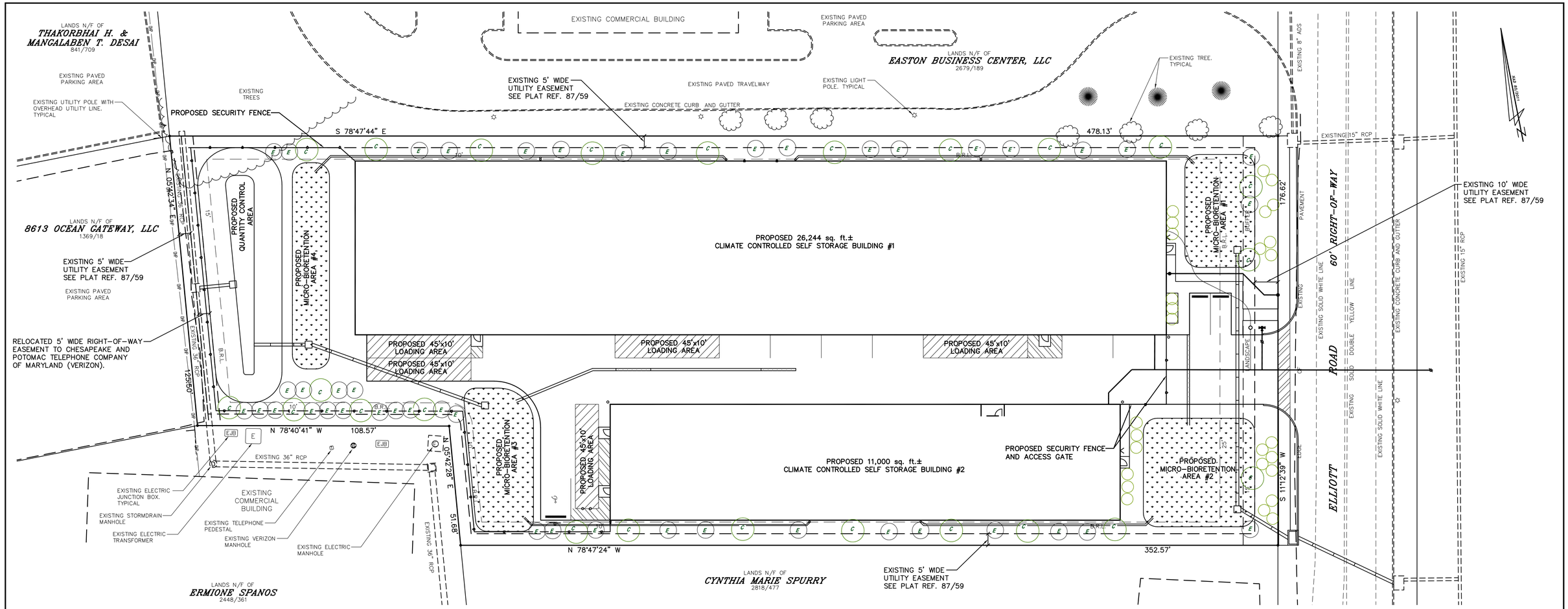

LANDSCAPE PLAN

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 28-1014,6,F,1.
RESPONSE: DISTURBED AREA = 77,319 SQ.FT. (BUILDING AND PAVEMENT AREA), THUS 26 TREES ARE REQUIRED AND PROVIDED AS CANOPY AND EVERGREEN TREES IN THE BACK OF THE SITE.

ONE (1) TREE PER 10 INTERIOR PARKING LOT TREE PER SECTION 28-1014,6,F,2,a.
RESPONSE: JUST 6 PARKING SPACES ARE SPREAD THROUGHOUT THE SITE WITH NO FORMAL PARKING LOT. 1 CANOPY TREE IS REQUIRED FOR PARKING AND IS PROVIDED ONSITE NEAR THE ADA PARKING SPACE.

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 28-1014,6,F,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 STREET BUFFER IN ADDITION TO STORMWATER FEATURES WITH PLANTINGS, AS WELL AS LANDSCAPE PLANTINGS ALONG EITHER SIDE PROPERTY LINES.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES AND OTHER FACADES VISIBLE FROM A STREET SHALL INCORPORATE TREE PLANTINGS WITHIN 50' OF THESE BUILDING FACADES PER SECTION 28-1014,6,F,2,c
RESPONSE: NO VISITOR ENTRANCES ARE FROM STREET VISIBLE FACADES AS THE ELLIOTT ROAD FACING ENTRANCES ARE FOR FIRE SPRINKLER ROOM ACCESS ONLY, EACH WITH STORMWATER MANAGEMENT FEATURES IN FRONT OF THEM AND THE FRONT LANDSCAPE BUFFER.

BUILDING ENVELOPE PLANTINGS-ENTRANCE FACADES PER SECTION 28-1014,6,F,2,c
ONE (1) DECIDUOUS SHADE / CANOPY TREE PER EVERY 20' OF BUILDING FACADE PERIMETER VISIBLE FROM STREET FOR MONOLITHIC BUILDING FACADES. THERE IS AN OPTION SUBSTITUTE 1.5 EVERGREEN TREES OR UNDERSTORY TREE FOR 1 SHADE/CANOPY TREE UP TO 50% OF REQUIRED MINIMUM.
RESPONSE: BUILDING #1 NORTHERN FACADE IS APPROXIMATELY 350 FT, 350 FT / 1 TREE PER 20 FT OF FACADE = 17.5 OR 18 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 18 X 50% X 1.5 = 13.5 OR 14 EVERGREEN OR UNDERSTORY TREES AND 9 CANOPY TREES. TREES ARE PROVIDED ALONG THE NORTHERN FACADE OF BUILDING #1.
BUILDING #2 SOUTHERN FACADE IS 220 FT. 220 FT / 1 TREE PER 20 FT OF FACADE = 11 CANOPY TREES
OR IF 50% ARE AS EVERGREEN OR UNDERSTORY TREES AT 1:1.5 = 11 X 50% X 1.5 = 8.25 OR 8 EVERGREEN OR UNDERSTORY TREES AND 6 CANOPY TREES. TREES ARE PROVIDED ALONG THE SOUTHERN FACADE OF BUILDING #2.

SERVICE/LOADING AREAS SCREEN PER 28-1014,6,F,2,d
RESPONSE: SERVICE/LOADING AREAS ARE ON THE INTERIOR OF THE SITE ALONG DRIVE AISLES MOSTLY AND WHEN VIEWABLE ARE SCREEN BY SITE PERIMETER PLANTINGS. NO TRASH RECEPTACLE AREA IS PROPOSED.

EARTH BERMING AND DRAINAGE/SWM FEATURES PER 28-1014,6,F,2,e
RESPONSE: SWM AREAS WILL BE LANDSCAPE WITH APPROPRIATELY WATER TOLERANT PLANT TYPES THAT ARE AESTHETICALLY PLEASING.

BUFFERYARDS - BUFFERYARD 'D' BASED ON 50' INCREMENT, PROVIDE A 15' WIDTH WITH 1 PLANT UNIT AS 1 SHADE/CANOPY TREES, 1 EVERGREEN TREES & 5 SHRUBS PER 28-1014,7,E,4.
RESPONSE: A FRONT BUFFER PER THE CODE IS PROVIDED WHILE AVOIDING A 25' CLEAR SITE TRIANGLE AND SUBTRACTING THE ENTRANCE WIDTH. 176.67 FT RIGHT OF WAY LENGTH - 30 FT WIDE ENTRANCE = 146.76 FT. 146.76 FT / 1 PLANTING UNIT PER 50 FT = 2.94. 2.94 PLANTING UNITS X 1 SHADE/CANOPY TREE, 1 EVERGREEN TREE & 5 SHRUBS = 3 CANOPY TREES, 3 EVERGREEN TREES, AND 15 SHRUBS

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)

E = NATIVE EVERGREEN TREE (MIX)

=NATIVE LARGE SHRUB (MIX)

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

TOWN OF EASTON PLANNING AND ZONING

TOWN OF EASTON ENGINEER

EASTON UTILITIES – ENGINEER

8/28/2023
DATE SEAL

DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
P.O. BOX 80
CENTREVILLE, MARYLAND 21617

FINK, WHITTEN & ASSOCIATES, LLC.
LAND SURVEYING
410–822–8484
113 E. Dover St., Unit C
Easton, Maryland 21601
410–228–8885
504 Maryland Avenue
Cambridge, Maryland 21613

DATE	REVISION
6/7/2023	PER 06/22 ESDR COMMENTS
7/3/2023	PER 06/23 ESDR MTG
8/2/2023	PER 07/23 PC COMMENTS AND SPRINKLERS
8/28/2023	PER 08/23 ESDR MTG

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	

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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: 0.266 ACRES
FOREST CONSERVATION PROVIDED: 0.479 ACRES USING CREDITS FOR LANDSCAPE PLANTINGS
24 DECIDUOUS CANOPY TREES PROVIDED AT 400 SQ.FT. CREDIT EACH AND
45 EVERGREEN TREES AT 250 SQ.FT. EACH
= 20,850 SQ.FT. OR 0.479 ACRES

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)	=	0.479	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 AND EVERGREEN TREES SHOWN HEREON SHALL COUNT TOWARDS FOREST CONSERVATION REQUIREMENT;

24 DECIDUOUS CANOPY TREES PROPOSED @ 400 SQ.FT. CREDIT = 9,600 SQ.FT. AND
45 EVERGREEN TREES PROPOSED @ 250 SQ.FT. CREDIT = 11,250 SQ.FT.
TOTAL = 20,850 SQ.FT. OR 0.479 ACRES;
SEE LANDSCAPE PLAN FOR LOCATIONS

TOTAL CREDIT PROVIDED TOWARDS FOREST CONSERVATION = 0.479 ACRES
TOTAL REQUIRED FOREST CONSERVATION = 0.266 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

8/28/2023
DATE SEAL

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FOR THE DEVELOPMENT OF
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TAX MAP – 109, PARCEL – 2849

DATE MAY '22	SCALE 1" = 20'
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FOLDER Ref. 109–2022009	DESIGNED BY BD
SHEET No. – FCP	
CADD FILE – 22009–FCP	

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1 CONCEPTUAL VIEW FROM ELLIOTT ROAD

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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:
08/02/23

No.	Description	Date

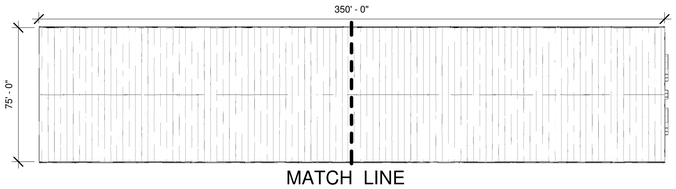
SHEET TITLE:

Conceptual 3D View

SHEET:
A-1.1

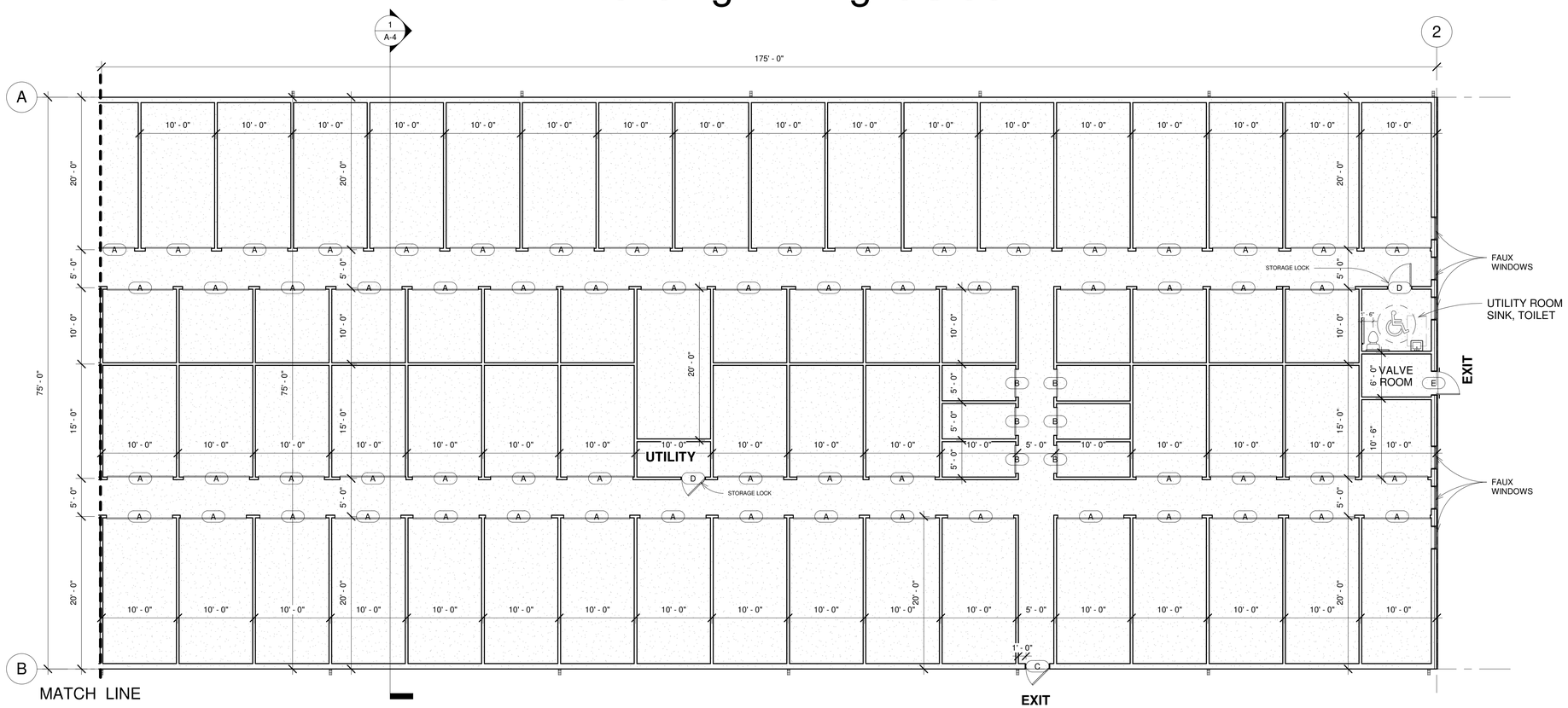
Scale

BUILDING #1



2 KEY PLAN BUILDING #1
1" = 40'-0"

Building 1 - Right Side



1 Floor Plan - Building 1 - Right
1/8" = 1'-0"

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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

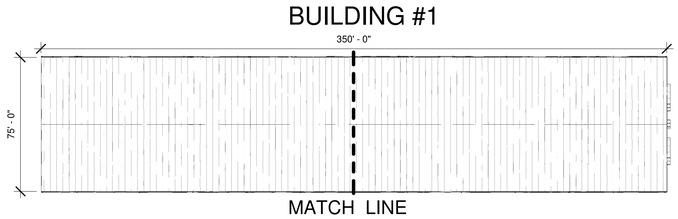
SHEET ISSUE DATE:
08/02/23

No.	Description	Date

SHEET TITLE:
Floor Plan Building #1

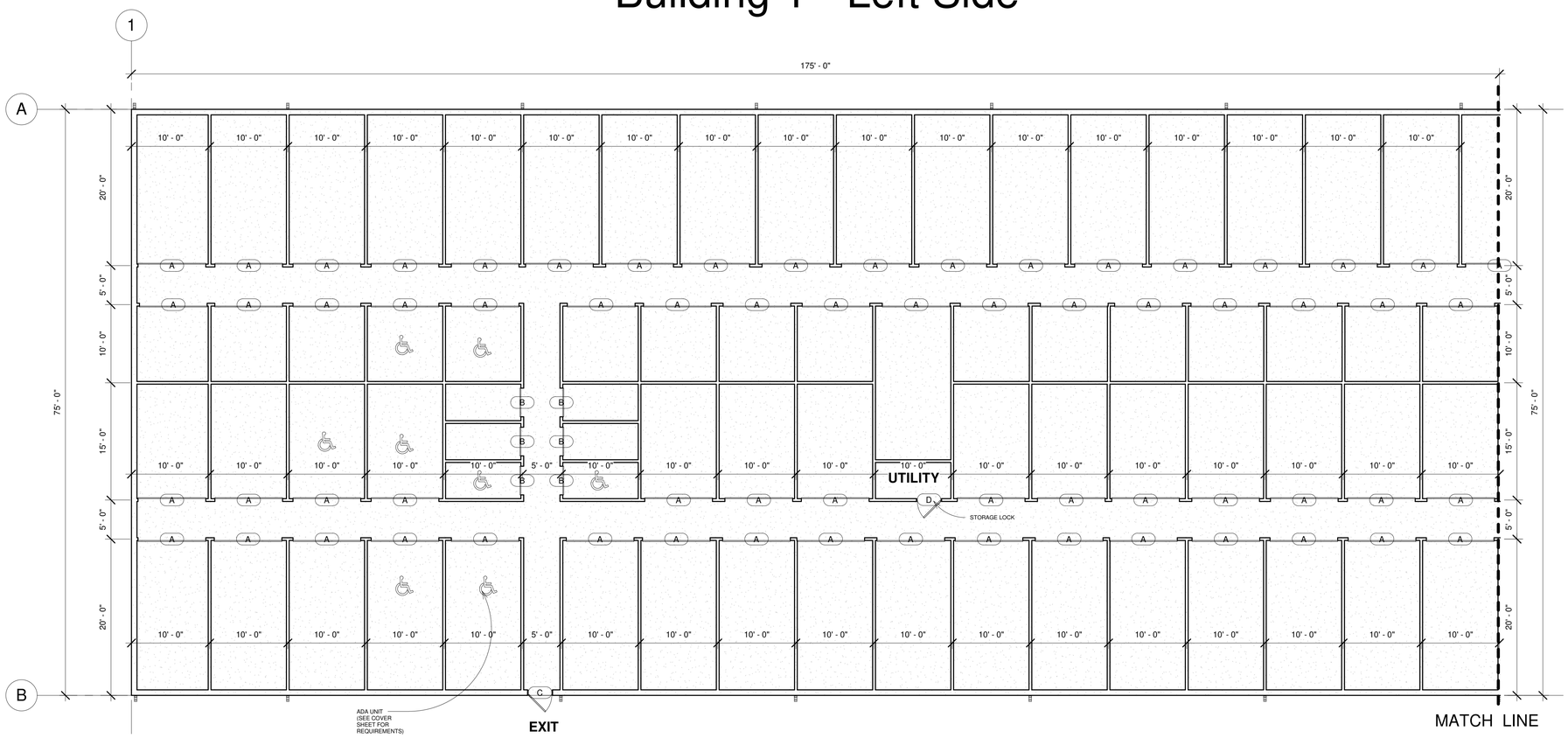
SHEET:
A-2

Scale
As indicated



2 KEY PLAN BUILDING #1.
1" = 40'-0"

Building 1 - Left Side



1 Floor Plan - Building 1 - Left
1/8" = 1'-0"

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PAUL J. GORMAN
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ARCHITECT

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:
FRIEL SELF STORAGE
ELLIOTT RD., EASTON, MARYLAND

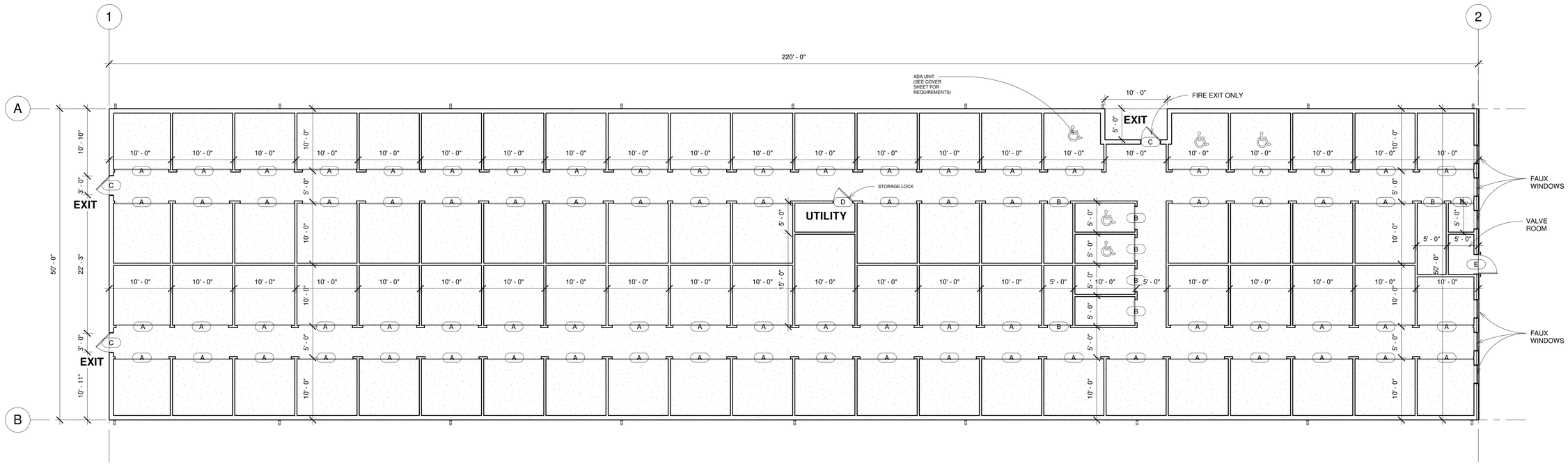
SHEET ISSUE DATE:
08/02/23

No.	Description	Date

SHEET TITLE:
Floor Plan Building #1

SHEET:
A-2.1

Scale
As indicated



1 Floor Plan - Building 2

1/8" = 1'-0"

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STATE OF MARYLAND
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License Number 7622
Expiration Date 5.11.25

PROJECT NAME:

FRIEL SELF STORAGE

ELLIOTT RD., EASTON, MARYLAND

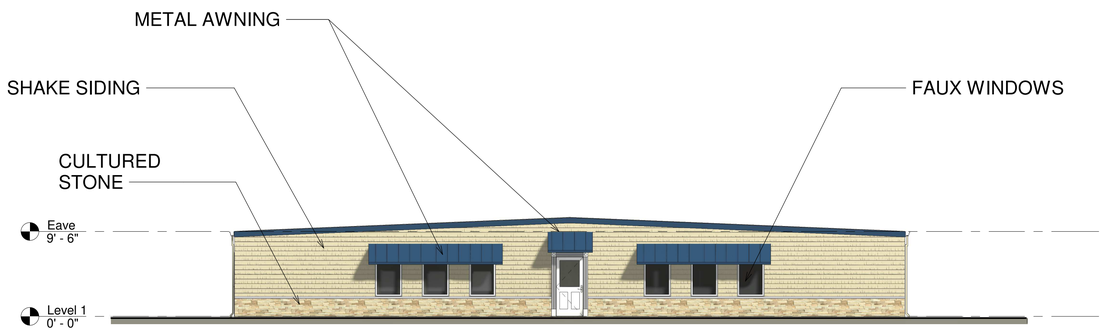
SHEET ISSUE DATE:
08/02/23

No.	Description	Date

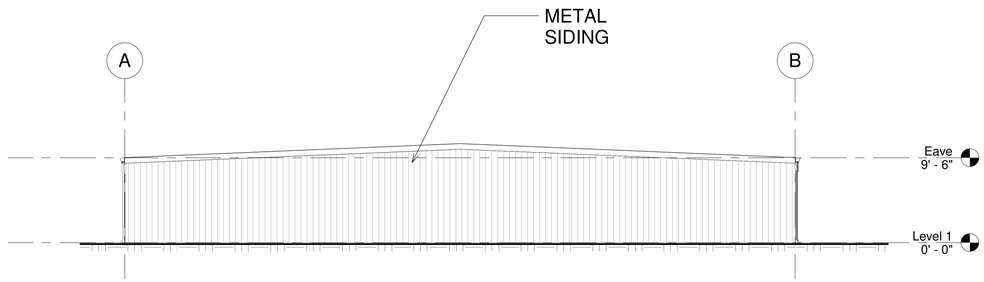
SHEET TITLE:
Floor Plan
Building #2

SHEET:
A-2.2

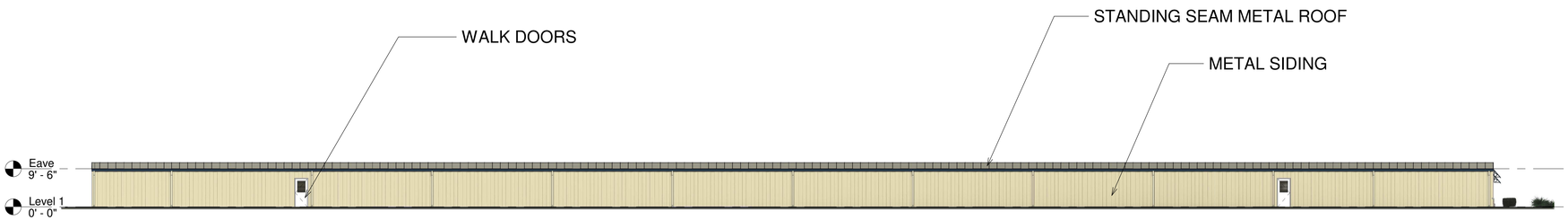
Scale
1/8" = 1'-0"



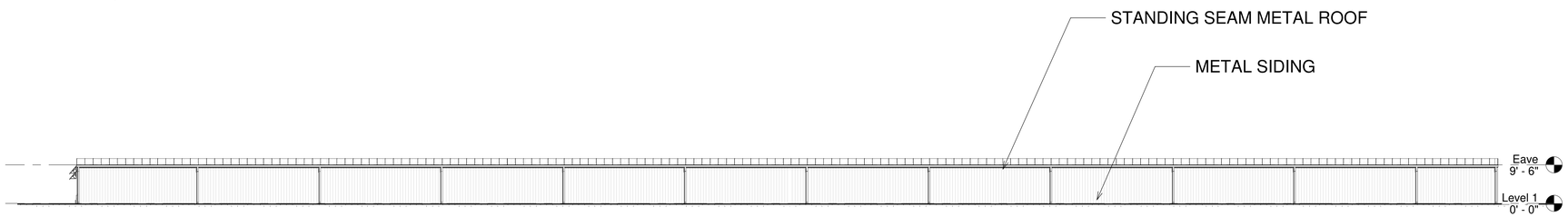
1 East - Building 1
1/8" = 1'-0"



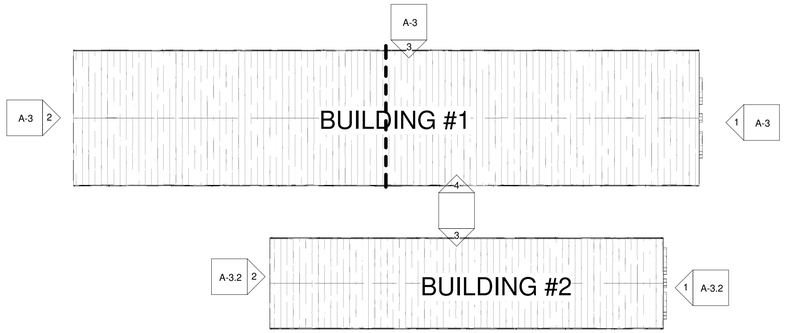
2 West- Building 1
1/8" = 1'-0"



4 South - Building 1
1/16" = 1'-0"



3 North - Building 1
1/16" = 1'-0"



5 KEY PLAN
1" = 40'-0"

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Consulting Architect: Paul Gorman
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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:
08/02/23

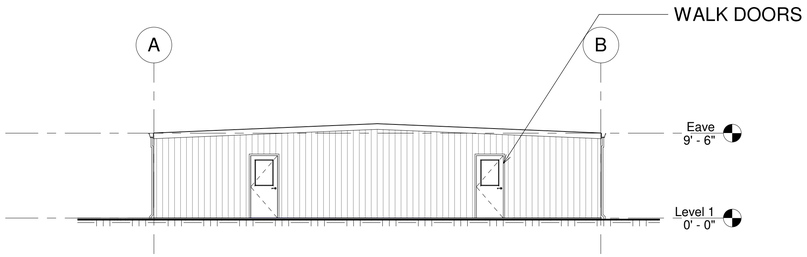
No.	Description	Date

SHEET TITLE:
Exterior Elevations Building #1

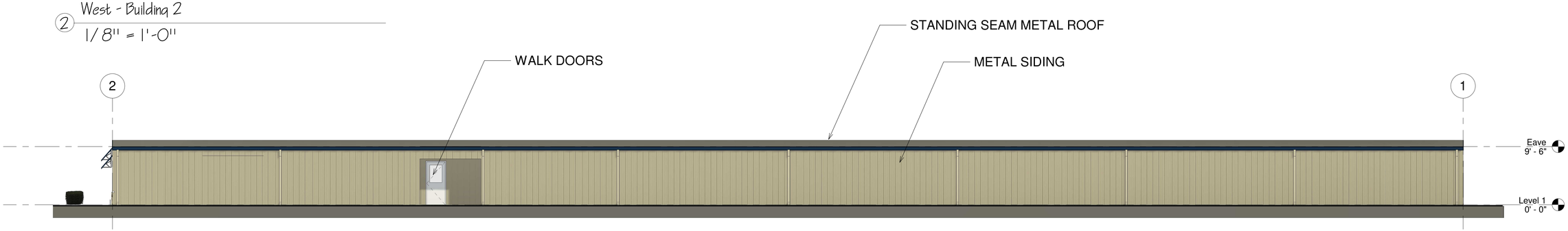
SHEET:
A-3

Scale
As indicated

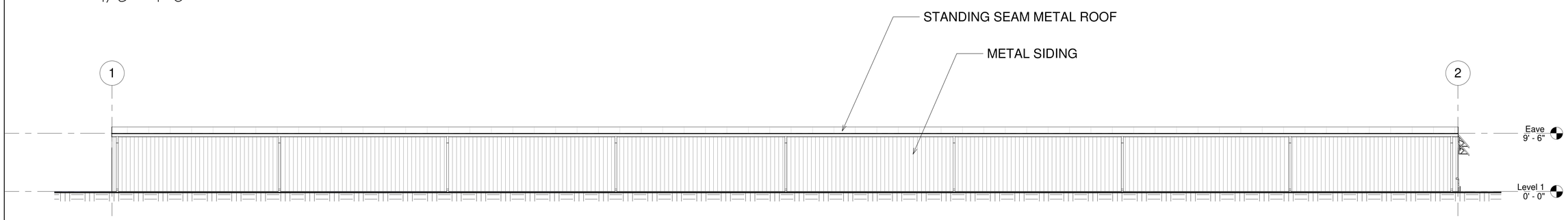
1 East - Building 2
1/8" = 1'-0"



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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STATE OF MARYLAND
PAUL J. GORMAN
7622-A
ARCHITECT

License Number 7622
Expiration Date 5.11.25

PROJECT NAME:
FRIEL SELF STORAGE
ELLIOTT RD., EASTON, MARYLAND

SHEET ISSUE DATE:
08/02/23

No.	Description	Date

SHEET TITLE:
Exterior Elevations Building #2

SHEET:
A-3.2

Scale
1/8" = 1'-0"

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~~ 2 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~~	0.479
Forest Conservation Required			0.266	Forest Conservation Provided	~~0.321~~	0.479

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	B.D.
Date	7/3/2023 8/4/23
Printed Name of Applicant or Agent	Brandon Davis DMS

For Office Use Only

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

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 6-5-24

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
REVISED: AUGUST, 2023

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

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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 has been revised to construct two climate controlled self storage buildings with required access, parking, and associated improvements. The two buildings are elongated in shape to mimic the property shape. At one time in the project history there where three buildings however two were combined due to need to sprinkler the buildings. The roof lines of the buildings will run down the middle of their long axis and drain 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 connect to nearby existing stormdrain systems.

Quality Control

The proposed project will result in approximately 1.79 acres of disturbance (Limits of Disturbance = LOD) with 1.18 acres of impervious area (or 65.6% imperviousness of the LOD). 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 7,496 c.f. and recharge volume requirement (Rev) of 292 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 10,582 c.f. of ESD volume and 4,406 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 are 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. The use of reduced curve numbers will be explored in the detailed final site plan phase and coordinated with the Town Engineering Department.

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 respective 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 volumetric storage provided in the micro-bioretention areas. TR-55 quantity control volume calculations (worksheet 6) determine a requirement of 1,500 c.f. to address the 10 year storm control after the reduced curve number is considered. The volume overage provided is 2,789 c.f., thereby addressing any remaining quantity control requirements.

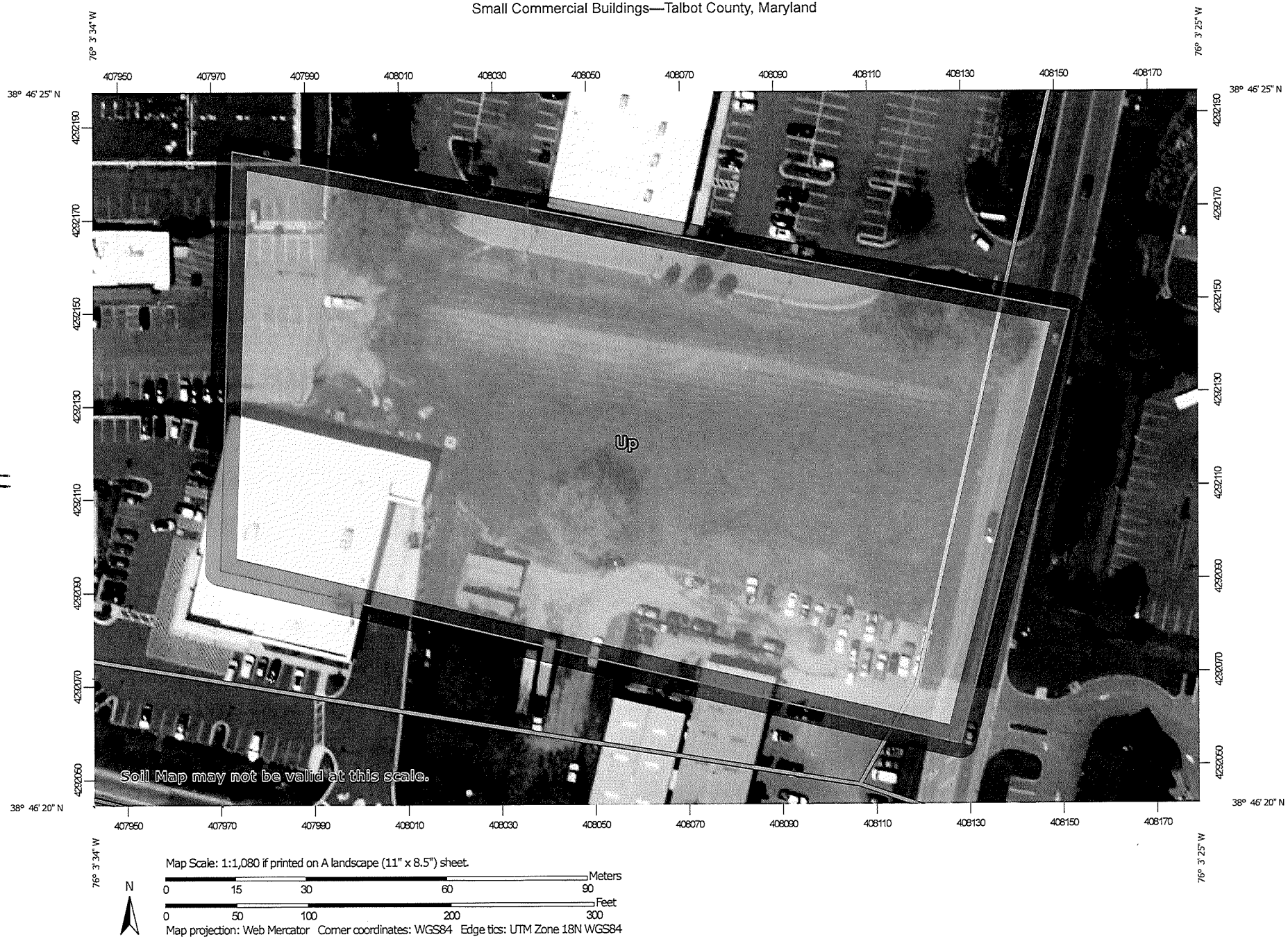
To further support that micro bioretentions 1 and 2 provided 10 year storm quantity control we have run the ponding storage and micro-bioretention #2 overflow inlet in TR-20 using the reduced curve number that has been computed based on ESD. The TR-20 program results in a post project 10 year storm peak flow that is less than the existing conditions value and a ponding elevation as expected just above the crest of the yard inlet that is used as an overflow structure.

Both the TR-55 volumetric approach and the TR-20 routing for the drainage area and outfall support that quantity control is addressed. By reducing the drainage area, providing ESD to the MEP, providing an overage of volumetric storage in the ESD devices, and using the reduced curve number we show that post project peak flows are less than pre project, therefore quantity control requirements are addressed 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
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408050
408070
408090
408110
408130
408150
408170
4232190
4232170
4232150
4232130
4232110
4232090
4232070
4232050
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.

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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: Elliott Rd - Climate Controlled Storage **Designed By:** B.A.D.
Date: Aug-23 **Checked By:** W.T.D
Description: Development Conditions

Determine ESD Implementation:

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

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

Site Data			
Redeveloped Site=			No
Area A =	**1.793**	acres	LOD
Prop. Hard Surfaces =	**1.175**	acres	
Alternative Surfaces =	**0.000**		
Net Imp. Area =	**1.175**		
% Impervious =	65.6	%	
Rv =	0.640		
Zone =	eastern		
P_E=	**1.80**	inches	

ESD_V =	0.172	ac-ft
or	7,496	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	292	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

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: Elliott Rd - Climate Controlled Storage

Micro-Bioretention

Device: MB #1

Filter Bed Requirements

Device Drainage Area =	14312	sq. Ft.
Minimum Af (2% of DA) =	286	sq. Ft.

ESDv Targets

DA Impervious Area =	11401	sq. Ft.	% Site Area =	22.3%
Device DA %I =	79.66	%		
Device DA Rv =	0.767			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	915	cu.Ft.		
ESDv burden per % Site Area =	1670	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2470	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

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DMS

Davis, Moore, Shearon, & Assocates, LLC

Engineering, Drafting/Design, Environmental Services & Surveying

Project: Elliott Rd - Climate Controlled Storage

Micro-Bioretention

Device: MB #2

Filter Bed Requirements

Device Drainage Area =	13957	sq. Ft.
Minimum Af (2% of DA) =	279	sq. Ft.

ESDv Targets

DA Impervious Area =	10641	sq. Ft.	% Site Area =	20.8%
Device DA %I =	76.24	%		
Device DA Rv =	0.736			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	856	cu.Ft.		
ESDv burden per % Site Area =	1558	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2311	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	1.837	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: Elliott Rd - Climate Controlled Storage

Micro-Bioretention

Device: MB #3

Filter Bed Requirements

Device Drainage Area =	18180	sq. Ft.
Minimum Af (2% of DA) =	364	sq. Ft.

ESDv Targets

DA Impervious Area =	15945	sq. Ft.	% Site Area =	31.1%
Device DA %I =	87.71	%		
Device DA Rv =	0.839			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	1271	cu.Ft.		
ESDv burden per % Site Area =	2335	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	3432	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	0.963	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: Elliott Rd - Climate Controlled Storage

Micro-Bioretention

Device: MB #4

Filter Bed Requirements

Device Drainage Area =	16063	sq. Ft.
Minimum Af (2% of DA) =	321	sq. Ft.

ESDv Targets

DA Impervious Area =	11987	sq. Ft.	% Site Area =	23.4%
Device DA %I =	74.62	%		
Device DA Rv =	0.722			
Soil Type	D			
Minimum Device P_E Target =	1.00	inches		
Minimum Device ESDv =	966	cu.Ft.		
ESDv burden per % Site Area =	1755	cu.Ft.		
1-year P_E =	2.70	inches		
1-year Strom Max. ESDv =	2609	cu.Ft.		

Provided

Af Provided =	822	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. =	1393	sq. Ft.	$D_{temp.\ Stor.}$ =	12	inches
Media Storage Provided =	849	cu.Ft.			
Temp Pond. Stor. Prov. =	1108	cu.Ft.			
Total ESDv Provided =	1957	cu.Ft.			

Re_v

Soils S Factor =	0.07		
P_E Achieved	0.768	inches	(Equation 5.2)
P_E Achiev. > Soil S Factor (yes/no):	yes		
Re_v Credit:	767	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	1957	767
Total		**10582**	**4406**

Summary

Step	Requirement	Volume Required (cft)	Volume Provided (cft)	Notes
1	ESD_V =	7496	**10582**	Micro-Bioretention
2	Recharge (Rev)	292	**4406**	Micro-Bioretention
3	Channel Protection (CPv)	N/A	**N/A**	ESD to MEP and overflow volume storage
4	Overbank Flood (Qp)		**Provided**	See Quantity Control Calculations
5	Extreme Flood (Qf)	N/A	N/A	N/A

Worksheet 2: Runoff curve number and runoff

Project: Elliott Rd - Clim. Cont. Self Storage By: BD Date: August-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
				Totals =	0.7706	63.163728

1/ Use only one CN source per line

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

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: Elliott Rd - Clim. Cont. Self Storag By: BD Date: August-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present [x] Developed [ ]

Circle one: Tc [x] Tt [ ] rough 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 ≤ 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: Elliott Rd - Clim. Cont. Self Storage By: BD Date: August-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 Table 2-2	CN Fig.2-3	CN Fig.2-4	**Area** acres mi^2 %	Product of CN x area
D	**Lawn**	**80**			**0.3732**	29.858586
D	**IMPERVIOUS**	**98**			**0.6412**	62.840588
						0
						0
						0
						0
						0
				Totals =	1.0145	92.699174

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{92.69917355}{1.01446281} = 91.38$$

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	2.42	4.22	7.94

(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: Elliott Rd - Clim. Cont. Self Storag By: WTD Date: August-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	37.5		
4	two-yr 24-hr rainfall, P_2	in	3.33		
5	Land slope, s	ft/ft	0.05		
6	$T_t = 0.007(nL)^{0.8} / P_2^{0.5} s^{0.4}$	hr	0.01 +	+ =	0.006

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	341		
19	$T_t = L / 3600 V$	hr	0.025 +	+ =	0.025
20	Watershed or subarea Tc or Tt (add Tt in steps 6,11,and 19)				0.031

0.1

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Worksheet 2: Runoff curve number and runoff

Project: Elliott Rd - Clim. Cont. Self Storage By: BD Date: August-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)

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

Project: Elliott Rd - Clim. Cont. Self Storag By: BD Date: August-23
Location: Elliott Rd, Easton
Checked: Date:

Circle one: Present [x] Developed [ ]

Circle one: Tc [x] Tt [ ] rough 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 ≤ 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

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Worksheet 2: Runoff curve number and runoff

Project: Elliott Rd - Clim. Cont. Self Storage By: BD Date: August-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			0.2323	18.587695
D	IMPERVIOUS	98			0.5272	51.670478
						0
						0
						0
						0
						0
				Totals =	0.7596	70.258173

1/ Use only one CN source per line

$$\text{CN (weighted)} = \frac{\text{total product}}{\text{total area (acres)}} = \frac{70.25817264}{0.75959596} = 92.49$$

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	2.52	4.34	8.07

(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: Elliott Rd - Clim. Cont. Self Storag By: WTD Date: August-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	40		
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 +	+ =	0.017

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)				0.033

0.1

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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:

<u>Existing Conditions</u>		
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	
<u>Proposed Conditions</u>		
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	2.42	4.22
DA2	2.52	4.34

	Q*	
DA1	1.27	3.07
DA2	1.37	3.19

	P + (2 x Q*) + 2	
DA1	7.866	13.336
DA2	8.066	13.576

SQRT [(5 x P x Q*) + (4 x Q^2)]	
5.248189783	10.83598154
5.501172239	11.11491682

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

CN*	DA1	76.4	80.0
	DA2	78.0	81.3

Rounded CN*	DA1	77	80
	DA2	78	82

A	CN
1.0097	91
0.7665	92

PE	Rv	QE
1.8	0.64	1.152

30

WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Elliott Rd - Clim. Cont. Stor.
SubTitle: DA 1 (Western) (Back)
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\22009-Duley-Miniwarehouses\SWM\08-2023\TR-55 Analysis - DA 1

Date: 8/2/2023
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

bdavis

Elliott Rd - Clim. Cont. Stor.
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

bdavis

Elliott Rd - Clim. Cont. Stor.
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

Elliott Rd - Clim. Cont. Stor.
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: Elliott Rd Climate Contr. Self Storage

DESCRIPTION: Cumulative Storage

STORAGE: Proposed Conditions

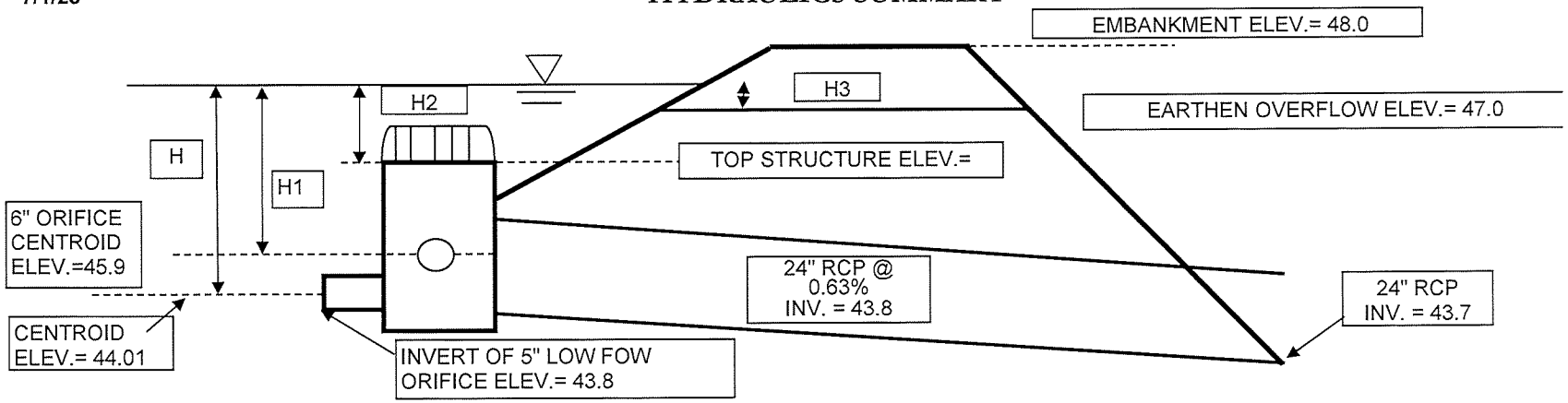
ELEV. (FT)	SURFACE AREA (SQ.FT)	AVERAGE SURFACE AREA (SQ.FT.)	DIFF. IN ELEV. (FT)	INCREMENT STORAGE (CU.FT.)	STORAGE (CU. FT.)	STORAGE (ACRE FT.)
42.50	56				0	0.0000
		136	0.50	68		
43.00	215				68	0.0016
		338	0.50	169		
43.50	461				237	0.0054
		542	0.30	162		
43.80	622				399	0.0092
		677	0.20	135		
44.00	732				535	0.0123
		874	0.50	437		
44.50	1,016				972	0.0223
		1,166	0.50	583		
45.00	1,315				1,554	0.0357
		1,471	0.50	736		
45.50	1,627				2,290	0.0526
		1,758	0.40	703		
45.90	1,888				2,993	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
		2,383	0.25	596		
46.75	2,471				4,843	0.1112
		2,561	0.25	640		
47.00	2,650				5,483	0.1259
		2,835	0.50	1,418		
47.50	3,020				6,901	0.1584
		3,212	0.50	1,606		
48.00	3,403				8,506	0.1953

DMS & Associates

BY: B. DAVIS

7/1/23

ELLIOTT ROAD POND (DA #1)
SWM POND OUTLET STRUCTURE
HYDRAULICS SUMMARY



WATER in Pond Elev	ORIFICE		ORIFICE		STRUC. TOP		OVERFLOW WEIR		24" ADS CAPACITY.				FLOW Q	ACTUAL STORAGE VOLUME
									Inlet Control *		Outlet Control			
	H	Q	H1	Q1	H2	Q2	H3	Q3	H1	Q1	H3	Q3		
	CL =	**44.01**	CL	**45.90**	Crest=	46.75	Crest=	47.00	CI Elev.=	**44.8**	CI Elev=	**44.7**		
	Size(ft) =	**0.42**	Size(ft) =	**0.5**	Length=	**9.66**	Length=	10	Size(ft)=	**2.00**	Kp=	0.0106		
	Area =	0.136	Area =	0.196										
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**
44.50	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**	0.1	**0**	**0.00**	0.00	**0.00**	1.10	**15.86**	1.20	**18.74**	1.00	**0.0687**
46.00	1.99	0.93	0.10	0.30	**0**	**0.00**	0.00	**0.00**	1.20	**16.56**	1.30	**19.51**	1.23	**0.0731**
46.50	2.49	1.04	0.60	0.73	**0**	**0.00**	0.00	**0.00**	1.70	**19.71**	1.80	**22.95**	1.77	**0.0975**
46.75	2.74	1.09	0.85	0.87	**0**	**0.00**	0.00	**0.00**	1.95	**21.11**	2.05	**24.50**	1.96	**0.1112**
47.00	2.99	1.14	1.10	0.99	0.25	**3.74**	0.00	**0.00**	2.20	**22.43**	2.30	**25.95**	5.87	**0.1259**
47.50	3.49	1.23	1.60	1.20	0.75	**19.45**	0.50	**10.59**	2.70	**24.84**	2.80	**28.63**	32.46	**0.1584**
48.00	3.99	1.31	2.10	1.37	1.25	**41.85**	1.00	**29.95**	3.20	**27.05**	3.30	**31.08**	56.99	**0.1953**

NOTES: Q = 0.6 A [(2gH)^1/2] 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 FRIEL - 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                      44.50       0.46        0.0223
 8                      45.00       0.65        0.0357
 8                      45.50       0.80        0.0526
 8                      45.90       1.00        0.0687
 8                      46.00       1.23        0.0731
 8                      46.50       1.77        0.0975
 8                      46.75       1.96        0.1112
 8                      47.00       5.87        0.1259
 8                      47.50       32.46       0.1584
 8                      48.00       56.99       0.1953
 9 ENDTBL
 6 RUNOFF 1    01     1 0.001204    82.0        0.249       1 1   1 1 1
 6 RUNOFF 1    01     2 0.001585    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
   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
```

```
 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       .58       .47       .39       .33       .28       .24
   13.00    DISCHG         .20       .18       .16       .15       .13       .12       .11       .10       .10       .09
   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       .04       .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       .03
   21.00    DISCHG         .03       .03       .02       .02       .02       .03       .03       .03       .03       .03
   22.00    DISCHG         .03       .03       .03       .03       .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,      .11 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)
              11.99                           2.91                         (RUNOFF)
1
```

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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	2.34
12.00	DISCHG	2.89	1.91	1.12	.74	.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	44.03
12.20	1.00	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	.04	.06
10.00	ELEV	42.00	42.00	42.00	42.00	43.86	43.90	43.94	43.99	44.03	44.06
11.00	DISCHG	.09	.11	.12	.14	.16	.18	.25	.39	.51	.65
11.00	ELEV	44.09	44.11	44.13	44.15	44.17	44.19	44.26	44.42	44.63	45.01
12.00	DISCHG	.79	.95	1.00	.99	.96	.91	.85	.80	.76	.73
12.00	ELEV	45.47	45.79	45.90	45.89	45.81	45.71	45.61	45.50	45.38	45.26
13.00	DISCHG	.69	.66	.62	.57	.53	.49	.43	.34	.28	.23
13.00	ELEV	45.15	45.04	44.91	44.79	44.67	44.57	44.47	44.37	44.30	44.25
14.00	DISCHG	.20	.18	.16	.14	.13	.12	.12	.11	.10	.10

1

39

14.00	ELEV	44.21	44.19	44.17	44.15	44.14	44.13	44.12	44.11	44.10	44.10
15.00	DISCHG	.10	.09	.09	.09	.09	.09	.08	.08	.08	.08
15.00	ELEV	44.10	44.09	44.09	44.09	44.09	44.08	44.08	44.08	44.08	44.08
16.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.07	.07	.07
16.00	ELEV	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07	44.07
17.00	DISCHG	.07	.07	.07	.06	.06	.06	.06	.06	.06	.06
17.00	ELEV	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06	44.06
18.00	DISCHG	.06	.06	.06	.05	.05	.05	.05	.05	.05	.05
18.00	ELEV	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05
19.00	DISCHG	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
19.00	ELEV	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.05	44.04
20.00	DISCHG	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
20.00	ELEV	44.04	44.04	44.04	44.03	44.03	44.03	44.03	44.03	44.03	44.03
21.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
21.00	ELEV	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
22.00	ELEV	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03
23.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
23.00	ELEV	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03	44.03
24.00	DISCHG	.03	.03	.02	.02	.01	.01	.01			
24.00	ELEV	44.03	44.02	44.02	44.01	44.00	44.00	43.99			

RUNOFF VOLUME ABOVE BASEFLOW = 2.22 WATERSHED INCHES, 2.27 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

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                           2.07                        (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       .12       .13       .14       .16       .18       .26       .46       .69      1.23
  12.00    DISCHG        1.86      2.06      1.71      1.38      1.11       .90       .75       .62       .53       .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         .07       .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       .05       .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,      2.53 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                           4.94                        (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


TR20 XEQ 08-02-23  02:32       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                                JOB  1   PASS   2
     REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                                       PAGE   5


   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       .13
  10.00    DISCHG         .13       .13       .14       .15       .17       .18       .20       .22       .24       .26
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11.00	DISCHG	.28	.31	.33	.36	.40	.43	1.06	1.54	2.29	4.06
12.00	DISCHG	4.91	3.22	1.87	1.22	.81	.65	.55	.49	.46	.41
13.00	DISCHG	.38	.34	.32	.31	.28	.27	.25	.23	.23	.21
14.00	DISCHG	.21	.20	.19	.18	.17	.17	.16	.15	.15	.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, 4.26 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)
12.21	1.96	46.75

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

8.00	DISCHG	.00	.00	.01	.01	.01	.01	.01	.03	.05	.06
8.00	ELEV	42.00	42.00	43.85	43.88	43.92	43.95	43.99	44.02	44.04	44.05
9.00	DISCHG	.07	.07	.08	.09	.09	.10	.10	.11	.11	.11
9.00	ELEV	44.06	44.07	44.08	44.09	44.09	44.10	44.10	44.11	44.11	44.12
10.00	DISCHG	.12	.12	.13	.13	.14	.15	.16	.18	.19	.21
10.00	ELEV	44.12	44.12	44.13	44.14	44.15	44.16	44.17	44.19	44.20	44.22
11.00	DISCHG	.23	.25	.27	.29	.32	.35	.47	.56	.69	.89
11.00	ELEV	44.24	44.27	44.29	44.32	44.35	44.38	44.51	44.76	45.12	45.67
12.00	DISCHG	1.53	1.89	1.96	1.91	1.82	1.66	1.48	1.32	1.12	.97
12.00	ELEV	46.28	46.66	46.75	46.69	46.56	46.40	46.23	46.08	45.95	45.83
13.00	DISCHG	.91	.86	.81	.77	.74	.70	.67	.64	.59	.55
13.00	ELEV	45.72	45.61	45.51	45.40	45.29	45.18	45.07	44.96	44.85	44.74
14.00	DISCHG	.51	.48	.42	.35	.29	.26	.23	.20	.19	.17
14.00	ELEV	44.64	44.55	44.46	44.38	44.32	44.27	44.24	44.21	44.19	44.18
15.00	DISCHG	.16	.16	.15	.15	.15	.14	.14	.13	.13	.13

1

15.00	ELEV	44.17	44.16	44.16	44.16	44.15	44.14	44.14	44.14	44.13	44.13
16.00	DISCHG	.13	.13	.12	.12	.12	.12	.12	.12	.11	.11
16.00	ELEV	44.13	44.13	44.13	44.13	44.13	44.13	44.12	44.12	44.12	44.11

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

 RUNOFF VOLUME ABOVE BASEFLOW =  4.01 WATERSHED INCHES,      4.10 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 08-02-23  02:32       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                          JOB  1   PASS   3
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                                PAGE   7


 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)
              12.08                          4.22                          (RUNOFF)

 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
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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	.26
11.00	DISCHG	.28	.30	.33	.36	.40	.44	.64	1.07	1.55	2.65
12.00	DISCHG	3.87	4.20	3.45	2.77	2.22	1.79	1.47	1.22	1.02	.85
13.00	DISCHG	.72	.63	.55	.50	.45	.41	.38	.35	.33	.31
14.00	DISCHG	.30	.28	.27	.26	.25	.24	.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	.14	.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, 5.28 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	8.99	

1

44

TR20 XEQ 08-02-23 02:32 SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON JOB 1 PASS 3
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE 8

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	.13	.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	.24	.25	.26	.27	.27
10.00	DISCHG	.27	.29	.30	.32	.35	.37	.42	.45	.48	.54
11.00	DISCHG	.57	.62	.66	.71	.80	.85	2.05	2.94	4.29	7.48
12.00	DISCHG	8.91	5.81	3.36	2.19	1.44	1.16	.97	.88	.82	.72
13.00	DISCHG	.68	.61	.57	.54	.50	.48	.44	.42	.40	.38
14.00	DISCHG	.37	.35	.33	.32	.30	.30	.28	.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	.15	.15	.15	.15	.15	.15	.15
19.00	DISCHG	.15	.15	.15	.15	.15	.15	.15	.15	.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, 8.05 CFS-HRS, .67 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	9.55	47.07

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	43.90	43.93	43.97	44.01
6.00	DISCHG	.04	.05	.07	.08	.09	.09	.10	.10	.11	.11
6.00	ELEV	44.03	44.05	44.06	44.08	44.09	44.09	44.10	44.10	44.11	44.11
7.00	DISCHG	.11	.11	.12	.12	.12	.12	.12	.12	.13	.13
7.00	ELEV	44.11	44.12	44.12	44.12	44.12	44.12	44.13	44.13	44.13	44.13
8.00	DISCHG	.13	.13	.14	.14	.15	.16	.17	.18	.18	.19
8.00	ELEV	44.13	44.13	44.14	44.15	44.16	44.17	44.18	44.19	44.19	44.20
9.00	DISCHG	.19	.20	.20	.21	.22	.22	.23	.24	.25	.25

1

9.00	ELEV	44.20	44.21	44.21	44.22	44.23	44.24	44.24	44.25	44.26	44.27
10.00	DISCHG	.26	.27	.27	.29	.30	.32	.34	.37	.40	.44
10.00	ELEV	44.28	44.28	44.29	44.31	44.32	44.34	44.37	44.40	44.43	44.47
11.00	DISCHG	.46	.48	.50	.52	.54	.57	.66	.79	1.23	1.93
11.00	ELEV	44.51	44.55	44.60	44.65	44.72	44.80	45.04	45.48	46.00	46.71
12.00	DISCHG	9.32	6.30	4.37	2.70	1.94	1.87	1.78	1.65	1.51	1.39
12.00	ELEV	47.06	47.01	46.90	46.80	46.72	46.63	46.52	46.39	46.26	46.15
13.00	DISCHG	1.27	1.10	.98	.94	.90	.86	.82	.79	.76	.73
13.00	ELEV	46.04	45.94	45.85	45.77	45.69	45.61	45.53	45.45	45.36	45.27
14.00	DISCHG	.71	.68	.66	.63	.59	.56	.53	.50	.47	.43
14.00	ELEV	45.19	45.11	45.03	44.94	44.85	44.76	44.68	44.60	44.53	44.47
15.00	DISCHG	.37	.34	.31	.29	.28	.26	.25	.24	.23	.23
15.00	ELEV	44.41	44.36	44.33	44.31	44.29	44.28	44.26	44.25	44.25	44.24
16.00	DISCHG	.22	.22	.22	.22	.22	.22	.22	.21	.20	.20
16.00	ELEV	44.24	44.24	44.23	44.23	44.23	44.23	44.23	44.22	44.21	44.21
17.00	DISCHG	.19	.19	.19	.18	.18	.18	.18	.18	.18	.18

45

17.00	ELEV	44.20	44.20	44.20	44.19	44.19	44.19	44.19	44.19	44.19	44.19
18.00	DISCHG	.17	.16	.16	.15	.15	.15	.15	.15	.15	.15
18.00	ELEV	44.18	44.17	44.16	44.16	44.16	44.15	44.15	44.15	44.15	44.15
19.00	DISCHG	.15	.15	.15	.15	.15	.15	.15	.15	.14	.14
19.00	ELEV	44.15	44.15	44.15	44.15	44.15	44.15	44.15	44.15	44.15	44.14
20.00	DISCHG	.13	.13	.12	.12	.11	.11	.11	.11	.11	.11
20.00	ELEV	44.14	44.13	44.12	44.12	44.12	44.11	44.11	44.11	44.11	44.11
21.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
21.00	ELEV	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11
22.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
22.00	ELEV	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11
23.00	DISCHG	.11	.11	.11	.11	.11	.11	.11	.11	.11	.10
23.00	ELEV	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.11	44.10
24.00	DISCHG	.10	.09	.07	.05	.04	.02	.02	.01	.01	.01
24.00	ELEV	44.10	44.08	44.06	44.04	44.03	44.02	44.01	44.00	44.00	43.99

RUNOFF VOLUME ABOVE BASEFLOW = 7.58 WATERSHED INCHES, 7.76 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

TR20 XEQ 08-02-23 02:32 SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON JOB 1 SUMMARY
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE 10

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     2.91    1834.7
 STRUCTURE  1  RESVOR      .00     2     2    .10     .0    3.33   24.00    2.22   45.90    12.20     1.00     633.9

   ALTERNATE    1   STORM   10
+
 STRUCTURE  1  RUNOFF      .00     2     2    .10     .0    5.20   24.00    3.26     ---    12.09     2.07    1718.1
 STRUCTURE  1  RUNOFF      .00     2     2    .10     .0    5.20   24.00    4.16     ---    11.98     4.94    3118.2
 STRUCTURE  1  RESVOR      .00     2     2    .10     .0    5.20   24.00    4.01   46.75    12.21     1.96    1236.8

   ALTERNATE    1   STORM   99
+
 STRUCTURE  1  RUNOFF      .00     2     2    .10     .0    8.98   24.00    6.80     ---    12.08     4.22    3505.6
 STRUCTURE  1  RUNOFF      .00     2     2    .10     .0    8.98   24.00    7.87     ---    11.98     8.99    5670.1
 STRUCTURE  1  RESVOR      .00     2     2    .10     .0    8.98   24.00    7.58   47.07    12.02     9.55    6023.2
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                   1.00      1.96      9.55
1END OF  1 JOBS IN THIS RUN
```

WinTR-55 Current Data Description

--- Identification Data ---

User: bdavis
Project: Elliott Rd -Clim. Cont. Stor.
SubTitle: DA 2 (Eastern) (Front)
State: Maryland
County: Talbot NOAA-C
Filename: S:\ACAD\PROJECTS\D-I\Fink & Whitten\22009-Duley-Miniwarehouses\SWM\08-2023\TR-55 Analysis - DA 2

Date: 8/2/2023
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	0.76	92	0.100
DA2 RCN2	Reduc. CN 2 yr	Outlet	0.76	78	0.100
DA2 RCN10	Reduc. CN 10 yr	Outlet	0.76	82	0.100

Total area: 3.28 (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

bdavis

Elliott Rd -Clim. Cont. Stor.
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

Elliott Rd -Clim. Cont. Stor.
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	-	.76	92
	Total Area / Weighted Curve Number		.76	92
DA2 RCN2	CN directly entered by user	-	.76	78
	Total Area / Weighted Curve Number		.76	78
DA2 RCN10	CN directly entered by user	-	.76	82
	Total Area / Weighted Curve Number		.76	82

bdavis

Elliott Rd -Clim. Cont. Stor.
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	1.92	3.23	5.81
DA2 RCN2	1.08		
DA2 RCN10		2.59	

Worksheet 6A: Detention Basin Storage

Project: Elliott Rd - Clim. Cont. Self Storag By: B.D Date: August-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 = 0.00119 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	1.08	2.59
4. peak outflow dischagre, qo.....cfs	**1.16**	**2.40**
5. Compute qo/qi	N/A	0.927

6. Vs/Vr use figure 6-1		0.125
7. Runoff Q....in From wk-2		4.34
8. Runoff Volume, Vr.....ac-ft Vr=Q Am 53.33		0.27
9 Storage volume, Vs.....ac-ft Vs = Vr (Vs/Vr)		0.034
Vs.....c.f.		**1,500**
Provided SWM Volume Within DA .....c.f.		**2,789**

2 year Storm Addressed using Reduced CN. Storage Provided in Micro-Bio's Above Target ESD Volumes Addresses 10 year Storm

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DMS

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

DATA FOR ELEVATION - STORAGE CURVE

JOB NAME: Elliott Rd Climate Contr. Self Storage
Drainage Area #2
DESCRIPTION: Cumulative Storage

STORAGE: Proposed Conditions

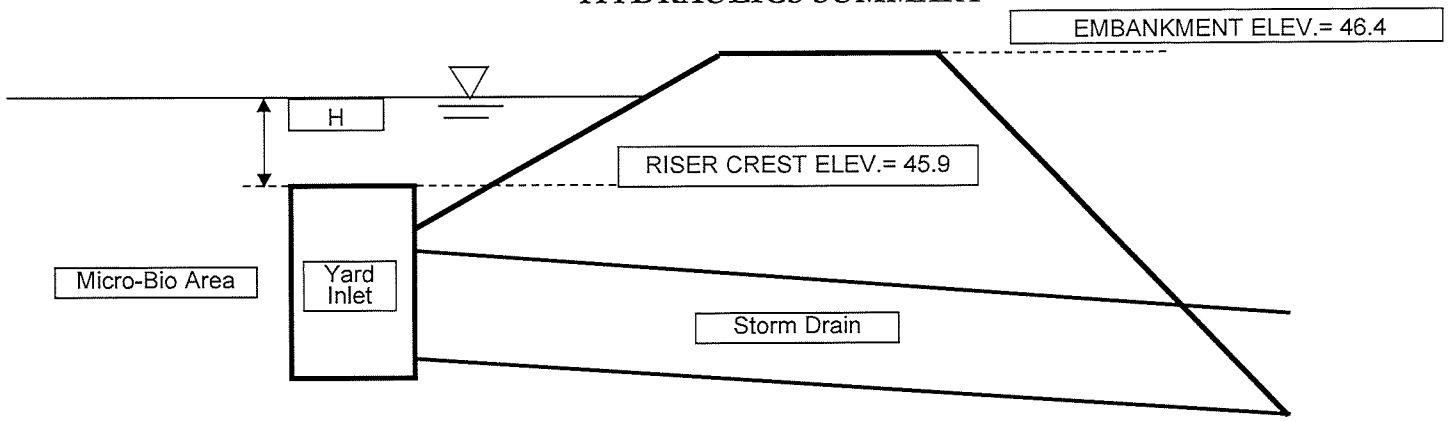
ELEV. (FT)	SURFACE AREA (SQ.FT)	AVERAGE SURFACE AREA (SQ.FT.)	DIFF. IN ELEV. (FT)	INCREMENT STORAGE (CU.FT.)	STORAGE (CU. FT.)	STORAGE (ACRE FT.)
Micro Bioretention 2 Ponding Storage						
44.90	1,709				0	0.0000
		1,833	0.50	917		
45.40	1,957				917	0.0210
		2,009	0.20	402		
45.60	2,060				1,318	0.0303
		2,140	0.30	642		
45.90	2,219				1,960	0.0450
		2,357	0.50	1,179		
46.40	2,495				3,139	0.0721
Micro Bioretention 1 Ponding Storage						
45.60	1,023				0	0.0000
		1,083	0.30	325		
45.90	1,142				325	0.0075
		1,246	0.50	623		
46.40	1,350				948	0.0218
		1,394	0.20	279		
46.60	1,437				1,226	0.0282
Combined Ponding Storage Provided in DA #2						
44.90					0	0.0000
45.40					917	0.0210
45.60					1,318	0.0303
45.90					2,285	0.0525
46.40					4,086	0.0938
46.60					4,365	0.1002

DMS & Associates

BY: B. DAVIS

7/1/23

ELLIOTT ROAD DA #2 ANALYSIS
MICRO BIO #2 INLET OVERFLOW STRUCTURE
HYDRAULICS SUMMARY



WATER in Pond Elev	ORIFICE		RISER NOTCH		STRUC. TOP		OVERFLOW WEIR		Inlet Control *		Outlet Control		FLOW Q	ACTUAL STORAGE VOLUME
	CL = Size(ft) = Area =	0.000	CL Size(ft) = Area =	0.000	H Crest= Length=	Q 45.90 **9.66**	Crest= Length=		H1 Q1 CI Elev.= Size(ft)=		H3 Q3 CI Elev= Kp=			
ft	ft	cfs	ft	cfs	ft	cfs	ft	cfs	ft.	cfs	ft	cfs	cfs	ac. ft.
44.90					**0**	0							0.00	**0.0000**
45.40					**0**	0							0.00	**0.0210**
45.60					**0**	0							0.00	**0.0303**
45.90					**0**	0							0.00	**0.0525**
46.40					0.50	10.58751							10.59	**0.0938**
46.60					0.70	17.53823							17.54	**0.1002**

NOTES: Q= 3.1(L)(H3/2)

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

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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 FRIEL - 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                      44.90       0.01        0.0000
 8                      45.40       0.02        0.0210
 8                      45.60       0.03        0.0303
 8                      45.90       0.04        0.0525
 8                      46.40       10.59       0.0938
 8                      46.60       17.54       0.1002
 9 ENDTBL
 6 RUNOFF 1    01     1 0.001570    80.0        0.192       1 1   1 1 1
 6 RUNOFF 1    01     2 0.001187    78.0        0.100       1 1   1 1 1
 6 RESVOR 2    01 2   3 44.90                               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
   ENDJOB 2
0*******************************END OF 80-80 LIST*******************************
1


 TR20 XEQ 08-02-23  03:30       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                          JOB  1   PASS   1
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                          PAGE   1



 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
```

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```
          OUTPUT HYDROGRAPH=  1
          AREA=    .00 SQ MI   INPUT RUNOFF CURVE= 80.    TIME OF CONCENTRATION=   .19 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0256 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             12.06                          1.39                        (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       .00       .00       .00       .01
  10.00    DISCHG         .01       .01       .01       .01       .01       .02       .02       .02       .03       .03
  11.00    DISCHG         .04       .04       .05       .05       .06       .08       .14       .26       .41       .86
  12.00    DISCHG        1.32      1.36      1.02       .79       .61       .48       .39       .32       .27       .23
  13.00    DISCHG         .21       .19       .17       .16       .15       .14       .13       .12       .11       .11
  14.00    DISCHG         .10       .10       .10       .09       .09       .08       .08       .08       .07       .07
  15.00    DISCHG         .07       .07       .07       .07       .07       .06       .06       .06       .06       .06
  16.00    DISCHG         .06       .06       .06       .06       .06       .06       .06       .06       .05       .05
  17.00    DISCHG         .05       .05       .05       .05       .05       .05       .05       .05       .05       .05
  18.00    DISCHG         .05       .04       .04       .04       .04       .04       .04       .04       .04       .04
  19.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  20.00    DISCHG         .04       .03       .03       .03       .03       .03       .03       .03       .03       .03
  21.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .03       .03       .03
  22.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .03       .03       .03
  23.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .03       .03       .03
  24.00    DISCHG         .03       .02       .01       .01       .01       .00

  RUNOFF VOLUME ABOVE BASEFLOW =  1.50 WATERSHED INCHES,      1.52 CFS-HRS,      .13 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= 78.    TIME OF CONCENTRATION=   .10 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0133 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             12.00                          1.29                        (RUNOFF)

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       .01       .02
1


TR20 XEQ 08-02-23  03:30       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                                JOB  1   PASS   1
     REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                                       PAGE   2


  11.00    DISCHG         .02       .03       .03       .04       .05       .05       .15       .25       .43       .93
  12.00    DISCHG        1.29       .89       .54       .37       .25       .21       .17       .16       .15       .13
  13.00    DISCHG         .13       .11       .11       .10       .09       .09       .08       .08       .08       .07
  14.00    DISCHG         .07       .07       .06       .06       .06       .06       .05       .05       .05       .05
  15.00    DISCHG         .05       .05       .05       .05       .05       .04       .04       .04       .04       .04
  16.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .04
  17.00    DISCHG         .04       .04       .04       .04       .04       .04       .04       .04       .04       .03
  18.00    DISCHG         .03       .03       .03       .03       .03       .03       .03       .03       .03       .03
```

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19.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.02
20.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
21.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
22.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
23.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
24.00	DISCHG	.02	.01	.00							

RUNOFF VOLUME ABOVE BASEFLOW = 1.36 WATERSHED INCHES, 1.04 CFS-HRS, .09 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= 44.90

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED118 TIMES STARTING WITH POINT 2

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

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
16.70	.04	45.84

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

.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.00	ELEV	44.90	44.90	44.90	44.89	44.89	44.89	44.89	44.89	44.88	44.88
1.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
1.00	ELEV	44.88	44.88	44.88	44.88	44.87	44.87	44.87	44.87	44.87	44.86
2.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
2.00	ELEV	44.86	44.86	44.86	44.86	44.85	44.85	44.85	44.85	44.85	44.85
3.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
3.00	ELEV	44.84	44.84	44.84	44.84	44.84	44.84	44.83	44.83	44.83	44.83
4.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
4.00	ELEV	44.83	44.83	44.82	44.82	44.82	44.82	44.82	44.82	44.81	44.81
5.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
5.00	ELEV	44.81	44.81	44.81	44.81	44.80	44.80	44.80	44.80	44.80	44.80
6.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
6.00	ELEV	44.79	44.79	44.79	44.79	44.79	44.79	44.79	44.78	44.78	44.78
7.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
7.00	ELEV	44.78	44.78	44.78	44.78	44.77	44.77	44.77	44.77	44.77	44.77
8.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
8.00	ELEV	44.76	44.76	44.76	44.76	44.76	44.76	44.76	44.76	44.75	44.75

1

9.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
9.00	ELEV	44.75	44.75	44.75	44.75	44.75	44.74	44.74	44.74	44.74	44.74
10.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
10.00	ELEV	44.74	44.74	44.73	44.73	44.73	44.73	44.73	44.73	44.74	44.74
11.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
11.00	ELEV	44.74	44.74	44.75	44.75	44.76	44.77	44.79	44.82	44.89	45.02

12.00	DISCHG	.02	.02	.03	.03	.03	.03	.03	.03	.03	.03
12.00	ELEV	45.24	45.44	45.57	45.63	45.66	45.68	45.70	45.71	45.72	45.74
13.00	DISCHG	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04
13.00	ELEV	45.75	45.76	45.76	45.77	45.78	45.78	45.79	45.80	45.80	45.80
14.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
14.00	ELEV	45.81	45.81	45.81	45.82	45.82	45.82	45.82	45.83	45.83	45.83
15.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
15.00	ELEV	45.83	45.83	45.83	45.83	45.84	45.84	45.84	45.84	45.84	45.84
16.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
16.00	ELEV	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84
17.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
17.00	ELEV	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84	45.84
18.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
18.00	ELEV	45.84	45.84	45.84	45.84	45.84	45.83	45.83	45.83	45.83	45.83
19.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
19.00	ELEV	45.83	45.83	45.83	45.83	45.83	45.83	45.82	45.82	45.82	45.82
20.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
20.00	ELEV	45.82	45.82	45.82	45.82	45.81	45.81	45.81	45.81	45.81	45.81
21.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
21.00	ELEV	45.80	45.80	45.80	45.80	45.80	45.80	45.79	45.79	45.79	45.79
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
22.00	ELEV	45.79	45.79	45.79	45.78	45.78	45.78	45.78	45.78	45.78	45.77
23.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
23.00	ELEV	45.77	45.77	45.77	45.77	45.77	45.77	45.76	45.76	45.76	45.76
24.00	DISCHG	.04	.04	.04	.03	.03	.03	.03	.03	.03	.03
24.00	ELEV	45.76	45.76	45.75	45.75	45.74	45.74	45.74	45.73	45.73	45.72
25.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
25.00	ELEV	45.72	45.72	45.71	45.71	45.71	45.70	45.70	45.69	45.69	45.69
26.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
26.00	ELEV	45.68	45.68	45.68	45.67	45.67	45.67	45.66	45.66	45.65	45.65
27.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
27.00	ELEV	45.65	45.64	45.64	45.64	45.63	45.63	45.63	45.62	45.62	45.62
28.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
28.00	ELEV	45.61	45.61	45.61	45.60	45.60	45.59	45.59	45.58	45.58	45.57
29.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
29.00	ELEV	45.57	45.56	45.56	45.55	45.55	45.54	45.54	45.53	45.53	45.52

RUNOFF VOLUME ABOVE BASEFLOW = .94 WATERSHED INCHES, .72 CFS-HRS, .06 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

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID
1

TR20 XEQ 08-02-23 03:30 SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON JOB 1 SUMMARY
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE 5

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	1.50	---	12.06	1.39	885.2
STRUCTURE 1	RUNOFF	.00	2	2	.10	.0	3.33	24.00	1.36	---	12.00	1.29	1088.1
STRUCTURE 1	RESVOR	.00	2	2	.10	.0	3.33	24.00	.94	45.84	16.70?	.04?	32.1

1

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TR20 XEQ 08-02-23 03:30 SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON JOB 1 SUMMARY
REV PC 09/83(.2) TALBOT COUNTY PREPARED BY BAD 12/2022 #2022009 PAGE 6

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2
0 STRUCTURE 1	.00	
+		
ALTERNATE 1		.04

1END OF 1 JOBS IN THIS RUN

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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 FRIEL - 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                      44.90       0.01        0.0000
  8                      45.40       0.02        0.0210
  8                      45.60       0.03        0.0303
  8                      45.90       0.04        0.0525
  8                      46.40       10.59       0.0938
  8                      46.60       17.54       0.1002
  9 ENDTBL
  6 RUNOFF 1    01     1 0.001570    80.0        0.192       1 1   1 1 1
  6 RUNOFF 1    01     2 0.001187    82.0        0.100       1 1   1 1 1
  6 RESVOR 2    01 2   3 44.90                               1 1 1 1 1 1
    ENDATA
  7 INCREM 6             0.1
  7 COMPUT 7    01    01 0.0         5.20        1.0         2 2  01  10
    ENDCMP 1
    ENDJOB 2
0*****************************END OF 80-80 LIST*****************************
1


 TR20 XEQ 08-02-23  03:28       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                          JOB  1   PASS   1
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                            PAGE   1


 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 =  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
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          OUTPUT HYDROGRAPH=  1
          AREA=    .00 SQ MI   INPUT RUNOFF CURVE= 80.    TIME OF CONCENTRATION=   .19 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0256 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             12.05                           2.85                        (RUNOFF)

TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
   7.00    DISCHG         .00       .00       .00       .00       .00       .00       .00       .01       .01       .01
   8.00    DISCHG         .01       .01       .01       .01       .01       .02       .02       .02       .02       .02
   9.00    DISCHG         .02       .03       .03       .03       .03       .03       .04       .04       .04       .04
  10.00    DISCHG         .05       .05       .05       .06       .06       .07       .08       .09       .10       .11
  11.00    DISCHG         .13       .14       .16       .17       .20       .22       .38       .67       .99      1.90
  12.00    DISCHG        2.76      2.77      2.06      1.58      1.21       .94       .75       .61       .51       .44
  13.00    DISCHG         .39       .35       .31       .29       .27       .25       .24       .22       .21       .20
  14.00    DISCHG         .19       .18       .17       .17       .16       .15       .15       .14       .13       .13
  15.00    DISCHG         .13       .13       .13       .13       .12       .12       .11       .11       .11       .11
  16.00    DISCHG         .11       .11       .11       .11       .11       .11       .11       .10       .10       .09
  17.00    DISCHG         .09       .09       .09       .09       .09       .09       .09       .09       .09       .08
  18.00    DISCHG         .08       .08       .08       .07       .07       .07       .07       .07       .07       .07
  19.00    DISCHG         .07       .07       .07       .07       .07       .07       .07       .07       .07       .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       .05       .05
  24.00    DISCHG         .04       .04       .02       .01       .01       .01       .00

  RUNOFF VOLUME ABOVE BASEFLOW =  3.07 WATERSHED INCHES,      3.11 CFS-HRS,      .26 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= 82.    TIME OF CONCENTRATION=   .10 HOURS
          INTERNAL HYDROGRAPH TIME INCREMENT=  .0133 HOURS

          PEAK TIME(HRS)              PEAK DISCHARGE(CFS)           PEAK ELEVATION(FEET)
             11.99                           3.04                        (RUNOFF)
1


TR20 XEQ 08-02-23  03:28       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                                JOB  1   PASS   1
     REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                                      PAGE   2


TIME(HRS)         FIRST HYDROGRAPH POINT =   .00 HOURS      TIME INCREMENT =  .10 HOURS      DRAINAGE AREA =    .00 SQ.MI.
   7.00    DISCHG         .00       .01       .01       .01       .01       .01       .01       .01       .01       .01
   8.00    DISCHG         .01       .01       .01       .02       .02       .02       .02       .02       .02       .02
   9.00    DISCHG         .03       .03       .03       .03       .03       .04       .04       .04       .04       .05
  10.00    DISCHG         .05       .05       .05       .06       .07       .07       .08       .09       .10       .11
  11.00    DISCHG         .12       .14       .15       .17       .19       .21       .53       .81      1.27      2.39
  12.00    DISCHG        3.03      2.03      1.19       .79       .53       .43       .36       .33       .31       .27
  13.00    DISCHG         .25       .23       .22       .20       .19       .18       .17       .16       .15       .14
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14.00	DISCHG	.14	.13	.13	.12	.12	.11	.11	.10	.10	.10
15.00	DISCHG	.10	.10	.10	.10	.09	.09	.08	.08	.08	.08
16.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.07	.07	.07
17.00	DISCHG	.07	.07	.07	.07	.07	.07	.07	.07	.07	.06
18.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
19.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.05	.05
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	.02	.01	.00						

RUNOFF VOLUME ABOVE BASEFLOW = 3.24 WATERSHED INCHES, 2.49 CFS-HRS, .21 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= 44.90

*** WARNING - STRUCTURE 1 DELTA T IS TOO LARGE. O /2 > S /DELTA T OCCURED104 TIMES STARTING WITH POINT 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.10	2.56	46.02

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

.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.00	ELEV	44.90	44.90	44.90	44.89	44.89	44.89	44.89	44.89	44.88	44.88
1.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
1.00	ELEV	44.88	44.88	44.88	44.88	44.87	44.87	44.87	44.87	44.87	44.86
2.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
2.00	ELEV	44.86	44.86	44.86	44.86	44.85	44.85	44.85	44.85	44.85	44.85
3.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
3.00	ELEV	44.84	44.84	44.84	44.84	44.84	44.84	44.83	44.83	44.83	44.83
4.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
4.00	ELEV	44.83	44.83	44.82	44.82	44.82	44.82	44.82	44.82	44.81	44.81
5.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
5.00	ELEV	44.81	44.81	44.81	44.81	44.80	44.80	44.80	44.80	44.80	44.80
6.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
6.00	ELEV	44.79	44.79	44.79	44.79	44.79	44.79	44.79	44.78	44.78	44.78

1

7.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
7.00	ELEV	44.78	44.78	44.78	44.78	44.78	44.78	44.78	44.78	44.78	44.78
8.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
8.00	ELEV	44.78	44.78	44.78	44.78	44.79	44.79	44.79	44.79	44.80	44.80
9.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
9.00	ELEV	44.80	44.81	44.81	44.81	44.82	44.82	44.83	44.84	44.84	44.85
10.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

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10.00	ELEV	44.86	44.86	44.87	44.88	44.89	44.90	44.92	44.93	44.95	44.97
11.00	DISCHG	.01	.01	.01	.01	.01	.01	.02	.02	.03	.04
11.00	ELEV	44.99	45.01	45.04	45.07	45.10	45.14	45.21	45.34	45.52	45.75
12.00	DISCHG	1.43	2.56	1.58	.97	.65	.47	.39	.34	.32	.29
12.00	ELEV	45.97	46.02	45.97	45.94	45.93	45.92	45.92	45.91	45.91	45.91
13.00	DISCHG	.26	.24	.22	.21	.20	.19	.17	.16	.15	.15
13.00	ELEV	45.91	45.91	45.91	45.91	45.91	45.91	45.91	45.91	45.91	45.91
14.00	DISCHG	.14	.14	.13	.13	.12	.11	.11	.10	.10	.10
14.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
15.00	DISCHG	.10	.10	.10	.10	.09	.09	.09	.08	.08	.08
15.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
16.00	DISCHG	.08	.08	.08	.08	.08	.08	.08	.08	.07	.07
16.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
17.00	DISCHG	.07	.07	.07	.07	.07	.07	.07	.07	.07	.06
17.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
18.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
18.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
19.00	DISCHG	.06	.06	.06	.06	.06	.06	.06	.06	.06	.05
19.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
20.00	DISCHG	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04
20.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
21.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
21.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
22.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
23.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
23.00	ELEV	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90	45.90
24.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
24.00	ELEV	45.90	45.90	45.89	45.89	45.89	45.88	45.88	45.87	45.87	45.86
25.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
25.00	ELEV	45.86	45.85	45.85	45.85	45.84	45.84	45.83	45.83	45.83	45.82
26.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
26.00	ELEV	45.82	45.81	45.81	45.80	45.80	45.80	45.79	45.79	45.78	45.78
27.00	DISCHG	.04	.04	.04	.04	.04	.04	.04	.03	.03	.03
27.00	ELEV	45.78	45.77	45.77	45.76	45.76	45.76	45.75	45.75	45.74	45.74
28.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
28.00	ELEV	45.74	45.73	45.73	45.73	45.72	45.72	45.71	45.71	45.71	45.70
29.00	DISCHG	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
29.00	ELEV	45.70	45.70	45.69	45.69	45.68	45.68	45.68	45.67	45.67	45.67

RUNOFF VOLUME ABOVE BASEFLOW = 2.70 WATERSHED INCHES, 2.07 CFS-HRS, .17 ACRE-FEET; BASEFLOW = .00 CFS
1

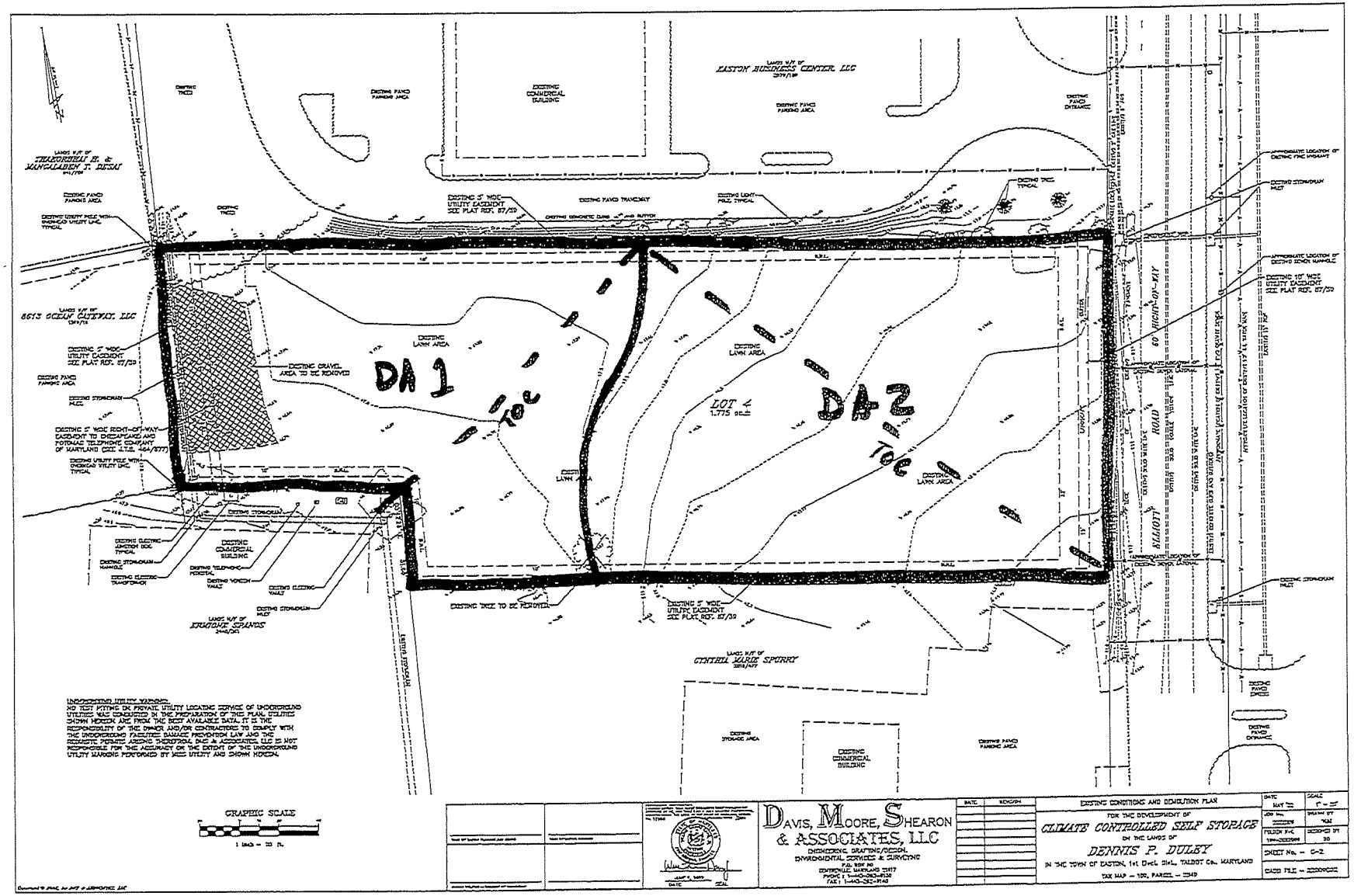
63

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

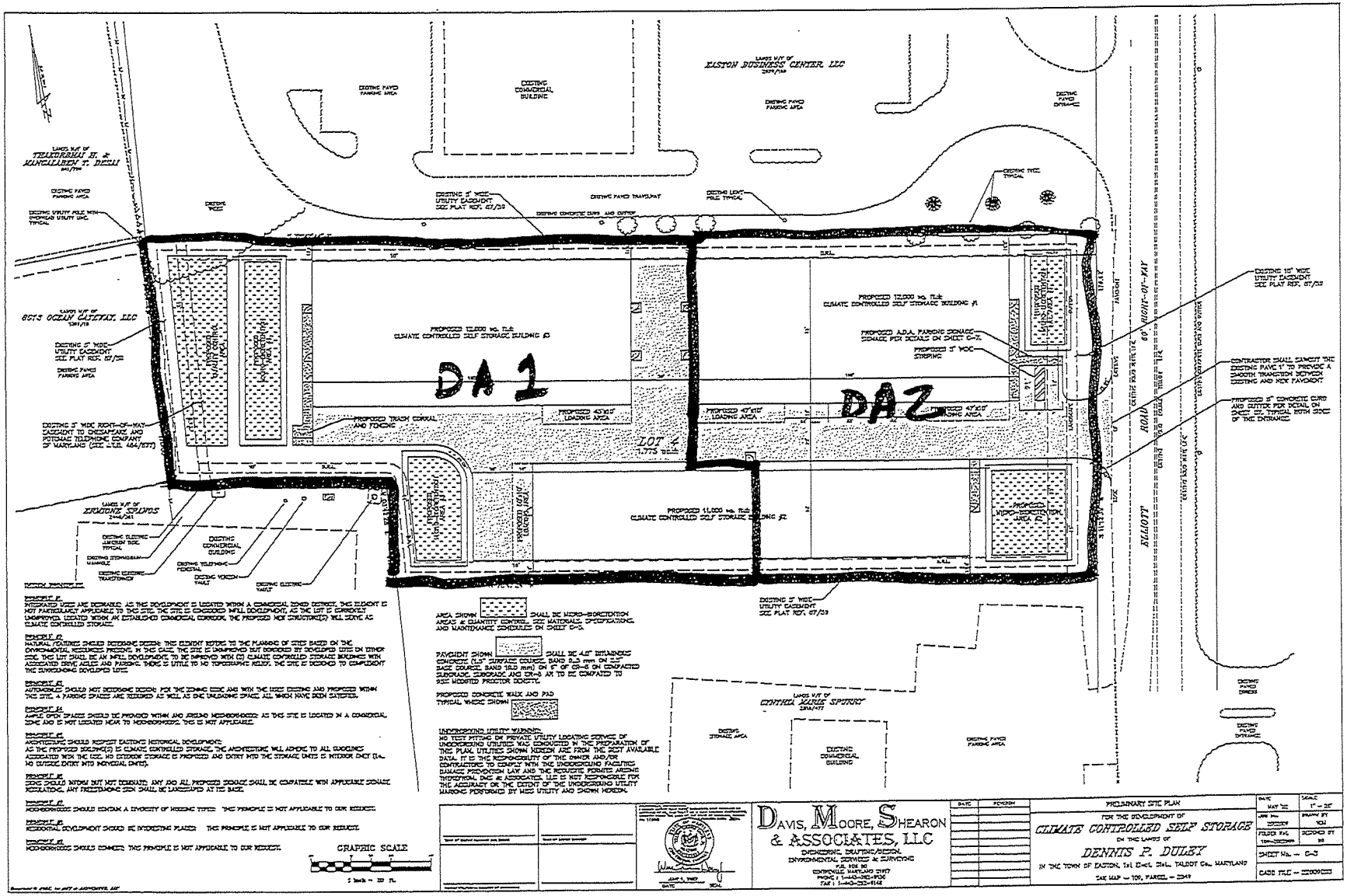
EXECUTIVE CONTROL OPERATION ENDCMP RECORD ID
+ COMPUTATIONS COMPLETED FOR PASS 1

```
 EXECUTIVE CONTROL OPERATION ENDJOB                                                                    RECORD ID
1


 TR20 XEQ 08-02-23  03:28       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                          JOB  1   SUMMARY
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                              PAGE   5


 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/    STANDARD              RAIN  ANTEC  MAIN         PRECIPITATION                          PEAK DISCHARGE
 STRUCTURE    CONTROL   DRAINAGE  TABLE  MOIST  TIME   ------------------------- RUNOFF   ------------------------------------
    ID       OPERATION    AREA      #    COND  INCREM  BEGIN    AMOUNT  DURATION  AMOUNT   ELEVATION   TIME       RATE       RATE
                        (SQ MI)                (HR)   (HR)     (IN)     (HR)     (IN)       (FT)      (HR)       (CFS)      (CSM)


    ALTERNATE    1   STORM   10
+  ____________________________
 STRUCTURE  1  RUNOFF      .00      2      2     .10      .0     5.20    24.00     3.07       ---      12.05       2.85     1817.7
 STRUCTURE  1  RUNOFF      .00      2      2     .10      .0     5.20    24.00     3.24       ---      11.99       3.04     2564.2
 STRUCTURE  1  RESVOR      .00      2      2     .10      .0     5.20    24.00     2.70     46.02      12.10       2.56     2157.1
1


 TR20 XEQ 08-02-23  03:28       SCS ANALYSIS FOR FRIEL - ELLIOTT ROAD, EASTON                          JOB  1   SUMMARY
      REV PC 09/83(.2)          TALBOT COUNTY  PREPARED BY BAD  12/2022  #2022009                              PAGE   6


 SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

 XSECTION/          DRAINAGE
 STRUCTURE            AREA       STORM NUMBERS..........
   ID               (SQ MI)           10

0 STRUCTURE   1          .00
+____________________________
    ALTERNATE    1                   2.56
1END OF  1 JOBS IN THIS RUN
```

64


EASTON BUSINESS CENTER, LLC
DA 1
DA 2
LOT 4
1.775 ac±
LANDS N/F OF
CENTEL MARK SPORRY
LANDS N/F OF
KRISTINE SPANOS
LANDS N/F OF
8613 OCEAN GATEWAY, LLC
LANDS N/F OF
THEODORELL E. & MARGALADEN T. DESAI
EXISTING COMMERCIAL BUILDING
EXISTING LAWN AREA
EXISTING GRAVEL AREA TO BE REMOVED
EXISTING TREE TO BE REMOVED
EXISTING 5' WIDE UTILITY EASEMENT SEE PLAT REF. 87/39
EXISTING 10' WIDE UTILITY EASEMENT SEE PLAT REF. 87/39
EXISTING 5' WIDE RIGHT-OF-WAY EASEMENT TO CHESAPEAKE AND POTOMAC TELEPHONE COMPANY OF MARYLAND
EXISTING PAVED PARKING AREA
EXISTING PAVED TRANSMAT
EXISTING STORMDRAIN INLET
EXISTING UTILITY POLE WITH OVERHEAD UTILITY LINE TYPICAL
EXISTING ELECTRIC JUNCTION BOX TYPICAL
EXISTING STORMDRAIN MANHOLE
EXISTING ELECTRIC TRANSFORMER
EXISTING TELEPHONE PEDESTAL
EXISTING VERIZON VAULT
EXISTING ELECTRIC VAULT
EXISTING STORMDRAIN PIPE
EXISTING PAVED ENTRANCE
EXISTING STORAGE AREA
EXISTING TREE TYPICAL
EXISTING LIGHT POLE TYPICAL
EXISTING CONCRETE CURB AND GUTTER
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
APPROXIMATE LOCATION OF EXISTING SEWER MANHOLE
APPROXIMATE LOCATION OF EXISTING WATER VALVE
EASTON STREET
LIVINGSTON STREET
UNDERGROUND UTILITIES 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 REASONABLE PERILS ARISING THEREFROM. DAVIS, MOORE, SHEARON & ASSOCIATES, LLC IS NOT RESPONSIBLE FOR THE ACCURACY OR THE EXTENT OF THE UNDERGROUND UTILITY MARKING PERFORMED BY NON UTILITY AND SHOWN HEREON.
GRAPHIC SCALE
1 inch = 20 ft.
DAVIS, MOORE, SHEARON & ASSOCIATES, LLC
ENGINEERING, GRADING/DESIGN, ENVIRONMENTAL SERVICES & SURVEYING
P.O. BOX 90
CENTREVILLE, MARYLAND 21617
PHONE : 1-443-262-0138
FAX : 1-443-262-0140
DATE
REVISION
EXISTING CONDITIONS AND DEMOLITION PLAN
FOR THE DEVELOPMENT OF
CLIMATE CONTROLLED SELF STORAGE
ON THE LANDS OF
DENNIS P. DULEY
IN THE TOWN OF EASTON, 1st Elect. Dist., TALBOT Co., MARYLAND
TAX MAP – 100, PARCEL – 1349
SCALE 1" = 20'
DRAWN BY KAH
SHEET No. – C-2
CADD FILE – 22000C02

65



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	0.2617	0.0235	1.8	2.5	1670	2287
2	MICRO-BIORETENTION (M-7)	MICRO BIO #2	ON	94	123206.64	481880.99	0.3204	0.2443	0.0392	1.8	4.36	1558	3730
3	MICRO-BIORETENTION (M-7)	MICRO BIO #3	ON	96	123225.45	481791.39	0.4174	0.3660	0.0268	1.8	2.05	2335	2608
4	MICRO-BIORETENTION (M-7)	MICRO BIO #4	ON	93	123256.89	481772.10	0.3688	0.2752	0.0189	1.8	2.02	1755	1957

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

67

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)	1.0145	0.6412	91	6 (MIN.)	1.04*	1.00*	45.90*	2.07*	1.96*	46.75*	4.22*	9.55*	47.07*
ESD DEVICES (DA #2, FRONT)***	0.7596	0.5272	92	6 (MIN.)	1.39**	0.04**	45.84**	2.85**	2.56**	46.02**	6.02**	6.28**	46.20**
						TOWN OF EASTON STANDARD DETAILS - SWM QUANTITIY SUMMARY CHART - STANDARD NO. TOE-SWM-7.02							

* VALUES ARE FROM TR-20 AND DO NOT CONSIDER REDUCED CURVE NUMBER COMPUTATIONS

** VALUES ARE FROM TR-20 AND CONSIDER REDUCED CURVE NUMBER COMPUTATIONS AND VOLUME PROVIDED IN ESD DEVICES FOR QUANTITY CONTROL

*** Extra Storage Provided in ESD Device to Address 10yr Quantity Control Requirement

**** VALUES DO NOT CONSIDER REDCUDED CURVE NUMBER COMPUTATIONS

68

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-959 has been filed on behalf of Friel Storage LLC to request Sketch Site Plan approval for two (2) proposed climate-controlled self 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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:		Creation Date:	**08/30/23**
		Ad Date:	**09/06/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**522**
		Lines:	**92**
		Agate Lines:	**405**
Telephone:	**(410) 822-2525**	Depth:	**11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582, Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004, Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849, Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582, Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23d, 2023**
TO:	**Robert S. Collison– Robert S. Collison, P.A.** **Basi Brothers, LLC – Owner**
Cc:	**Rick Van Emburgh – Town Engineer** **Miguel Salinas – Planning and Zoning Department** **Aaron Goller – EUC**
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**9719 Ocean Gateway Parcel 113 - Annexation**

The Engineering Department has reviewed the documents received on 8/4/2023. At this time, there are no existing improvements or access to Town ROW. The Engineering Department has no objections to the request for annexation.

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

Date of Hearing: September 21, 2023

#

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **PROPOSED ANNEXATION**

ELECTION WARD: Ward 1 (Upon Annexation)

CRITICAL ACTION DATE: September 21, 2023

STAFF CONTACTS: Lynn Thomas, Town Planner
Sharon VanEmburgh , Town Attorney
Miguel Salinas, Director of Planning and Zoning

APPLICANT: Robert S. Collison, P.A.

DOCUMENT CREATED ON: September 8, 2023

PURPOSE: The applicant is seeking Annexation of the property into Town limits. Specifically, at this meeting, a recommendation to the Town Council is needed.

RECOMMENDATION: Staff recommends that the Commission recommends approval of the Annexation, finds the proposed annexation request consistent with the Comprehensive Plan, and recommends the assignment of the General Commercial (CG) Zoning Classification to the property.

APPLICATION INFORMATION:	
APPLICANT: Robert S. Collison, P.A.	**REPRESENTATIVE:** Robert S. Collison, P.A.

PARCELS/ACREAGE:

Address	9719 Ocean Gateway
Parcel Information	Acreage
Map 025, Parcel 0113	3.25 acres

PROPOSED ZONING CG	**LOCATION:** 9719 Ocean Gateway
EXISTING ZONING GC (Talbot County)	**EXISTING LAND USE:** Formerly the site of a Hotel with Restaurant/Bar, known as The Choptank Inn and/or "Big John's"
GROWTH AREAS DESIGNATION: Priority 1 (Boundary Refinement)	**FUTURE LAND USE MAP:** Residential

CONTEXT:

Location/Site Access – The subject property is located on the east side of US Route 50 (Ocean Gateway), with a street address of 9719 Ocean Gateway. The site is now vacant but was previously improved with the Choptank Inn, a Hotel/Motel and Restaurant/Bar.

Existing Conditions – All improvements were demolished and cleared from the property several years ago.

Surrounding Properties

- To the east are the rear of lots within the Jensen's Hyde Park Subdivision. This is the only adjacent parcel currently within the Town's jurisdiction. They are zoned R-10M under Easton's Zoning Code.
- To the north is a single family home. There appear to be a combination of 5 single family homes and a handful of vacant parcels located between the subject property and the Hog Neck Golf Course. These parcels are zoned TR (Town Residential) by Talbot County.
- To the west is Route 50 and across Route 50 is Patuxent Materials, Inc. This parcel is zoned GC by Talbot County.
- To the south is a State Farm Insurance office. This parcel is also zoned GC by Talbot County.

PROPOSAL: The Applicant is seeking Annexation of the subject property into the Town, presumably so that it can be developed under Town rules and regulations as well as take advantage of Town infrastructure.

STAFF RECOMMENDATION & DISCUSSION:

Staff recommends that the Commission recommends approval of the Annexation, finds the proposed annexation request consistent with the Comprehensive Plan, and recommends the assignment of the General Commercial (CG) Zoning Classification to the property. It should be noted that this request is similar to the Dollar General request of a few years ago in that our Comprehensive Plan actually recommends residential use of the property, but it is currently zoned commercially by Talbot County. In the Dollar General case, the Commission determined that given the County Zoning and the preponderance of commercial development in the area, the CG zoning was more appropriate than any residential classification. A similar (if not, exact) argument can be made here. Residential usage of this strip along Route 50 seems highly unlikely, barring purchase and expansion by Hyde Park. Perhaps an argument can be made to zone it residential to halt the spread of commercial, strip-style development, but there is a very effective barrier to that just 1,000 feet or so to the north of the subject property in the form of the Hog Neck Golf Course.

DRAFT MOTIONS:

1. I move that the Planning Commission finds the proposed Annexation consistent with the Town's Comprehensive Plan and recommends that the Easton Town Council approve the Annexation request and assign the Town's CG Zoning classification to the Annexation properties.

OR

2. I move that the Planning Commission table the application to the October 19th Commission meeting for further discussion.

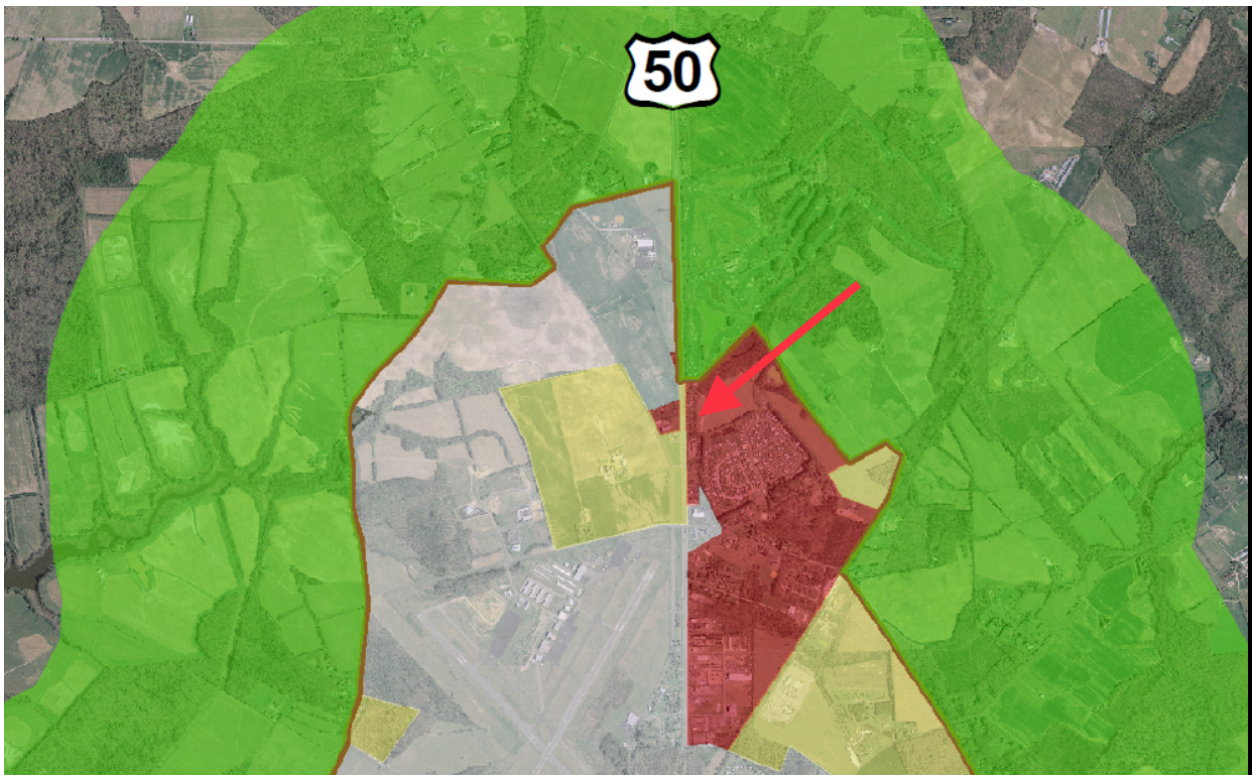
OR

3. I move an alternate motion.

ATTACHMENTS:

1. Future Land Use Map
2. Growth Areas Map
3. Eye Over Easton Aerial Photo

Future Land Use Map



Growth Areas Map

ArcGIS Web Map

9/12/2023, 1:10:01 PM

Easton Parcels

Line Features

0 - 5,000

Ephemeral/Intermittent

Area Features

Lakes, Ponds, Reservoirs, and Estuaries

Easton Municipal Boundary

Road Centerlines

County Route

Crossover Route

Maryland State Route

Municipal Route

Other Public Route

United States Route

1:9,906

0 0.07 0.15 0.3 mi

0 0.15 0.3 0.6 km

Esri Community Maps Contributors, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, MD iMAP, DoIT, Maxar

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

Easton Staff Development Review Worksheet

Date: August 23, 2023
Project: 9719 Ocean Gateway - Parcel 113
To: Robert S. Collison– Robert S. Collison, P.A
Basi Brothers, LLC – Owner

The Easton Staff Development Review (ESDR) Committee meeting for Staff review was held on August 23 at 10:00 am. Staff reviewed the annexation request on the property located at 9719 Ocean Gateway , also known as Tax Map 025, Parcel 113.

The Committee determined that the application may be scheduled for Planning Commission review. Please submit all necessary documents.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **August 28th**. 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: **August 23, 2023**
TO: **Robert S. Collison–** Robert S. Collison, P.A.
Basi Brothers, LLC – Owner
Cc: **Miguel Salinas** – Director, Planning & Zoning Department
Rick Van Emburgh – Town Engineer, Department of Engineering

FROM: **Joseph A. Mayer -** Plan Reviewer, Planning & Zoning Department
SUBJECT: 9719 Ocean Gateway Parcel 113 - Annexation

We reviewed the **August 2, 2023** Submittal for Annexation and have the following comments:

PLANNING & ZONING COMMENTS

Annexation Request

1. The Planning & Zoning Department finds the request for annexation is consistent with the Town's Comprehensive Plan and is located within the Priority One-Boundary Refinement Area. The Planning & Zoning Department has no objection to the annexation request.

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23d, 2023**
TO:	**Robert S. Collison– Robert S. Collison, P.A.** **Basi Brothers, LLC – Owner**
Cc:	**Rick Van Emburgh – Town Engineer** **Miguel Salinas – Planning and Zoning Department** **Aaron Goller – EUC**
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**9719 Ocean Gateway Parcel 113 - Annexation**

The Engineering Department has reviewed the documents received on 8/4/2023. At this time, there are no existing improvements or access to Town ROW. The Engineering Department has no objections to the request for annexation.

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

ROBERT S. COLLISON, P.A.
Attorney at Law
311 High Street
Post Office Box 1176
Cambridge, Maryland 21613

Robert S. Collison, Esquire
rob@cambridgetitle.net

Phone 410-228-1911
Fax 410-228-0010

Hand Delivered
May 30, 2023

Lynn B. Thomas, Jr., AICP
Town Planner
14 South Harrison Street
Easton, MD 21601

RE: Petition for Annexation; Tax Map 25; Parcel 113; 9719 Ocean Gateway

Dear Lynn:

Please be advised that I represent Basi Brothers, LLC, a Maryland limited liability company, which owns the following parcel of real property: 9719 Ocean Gateway, Easton, Maryland; Tax Map 0025; Parcel No. 0113; which contains 3.25 acres or land, more or less. Kehar Singh is the managing member of the Basi Brothers, LLC. Basi Brothers, LLC acquired title to the property by deed dated September 8, 2022, which is recorded among the Land Records for Talbot County, Maryland in Liber No. 3002, Folio 214 (a copy of said deed is enclosed).

Enclosed please find the completed and signed Petition for Annexation Application, a copy of a survey plat that was prepared in 2022 when the property was listed for sale, and a check in the amount of $15,000.00 made payable to the Town of Easton, which represents the annexation application fee.

Harry Smith, Jr., Registered Surveyor is completing an updated boundary line survey plat and a certified legal description containing metes and bounds for the subject parcel. I anticipate receiving his documentation by June 14, 2023. Upon receipt, I will deliver to your office two mylars and eight paper copies of the plat, together with the metes and bounds description.

Please review the materials and contact me should any additional documentation be needed, or if you have any questions.

Sincerely,

Robert S. Collison, Esq.

Harry A. Smith, Jr.,Prof.L.S.
10644 Big Stone Road
Millington, MD 21651
Ph.443-480-5080
delmarvasurveyco@yahoo.com

Description Of The Lands Of
Basi Brothers, LLC
First District, Caroline County, Maryland
Tax Map 25, Grid 6, Parcel 113
Area Equals 3.231 Acres Of Land, More Or Less
Basis Of Bearings Is Plat MAS 82/178

BEGINNING for the same at an iron rod found located at the intersection of the division line between the herein described lands of Basi Brothers, LLC (3002/214) and the lands now or formerly of East to West, LLC (1050/318) with the eastern most right-of-way line of Ocean Gateway (U.S. Route 50)(150' R/W);

THENCE leaving said point of beginning so fixed and binding with the eastern most right-of-way line of Ocean Gateway;

1) North 01°28'47" West 601.98' to an iron rod found located at the southwestern most corner of the lands now or formerly of Elisha Cooper (585/613);

THENCE leaving Ocean Gateway and binding with the Cooper lands;

2) North 88°31'13" East 150.00' to an iron rod set located along the western most boundary line of the lands now or formerly of Sun Hyde Park, LLC (2676/44);

THENCE leaving the Cooper lands and binding with the Sun Hyde Park, LLC lands the (4) four following courses and distances;

3) South 01°28'47" East 150.26' to a point located North 89°17'57" West 0.88' from an iron rod found;
4) North 65°11'16" East 106.32' to an iron rod found;
5) South 01°48'31" East 549.56' to an iron rod found;
6) South 71°53'20" West 105.18' to an iron rod set located at the southeastern most corner of the aforesaid East to West, LLC lands;

THENCE leaving the Sun Hyde Park, LLC lands and binding with the East to West, LLC lands the (2) two following courses and distances;

7) North 01°42'22" West 132.96' to an iron rod found;
8) South 71°01'06" West 156.73' to the point of beginning.

Containing in all 3.231 acres of land, more or less, as surveyed by Harry A. Smith, Jr., Professional Land Surveyor in June of 2022.

BEING or intended to be all of those same lands conveyed by Trustee's Deed dated September 8, 2022 from Zvi Guttman, solely in his capacity as Chapter 11 Trustee for the Estate of Brodie Holdings, LLC to Basi Brothers, LLC, a Maryland limited liability company and recorded among the land records of Talbot County, Maryland in Liber K.M.D. 3002, folio 214.

This Metes and Bounds Description, the Boundary Survey on which it is based and the Survey Work reflected in it, has been personally prepared by me, Harry A. Smith, Jr., Professional Land Surveyor and is in compliance with the regulations set forth in COMAR 09.13.06.03, 09.13.06.08 and 09.13.06.12.

COPY

ROBERT S. COLLISON, P.A.

Attorney at Law
311 High Street
Post Office Box 1176
Cambridge, Maryland 21613

Robert S. Collison, Esquire
rob@cambridgetitle.net

Phone 410-228-1911
Fax 410-228-0010

July 10, 2023

Sharon M. VanEmburgh, Esq.
Ewing, Dietz, Fountain & Kaludis
16 South Washington Street
Easton, MD 21601

RE: Intent to Develop; 9719 Ocean Gateway, Easton

Dear Ms. VanEmburgh:

The members of Basi Brothers, LLC advise that at the present time, the intended development use of the property at 9719 Ocean Gateway property would be a combination of hospitality uses (restaurants) and/or office/retail uses.

If any additional information or documentation is needed for the annexation application, please do not hesitate to contact me at 410-228-1911.

Best regards,

Robert S. Collison, Esq.

cc: Lynn B. Thomas, Jr., Towne Planner

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

Petition for Annexation Application

Property Information

Property Size	Acres	3.25		Square Feet			
Current Land Use	vacant			Proposed Land Use	commercial		
Address	9719 Ocean Gateway, Easton, MD 21601						
Tax Map	0025	Grid	0006	Parcel	0113	Lot(s)	
Deed Refernce:	Liber	3002	Folio	214			
Plat Reference:	Liber	82	Folio	178			
Current Country Zoning District		GC		Requested Town Zoning District	CG		

Town of Easton Comprehensive Plan Priority Designation *(circle)* **1 2 3**

Property Owner

Owner Name	Basi Brothers, LLC		
Mailing Address	7528 Flamewood Drive, Clarkville, MD 21029		
Telephone No.	410-961-4878	Email	keirbasi@yahoo.com

Agent Information

Agent Name	Robert S. Collison	License No.		Expiration Date	N/A
Mailing Address	311 High Street, Cambridge,MD 21613				
Telephone No.	410-228-1911	Email	rob@cambridgetitle.net		

ALL OF THE ITEMS ARE REQUIRED TO BE FILED SIMULTANEOUSLY FOR A COMPLETED APPLICATION
(check if included)

- ✓ Petition for Annexation (Needs to be signed by 25% of person who reside in the area to be annexed and who are registered voters and owners of 25% of assessed value of area to be annexed. Can also do by ballot vote ahead of time and initiation of resolution by Town.)
- ✓ An application fee of $15,000 shall be paid to the Town of Easton. Please Note that the fee collected is a deposit only and that additional fees may be required.
- ☐ The applicant must sign a Town Reimbursement Agreement to ensure all fees, costs, and expenses incurred by the Town in excess of the application fee amount will be reimbursed.
- ☐ Metes and bounds description for property
- ☐ Plats of property which shall include 2 mylar and 8 paper copies.
- ☐ Proposed Annexation Resolution, Proposed Ordinance for Zoning, Proposed Annexation Plan, and Proposed Annexation Agreement.
- ☐ If Special Tax District proposed a Resolution to Create Special Tax District shall be required. -Need consent of owners of 2/3 of assessed value of area, plus 2/3 of number of different property owners. Can also do by ballot vote ahead of time and initiation of resolution by Town.

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: Kehar Singh

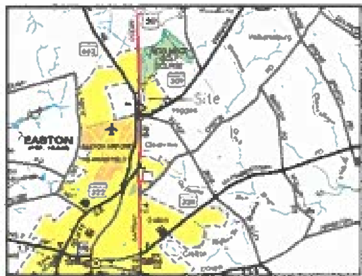
Date: 5-15-2023

Printed Name of Applicant or Agent: Kehar Singh, Managing Member

For Office Use Only

Application No. AX 23-01	2023-962	Fee Paid	06/07/2023
Date Resolution Introduced to Town Council			
Planning Commission Meeting	07/20/2023	Positive Recommendation to Council? Y ☐ N ☐	
Town Council Public Hearing		Is a Zoning Waiver Required? Y ☐ N ☐	
Resolution Enactment Date		Resolution Effective Date	
ESDR Y / N Date			*Revised 2-2020*

RECEIVED
JUN 0 7 2023
TOWN OF EASTON



Vicinity Map
(Not To Scale)

Legend

- R/W – Right of Way
- C/L – Centerline
- P.O.B. – Place of Beginning
- P.O.C. – Point of Commencement
- Sign (As Noted)
- Light Pole
- Sanitary Manhole
- Water Valve
- Hydrant
- Power Pole
- Traffic Pole
- Gas Meter
- Ground Light
- Flagpole
- Water Manhole
- Sanitary Cleanout
- Water Meter
- Sprinkler
- Bollard
- Pin found (as noted)
- Pin set (as noted)
- Air Conditioner
- Electric Meter
- Building Area
- Concrete Area
- Handicap Parking
- Gas Pump
- Air Pump
- Transformer
- Payphone
- Guywire
- Catch Basin (Square)
- Chain Link Fence
- Overhead Utility Line(s)
- Catch Basin (Round)
- Curb Inlet
- Electric Box

Potential Encroachment Notes

No visible encroachments were observed at the time of the field work.

General Notes

1. The address of the subject property is 9719 Ocean Gateway, Easton, MD
2. Direct access to the property is via Ocean Gateway, a public right-of-way.
3. The location of utilities shown on the survey are from observed evidence of above ground appurtenances only. The surveyor was not provided with underground utility plans or surface ground markings to determine the location of any subterranean uses.
4. At the time of the field work of the survey there was no observable evidence of earth moving work, building construction or building additions.
5. At the time of the field work of the survey there was no observed evidence of changes to street right-of-way lines, recent street or sidewalk construction or repairs.
6. At the time of the field work of the survey there was no observed evidence of cemeteries located on the subject property.

Schedule B Title Exceptions

Numbers correspond with Schedule B exception items contained in First American Title Insurance Company, Commitment No. 101-10394085, bearing an effective date of May 2, 2022

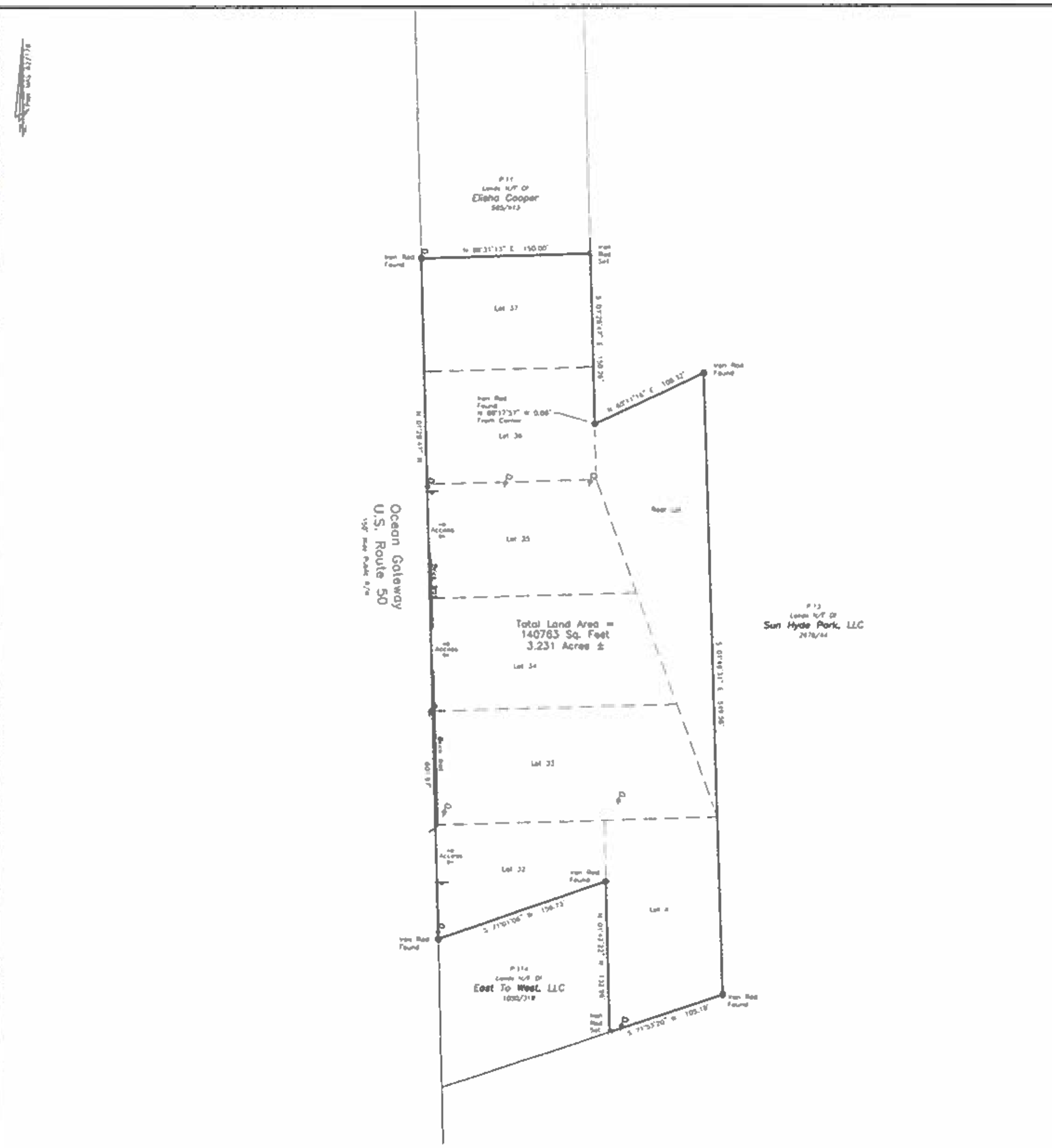
7. Subject to the conditions, covenants, easements, options, provisions, restrictions, and/or terms set out in the Deed recorded January 6, 1982 in (book) 380 (page) 718 of the Official Records of Talbot County, Maryland, but omitting any restrictions indicating a preference, limitation, or discrimination based on race, color, religion, sex, handicap, familial status, or national origin, unless and only to the extent that said covenant (a) is exempt under Chapter 42, Section 3607 of the United States Code, or (b) relates to handicap, but does not discriminate against handicapped persons, are hereby deleted to the extent such restrictions violate 42 USC 3604c. Deed 380/718
AFFECTS SUBJECT PROPERTY

8. Restrictions, reservations, setbacks and easements, if any, as indicated and/or shown on that certain Plat recorded in Plat (book) 2 (page) 124 of Talbot County, Maryland. Plat 2/124
AFFECTS SUBJECT PROPERTY

9. Restrictions, reservations, setbacks and easements, if any, as indicated and/or shown on that certain Plat recorded in Plat (book) M.A.S. No. 82 (page) 178 of Talbot County, Maryland. Plat M.A.S. No. 82/178
AFFECTS SUBJECT PROPERTY

Flood Zone Classification

By graphical plotting only, the property lies within Zone "X" as depicted by scaled map location on Flood Insurance Rate Map, Community Panel No. 24041C0185C, which bears an effective date of August 5, 2013 and is not in a Special Flood Hazard Area.



Title Legal Description

The Land referred to herein below is situated in the County of Talbot, State of Maryland, and is described as follows:

Lot 22

Lot 22 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 23

Lot 23 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 24

Lot 24 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 25

Lot 25 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Rear Lot

A parcel to the rear of Lots 33, 34, 35 and 36 described in a deed dated August 13, 1953 recorded in Liber 307, folio 64 as shown on the plat recorded among the Plat Records of Talbot County, Maryland, in Plat Book Liber M.A.S. No. 82, folio 178; and

12,400 SQUARE FOOT LOT A parcel containing 12,400 square feet described in a deed dated March 1955 recorded in Liber 361, folio 143.

Lot 26

Lot 26 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 27

Lot 27 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

BEING all those lots or parcels of land situate, lying and being in the First Election District of Talbot County, Maryland, known and designated as Parcels One and Two, containing 3.231 acres of land, more or less, as set forth and shown on a plat entitled, "BOUNDARY SURVEY ON THE LANDS OF [illegible], TAX MAP 25, GRID 6, PARCEL 113, FIRST ELECTION DISTRICT, TALBOT COUNTY, MARYLAND," by McCrone, Inc., dated April 2009, and recorded, or intended to be recorded, [illegible] among the Plat Records of Talbot County, Maryland, and the use of a metes and bounds description encompassing all 8 lots or parcels is in no way to be construed as an abandonment of the legal identity of the 8 separate lots, but is done exclusively for purposes of simplicity.

Being the same property granted and conveyed to Brodie Holdings, LLC, a Maryland limited liability company by Confirmatory Deed dated November 9, 2009 and recorded among the Land Records of Talbot County, State of Maryland, on November 24, 2009, in Liber 1752, folio 97 from J. and B. Brodie Family Limited Partnership, a limited partnership.

The above described parcels are the same parcels as described in First American Title Insurance Company Commitment No. 101-10394085, bearing an effective date of May 2, 2022.

Surveyor's Certification

ALTA/NSPS Land Title Survey

For

Brodie-Kaiser Portolio

9719 Ocean Gateway, Easton, MD

Talbot County

To: A & G Real Estate Partners, Wylie Title, LLC, and First American Title Insurance Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1,2,3,4,7(a),8,9,11(a),13,16 & 17 of Table A thereof.

The fieldwork was completed on 5/4/2022

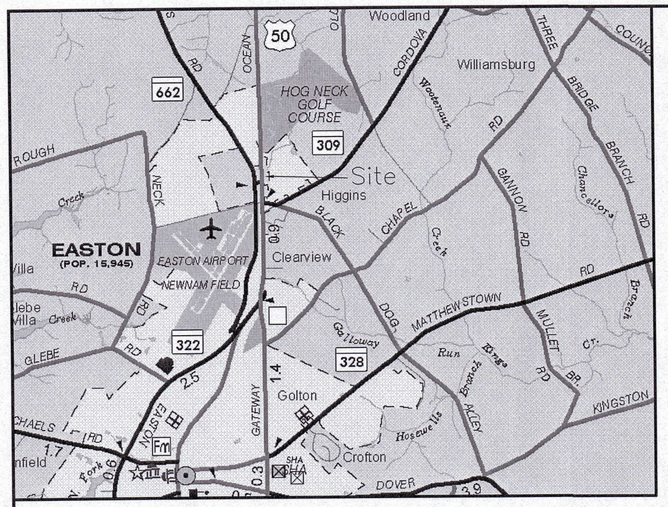
Date of Plat or Map: 5/13/2022

Harry A. Smith, Jr.
Professional Land Surveyor
Registration/License No. 21082

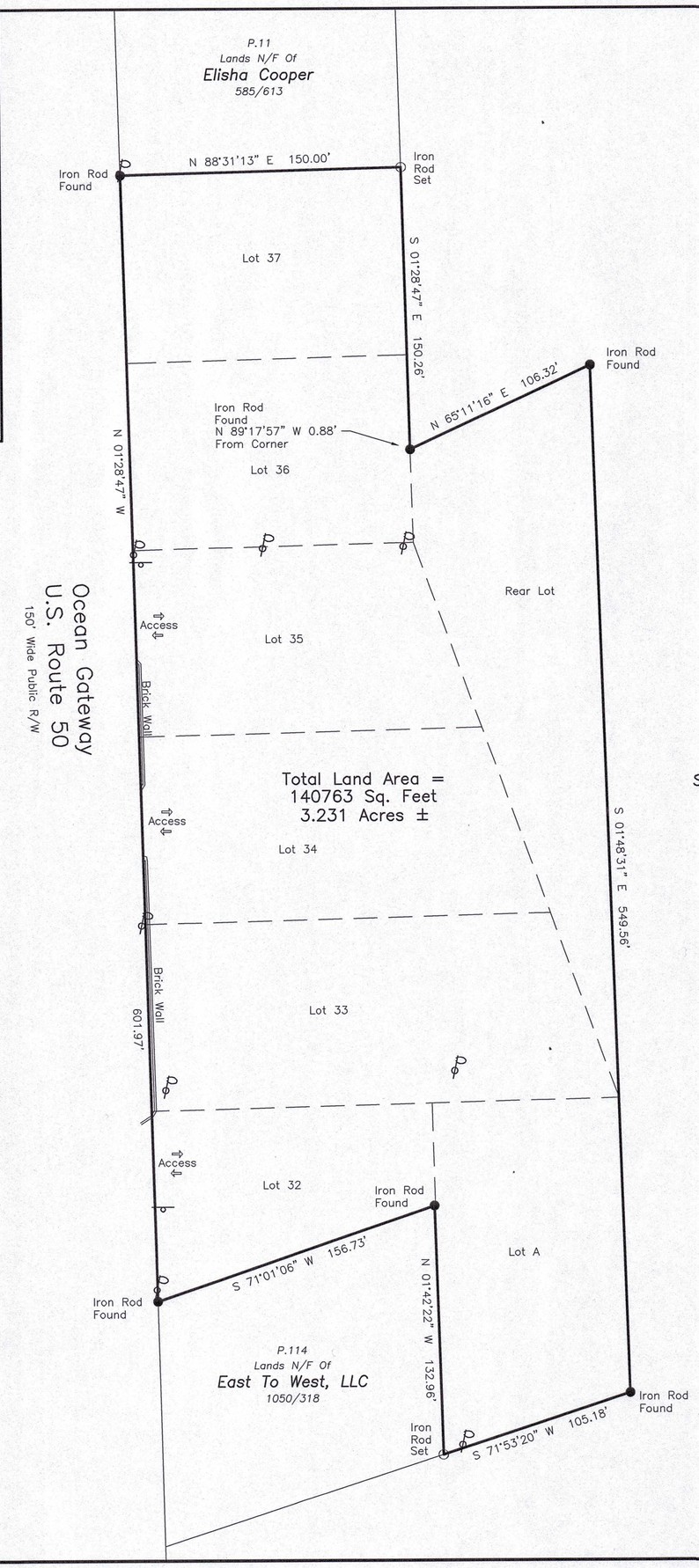
ALTA/NSPS Land Title Survey
On The Lands Of
Brodie Holdings, LLC
Tax Map 25 Grid 6 Parcel 113
First District, Talbot County, Maryland
Prepared For: A & G Real Estate Partners

Harry A. Smith, Jr.
Professional Land Surveyor
10644 Big Stone Road
Millington, Maryland 21651

SCALE	1"=50'
DATE	April 2022
JOB NO.	22-055
SHEET NO.	1 of 1
REVISION	
DATE	



Vicinity Map
(Not To Scale)



NOTES:

1. FOR DEED REFERENCE SEE 3002/214
2. PROPERTY ADDRESS – 9719 OCEAN GATEWAY EASTON, MARYLAND 21601
3. ——●—— – DENOTES DEED POINT (UNLESS OTHERWISE NOTED)
4. N/F – DENOTES NOW OR FORMERLY
5. I.P.F. – DENOTES IRON PIPE FOUND
6. I.R.S. – DENOTES CAPPED IRON ROD SET
7. I.R.F. – DENOTES IRON ROD FOUND

I HEREBY CERTIFY THAT I HAVE PERSONALLY PREPARED THE BOUNDARY SURVEY SHOWN AND DESCRIBED HEREON OR WAS IN RESPONSIBLE CHARGE OVER ITS PREPARATION AND THE SURVEYING WORK REFLECTED IN IT; I ALSO CERTIFY THAT IT WAS PREPARED IN COMPLIANCE WITH THE REQUIREMENTS AS SET FORTH IN COMAR 09.13.06.03 AND 09.13.06.12 OF THE MINIMUM STANDARDS OF PRACTICE FOR LANDS SURVEYORS.

6/27/2022
HARRY A. SMITH, JR. DATE
MARYLAND REGISTERED PROFESSIONAL LAND SURVEYOR #21082
LICENSE EXPIRES/RENEWS 2/14/2025

STATE OF MARYLAND HARRY A. SMITH REGISTERED PROFESSIONAL LAND SURVEYOR

SEAL

6/27/2022
DATE

Boundary Survey

On The Lands Of

Basi Brothers, LLC

Tax Map 25, Grid 6, Parcel 113
First District, Talbot County, Maryland
Prepared For: Basi Brothers, LLC

Harry A. Smith, Jr.
Professional Land Surveyor
10644 Big Stone Road
Millington, Maryland 21651
Phone 443-480-5080
Email delmarvasurveyco@yahoo.com

SCALE	1"=50'
DRAWN BY	Smith
DESIGNED BY	
APPROVED BY	
DATE	June 2022
JOB NO.	23-058
FOLDER REF	23-058
SHEET NO.	1 OF 1
CADD FILE	23-058

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0214, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

NOTICE TO CLERK'S OFFICE: This Trustee's Deed is made pursuant to a confirmed Chapter 11 Bankruptcy Plan and is exempt from all State and Local Transfer and Recordation Taxes pursuant to the United State Code (11 U.S.C. Section 1146 (a)).

9719 Ocean Gateway
Easton, Maryland
01-046489

TRUSTEE'S DEED

THIS TRUSTEE'S DEED, made this 8th day of September, 2022, by and between **ZVI GUTTMAN** ("**Grantor**"), solely in his capacity as Chapter 11 Trustee for the Estate of **Brodie Holdings, LLC** ("**Debtor**"), and **BASI BROTHERS, LLC**, a Maryland limited liability company ("**Grantee**").

WITNESSETH:

WHEREAS, the said Debtor filed a Voluntary Petition under Chapter 11 of the Bankruptcy Code on October 5, 2021 in Bankruptcy Case No. 21-16309-TJC (the "**Case**") in the United States Bankruptcy Court for the District of Maryland (Baltimore Division) (the "**Court**"); and

WHEREAS, upon the commencement of the Case, an estate (the "**Estate**") was created therein pursuant to 11 U.S.C. §541(a) with said Estate comprised of substantially all legal and equitable interests of the Debtor including the Property hereinafter defined; and

WHEREAS, Grantor was appointed Trustee by *Order Approving Appointment of Zvi Guttman as Chapter 11 Trustee* entered on February 24, 2022 by the Court in Case Nos. 21-16309, 21-16310, 21-17145 and 21-17146-TJC (Chapter 11), as jointly administered under Case No. 21-16309; and

WHEREAS, included among the assets of the Estate is all of the interest of Debtor in certain real property described on **Exhibit A** and known as 9719 Ocean Gateway, Easton, Maryland (the "**Property**"); and

WHEREAS, pursuant to the provisions of 11 U.S.C. §323(a), Grantor is the sole representative of the Estate and any authority to transfer the Property is now vested in the Grantor; and

WHEREAS, by a *Notice of Sale of Real Properties, Omnibus Sale Hearing, and Related Deadlines* filed in the Case at Dkt. No. 214-2 dated July 18, 2022 (the "**Notice**"), the Grantor notified all parties in interest in the Case of his intention to sell the Property upon the terms and conditions therein set forth, subject to timely objections by any parties in interest and disposition thereof by the Court; and

TALBOT COUNTY FINANCE OFFICE
RECORDATION TAX
AMT: EXEMPT
DATE: 9/12/2022
019201.49953.001.0 INITIALS: SJH
Prop ID: 01-046489

CERTIFICATION IS MADE THAT ALL TAXES DUE ON THE PROPERTY INDICATED IN THIS DEED HAVE BEEN PAID.
FINANCE OFFICER OF TALBOT COUNTY
CLAY B. STAMP, FIN. OFFICER
DATE 9/12/2022

WHEREAS, by its *Order Authorizing the Sale of Certain Real Properties Free and Clear of Liens, Claims, Encumbrances, and Interests* entered on August 18, 2022 (a copy of which is attached hereto as **Exhibit B**), the Court disposed of all objections interposed to the proposed sales described in the Notice and Grantor was authorized to grant and convey all of the right, title, and interest of Zvi Guttman, Trustee, the Estate, and the Debtor, in and to the Property, subject to all easements, covenants, restrictions, or other declarations or agreements of record, or which may be observed by an inspection of the Property, free and clear of any mortgages, claims, deeds of trust, tax liens, judgments, mechanic's liens or other monetary encumbrances of record against the Property or other interests pursuant to §363(f) of the Bankruptcy Code.

NOW, THEREFORE, IN CONSIDERATION of the sum of Four Hundred Sixty-Five Thousand Dollars ($465,000), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor does hereby grant and convey all of the right, title, and interest of said Zvi Guttman, Trustee, the Estate, and the Debtor, "as is" and without representation and warranty whatsoever, expressed or implied, unto Grantee, its successors and assigns, in the Property situate in the County of Talbot, State of Maryland, commonly known as 9719 Ocean Gateway, Easton, Maryland, and more particularly described on **Exhibit A** attached hereto and incorporated herein.

TO HAVE AND TO HOLD the Property and all privileges and appurtenances thereto unto the use, benefit and behalf of Grantee, its successors and assigns, subject to all easements, conditions, liens, restrictions, rights or redemption, tenancies, covenants, encumbrances, such state of facts that an accurate survey or physical inspection of the Property might disclose, and any and all other agreements of record affecting the Property, if any.

THIS CONVEYANCE is exempt from tax withholding under Section 10-912(d)(1)(i) of the Tax General Article of the Annotated Code of Maryland on the grounds that the transferor is a resident of the State of Maryland.

AND by the execution of this Trustee's Deed, the Grantor certifies under the penalties of perjury that he is a resident of the State of Maryland.

[Remainder of page left blank - signatures begin on next page]

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0215, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

IN WITNESS WHEREOF, Zvi Guttman, not individually, but solely in his capacity as Chapter 11 Trustee of the Estate of Brodie Holdings, LLC, Debtor, executed this Trustee's Deed as of the date first above written in his capacity as aforesaid.

WITNESS:

Amy J Sukeena

Z Guttman (SEAL)
Zvi Guttman, solely in his capacity as Chapter 11 Trustee of the Estate of Brodie Holdings, LLC, Debtor

STATE OF MARYLAND, CITY/~~COUNTY~~ OF Baltimore, to wit:

On this 1st day of September, 2022, before me, the undersigned officer, personally appeared Zvi Guttman, who acknowledged himself to be the Court-appointed Chapter 11 Trustee of the Estate of Brodie Holdings, LLC, Grantor, and acknowledged that he, in such capacity and duly authorized by the Court, freely executed the foregoing instrument as the act and deed of the Grantor for the purposes therein contained.

My commission Expires: 5/6/2026

Amy J Sukeena
Notary Public

AMY J. SUKEENA
NOTARY PUBLIC
BALTIMORE COUNTY, MARYLAND

Amy J. Sukeena
Notary Printed Name

AFTER RECORDING, PLEASE RETURN TO:

Vylla Title, LLC
1187 Thorn Run Rd. Ext., Suite 320
Coraopolis, PA 15108

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0216, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

THIS IS TO CERTIFY that this instrument has been prepared by or under the supervision of the undersigned, an attorney duly admitted to practice before the Court of Appeals of the State of Maryland.

William E. Carlson, Esquire

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0217, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0218, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

EXHIBIT A

PROPERTY DESCRIPTION

The Land referred to herein below is situated in the County of Talbot, State of Maryland, and is described as follows:

Lot 32

Lot 32 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 33

Lot 33 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 34

Lot 34 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 35

Lot 35 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Rear Lot

A parcel to the rear of Lots 33, 34, 35 and 36 described in a deed dated August 13, 1953 recorded aforesaid in Liber 307, folio 64 as shown on the plat recorded among the Plat Records of Talbot County, Maryland, in Plat Book Liber M.A.S. No. 82, folio 178.; and

13,400 SQUARE FOOT LOT A parcel containing 13,400 square feet described in a deed dated March 1, 1960 recorded aforesaid in Liber 361, folio 143.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0219, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

Lot 36

Lot 36 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Lot 37

Lot 37 on a plat entitled, "MAP SHOWING LOTS AT 'AIRPORT JUNCTION' AT NORTH END OF PROPERTY OF THOMAS J. HIGGINS NEAR EASTON, TALBOT COUNTY, MARYLAND," dated September, 1947, and recorded among the Land Records of Talbot County, Maryland, in Plat Book 2, folio 124.

Being the same property granted and conveyed to Brodie Holdings, LLC, a Maryland limited liability company by Confirmatory Deed dated November 9, 2009 and recorded among the Land Records of Talbot County, State of Maryland, on November 24, 2009, in Liber 1752, folio 97 from Z and B Brodie Family Limited Partnership, a limited partnership.

For Informational Purposes Only:
Property Address: 9719 Ocean Gateway, Easton, MD 21601
Parcel ID: 01-046489

EXHIBIT B

ORDER AUTHORIZING SALE

Entered: August 18th, 2022
Signed: August 18th, 2022
SO ORDERED

THOMAS J. CATLIOTA
U.S. BANKRUPTCY JUDGE

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF MARYLAND
(Baltimore Division)

In re:	*	
		Case No. 21-16309-TJC
BRODIE HOLDINGS, LLC,	*	Chapter 11 (Jointly administered)
Debtor,		
* * * * * * * * * * * * *		
In re:	*	
		Case No. 21-16310-TJC
ZNB, LLP,	*	Chapter 11 (Jointly administered)
Debtor,		
* * * * * * * * * * * * *		
In re:	*	
		Case No. 21-17145-TJC
SECOND, LLC,	*	Chapter 11 (Jointly administered)
Debtor,		
* * * * * * * * * * * * *		
In re:	*	
		Case No. 21-17146-TJC
GRANDMA BEA, LLC,	*	Chapter 11 (Jointly administered)
Debtor.		
	*	Jointly Administered Under Case No.: 21-16309-TJC
* * * * * * * * * * * * *		

ORDER AUTHORIZING THE SALE OF CERTAIN PROPERTIES FREE AND CLEAR OF LIENS, CLAIMS, ENCUMBRANCES, AND INTERESTS

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0220, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

Upon consideration of the Omnibus Motion (the "Omnibus Sale Motion") filed by the Trustee for entry of an order authorizing the sale of certain Properties[1] free and clear of all liens, claims, encumbrances, and interests pursuant to the Purchase Agreements, including authorizing the Trustee to take any action necessary to effectuate a sale of the Properties and granting related relief, the Court having conducted a hearing on the relief requested in the Omnibus Sale Motion on August 18, 2022, at which the Trustee presented testimonial and documentary evidence and argument supporting the relief requested in the Omnibus Sale Motion and all interested parties having had the opportunity to be heard with respect to the relief granted in this Omnibus Sale Order, after due deliberation and good and sufficient cause appearing therefor,

IT IS HEREBY FOUND AND DETERMINED THAT:

A. This Court has jurisdiction over the Omnibus Sale Motion, the transactions contemplated by the Purchase Agreements, and any ancillary documents and agreements related thereto, pursuant to 28 U.S.C. §§ 157(b)(1) and 1334(a). This matter is a core proceeding pursuant to 28 U.S.C. § 157(b)(2). Venue for the above-captioned bankruptcy case and the Omnibus Sale Motion is proper in this district under 28 U.S.C. §§ 1408 and 1409.

B. The statutory predicates for the relief sought in the Omnibus Sale Motion are §§ 105(a) and 363 of the Bankruptcy Code and Fed. R. Bankr. P. 2002, 6004, and 9014 and Md. L.B.R. 2002-1 and 6004-1.

[1] To the extent this Order uses capitalized terms not defined herein, those terms shall have the meanings ascribed in the Omnibus Sale Motion, the Motion of Chapter 11 Trustee for Orders (I) Approving Bidding Procedures For The Sale Of Properties, (II) Approving Form Of Purchase Agreements, (III) Scheduling Hearing To Consider Approval Of Sale Of The Properties, (IV) Approving Form And Manner Of Notice Of Sale, And (V) Granting Related Relief (the "Bidding Procedures Motion"), or the Order (I) Approving Bidding Procedures For The Sale Of Properties, (II) Approving Form Of Purchase Agreements, (III) Scheduling Hearing To Consider Approval Of Sale Of The Properties, (IV) Approving Form And Manner Of Notice Of Sale, And (V) Granting Related Relief (the "Bidding Procedures Order") [ECF No. 188].

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0221, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

C. The Omnibus Sale Motion seeks approval of the proposed sale (the "Sale") of certain parcels of real property ("Property" or "Properties") to the Prevailing Bidder(s) or Backup Bidder(s) selected by the Trustee pursuant to certain procedures (the "Bidding Procedures") previously approved by the Court in the Bidding Procedures Order. A chart outlining the Prevailing Bidder and Backup Bidder for each of the Properties subject to this Order and information related thereto is attached hereto as **Appendix A** to the Omnibus Sale Order.

D. The Trustee has: (i) properly and appropriately exercised his sound business judgment in determining that the Sale of the Properties to the Prevailing Bidder(s) and Backup Bidder(s), under the terms of the Purchase Agreements, the form of which was previously approved by the Court in the Bidding Procedures Order, is in the best interest of the Debtors' estates, creditors, and other parties in interest; and (ii) demonstrated good and sufficient business justification for the Sale of the Properties under §§ 363(b), (f), (h), and (m) of the Bankruptcy Code, free and clear of all Interests (as hereinafter defined).

E. The Sale of the Properties to the Prevailing Bidder(s) or Backup Bidder(s), pursuant to the Purchase Agreements, will provide the highest and otherwise best value for the respective Property, and is in the best interests of the Debtors' estates, creditors, and other parties in interest in that: (i) the respective Purchase Agreements were proposed and entered into without collusion, in good faith, and from arm's length bargaining positions by and between the Trustee (either directly or, through a limited liability company or other entity in which a Property may be titled, indirectly) and the Prevailing Bidder(s) and Backup Bidder(s) and (ii) the Prevailing Bidder(s) and/or Backup Bidder(s) is a third party unrelated to the Debtors and persons unconnected to the Debtors or Trustee.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0222, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

F. As evidenced by the certificates of service previously filed with this Court: (i) proper, timely, adequate, and sufficient notice of the Omnibus Sale Motion and the Omnibus Sale Hearing was given in accordance with §§ 102(1) and 363 of the Bankruptcy Code, and Bankruptcy Rules 2002, 6004, 6006, and 9014; (ii) such notice constitutes good and sufficient notice of the Omnibus Sale Motion and the Omnibus Sale Hearing to all parties in interest, and was good, sufficient, and appropriate notice under the circumstances; (iii) no other or further notice of the Omnibus Sale Motion or the Omnibus Sale Hearing is or shall be required; and (iv) all persons served with such notice as evidenced by the certificates of service previously filed with the Court but who did not affirmatively respond shall be deemed to have had notice of the Omnibus Sale Motion and the Omnibus Sale Hearing and an opportunity to object.

G. A reasonable opportunity to object or be heard regarding the Omnibus Sale Motion, the Bidding Procedures, the Omnibus Sale Hearing, and the Sale of the Properties has been afforded to all interested parties in accordance §§ 102(1) and 363 of the Bankruptcy Code and with Bankruptcy Rules 2002, 6004, 6006, and 9014.

H. As set forth in that certain Order of the Circuit Court of the Eleventh Judicial Court for Miami-Dade County, Florida, in a case styled In re: Brodie, Zebulon J., decedent, entered on August 9, 2022, Paul M. Cowan, was appointed as the Ad Litem of the Estate of Zebulon J. Brodie (the "Ad Litem") and given specific authority to sell 300 Bulle Rock Farm Ln., Centreville, MD 21617 ("Bulle Rock") at the Chapter 11 bankruptcy auction. Pursuant to that appointment and Order, the Ad Litem consents to and will join with the Trustee in executing a Deed to effect a sale of all, right, title and interest of the said probate estate in and to Bulle Rock to the Prevailing Bidder and/or Backup Bidder.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0223, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

I. The Trustee (either directly or, through a limited liability company or other entity in which a Property may be titled, indirectly) may sell, subject to Paragraph 14, the Properties identified in **Appendix A** to this Omnibus Sale Order held, directly or indirectly, by the Trustee and the Debtors' bankruptcy estates to the applicable Prevailing Bidder(s) and/or Backup Bidder(s) free and clear of all liens, claims, encumbrances, or other interests (the "Interests") because one or more of the standards set forth in § 363(f)(1)-(5) of the Bankruptcy Code has been satisfied.

J. Upon consummation of the Sale at Closing pursuant to the terms of the Purchase Agreements, the transfer of the Properties shall constitute a legal, valid, and effective transfer to the Prevailing Bidder(s) (or any Backup Bidder(s)), and shall vest in the Prevailing Bidder(s) (or any Backup Bidder(s)) all the right, title, and interest of the Debtors and the bankruptcy estates in and to the Properties.

K. The Prevailing Bidder(s) and/or any Backup Bidder(s) has not engaged in any conduct that could prevent the application of § 363(m) of the Bankruptcy Code to the Sale or Purchase Agreement, or cause or permit the Sale to be avoided under § 363(n) of the Bankruptcy Code. Consequently, the Prevailing Bidder(s) and/or Backup Bidder(s) is a good faith purchaser under § 363(m) of the Bankruptcy Code, and is entitled to the protections afforded thereby.

The findings and conclusions set forth herein constitute the Court's findings of fact and conclusions of law pursuant to Bankruptcy Rule 7052, as made applicable to this contested matter pursuant to Bankruptcy Rule 9014. To the extent any of the foregoing findings of fact constitute conclusions of law, they are adopted as such. To the extent any of the foregoing conclusions of law constitute findings of fact, they are adopted as such. **NOW THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED THAT:**

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0224, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

1. The Omnibus Sale Motion is hereby granted in all respects pursuant to the terms of this Omnibus Sale Order and all objections, if any, to the Omnibus Sale Motion or the relief requested therein that have not been withdrawn, waived, settled, or resolved, and all reservations of rights included therein, are hereby overruled and denied on the merits with prejudice.

2. The existence and validity of the McConnell Lien (as identified and discussed in the Omnibus Sale Motion) is in *bona fide* dispute within the meaning of 11 U.S.C. § 363(f)(4). Any Interest arising from the McConnell Lien shall attach to the net proceeds of the applicable Sales, after payment of any prior valid third-party liens and taxes, subject to further order of the Court and the Trustee shall hold such net proceeds in escrow pending the Court's order.

3. The Sale of the Properties to the respective Prevailing Bidder(s) and/or Backup Bidder(s) as set forth on **Appendix A** hereto, upon Closing in accordance with the Purchase Agreements, is hereby approved pursuant to §§ 105 and 363 of the Bankruptcy Code. The Trustee (either directly or, through a limited liability company or other entity in which a Property may be titled, indirectly) is hereby authorized to sell the Properties to the respective Prevailing Bidder(s) and/or Backup Bidder(s) on the terms and subject to the conditions set forth in the Purchase Agreements, which are hereby approved. The Trustee (directly or as manager or sole member of any limited liability company) is hereby authorized to take all actions, and execute and deliver all documents and instruments that may be reasonably necessary or appropriate to implement and effectuate the transactions contemplated by the Purchase Agreements and this Omnibus Sale Order.

4. This Omnibus Sale Order and the Purchase Agreements shall be binding in all respects upon the Prevailing Bidder(s) and/or Backup Bidder(s), the Trustee, all creditors of the Debtors' bankruptcy estates (known or unknown), and all interested parties, including, but not

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0225, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

limited to, members and partners of any of the Debtors and any party asserting Interests, and upon the successors and assigns of any of the foregoing.

5. To the extent that any provision of this Omnibus Sale Order is inconsistent with the terms of the Purchase Agreements, the terms of this Omnibus Sale Order shall control. The failure to specifically include or refer to any particular provision of the Purchase Agreements in this Omnibus Sale Order shall not diminish or impair the effectiveness of such provision, it being the intent of the Court that the Purchase Agreements be approved in their entirety.

6. The Purchase Agreements and any related agreement, document or other instrument may be modified, amended, or supplemented by the parties thereto in accordance with the terms thereof, without further order of this Court; provided that any such modification, amendment, or supplement is not material and has the approval of the parties to the Sale. The Trustee shall hold the net proceeds of the Sales, after payment of any prior valid third party liens and taxes and other similar charges as more specifically set forth herein, including any previously submitted Deposits that are netted against the purchase prices, in one or more segregated non-interest bearing account (the "Proceeds") subject to the terms of any Plan confirmed in this case, this Omnibus Sale Order and further order of the Court.

7. Except as expressly provided in the Purchase Agreements, the Properties shall be transferred to the respective Prevailing Bidder(s) and/or Backup Bidder(s) upon Closing free and clear of all Interests pursuant to § 363(f) of the Bankruptcy Code, with all such Interests to attach to the Proceeds with the same validity, priority, extent, and effect that such Interests had immediately prior to closing, subject to all rights, claims, defenses, and objections of the Trustee and creditors of the Debtors' bankruptcy estates and all interested parties with respect to such Interests.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0226, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

8. Except as expressly provided in the Purchase Agreements, (i) the Prevailing Bidder(s) and/or Backup Bidder(s) shall not be liable for any Interests against the Properties and/or the Debtors' bankruptcy estates, and (ii) the transfer of the Properties by the Trustee and/or the Debtors' bankruptcy estates does not and shall not subject the Prevailing Bidder(s) and/or Backup Bidder(s) to any liability as successors to the Debtors' bankruptcy estates.

9. For the express benefit of the Prevailing Bidder(s) and/or Backup Bidder(s), the sole and exclusive remedy available to any person or entity asserting Interests against the Properties (other than as expressly set forth in the Purchase Agreements) shall be a right to assert in this Court any Interests against the Proceeds of the Properties, and the holders of any such Interests are hereby barred from asserting such Interests against the Prevailing Bidder(s) and/or Backup Bidder(s), their successors and assigns, or the Properties.

10. The Prevailing Bidder(s) and/or Backup Bidder(s) entered into the Purchase Agreements without collusion and in good faith as that term is used in § 363(m) of the Bankruptcy Code. The purchase prices provided for under the Purchase Agreements are fair and reasonable. Accordingly, the reversal or modification on appeal of the authorization provided herein to consummate the Sale of the Properties shall not affect the validity of such Sale to the Prevailing Bidder(s) and/or Backup Bidder(s), unless such authorization is duly stayed prior to Closing pending such appeal. The Prevailing Bidders and/or Backup Bidders are purchasers in good faith entitled to all of the protections afforded by § 363(m) of the Bankruptcy Code and the Sales may not be avoided under § 363(n) of the Bankruptcy Code.

11. In accordance with this Omnibus Sale Order and pursuant to the Purchase Agreements, the Trustee may consummate the Sale of the Properties to the Prevailing Bidders and/or Backup Bidders through execution of an appropriate deed at Closing and such deed along

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0227, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

with this Omnibus Sale Order shall be sufficient evidence of the transfer of title to the respective Prevailing Bidder and/or Backup Bidder free and clear of all Interests pursuant to § 363(f) of the Bankruptcy Code. The Sales consummated by the Trustee pursuant to this Omnibus Sale Order shall be binding upon and govern the acts of all persons and entities, including, without limitation, all filing agents, filing officers, title agents, title companies, recorders of mortgages, recorders of deeds, registrars of deeds, administrative agencies, governmental departments, secretaries of state, federal and local officials, and all other persons and entities who may be required by operation of law, or duties of office or contract to accept, file, register or otherwise record or release any documents or instruments or who may be required to report or insure any title or state of title in or to any of the property sold pursuant to this Omnibus Sale Order; and each of the foregoing persons and entities is hereby directed to accept for filing any and all of the documents and instruments necessary and appropriate to consummate the transactions contemplated by the Purchase Agreements.

12. The Trustee is authorized to pay from the proceeds of the Sales: (i) the commission and reimbursement of expenses payable to the Trustee's Court-approved real estate consultants for the Sale of the Properties in accordance with the Order Granting Chapter 11 Trustee's Application to Employ A&G Realty Partners [ECF No. 153]; (ii) any current or past due real estate or other taxes and/or related charges to the appropriate state or governing authority as required by applicable non-bankruptcy law and not contrary to the Purchase Agreements; (iii) the prorated costs and expenses allocated to the Trustee under the Purchase Agreements (iv) the "true-up" payments amongst the captioned Debtors authorized by prior Orders of the Court, and (v) valid and outstanding third party liens against the Properties. Remaining proceeds shall be held by the Trustee subject to further order of the Court.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0228, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

13. This Court shall retain exclusive jurisdiction to interpret and enforce the provisions of the Purchase Agreements and this Omnibus Sale Order in all respects and to hear and determine any and all related disputes; provided, however, that in the event the Court abstains from exercising or declines to exercise such jurisdiction, or is without jurisdiction with respect to either the Properties or this Omnibus Sale Order, such abstention, refusal, or lack of jurisdiction shall have no effect upon, and shall not control, prohibit, or limit the exercise of jurisdiction of any other court having competent jurisdiction with respect to any such matter.

14. The Sale of Bulle Rock to the Prevailing Bidder and/or Backup Bidder thereof is hereby approved pursuant to §§ 105 and 363(f) and (h) of the Bankruptcy Code. The probate estate of Zebulon Brodie through the Ad Litem shall join with the Trustee in executing a Deed to the Prevailing Bidder and/or Backup Bidder by which each shall transfer 100% of their respective interests in Bulle Rock; provided, however that the closing statement for the sale of Bulle Rock shall be delivered to the Ad Litem and his counsel prior to the closing, and 50% of the net proceeds from the sale of Bulle Rock allocable to Estate of Zebulon Brodie shall be wired to the Estate's Restricted Depository at the time of transfer of the deed at the closing. The Sale of Bulle Rock to the Prevailing Bidder and/or Backup Bidder shall be free and clear of all Interests and any co-tenancy.

15. Pursuant to the confirmed Plan of Reorganization: (a) the Sales herein approved are a transfer under a plan confirmed under 11 U.S.C. § 1129, and pursuant to § 1146(a) of the Bankruptcy Code the issuance, transfer, or exchange of a security, or the making or delivery of an instrument of transfer in connection with the Sales may not be taxed under any law imposing a stamp tax or similar tax, and (b) the Sales may be consummated by the Trustee, a Plan Administrator or other representative of the estate § 1123(b)(3)(B) of the Bankruptcy Code.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0229, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

16. The closing of the Bulle Rock Sale and proceeds to be deposited in the Estate's Restricted Depository for the Estate of Zebulon J. Brodie by the Ad Litem are without prejudice to the rights, claims and interests of any interested party under the Florida Probate Code with respect to the Estate of Zebulon Brodie, all of which rights, claims, and interests are preserved.

17. The stay provided for in Bankruptcy Rule 6004(h) is hereby waived and this Omnibus Sale Order shall be effective immediately upon its entry.

cc: All Counsel of Record
All Interested Parties

END OF ORDER

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0230, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

APPENDIX A

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0231, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

Property Number	Property Address	Prevailing Bidder	Prevailing Bid	Backup Bidder	Backup Bid
1	300 Bulle Rock Farm Road, Centreville, Maryland	Basi Brothers, LLC	$2,210,000.00	Christine Puglisi	$2,200,000.00
2	500 & 506 Church Hill Road, Centerville, Maryland	ASO Properties LLC	$ 576,000.00	Sajjan K. Shrestha Kalyan K. Shrestha	$ 575,000.00
3	519 Dulin Clark Road, Centreville, Maryland	Lillard Land Holdings	$ 264,000.00	Jeff Clark Stables LLC	$ 263,000.00
4	315 High Street, Chestertown, Maryland	Basi Brothers, LLC	$2,050,000.00	RAA Holding	$2,000,000.00
5	830 High Street, Chestertown, Maryland	Basi Brothers, LLC	$ 220,000.00	Schmidt & Kanto, LLC	$ 219,500.00
6	834 High Street, Chestertown, Maryland	ASO Properties LLC	$ 515,000.00	Mahmood Baig Mirza	$ 514,000.00
7	1104 Price Station Road, Church Hill, Maryland	ECH Land, LLC	$ 506,000.00	Basi Brothers, LLC	$ 505,000.00
8	300 Market Street, Denton, Maryland	RAA Holding	$1,500,000.00	ASO Properties LLC	$1,475,000.00
9	317 Carter Avenue, Denton, Maryland	Phil-Co., Inc.	$ 250,000.00	Four-Ten Holdings Corporation	$ 245,000.00
10	323 Carter Avenue, Denton, Maryland	Phil-Co., Inc.	$ 152,000.00	Sajjan K. Shrestha Kalyan K. Shrestha	$ 151,000.00
11	601 Legion Road, Denton, Maryland	Strato Holdings LLC	$3,060,000.00	Dhruvil LLC/Patel	$3,051,000.00
12	625 Legion Road, Denton, Maryland	Dhruvil LLC/Patel	$1,400,000.00	JY Rach	$ 250,000.00
13	Legion Road, Denton, Maryland (3.36 acres)	Silicato Development, Inc.	$1,375,000.00	Dhruv Patel	$1,350,000.00
14	Legion Road, Denton, Maryland (4.57 acres)	Dhruv Patel	$ 825,000.00	Silicato Development, Inc.	$ 800,000.00
15	9719 Ocean Gateway, Easton, Maryland	Basi Brothers, LLC	$ 465,000.00	Rajkumar Thangavelu	$ 460,000.00
16	2 N. Maple Avenue, Ridgely, Maryland (1.85 acres)	Joseph E. Anderson, II	$ 400,000.00	Jay Lechliter	$ 385,000.00
17	2 N. Maple Avenue, Ridgely, Maryland (1.73 acres)	ASO Properties LLC	$ 576,000.00	RAA Holding	$ 575,000.00
18	204 Sixth Street, Ridgely, Maryland	ASO Properties LLC	$ 671,000.00	Basi Brothers, LLC	$ 670,000.00
19	3 Central Avenue, Ridgely, Maryland	ASO Properties LLC	$ 42,750.00	Lillard Land Holdings	$ 42,500.00
20	Twin Willows Road, Smyrna, Delaware (Dupont Street)	Benson Harper	$ 575,000.00	Somch Tawik	$ 574,000.00
21	893 N.E. 79th Street, Miami, Florida	Eugene Herrick	$ 785,000.00	Brickell Group Construction, LLC	$ 775,000.00

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0232, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

TALBOT COUNTY CIRCUIT COURT (Land Records) KMD 3002, p. 0233, MSA_CE91_2941. Date available 09/14/2022. Printed 06/06/2023.

LR - Deed (No-Taxes)
Recording Fee 75.00
Name: Guttman/Basi Brothers LLC
Ref:
LR - Deed (No-Taxes) Surcharge 40.00
==========
SubTotal: 115.00
==========
Total: 115.00
09/12/2022 02:31 CC20-MG
#16601800 CC0205 - Talbot County/CC02.05.02 - Register 02

Kathleen M. Duvall, Clerk

Circuit Court for Talbot County

11 N. Washington St., Suite 16

Easton, Maryland 21601

License and Recording

410-822-2611 Ext. 4

DOCUMENT VALIDATION
(excluded from page count)

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:		Creation Date:	**08/30/23**
		Ad Date:	**09/06/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**522**
		Lines:	**92**
		Agate Lines:	**405**
Telephone:	**(410) 822-2525**	Depth:	**11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 6, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**

a. **Applicant:** Philips Signs
File No.: 2023 - 1020
Location: 8133 Elliott Road
Tax Map 109, Grid 000, Parcel 4582,
Lot 1
Zoning District: CG
Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.

b. **Applicant:** Far Eastern Shore Winery
File No.: 2023 - 989
Location: 8370 & 8374 Ocean Gateway
Tax Map 103, Grid 0EA, Parcel 2952
Zoning District: CG
Nature of Request: Signage permit approval for multi building property.

c. **Applicant:** Fink, Whitten & Associates, LLC
c/o Elizabeth Fink
File No.: 2023 - 937
Location: 8685 Commerce Drive - Tuckahoe Hardwoods
Tax Map 101, Grid 002, Parcel 0004,
Lot 28
Zoning District: BC
Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.

d. **Applicant:** OMS & Associates, LLC
File No.: 2023 - 959
Location: Elliott Road - Friel Storage
Tax Map 109, Grid 0000, Parcel 2849,
Lot 4
Zoning District: CG
Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.

e. **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.

f. **Applicant:** Lane Engineering, LLC
File No.: 2023 - 998
Location: 29533 Canvasback Drive - St. Vincent de Paul
Tax Map 109, Grid 000, Parcel 4582,
Lot 32
Zoning District: BC
Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.

g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
File No.: 2023 - 997
Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
Tax Map 109, Grid 000, Parcel 2866, Lot 9
Base Zoning District: CG with PUD Overlay
Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.

h. **Applicant:** 5001 SHR, L.C.
File No.: 2023 -1024
Location: Oxford Road - Poplar Hill
Tax Map 0042, Grid 0004, Parcel 057
Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.

5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

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

Date of Hearing: September 21, 2023

4f

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **29533 Canvasback Drive - St. Vincent de Paul**

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: Brett Ewing, Lane Engineering LLC

DOCUMENT CREATED ON: September 7, 2023

PURPOSE: The applicant is seeking site plan approval from the Planning Commission to construct a 2,400 square foot (SF) building expansion that would be utilized for office and administrative space. Overall the facility serves the community as a food pantry, thrift center and boutique. Other improvements include the addition of ten (10) parking spaces, drive aisle and associated improvements. Also required is the removal of three (3) existing parking spaces to necessitate the construction of the drive aisle.

RECOMMENDATION: Staff supports Planning Commission approval of the proposed site plan.

APPLICATION INFORMATION:	
APPLICANT: Lane Engineering LLC: Brett Ewing	**REPRESENTATIVE:** Lane Engineering LLC: Brett Ewing Society of St.Vincent de Paul, Saints Peter and Paul Conference Inc. % Mike Klein

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 109, Grid 0000, Parcel 4582, Lot 32	1.07

ACCEPTANCE DATE: August 28, 2023	**LOCATION:** 29533 Canvasback Drive
EXISTING ZONING BC	**EXISTING LAND USE:** Office/Retail
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Business Commercial

CONTEXT:

Location/Site Access – The subject property is located along Canvasback Drive, fronting on the East side of the road.

Existing Conditions – The subject property is currently a 7,164 SF building that serves the community as a food pantry, thrift center and boutique.

Surrounding Properties

- 29530 Canvasback Drive - BC
- 29532 Canvasback Drive - BC
- Parcel 4582, Pintail Drive - BC
- 29484 Pintail Drive - BC
- 29531 Canvasback Drive - BC
- 8326 Gannon Circle - Talbot County

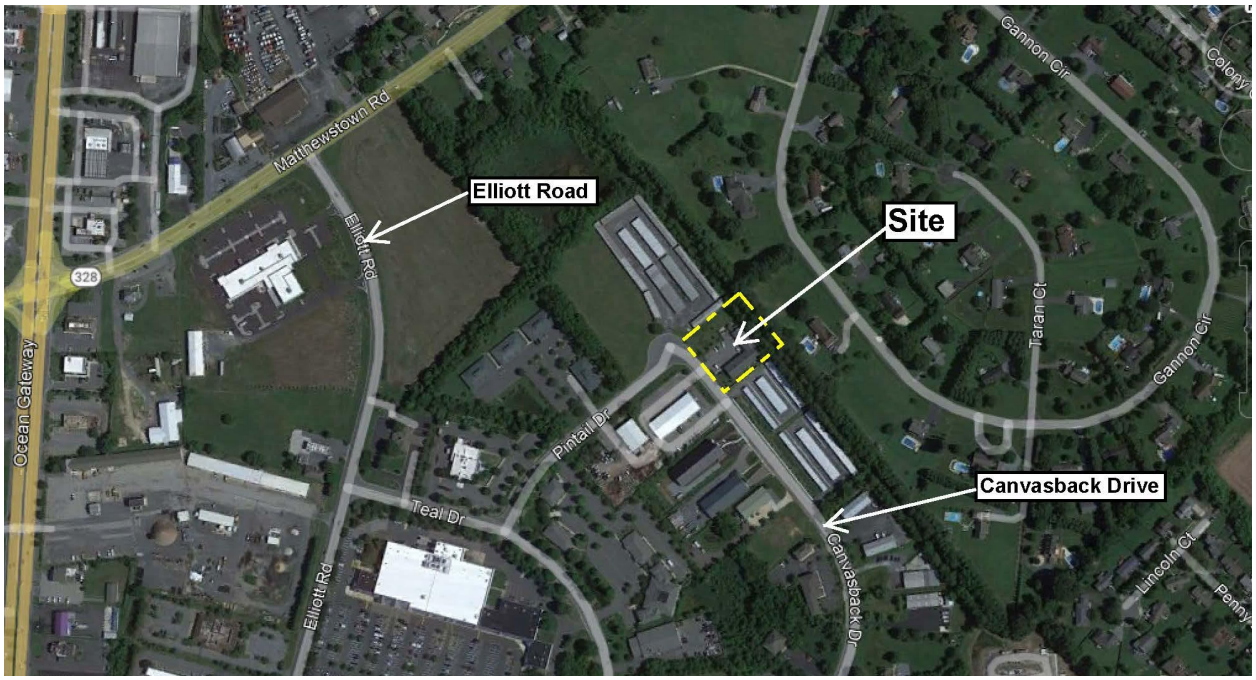


***Figure 1**: Vicinity Map*

PROPOSAL: The applicant is proposing to construct a 2,400 SF building addition, with associated parking, stormwater management facilities and landscaping.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on December 21, 2021 and August 23, 2023.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (2) 263 **BC**

263	Multiple Use*	--	--	--	--	P	P	P	P	P		

28-201 table 2.1 (5) 520 **BC**

520	Warehousing, Wholesale, storage & distribution	--	--	--	--	--	P	SE	P	P		

Analysis –The proposed project is presented and described by the Applicant as an existing one-story building and shed that serves the community for a food pantry, thrift center and boutique. The Applicant proposes a 2,400 SF building addition The project is categorized as a *"Warehousing, Wholesale, storage & distribution"* and *"Multiple Uses"*. The proposed use is permitted within Table 2.1 Table of Permissible Uses. For the purpose of parking calculations,

the use is considered a "Community Food, emergency relief, family or elderly and disabled services" and "Warehouse".

B. Off-Street Parking

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Institutional or Community Facilities				
54	Community Food, emergency relief, family or elderly and disabled services	1 per 250 sf GFA	1 per 200 sf GFA	1 per 20 vehicle spaces	
	Industrial Buildings				
40	Warehouse	1 per 2,000 sf GFA	1 per 350 sf GFA	--	

Total Site Parking Required:

Use/Activity #54: 1 Space /250 SF GFA; 20 Spaces Required- Minimum
1 Space /200 SF GFA; 25 Spaces Required- Maximum

Use/Activity #40: 1 Space /2,0000 SF GFA; 2 Spaces Required- Minimum
1 Space /350 SF GFA; 12 Spaces Required- Maximum
Total Minimum spaces required: 22 spaces
Total Maximum spaces required: 37 spaces
Total existing spaces provided: 29 spaces

Bicycle Spaces: 1 Space/20 Vehicle Spaces = 2 spaces required
Total bicycle spaces provided: 2

Analysis - The total minimum spaces required is 22 spaces. The applicant has twenty-nine (29) off-street parking spaces. The additional ten parking spaces and proposed drive aisle will provide a convenience to the operation of this business.

C. Business Commercial District Development Standards

Table 1. Development Standards		
BC Zoning District	**Standard**	**Proposed**
Setbacks	Front = 40 feet Side = 10 feet Rear = 30 feet	Front = 40 feet Side = 10 feet Rear – 30 feet
Lot Size (min.)	40,000 square feet	46,609 square feet
Lot Frontage (min.)	100 feet	203 feet
Building Envelope (min.)	30 feet x 80 feet	183 feet X 158 feet
Lot Coverage (max.)	50% (Lot Area)	22.1% (Lot Area)
Height (max.)	35 feet	19 feet +/-

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

- ***Off-Street Parking shall be provided in accordance with the provisions of Section 28 – 1001.***
- ***There shall be no open storage on any lot or open areas, nor shall any products be displayed in open areas. All outside storage 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, in accordance with the provisions of Section 28 – 1014 of this Ordinance.***
- ***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 BC - Business Commercial 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 development of this site has already been mitigated for Forest Conservation under the Landscape Plan, approved on 3/4/2016. Required Afforestation on site is 0.16 acres or 6,969.6 SF. Forest Conservation was satisfied on May 20, 2016 for 5,396.6 SF of the site with a Fee-In-Lieu in the amount of $540. Four (4) street trees were credited to meet the remaining 1,600 SF requirement. The existing four (4) credited street trees are to be removed to provide adequate sight distance at the properties entrance aisles along Canvasback Drive. The applicant has provided a revised landscape plan with four (4) on-site deciduous-shade/canopy trees and three (3) evergreen trees that is greater than the required credit to meet the remaining 1,600 SF requirement afforestation. The staff supports the use of landscape plantings required in Section 28-1014.5.B.1 thru 3 as credit for afforestation.

POLICY ANALYSIS:

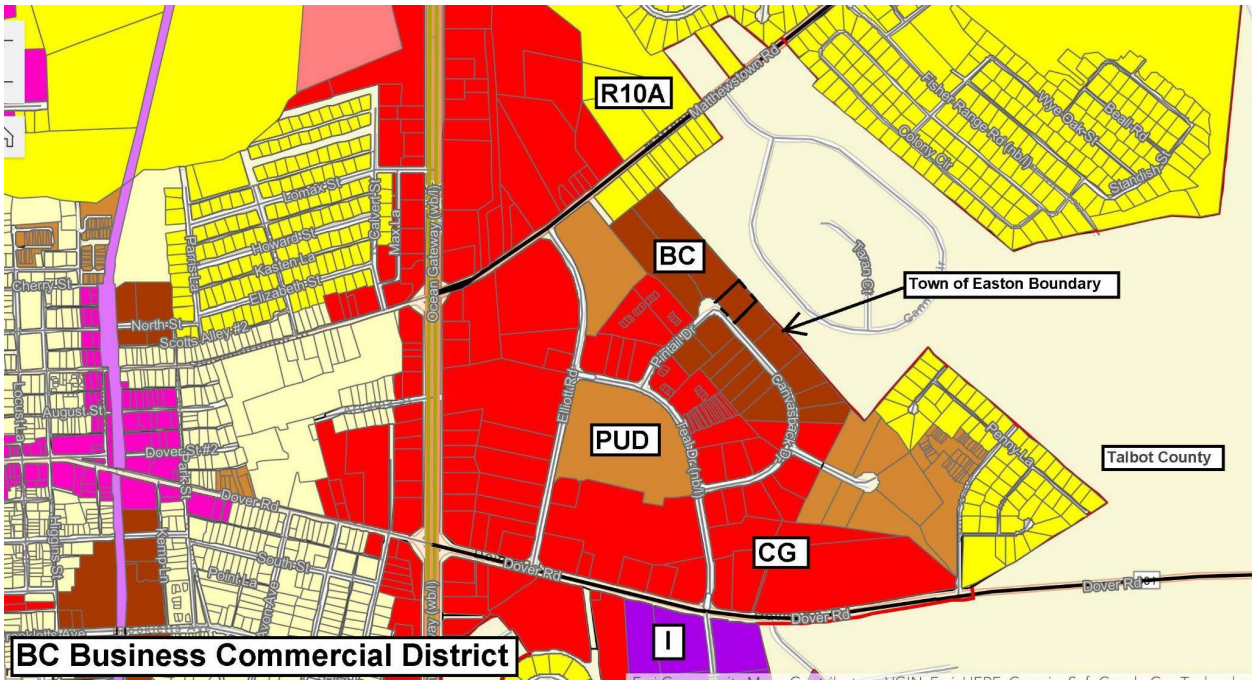


Figure 2: Zoning Map

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: *This development proposal provides a 2,400 SF building addition and additional parking.*

(Principle #2) Natural features should determine design – *Applicant's response: No compelling natural features; site layout orientated to take advantage of natural drainage patterns.*

Staff notes that there are no compelling natural features on site.

(Principle #3) Automobiles should not determine design – *Applicant's response: New parking area provides convenience with bulk of the parking to the side of the facility.*

Staff notes that the applicant has provided adequate off-street parking that is towards the lower end of the window of the requirement.

(Principle #4) Ample Open Space should be provided within & around neighborhoods – *Applicant's response: Usable open space not applicable here.*

Staff notes that open space is not applicable.

(Principle #5) Architecture should respect Easton's Historical Development – *Applicant's response: The application proposes a building addition and parking in an existing industrial park with similar zoning along adjacent properties – Not applicable here.*

(Principle #6) Signs should inform but not dominate – *Applicant's response: Signage, simple and per code.*

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: Not applicable to this application.*

Staff notes that this is not a residential development so this Principle is not applicable.

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

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

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 an additional storage 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 business commercial zoned business park. Proposed use would provide an additional storage with associated parking, stormwater management facilities and landscaping.

.

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 has no recommended conditions.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sketch site plan as submitted.

OR

2. I move that the Planning Commission table the application to the October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:

1. 2023.08.29 Site Plan Application, paper copy & PDF
2. 2023-08-01 ESDR Application, paper copy & PDF
3. 2023-08-08 Wetland Delineation Memo Style, paper copy & PDF
4. 2023-08-23 ESDR Determination Letter, paper copy & PDF
5. 2023-08-28 Elevation, paper copy & PDF
6. 2023-08-28-ESDR Comment Response Letter, paper copy & PDF
7. 2023-08-28-Prelim-SWM-Report, PDF
8. 2023-08-28-SketchPlan, paper copy & PDF
9. 2023-08-29 SketchReviewPC(SVDP), paper copy & PDF
10. 2023-09-06-ComprehensivePlanDesignPrinciplesResponseNarrative, paper copy & PDF

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 29th, 2023**

TO: **Brett Ewing – Lane Engineering LLC**
Mark Klein – St. Vincent de Paul
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **29533 Canvasback Drive St. Vincent de Paul – Planning Commission Sketch Site Plan Review Comments**

The Engineering Department has reviewed the revised application received 8/28/2023. The **Sketch Stormwater Management Plan** is **Approved** and the **Sketch Site Plan** is **Acceptable**.

Please submit a Preliminary Stormwater Management and Preliminary Site 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: August 23, 2023
Project: 29533 Canvasback Drive - St. Vincent de Paul
To: Mr. Brett Ewing - Lane Engineering, LLC.
Mr. Mike Klein – Society of St. Vincent de Paul-Saints Peter and Paul conference Inc.

The Easton Staff Development Review (ESDR) Committee meeting was held on August 23 at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed building addition on the property located at 29533 Canvasback Drive, also known as Tax Map 109, Parcel 4582.

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 updated Stormwater Management charts.

The Committee determined that the application may be scheduled for Planning Commission review pending the revised Stormwater Management charts. Please address all comments and submit documents.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **August 28th**. 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: **August 23, 2023**
TO: **Brett Ewing & Tim Glass** – Lane Engineering, LLC
Mike Klein - Society of St. Vincent de Paul-Saints Peter and Paul Conference Inc.
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: 29533 Canvasback Drive – St. Vincent de Paul

We reviewed the **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #2

1. Label all existing road paving widths on all plan views. In addition, show the entire existing road width of Canvasback Drive and adjacent driveway entrance.
2. Show and label all existing and proposed utilities.
3. Please show adjacent property owners on Canvasback Drive.
4. Show the existing sidewalk along Canvasback Drive along Lot 31.
5. Revise Project Data on the Sketch Site Plan with the current zoning and its requirements. The site is now currently zoned BC – Business Commercial District.
6. Project Data indicates two proposed ADA van parking spaces. The plan view only shows one space. Please revise.
7. Show and label the existing landscaping on the Site Plan. Depict what existing plants are to be removed and/or relocated.
8. 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 tree out the sight triangle at the proposed drive aisle and Canvasback Drive.

9. Per Chapter 28-1014.6.F.2.b of the Zoning Code, *All parking lots shall be landscaped with an evergreen shrub hedge which will grow to a minimum 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 side(s). Shrubs shall be spaced to form a continuous hedge within 5 years. Required Bufferyards may replace all or part of this requirement when the applicant can demonstrate that effective screening will be achieved.* Provide a hedge adjacent to the proposed parking lot along Lot 33.

10. Dimension the offset distances from the proposed building to all property lines.

11. The proposed dumpster pad area requires screening. Please show and label on Sketch Site Plan.

12. Revise Project Data note for Forest Conservation. Add the $540 fee paid on May 20, 2016 for 5,396.6 square feet of the site and the remainder 1,600 square feet was credited with landscape material.

13. Show zoning district boundaries on the Vicinity Map.

14. Provide MDE Authorization Letter in regards to the October 25, 2021 site visit stating that there were no non-tidal wetlands present onsite.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☒Approved	**Required Afforestation on site is 0.16 acres or 6,969.6 square feet. Forest Conservation was satisfied on May 20, 2016 for 5,396.6 SF of the site with a Fee-In-Lieu in the amount of $540 and four (4) street trees were credited to meet the remaining 1,600 SF requirement.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 23rd, 2023**

TO: **Brett Ewing – Lane Engineering LLC**
Mark Klein – St. Vincent de Paul
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **29533 Canvasback Drive St. Vincent de Paul – ESDR Sketch Site Plan Review Comments**

The Engineering Department has reviewed the subject application received 8/4/2023 and have the following comments.

1. Please label the distances between the existing driveway and the proposed driveway entrance, and the distance from adjacent driveway entrances.
2. Please label the width of the proposed driveway.
3. Show the existing sidewalk along Canvasback Drive.
4. Please address how the drainage from the existing building will be redirected.
5. Please provide protective devices around the SWM feature in the parking lot such as curb stops, bollards or fencing.
6. The SWM charts are to be put on the site plan in addition to the SWM plan.
7. On the SWM charts, please provide the total counts at the bottom of the chart. It appears the actual provided is less than the target.

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

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: August 17, 2023

Project; 29533 Canvasback Drive Easton, MD 21601 - Society of St. Vincent de Paul

A Town of Easton Building Permit is required for all new construction that involves alteration to an approved existing building. Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

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

- Indicate the type of construction, new, addition or alterations,
- 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)
- 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).
- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.
- **Talbot County Health Department,** (410-770-6886) Commercial Kitchens and Restaurants if allowed should check for any special requirements.

EASTON UTILITIES

Life. Made better.™

Easton Utilities Commission

Plan Review Comments

Date: Tuesday, August 15, 2023
To: Joe Mayer; Nicholas Johnson; Sierra Clem
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 2
Regarding: 29533 Canvasback Drive - St. Vincent De Paul Renovations
Phase: Sketch Site Plan **SUBM:** 2 **Status:** **Approved**

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	1 of 1	Capital charges due for 0.48 EDU's in the amount of $3,384.
2	1 of 1	Show existing utilities.

PROJECT DATA

PROPERTY: TAX MAP 109, TAX PARCEL 4582, LOT 32
DEED: 2744/409
PLAT: 1/194A
29533 CANVASBACK DRIVE
EASTON, MARYLAND 21601

OWNER: SOCIETY OF ST. VINCENT DE PAUL
SAINTS PETER AND PAUL CONFERENCE INC
C/O MIKE KLEIN
P.O. BOX 783
EASTON, MARYLAND 21601
(410) 375–4815

ZONING: I–1 (SELECT INDUSTRIAL DISTRICT)

SITE AREA: 1.07 ACRES±

BUILDING SETBACKS: FRONT – 40'
SIDE – 10'
NTW – 25'
MINIMUM LOT SIZE: 40,000 SF

EXISTING CONDITIONS: THE SITE IS CURRENTLY IMPROVED WITH A ONE STORY METAL BUILDING AND SHED THAT SERVES THE COMMUNITY AS A FOOD PANTRY, THRIFT CENTER AND BOUTIQUE.

PROPOSED DEVELOPMENT: PROPOSED 2,400 SF BUILDING ADDITION, PROPOSED PARKING LOT EXPANSION INCLUDING THE ADDITION OF 10 PARKING SPACES, DRIVE AISLE, AND ASSOCIATED IMPROVEMENTS. REMOVAL OF 3 EXISTING SPACES.

PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/250 GFA (5,000 SF) = 20 SPACES MINIMUM
1 SPACE/200 GFA (5,000 SF) = 25 SPACES MAXIMUM

WAREHOUSE
1 SPACE/2000 GFA (4,120 SF) = 2 SPACES MINIMUM
1 SPACE/350 GFA (4,120 SF) = 12 SPACES MAXIMUM

TOTAL = 22 SPACES MINIMUM
37 SPACES MAXIMUM

PARKING PROPOSED: 29 SPACES, INCLUDING 2 ADA VAN ACCESSIBLE SPACES

BICYCLE PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/20 VEHICLE SPACES = 2 SPACES REQUIRED

BICYCLE PARKING PROPOSED: 2 SPACES

STORMWATER MANAGEMENT: QUANTITY MANAGEMENT IS ADDRESSED BY AN EXISTING REGIONAL STORMWATER FACILITY. QUALITY MANAGEMENT IS PROVIDED ON SITE IN A MIRCO–BIORETENTION TYPE FACILITY AND PLANTER BOXES. SEE STORMWATER MANAGEMENT CONCEPT REPORT INCORPORATED HEREIN WITH THIS SKETCH PLAN SUBMITTAL.

FOREST CONSERVATION: PREVIOUSLY SATISFIED FOR ENTIRE SITE IN 2016 WITH A FEE–IN–LIEU.

PROJECT NOTES

PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON 07/19/2012 AND FIELD VERIFIED ON 06/24/2015.

THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM.

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FLOOD ZONE LEGEND
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

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LANDSCAPE KEY

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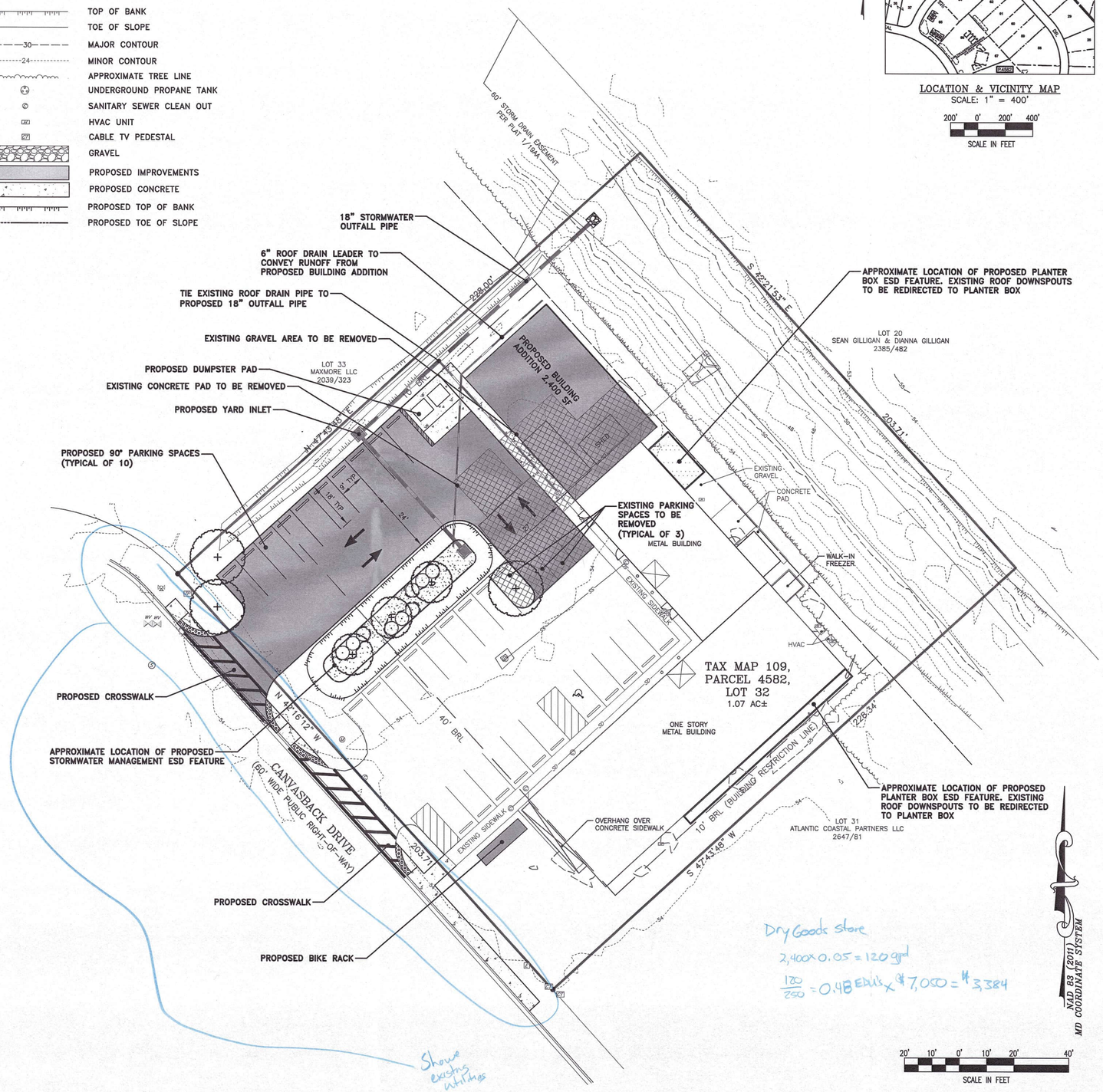
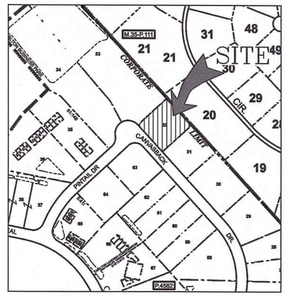
LEGEND

COMPUTED POINT
IRON ROD FOUND
ELECTRIC TRANSFORMER
SANITARY SEWER MANHOLE
TELEPHONE PEDESTAL
FIRE HYDRANT
WATER VALVE
WATER METER
STORMDRAIN
TOP OF BANK
TOE OF SLOPE
MAJOR CONTOUR
MINOR CONTOUR
APPROXIMATE TREE LINE
UNDERGROUND PROPANE TANK
SANITARY SEWER CLEAN OUT
HVAC UNIT
CABLE TV PEDESTAL
GRAVEL
PROPOSED IMPROVEMENTS
PROPOSED CONCRETE
PROPOSED TOP OF BANK
PROPOSED TOE OF SLOPE





LOCATION & VICINITY MAP
SCALE: 1" = 400'

200' 0' 200' 400'
SCALE IN FEET

REVISIONS			
No.	DATE	DESCRIPTION	BY

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MISS UTILITY
DIG WITH CARE
BEFORE YOU DIG CALL 1–800–441–8355 OR 811 PROTECT YOURSELF, ONE TWO WORKING DAYS NOTICE

Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E–mail: general@lanelc.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. 23152, Expiration Date: 7/5/2025.

SEAL
STATE OF MARYLAND
BRYAN C. ECKERT
No. 23152
REGISTERED PROFESSIONAL ENGINEER
8.1.23
DATE

SKETCH SITE PLAN

FOR
ST. VINCENT DE PAUL

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 109 PARCEL 4582 LOT 32

ISSUED FOR:	DATE:	BY:
ESDR SUBMITTAL	08/01/23	BCE

SHEET No. 1 OF 1	DATE:	08/01/2023
	JOB No.	230215
SCALE: AS NOTED	FILE No.	3248

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Date: 08/01/2023 – 2:18pm User: mrojacich Project Manager: BCE
Drawing Path: J:\2023\0200\230215\Civil3D–230215\Dwg\Plats\RSK–PLTS–230215.dwg | SKETCH
XREF File(s): RSK–BASE–230215/RLD–BASE–230215/RBS–BASE–2436–230215/RAR–BASE–230215/RSF–BASE–230215/LLP–BASE–230215

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

DATE: **August 23, 2023**
TO: **Brett Ewing & Tim Glass** – Lane Engineering, LLC
Mike Klein - Society of St. Vincent de Paul-Saints Peter and Paul Conference Inc.
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: 29533 Canvasback Drive – St. Vincent de Paul

We reviewed the **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #2

1. Label all existing road paving widths on all plan views. In addition, show the entire existing road width of Canvasback Drive and adjacent driveway entrance.
2. Show and label all existing and proposed utilities.
3. Please show adjacent property owners on Canvasback Drive.
4. Show the existing sidewalk along Canvasback Drive along Lot 31.
5. Revise Project Data on the Sketch Site Plan with the current zoning and its requirements. The site is now currently zoned BC – Business Commercial District.
6. Project Data indicates two proposed ADA van parking spaces. The plan view only shows one space. Please revise.
7. Show and label the existing landscaping on the Site Plan. Depict what existing plants are to be removed and/or relocated.
8. 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 tree out the sight triangle at the proposed drive aisle and Canvasback Drive.

9. Per Chapter 28-1014.6.F.2.b of the Zoning Code, *All parking lots shall be landscaped with an evergreen shrub hedge which will grow to a minimum 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 side(s). Shrubs shall be spaced to form a continuous hedge within 5 years. Required Bufferyards may replace all or part of this requirement when the applicant can demonstrate that effective screening will be achieved.* Provide a hedge adjacent to the proposed parking lot along Lot 33.

10. Dimension the offset distances from the proposed building to all property lines.

11. The proposed dumpster pad area requires screening. Please show and label on Sketch Site Plan.

12. Revise Project Data note for Forest Conservation. Add the $540 fee paid on May 20, 2016 for 5,396.6 square feet of the site and the remainder 1,600 square feet was credited with landscape material.

13. Show zoning district boundaries on the Vicinity Map.

14. Provide MDE Authorization Letter in regards to the October 25, 2021 site visit stating that there were no non-tidal wetlands present onsite.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☐ Submitted ☒Approved	**Required Afforestation on site is 0.16 acres or 6,969.6 square feet. Forest Conservation was satisfied on May 20, 2016 for 5,396.6 SF of the site with a Fee-In-Lieu in the amount of $540 and four (4) street trees were credited to meet the remaining 1,600 SF requirement.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 23rd, 2023**

TO: **Brett Ewing – Lane Engineering LLC**
Mark Klein – St. Vincent de Paul
Cc: **Rick Van Emburgh – Town Engineer**
Miguel Salinas – Planning and Zoning Department
Aaron Goller – EUC
FROM: **Sierra Clem – Engineering Department**
SUBJECT: **29533 Canvasback Drive St. Vincent de Paul – ESDR Sketch Site Plan Review Comments**

The Engineering Department has reviewed the subject application received 8/4/2023 and have the following comments.

1. Please label the distances between the existing driveway and the proposed driveway entrance, and the distance from adjacent driveway entrances.
2. Please label the width of the proposed driveway.
3. Show the existing sidewalk along Canvasback Drive.
4. Please address how the drainage from the existing building will be redirected.
5. Please provide protective devices around the SWM feature in the parking lot such as curb stops, bollards or fencing.
6. The SWM charts are to be put on the site plan in addition to the SWM plan.
7. On the SWM charts, please provide the total counts at the bottom of the chart. It appears the actual provided is less than the target.

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

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: August 17, 2023

Project; 29533 Canvasback Drive Easton, MD 21601 - Society of St. Vincent de Paul

A Town of Easton Building Permit is required for all new construction that involves alteration to an approved existing building. Contact this Department and verify current Building Codes including the Town of Easton's modifications prior to preparation of Building plans.

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

- Indicate the type of construction, new, addition or alterations,
- 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)
- 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).
- **State Fire Marshal,** (410-822-7609) plan review and inspections are required. It is your responsibility to contact them and make application.
- **Talbot County Health Department,** (410-770-6886) Commercial Kitchens and Restaurants if allowed should check for any special requirements.

EASTON UTILITIES

Life. Made better.™

Easton Utilities Commission

Plan Review Comments

Date: Tuesday, August 15, 2023
To: Joe Mayer; Nicholas Johnson; Sierra Clem
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 2
Regarding: 29533 Canvasback Drive - St. Vincent De Paul Renovations
Phase: Sketch Site Plan **SUBM:** 2 **Status:** **Approved**

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	1 of 1	Capital charges due for 0.48 EDU's in the amount of $3,384.
2	1 of 1	Show existing utilities.

PROJECT DATA

PROPERTY: TAX MAP 109, TAX PARCEL 4582, LOT 32
DEED: 2744/409
PLAT: 1/194A
29533 CANVASBACK DRIVE
EASTON, MARYLAND 21601

OWNER: SOCIETY OF ST. VINCENT DE PAUL
SAINTS PETER AND PAUL CONFERENCE INC
C/O MIKE KLEIN
P.O. BOX 783
EASTON, MARYLAND 21601
(410) 375–4815

ZONING: I–1 (SELECT INDUSTRIAL DISTRICT)

SITE AREA: 1.07 ACRES±

BUILDING SETBACKS: FRONT – 40'
SIDE – 10'
NTW – 25'
MINIMUM LOT SIZE: 40,000 SF

EXISTING CONDITIONS: THE SITE IS CURRENTLY IMPROVED WITH A ONE STORY METAL BUILDING AND SHED THAT SERVES THE COMMUNITY AS A FOOD PANTRY, THRIFT CENTER AND BOUTIQUE.

PROPOSED DEVELOPMENT: PROPOSED 2,400 SF BUILDING ADDITION, PROPOSED PARKING LOT EXPANSION INCLUDING THE ADDITION OF 10 PARKING SPACES, DRIVE AISLE, AND ASSOCIATED IMPROVEMENTS. REMOVAL OF 3 EXISTING SPACES.

PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/250 GFA (5,000 SF) = 20 SPACES MINIMUM
1 SPACE/200 GFA (5,000 SF) = 25 SPACES MAXIMUM

WAREHOUSE
1 SPACE/2000 GFA (4,120 SF) = 2 SPACES MINIMUM
1 SPACE/350 GFA (4,120 SF) = 12 SPACES MAXIMUM

TOTAL = 22 SPACES MINIMUM
37 SPACES MAXIMUM

PARKING PROPOSED: 29 SPACES, INCLUDING 2 ADA VAN ACCESSIBLE SPACES

BICYCLE PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/20 VEHICLE SPACES = 2 SPACES REQUIRED

BICYCLE PARKING PROPOSED: 2 SPACES

STORMWATER MANAGEMENT: QUANTITY MANAGEMENT IS ADDRESSED BY AN EXISTING REGIONAL STORMWATER FACILITY. QUALITY MANAGEMENT IS PROVIDED ON SITE IN A MIRCO–BIORETENTION TYPE FACILITY AND PLANTER BOXES. SEE STORMWATER MANAGEMENT CONCEPT REPORT INCORPORATED HEREIN WITH THIS SKETCH PLAN SUBMITTAL.

FOREST CONSERVATION: PREVIOUSLY SATISFIED FOR ENTIRE SITE IN 2016 WITH A FEE–IN–LIEU.

PROJECT NOTES

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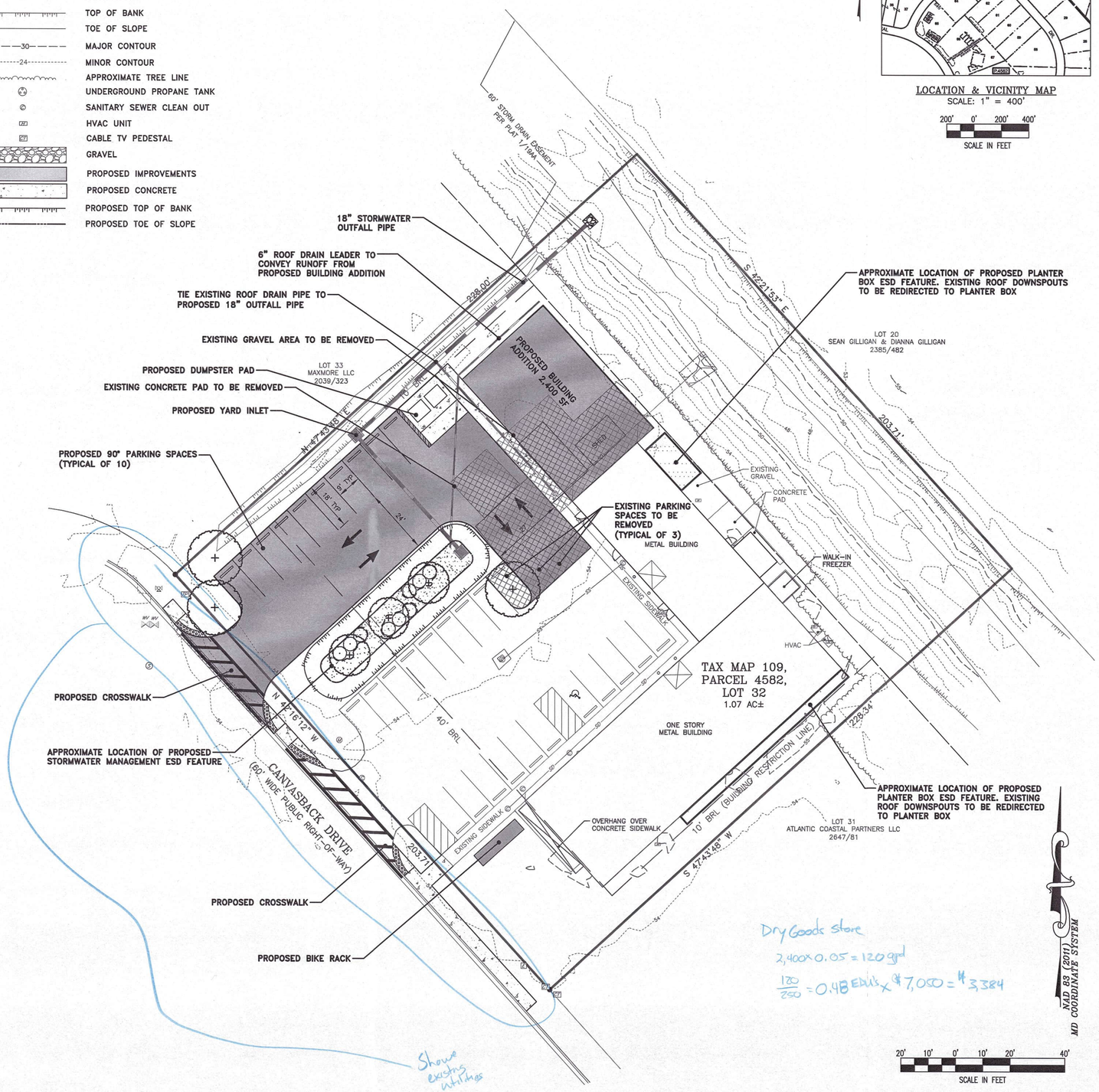

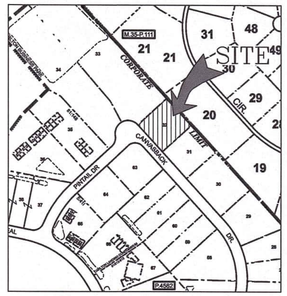

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PROFESSIONAL CERTIFICATION: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 23152, Expiration Date: 7/5/2025.

SEAL
STATE OF MARYLAND
BRYAN C. ECKMAN
No. 23152
REGISTERED PROFESSIONAL ENGINEER
8.1.23
DATE

SKETCH SITE PLAN

FOR
ST. VINCENT DE PAUL

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 109 PARCEL 4582 LOT 32

ISSUED FOR: ESDR SUBMITTAL
DATE: 08/01/23 BY: BCE

SHEET No. 1 OF 1	DATE: 08/01/2023
SCALE: AS NOTED	JOB No. 230215
	FILE No. 3248

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TOWN OF EASTON

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

Easton Staff Development Review

Property Information

Address	29533 Canvasback Drive Easton, MD 21601						
Tax Map	109	Grid		Parcel	4582	Lot	32
Deed Refernce:	Liber	2744	Folio	409			
Plat Reference:	Liber	1	Folio	19AA			
Base Zoning District		I-1	Historic District Y ☐ N ☒		Planning Redevelopment Y ☐ N ☒		

Purpose of Application / Description of Work:

Proposed 2,400 SF building addition, proposed parking lot expansion, including the addition of 10 parking spaces, drive aisle and associated improvements. Removal of 3 existing spaces.

Owner

Name	Society of St. Vincent de Paul c/o Mike Klein		
Mailing Address	PO Box 783 Easton, MD 21601		
Telephone No.	410-375-4815	Email	

Applicant / Agent

Name	Lane Engineering, LLC c/o Brett Ewing		
Mailing Address	117 Bay Street Easton, MD 21601		
Telephone No.	410-822-8003	Email	bewing@leinc.com

Surveyor / Engineer

Name	Tim Glass	License No.	23152	Expiration Date	7/5/25
Mailing Address	117 Bay Street Easton, MD 21601				
Telephone No.	410-822-8003	Email	tglass@leinc.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		
Date	8/1/23	
Printed Name of Applicant or Agent	Brett Ewing-Agent	

For Office Use Only

Easton Staff Development Review Meeting Required Y ☒ N ☐

Easton Staff Development Review Meeting Date 08/23/2023

ESDR 23-15 / 2023-998

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: 09/21/2023

BOZA Required Y ☐ N ☐

Historic District Commission Required Y ☐ N ☐

Resubmission for ESDR Required Y ☐ N ☐

Staff Signature

Date

Revised 02-2019

Lane Engineering, LLC

Established 1986

Civil Engineering • Land Planning • Land Surveyors

15 Washington Street
Cambridge, Maryland 21613
Tel 410-221-0818
Fax 410-476-9942

117 Bay Street
P.O. Box 1767
Easton, Maryland 21601
Tel 410-822-8003
Fax 410-822-2024

354 Pennsylvania Avenue
Centreville, Maryland 21617
Tel 410-758-2095
Fax 410-758-4422

August 28, 2023

Joe Mayer
Town Plan Reviewer
14 South Harrison Street
Easton, MD 21601

Subject: 29533 Canvasback Drive – St. Vincent de Paul

Dear Mr. Mayer,

We have reviewed Planning, Town of Easton Engineering, and EUC comments dated August 23, 2023 and have made design changes, as necessary. Our responses are in the order of the letters, as follows:

Planning and Zoning Comments

1. Dimensions added to plan and adjacent driveway entrances have been added to the plan.
2. Utilities are shown and labeled as necessary.
3. Adjacent property owners are shown on the sketch plan.
4. Existing sidewalk added to sketch plan.
5. Project data revised to show updated zoning.
6. Additional ADA space added to sketch plan.
7. Existing landscape and removal added to sketch plan.
8. Canopy tree has been relocated.
9. Hedge added to sketch plan.
10. Dimensions added to sketch plan.
11. Label updated to show screening as required by town.
12. Project data note has been updated.
13. Zoning boundaries added to vicinity map.
14. Email authorization included with submittal.

Town of Easton Engineering Comments

1. Distances shown on updated sketch plan.
2. Dimension added to sketch plan.
3. Existing sidewalk added to sketch plan.

4. Existing building will tie into proposed stormwater outfall pipe and discharge to existing drainage swale at the back of the lot. This is noted on the sketch plan.
5. Curb is proposed along drive aisle. Sketch plan has been updated to show curb.
6. Stormwater chart has been added to the sketch plan.
7. Stormwater chart updated to show compliance with stormwater regulations.

Easton Utilities – Specific Comments

1. Noted
2. Existing utilities have been added to the plan.

Should you require additional information, please contact me at your convenience.

Sincerely,

Brett C. Ewing, AICP
Principal

J:\2023\0200\230215\Correspondence (Minilla)\2023-08-23-ESDR comments\2023-08-28-ESDR Comment Response Letter-230215.docx

RECEIVED
AUG 29 2023
TOWN OF EASTON

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	St. Vincent de Paul				
Original Property Size	Acres	1.07	Square Feet		
Telephone No.	410-375-4815	Email	mklein@atlanticbb.net		

Site Plan Information

Property Size	Acres	1.07	Square Feet	
Structure's Floor Area			Structure's Square Feet	
Area of Disturbance			Number of Dwelling Units	

Property Information

Address	29533 Canvasback Drive, Easton MD 21601						
Tax Map	109	Grid	0000	Parcel	4582	Lot	32
Deed Refernce:	Liber	2744	Folio	409			
Plat Reference:	Liber	1	Folio	19AA			
Base Zoning District	BC	Historic Y ☐ N ☒		Planned Redevelopment Y ☐ N ☒			
Source of Electricity							

Owner

Name	Society of St. Vincent de Paul, Saints Peter and Paul Conference Inc.		
Mailing Address	P.O. Box 783 Easton, MD 21601		
Telephone No.	410-375-4815	Email	mklein@atlanticbb.net

Applicant or Agent

Name	Brett Ewing, Lane Engineering LLC		
Mailing Address	117 Bay Street, Easton MD 21601		
Telephone No.	410-822-8003	Email	bewing@leinc.com

Surveyor / Engineer

Name	Tim Glass	License No.	23152	Expiration Date	7/5/2025
Mailing Address	117 Bay Street, Easton MD 21601				
Telephone No.	410-822-8003	Email	tglass@leinc.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	
Date	8/29/23
Printed Name of Applicant or Agent	Brett Ewing

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	09/21/2023		
Sketch Approval Date		Project No.	ESDR 23-15
Prelim/Dev. Approval Date		Application No.	2023-998
Final Approval Date		Sketch Fee Paid	08/10/2023
Recordation Date		Develop. Fee Paid	

Revised 02-2019

PROJECT DATA

PROPERTY: TAX MAP 109, TAX PARCEL 4582, LOT 32
DEED: 2744/409
PLAT: 1/19AA
29533 CANVASBACK DRIVE
EASTON, MARYLAND 21601

OWNER: SOCIETY OF ST. VINCENT DE PAUL
SAINTS PETER AND PAUL CONFERENCE INC
C/O MIKE KLEIN
P.O. BOX 783
EASTON, MARYLAND 21601
(410) 375-4815

ZONING: BC (BUSINESS COMMERCIAL DISTRICT)

SITE AREA: 1.07 ACRES±

BUILDING SETBACKS: FRONT – 40'
SIDE – 10'
REAR – 30'
NTW – 25'
MINIMUM LOT SIZE: 40,000 SF

EXISTING CONDITIONS: THE SITE IS CURRENTLY IMPROVED WITH A ONE STORY METAL BUILDING AND SHED THAT SERVES THE COMMUNITY AS A FOOD PANTRY, THRIFT CENTER AND BOUTIQUE.

PROPOSED DEVELOPMENT: PROPOSED 2,400 SF BUILDING ADDITION, PROPOSED PARKING LOT EXPANSION INCLUDING THE ADDITION OF 10 PARKING SPACES, DRIVE AISLE, AND ASSOCIATED IMPROVEMENTS. REMOVAL OF 3 EXISTING SPACES.

PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/250 GFA (5,000 SF) = 20 SPACES MINIMUM
1 SPACE/200 GFA (5,000 SF) = 25 SPACES MAXIMUM

WAREHOUSE
1 SPACE/2000 GFA (4,120 SF) = 2 SPACES MINIMUM
1 SPACE/350 GFA (4,120 SF) = 12 SPACES MAXIMUM

TOTAL = 22 SPACES MINIMUM
37 SPACES MAXIMUM

PARKING PROPOSED: 29 SPACES, INCLUDING 2 ADA VAN ACCESSIBLE SPACES

BICYCLE PARKING REQUIRED: COMMUNITY FOOD, EMERGENCY RELIEF, FAMILY, OR ELDERLY AND DISABLED SERVICES
1 SPACE/20 VEHICLE SPACES = 2 SPACES REQUIRED

BICYCLE PARKING PROPOSED: 2 SPACES

STORMWATER MANAGEMENT: QUANTITY MANAGEMENT IS ADDRESSED BY AN EXISTING REGIONAL STORMWATER FACILITY. QUALITY MANAGEMENT IS PROVIDED ON SITE IN A MIRCO-BIORETENTION TYPE FACILITY AND PLANTER BOXES. SEE STORMWATER MANAGEMENT CONCEPT REPORT INCORPORATED HEREIN WITH THIS SKETCH PLAN SUBMITTAL.

FOREST CONSERVATION: THE $540 FEE PAID ON MAY 20, 2016 FOR 5,396.6 SQUARE FEET OF THE SITE AND THE REMAINDER 1,600 SQUARE FEET WAS CREDITED WITH LANDSCAPE MATERIAL.

PROJECT NOTES

PROPERTY BOUNDARY AND EXISTING CONDITIONS SURVEYED BY LANE ENGINEERING, LLC ON 07/19/2012 AND FIELD VERIFIED ON 06/24/2015.

THE ELEVATIONS SHOWN HEREON ARE NAVD 1988 DATUM.

THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD83 (2011).

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

THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES, STREAMS, TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS.

NO NON-TIDAL WETLANDS WERE PRESENT ON SITE BASED OBSERVATIONS IN THE FIELD BY SEAN CALLAHAN, QUALIFIED PROFESSIONAL WITH LANE ENGINEERING, LLC AND CHRIS PAJAK, MARYLAND DEPARTMENT OF THE ENVIRONMENT VIA SITE VISIT ON 10/25/21.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2019 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM 2015 TALBOT COUNTY LIDAR PROVIDED BY THE STATE OF MARYLAND AND ARE APPROXIMATE ONLY.

PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON.

FLOOD DATA

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE X FLOOD ZONE AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0193C FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE:

STREET TREES PER 28-1014.6C.1. @ 1 TREE/70' OF STREET FRONTAGES = 1 TREES REQUIRED

ON-SITE LANDSCAPE REQUIREMENTS PER 28-1014.6F.

1. OVERALL TREES: 1 TREE/3,000 SF DISTURBED AREA (16,398 SF±) = 5 TREES REQUIRED
   - 2.A. PARKING LOT TREES: 1 TREE/10 SPACES (NEW SPACES) = 1 TREES REQUIRED
   - 2.B. PARKING HEDGE: FULLY PLANTED STORMWATER MANAGEMENT AREA SHALL BE UTILIZED
   - 2.C. BUILDING FAÇADE PLANTINGS; 1 TREE/20' FRONT FAÇADE = 3 TREES REQUIRED
   - 2.D. SERVICE LOADING/DUMPSTER SCREENING: AS SHOWN HEREON
   - 2.E. SWM FEATURES: USE TO ENHANCE BUILDING– AS SHOWN HEREON
   - 2.F. BUFFERYARDS: NONE REQUIRED

LANDSCAPE KEY

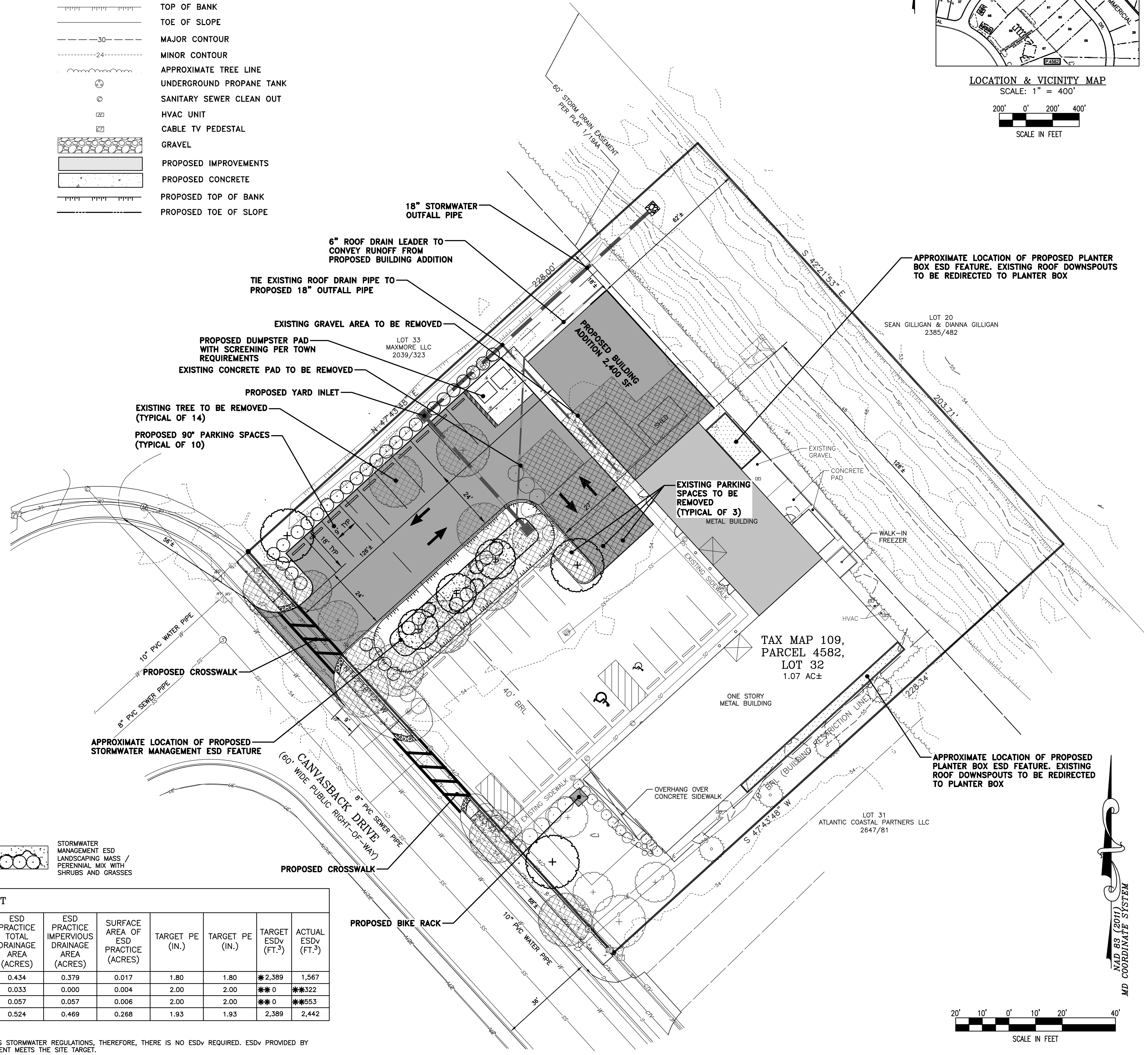
2" CALIPER MINIMUM CANOPY OR STREET TREES (OAK, MAPLE TYPES)

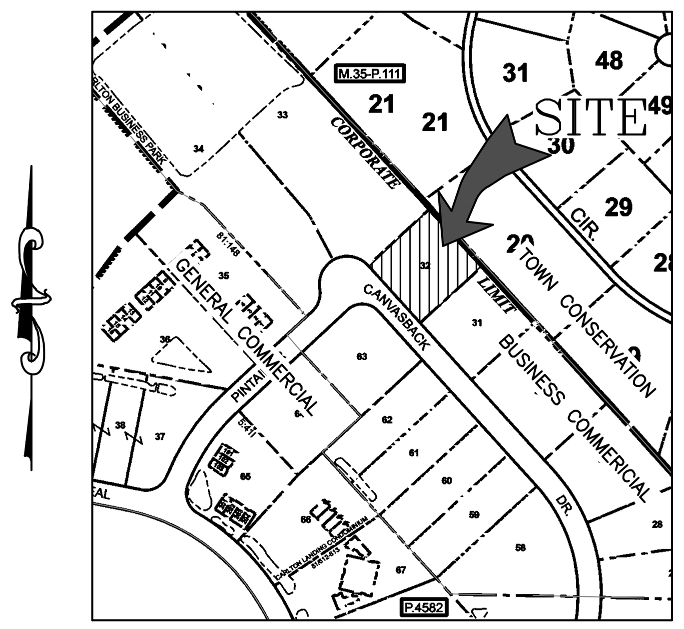
7' HEIGHT MINIMUM EVERGREEN TREES (WHITE PINE, SPRUCE, HOLLY, LOBLOLLY TYPES)

STORMWATER MANAGEMENT ESD LANDSCAPING MASS / PERENNIAL MIX WITH SHRUBS AND GRASSES

LEGEND

COMPUTED POINT
IRON ROD FOUND
ELECTRIC TRANSFORMER
SANITARY SEWER MANHOLE
TELEPHONE PEDESTAL
FIRE HYDRANT
WATER VALVE
WATER METER
STORMDRAIN
TOP OF BANK
TOE OF SLOPE
MAJOR CONTOUR
MINOR CONTOUR
APPROXIMATE TREE LINE
UNDERGROUND PROPANE TANK
SANITARY SEWER CLEAN OUT
HVAC UNIT
CABLE TV PEDESTAL
GRAVEL
PROPOSED IMPROVEMENTS
PROPOSED CONCRETE
PROPOSED TOP OF BANK
PROPOSED TOE OF SLOPE
OVERHEAD ELECTRIC LINE
UNDERGROUND ELECTRIC LINE
OVER HEAD UTILITY LINES
SANITARY SEWER MAIN
OVERHEAD TELEPHONE LINE
UNDERGROUND TELEPHONE LINE
CABLE TV
WATER MAIN





LOCATION & VICINITY MAP
SCALE: 1" = 400'
200' 0' 200' 400'
SCALE IN FEET

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 NORTHING	ESD PRACTICE TOTAL DRAINAGE AREA (ACRES)	ESD PRACTICE IMPERVIOUS DRAINAGE AREA (ACRES)	SURFACE AREA OF ESD PRACTICE (ACRES)	TARGET PE (IN.)	TARGET PE (IN.)	TARGET ESDv (FT.^{3})	ACTUAL ESDv (FT.^{3})
1	M-6	MICRO-BIORETENTION	ON-SITE	95	405846.20	1572388.51	0.434	0.379	0.017	1.80	1.80	*2,389	1,567
2	M-6	PLANTER BOX	ON-SITE	98	405899.28	1582489.43	0.033	0.000	0.004	2.00	2.00	**0	**322
3	M-6	PLANTER BOX	ON-SITE	98	405797.07	1582523.92	0.057	0.057	0.006	2.00	2.00	**0	**553
TOTAL/AVERAGE				97			0.524	0.469	0.268	1.93	1.93	2,389	2,442

* TOTAL SITE TARGET FOR DEVELOPMENT

** EXISTING ROOF AREA IS NOT BEING TREATED PRESENT DAY AND THERE IS NO ESDv REQUIREMENT AS THE AREA PRE-DATES STORMWATER REGULATIONS, THEREFORE, THERE IS NO ESDv REQUIRED. ESDv PROVIDED BY PLANTER BOXES TO PROVIDE ADDITIONAL TREATMENT FOR PARKING LOT DRAINAGE AREA SO THAT THE PROPOSED DEVELOPMENT MEETS THE SITE TARGET.

REVISIONS			
No.	DATE	DESCRIPTION	BY

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
DIG WITH CARE · CALL MISS UTILITY · KEEP MARYLAND SAFE
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@leinc.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. 23152 , Expiration Date: 7/5/2025.

SEAL
STATE OF MARYLAND · REGISTERED PROFESSIONAL ENGINEER · NO. 23152
8.28.23
DATE

SKETCH SITE PLAN

FOR
ST. VINCENT DE PAUL

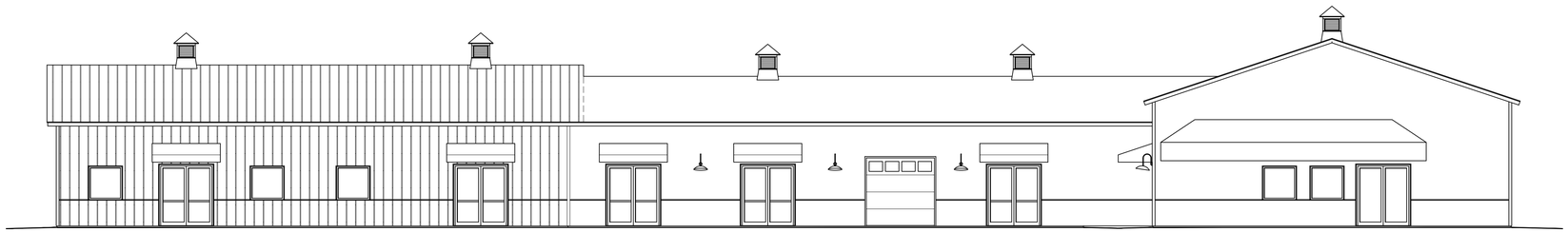
IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 109 PARCEL 4582 LOT 32

ISSUED FOR:	DATE:	BY:
ESDR SUBMITTAL	08/01/23	BCE
PLANNING COMMISSION	08/28/23	BCE

SHEET No. 1 OF 1
SCALE: AS NOTED
DATE: 08/01/2023
JOB No. 230215
FILE No. 3248

© LANE ENGINEERING, LLC

Date: 08/28/2023 – 11:18am User: mrajacich Project Manager: BCE
Drawing Path: J:\2023\0200\230215\Civil3D-230215\Dwg\Plots\RSK-PLTS-230215.dwg | SKETCH
XREF File(s): RSK-BASE-230215/RLD-BASE-230215/RBS-BASE-2436-230215/RAR-BASE-230215/RSF-BASE-230215/LLP-BASE-230215/RLD-EUC-BASE-230215/RLP-BASE-230215



CONCEPTUAL WEST ELEVATION

SCALE: 1/8" = 1'-0"

PRELIMINARY

DO NOT SCALE DRAWINGS: In the event that a dimension is inadvertently left off a drawing or the Contractor is unable to determine a dimension by a mathematical process, contact the Architect. Pamela P Gardner, AIA will not be held responsible for any assumptions arising from the scaling of a drawing by the Contractor.

ARCHITECT:

PAMELA P. GARDNER, AIA, LLC

311 N. AURORA STREET
PO BOX 971 EASTON, MARYLAND 21601
410-820-7973

ST. VINCENT DE PAUL CONCEPT

TOWN OF EASTON, MARYLAND

PROJECT: 2311

SCALE: 1/8" = 1'-0"

WEST ELEVATION
Conceptual

REV-DATE:

DATE: 8-2-23

DRAWN BY: TGB

SHEET

A-2

Joe Mayer

From: Chris Pajak -MDE- <chris.pajak@maryland.gov>
Sent: Tuesday, October 26, 2021 2:52 PM
To: Jim Austin
Cc: Jason.R.Peters@usace.army.mil; Sean Callahan; Brett Ewing
Subject: Re: 200184 - SVDP Easton - Wetland Delineation

To Whom It May Concern:

On October 25, 2021 the Maryland Department of the Environment, Nontidal Wetlands Division participated in a Nontidal Wetland Field Review of the St. Vincent De Paul property on Canvasback Drive, Easton, Talbot County, Maryland. At this time the Department concurs with the delineation as completed by Lane Engineering, Inc. If you have any questions, please feel free to contact me.

On Tue, Oct 26, 2021 at 2:27 PM Jim Austin <jaustin@leinc.com> wrote:

> Chris,
>
> Per your site visit with Sean Callahan yesterday please find the enclosed Wetland Delineation Plan. Should you have any questions or need anything else, please let us know.
>
> Thank you.
>
> **Jim Austin**
>
> jaustin@leinc.com
>
> Lane Engineering, LLC
>
> 117 Bay Street
>
> Easton, MD 21601
>
> 410-822-8003 ext. 112
>
> www.leinc.com

--

Chris M. Pajak
Natural Resources Planner
Water and Science Administration
Maryland Department of the Environment
District Court - Multiservice Center
201 Baptist Street
Salisbury, Maryland 21801
chris.pajak@maryland.gov
410-713-3685 (O)
Website | Facebook | Twitter

Click here to complete a three question customer experience survey.

Click here to complete a three question customer experience survey.

CONCEPT STORMWATER MANAGEMENT REPORT

For

St. Vincent de Paul
Parking Lot Expansion
Easton, Maryland

Owner/Developer

Society of St. Vincent de Paul
Saints Peter and Paul Conference Inc.
c/o Mike Klein
P.O. Box 783
Easton, MD 21601
(410) 375-4815

Design Professional

Lane Engineering, LLC.
117 Bay Street
Easton, Maryland 21601
410-822-8003

Date Prepared

August 1, 2023
Revised
August 28, 2023

Prepared by
Matt Rajacich, E.I.T.

Approved by
Timothy W. Glass, P.E.
Civil Engineer

PROFESSIONAL CERTIFICATION: I hereby certify that this document was 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: 7/5/2025.

St. Vincent de Paul is located at 29533 Canvasback Drive in Easton, within Carlton Business Park. Existing onsite is retail and storage buildings, a 22-space parking lot, and associated improvements. Site soils consist of Fallsington Sandy Loam and Kentuck Mucky Silt Loam (HSG “D”). Existing stormwater management consists of disconnection to conservation area, which surrounds the site on the west and north sides.

St. Vincent de Paul proposes to add an entrance, 10 parking spaces, construct a 2,400 sf building addition, and relocate the dumpster pad to facilitate these changes. Three spaces will be removed, resulting in a 7-space increase for the site. The proposed improvements will occupy a significant portion of the current disconnect area on the west side of the site. The disconnect to the north will not be affected, and thus stormwater management for the buildings will not be affected. Please refer to Appendix B for further clarification.

A micro-bioretention facility is proposed to replace stormwater management for the existing parking lot, as well as for the proposed parking improvements. The proposed feature is not large enough to meet the ESD target for the site, therefore, two planter boxes are proposed to collect rooftop runoff from the existing building to treat the additional ESD volume needed to meet the ESD target for the proposed site. Stormwater quality calculations and a drainage area map follow in Appendices A and B. There is a regional stormwater management pond, and therefore quantity management is not required.

APPENDIX A
STORMWATER QUALITY (ESD) CALCULATIONS

ESD Target for Site Development (Site)

Earthen Disturbance (LOD) = 0.517 acres = 22,524 sf (excluding work associated with Planter Box installation)

Onsite Soils in LOD: "HSG D"

Proposed Buildings, Parking, and Sidewalks within the LOD = 16,523 sf

Impervious I = 73%

R_V = 0.05 + 0.009 (I) = 0.05 + 0.009 (73%) = 0.707

Based on I = 73%: HSG D P_E = 1.8"

$ESD_{V\_Total\_Target} = \frac{(Pe)(Rv)(A)}{12} = \frac{(1.8)(0.707)(22,524)}{12}$ = **2,389 *cf***

Micro-Bioretention Area (DA-1)

Drainage Area = 18,937

Proposed Improvements = 16,523 sf; Impervious I = 87%

R_V = 0.05 + 0.009 (I) = 0.05 + 0.009 (87%) = 0.833

Based on I = 87%: HSG D P_E = 1.8"

$ESD_{V\_Total\_Target\_DA\text{-}1} = \frac{(Pe)(Rv)(A)}{12} = \frac{(1.8)(0.833)(18,937)}{12}$ = **2,366 *cf***

$ESD_{V\_Ponding} = \frac{(Area\ at\ Temporary\ Ponding\ Elevation + Floor\ Area)}{2} \times$ Ponding Depth = $\frac{(734+1,225)}{2} \times 1.00 = \mathbf{980\ cf}$

$ESD_{V\_Media} = Porosity\ of\ Media \times Media\ depth\ \times Floor\ Area = 0.4 \times 734\ \times 2.0\ = \mathbf{587\ cf}$

$ESD_{V\_Provided} = ESD_{V\_Ponding} + ESD_{V\_Media}$ = 980 + 587 = **1,567 *cf***

Planter Box (DA-2)

Drainage Area = 1,453 sf; Impervious I = 100%

R_V = 0.05 + 0.009 (I) = 0.05 + 0.009 (100%) = 0.95

Based on I = 100%: HSG D P_E = 2.0"

$ESD_{V\_Total\_Target\_DA\text{-}2} = \frac{(Pe)(Rv)(A)}{12} = \frac{(2.0)(0.95)(1,453)}{12}$ = **230 *cf***

Max allowable ESD_V allowed based on 2.8 in. Cp_V storm

$ESD_{V\_Maximum\_Allowed} = \frac{(Pe)(Rv)(A)}{12} = \frac{(2.8)(0.95)(1,453)}{12}$ = **322 *cf***

$ESD_{V\_Ponding} = \frac{(Area\ at\ Temporary\ Ponding\ Elevation + Floor\ Area)}{2} \times$ Ponding Depth = $180 \times 1.00 = \mathbf{180\ cf}$

$ESD_{V\_Media} = Porosity\ of\ Media \times Media\ depth\ \times Floor\ Area = 0.4 \times 180\ \times 3.0\ = \mathbf{216}\ \boldsymbol{cf}$

$ESD_{V\_Provided} = ESD_{V\_Ponding} + ESD_{V\_Media}$ = 180 + 216 = **396 *cf***

$ESD_{V\_Provided}$ when assessing compliance with the MEP standard, the volume of runoff treated by this micro-bioretention practice is **322 *cf***

<u>Planter Box (DA-3)</u>

Drainage Area = 2,494 sf; Impervious I = 100%

R_V = 0.05 + 0.009 (I) = 0.05 + 0.009 (100%) = 0.95

Based on I = 100%: HSG D P_E = 2.0"

$ESD_{V\_Total\_Target\_DA\text{-}3} = \frac{(Pe)(Rv)(A)}{12} = \frac{(2.0)(0.95)(2{,}494)}{12}$ = **395 *cf***

Max allowable ESD_V allowed based on 2.8 in. Cp_V storm

$ESD_{V\_Maximum\_Allowed} = \frac{(Pe)(Rv)(A)}{12} = \frac{(2.8)(0.95)(2{,}494)}{12}$ = **553 *cf***

$ESD_{V\_Ponding} = \frac{(Area\ at\ Temporary\ Ponding\ Elevation + Floor\ Area)}{2} \times$ Ponding Depth = $264 \times 1.00 = \mathbf{264}\ \boldsymbol{cf}$

$ESD_{V\_Media} = Porosity\ of\ Media \times Media\ depth\ \times Floor\ Area = 0.4 \times 264\ \times 3.0\ = \mathbf{317}\ \boldsymbol{cf}$

$ESD_{V\_Provided} = ESD_{V\_Ponding} + ESD_{V\_Media}$ = 264 + 317 = **581 *cf***

$ESD_{V\_Provided}$ when assessing compliance with the MEP standard, the volume of runoff treated by this micro-bioretention practice is **553 *cf***

Total $ESD_{V\_Provided}$ = 1,567+322+553 = 2,422 *cf*

$ESD_{V\_Provided}) > ESD_{V\_Target}$

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 (IN.)	ACTUAL PE (IN.)	TARGET ESDv ($FT.^3$)	ACTUAL ESDv ($ft.^3$)
1	M-6	MICRO-BIORETENTION	ON-SITE	95	405846.20	1572388.51	0.434	0.379	0.0168	1.8	1.8	*2,389	1,567
2	M-6	PLANTER BOX	ON-SITE	98	405899.28	1582489.43	0.033	0.033	0.004	2.0	2.0	**0	**322
3	M-6	PLANTER BOX	ON-SITE	98	405797.07	1582523.92	0.057	0.057	0.006	2.0	2.0	**0	**553
4													
5													
6													
7													
8													
9													
10													
TOTAL/ AVERAGE				97			0.524	0.469	0.268	1.93	1.93	2,389	2,442

* TOTAL SITE TARGET FOR DEVELOPMENT
** EXISTING ROOF AREA IS NOT BEING TREATED PRESENT DAY AND THERE IS NO ESDv REQUIREMENT AS THE AREA PRE-DATES STORMWATER REGULATIONS, THEREFORE, THERE IS NO ESDv REQUIRED. ESDv PROVIDED BY PLANTER BOXES TO PROVIDE ADDITIONAL TREATMENT FOR PARKING LOT DRAINAGE AREA SO THAT THE PROPOSED DEVELOPMENT MEETS THE SITE TARGET.

TOWN OF EASTON MARYLAND · FOUNDED 1710 ·

APPROVAL

TOWN ENGINEER

1/2020
DATE

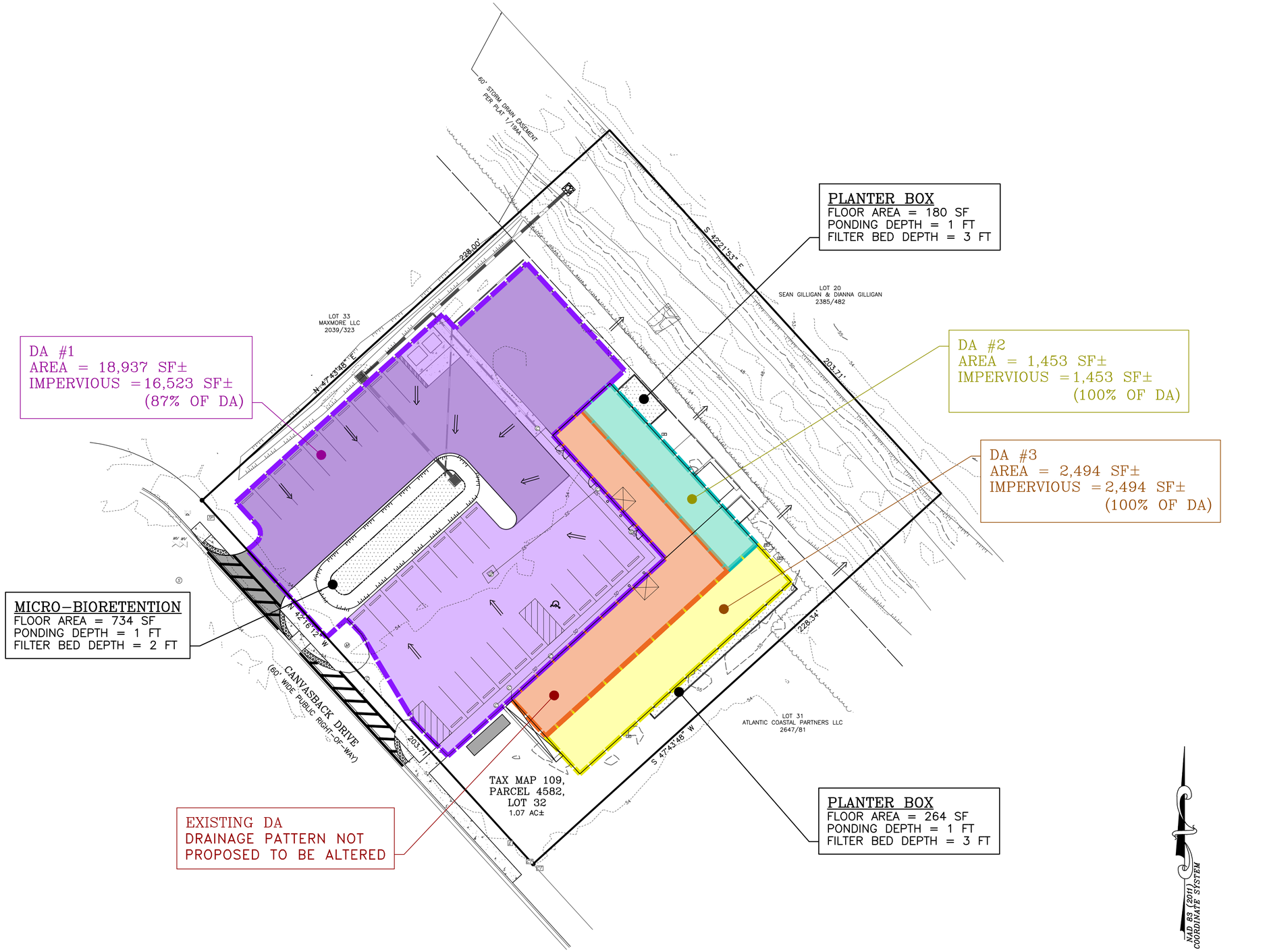
TOWN OF EASTON
STANDARD DETAILS

ESD SUMMARY CHART

ISSUED: JANUARY 2020

STANDARD NO.: TOE-SWM-7.01

APPENDIX C
PROPOSED DRAINAGE AREA MAP



REVISIONS

No.	DATE	DESCRIPTION	BY

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
DIG WITH CARE
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@leinc.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. 23152 , Expiration Date: 7/5/2025.

SEAL

STATE OF MARYLAND
TIMOTHY V. GLASS
No. 23152
REGISTERED
PROFESSIONAL ENGINEER

DATE

PROPOSED DRAINAGE AREA MAP

FOR
ST. VINCENT DE PAUL

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 109 PARCEL 4582 LOT 32

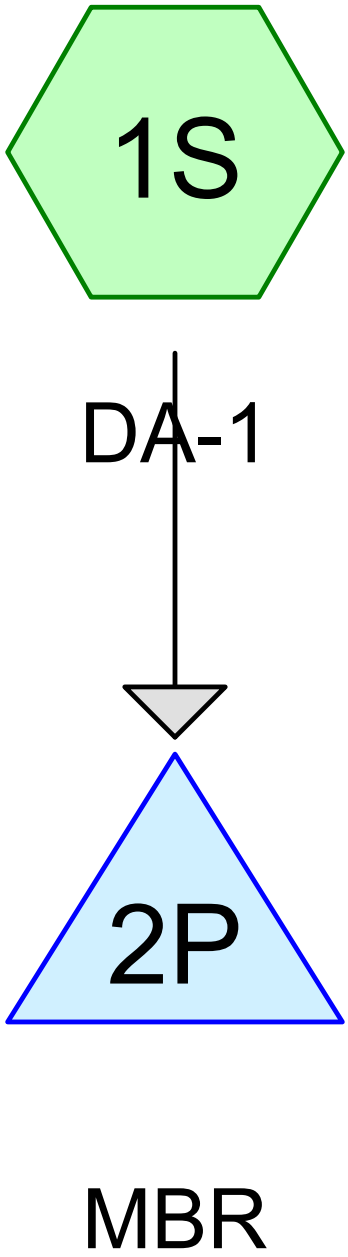
ISSUED FOR:	DATE:	BY:
ESDR SUBMITTAL	08/01/23	BCE

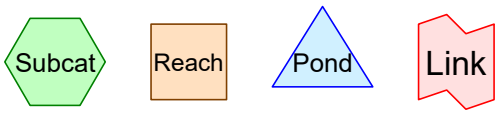
SHEET No. 1 OF 1	DATE: 08/01/2023
SCALE: AS NOTED	JOB No. 230215
	FILE No. 3248

© LANE ENGINEERING, LLC

Date: 08/01/2023 - 2:20pm User: mrajacich Project Manager: BCE
Drawing Path: J:\2023\0200\230215\Civil3D-230215\Dwg\Plots\CDA-PLTS-230215.dwg | Post DAM
XREF File(s): RBS-BASE-2438-230215/CDA-BASE-230215/RLD-BASE-230215/RSF-BASE-230215/RSW-BASE-230215

APPENDIX D
HYDROCAD CALCULATIONS





Routing Diagram for 230215 - Concept HydroCAD
Prepared by {enter your company name here}, Printed 7/28/2023
HydroCAD® 10.00-17 s/n 03788 © 2016 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: DA-1

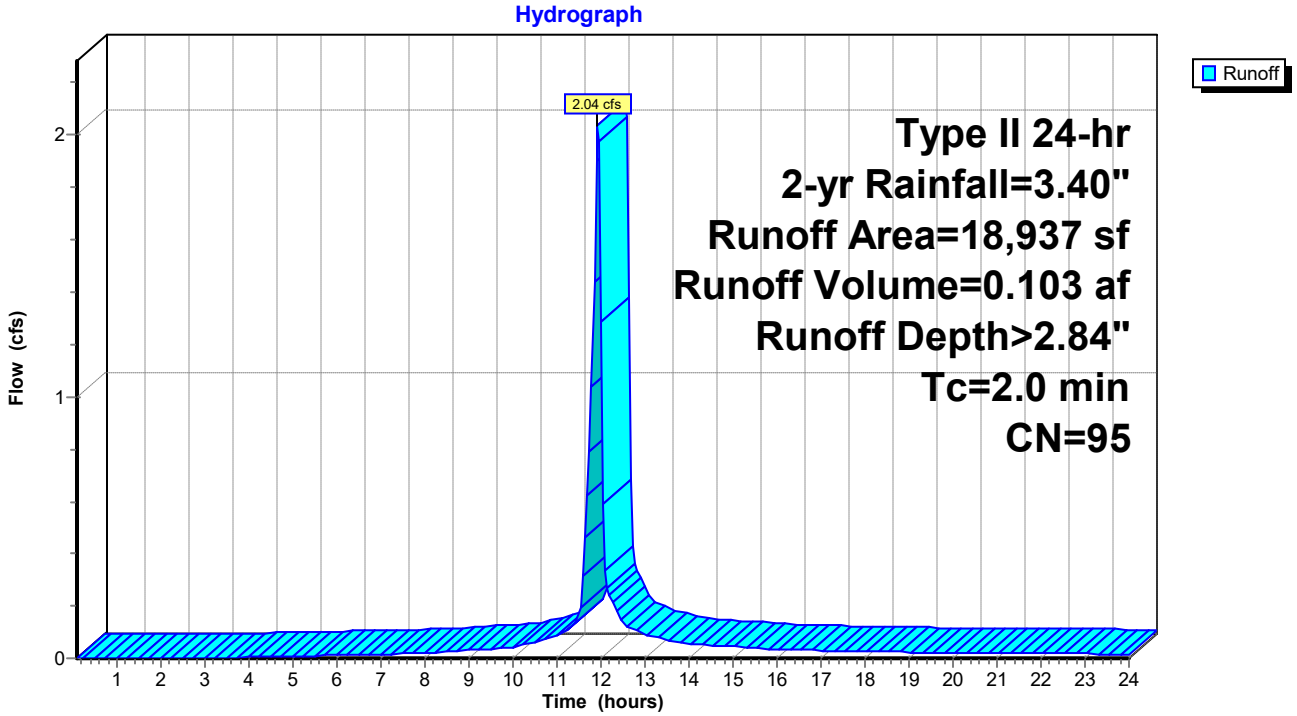
Runoff = 2.04 cfs @ 11.93 hrs, Volume= 0.103 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.40"

Area (sf)	CN	Description
16,523	98	Roofs, HSG D
2,414	74	>75% Grass cover, Good, HSG C
18,937	95	Weighted Average
2,414		12.75% Pervious Area
16,523		87.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					**Direct Entry,**

Subcatchment 1S: DA-1



Summary for Pond 2P: MBR

Inflow Area = 0.435 ac, 87.25% Impervious, Inflow Depth > 2.84" for 2-yr event
Inflow = 2.04 cfs @ 11.93 hrs, Volume= 0.103 af
Outflow = 2.00 cfs @ 11.95 hrs, Volume= 0.066 af, Atten= 2%, Lag= 1.4 min
Primary = 2.00 cfs @ 11.95 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Peak Elev= 52.65' @ 11.95 hrs Surf.Area= 1,328 sf Storage= 1,771 cf

Plug-Flow detention time= 177.1 min calculated for 0.066 af (64% of inflow)
Center-of-Mass det. time= 78.0 min (851.0 - 773.0)

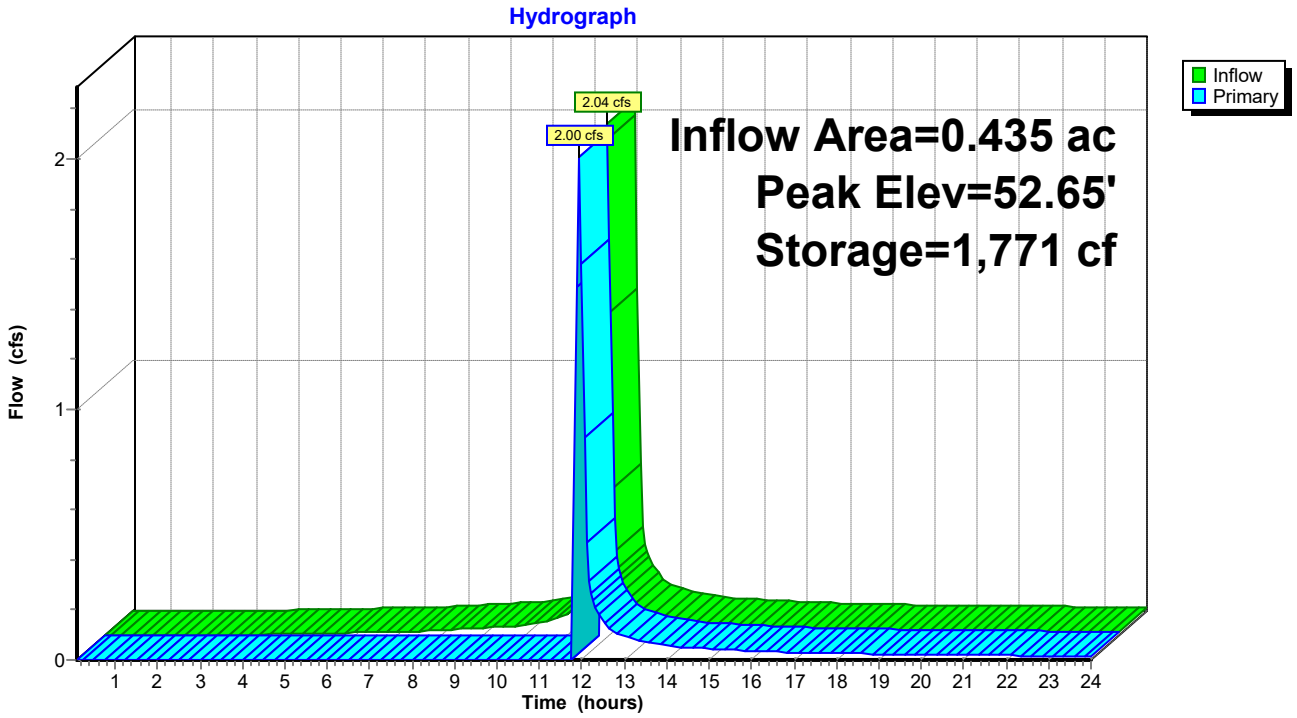
Volume	Invert	Avail.Storage	Storage Description
#1	49.49'	3,091 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.49	734	0.0	0	0
49.50	734	40.0	3	3
51.50	734	40.0	587	590
51.51	734	100.0	7	597
53.50	1,772	100.0	2,493	3,091

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round Culvert** L= 160.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.50' / 49.00' S= 0.0031 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	52.50'	**10.7' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=1.98 cfs @ 11.95 hrs HW=52.65' (Free Discharge)
└─**1=Culvert** (Passes 1.98 cfs of 10.15 cfs potential flow)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.98 cfs @ 1.26 fps)

Pond 2P: MBR


Hydrograph
Inflow
Primary
2.04 cfs
2.00 cfs
Inflow Area=0.435 ac
Peak Elev=52.65'
Storage=1,771 cf
Flow (cfs)
0
1
2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Time (hours)

Summary for Subcatchment 1S: DA-1

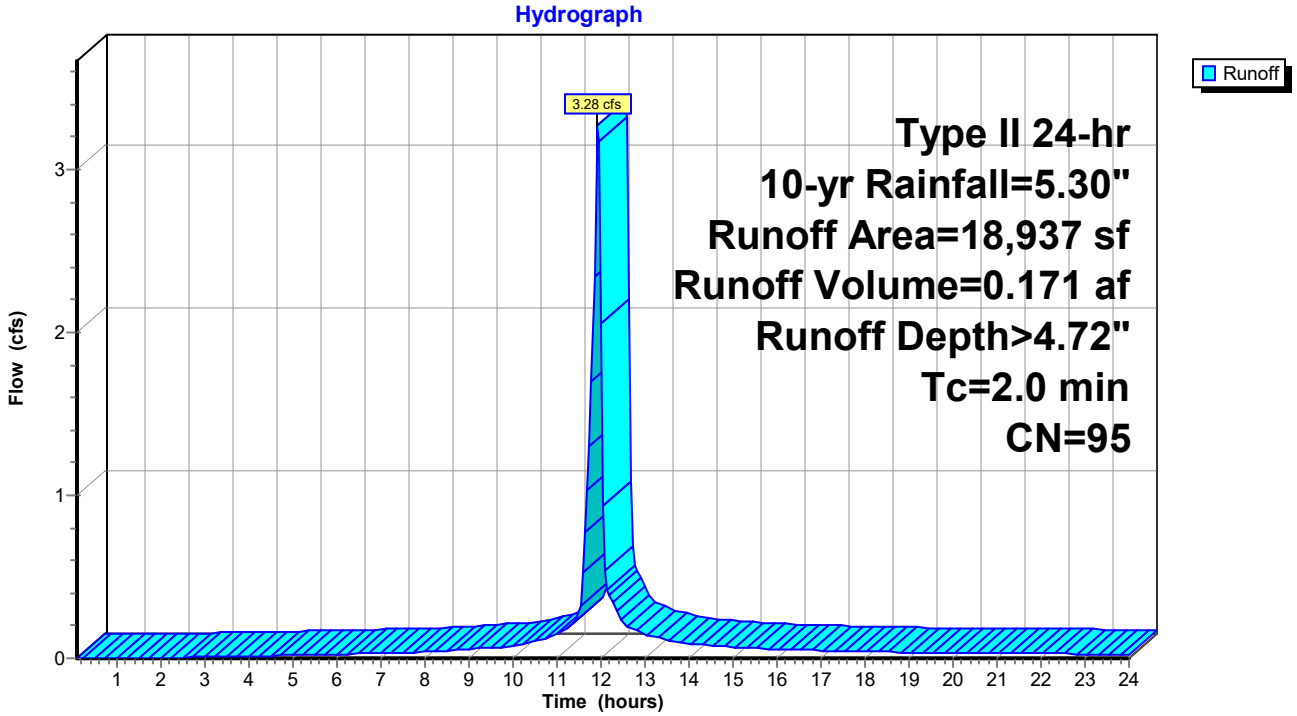
Runoff = 3.28 cfs @ 11.93 hrs, Volume= 0.171 af, Depth> 4.72"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.30"

Area (sf)	CN	Description
16,523	98	Roofs, HSG D
2,414	74	>75% Grass cover, Good, HSG C
18,937	95	Weighted Average
2,414		12.75% Pervious Area
16,523		87.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					**Direct Entry,**

Subcatchment 1S: DA-1



Summary for Pond 2P: MBR

Inflow Area = 0.435 ac, 87.25% Impervious, Inflow Depth > 4.72" for 10-yr event
Inflow = 3.28 cfs @ 11.93 hrs, Volume= 0.171 af
Outflow = 3.20 cfs @ 11.94 hrs, Volume= 0.134 af, Atten= 2%, Lag= 0.8 min
Primary = 3.20 cfs @ 11.94 hrs, Volume= 0.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Peak Elev= 52.70' @ 11.94 hrs Surf.Area= 1,356 sf Storage= 1,844 cf

Plug-Flow detention time= 140.7 min calculated for 0.134 af (79% of inflow)
Center-of-Mass det. time= 58.8 min (819.1 - 760.3)

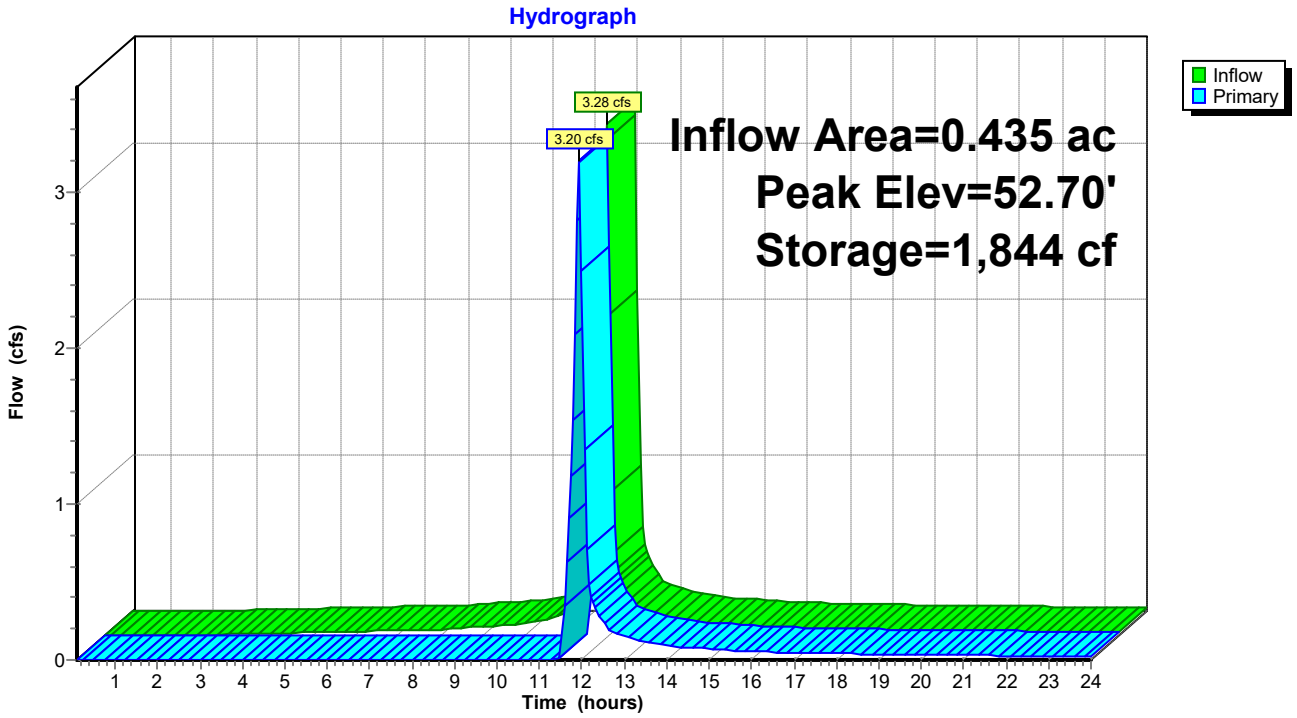
Volume	Invert	Avail.Storage	Storage Description
#1	49.49'	3,091 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.49	734	0.0	0	0
49.50	734	40.0	3	3
51.50	734	40.0	587	590
51.51	734	100.0	7	597
53.50	1,772	100.0	2,493	3,091

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round Culvert** L= 160.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.50' / 49.00' S= 0.0031 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	52.50'	**10.7' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=3.13 cfs @ 11.94 hrs HW=52.70' (Free Discharge)
└─**1=Culvert** (Passes 3.13 cfs of 10.27 cfs potential flow)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.13 cfs @ 1.46 fps)

Pond 2P: MBR


Hydrograph
Inflow
Primary
3.28 cfs
3.20 cfs
Inflow Area=0.435 ac
Peak Elev=52.70'
Storage=1,844 cf
Flow (cfs)
0
1
2
3
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Time (hours)

Summary for Subcatchment 1S: DA-1

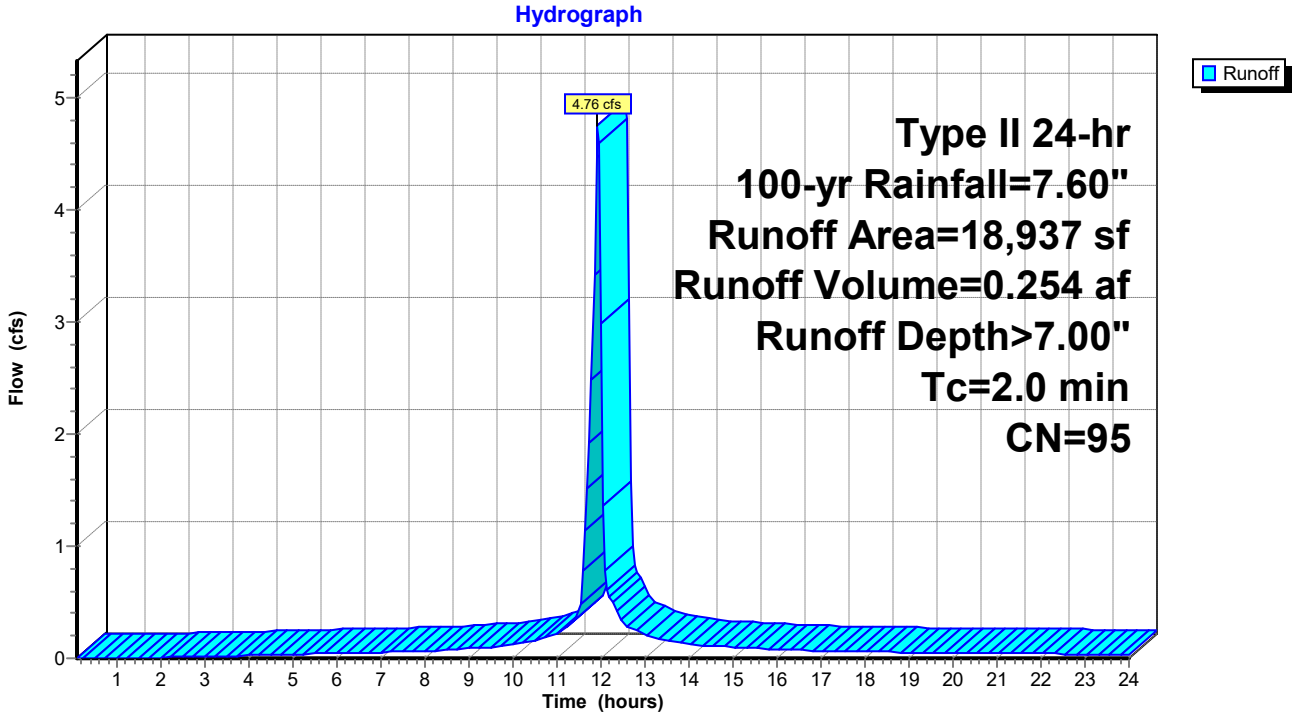
Runoff = 4.76 cfs @ 11.93 hrs, Volume= 0.254 af, Depth> 7.00"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=7.60"

Area (sf)	CN	Description
16,523	98	Roofs, HSG D
2,414	74	>75% Grass cover, Good, HSG C
18,937	95	Weighted Average
2,414		12.75% Pervious Area
16,523		87.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					**Direct Entry,**

Subcatchment 1S: DA-1



Summary for Pond 2P: MBR

Inflow Area = 0.435 ac, 87.25% Impervious, Inflow Depth > 7.00" for 100-yr event
Inflow = 4.76 cfs @ 11.93 hrs, Volume= 0.254 af
Outflow = 4.66 cfs @ 11.94 hrs, Volume= 0.217 af, Atten= 2%, Lag= 0.7 min
Primary = 4.66 cfs @ 11.94 hrs, Volume= 0.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.10-24.00 hrs, dt= 0.05 hrs
Peak Elev= 52.76' @ 11.94 hrs Surf.Area= 1,386 sf Storage= 1,924 cf

Plug-Flow detention time= 117.2 min calculated for 0.217 af (86% of inflow)
Center-of-Mass det. time= 51.1 min (802.7 - 751.6)

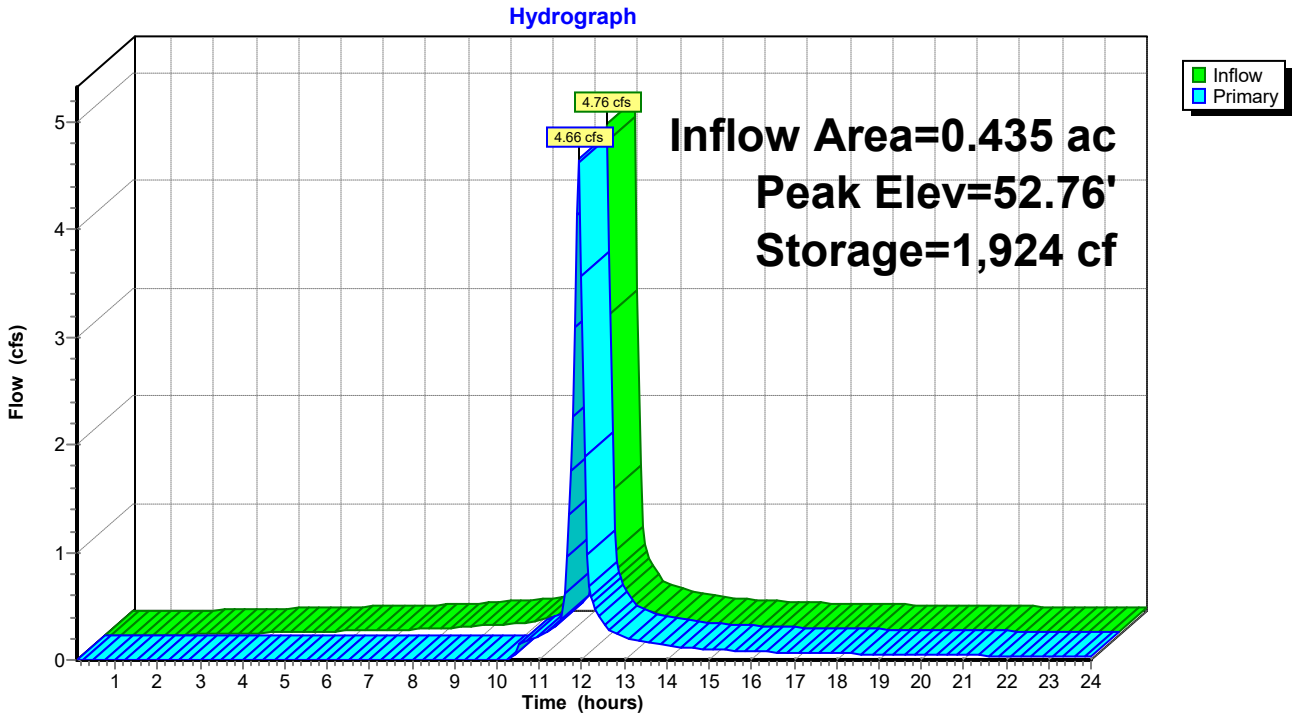
Volume	Invert	Avail.Storage	Storage Description
#1	49.49'	3,091 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.49	734	0.0	0	0
49.50	734	40.0	3	3
51.50	734	40.0	587	590
51.51	734	100.0	7	597
53.50	1,772	100.0	2,493	3,091

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round Culvert** L= 160.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 49.50' / 49.00' S= 0.0031 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	52.50'	**10.7' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)

Primary OutFlow Max=4.54 cfs @ 11.94 hrs HW=52.76' (Free Discharge)
└─**1=Culvert** (Passes 4.54 cfs of 10.40 cfs potential flow)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 4.54 cfs @ 1.66 fps)

Pond 2P: MBR


Hydrograph
Inflow
Primary
4.76 cfs
4.66 cfs
Inflow Area=0.435 ac
Peak Elev=52.76'
Storage=1,924 cf
Flow (cfs)
0
1
2
3
4
5
Time (hours)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-998 has been filed on behalf of Society of St. Vincent de Paul at 29533 Canvasback Drive to request Sketch Site Plan approval for a proposed 2,400 square foot building addition and parking lot expansion.

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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:		Creation Date:	**08/30/23**
		Ad Date:	**09/06/23**
		Class:	**10**
Name:	**Joanne Drummer**	Ad ID:	
Company:	**TOWN OF EASTON (L)**	Ad Taker:	**AHALL**
Address:	**PO Box 520**	Sales Person:	**503**
	EASTON, MD 21601	Words:	**522**
		Lines:	**92**
		Agate Lines:	**405**
Telephone:	**(410) 822-2525**	Depth:	**11.25**
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	09/06/23	09/06/23		

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC
      c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004,
      Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849,
      Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

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

Date of Hearing: September 21, 2023

4g

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **PUD Application on Lands of Elliott Road, LLC**

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: Mallard Construction Group , Inc. and Elliott Road, LLC

DOCUMENT CREATED ON: September 12, 2023

PURPOSE: The applicant, Mallard Construction Group, Inc. and Elliott Road, LLC (collectively), is seeking sketch site approval for an amendment to their approved PUD as well as a positive recommendation to the Town Council from the Planning Commission. The applicant proposes to revise the approved 120-unit multifamily residential development with two 3-story apartment buildings and two 4-story apartment buildings to add an additional sixteen (16) units to the project, resulting in a total of 136 multifamily apartment units. The Applicant submitted a Planned Unit Development ("PUD") that was approved by the Town Council through Ordinance No. 778 on March 7, 2022.

RECOMMENDATION: Should the Planning Commission approve the sketch site plan as well as make a positive recommendation to the Town Council, staff recommends proposed conditions (see below).

APPLICATION INFORMATION:	
APPLICANT: Mallard Construction Group , Inc. Elliott Road, LLC	**REPRESENTATIVE:** Lane Engineering, LLC: Brett Ewing Elliott Road, LLC: Jim DiDonato

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 109, Grid 0000, Parcels 2866, Lot 9	6.84

ACCEPTANCE DATE: August 28, 2023	**LOCATION:** Elliott Road, Map 109, Parcel 2866
EXISTING ZONING PUD	**EXISTING LAND USE:** Residential
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Commercial

CONTEXT:

Location/Site Access – The subject property located at the corner of Matthewstown Road and Elliott Road. The site's entrance will be accessed via Elliott Road.

Existing Conditions – The subject property is used for agricultural purposes.

Surrounding Properties

- 29407 Matthewstown Road - R-10A
- Pintail Drive, Parcel 4582 - BC
- 29466 Pintail Drive - CG
- 8275 Elliott Road - CG
- Elliott Road, Parcel 2864
- 8338 Elliott Road - CG
- 29368 Matthewstown Road - CG
- 29376 Matthewstown Road - CG
- 29382 Matthewstown Road - CG
- 29392 Matthewstown Road - CG

Figure 1: Vicinity Map

PROPOSAL: The applicant is proposing to construct two 3-story apartment buildings and two 4-story apartment buildings with a total of 136 residential units and associated development infrastructure. Since approval of the initial PUD, sidewalks have been installed along the eastern side of Elliott Road to provide pedestrian access from residential developments in the area to retail businesses to the south. The Applicant is, as part of the initial approval, obligated to reimburse the Town for costs related to the sidewalk. Amenities on the property will include a community clubhouse, pickleball courts, pet exercise area, playground area, and open space, including a large passive field for resident use on the southern portion of the site. The Project initially proposed a pool adjacent to the amenities building and leasing office. However, the applicant is proposing to replace the pool with pickleball courts and a pet exercise area as now depicted by the site plan submitted with this narrative. The three-story buildings will include twelve (12) one-bedroom units, twelve (12) two-bedroom units, and six (6) three-bedroom units. The four-story buildings will include sixteen (16) one bedroom units, sixteen (16) two-bedroom units, and six (6) three-bedroom units. The current proposed density is 19.88 dwelling units per acre.

BACKGROUND: The subject property has already received approval for 120 units pursuant to Ordinance No. 778, effective on March 27, 2023, and has been deemed to satisfy the criteria applicable to the use and PUD requirements. The applicant submitted a revised ESDR application on August 21, 2023 with 16 additional dwelling units.

OUTSTANDING ISSUES:

1. Traffic Impact Analysis - The revised March 2023 Traffic Impact Analysis (TIA) and Traffic Memo, summarizing the traffic trips generated by the apartments, were submitted by the applicant on August 2, 2023. The documents are still under review with the State Highway Administration. It should be noted that the additional AM and PM trips generated between the approved 120 apartment units and the proposed 136 apartment units are minimal.

ZONING ANALYSIS:

A. Purpose and Intent

Section 28-701 A.

> ***The purpose of a PUD District is to provide for carefully planned residential, mixed use and certain commercial developments at appropriate locations within the Town of Easton. It is the intent of this Section to allow all aspects of a PUD District to be subject to public review and control by the Town with specific provisions to be made on a case-by-case basis for adequate open space, architectural appearance, the height, bulk and location of buildings, required public facilities, and a variety of housing types, densities, and/or compatible commercial or industrial uses as a part of a detailed development plan.***
>
> ***Not all locations in the Town are suitable for PUD development and the nature, size, scale or intensity of proposed uses may cause a particular site not to be suitable for a specific PUD proposal. Therefore, there is no general presumption that an application for such a use at a particular location is valid, inures to the general benefit of the Town or is in compliance with the Town's Comprehensive Plan. Instead, each application will be evaluated according to its particular location and the degree to which the developer is willing or able to propose a development plan which furthers the goals and objectives of this Section and the Ordinance generally.***

B. Location

> ***Section 28-701 B. The PUD is a floating zone. That means that while provisions and regulations are made to govern development within any PUD District, no such District will be pre-mapped on the Zoning Map. A PUD District may be established in any parent zoning district provided the requirements outlined in this subsection are met.***

Analysis - According to § 28-701.I of the Zoning Ordinance, proposed increases in residential density to an approved PUD is a material amendment, which is subject to review by the Planning Commission and Town Council according to the procedures set forth in § 28-701. The process for reviewing a material amendment to a PUD Amendment is similar to that for a site plan except that it requires approval of the Town Council. The plan that you review basically serves as the sketch-level submission.

The current process of the Town of Easton Zoning Ordinance is for the Planning and Zoning Commission to review the material submitted and forward a recommendation to the Mayor and Town Council. The Council may include recommended changes to the PUD sketch plan or recommended conditions of approval that the Commission deems necessary to better insure compliance with the Comprehensive Plan. In reaching its conclusion, the Commission shall make recommendations addressing the factors in § 28-701.H(2) (see below).

C. Off-Street Parking

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Residential Buildings				
4	Multifamily	1 per du	2 per du	0.5 per du	

Total Site Parking Required:

Multifamily:
1 Space per dwelling unit required-Minimum
136 units x 1 = 136 spaces required-Minimum
2 Space per dwelling unit required-Maximum
136 units x 2 = 272 spaces required-Maximum
Total spaces provided: 178

Bicycle Spaces:
0.5 per dwelling unit required
136 units x 0.5 = 68 bicycle spaces
Total bicycle spaces required: 68

Analysis- The total minimum spaces required is 136 spaces. The site provides 178 spaces.

D. DEVELOPMENT STANDARDS

Section 28-701.G.
Applications for any type of Planned Unit Development shall meet the following requirements:

(1) The area proposed for a planned unit development shall be in one (1) ownership, or, if in several ownerships, the proposal shall be filed jointly by all the owners of the property included in the development plan. Applicant's response: *The Property is owned by a single entity and the owner will appear at necessary hearings in this matter.*

(2) The site shall be of a configuration suitable for the development proposed. Applicant's response: *The site includes 6.840 acres and has direct access onto Elliott Road. The planned layout and site design proposed provide for a functional and well-designed residential community. The configuration proposed restricts parking to the interior of the Property and provides for attractive and well-landscaped residential buildings.*

(3) Public water and sewerage shall be available, although it may be made available in conjunction with the development of the PUD. Applicant's response: *Adequate water and sewer services to serve the proposed Project exist and are adjacent to the property. The Applicant will provide the utility extensions that are necessary to connect the Project to Town services and will work with Easton Utilities to ensure that all permits and approvals are granted.*

(4) The site shall be located adjacent to adequate transportation facilities capable of serving existing traffic and that expected to be generated by the proposed development. Private roads may only be approved in commercial and multifamily projects or portions of projects. Such roads shall be internal to the development. Private roads shall comply with any standards developed and adopted for such roads by the Town Council. The Town shall bear no responsibility for construction or maintenance of private roads. Development on private roads may not be entitled to all Town services. Applicant's response: *The Project will have a single access from Elliott Road, a Town owned street. A Traffic Impact Study ("TIS") was conducted by Traffic Concepts, Inc. in September 2021 and revised in March, , 2023, which is included with the submittal of this Application. The TIS demonstrates that all intersections of interest near the Project will continue to operate at a Level of Service (LOS) of* "C" *after the Project is completed. The Maryland State Highway Administration ("SHA") guidelines recommend that all intersections need to operate at a LOS of "D" or better. The TIS incorporates all existing traffic flows, has utilized actual traffic count data in the area, and has incorporated traffic impacts from proposed or developing projects in the area. The existing roads and traffic signaling in the area are adequate to serve the Project and its residents and development of the Project will not place an undue burden on public roadways. The internal driving and parking surfaces serving the Project comply with applicable Town standards. Additionally, since approval of Ordinance No. 778 SHA has undertaken efforts to analyze Matthewstown Road to address Town and Council concerns about traffic queuing. The additional sixteen (I 6) units have a negligible impact on the traffic impacts of the Project.*

(5) The owners or developers must indicate that they plan to begin construction of the development within two (2) years after final approval. If there is no action on the part of the applicant at any point in the process for a period of two (2) years, the zoning of the site shall revert to its previous classification unless a time extension is requested by the developer and granted by the Planning and Zoning Commission. For projects constructed in parts or phases, the PUD approval applicable to any portion not improved in accordance with said PUD approval, shall expire if no development activity occurs for a period of five years. Applicant's response: *The Applicant intends to commence construction within two (2) years of final approval. Applicant is requesting that the Council, in light of the time incurred in proposing this minor amendment and receiving site plan approval, confirm that the two (2) year construction period commence upon approval of this amendment.*

(6) The setback, lot size, lot coverage, height, minimum frontage, minimum open space, and yard requirements shall be established for each individual project by the Town Council in the ordinance granting the application. The Planning and Zoning Commission shall make recommendations to the Town Council with regard to these requirements. The Town

recognizes that it is necessary and encourages such uniquely established standards. Applicant's response: *The minimum bulk requirements for the Project will remain consistent with the established standards for the Town 's CG zoning district and the supplemental standards for multifamily buildings as identified in zoning code Section 28-1007.1.14. The proposed four-story buildings are 49'-3" at their highest point and the three-story buildings already approved are 46 '-8 ". The Project will remain under the 50' maximum height prescribed in the CG zoning district. No additional relief is requested.*

(7) Off-street parking shall be provided for each individual use in the planned unit development in accordance with the requirements of Section 1001. Mixed-use PUD's that integrate coordinated pedestrian and bicycle circulation systems throughout the development, shall be permitted to reduce the required off-street parking by 20% of the required standard without the need for a parking variance, waiver, or deferral. Applicant's response: *Off street parking within the Project will comply with Town standards. The Town code requires a minimum of one parking space per unit (136 spaces) and a maximum of two parking spaces per unit (272 spaces). The Project proposes 178 spaces, which is well above the minimum parking requirement for the multifamily community. The parking lot is designed to accommodate emergency vehicles, trash, school buses, and delivery trucks.*

(8) No more than 50% of the off-street parking area for the entire property of a major retail or shopping center use, shall be located between the front façade of the principal building(s) and the primary abutting street. Applicant's response: *Not Applicable.*

In addition, some development standards will vary according to the type of PUD in accordance with the following Table:

Standard	**PUD Sub District**		
	PUD- General	**Approved 120 Units**	**Proposed 136 Units**
Minimum Size*	**5 acres**	6.84 acres	6.84 acres
Maximum Size	**N/A**	N/A	N/A
Maximum Residential Density (per gross residential acre)**	**16 du/acre********	17.54 du/ac	19.88 du/ac

Minimum Open Space Requirement*	**30% of total gross area shall be developed as recreational areas or designated for common use of the residents of the PUD**	Required: 30% of total gross area = 2.052 acres. Proposed: 34.8% of total gross area = 2.38 acres.	Required: 30% of total gross area = 2.052 acres. Proposed: 40.7% of total gross area = 2.79 acres.
Applicability	**Lands not qualifying as Infill or Redevelopment**	Lands not qualifying as Infill or Redevelopment	Lands not qualifying as Infill or Redevelopment

Smaller sites may be permitted when it is found that the proposed PUD is compatible with existing development in the area and does not disrupt the orderly expansion of the transportation system of the Town. Applicant's response: *N/A*

****The Town Council may consider projects with a density of up to 25% more than the maximum stated in this table upon a finding that such increased density is in keeping with the existing or intended character of the neighborhood (as expressed in the Comprehensive Plan or, if applicable, any adopted Small Area Plans) and that any potential detrimental impacts from such increased density are ameliorated to the satisfaction of the Council. Additionally, if residential use is part of a vertically-mixed use project (i.e., non-residential uses are present on the ground floor with residential units on non-ground floors), there shall be no limit on the residential density.*** Applicant's response: *As explained above, Applicant is requesting approval of the PUD allowing a density of 19.88 dwelling units per acre. The 3.88 dwelling units per acre over the otherwise prescribed 16 dwelling units per acre will not result in any detriment to neighboring properties or nearby traffic patterns and public right of ways. The Council has already approved the Project to exceed the 16 unit specification by 1.54 units per acre and the request now before the Council is minor in nature. The Property is situated between commercial uses and lower-density residential uses and forest to the east and northeast and is perfectly suited for higher-density development to create a tiered development scheme moving further from the heart of Easton and Route 50. Approval of the requested density is consistent with the goals of the Comprehensive Plan and results in provision of housing that the Town of Easton is seeking for its current and future residents .*

*****The Town Council may consider projects with less than the minimum open space required as specified in this Table, upon a finding that unique circumstances or conditions exist which warrant such a reduction and further provide that the applicant addresses the open space***

requirement in another acceptable means. Applicant's response: *Applicant has designed the Project to provide significant open space and meaningful in-site improvements to residents. A minimum of 2.052 acres of open space is required to meet the 30% open space requirement. The Project will provide 2.79 acres of open space (40.7%, not including incidental parking lot areas). The open space that is provided includes a large grass field that can be used for a multitude of passive outdoor activities and a playground for children in the community that is directly adjacent to the community clubhouse and pickle ball area.*

*******In the PUD General sub district, for any residential units proposed in excess of the maximum residential density permitted in base residential zoning districts (3.5 du/ac), at least 25% must be devoted to affordable housing, or the developer may contribute a fee-in-lieu to an entity to be determined by the Town.*** Applicant's response: *Applicant complies with this standard as defined by the Town Code and Easton Affordable Housing Board. At least twenty five percent (25%) of the units proposed in excess of the maximum residential density permitted in the base residential zoning district (3.5 du/acre) will be devoted to affordable housing.*

Development shall also meet these additional Supplemental Use Standard requirements from Section 28-1007.1.14:

14. Multi-Family Apartment Complex

a. Multi-family apartment complexes dwelling shall be constructed in accordance with an approved Site Plan prepared under the provisions of Section 28 – 901 of this Ordinance. Applicant's response: *The Planning Commission granted Sketch Plan approval at its November 18, 2021 meeting and final site plan approval for the 120-unit project has been granted by the Town. The Project complies with the requirements of the Ordinance.*

b. At least twenty-five (25%) percent of the gross development area shall be reserved as common open space, except for projects developed in the CBD Zoning District, in which case this standard shall not apply. Applicant's response: *PUD provisions require at least thirty percent (30%) open space. The Project is providing 40.7% open space on the property.*

c. The setback requirements for multi-family apartment complexes shall be determined by the development standards for the zoning district in which the project is located except as hereby modified:

i When more than one (1) apartment building is constructed, all buildings shall collectively adhere to the front setback requirements of the district in which they are located, plus five (5) feet per story over two (2) stories, or portion thereof.

ii When more than one (1) apartment building is built, no building shall be closer than twenty-five (25) feet from any other apartment building that is part of the complex.

iii. No apartment structure shall be constructed at a distance of less than twenty (20) feet from any adjoining property lines; except for such structures constructed in the CBD district, wherein the development standards for that district shall apply. Applicant's response: *The Project complies with the setback requirements applicable to Multifamily development in the underlying zoning district.*

d. ***When more than one apartment building is constructed, external walkways shall be paved and lighted.*** Applicant's response: *External walkways will be paved and lighted.*

e. ***In the event that swimming facilities are designed as a part of the project, these facilities shall be enclosed by a fence not less than six (6) feet high.*** Applicant's response: *N/A. No swimming pool is proposed.*

f. ***All areas not utilized for building or off-street parking shall be landscaped and maintained in accordance with Section 28 – 1014 of this Ordinance.*** Applicant's response: *As depicted by the Site Exhibit submitted with this application, all areas not proposed for building or parking will be landscaped and maintained in accordance with Section 28-1014 of the Ordinance.*

g. ***All buildings within the multi-family apartment complex shall be of compatible architectural design.*** Applicant's response: *The four (4) proposed buildings are architecturally compatible and use the same materials and color schemes to ensure an aesthetically pleasing development. The clubhouse will utilize similar or identical materials and colors to ensure compatibility.*

h. ***Architecture shall be compatible among the units within the development and harmonious with the existing architecture of the Town of Easton.*** Applicant's response: *The proposed architecture is consistent with projects and developments within the Town of Easton. The buildings use a staggered facade, provide unit balconies, and take advantage of a variety of colors and materials to ensure that the development is attractive both to the public at large and its residents.*

i. ***Public water and sewerage systems must be available to serve the project.*** Applicant's response: *Public water and sewer are available to serve the Project and the Applicant will work with Easton Utilities and the Town to ensure that all necessary permits and approvals are issued for the Project.*

j. ***The maximum permitted density shall be as follows:*** Applicant's response: *N/A*
   i. ***In R-7A - 8 dwelling units per acre.***
   ii. ***In R-10A and R-10M Districts - 5 dwelling units per acre.***
   iii. ***In the CBD Zoning District – 30 dwelling units per acre.***
   iv. ***In the MXW – See Article 3 (Table 312 B) for density Provisions.***

k. ***Side yard setback requirements for apartment buildings adjacent to a single family detached residence or vacant residential lot shall be fifty (50). Parking setback is also fifty (50) feet.*** Applicant's response: *The Project exceeds the required fifty-foot (50') side yard setback requirement from single family residences or vacant residential lots.*

l. ***Rear yard setback requirements for apartment buildings adjacent to a single family residence or vacant residential lot shall be seventy-five (75) feet. The setback for parking***

areas is also seventy-five (75) feet. Applicant's response: *The Project complies with rear yard setback requirements.*

Analysis - The proposed revisions to the site meet the Supplemental Standards.

E. Forest Conservation

The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1, **Forest Conservation Ordinance,** ***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 - Required Afforestation on site is 1.03 acres or 44,866.8 square feet. Forest Conservation was addressed per the May 1, 2023 approved Site Plans . Payment of the $65,812.50 Surety and recording of the Forest Conservation Easement Agreement is pending.

POLICY ANALYSIS:

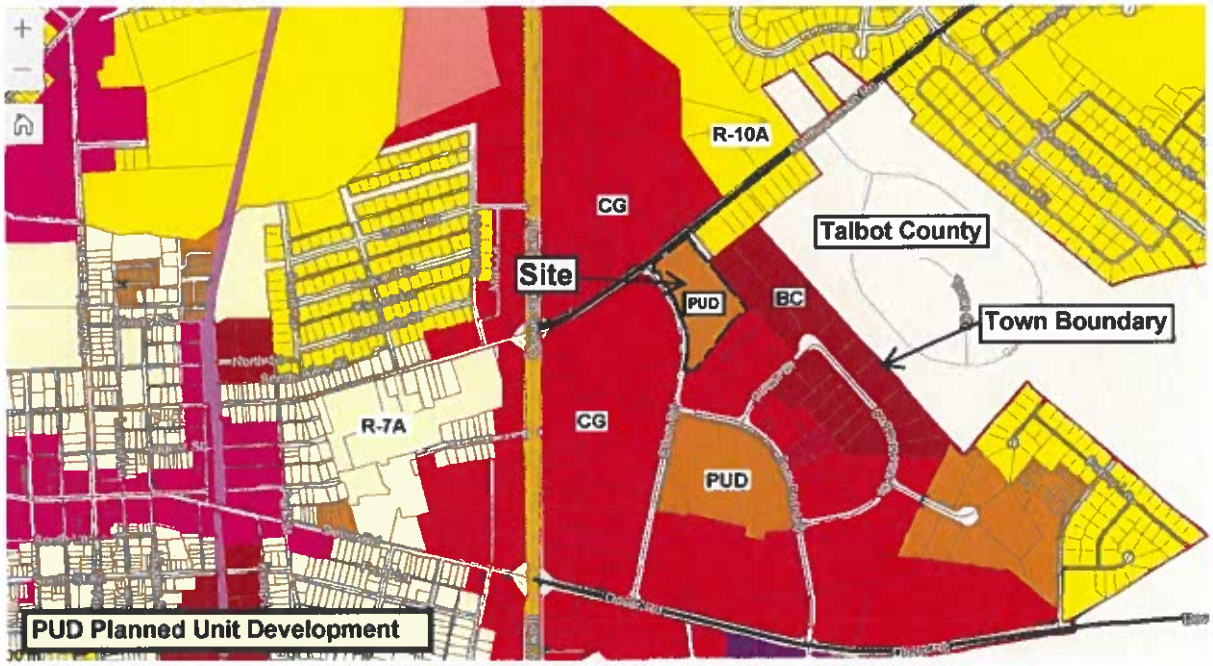


Figure 2: Zoning Map

Section 28-701.H.2
The Planning and Zoning Commission shall review the material submitted and following the presentation from the applicant, shall forward a recommendation to the Mayor and Town Council. The Planning and Zoning Commission's transmittal to the Town Council may include recommended changes to the PUD Sketch Plan or recommended conditions of approval that the Commission deems necessary to better insure compliance with the Comprehensive Plan. In reaching its conclusion as to the merits of the project, the Commission shall make recommendations addressing the following:

a. ***Whether the proposed PUD development conforms to the Town of Easton Comprehensive Plan;***

Analysis - The proposed PUD revisions conform to the Town's Comprehensive Plan.

b. ***Whether the proposed PUD development conforms with all provisions of the Town of Easton Zoning Code which are not proposed for modification subject to the request;***

Analysis - This PUD development conforms with all provisions of the Town of Easton Zoning Code which are not proposed for modification subject to the request.

c. ***Whether the proposed PUD development complies with all Town engineering and design regulations and standards;***

Analysis - The overall development conforms with Town engineering and design regulations and standards. The applicant will need to coordinate with the Town Engineer and State Highway Administration to obtain approval of the revised March 2023 Traffic Impact Study. In addition.the required bicycle spaces to the Site Plan. See Recommended Conditions below.

d. ***Whether the proposed PUD development complies with any other applicable Town, County, State, or Federal regulations, policies or plans, except those standards proposed for modification. If the standards of any jurisdiction other than the Town of Easton are proposed for modification, any PUD project approval, should it subsequently be granted by the Town Council, shall be subject to the applicant successfully obtaining approval of said modification and demonstrating proof of such approval to the Town's satisfaction.***

Analysis - Currently, this PUD development complies with the standards of any jurisdiction other than the Town of Easton. The applicant will need SHA approval prior to Site Plan approval.

e. ***Whether the proposed PUD will be superior to or more innovative than conventional development and how it will provide greater public benefit without additional probable significant adverse impacts to public health, safety or the environment, than would be available through the use of conventional zoning and/or development standards.***

Analysis - The proposed PUD development will promote infill development by providing additional housing types to the area. This development provides an integrated use that is

desirable for the site and its surrounding multiple use properties; ranging from commercial to residential. The development's proximity to multiple use properties will provide greater public benefit without additional probable significant adverse impacts to public health, safety or the environment. The development provides a walkable design to support a pedestrian oriented community, parking, landscaping, stormwater management and forest conservation.

Town of Easton 2010 Comprehensive Plan

PUD PROJECT AMENDMENT - ELLIOTT ROAD APARTMENTS

Applicant's response:
This PUD multi-family housing amendment is consistent with many goals and visions of the Easton Comprehensive Plan (the " Plan") including , but not limited to the following:

- *This PUD implements several of the 12 State Planning Visions cited in SB 273/HB 294 and incorporated by reference in the Plan including at a minimum Visions 1, 3, 4, 5, 7.*

  This PUD provides moderate price point rental housing helping to fulfill the goal found on Page 43, Residential Land uses to create " .... a seamless, interesting, Smart Growth inspired Easton; one Easton, not a collection of suburban residential enclaves." In fact, the location of the Project addresses the tiered development approach contemplated by the Plan, with commercial uses to the west, the multifamily Project located as proposed, and townhome and single-family development to the north and east, moving further from Downtown Easton .

- ***Page 44, Benefits of Mixed Land Uses;*** *PUD accomplishes, "Increase[d] housing options with addition of moderate price point rental housing for more diverse household types ", "Reduce[d] automobile dependence", "Reduce a community's carbon footprint by encouraging walking and biking as an alternative to automobile use ", and "Increase[d] the safety of the neighborhood by putting more eyes on the street".*

- ***Page 45, Under Land Use Goals and Objectives,*** *the PUD implements Goal #5, "slow the demand for more land by increasing the density of future residential areas. At a minimum , " the Smart Growth Priority Funding Area net density of 3.5 units per acre should be achieved in these developments. " This PUD proposes wise use of undeveloped , infill lands inside the Town boundary.*

- ***Page 51, Capacity for Development within Town Limits,*** *this PUD fulfills the Plan goal to, "develop within town limits utilizing infill and renovation development techniques."*

- ***Page 140, Housing goals and Objectives;*** *the PUD is consistent with at least two of the Plan goals, " To insure that housing in Easton is safe, sanitary, structurally sound and safeguards or upgrades neighborhood design; and, "To insure a more heterogeneous mix of price points in future residential projects". This PUD offers moderate price point market rate housing suitable for the young and for seniors looking to live and provide critical population mass to Easton's core.*

Beyond the specific outlined above, this PUD is consistent with the Comprehensive Plan' s intent to promote infill development , renovation and redevelopment within Easton' s current town limits.

Analysis - The revised PUD Amendment is compatible with the Town's Comprehensive Plan. The applicant proposes an additional 16 units to this multifamily development which provides an integrated use that is desirable for the site and its surrounding multiple use properties; ranging from commercial to residential. This infill lot will utilize the existing infrastructure and is deemed desirable from the proximity and location to existing commercial and town amenities. Natural features do not determine the design of the site. However, the applicant has provided adequate Forest Conservation on-site. The parking is directed to the side and rear of the building for this development. The proposed open space exceeds the required amount and provides additional amenities for residential use. The applicant proposes architecture design to provide an aesthetically pleasing appearance that is consistent with the thoughtful design throughout the Town of Easton. Signage shall be minimal. The proposed development is situated between commercial and office space to the west, townhome development to the north and single-family development to the east, providing additional housing types to the area. This development provides a walkable design to support a pedestrian oriented community. The Town has constructed sidewalks along Elliott Road. The Applicant is, as part of the initial approval , obligated to reimburse the Town for costs related to the sidewalk.The site is compatible with the existing uses in this area and is an acceptable use for zoning classification CG.

RECOMMENDED CONDITIONS:
Staff believes the proposed PUD Amendment is consistent with the Town's Comprehensive Plan and recommends that you indicate such to the Town Council. In terms of suggestions relative to the revised site plan itself, Staff suggests the following:

- The applicant will need to coordinate with the Town Engineer and State Highway Administration to obtain approval of the revised March 2023 Traffic Impact Study.
- Add the required bicycle spaces to the Site Plan.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the sketch site plan and forward a positive recommendation of the PUD Amendment to the Town Council, subject to staff's Conditions of Approval.

OR

2. I move that the Planning Commission forward the application to the October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2023.08.23 ESDR Determination Letter 8286 Elliott Road, paper copy & PDF
2. 2023.08.29 Building & Rendering Updates, paper copy & PDF
3. 2023.08.29 Letter to Town Council, paper copy & PDF
4. 2023.08.29 PUD Amendment Application, paper copy & PDF
5. 2023.08.29 PUD Amendment Submittal Letter, paper copy & PDF
6. 2023.08.29 Site Exhibit, paper copy & PDF
7. 2023.08.29 Traffic Impact Study March 2023, paper copy & PDF
8. 2023-08-29 Elliot RD PUD Traffic Memo - 136 Units , paper copy & PDF

MDSW MCALLISTER DETAR SHOWALTER & WALKER

Brendan S. Mullaney
bmullaney@mdswlaw.com
(410) 820-0250 (Direct)

August 1, 2023

VIA HAND DELIVERY
Town of Easton Planning Commission
c/o Miguel Salinas, Director of Planning and Zoning
14 South Harrison Street
Easton, Maryland 21601

Re: PUD Amendment Submittal – Elliott Road, Mallard Construction Group, Inc. and Elliott Road, LLC (Owner Entity) 136-unit apartment complex with community clubhouse and amenities

Mr. Salinas:

On behalf of the property owner and developer of approximately 6.84 acres of vacant land located on Elliott Road, we enclose an updated, complete PUD amendment submittal package for the Planning Commission and Council to review. As explained herein, the applicant is proposing to construct sixteen (16) units in addition to the 120-unit multifamily development approved in Ordinance No. 778 and seeks PUD amendment approval from the Town Council. We hope the documents in this package and subsequent presentations will help confirm that this amendment is appropriate for this site, beneficial to the Town and, once completed, will enhance a great asset to the community. We include the following:

- PUD Amendment Application and $8,000 submittal fee, with letter requesting fee reduction.
- Building Elevations and Floor Plans
- Traffic Impact Study conducted by Traffic Concepts, Inc in September 2021 and revised March, 2023.
- Memorandum describing PUD, Zoning standard compliance.
- Comprehensive Plan Consistency Summary narrative

The Applicant requests that in light of the detailed, lengthy, and recent review of this Project as approved for 120 units by all Town agencies, the Project be permitted to forego an ESDR meeting and be scheduled for the Planning Commission's next available agenda. Please contact me at 410.820.0250 to confirm the process and scheduling.

Sincerely,

Brendan S. Mullaney

RECEIVED
AUG 29 2023
TOWN OF EASTON

MCALLISTER
DETAR
SHOWALTER
& WALKER

Brendan S. Mullaney
bmullaney@mdswlaw.com
(410) 820-0250 (Direct)

August 1, 2023

To: Easton Town Council
From: McAllister, DeTar, Showalter, & Walker, LLC on behalf of Mallard Construction Group, Inc. and Elliott Road, LLC (Developer and Property Owner)

Re: PUD Application on lands of Elliott Road, LLC (the "Project")

Dear Council Members:

McAllister, DeTar, Showalter & Walker LLC submits this memorandum on behalf of Mallard Construction Group, Inc. and Elliott Road, LLC (collectively, "Applicant") along with various plans, renderings, and information related to the approved 120-unit multifamily residential development on the corner of Elliott Road and Matthewstown Road. The Applicant is proposing an amendment to add an additional sixteen (16) units to the project resulting in a total of 136 multifamily apartment units. The Applicant submitted a Planned Unit Development ("PUD") application in 2021 which was subsequently approved by the Town Council through Ordinance No. 778 on March 7, 2022. While the application was pending and in the review process with the Town, the Town adopted revisions to the Code that changed, among other things, parking requirements applicable to multifamily housing. Due to these changes, the Project can now comfortably support 136 units on the Property. The following comprises a narrative summary of the Project and its compliance with Article 8 of the Town of Easton Zoning Ordinance.

Background

The subject property is designated Parcel 2866, Lot 9 on Talbot County Tax Map 109 (the "Property") and contains 6.840 acres of land. The Property is owned by Elliott Road, LLC. The Project has already received approval for 120 units pursuant to Ordinance No. 778 and has been deemed to satisfy the criteria applicable to the use and PUD requirements. The Property lies within the Town of Easton and is zoned Commercial General (CG).

The current use of the Property is agricultural, with direct frontage on Matthewstown Road and Elliott Road, a Town-owned street. The site is adjacent to commercial activities to the north, south and west and existing single-family residential development to the east and a townhome development to the north.

The Town of Easton currently faces a severe shortage of affordable housing and has undertaken multiple initiatives to bring developers to the area to build houses and projects that will address the needs of the community. Mallard Construction is a Maryland developer located on the Eastern

Shore who develops, owns, and manages multifamily properties. Their attention to amenities and the unique needs of each community that they serve is paramount. For instance, recognizing the need for police officers to find affordable, comfortable housing, Mallard Construction Group offers discounted rents for both local and State active police officers who live in their communities. The Project will provide one, two, and three-bedroom apartment units for workforce housing that will serve the Town and surrounding area. Twenty Four (24) of the units already approved meet the affordability requirement of Section 28-701.G.8 of the Code. Likewise, four of the additional sixteen (16) units will meet the affordability requirement.

The Easton Planning Commission reviewed the Project at its November 18, 2021 meeting and unanimously recommended approval of the proposed PUD application. It was subsequently approved by the Town Council on March 7, 2022.

Development Proposal

As shown on the enclosed Site Exhibit, the Applicant proposes to improve the Property with two 3-story apartment buildings and two 4-story apartment buildings with a total of 136 residential units and associated development infrastructure (the "Project"). Since approval of the Project, sidewalks have been installed along the eastern side of Elliott Road to provide pedestrian access from residential developments in the area to retail businesses to the south. The Applicant is, as part of the initial approval, obligated to reimburse the Town for costs related to the sidewalk. Amenities on the Property will include a community clubhouse, pickle ball courts, pet exercise area, playground area, and significant open space, including a large passive field for resident use on the southern portion of the Property. The Project initially contemplated a pool adjacent to the amenities building and leasing office but in response to market research and new input from residents and industry professionals, Applicant is proposing to replace the pool with pickleball courts and a pet exercise area as now depicted by the site plan submitted with this narrative.

The three-story buildings will include twelve (12) one-bedroom units, twelve (12) two-bedroom units, and six (6) three-bedroom units. The four-story buildings will include sixteen (1) one-bedroom units, sixteen (16) two-bedroom units, and six (6) three-bedroom units.

Buffer plantings will be installed to help screen the buildings from street but to also allow for privacy for the residents. These landscape buffers will also be utilized to satisfy the Town's Forest Conservation Requirements as permitted pursuant to Article X of the Zoning Code.

Stormwater management for the site will comply with ESD and quantity control requirements and stormwater management mechanisms will mimic landscaping beds that will add to the attractive character of the community.

Applicant proposes an additional sixteen (16) residential units on the 6.840 acres, resulting in approximately 19.88 dwelling units per acre. Section 28-801(G) states that "The Town Council may consider projects with a density of up to 25% more than the maximum stated in [Article VII]

upon a finding that such increased density is in keeping with the existing or intended character of the neighborhood (as expressed in the Comprehensive Plan or, if applicable, any adopted Small Area Plans) and that any potential detrimental impacts from such increased density are ameliorated to the satisfaction of the Council. . . ."

The Applicant is proposing to exceed the permitted sixteen (16) units per acre by 3.88 units per acre, which is under the maximum permitted by the Code. The building design has been utilized by the Applicant in another location in Maryland and the ability to construct the buildings as proposed allows for lower construction and design costs and therefore lower rent values for the Project. A very modest increase in the dwelling density permitted also allows for development of more attractive and affordable housing units within the Town of Easton, providing a much-needed resource in the community.

Strict application of the sixteen (16) unit threshold would place an undue burden on the Applicant. The only conceivable adverse impact that may result from the 3.88 unit per acre difference would be an increase in traffic but as the Traffic Impact Study ("TIS") submitted with this narrative explains, the additional sixteen (16) units do not adversely impact traffic in the area. The Project proposes open space in excess of what is required and will provide amenities to residents of the community, such as a common room, playground, and pickleball courts, that ameliorate impacts that could otherwise result from the allowance of an additional 3.88 units per acre.

The density proposed allows for consistency with the building design, proposing two thirty-unit 3-story buildings and two thirty-six-unit 4-story buildings onsite. The four-story buildings were purposefully chosen to be the two buildings set back furthest from Matthewstown Road and Elliott Road. Higher density is encouraged with infill development to reduce demand outside of Town limits and to help eliminate sprawl. This request meets several Comprehensive Plan goals and objectives and addresses a critical housing issue within the Town.

PUD Development Standard Compliance Summary

In accordance with Section 28-701(G). Development Standards (1) through (8), the Project complies with the following requirements:

(1) The area proposed for a planned unit development shall be in one (1) ownership, or, if in several ownerships, the proposal shall be filed jointly by all the owners of the property included in the development plan.

The Property is owned by a single entity and the owner will appear at necessary hearings in this matter.

(2) The site shall be of a configuration suitable for the development proposed.

The site includes 6.840 acres and has direct access onto Elliott Road. The planned layout and site design proposed provide for a functional and well-designed residential community. The

configuration proposed restricts parking to the interior of the Property and provides for attractive and well-landscaped residential buildings.

(3) Public water and sewerage shall be available, although it may be made available in conjunction with the development of the PUD.

Adequate water and sewer services to serve the proposed Project exist and are adjacent to the Property. The Applicant will provide the utility extensions that are necessary to connect the Project to Town services and will work with Easton Utilities to ensure that all permits and approvals are granted.

(4) The site shall be located adjacent to adequate transportation facilities capable of serving existing traffic and that expected to be generated by the proposed development. Private roads may only be approved in commercial and multifamily projects or portions of projects. Such roads shall be internal to the development. Private roads shall comply with any standards developed and adopted for such roads by the Town Council. The Town shall bear no responsibility for construction or maintenance of private roads. Development on private roads may not be entitled to all Town Services.

The Project will have a single access from Elliott Road, a Town owned street. A Traffic Impact Study ("TIS") was conducted by Traffic Concepts, Inc. in September 2021 and revised in March, 2023, which is included with the submittal of this Application. The TIS demonstrates that all intersections of interest near the Project will continue to operate at a Level of Service (LOS) of "C" after the Project is completed. The Maryland State Highway Administration ("SHA") guidelines recommend that all intersections need to operate at a LOS of "D" or better. The TIS incorporates all existing traffic flows, has utilized actual traffic count data in the area, and has incorporated traffic impacts from proposed or developing projects in the area. The existing roads and traffic signaling in the area are adequate to serve the Project and its residents and development of the Project will not place an undue burden on public roadways. The internal driving and parking surfaces serving the Project comply with applicable Town standards. Additionally, since approval of Ordinance No. 778 SHA has undertaken efforts to analyze Matthewstown Road to address Town and Council concerns about traffic queuing. The additional sixteen (16) units have a negligible impact on the traffic impacts of the Project.

(5) The owners or developers must indicate that they plan to begin construction of the development within two (2) years after final approval. If there is no action on the part of the applicant at any point in the process for a period of two (2) years, the zoning of the site shall revert to its previous classification unless a time extension is requested by the developer and granted by the Planning and Zoning Commission. For projects constructed in parts of phases, the PUD approval applicable to any portion not improved in accordance with said PUD approval, shall expire if no development activity occurs for a period of five years.

The Applicant intends to commence construction within two (2) years of final approval. Applicant is requesting that the Council, in light of the time incurred in proposing this minor amendment

and receiving site plan approval, confirm that the two (2) year construction period commence upon approval of this amendment.

(6) The setback, lot size, lot coverage, height, minimum frontage, minimum open space, and yard requirements shall be established for each individual project by the Town Council in the ordinance granting the application. The Planning Commission shall make recommendations to the Town Council with regard to these requirements. The Town recognizes that it is necessary and encourages such uniquely established standards.

The minimum bulk requirements for the Project will remain consistent with the established standards for the Town's CG zoning district and the supplemental standards for multifamily buildings as identified in zoning code Section 28-1007.1.14. The proposed four-story buildings are 49'-3" at their highest point and the three-story buildings already approved are 46'-8". The Project will remain under the 50' maximum height prescribed in the CG zoning district. No additional relief is requested.

(7) Off-street parking shall be provided for each individual use in the planned unit development in accordance with the requirements of Section 1001. Mixed-use PUD's that integrate coordinated pedestrian and bicycle circulation systems throughout the development, shall be permitted to reduce the required off-street parking by 20% of the required standard without the need for a parking variance, waiver, or deferral.

Off street parking within the Project will comply with Town standards. The Town code requires a minimum of one parking space per unit (136 spaces) and a maximum of two parking spaces per unit (272 spaces). The Project proposes 178 spaces, which is well above the minimum parking requirement for the multifamily community. The parking lot is designed to accommodate emergency vehicles, trash, school buses, and delivery trucks.

(8) No more than 50% of the off-street parking area for the entire property of a major retail or shopping center use, shall be located between the front façade of the principal building(s) and the primary abutting street.

Not Applicable.

Standard		*Project Compliance*
	PUD - General	
Minimum Size*	5 acres	*The Property is 6.840 acres.*
Maximum Size	N/A	
Maximum Residential Density (per gross residential acre)**	16 du/acre****	
Minimum Open Space Requirement****	30% of total gross area shall be developed as recreational	

	areas or designated for common use of the residence of the PUD	
Applicability	Lands not qualifying as Infill or Redevelopment	

* Smaller Sites may be permitted when it is found that proposed PUD is Compatible with existing development in the area and does not disrupt the orderly expansion of the transportation system of the Town.

N/A.

** The Town Council may consider projects with a density of up to 25% more than the maximum stated in this table upon a finding that such increased density is in keeping with the existing or intended character of the neighborhood (as expressed in the Comprehensive Plan or, if applicable, any adopted Small Area Plans) and that any potential detrimental impacts from such increased density are ameliorated to the satisfaction of the Council. Additionally, if residential use is part of a vertically-mixed use project (i.e., non-residential uses are present on the ground floor with residential units on non-ground floors), there shall be no limit on the residential density.

As explained above, Applicant is requesting approval of the PUD allowing a density of 19.88 dwelling units per acre. The 3.88 dwelling units per acre over the otherwise-prescribed 16 dwelling units per acre will not result in any detriment to neighboring properties or nearby traffic patterns and public right of ways. The Council has already approved the Project to exceed the 16 unit specification by 1.54 units per acre and the request now before the Council is minor in nature. The Property is situated between commercial uses and lower-density residential uses and forest to the east and northeast and is perfectly suited for higher-density development to create a tiered development scheme moving further from the heart of Easton and Route 50. Approval of the requested density is consistent with the goals of the Comprehensive Plan and results in provision of housing that the Town of Easton is seeking for its current and future residents.

*** The Town Council may consider projects with less than the minimum open space required as specified in the Table, upon a finding that unique circumstances or conditions exist which warrant such a reduction and further provide that the applicant addresses the open space requirements in another acceptable means.

Applicant has designed the Project to provide significant open space and meaningful in-site improvements to residents. A minimum of 2.052 acres of open space is required to meet the 30% open space requirement. The Project will provide 2.79 acres of open space (40.7%, not including incidental parking lot areas). The open space that is provided includes a large grass field that can be used for a multitude of passive outdoor activities and a playground for children in the community that is directly adjacent to the community clubhouse and pickle ball area.

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**** In the PUD General sub district, for any residential units proposed in excess of the maximum residential density permitted in base residential zoning districts (3.5 du/ac), at least 25% must be devoted to affordable housing, or the developer may contribute a fee-in-lieu to an entity to be determined by the Town.

Applicant complies with this standard as defined by the Town Code and Easton Affordable Housing Board. At least twenty five percent (25%) of the units proposed in excess of the maximum residential density permitted in the base residential zoning district (3.5 du/acre) will be devoted to affordable housing.

Zoning Code Multifamily Standard Compliance Summary

In accordance with supplemental standards, Section 1007.1.14, the Project complies with the following requirements:

a. Multi-family apartment complexes dwelling shall be constructed in accordance with an approved Site Plan prepared under the provisions of Section 28-901 of this Ordinance.
   - *The Planning Commission granted Sketch Plan approval at its November 18, 2021 meeting and final site plan approval for the 120-unit project has been granted by the Town. The Project complies with the requirements of the Ordinance.*
b. At least twenty-five (25%) percent of the gross development area shall be reserved as common open space, except for projects developed in the CBD Zoning District, in which case this standard shall not apply.
   - *PUD provisions require at least thirty percent (30%) open space. The Project is providing 40.7% open space on the Property.*
c. The setback requirements for multi-family apartment complexes shall be determined by the development standards for the zoning district in which the project is located except as hereby modified.
   iii. When more than one (1) apartment building in constructed, all buildings shall collectively adhere to the front setback requirements of the district in which they are located, plus five (5) feet per story over two (2) stories, or portion thereof.
   ii. When more than one (1) apartment building is built, no building shall be closer than twenty-five (25) feet from any other apartment building that is part of the complex.
   iii. No Apartment structure shall be constructed at a distance of less than twenty (20) feet from any adjoining property lines; except for such structures constructed in the CBD district, wherein the development standard for that district shall apply.
   - *The Project complies with the setback requirements applicable to Multifamily development in the underlying zoning district.*
d. When more than one apartment building is constructed, external walkaway shall be paved and lighted.
   - *External walkways will be paved and lighted.*

e. In the event that swimming facilities are designed as part of the project, these facilities shall be enclosed by a fence not less than six (6) feet high.
   - *N/A. No swimming pool is proposed.*

f. All areas not utilized for building or off-street parking shall be landscaped and maintained in accordance with Section 28-1014 of the Ordinance.
   - *As depicted by the Site Exhibit submitted with this application, all areas not proposed for building or parking will be landscaped and maintained in accordance with Section 28-1014 of the Ordinance.*

g. All buildings within the multi-family apartment complex shall be of compatible architectural design.
   - *The four (4) proposed buildings are architecturally compatible and use the same materials and color schemes to ensure an aesthetically pleasing development. The clubhouse will utilize similar or identical materials and colors to ensure compatibility.*

h. Architecture shall be compatible among the units within the development and harmonious with the existing architecture of the Town of Easton.
   - *The proposed architecture is consistent with projects and developments within the Town of Easton. The buildings use a staggered façade, provide unit balconies, and take advantage of a variety of colors and materials to ensure that the development is attractive both to the public at large and its residents.*

i. Public water and sewage systems must be available to serve the project.
   - *Public water and sewer are available to serve the Project and the Applicant will work with Easton Utilities and the Town to ensure that all necessary permits and approvals are issued for the Project.*

j. The maximum permitted density shall be as follows:
   i. In R-7A – 8 dwelling units per acre.
   ii. In R-10-A and R-10M Districts - 5 dwelling units per acre.
   iii. In the CBD Zoning District – 30 dwelling units per acre.
   iv. In the MXW – See Article 3 (Table 312 B) for density provisions.
   - *N/A*

k. Side yard setback requirements for apartment buildings adjacent to a single family detached residence or vacant residential lot shall be fifty feet (50'). Parking setback is also fifty (50) feet.
   - *The Project exceeds the required fifty-foot (50') side yard setback requirement from single family residences or vacant residential lots.*

l. Rear yard setback requirements for apartment building adjacent to a single-family residence or vacant residential lot shall be seventy-five (75) feet. The setback for parking areas is also seventy-five (75) feet.
   - *The Project complies with rear yard setback requirements.*

MDSW
MCALLISTER
DETAR
SHOWALTER
& WALKER

PUD PROJECT AMENDMENT – ELLIOTT ROAD APARTMENTS
August 1, 2023

This PUD multi-family housing amendment is consistent with many goals and visions of the Easton Comprehensive Plan (the "Plan") including, but not limited to the following:

- This PUD implements several of the 12 State Planning Visions cited in SB 273/HB 294 and incorporated by reference in the Plan including at a minimum Visions 1, 3, 4, 5, 7.

  This PUD provides moderate price point rental housing helping to fulfill the goal found on Page 43, Residential Land uses to create ".... a seamless, interesting, Smart Growth inspired Easton; one Easton, not a collection of suburban residential enclaves." In fact, the location of the Project addresses the tiered development approach contemplated by the Plan, with commercial uses to the west, the multifamily Project located as proposed, and townhome and single-family development to the north and east, moving further from Downtown Easton.

- Page 44, Benefits of Mixed Land Uses; PUD accomplishes, "Increase[d] housing options with addition of moderate price point rental housing for more diverse household types", "Reduce[d] automobile dependence", "Reduce a community's carbon footprint by encouraging walking and biking as an alternative to automobile use", and "Increase[d] the safety of the neighborhood by putting more eyes on the street".

- Page 45, Under Land Use Goals and Objectives, the PUD implements Goal #5, "slow the demand for more land by increasing the density of future residential areas. At a minimum, "the Smart Growth Priority Funding Area net density of 3.5 units per acre should be achieved in these developments." This PUD proposes wise use of undeveloped, infill lands inside the Town boundary.

- Page 51, Capacity for Development within Town Limits, this PUD fulfills the Plan goal to, "develop within town limits utilizing infill and renovation development techniques."

- Page 140, Housing goals and Objectives; the PUD is consistent with at least two of the Plan goals, "To insure that housing in Easton is safe, sanitary, structurally sound and safeguards or upgrades neighborhood design; and, "To insure a more heterogeneous mix of price points in future residential projects". This PUD offers moderate price point market rate housing suitable for the young and for seniors looking to live and provide critical population mass to Easton's core.

Beyond the specific outlined above, this PUD is consistent with the Comprehensive Plan's intent to promote infill development, renovation and redevelopment within Easton's current town limits.

100 N. WEST STREET EASTON, MD 21601 410.820.0222 WWW.MDSWLAW.COM
ANNAPOLIS - EASTON - CAMBRIDGE - OCEAN CITY

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

Easton Staff Development Review Worksheet

Date: August 23, 2023
Project: 8286 Elliott Road - PUD Amendment
To: Mr. Brett Ewing - Lane Engineering, LLC.
Mr. Jim DiDonato – Mallard Construction Group

The Easton Staff Development Review (ESDR) Committee meeting was held on August 23 at 11:00 am. Staff reviewed the Site Sketch Plan for the proposed Planned Unit Development Amendment on the property located at 8286 Elliott Road, also known as Tax Map 109, Parcel 2866.

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 a Traffic Summary Table and providing bicycle spaces.

The Committee determined that the application may be scheduled for Planning Commission review pending the revised Site Plan and Traffic Summary Table. Please address all comments and submit documents.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **August 28th**. 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: **August 21, 2023**
TO: **Brett Ewing & Tim Glass** – Lane Engineering, LLC
James DiDonato - Elliott Road, 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: 8286 Elliott Road – PUD Amendment

We reviewed the **August 2, 2023** Sketch Site Plan Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review

1. Please reference Ordinance No. 778 and its approval date within the Project Data.
2. Label buildings A thru D as per the approved Site Plans dated May 1, 2023.
3. Per Ordinance No. 778, Page 5 of 10, supplemental setbacks for more than 1 Multi-Family building are constructed, the setback is to be 5 feet per story over 2 stories. There are two (2) four(4) story buildings proposed. Please adjust supplemental setbacks or request relief from the setback requirements.
4. Add the proposed building heights to the Project Data.
5. Add Site Plan approval date to project history.
6. Provide a distance between the proposed clubhouse and 4-story multi-family apartment building. Per Exhibit "B" to Ordinance No. 778, B (6) on Page 5 of 10, *no building shall be closer than 25 feet from any other multi-family building.*
7. Per Per Zoning Ordinance § Section 28-1001.3 A 4, include the required minimum 68 bicycle spaces and show the location on Site Plan.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☒ Submitted ☐Approved	**Required Afforestation on site is 1.03 acres or 44,866.8 square feet. Forest Conservation was addressed per the May 1, 2023 approved Site Plans . Payment of the $65,812.50 Surety and recording of the Forest Conservation Easement Agreement is pending.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE:	**August 23rd, 2023**
TO:	**Elliot Road LLC – Owner** **Brett Ewing – Lane Engineering LLC**
Cc:	**Rick Van Emburgh – Town Engineer** **Miguel Salinas – Planning and Zoning Department** **Aaron Goller – EUC**
FROM:	**Sierra Clem – Engineering Department**
SUBJECT:	**Revised PUD Application Elliot Road Apartments – ESDR Sketch Site Plan Review Comments**

The Engineering Department has reviewed the subject revised application received 8/4/2023 and have the following comments:

1. Please prepare an exhibit that shows a chart outlining the existing traffic level, the traffic level anticipated for the original approval of 120 units and the anticipated traffic level for the proposed 136 units.
2. Please confirm if State Highway has reviewed the revised traffic impact study.

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

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Easton Utilities Commission

Plan Review Comments

Date: Tuesday, August 15, 2023
To: Joe Mayer; Nicholas Johnson; Sierra Clem
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 1
Regarding: Elliott Road Parcel 2866 - Elliott Road PUD
Phase: Development Site Plan **SUBM:** Rev. SP **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	Additional capital charges required.
2	General	Flow capacity would need to be confirmed in Clifton Interceptor.

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

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☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with appropriate use for calculation of Impact Fee.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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Telephone: 410-822-6110 | Fax: 410-822-0743 | eastonutilities.com

RECEIVED
AUG 29 2023
TOWN OF EASTON

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	N/A				
Original Property Size	Acres	N/A		Square Feet	N/A
Telephone No.	N/A		Email	N/A	

Site Plan Information

Property Size	Acres	6.84 AC		Square Feet	297,950 sf
Structure's Floor Area	See Plans		Structure's Square Feet	12,502 x 4=	50,008
Area of Disturbance	6.80 AC		Number of Dwelling Units	136	

Property Information

Address	Corner of Elliott Rd & MD RT 328 (Matthewstown Rd)						
Tax Map	109	Grid	-	Parcel	2866	Lot	9
Deed Refernce:	Liber	3045	Folio	394			
Plat Reference:	Liber		Folio				
Base Zoning District	GC	Historic Y ☐	N ☒	Planned Redevelopment Y ☐	N ☒		
Source of Electricity	Easton Utilities						

Owner

Name	ELLIOTT ROAD LLC		
Mailing Address	116 S PINEY ROAD #208, CHESTER, MD 21619		
Telephone No.	401-820-0250	Email	jim@mallardconstruction.com

Applicant or Agent

Name	MDSW C/O Brendan Mullaney		
Mailing Address	100 N West ST, Easton, MD 21601		
Telephone No.	410-820-0250	Email	bmullaney@mdswlaw.com

Surveyor / Engineer

Name	Lane Engineering, LLC	License No.		Expiration Date	
Mailing Address	117 Bay Street, Easton, MD 21601				
Telephone No.	410-822-8003	Email	bewing@leinc.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

Date 8.1.23

Printed Name of Applicant or Agent Brendan Mullaney, Counsel

For Office Use Only

Planning Commission Required	Y ☒ N ☐		
Planning Commission Meeting Date	09/21/2023		ESDR 23-16
Sketch Approval Date		Project No.	PUD 23-02
Prelim/Dev. Approval Date		Application No.	2023-997
Final Approval Date		Sketch Fee Paid	08/03/2023
Recordation Date		Develop. Fee Paid	

Revised 02-2019

PROJECT DATA

PROPERTY: TAX MAP 109, PARCEL 2866, LOT 9
ELLIOTT ROAD
EASTON, MD 21601

OWNER: ELLIOT ROAD, LLC
116 SOUTH PINEY RD, SUITE 208
CHESTER, MD 21619
(410) 643-4131

DEVELOPER: MALLARD CONSTRUCTION
C/O JIM DIDONATO
116 SOUTH PINEY RD, SUITE 208
CHESTER, MD 21619
(410) 643-4131

DEED REFERENCE: 3045/394

PROJECT HISTORY: PLANNING COMMISSION APPROVAL – 11/18/2021
TOWN COUNCIL APPROVAL – 03/07/2022

ZONING CLASSIFICATION: CG – GENERAL COMMERCIAL

SITE AREA: 6.84 ACRES±

PARKING REQUIRED: MINIMUM – 1 SPACE/ UNIT (136 SPACES)
MAXIMUM – 2 SPACES/ UNIT (272 SPACES)

PARKING PROVIDED: 178 TOTAL SPACES PROVIDED

ADA ACCESSIBLE PARKING SPACES REQUIRED: 5 STANDARD & 1 VAN
ADA ACCESSIBLE PARKING SPACES PROPOSED: 6 STANDARD & 3 VAN (9 TOTAL)

OPEN SPACE: 30% REQUIRED; 40.7% PROVIDED (2.79 AC±)

PROJECT NOTES

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

THE PROPERTY BOUNDARY AS SHOWN HEREON IS BASED TAX MAP INFORMATION AND IS APPROXIMATE ONLY, NO BOUNDARY SURVEY HAS BEEN COMPLETED.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM TOPOGRAPHY 2019 PROVIDED BY TALBOT COUNTY AND ARE APPROXIMATE ONLY.

THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES, STEEP SLOPES APPROACHING 15%, STREAMS, TIDAL WETLANDS/NON-TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS.

A FIELD DELINEATION HAS NOT BEEN PERFORMED FOR THE PRESENCE OF NON-TIDAL WETLANDS ON SITE.

PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON, EASTON UTILITIES.

FLOOD DATA

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X" FLOOD ZONE(S) AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0193C FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDE ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

LEGEND

- COMPUTED POINT
- UTILITY POLE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- STORM DRAIN MANHOLE
- STORM DRAIN LINE
- WATER VALVE
- CONTOUR LINE (MAJOR)
- CONTOUR LINE (MINOR)

REVISIONS			
No.	DATE	DESCRIPTION	BY

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, ONE
TWO WORKING DAYS NOTICE

Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E-mail: general@lanesc.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) 758-2085

SEAL

DATE

SITE EXHIBIT

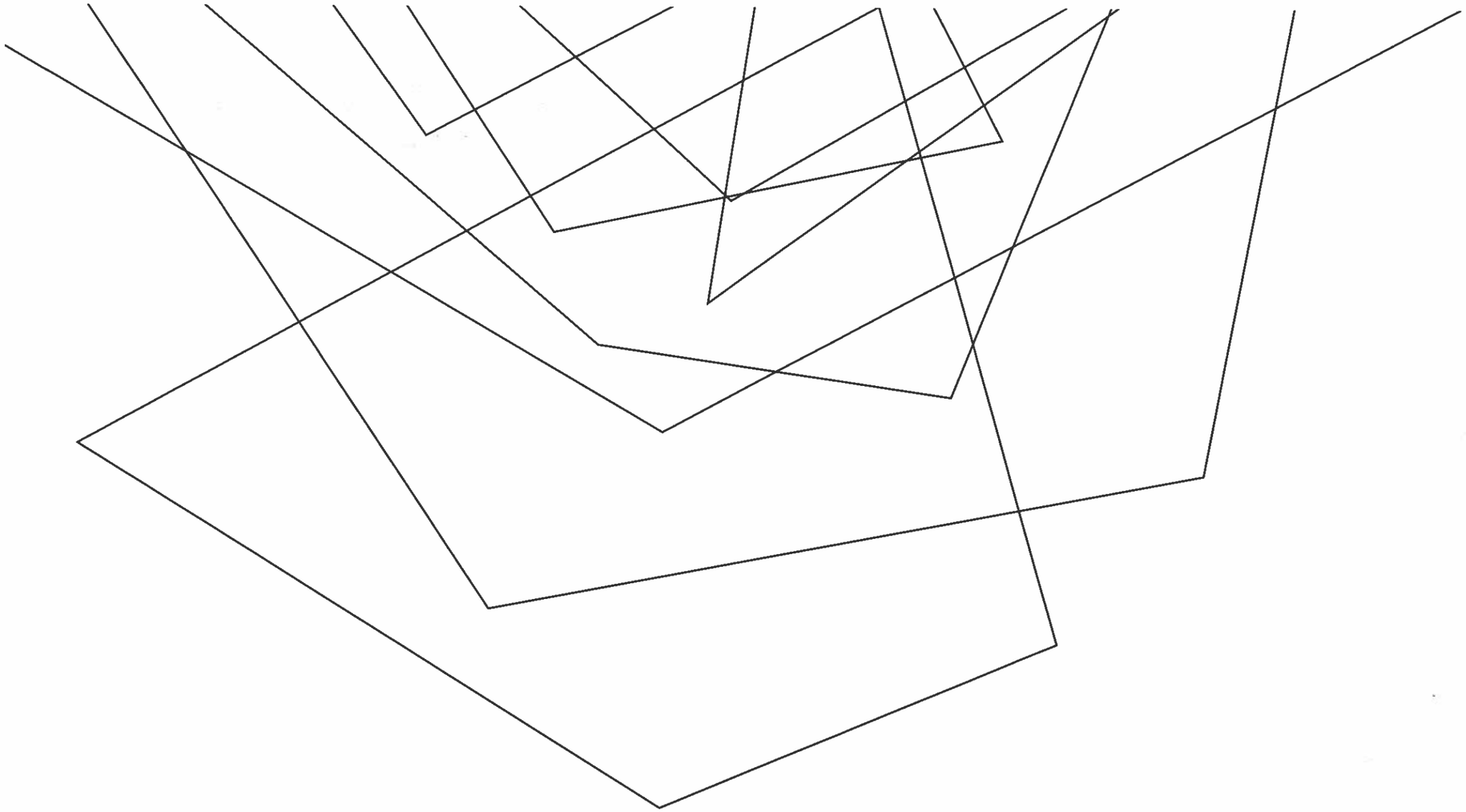
ON THE LANDS OF
ELLIOTT ROAD, LLC

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 109 PARCEL 2866 LOT 9

ISSUED FOR:	DATE:	BY:
AGENCY REVIEW	12/31/21	BCE
AGENCY REVIEW	10/14/22	BCE
AGENCY REVIEW	01/25/23	BCE
AGENCY APPROVAL	3/28/23	BCE
PUD AMENDMENT	8/01/23	BCE

SHEET No. 1 OF 1
SCALE: AS NOTED
DATE: 12/31/21
JOB No. 210375
FILE No. 9809

Date: 08/01/2023 – 1:36pm User: sbarnhart Project Manager: BCE
Drawing Path: J:\2021\0300\210375\Dwg\Plats\WD\SED-CSK-EXBT-PLTS-210375.dwg | Concept Exhibit
XREF FILE(S): XLD-BASE-210375/CSP-BASE-210375/GRA-BASE-210375/PDF-BASE-210375/PBS-BASE-210375/LDP-BASE-210375/VGL-BASE-210375/VGL-BASE-210375



EASTON APARTMENTS

Building & Rendering Updates

BUILDING INFO

3- Story Building Info

- 46'-8" building height from grade to top roof peak
- 30 units
  - (12) 1 bed units
  - (12) 2 bed units
  - (6) 3 bed units

4 Story Building Info

- 49'-3" building height from grade to top roof peak
- 38 units
  - (16) 1 bed units
  - (16) 2 bed units
  - (6) 3 bed units

- Building Materials & colors
  - Vinyl shake (located in gables):
    - CertainTeed 5" clapboard: Flagstone Blue
  - Vertical Siding (located at 3rd & 4th level):
    - CertainTeed Board & Batten: Sterling Gray
  - Horizontal Siding (located at all levels):
    - CertainTeed 5" clapboard: Granite Gray & Sterling Gray
  - Roofing
    - Asphalt Shingle Main roof: Oxford Gray
    - Black, Standing Seam metal roof gable return

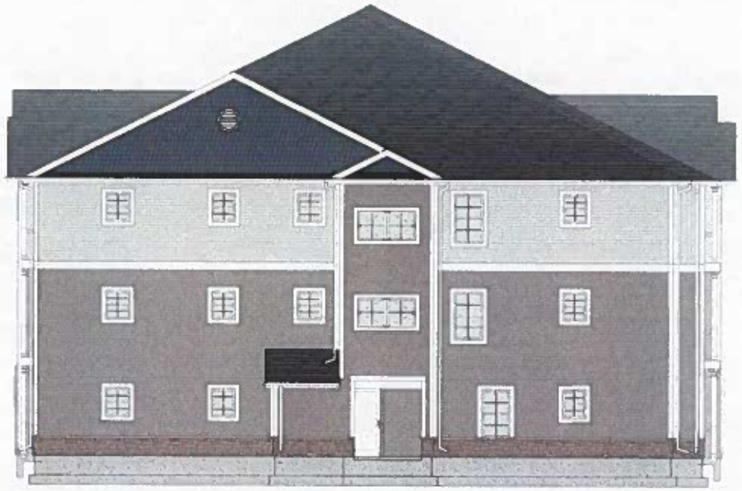
APPROVED 3-STORY FRONT ELEVATION

PROPOSED 4-STORY FRONT ELEVATION

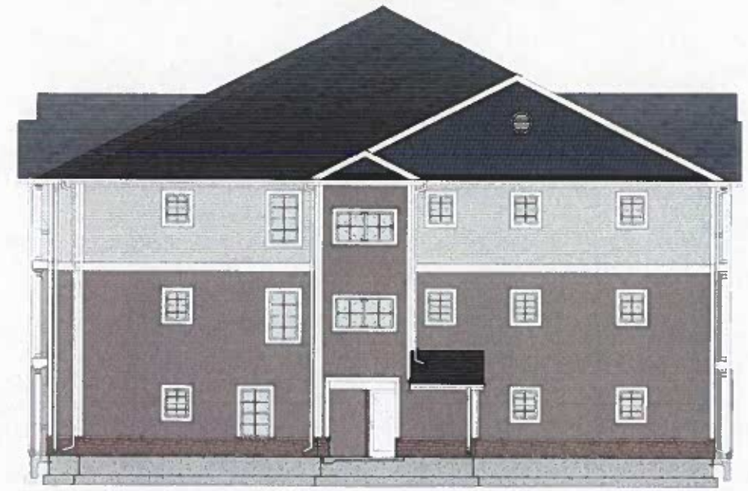
APPROVED 3-STORY REAR ELEVATION

PROPOSED 4-STORY REAR ELEVATION

APPROVED 3-STORY ELEVATIONS (LEFT & RIGHT)



Left Elevation



Right Elevation

PROPOSED 4-STORY ELEVATIONS (LEFT & RIGHT)

Left Elevation

Right Elevation

UPDATED SITE RENDERING

May 2023

4 Story Building-
Front Elevation
Rendering

3 Story Building Prototype- Side and Rear Elevation
Actual Building on Kent Island

3 Story Building Prototype- Rear Elevation
Actual Building on Kent Island

MALLARD CONSTRUCTION

Elliott road apartment Traffic Memo:

Below is the summary of the traffic trips generated by the Elliott Road Apartment project as calculated by Traffic Concepts, Inc. for the approved 120 apartment units and the proposed 136 apartment units.

(A.) represents the existing condition trips counted for each specific intersection. Included in these numbers are the background trips for the following projects: Brant Court, DR Horton, and Choptank Transport.

(B.) represents the trips that would be generated by the approved 120-unit project, as they relate to the Existing Conditions

(C.) represents the trips that would be generated by the proposed 136-unit apartment project as they relate to the Existing Conditions.

In both instances, whether the project consists of 120 units, or 136 units, the LOS for the intersections do not change, and remains the same as the Existing Conditions.

A. EXISTING CONDITION	AM	LOS	PM	LOS
US 50 @MD 328	1001	B	1096	B
US 50 @ MD 331	1034	B	1172	C
MD 328 @ ELLIOTT ROAD	876	A	889	A
MD 331 @ ELLIOTT ROAD	1152	C	1064	B

B. TRIPS GENERATED (120 UNITS)	AM	LOS	PM	LOS
US 50 @MD 328	1005	B	1107	B
US 50 @ MD 331	1042	B	1206	C
MD 328 @ ELLIOTT ROAD	886	A	902	A
MD 331 @ ELLIOTT ROAD	1170	C	1088	B

C. TRIPS GENERATED (136 UNITS)	AM	LOS	PM	LOS
US 50 @MD 328	1006	B	1108	B
US 50 @ MD 331	1044	B	1206	C
MD 328 @ ELLIOTT ROAD	889	A	901	A
MD 331 @ ELLIOTT ROAD	1173	C	1088	B

Below are the actual number of AM and PM trips generated for both the approved 120-unit and the proposed 136-unit project. In both cases, these are the increase trips generated are over the Existing conditions.

120 APARTMENT UNITS	**AM**		**PM**	
(approved)	IN	OUT	IN	OUT
	11	30	32	21

136 APARTMENT UNITS	**AM**		**PM**	
(Proposed)	IN	OUT	IN	OUT
	11	37	33	21

TRAFFIC IMPACT STUDY

Raughley Family Realty Business Trust

Residential Development
Town of Easton, Maryland

September, 2021
Revised March, 2023

Prepared For:
Mallard Construction Group, Inc.

Prepared By:
TRAFFIC CONCEPTS, INC.
7525 Connelley Drive
Suite B
Hanover, Maryland 21076
Phone 410-760-2911

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APPENDICES

APPENDIX I	CRITICAL LANE ANALYSIS COMPUTATIONS
APPENDIX II	HIGHWAY CAPACITY MANUAL ANALYSES
APPENDIX III	BACKGROUND TRAFFIC DATA
APPENDIX IV	TRAFFIC COUNT INFORMATION
APPENDIX V	SITE PLAN & SITE TRIP DATA

INTRODUCTION

Traffic Concepts, Inc. has conducted a traffic impact study for the Raughley Family Realty Business Trust to develop a multi-family residential apartment project. The proposed development includes four apartment buildings with a total of 136 apartments. The development will also include a clubhouse, a playground, and a pool.

The subject property is located within the town of Easton and is situated on the southeast quadrant of MD 328 and Elliott Road. As shown on the site plan, the property will be served by a single full-movement access to Elliott Road. The site and the proposed site access point are shown on Exhibit 1.

SCOPE OF WORK

The traffic study was conducted in accordance with the Maryland Department of Transportation State Highway Administration (MDOT SHA) *Traffic Impact Study Guidelines* and with the Town of Easton's Subdivision Regulations; Section 703 Street Design and Layout (e) Traffic Impact Study.

The key study intersections are listed below and were counted during the weekday morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak hours.

KEY INTERSECTIONS

- MD 328 (Matthewstown Road) @ Elliott Road
- US 50 @ MD 328 (Matthewstown Road)
- MD 331 (Dover Road) @ Elliott Road
- US 50 @ MD 331 (Dover Road)
- Elliott Road @ site access

INTERSECTION ANALYSIS METHODOLOGY

The signalized key intersections were analyzed with the Critical Lane Volume (CLV) method and the unsignalized intersections were analyzed with the Highway Capacity Manual (HCM) method. The intersection level of service standard is "D", as required by the MDOT SHA.

TRAFFIC IMPACT STUDY & TRIP GENERATION

An intersection level of service was conducted at all key intersections for each traffic condition described below.

> Existing Condition: Determined with the current intersection turning movement counts and creates the baseline traffic condition for all proceeding analyses.
>
> Background Condition: Includes traffic volumes resulting from a regional growth rate and or from any nearby development projects that are approved, but are not constructed or completed.
>
> Future Condition: The planned traffic is generated with the *Institute of Transportation Engineers' Trip Generation Manual 11th Edition* or the most current edition.

Total Future Traffic = [Existing Traffic + Background Traffic (Growth in Existing Traffic + Approved Development Traffic) + Site Generated Traffic]

NOT TO SCALE

TRAFFIC CONCEPTS, INC. 7525 Connelley Drive Suite B Hanover, Maryland 21076 410-760-2911	**EXHIBIT 1** **Site Location Map**

EXISTING CONDITION

As stated, the existing traffic condition determined the baseline traffic conditions at the key intersections. The key intersections and the existing lane use configurations are shown on Exhibit 2. The detailed intersection configuration diagrams are provided in Appendix IV.

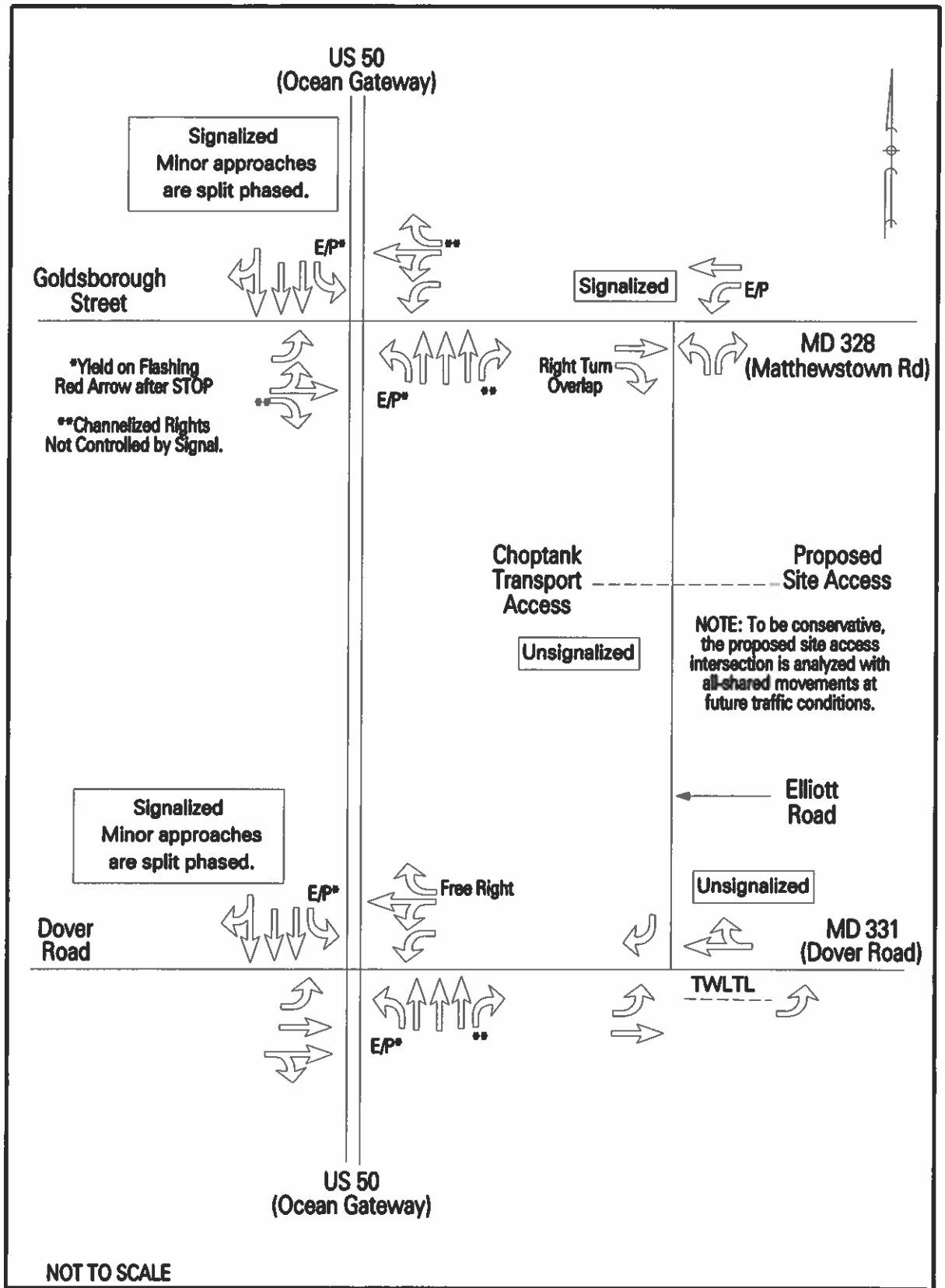
The peak one-hour intersection volumes are displayed on Exhibit 3. The complete peak hour intersection counts are provided in Appendix IV. The existing peak hour intersection level of service results are displayed below and details of the intersection calculations are included in Appendix I & II. The site access intersection was analyzed under the future build-out conditions.

CRITICAL LANE ANALYSIS	**AM**	**PM**
	CLV(LOS)	**CLV(LOS)**
US 50 @ MD 328	965(A)	1032(B)
US 50 @ MD 331	1015(B)	1142(B)
MD 328 @ Elliott Road	810(A)	805(A)
MD 331 @ Elliott Road	1118(B)	1036(B)

HCM ANALYSIS – UNSIGNALIZED INTERSECTION

MD 331 @ Elliott Road

	Control Delay AM(PM)	LOS AM(PM)	Delay By Approach AM(PM)	LOS By Approach AM(PM)
EB Left	11.4(9.9)	B(A)		
SB Right	20.7(17.1)	C(C)	20.7(17.1)	C(C)



NOT TO SCALE

TRAFFIC CONCEPTS, INC. 7525 Connelley Drive Suite B Hanover, Maryland 21076 410-760-2911	EXHIBIT 2 Lane Configuration

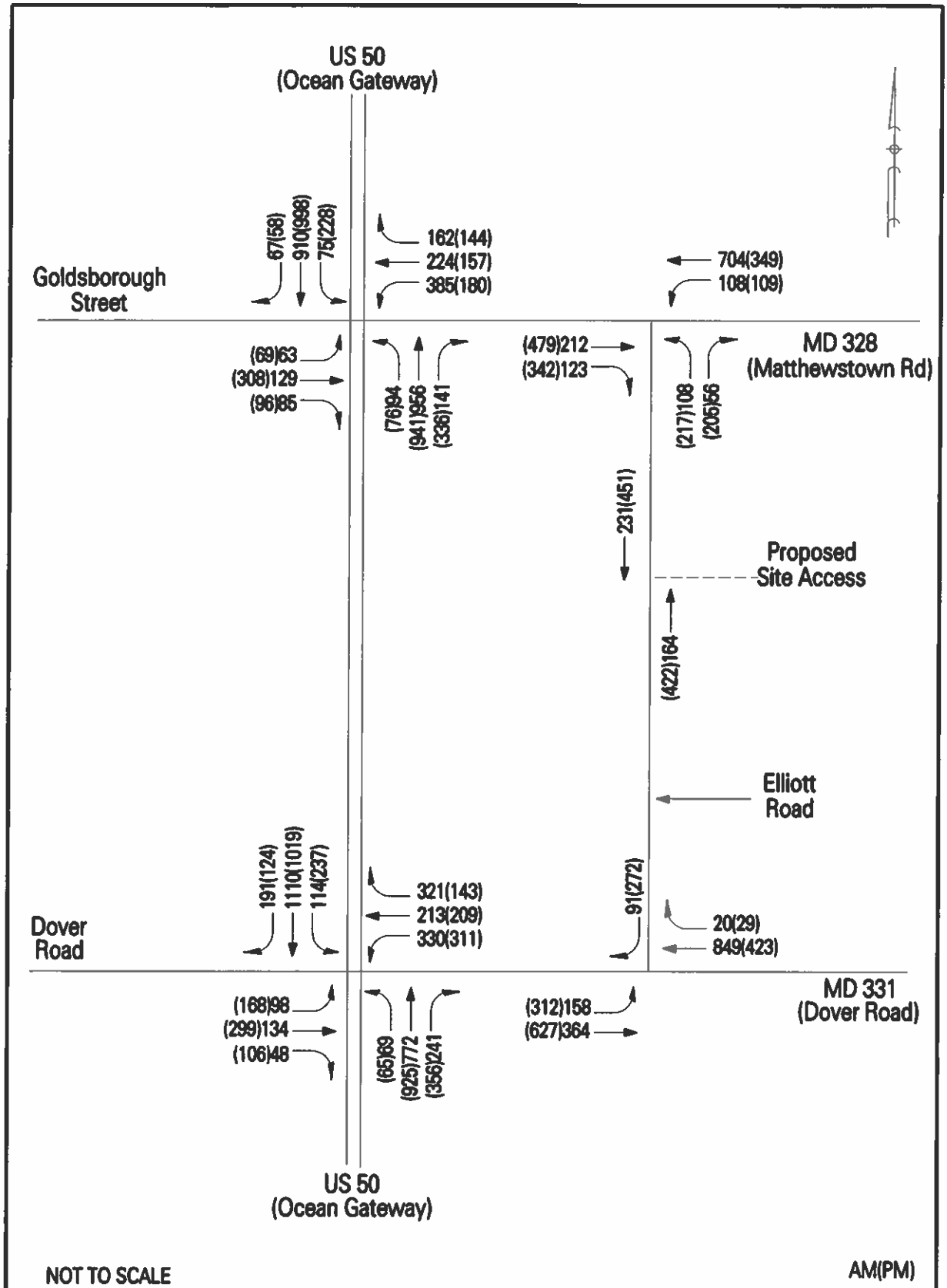


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EXHIBIT 3
Existing Traffic Volumes

BACKGROUND CONDITION

The background condition includes new peak hour trips generated by regional traffic increases that are represented by a growth rate and any nearby background developments.

Regional Growth Rate

In order to establish the recent traffic conditions within the study area, we examined MDOT SHA historical traffic data for the past three years (pre-Covid). The information provided below is be found on the Internet Traffic Monitoring System (I-TMS) web page. Based on this information, traffic volumes have remained stable over the last three years. Therefore, a growth rate was not applied to the existing traffic volumes.

AADT History County: TALBOT
MD 328 - .50 MI E OF US 50 - Location ID: B3821

Year	AADT	AAWDT
2019	10241	10861
2018	10240	10960
2017	10452	11182

AADT History County: TALBOT
US 50 - .50 MI E OF MD 331 – Location ID: B3812

Year	AADT	AAWDT
2019	38362	39902
2018	37901	39801
2017	38130	40040

Source: MDOT SHA I-TMS

BACKGROUND DEVELOPMENTS

The following background developments were identified as projects that could impact the key study intersections. The locations of these developments are shown on Exhibit 4. The peak hour trips listed below were determined with the ITE, Trip Generation Manual 10th Edition.

1. Brant Court Apartments, 29568 Brant Court, Easton MD - 96 Apt units

Multifamily Housing (Mid-Rise)	AM		PM	
LUC 221	IN	OUT	IN	OUT
96 Apt Units	9	24	26	17

2. DR Horton (Lands of Gannon Family), 29659 Matthewstown Rd – 200 SFU

Single-Family Detached Housing	AM		PM	
LUC 210	IN	OUT	IN	OUT
200 Units	37	110	125	73

3. Choptank Transport (logistics office), 8338 Elliott Rd, 90 Employees

General Office	AM		PM	
LUC 710	IN	OUT	IN	OUT
100 Employees	40	8	10	41

The peak hour trip distribution and assignment patterns for each background development are provided in Appendix III. The combined background trips are shown on Exhibit 5.

In order to generate the total background traffic volumes (Exhibit 6), we added the existing traffic volumes (Exhibit 3) to the background development volumes (Exhibit 5). The background intersection analysis results are shown below and the detailed calculations are provided in Appendix I & II of this report.

CRITICAL LANE ANALYSIS	**AM**	**PM**
	CLV(LOS)	**CLV(LOS)**
US 50 @ MD 328	1001(B)	1096(B)
US 50 @ MD 331	1034(B)	1172(C)
MD 328 @ Elliott Road	876(A)	889(A)
MD 331 @ Elliott Road	1152(C)	1064(B)

HCM ANALYSIS – UNSIGNALIZED INTERSECTION

MD 331 @ Elliott Road

	Control Delay AM(PM)	LOS AM(PM)	Delay By Approach AM(PM)	LOS By Approach AM(PM)
EB Left	11.7(10.0)	B(A)		
SB Right	21.4(18.1)	C(C)	21.4(18.1)	C(C)

Background Developments:
1 - Brant Court Apartments
2 - DR Horton (aka Lands of Gannon Family)
3 - Choptank Transport

NOT TO SCALE

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Suite B
Hanover, Maryland 21076
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EXHIBIT 4
Background Development Locations

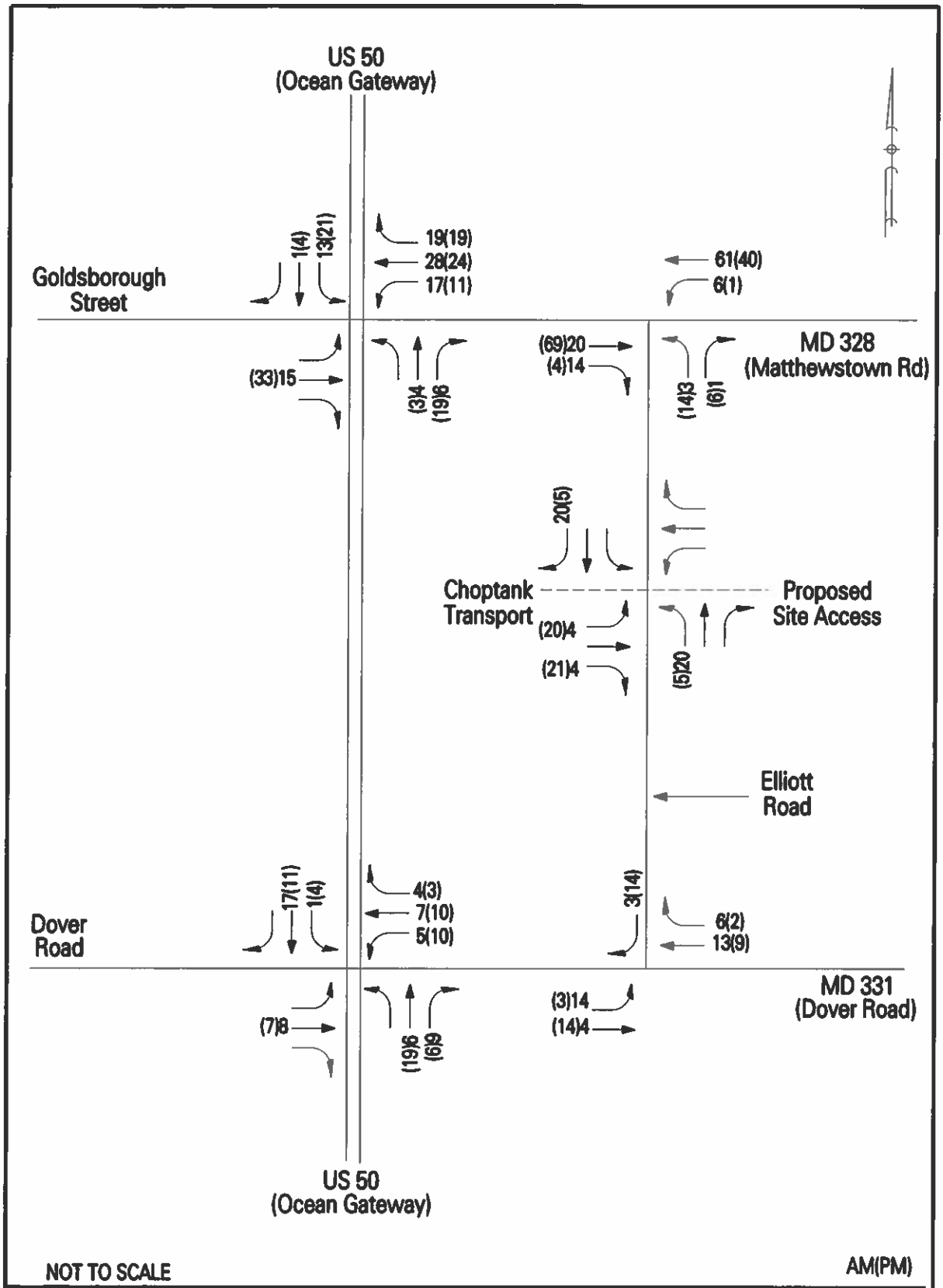

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EXHIBIT 5
Background Traffic Volumes

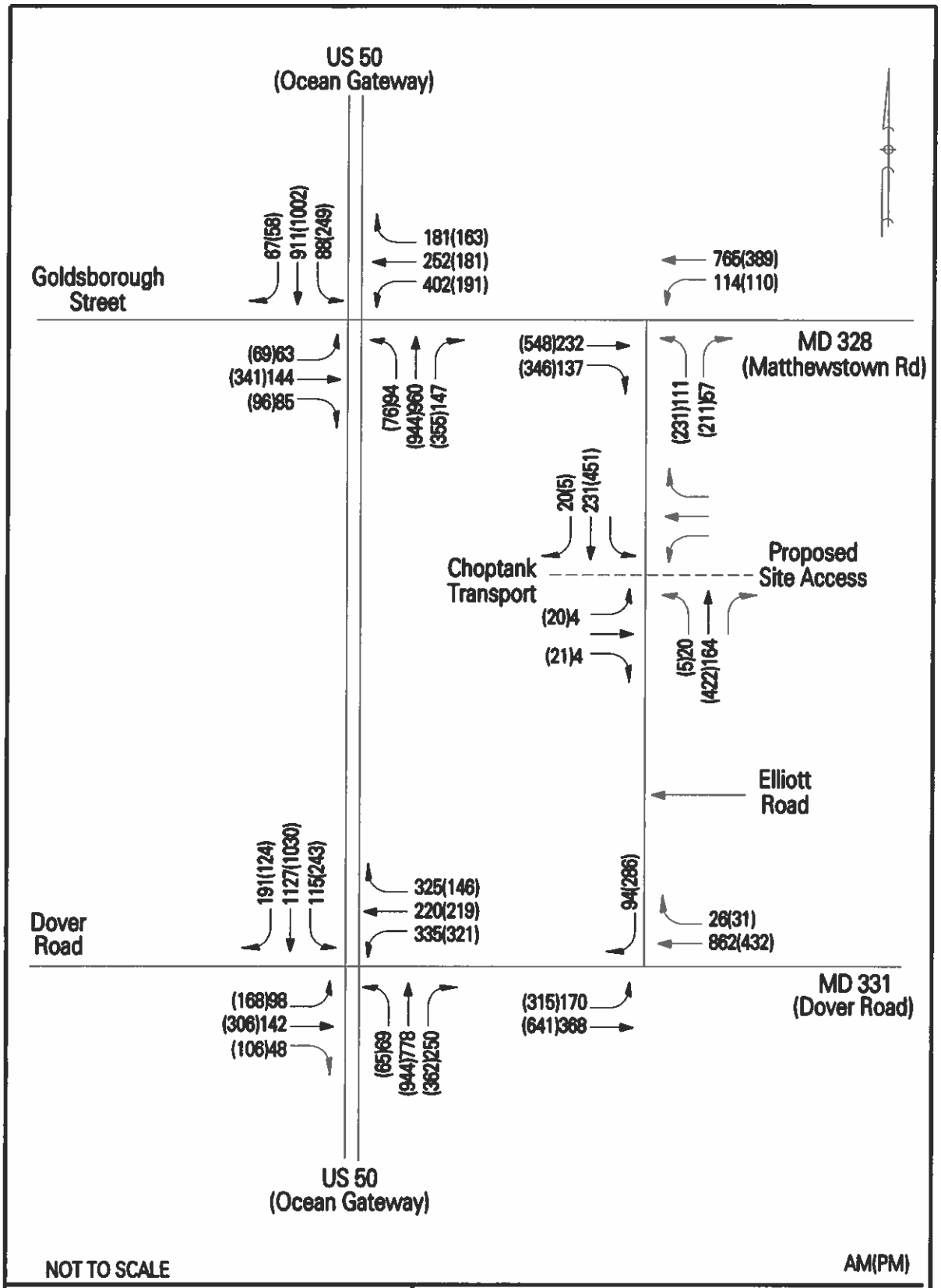

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EXHIBIT 6
Total Background Traffic Volumes

FUTURE CONDITION

The proposed development will create 136 apartment units. The new site generated peak hour trips shown below were generated with the *Institute of Transportation Engineers', Trip Generation Manual, 11th Edition* (ITE). The ITE land-use that corresponds to the new project is the Multifamily Housing (Mid-Rise) land-use (LUC 221). This information is provided in Appendix V.

TRIP GENERATION

Multifamily Housing (Mid-Rise) (221)	**AM**		**PM**	
	IN	**OUT**	**IN**	**OUT**
136 Apt Units	**11**	**37**	**33**	**20**

The new site's trip distribution and assignment pattern, shown on Exhibit 7, was determined with the location of the proposed site access point and the existing traffic patterns. The total future traffic volumes (Exhibit 8) are calculated by adding the site generated trips to total background traffic volumes. The intersection analysis findings are displayed below and the calculations are provided in Appendices I & II.

CRITICAL LANE ANALYSIS	**AM**	**PM**
	CLV(LOS)	**CLV(LOS)**
US 50 @ MD 328	1006(B)	1108(B)
US 50 @ MD 331	1044(B)	1206(C)
MD 328 @ Elliott Road	889(A)	901(A)
MD 331 @ Elliott Road	1173(C)	1088(B)
Elliott Road @ Site Access	320(A)	548(A)

HCM ANALYSIS – UNSIGNALIZED INTERSECTIONS

MD 331 @ Elliott Road

	Control Delay AM(PM)	LOS AM(PM)	Delay By Approach AM(PM)	LOS By Approach AM(PM)
EB Left	11.8(10.1)	B(B)		
SB Right	22.7(18.6)	C(C)	22.7(18.6)	C(C)

HCM ANALYSIS – UNSIGNALIZED INTERSECTIONS (CONTINUED)

Elliott Road @ Proposed Site Access

	Control Delay AM(PM)	LOS AM(PM)	Delay By Approach AM(PM)	LOS By Approach AM(PM)
EB L/T/R	11.5(19.2)	B(C)	11.5(19.2)	B(C)
WB L/T/R	11.4(18.4)	B(C)	11.4(18.4)	B(C)
NB L/T/R	7.9(8.4)	A(A)		
SB L/T/R	7.6(8.4)	A(A)		

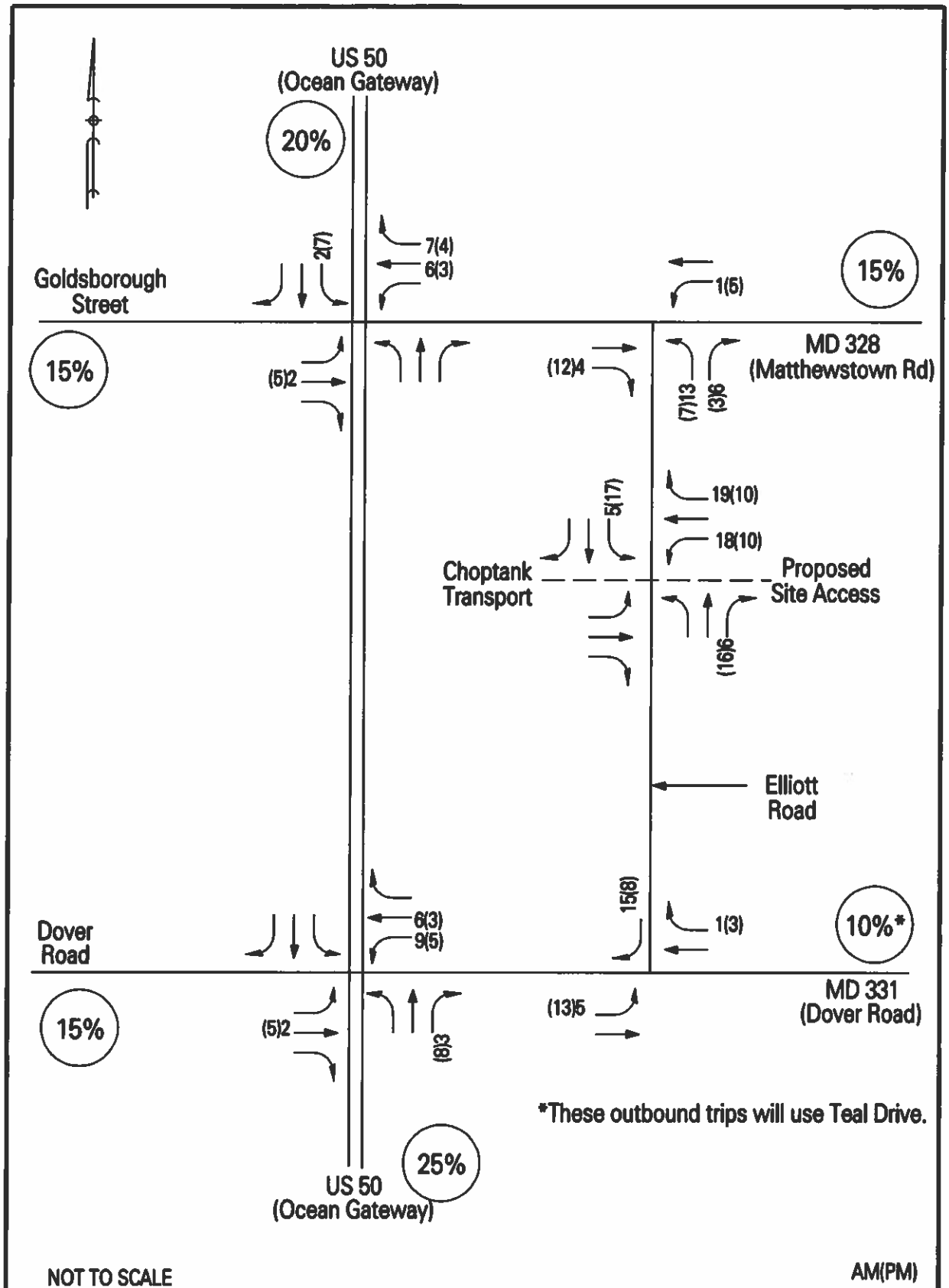

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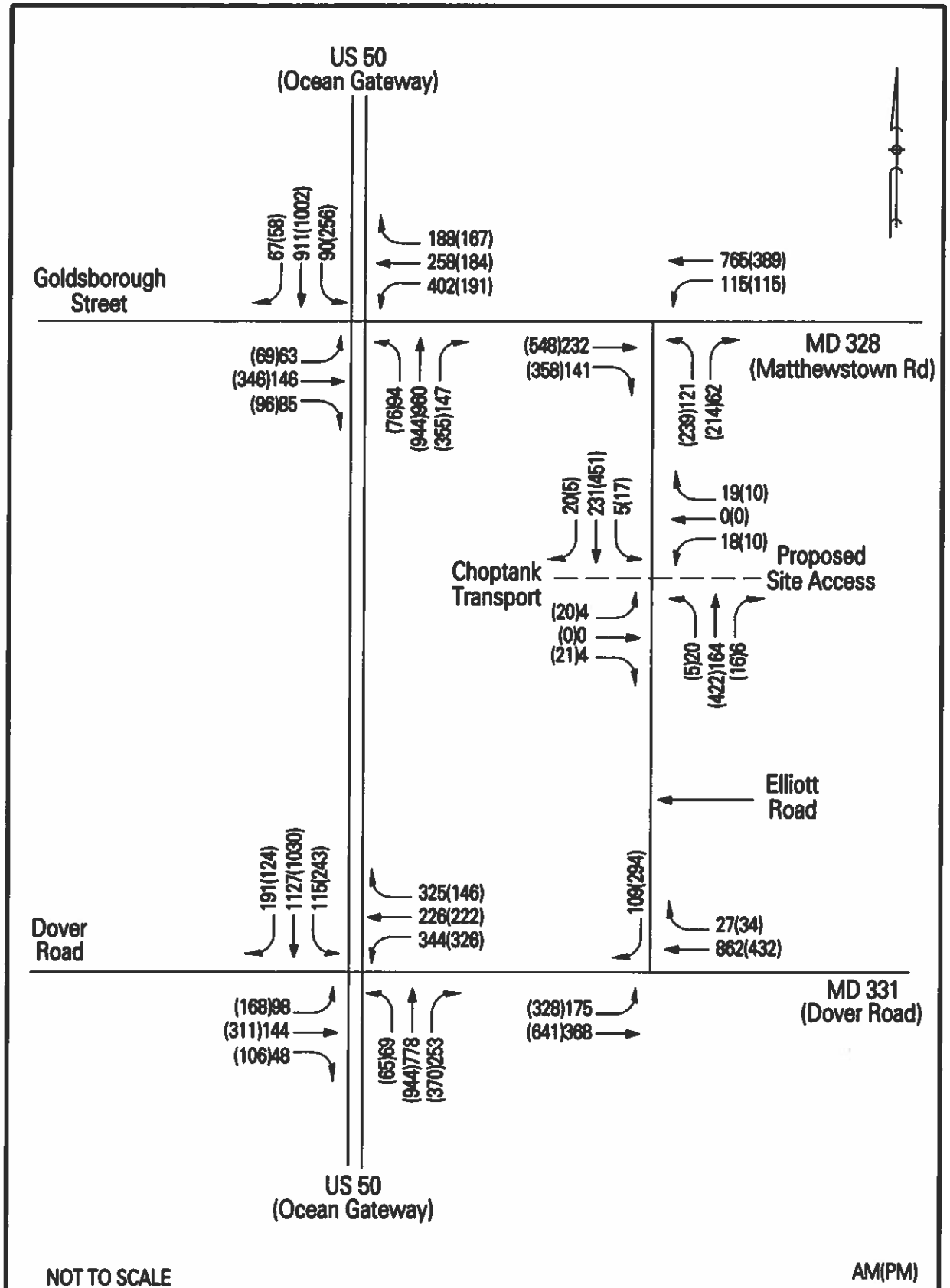
EXHIBIT 7
Site Generated Trips



TRAFFIC CONCEPTS, INC.
7525 Connelley Drive
Suite B
Hanover, Maryland 21076
410-760-2911

EXHIBIT 8
Total Future Traffic Volumes

QUEUING ANALYSIS

A queuing analysis was conducted for the dedicated left turn movements at the signalized study intersections using the total background and future traffic volumes. The queue lengths were calculated using the following State Highway Administration methodology:

95th Percentile Queue = Volume x LUF x Cycle Length x 1.4 x 25'/3600

	95th Percentile Queue Length (ft.)		
	Background AM(PM)	Future AM(PM)	Storage Length (ft.)
US 50 at MD 328			
Eastbound Left/Thru			Continuous
Westbound Left/Thru			Continuous
Northbound Left	123(111)	123(111)	125
Southbound Left	116(363)	118(373)	475

Cycle Length: 135 AM (150 PM)

US 50 at MD 331			
Eastbound Left	129(245)	129(245)	400
Westbound Left/Thru			Continuous
Northbound Left	91(95)	91(95)	150
Southbound Left	151(354)	151(354)	450

Cycle Length: 135 AM (150 PM)

CONCLUSIONS AND RECOMMENDATIONS

The results of the Raughley Family Realty Business Trust residential development are presented below.

INTERSECTION LEVEL OF SERVICE

The results of the study find that upon the build-out of the Raughley Family Realty Business Trust residential development, all of the study intersections are projected to operate at acceptable "C" or better levels of service when analyzed using the Critical Lane Volume (CLV) and the Highway Capacity Manual (HCM) analysis methods.

INTERSECTION QUEUING ANALYSIS

The queuing analyses results determined the existing turn bays at the key signalized study intersections are adequate to store the new site generated trips. The queues for the stopped approaches at the site access intersection are approximately one vehicle and Elliott Road operates with queue-free conditions.

Based on the adequate study results, we recommend approval of this development from a traffic impact standpoint.

APPENDIX I

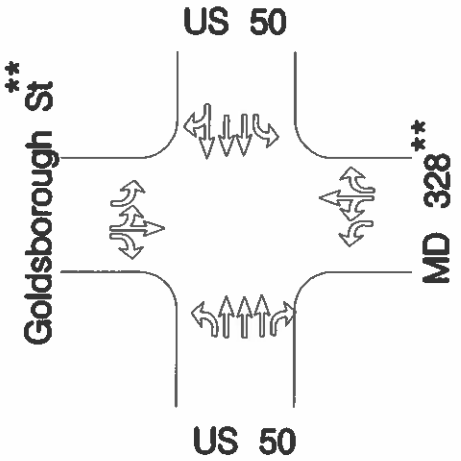
CRITICAL LANE VOLUME ANALYSES

TRAFFIC CONCEPTS, Inc.

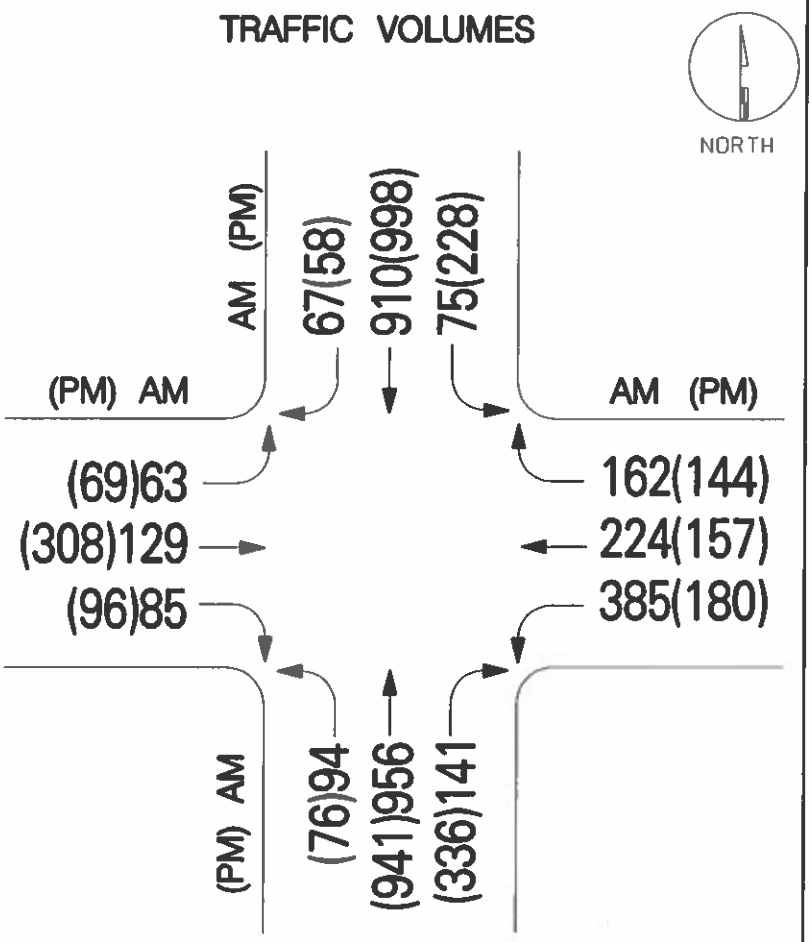
LANE CONFIGURATION

** SPLIT PHASED

NORTH



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF	*		+	OPPOSING LEFTS * LUF	*		=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	956	*	0.4	+	75	*	1	=	457	
	SB	(910+67)	*	0.4	+	94	*	1	=	485*	
	EB	(63+129)	*	0.6					=	115*	A
	WB	(385+224)	*	0.6					=	365*	965
PM	NB	941	*	0.4	+	228	*	1	=	604*	
	SB	(998+58)	*	0.4	+	76	*	1	=	498	
	EB	(69+309)	*	0.6					=	226*	B
	WB	(180+157)	*	0.6					=	202*	1032

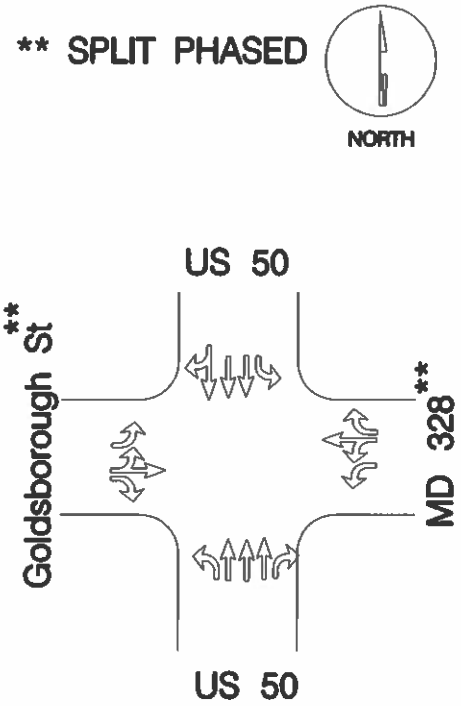
CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: EXISTING

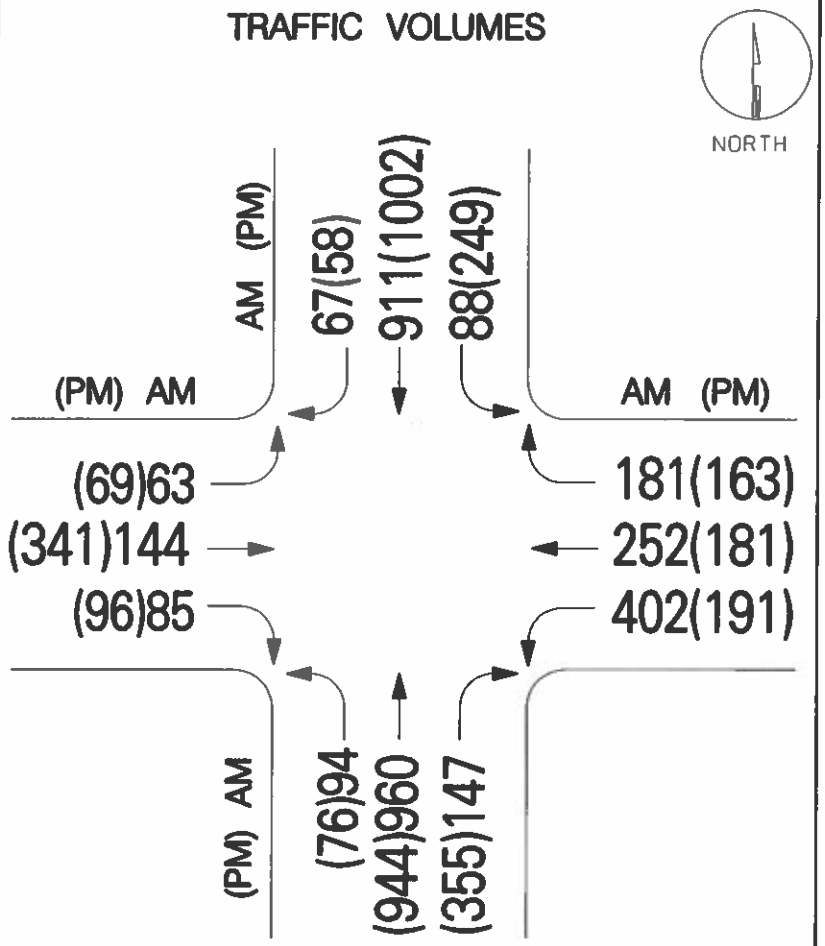
TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION

** SPLIT PHASED



TRAFFIC VOLUMES



		TOTAL VOLUME	*	LUF	+	OPPOSING LEFTS	*	LUF	=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	960	*	0.4	+	88	*	1	=	472	
	SB	(911+67)	*	0.4	+	94	*	1	=	485*	
	EB	(63+144)	*	0.6					=	124*	B
	WB	(402+252)	*	0.6					=	392*	1001
PM	NB	944	*	0.4	+	249	*	1	=	627*	
	SB	(1002+58)	*	0.4	+	76	*	1	=	500	
	EB	(69+341)	*	0.6					=	246*	B
	WB	(191+181)	*	0.6					=	223*	1096

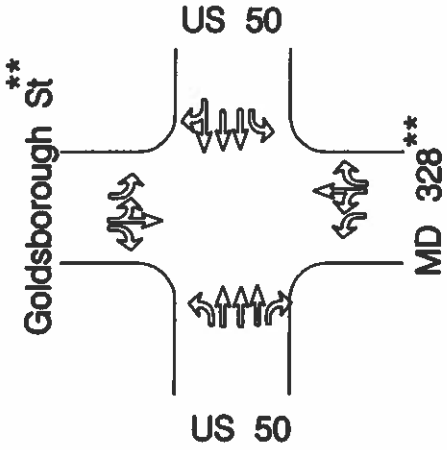
CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: BACKGROUND

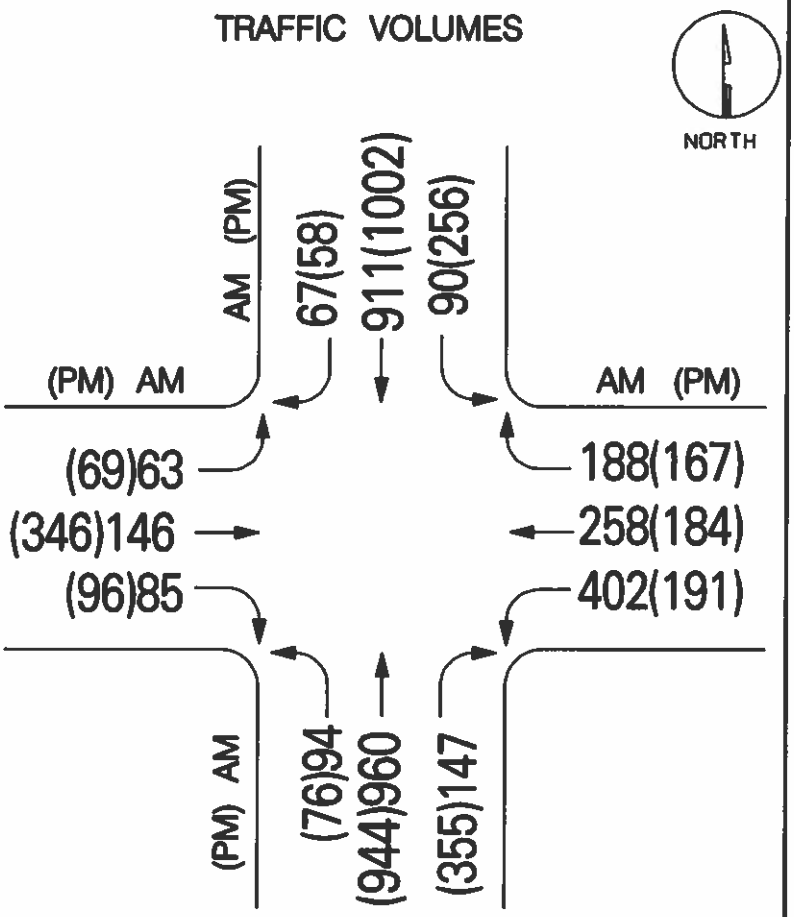
TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION

** SPLIT PHASED



TRAFFIC VOLUMES



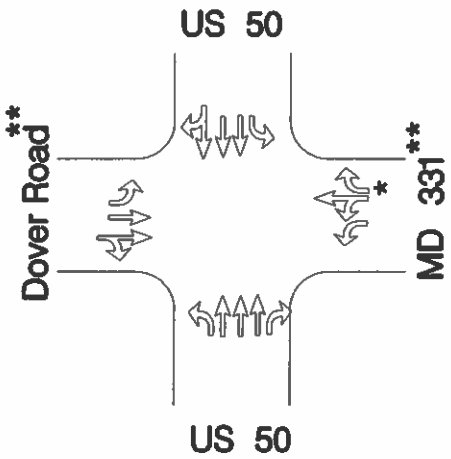
		TOTAL VOLUME * LUF	*		+	OPPOSING LEFTS * LUF	*		=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	960	*	0.4	+	90	*	1	=	474	
	SB	(911+67)	*	0.4	+	94	*	1	=	485*	
	EB	(63+146)	*	0.6					=	125*	B
	WB	(402+258)	*	0.6					=	396*	1006
PM	NB	944	*	0.4	+	256	*	1	=	634*	
	SB	(1002+58)	*	0.4	+	76	*	1	=	500	
	EB	(69+346)	*	0.6					=	249*	B
	WB	(191+184)	*	0.6					=	225*	1108

CRITICAL LANE ANALYSIS

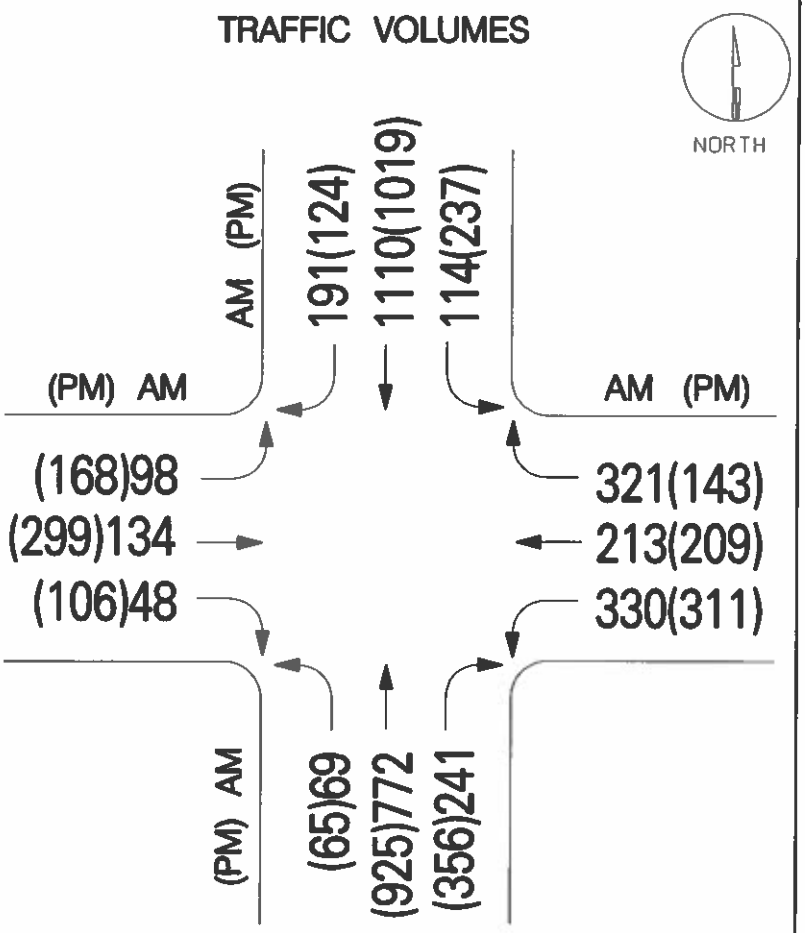
Prepared By: J. CAREY Condition: FUTURE

TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION
* FREE RIGHT
** SPLIT PHASED



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF	*		+	OPPOSING LEFTS * LUF	*		=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	772	*	0.4	+	114	*	1	=	423	
	SB	(1110+191)	*	0.4	+	69	*	1	=	589*	
	EB	(134+48)	*	0.55					=	100*	B
	WB	(330+213)	*	0.6					=	326*	1015
PM	NB	925	*	0.4	+	237	*	1	=	607*	
	SB	(1019+124)	*	0.4	+	65	*	1	=	522	
	EB	(106+299)	*	0.55					=	223*	B
	WB	(311+209)	*	0.6					=	312*	1142

CRITICAL LANE ANALYSIS

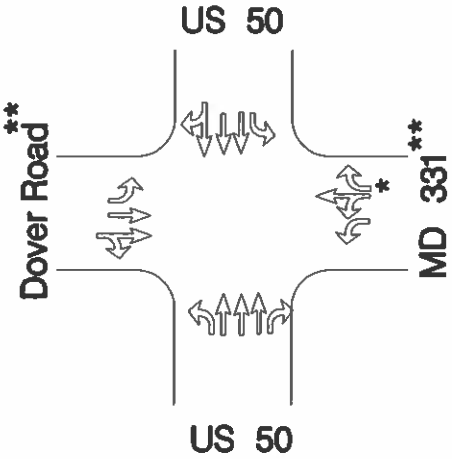
Prepared By: J. CAREY Condition: EXISTING

TRAFFIC CONCEPTS, Inc.

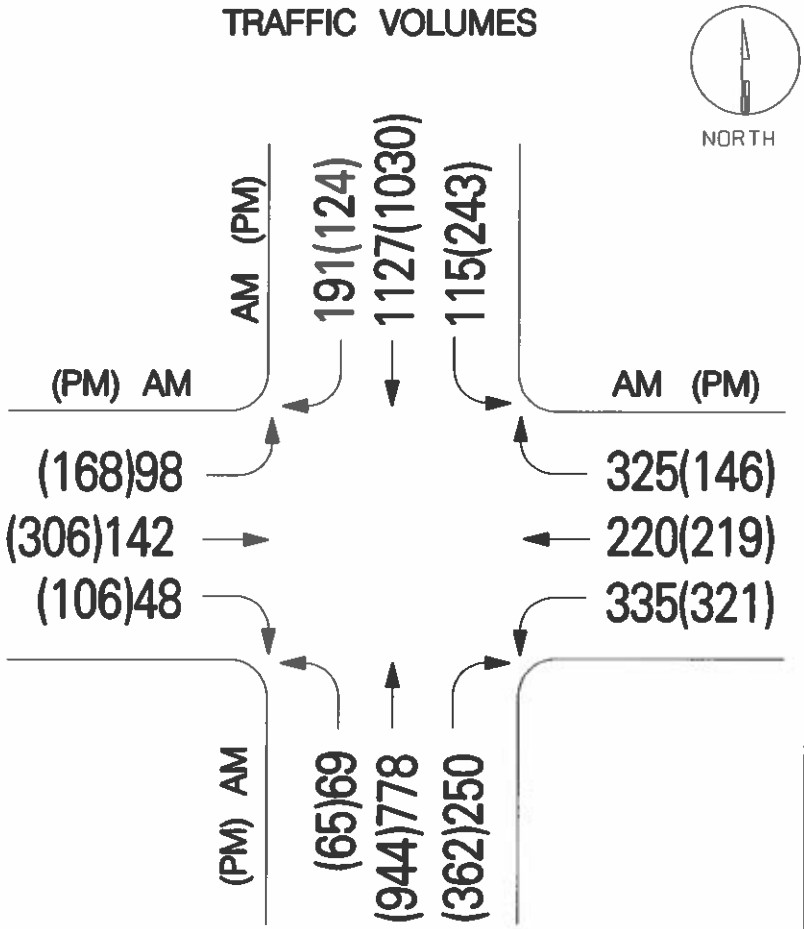
LANE CONFIGURATION

* FREE RIGHT

** SPLIT PHASED



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF			+	OPPOSING LEFTS * LUF			=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	778	*	0.4	+	115	*	1	=	426	
	SB	(1127+191)	*	0.4	+	69	*	1	=	596*	
	EB	(142+48)	*	0.55					=	105*	B
	WB	(333+220)	*	0.6					=	333*	1034
PM	NB	944	*	0.4	+	243	*	1	=	621*	
	SB	(1030+124)	*	0.4	+	65	*	1	=	527	
	EB	(106+306)	*	0.55					=	227*	C
	WB	(321+219)	*	0.6					=	324*	1172

CRITICAL LANE ANALYSIS

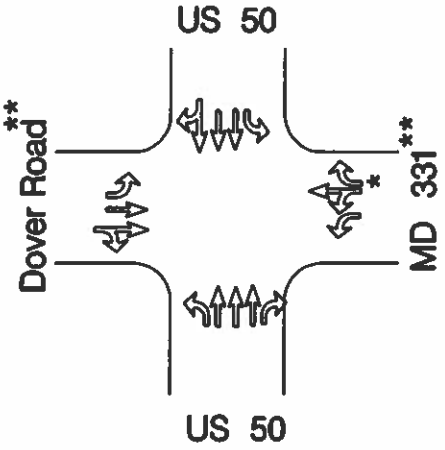
Prepared By: J. CAREY Condition: BACKGROUND

TRAFFIC CONCEPTS, Inc.

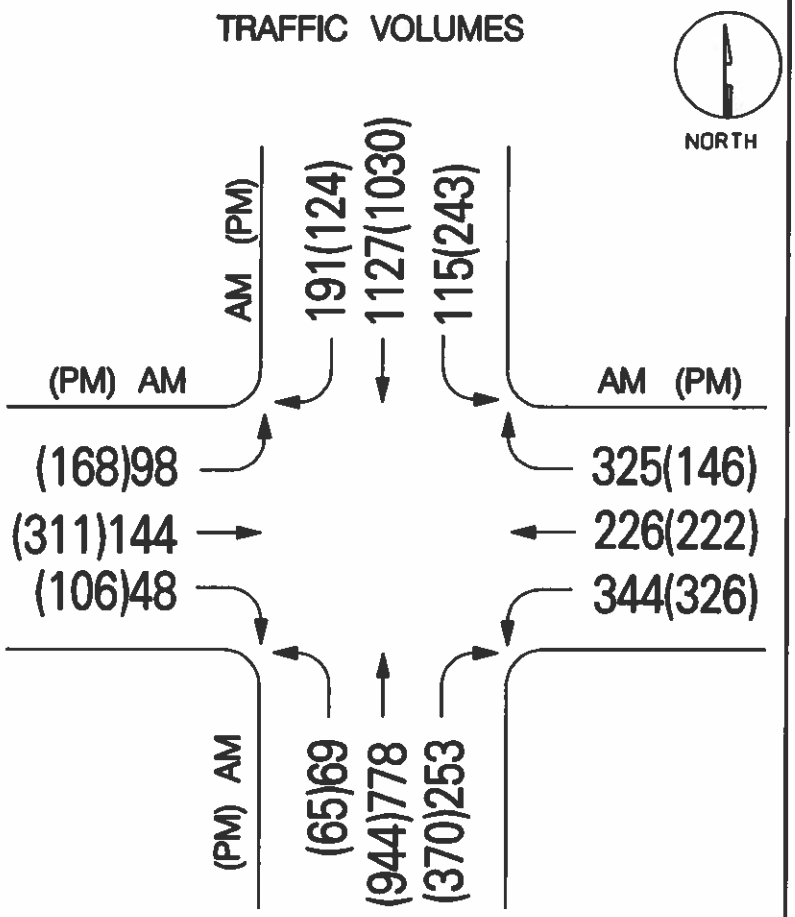
LANE CONFIGURATION

* FREE RIGHT

** SPLIT PHASED



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF			+	OPPOSING LEFTS * LUF			=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	778	*	0.4	+	115	*	1	=	426	
	SB	(1127+191)	*	0.4	+	69	*	1	=	596*	
	EB	(144+48)	*	0.55					=	106*	B
	WB	(344+226)	*	0.6					=	342*	1044
PM	NB	944	*	0.4	+	243	*	1	=	621*	
	SB	(1030+124)	*	0.4	+	65	*	1	=	527	
	EB	(106+311)	*	0.55					=	229*	C
	WB	(326+222)	*	0.6					=	329*	1206

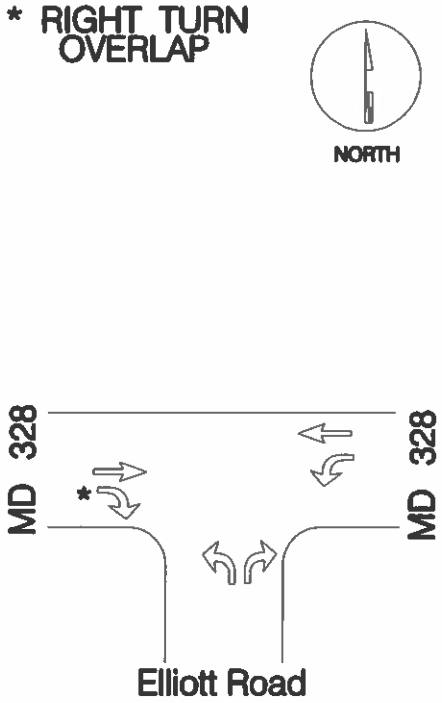
CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: FUTURE

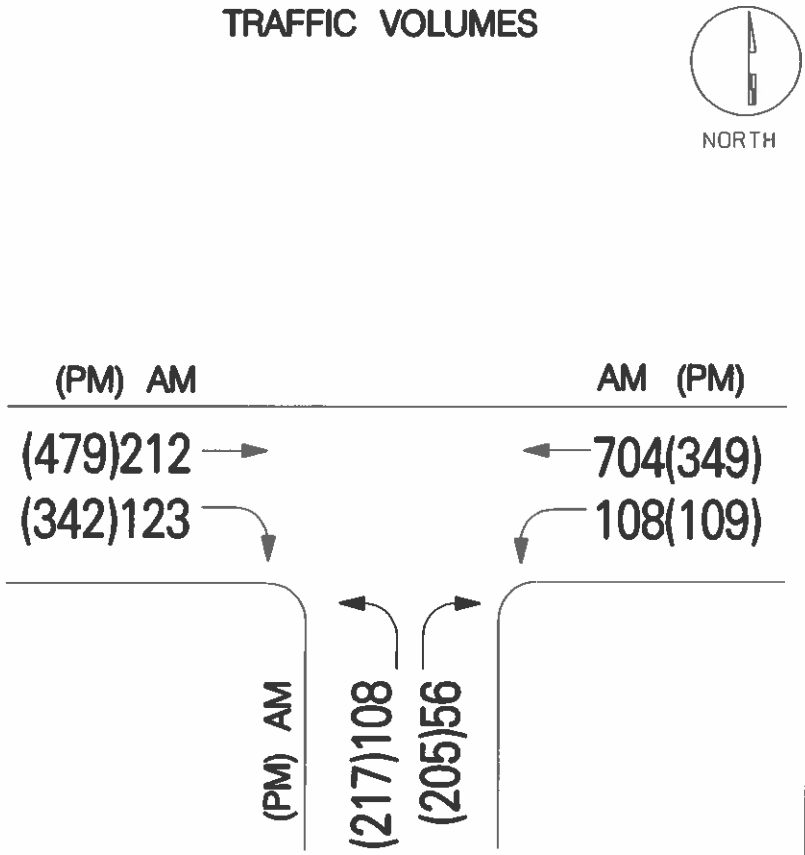
TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION

* RIGHT TURN OVERLAP



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF			+	OPPOSING LEFTS * LUF			=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	106	*	1					=	106*	
	SB				—					—	
	EB	212	*	1	+	108	*	1	=	320	A
	WB	704	*	1					=	704*	810
PM	NB	217	*	1					=	217*	
	SB				—					—	
	EB	479	*	1	+	109	*	1	=	588*	A
	WB	349	*	1					=	349	805

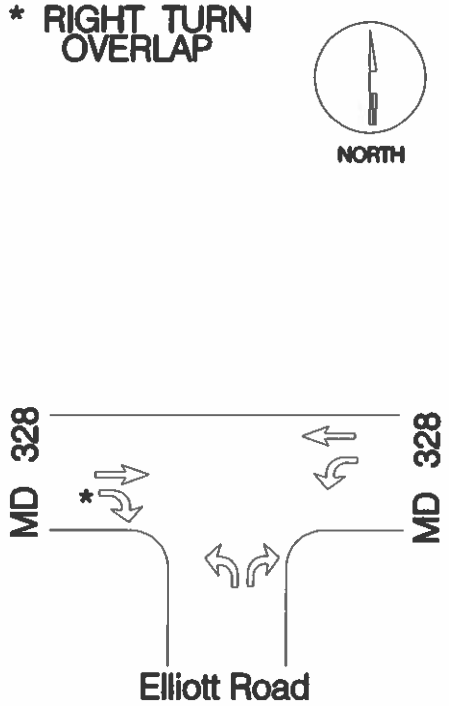
CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: EXISTING

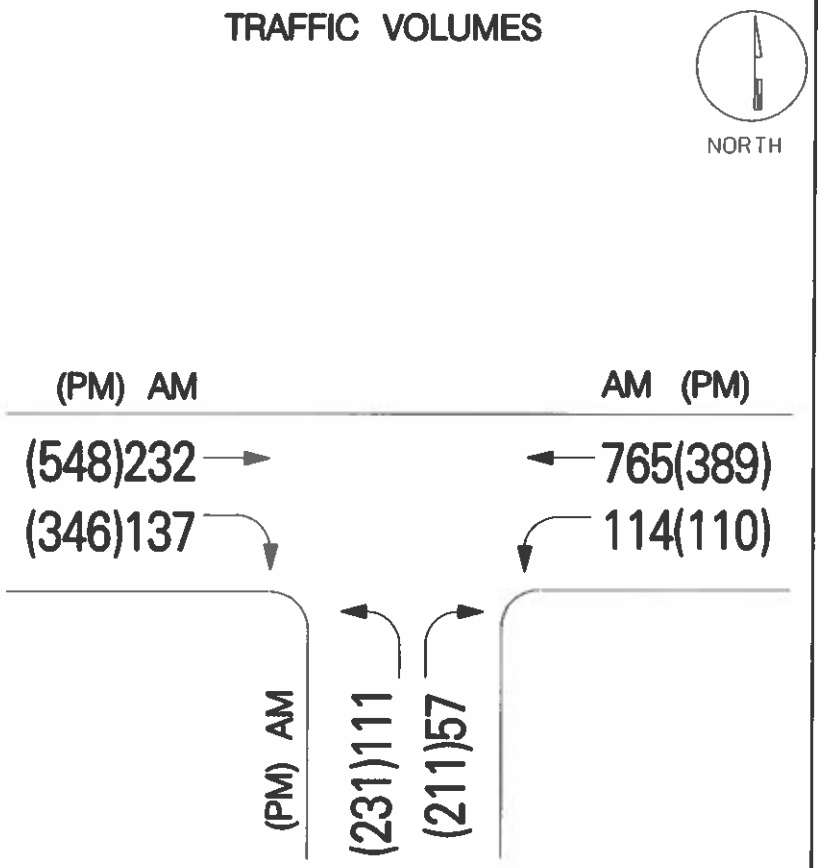
TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION

* RIGHT TURN OVERLAP



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF	+	OPPOSING LEFTS * LUF	=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	111 * 1			=	111*	
	SB	—				—	
	EB	232 * 1	+	114 * 1	=	346	A
	WB	765 * 1			=	765*	876
PM	NB	231 * 1			=	231*	
	SB	—				—	
	EB	548 * 1	+	110 * 1	=	658*	A
	WB	389 * 1			=	389	889

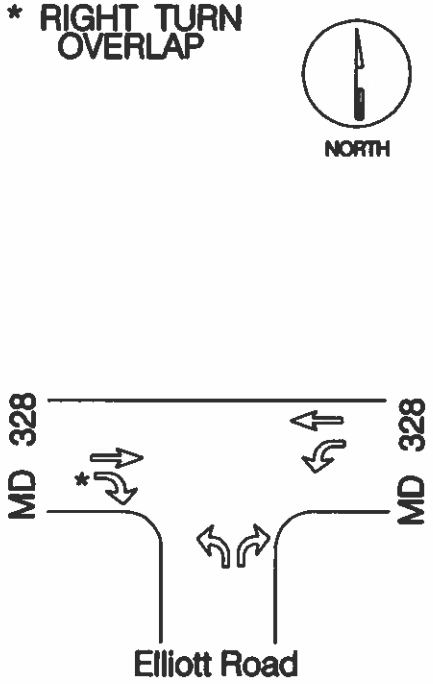
CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: BACKGROUND

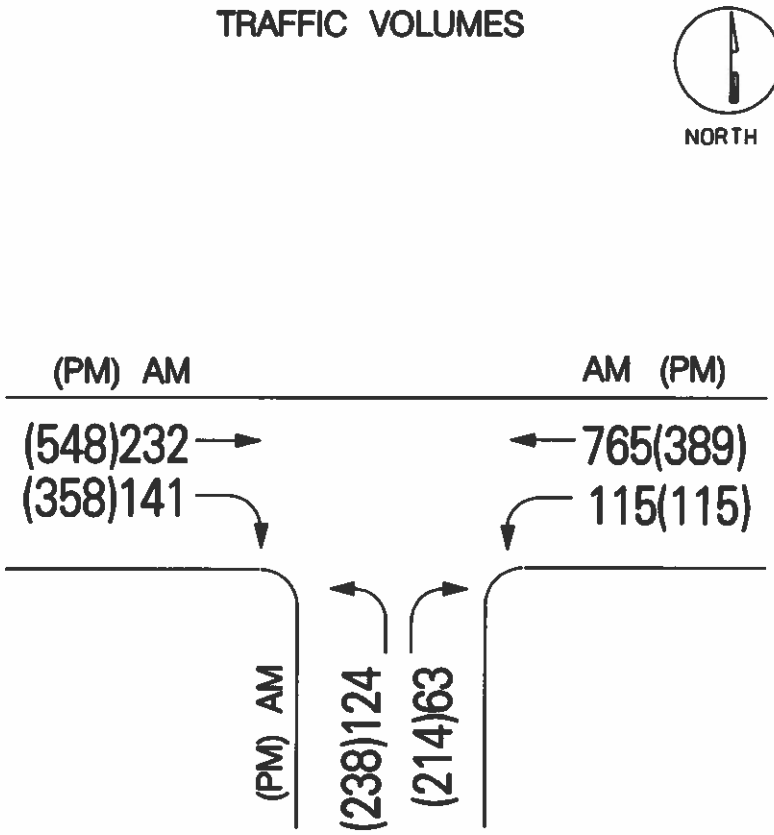
TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION

* RIGHT TURN OVERLAP



TRAFFIC VOLUMES



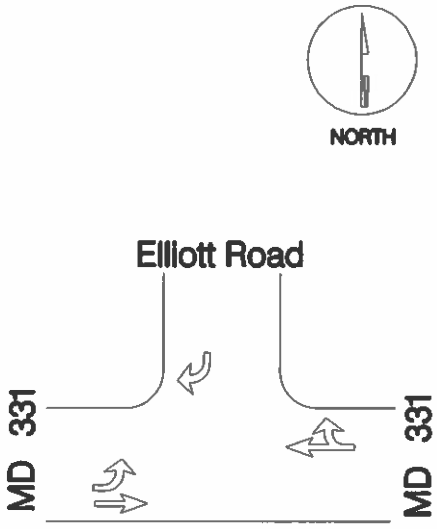
		TOTAL VOLUME * LUF	+	OPPOSING LEFTS * LUF	=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	124 * 1			=	124*	
	SB		—			—	
	EB	232 * 1	+	115 * 1	=	347	A
	WB	765 * 1			=	765*	889
PM	NB	238 * 1			=	238*	
	SB		—			—	
	EB	548 * 1	+	115 * 1	=	663*	A
	WB	389 * 1			=	389	901

CRITICAL LANE ANALYSIS

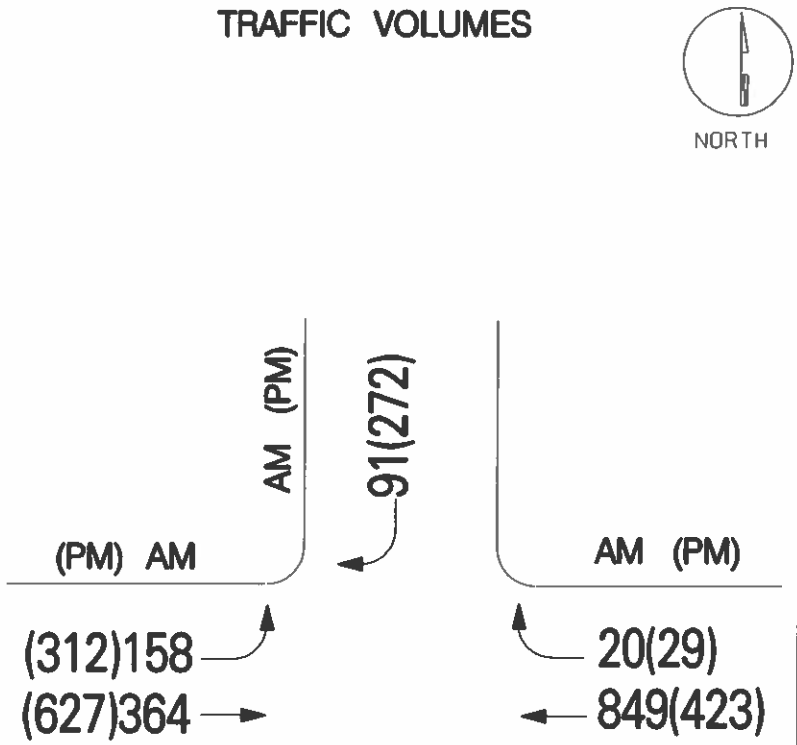
Prepared By: J. CAREY Condition: FUTURE

TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION



TRAFFIC VOLUMES



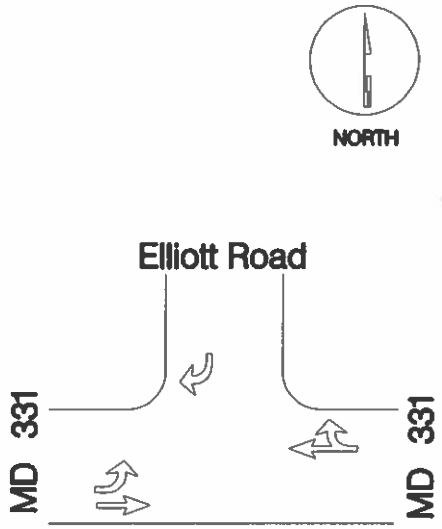
		TOTAL VOLUME * LUF	+	OPPOSING LEFTS * LUF =	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	—			—	
	SB	91 * 1	+	=	91*	
	EB	364 * 1	+	=	364	B
	WB	(849+20) * 1	+	158 * 1 =	1027*	1118
PM	NB	—			—	
	SB	272 * 1		=	272*	
	EB	627 * 1		=	627	B
	WB	(423+29) * 1	+	312 * 1 =	764*	1036

CRITICAL LANE ANALYSIS

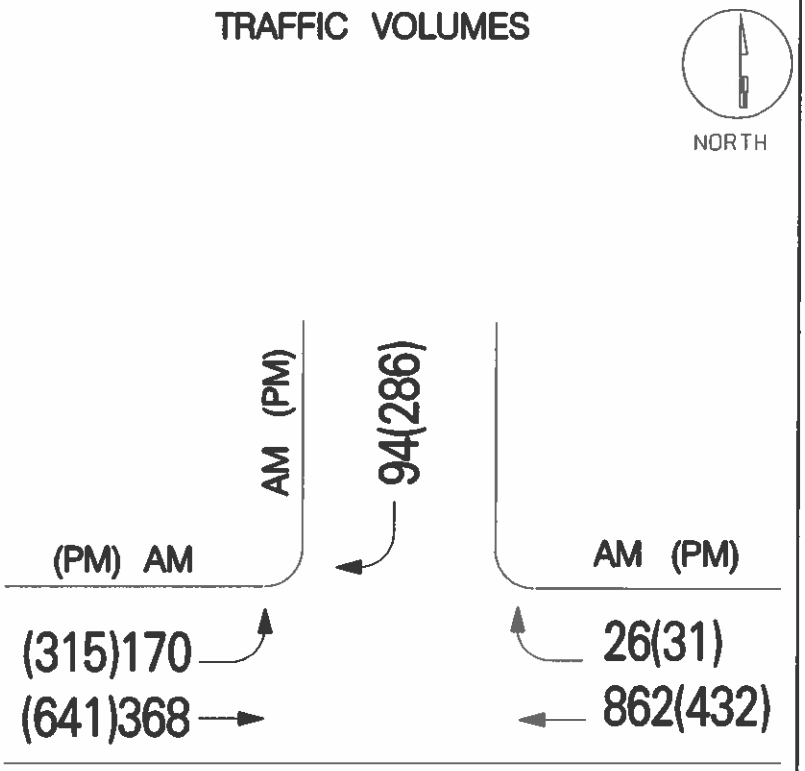
Prepared By: J. CAREY Condition: EXISTING

TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION



TRAFFIC VOLUMES



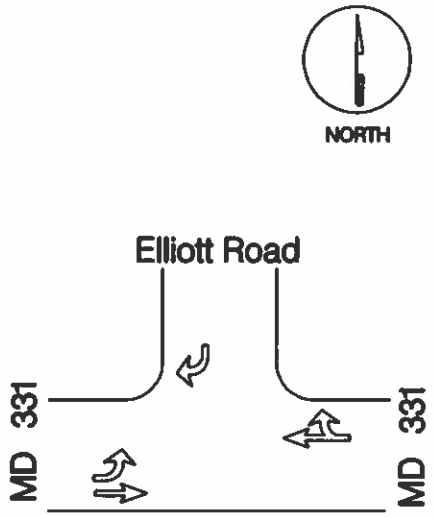
		TOTAL VOLUME * LUF	+	OPPOSING LEFTS * LUF =	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	—			—	
	SB	94 * 1	+	=	94*	
	EB	368 * 1	+	=	368	C
	WB	(862+26) * 1	+	170 * 1 =	1058*	1152
PM	NB	—			—	
	SB	286 * 1		=	286*	
	EB	641 * 1		=	641	B
	WB	(432+31) * 1	+	315 * 1 =	778*	1064

CRITICAL LANE ANALYSIS

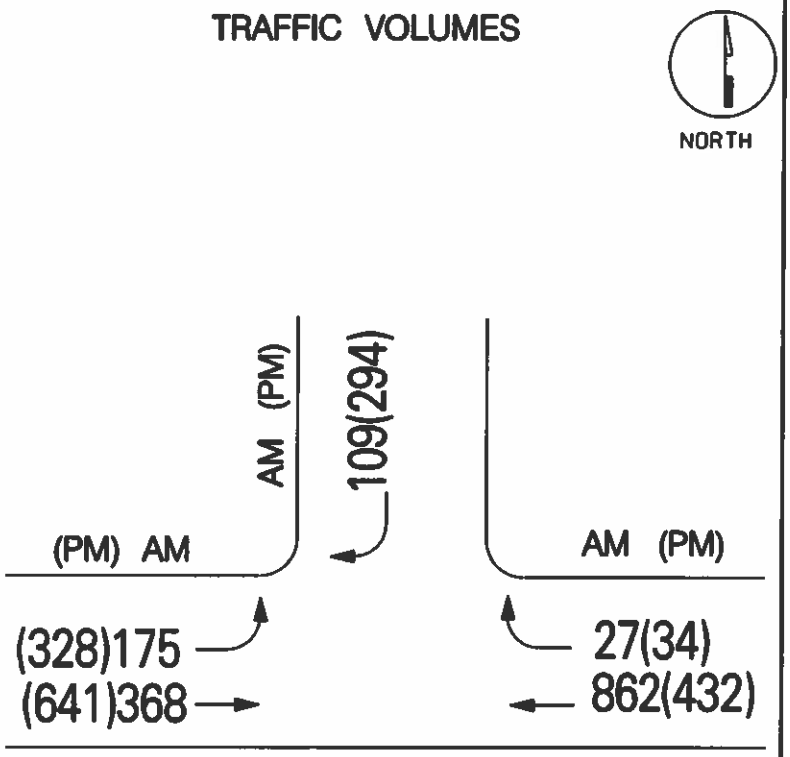
Prepared By: J. CAREY Condition: BACKGROUND

TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION



TRAFFIC VOLUMES



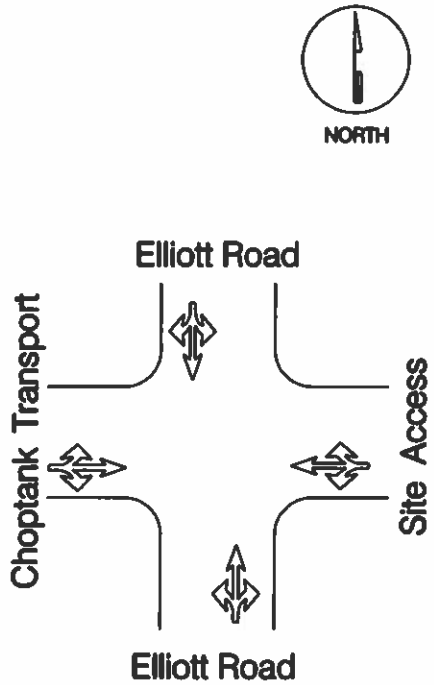
		TOTAL VOLUME * LUF	+	OPPOSING LEFTS * LUF =	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	—			—	
	SB	109 * 1	+	=	109*	
	EB	368 * 1	+	=	368	C
	WB	(862+27) * 1	+	175 * 1 =	1064*	1173
PM	NB	—			—	
	SB	294 * 1		=	294*	
	EB	641 * 1		=	641	B
	WB	(432+34) * 1	+	328 * 1 =	794*	1088

CRITICAL LANE ANALYSIS

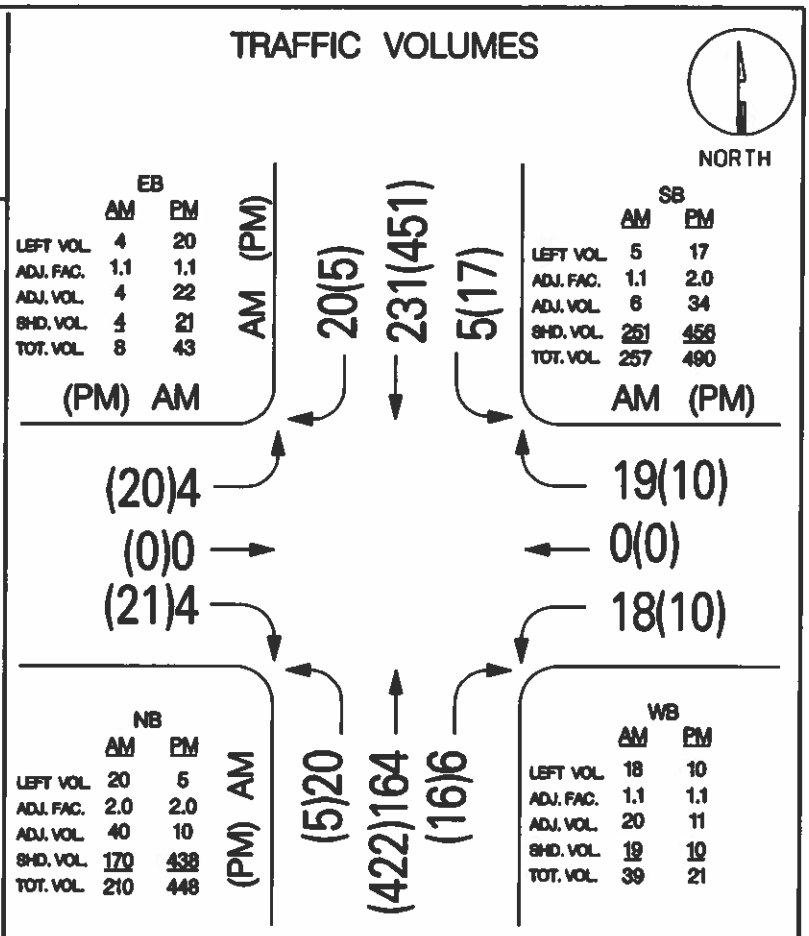
Prepared By: J. CAREY Condition: FUTURE

TRAFFIC CONCEPTS, Inc.

LANE CONFIGURATION



TRAFFIC VOLUMES



		TOTAL VOLUME * LUF			+	OPPOSING LEFTS * LUF			=	CRITICAL LANE VOLUME	LEVEL OF SERVICE
AM	NB	210	*	1	+	5	*	1	=	215	
	SB	257	*	1	+	20	*	1	=	277*	
	EB	8	*	1	+	18	*	1	=	26	A
	WB	39	*	1	+	4	*	1	=	43*	320
PM	NB	448	*	1	+	17	*	1	=	465	
	SB	490	*	1	+	5	*	1	=	495*	
	EB	43	*	1	+	10	*	1	=	53*	A
	WB	21	*	1	+	20	*	1	=	41	548

CRITICAL LANE ANALYSIS

Prepared By: J. CAREY Condition: FUTURE

APPENDIX II

HIGHWAY CAPACITY MANUAL ANALYSES

HCS7 Two-Way Stop-Control Report

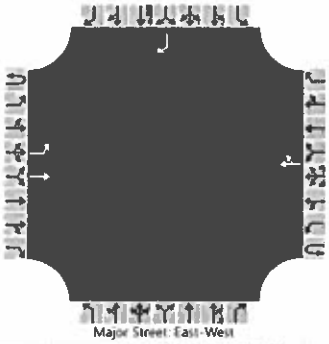
General Information

Analyst	J. Carey
Agency/Co.	Traffic Concepts, Inc.
Date Performed	9/17/2021
Analysis Year	2021
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	3793

Site Information

Intersection	MD 331 at Elliott Rd
Jurisdiction	Town of Easton, MD
East/West Street	MD 331 (Dover Rd)
North/South Street	Elliott Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		158	364				849	20								91
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		170														98
Capacity, c (veh/h)		733														327
v/c Ratio		0.23														0.30
95% Queue Length, Q_{95}(veh)		0.9														1.2
Control Delay (s/veh)		11.4														20.7
Level of Service (LOS)		B														C
Approach Delay (s/veh)	3.4												20.7			
Approach LOS													C			

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HCS7 Two-Way Stop-Control Report

General Information

Analyst	J. Carey
Agency/Co.	Traffic Concepts, Inc.
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Project Description	3793

Site Information

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Jurisdiction	Town of Easton, MD
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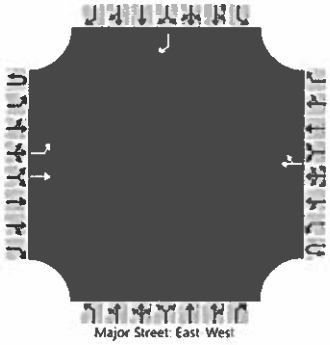
North/South Street	Elliott Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		312	627				423	29								272
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		339														296
Capacity, c (veh/h)		1072														589
v/c Ratio		0.32														0.50
95% Queue Length, Q_{95}(veh)		1.4														2.8
Control Delay (s/veh)		9.9														17.1
Level of Service (LOS)		A														C
Approach Delay (s/veh)	3.3												17.1			
Approach LOS													C			

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HCS7 Two-Way Stop-Control Report

General Information

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Agency/Co.	Traffic Concepts, Inc.
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Analysis Year	2024
Time Analyzed	Background AM
Intersection Orientation	East-West
Project Description	3793

Site Information

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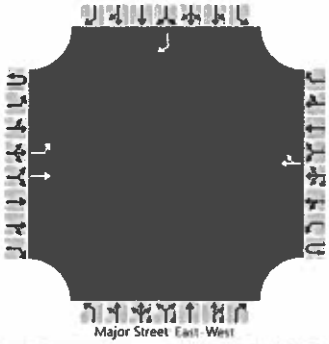
East/West Street	MD 331 (Dover Rd)
North/South Street	Elliott Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		170	368				862	26								94
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		183														101
Capacity, c (veh/h)		720														319
v/c Ratio		0.25														0.32
95% Queue Length, Q_{95}(veh)		1.0														1.3
Control Delay (s/veh)		11.7														21.4
Level of Service (LOS)		B														C
Approach Delay (s/veh)	3.7												21.4			
Approach LOS													C			

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HCS7 Two-Way Stop-Control Report

General Information

Analyst	J. Carey
Agency/Co.	Traffic Concepts, Inc.
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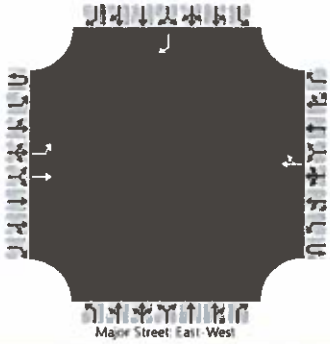
Analysis Year	2024
Time Analyzed	Background PM
Intersection Orientation	East-West
Project Description	3793

Site Information

Intersection	MD 331 at Elliott Rd
Jurisdiction	Town of Easton, MD
East/West Street	MD 331 (Dover Rd)
North/South Street	Elliott Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		315	641				432	31								286
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		342														311
Capacity, c (veh/h)		1061														581
v/c Ratio		0.32														0.54
95% Queue Length, Q_{95}(veh)		1.4														3.2
Control Delay (s/veh)		10.0														18.1
Level of Service (LOS)		A														C
Approach Delay (s/veh)	3.3												18.1			
Approach LOS													C			

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HCS Two-Way Stop-Control Report

General Information

Analyst	I. Halsall
Agency/Co.	Traffic Concepts, Inc.
Date Performed	3/22/2023
Analysis Year	2024
Time Analyzed	Future AM
Intersection Orientation	East-West
Project Description	3793

Site Information

Intersection	MD 331 at Elliott Rd
Jurisdiction	Town of Easton, MD
East/West Street	MD 331 (Dover Rd)
North/South Street	Elliott Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		175	368				862	27								109
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		188														117
Capacity, c (veh/h)		719														319
v/c Ratio		0.26														0.37
95% Queue Length, Q_{95} (veh)		1.0														1.6
Control Delay (s/veh)		11.8														22.7
Level of Service (LOS)		B														C
Approach Delay (s/veh)	3.8												22.7			
Approach LOS	A												C			

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HCS7 Two-Way Stop-Control Report

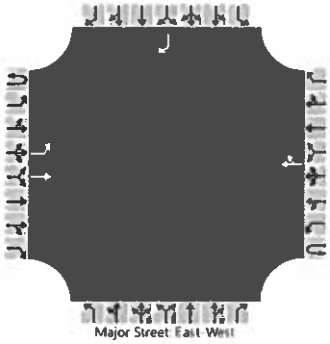
General Information

Analyst	J. Carey
Agency/Co.	Traffic Concepts, Inc.
Date Performed	9/17/2021
Analysis Year	2024
Time Analyzed	Future PM
Intersection Orientation	East-West
Project Description	3793

Site Information

Intersection	MD 331 at Elliott Rd
Jurisdiction	Town of Easton, MD
East/West Street	MD 331 (Dover Rd)
North/South Street	Elliott Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	1
Configuration		L	T					TR								R
Volume (veh/h)		328	641				432	34								294
Percent Heavy Vehicles (%)		2														2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1														6.2
Critical Headway (sec)		4.12														6.22
Base Follow-Up Headway (sec)		2.2														3.3
Follow-Up Headway (sec)		2.22														3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		357														320
Capacity, c (veh/h)		1058														580
v/c Ratio		0.34														0.55
95% Queue Length, Q_{95}(veh)		1.5														3.3
Control Delay (s/veh)		10.1														18.6
Level of Service (LOS)		B														C
Approach Delay (s/veh)	3.4												18.6			
Approach LOS													C			

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HCS Two-Way Stop-Control Report

General Information

Analyst	I. Halsall
Agency/Co.	Traffic Conceps, Inc.
Date Performed	3/22/2023
Analysis Year	2024
Time Analyzed	Future AM
Intersection Orientation	North-South
Project Description	3793

Site Information

Intersection	Elliott Rd at Site Access
Jurisdiction	Town of Easton, MD
East/West Street	Elliott Rd
North/South Street	Site Access
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	0	4		18	0	19		20	164	6		5	231	20
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9				41			22				6		
Capacity, c (veh/h)			564				603			1284				1385		
v/c Ratio			0.02				0.07			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.2			0.1				0.0		
Control Delay (s/veh)			11.5				11.4			7.9	0.2	0.2		7.6	0.0	0.0
Level of Service (LOS)			B				B			A	A	A		A	A	A
Approach Delay (s/veh)	11.5				11.4				1.0				0.2			
Approach LOS	B				B				A				A			

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HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	I. Halsall	Intersection	Elliott Rd at Site Access
Agency/Co.	Traffic Conceps, Inc.	Jurisdiction	Town of Easton, MD
Date Performed	3/22/2023	East/West Street	Elliott Rd
Analysis Year	2024	North/South Street	Site Access
Time Analyzed	Future PM	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	3793		

Lanes

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		20	0	21		10	0	10		5	422	16		17	451	5
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			46				22			6				19		
Capacity, c (veh/h)			298				290			1058				1076		
v/c Ratio			0.15				0.08			0.01				0.02		
95% Queue Length, Q_{95} (veh)			0.5				0.2			0.0				0.1		
Control Delay (s/veh)			19.2				18.4			8.4	0.1	0.1		8.4	0.2	0.2
Level of Service (LOS)			C				C			A	A	A		A	A	A
Approach Delay (s/veh)	19.2				18.4				0.2				0.5			
Approach LOS	C				C				A				A			

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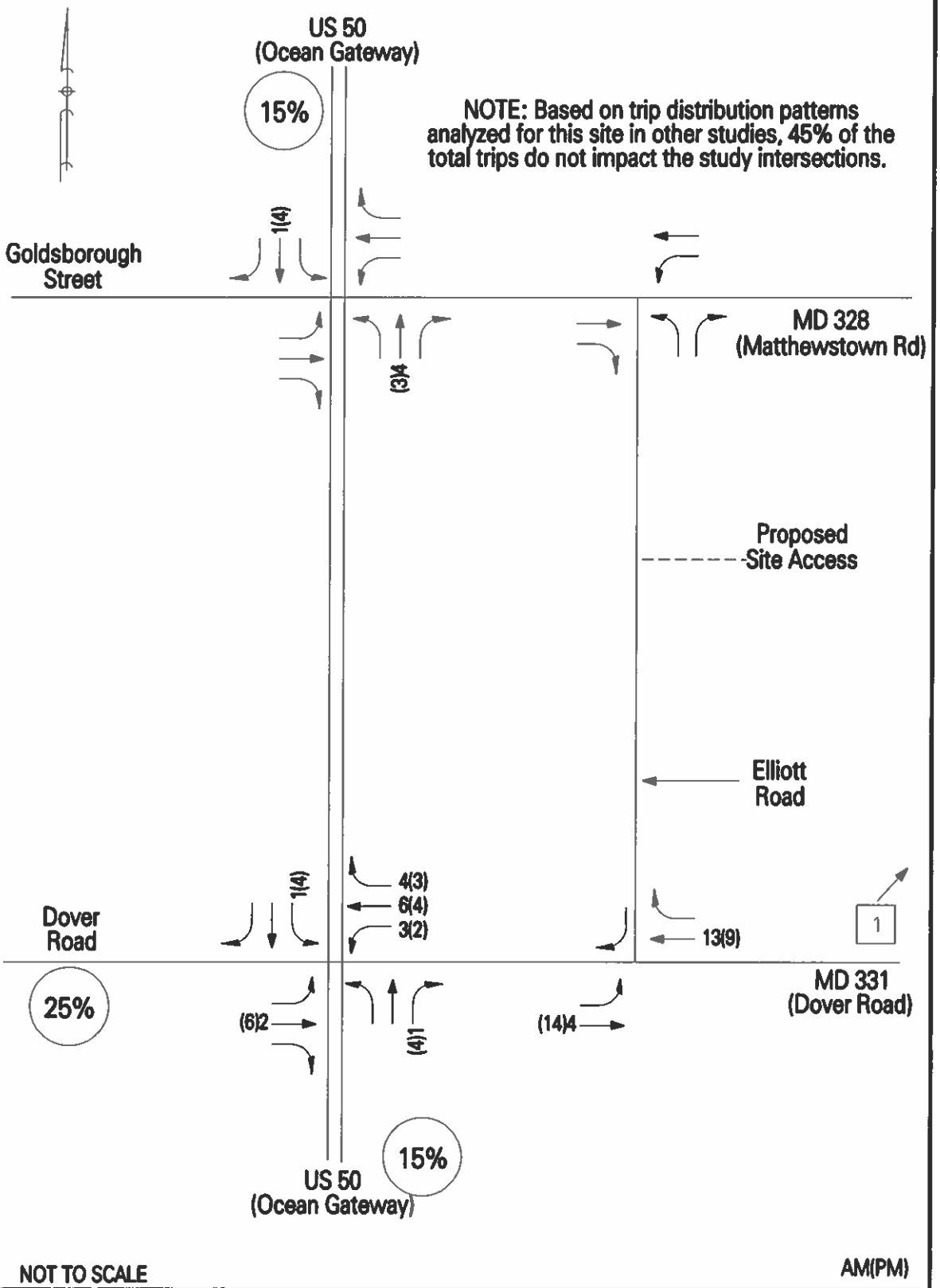
APPENDIX III

BACKGROUND TRAFFIC DATA



TRAFFIC CONCEPTS, INC.
7525 Connelley Drive
Suite B
Hanover, Maryland 21076
410-760-2911

BACKGROUND 1
Brant Court Apartments

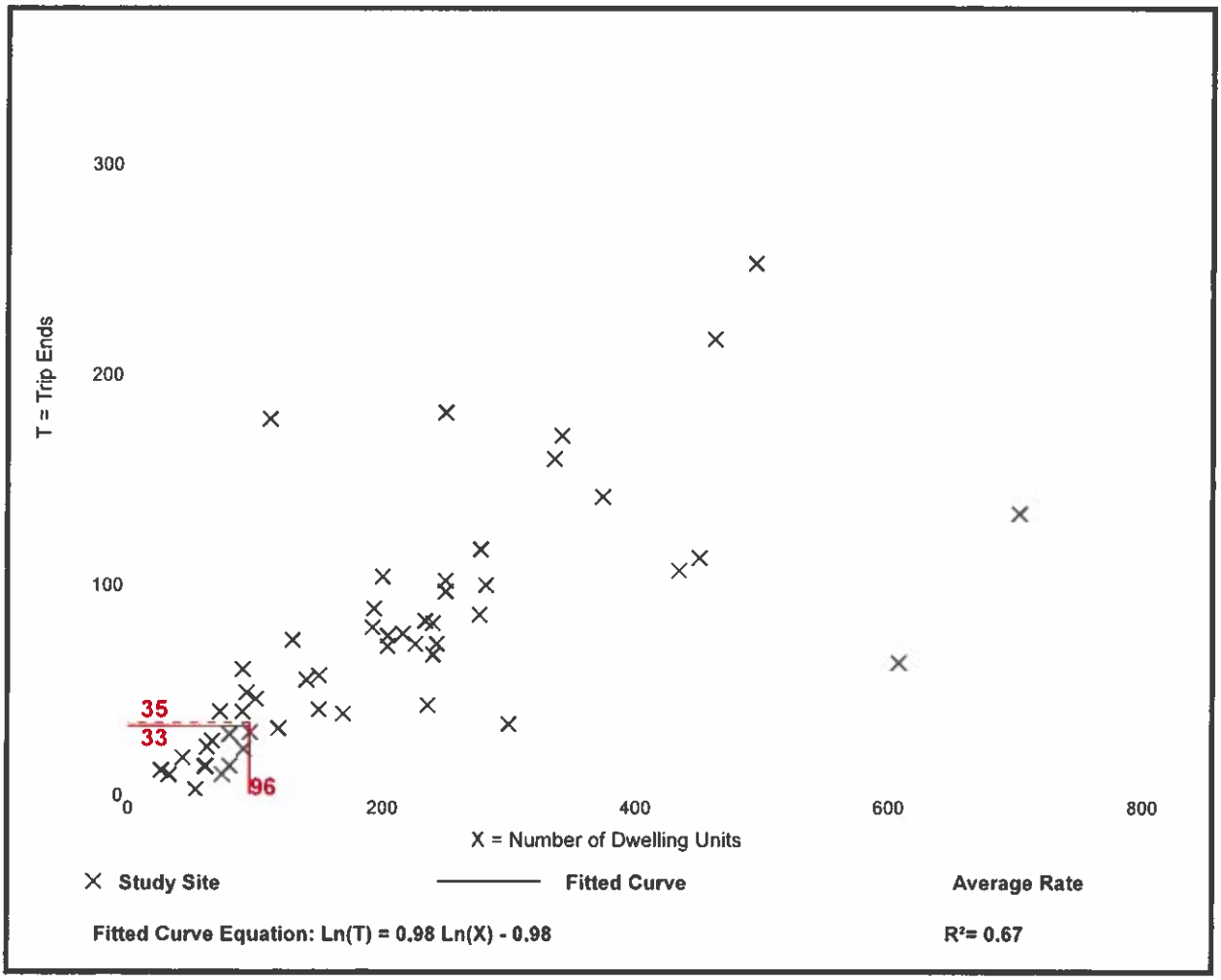
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	53
Avg. Num. of Dwelling Units:	207
Directional Distribution:	26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



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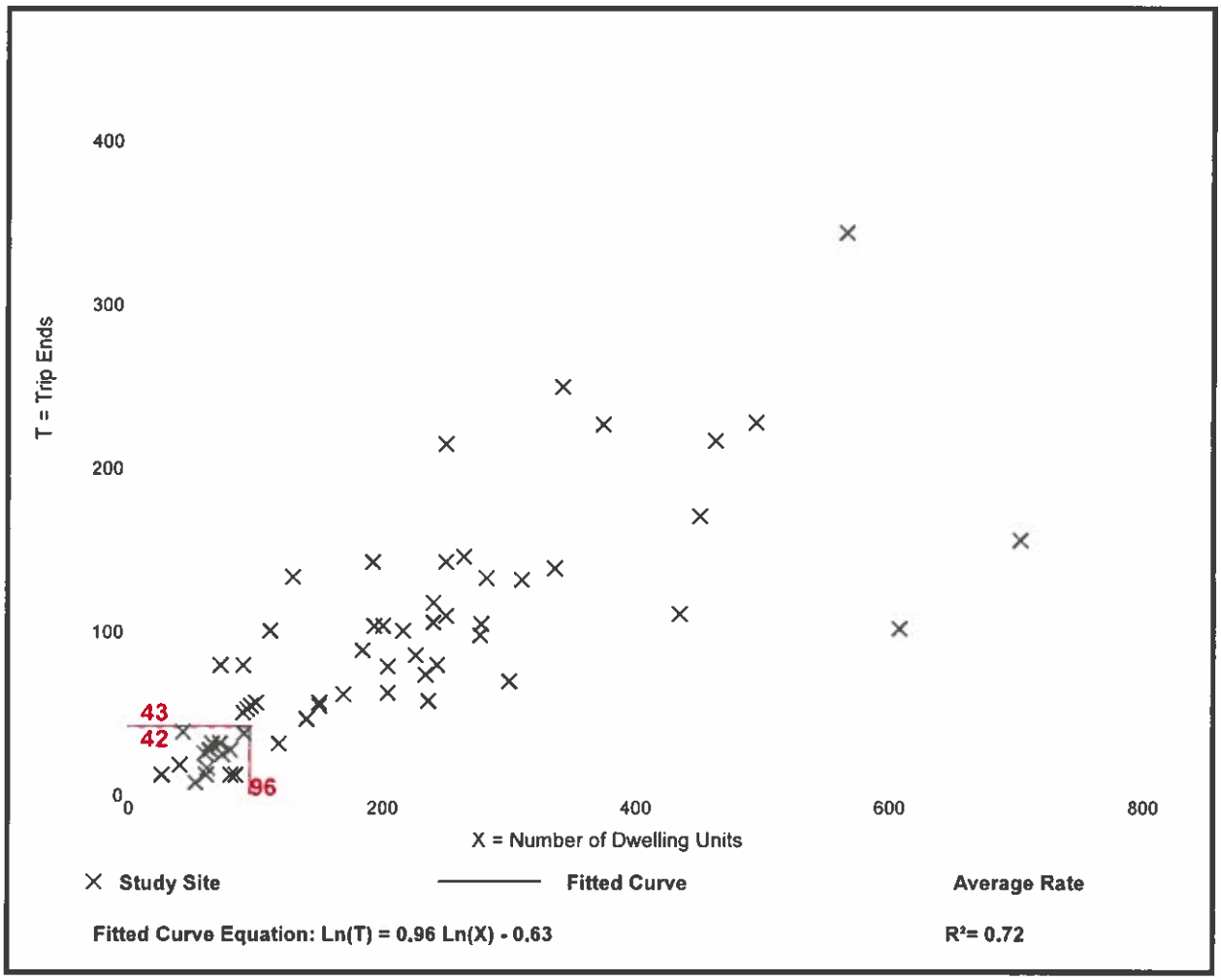
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	60
Avg. Num. of Dwelling Units:	208
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



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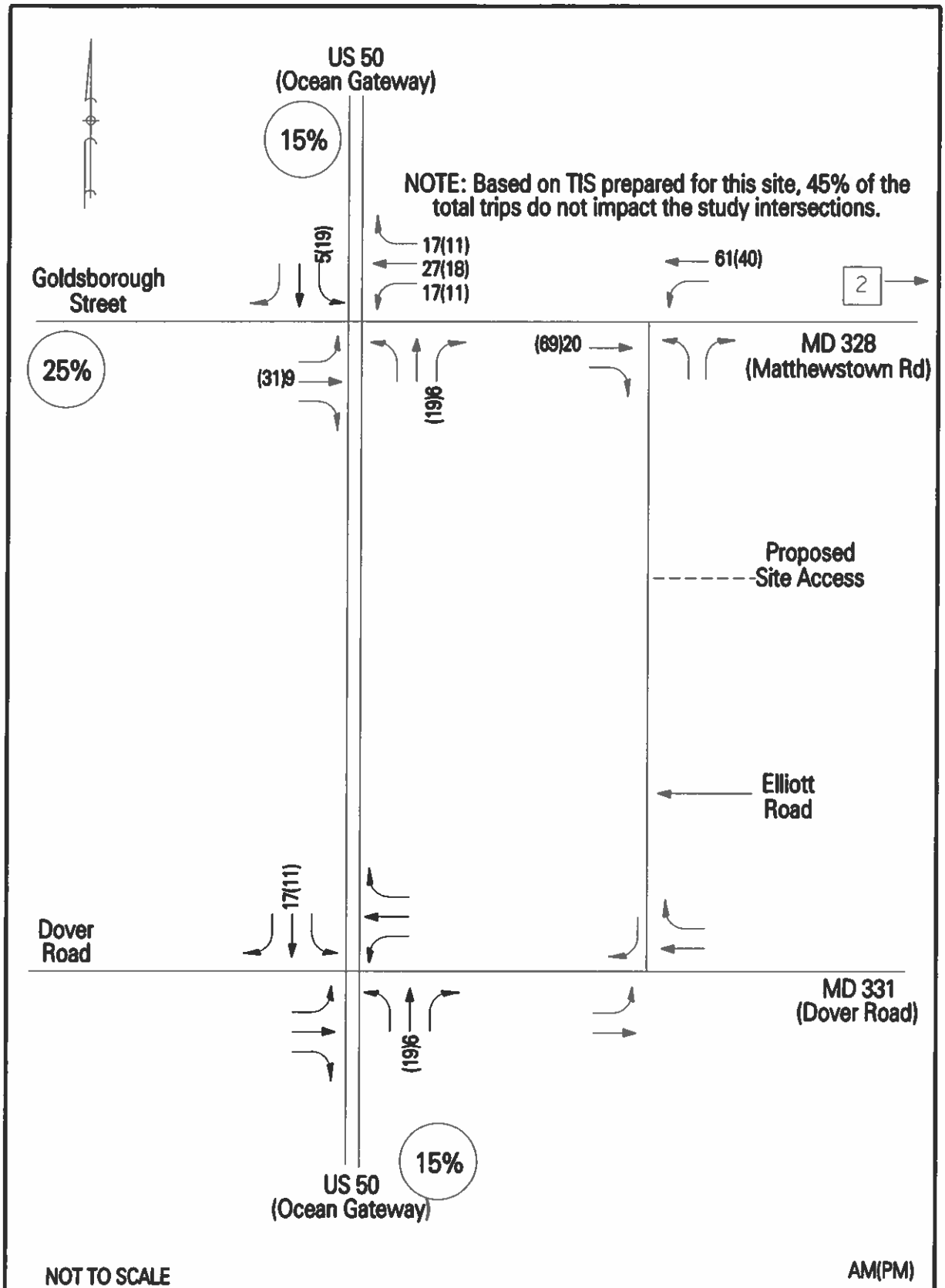


TRAFFIC CONCEPTS, INC.
7525 Connelley Drive
Suite B
Hanover, Maryland 21076
410-760-2911

BACKGROUND 2
DR Horton
(aka Lands of Gannon Family)

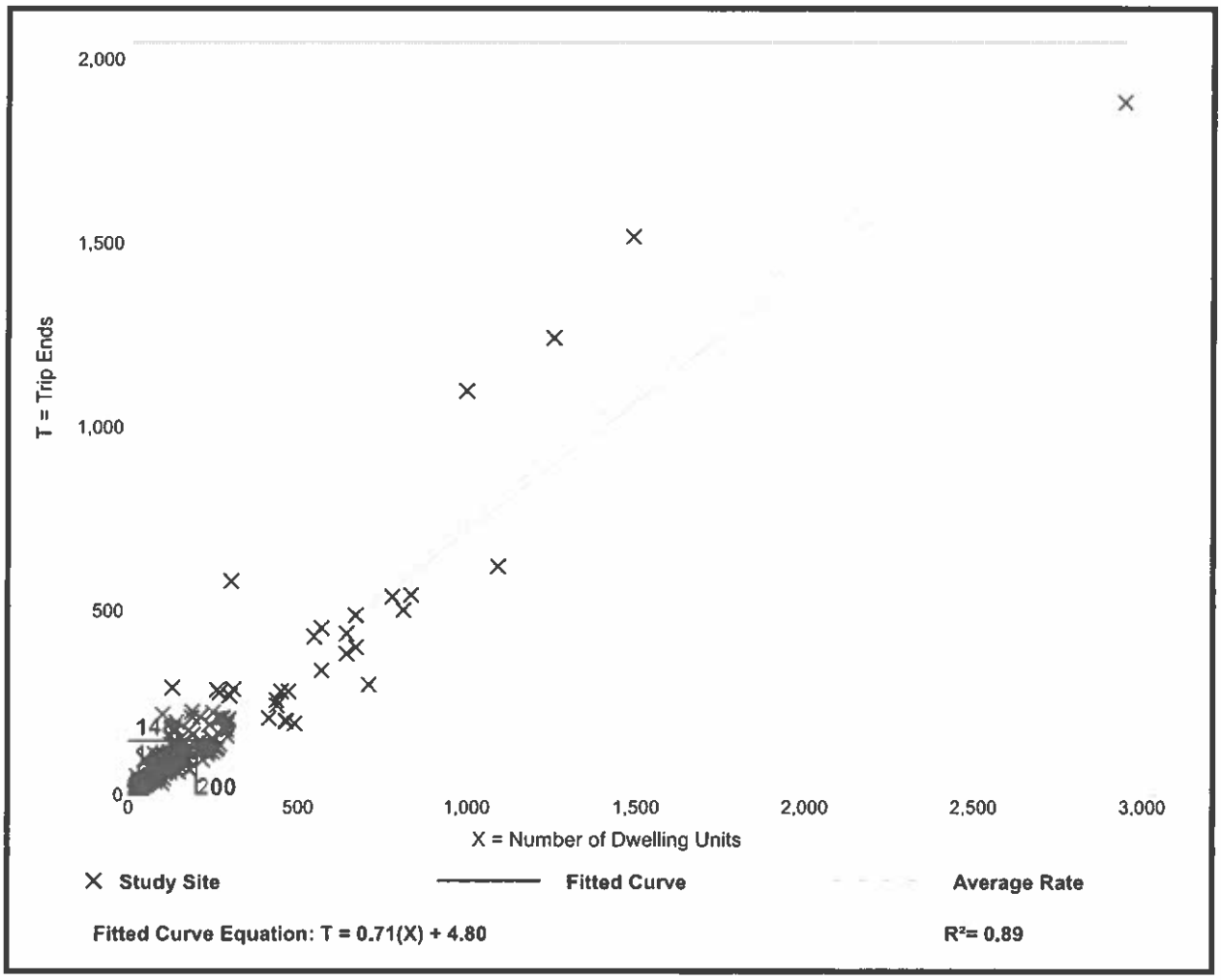
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



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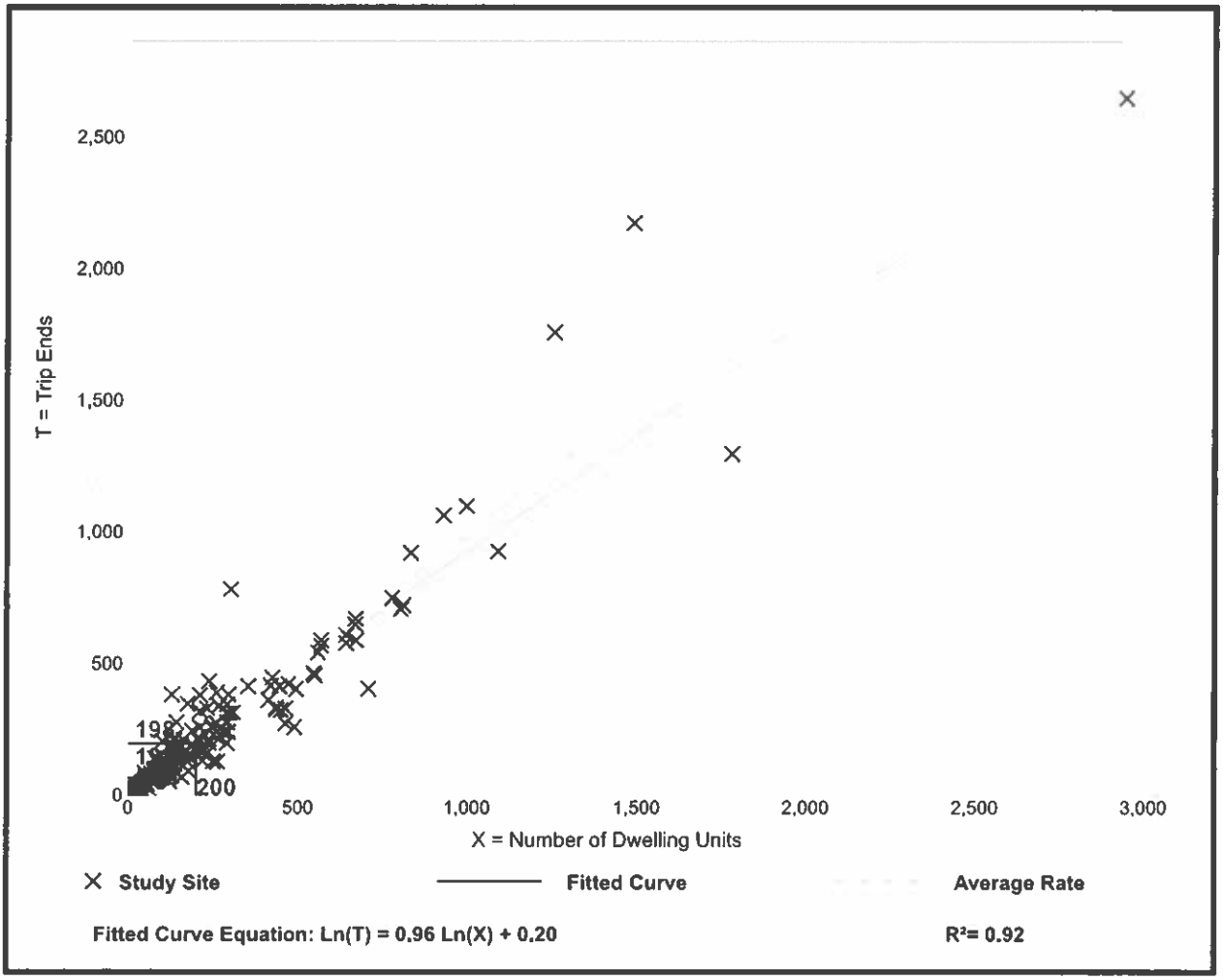
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. Num. of Dwelling Units:	242
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



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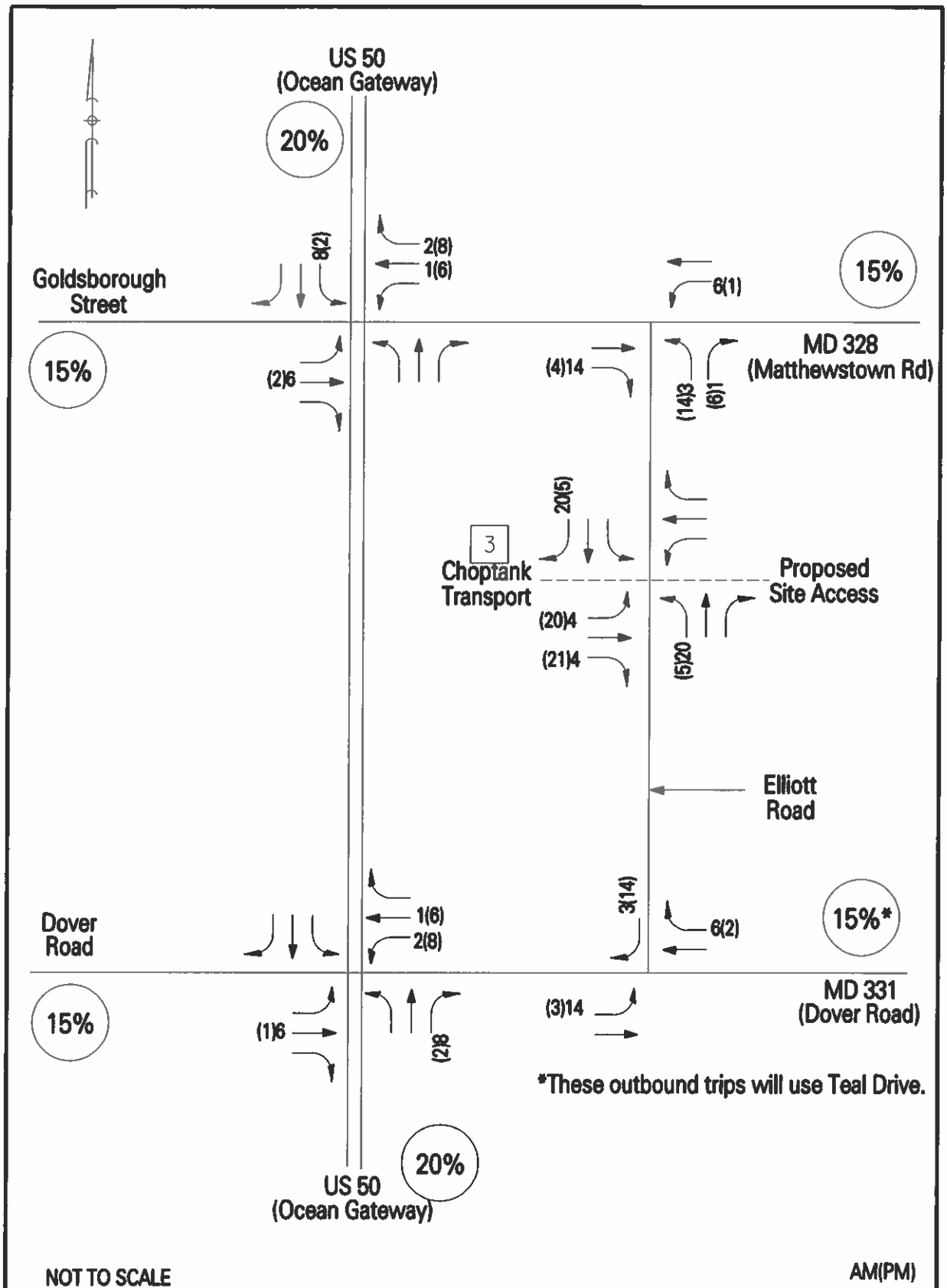

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Suite B
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BACKGROUND 3
Choptank Transport

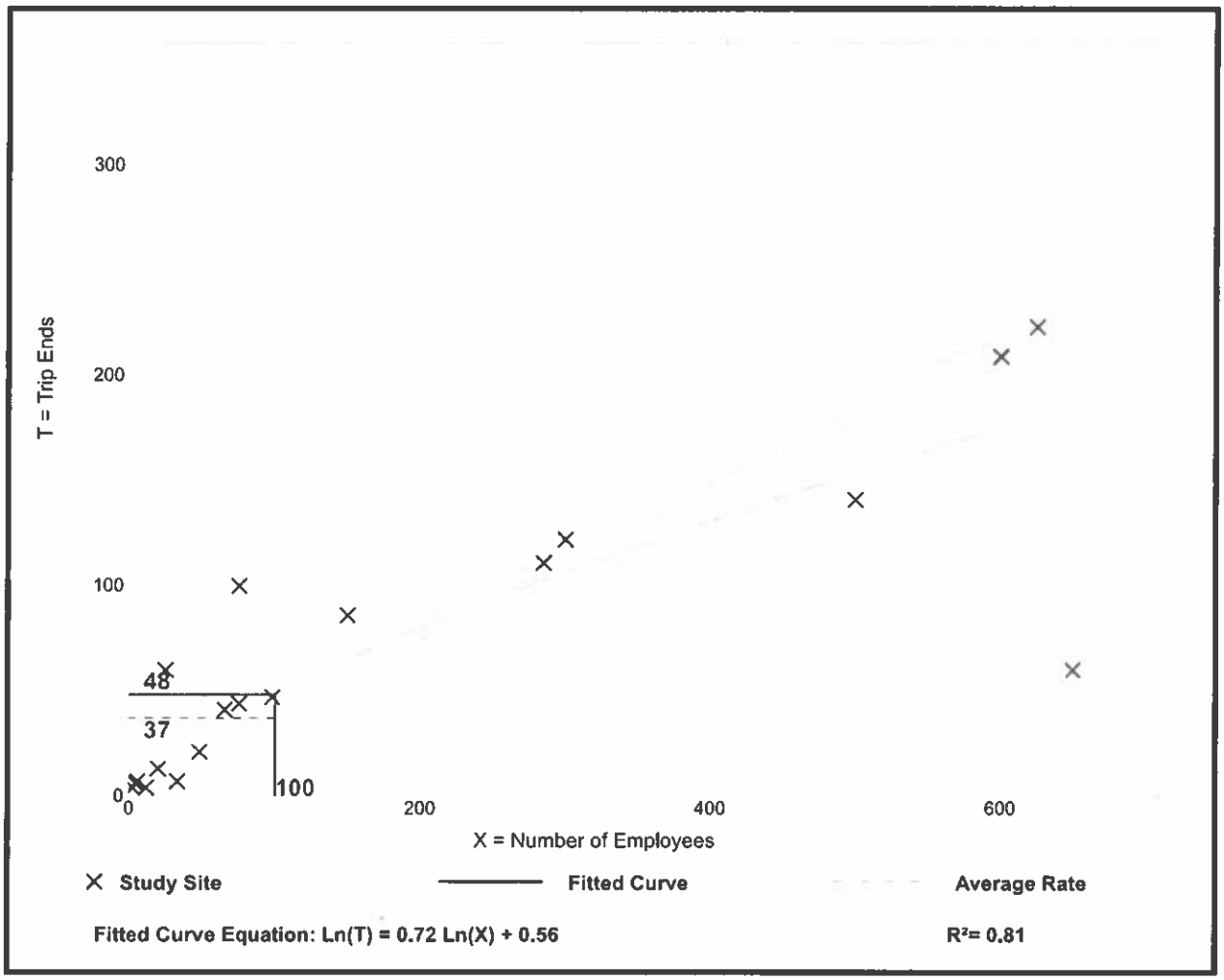
General Office Building
(710)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	19
Avg. Num. of Employees:	188
Directional Distribution:	83% entering, 17% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.37	0.09 - 2.40	0.27

Data Plot and Equation



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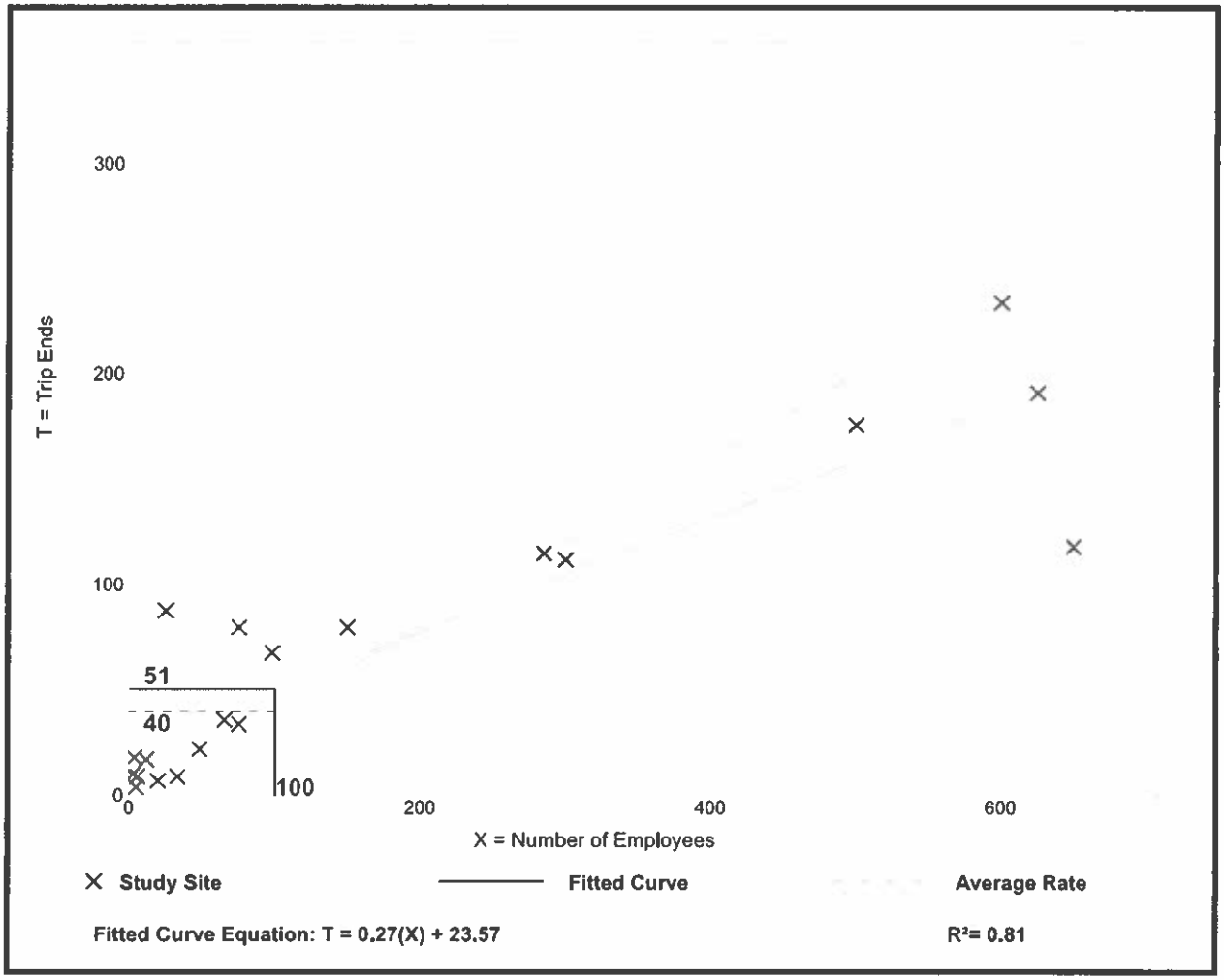
General Office Building
(710)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	20
Avg. Num. of Employees:	179
Directional Distribution:	20% entering, 80% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.40	0.18 - 4.50	0.36

Data Plot and Equation



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APPENDIX IV

TRAFFIC COUNT DATA

MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

County:	TALBOT	Municipality:	NONE
Prefix:	MD	Route NO:	328
Suffix:		Mile Point:	0.5
Location:	MD328-.50 MI E OF US50		
Begin Sect:	0	End Sect:	6.51
Station Desc:	US 50 TO LEWISTOWN RD		
Func Class:	17-URBAN COLLECTOR	Location ID:	B3821

Year	AADT	AAWDT	Single Unit	Combination Unit	K Factor	D Factor	North East Split	South West Split	Dir In Peak Hour
2020	8,552	9,242	5	1	8.55	64.58	50.03	49.97	EAST
2019	10,241	10,861	5	1	8.55	64.58	50.03	49.97	EAST
2018	10,240	10,960	5	1	8.55	64.58	50.03	49.97	EAST
2017	10,452	11,182	6	1	8.91	62.86	49.32	50.68	EAST
2016	10,201	10,921	6	1	8.91	62.86	49.32	50.68	EAST
2015	10,010	10,710	6	1	8.91	62.86	49.32	50.68	EAST
2014	10,132	10,842	7	1	8.86	62.42	49.36	50.64	EAST
2013	10,161	10,971	7	1	8.86	62.42	49.36	50.64	EAST
2012	10,140	10,950	6	1	8.86	62.42	49.36	50.64	EAST
2011	10,332	11,162	5	1	8.77	60.32	49.99	50.01	EAST

Note

AADT: Annual Average Daily Traffic is the number of vehicles expected to pass a given location on an average day of the year.

AAWDT: Annual Average Weekday Traffic is the number of vehicles expected to pass a given location on an average Weekday (Monday – Friday).

Single Unit: Percentage of Trucks (FHWA Classes 4 -7).

Combination Unit: Percentage of Trucks (FHWA Classes 8-13).

K Factor: Proportion of Annual Average Daily Traffic occurring in the 30th highest hour volume for Continuous count station and Peak hour volume for Short duration count stations.

D Factor: Percentage of traffic moving in the peak direction during the 30th highest hour volume for Continuous count station and Peak hour volume for Short duration count stations.

North East Split: Percentage of traffic in the North or East Direction.

South West Split: Percentage of traffic in the South or West Direction.

Peak Hour Direction: The direction with largest volume in the peak hour.

MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

County:	TALBOT	Municipality:	NONE
Prefix:	US	Route NO:	50
Suffix:		Mile Point:	12
Location:	US50-.50 MI E OF MD331		
Begin Sect:	8.72	End Sect:	14.65
Station Desc:	MD 322 to MD 565/Landing Neck Rd		
Func Class:	14-URBAN OTHER PRINCIPAL ARTERIAL	Location ID:	B3812

Year	AADT	AAWDT	Single Unit	Combination Unit	K Factor	D Factor	North East Split	South West Split	Dir In Peak Hour
2020	31,763	33,033	8	5	7.31	52.5	53.07	46.93	EAST
2019	38,362	39,902	7	4	7.31	52.5	53.07	46.93	EAST
2018	37,901	39,801	7	4	7.31	52.5	53.07	46.93	EAST
2017	38,130	40,040	5	3	7.31	52.5	53.07	46.93	EAST
2016	35,812	38,322	7	5	7.38	51.28	50.34	49.66	EAST
2015	35,071	37,531	7	5	7.38	51.28	50.34	49.66	EAST
2014	33,660	36,020	7	5	7.38	51.28	50.34	49.66	EAST
2013	23,542	25,432	9	5	7.32	51.88	47.93	52.07	EAST
2012	23,631	25,521	9	5	7.32	51.88	47.93	52.07	EAST
2011	23,560	25,450	6	4	7.32	51.88	47.93	52.07	EAST

Note

AADT: Annual Average Daily Traffic is the number of vehicles expected to pass a given location on an average day of the year.

AAWDT: Annual Average Weekday Traffic is the number of vehicles expected to pass a given location on an average Weekday (Monday – Friday).

Single Unit: Percentage of Trucks (FHWA Classes 4 -7).

Combination Unit: Percentage of Trucks (FHWA Classes 8-13).

K Factor: Proportion of Annual Average Daily Traffic occurring in the 30th highest hour volume for Continuous count station and Peak hour volume for Short duration count stations.

D Factor: Percentage of traffic moving in the peak direction during the 30th highest hour volume for Continuous count station and Peak hour volume for Short duration count stations.

North East Split: Percentage of traffic in the North or East Direction.

South West Split: Percentage of traffic in the South or West Direction.

Peak Hour Direction: The direction with largest volume in the peak hour.

PEAK HOUR TURNING MOVEMENT COUNT

INTERSECTION: US 50 @ MD 328 (GOLDSBOROUGH ST) **COUNTY:** TALBOT

COUNT BY: B.SMITH **DATE:** SEPTEMBER 8, 2021

WEATHER: CLEAR **DAY:** WEDNESDAY

	US 50 NORTHBOUND			US 50 SOUTHBOUND			GOLDSBOROUGH ST EASTBOUND			MD 328 WESTBOUND			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	TOTAL
AM													
7:00-7:15	18	223	32	20	184	10	10	10	9	75	24	26	641
7:15-7:30	23	229	28	17	247	11	12	23	10	113	44	39	796
7:30-7:45	21	228	34	17	212	19	10	29	19	105	55	40	789
7:45-8:00	29	274	39	18	226	27	20	40	31	85	66	43	898
8:00-8:15	21	225	40	23	225	10	21	37	25	82	59	40	808
8:15-8:30	19	224	41	28	201	11	12	30	13	66	46	54	745
8:30-8:45	16	212	34	27	205	11	12	39	19	47	31	46	699
8:45-9:00	11	227	24	28	203	17	14	27	16	55	42	35	699
PEAK HR 7:15-8:15 TOTALS	**94**	**956**	**141**	**75**	**910**	**67**	**63**	**129**	**85**	**385**	**224**	**162**	**PHF 0.92**
PM													
4:00-4:15	24	192	78	53	239	13	21	70	23	33	31	37	814
4:15-4:30	19	246	76	65	264	11	16	84	33	36	32	35	917
4:30-4:45	19	222	81	50	239	15	15	77	17	39	46	43	863
4:45-5:00	20	233	90	63	251	15	15	71	22	55	42	35	912
5:00-5:15	18	240	89	50	244	17	23	76	24	50	37	31	899
5:15-5:30	16	225	70	49	239	16	15	66	20	39	49	43	847
5:30-5:45	15	211	62	45	185	14	11	65	24	35	44	34	745
5:45-6:00	15	181	43	32	181	14	14	50	13	47	32	36	658
PEAK HR 4:15-5:15 TOTALS	**76**	**941**	**336**	**228**	**998**	**58**	**69**	**308**	**96**	**180**	**157**	**144**	**PHF 0.98**

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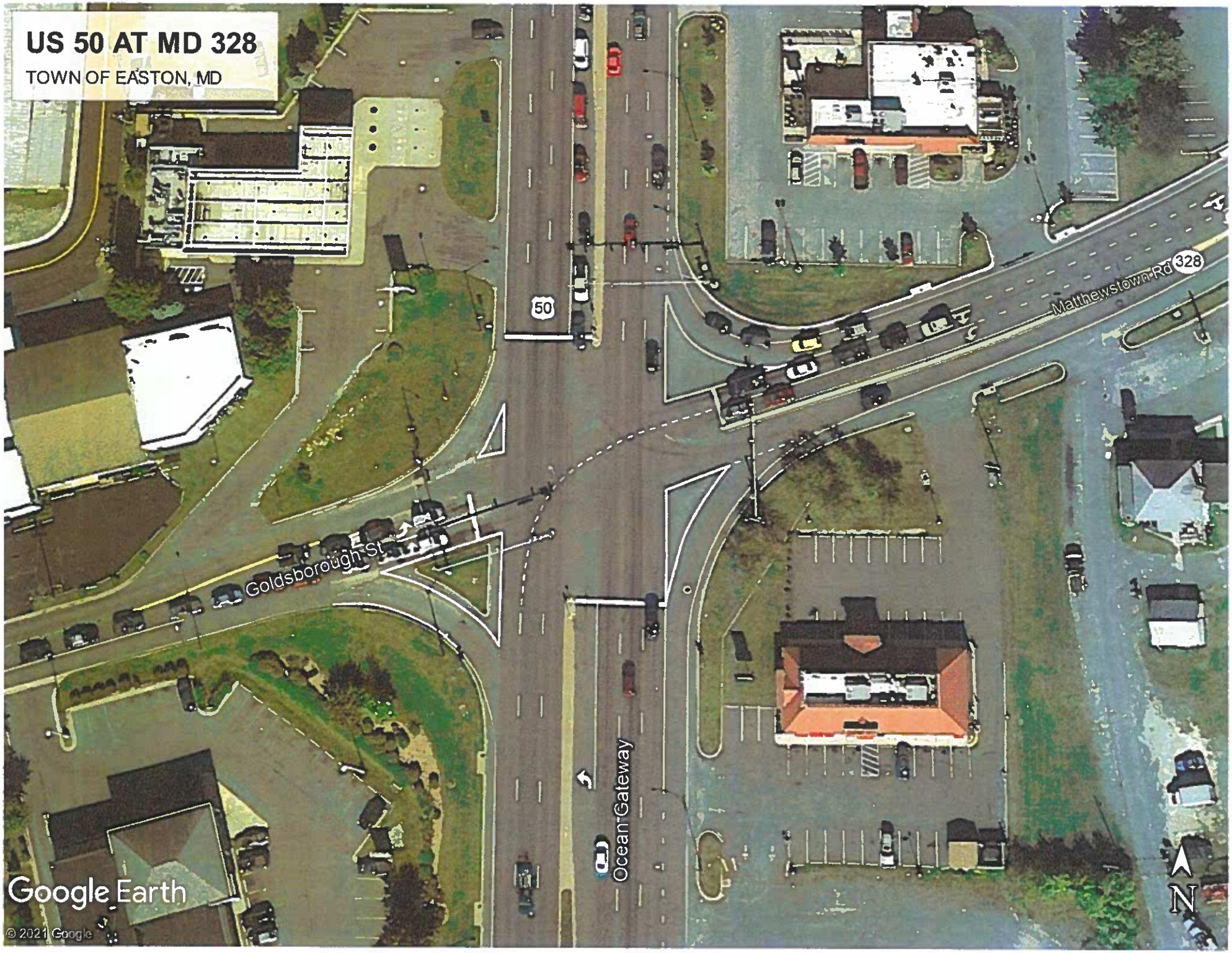
US 50 AT MD 328
TOWN OF EASTON, MD
50
Matthewstown Rd
328
Goldsborough St
Ocean Gateway
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PEAK HOUR TURNING MOVEMENT COUNT

INTERSECTION: US 50 @ MD 331 (DOVER RD) **COUNTY:** TALBOT

COUNT BY: B.SMITH **DATE:** SEPTEMBER 8, 2021

WEATHER: CLEAR **DAY:** WEDNESDAY

	US 50 NORTHBOUND			US 50 SOUTHBOUND			DOVER RD EASTBOUND			MD 331 WESTBOUND			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	TOTAL
AM													
7:00-7:15	16	175	28	23	196	24	23	31	10	47	41	55	669
7:15-7:30	14	179	53	22	286	52	23	17	15	84	48	71	864
7:30-7:45	13	208	56	40	265	35	22	38	10	86	62	88	923
7:45-8:00	20	200	70	25	284	47	20	49	13	76	44	87	935
8:00-8:15	22	185	62	27	275	57	33	30	10	84	59	75	919
8:15-8:30	16	218	58	22	212	33	51	36	13	67	46	64	836
8:30-8:45	14	191	52	22	207	27	23	32	21	61	39	55	744
8:45-9:00	19	167	55	18	229	30	25	36	13	76	45	49	762
PEAK HR 7:15-8:15 TOTALS	**69**	**772**	**241**	**114**	**1110**	**191**	**98**	**134**	**48**	**330**	**213**	**321**	**PHF 0.97**
PM													
4:00-4:15	19	219	85	48	256	26	37	66	25	71	48	35	935
4:15-4:30	15	224	83	69	259	25	40	87	26	73	44	25	970
4:30-4:45	13	249	109	57	248	33	30	68	32	72	62	31	1004
4:45-5:00	17	214	86	59	273	27	56	81	28	77	47	45	1010
5:00-5:15	20	238	78	52	239	39	42	63	20	89	56	42	978
5:15-5:30	19	216	57	58	226	32	40	80	22	75	64	46	935
5:30-5:45	15	201	66	38	199	22	35	64	16	95	64	40	855
5:45-6:00	16	178	51	39	219	30	33	42	16	83	56	33	796
PEAK HR 4:15-5:15 TOTALS	**65**	**925**	**356**	**237**	**1019**	**124**	**168**	**299**	**106**	**311**	**209**	**143**	**PHF 0.98**

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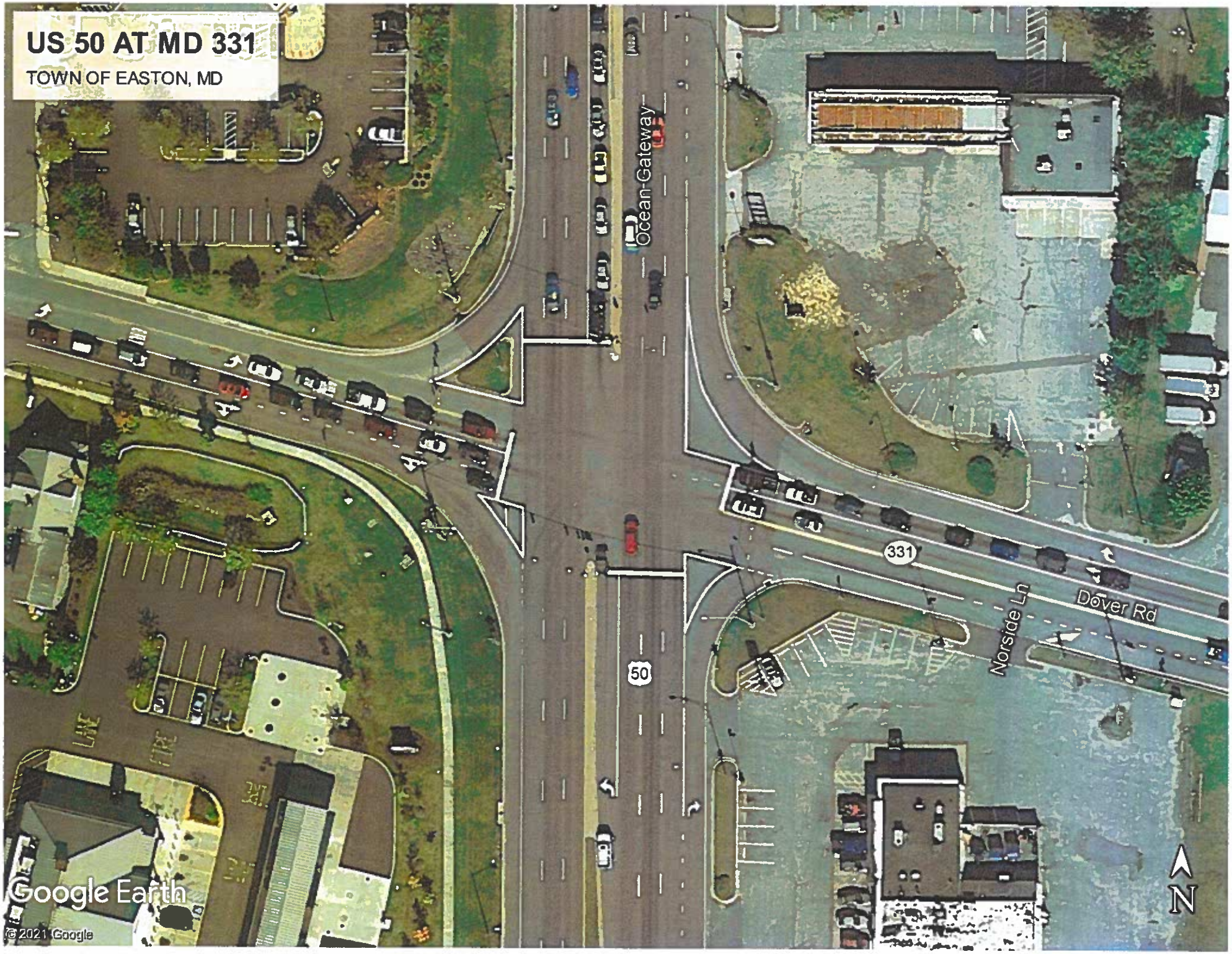
US 50 AT MD 331
TOWN OF EASTON, MD
Ocean Gateway
331
50
Norside Ln
Dover Rd
N
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PEAK HOUR TURNING MOVEMENT COUNT

INTERSECTION: MD 328 (MATTHEWSTOWN RD) @ ELLIOTT RD **COUNTY:** TALBOT

COUNT BY: CAMERA (B.SMITH) **DATE:** SEPTEMBER 8, 2021

WEATHER: CLEAR **DAY:** WEDNESDAY

	ELLIOTT RD NORTHBOUND			SOUTHBOUND			MD 328 EASTBOUND			MD 328 WESTBOUND			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	TOTAL
AM													
7:00-7:15	12		7					48	20	15	118		220
7:15-7:30	26		11					40	20	20	190		307
7:30-7:45	22		9					51	31	24	192		329
7:45-8:00	27		19					62	38	31	187		364
8:00-8:15	33		17					59	34	33	135		311
8:15-8:30	37		11					64	33	17	132		294
8:30-8:45	33		11					52	52	17	117		282
8:45-9:00	36		14					50	36	18	91		245
PEAK HR 7:15-8:15 TOTALS	**108**		**56**					**212**	**123**	**108**	**704**		**PHF 0.90**
PM													
4:00-4:15	50		49					114	77	23	66		379
4:15-4:30	48		36					132	91	26	64		397
4:30-4:45	55		46					119	79	29	85		413
4:45-5:00	46		61					124	93	30	94		448
5:00-5:15	58		51					130	93	25	77		434
5:15-5:30	58		47					106	77	25	93		406
5:30-5:45	44		46					100	66	21	75		352
5:45-6:00	40		41					67	58	21	76		303
PEAK HR 4:30-5:30 TOTALS	**217**		**205**					**479**	**342**	**109**	**349**		**PHF 0.95**

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MD 328 AT ELLIOTT RD
TOWN OF EASTON, MD
Matthewstown Rd
Elliott Rd
Elliott Rd
328
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PEAK HOUR TURNING MOVEMENT COUNT

INTERSECTION: MD 331 (DOVER RD) @ ELLIOTT RD **COUNTY:** TALBOT

COUNT BY: CAMERA (B.SMITH) **DATE:** SEPTEMBER 8, 2021

WEATHER: CLEAR **DAY:** WEDNESDAY

	NORTHBOUND			ELLIOTT RD SOUTHBOUND			MD 331 EASTBOUND			MD 331 WESTBOUND			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	TOTAL
AM													
7:00-7:15				2		17	20	67			133	5	244
7:15-7:30				0		19	26	75			212	4	336
7:30-7:45				0		16	31	98			237	7	389
7:45-8:00				0		23	46	102			225	3	399
8:00-8:15				0		33	55	89			175	6	358
8:15-8:30				0		31	35	78			152	7	303
8:30-8:45				0		35	39	70			145	4	293
8:45-9:00				0		34	48	75			155	5	317
PEAK HR 7:15-8:15 TOTALS				**0**		**91**	**158**	**364**			**849**	**20**	**PHF 0.93**
PM													
4:00-4:15				0		53	71	131			105	13	373
4:15-4:30				0		57	76	165			99	12	409
4:30-4:45				0		84	78	173			111	7	453
4:45-5:00				0		64	82	147			95	5	393
5:00-5:15				0		67	76	142			118	5	408
5:15-5:30				0		59	54	131			111	5	360
5:30-5:45				0		53	72	105			150	9	389
5:45-6:00				0		73	44	98			103	7	325
PEAK HR 4:15-5:15 TOTALS				**0**		**272**	**312**	**627**			**423**	**29**	**PHF 0.92**

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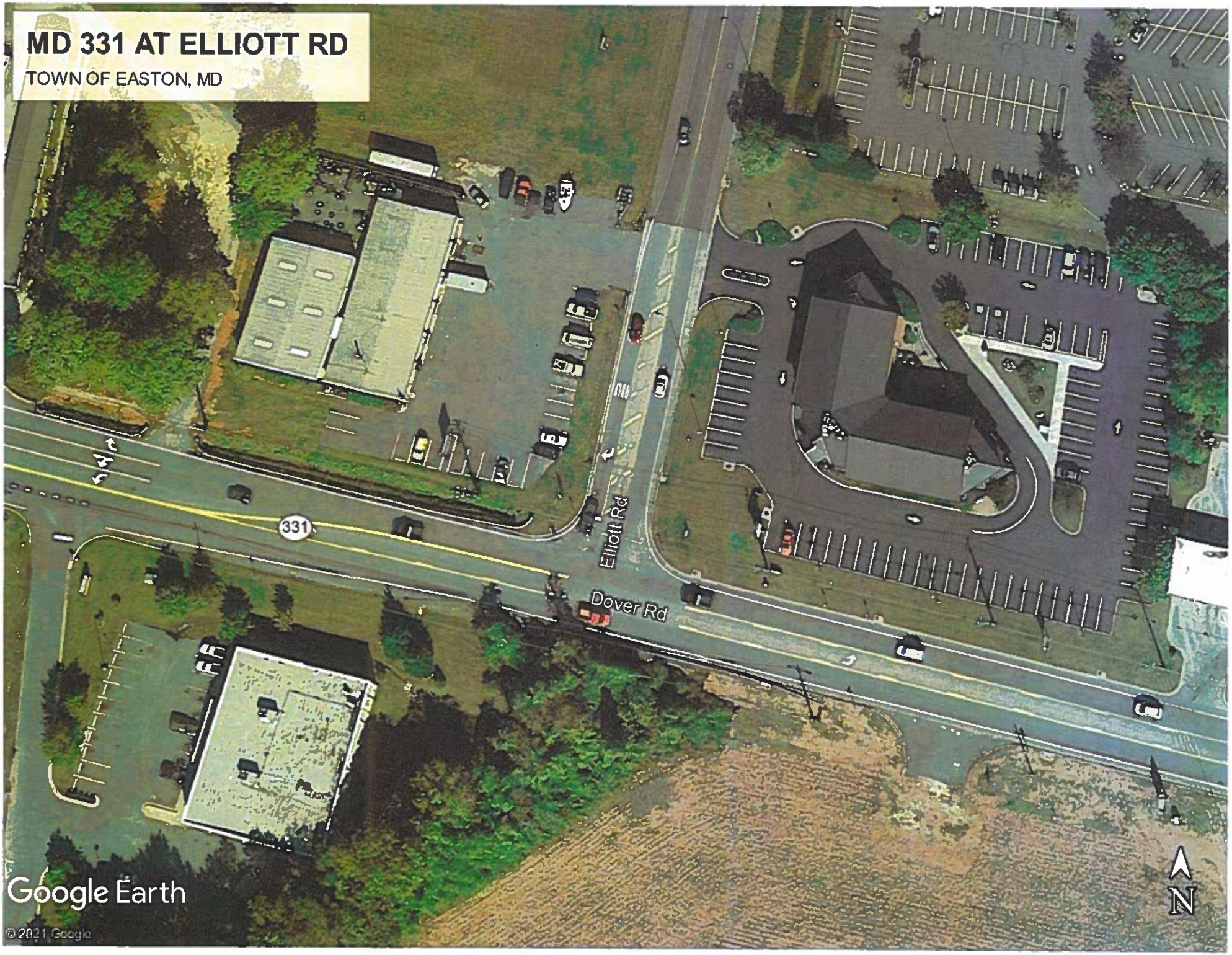
MD 331 AT ELLIOTT RD
TOWN OF EASTON, MD
331
Elliott Rd
Dover Rd
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APPENDIX V

SITE PLAN &
SITE TRIP DATA

PROJECT DATA

PROPERTY: TAX MAP 108, PARCEL 2866 LOT 9
DEED 978/497
EAST SIDE ELLIOTT ROAD
EASTON, MARYLAND 21601

OWNER: RAUCHLEY FAMILY REALTY BUSINESS TRUST
26108 CANTERBURY COURT
EASTON, MARYLAND 21601

POTENTIAL DEVELOPER: WALLACE CONSTRUCTION
ATTN: JIM DEGRANTO
119 SOUTH PINEY ROAD, SUITE 200
CHESTER, MARYLAND 21619
(410) 643-4131

ZONING: CG - GENERAL COMMERCIAL

SITE AREA: 6.617 ACRES±

BUILDING SETBACKS: FRONT - 25'
REAR - 15'
SIDE - 10'
MAJOR ROADS - 40' (NO ROUTE 328)

EXISTING CONDITIONS: OPEN AG FIELD

PROPOSED DEVELOPMENT: 3-STORY MULTI-FAMILY APARTMENTS (TYPICAL OF 4)

BUILDING FOOTPRINT: 12,302 SF

OPEN SPACE: 30% OPEN SPACE REQUIRED, 43% OPEN SPACE PROVIDED

PARKING REQUIRED: 1 SPACE/ ONE BEDROOM UNIT
2 SPACES/ TWO BEDROOM UNIT

PARKING PROVIDED: 48 ONE BEDROOM UNITS 48 X 1 = 48 SPACES
72 TWO BEDROOM UNITS 72 X 2 = 144 SPACES
192 TOTAL SPACES REQUIRED; PROVIDED

PROJECT NOTES

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

THE PROPERTY BOUNDARY AS SHOWN HEREON IS BASED TAX MAP INFORMATION AND IS APPROXIMATE ONLY. NO BOUNDARY SURVEY HAS BEEN COMPLETED.

THE CONTOURS SHOWN HEREON WERE TAKEN FROM TOPOGRAPHY DATA PROVIDED BY TALBOT COUNTY AND ARE APPROXIMATE ONLY.

THERE ARE NO KNOWN HISTORIC STRUCTURES OR ARCHEOLOGICALLY SIGNIFICANT RESOURCES. [illegible] APPROXIMATELY 15% SEASONAL TIDAL WETLANDS/NON-TIDAL WETLANDS OR KNOWN HABITAT PROTECTION AREAS IN PROXIMITY TO THE PROPOSED SITE IMPROVEMENTS. NON-TIDAL WETLANDS ARE PRESENT ON SITE AND HAVE BEEN FIELD LOCATED BY LANE ENGINEERING, LLC. ANY DISTURBANCE TO WETLANDS OR BUFFER AREAS WILL REQUIRE APPROVAL BY MARYLAND DEPARTMENT OF THE ENVIRONMENT'S WATER QUALITY OF LANDWARD.

A FIELD DELINEATION HAS NOT BEEN PERFORMED FOR THE PRESENCE OF NON-TIDAL WETLANDS ON SITE.

PUBLIC WATER AND SEWER SERVICES ARE PROVIDED BY THE TOWN OF EASTON, EASTON UTILITIES

FLOOD DATA

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE 2 FLOOD ZONE(S) AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO 240067 MAP NO 24041C0192C FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALLED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDE ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA

FLOOD ZONE LEGEND
ZONES A, AE, AH, AO, AR, A99, V & VE - 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) - 0.2% ANNUAL CHANCE FLOOD
ZONE X - AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS PROVIDED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS

LANDSCAPE REQUIREMENTS SUMMARY PER ZONING ORDINANCE

SECTION 1014.8.B.

1 OVERALL TREES = 3 TREES/ RESIDENTIAL UNIT 120 UNITS X 3 = 360 TREES REQUIRED

1A STREET TREES= 1 DECIDUOUS TREE/ 25' OF STREET CENTERLINE 290 LF/ 25 = 12 TREES REQUIRED

1B PARKING LOT/ PARKING COURTS: 1 TREE/ 5 SPACES. 192 SPACES/5 = 38 TREES REQUIRED

2 SHRUB/GROUNDCOVER PLANTINGS PROVIDED ACROSS SITE AS SHOWN HEREON

LANDSCAPE BUFFERYARD REQUIREMENTS (SECTION 1014.7.E.)

40' WIDE LANDSCAPE BUFFERYARD "A" ALONG MATTHEWSTOWN ROAD
376 LF / 100' = 3.76 PLANT UNITS (PU)

3 SHADE/ CANOPY TREES X 5.52 PU = 11 SHADE/ CANOPY TREES REQUIRED
2 EVERGREEN TREES X 5.52 PU = 11 EVERGREEN TREES REQUIRED
10 LARGE SHRUBS X 3.52 PU = 35 LARGE SHRUBS REQUIRED

20' WIDE LANDSCAPE BUFFERYARD "B" ALONG ELLIOT ROAD
767 LF OF ENTRANCE & SIDEWALK (LF LF) EQUALS 7.36 LF / 50' = 14.72 PLANT UNITS (PU)

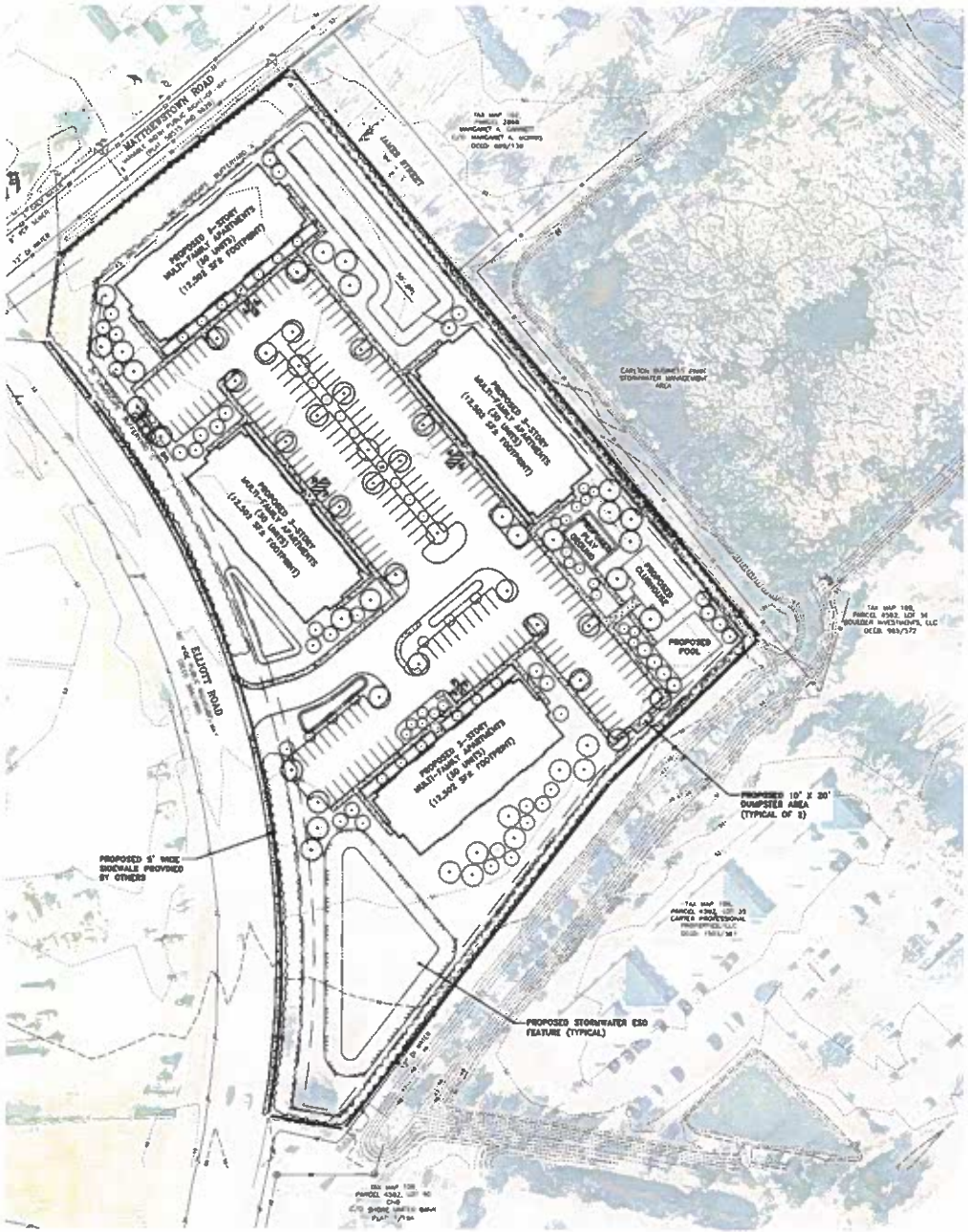
4 SHADE/ CANOPY TREE X 14.72 PU = 59 SHADE/ CANOPY TREES REQUIRED
2 EVERGREEN TREES X 14.72 PU = 29 EVERGREEN TREES REQUIRED
5 LARGE SHRUBS X 14.72 PU = 74 LARGE SHRUBS REQUIRED

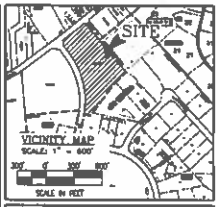
10' WIDE LANDSCAPE BUFFERYARD "C" ALONG SOUTH & EAST PROPERTY LINES
1,345 LF / 50' = 26.90 PLANT UNITS (PU)

9 SHADE/ CANOPY TREE X 26.90 PU = 27 SHADE/ CANOPY TREES REQUIRED
3 EVERGREEN TREES X 26.90 PU = 81 EVERGREEN TREES REQUIRED

NOTE:

THE LAYOUT AS SHOWN HEREON IS CONCEPTUAL ONLY AND NOT INTENDED TO BE UTILIZED FOR DESIGN OR CONSTRUCTION PURPOSES.





REVISIONS

No.	DATE	DESCRIPTION	BY

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 POT 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
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BEFORE YOU DIG CALL
1-800-441-8355 OR 811
PROTECT YOURSELF OR
YOU MAY BURY MORE

Lane Engineering, LLC
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Civil Engineers • Land Planners • Land Surveyors
Lane Engineering, LLC
11 Bay St, Easton, MD 21601 (410) 822-8811
10 Washington St, Cambridge, MD 21613 (410) 228-1575
204 Piney Neck Road, Chestertown, MD 21620 (410) 778-1670

SEAL

DATE

SKETCH CONCEPT SITE PLAN

ON THE LANDS OF
RAUCHLEY FAMILY REALTY BUSINESS TRUST

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 108 PARCEL 2866 LOT 9

ISSUED FOR: CLIENT REVIEW — DATE: 8/11/21

SHEET No. 1 OF 1 — DATE: 8/11/21
SCALE: AS NOTED — JOB No. 210375

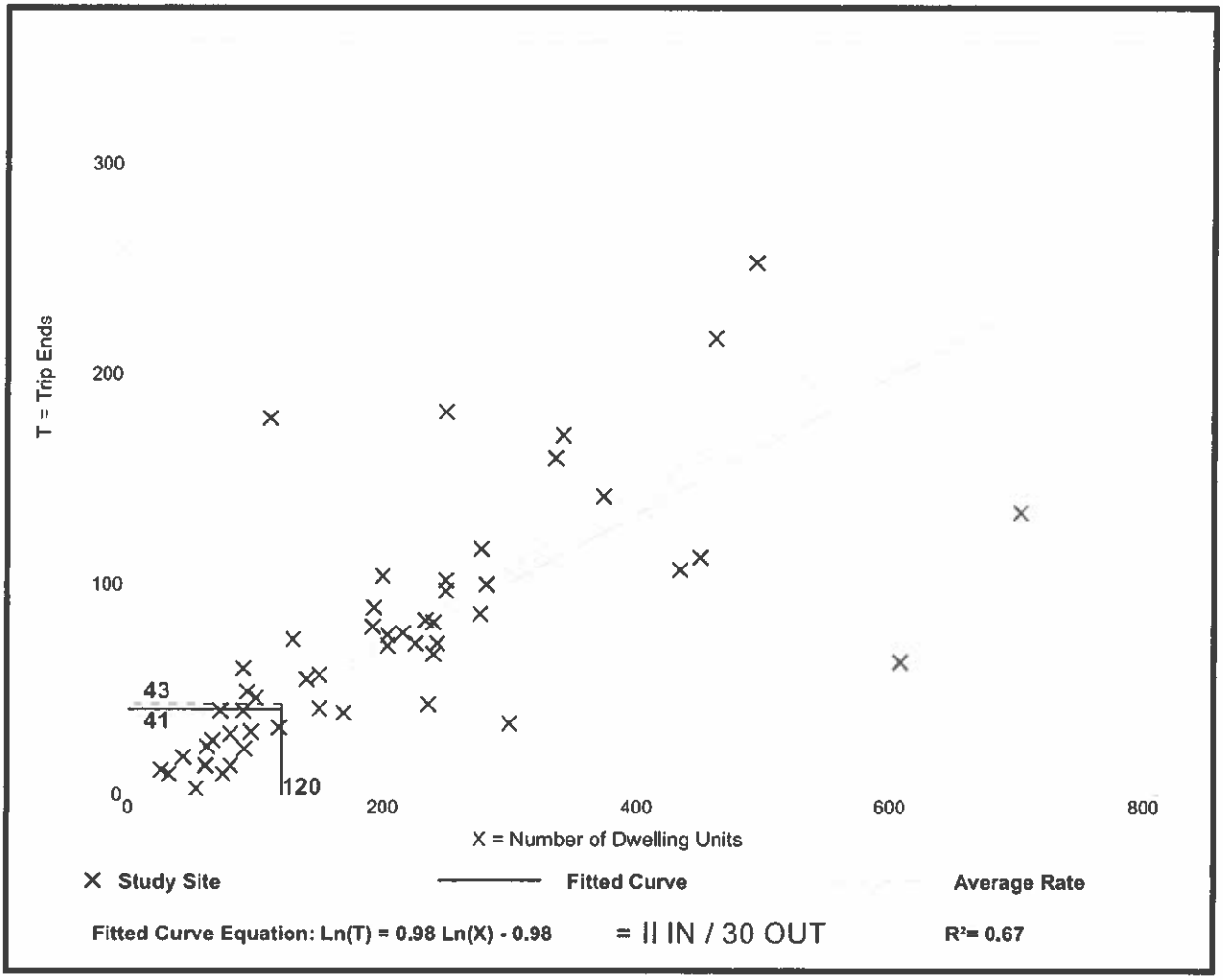
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	53
Avg. Num. of Dwelling Units:	207
Directional Distribution:	26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

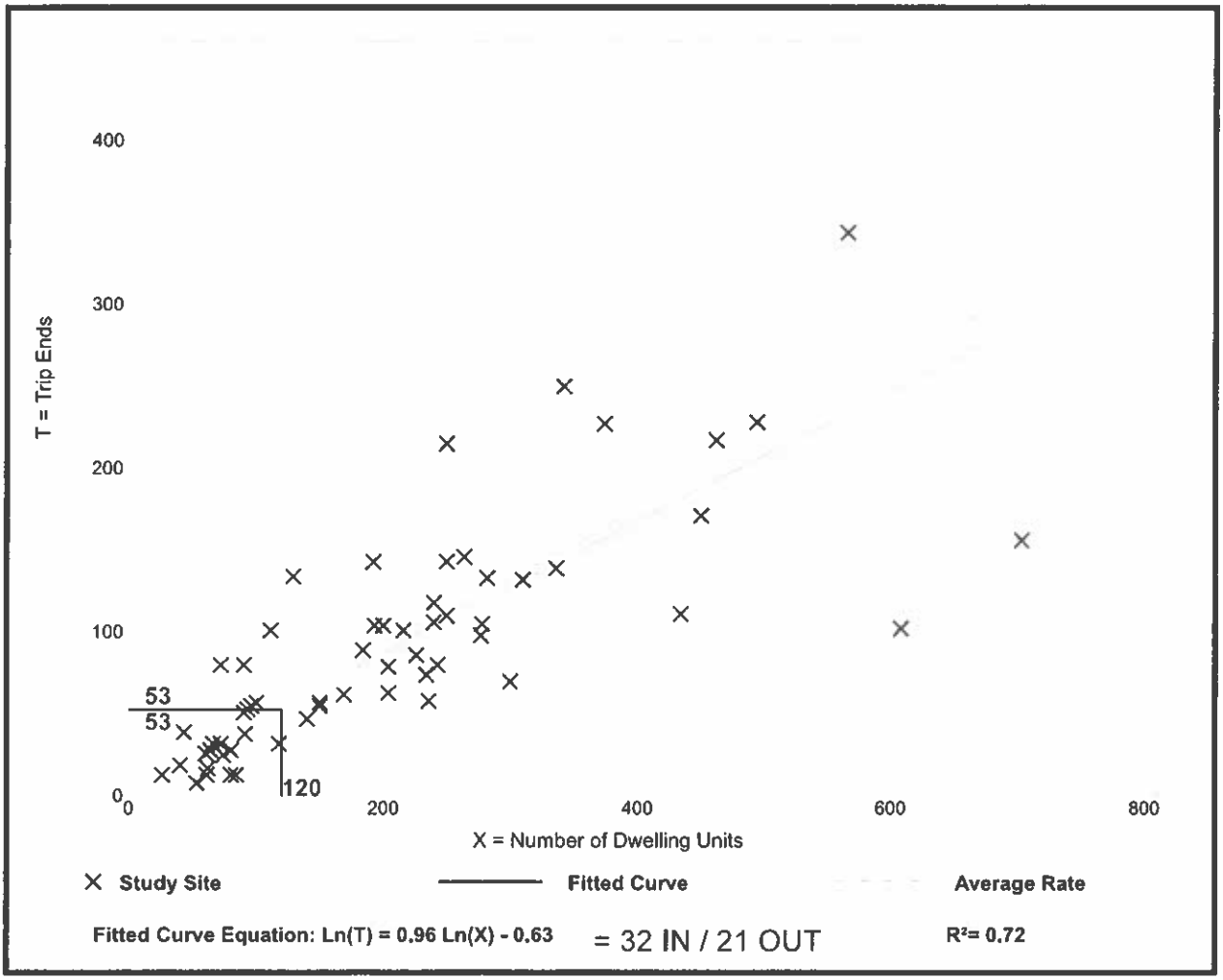
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	60
Avg. Num. of Dwelling Units:	208
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 an Amendment to a previously approved Planned Unit Development (PUD) has been filed on behalf of Elliott Road LLC to add an additional sixteen (16) units for a total of 136 multifamily apartment units to the existing property located at the corner of Elliott Road and MD RT 328 (Matthewstown Road), also known as Tax Map 109, Parcel 2866, Lot 9.

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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:	Creation Date: **08/30/23**
	Ad Date: **09/06/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **522**
	Lines: **92**
	Agate Lines: **405**
Telephone: **(410) 822-2525**	Depth: **11.25**
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	09/06/23	09/06/23		

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC
      c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004,
      Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849,
      Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582,
      Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Samantha Smith <ssmith@eastonmd.gov>

Pending lot on Elliott Road

1 message

Lilli Tibbitt Thu, Sep 7, 2023 at 10:42 AM
To: PlanningCommission@eastonmd.gov

To Whom It May Concern:

I am writing to express my concerns over the pending lot on Eillott Road across from the Hub Group building in Easton, MD. My concerns are simple. I am worried about the increase in traffic in that area. I take that road every day to and from work. And it can get congested, especially during the summer when the lights stay red longer. I am voicing these concerns because I have heard from a family member that a low-income housing unit will be built there. Now, I am not sure if this is true. But I at least wanted to express myself concerning the matter of traffic and safety. Please do not approve the lot if the low-incoming housing is true on the issues that I have discussed in this email.

Sincerely, Lilli Tibbitt.

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

Date of Hearing: September 21, 2023

4h

PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT

SUBJECT: **Poplar Hill Subdivision**

ELECTION WARD: Ward 3

CRITICAL ACTION DATE: At the pleasure of the Commission

STAFF CONTACTS: Joseph Mayer, Plan Reviewer
Miguel Salinas, Director of Planning and Zoning

APPLICANT: 501 SHR, L.C.

DOCUMENT CREATED ON: September 11, 2023

PURPOSE: The applicant is seeking sketch subdivision approval from the Planning Commission to construct one hundred and nineteen (119) single-family dwellings with associated parking, stormwater management facilities, and landscaping. A waiver of the alley length of 616' from lot 11 to 19 is also being requested.

RECOMMENDATION: Should the Planning Commission approve the sketch subdivision as well as the waiver request, staff recommends proposed conditions (see below).

APPLICATION INFORMATION:	
APPLICANT: 501 SHR, L.C. 9161 Liberia Avenue Manassas, Virginia 20110	**REPRESENTATIVE:** Ryan Showalter: MDSW Brett Ewing: Lane Engineering, LLC 501 SHR, L.C.: Kevin Sills

PARCELS/ACREAGE:

Parcel Information	Acreage
Map 042, Grid 04, Parcels 57	120.4760

ACCEPTANCE DATE: August 28, 2023	**LOCATION:** Oxford Road, Parcel 57
EXISTING ZONING R-10A	**EXISTING LAND USE:** Vacant
HISTORIC DISTRICT: Not Applicable	**FUTURE LAND USE MAP:** Residential

CONTEXT:

Location/Site Access – The subject property is located adjacent to the Easton Parkway (Route 322) and Oxford Road (Route 333). Current site access from Tristan Drive which is further accessed from Route 322).

Existing Conditions – The subject property is vacant and can generally be described as an open field with minimal peripheral forest cover with the exception of the aforementioned Critical Area Shoreline Development Buffer (Buffer). There are nontidal wetlands dispersed along the subject property's western boundary and a nontidal wetland located at the northeast corner of the subject property adjacent to an open space for the purpose of stormwater management (SWM) in the Papermill Crossing subdivision. The subject property contains a 100-foot Buffer associated with Windmill Branch. A portion of the Buffer is expanded for steep slopes and highly erodible soils. There is also a nontidal wetland adjacent to the southern end of the expanded Buffer adjacent to Route 322. There is forest cover associated with Windmill Branch. Lastly, there is a Special Flood Hazard Area (AE-5) located along the edge of Mean High Water (MHW) of Windmill Branch.

Surrounding Properties

	Land Use	*Zoning District(s)*	*Future Planned Land Use*
North	Residential	R-10A	Residential
South	Institutional Residential	R-10A R-10A	Residential
East	Residential	R-10A	Residential
West	Vacant	R-10A	

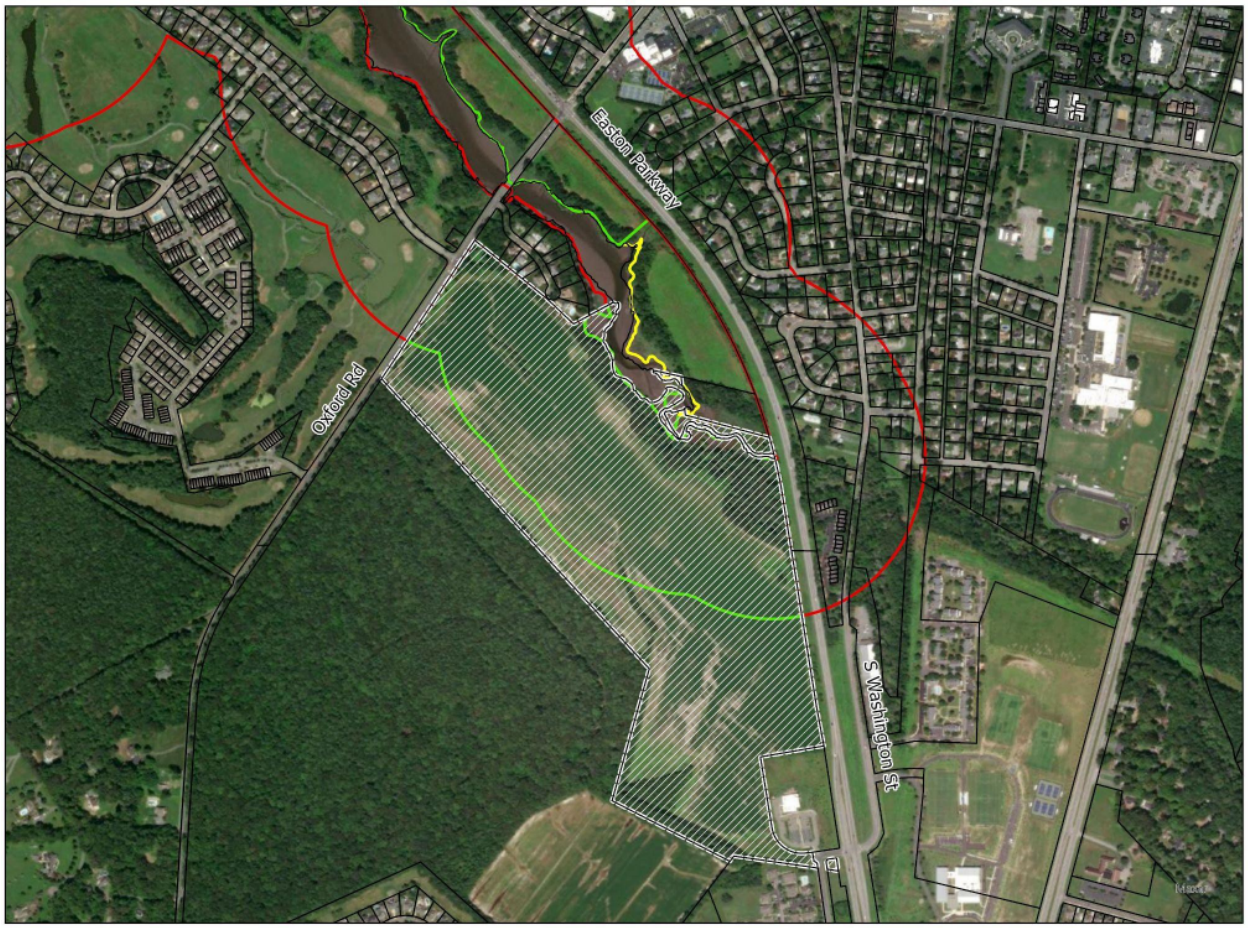


***Figure 1**: Vicinity Map*

PROPOSAL: 501 SHR, L.C. (applicant) is seeking a Sketch Subdivision Plat approval from the Planning Commission for 119 single family detached units and community park space with associated parking, stormwater management facilities, and landscaping. The site is zoned R-10A. Areas zoned R-10A allow a maximum density of 3.5 dwelling units per gross acre for single-family developments. The current proposed density, based on the Non-Critical Area (RCA), is 2.13 dwelling units per acre which equals 116 dwelling units. Within the Critical Area (RCA), the proposed density is 1.0 dwelling unit per 21.99 acres. The subdivision also proposes a 3.83-acre Community Active Park. The applicant is seeking a waiver of the alley length of 600', to permit one of 616' for the alley running between lots 11 and 19.

BACKGROUND: 501 SHR, L.C. (applicant) formally withdrew the pending Critical Area Growth Allocation Request for the Poplar Hill Project on August 2, 2023 and the Planned Unit Development ("PUD") application on August 3, 2023. The applicant resubmitted an application to the Easton Staff Development Review Committee (ESDR) on August 23, 2023 (please see attached ESDR Determination Letter). The new development plans do not require Growth Allocation or PUD approval.

OUTSTANDING ISSUES:
There are no outstanding issues.

ZONING ANALYSIS:

A. Permissible Land Uses

28-201 table 2.1 (1) 106 R-10A

106	Single Family Detached*	P	P	P	P	P	--	--	--	--	--	

Analysis –The proposed project is presented and described by the Applicant as Single Family Detached located in the R-10A Zoning District, which allows a maximum density of 3.5 units per gross residential acre. The proposed use is permitted by-right in the R-10A zoning district within Table 2.1 Table of Permissible Uses. In addition, the Community Active Park Area is permitted by-right.

B. Off-Street Parking

28-1001.3 Parking Requirements

	Use/Activity	Minimum Vehicle Spaces	Maximum Vehicle Spaces	Minimum Bicycle Spaces	Notes
	Residential Buildings				
1	Single-Family Detached	2 per du	–	–	

Total Site Parking Required:
Single-Family Detached: 2 Spaces per dwelling unit required-Minimum
119 units x 2 = 238 spaces required-Minimum
Total spaces provided: 238

Analysis- The total minimum spaces required is 238 spaces. The site provides 238 spaces.

C. R-10A District 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, with provision for some of the lots to be smaller than this base minimum	The majority of the lots meet the 10,000 square foot base minimum size. 44 lots are between 7,000 and 10,00 sq. ft, and 14 are less than 7,000 sq. ft.
Lot Frontage (min.)	35 feet	35 feet
Building Envelope (min.)	55 feet x 30 feet	70 feet X 34 feet (<7,000 SF Lot) 66 feet X 47 feet (7,000 to 10,000 SF Lot) 70 feet X 90 feet (10,000 SF Option 1) 70 feet X 84 feet (10,000 SF Option 2)
Lot Coverage (max.)	100% (Building Envelope) 50% (Rear Yard)	100% (Building Envelope) 50% (Rear Yard)
Height (max.)	35 feet	35 feet
Maximum Density for single-family dwellings	3.5 dwelling units per acre	2.13 du per acre (Non-Critical Area) for 116 Lots 1.00 du per 21.99 acres (Critical Area)for 3 Lots.

Development shall also meet these additional Supplemental Use Standard requirements from Section 28-303.2:

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

D. Forest Conservation

The Easton Forest Conservation Requirements of the Town Code, Article III, § 31-3.1, Forest Conservation Ordinance, 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 applicant has provided a Forest Stand Delineation and Forest Conservation Plan. Afforestation Required shall be achieved utilizing the forest conservation overlapping requirements per § Section 28-1014.5 of the Town's Zoning Ordinance, Critical Area Forest Retention & Proposed Seedling Planting Area provided on-site shall be placed under a long term protective easement.

E. Critical Area
§ Section 28-401.3

D. Resource Conservation Areas (RCA).

(1) Nothing in this Section shall limit the ability of a participant in any agricultural easement program to convey real property encumbered with such an easement to family members provided that no such conveyance and will result in a density greater than one dwelling unit per 20 acres.

(2) Land use management practices shall be consistent with the policies and criteria for the HPA provisions of this Chapter.

(3) Development activity within the RCAs shall be consistent with the requirements and standards for LDAs as specified in this Chapter.

(a) For the purposes of calculating limitations on lot coverage, is as follows:

(i) When a site is mapped entirely as RCA, lot coverage is based on the entire site area; and

(ii) When a portion of a lot or parcel is mapped as RCA, lot coverage is based on the area of the RCA.

(4) Density

(a) Land within the RCA may be developed for residential uses at a density not to exceed one (1) dwelling unit per 20 acres. A local jurisdiction may not authorize a variance to the maximum density of one dwelling unit per 20 acres. In calculating the 1-in-20 acre density of development that is permitted on a parcel located within the RCA, The Town of Easton:

(i) Shall count each dwelling unit; and

(ii) May permit the area of any private wetlands located on the property to be included under the following conditions:

(A) The density of development on the upland portion of the parcel may not exceed one dwelling unit per eight (8) acres; and

(B) The area of private wetlands shall be estimated on the basis of vegetative information as designated on the State wetlands maps or by private survey approved by The Town of Easton, the Critical Area Commission, and Maryland Department of the Environment.

(5) Permitted uses in the RCA shall be limited to those uses allowed by the underlying zoning classification as modified by the supplemental use standards section of this Article.

(a) A commercial, institutional, or industrial solar energy generating system may be permitted in accordance with COMAR 27.01.14.

§ Section 28-401.4

G. Required Submittal of Buffer Management Plans. An applicant that is required to plant the Buffer to meet establishment or mitigation requirements shall submit a Buffer Management Plan in accordance with COMAR 27.01.09.01-3. The provisions of this Part do not apply to maintaining an existing grass lawn or an existing garden in the Buffer.

(1) Any permit for a development activity that requires Buffer establishment or Buffer mitigation will not be issued until a Buffer Management Plan is approved by The Town of Easton.

(2) An applicant may not obtain final approval of a subdivision application until the Buffer Management Plan has been reviewed and approved by The Town of Easton.

(3) The Town of Easton may not approve a Buffer Management Plan unless:

(a) The Plan clearly indicates that all planting standards under Part E of this Chapter will be met; and

(b) Appropriate measures are in place for the long-term protection and maintenance of all Buffer areas.

(4) For a Buffer Management Plan that is the result of an authorized disturbance to the Buffer, a permit authorizing final use and occupancy will not be issued until the applicant:

(a) Completes the implementation of a Buffer Management Plan; or

(b) Provides financial assurance to cover the costs for:

(i) Materials and installation; and

(ii) If the mitigation or establishment requirement is at least 5,000 square feet, long-term survivability requirements as set forth in COMAR 27.01.09.01-2.

(5) Concurrent with recordation of a subdivision plat, an applicant shall record a protective easement for the Buffer.

(6) If an applicant fails to implement a Buffer Management Plan, that failure shall constitute a violation of this Chapter. A permit for development activity will not be issued for a property that has the violation.

(7) An applicant shall post a subdivision with permanent signs prior to final recordation in accordance with COMAR 27.01.09.01-2.

(8) Buffer Management Plans that include natural regeneration shall follow the provisions of COMAR 27.01.09.01-4.

Analysis – The applicant submitted a revised project Notification Application to the Critical Area Commission on August 8, 2023 for three proposed lots within 65.977 acres of Resource Conservation Areas (RCA). Land within the RCA may be developed for residential uses at a

density not to exceed one (1) dwelling unit per 20 acres. The applicant proposes (1) dwelling unit per 21.99 acres. All comments from the Critical Area Commission dated August 21, 2023 were addressed by the applicant and resubmitted to CAC on August 29, 2023. CAC reviewed the additional information and responded on September 8, 2023. They noted that the previous comments were addressed and any future development and/or change of use in the RCA must meet all applicable Critical Area requirements.

POLICY ANALYSIS:

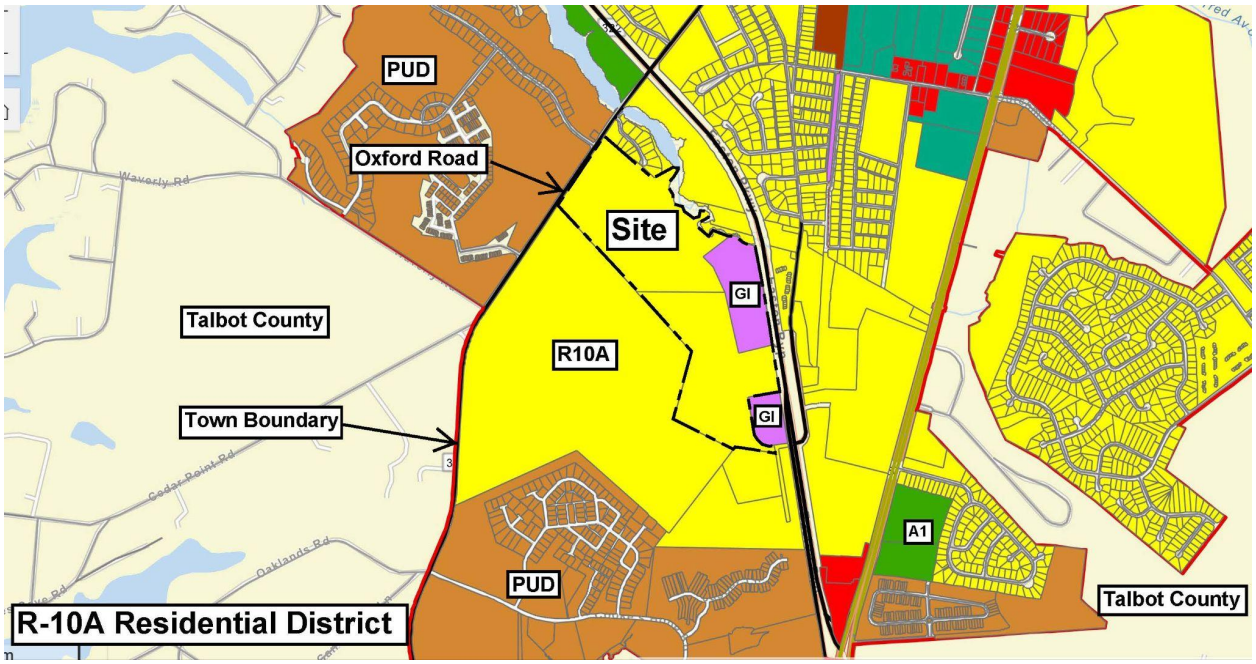


Figure 2: Zoning Map

SECTION 401 SKETCH PLAT PROCEDURES

(f) The Planning and Zoning Commission shall;

(1) hold a public hearing to receive public comment on proposed subdivision.

(2) evaluate the applicant's submission, presentation, discussion with the applicant, and agency reports;

(3) determine whether the sketch plan meets the objectives and requirements of these Regulations and other regulations, ordinances and plans of the Town;

(4) inform the applicant of their decision, including required changes in the sketch plan.

(g) The Planning and Zoning Commission shall not approve a sketch subdivision plan unless they determine that the proposed subdivision satisfies each of the following requirements. Failure to satisfy any single requirement shall be just cause to deny a subdivision application, even if all others are satisfied. For each subdivision, the Planning Commission shall make findings that:

(1) The proposed subdivision provides against such scattered or premature subdivision of land as would involve danger or injury to health, safety, or prosperity by reason of the lack of water supply, drainage, transportation, schools, fire protection, or other public services, or necessitate the excessive expenditure of public funds for the supply of such services;

Analysis - There would be no adverse impacts. The proposed site is below the maximum density requirements for single-family homes in the R-10A zoning district.

(2) The proposed subdivision provides for harmonious development of the municipality and its environs;

Analysis - The proposed site is not within the Historic District, however, the site is within the RCA Critical Area. This project would provide single-family housing, with improved amenities; adequate parking, stormwater management facilities and landscaping. The subdivision also is in conformance with Critical Area requirements for land designated RCA.

(3) The proposed subdivision requires the proper arrangement and coordination of streets within subdivisions in relation to other existing or planned streets;

Analysis - The proposed site provides connectivity between Oxford Road and Tristan Drive to provide two primary means of ingress and egress.

(4) The proposed subdivision provides for open spaces of adequate proportions (or satisfies this requirement by other acceptable means);

Analysis - The proposed site satisfies the open space requirement.

(5) The proposed subdivision provides suitably located streets of sufficient width to accommodate existing and prospective traffic and afford adequate light, air, and access for fire-fighting apparatus and equipment to buildings, and is coordinated so as to compose a convenient system;

Analysis - According to the applicant, the proposed use and activity will not increase traffic hazards in the surrounding area. Off-street parking is onsite and the applicant established connectivity between Oxford Road and Tristan Drive to provide two primary means of ingress and egress.

(6) The proposed subdivision provides parks of reasonable size for neighborhood playgrounds or other recreational uses on land suitable for such uses (or satisfies this requirement by other acceptable means) in accordance with the standards of Section 708 of these Regulations;

Analysis - The applicant proposes a Community Active Park Area on-site.

(7) The land indicated on the plats submitted to the Planning Commission is of such character that it can be used for building purposes without danger to public health, safety, or general welfare;

Analysis - There would be no adverse impacts to encumber the construction of the single-family dwellings (119 units), adequate parking, landscaping features or stormwater management facilities.

(8) The proposed subdivision prescribes minimum areas of lots in conformance with the Town's Zoning Ordinance and such additional areas as may be needed for each lot for on-site sanitary facilities (if needed);

Analysis - There are prescribed minimum areas of lots in conformance with the Town's Zoning Ordinance.

(10) The proposed subdivision promotes the orderly growth of the Town of Easton, providing for public and other open space and for proper development of land while preventing, through the Commission's discretion, such scattered, premature and undesirable subdivision and development of land as would involve danger, or injury to health, safety or property, by reason of lack of water supply, sewage, drainage, transportation, or other public services or would necessitate in the Commission's judgment an excessive expenditure of public funds for the supply of such services, or would be injurious to maintenance of the integrity of the adopted Town Comprehensive Plan;

Analysis - Though the proposed site is below the maximum density requirements for single-family homes in the R-10A zoning district, the proposed subdivision does promote an orderly growth while providing adequate public facilities and open space requirements. The comprehensive plan designates the property's future land use as residential and the property is zoned R-10A which permit residential development at a maximum density of 3.5 dwelling units per acre, exclusive of the Critical Area.

(11) The proposed subdivision satisfies all technical requirements of these Regulations; and

Analysis - The applicant has satisfied all technical requirements.

(12) The proposed subdivision meets all design requirements of the Town of Easton, including those described in the Town's Comprehensive Plan, Zoning Ordinance, and any Design Guidelines as may be adopted by the Town Council.

Analysis - The applicant meets all design requirements.

The Planning Commission may approve a sketch subdivision plat subject to conditions intended to insure compliance with these requirements.

RECOMMENDED CONDITIONS:

Staff recommends the Planning Commission approve the sketch subdivision plat with the following condition:

- The Applicant is required to address ESDR review comments and the Engineering Departments response letter dated August 29, 2023, in conjunction with submission of Preliminary Subdivision Plat.

DRAFT MOTIONS:

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

OR

2. I move that the Planning Commission forward the application to the October 19th Commission meeting for further discussion.

OR

3. I move an alternate motion.

ATTACHMENTS:
1. 2023.08.02 - Withdrawal of Growth Allocation Request Letter, paper copy & PDF
2. 2023.08.03 - Withdrawal of Planned Unit Development Application Letter, paper copy & PDF
3. 2023-08-23 ESDR Determination Letter Poplar Hill (3), paper copy & PDF
4. 2023-08-28 Forest Conservation Application, paper copy & PDF
5. 2023-08-28 Revised Stormwater Mgmt Report, PDF
6. 2023-08-28 Revised Traffic Impact Study, paper copy & PDF
7. 2023-08-28-MajorBufferManagementPlan(1), paper copy & PDF
8. 2023-08-28-PreliminaryForestConservationPlan(1) , paper copy & PDF
9. 2023-08-28-RevSubdivisionSketchPlan, paper copy & PDF
10. 2023-08-29 ReviewLetter-4-Sketch-(PoplarHill) (1), paper copy & PDF
11. 2023-08-29 Waiver Request - Signed, paper copy & PDF
12. 2023-08-29-CommentResponseLetter, paper copy & PDF
13. 2023-09-08-CompPlanDesignPrinciplesResponse, paper copy & PDF
14. 2023-09-11 Town of Easton Mail - Poplar Hill Subdivision, paper copy & PDF

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 29th, 2023**

TO: **Brett Ewing - Lane Engineering**

cc: **Ryan Showalter - MDSW - Agent**
Sierra Clem - Town of Easton Engineering Department
Miguel Salinas - Town of Easton Planning & Zoning Department
Joe Mayer - Town of Easton Planning & Zoning Department

FROM: **Rick Van Emburgh, P.E. – Town Engineer**

SUBJECT: **Poplar Hill**
Sketch Site Plan Review and
Sketch Stormwater Management Plan Review

I reviewed the Application for the Subject project received on 8/2/2023.

The **Sketch Stormwater Management Plan** is **Approved** and the **Sketch Site Plan** is **Acceptable** with the following conditions.

1. The Engineering Department does not have any objection to the Alley Length waiver request as submitted.
2. Verify the proposed intersections do not have an angle less than 70 degrees. Please revise per Subdivision Regulations Section 703(k) as necessary.
3. Verify that the radius around lots 33 and 42 is acceptable.
4. Please include detail on the site plan that shows how the Oxford Road entrance aligns with the Easton Club Entrance.
5. Sidewalk should extend to connect to Lauren Lane.
6. The 10’ multimodal path should extend along lots 37, 38 and the west orientation (top of the page) of the Temple B’Nai property.
7. The Agriculture Lands along the west property line (top of page) near lots 73-74 and 77-100 are not accessible from the proposed roads. It is also recommended to align lots 104-116 with the existing west property line.
8. I will continue to coordinate with SHA regarding the TIS (Traffic Impact Study) and SWA (Signal Warrant Analysis). While a LOS D or better is acceptable to SHA, we note the LOS at several intersections drops from A to either B or C.
9. Provide a Street Light (cobra-head) at MD-322 connection.
10. Community Active Park Area - What will the park consist of? Will there be any proposed parking? Will the park be dedicated to the Town of Easton?

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410-820-8822
Engineering@EastonMD.gov - www.EastonMD.gov

11. Please label the access width between lots 10 and 68.
12. Please include the totals at the bottom of both SWM summary charts.

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

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

MDSW
MCALLISTER
DETAR
SHOWALTER
& WALKER

Ryan D. Showalter
rshowalter@mdswlaw.com
(410) 820-0259 Direct

August 2, 2023

VIA EMAIL TO msalinas@eastonmd.gov
Miguel Salinas
Director of Planning and Zoning
Town of Easton
14 S. Harrison St.
Easton, Maryland 21601

Re: Withdrawal of Growth Allocation Request for Poplar Hill Project

Dear Mr. Salinas:

On behalf of 5001 SHR, L.C. ("SHR"), I hereby formally withdraw the pending Critical Area Growth Allocation Request for the Poplar Hill Project that was submitted to the Town of Easton on July 6, 2022.

New development plans that do not require Growth Allocation are being submitted concurrently with this letter. We appreciate the time that Town officials and staff devoted to evaluating the Growth Allocation application.

Very truly yours,

Ryan D. Showalter

cc: Megan Cook, Mayor, Town of Easton

RECEIVED
AUG 02 2023
TOWN OF EASTON

MDSW MCALLISTER DETAR SHOWALTER & WALKER

Ryan D. Showalter
rshowalter@mdswlaw.com
(410) 820-0259 Direct

August 3, 2023

VIA EMAIL TO msalinas@eastonmd.gov
Miguel Salinas
Director of Planning and Zoning
Town of Easton
14 S. Harrison St.
Easton, Maryland 21601

Re: Withdrawal of Planned Unit Development Application for Poplar Hill Project

Dear Mr. Salinas:

On behalf of 5001 SHR, L.C., I hereby formally withdraw the pending Planned Unit Development ("PUD") application for the Poplar Hill Project.

New development plans that do not require PUD approval were submitted this week. We appreciate the time that Town officials and staff devoted to evaluating the PUD application.

Very truly yours,

Ryan D. Showalter

cc: Megan Cook, Mayor, Town of Easton

RECEIVED
AUG 04 2023
TOWN OF EASTON

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

Easton Staff Development Review Worksheet

Date: August 23, 2023
Project: Oxford Road Residential Subdivision
To: Mr. Brett Ewing - Lane Engineering, LLC.
Mr. Ryan D. Showalter-MDSW
Mr. Kevin Sills - 5001 SHR, L.C.

The Easton Staff Development Review (ESDR) Committee meeting was held on August 23 at 11:00 am. Staff reviewed the Sketch Plat for the proposed Residential Subdivision on the property located at Oxford Road, also known as Tax Map 042, Parcel 57.

It was determined that the PUD will be submitted to the Planning Commission as a Discussion Item for the September 21st Meeting and return to ESDR as early as October 25, 2023. All comments will need to be addressed as designated within the review letters. Specific areas of Staff concern discussed in the meeting and Comments (attached) are as follows:

- Continued discussion of providing a 10' wide Multi-Modal path or sidewalk along the residential collector road adjacent to the agricultural lands, beginning at the Oxford Road intersection and towards the Community Active Park Area.
- Continued discussion of providing a 10' wide Multi-Modal path along Oxford Road in lieu of a 10' wide sidewalk easement.
- All road sections should be designed with standard curb and gutter.
- Verify all alley lengths.
- Revise the proposed private road to be designed as a public road or provide a shared driveway.
- Address Stormwater Management comments.

The Committee determined that the application may be scheduled for Planning Commission review as a Discussion Item pending comments listed above. Please address all comments and submit documents.

The next Planning Commission meeting is scheduled for **Thursday, September 21, 2023 at 1:00 pm.** Submit all documentation to the Planning and Zoning Department no later than Monday, **August 28th**. 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: **August 23, 2023**
TO: **Brett Ewing & Tim Glass** – Lane Engineering, LLC
Kevin Sills – 5001 SHR, L.C.
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: Poplar Hill - Residential Subdivision

We reviewed the **August 2, 2023** Sketch Plat Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Plat Review

1. Align intersections to provide accessible crosswalks.
2. Verify the alley lengths.
3. Revise Site Plan Data on sheet 1 of 5. Note that no building foundation or roof overhang shall be within any Utility Easement.
4. There's a total of 119 proposed lots. Please revise the Non-Critical and Critical Area Development Rights Calculations (Before Subdivision) Critical Area Lot Coverage Calculations (After Subdivision) on sheets 1&3 of 5 with the correct lot numbers.
5. Show zoning district boundaries on the Vicinity Map.
6. Add the Ward District within the Title Sheets.
7. Verify and label on the Site Sketch Plan that all proposed landscape material will be native plant species, prior to submitting application to Planning Commission
8. Recommend providing conceptual house elevations or renderings illustrating the character, scale and materials of proposed dwellings for the Planning Commission meeting.
9. Add the Recommended Design Principles to the Title Sheet.
10. Is there a dedicated area for any Monument Signs?
11. Add the intersection of Clubhouse Drive and Oxford Road onto all plan views.

12. A Project Notification Application was submitted to the Critical Area Commission (CAC) on August 8, 2023 for the revised Sketch Plan. The Critical Area Commission was also notified of the applicant's withdrawal from the pending Growth Allocation Request. Please address CAC review comments.
13. On August 3, 2023, the applicant formally withdrew from the pending Planned Unit Development (“PUD”) application for the Poplar Hill project.

Plan Review Status

IMPROVEMENT PLAN REVIEW			Comments
Plans Approved	☐Y	☒ N	Please review the comments above. Revise and resubmit.

Forest Stand Delineation & Forest Conservation Plan	
☐ Required ☒ Submitted ☐Approved	**Required Afforestation on site is 13.48 acres or 587,188.8.8 square feet. Forest Conservation shall be met through buffer yard and street tree afforestation credits. A portion of the critical area forest retention and proposed seedling planting area will be placed under a Forest Conservation Easement Agreement.**
Other	
☒Required ☐ Submitted ☐ Approved	**IMPACT FEES** **Please note, there will be a required Impact Fee for all proposed units. The Town's Impact Fees and Inspection Fees are to be paid upon the time you pick up your Building Permit. Please provide building square footage with the appropriate impact fee use category for calculation of Impact Fees.** **Talbot County Impact Fees are due prior to obtaining your Building Permit. Please provide receipt of payment to the Town's Building Inspection Division.**

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

TOWN OF
EASTON
ENGINEERING DEPARTMENT

DATE: **August 23, 2023**

TO: **Brett Ewing - Lane Engineering**

cc: **Ryan Showalter - MDSW - Agent**
Sierra Crist - Town of Easton Engineering Department
Miguel Salinas - Town of Easton Planning & Zoning Department
Joe Mayer - Town of Easton Planning & Zoning Department

FROM: **Rick Van Emburgh, P.E. – Town Engineer**

SUBJECT: **Poplar Hill**
Sketch Site Plan Review and
Sketch Stormwater Management Plan Review

I reviewed the Application for the Subject project received on 8/2/2023.

The **Sketch Site Plan** should be revised to address the comments below and the **Sketch Stormwater Management Plan** is approved with the following conditions:

1. RESIDENTIAL COLLECTOR - Revise the section to be consistent with TOE-R-3.01, with the exception of substituting a 10’ wide multi-modal trail (with 2 x 2’ wide gravel shoulders) for the sidewalk on the remaining lands side of the road.
2. PRIVATE ROAD – A private road is not allowed. The proposed road should be a public road to Town standards or a shared driveway may be acceptable as well.
3. All sections should be designed with standard curb and gutter per Town Standard Detail TOE-R-6.01.
4. Please verify all alley lengths do not exceed the maximum allowed in the Subdivision Regulations.
5. Several of the proposed intersections have an angle less than 70 degrees. Please revise per Subdivision Regulations Section 703(k).
6. The proposed intersection near Lots 38, 45, and 46 should not be offset. Please revise per Subdivision Regulations Section 703(m).
7. Several of the proposed intersections appear to have an angle less than 70 degrees. Please revise per Subdivision Regulations Section 703(k).
8. Verify that the radius around lots 33 and 42 is acceptable.
9. Please include detail on the site plan that shows how the Oxford Road entrance aligns with the Easton Club Entrance.
10. In lieu of the proposed 10’ wide sidewalk easement, provide a 10’ wide multi-modal trail (with 2 x 2’ wide gravel shoulders) along the Oxford Road frontage.
11. Sidewalk should extend to connect to Lauren Lane.
12. Sidewalk should extend to the remaining lands towards the Parkway.

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13. Sidewalk should extend on both sides of the proposed road towards the Easton Woodland Park.
14. Sidewalk or a 10' multimodal path should extend along the west orientation (top of the page) of the park area.
15. The Agriculture Lands along the west property line (top of page) near lots 73-74 and 77-100 is not accessible from the proposed roads. It is also recommended to align lots 104-116 with the existing west property line.
16. I will continue to coordinate with SHA regarding the TIS (Traffic Impact Study) and SWA (Signal Warrant Analysis). While a LOS D or better is acceptable to SHA, we note the LOS at several intersections drops from A to either B or C.
17. The TIS indicates the connection to Oxford Road (MD-333) is proposed to be a right-in/right-out. Please show this on the Sketch Subdivision Plan sheets.
18. Provide a Street Light (cobra-head) at MD-322 connection.
19. Community Active Park Area - What will the park consist of? Will there be any proposed parking? Will the park be dedicated to the Town of Easton?
20. Please label the access width between lots 10 and 68.
21. Provide a Water Quality Summary Table (TOE-SWM-7.01). Provide ESD required and provided for each DA.
22. Provide a Water Quantity Summary Table (TOE-SWM-7.02). Provide required and provided for each DA or POI, including POI-3. The existing Drainage Areas for the 3 POIs are 70.66 acres, 37.56 acres, and 12.13 acres, respectively. The proposed Drainage Areas for the 3 POIs are only 32.47 acres and 10.08 acres respectively and POI-3 is not modeled, leaving a majority of the site unmodeled.

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

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

Wes Moore
Governor

Aruna Miller
Lt. Governor

Erik Fisher
Chair

Katherine Charbonneau
Executive Director

STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS

August 21, 2023

Mr. Joseph Mayer
Town of Easton
14 South Harrison Street
Easton, MD 21601

Re: Poplar Hill Subdivision (TM 42, P 57)

Dear Mr. Mayer:

Thank you for providing information regarding the above-referenced subdivision to this office for review. The applicant is proposing to subdivide Parcel 57 to create 119 lots, three of which are located within the RCA (proposed Lots 117, 118, and 119). No RCA development rights will remain upon approval of this proposed subdivision.

We note that a growth allocation request was previously under review by the Town of Easton and Talbot County to reclassify the existing 65.97 acres of Resource Conservation Area (RCA) located on this property to Intensely Developed Area (IDA). The growth allocation request was formally withdrawn on August 2, 2023.

Based on the information provided, this office has the following comments:

1. The notes under the Critical Area Development Rights Calculations and Critical Area Lot Coverage Calculations indicate that Lots 115, 116, and 117 are located within the RCA; however, the site plan indicates that Lots 117, 118, and 119 are located within the RCA. This should be clarified by the applicant.

2. In accordance with Section 28-401.4.A(2) of the Town Code, subdivisions in the RCA require a minimum of a 200-foot Buffer. We note that a 100-foot Buffer is demarcated within the "Revised Remaining Lands" on the site plan provided. The applicant should revise the Critical Area Buffer delineation on the site plan to be a minimum of 200-feet as measured from the landward edge of the mean high water line of tidal waters, the upland boundary of a tidal wetland, and the edge of each bank of a tributary stream. The Buffer should then be expanded to include contiguous sensitive features such as hydric soils, highly erodible soils, and steep slopes, per COMAR 27.01.09.01.E(7).

3. Further, please have the applicant add a note to state that the Critical Area Buffer on Lot 117, Lot 118, Lot 119, and the "Revised Remaining Lands" is located 200 feet from mean high water or the landward edge of tidal wetlands, and has been expanded in

accordance with COMAR 27.01.09.01.E(7), as shown hereon, and that development within the Buffer is prohibited.

4. The Buffer Management Plan should be revised to include full Buffer establishment of the 200-foot Buffer on the "Revised Remaining Lands." The Buffer Management Plan, in accordance with COMAR 27.01.09.01-3, must be approved by the Town prior to final plat recordation. We note that establishment of the Buffer may be delayed on the "Revised Remaining Lands" if existing agricultural operations are proposed within the Buffer in accordance with an approved Soil Conservation and Water Quality Plan. However, if and when these approved agricultural practices cease, the Buffer should be established as applicable. We recommend that a Critical Area note be added to the plat outlining this requirement.

5. Regarding lot coverage, please have the applicant include a note under the Critical Area Lot Coverage Calculations indicating that the entire subdivision within the RCA is limited to 15% lot coverage.

6. Please also have the applicant revise the Critical Area - Forest Calculations on the plat to include the square footage and percentage of existing canopy cover and allowed and proposed clearing for each lot in the RCA.

7. Additionally, at the time of a change in use or proposed development, all other Critical Area requirements for development in the RCA must be met.

Thank you for the opportunity to provide comments regarding this line revision and subdivision request. Please feel free to contact me at ann.sekerak@maryland.gov or (410) 260-3466 if you have any questions.

Sincerely,

Annie Sekerak
Natural Resources Planner

cc: EA 0267-23

EASTON UTILITIES

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Easton Utilities Commission

Plan Review Comments

Date: Tuesday, August 15, 2023
To: Joe Mayer; Nicholas Johnson; Sierra Clem
From: Kia Gibbs on behalf of Aaron Goller, PE **No. of Pages:** 1
Regarding: Poplar Hill PUD - Oxford Road
Phase: Sketch Site Plan **SUBM:** 6 **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	Capital charges required at final plat
2	General	Easements not shown on properties
3	3 of 5	Easements dedicated to the Town of Easton are for their use.
4	3 of 5	Easement required to supply utilities to 3-5 acre parcels
5	4 of 5	Tree shown in driveway at EUC parcel.

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

GENERAL NOTES

BY ACCEPTANCE OF THE DEED TO THIS PROPERTY, EACH LOT OWNER OR THEIR SUCCESSORS OR ASSIGNS, HEREBY ACKNOWLEDGE THAT THEY ARE AWARE THAT THE PROPERTY BORDERS ON PROPERTY UNDER AGRICULTURAL USE AND THAT THE NORMAL FARMING OPERATIONS ON SUCH AGRICULTURAL LAND MAY CAUSE SOME INTERFERENCE WITH THE USE AND ENJOYMENT OF THE PROPERTY, SUCH AS ODOR, DUST, NOISE, AND DRIFT OF PESTICIDES OR CHEMICALS. THE LOT OWNER ACCEPTS THE LIMITATIONS ON USE AND ENJOYMENT AFFECTING THE PROPERTY.

A UTILITIES DISTRIBUTION RIGHT-OF-WAY AND EASEMENT IS HEREBY DEDICATED TO THE TOWN OF EASTON IN AND OVER STRIPS OF LAND TEN (10) FEET IN WIDTH ALONG THOSE BOUNDARY LINES CONTIGUOUS TO ANY STREET OR ALLEY AND FIVE (5) FEET IN WIDTH ON EACH SIDE OF SIDE LOT LINES

ALL EASEMENTS SHOWN HEREON, UNLESS OTHERWISE LABELED AS "PRIVATE", ARE HEREBY DEDICATED FOR USE BY: (I) THE TOWN OF EASTON, (II) UTILITY COMPANIES, (III) SERVICE PROVIDERS, (IV) ANY OTHER PARTIES TO OR FOR WHOM SUCH RIGHTS ARE ESTABLISHED BY INSTRUMENTS RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY.

THE PLANNING AND ZONING COMMISSION MAY WAVE OR TERMINATE, UPON RESUBDIVISION SUCH UTILITY EASEMENTS WHICH HAVE NOT BEEN ACCEPTED BY USE THEREOF, UPON RECEIVING APPROVAL FROM THE TOWN ENGINEER.

ALL STREETS AND STREET WIDENINGS, PARKS AND OTHER LANDS INTENDED FOR PUBLIC USE ARE RESERVED BY THE OWNER FOR FUTURE CONVEYANCE TO THE TOWN OF EASTON.

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM, AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

NON-CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A = 54.499 AC±
DEVELOPMENT RIGHTS PERMITTED = 190 (3.5 PER 1 AC.)
DEVELOPMENT RIGHTS USED = 114 (LOTS 1 THROUGH 114)
DEVELOPMENT RIGHTS REMAINING = 75
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A (RCA) = 65.977 AC±
DEVELOPMENT RIGHTS PERMITTED = 3 (1 PER 20 AC.)
DEVELOPMENT RIGHTS USED = 3 (LOTS 115, 116, AND 117)
DEVELOPMENT RIGHTS REMAINING = 0
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA LOT COVERAGE CALCULATIONS (AFTER SUBDIVISION)

LOT 115
AREA IN RCA = 5.002 AC.± (217,872 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,680 SQ. FT. (15% OF 217,872 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,680 SQ. FT.

LOT 116
AREA IN RCA = 5.002 AC.± (217,880 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,682 SQ. FT. (15% OF 217,880 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,682 SQ. FT.

LOT 117
AREA IN RCA = 5.002 AC.± (217,893 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,683 SQ. FT. (15% OF 217,893 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,683 SQ. FT.

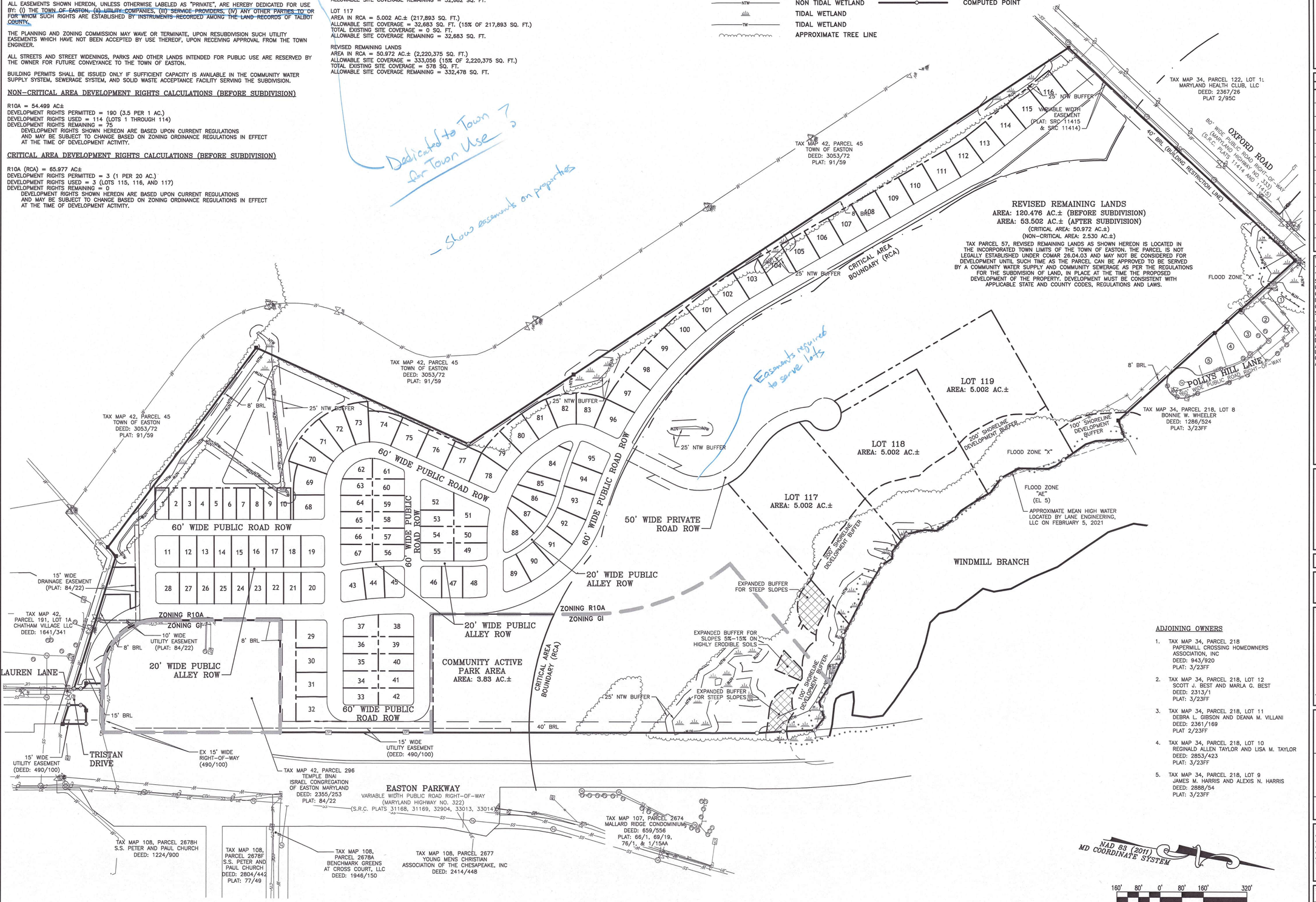
REVISED REMAINING LANDS
AREA IN RCA = 50.972 AC.± (2,220,375 SQ. FT.)
ALLOWABLE SITE COVERAGE = 333,056 (15% OF 2,220,375 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 578 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 332,478 SQ. FT.

Dedicated to Town for Town Use ?

— Show easements on properties

LEGEND

TELEPHONE PEDESTAL	IRON ROD FOUND
GUY WIRE ANCHOR	CONCRETE MONUMENT FOUND
UTILITY POLE	CONCRETE MONUMENT SET
NON-TIDAL WETLAND	IRON ROD SET
NON TIDAL WETLAND	COMPUTED POINT
TIDAL WETLAND	
TIDAL WETLAND	
APPROXIMATE TREE LINE	



ADJOINING OWNERS

1. TAX MAP 34, PARCEL 218
   PAPERMILL CROSSING HOMEOWNERS ASSOCIATION, INC
   DEED: 943/920
   PLAT: 3/23FF
2. TAX MAP 34, PARCEL 218, LOT 12
   SCOTT J. BEST AND MARLA G. BEST
   DEED: 2313/1
   PLAT: 3/23FF
3. TAX MAP 34, PARCEL 218, LOT 11
   DEBRA L. GIBSON AND DEANA M. VILLANI
   DEED: 2361/169
   PLAT 2/23FF
4. TAX MAP 34, PARCEL 218, LOT 10
   REGINALD ALLEN TAYLOR AND LISA M. TAYLOR
   DEED: 2853/423
   PLAT: 3/23FF
5. TAX MAP 34, PARCEL 218, LOT 9
   JAMES M. HARRIS AND ALEXIS N. HARRIS
   DEED: 2888/54
   PLAT: 3/23FF

PLANS ARE ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

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@leinc.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

SEAL

DATE

SKETCH SUBDIVISION PLAT

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
AGENCY REVIEW	11/01/22	BCE
AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE

SHEET No. 3 OF 5	7/06/22
	JOB No. 220155
SCALE: AS NOTED	FILE No. 1324

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Date: 08/01/2023 – 3:37pm User: mphillips Project Manager: BCE
Drawing Path: J:\2022\0100\220155\CM3D-220155\Dwg\Plats\CSK-PLTS-220155.dwg | 3-CONCEPT
XREF File(s): XLB-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/STORM-BASE-220155/SEWER-BASE-220155/CSK-LLP-BASE-220155/CSK-RoadClassification/CSK-USEcu
A B C D E F G H I J K L M N O P Q

PLANS ARE ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

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.

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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@leinc.com
117 Bay St. Easton, MD 21601 (410) 822-8003
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354 Pennsylvania Ave. Centreville, MD 21617 (410) 758-2095

SEAL

DATE

LAND USE PLAN

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
AGENCY REVIEW	11/01/22	BCE
AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE

SHEET No. 4 OF 5	7/06/22
	JOB No. 220155
SCALE: AS NOTED	FILE No. 1324

Date: 08/01/2023 – 3:38pm User: mphillips Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plats\CSK-PLTS-220155.dwg | 4-LAND USE
XREF File(s): VLD-BASE-220155/CSK-BASE-220155/CSK-LLP-BASE-220155/PUD-BASE-2436-220155/RAR-BASE-220155/VSF-BASE-220155/HSL-BASE-220155/VSK-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/CABLE-BASE-220155/HTW-BASE-220155/CSK-RoadClassification/CSK-USE

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Tel 410-758-2095
Fax 410-758-4422

August 29, 2023

Joseph Mayer
Town of Easton
14 South Harrison Street
Easton, MD 21601

Subject: Oxford Road Residential Subdivision

Dear Mr. Mayer,

We have reviewed the Town's ESDR comments received via email dated August 23, 2023 have updated the plans accordingly. Our responses are in order as follows:

TOE:

1. A 10' wide Multi-Modal path with 2' gravel shoulders is shown along the residential collector road from the intersection of Oxford Road towards the Community Active Park Area.
2. A 10' wide Multi-Modal path is shown along Oxford Road.
3. Standard curb and gutter is shown on all proposed road sections.
4. We are requesting one waiver for the alley length of 616' between lot 11 to lot 19. The maximum standard of 600' can be adjusted by PC. All other alleys proposed comply with Town of Easton Subdivision Regulations for alley lengths.
5. A proposed shared driveway within a proposed access easement is shown as access to the three 5 AC estate lots in the critical area.
6. Project engineer and Town Engineer have agreed on ways to satisfy Stormwater Management comments. Necessary changes are shown in attached plans and enclosed updated SWM report.

Critical Area Commission:

1. The lot numbers are updated on the current plan.
2. The 200' buffer is shown on the proposed lots and the revised remaining lands.
3. Note added to site plan and plat notes.
4. The BMP is updated to show the 200' buffer fully established on the revised remaining lands parcel.
5. Note added per comments.
6. 15% Forest Calculations provided based on the entire property, as required.

www.leinc.com
general@leinc.com

7. Acknowledged.

Thank you for your review of this project. Should you have any questions or need additional information, please contact me directly at 410-822-8003.

Sincerely,

Brett C. Ewing, AICP
Principal

SUBDIVISION SKETCH PLAN
FOR
POPLAR HILL
IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND

PLANS ARE ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

SITE PLAN DATA

OWNER: 5001 SHR, L. C.
9161 LIBERIA AVE #201
MANASSAS, VA 20110-0000

PROPERTY: TAX MAP 42 GRID 4 TAX PARCEL 57
OXFORD RD
EASTON, MD 21601

DEED: 02827/00090

PLAT: 84/22

ZONING: R-10A/GI

SITE AREA: 120.476 ACRES

EXISTING DEVELOPMENT: N/A

PROPOSED DEVELOPMENT: BY-RIGHT SUBDIVISION WITH 119 RESIDENTIAL LOTS.

ZONING CLASSIFICATION: R10A (RESIDENTIAL DISTRICT) & GI (GOVERNMENTAL/INSTITUTIONAL)

SETBACKS:

	R10A	GI
FRONT:	15'	40'
SIDE:	8'	15'
REAR:	30'	30'
STATE HIGHWAY:	40'	40'
MEAN HIGH WATER	100' (200' FOR SUBDIVISION)	100'
TIDAL WETLANDS:	100' (200' FOR SUBDIVISION)	100'
NON-TIDAL WETLANDS:	25'	25'
MINIMUM LOT SIZE:	10,000 SQ. FT.	40,000 SQ. FT.
MINIMUM LOT FRONTAGE:	35'	100'
MAXIMUM BUILDING HEIGHT:	35'	50'

PARKING REQUIRED:
SINGLE FAMILY DETACHED DWELLING: 2 SPACES/DWELLING; 119 X 2 = 238 SPACES REQUIRED; 238 PROVIDED (20'WX30'D DRIVEWAYS)

COMMUNITY PARK SPACE: REQUIRED: 3.28 AC (1,200 SF/DWELLING UNIT)
PROVIDED: 3.83 AC

STORMWATER MANAGEMENT: QUANTITY CONTROL IS ADDRESSED. QUALITY TREATMENT ADDRESSED BY PROVIDING ENVIRONMENTAL SITE DESIGN IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND STORMWATER DESIGN MANUAL, PROVIDING ESDV TO THE MAXIMUM EXTENT PRACTICABLE (MEP).

NON-CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A = 54.499 AC±
DEVELOPMENT RIGHTS PERMITTED = 190 (3.5 PER 1 AC.)
DEVELOPMENT RIGHTS USED = 116 (LOTS 1 THROUGH 116)
DEVELOPMENT RIGHTS REMAINING = 74
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A (RCA) = 65.977 AC±
DEVELOPMENT RIGHTS PERMITTED = 3 (1 PER 20 AC.)
DEVELOPMENT RIGHTS USED = 3 (LOTS 117, 118, AND 119)
DEVELOPMENT RIGHTS REMAINING = 0
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA LOT COVERAGE CALCULATIONS (AFTER SUBDIVISION)

LOT 117
AREA IN RCA = 5.000 AC.± (217,811 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,671 SQ. FT. (15% OF 217,811 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,680 SQ. FT.

LOT 118
AREA IN RCA = 5.000 AC.± (217,806 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,670 SQ. FT. (15% OF 217,806 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,682 SQ. FT.

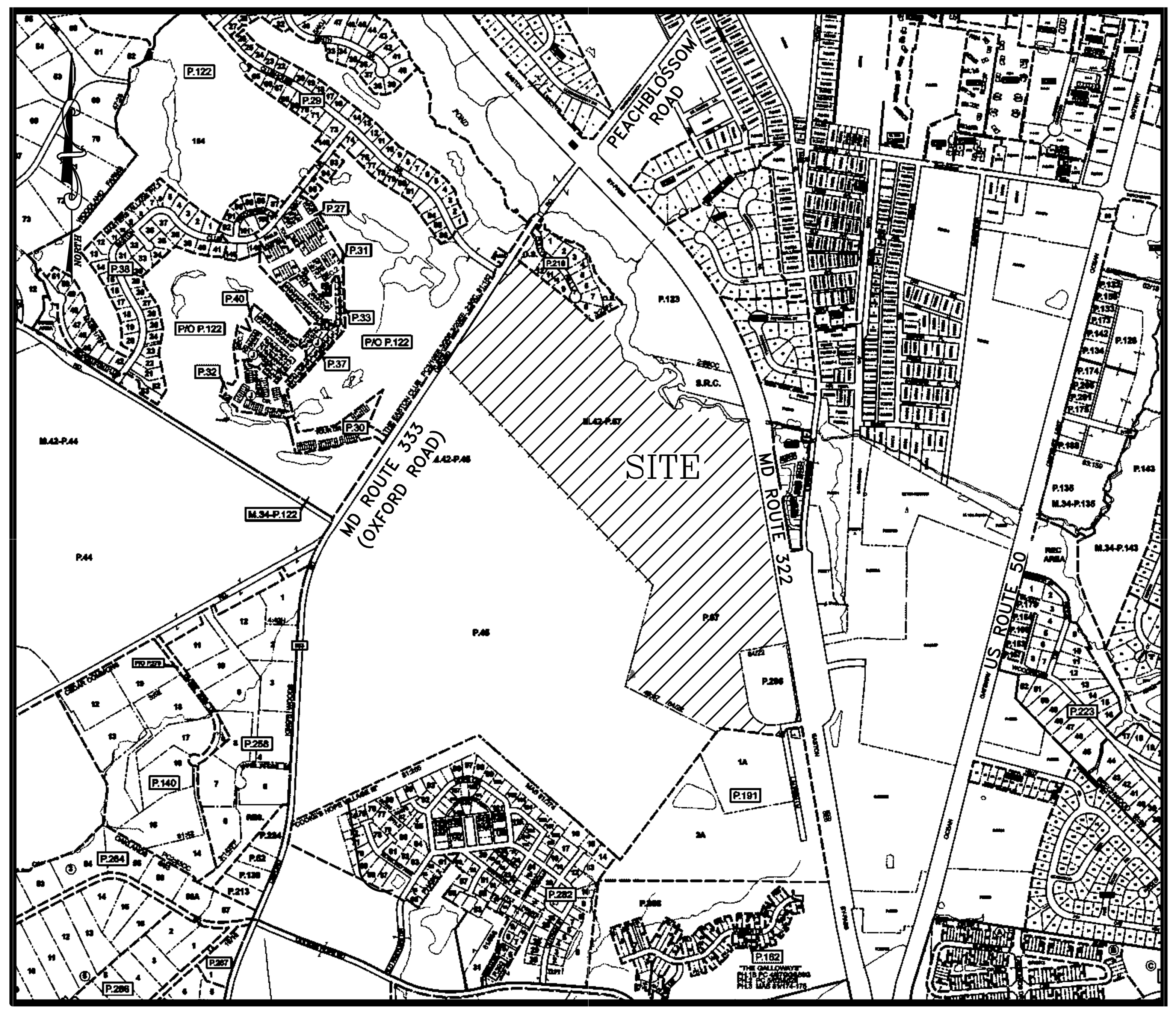
LOT 119
AREA IN RCA = 5.000 AC.± (217,811 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,671 SQ. FT. (15% OF 217,811 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,683 SQ. FT.

REVISED REMAINING LANDS
AREA IN RCA = 51.000 AC.± (2,221,549 SQ. FT.)
ALLOWABLE SITE COVERAGE = 333,232 (15% OF 2,221,549 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 578 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 332,654 SQ. FT.

NOTE: THE ENTIRE SUBDIVISION WITHIN THE RCA IS LIMITED TO 15% LOT COVERAGE.

CRITICAL AREA - FOREST CALCULATIONS

15% FOREST PRESERVATION: 431,113 SQ.FT. (15% OF 2,874,089 SQ.FT.)
TOTAL PROVIDED: 458,856 SQ.FT.; 16% (EXISTING FOREST IN THE CRITICAL AREA)



VICINITY MAP

1000' 500' 0' 500' 1000' 2000'
SCALE IN FEET

INDEX OF SHEETS

SHEET No.	TITLE
1	TITLE SHEET
2	EXISTING CONDITIONS & INTERMEDIATE FSD
3	SKETCH SUBDIVISION PLAT
4	LAND USE PLAN
5	TRANSPORTATION EXHIBIT

Drainage Area	Type of ESD Practice	Drainage Area (sq. feet)	Impervious Area (sq. feet)	Target ESD$_v$ (cu. feet)	ESD$_v$ Provided (cu. Feet)
DA #1	SGW	1,686,904	662,524	102,093	117,911
DA #2	SGW	681,906	241,979	33,584	53,014

STORMWATER DISCHARGE (cfs)

	Pre 2-yr	Post 2-yr	Pre 10-yr	Post 10-yr	Pre 100-yr	Post 100-yr
POI-1	28.95	**19.37**	69.81	**51.80**	125.31	**135.67**
POI-2	18.47	**12.00**	44.38	**37.60**	79.43	**90.72**
POI-3	3.68	-	14.68	-	32.10	-

LANDSCAPE REQUIREMENTS SUMMARY
PER ZONING ORDINANCE (ALL NATIVE SPECIES):

SECTION 1014.6.A.:

1. STREET TREES @ 1 TREE/25' OF STREET CENTERLINE LENGTH
9,425 LF / 25 = 377 TREES REQUIRED

LANDSCAPE BUFFERYARD REQUIREMENTS (SECTION 1014.7.E.)

40' WIDE LANDSCAPE BUFFERYARD 'A' (ALONG OXFORD ROAD)
1135 LF LESS ENTRANCE (60 LF) LESS EXISTING FOREST (193 LF) LESS AG ENTRANCE (10 LF) = 872 LF / 50' = 17.4 PLANT UNITS (PU)

2 SHADE/ CANOPY TREES X 17.4 PU = 35 SHADE/ CANOPY TREES REQUIRED (35 PROPOSED)
2 EVERGREEN TREES X 17.4 PU = 35 EVERGREEN TREES REQUIRED (35 PROPOSED)
10 LARGE SHRUBS X 17.4 PU = 174 LARGE SHRUBS REQUIRED (174 PROPOSED)

40' WIDE LANDSCAPE BUFFERYARD 'A' (ALONG MD ROUTE 322)
1975 LF LESS EXISTING FOREST (803 LF) = 1172 LF / 50' = 23.4 PLANT UNITS (PU)

2 SHADE/ CANOPY TREES X 23.4 PU = 47 SHADE/ CANOPY TREES REQUIRED (47 PROPOSED)
2 EVERGREEN TREES X 23.4 PU = 47 EVERGREEN TREES REQUIRED (47 PROPOSED)
10 LARGE SHRUBS X 23.4 PU = 234 LARGE SHRUBS REQUIRED (234 PROPOSED)

10' WIDE LANDSCAPE BUFFERYARD 'E' (ALONG PROPOSED POLLY HILL SUBDIVISION)
791 LF LESS EXISTING FOREST (254 LF) = 537 LF / 50' = 10.7 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 10.7 PU = 11 SHADE/ CANOPY TREES REQUIRED (11 PROPOSED)
3 EVERGREEN TREES X 10.7 PU = 32 EVERGREEN TREES REQUIRED (32 PROPOSED)

10' WIDE ENHANCED LANDSCAPE BUFFERYARD 'E' (ALONG TEMPLE B'NAI)
371 LF / 50' = 7.4 PLANT UNITS (PU)
(50'± WIDE PLANTING AREA ASSUMED)
1 SHADE/ CANOPY TREE X 5 = 5 X 7.4 PU = 37 SHADE/ CANOPY TREES REQUIRED (37 PROPOSED)
3 EVERGREEN TREES X 5 = 15 X 7.4 PU = 111 EVERGREEN TREES REQUIRED (111 PROPOSED)

10' WIDE LANDSCAPE BUFFERYARD 'E' (ALONG SOUTH & WEST PROPERTY LINE)
4985 LF LESS DRAINAGE EASEMENT (10 LF) LESS WELL PARCEL (105 LF) LESS RIGHT OF WAY (99 LF) = 4771 LF/ 50' = 95.4 PLANT UNITS (PU)

1 SHADE/ CANOPY TREE X 95.4 PU = 95 SHADE/ CANOPY TREES REQUIRED (95 PROPOSED)
3 EVERGREEN TREES X 95.4 PU = 286 EVERGREEN TREES REQUIRED (286 PROPOSED)

FOREST CONSERVATION REQUIREMENTS

INTERMEDIATE FOREST STAND DELINEATION NARRATIVE

THE PROPOSED DEVELOPMENT REQUIRES THE OWNER TO DEMONSTRATE FOREST CONSERVATION COMPLIANCE. THE 120.48 ACRE PROPERTY AS SHOWN IS ENTIRELY AN OPEN FIELD SOUTHEAST OF THE SUBDIVISION OF THE EASTON CLUB AND ON THE SOUTH SIDE OF OXFORD ROAD (MD ROUTE 333). THE SITE LIES AT THE EDGE OF AN URBANIZING AREA WITHIN THE TOWN OF EASTON AND IS BOUNDED BY RESIDENTIAL DEVELOPMENT GENERALLY TO THE NORTH, EAST AND SOUTH AND ADJACENT TO EXISTING FOREST TO THE WEST. DUE TO THE SITES PROXIMITY AND ACCESS TO OXFORD ROAD AND MD ROUTE 322 (EASTON PARKWAY); THIS PROPERTY IS IDEALLY SUITED FOR RESIDENTIAL DEVELOPMENT. THE SITE IS AN OPEN FIELD WITH SOME EXISTING FOREST AND GENERALLY DRAINS TO THE SOUTH WEST AND SOUTH EAST. THERE IS EXISTING FOREST TO THE WEST OF THE PROPERTY ADJACENT TO THE SITE. NO OTHER FEATURES CHARACTERIZE THE SITE. THE NET TRACT IS COMPRISED OF THE SUBJECT PROPERTY (120.48 ACRES) LESS THE CRITICAL AREA PORTION OF THE SITE (65.98 ACRES) EQUALING 54.50 ACRES FOR PURPOSES OF FOREST CONSERVATION FOR THIS PROJECT. THERE IS EXISTING FOREST ON-SITE. IN ORDER TO SATISFY FOREST CONSERVATION REQUIREMENTS, THE OWNER IS REQUIRED TO PLANT/AFFOREST A TOTAL OF 13.48 ACRES.

PRELIMINARY INTERMEDIATE FOREST CONSERVATION NARRATIVE

THE OWNER PROPOSES TO DEVELOP THE PROPERTY FOR RESIDENTIAL USES, CONTAINING RESIDENTIAL SINGLE FAMILY LOTS. THE NET TRACT CONSISTS OF THE SUBJECT PROPERTY (120.48 ACRES) LESS THE CRITICAL AREA PORTION OF THE SITE (65.98 ACRES) EQUALING 54.50 ACRES FOR PURPOSES OF FOREST CONSERVATION FOR THIS PROJECT. EXISTING NON-CRITICAL AREA FOREST WILL BE REMOVED (5.31 ACRES±) FOR THE CONSTRUCTION OF STORMWATER MANAGEMENT FEATURES AND INFRASTRUCTURE. THE OWNER/APPLICANT IS REQUIRED TO PLANT A TOTAL OF 13.48 ACRES TO MEET FOREST CONSERVATION REQUIREMENTS. THE AFFORESTATION REQUIREMENTS SHALL BE MET THROUGH BUFFERYARD AND STREET TREE AFFORESTATION CREDITS PER THE FOREST CONSERVATION OVERLAPPING REQUIREMENTS (SECTION 1014.5), A PORTION OF CRITICAL AREA FOREST RETENTION AND PROPOSED SEEDLING PLANTING AREA WHICH SHALL BE PLACED UNDER A LONG TERM PROTECTIVE EASEMENT AND RECORDED WITHIN THE LAND RECORDS OF TALBOT COUNTY.

STATEMENT OF PURPOSE & INTENT

THE PURPOSE OF THESE PLANS IS TO OBTAIN SUBDIVISION BY-RIGHT APPROVAL FOR 119 RESIDENTIAL LOTS.

SITE ADDRESS

OXFORD ROAD
EASTON, MD 21601

OWNER

5001 SHR, L.C.
9161 LIBERIA AVE. #201
MANASSAS, VA 20110

LAND PLANNER/CIVIL ENGINEER

LANE ENGINEERING, LLC
C/O BRETT C. EWING, AICP
C/O JARRET BEYER, PE
117 BAY STREET
EASTON, MD 21601
(410) 822-8003

REVISIONS TO APPROVED PLANS

No.	DATE	DESCRIPTION	BY

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SEAL

DATE

TITLE SHEET

POPLAR HILL
SUBDIVISION
SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
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AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 1 OF 5
7/06/22
JOB No. 220155
SCALE: AS NOTED
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Date: 08/29/2023 - 3:41pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plots\CSK-PLTS-220155.dwg | 1-COVER
XREF File(s): VLD-BASE-220155/CSK-BASE-220155/CSK-LLP-BASE-220155/PUD-BASE-2436-220155/RAR-BASE-220155/VSF-BASE-220155/VSK-BASE-220155/HSL-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/CABLE-BASE-220155/HTW-BASE-220155/CSK-RoadClassification/CSK-USEoutl

PROJECT NOTES

THE PROPERTY SHOWN HEREON LIES PARTIALLY WITHIN THE CHESAPEAKE BAY CRITICAL AREA DESIGNATED AS RCA (RESOURCE CONSERVATION AREA) AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

MEAN HIGH WATER WAS NOT ESTABLISHED BY THIS SURVEY. MEAN HIGH WATER IS DEFINED BY ELEVATION REFERENCED TO A TIDAL BENCH MARK. THE SHORELINE WAS LOCATED TO THE EDGE OF TIDAL VEGETATION. THE BOUNDARY IS SUBJECT TO CHANGE DUE TO NATURAL CAUSES AND IT MAY NOT REPRESENT THE ACTUAL LOCATION OF THE LIMIT OF TITLE.

THE WETLANDS SHOWN HEREON WERE DELINEATED BY SEAN CALLAHAN, A QUALIFIED PROFESSIONAL WITH LANE ENGINEERING, LLC, SURVEY LOCATED ON FEBRUARY 9, 2021 AND VERIFIED BY CHRIS PAJAK, MDE, MARY PHIPPS DICKERSON, MDE, AND WILLIAM SEIGER, MDE ON FEBRUARY 25, 2021 AND JASON PETERSON, USACE ON MAY 13, 2022.

LANE ENGINEERING, LLC HAS REVIEWED THE MAPPED SOILS AND TOPOGRAPHIC INFORMATION FOR THIS PROPERTY RELATED TO POSSIBLE 100, BUFFER EXPANSION REQUIREMENTS DUE TO STEEP SLOPES AND/OR HYDRIC AND HIGHLY ERODIBLE SOILS AND HAS DETERMINED THAT EXPANSION AS SHOWN IS REQUIRED UNDER THE STATE AND COUNTY REGULATIONS AS OF THE DATE OF THIS PLAN.

LANE ENGINEERING, LLC HAS REVIEWED THE MAPPED SOILS AND TOPOGRAPHIC INFORMATION FOR THIS PROPERTY RELATED TO POSSIBLE 200' BUFFER EXPANSION REQUIREMENTS DUE TO STEEP SLOPES AND/OR HYDRIC AND HIGHLY ERODIBLE SOILS AND HAS DETERMINED THAT NO EXPANSION IS REQUIRED UNDER THE STATE AND COUNTY REGULATIONS AS OF THE DATE OF THIS PLAN.

THE IMPROVEMENTS SHOWN HEREON WERE FIELD LOCATED BY LANE ENGINEERING, LLC ON FEBRUARY 10, 2021.

THE DIMENSIONS OF BUILDINGS, STRUCTURES AND SETBACKS WERE MEASURED TO THE NEAREST 0.1 FOOT.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2019 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

LAND SHOWN UPON THIS PLAT MAY CONTAIN NON-TIDAL WETLANDS REGULATED UNDER COMAR 08.0504; THE FEDERAL WATER POLLUTION ACT SECTION 404; OR THE RIVERS HARBOR ACT SECTION 10. DEVELOPMENT AND CONSTRUCTION WITHIN WETLANDS ARE SUBJECT TO FEDERAL AND STATE REGULATIONS AND MAY BE PROHIBITED OR RESTRICTED BY SUCH REGULATIONS.

NO ABSTRACT OF TITLE, TITLE COMMITMENT, NOR RESULTS OF A TITLE SEARCH HAVE BEEN FURNISHED TO LANE ENGINEERING, LLC. THE BUILDING RESTRICTION LINES AS SHOWN HEREON ARE BASED SOLELY ON THE CURRENT TOWN OF EASTON ZONING ORDINANCE APPLICABLE TO THE PROPERTY SHOWN HEREON AND ARE SUBJECT TO CHANGE WITH THE REVISION OF ZONING LAWS. OTHER DOCUMENTS OF RECORD MAY EXIST THAT MAY AFFECT THE SURVEYED PROPERTY REFLECTED HEREON, INCLUDING BUT NOT LIMITED TO EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, PLAT RESTRICTIONS OR ANY OTHER FACTS THAT AN ACCURATE, COMPLETE AND CURRENT TITLE SEARCH MAY DISCLOSE.

FLOOD DATA

A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X", "X" (SHADED), AND "AE" (EL 5) FLOOD ZONES AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0189D AND 24041C0302D FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES AE – 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

Forest Conservation Worksheet 2.2

Net Tract Area			
A.	Total Tract Area	A =	120.48
B.	Deductions	B =	65.98
C.	Net Tract Area	C =	54.50
Land Use Category			
	Input the number "1" under the appropriate land use zoning, and limit to only one entry		
	ARA 0 · MDR 0 · IDA 0 · HDR 1 · MPD 0 · CIA 0		
D.	Afforestation Threshold (Net Tract Area x 15%)	D =	8.17
E.	Conservation Threshold (Net Tract Area x 20%)	E =	10.90
Existing Forest Cover			
F.	Existing Forest Cover within the Net Tract Area	F =	5.31
G.	Area of Forest Above Conservation Threshold	G =	0.00
Break Even Point			
H.	Break Even Point	H =	5.31
I.	Forest Clearing Permitted Without Mitigation	I =	0.00
Proposed Forest Clearing			
J.	Total Area of Forest to be Cleared	J =	5.31
K.	Total Area of Forest to be Retained	K =	0.00
Planting Requirements			
L.	Reforestation for Clearing Above the Conservation Threshold	L =	0.00
M.	Reforestation for Clearing Below the Conservation Threshold	M =	10.62
N.	Credit for Retention above the Conservation Threshold	N =	0.00
P.	Total Reforestation Required	P =	10.62
Q.	Total Afforestation Required	Q =	2.86
R.	Total Planting Requirement	R =	13.48

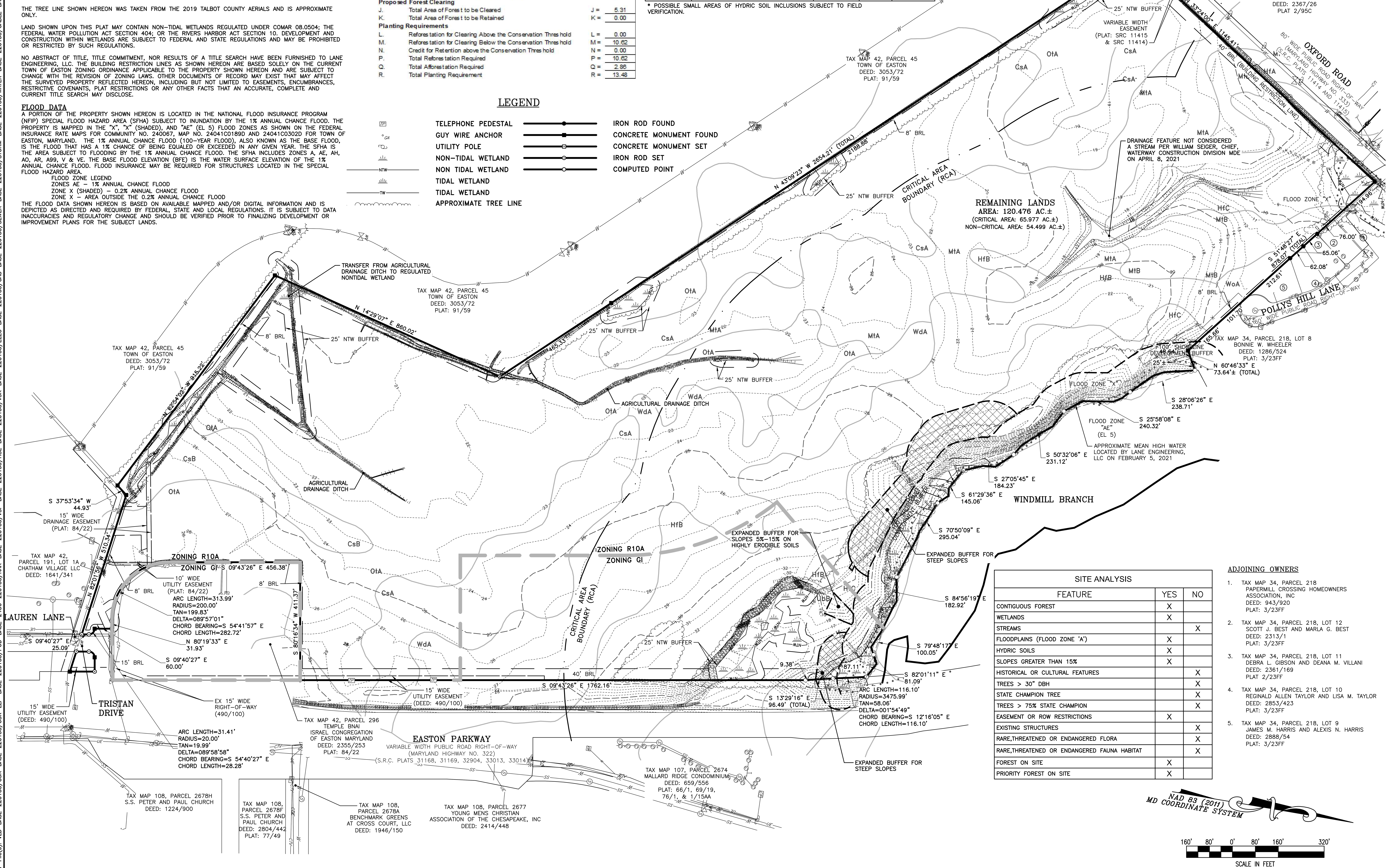
TALBOT COUNTY SOILS

MAP SYMBOL	SOILS NAME	HYDRIC SOILS	K FACTOR	SOIL GROUP
CsA	CROSIADORE SILT LOAM	*	0.49	C/D
CsB	CROSIADORE SILT LOAM	*	0.49	C/D
HfA	HAMBROOK-SASSAFRAS COMPLEX		0.37	B
HfB	HAMBROOK-SASSAFRAS COMPLEX		0.37	B
HfC	HAMBROOK-SASSAFRAS COMPLEX		0.32	B
MtA	MATTAPEX SILT LOAM	*	0.49	C
MtB	MATTAPEX SILT LOAM	*	0.49	C
OtA	OTHELLO SILT LOAM	YES	0.43	C/D
TP	TRANSQUAKING AND MISPILLION SOILS	YES	N/A	A/D
UbB	UDORTHENTS, BORROW AREA	*	0.37	C
WdA	WOODSTOWN SANDY LOAM	*	0.2	C
WoA	WOODSTOWN LOAM	*	0.32	C

* POSSIBLE SMALL AREAS OF HYDRIC SOIL INCLUSIONS SUBJECT TO FIELD VERIFICATION.

LEGEND

TELEPHONE PEDESTAL	IRON ROD FOUND
GUY WIRE ANCHOR	CONCRETE MONUMENT FOUND
UTILITY POLE	CONCRETE MONUMENT SET
NON-TIDAL WETLAND	IRON ROD SET
NON TIDAL WETLAND	COMPUTED POINT
TIDAL WETLAND	
TIDAL WETLAND	
APPROXIMATE TREE LINE	



SITE ANALYSIS

FEATURE	YES	NO
CONTIGUOUS FOREST	X	
WETLANDS	X	
STREAMS		X
FLOODPLAINS (FLOOD ZONE 'A')	X	
HYDRIC SOILS	X	
SLOPES GREATER THAN 15%	X	
HISTORICAL OR CULTURAL FEATURES		X
TREES > 30" DBH		X
STATE CHAMPION TREE		X
TREES > 75% STATE CHAMPION		X
EASEMENT OR ROW RESTRICTIONS	X	
EXISTING STRUCTURES		X
RARE,THREATENED OR ENDANGERED FLORA		X
RARE,THREATENED OR ENDANGERED FAUNA HABITAT		X
FOREST ON SITE	X	
PRIORITY FOREST ON SITE	X	

ADJOINING OWNERS

1. TAX MAP 34, PARCEL 218
   PAPERMILL CROSSING HOMEOWNERS ASSOCIATION, INC
   DEED: 943/920
   PLAT: 3/23FF
2. TAX MAP 34, PARCEL 218, LOT 12
   SCOTT J. BEST AND MARLA G. BEST
   DEED: 2313/1
   PLAT: 3/23FF
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   PLAT 2/23FF
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5. TAX MAP 34, PARCEL 218, LOT 9
   JAMES M. HARRIS AND ALEXIS N. HARRIS
   DEED: 2888/54
   PLAT: 3/23FF

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SEAL

DATE

EXISTING CONDITIONS & INTERMEDIATE FSD

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
AGENCY REVIEW	11/01/22	BCE
AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 2 OF 5 · 7/06/22
SCALE: AS NOTED · JOB No. 220155 · FILE No. 1324

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Date: 08/29/2023 – 3:42pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plots\CSK-PLTS-220155.dwg | 2-EXISTING

GENERAL NOTES

BY ACCEPTANCE OF THE DEED TO THIS PROPERTY, EACH LOT OWNER OR THEIR SUCCESSORS OR ASSIGNS, HEREBY ACKNOWLEDGE THAT THEY ARE AWARE THAT THE PROPERTY BORDERS ON PROPERTY UNDER AGRICULTURAL USE AND THAT THE NORMAL FARMING OPERATIONS ON SUCH AGRICULTURAL LAND MAY CAUSE SOME INTERFERENCE WITH THE USE AND ENJOYMENT OF THE PROPERTY, SUCH AS ODOR, DUST, NOISE, AND DRIFT OF PESTICIDES OR CHEMICALS. THE LOT OWNER ACCEPTS THE LIMITATIONS ON USE AND ENJOYMENT AFFECTING THE PROPERTY.

A UTILITIES DISTRIBUTION RIGHT-OF-WAY AND EASEMENT IS HEREBY DEDICATED TO THE TOWN OF EASTON IN AND OVER STRIPS OF LAND TEN (10) FEET IN WIDTH ALONG THOSE BOUNDARY LINES CONTIGUOUS TO ANY STREET OR ALLEY AND FIVE (5) FEET IN WIDTH ON EACH SIDE OF SIDE LOT LINES

ALL EASEMENTS SHOWN HEREON, UNLESS OTHERWISE LABELED AS "PRIVATE", ARE HEREBY DEDICATED FOR USE BY: (I) THE TOWN OF EASTON, (II) UTILITY COMPANIES, (III) SERVICE PROVIDERS, (IV) ANY OTHER PARTIES TO OR FOR WHOM SUCH RIGHTS ARE ESTABLISHED BY INSTRUMENTS RECORDED AMONG THE LAND RECORDS OF TALBOT COUNTY.

THE PLANNING AND ZONING COMMISSION MAY WAVE OR TERMINATE, UPON RESUBDIVISION SUCH UTILITY EASEMENTS WHICH HAVE NOT BEEN ACCEPTED BY USE THEREOF, UPON RECEIVING APPROVAL FROM THE TOWN ENGINEER.

ALL STREETS AND STREET WIDENINGS, PARKS AND OTHER LANDS INTENDED FOR PUBLIC USE ARE RESERVED BY THE OWNER FOR FUTURE CONVEYANCE TO THE TOWN OF EASTON.

BUILDING PERMITS SHALL BE ISSUED ONLY IF SUFFICIENT CAPACITY IS AVAILABLE IN THE COMMUNITY WATER SUPPLY SYSTEM, SEWERAGE SYSTEM, AND SOLID WASTE ACCEPTANCE FACILITY SERVING THE SUBDIVISION.

THE CRITICAL AREA BUFFER ON LOT 117, LOT 118, LOT 119, AND THE REVISED REMAINING LANDS IS LOCATED 200 FEET FROM MEAN HIGH WATER OR LANDWARD EDGE OF TIDAL WETLANDS, AND HAS BEEN EXPANDED IN ACCORDANCE WITH COMAR 27.01.09.01E(7), AS SHOWN HEREON, AND THAT DEVELOPMENT WITHIN THE BUFFER IS PROHIBITED.

NON-CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A = 54.499 AC.±
DEVELOPMENT RIGHTS PERMITTED = 190 (3.5 PER 1 AC.)
DEVELOPMENT RIGHTS USED = 116 (LOTS 1 THROUGH 116)
DEVELOPMENT RIGHTS REMAINING = 74
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA DEVELOPMENT RIGHTS CALCULATIONS (BEFORE SUBDIVISION)

R10A (RCA) = 65.977 AC.±
DEVELOPMENT RIGHTS PERMITTED = 3 (1 PER 20 AC.)
DEVELOPMENT RIGHTS USED = 3 (LOTS 117, 118, AND 119)

DEVELOPMENT RIGHTS REMAINING = 0
DEVELOPMENT RIGHTS SHOWN HEREON ARE BASED UPON CURRENT REGULATIONS AND MAY BE SUBJECT TO CHANGE BASED ON ZONING ORDINANCE REGULATIONS IN EFFECT AT THE TIME OF DEVELOPMENT ACTIVITY.

CRITICAL AREA LOT COVERAGE CALCULATIONS (AFTER SUBDIVISION)

LOT 117
AREA IN RCA = 5.000 AC.± (217,811 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,671 SQ. FT. (15% OF 217,811 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,680 SQ. FT.

LOT 118
AREA IN RCA = 5.000 AC.± (217,806 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,670 SQ. FT. (15% OF 217,806 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,682 SQ. FT.

LOT 119
AREA IN RCA = 5.000 AC.± (217,811 SQ. FT.)
ALLOWABLE SITE COVERAGE = 32,671 SQ. FT. (15% OF 217,811 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 0 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 32,683 SQ. FT.

REVISED REMAINING LANDS
AREA IN RCA = 51.000 AC.± (2,221,549 SQ. FT.)
ALLOWABLE SITE COVERAGE = 333,232 (15% OF 2,221,549 SQ. FT.)
TOTAL EXISTING SITE COVERAGE = 578 SQ. FT.
ALLOWABLE SITE COVERAGE REMAINING = 332,654 SQ. FT.

NOTE: THE ENTIRE SUBDIVISION WITHIN THE RCA IS LIMITED TO 15% LOT COVERAGE.

LEGEND

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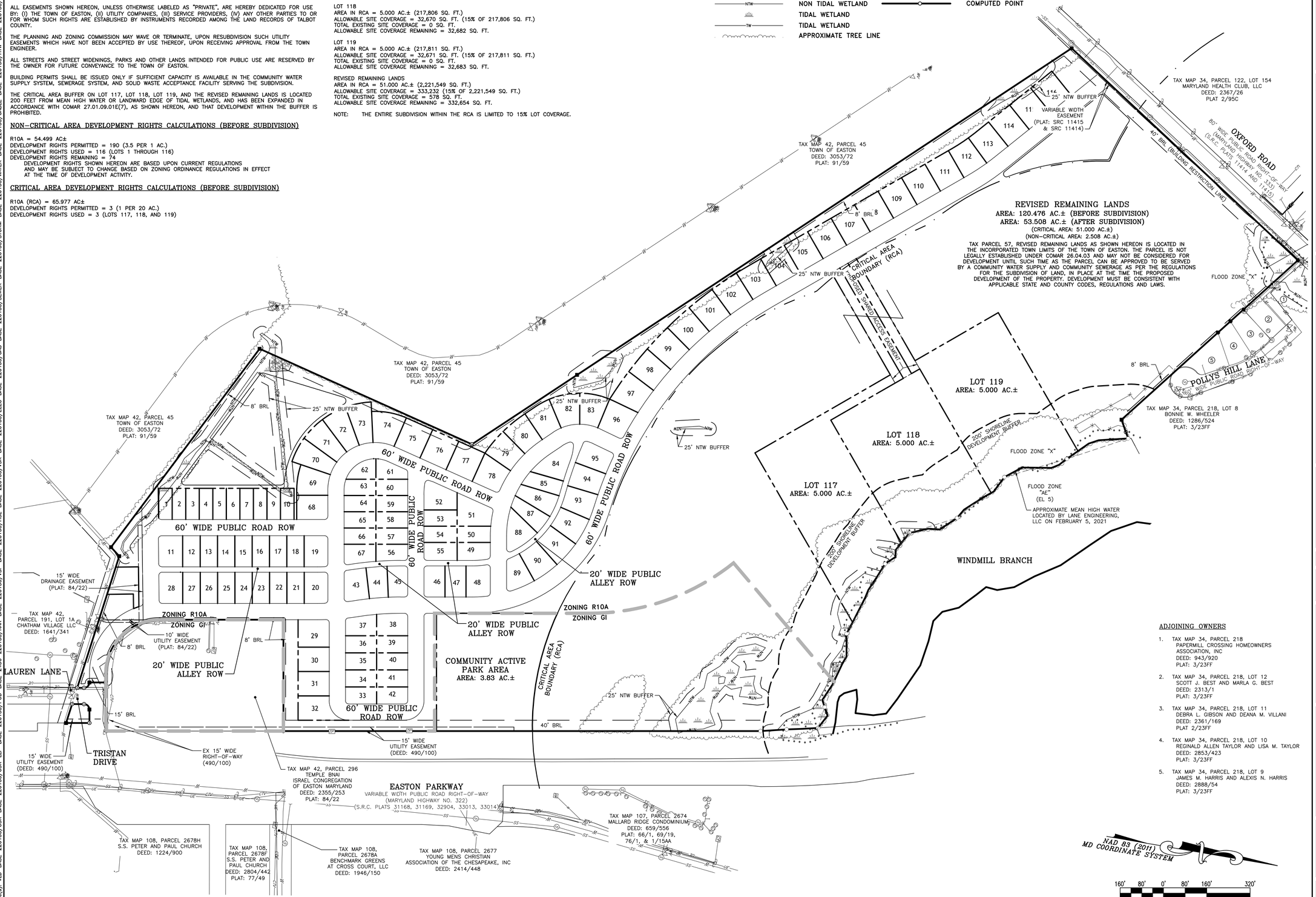
TIDAL WETLAND	
APPROXIMATE TREE LINE	



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SEAL

DATE

SKETCH SUBDIVISION PLAT

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
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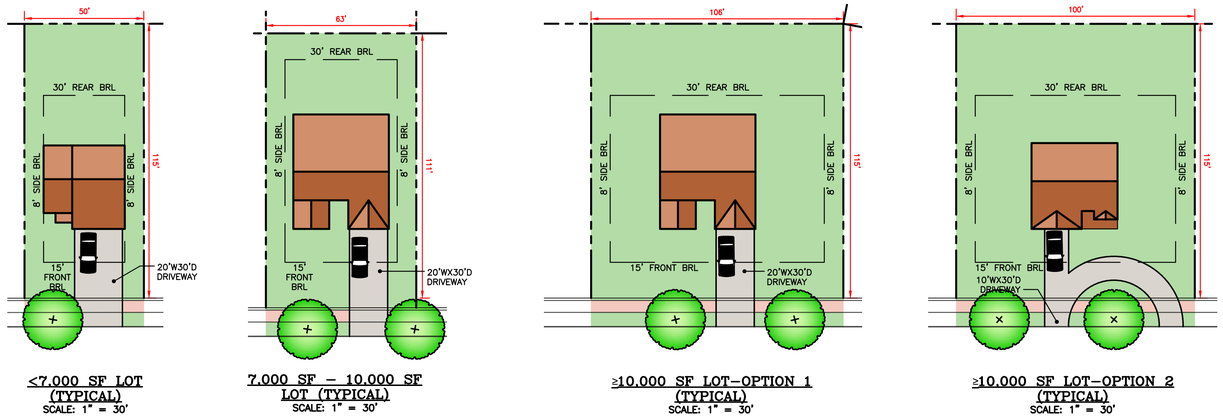
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 3 OF 5
SCALE: AS NOTED
7/06/22
JOB No. 220155
FILE No. 1324

Date: 08/29/2023 - 3:42pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plats\CSK-PLTS-220155.dwg | J-CONCEPT
XREF File(s): VLD-BASE-220155/CSK-BASE-220155/CSK-LLP-BASE-220155/PUD-BASE-2436-220155/RAR-BASE-220155/VGF-BASE-220155/HSL-BASE-220155/VSK-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/CABLE-BASE-220155/TWN-BASE-220155/CSK-RoadClassification/CSK-USEout



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SEAL

DATE

LAND USE PLAN

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
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AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
AGENCY REVIEW	11/01/22	BCE
AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 4 OF 5

7/06/22

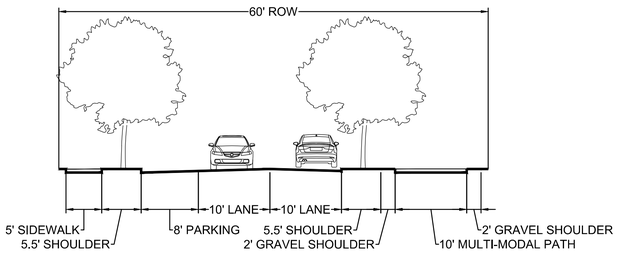
SCALE: AS NOTED

JOB No. 220155

FILE No. 1324

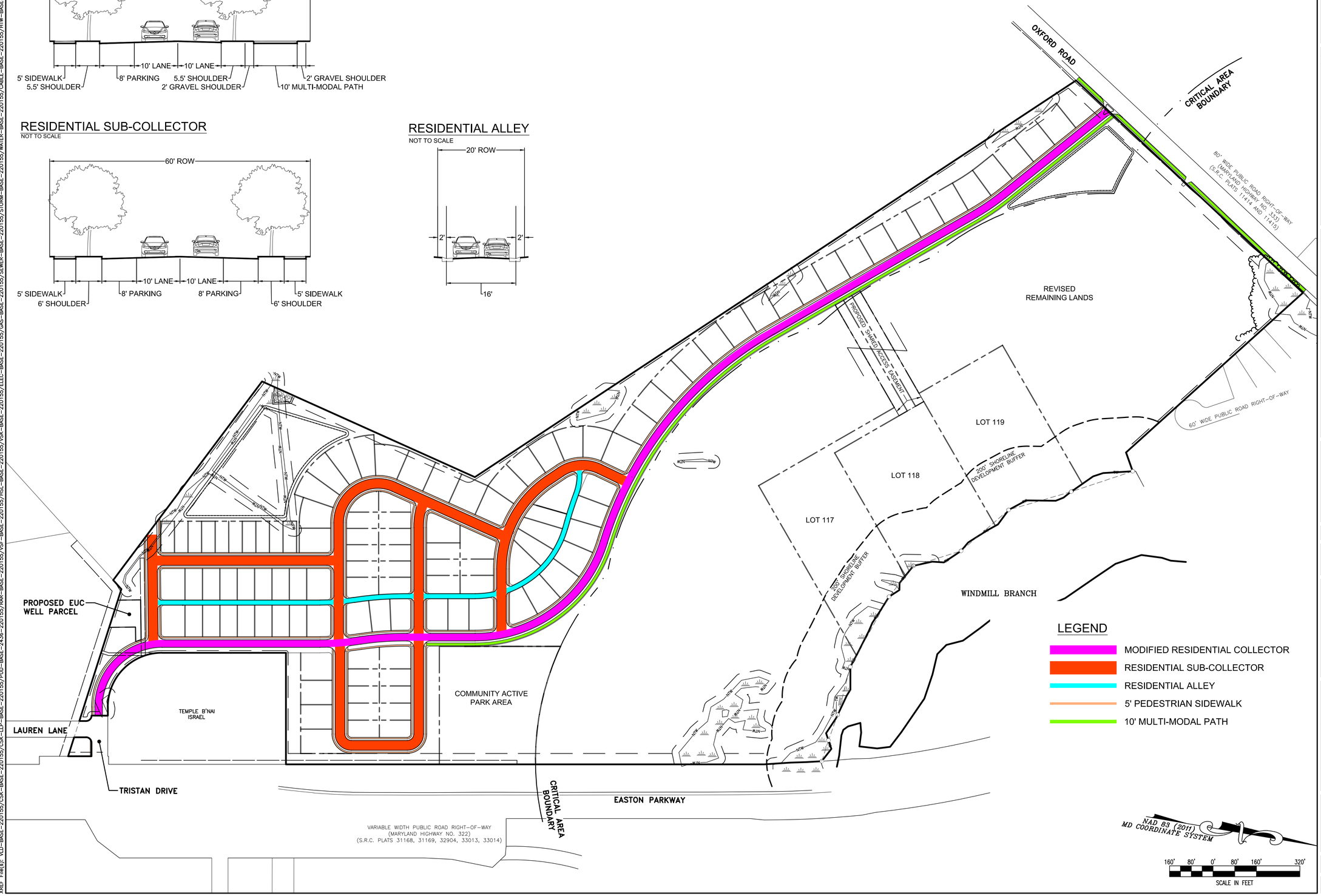
Date: 08/29/2023 – 3:43pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plats\CSK-PLTS-220155.dwg | 4-LAND USE
XREF File(s): VLD-BASE-220155/CSK-BASE-220155/CSK-LIP-BASE-220155/PUD-BASE-24,36-220155/RAR-BASE-220155/ASF-BASE-220155/HSL-BASE-220155/ELEC-BASE-220155/VSK-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/CABLE-BASE-220155/ROAD-BASE-220155/CSK-RoadClassification/CSK-USEout

MODIFIED RESIDENTIAL COLLECTOR
NOT TO SCALE



RESIDENTIAL SUB-COLLECTOR
NOT TO SCALE

RESIDENTIAL ALLEY
NOT TO SCALE



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TRANSPORTATION EXHIBIT

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

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PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 5 OF 5	7/06/22
SCALE: AS NOTED	JOB No. 220155
	FILE No. 1324

Date: 08/29/2023 - 3:44pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plots\CSK-PLTS-220155.dwg | 5-TRANSPORTATION
XREF File(s): VLD-BASE-220155/CSK-BASE-220155/CSK-LIP-BASE-220155/PUD-BASE-2436-220155/PAR-BASE-220155/VSF-BASE-220155/HSL-BASE-220155/VSK-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/CABLE-BASE-220155/FOR-BASE-220155/TRW-BASE-220155/CSK-RoadClassification/CSK-USEoutl

PROPERTY OWNER

PROPERTY OWNER: 5001 SHR, L.C., 9161 LIBERIA AVE #201, MANASSAS, VA 20110

PROPERTY ADDRESS: OXFORD ROAD, EASTON, MARYLAND 21601
DEED REFERENCE: 2827/90
PLAT REFERENCE: 84/22

ZONING CLASSIFICATION: R10A (RESIDENTIAL DISTRICT) & GI (GOVERNMENTAL/INSTITUTIONAL)

SETBACKS:	R10A	GI
FRONT:	15'	40'
SIDE:	8'	15'
REAR:	30'	30'
STATE HIGHWAY:	40'	40'
MEAN HIGH WATER	100' (200' FOR SUBDIVISION)	100'
TIDAL WETLANDS:	100' (200' FOR SUBDIVISION)	100'
NON-TIDAL WETLANDS:	25'	25'

THE PROPERTY SHOWN HEREON LIES PARTIALLY WITHIN THE CHESAPEAKE BAY CRITICAL AREA DESIGNATED AS RCA (RESOURCE CONSERVATION AREA) AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

MEAN HIGH WATER WAS NOT ESTABLISHED BY THIS SURVEY. MEAN HIGH WATER IS DEFINED BY ELEVATION REFERENCED TO A TIDAL BENCH MARK. THE SHORELINE WAS LOCATED TO THE EDGE OF TIDAL VEGETATION. THE BOUNDARY IS SUBJECT TO CHANGE DUE TO NATURAL CAUSES AND IT MAY NOT REPRESENT THE ACTUAL LOCATION OF THE LIMIT OF TITLE.

THE WETLANDS SHOWN HEREON WERE DELINEATED BY SEAN CALLAHAN, A QUALIFIED PROFESSIONAL WITH LANE ENGINEERING, LLC, SURVEY LOCATED ON FEBRUARY 9, 2021 AND VERIFIED BY CHRIS PAJAK, MDE, MARY PHIPPS DICKERSON, MDE, AND WILLIAM SEIGER, MDE ON FEBRUARY 25, 2021 AND JASON PETERSON, USACE ON MAY 13, 2022.

LANE ENGINEERING, LLC HAS REVIEWED THE MAPPED SOILS AND TOPOGRAPHIC INFORMATION FOR THIS PROPERTY RELATED TO POSSIBLE 100, BUFFER EXPANSION REQUIREMENTS DUE TO STEEP SLOPES AND/OR HYDRIC AND HIGHLY ERODIBLE SOILS AND HAS DETERMINED THAT EXPANSION AS SHOWN IS REQUIRED UNDER THE STATE AND COUNTY REGULATIONS AS OF THE DATE OF THIS PLAN.

THE IMPROVEMENTS SHOWN HEREON WERE FIELD LOCATED BY LANE ENGINEERING, LLC ON FEBRUARY 10, 2021.

THE DIMENSIONS OF BUILDINGS, STRUCTURES AND SETBACKS WERE MEASURED TO THE NEAREST 0.1 FOOT.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2019 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

FLOOD DATA

A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X", "X" (SHADED), AND "AE" (EL 5) FLOOD ZONES AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0189D AND 24041C0302D FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES AE – 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

SITE ANALYSIS

FEATURE	YES	NO
CONTIGUOUS FOREST	X	
WETLANDS	X	
STREAMS		X
FLOODPLAINS (FLOOD ZONE 'A')	X	
HYDRIC SOILS	X	
SLOPES GREATER THAN 15%	X	
HISTORICAL OR CULTURAL FEATURES		X
TREES > 30" DBH		X
STATE CHAMPION TREE		X
TREES > 75% STATE CHAMPION		X
EASEMENT OR ROW RESTRICTIONS	X	
EXISTING STRUCTURES		X
RARE,THREATENED OR ENDANGERED FLORA		X
RARE,THREATENED OR ENDANGERED FAUNA HABITAT		X
FOREST ON SITE	X	
PRIORITY FOREST ON SITE	X	

TALBOT COUNTY SOILS

MAP SYMBOL	SOILS NAME	HYDRIC SOILS	K FACTOR	SOIL GROUP
CsA	CROSIADORE SILT LOAM	*	0.49	C/D
CsB	CROSIADORE SILT LOAM	*	0.49	C/D
HfA	HAMBROOK–SASSAFRAS COMPLEX		0.37	B
HfB	HAMBROOK–SASSAFRAS COMPLEX		0.37	B
HfC	HAMBROOK–SASSAFRAS COMPLEX		0.32	B
MtA	MATTAPEX SILT LOAM	*	0.49	C
MtB	MATTAPEX SILT LOAM	*	0.49	C
OtA	OTHELLO SILT LOAM	YES	0.43	C/D
TP	TRANSQUAKING AND MISPILLION SOILS	YES	N/A	A/D
UbB	UDORTHENTS, BORROW AREA	*	0.37	C
WdA	WOODSTOWN SANDY LOAM	*	0.2	C
WoA	WOODSTOWN LOAM	*	0.32	C

* POSSIBLE SMALL AREAS OF HYDRIC SOIL INCLUSIONS SUBJECT TO FIELD VERIFICATION.

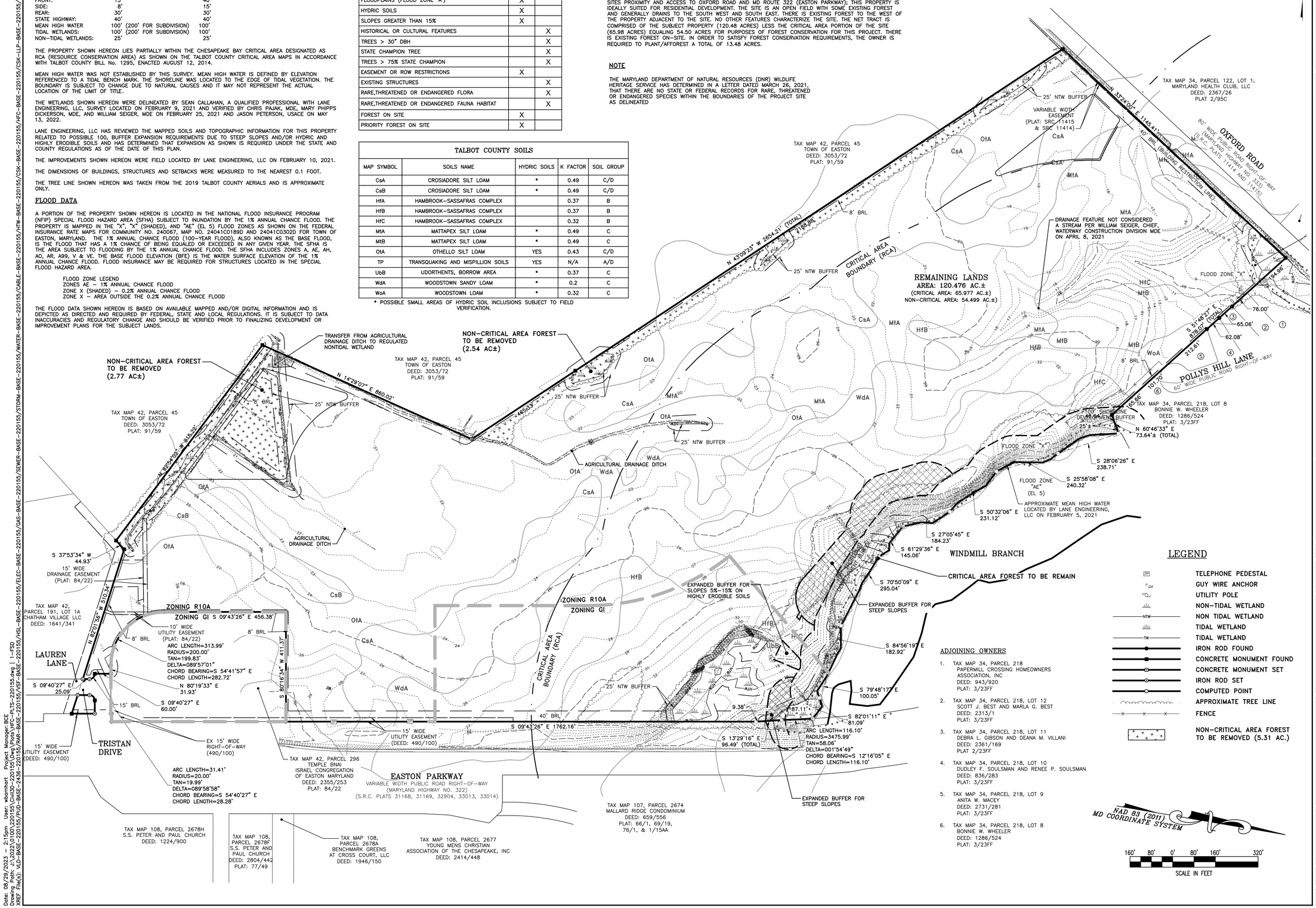
FOREST CONSERVATION REQUIREMENTS

INTERMEDIATE FOREST STAND DELINEATION NARRATIVE

THE PROPOSED DEVELOPMENT REQUIRES THE OWNER TO DEMONSTRATE FOREST CONSERVATION COMPLIANCE. THE 120.48 ACRE PROPERTY AS SHOWN IS ENTIRELY AN OPEN FIELD SOUTHEAST OF THE SUBDIVISION OF THE EASTON CLUB AND ON THE SOUTH SIDE OF OXFORD ROAD (MD ROUTE 333). THE SITE LIES AT THE EDGE OF AN URBANIZING AREA WITHIN THE TOWN OF EASTON AND IS BOUNDED BY RESIDENTIAL DEVELOPMENT GENERALLY TO THE NORTH, EAST AND SOUTH AND ADJACENT TO EXISTING FOREST TO THE WEST. DUE TO THE SITES PROXIMITY AND ACCESS TO OXFORD ROAD AND MD ROUTE 322 (EASTON PARKWAY); THIS PROPERTY IS IDEALLY SUITED FOR RESIDENTIAL DEVELOPMENT. THE SITE IS AN OPEN FIELD WITH SOME EXISTING FOREST AND GENERALLY DRAINS TO THE SOUTH WEST AND SOUTH EAST. THERE IS EXISTING FOREST TO THE WEST OF THE PROPERTY ADJACENT TO THE SITE. NO OTHER FEATURES CHARACTERIZE THE SITE. THE NET TRACT IS COMPRISED OF THE SUBJECT PROPERTY (120.48 ACRES) LESS THE CRITICAL AREA PORTION OF THE SITE (65.98 ACRES) EQUALING 54.50 ACRES FOR PURPOSES OF FOREST CONSERVATION FOR THIS PROJECT. THERE IS EXISTING FOREST ON–SITE. IN ORDER TO SATISFY FOREST CONSERVATION REQUIREMENTS, THE OWNER IS REQUIRED TO PLANT/AFFOREST A TOTAL OF 13.48 ACRES.

NOTE

THE MARYLAND DEPARTMENT OF NATURAL RESOURCES (DNR) WILDLIFE HERITAGE SERVICE HAS DETERMINED IN A LETTER DATED MARCH 26, 2021, THAT THERE ARE NO STATE OR FEDERAL RECORDS FOR RARE, THREATENED OR ENDANGERED SPECIES WITHIN THE BOUNDARIES OF THE PROJECT SITE AS DELINEATED



ADJOINING OWNERS

1. TAX MAP 34, PARCEL 218
   PAPERMILL CROSSING HOMEOWNERS ASSOCIATION, INC
   DEED: 943/920
   PLAT: 3/23FF
2. TAX MAP 34, PARCEL 218, LOT 12
   SCOTT J. BEST AND MARLA G. BEST
   DEED: 2313/1
   PLAT: 3/23FF
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   DEED: 836/283
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   DEED: 2731/281
   PLAT: 3/23FF
6. TAX MAP 34, PARCEL 218, LOT 8
   BONNIE W. WHEELER
   DEED: 1286/524
   PLAT: 3/23FF

LEGEND

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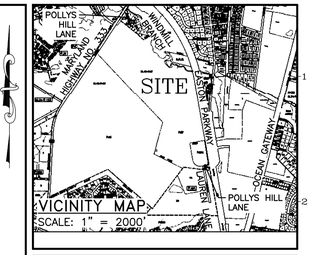
- GUY WIRE ANCHOR
- UTILITY POLE
- NON–TIDAL WETLAND
- NON TIDAL WETLAND
- TIDAL WETLAND
- TIDAL WETLAND
- IRON ROD FOUND
- CONCRETE MONUMENT FOUND
- CONCRETE MONUMENT SET
- IRON ROD SET
- COMPUTED POINT
- APPROXIMATE TREE LINE
- FENCE
- NON–CRITICAL AREA FOREST TO BE REMOVED (5.31 AC.)

NAD 83 (2011) MD COORDINATE SYSTEM

160' 80' 0' 80' 160' 320'
SCALE IN FEET



VICINITY MAP
SCALE: 1" = 2000'

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

WARNING!!
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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@leinc.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

SEAL

This Plan was prepared by a qualified professional in accordance with the requirements of The Maryland Forest Conservation Act of 1991 (COMAR 0.8.19.06.01) and Qualification letter dated MARCH 1, 2007

DAVID W. BARNHART — DATE 8/28/23

INTERMEDIATE FSD

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
AGENCY REVIEW	11/01/22	BCE
AGENCY REVIEW	01/27/23	BCE
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 1 OF 2	7/06/22
SCALE: AS NOTED	JOB No. 220155
	FILE No. 1324

Date: 08/29/2023 – 2:15pm User: wbarnhart Project Manager: BCE
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XREF File(s): WLD–BASE–220155/PUD–BASE–2438–220155/PAR–BASE–220155/VSF–BASE–220155/VSH–BASE–220155/HSL–BASE–220155/ELEC–BASE–220155/GAS–BASE–220155/SEWER–BASE–220155/STORM–BASE–220155/WATER–BASE–220155/CABLE–BASE–220155/NTW–BASE–220155/HFC–BASE–220155/CSK–BASE–220155/CSK–LLP–BASE–220155/VSK–BASE–220155

FOREST CONSERVATION REQUIREMENTS

PRELIMINARY INTERMEDIATE FOREST CONSERVATION NARRATIVE

THE OWNER PROPOSES TO DEVELOP THE PROPERTY FOR RESIDENTIAL USES, CONTAINING RESIDENTIAL SINGLE FAMILY LOTS. THE NET TRACT CONSISTS OF THE SUBJECT PROPERTY (120.48 ACRES) LESS THE CRITICAL AREA PORTION OF THE SITE (65.98 ACRES) EQUALING 54.50 ACRES FOR PURPOSES OF FOREST CONSERVATION FOR THIS PROJECT. EXISTING NON-CRITICAL AREA FOREST WILL BE REMOVED (5.31 ACRES±) FOR THE CONSTRUCTION OF STORMWATER MANAGEMENT FEATURES AND INFRSTRUCTURE. THE OWNER/APPLICANT IS REQUIRED TO PLANT A TOTAL OF 13.48 ACRES TO MEET FOREST CONSERVATION REQUIREMENTS. THE AFFORESTATION REQUIREMENTS SHALL BE MET THROUGH BUFFERYARD AND STREET TREE AFFORESTATION CREDITS PER THE FOREST CONSERVATION OVERLAPPING REQUIREMENTS (SECTION 1014.5), A PORTION OF CRITICAL ARE FOREST RETENTION AND PROPOSED SEEDLING PLANTING AREA WHICH SHALL BE PLACED UNDER A LONG TERM PROTECTIVE EASEMENT AND RECORDED WITHIN THE LAND RECORDS OF TALBOT COUNTY.

FOREST CONSERVATION AFFORESTATION CALCULATIONS

STREET TREES

377 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	150,800 SF CREDIT

40' WIDE LANDSCAPE BUFFERYARD 'A' (ALONG OXFORD ROAD)

35 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	14,000 SF CREDIT
35 – EVERGREEN TREES @ 250 SF EACH	=	8,750 SF CREDIT

40' WIDE LANDSCAPE BUFFERYARD 'A' (ALONG MD ROUTE 322)

47 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	18,800 SF CREDIT
47 – EVERGREEN TREES @ 250 SF EACH	=	11,750 SF CREDIT

10' WIDE LANDSCAPE BUFFERYARD 'E' (ALONG PROPOSED POLLY HILL SUBDIVISION)

11 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	4,400 SF CREDIT
32 – EVERGREEN TREES @ 250 SF EACH	=	8,000 SF CREDIT

10' WIDE ENHANCED LANDSCAPE BUFFERYARD 'E' (ALONG TEMPLE B'NAI)

37 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	14,800 SF CREDIT
111 – EVERGREEN TREES @ 250 SF EACH	=	27,750 SF CREDIT

10' WIDE LANDSCAPE BUFFERYARD 'E' (ALONG SOUTH & WEST PROPERTY LINE)

95 – DECIDUOUS SHADE/CANOPY TREES @ 400 SF EACH	=	38,000 SF CREDIT
286 – EVERGREEN TREES @ 250 SF EACH	=	71,500 SF CREDIT

EXISTING FOREST RETENTION WITHIN BUFFERYARDS	=	42,380 SF CREDIT
ON-SITE CRITICAL AREA FOREST RETENTION	=	112,266 SF CREDIT
PROPOSED SEEDLING PLANTINGS	=	63,993 SF CREDIT

Forest Conservation Worksheet 2.2

Net Tract Area			
A.	Total Tract Area	A =	120.48
B.	Deductions	B =	65.98
C.	Net Tract Area	C =	54.50
Land Use Category			

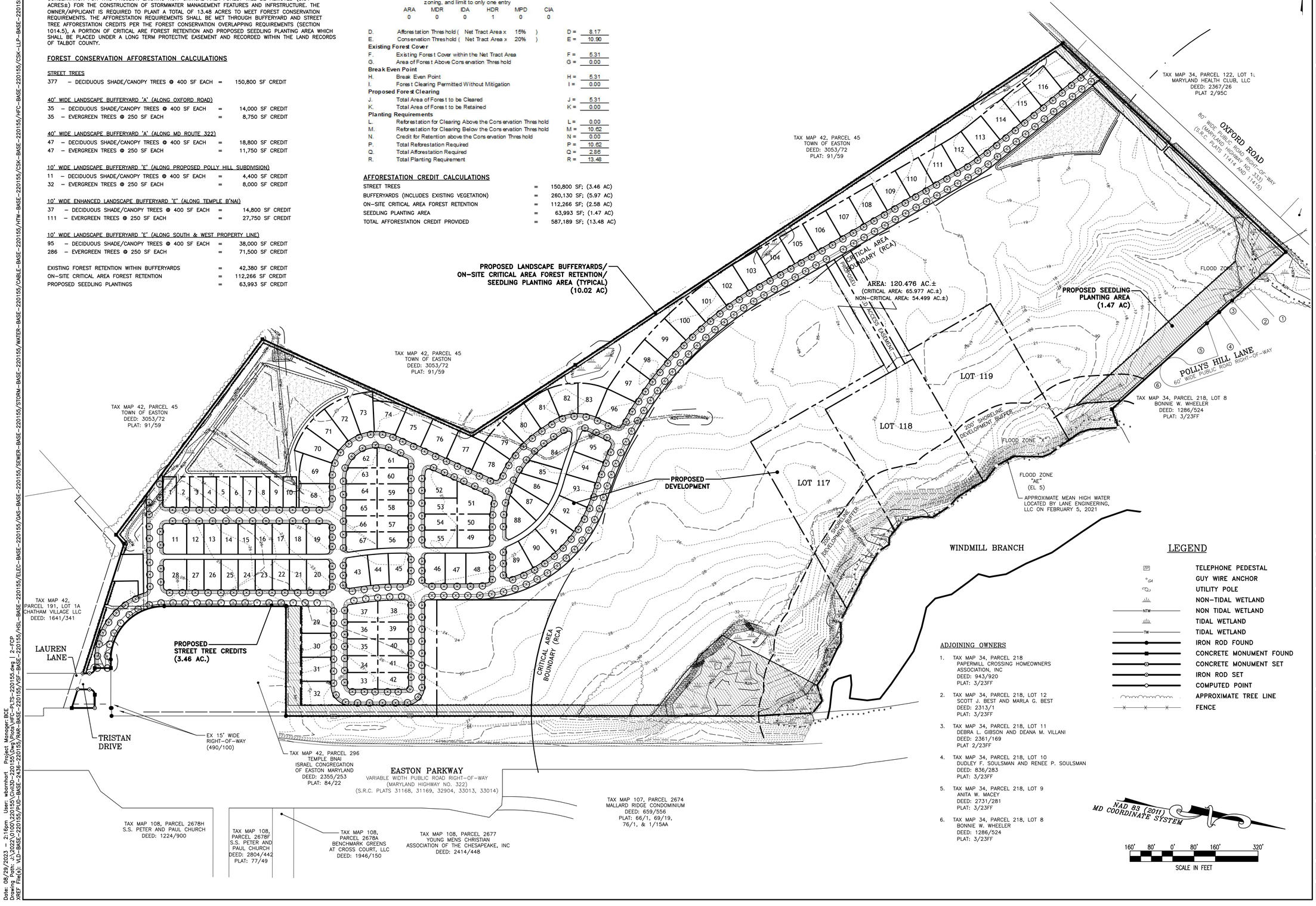
Input the number "1" under the appropriate land use zoning, and limit to only one entry

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

D.	Afforestation Threshold (Net Tract Area x 15%)	D =	8.17
E.	Conservation Threshold (Net Tract Area x 20%)	E =	10.90
Existing Forest Cover			
F.	Existing Forest Cover within the Net Tract Area	F =	5.31
G.	Area of Forest Above Conservation Threshold	G =	0.00
Break Even Point			
H.	Break Even Point	H =	5.31
I.	Forest Clearing Permitted Without Mitigation	I =	0.00
Proposed Forest Clearing			
J.	Total Area of Forest to be Cleared	J =	5.31
K.	Total Area of Forest to be Retained	K =	0.00
Planting Requirements			
L.	Reforestation for Clearing Above the Conservation Threshold	L =	0.00
M.	Reforestation for Clearing Below the Conservation Threshold	M =	10.62
N.	Credit for Retention above the Conservation Threshold	N =	0.00
P.	Total Reforestation Required	P =	10.62
Q.	Total Afforestation Required	Q =	2.86
R.	Total Planting Requirement	R =	13.48

AFFORESTATION CREDIT CALCULATIONS

STREET TREES	=	150,800 SF; (3.46 AC)
BUFFERYARDS (INCLUDES EXISTING VEGETATION)	=	260,130 SF; (5.97 AC)
ON-SITE CRITICAL AREA FOREST RETENTION	=	112,266 SF; (2.58 AC)
SEEDLING PLANTING AREA	=	63,993 SF; (1.47 AC)
TOTAL AFFORESTATION CREDIT PROVIDED	=	587,189 SF; (13.48 AC)



LEGEND

- TELEPHONE PEDESTAL
- GUY WIRE ANCHOR
- UTILITY POLE
- NON-TIDAL WETLAND
- NON TIDAL WETLAND
- TIDAL WETLAND
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- CONCRETE MONUMENT FOUND
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- FENCE

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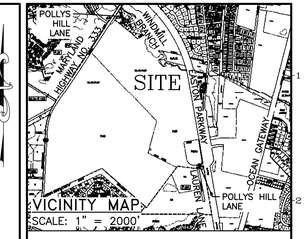

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

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TWO WORKING DAYS NOTICE

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SEAL

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8/28/23
DAVID W. BARNHART DATE

PRELIMINARY INTERMEDIATE FCP

POPLAR HILL SUBDIVISION SKETCH PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 TAX PARCEL 57

ISSUED/REVISED FOR:	DATE:	BY:
AGENCY REVIEW	7/06/22	BCE
AGENCY REVIEW	8/03/22	BCE
AGENCY REVIEW	10/05/22	BCE
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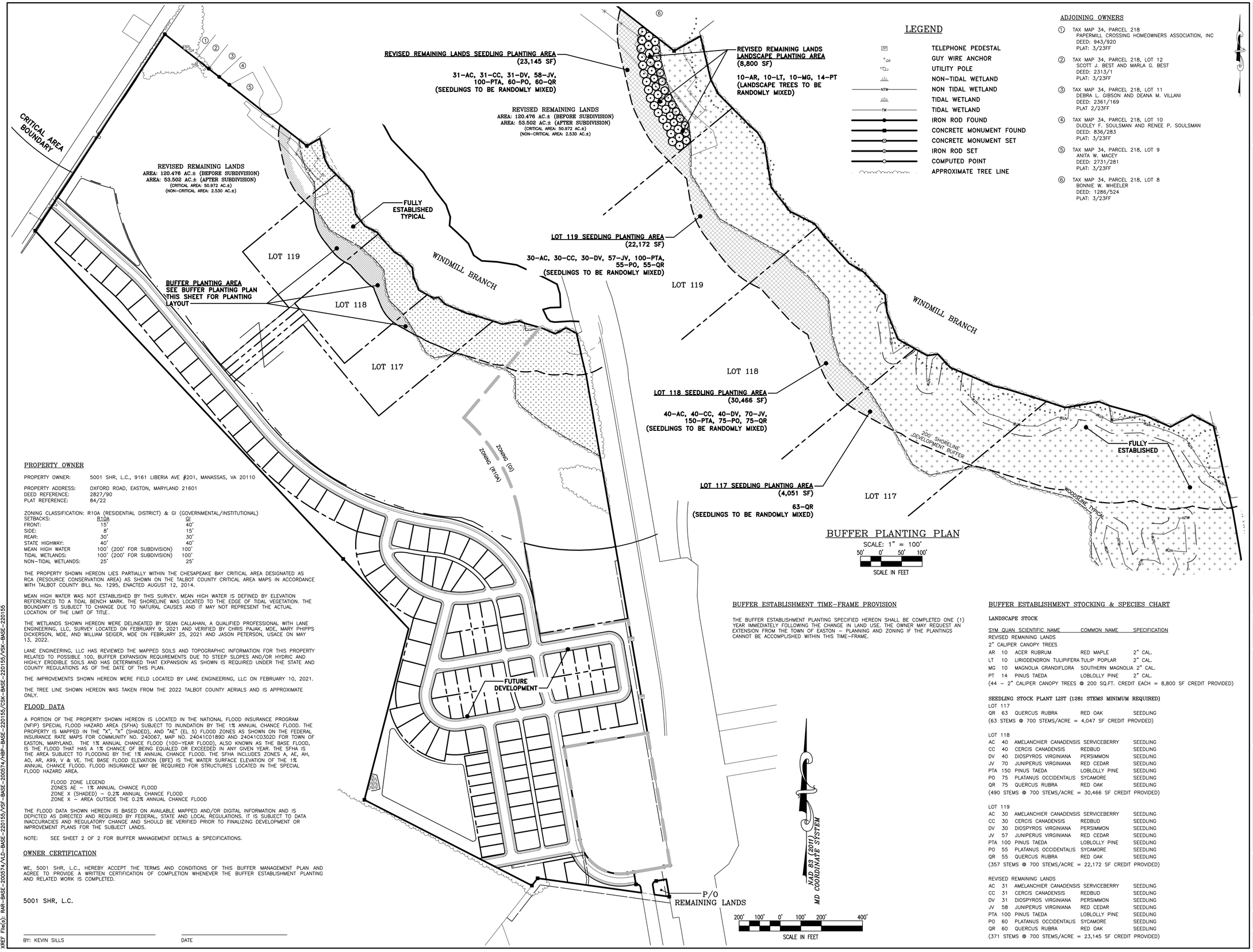
ESDR SUBMITTAL	08/02/23	BCE
PLANNING COMMISSION SUBMITTAL	08/28/23	BCE

SHEET No. 2 OF 2	7/06/22
SCALE: AS NOTED	JOB No. 220155
	FILE No. 1324

Date: 08/29/2023 – 2:16pm User: wbarnhart Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plots\HFC-PLTS-220155.dwg | 2-FCP
XREF File(s): WLD-BASE-220155/PUD-BASE-2438-220155/RAR-BASE-220155/VSF-BASE-220155/HSL-BASE-220155/ELEC-BASE-220155/GAS-BASE-220155/SEWER-BASE-220155/STORM-BASE-220155/WATER-BASE-220155/OBLIE-BASE-220155/NTW-BASE-220155/CSK-BASE-220155/CSK-LLP-BASE-220155/HFC-BASE-220155/FOR-BASE-220155



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   DEED: 1286/524
   PLAT: 3/23FF

BUFFER PLANTING PLAN

SCALE: 1" = 100'
50' 0' 50' 100'
SCALE IN FEET

PROPERTY OWNER

PROPERTY OWNER: 5001 SHR, L.C., 9161 LIBERIA AVE #201, MANASSAS, VA 20110

PROPERTY ADDRESS: OXFORD ROAD, EASTON, MARYLAND 21601
DEED REFERENCE: 2827/90
PLAT REFERENCE: 84/22

ZONING CLASSIFICATION: R10A (RESIDENTIAL DISTRICT) & GI (GOVERNMENTAL/INSTITUTIONAL)

SETBACKS:	R10A	GI
FRONT:	15'	40'
SIDE:	8'	15'
REAR:	30'	30'
STATE HIGHWAY:	40'	40'
MEAN HIGH WATER	100' (200' FOR SUBDIVISION)	100'
TIDAL WETLANDS:	100' (200' FOR SUBDIVISION)	100'
NON-TIDAL WETLANDS:	25'	25'

THE PROPERTY SHOWN HEREON LIES PARTIALLY WITHIN THE CHESAPEAKE BAY CRITICAL AREA DESIGNATED AS RCA (RESOURCE CONSERVATION AREA) AS SHOWN ON THE TALBOT COUNTY CRITICAL AREA MAPS IN ACCORDANCE WITH TALBOT COUNTY BILL No. 1295, ENACTED AUGUST 12, 2014.

MEAN HIGH WATER WAS NOT ESTABLISHED BY THIS SURVEY. MEAN HIGH WATER IS DEFINED BY ELEVATION REFERENCED TO A TIDAL BENCH MARK. THE SHORELINE WAS LOCATED TO THE EDGE OF TIDAL VEGETATION. THE BOUNDARY IS SUBJECT TO CHANGE DUE TO NATURAL CAUSES AND IT MAY NOT REPRESENT THE ACTUAL LOCATION OF THE LIMIT OF TITLE.

THE WETLANDS SHOWN HEREON WERE DELINEATED BY SEAN CALLAHAN, A QUALIFIED PROFESSIONAL WITH LANE ENGINEERING, LLC, SURVEY LOCATED ON FEBRUARY 9, 2021 AND VERIFIED BY CHRIS PAJAK, MDE, MARY PHIPPS DICKERSON, MDE, AND WILLIAM SEIGER, MDE ON FEBRUARY 25, 2021 AND JASON PETERSON, USACE ON MAY 13, 2022.

LANE ENGINEERING, LLC HAS REVIEWED THE MAPPED SOILS AND TOPOGRAPHIC INFORMATION FOR THIS PROPERTY RELATED TO POSSIBLE 100, BUFFER EXPANSION REQUIREMENTS DUE TO STEEP SLOPES AND/OR HYDRIC AND HIGHLY ERODIBLE SOILS AND HAS DETERMINED THAT EXPANSION AS SHOWN IS REQUIRED UNDER THE STATE AND COUNTY REGULATIONS AS OF THE DATE OF THIS PLAN.

THE IMPROVEMENTS SHOWN HEREON WERE FIELD LOCATED BY LANE ENGINEERING, LLC ON FEBRUARY 10, 2021.

THE TREE LINE SHOWN HEREON WAS TAKEN FROM THE 2022 TALBOT COUNTY AERIALS AND IS APPROXIMATE ONLY.

FLOOD DATA

A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SPECIAL FLOOD HAZARD AREA (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. THE PROPERTY IS MAPPED IN THE "X", "X" (SHADED), AND "AE" (EL 5) FLOOD ZONES AS SHOWN ON THE FEDERAL INSURANCE RATE MAPS FOR COMMUNITY NO. 240067, MAP NO. 24041C0189D AND 24041C0302D FOR TOWN OF EASTON, MARYLAND. THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SFHA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE SFHA INCLUDES ZONES A, AE, AH, AO, AR, A99, V & VE. THE BASE FLOOD ELEVATION (BFE) IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. FLOOD INSURANCE MAY BE REQUIRED FOR STRUCTURES LOCATED IN THE SPECIAL FLOOD HAZARD AREA.

FLOOD ZONE LEGEND
ZONES AE – 1% ANNUAL CHANCE FLOOD
ZONE X (SHADED) – 0.2% ANNUAL CHANCE FLOOD
ZONE X – AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD

THE FLOOD DATA SHOWN HEREON IS BASED ON AVAILABLE MAPPED AND/OR DIGITAL INFORMATION AND IS DEPICTED AS DIRECTED AND REQUIRED BY FEDERAL, STATE AND LOCAL REGULATIONS. IT IS SUBJECT TO DATA INACCURACIES AND REGULATORY CHANGE AND SHOULD BE VERIFIED PRIOR TO FINALIZING DEVELOPMENT OR IMPROVEMENT PLANS FOR THE SUBJECT LANDS.

NOTE: SEE SHEET 2 OF 2 FOR BUFFER MANAGEMENT DETAILS & SPECIFICATIONS.

OWNER CERTIFICATION

WE, 5001 SHR, L.C., HEREBY ACCEPT THE TERMS AND CONDITIONS OF THIS BUFFER MANAGEMENT PLAN AND AGREE TO PROVIDE A WRITTEN CERTIFICATION OF COMPLETION WHENEVER THE BUFFER ESTABLISHMENT PLANTING AND RELATED WORK IS COMPLETED.

5001 SHR, L.C.

BY: KEVIN SILLS DATE

BUFFER ESTABLISHMENT TIME-FRAME PROVISION

THE BUFFER ESTABLISHMENT PLANTING SPECIFIED HEREON SHALL BE COMPLETED ONE (1) YEAR IMMEDIATELY FOLLOWING THE CHANGE IN LAND USE. THE OWNER MAY REQUEST AN EXTENSION FROM THE TOWN OF EASTON – PLANNING AND ZONING IF THE PLANTINGS CANNOT BE ACCOMPLISHED WITHIN THIS TIME-FRAME.

BUFFER ESTABLISHMENT STOCKING & SPECIES CHART

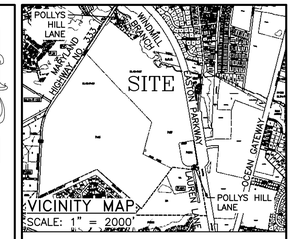
LANDSCAPE STOCK

SYM	QUAN	SCIENTIFIC NAME	COMMON NAME	SPECIFICATION
REVISED REMAINING LANDS				
2" CALIPER CANOPY TREES				
AR	10	ACER RUBRUM	RED MAPLE	2" CAL.
LT	10	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2" CAL.
MG	10	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	2" CAL.
PT	14	PINUS TAEDA	LOBLOLLY PINE	2" CAL.

(44 – 2" CALIPER CANOPY TREES @ 200 SQ.FT. CREDIT EACH = 8,800 SF CREDIT PROVIDED)

SEEDLING STOCK PLANT LIST (1281 STEMS MINIMUM REQUIRED)

LOT 117				
QR	63	QUERCUS RUBRA	RED OAK	SEEDLING
(63 STEMS @ 700 STEMS/ACRE = 4,047 SF CREDIT PROVIDED)				
LOT 118				
AC	40	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING
CC	40	CERCIS CANADENSIS	REDBUD	SEEDLING
DV	40	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING
JV	70	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING
PTA	150	PINUS TAEDA	LOBLOLLY PINE	SEEDLING
PO	75	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING
QR	75	QUERCUS RUBRA	RED OAK	SEEDLING
(490 STEMS @ 700 STEMS/ACRE = 30,466 SF CREDIT PROVIDED)				
LOT 119				
AC	30	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING
CC	30	CERCIS CANADENSIS	REDBUD	SEEDLING
DV	30	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING
JV	57	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING
PTA	100	PINUS TAEDA	LOBLOLLY PINE	SEEDLING
PO	55	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING
QR	55	QUERCUS RUBRA	RED OAK	SEEDLING
(357 STEMS @ 700 STEMS/ACRE = 22,172 SF CREDIT PROVIDED)				
REVISED REMAINING LANDS				
AC	31	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING
CC	31	CERCIS CANADENSIS	REDBUD	SEEDLING
DV	31	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING
JV	58	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING
PTA	100	PINUS TAEDA	LOBLOLLY PINE	SEEDLING
PO	60	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING
QR	60	QUERCUS RUBRA	RED OAK	SEEDLING
(371 STEMS @ 700 STEMS/ACRE = 23,145 SF CREDIT PROVIDED)				



REVISIONS			
No.	DATE	DESCRIPTION	BY

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SEAL

DATE

MAJOR BUFFER MANAGEMENT PLAN
ON THE LANDS OF 5001 SHR, L.C.

TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42, GRID 4, PARCEL 57

ISSUED FOR:	DATE:	BY:
AGENCY REVIEW	8/2/23	BCE
PLANNING COMMISSION SUBMITTAL	8/28/23	BCE

SHEET No. 1 OF 2	DATE: 8/2/23
SCALE: AS NOTED	JOB No. 220155
	FILE No. 1324

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Date: 08/29/2023 – 2:08pm User: wbarnhart Project Manager: BCE
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XREF File(s): RAR-BASE-200574/VLD-BASE-220155/VSF-BASE-200574/HBP-BASE-220155/CSK-BASE-220155/VSK-BASE-220155

BUFFER ESTABLISHMENT REQUIREMENTS & PROPOSAL

COMAR 27.01.01.01–1.C., "SUBDIVISION", LOT CREATED AFTER LOCAL PROGRAM ADOPTION, FULLY ESTABLISH THE UPLAND NON–FORESTED PORTIONS OF THE BUFFER.

LOT 117	
TOTAL BUFFER AREA:	68,443 SF
LESS EXISTING VEGETATION:	(64,396 SF)
BUFFER AVAILABLE FOR ESTABLISHMENT:	4,047 SF;
BUFFER ESTABLISHMENT PLANTING REQUIRED:	4,047 SF; (0.09 AC.)
LOT 118	
TOTAL BUFFER AREA:	78,425 SF
LESS EXISTING VEGETATION:	(47,959 SF)
BUFFER AVAILABLE FOR ESTABLISHMENT:	30,466 SF;
BUFFER ESTABLISHMENT PLANTING REQUIRED:	30,466 SF; (0.70 AC.)
LOT 119	
TOTAL BUFFER AREA:	74,727 SF
LESS EXISTING VEGETATION:	(52,555 SF)
BUFFER AVAILABLE FOR ESTABLISHMENT:	22,172 SF;
BUFFER ESTABLISHMENT PLANTING REQUIRED:	22,172 SF; (0.51 AC.)
REVISED REMAINING LANDS	
TOTAL BUFFER AREA:	165,116 SF
LESS EXISTING VEGETATION:	(133,170 SF)
BUFFER AVAILABLE FOR ESTABLISHMENT:	31,946 SF;
BUFFER ESTABLISHMENT PLANTING REQUIRED:	31,946 SF; (0.73 AC.)

PLANTING STANDARDS

PLANTING REQUIREMENTS IN ACCORDANCE WITH (COMAR 27.01.09.01–2.K): BUFFER ESTABLISHMENT, GREATER THAN 1 ACRE – AT LEAST 10% OF THE BUFFER ESTABLISHMENT AFFORESTATION TO BE PLANTED IN LANDSCAPE STOCK IN ACCORDANCE WITH COMAR 27.01.09.01–2.K;

COMAR 27.01.09.01–3.J. (3) – A SINGLE SPECIES MAY NOT EXCEED 20% OF THE TOTAL PLANTING REQUIREMENT.

LANDSCAPE STOCK PROPOSED–
44 – 2" CALIPER, CANOPY TREES @ 200 SF CREDIT = 8,800 SF CREDIT; (10%)

SEEDLING STOCK PROPOSED–
1.83 AC. @ 700 STEMS/AC. =1281 STEMS; 1281 STEMS PROVIDED = 79,831 SF CREDIT; (90%)
TOTAL = 88,631 SF;
(2.03 AC) CREDIT PROVIDED

BUFFER ESTABLISHMENT STOCKING & SPECIES CHART

LANDSCAPE STOCK

SYM	QUAN	SCIENTIFIC NAME	COMMON NAME	SPECIFICATION	UNIT COST	TOTAL PLANT COST
REVISED REMAINING LANDS						
2" CALIPER CANOPY TREES						
AR	10	ACER RUBRUM	RED MAPLE	2" CAL.	$165.00	$1,650.00
LT	10	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2" CAL.	$165.00	$1,650.00
MG	10	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	2" CAL.	$165.00	$1,650.00
PT	14	PINUS TAEDA	LOBLOLLY PINE	2" CAL.	$150.00	$2,100.00

(44 – 2" CALIPER CANOPY TREES @ 200 SQ.FT. CREDIT EACH = 8,800 SF CREDIT PROVIDED)
TOTAL LANDSCAPE STOCK PLANT COST = $7,050.00

SEEDLING STOCK PLANT LIST (1281 STEMS MINIMUM REQUIRED)

LOT 117						
QR	63	QUERCUS RUBRA	RED OAK	SEEDLING	$ 0.65	$ 40.95
(63 STEMS @ 700 STEMS/ACRE = 4,047 SF CREDIT PROVIDED)						
LOT 118						
AC	40	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING	$ 0.75	$ 30.00
CC	40	CERCIS CANADENSIS	REDBUD	SEEDLING	$ 0.60	$ 24.00
DV	40	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING	$ 0.65	$ 26.00
JV	70	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING	$ 0.75	$ 52.50
PTA	150	PINUS TAEDA	LOBLOLLY PINE	SEEDLING	$ 0.30	$ 45.00
PO	75	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING	$ 0.60	$ 45.00
QR	75	QUERCUS RUBRA	RED OAK	SEEDLING	$ 0.65	$ 48.75
(490 STEMS @ 700 STEMS/ACRE = 30,466 SF CREDIT PROVIDED)						
LOT 119						
AC	30	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING	$ 0.75	$ 22.50
CC	30	CERCIS CANADENSIS	REDBUD	SEEDLING	$ 0.60	$ 18.00
DV	30	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING	$ 0.65	$ 19.50
JV	57	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING	$ 0.75	$ 42.75
PTA	100	PINUS TAEDA	LOBLOLLY PINE	SEEDLING	$ 0.30	$ 30.00
PO	55	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING	$ 0.60	$ 33.00
QR	55	QUERCUS RUBRA	RED OAK	SEEDLING	$ 0.65	$ 35.75
(357 STEMS @ 700 STEMS/ACRE = 22,172 SF CREDIT PROVIDED)						
REVISED REMAINING LANDS						
AC	31	AMELANCHIER CANADENSIS	SERVICEBERRY	SEEDLING	$ 0.75	$ 23.25
CC	31	CERCIS CANADENSIS	REDBUD	SEEDLING	$ 0.60	$ 18.60
DV	31	DIOSPYROS VIRGINIANA	PERSIMMON	SEEDLING	$ 0.65	$ 20.15
JV	58	JUNIPERUS VIRGINIANA	RED CEDAR	SEEDLING	$ 0.75	$ 43.50
PTA	100	PINUS TAEDA	LOBLOLLY PINE	SEEDLING	$ 0.30	$ 30.00
PO	60	PLATANUS OCCIDENTALIS	SYCAMORE	SEEDLING	$ 0.60	$ 36.00
QR	60	QUERCUS RUBRA	RED OAK	SEEDLING	$ 0.65	$ 39.00
(371 STEMS @ 700 STEMS/ACRE = 23,145 SF CREDIT PROVIDED)						

TOTAL SEEDLING STOCK PLANT COST = $ 724.20

NOTE: THE LANDSCAPE PLANT COSTS SHOWN HEREON REFLECT THE PRICING PROVIDED FROM TIDELAND GARDENS, 10040 PERKINS HILL ROAD, CHESTERTOWN, MARYLAND 21620, (410) 778–5787; (www.tidelandgardens.com).

THE SEEDLING PLANT COSTS SHOWN HEREON REFLECT THE PRICING FROM THE SEEDLING CATALOG FOR JOHN S. AYTON, STATE FOREST TREE NURSERY, MARYLAND DEPARTMENT OF NATURAL RESOURCES, 3424 GALLAGHER ROAD, PRESTON, MARYLAND 21655, (800) 873–3763; (www.dnr.md.gov/forest/nursery)

BUFFER ESTABLISHMENT COST ESTIMATE FOR REMAINING LANDS

LANDSCAPE STOCK		
TOTAL INSTALLED COST INCLUDES PLANT MATERIAL COSTS, INSTALLATION/LABOR COSTS, MULCH AND OTHER INSTALLATION MATERIAL COSTS AND EQUALS PLANT MATERIAL COST ($7,050.00 X 2.0 MULTIPLIER):	$14,100.00	
LANDSCAPE MAINTENANCE – 2 YEARS ($600 PER YEAR)	$ 1,200.00	
TOTAL COST FOR LANDSCAPE STOCK BUFFER ESTABLISHMENT:	$15,300.00	
SURETY AMOUNT (110% OF $15,300.00):		$16,830.00
SEEDLING STOCK INSTALLED COST		
SEEDLING STOCK PLANT COST	$ 724.20	
INSTALLATION COSTS – 2 ACRE MINIMUM ($125.00 PER ACRE X 1.83 ACRES)	$ 250.00	
BAND SPRAYING OUST – 1 ACRE MINIMUM ($80.00 PER ACRE X 1.83 ACRES)	$ 146.40	
4' TREE SHELTERS W/STAKE FOR 50% OF {OAKS, SYCAMORE AND SERVICEBERRY} PLUS INSTALLATION @ $4.00 EA. X 272 SHELTERS:	$ 1,088.00	
SEEDLING MAINTENANCE – 5 YEARS ($400 PER YEAR)	$ 2,000.00	
TOTAL COST FOR SEEDLING STOCK BUFFER ESTABLISHMENT:	$ 4,208.60	
SURETY AMOUNT (110% OF $4,208.60):		$ 4,629.46
TOTAL BUFFER ESTABLISHMENT COST:		$21,459.46

PLANTING SUBSTITUTIONS

SUBSTITUTION OF SPECIFIC SPECIES SHALL BE APPROVED BY THE TOWN OF EASTON IN ADVANCE OF IMPLEMENTATION IF THE SPECIFIED SPECIES MIX IS UNAVAILABLE.

LANDSCAPE PLANT MATERIAL AND INSTALLATION SPECIFICATIONS

GENERAL: ALL LANDSCAPE INSTALLATION SHALL BE ACCOMPLISHED WITH QUALIFIED PERSONNEL, UTILIZING INDUSTRY STANDARD PRACTICES AND TECHNIQUES.

THE CONTRACTOR (CONTRACTOR) IS RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL LANDSCAPING SHOWN OR IMPLIED ON THIS PLAN. PLANT QUANTITIES ARE SHOWN FOR CONVENIENCE ONLY. PRIOR TO INSTALLATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IF PROPOSED SPECIES AND/OR SITE PLANTING CONDITIONS WARRANT RE–DESIGN CONSIDERATIONS.

PRE–PLANTING SITE PREPARATION

AREAS ADJOINING PLANTING AREAS SHALL REMAIN IN EXISTING ESTABLISHED GROUNDCOVER.

PLANTING AREAS THAT ARE OVERGROWN/FALLOW SHALL BE SPRAYED WITH HERBICIDE, MOWN AFTER THREE (3) WEEKS, AND THEN PLANTED.

PLANTING AREAS THAT ARE CURRENTLY IN TURF GRASS SHALL BE SPRAYED WITH HERBICIDE. NO TURF GRASS IS PERMITTED IN THESE "FULL" BUFFER ESTABLISHMENT AREAS.

PRE–PLANTING SITE PREPARATION

- REMOVAL OF NON–NATIVE INVASIVE SPECIES BY OBTAINING A STATE OF MARYLAND TOXIC MATERIALS PERMIT AND FOLLOWING ALL GUIDELINES FOR THE INVASIVE SPECIES REMOVAL.
- LANDSCAPE PLANTING AREAS SHALL BE PLANTED WITH NO OTHER REQUIRED SITE PREPARATION
- AREAS ADJOINING PLANTING AREAS SHALL REMAIN IN EXISTING ESTABLISHED GROUNDCOVER.
- PLANTING AREAS THAT ARE OVERGROWN/FALLOW SHALL BE SPRAYED WITH HERBICIDE, MOWN AFTER THREE (3) WEEKS, AND THEN PLANTED.
- PLANTING AREAS THAT ARE CURRENTLY IN NATIVE GRASS AND SLATED FOR SEEDLING STOCK– SHALL BE MOWN TO 2" OR AS CLOSE AS FEASIBLE PRIOR TO PLANTING.

POST–PLANTING AREA GROUND SURFACE TREATMENT REQUIREMENTS

COMAR 27.01.09.01–1 B. AND AS REFERENCED THEREIN, COMAR 27.01.09.01–2 B. (3) REQUIRE THE GROUND SURFACE OF THE BUFFER MITIGATION & ESTABLISHMENT AREAS TO BE COVERED "WITH MULCH OR GROUND COVER UNTIL BUFFER PLANTINGS ARE ESTABLISHED'. SPECIFIC GROUND SURFACE ESTABLISHMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING:

LANDSCAPE STOCK PLANTING AREAS

THE PROPOSED PLANTING AREAS THAT ARE CURRENTLY STABILIZED IN TURF SHALL REMAIN IN THEIR CURRENT CONDITION POST PLANTING INSTALLATION. INDIVIDUAL LANDSCAPE PLANTS (TREES) SHALL BE MULCHED WITH 2" THICK, DOUBLE GROUND HARDWOOD BARK MULCH, ALL OTHER AREAS OF THE BUFFER MAY BE MAINTAINED IN THEIR CURRENT CONDITION OR ENCOURAGED TO NATURALIZE WITH NATIVE SPECIES.

SEEDLING STOCK PLANTING AREAS

NO SPECIFIC GROUND SURFACE ESTABLISHMENT IS REQUIRED IN SEEDLING PLANTING AREAS BECAUSE THESE PLANTING AREAS LIE UPSTREAM FROM EXISTING FOREST AND/OR VEGETATED SHORELINES THAT INTERCEPT POTENTIAL SEDIMENT LADEN RUN–OFF CAUSED BY MINOR PLANTING DISTURBANCE ACTIVITIES.

PROTECTIVE DEVICES

BUFFER PROTECTION SIGNS ARE REQUIRED EVERY 200' ALONG THE BUFFER.

MAINTENANCE PROVISIONS

THE PROPERTY OWNER IS RESPONSIBLE AND SHALL INSURE ADEQUATE MAINTENANCE IS PROVIDED THROUGH THE INSTALLATION AND WARRANTY PERIOD AND FINAL INSPECTION BY THE TOWN OF EASTON. THE CONTRACTOR SHALL MAINTAIN ALL PLANTING INSTALLATION, ON A LOT BY LOT BASIS AS NECESSARY, THROUGH JOB COMPLETION AND APPROVAL OF INITIAL INSTALLATION BY THE TOWN OF EASTON. ADDITIONAL MAINTENANCE REQUIREMENTS OF THE CONTRACTOR SHALL BE AS SPECIFICALLY NEGOTIATED WITH THE PROPERTY OWNER. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:

- PERIODIC WATERING OF LARGER STOCK DURING PERIODS OF DROUGHT.
- BI–ANNUAL MOWING OF COMPETING VEGETATION BETWEEN SEEDLING PLANTING ROWS.
- STATE OF MARYLAND REQUIRED NOXIOUS WEED CONTROL (JOHNSON GRASS AND THISTLE).
- NON–NATIVE INVASIVE SPECIES REMOVAL.
- RE–MULCHING PLANT MATERIAL ANNUALLY. RE–ESTABLISH FOREST ORGANIC MATTER OR COMPOST OVER BARE AREAS PREVIOUSLY ESTABLISHED.

OTHER BUFFER MAINTENANCE RECOMMENDATIONS

EXISTING FOREST FRINGE AND WOODY VEGETATION MAINTENANCE

THE EXISTING FOREST FRINGE AND WOODY VEGETATION PORTION OF THE BUFFER MAY BE MAINTAINED AS FOLLOWS:

1. SELECTIVE PRUNING TO IMPROVE HEALTH AND FORM OF TREES
2. UP–LIMBING OF TREES
3. REMOVAL OF ALL VINE GROWTH FROM TREES/SHRUBS
4. REMOVAL OF ANY DOWNED OR DEAD TREES IN THE BUFFER. (NOTE– IF ADDITIONAL TREE OR WOODY VEGETATION REMOVAL IS REQUIRED TO ACCOMPLISH THIS TREE REMOVAL, THEN THIS BMP SHALL BE AMENDED AND RE–APPROVED BY THE TOWN TO INSURE COMPLIANCE WITH THIS ACTIVITY.
5. HAND REMOVAL, OR HAND APPLICATION OF HERBICIDE TO KILL AND REMOVE HONEYSUCKLE, POISON IVY, WILD GRAPE, AND ENGLISH IVY.

TREE SAPLINGS, UNDERSTORY SHRUBS SHALL BE RETAINED UNLESS OTHERWISE SPECIFICALLY REVIEWED AND APPROVED BY THE TOWN. THE GROUND PLAIN SHALL REMAIN IN NATIVE LEAF MAT OR FOREST LITTER AND SHALL BE REPAIRED TO THIS CONDITION SHOULD ANY MINOR DISRUPTION TO THE GROUND SURFACE OCCUR DUE TO THE ACTIONS SUMMARIZED ABOVE. MAJOR GROUND DISTURBANCE IS NOT PERMITTED UNDER THIS BMP AND REQUIRES ADDITIONAL TOWN APPROVAL.

INSPECTION REQUIREMENTS

INITIAL JOB COMPLETION INSPECTION – ALL WORK SHALL BE INSPECTED BY THE TOWN OF EASTON AFTER COMPLETION. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY. PROPERTY OWNER SHALL PROVIDE INITIAL CERTIFICATE OF COMPLETION FOR TOWN APPROVAL.

FINAL INSPECTION FOR LANDSCAPE STOCK PLANTINGS AFTER TWO (2) FULL YEARS FROM INITIAL CERTIFICATE OF COMPLETION – THE PLANTINGS SITES SHALL BE INSPECTED BY THE TOWN OF EASTON. THE INSPECTOR SHALL DETERMINE THE SURVIVAL RATE OF THE PLANTINGS AND SUMMARIZE THE OVERALL GENERAL CHARACTERISTICS OF THE PLANTING AREA. DEFICIENT SURVIVAL RATES SHALL BE REVIEWED WITH THE TOWN OF EASTON TO DETERMINE POSSIBLE CAUSES AND TO DIRECT REQUIRED REMEDIATION. IF REMEDIATION IS REQUIRED, THE WARRANTY PERIOD AND FINAL INSPECTION REQUIREMENT FOR THE REMEDIATION PLANTINGS SHALL BE EXTENDED BY ONE (1) FULL YEAR.

INSPECTION REQUIREMENTS CONTINUED

FINAL INSPECTION FOR SEEDLING STOCK PLANTINGS AFTER FIVE (5) FULL YEARS FROM INITIAL CERTIFICATE OF COMPLETION – THE PLANTINGS SITES SHALL BE INSPECTED BY THE TOWN OF EASTON. THE INSPECTOR SHALL DETERMINE THE SURVIVAL RATE OF THE PLANTINGS AND SUMMARIZE THE OVERALL GENERAL CHARACTERISTICS OF THE PLANTING AREA. DEFICIENT SURVIVAL RATES SHALL BE REVIEWED WITH THE TOWN OF EASTON TO DETERMINE POSSIBLE CAUSES AND TO DIRECT REQUIRED REMEDIATION. IF REMEDIATION IS REQUIRED, THE WARRANTY PERIOD AND FINAL INSPECTION REQUIREMENT FOR THE REMEDIATION PLANTINGS SHALL BE EXTENDED BY 2 YEARS.

THE PROPERTY OWNER IS STRONGLY ENCOURAGED TO INSPECT THE PLANTINGS REGULARLY AND TO REMEDIATE DEFICIENT PLANTING AREAS.

PLANT INSTALLATION SPECIFICATIONS

OVERALL COMPLIANCE WITH THE TERMS OF THIS BUFFER MANAGEMENT PLAN INCLUDING ALL MAINTENANCE AND WARRANTY REQUIREMENTS PRESCRIBED HEREON IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER. MAINTENANCE, WARRANTY AND PLANT MATERIAL SURVIVAL RESPONSIBILITIES OF THE LANDSCAPE CONTRACTOR ("CONTRACTOR") SHALL BE AS SPECIFICALLY NEGOTIATED BETWEEN OWNER/DEVELOPER AND CONTRACTOR.

ALL WORK SHALL BE ACCOMPLISHED WITH QUALIFIED PERSONNEL, UTILIZING INDUSTRY STANDARD PRACTICES AND TECHNIQUES. THE CONTRACTOR (CONTRACTOR) IS RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL LANDSCAPING SHOWN OR IMPLIED ON THIS PLAN. PRIOR TO INSTALLATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OR PLAN PREPARER IF SITE PLANTING CONDITIONS WARRANT RE–DESIGN CONSIDERATION.

THE LANDSCAPE ARCHITECT OR PLAN PREPARER SHALL REJECT ANY AND ALL PLANT MATERIAL THAT DOES NOT MEET SPEC, IS DISEASED OR IS OTHERWISE UNHEALTHY.

WARRANTY

ALL LANDSCAPING STOCK PLANTED SHALL BE WARRANTED IN ACCORDANCE WITH COMAR 27.01.09.01–2.N., OR TO A 100% SURVIVAL RATE FOR TWO (2) FULL YEARS FROM DATE OF SUBSTANTIAL COMPLETION OF THE WORK AND ACCEPTANCE OF THE INITIAL INSTALLATION BY THE TOWN OF EASTON.

ALL SEEDLING STOCK PLANTED SHALL BE WARRANTED IN ACCORDANCE WITH COMAR 27.01.09.01–2.O., OR TO A 50% SURVIVAL RATE FOR FIVE (5) FULL YEARS FROM DATE OF SUBSTANTIAL COMPLETION OF THE WORK AND ACCEPTANCE OF THE INITIAL INSTALLATION BY THE THE TOWN OF EASTON.

LANDSCAPE STOCK LAYOUT AND PLANTING SUBSTITUTIONS NOTE

THE BUFFER MITIGATION PLANTINGS SHOWN HEREON ARE GUIDELINE PLANTING LAYOUTS AND SPECIES MIX. ALTERNATIVE "NATIVE" SPECIES MAY BE SUBSTITUTED SUBJECT TO REVISED APPROVALS FROM THE TOWN OF EASTON.

PLANTING SPECIFICATIONS – LANDSCAPE STOCK (BALL & BURLAP AND/OR CONTAINER GROWN STOCK)

PLANT MATERIAL – ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK AS APPROVED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE, INC. LATEST EDITION. ALL PLANT MATERIAL SHALL BE NURSERY GROWN WITH SOUND HORTICULTURAL PRACTICES AND UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT, GROWN IN SOIL AND CLIMATIC CONDITIONS SIMILAR TO THIS PROJECT SITE. ALL MATERIAL SHALL EXHIBIT HEALTHY GROWTH WITH GOOD BRANCHING STRUCTURE, DENSE FOLIAGE AND A FIBROUS, DEVELOPED ROOT SYSTEM. ALL MATERIAL SHALL BE FREE OF INSECT INFESTATION AND DISEASE. THE OWNER RESERVES THE RIGHT TO HAVE THE PLANT MATERIAL INSPECTED AND TAGGED AT THE GROWING SITE, AND TO REJECT ANY DEFICIENT MATERIAL AT THE JOB SITE.

PLANT MATERIAL HANDLING – ALL PLANT MATERIAL SHALL ARRIVE AT THE JOB SITE IN A HEALTHY CONDITION. CRACKED ROOT BALLS AND OTHER DAMAGED MATERIALS SHALL BE REJECTED AND REPLACED BY CONTRACTOR. THE CONTRACTOR SHALL STAGE DELIVERY AND PLANT INSTALLATION TO MINIMIZE STRESS ON PLANT MATERIAL. MATERIAL TO BE STAGED ON OR OFF THE JOB SITE SHALL BE LOCATED TO MAXIMIZE PROTECTION FROM HOT SUN AND DRYING WINDS, AND SHALL BE WATERED TO MAINTAIN A STRESS FREE CONDITION. ON–SITE WATER MAY NOT BE AVAILABLE FOR CONTRACTOR USE. THE LACK OF AVAILABLE WATER SHALL NOT RELIEVE THE CONTRACTOR OF ADEQUATE MAINTENANCE.

PLANTING BED/PIT PREPARATION –CONTRACTOR SHALL LAYOUT BEDS AND POSITION PLANTS FOR APPROVAL BY LANDSCAPE ARCHITECT. REVIEW ANY SIGNIFICANT FIELD ADJUSTMENTS PRIOR TO INSTALLATION. ALL BED/MASS PLANTING AREAS SHALL BE TREATED WITH HERBICIDE TO KILL TURF GRASS.

ALL TREE PITS AND INDIVIDUAL SHRUB PLANTING PITS SHALL BE EXCAVATED TO A DEPTH SO THAT THE PLANT ROOT FLARE SHALL LIE AT THE FINISHED GRADE SURROUNDING THE PLANT OR PLANTINGS. REMOVE SOIL THAT MAY HAVE BEEN PLACED ON TOP OF ROOT BALL OR SETTLED AROUND TRUNK OR ROOT FLARE DURING TRANSPORT TO ADEQUATELY EXPOSE ROOT FLARE SO PROPER PLANTING DEPTH CAN BE ESTABLISHED. THE ROOT BALL SHALL REST ON UNDISTURBED OR STABILIZED SOIL. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IF THIS PLANTING DEPTH SPECIFICATION CANNOT BE IMPLEMENTED. TREE PLANTING PITS SHALL BE EXCAVATED TO A WIDTH EQUALING TWICE THE ROOT BALL DIAMETER. TREE PITS ON SLOPED AREAS SHALL BE EXCAVATED TO THE PROPER DEPTH BASED ON THE UPHILL SIDE OF THE SLOPE. SHRUB/PERENNIAL AND MASS PLANTING BEDS SHALL BE WORKED OR EXCAVATED TO THE DEPTH OF THE ROOT BALL PROVIDING FOR THE ROOT BALL TO REST ON UNDISTURBED SOIL. EXCAVATED SOILS NOT PREVIOUSLY COMPACTED OR OTHERWISE DEGRADED SHALL BE RE– USED FOR PLANTING PIT BACKFILL. EXCAVATED SOILS UNSUITED FOR BACKFILL SHALL BE AMENDED WITH FRIABLE TOPSOIL TO CREATE A SUITABLE PLANTING SOIL AS APPROVED BY THE LANDSCAPE ARCHITECT. EXCAVATED SOILS THAT CANNOT BE RESTORED TO A REASONABLE PLANTING SOIL SHALL BE REMOVED AND REPLACED WITH A FRIABLE, TOPSOIL/SUB SOIL PLANTING MIX TYPICAL OF THE REGION. NOTE– FOR BIDDING PURPOSES OR UNLESS OTHERWISE SPECIFIED HEREON, THE CONTRACTOR SHALL ASSUME EXCAVATED SOILS ARE SUITABLE FOR PLANTING BACKFILL.

PLANTING BEDS FOR AZALEAS, RHODODENDRONS, YEWS AND OTHER MOISTURE SENSITIVE PLANT MATERIAL SHALL BE MOUNDED AND AMENDED WITH SAND, PEAT OR COMPOST AS NECESSARY TO PROVIDE SUITABLE PLANTING SOIL AND DRAINAGE.

PLANT INSTALLATION – REMOVE BURLAP AND OTHER ROOT BALL COVERING TO THE EXTENT POSSIBLE – AT A MINIMUM THE UPPER 1/2 OF ROOT BALL WRAP SHALL BE REMOVED. CUT AND REMOVE AT LEAST THE TOP 1/3 OF WIRE BASKETS AND ALL ROOT BALL BINDINGS, STRING TIES, STRAPPING, LABELS, ETC. FROM THE PLANT MATERIAL. CUT OR SCARIFY THE SIDES OF CONTAINER GROWN STOCK TO ELIMINATE BOUND ROOTS AND PROMOTE HEALTHY ROOT GROWTH.

PLANTS SHALL BE INSTALLED VERTICALLY AND PLUMB. PLANT PITS SHALL BE BACKFILLED AND COMPACTED. ALL PLANTS SHALL BE WATERED DURING PLANTING TO MINIMIZE AIR POCKETS AND TO INSURE SOIL CONTACT WITH ROOTS. LET PLANT PITS SETTLE, AND ADD SOIL TO FILL VOIDS PRIOR TO MULCHING. WHERE PLANTINGS ARE NOT IRRIGATED, UTILIZE EXCAVATED SOIL TO FORM A WATERING COLLAR AROUND THE TREE OR SHRUB AT THE PERIMETER OF THE ROOT BALL. FEATHER SOIL GRADES AROUND PLANTINGS TO BLEND WITH SURROUNDING LANDSCAPE OR TURF AREAS. EXCESS EXCAVATED SOIL SHALL BE REMOVED FROM JOB SITE.

DECIDUOUS TREES OVER 2" CALIPER AND EVERGREEN TREES OVER 7' HEIGHT (UNLESS OTHERWISE WAIVED BY THE LANDSCAPE ARCHITECT), SHALL BE STAKED AND GUYED WITH MINIMUM 2 – 2" X 2" X 6' HARDWOOD STAKES PLACED IN STABLE SOILS. GUY TREES TO STAKES WITH PROTECTIVE MATERIALS TYPICALLY UTILIZED IN THE INDUSTRY.

ALL PLANTING BEDS AND PITS NOT OTHERWISE CONTAINED WITH HARD EDGING SHALL BE EDGED WITH A 3" DEEP "V" TRENCH AND MULCHED TO A 2" DEPTH WITH DOUBLE SHREDDED, HARDWOOD BARK MULCH. MULCH SHALL GENERALLY EXTEND TO THE EDGE OF PAVING OR BUILDINGS, OR BACK OF CURB. IN OPEN AREAS ADJACENT TO TURF OR NATURALIZED AREAS, MULCH SHALL EXTEND A MINIMUM OF 2.5' BEYOND THE TRUNK FOR TREES AND 1.0' BEYOND THE EDGE OF SHRUB FOLIAGE. UNLESS OTHERWISE SPECIFICALLY DIRECTED HEREON, SHAPE THE MULCH–BED EDGE CONDUCIVE TO EASE OF MOWING OR MAINTENANCE OF THE ADJOINING AREA. DO NOT PLACE OR MOUND MULCH AGAINST THE TRUNK OR FOLIAGE OF PLANTS.

PLANTING SPECIFICATIONS – SEEDLING & BARE–ROOT/WHIP STOCK

PLANT MATERIAL – SEEDLINGS/WHIPS: ALL SEEDLINGS SHALL BE SPECIES NATIVE TO THIS PHYSIOGRAPHIC REGION OF MARYLAND, AND GROWN AT THE JOHN S. AYTON STATE FOREST NURSERY OUTSIDE PRESTON, MARYLAND, OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT. ALL SEEDLINGS SHALL HAVE HEALTHY, INTACT ROOT SYSTEMS, SHALL BE FREE FROM DISEASE AND PESTS AND SHALL BE DELIVERED TO THE SITE IN APPROPRIATE MOISTURE CONSERVING CONTAINERS. ALL SEEDLINGS SHALL BE UTILIZED IN PLANTING WITHIN 24 HOURS OF DELIVERY AND/OR ADEQUATELY PROTECTED FROM MOISTURE LOSS THRU HEALING IN UNTIL THEY CAN BE UTILIZED FOR PLANTING.

HARDWOODS– 1/4" TO ½" CALIPER W/ROOTS NO LESS THAN 8" LONG.
CONIFERS– 1/8" TO 1/4" CALIPER W/ROOTS NO LESS THAN 8" LONG
SHRUBS– 1/8" CALIPER OR LARGER WITH MINIMUM 8" ROOT SYSTEM.

PLANTING AREA PREPARATION –CONTRACTOR SHALL DELINEATE PLANTING AREAS. CONTACT LANDSCAPE ARCHITECT FOR STAKEOUT OF PERIMETER WHERE LIMITS OF PLANTING ARE NOT CLEARLY DEFINED. THE PLANTING AREA SHALL BE LEFT IN ITS NATURAL CONDITION UNLESS DIRECTED HEREON OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT TO FACILITATE REASONABLE PLANTING CONDITIONS. MOWING OR HERBICIDE APPLICATION MAY BE WARRANTED AND/OR PERMITTED SUBJECT TO PRIOR APPROVAL. COORDINATE ALL PLANTING AREA ADJUSTMENTS PRIOR TO INSTALLATION.

INSTALLATION SPECIFICATIONS – PROVIDE PLANTINGS IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OUTLINED HEREIN. EXTREME CARE SHOULD BE TAKEN TO RETAIN MOISTURE IN THE ROOTS OF THE SEEDLINGS. WHILE PLANTING SEEDLINGS, CARRY EXTRA SEEDLINGS IN A PROTECTED, MOIST CONTAINER AND KEEP ALL UN–USED SEEDLINGS IN A SHADED, MOIST PLACE. FIRMLY COMPRESS THE SOIL AROUND SEEDLINGS AFTER INSTALLATION TO ELIMINATE AIR POCKETS AND POSSIBLE ROOT DESICCATION. ELIMINATE "J–ROOTS", OR ROOTS THAT BEND UPWARD IN PLANTING HOLE. ALL PLANTS SHALL BE INSTALLED AT THE CORRECT PLANTING DEPTH WITH ROOT FLARE JUST ABOVE FINISHED GRADE.

"ROUNDUP" OR EQUAL HERBICIDE AT A RATE OF 2 OUNCES/ACRE SHALL BE APPLIED NEAR GROUND LEVEL OVER THE TOP OF SEEDLING PLANTINGS (DORMANT ONLY) FOLLOWING INSTALLATION. CERTAIN SPECIES MAY BE HARMED BY "ROUNDUP". CONTRACTOR SHALL VERIFY THESE CONSTRAINTS PRIOR TO APPLICATION.

REVISIONS

No.	DATE	DESCRIPTION	BY

Lane Engineering, LLC
Established 1986
Civil Engineers • Land Planning • Land Surveyors
E–mail: general@leinc.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

SEAL

DATE

BUFFER MANAGEMENT DETAILS & SPECIFICATIONS

ON THE LANDS OF 5001 SHR, L.C.

TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42, GRID 4, PARCEL 57

ISSUED FOR:	DATE:	BY:
AGENCY REVIEW	8/2/23	BCE
PLANNING COMMISSION SUBMITTAL	8/28/23	BCE

SHEET No. 2 OF 2	DATE: 8/2/23
SCALE: AS NOTED	JOB No. 220155
	FILE No. 1324

© LANE ENGINEERING, LLC

Date: 08/29/2023 – 2:08pm User: wbarnhart Project Manager:BCE
Drawing Path: J:\2022\0100\220155\Civil3D–220155\Dwg\Plats\MBP–PLTS–220155.dwg | 2
XREF File(s): RAR–BASE–200574/VLD–BASE–220155/YSF–BASE–200574/MBP–BASE–220155/CSK–BASE–220155/VSK–BASE–220155

RECEIVED
AUG 29 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	Poplar Hill	Project Number	
Project Location	Across from Easton Club, South Side of Oxford Road		
Project Description	Proposed Residential By Right Subdivision		

Watershed Information

Watershed Name	Choptank-021304	Sub-watershed No.	2130403
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:	336,700			ft. North	1,061,100		ft. East
ADC Map: Year	2003	Page	14	Grid	B9		
Tax Map:	42	Grid		Parcel	57	Block	
District / Account Number	01-045571					Lot	
Liber	2827	Folio	90				

Agent Information

Name	Brett Ewing	License No.		Expiration Date	
Firm Name	Lane Engineering, LLC				
Mailing Address	117 Bay Street, Easton, MD 21601				
Telephone No.	(410) 822-8003	Email	bewing@leinc.com		

Forest Stand Delineation Information

Details of Request (Acreage or portion thereof)

Total Tract Area	120.48 Ac.	*Net Tract Area*	54.50 Ac.
Area within 100-year Floodplain	0.551 Ac.	Area of Existing Forest	5.31 Ac.
Area Remaining in Agriculture	103.96 Ac.	Area of Existing NTW	2.77 Ac.
Other	- Ac.	Sensitive Areas	0 Ac.

Forested Stream Buffers (minimum 50' wide):			Yes	X	No
One Side		Both Sides			
Buffer Area Forested	Ac.	Length	Ft.		
Steep Slopes	X Yes		No		
Threatened & Endangered Species	Yes	X	No		
Dominant & Co-dominant Species	Yes	X	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)	Ag	Proposed Land Use (zone)	Residential		
Afforestation Threshold	15%	Conservation Threshold	20%		
Proposed Area of Disturbance	54.50 AC	in Sensitive Areas	2.68		
Proposed Forest Clearing	5.31	in Sensitive Areas	0	in NTW	0

Forest Retention:

Onsite		Offsite		in Long Term Protection	
Forest Conservation Required	13.48 AC	Forest Conservation Provided			

Planting:

Onsite	13.48 AC*	Offsite		Sensitive Area Planting	

Stream Buffer Established: Length | Width

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	D. Wayde Barnhart				
Licensed Landscape Architect					
Licensed Forester					
Qualified Professional	D. Wayde Barnhart				

Subject to previous FCP? Y / N

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

Subject to ESDR? Y/ N

***Afforestation Required shall be acheived utilizing the forest conservaiton overlapping requirements per 1014.5, CA Forest Retention & Proposed Seedling Planting Area & provided on-site and shall be placed under a long term protective easement.**

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	8/28/23
Printed Name of Applicant or Agent		Brett Ewing

For Office Use Only

Planning Commission Meeting Date	09/21/2023		
Sketch Approval Date		Project No.	ESDR 23-14
Prelim/Dev. Approval Date		Application No.	2021-561
Final Approval Date		Sketch Fee Paid	03/04/2021
Recordation Date		Develop. Fee Paid	-
			Revised 02-2019

CONCEPT STORMWATER MANAGEMENT REPORT

For

Poplar Hill
PUD

Developer

5001 SHR, L.C.
9161 Liberia Avenue, Suite 201
Manassas, VA 20110

Design Professional

Lane Engineering, LLC
117 Bay Street
Easton, Maryland 21601
410-822-8003

Date Prepared

August 25, 2023

Prepared by

Jarret J. Beyer, P.E.

8/28/23

PROFESSIONAL CERTIFICATION: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 48188, Expiration Date: 12/28/2023.

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2. General Site Information
3. Proposed Project
4. Stormwater Management
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   4.2 Stormwater Quality Management
5. Conclusion

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APPENDIX A – Maryland Environmental Site Design (ESD) Calculations
APPENDIX B – Stormwater Quantity Calculations
APPENDIX C – Pre-development Drainage Area Map
APPENDIX D – Post-development Drainage Area Map

Poplar Hill PUD
STORMWATER MANAGEMENT REPORT

1. INTRODUCTION

This report addresses the stormwater management requirements of the *2000 Maryland Stormwater Design Manual Volumes I and II* (Manual) as currently updated. Development projects are required to be reviewed during the concept, preliminary site development, and final design stages. This narrative addresses the requirements pertaining to the concept design stage and meets the intent of the guidelines and methodologies presented in the MDE document *Environmental Site Design (ESD) Process & Computations* dated July 2010.

2. GENERAL SITE INFORMATION

The site is a 120.5 acre parcel located along Oxford Road across from Easton Club, and partially fronting the Easton Bypass. The site is currently in agricultural use. Surrounding lands consist of residential development, forest, and Temple B'Nai Israel.

The parcel discharges to three main points, two of which discharge to tidal waters. Geo-Technology Associates, Inc. have done soils borings. Soils on the south end of the site are mixtures of sand and silty sand to about 5 feet, with clay/silty clay/clayey silt below 5 feet. Moving north on the site towards the middle, silty sand/silt/silty clay extend to depths of about 3 to 4 feet. Below this elevation soils become sand and silty sand for a few feet before becoming silty clay/clayey silt. Groundwater elevations are generally high on the south half of the site and drop down at the central part of the site. Additional borings will be necessary on the north end of the site and for both proposed stormwater features. USDA soil maps classify site soils as B and C soils.

3. PROPOSED PROJECT

The proposed development will consist of residential single-family homes and a community park. Roads and sidewalks will be constructed to serve the improvements. The community park is at concept design at this time. Forest conservation areas will surround the development. Two stormwater management features are proposed: one on the north end of the site (SWM #2) and the other at the southwest corner of the site (SWM #1). Development will occur entirely outside the Critical Area, except for the three 5-acre estate lots, consistent with Critical Area density standards.

4. STORMWATER MANAGEMENT

Stormwater management is conceptual at this point and has been analyzed to meet quality and quantity requirements. Several storm drain pipe runs and a flat bottom swale at the rear of lots 73-83/96 will convey runoff to the proposed stormwater feature in the southwest corner (SGW #1). A pool house, pool, and parking lot have been included in the community park impervious area figure. A storm drain pipe will convey runoff from Drainage Area #1B to a riprap dissipation pad along the west property line, between SGW #1 and the outfall point (POI #1).

A drainage pipe along the east side of the main drive will convey runoff from lots 89-116 north to the proposed stormwater feature at the north end of the site (SGW #2).

Lots 117-119 will address stormwater quality (ESD) requirements on a case-by-case basis during the building permit process. Stormwater quantity management has been addressed for these lots as part of the concept design. These three lots are limited to 15% impervious area, and therefore their maximum impervious areas can be added to the applicable drainage areas. Two of the lots are included in Drainage Area #2B, and the third is included in Drainage Area #1B. Drainage Area #3 drains to Windmill Branch, routed to tidal waters. Any development within Drainage Area #3 would not be required to manage quantity. For the sake of simplicity and a conservative approach, no impervious area from lots 117-119 is proposed to outfall to POI #3. Therefore, POI

#3 is not included in the post-development stormwater quantity analysis. It is shown on the post-development drainage area map for reference and consistency.

Since this is a concept level analysis, treatment volumes are calculated by ponding volume only. We believe this is a conservative approach giving us a good starting point for discussion and refinement. Additional soils testing and discussion with the Town Engineer will potentially lead to different features.

4.1 STORMWATER QUANTITY MANAGEMENT

For discharge at the southwest corner and north end of the site (POI-1 and POI-2), the 2-year and 10-year storm events are required to be managed onsite, and the 100-year storm event safely conveyed. An additional point of discharge along the east property line of the site is to Windmill Branch, routed to tidal waters (POI-3). Development (aside from the three estate lots) will occur outside the Critical Area, and there is not any proposed discharge to POI-3.

STORMWATER DISCHARGE (cfs)						
	Pre 2-yr	Post 2-yr	Pre 10-yr	Post 10-yr	Pre 100-yr	Post 100-yr
POI-1	28.95	**19.37**	69.81	**51.80**	125.31	**135.67**
POI-2	18.47	**12.00**	44.38	**37.60**	79.43	**90.72**
POI-3	3.68	**-**	14.68	**-**	32.10	**-**

The existing site is currently an open farm field. However, for a conservative approach the existing drainage area ground cover is modeled as grass in good condition. This reduces the pre-development runoff significantly. Even with the conservative approach to existing conditions, the stormwater discharge to the surrounding ditches is significantly reduced with this development.

4.2 STORMWATER QUALITY MANAGEMENT

This project is classified as new development. ESD requirements must be addressed for the project's entire limits of disturbance (LOD.) For a conservative approach, all soils are assumed as group C soils, resulting in a higher Pe. Lots will be proposed to be graded entirely to the street when situated back-to-back, or in a 2/3 towards the street-1/3 towards the rear fashion. Research has shown that approximately 2/3 of the proposed lot size will be developed. The entirety of this impervious area has been routed towards the stormwater features. The flat bottom conveyance swale at the rear of lots 73-83/96 is strictly for conveyance of rear yard runoff to the proposed stormwater feature SGW #1. The proposed stormwater features adequately address ESD requirements.

Drainage Area	Type of ESD Practice	Drainage Area (sq. feet)	Impervious Area (sq. feet)	Target ESD_v (cu. feet)	ESD_v Provided (cu. Feet)
DA #1	SGW	1,686,904	662,524	102,093	117,911
DA #2	SGW	681,906	241,979	33,584	53,014

5. CONCLUSION

This stormwater management analysis indicates that the proposed design will successfully meet, and exceed, stormwater quality and quantity requirements. The ESD volume provided is greater than the ESD volume required and proposed site runoff is significantly less than existing conditions. Planning and design analysis indicates that stormwater quality and quantity management can be accomplished as described. Please see the attached appendices for detailed calculations and drainage area maps.

APPENDIX A

MARYLAND ENVIRONMENTAL SITE DESIGN (ESD) CALCULATIONS

Maryland Environmental Site Design (ESD) Computations

Project	Poplar Hill	By	JJB
Location	Oxford Road/Easton Bypass	Date	8/28/2023

Determine Target ESDv

Initial Site Assessment (Site Data):

Existing Conditions

Total LOD Area: 2,368,810 sf

Soil Types:

HSG	A	B	C	D
Area			2,368,810	
Percent			100.0	

Proposed Layout

Impervious Cover: 904,503 sf

Percent Impervious (I) 38 %

Determine ESD Targets:

From Table 5.3 and

%I = 38

HSG	A	B	C	D
Area			2,368,810	
Target P_E			1.80	

Composite Target P_E (in.): **1.80**

Rv = 0.39

$$ESDv = \frac{(P_E)(Rv)(A)}{12}$$

= **139,874** **cf**

ESD Provided:

ESDv = **170,924** **cf**

ESD Design

Evaluation of specific ESD treatment practices for the project on the following sheets.

SWM #1

Total Area	1,686,904	sf	Target ESDv =	$\frac{(P_F)(Rv)(A)}{12}$	
Impervious Area	662,524	sf			
Percent Impervious (I)	39	%	=	102,093	cf
Rv = 0.05 +0.009(I)	0.40		75% of target=	76,569	cf

Site Development Design - Submerged Gravel Wetland (M-2):

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

$$V = \frac{(P)(Rv)(A)}{12} = \mathbf{158{,}811}\ \mathbf{cf}$$

The computed ESDv provided is:

ESDv = (Ponding storage ONLY)
= **117,911** **cf**

Surface Area=	115,549	sf	Media Depth=	3	ft
Ponding Area=	120,272	sf			
Ponding depth=	1	ft	Porosity=	0.4	

Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **117,911 cf.**

Now check for compliance with design criteria:

Submerged Gravel Wetland Design Criteria:	**Provided**
_ Runoff shall enter, flowthrough, and exit in safe and non-erosive manner	✓
_ Drainage area to practice is large to maintain submerged flow	✓
Appropriate soils and/or high groundwater is present	✓
Section dimensions of soil media layers greater than minimum	✓
Distribution and collection piping / underdrains provided	✓
Flow paths through gravel greater than 15 ft	✓
Riser pipes provided and spaced at 15 ft or less apart	✓
Cleanouts provided	✓

SWM #2

Total Area	681,906	sf	Target ESDv =	$\frac{(P_E)(Rv)(A)}{12}$	
Impervious Area	241,979	sf			
Percent Impervious (I)	35	%	=	33,584	cf
Rv = 0.05 +0.009(I)	0.37		75% of target=	25,188	cf

Site Development Design:

Based on the Cpv storm (2.8 in.): Max allowable ESDv that can be used:

$$V = \frac{(P)(Rv)(A)}{12} = \mathbf{58,771}\ \mathbf{cf}$$

The computed ESDv provided is:

ESDv = (Ponding storage ONLY)
= **53,014** **cf**

Surface Area=	51,291	sf	Media Depth=	3	ft
Ponding Area=	54,736	sf			
Ponding depth=	1	ft	Porosity=	0.4	

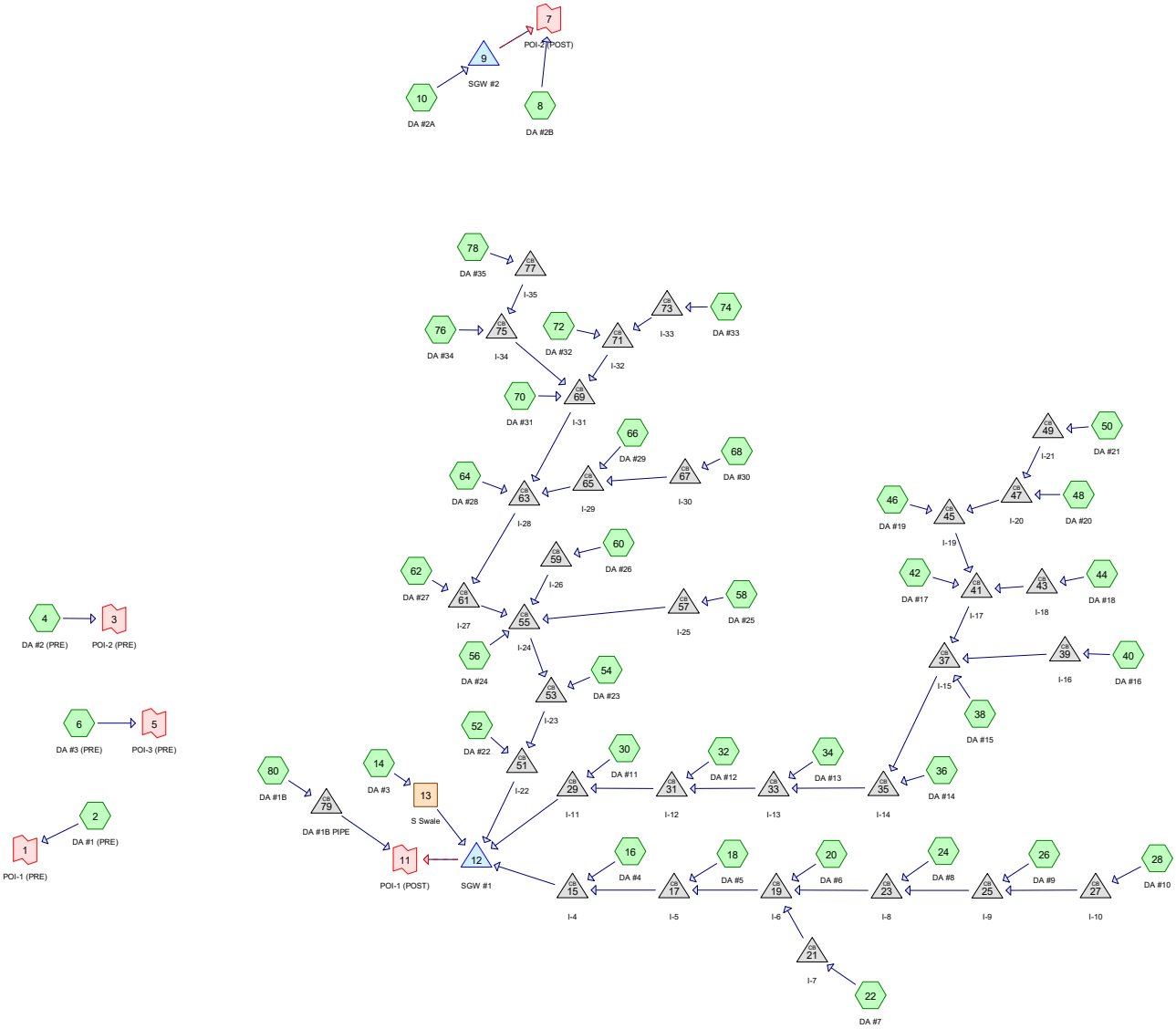
Therefore, when assessing compliance with the MEP standard, the volume of runoff treated by this submerged gravel wetland practice is **53,014 cf.**

Now check for compliance with design criteria:

Submerged Gravel Wetland Design Criteria:	**Provided**
_ Runoff shall enter, flowthrough, and exit in safe and non-erosive manner	✓
_ Drainage area to practice is large to maintain submerged flow	✓
Appropriate soils and/or high groundwater is present	✓
Section dimensions of soil media layers greater than minimum	✓
Distribution and collection piping / underdrains provided	✓
Flow paths through gravel greater than 15 ft	✓
Riser pipes provided and spaced at 15 ft or less apart	✓
Cleanouts provided	✓

APPENDIX B

STORMWATER QUANTITY CALCULATIONS



Subcat Reach Pond Link

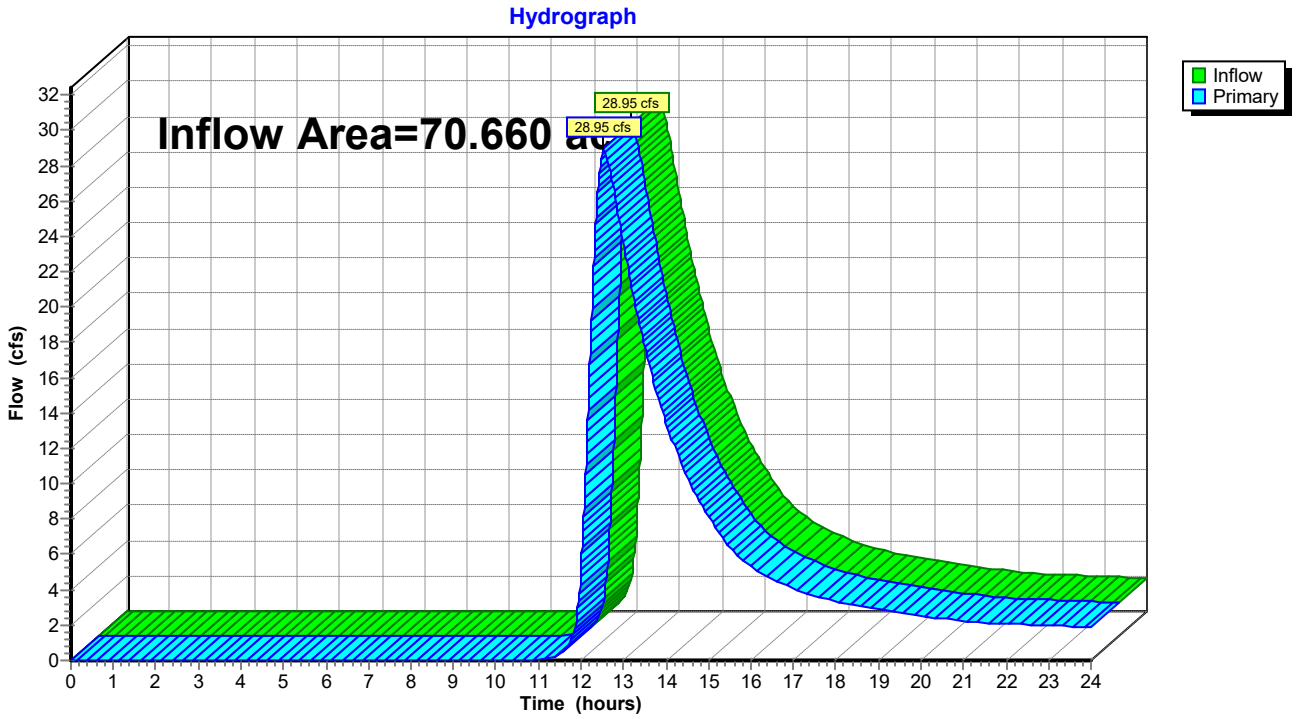
Routing Diagram for Poplar Hill-220155
Prepared by {enter your company name here}, Printed 8/28/2023
HydroCAD® 10.00-17 s/n 03788 © 2016 HydroCAD Software Solutions LLC

Summary for Link 1: POI-1 (PRE)

Inflow Area = 70.660 ac, 0.00% Impervious, Inflow Depth > 1.14" for 2-Yr event
Inflow = 28.95 cfs @ 12.51 hrs, Volume= 6.707 af
Primary = 28.95 cfs @ 12.51 hrs, Volume= 6.707 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 1: POI-1 (PRE)



Summary for Subcatchment 2: DA #1 (PRE)

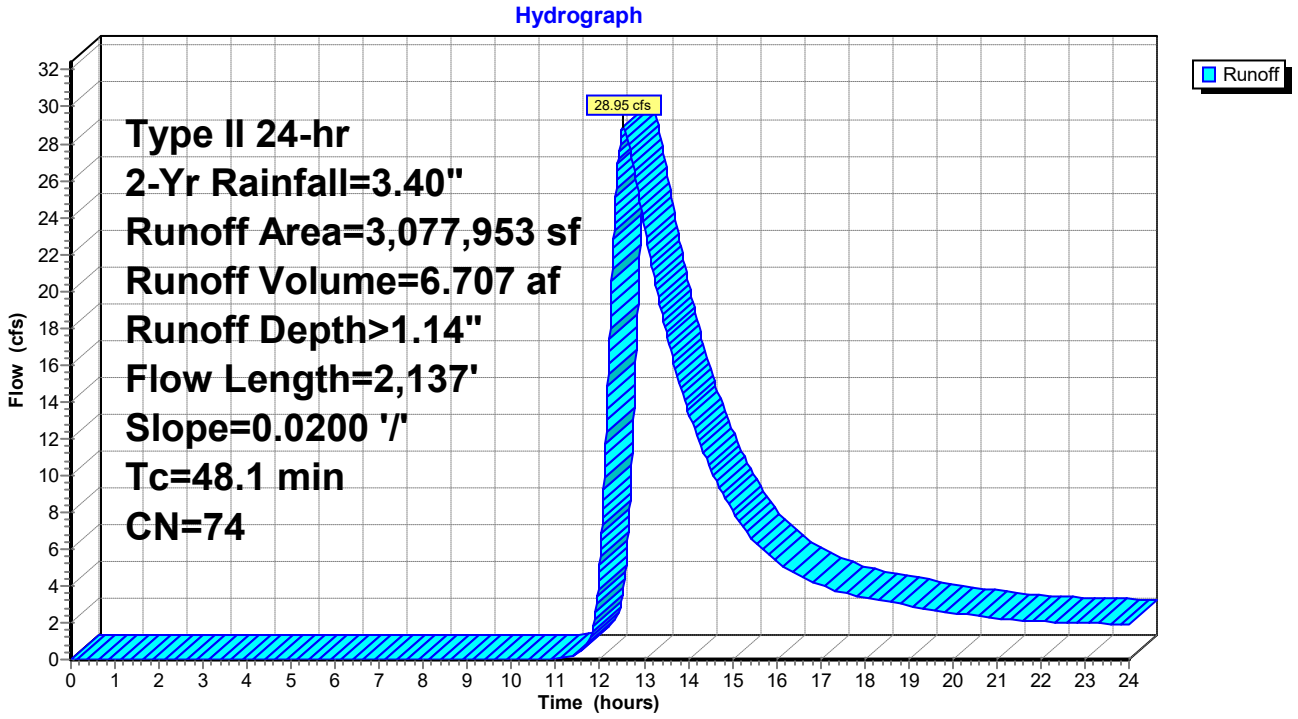
Runoff = 28.95 cfs @ 12.51 hrs, Volume= 6.707 af, Depth> 1.14"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
3,077,953	74	>75% Grass cover, Good, HSG C
3,077,953		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
34.3	2,037	0.0200	0.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
48.1	2,137	Total			

Subcatchment 2: DA #1 (PRE)

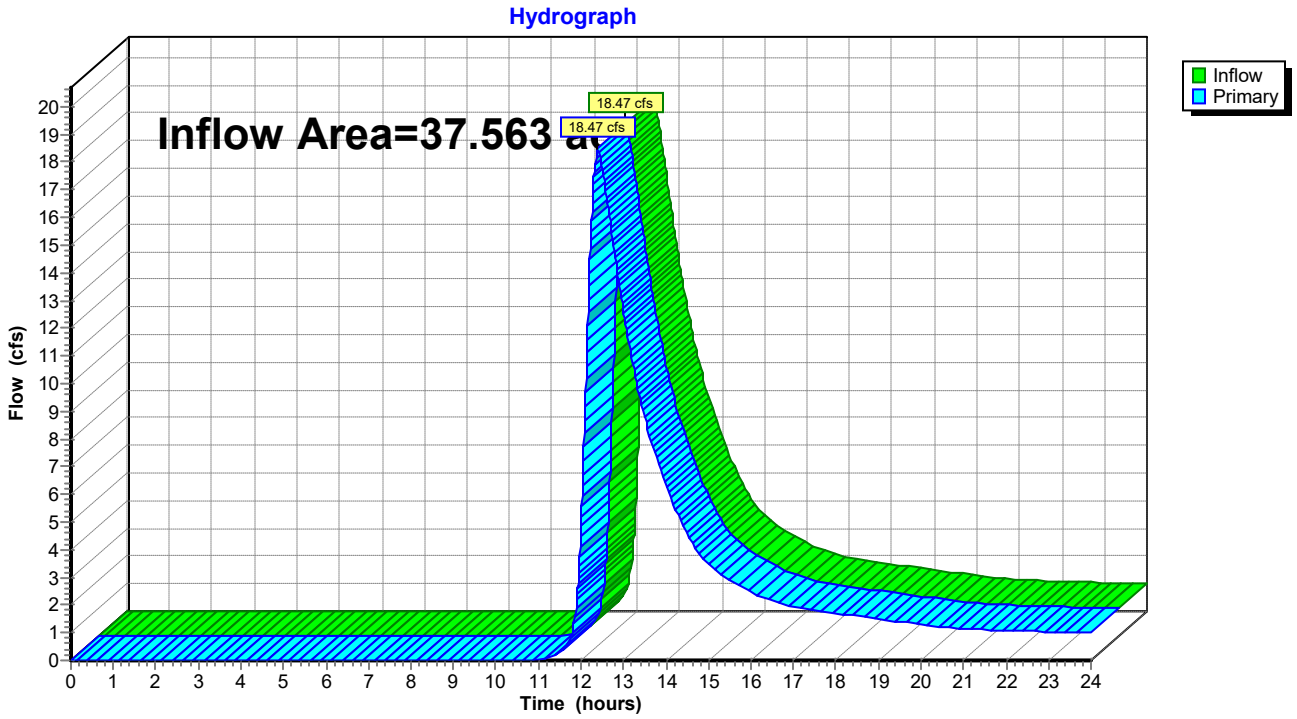


Summary for Link 3: POI-2 (PRE)

Inflow Area = 37.563 ac, 0.00% Impervious, Inflow Depth > 1.15" for 2-Yr event
Inflow = 18.47 cfs @ 12.38 hrs, Volume= 3.588 af
Primary = 18.47 cfs @ 12.38 hrs, Volume= 3.588 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 3: POI-2 (PRE)



Summary for Subcatchment 4: DA #2 (PRE)

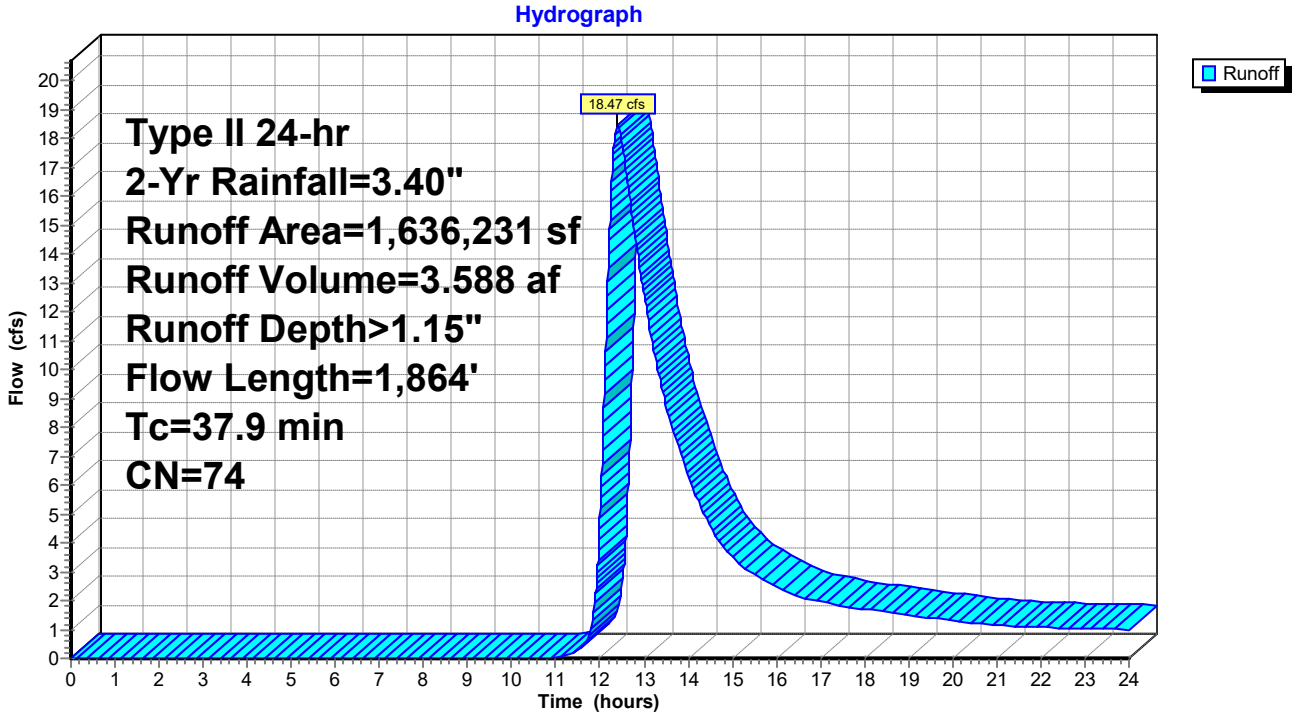
Runoff = 18.47 cfs @ 12.38 hrs, Volume= 3.588 af, Depth> 1.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
1,636,231	74	>75% Grass cover, Good, HSG C
1,636,231		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
10.5	482	0.0120	0.77		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
37.9	1,864	Total			

Subcatchment 4: DA #2 (PRE)

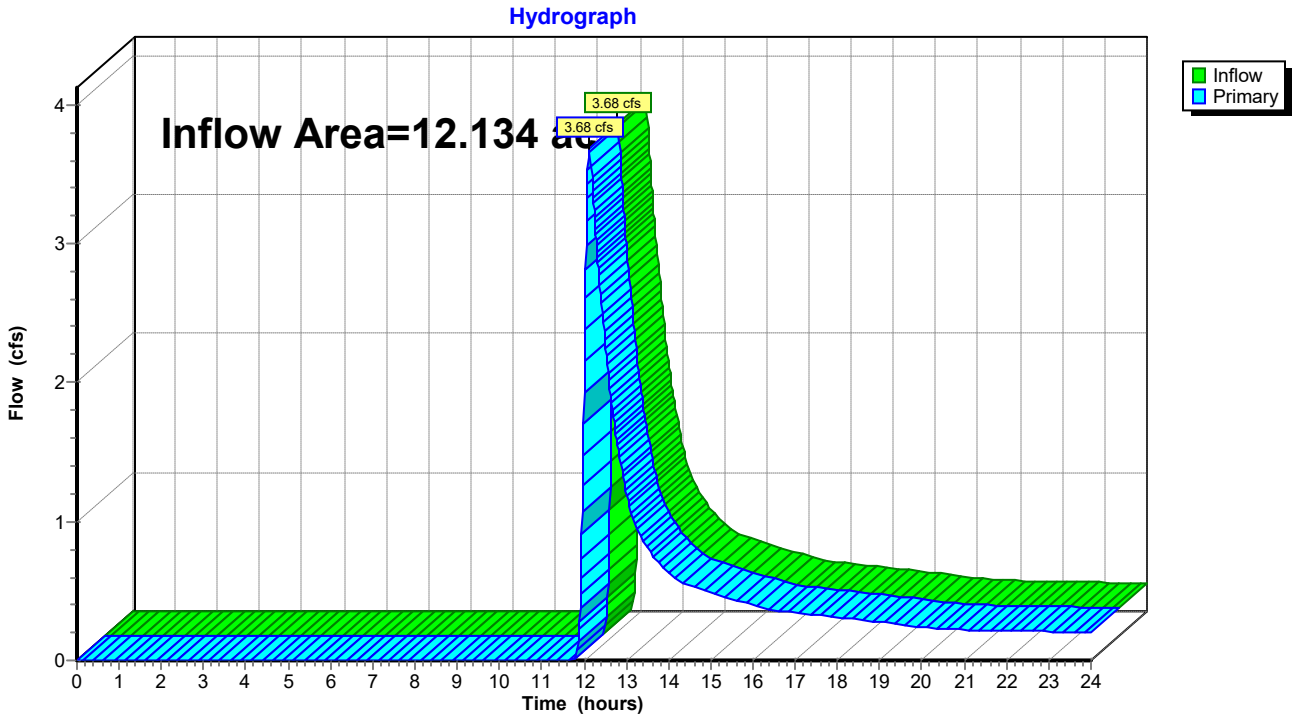


Summary for Link 5: POI-3 (PRE)

Inflow Area = 12.134 ac, 0.00% Impervious, Inflow Depth > 0.52" for 2-Yr event
Inflow = 3.68 cfs @ 12.13 hrs, Volume= 0.528 af
Primary = 3.68 cfs @ 12.13 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 5: POI-3 (PRE)



Summary for Subcatchment 6: DA #3 (PRE)

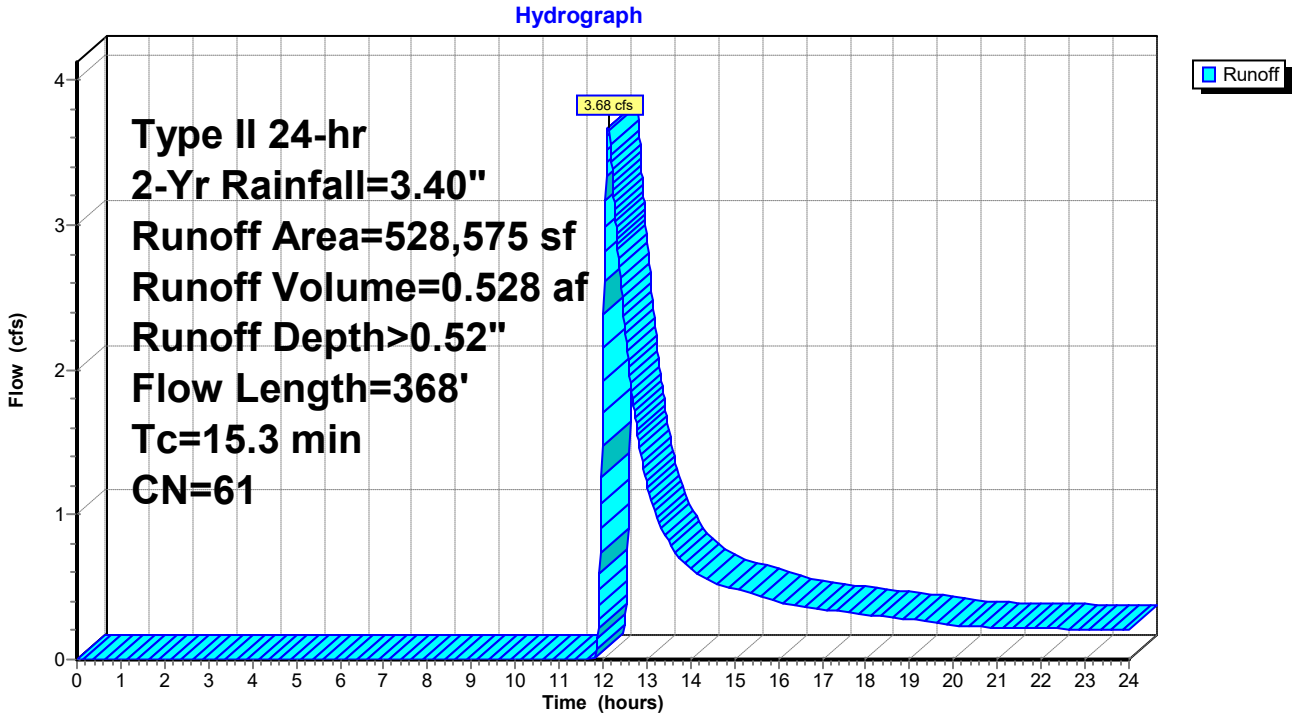
Runoff = 3.68 cfs @ 12.13 hrs, Volume= 0.528 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
528,575	61	>75% Grass cover, Good, HSG B
528,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0230	0.13		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
2.2	268	0.0810	1.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
15.3	368	Total			

Subcatchment 6: DA #3 (PRE)

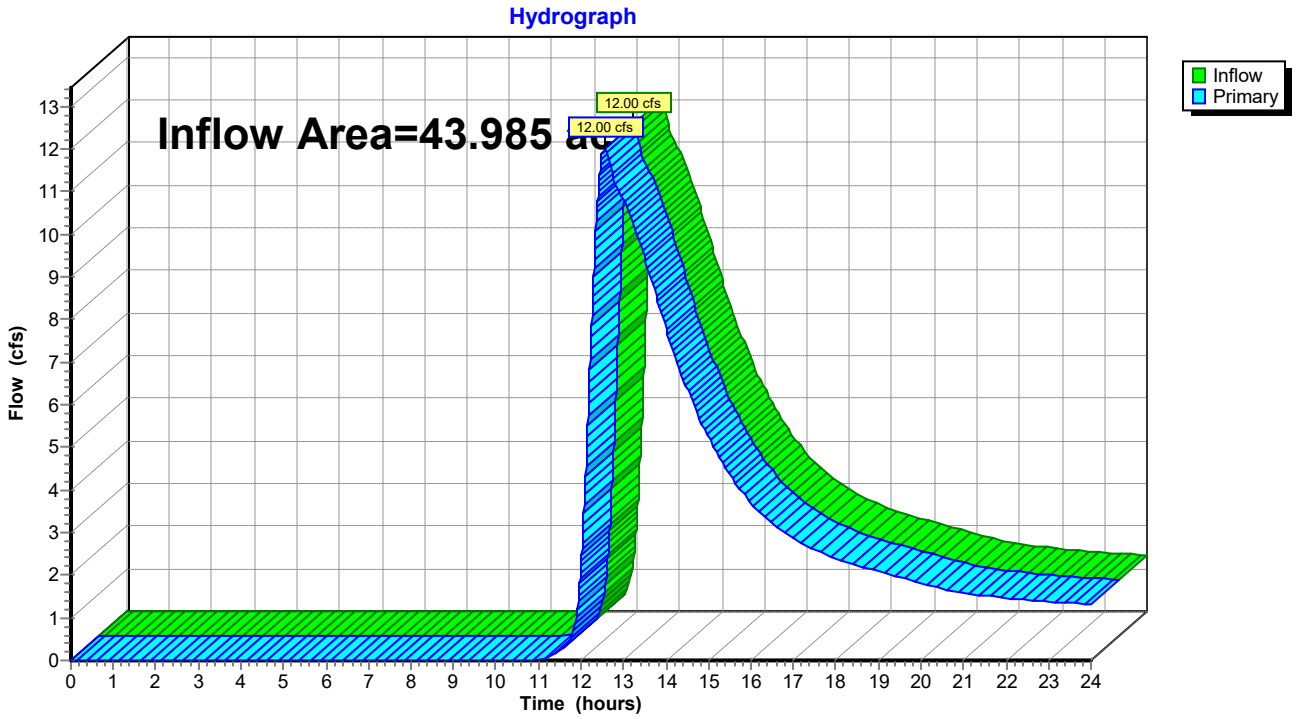


Summary for Link 7: POI-2 (POST)

Inflow Area = 43.985 ac, 16.02% Impervious, Inflow Depth > 1.04" for 2-Yr event
Inflow = 12.00 cfs @ 12.59 hrs, Volume= 3.812 af
Primary = 12.00 cfs @ 12.59 hrs, Volume= 3.812 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 7: POI-2 (POST)



Summary for Subcatchment 8: DA #2B

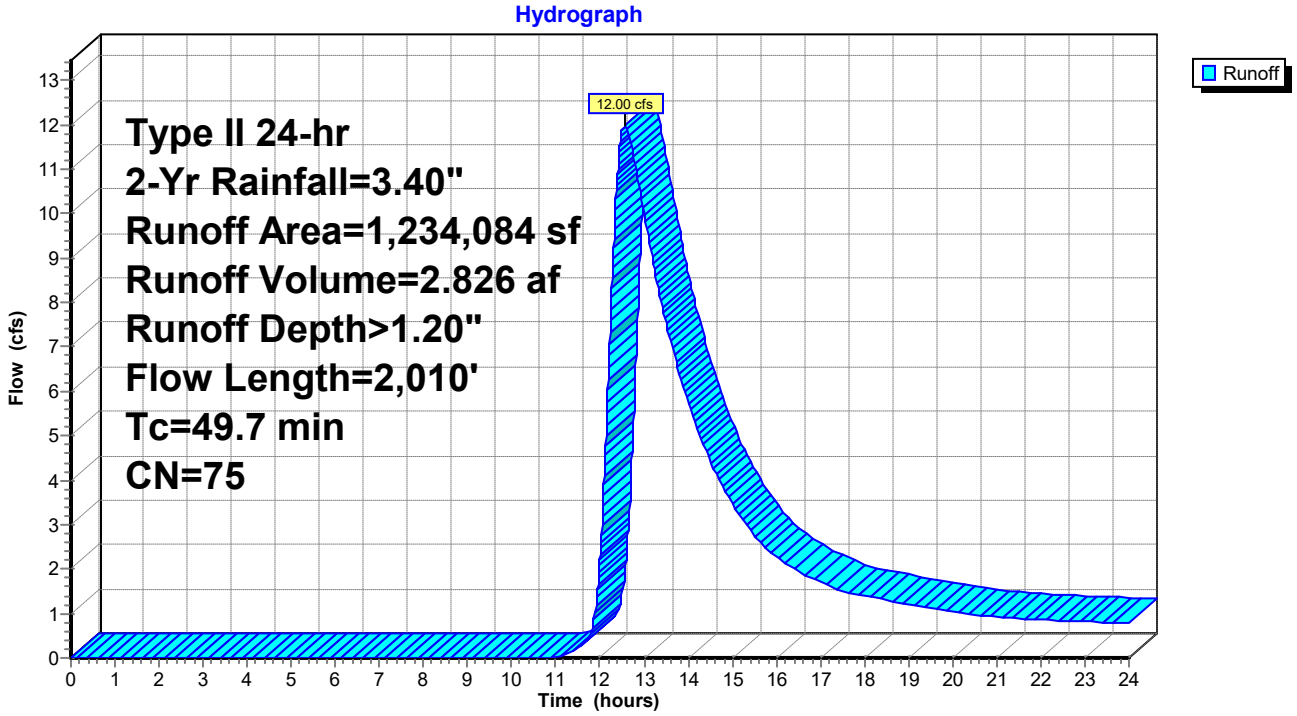
Runoff = 12.00 cfs @ 12.59 hrs, Volume= 2.826 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
65,036	98	Paved parking, HSG C
1,169,048	74	>75% Grass cover, Good, HSG C
1,234,084	75	Weighted Average
1,169,048		94.73% Pervious Area
65,036		5.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0070	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
15.0	628	0.0100	0.70		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
49.7	2,010	Total			

Subcatchment 8: DA #2B



Summary for Pond 9: SGW #2

Inflow Area = 15.654 ac, 35.49% Impervious, Inflow Depth > 1.76" for 2-Yr event
Inflow = 22.18 cfs @ 12.11 hrs, Volume= 2.297 af
Outflow = 2.06 cfs @ 13.92 hrs, Volume= 0.986 af, Atten= 91%, Lag= 108.2 min
Primary = 2.06 cfs @ 13.92 hrs, Volume= 0.986 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 16.38' @ 13.92 hrs Surf.Area= 55,349 sf Storage= 63,089 cf

Plug-Flow detention time= 309.2 min calculated for 0.986 af (43% of inflow)
Center-of-Mass det. time= 186.0 min (1,029.1 - 843.2)

Volume	Invert	Avail.Storage	Storage Description
#1	15.20'	167,693 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

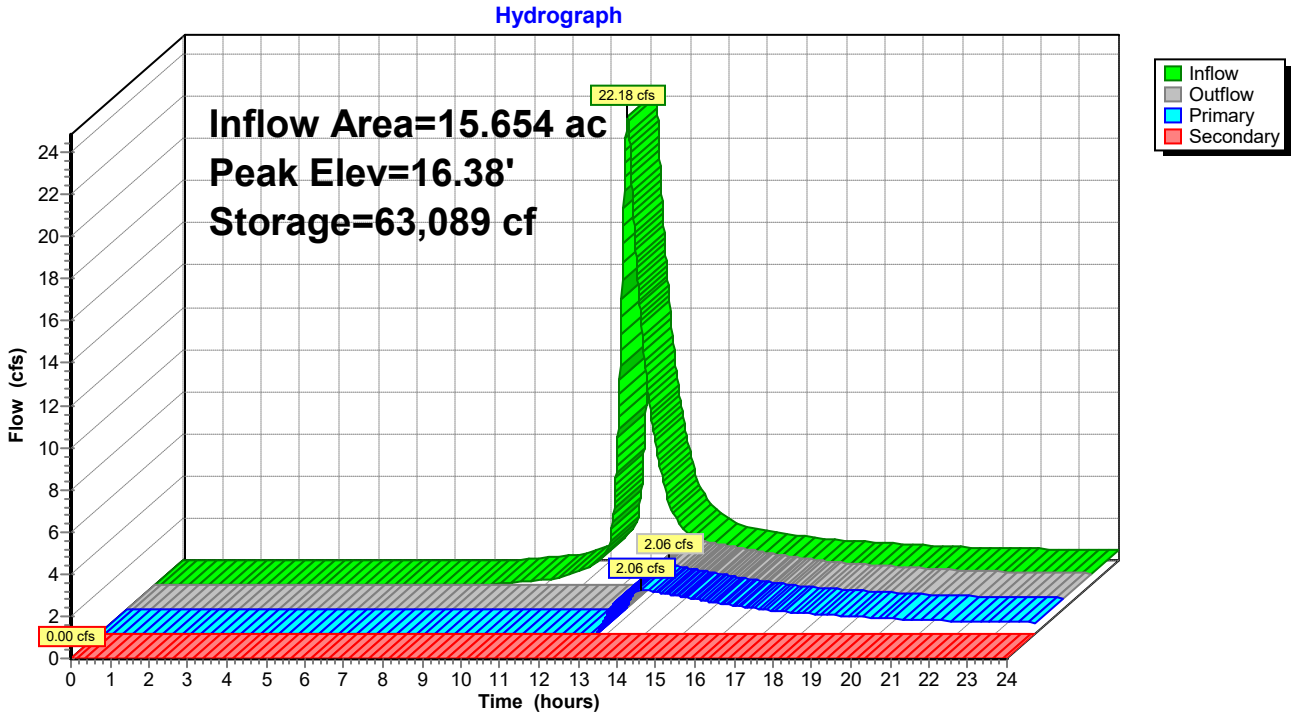
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.20	51,291	1,138.9	0	0	51,291
17.20	58,238	1,176.6	109,455	109,455	58,613
18.20	58,238	1,176.6	58,238	167,693	59,790

Device	Routing	Invert	Outlet Devices
#1	Primary	14.87'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 14.87' / 13.00' S= 0.0334 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	16.20'	**8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	17.20'	**124.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.06 cfs @ 13.92 hrs HW=16.38' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.06 cfs of 7.43 cfs potential flow)
  └─**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.06 cfs @ 1.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=15.20' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 9: SGW #2


Hydrograph
Inflow Area=15.654 ac
Peak Elev=16.38'
Storage=63,089 cf
22.18 cfs
2.06 cfs
2.06 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Subcatchment 10: DA #2A

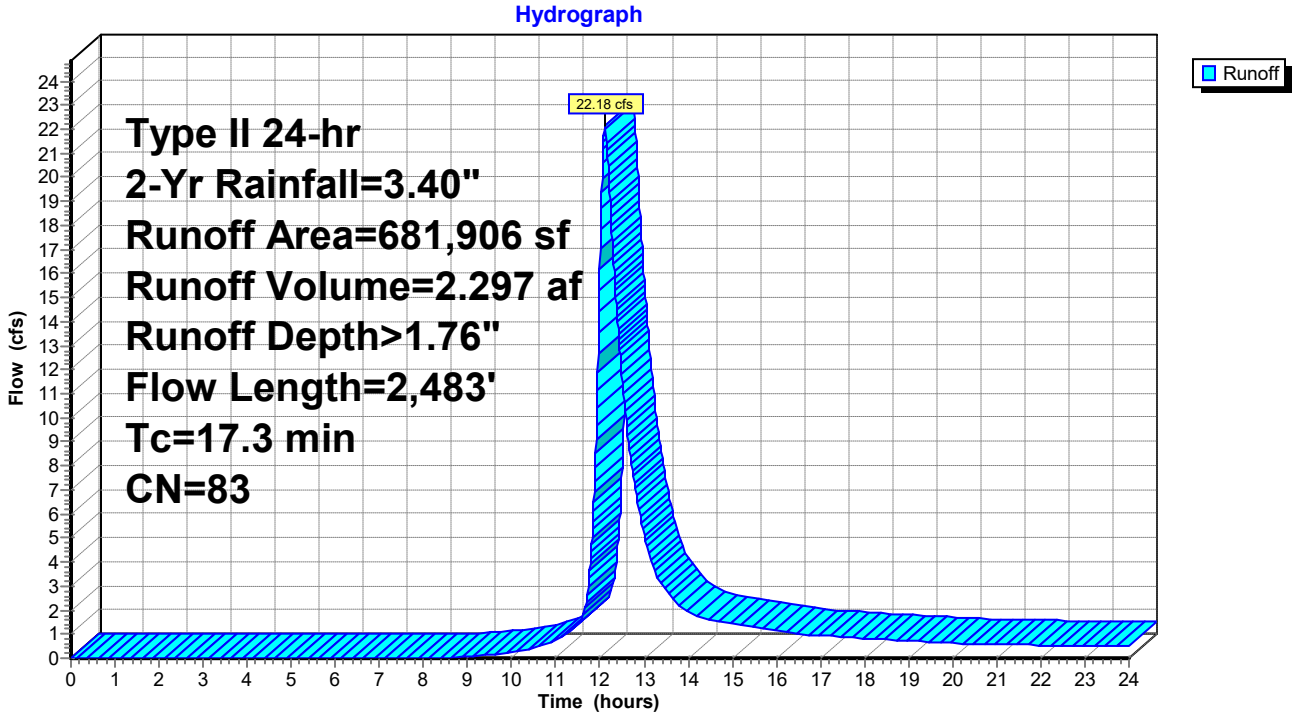
Runoff = 22.18 cfs @ 12.11 hrs, Volume= 2.297 af, Depth> 1.76"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
241,979	98	Paved parking, HSG C
439,927	74	>75% Grass cover, Good, HSG C
681,906	83	Weighted Average
439,927		64.51% Pervious Area
241,979		35.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	69	0.0200	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.4	29	0.0208	1.12		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.40"
9.8	2,385	0.0020	4.05	19.87	**Pipe Channel, C-D** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012
17.3	2,483	Total			

Subcatchment 10: DA #2A

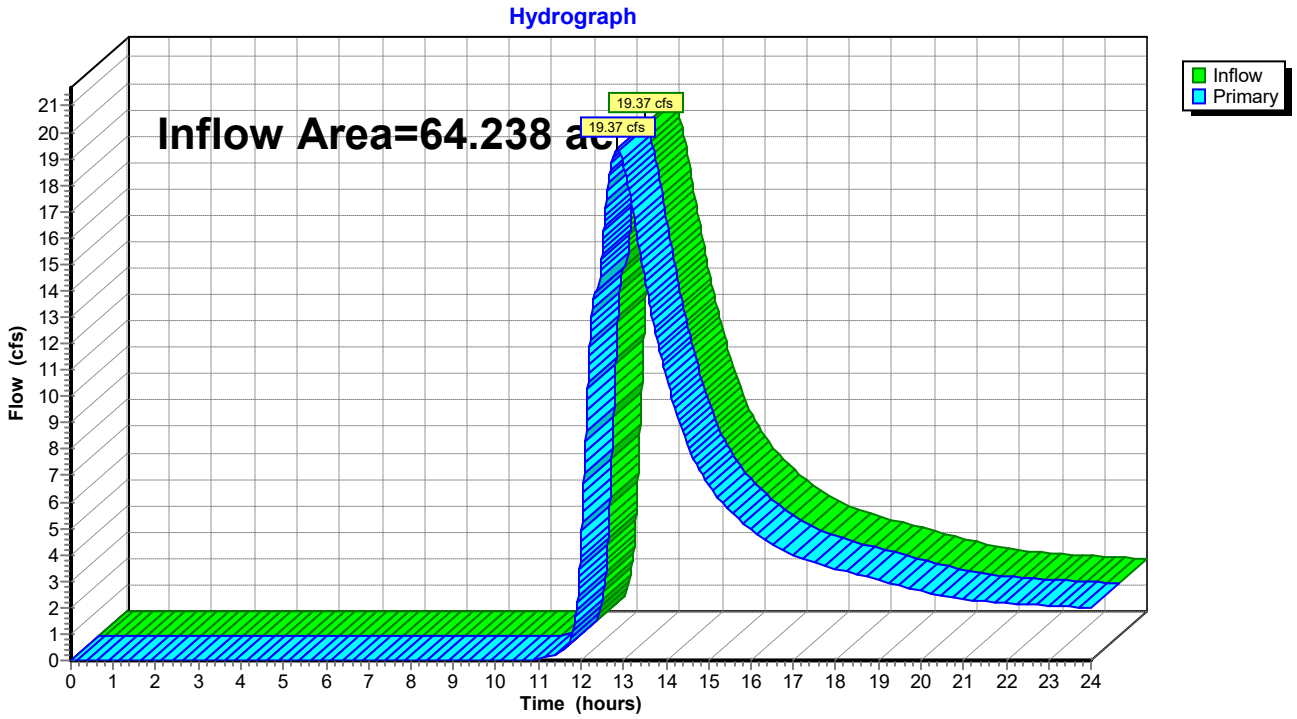


Summary for Link 11: POI-1 (POST)

Inflow Area = 64.238 ac, 24.41% Impervious, Inflow Depth > 1.04" for 2-Yr event
Inflow = 19.37 cfs @ 12.84 hrs, Volume= 5.573 af
Primary = 19.37 cfs @ 12.84 hrs, Volume= 5.573 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 11: POI-1 (POST)



Summary for Pond 12: SGW #1

Inflow Area = 38.726 ac, 38.43% Impervious, Inflow Depth > 1.82" for 2-Yr event
Inflow = 64.03 cfs @ 12.08 hrs, Volume= 5.866 af
Outflow = 9.88 cfs @ 13.03 hrs, Volume= 3.006 af, Atten= 85%, Lag= 57.3 min
Primary = 9.88 cfs @ 13.03 hrs, Volume= 3.006 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 19.12' @ 13.03 hrs Surf.Area= 121,262 sf Storage= 144,029 cf

Plug-Flow detention time= 257.8 min calculated for 3.006 af (51% of inflow)
Center-of-Mass det. time= 139.9 min (972.8 - 832.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.90'	497,834 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

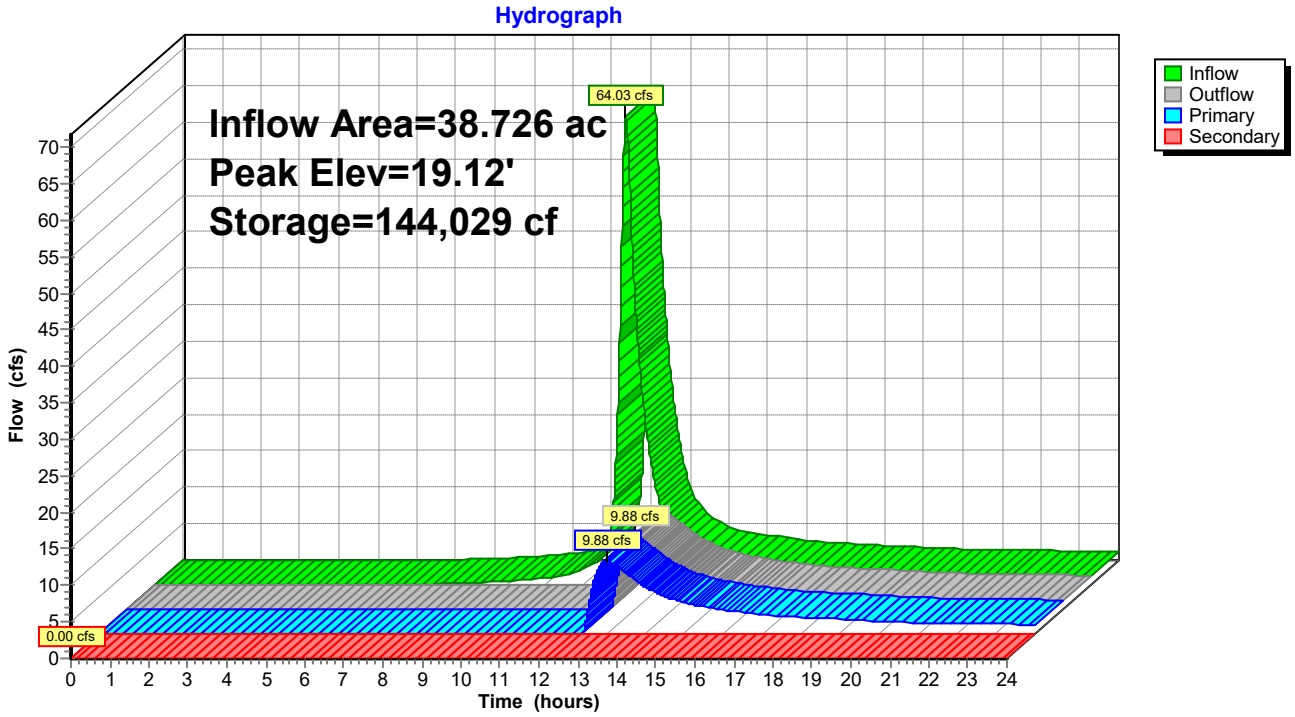
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
17.90	115,549	1,565.0	0	0	115,549
20.90	129,888	1,621.5	367,946	367,946	130,652
21.90	129,888	1,621.5	129,888	497,834	132,274

Device	Routing	Invert	Outlet Devices
#1	Primary	17.57'	**12.0" Round Culvert X 4.00** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 17.57' / 17.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	18.90'	**30.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	20.40'	**80.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.88 cfs @ 13.03 hrs HW=19.12' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 9.88 cfs of 13.90 cfs potential flow)
  └─**2=Sharp-Crested Rectangular Weir** (Weir Controls 9.88 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=17.90' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 12: SGW #1


Hydrograph
Inflow Area=38.726 ac
Peak Elev=19.12'
Storage=144,029 cf
64.03 cfs
9.88 cfs
9.88 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Reach 13: S Swale

Inflow Area = 6.884 ac, 0.00% Impervious, Inflow Depth > 1.17" for 2-Yr event
Inflow = 12.50 cfs @ 11.97 hrs, Volume= 0.670 af
Outflow = 8.85 cfs @ 12.05 hrs, Volume= 0.661 af, Atten= 29%, Lag= 4.3 min

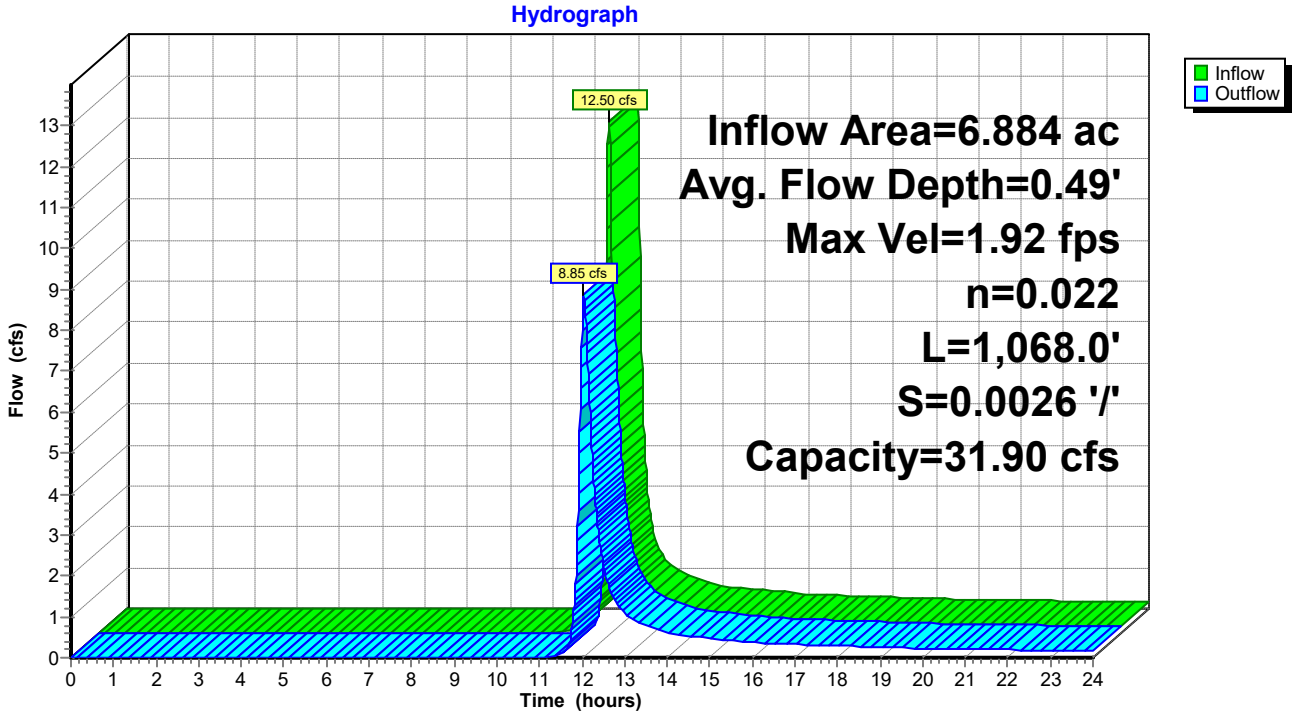
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.92 fps, Min. Travel Time= 9.2 min
Avg. Velocity = 0.61 fps, Avg. Travel Time= 29.3 min

Peak Storage= 4,911 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.00' Flow Area= 11.0 sf, Capacity= 31.90 cfs

8.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,068.0' Slope= 0.0026 '/'
Inlet Invert= 22.70', Outlet Invert= 19.90'

‡

Reach 13: S Swale



Summary for Subcatchment 14: DA #3

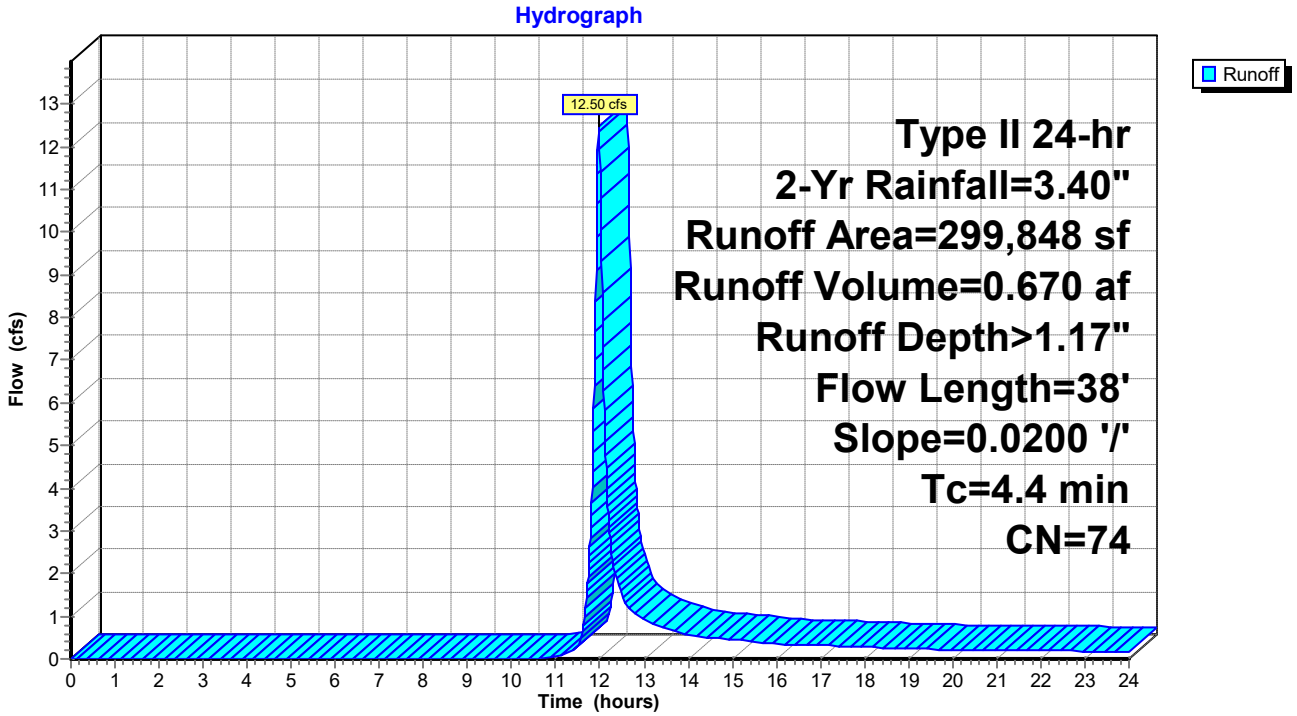
Runoff = 12.50 cfs @ 11.97 hrs, Volume= 0.670 af, Depth> 1.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
299,848	74	>75% Grass cover, Good, HSG C
299,848		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	38	0.0200	0.14		**Sheet Flow, Yard** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 14: DA #3



Summary for Pond 15: I-4

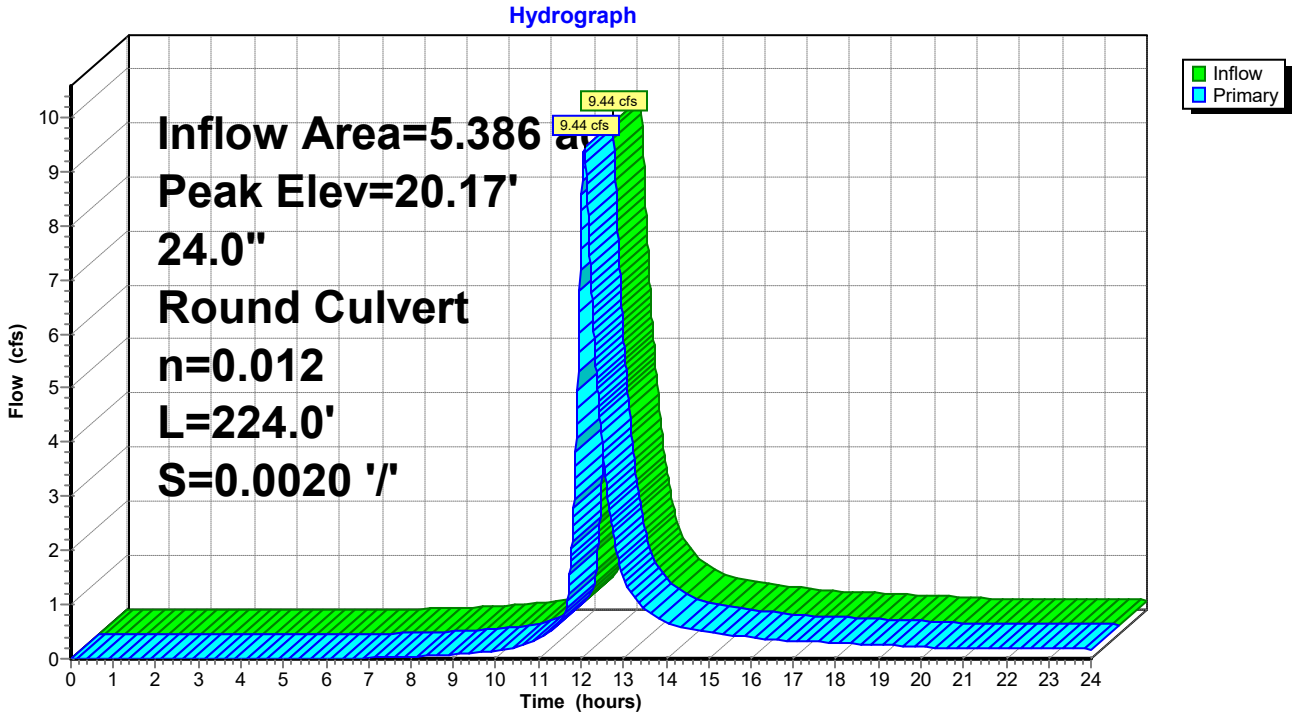
Inflow Area = 5.386 ac, 45.63% Impervious, Inflow Depth > 1.94" for 2-Yr event
Inflow = 9.44 cfs @ 12.08 hrs, Volume= 0.873 af
Outflow = 9.44 cfs @ 12.08 hrs, Volume= 0.873 af, Atten= 0%, Lag= 0.0 min
Primary = 9.44 cfs @ 12.08 hrs, Volume= 0.873 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.17' @ 12.08 hrs
Flood Elev= 25.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.35'	**24.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 18.35' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=9.44 cfs @ 12.08 hrs HW=20.17' TW=18.44' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 9.44 cfs @ 4.13 fps)

Pond 15: I-4



Summary for Subcatchment 16: DA #4

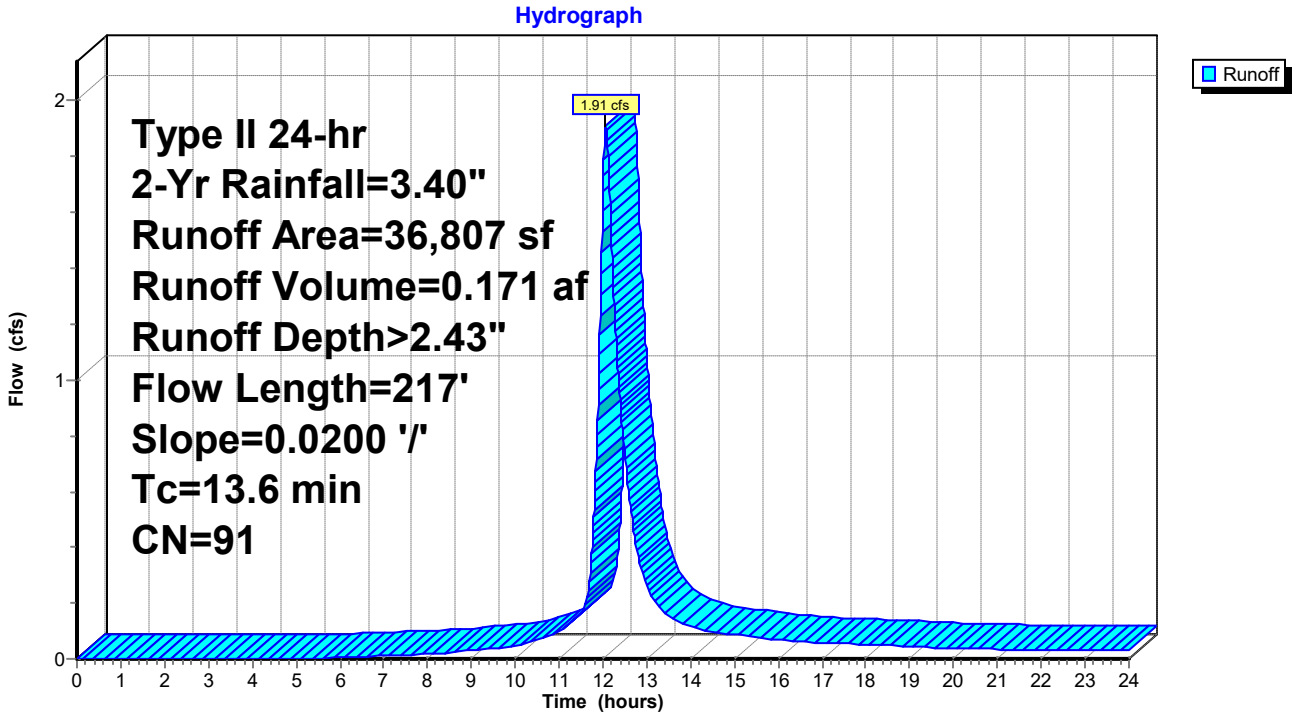
Runoff = 1.91 cfs @ 12.06 hrs, Volume= 0.171 af, Depth> 2.43"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
25,762	98	Paved parking, HSG C
11,045	74	>75% Grass cover, Good, HSG C
36,807	91	Weighted Average
11,045		30.01% Pervious Area
25,762		69.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	67	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	217	Total			

Subcatchment 16: DA #4



Summary for Pond 17: I-5

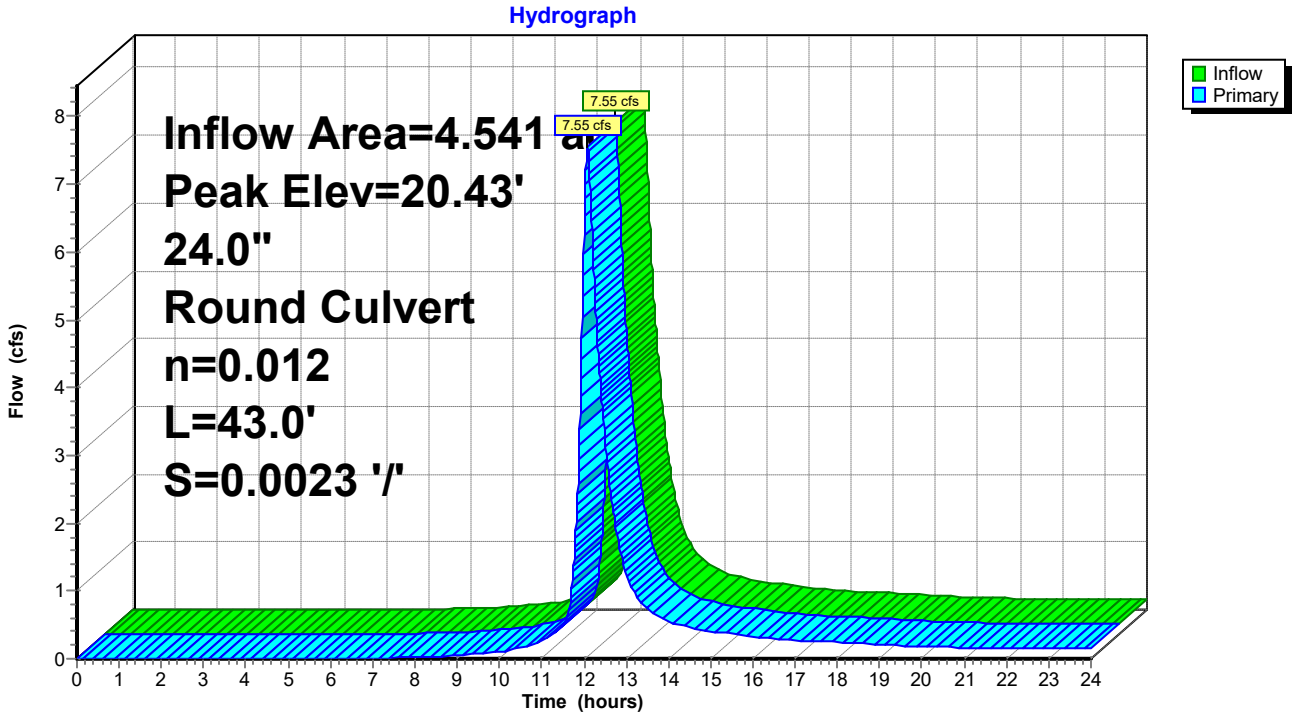
Inflow Area = 4.541 ac, 41.09% Impervious, Inflow Depth > 1.85" for 2-Yr event
Inflow = 7.55 cfs @ 12.08 hrs, Volume= 0.701 af
Outflow = 7.55 cfs @ 12.08 hrs, Volume= 0.701 af, Atten= 0%, Lag= 0.0 min
Primary = 7.55 cfs @ 12.08 hrs, Volume= 0.701 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.43' @ 12.09 hrs
Flood Elev= 26.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.45'	**24.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 18.45' / 18.35' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=7.49 cfs @ 12.08 hrs HW=20.43' TW=20.17' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 7.49 cfs @ 2.99 fps)

Pond 17: I-5



Summary for Subcatchment 18: DA #5

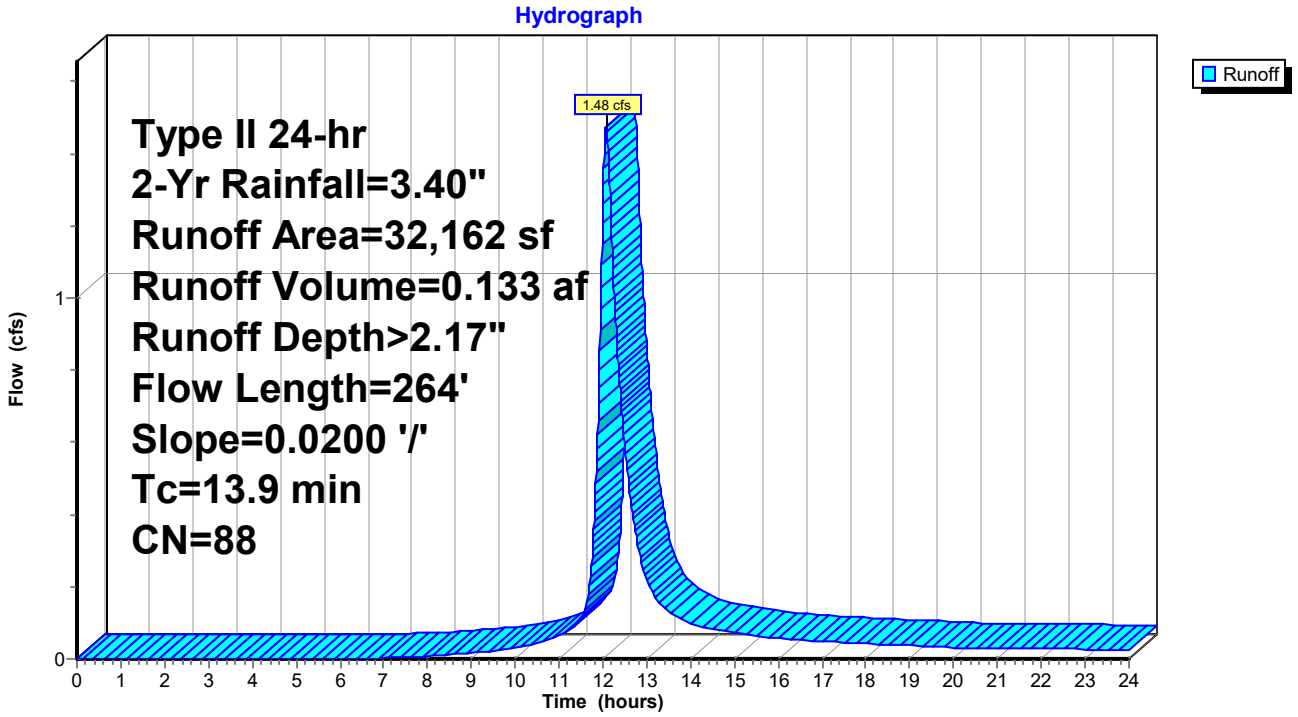
Runoff = 1.48 cfs @ 12.08 hrs, Volume= 0.133 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
18,768	98	Paved parking, HSG C
13,394	74	>75% Grass cover, Good, HSG C
32,162	88	Weighted Average
13,394		41.65% Pervious Area
18,768		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	114	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	264	Total			

Subcatchment 18: DA #5



Summary for Pond 19: I-6

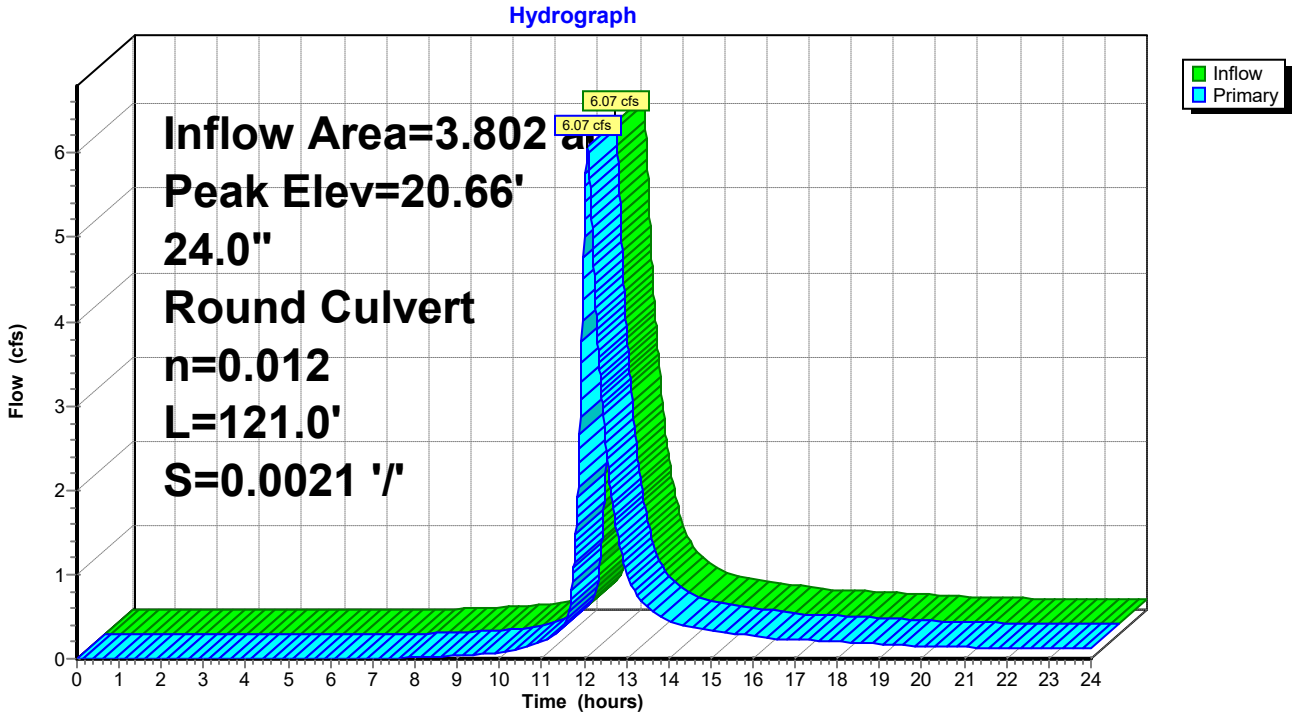
Inflow Area = 3.802 ac, 37.74% Impervious, Inflow Depth > 1.79" for 2-Yr event
Inflow = 6.07 cfs @ 12.08 hrs, Volume= 0.568 af
Outflow = 6.07 cfs @ 12.08 hrs, Volume= 0.568 af, Atten= 0%, Lag= 0.0 min
Primary = 6.07 cfs @ 12.08 hrs, Volume= 0.568 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.66' @ 12.09 hrs
Flood Elev= 27.27'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=5.96 cfs @ 12.08 hrs HW=20.66' TW=20.43' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 5.96 cfs @ 2.41 fps)

Pond 19: I-6



Summary for Subcatchment 20: DA #6

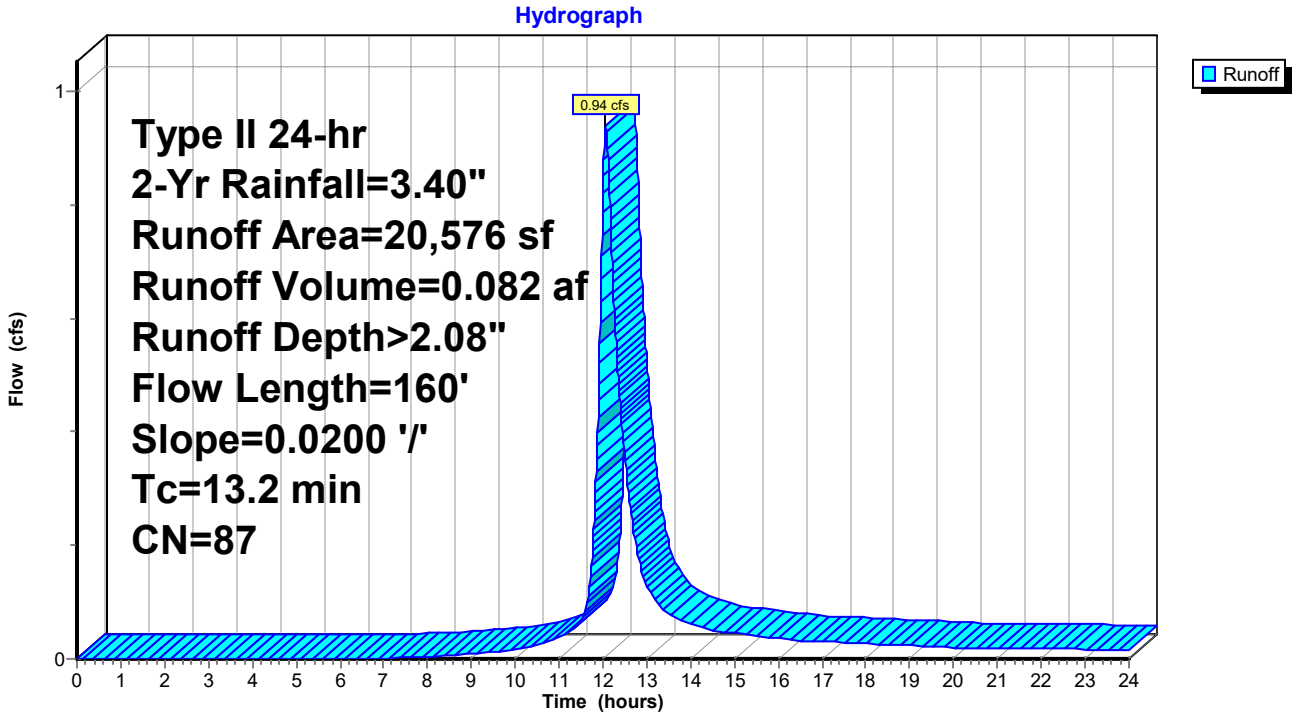
Runoff = 0.94 cfs @ 12.06 hrs, Volume= 0.082 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
10,975	98	Paved parking, HSG C
9,601	74	>75% Grass cover, Good, HSG C
20,576	87	Weighted Average
9,601		46.66% Pervious Area
10,975		53.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 20: DA #6



Summary for Pond 21: I-7

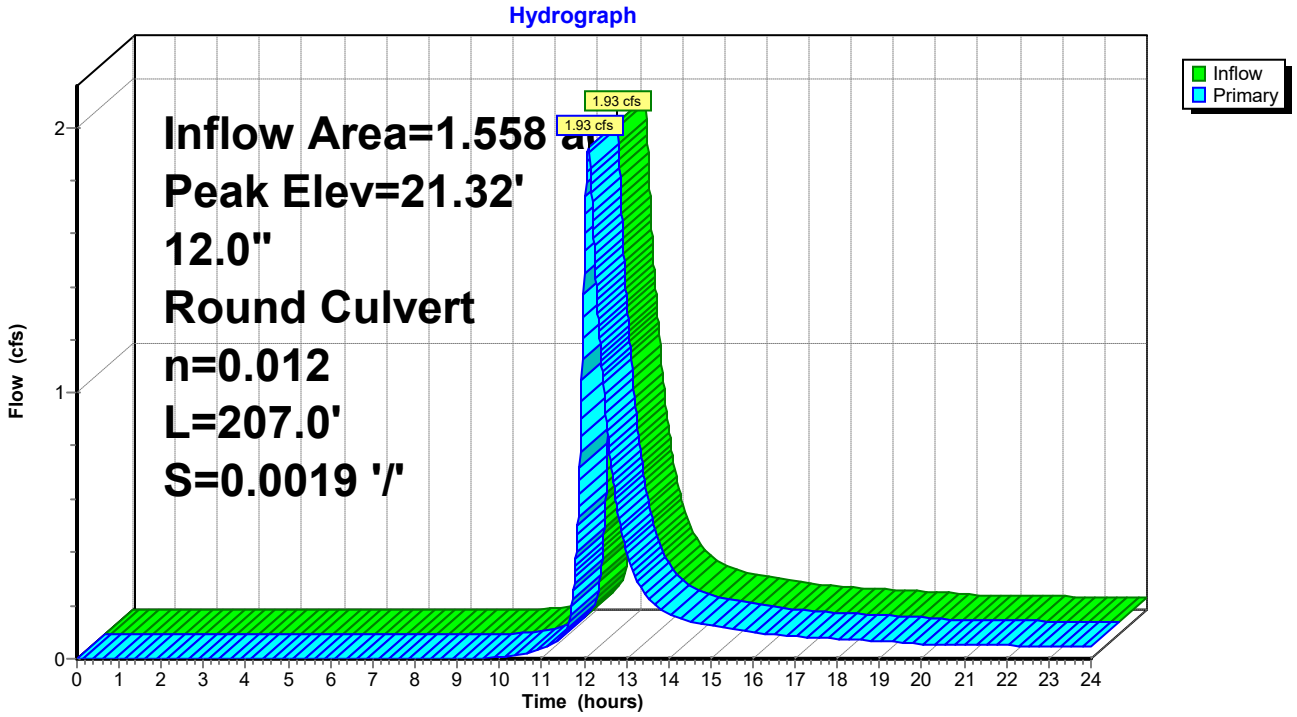
Inflow Area = 1.558 ac, 20.84% Impervious, Inflow Depth > 1.48" for 2-Yr event
Inflow = 1.93 cfs @ 12.11 hrs, Volume= 0.192 af
Outflow = 1.93 cfs @ 12.11 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min
Primary = 1.93 cfs @ 12.11 hrs, Volume= 0.192 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.32' @ 12.11 hrs
Flood Elev= 27.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**12.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.93 cfs @ 12.11 hrs HW=21.32' TW=20.65' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.93 cfs @ 2.46 fps)

Pond 21: I-7



Summary for Subcatchment 22: DA #7

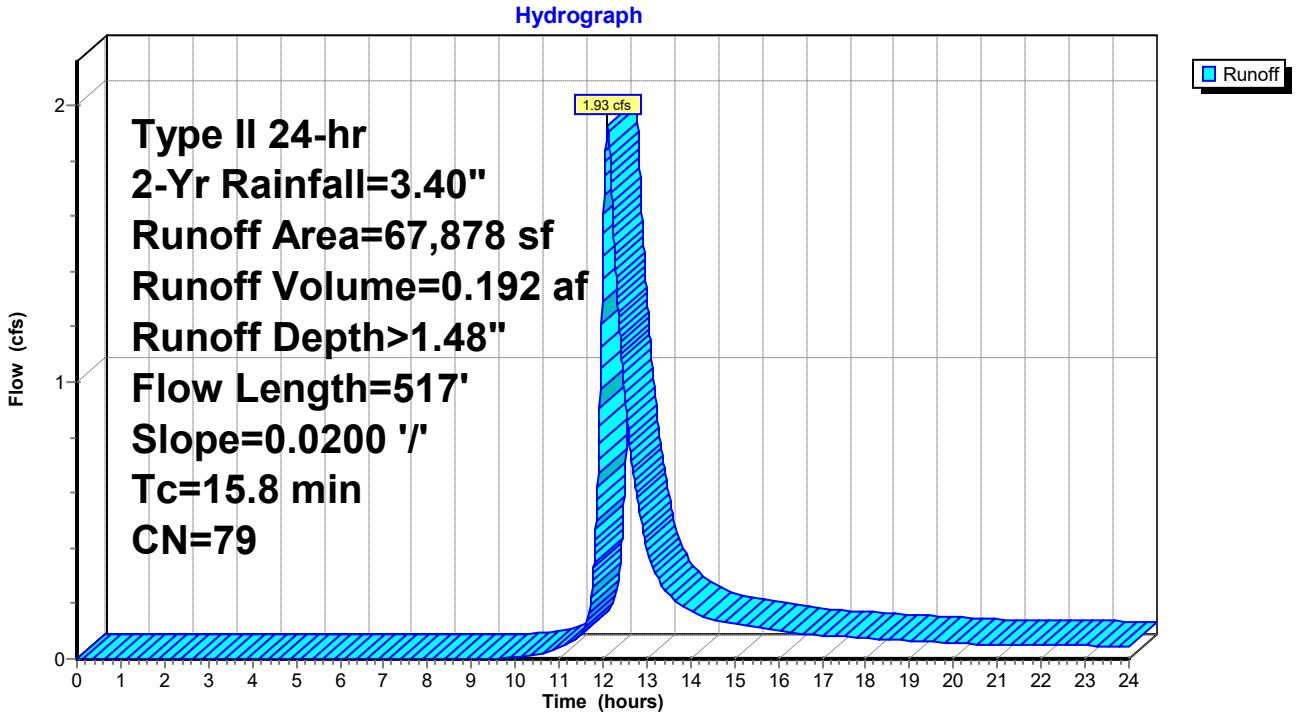
Runoff = 1.93 cfs @ 12.11 hrs, Volume= 0.192 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
14,145	98	Paved parking, HSG C
53,733	74	>75% Grass cover, Good, HSG C
67,878	79	Weighted Average
53,733		79.16% Pervious Area
14,145		20.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.7	367	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.8	517	Total			

Subcatchment 22: DA #7



Summary for Pond 23: I-8

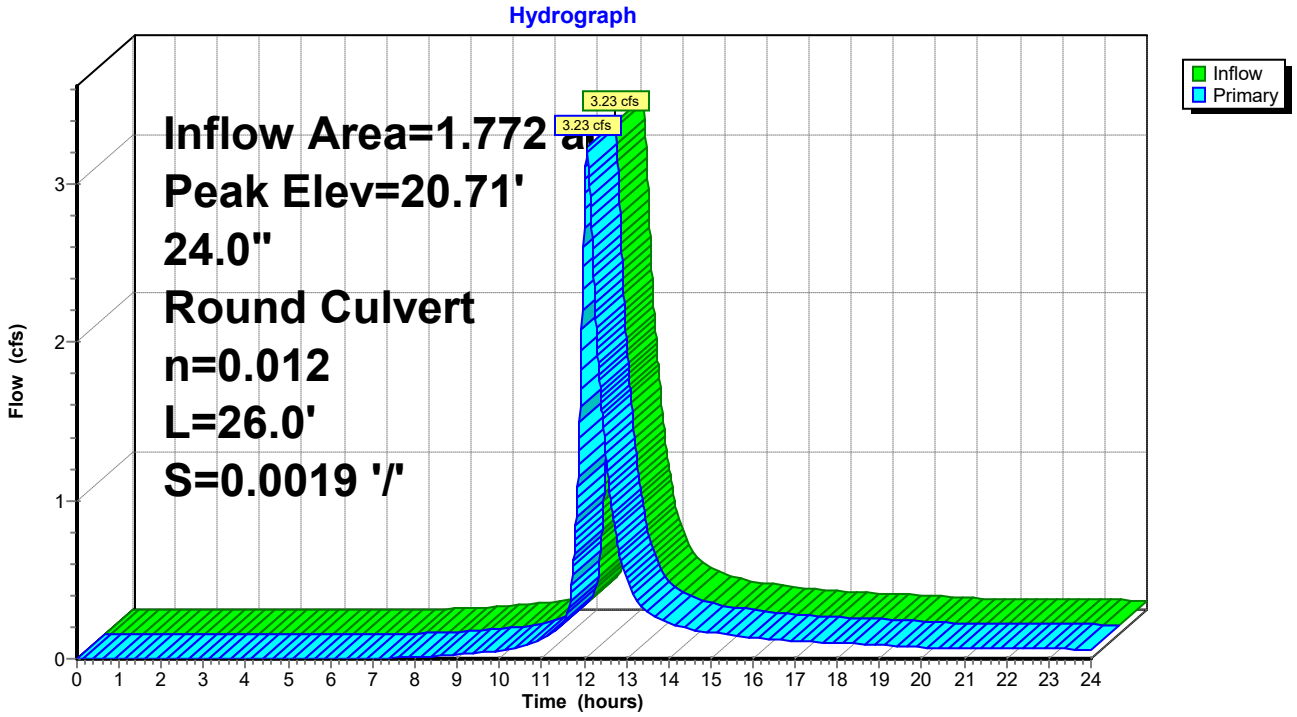
Inflow Area = 1.772 ac, 48.45% Impervious, Inflow Depth > 1.99" for 2-Yr event
Inflow = 3.23 cfs @ 12.08 hrs, Volume= 0.294 af
Outflow = 3.23 cfs @ 12.08 hrs, Volume= 0.294 af, Atten= 0%, Lag= 0.0 min
Primary = 3.23 cfs @ 12.08 hrs, Volume= 0.294 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.71' @ 12.10 hrs
Flood Elev= 27.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**24.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.63 cfs @ 12.08 hrs HW=20.68' TW=20.65' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.63 cfs @ 1.08 fps)

Pond 23: I-8



Summary for Subcatchment 24: DA #8

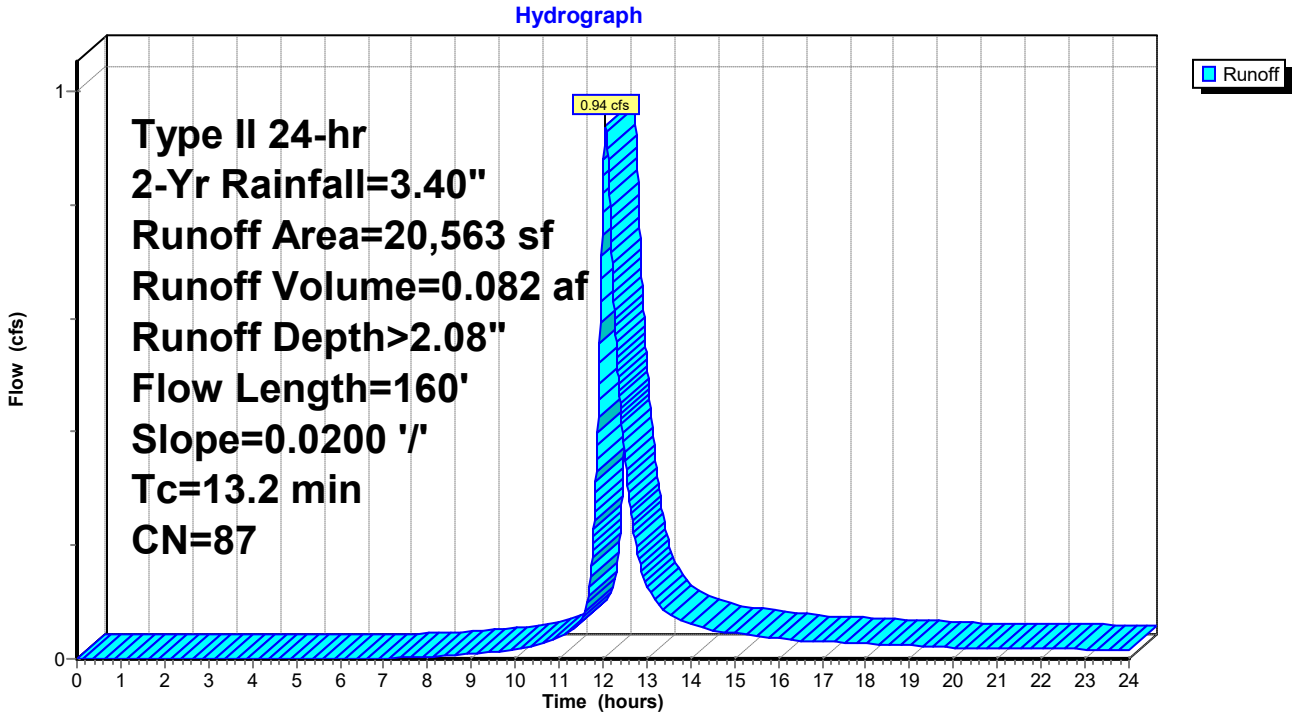
Runoff = 0.94 cfs @ 12.06 hrs, Volume= 0.082 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
11,019	98	Paved parking, HSG C
9,544	74	>75% Grass cover, Good, HSG C
20,563	87	Weighted Average
9,544		46.41% Pervious Area
11,019		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 24: DA #8



Summary for Pond 25: I-9

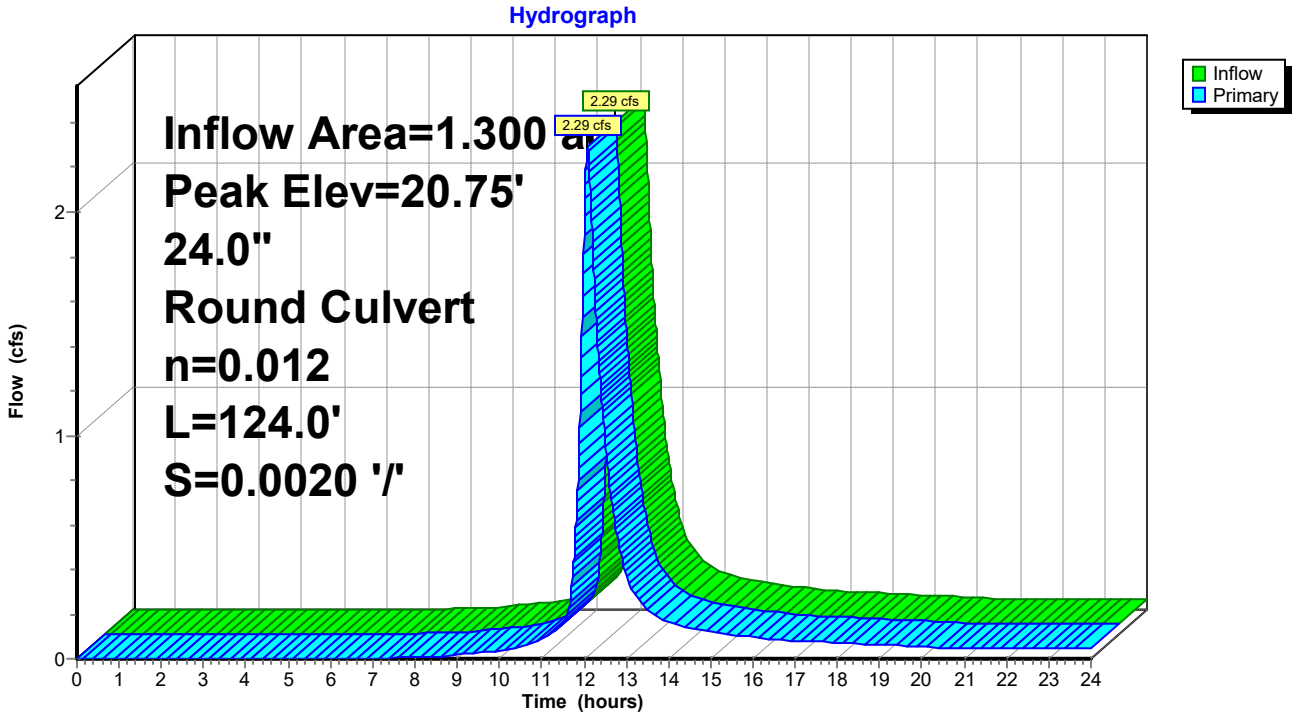
Inflow Area = 1.300 ac, 46.59% Impervious, Inflow Depth > 1.96" for 2-Yr event
Inflow = 2.29 cfs @ 12.08 hrs, Volume= 0.212 af
Outflow = 2.29 cfs @ 12.08 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min
Primary = 2.29 cfs @ 12.08 hrs, Volume= 0.212 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.75' @ 12.11 hrs
Flood Elev= 27.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	**24.0" Round Culvert** L= 124.0' Ke= 0.500 Inlet / Outlet Invert= 19.00' / 18.75' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.71 cfs @ 12.08 hrs HW=20.71' TW=20.69' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.71 cfs @ 0.80 fps)

Pond 25: I-9



Summary for Subcatchment 26: DA #9

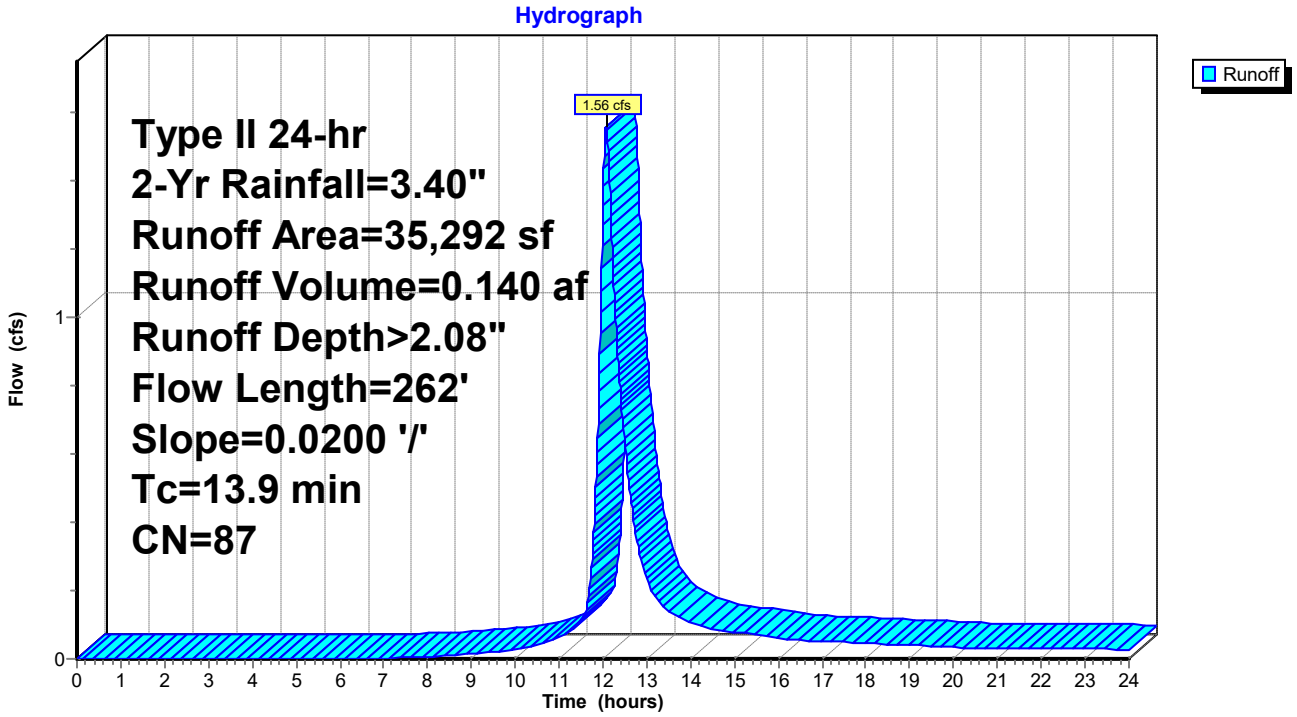
Runoff = 1.56 cfs @ 12.08 hrs, Volume= 0.140 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
18,751	98	Paved parking, HSG C
16,541	74	>75% Grass cover, Good, HSG C
35,292	87	Weighted Average
16,541		46.87% Pervious Area
18,751		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	112	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	262	Total			

Subcatchment 26: DA #9



Summary for Pond 27: I-10

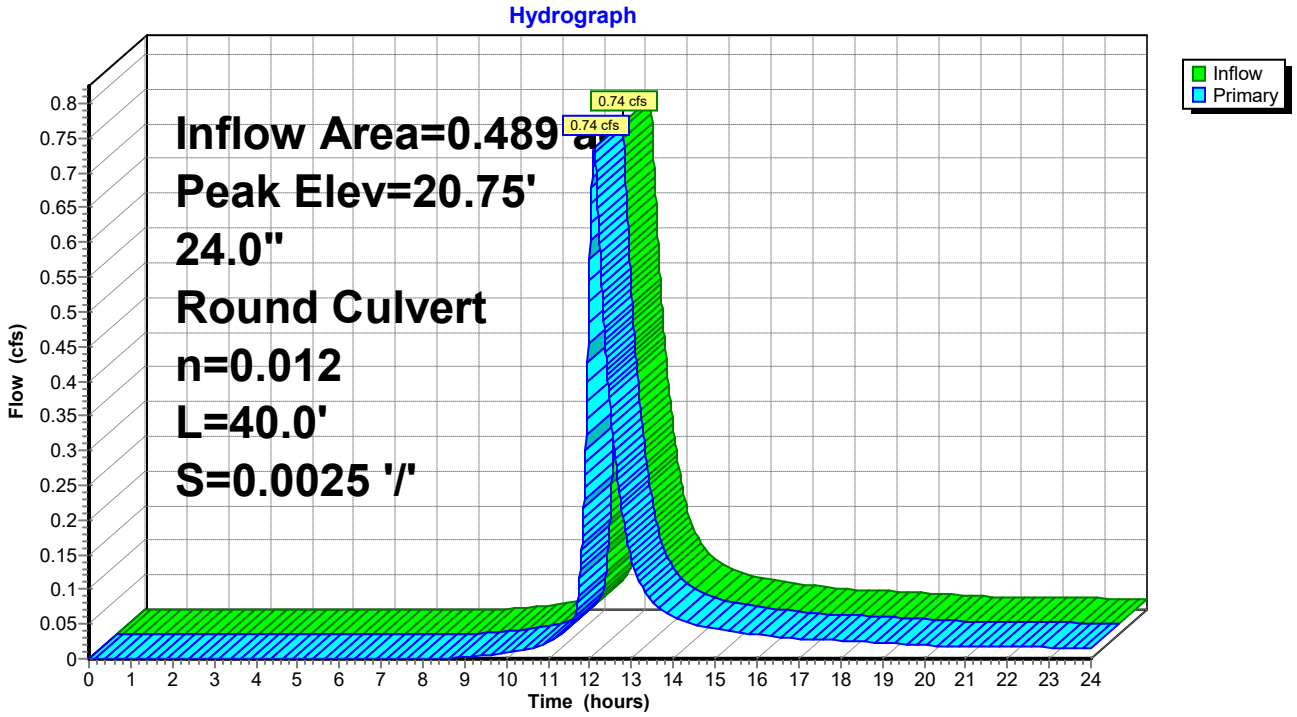
Inflow Area = 0.489 ac, 35.75% Impervious, Inflow Depth > 1.76" for 2-Yr event
Inflow = 0.74 cfs @ 12.10 hrs, Volume= 0.072 af
Outflow = 0.74 cfs @ 12.10 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.10 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.75' @ 12.12 hrs
Flood Elev= 27.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**24.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 19.00' S= 0.0025 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=20.74' TW=20.75' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 27: I-10



Summary for Subcatchment 28: DA #10

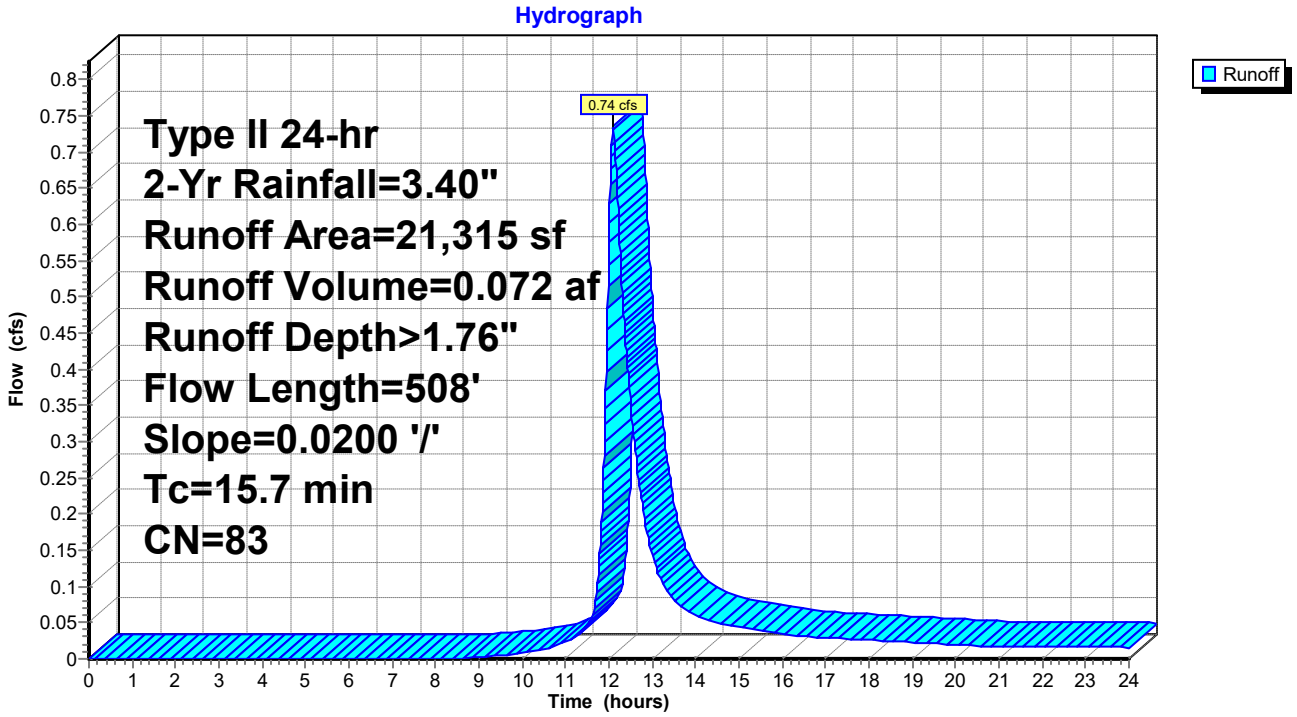
Runoff = 0.74 cfs @ 12.10 hrs, Volume= 0.072 af, Depth> 1.76"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
7,621	98	Paved parking, HSG C
13,694	74	>75% Grass cover, Good, HSG C
21,315	83	Weighted Average
13,694		64.25% Pervious Area
7,621		35.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	358	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	508	Total			

Subcatchment 28: DA #10



Summary for Pond 29: I-11

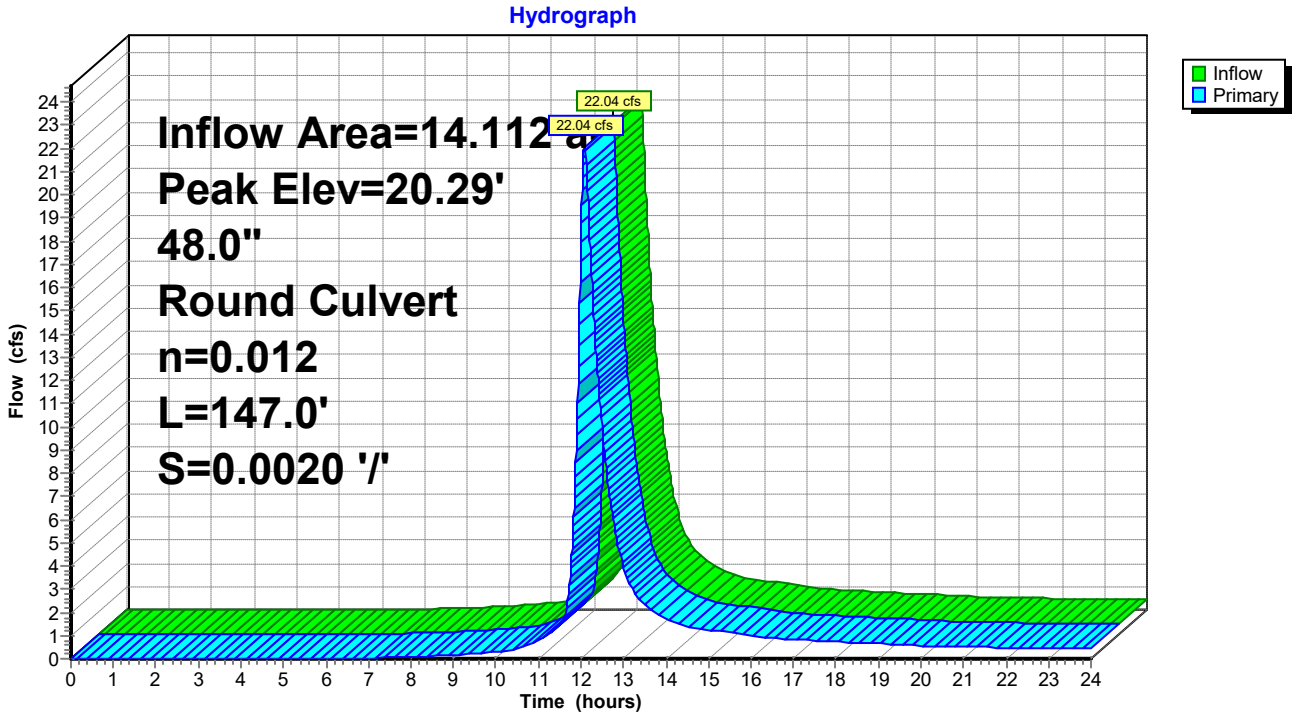
Inflow Area = 14.112 ac, 37.41% Impervious, Inflow Depth > 1.80" for 2-Yr event
Inflow = 22.04 cfs @ 12.09 hrs, Volume= 2.114 af
Outflow = 22.04 cfs @ 12.09 hrs, Volume= 2.114 af, Atten= 0%, Lag= 0.0 min
Primary = 22.04 cfs @ 12.09 hrs, Volume= 2.114 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.29' @ 12.09 hrs
Flood Elev= 22.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 147.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=22.03 cfs @ 12.09 hrs HW=20.29' TW=18.45' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 22.03 cfs @ 4.82 fps)

Pond 29: I-11



Summary for Subcatchment 30: DA #11

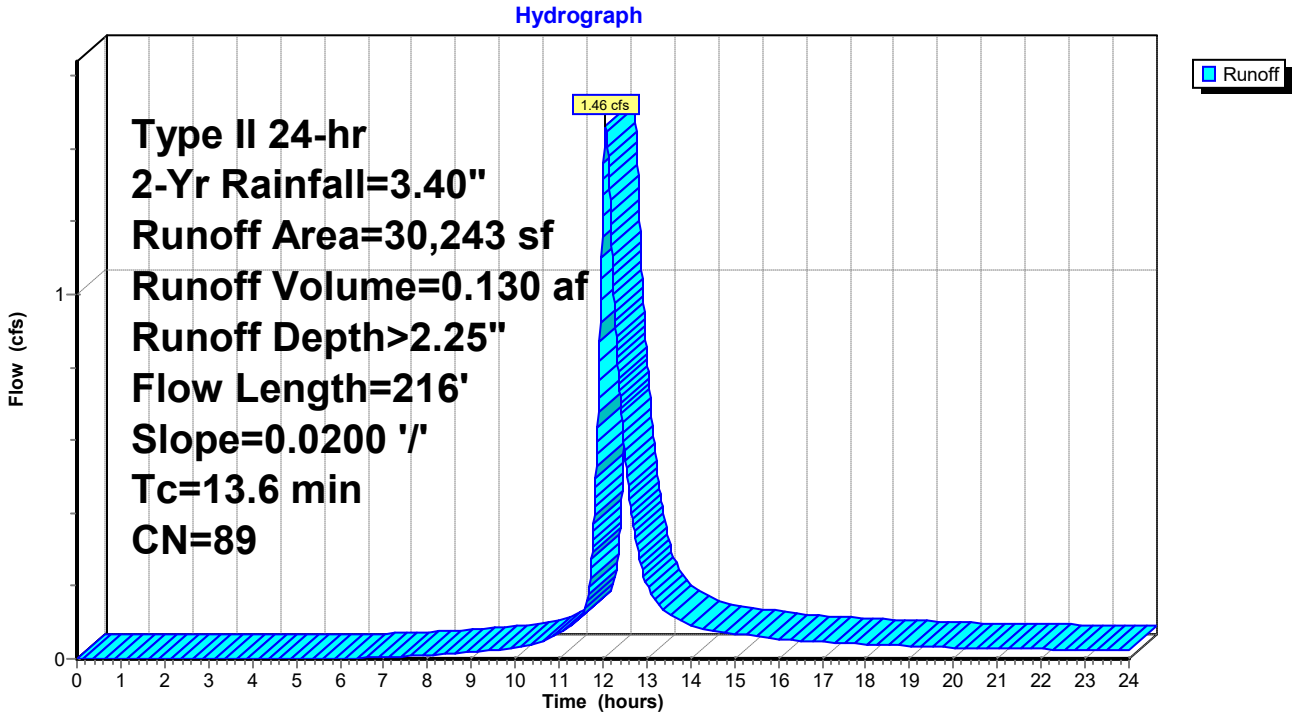
Runoff = 1.46 cfs @ 12.06 hrs, Volume= 0.130 af, Depth> 2.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
19,297	98	Paved parking, HSG C
10,946	74	>75% Grass cover, Good, HSG C
30,243	89	Weighted Average
10,946		36.19% Pervious Area
19,297		63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	66	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	216	Total			

Subcatchment 30: DA #11



Summary for Pond 31: I-12

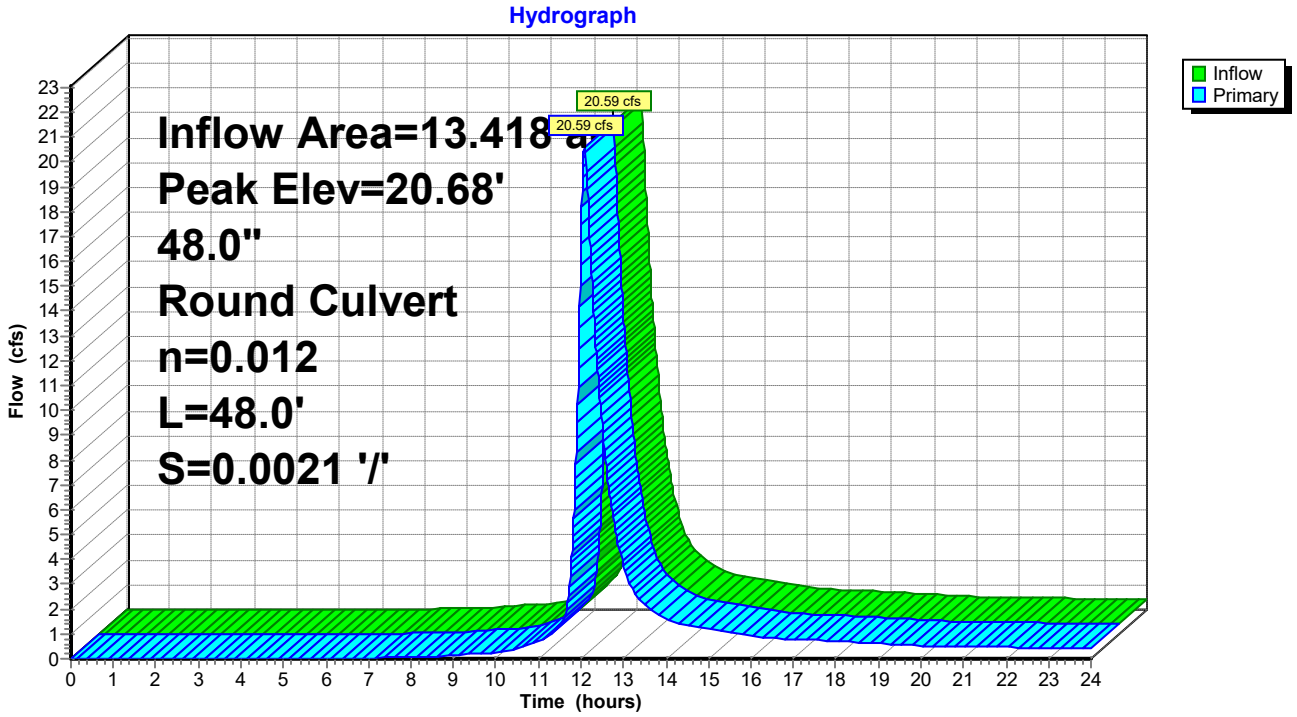
Inflow Area = 13.418 ac, 36.04% Impervious, Inflow Depth > 1.77" for 2-Yr event
Inflow = 20.59 cfs @ 12.09 hrs, Volume= 1.984 af
Outflow = 20.59 cfs @ 12.09 hrs, Volume= 1.984 af, Atten= 0%, Lag= 0.0 min
Primary = 20.59 cfs @ 12.09 hrs, Volume= 1.984 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.68' @ 12.09 hrs
Flood Elev= 22.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=20.52 cfs @ 12.09 hrs HW=20.68' TW=20.29' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 20.52 cfs @ 3.79 fps)

Pond 31: I-12



Summary for Subcatchment 32: DA #12

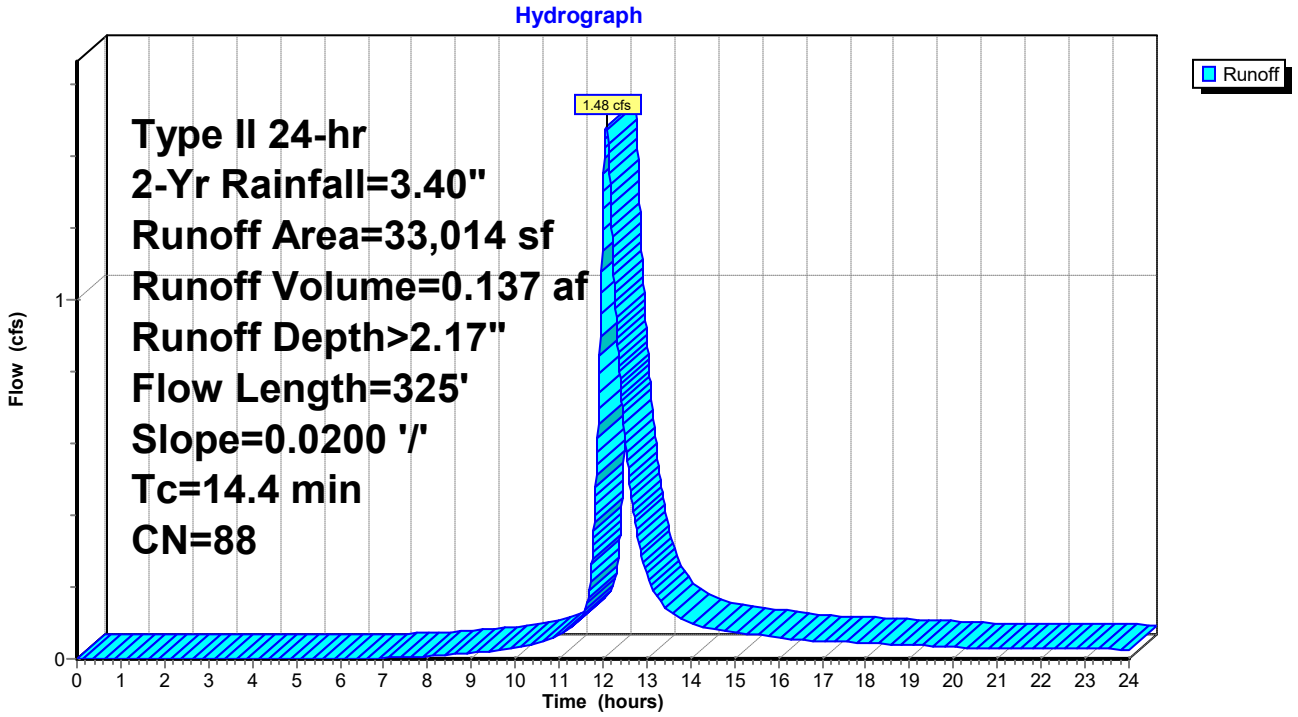
Runoff = 1.48 cfs @ 12.07 hrs, Volume= 0.137 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
19,182	98	Paved parking, HSG C
13,832	74	>75% Grass cover, Good, HSG C
33,014	88	Weighted Average
13,832		41.90% Pervious Area
19,182		58.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.3	175	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.4	325	Total			

Subcatchment 32: DA #12



Summary for Pond 33: I-13

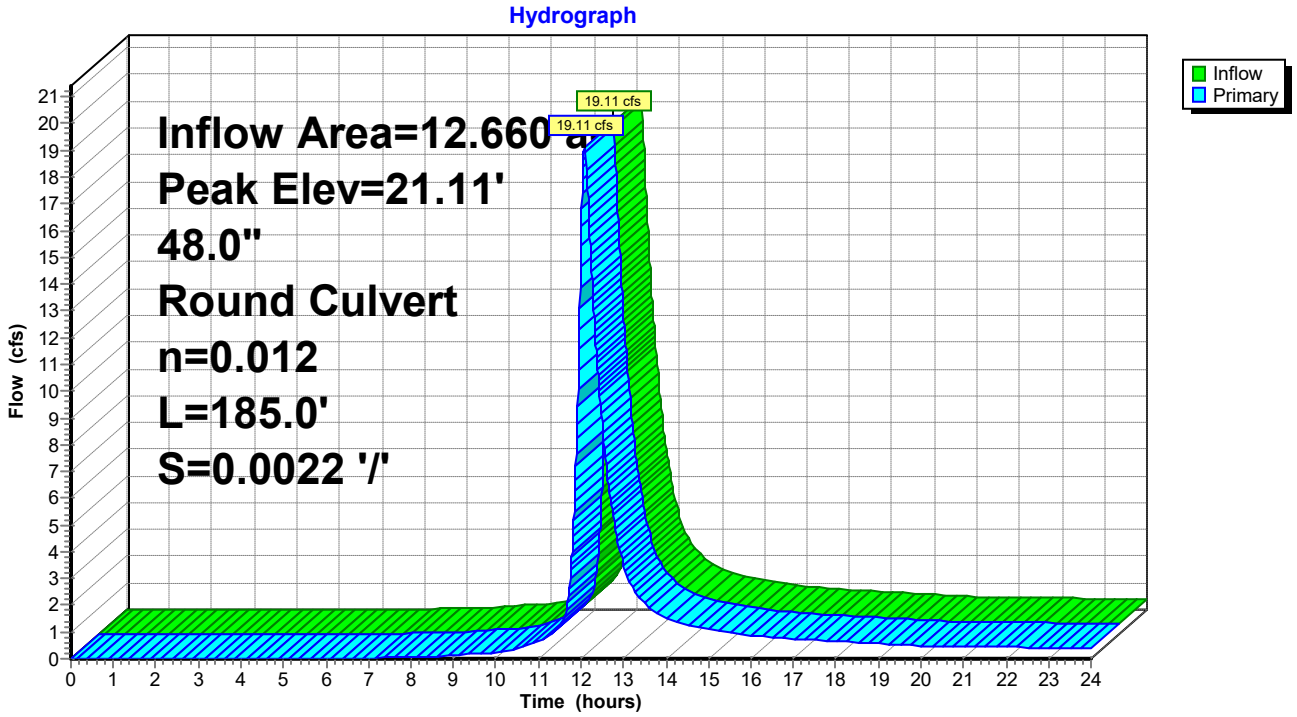
Inflow Area = 12.660 ac, 34.72% Impervious, Inflow Depth > 1.75" for 2-Yr event
Inflow = 19.11 cfs @ 12.09 hrs, Volume= 1.847 af
Outflow = 19.11 cfs @ 12.09 hrs, Volume= 1.847 af, Atten= 0%, Lag= 0.0 min
Primary = 19.11 cfs @ 12.09 hrs, Volume= 1.847 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.11' @ 12.10 hrs
Flood Elev= 23.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**48.0" Round Culvert** L= 185.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=18.95 cfs @ 12.09 hrs HW=21.11' TW=20.68' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 18.95 cfs @ 3.44 fps)

Pond 33: I-13



Summary for Subcatchment 34: DA #13

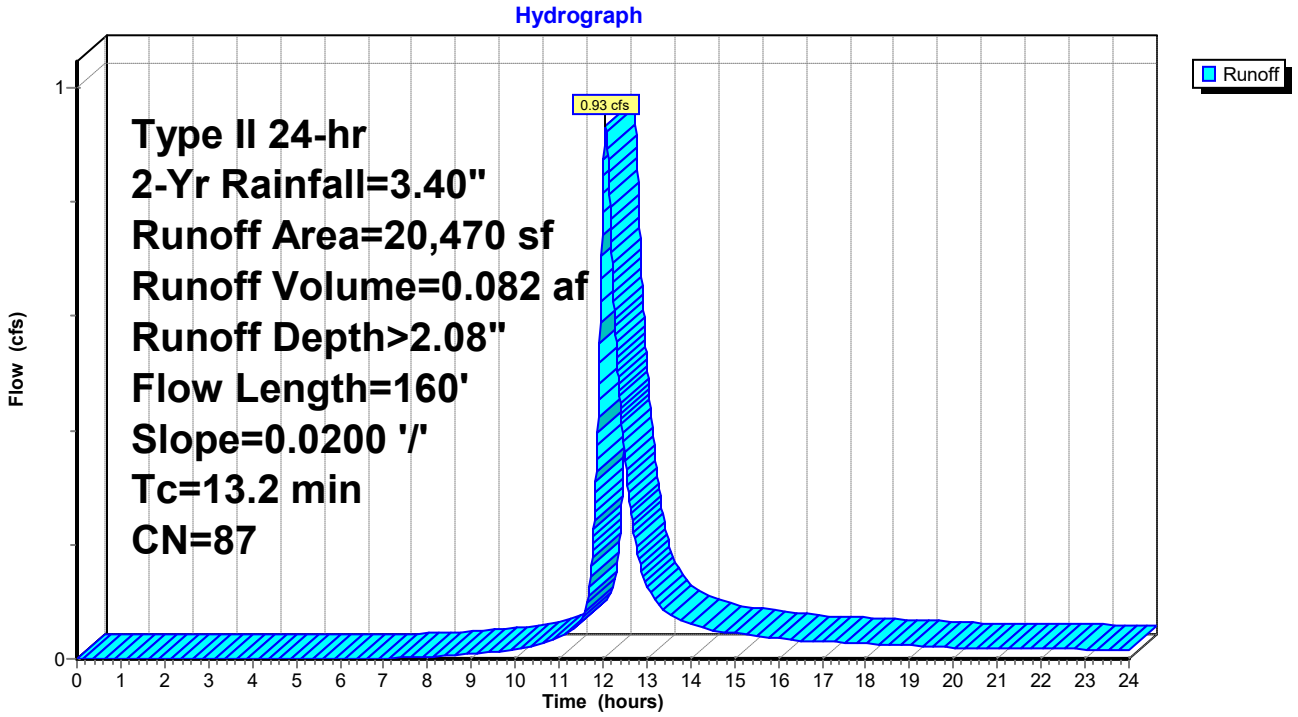
Runoff = 0.93 cfs @ 12.06 hrs, Volume= 0.082 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
10,970	98	Paved parking, HSG C
9,500	74	>75% Grass cover, Good, HSG C
20,470	87	Weighted Average
9,500		46.41% Pervious Area
10,970		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 34: DA #13



Summary for Pond 35: I-14

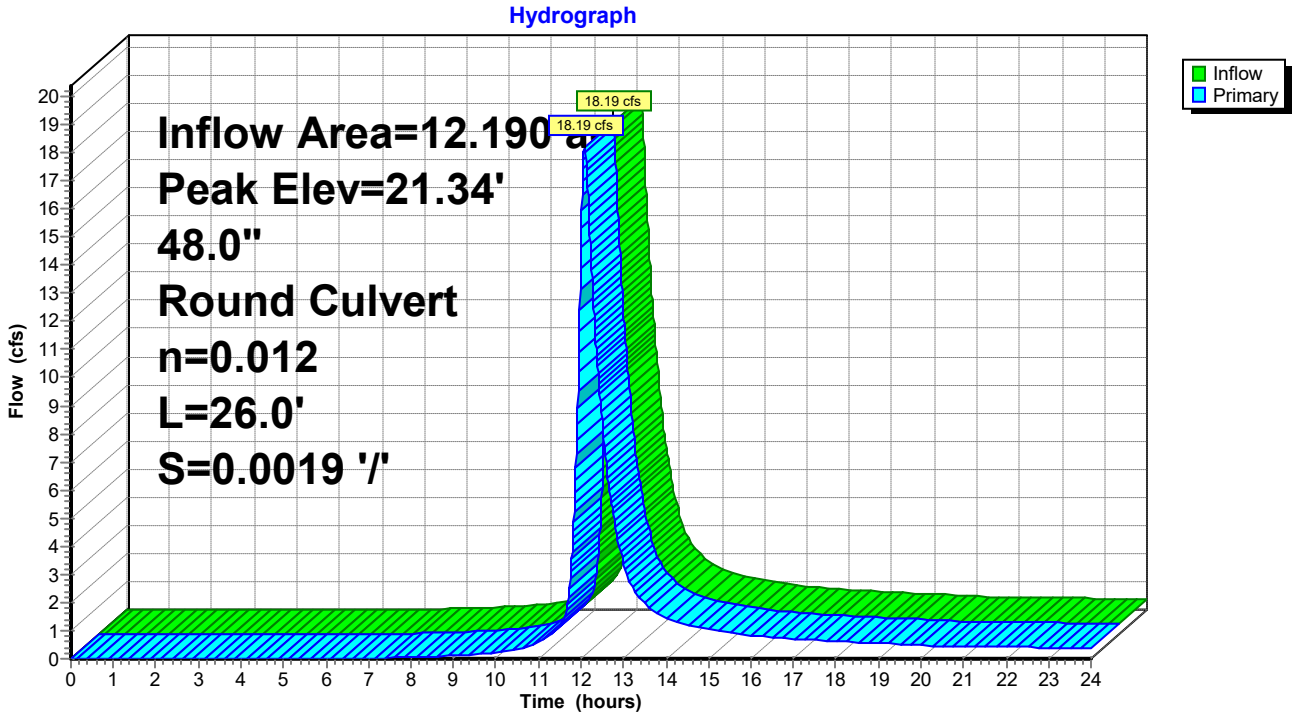
Inflow Area = 12.190 ac, 34.00% Impervious, Inflow Depth > 1.74" for 2-Yr event
Inflow = 18.19 cfs @ 12.09 hrs, Volume= 1.766 af
Outflow = 18.19 cfs @ 12.09 hrs, Volume= 1.766 af, Atten= 0%, Lag= 0.0 min
Primary = 18.19 cfs @ 12.09 hrs, Volume= 1.766 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.34' @ 12.11 hrs
Flood Elev= 23.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**48.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=17.80 cfs @ 12.09 hrs HW=21.33' TW=21.11' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 17.80 cfs @ 2.96 fps)

Pond 35: I-14



Summary for Subcatchment 36: DA #14

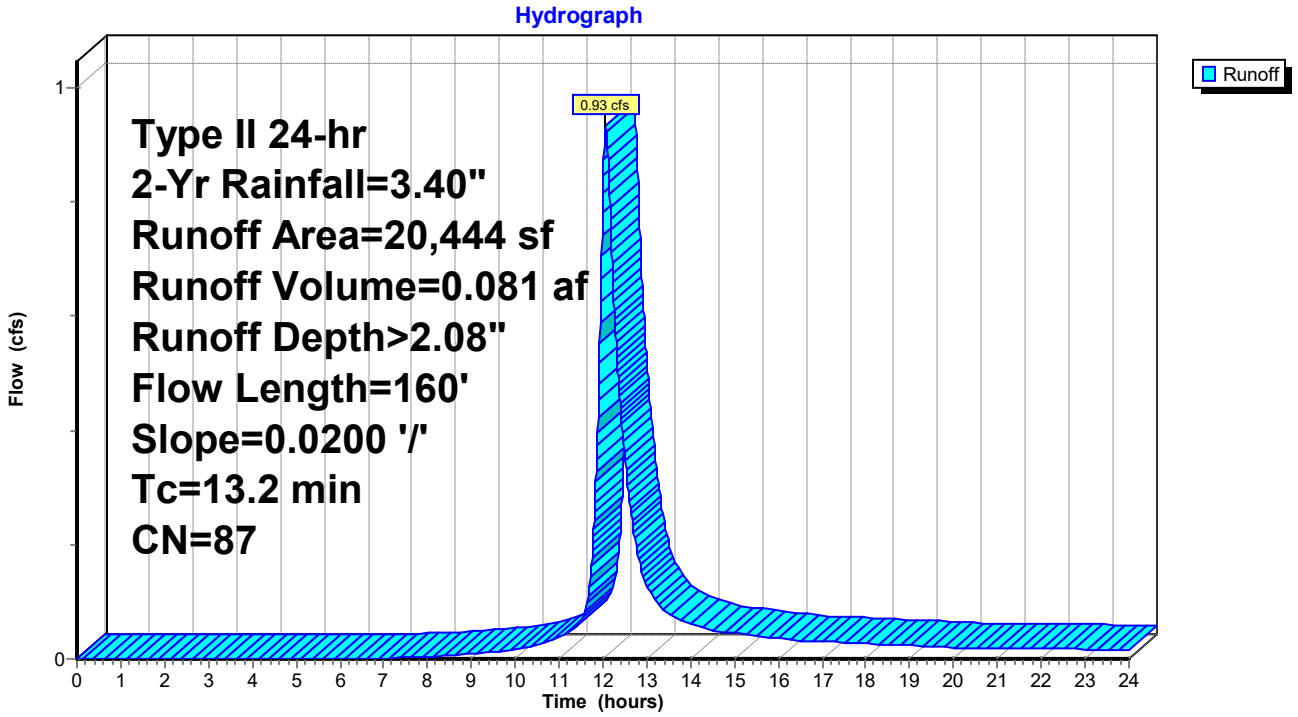
Runoff = 0.93 cfs @ 12.06 hrs, Volume= 0.081 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
10,959	98	Paved parking, HSG C
9,485	74	>75% Grass cover, Good, HSG C
20,444	87	Weighted Average
9,485		46.40% Pervious Area
10,959		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 36: DA #14



Summary for Pond 37: I-15

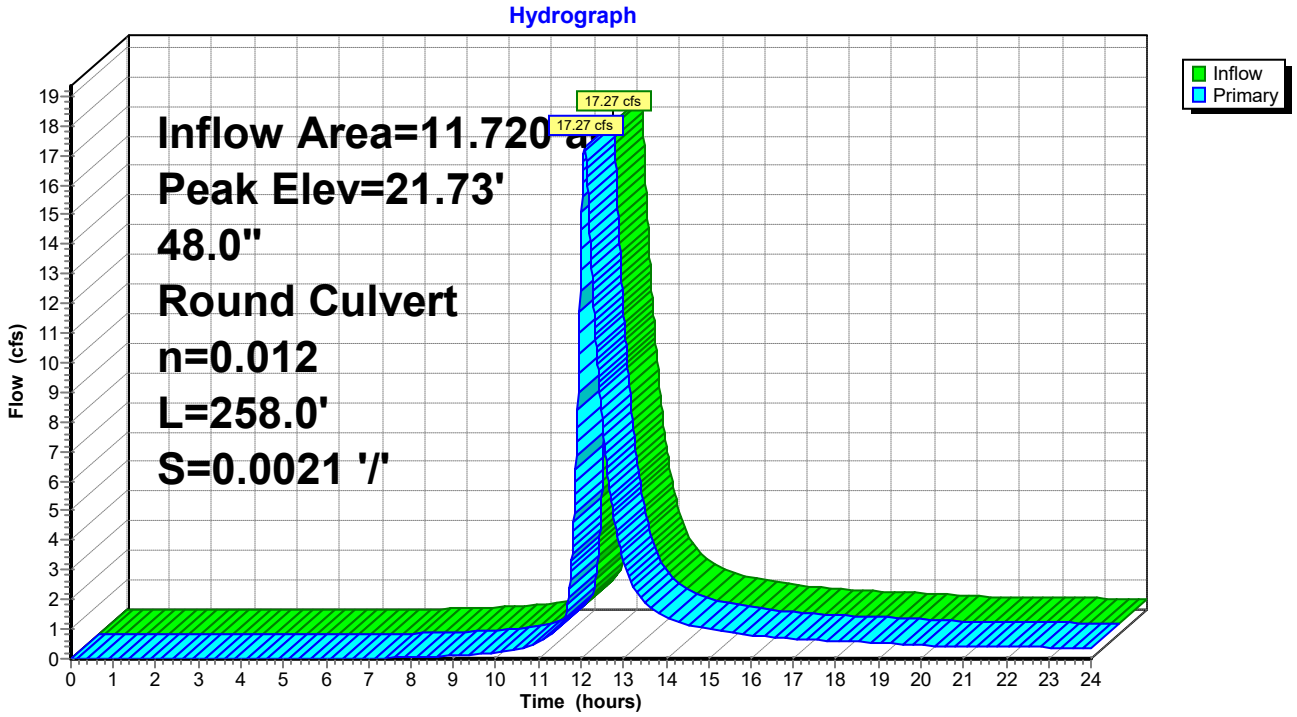
Inflow Area = 11.720 ac, 33.21% Impervious, Inflow Depth > 1.72" for 2-Yr event
Inflow = 17.27 cfs @ 12.09 hrs, Volume= 1.684 af
Outflow = 17.27 cfs @ 12.09 hrs, Volume= 1.684 af, Atten= 0%, Lag= 0.0 min
Primary = 17.27 cfs @ 12.09 hrs, Volume= 1.684 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.73' @ 12.11 hrs
Flood Elev= 23.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.30'	**48.0" Round Culvert** L= 258.0' Ke= 0.500 Inlet / Outlet Invert= 19.30' / 18.75' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=16.97 cfs @ 12.09 hrs HW=21.72' TW=21.33' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 16.97 cfs @ 3.06 fps)

Pond 37: I-15



Summary for Subcatchment 38: DA #15

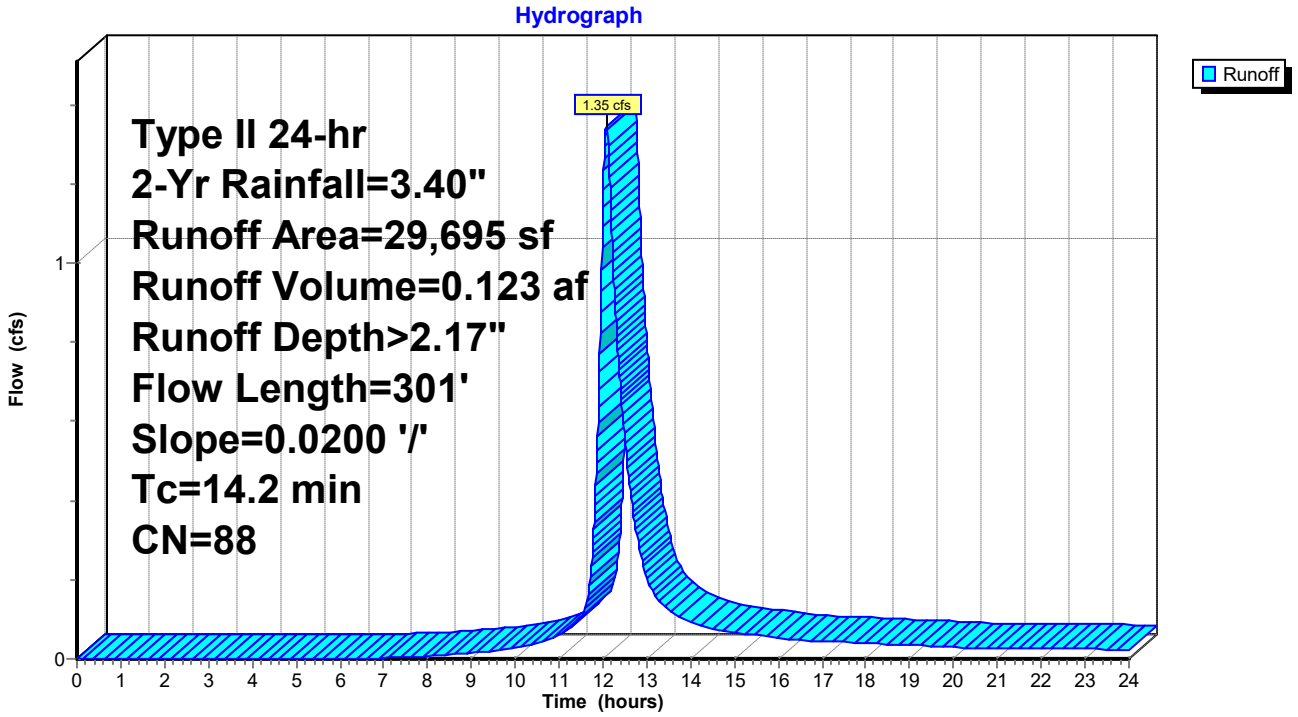
Runoff = 1.35 cfs @ 12.08 hrs, Volume= 0.123 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
17,515	98	Paved parking, HSG C
12,180	74	>75% Grass cover, Good, HSG C
29,695	88	Weighted Average
12,180		41.02% Pervious Area
17,515		58.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	151	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	301	Total			

Subcatchment 38: DA #15



Summary for Pond 39: I-16

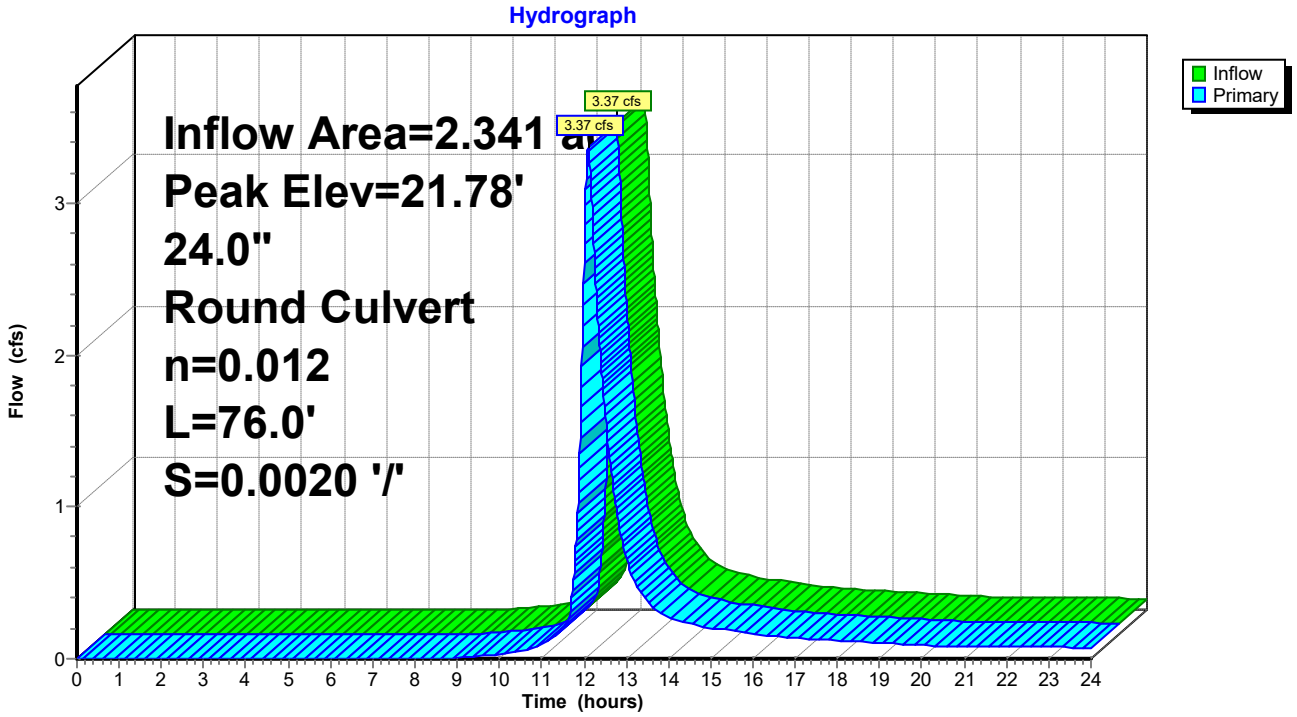
Inflow Area = 2.341 ac, 33.46% Impervious, Inflow Depth > 1.69" for 2-Yr event
Inflow = 3.37 cfs @ 12.10 hrs, Volume= 0.329 af
Outflow = 3.37 cfs @ 12.10 hrs, Volume= 0.329 af, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 12.10 hrs, Volume= 0.329 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.78' @ 12.12 hrs
Flood Elev= 23.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.14 cfs @ 12.10 hrs HW=21.77' TW=21.73' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.14 cfs @ 1.00 fps)

Pond 39: I-16



Summary for Subcatchment 40: DA #16

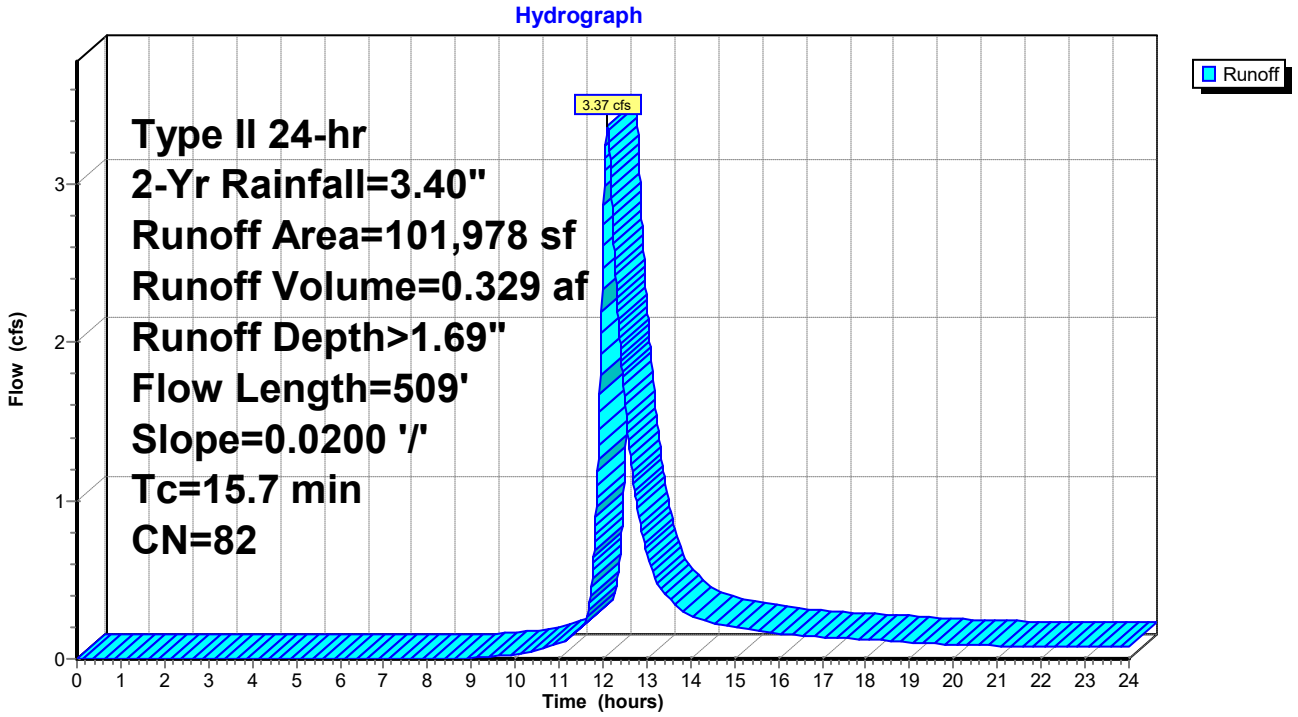
Runoff = 3.37 cfs @ 12.10 hrs, Volume= 0.329 af, Depth> 1.69"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
34,120	98	Paved parking, HSG C
67,858	74	>75% Grass cover, Good, HSG C
101,978	82	Weighted Average
67,858		66.54% Pervious Area
34,120		33.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	359	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	509	Total			

Subcatchment 40: DA #16



Summary for Pond 41: I-17

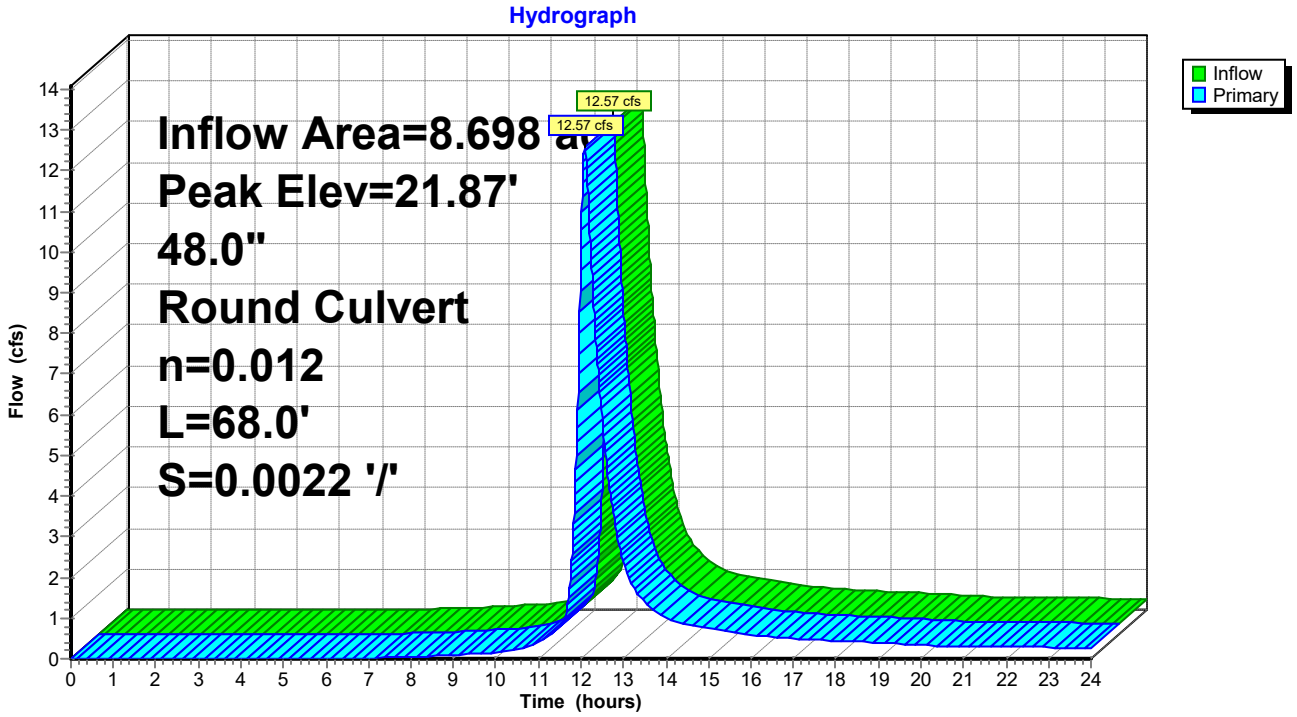
Inflow Area = 8.698 ac, 31.13% Impervious, Inflow Depth > 1.70" for 2-Yr event
Inflow = 12.57 cfs @ 12.09 hrs, Volume= 1.232 af
Outflow = 12.57 cfs @ 12.09 hrs, Volume= 1.232 af, Atten= 0%, Lag= 0.0 min
Primary = 12.57 cfs @ 12.09 hrs, Volume= 1.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.87' @ 12.12 hrs
Flood Elev= 23.12'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**48.0" Round Culvert** L= 68.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=11.86 cfs @ 12.09 hrs HW=21.85' TW=21.72' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 11.86 cfs @ 2.16 fps)

Pond 41: I-17



Summary for Subcatchment 42: DA #17

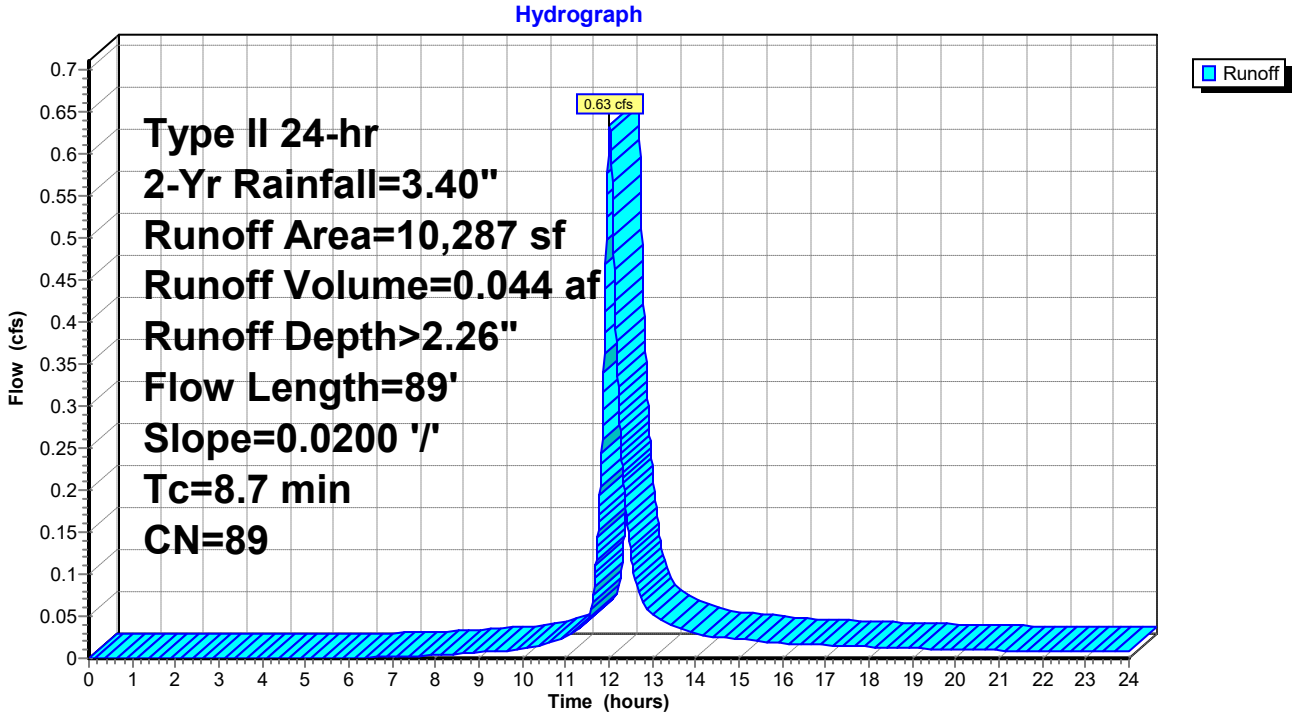
Runoff = 0.63 cfs @ 12.01 hrs, Volume= 0.044 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
6,434	98	Paved parking, HSG C
3,853	74	>75% Grass cover, Good, HSG C
10,287	89	Weighted Average
3,853		37.46% Pervious Area
6,434		62.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	89	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 42: DA #17



Summary for Pond 43: I-18

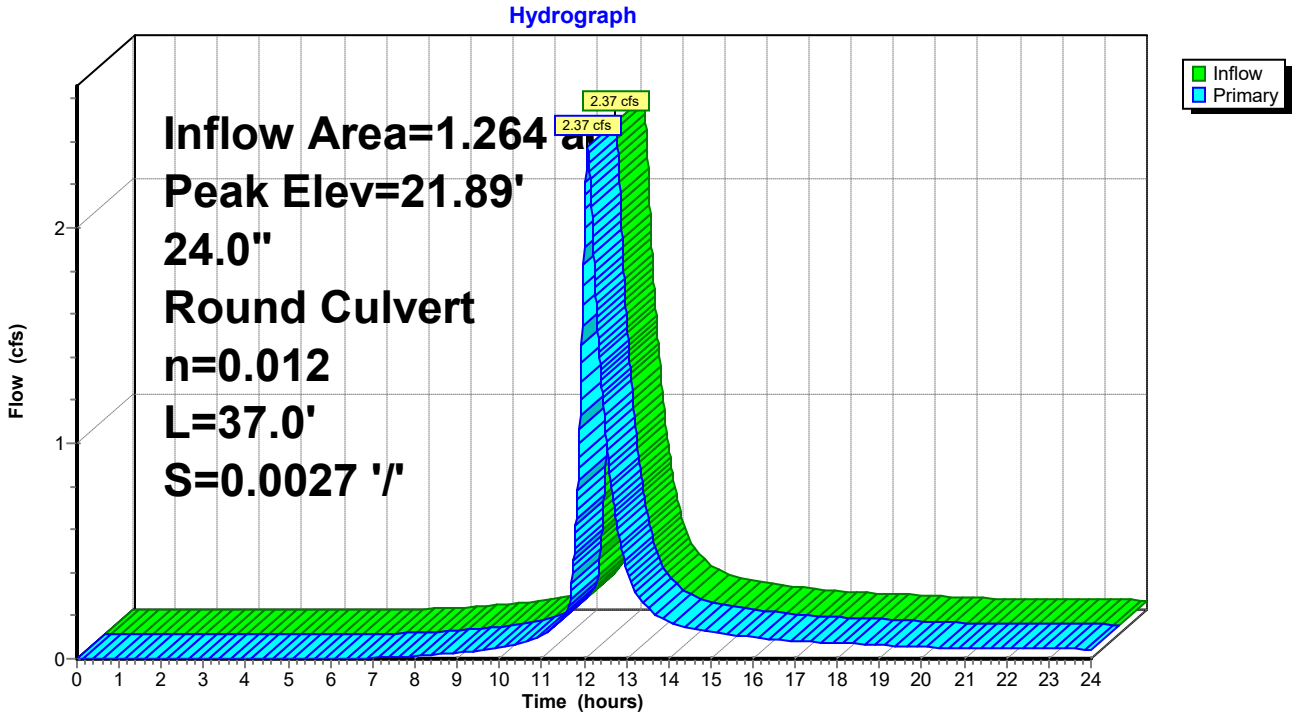
Inflow Area = 1.264 ac, 57.87% Impervious, Inflow Depth > 2.16" for 2-Yr event
Inflow = 2.37 cfs @ 12.09 hrs, Volume= 0.228 af
Outflow = 2.37 cfs @ 12.09 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.0 min
Primary = 2.37 cfs @ 12.09 hrs, Volume= 0.228 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.89' @ 12.12 hrs
Flood Elev= 23.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.55'	**24.0" Round Culvert** L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 19.55' / 19.45' S= 0.0027 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.90 cfs @ 12.09 hrs HW=21.86' TW=21.85' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.90 cfs @ 0.29 fps)

Pond 43: I-18



Summary for Subcatchment 44: DA #18

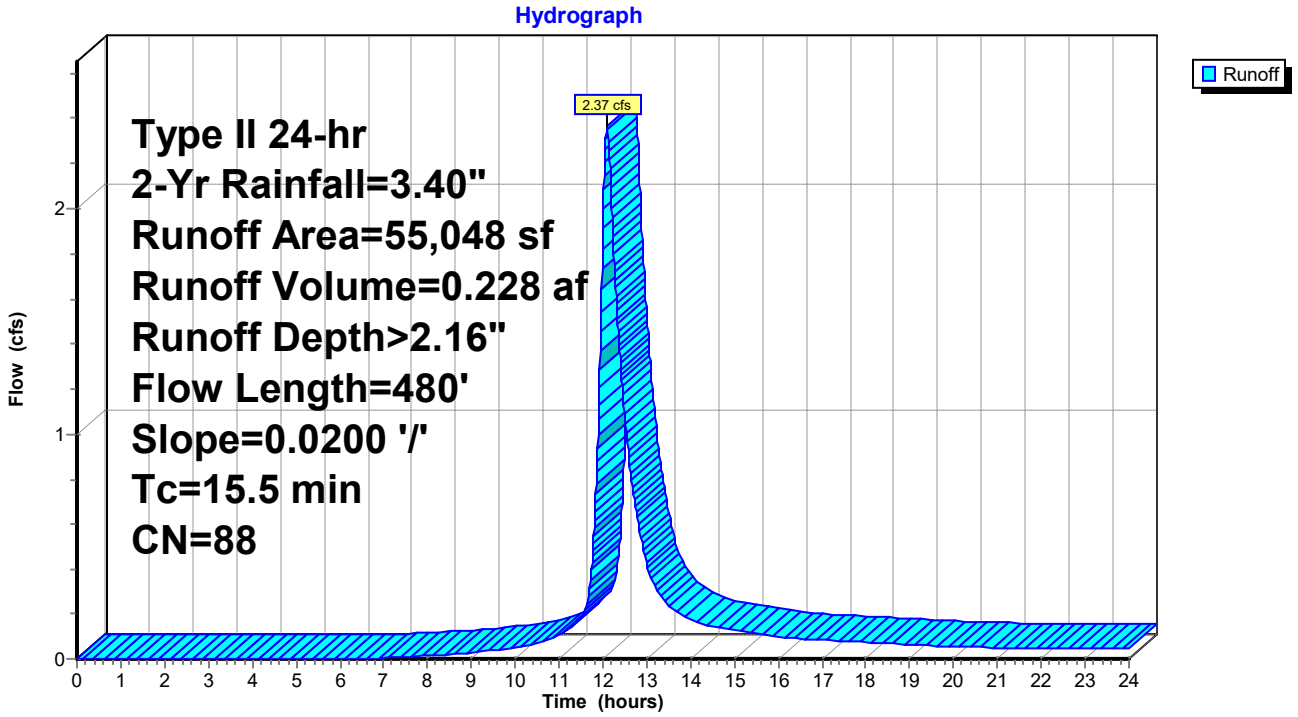
Runoff = 2.37 cfs @ 12.09 hrs, Volume= 0.228 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
31,857	98	Paved parking, HSG C
23,191	74	>75% Grass cover, Good, HSG C
55,048	88	Weighted Average
23,191		42.13% Pervious Area
31,857		57.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.4	330	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.5	480	Total			

Subcatchment 44: DA #18



Summary for Pond 45: I-19

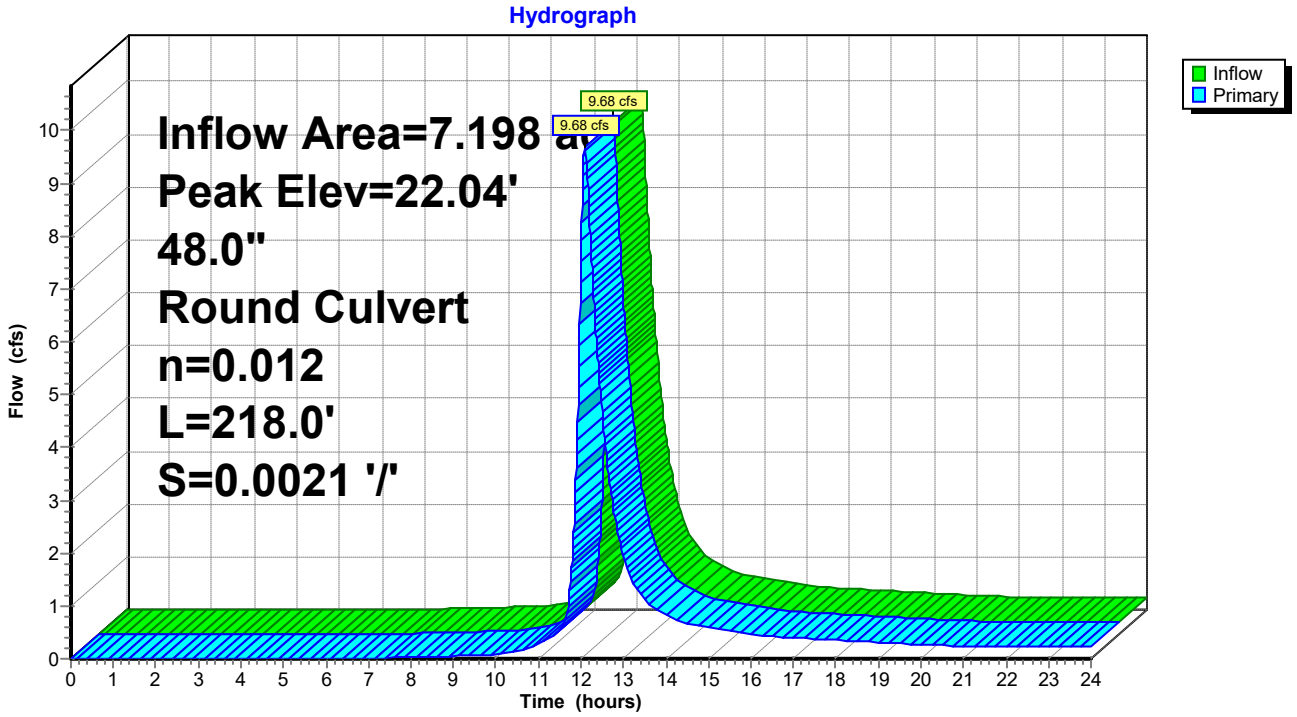
Inflow Area = 7.198 ac, 25.40% Impervious, Inflow Depth > 1.60" for 2-Yr event
Inflow = 9.68 cfs @ 12.10 hrs, Volume= 0.960 af
Outflow = 9.68 cfs @ 12.10 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 9.68 cfs @ 12.10 hrs, Volume= 0.960 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.04' @ 12.12 hrs
Flood Elev= 22.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.90'	**48.0" Round Culvert** L= 218.0' Ke= 0.500 Inlet / Outlet Invert= 19.90' / 19.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=9.22 cfs @ 12.10 hrs HW=22.02' TW=21.86' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 9.22 cfs @ 1.98 fps)

Pond 45: I-19



Summary for Subcatchment 46: DA #19

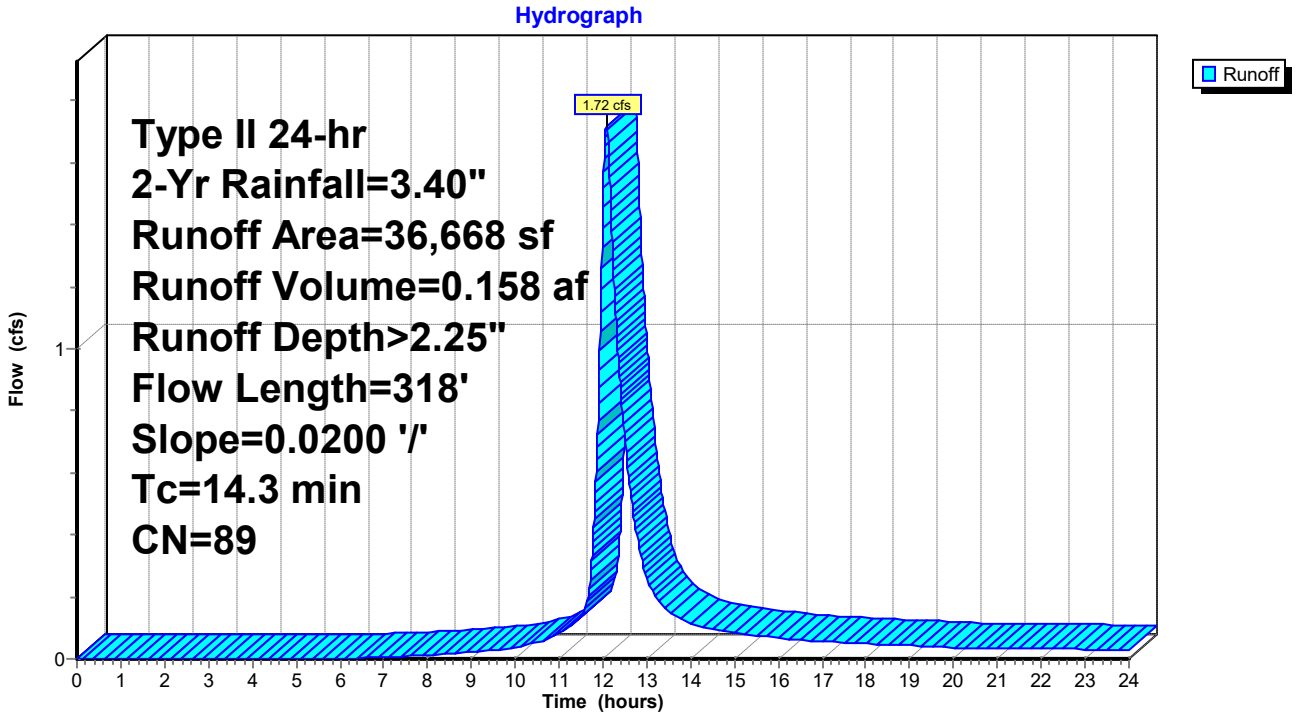
Runoff = 1.72 cfs @ 12.08 hrs, Volume= 0.158 af, Depth> 2.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
22,742	98	Paved parking, HSG C
13,926	74	>75% Grass cover, Good, HSG C
36,668	89	Weighted Average
13,926		37.98% Pervious Area
22,742		62.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.3	318	Total			

Subcatchment 46: DA #19



Summary for Pond 47: I-20

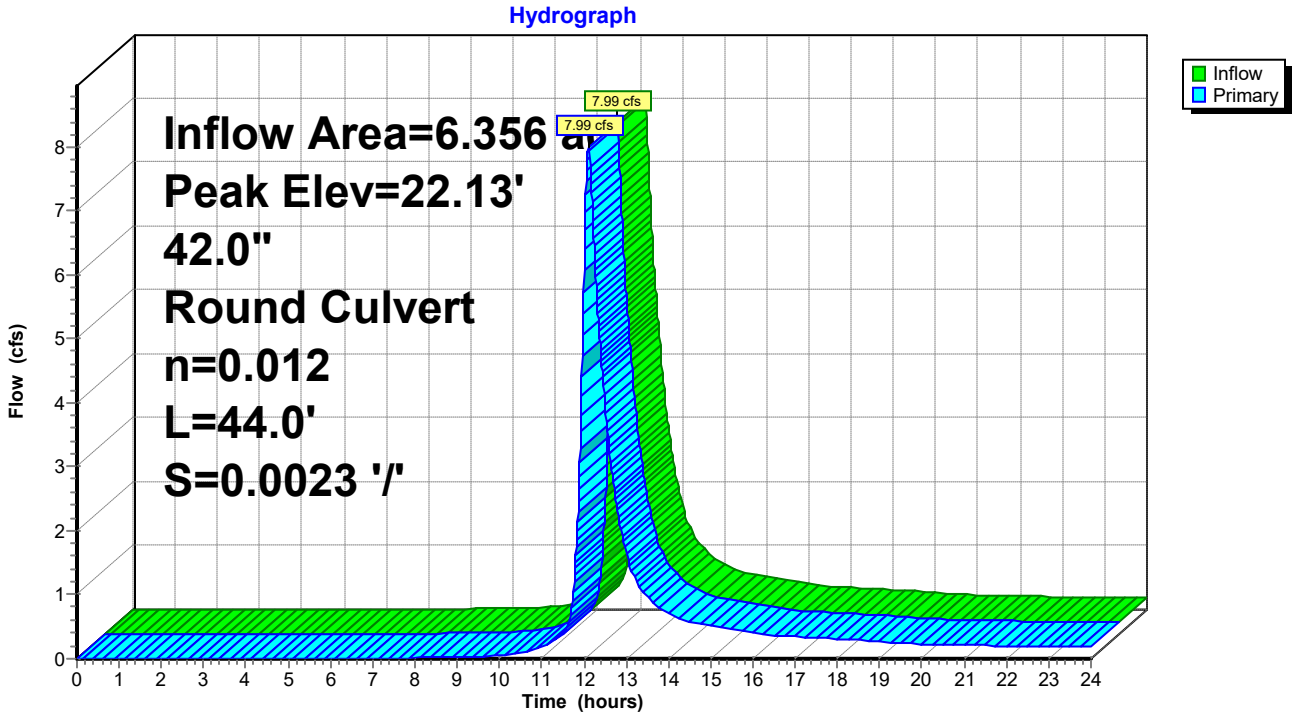
Inflow Area = 6.356 ac, 20.55% Impervious, Inflow Depth > 1.51" for 2-Yr event
Inflow = 7.99 cfs @ 12.11 hrs, Volume= 0.802 af
Outflow = 7.99 cfs @ 12.11 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 7.99 cfs @ 12.11 hrs, Volume= 0.802 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.13' @ 12.13 hrs
Flood Elev= 23.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**42.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.90' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=7.41 cfs @ 12.11 hrs HW=22.11' TW=22.03' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 7.41 cfs @ 1.75 fps)

Pond 47: I-20



Summary for Subcatchment 48: DA #20

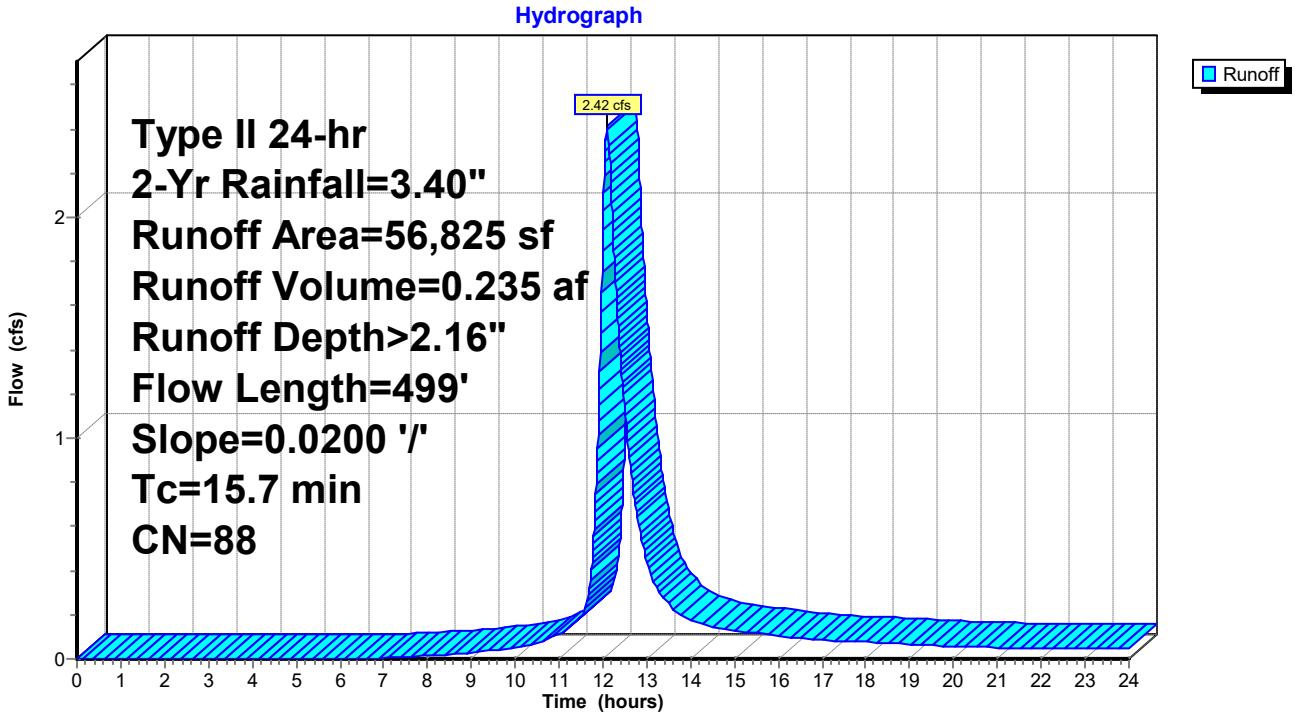
Runoff = 2.42 cfs @ 12.10 hrs, Volume= 0.235 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
32,860	98	Paved parking, HSG C
23,965	74	>75% Grass cover, Good, HSG C
56,825	88	Weighted Average
23,965		42.17% Pervious Area
32,860		57.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	349	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	499	Total			

Subcatchment 48: DA #20



Summary for Pond 49: I-21

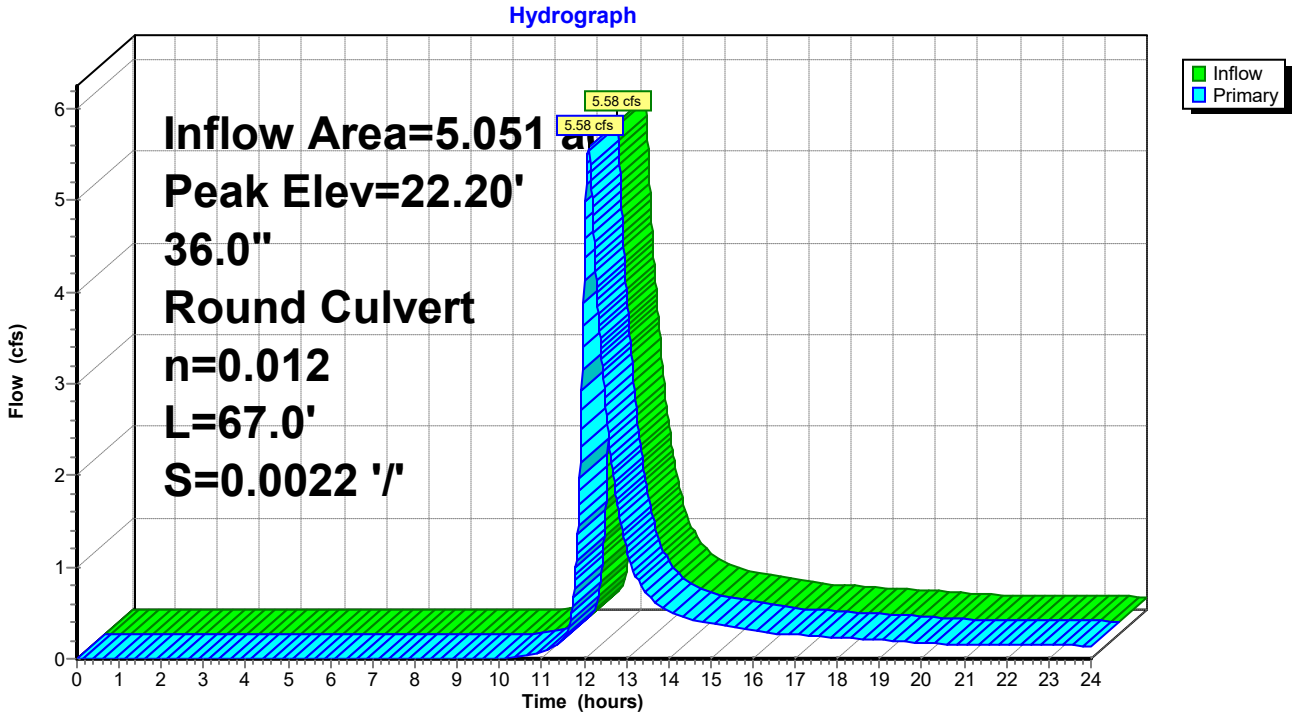
Inflow Area = 5.051 ac, 10.92% Impervious, Inflow Depth > 1.35" for 2-Yr event
Inflow = 5.58 cfs @ 12.11 hrs, Volume= 0.566 af
Outflow = 5.58 cfs @ 12.11 hrs, Volume= 0.566 af, Atten= 0%, Lag= 0.0 min
Primary = 5.58 cfs @ 12.11 hrs, Volume= 0.566 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.20' @ 12.13 hrs
Flood Elev= 23.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.15'	**36.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 20.15' / 20.00' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=5.02 cfs @ 12.11 hrs HW=22.18' TW=22.12' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 5.02 cfs @ 1.39 fps)

Pond 49: I-21



Summary for Subcatchment 50: DA #21

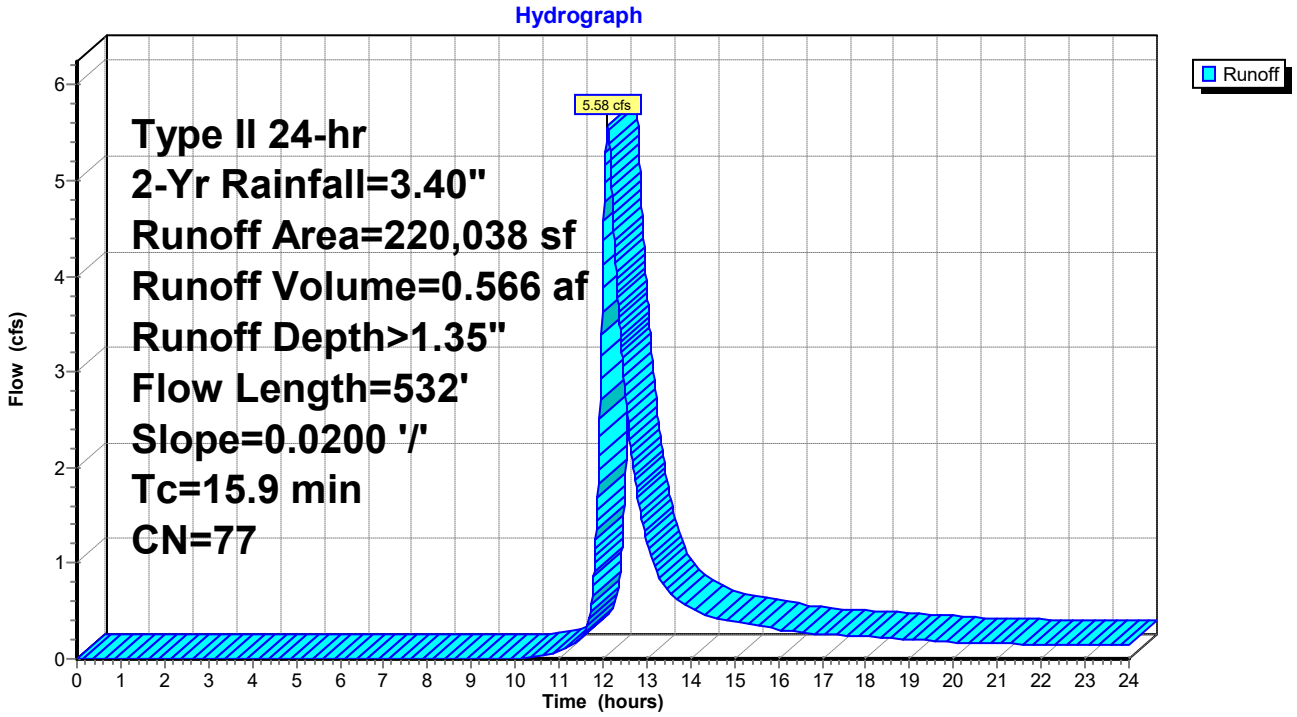
Runoff = 5.58 cfs @ 12.11 hrs, Volume= 0.566 af, Depth> 1.35"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
24,032	98	Paved parking, HSG C
196,006	74	>75% Grass cover, Good, HSG C
220,038	77	Weighted Average
196,006		89.08% Pervious Area
24,032		10.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.8	382	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.9	532	Total			

Subcatchment 50: DA #21



Summary for Pond 51: I-22

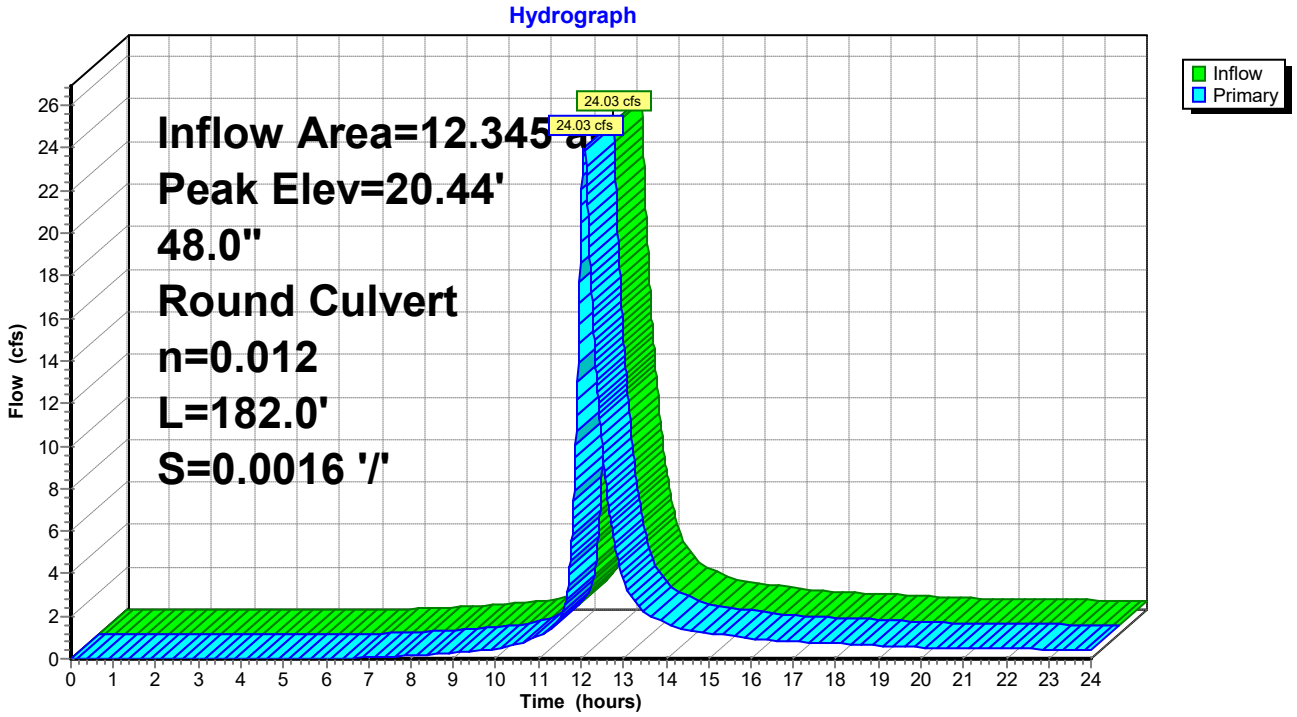
Inflow Area = 12.345 ac, 57.87% Impervious, Inflow Depth > 2.16" for 2-Yr event
Inflow = 24.03 cfs @ 12.08 hrs, Volume= 2.219 af
Outflow = 24.03 cfs @ 12.08 hrs, Volume= 2.219 af, Atten= 0%, Lag= 0.0 min
Primary = 24.03 cfs @ 12.08 hrs, Volume= 2.219 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.44' @ 12.08 hrs
Flood Elev= 20.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0016 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=24.02 cfs @ 12.08 hrs HW=20.44' TW=18.43' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 24.02 cfs @ 4.80 fps)

Pond 51: I-22



Summary for Subcatchment 52: DA #22

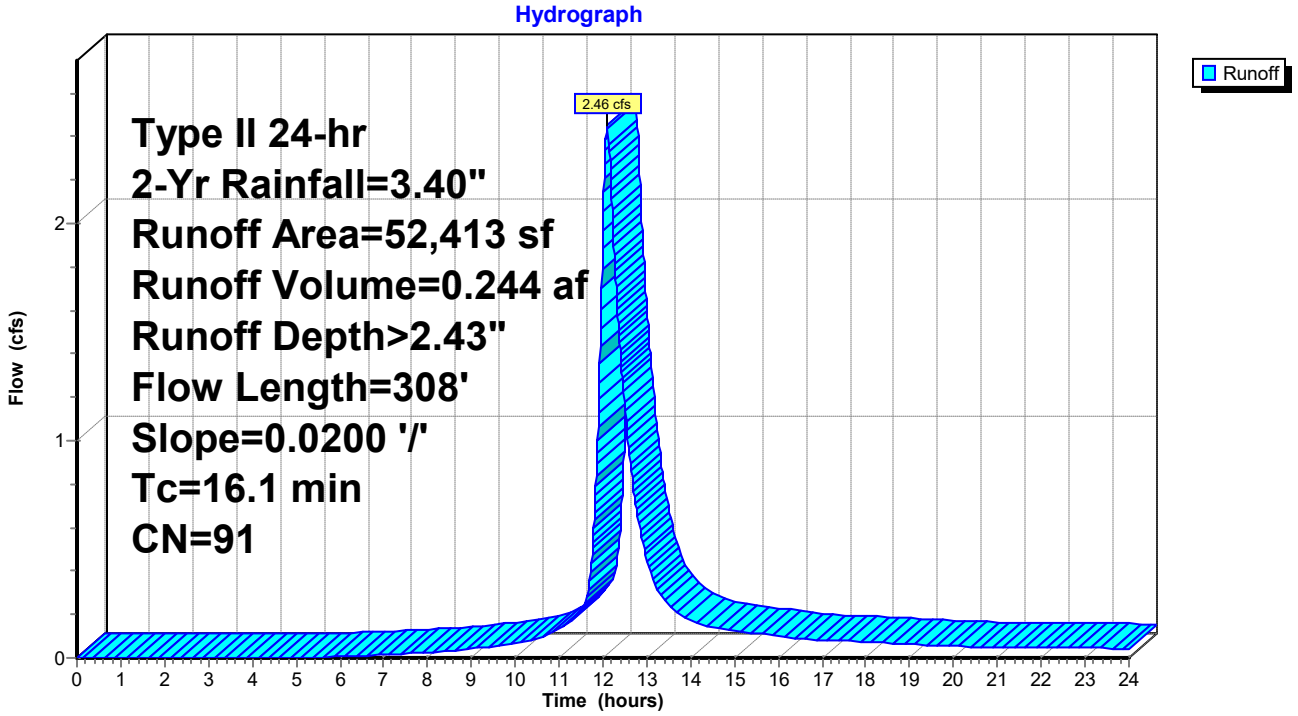
Runoff = 2.46 cfs @ 12.09 hrs, Volume= 0.244 af, Depth> 2.43"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
36,862	98	Paved parking, HSG C
15,551	74	>75% Grass cover, Good, HSG C
52,413	91	Weighted Average
15,551		29.67% Pervious Area
36,862		70.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	109	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
4.7	41	0.0200	0.15		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.40"
1.2	158	0.0200	2.28		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
16.1	308	Total			

Subcatchment 52: DA #22



Summary for Pond 53: I-23

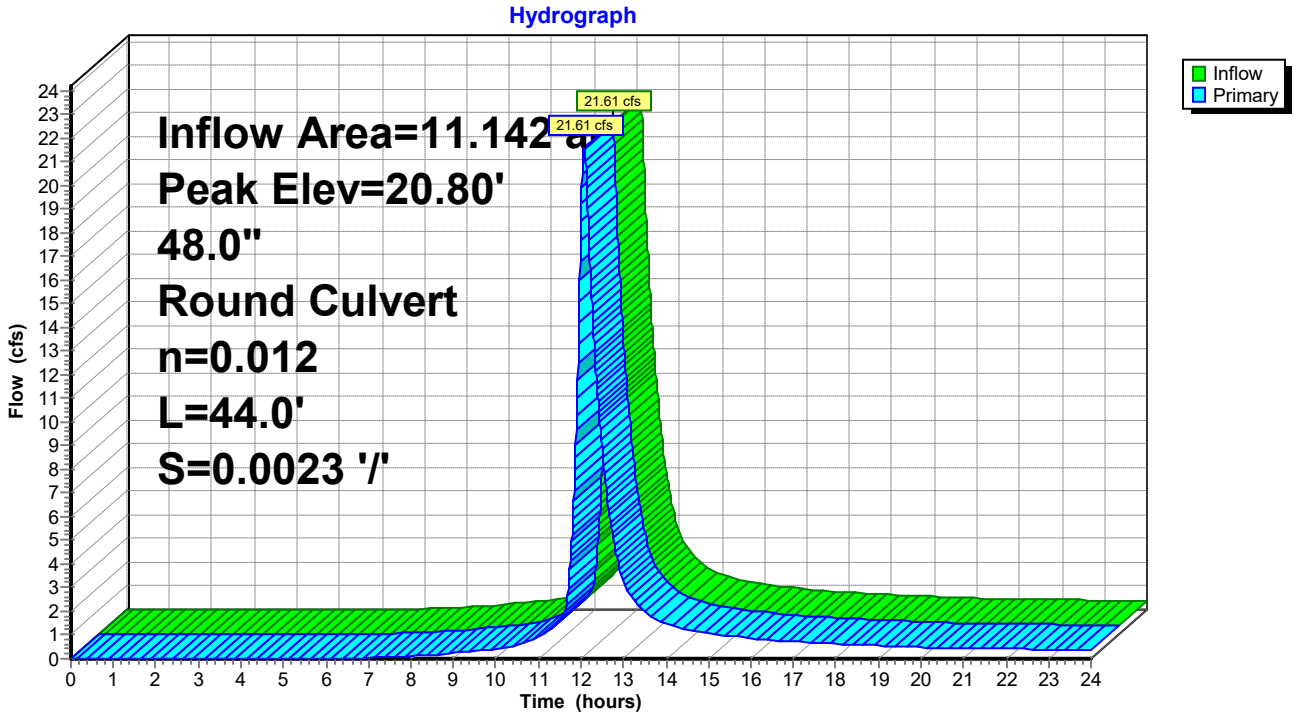
Inflow Area = 11.142 ac, 56.52% Impervious, Inflow Depth > 2.13" for 2-Yr event
Inflow = 21.61 cfs @ 12.07 hrs, Volume= 1.975 af
Outflow = 21.61 cfs @ 12.07 hrs, Volume= 1.975 af, Atten= 0%, Lag= 0.0 min
Primary = 21.61 cfs @ 12.07 hrs, Volume= 1.975 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.80' @ 12.08 hrs
Flood Elev= 20.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=21.51 cfs @ 12.07 hrs HW=20.80' TW=20.44' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 21.51 cfs @ 3.72 fps)

Pond 53: I-23



Summary for Subcatchment 54: DA #23

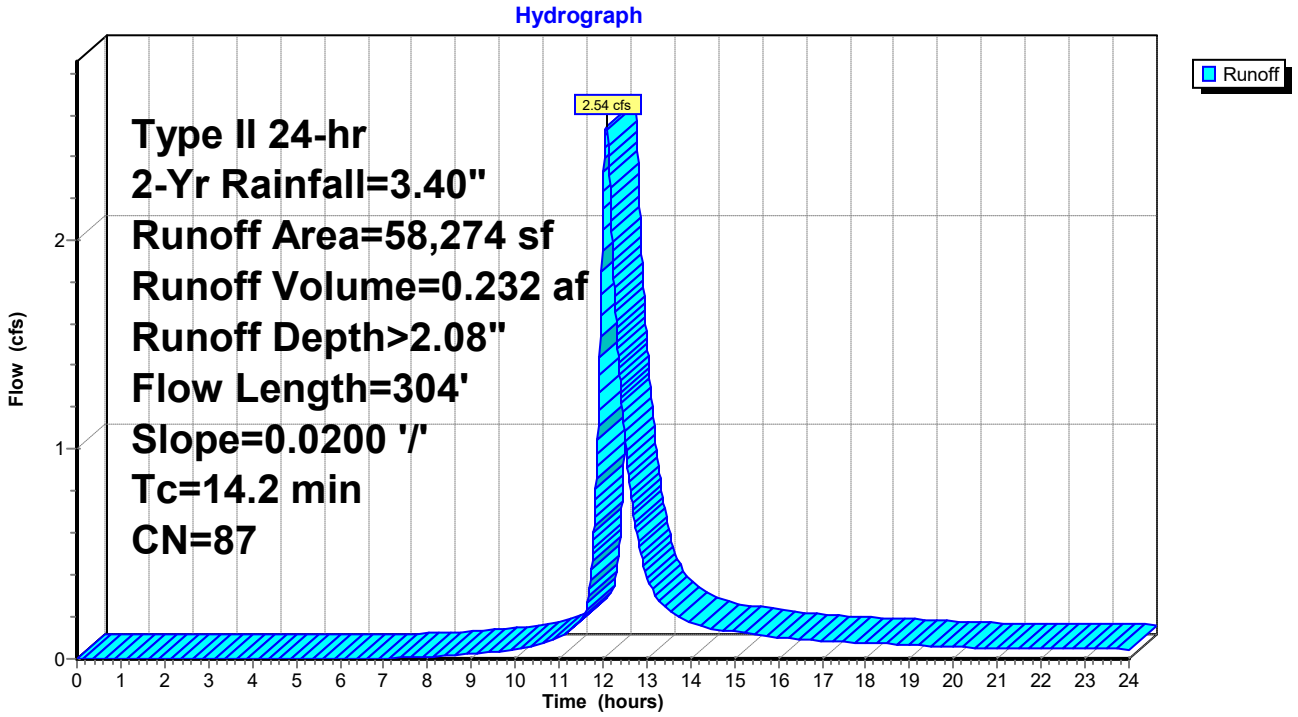
Runoff = 2.54 cfs @ 12.08 hrs, Volume= 0.232 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
31,377	98	Paved parking, HSG C
26,897	74	>75% Grass cover, Good, HSG C
58,274	87	Weighted Average
26,897		46.16% Pervious Area
31,377		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	154	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	304	Total			

Subcatchment 54: DA #23



Summary for Pond 55: I-24

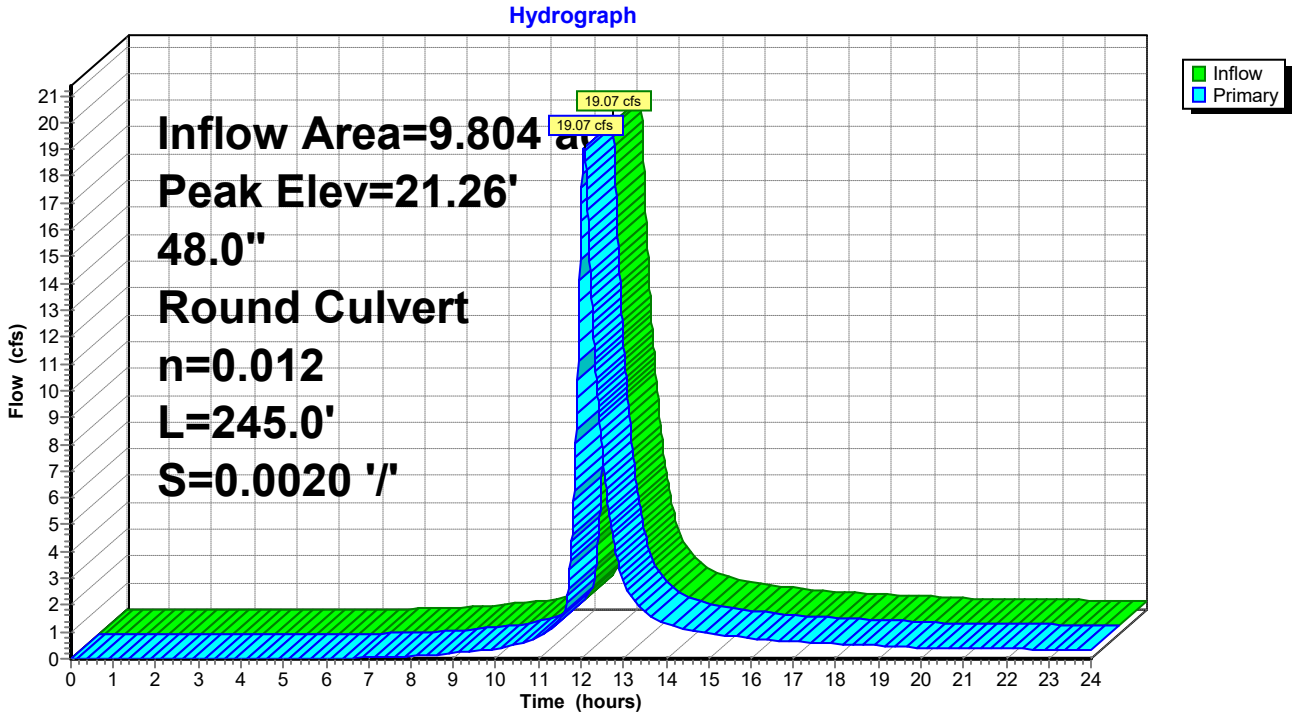
Inflow Area = 9.804 ac, 56.89% Impervious, Inflow Depth > 2.13" for 2-Yr event
Inflow = 19.07 cfs @ 12.07 hrs, Volume= 1.743 af
Outflow = 19.07 cfs @ 12.07 hrs, Volume= 1.743 af, Atten= 0%, Lag= 0.0 min
Primary = 19.07 cfs @ 12.07 hrs, Volume= 1.743 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.26' @ 12.08 hrs
Flood Elev= 21.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.80'	**48.0" Round Culvert** L= 245.0' Ke= 0.500 Inlet / Outlet Invert= 18.80' / 18.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=18.86 cfs @ 12.07 hrs HW=21.25' TW=20.80' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 18.86 cfs @ 3.34 fps)

Pond 55: I-24



Summary for Subcatchment 56: DA #24

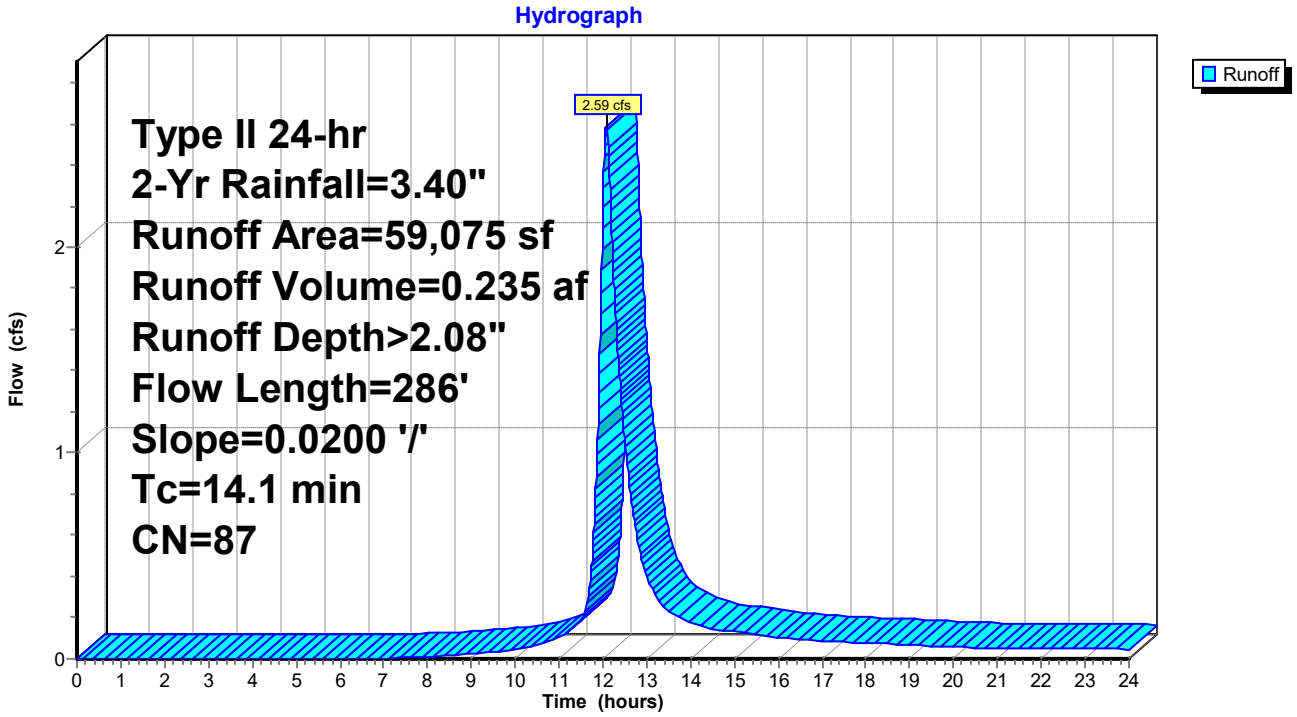
Runoff = 2.59 cfs @ 12.07 hrs, Volume= 0.235 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
31,853	98	Paved parking, HSG C
27,222	74	>75% Grass cover, Good, HSG C
59,075	87	Weighted Average
27,222		46.08% Pervious Area
31,853		53.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.0	136	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.1	286	Total			

Subcatchment 56: DA #24



Summary for Pond 57: I-25

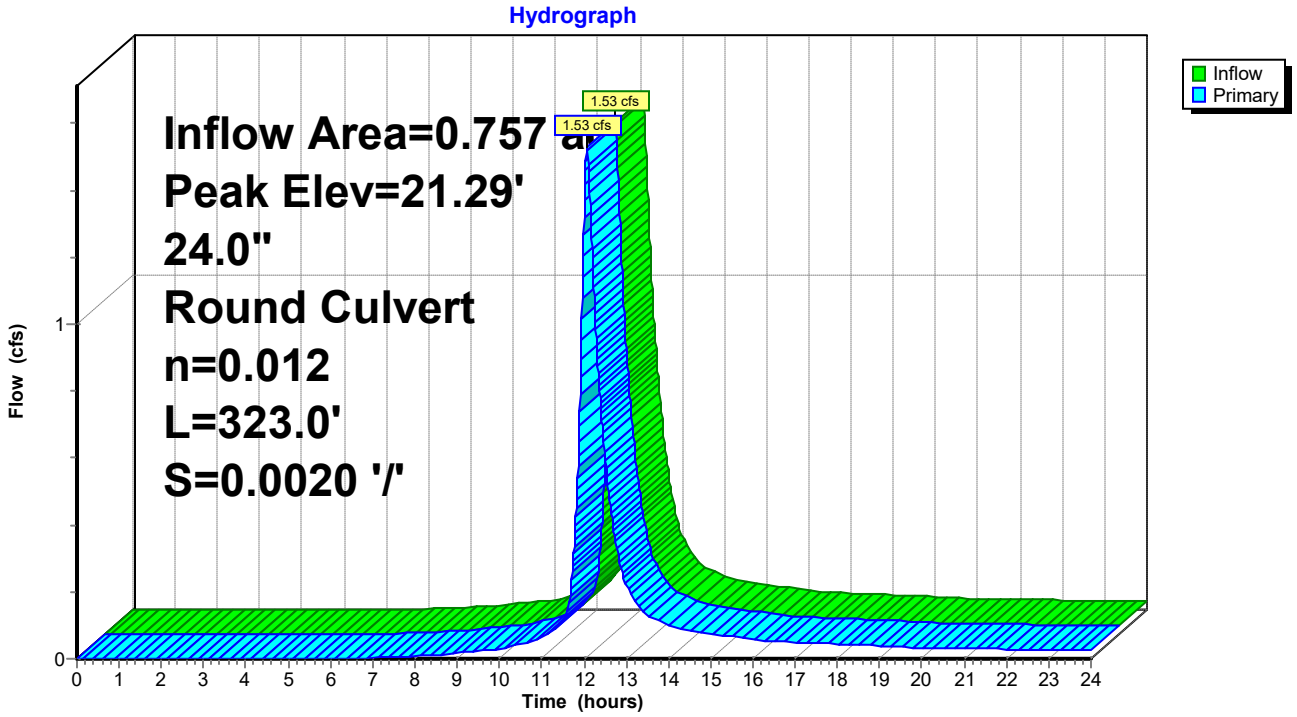
Inflow Area = 0.757 ac, 57.23% Impervious, Inflow Depth > 2.17" for 2-Yr event
Inflow = 1.53 cfs @ 12.06 hrs, Volume= 0.137 af
Outflow = 1.53 cfs @ 12.06 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 12.06 hrs, Volume= 0.137 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.29' @ 12.09 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 323.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 18.80' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.71 cfs @ 12.06 hrs HW=21.24' TW=21.24' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.71 cfs @ 0.31 fps)

Pond 57: I-25



Summary for Subcatchment 58: DA #25

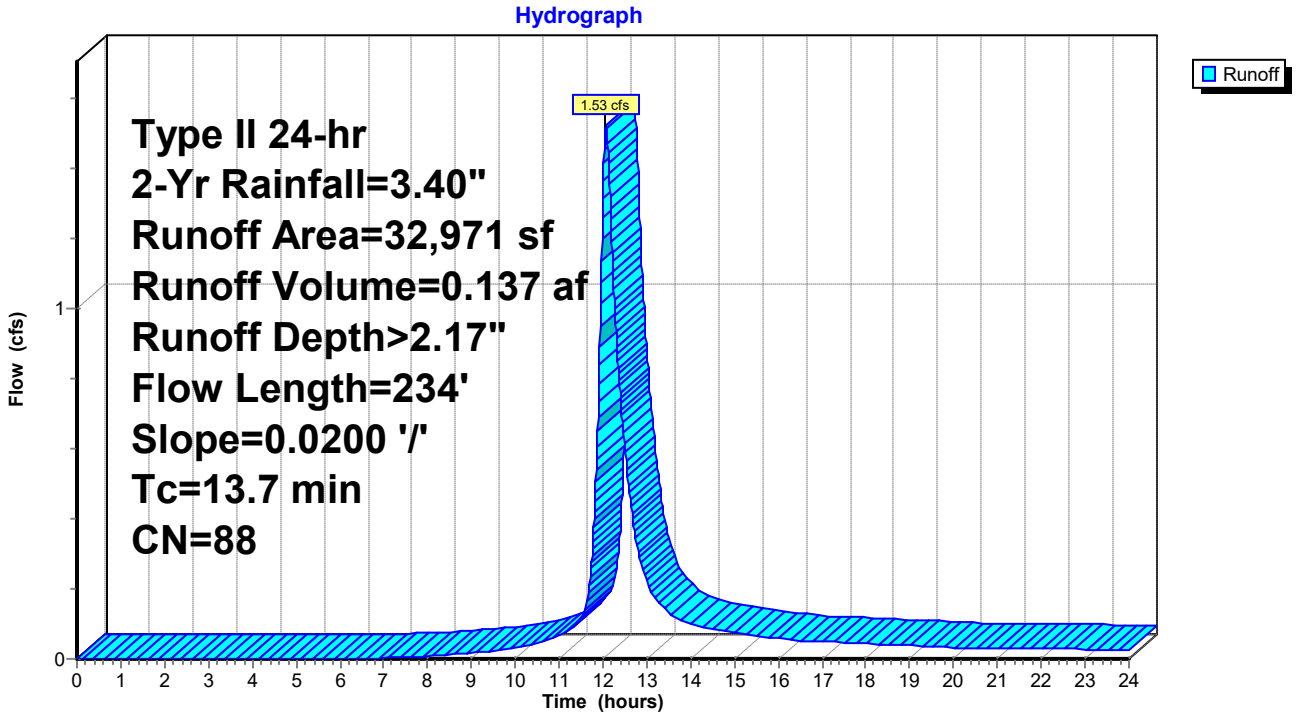
Runoff = 1.53 cfs @ 12.06 hrs, Volume= 0.137 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
18,869	98	Paved parking, HSG C
14,102	74	>75% Grass cover, Good, HSG C
32,971	88	Weighted Average
14,102		42.77% Pervious Area
18,869		57.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.6	84	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.7	234	Total			

Subcatchment 58: DA #25



Summary for Pond 59: I-26

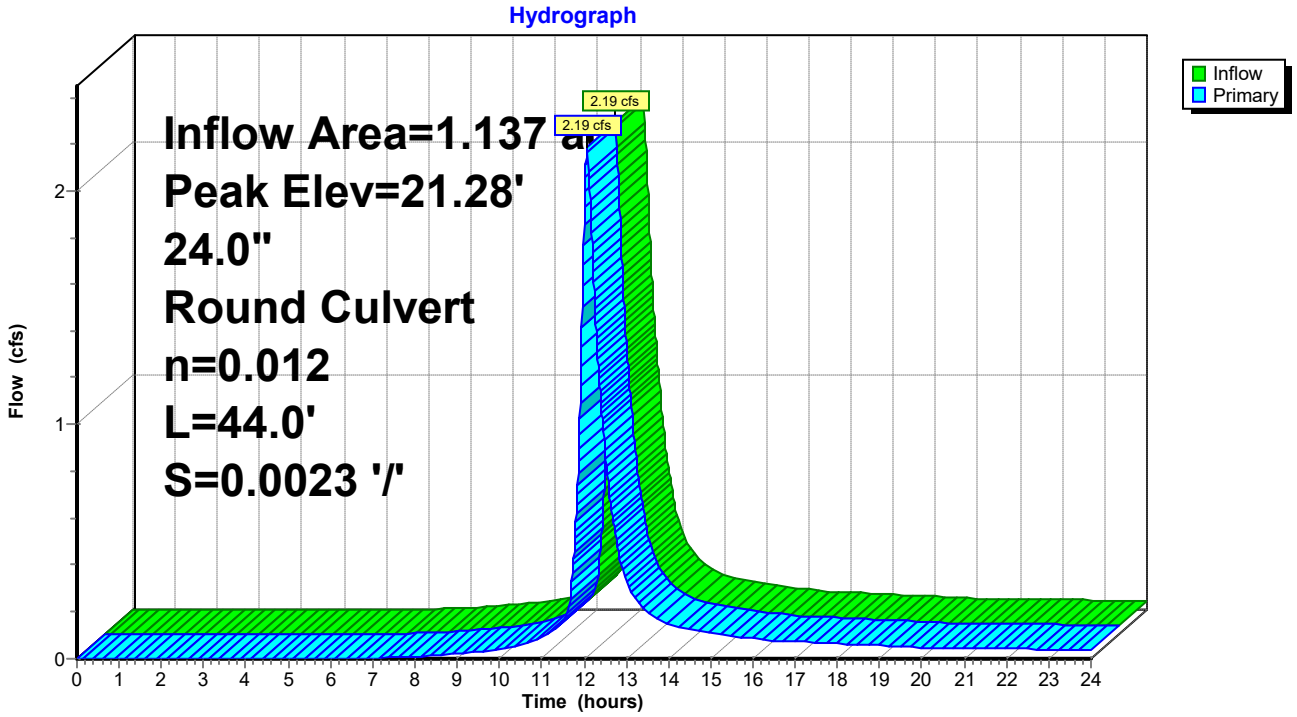
Inflow Area = 1.137 ac, 55.14% Impervious, Inflow Depth > 2.08" for 2-Yr event
Inflow = 2.19 cfs @ 12.07 hrs, Volume= 0.197 af
Outflow = 2.19 cfs @ 12.07 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min
Primary = 2.19 cfs @ 12.07 hrs, Volume= 0.197 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.28' @ 12.09 hrs
Flood Elev= 21.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.90'	**24.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.90' / 18.80' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.30 cfs @ 12.07 hrs HW=21.26' TW=21.25' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.30 cfs @ 0.41 fps)

Pond 59: I-26



Summary for Subcatchment 60: DA #26

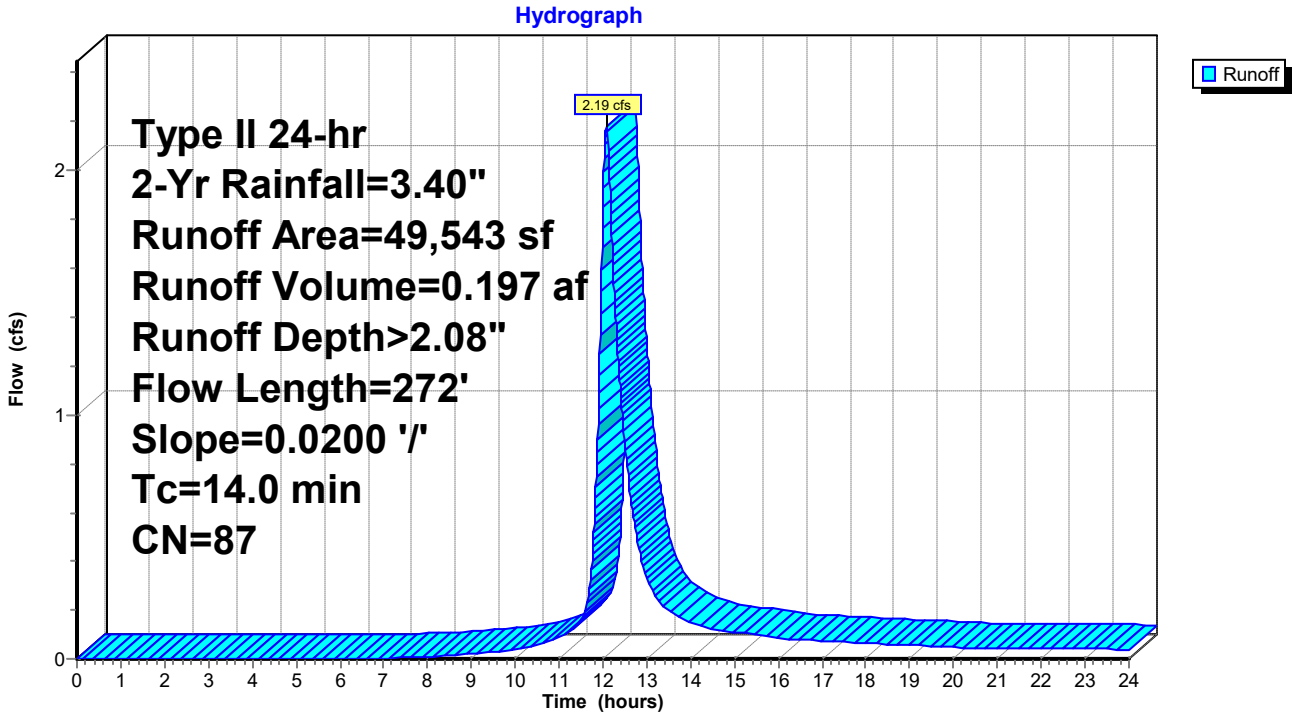
Runoff = 2.19 cfs @ 12.07 hrs, Volume= 0.197 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
27,320	98	Paved parking, HSG C
22,223	74	>75% Grass cover, Good, HSG C
49,543	87	Weighted Average
22,223		44.86% Pervious Area
27,320		55.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.9	122	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.0	272	Total			

Subcatchment 60: DA #26



Summary for Pond 61: I-27

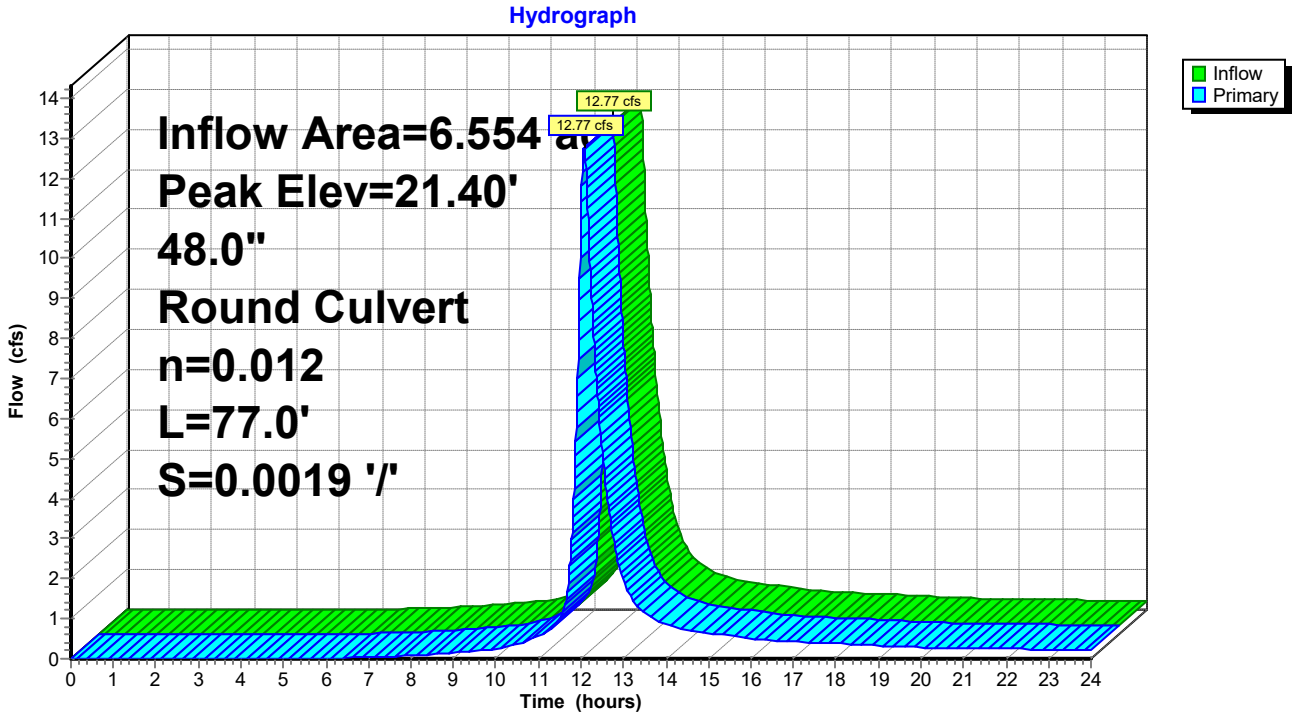
Inflow Area = 6.554 ac, 57.77% Impervious, Inflow Depth > 2.15" for 2-Yr event
Inflow = 12.77 cfs @ 12.07 hrs, Volume= 1.174 af
Outflow = 12.77 cfs @ 12.07 hrs, Volume= 1.174 af, Atten= 0%, Lag= 0.0 min
Primary = 12.77 cfs @ 12.07 hrs, Volume= 1.174 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.40' @ 12.09 hrs
Flood Elev= 21.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.95'	**48.0" Round Culvert** L= 77.0' Ke= 0.500 Inlet / Outlet Invert= 18.95' / 18.80' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=12.22 cfs @ 12.07 hrs HW=21.39' TW=21.25' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 12.22 cfs @ 2.18 fps)

Pond 61: I-27



Summary for Subcatchment 62: DA #27

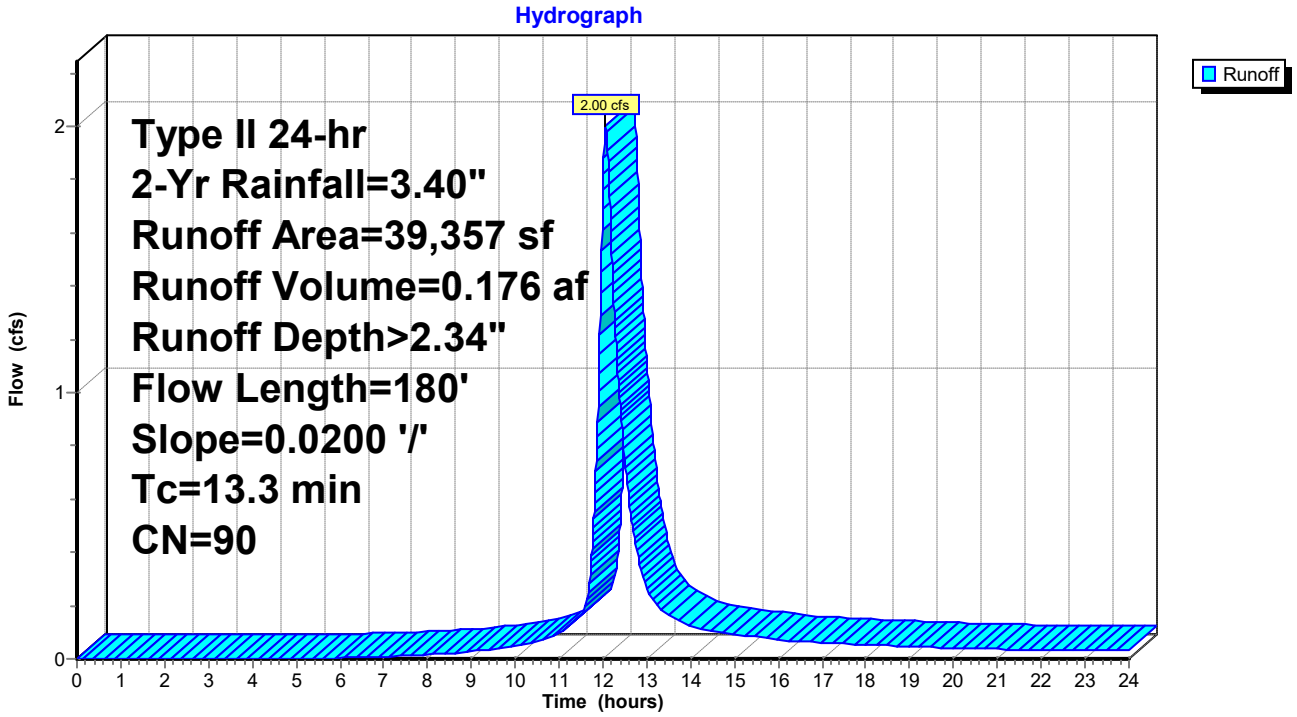
Runoff = 2.00 cfs @ 12.06 hrs, Volume= 0.176 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
27,040	98	Paved parking, HSG C
12,317	74	>75% Grass cover, Good, HSG C
39,357	90	Weighted Average
12,317		31.30% Pervious Area
27,040		68.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.2	30	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.3	180	Total			

Subcatchment 62: DA #27



Summary for Pond 63: I-28

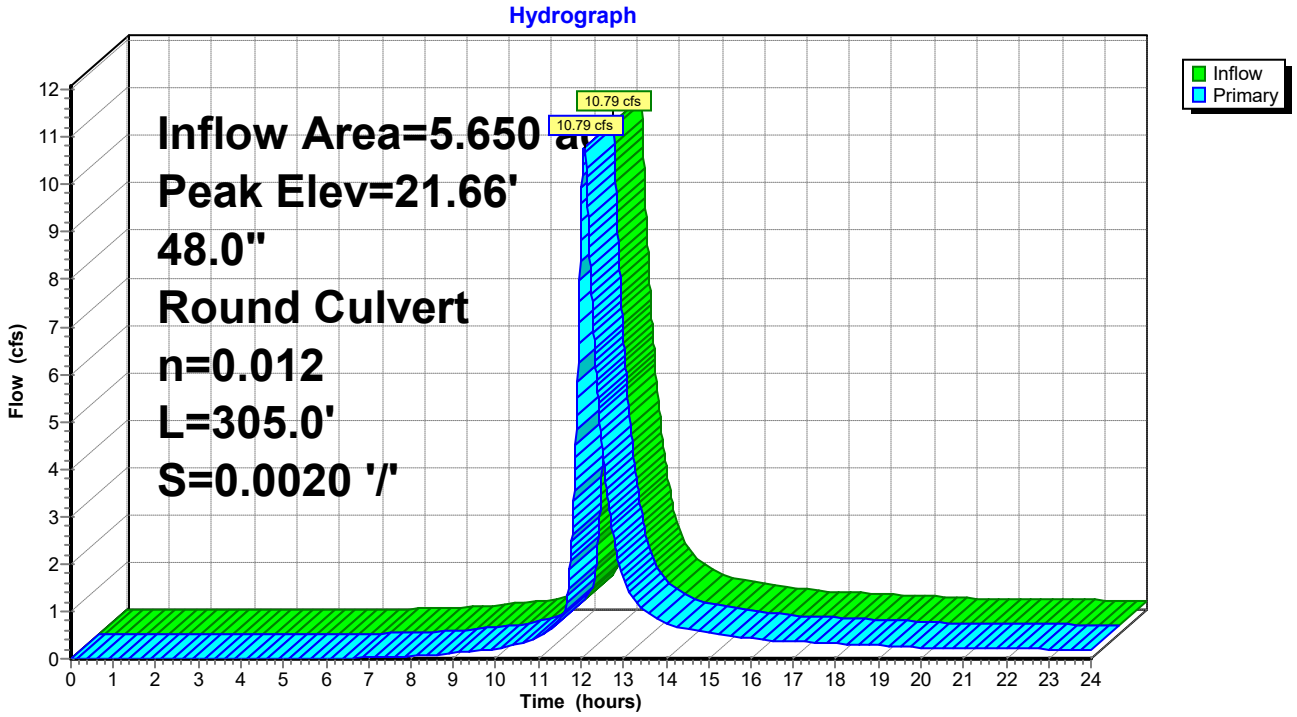
Inflow Area = 5.650 ac, 56.02% Impervious, Inflow Depth > 2.12" for 2-Yr event
Inflow = 10.79 cfs @ 12.08 hrs, Volume= 0.997 af
Outflow = 10.79 cfs @ 12.08 hrs, Volume= 0.997 af, Atten= 0%, Lag= 0.0 min
Primary = 10.79 cfs @ 12.08 hrs, Volume= 0.997 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.66' @ 12.10 hrs
Flood Elev= 21.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.56'	**48.0" Round Culvert** L= 305.0' Ke= 0.500 Inlet / Outlet Invert= 19.56' / 18.95' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=10.45 cfs @ 12.08 hrs HW=21.65' TW=21.39' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 10.45 cfs @ 2.29 fps)

Pond 63: I-28



Summary for Subcatchment 64: DA #28

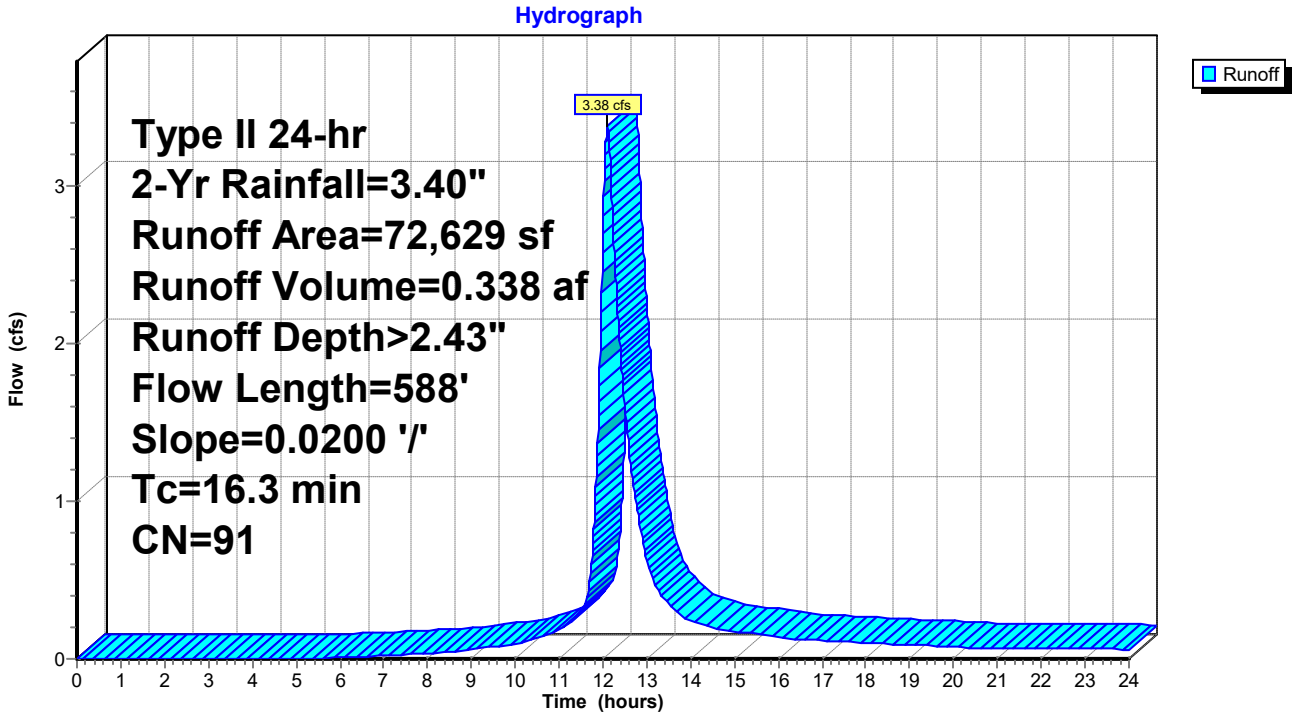
Runoff = 3.38 cfs @ 12.10 hrs, Volume= 0.338 af, Depth> 2.43"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
52,377	98	Paved parking, HSG C
20,252	74	>75% Grass cover, Good, HSG C
72,629	91	Weighted Average
20,252		27.88% Pervious Area
52,377		72.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
3.2	438	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
16.3	588	Total			

Subcatchment 64: DA #28



Summary for Pond 65: I-29

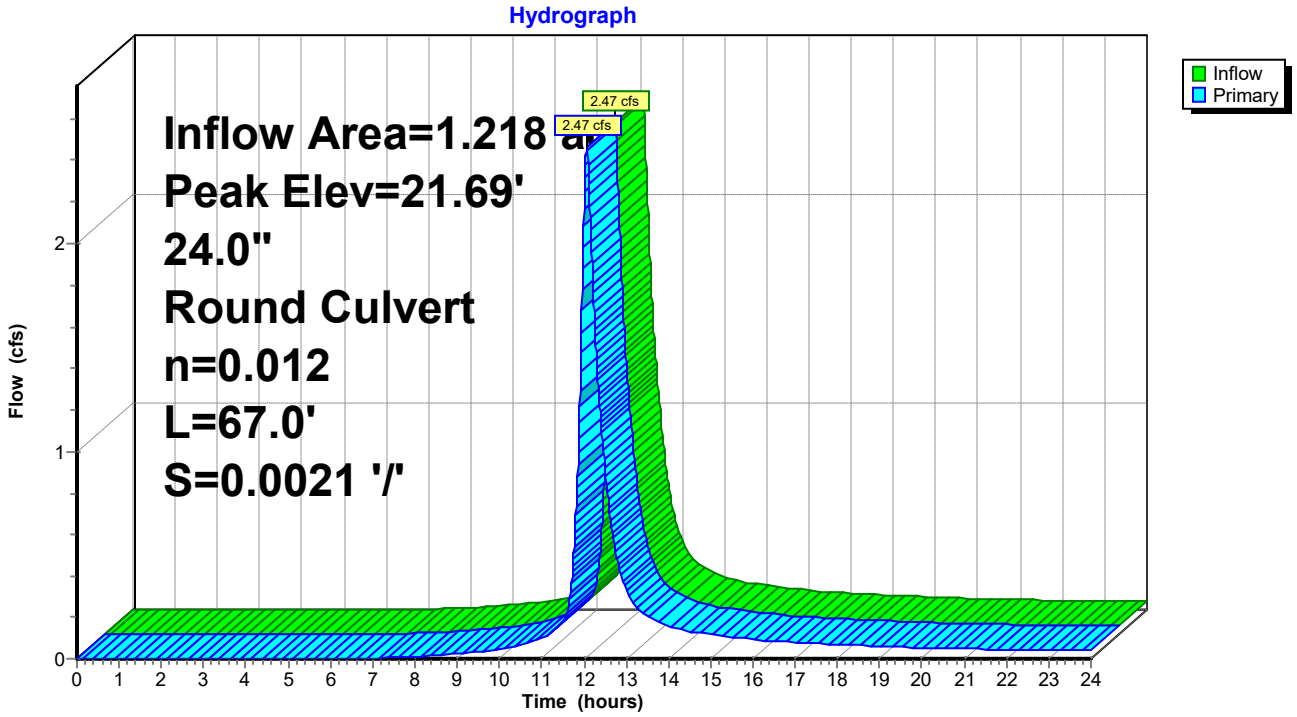
Inflow Area = 1.218 ac, 55.35% Impervious, Inflow Depth > 2.10" for 2-Yr event
Inflow = 2.47 cfs @ 12.06 hrs, Volume= 0.213 af
Outflow = 2.47 cfs @ 12.06 hrs, Volume= 0.213 af, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.06 hrs, Volume= 0.213 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.69' @ 12.10 hrs
Flood Elev= 22.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**24.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.89 cfs @ 12.06 hrs HW=21.63' TW=21.62' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.89 cfs @ 0.37 fps)

Pond 65: I-29



Summary for Subcatchment 66: DA #29

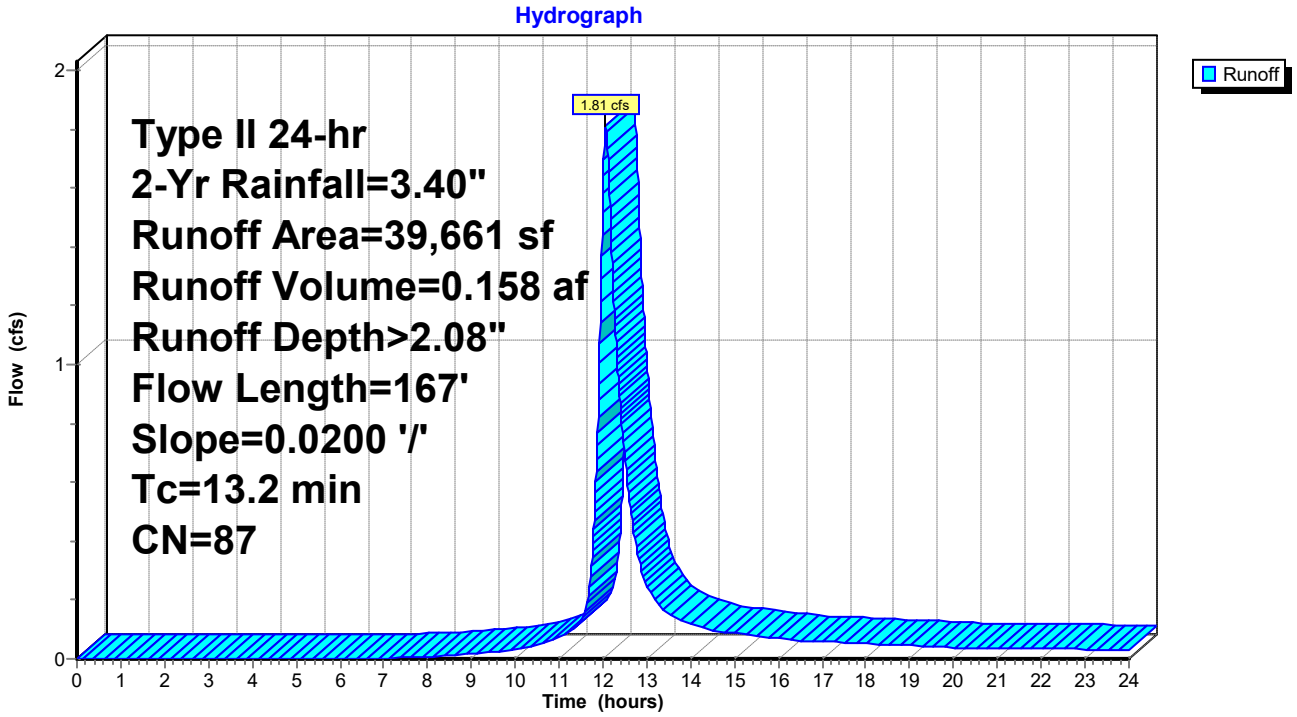
Runoff = 1.81 cfs @ 12.06 hrs, Volume= 0.158 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG C
18,060	74	>75% Grass cover, Good, HSG C
39,661	87	Weighted Average
18,060		45.54% Pervious Area
21,601		54.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	17	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	167	Total			

Subcatchment 66: DA #29



Summary for Pond 67: I-30

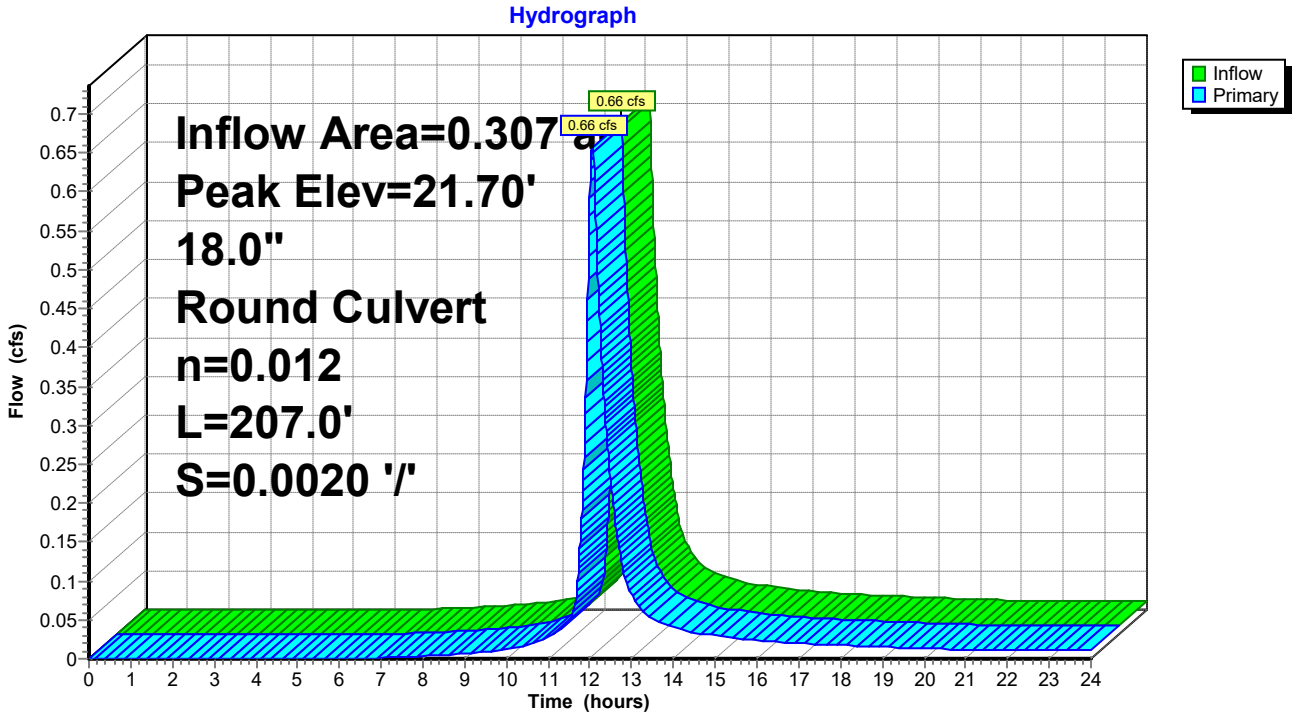
Inflow Area = 0.307 ac, 57.96% Impervious, Inflow Depth > 2.17" for 2-Yr event
Inflow = 0.66 cfs @ 12.06 hrs, Volume= 0.056 af
Outflow = 0.66 cfs @ 12.06 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.06 hrs, Volume= 0.056 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.70' @ 12.11 hrs
Flood Elev= 22.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.11'	**18.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 20.11' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=21.58' TW=21.61' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 67: I-30



Summary for Subcatchment 68: DA #30

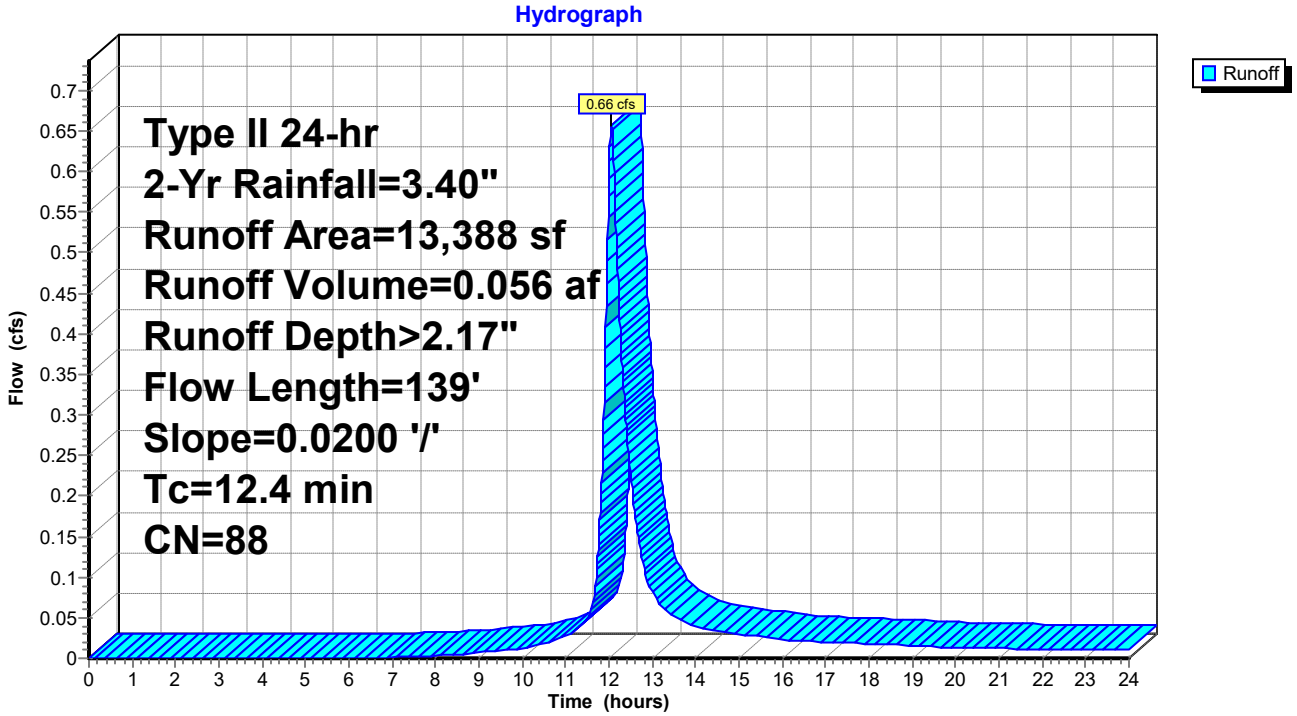
Runoff = 0.66 cfs @ 12.06 hrs, Volume= 0.056 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
7,760	98	Paved parking, HSG C
5,628	74	>75% Grass cover, Good, HSG C
13,388	88	Weighted Average
5,628		42.04% Pervious Area
7,760		57.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	139	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 68: DA #30



Summary for Pond 69: I-31

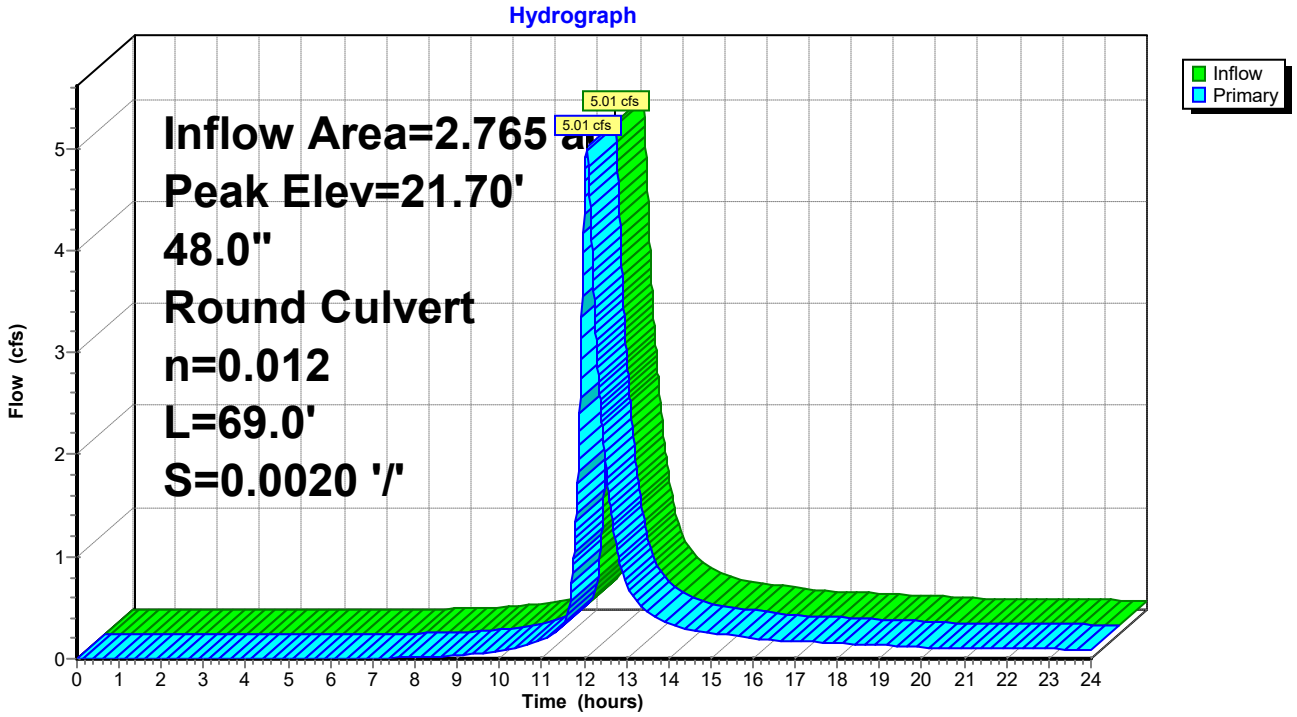
Inflow Area = 2.765 ac, 46.60% Impervious, Inflow Depth > 1.94" for 2-Yr event
Inflow = 5.01 cfs @ 12.07 hrs, Volume= 0.446 af
Outflow = 5.01 cfs @ 12.07 hrs, Volume= 0.446 af, Atten= 0%, Lag= 0.0 min
Primary = 5.01 cfs @ 12.07 hrs, Volume= 0.446 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.70' @ 12.10 hrs
Flood Elev= 22.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**48.0" Round Culvert** L= 69.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=3.25 cfs @ 12.07 hrs HW=21.65' TW=21.63' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.25 cfs @ 0.78 fps)

Pond 69: I-31



Summary for Subcatchment 70: DA #31

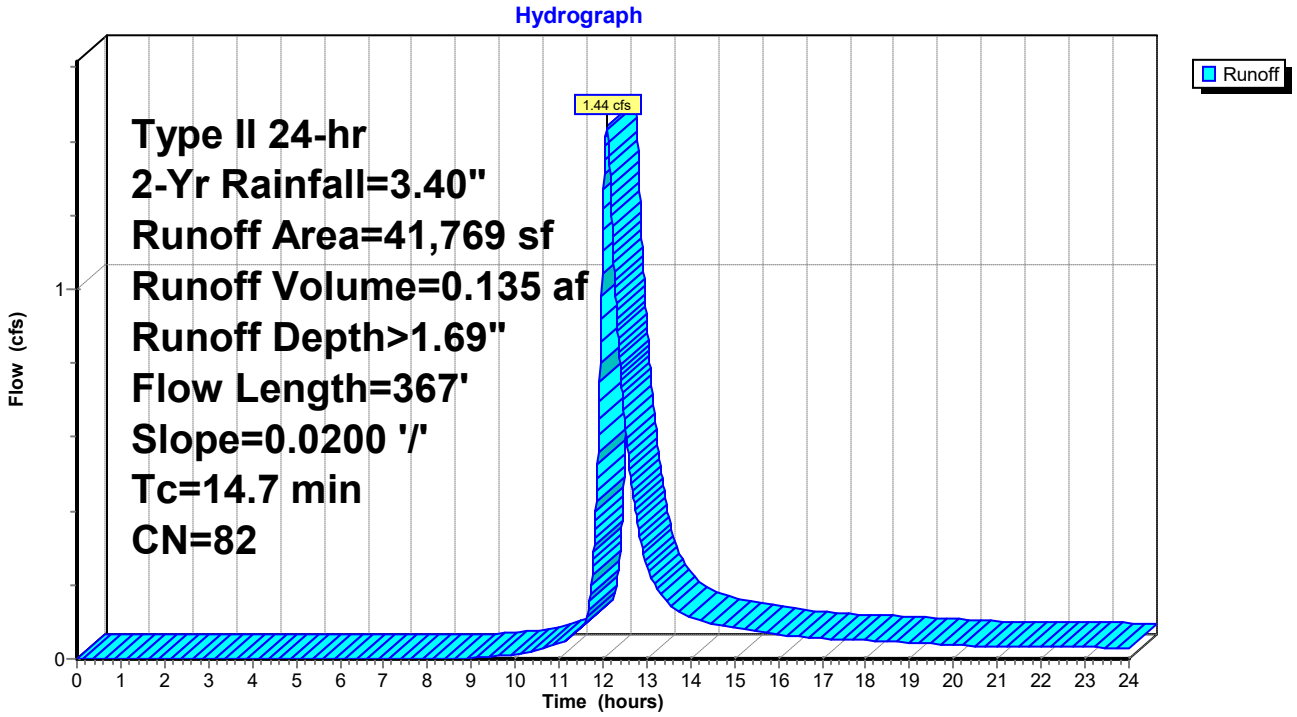
Runoff = 1.44 cfs @ 12.09 hrs, Volume= 0.135 af, Depth> 1.69"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
13,895	98	Paved parking, HSG C
27,874	74	>75% Grass cover, Good, HSG C
41,769	82	Weighted Average
27,874		66.73% Pervious Area
13,895		33.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.6	217	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.7	367	Total			

Subcatchment 70: DA #31



Summary for Pond 71: I-32

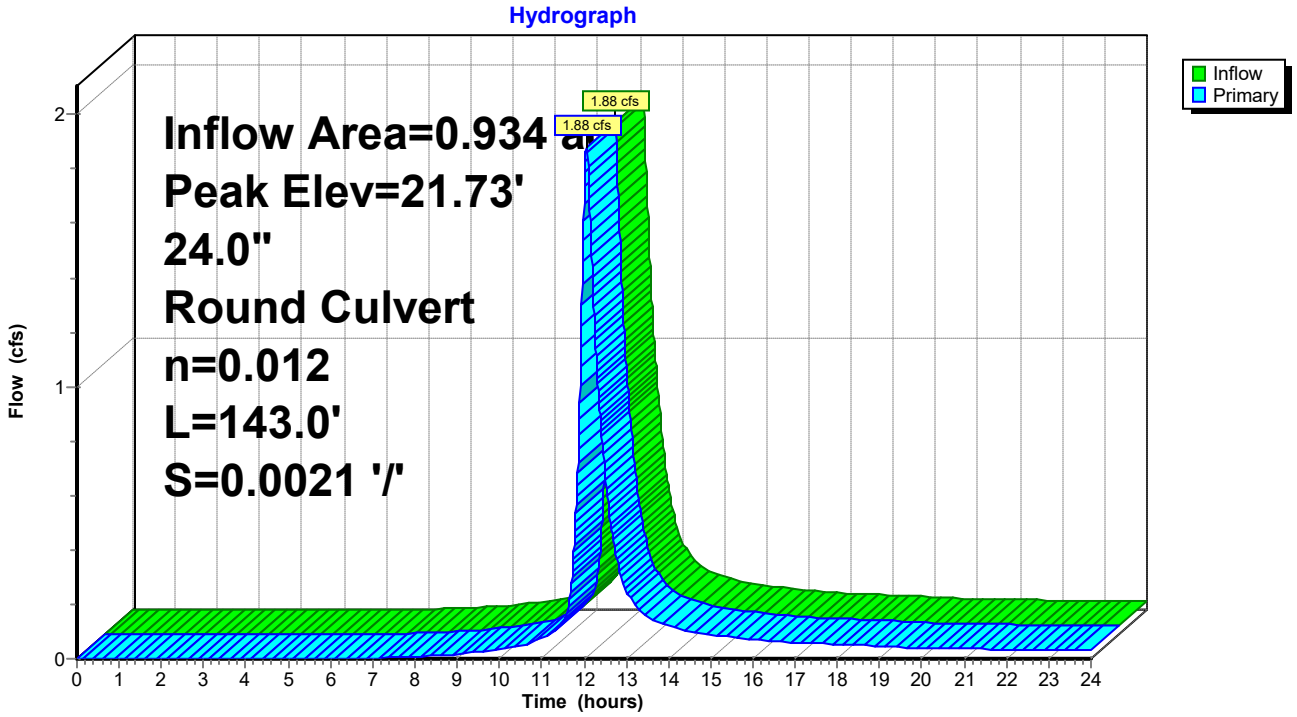
Inflow Area = 0.934 ac, 54.52% Impervious, Inflow Depth > 2.08" for 2-Yr event
Inflow = 1.88 cfs @ 12.06 hrs, Volume= 0.162 af
Outflow = 1.88 cfs @ 12.06 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 12.06 hrs, Volume= 0.162 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.73' @ 12.11 hrs
Flood Elev= 22.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**24.0" Round Culvert** L= 143.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.70' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.46 cfs @ 12.06 hrs HW=21.63' TW=21.63' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.46 cfs @ 0.23 fps)

Pond 71: I-32



Summary for Subcatchment 72: DA #32

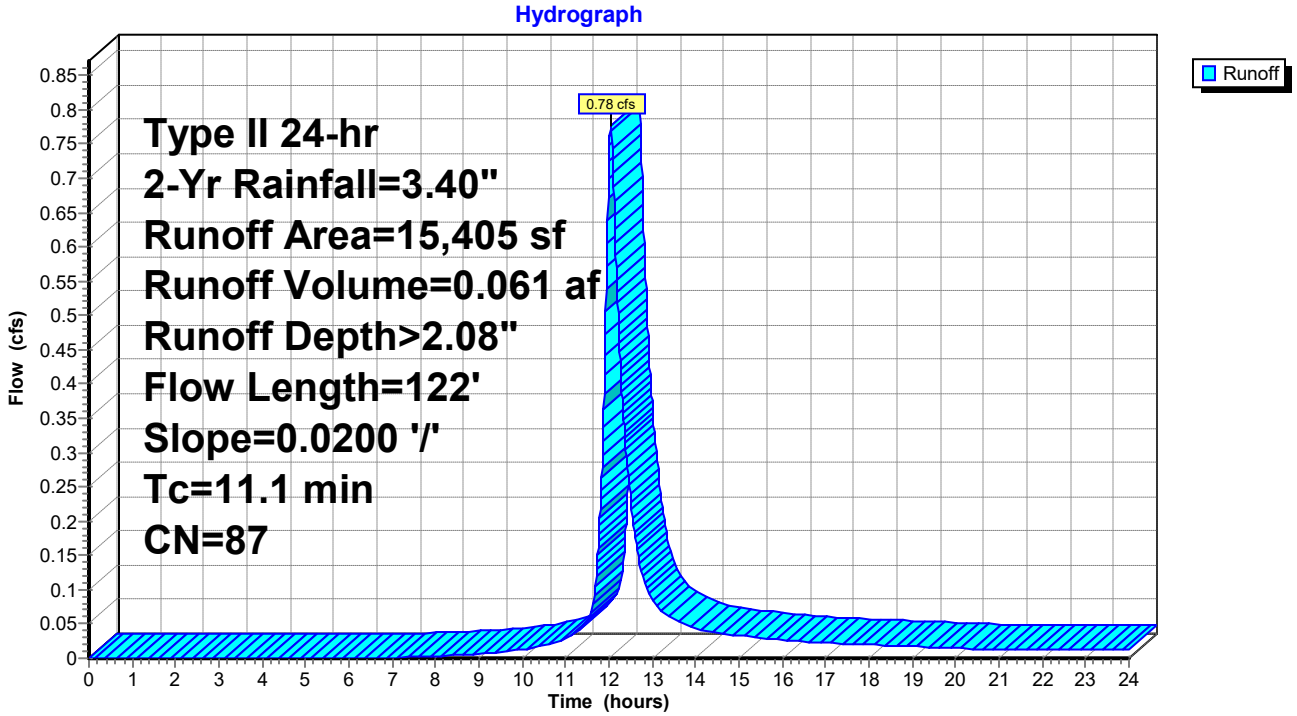
Runoff = 0.78 cfs @ 12.04 hrs, Volume= 0.061 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
8,395	98	Paved parking, HSG C
7,010	74	>75% Grass cover, Good, HSG C
15,405	87	Weighted Average
7,010		45.50% Pervious Area
8,395		54.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	122	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 72: DA #32



Summary for Pond 73: I-33

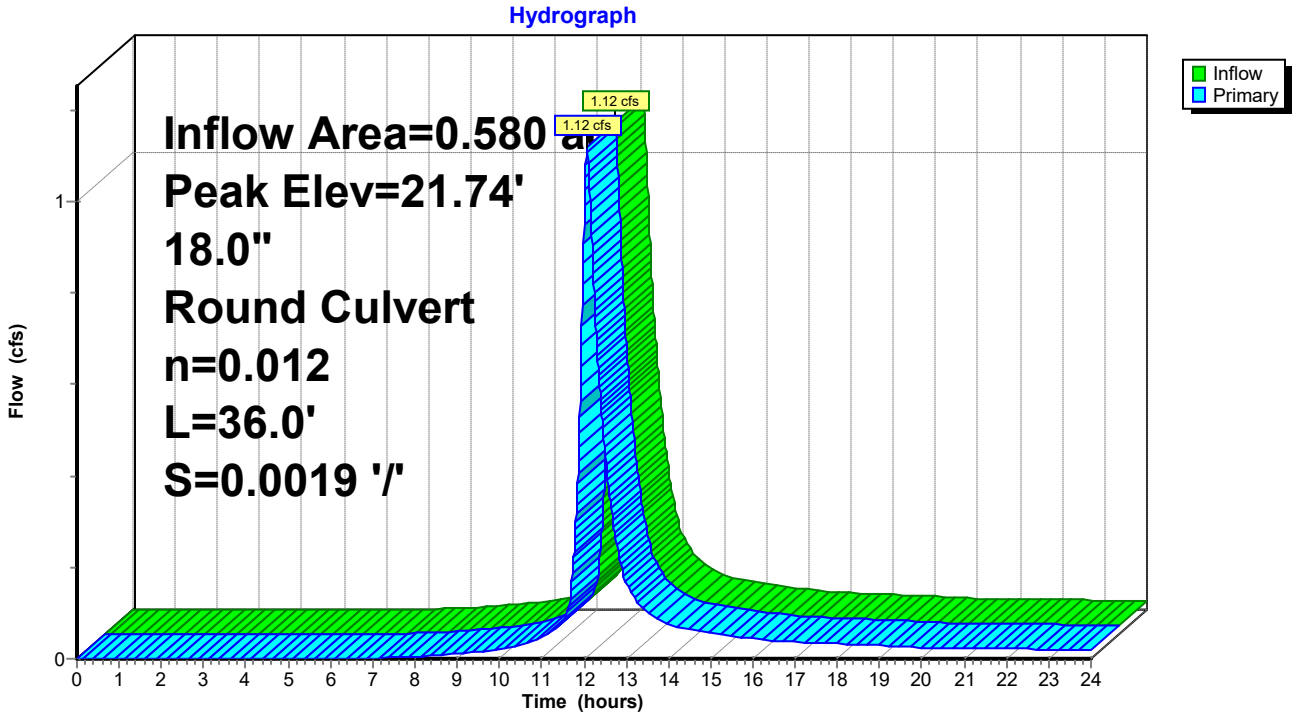
Inflow Area = 0.580 ac, 54.53% Impervious, Inflow Depth > 2.08" for 2-Yr event
Inflow = 1.12 cfs @ 12.08 hrs, Volume= 0.101 af
Outflow = 1.12 cfs @ 12.08 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.08 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.74' @ 12.12 hrs
Flood Elev= 22.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.07'	**18.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 20.07' / 20.00' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=21.67' TW=21.68' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 73: I-33



Summary for Subcatchment 74: DA #33

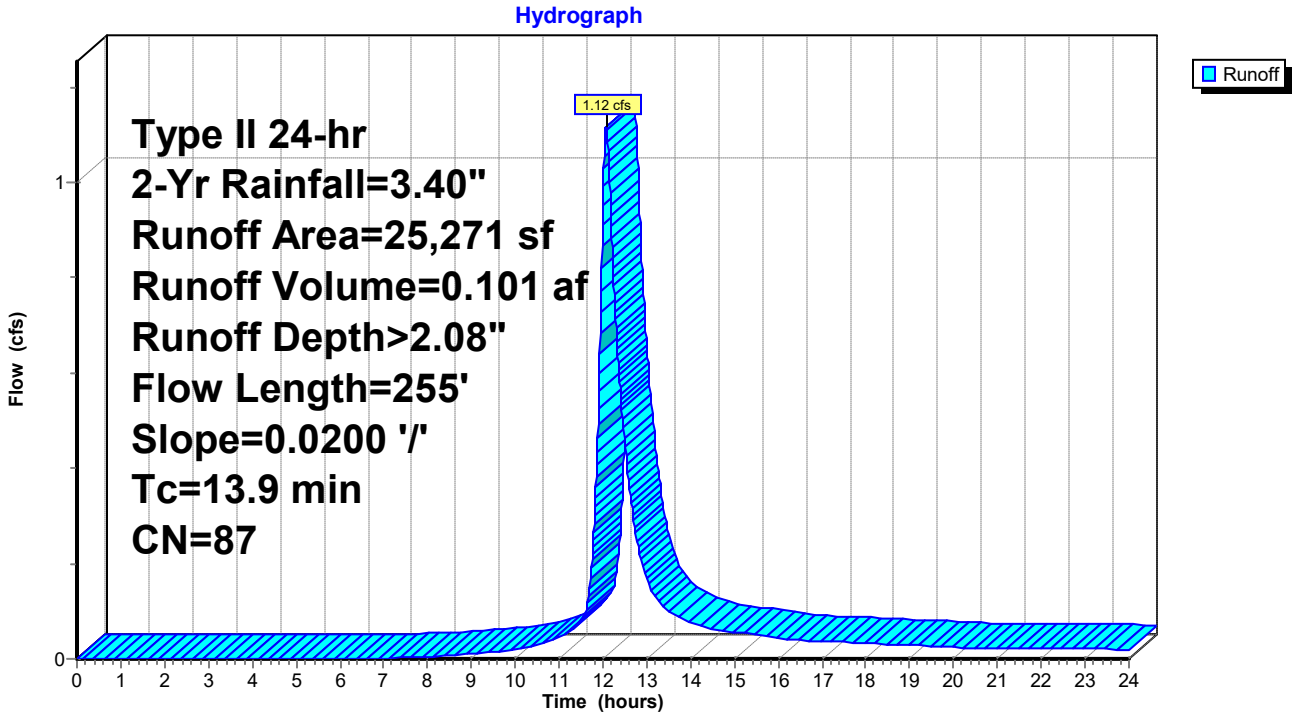
Runoff = 1.12 cfs @ 12.08 hrs, Volume= 0.101 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
13,781	98	Paved parking, HSG C
11,490	74	>75% Grass cover, Good, HSG C
25,271	87	Weighted Average
11,490		45.47% Pervious Area
13,781		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	105	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	255	Total			

Subcatchment 74: DA #33



Summary for Pond 75: I-34

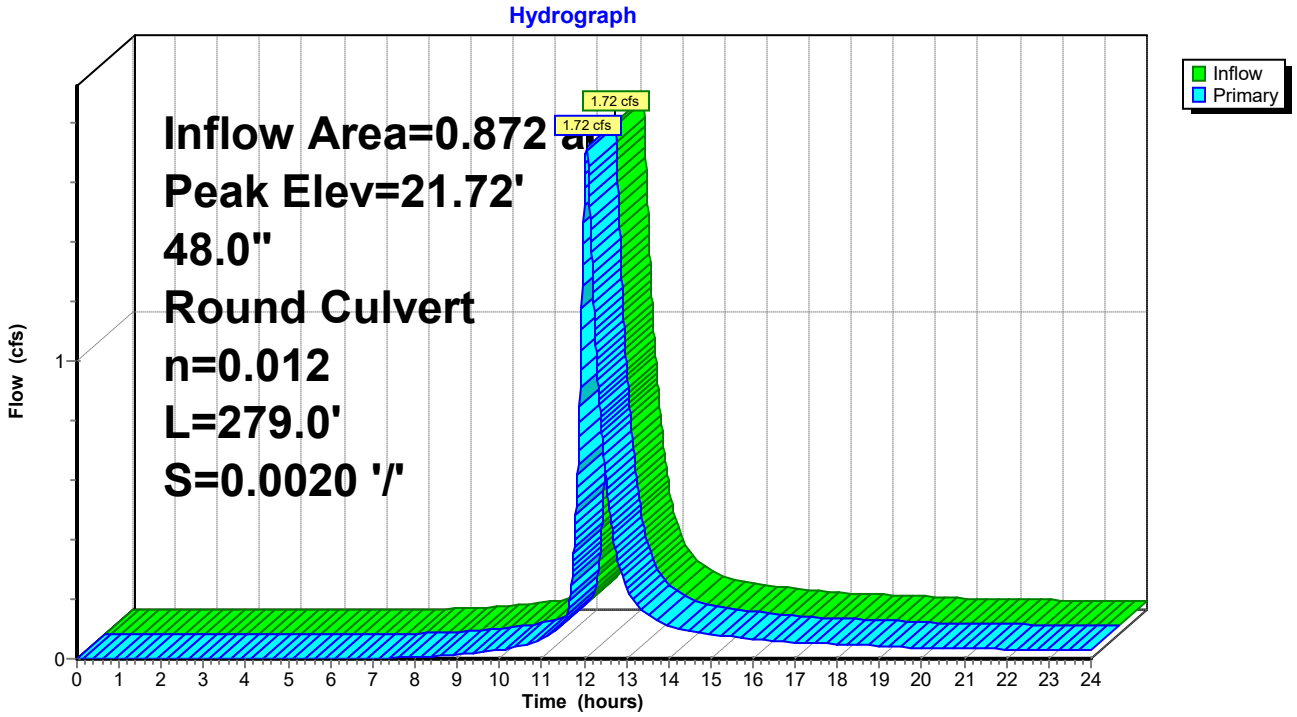
Inflow Area = 0.872 ac, 52.79% Impervious, Inflow Depth > 2.05" for 2-Yr event
Inflow = 1.72 cfs @ 12.06 hrs, Volume= 0.149 af
Outflow = 1.72 cfs @ 12.06 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 12.06 hrs, Volume= 0.149 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.72' @ 12.11 hrs
Flood Elev= 21.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.26'	**48.0" Round Culvert** L= 279.0' Ke= 0.500 Inlet / Outlet Invert= 20.26' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=21.62' TW=21.63' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 75: I-34



Summary for Subcatchment 76: DA #34

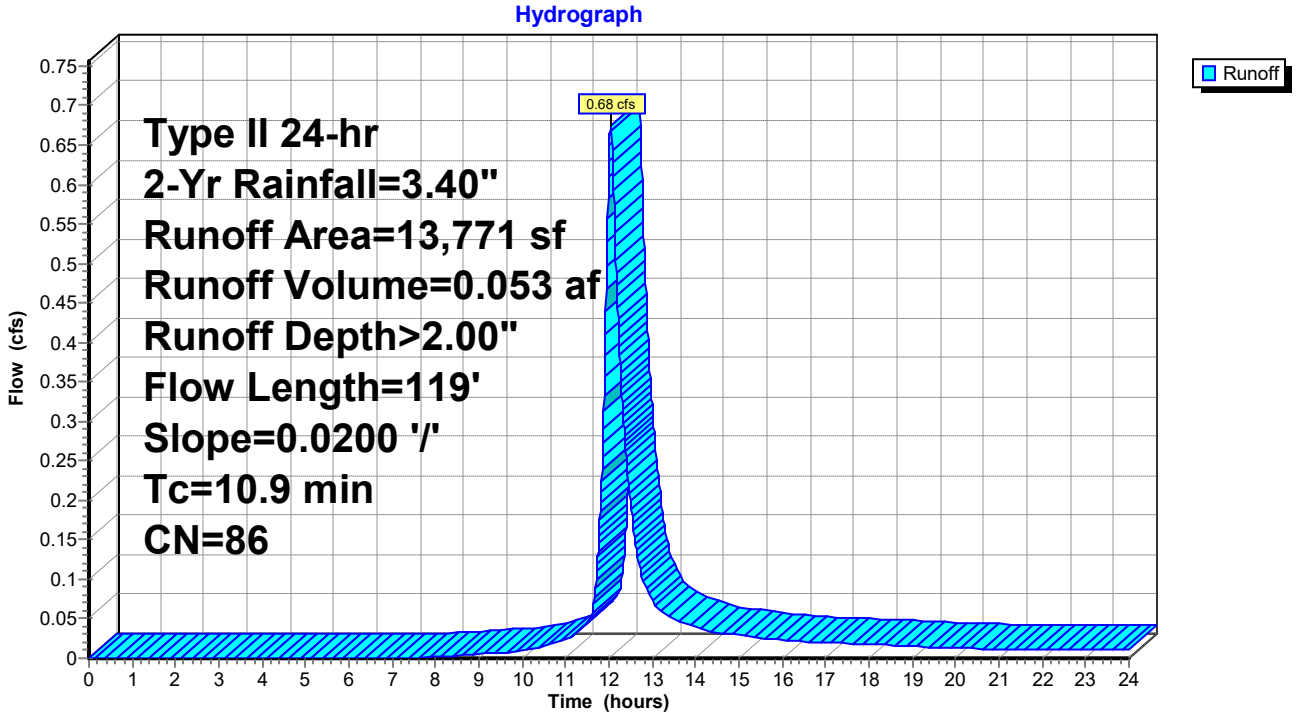
Runoff = 0.68 cfs @ 12.04 hrs, Volume= 0.053 af, Depth> 2.00"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
7,015	98	Paved parking, HSG C
6,756	74	>75% Grass cover, Good, HSG C
13,771	86	Weighted Average
6,756		49.06% Pervious Area
7,015		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	119	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 76: DA #34



Summary for Pond 77: I-35

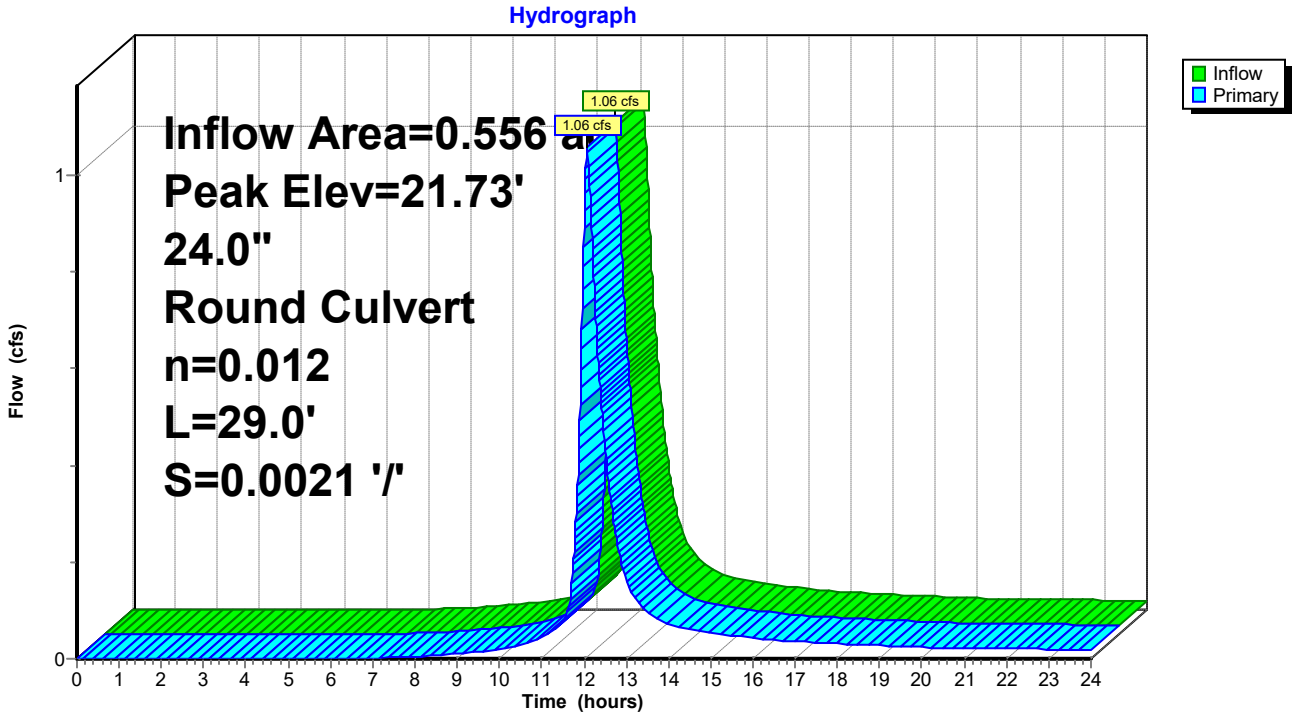
Inflow Area = 0.556 ac, 53.85% Impervious, Inflow Depth > 2.08" for 2-Yr event
Inflow = 1.06 cfs @ 12.08 hrs, Volume= 0.096 af
Outflow = 1.06 cfs @ 12.08 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.06 cfs @ 12.08 hrs, Volume= 0.096 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.73' @ 12.12 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.32'	**24.0" Round Culvert** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 20.32' / 20.26' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=21.67' TW=21.68' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 77: I-35



Summary for Subcatchment 78: DA #35

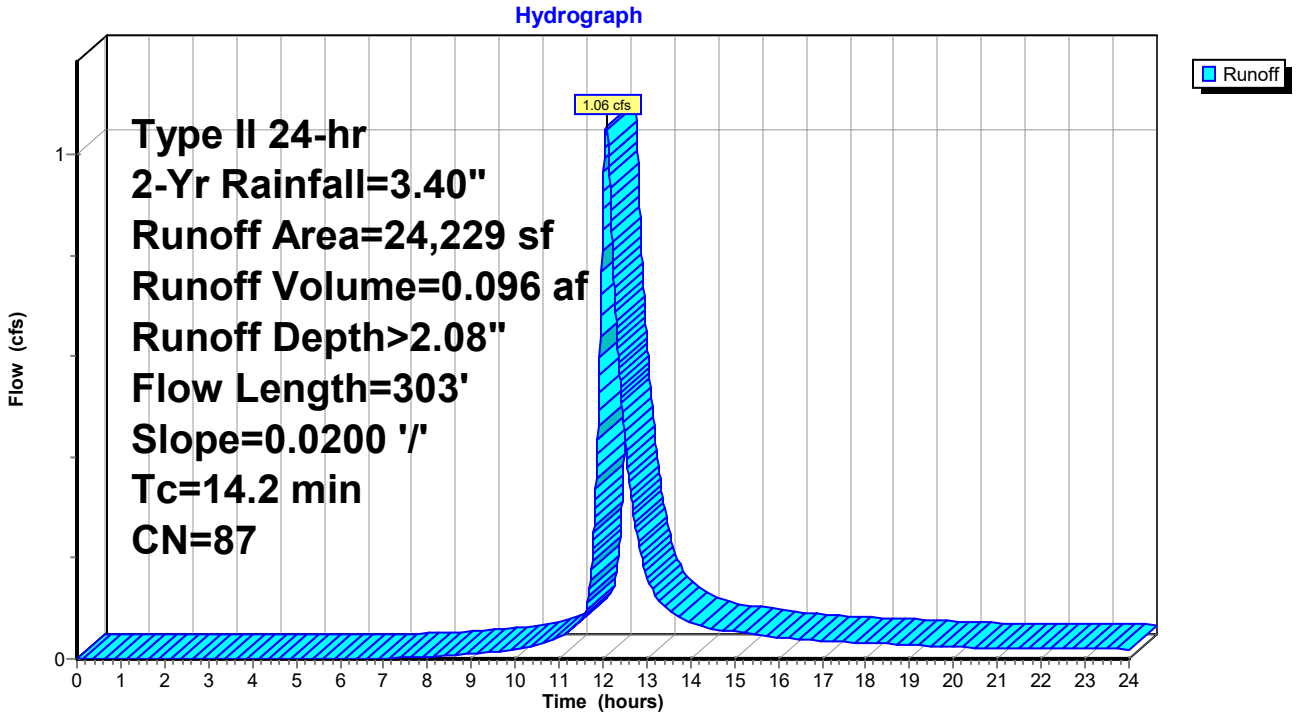
Runoff = 1.06 cfs @ 12.08 hrs, Volume= 0.096 af, Depth> 2.08"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
13,047	98	Paved parking, HSG C
11,182	74	>75% Grass cover, Good, HSG C
24,229	87	Weighted Average
11,182		46.15% Pervious Area
13,047		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	153	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	303	Total			

Subcatchment 78: DA #35



Summary for Pond 79: DA #1B PIPE

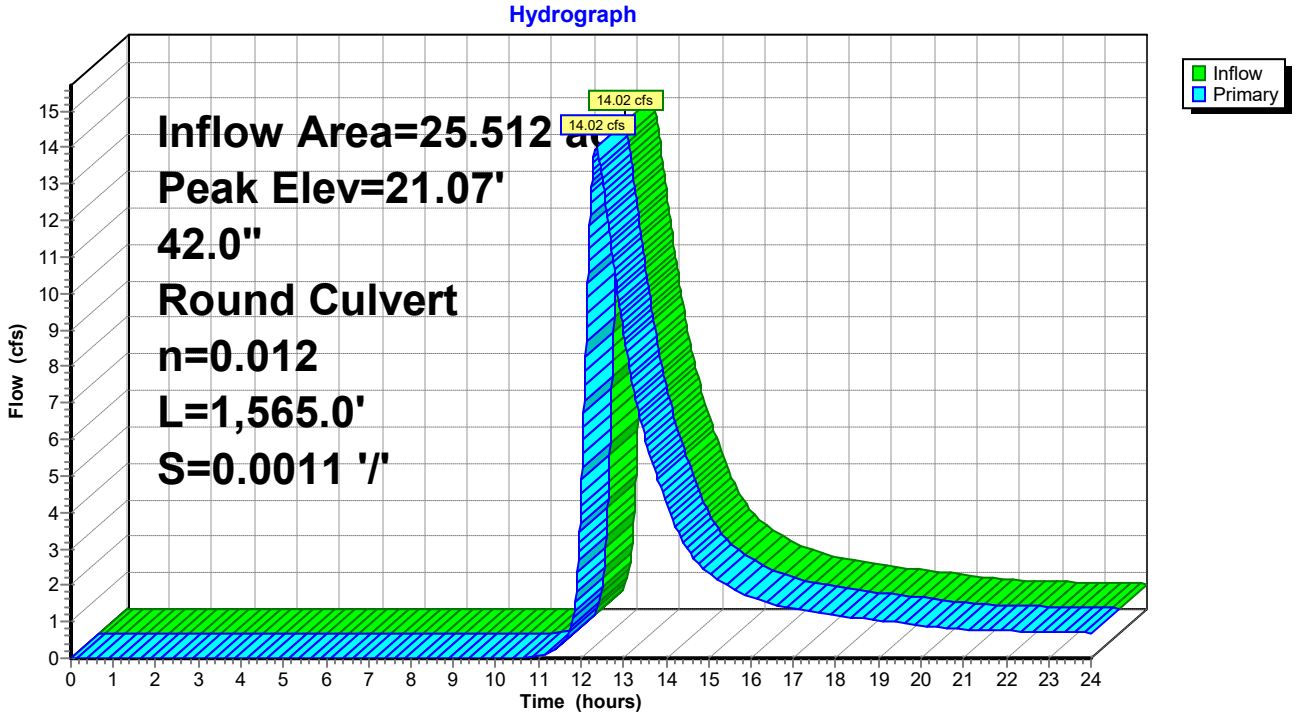
Inflow Area = 25.512 ac, 3.13% Impervious, Inflow Depth > 1.21" for 2-Yr event
Inflow = 14.02 cfs @ 12.39 hrs, Volume= 2.567 af
Outflow = 14.02 cfs @ 12.39 hrs, Volume= 2.567 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02 cfs @ 12.39 hrs, Volume= 2.567 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.07' @ 12.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**42.0" Round Culvert** L= 1,565.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 17.40' S= 0.0011 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=14.02 cfs @ 12.39 hrs HW=21.07' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 14.02 cfs @ 3.63 fps)

Pond 79: DA #1B PIPE



Summary for Subcatchment 80: DA #1B

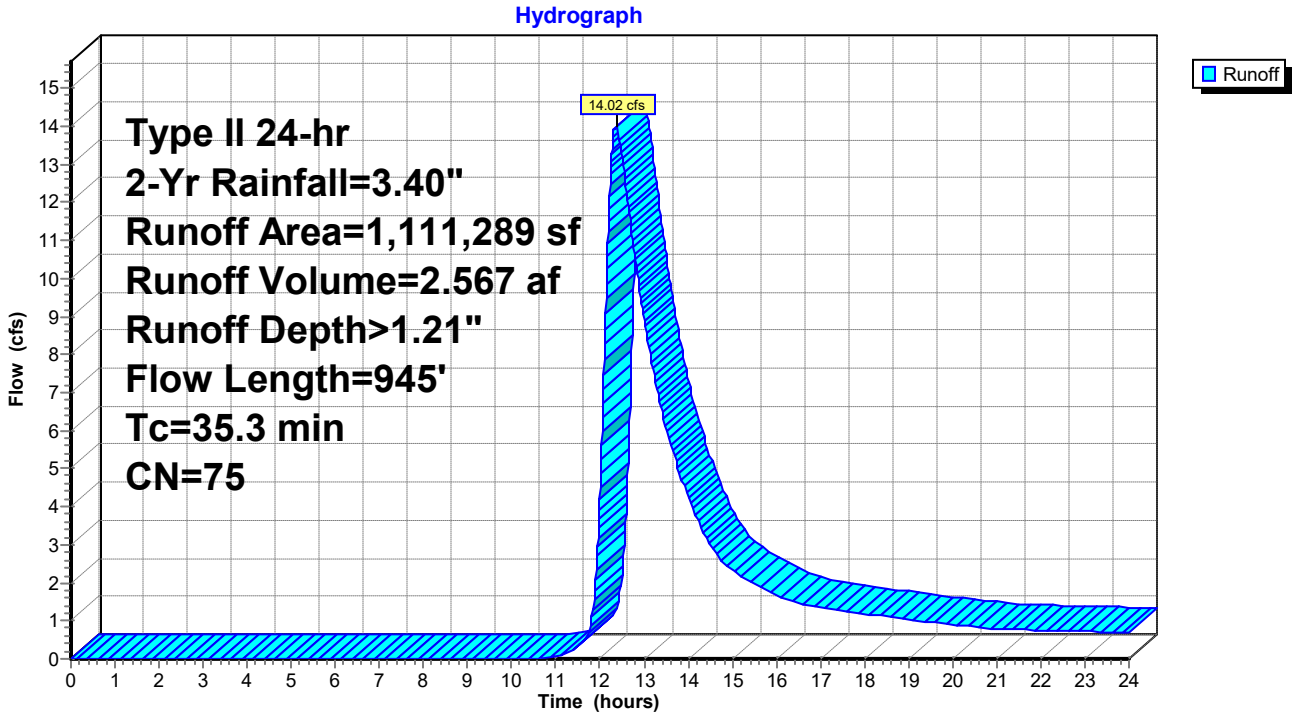
Runoff = 14.02 cfs @ 12.39 hrs, Volume= 2.567 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2-Yr Rainfall=3.40"

Area (sf)	CN	Description
34,819	98	Paved parking, HSG C
1,076,470	74	>75% Grass cover, Good, HSG C
1,111,289	75	Weighted Average
1,076,470		96.87% Pervious Area
34,819		3.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.3	100	0.0100	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
17.0	845	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
35.3	945	Total			

Subcatchment 80: DA #1B

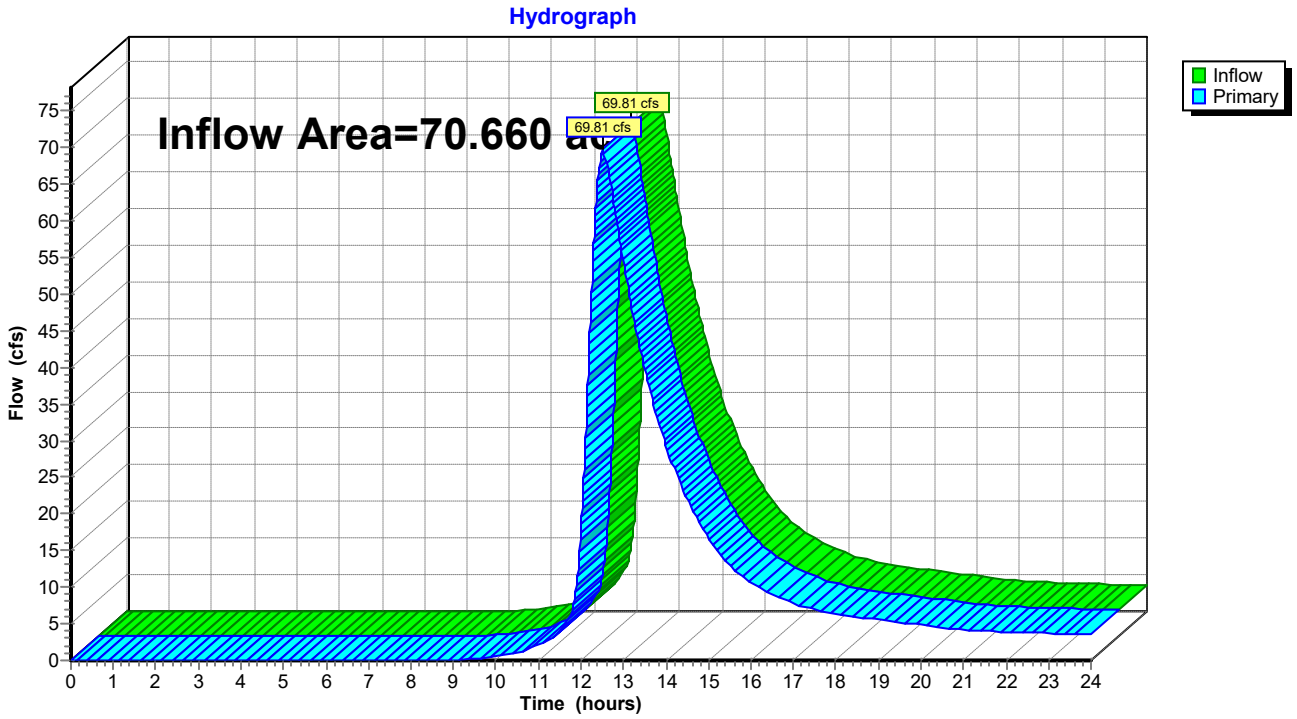


Summary for Link 1: POI-1 (PRE)

Inflow Area = 70.660 ac, 0.00% Impervious, Inflow Depth > 2.55" for 10-Yr event
Inflow = 69.81 cfs @ 12.51 hrs, Volume= 14.989 af
Primary = 69.81 cfs @ 12.51 hrs, Volume= 14.989 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 1: POI-1 (PRE)



Summary for Subcatchment 2: DA #1 (PRE)

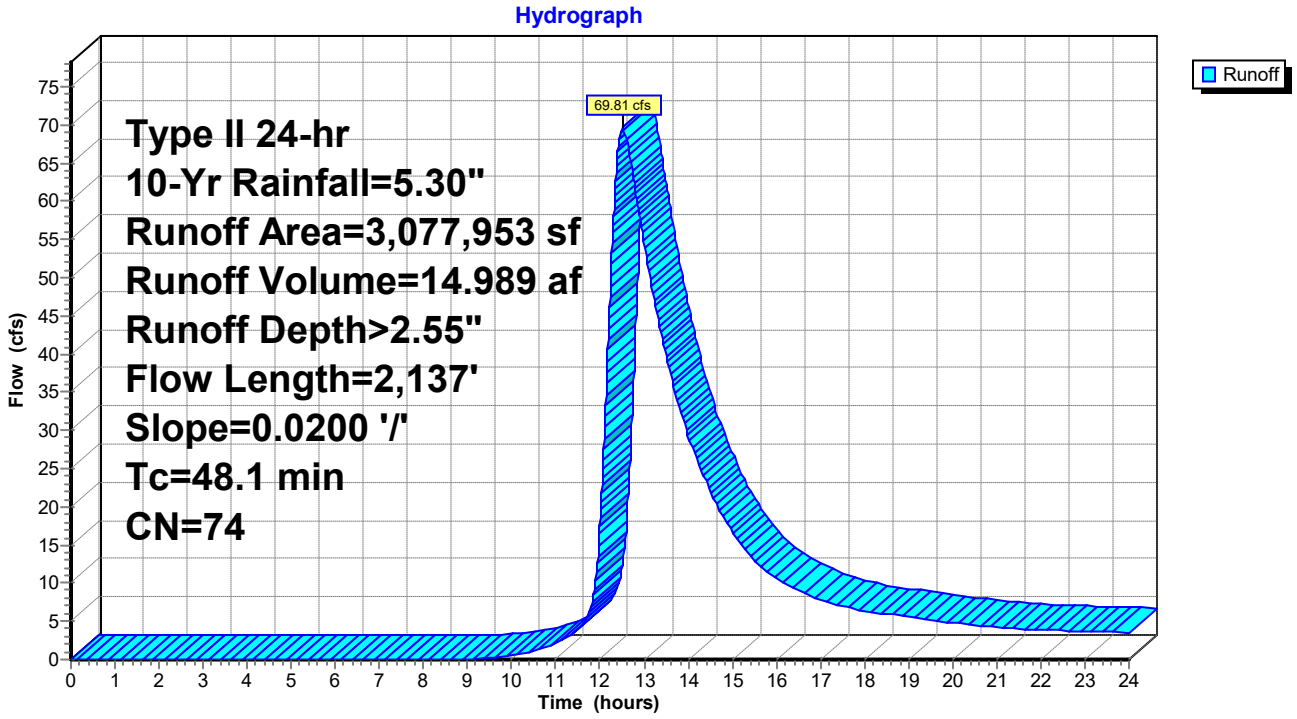
Runoff = 69.81 cfs @ 12.51 hrs, Volume= 14.989 af, Depth> 2.55"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
3,077,953	74	>75% Grass cover, Good, HSG C
3,077,953		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
34.3	2,037	0.0200	0.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
48.1	2,137	Total			

Subcatchment 2: DA #1 (PRE)

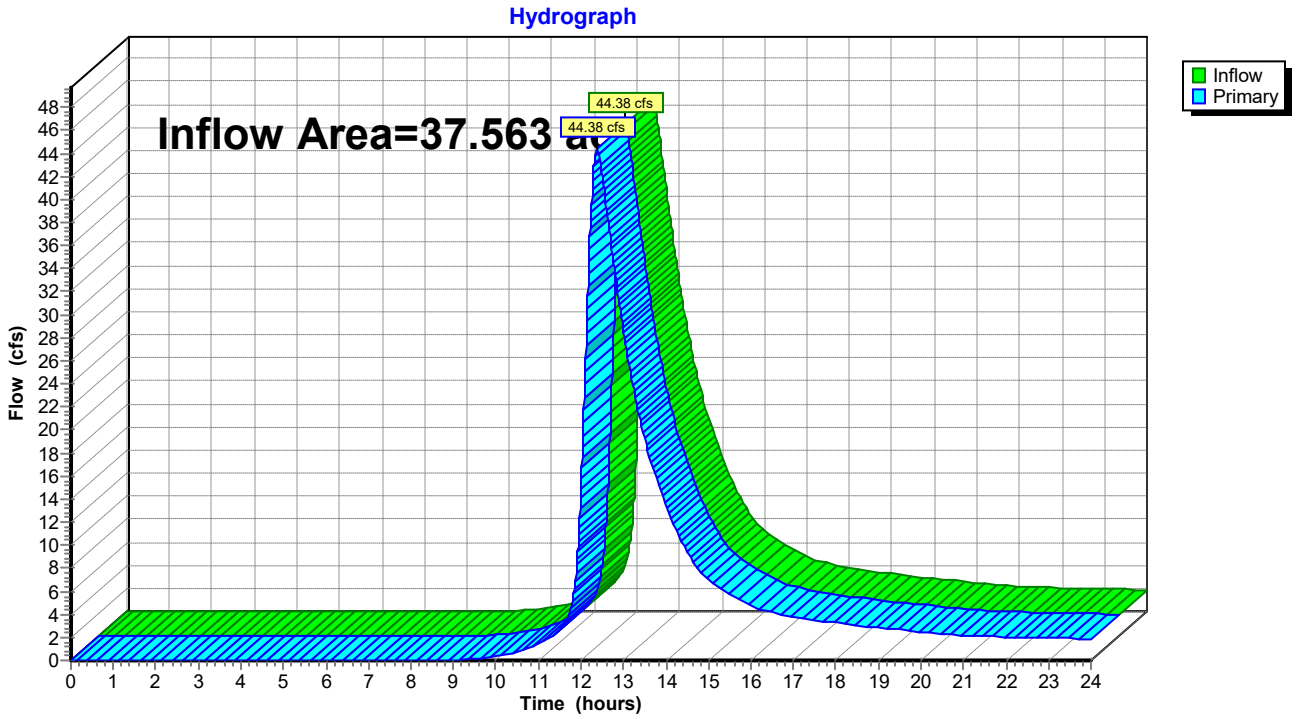


Summary for Link 3: POI-2 (PRE)

Inflow Area = 37.563 ac, 0.00% Impervious, Inflow Depth > 2.56" for 10-Yr event
Inflow = 44.38 cfs @ 12.38 hrs, Volume= 8.009 af
Primary = 44.38 cfs @ 12.38 hrs, Volume= 8.009 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 3: POI-2 (PRE)



Summary for Subcatchment 4: DA #2 (PRE)

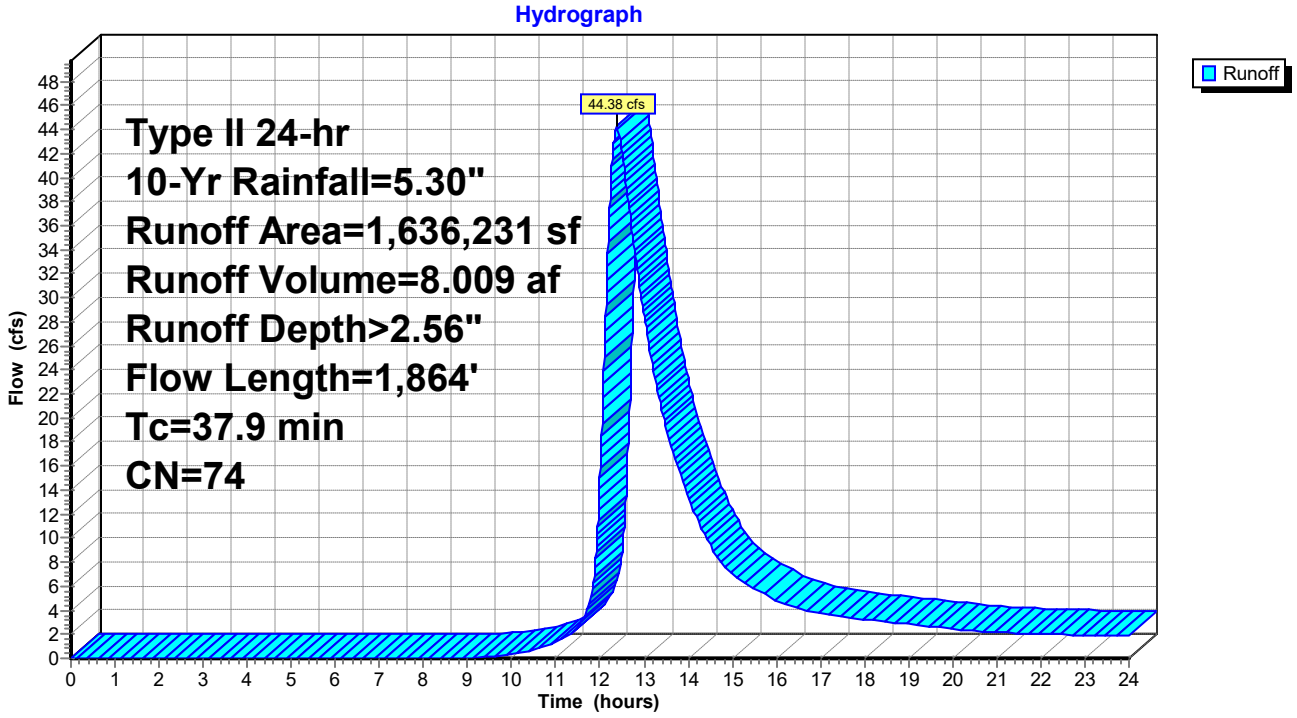
Runoff = 44.38 cfs @ 12.38 hrs, Volume= 8.009 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
1,636,231	74	>75% Grass cover, Good, HSG C
1,636,231		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
10.5	482	0.0120	0.77		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
37.9	1,864	Total			

Subcatchment 4: DA #2 (PRE)

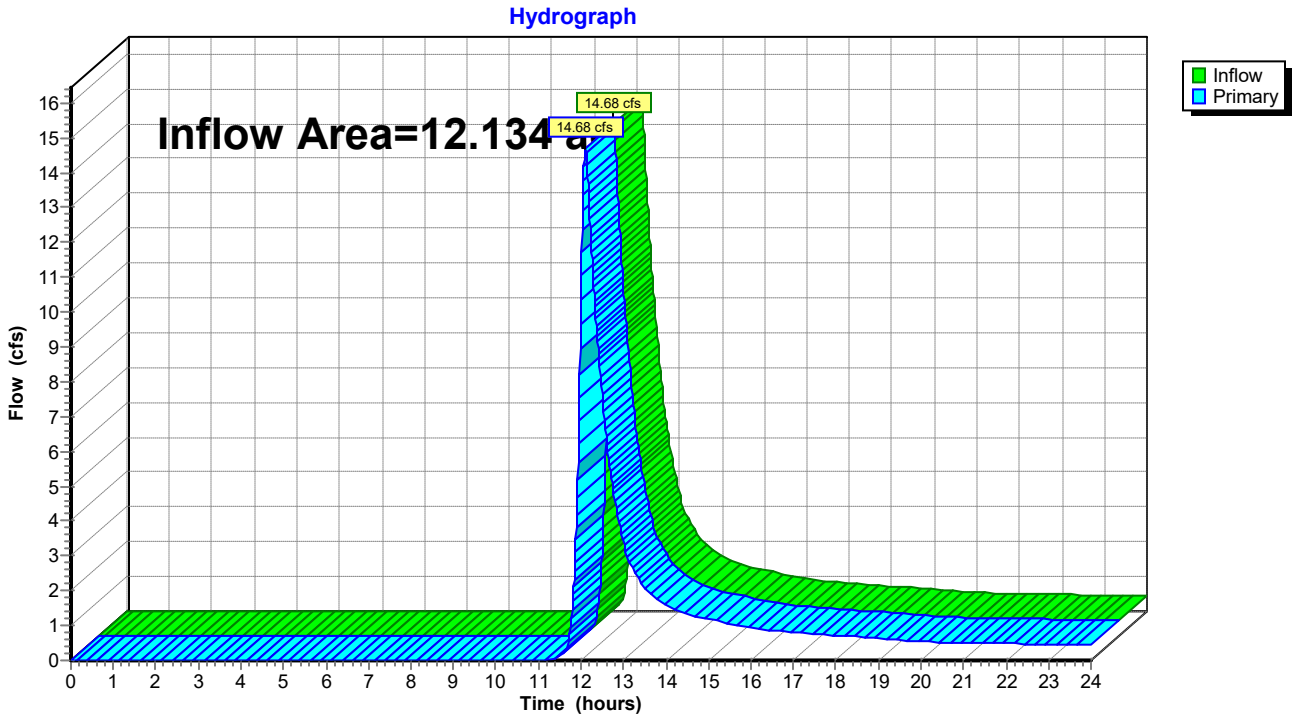


Summary for Link 5: POI-3 (PRE)

Inflow Area = 12.134 ac, 0.00% Impervious, Inflow Depth > 1.54" for 10-Yr event
Inflow = 14.68 cfs @ 12.11 hrs, Volume= 1.556 af
Primary = 14.68 cfs @ 12.11 hrs, Volume= 1.556 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 5: POI-3 (PRE)



Summary for Subcatchment 6: DA #3 (PRE)

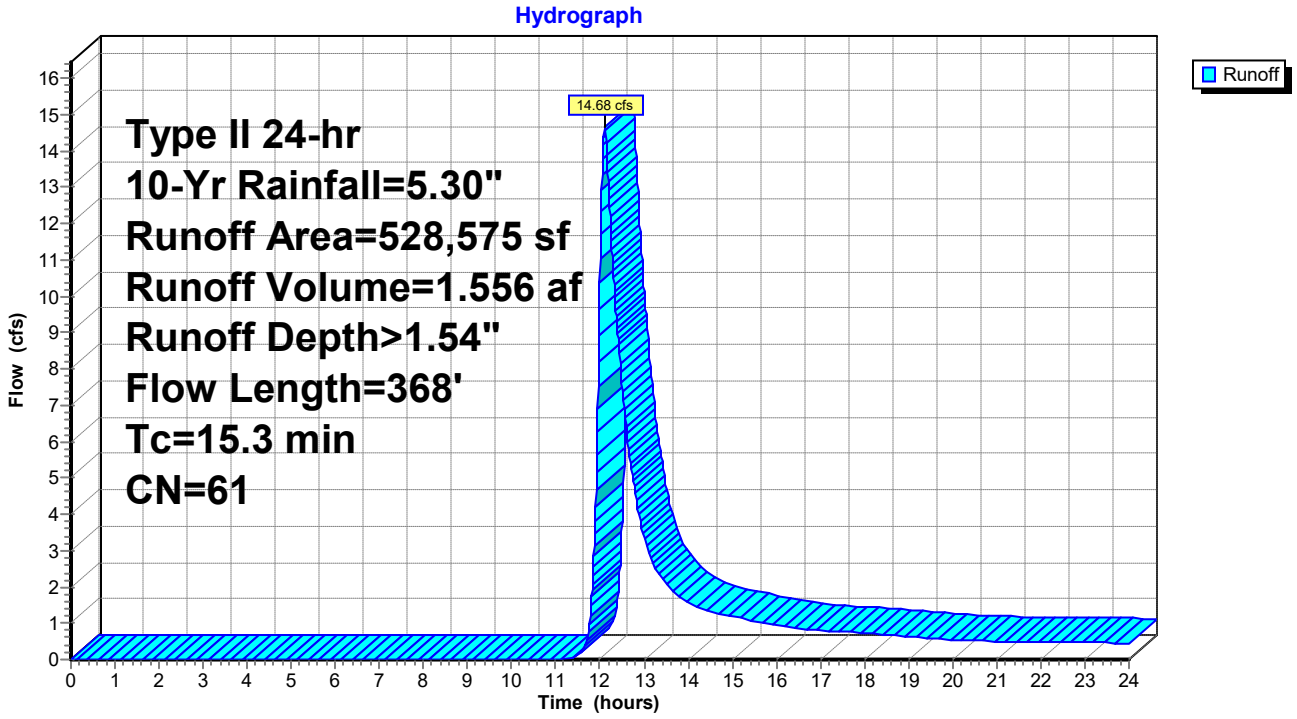
Runoff = 14.68 cfs @ 12.11 hrs, Volume= 1.556 af, Depth> 1.54"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
528,575	61	>75% Grass cover, Good, HSG B
528,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0230	0.13		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
2.2	268	0.0810	1.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
15.3	368	Total			

Subcatchment 6: DA #3 (PRE)

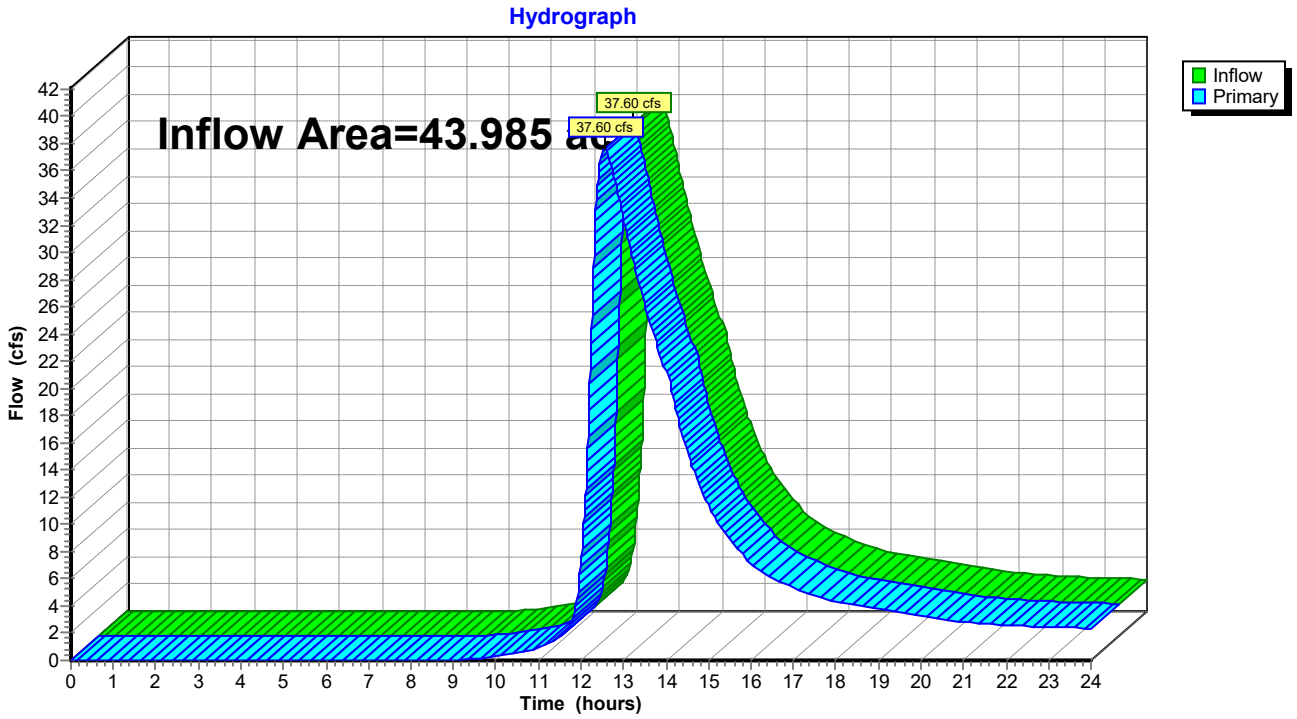


Summary for Link 7: POI-2 (POST)

Inflow Area = 43.985 ac, 16.02% Impervious, Inflow Depth > 2.54" for 10-Yr event
Inflow = 37.60 cfs @ 12.59 hrs, Volume= 9.327 af
Primary = 37.60 cfs @ 12.59 hrs, Volume= 9.327 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 7: POI-2 (POST)



Summary for Subcatchment 8: DA #2B

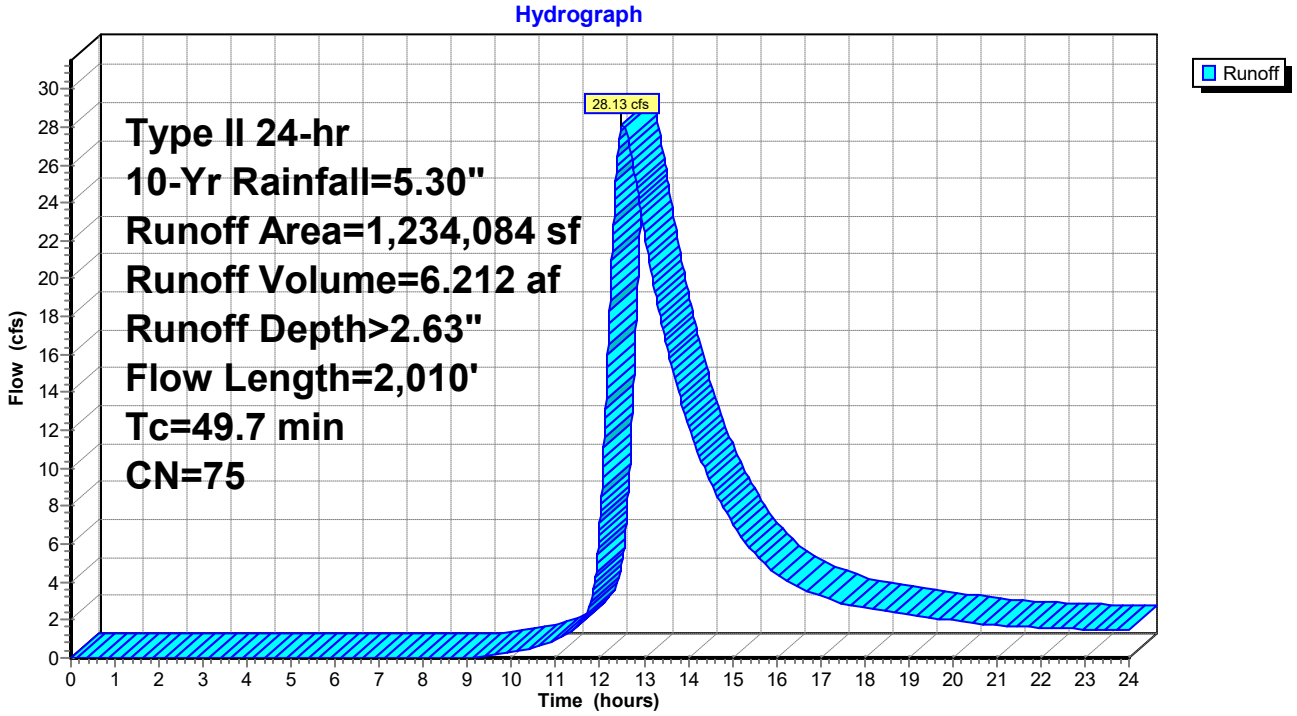
Runoff = 28.13 cfs @ 12.49 hrs, Volume= 6.212 af, Depth> 2.63"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
65,036	98	Paved parking, HSG C
1,169,048	74	>75% Grass cover, Good, HSG C
1,234,084	75	Weighted Average
1,169,048		94.73% Pervious Area
65,036		5.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0070	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
15.0	628	0.0100	0.70		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
49.7	2,010	Total			

Subcatchment 8: DA #2B



Summary for Pond 9: SGW #2

Inflow Area = 15.654 ac, 35.49% Impervious, Inflow Depth > 3.42" for 10-Yr event
Inflow = 43.33 cfs @ 12.11 hrs, Volume= 4.466 af
Outflow = 9.93 cfs @ 12.96 hrs, Volume= 3.115 af, Atten= 77%, Lag= 51.2 min
Primary = 9.93 cfs @ 12.96 hrs, Volume= 3.115 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 16.98' @ 12.96 hrs Surf.Area= 57,463 sf Storage= 96,897 cf

Plug-Flow detention time= 195.0 min calculated for 3.114 af (70% of inflow)
Center-of-Mass det. time= 99.4 min (924.1 - 824.7)

Volume	Invert	Avail.Storage	Storage Description
#1	15.20'	167,693 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

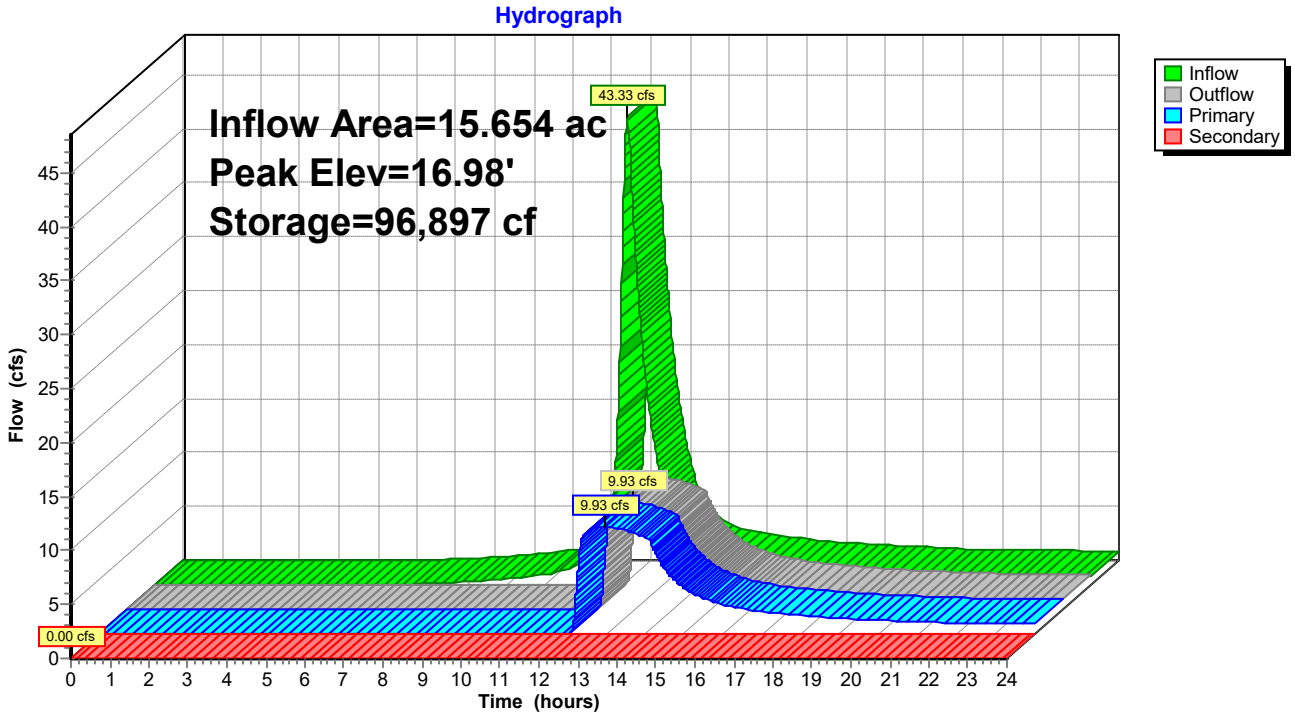
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.20	51,291	1,138.9	0	0	51,291
17.20	58,238	1,176.6	109,455	109,455	58,613
18.20	58,238	1,176.6	58,238	167,693	59,790

Device	Routing	Invert	Outlet Devices
#1	Primary	14.87'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 14.87' / 13.00' S= 0.0334 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	16.20'	**8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	17.20'	**124.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.93 cfs @ 12.96 hrs HW=16.98' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.93 cfs @ 5.62 fps)
└─**2=Sharp-Crested Rectangular Weir** (Passes 9.93 cfs of 18.12 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=15.20' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 9: SGW #2


Hydrograph
Inflow Area=15.654 ac
Peak Elev=16.98'
Storage=96,897 cf
43.33 cfs
9.93 cfs
9.93 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Subcatchment 10: DA #2A

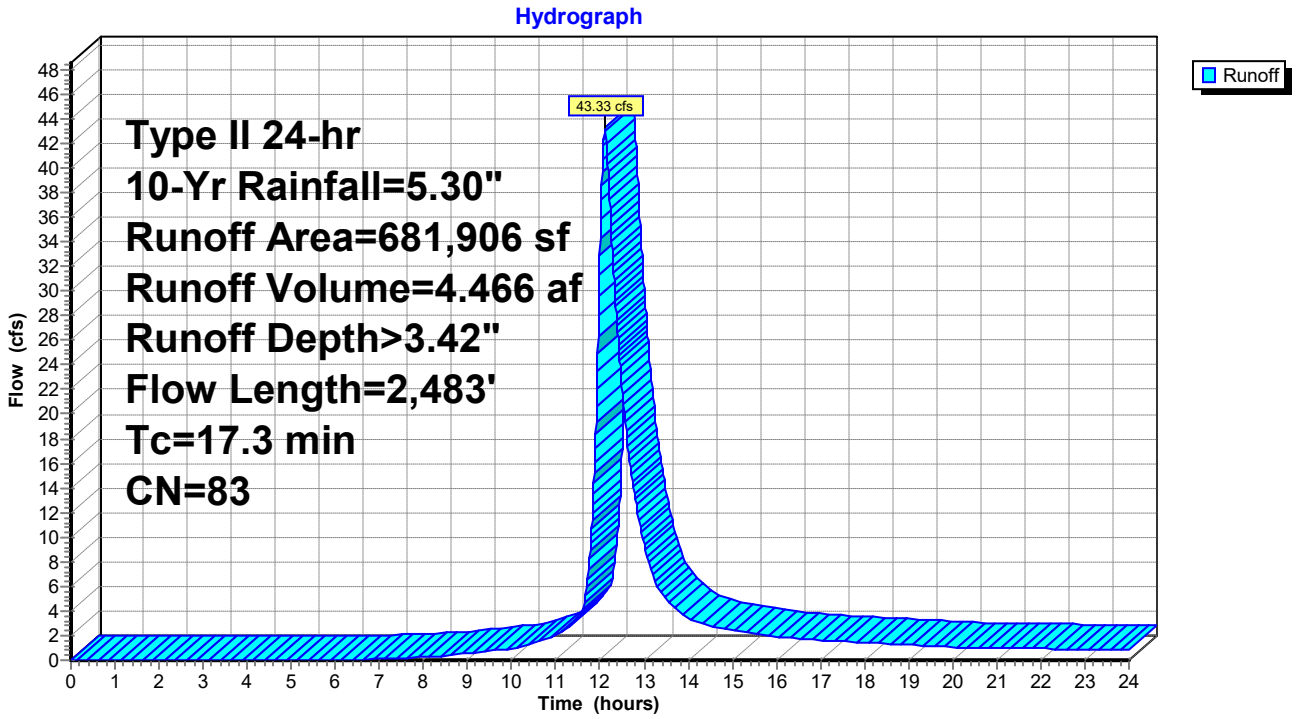
Runoff = 43.33 cfs @ 12.11 hrs, Volume= 4.466 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
241,979	98	Paved parking, HSG C
439,927	74	>75% Grass cover, Good, HSG C
681,906	83	Weighted Average
439,927		64.51% Pervious Area
241,979		35.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	69	0.0200	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.4	29	0.0208	1.12		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.40"
9.8	2,385	0.0020	4.05	19.87	**Pipe Channel, C-D** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012
17.3	2,483	Total			

Subcatchment 10: DA #2A

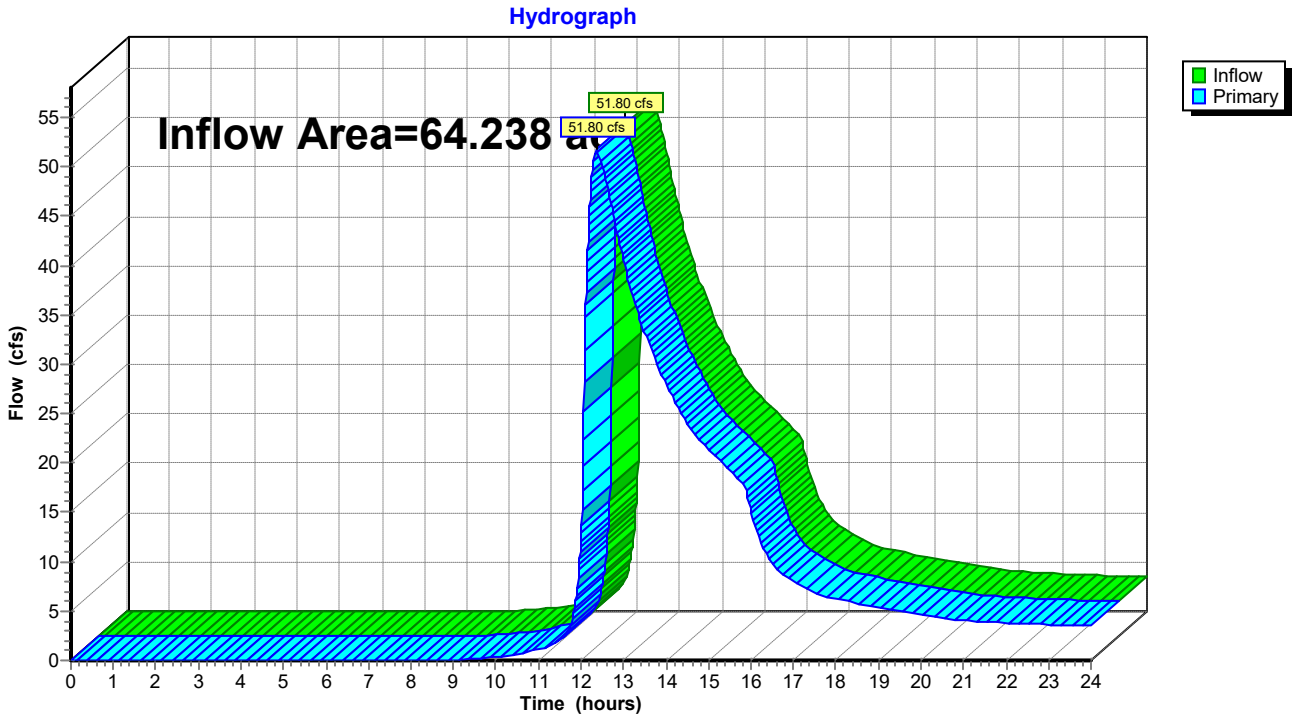


Summary for Link 11: POI-1 (POST)

Inflow Area = 64.238 ac, 24.41% Impervious, Inflow Depth > 2.60" for 10-Yr event
Inflow = 51.80 cfs @ 12.39 hrs, Volume= 13.918 af
Primary = 51.80 cfs @ 12.39 hrs, Volume= 13.918 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 11: POI-1 (POST)



Summary for Pond 12: SGW #1

Inflow Area = 38.726 ac, 38.43% Impervious, Inflow Depth > 3.47" for 10-Yr event
Inflow = 123.92 cfs @ 12.06 hrs, Volume= 11.208 af
Outflow = 20.86 cfs @ 12.92 hrs, Volume= 8.283 af, Atten= 83%, Lag= 51.2 min
Primary = 20.86 cfs @ 12.92 hrs, Volume= 8.283 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.01' @ 12.92 hrs Surf.Area= 125,562 sf Storage= 254,671 cf

Plug-Flow detention time= 199.5 min calculated for 8.283 af (74% of inflow)
Center-of-Mass det. time= 108.6 min (924.4 - 815.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.90'	497,834 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

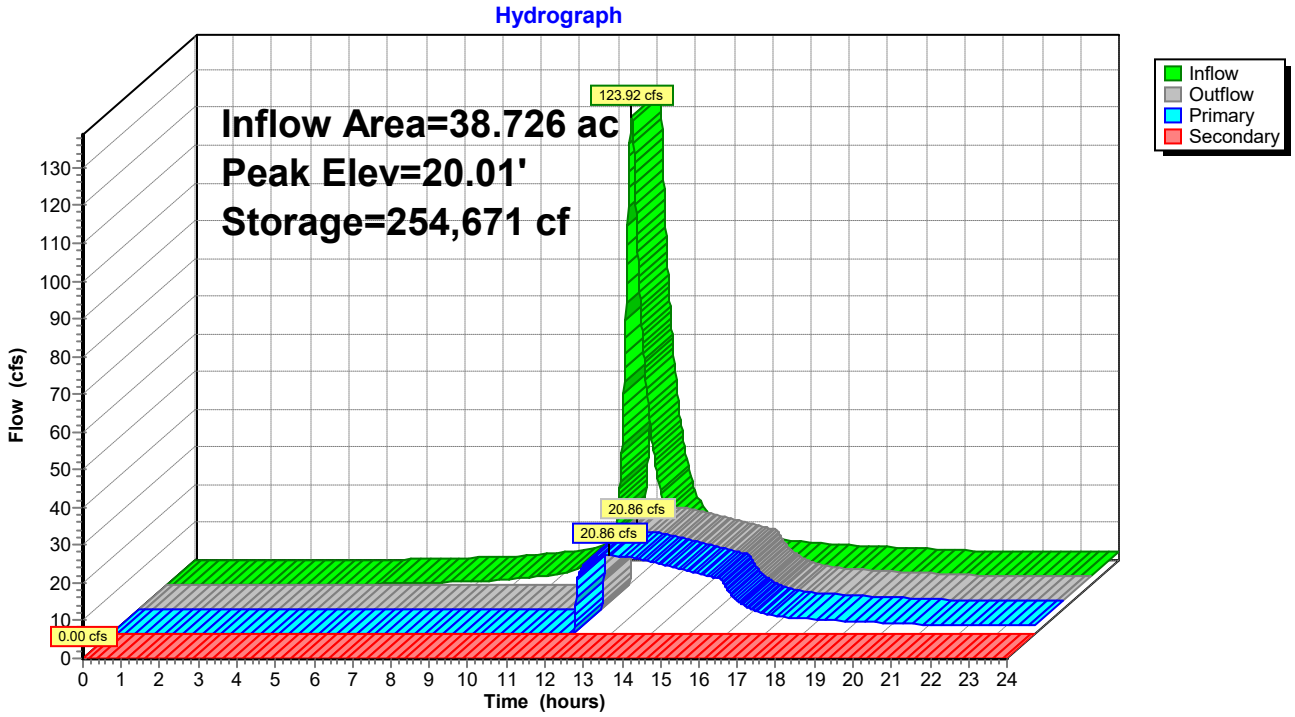
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
17.90	115,549	1,565.0	0	0	115,549
20.90	129,888	1,621.5	367,946	367,946	130,652
21.90	129,888	1,621.5	129,888	497,834	132,274

Device	Routing	Invert	Outlet Devices
#1	Primary	17.57'	**12.0" Round Culvert X 4.00** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 17.57' / 17.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	18.90'	**30.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	20.40'	**80.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=20.86 cfs @ 12.92 hrs HW=20.01' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 20.86 cfs @ 6.64 fps)
└─**2=Sharp-Crested Rectangular Weir** (Passes 20.86 cfs of 115.20 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=17.90' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 12: SGW #1


Hydrograph
Inflow Area=38.726 ac
Peak Elev=20.01'
Storage=254,671 cf
123.92 cfs
20.86 cfs
20.86 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Reach 13: S Swale

Inflow Area = 6.884 ac, 0.00% Impervious, Inflow Depth > 2.60" for 10-Yr event
Inflow = 28.27 cfs @ 11.97 hrs, Volume= 1.492 af
Outflow = 22.71 cfs @ 12.03 hrs, Volume= 1.478 af, Atten= 20%, Lag= 3.4 min

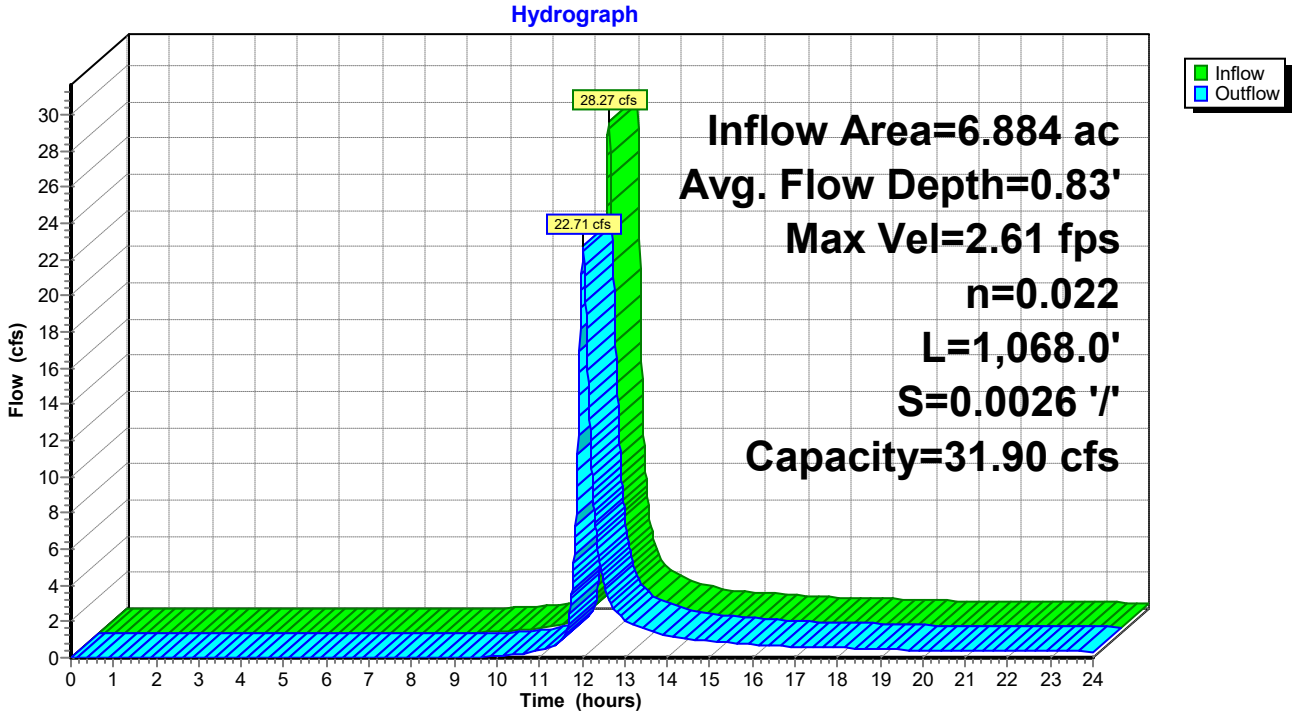
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.61 fps, Min. Travel Time= 6.8 min
Avg. Velocity = 0.74 fps, Avg. Travel Time= 23.9 min

Peak Storage= 9,283 cf @ 12.03 hrs
Average Depth at Peak Storage= 0.83'
Bank-Full Depth= 1.00' Flow Area= 11.0 sf, Capacity= 31.90 cfs

8.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,068.0' Slope= 0.0026 '/'
Inlet Invert= 22.70', Outlet Invert= 19.90'

‡

Reach 13: S Swale



Summary for Subcatchment 14: DA #3

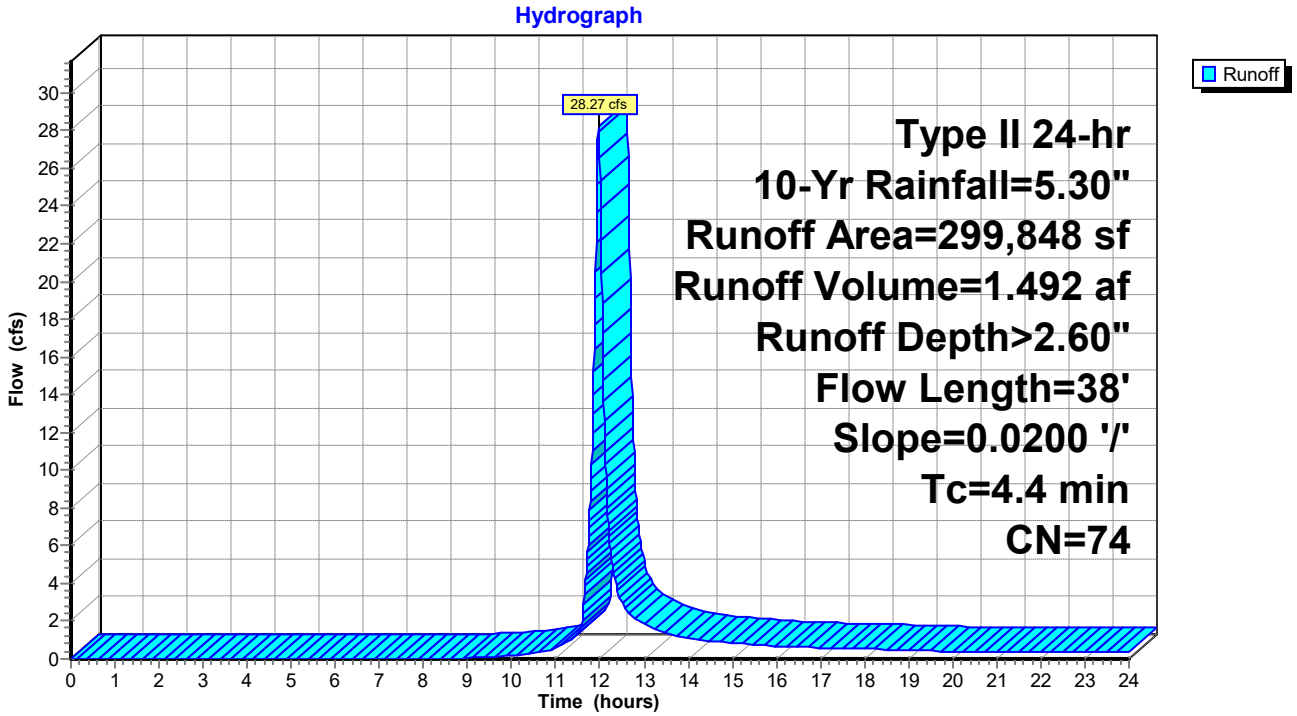
Runoff = 28.27 cfs @ 11.97 hrs, Volume= 1.492 af, Depth> 2.60"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
299,848	74	>75% Grass cover, Good, HSG C
299,848		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	38	0.0200	0.14		**Sheet Flow, Yard** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 14: DA #3



Summary for Pond 15: I-4

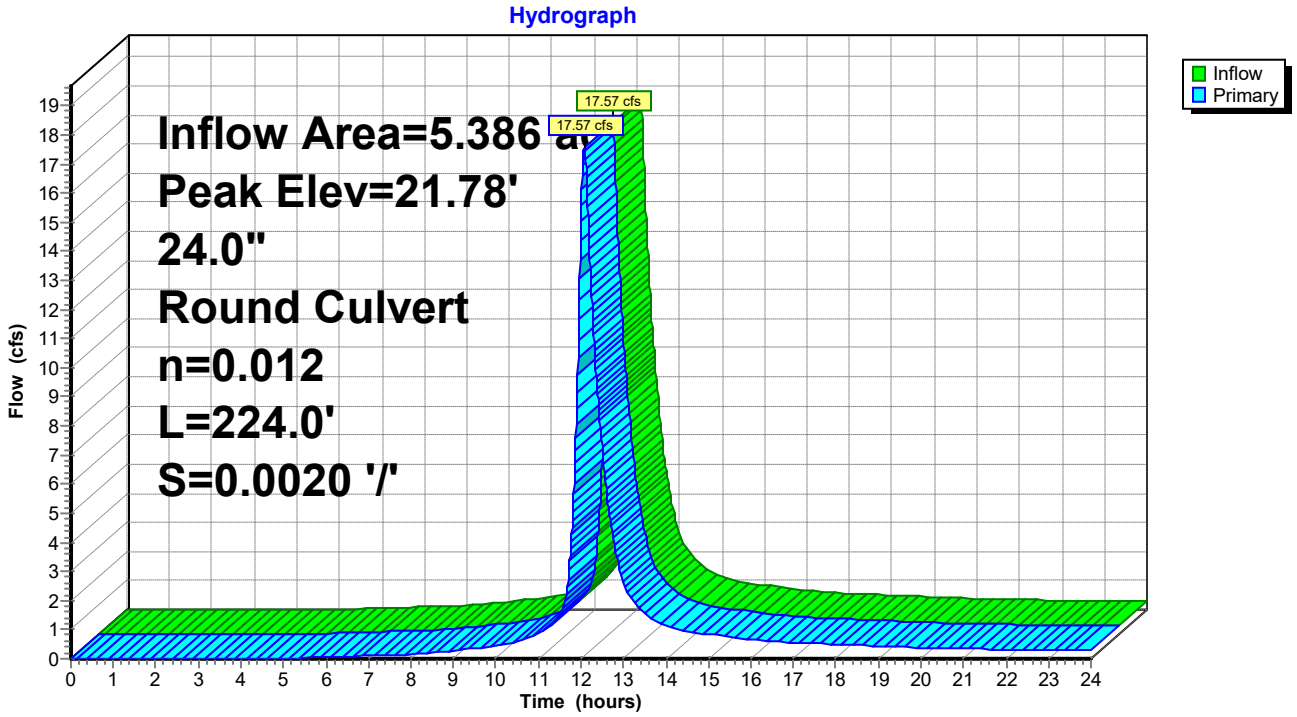
Inflow Area = 5.386 ac, 45.63% Impervious, Inflow Depth > 3.65" for 10-Yr event
Inflow = 17.57 cfs @ 12.08 hrs, Volume= 1.636 af
Outflow = 17.57 cfs @ 12.08 hrs, Volume= 1.636 af, Atten= 0%, Lag= 0.0 min
Primary = 17.57 cfs @ 12.08 hrs, Volume= 1.636 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.78' @ 12.08 hrs
Flood Elev= 25.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.35'	**24.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 18.35' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=17.56 cfs @ 12.08 hrs HW=21.78' TW=19.10' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 17.56 cfs @ 5.59 fps)

Pond 15: I-4



Summary for Subcatchment 16: DA #4

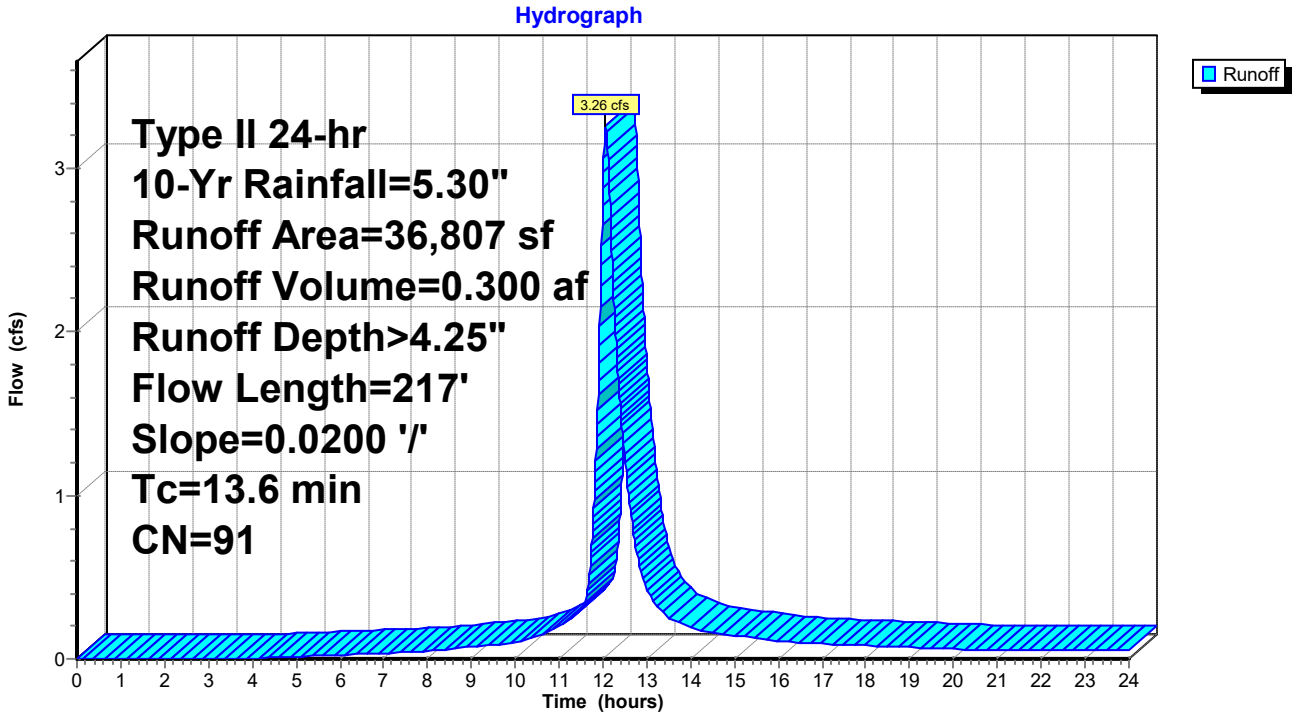
Runoff = 3.26 cfs @ 12.06 hrs, Volume= 0.300 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
25,762	98	Paved parking, HSG C
11,045	74	>75% Grass cover, Good, HSG C
36,807	91	Weighted Average
11,045		30.01% Pervious Area
25,762		69.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	67	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	217	Total			

Subcatchment 16: DA #4



Summary for Pond 17: I-5

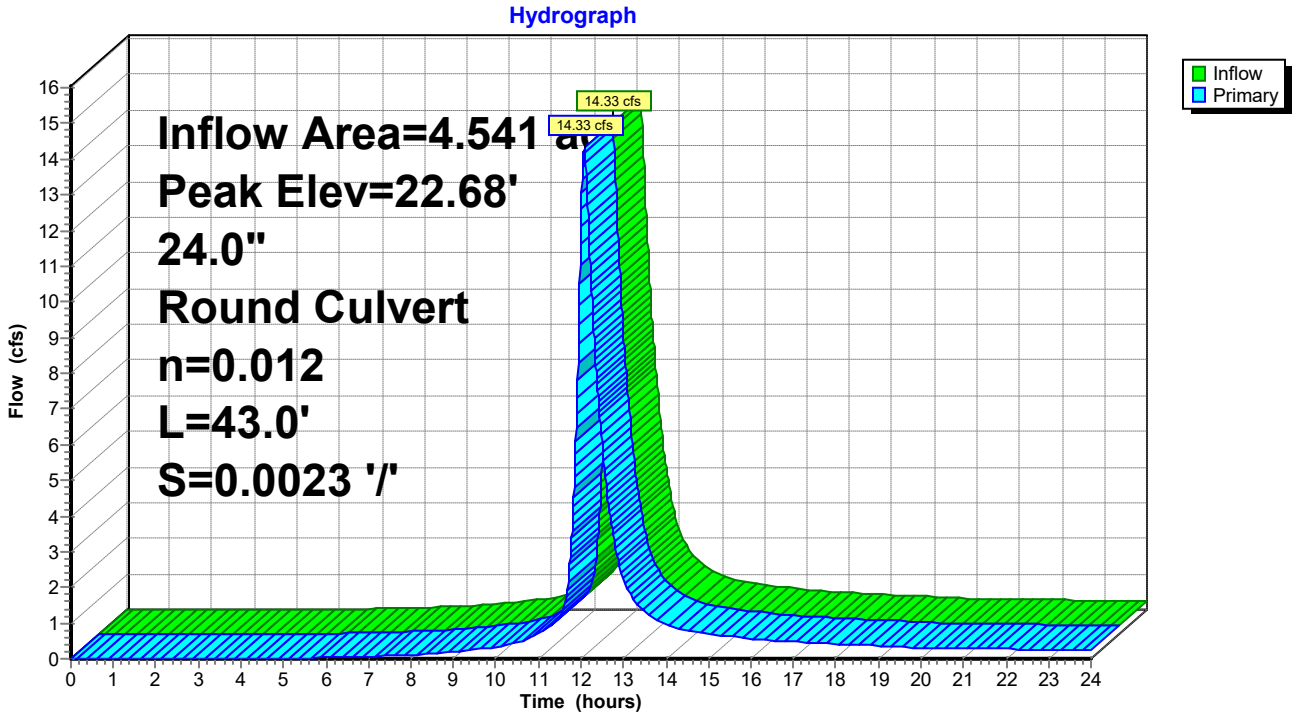
Inflow Area = 4.541 ac, 41.09% Impervious, Inflow Depth > 3.53" for 10-Yr event
Inflow = 14.33 cfs @ 12.08 hrs, Volume= 1.337 af
Outflow = 14.33 cfs @ 12.08 hrs, Volume= 1.337 af, Atten= 0%, Lag= 0.0 min
Primary = 14.33 cfs @ 12.08 hrs, Volume= 1.337 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.68' @ 12.08 hrs
Flood Elev= 26.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.45'	**24.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 18.45' / 18.35' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=14.25 cfs @ 12.08 hrs HW=22.67' TW=21.78' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 14.25 cfs @ 4.54 fps)

Pond 17: I-5



Summary for Subcatchment 18: DA #5

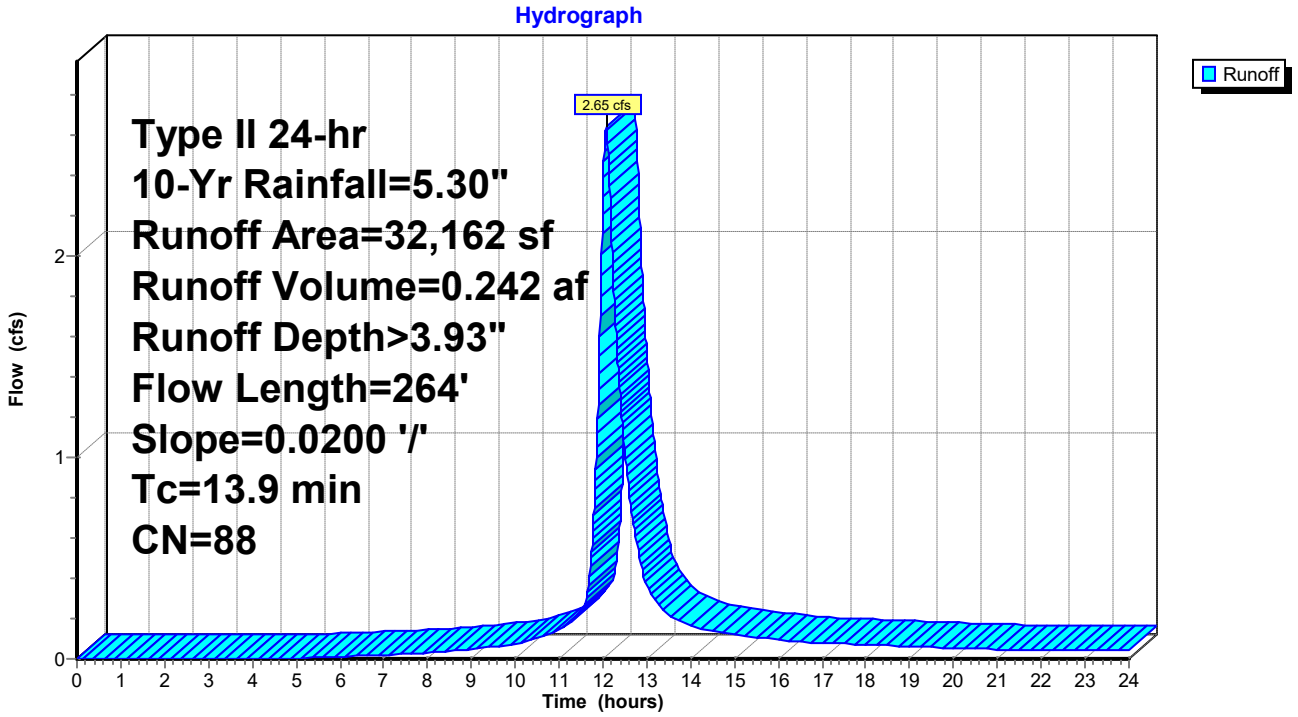
Runoff = 2.65 cfs @ 12.08 hrs, Volume= 0.242 af, Depth> 3.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
18,768	98	Paved parking, HSG C
13,394	74	>75% Grass cover, Good, HSG C
32,162	88	Weighted Average
13,394		41.65% Pervious Area
18,768		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	114	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	264	Total			

Subcatchment 18: DA #5



Summary for Pond 19: I-6

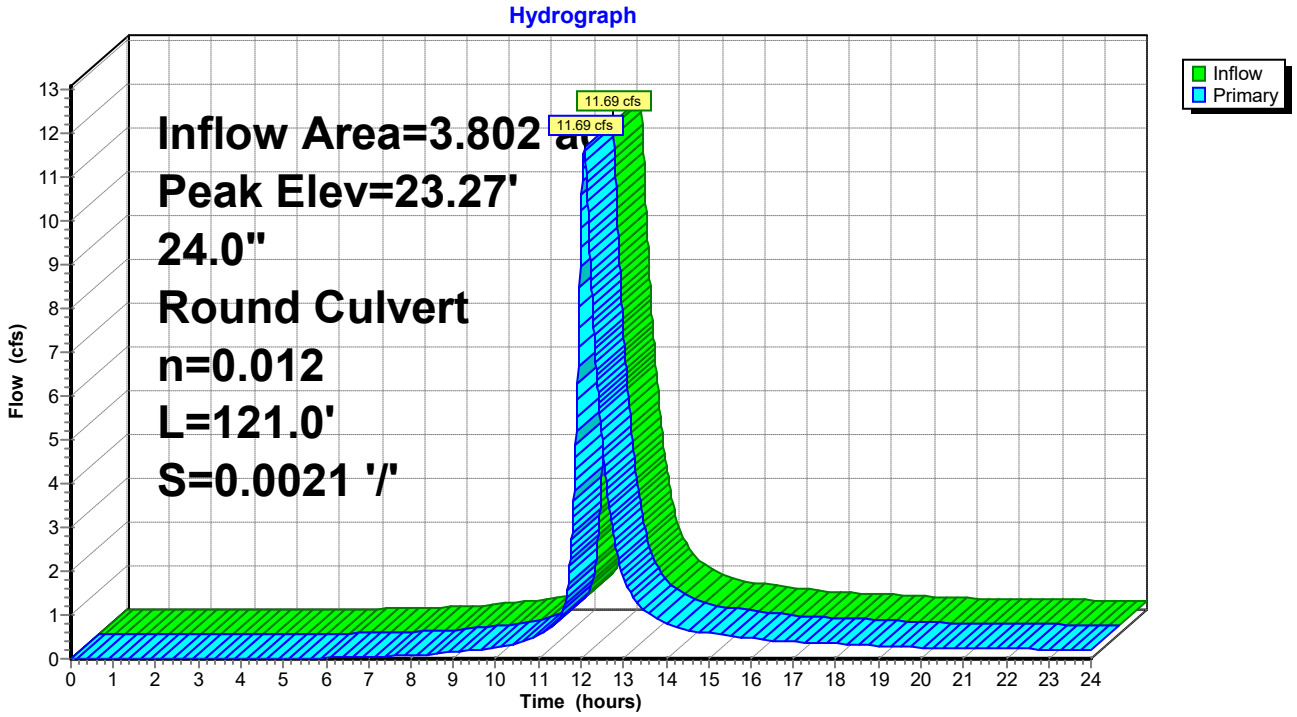
Inflow Area = 3.802 ac, 37.74% Impervious, Inflow Depth > 3.46" for 10-Yr event
Inflow = 11.69 cfs @ 12.08 hrs, Volume= 1.095 af
Outflow = 11.69 cfs @ 12.08 hrs, Volume= 1.095 af, Atten= 0%, Lag= 0.0 min
Primary = 11.69 cfs @ 12.08 hrs, Volume= 1.095 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.27' @ 12.09 hrs
Flood Elev= 27.27'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=11.41 cfs @ 12.08 hrs HW=23.24' TW=22.67' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 11.41 cfs @ 3.63 fps)

Pond 19: I-6



Summary for Subcatchment 20: DA #6

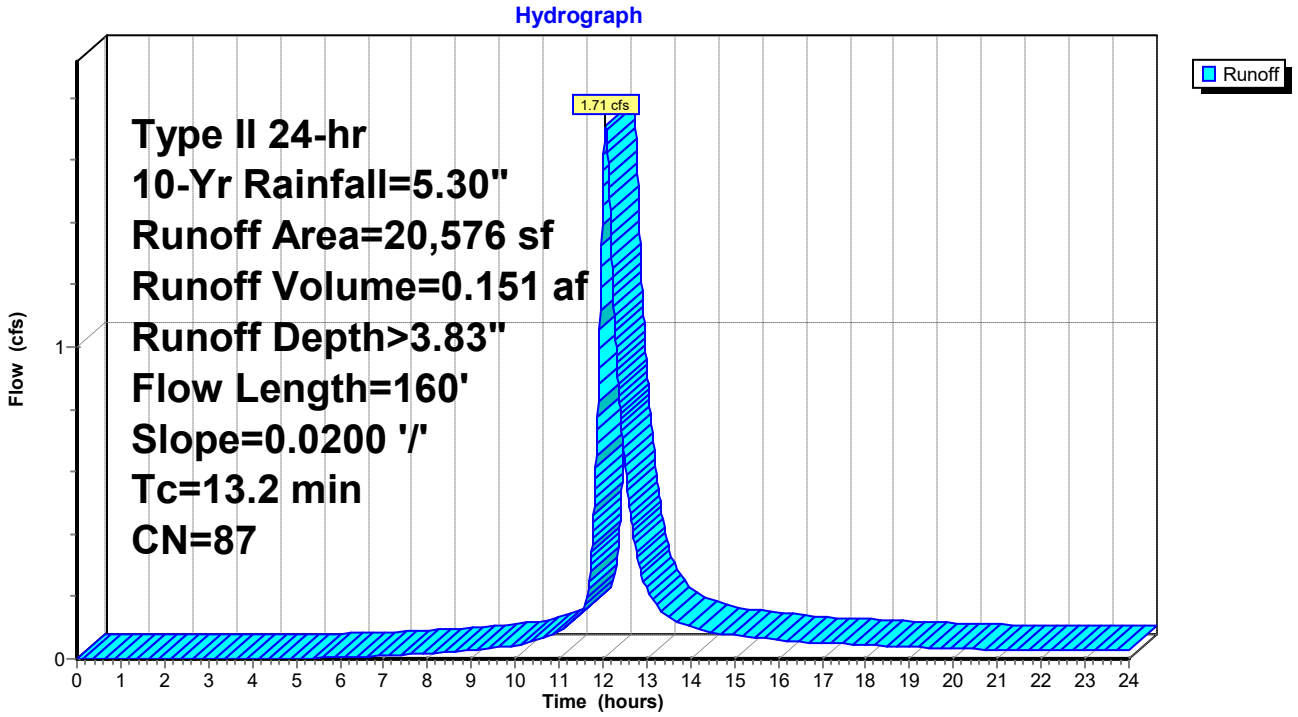
Runoff = 1.71 cfs @ 12.06 hrs, Volume= 0.151 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
10,975	98	Paved parking, HSG C
9,601	74	>75% Grass cover, Good, HSG C
20,576	87	Weighted Average
9,601		46.66% Pervious Area
10,975		53.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 20: DA #6



Summary for Pond 21: I-7

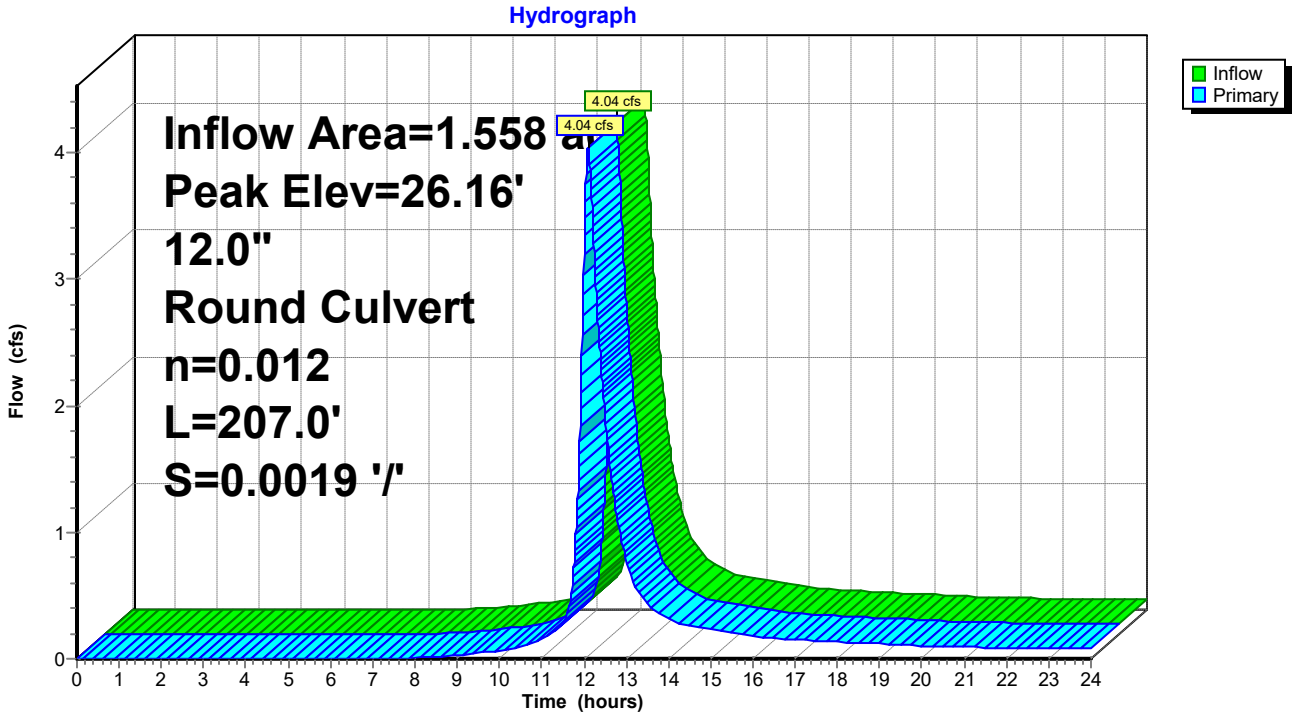
Inflow Area = 1.558 ac, 20.84% Impervious, Inflow Depth > 3.04" for 10-Yr event
Inflow = 4.04 cfs @ 12.11 hrs, Volume= 0.395 af
Outflow = 4.04 cfs @ 12.11 hrs, Volume= 0.395 af, Atten= 0%, Lag= 0.0 min
Primary = 4.04 cfs @ 12.11 hrs, Volume= 0.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.16' @ 12.10 hrs
Flood Elev= 27.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**12.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=4.07 cfs @ 12.11 hrs HW=26.15' TW=23.21' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 4.07 cfs @ 5.19 fps)

Pond 21: I-7



Summary for Subcatchment 22: DA #7

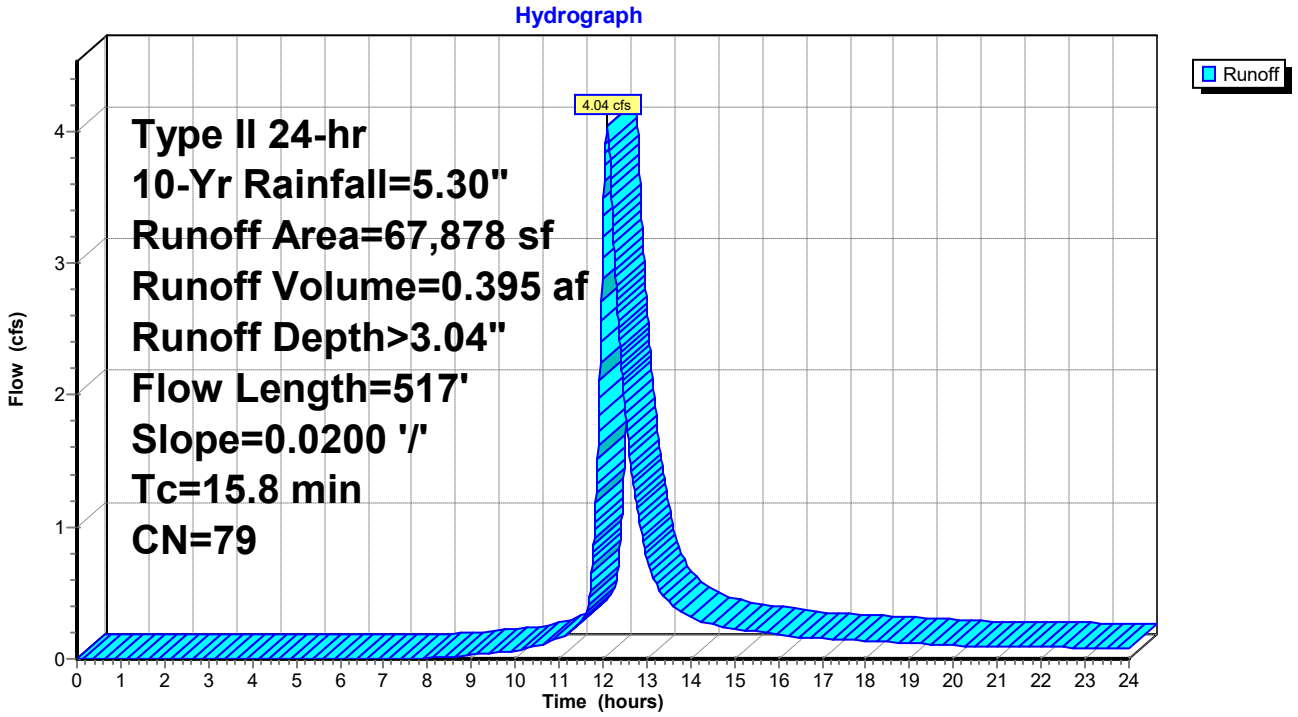
Runoff = 4.04 cfs @ 12.11 hrs, Volume= 0.395 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
14,145	98	Paved parking, HSG C
53,733	74	>75% Grass cover, Good, HSG C
67,878	79	Weighted Average
53,733		79.16% Pervious Area
14,145		20.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.7	367	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.8	517	Total			

Subcatchment 22: DA #7



Summary for Pond 23: I-8

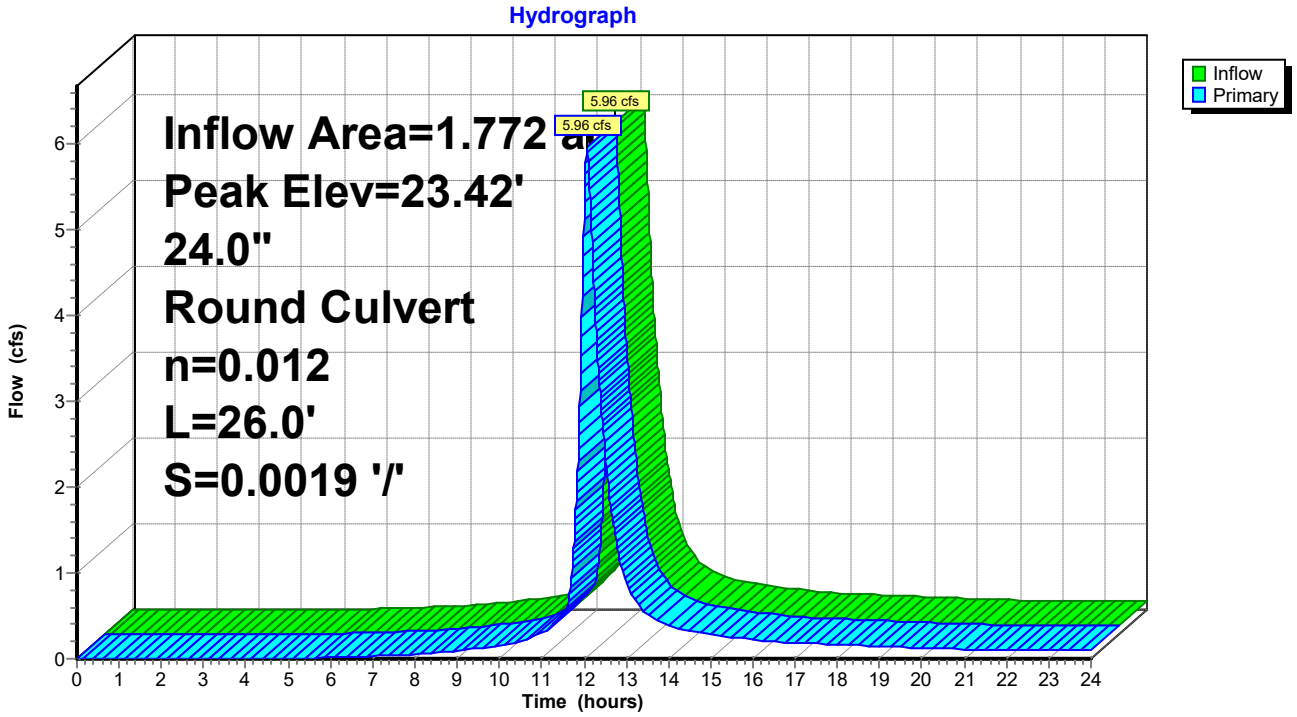
Inflow Area = 1.772 ac, 48.45% Impervious, Inflow Depth > 3.72" for 10-Yr event
Inflow = 5.96 cfs @ 12.08 hrs, Volume= 0.549 af
Outflow = 5.96 cfs @ 12.08 hrs, Volume= 0.549 af, Atten= 0%, Lag= 0.0 min
Primary = 5.96 cfs @ 12.08 hrs, Volume= 0.549 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.42' @ 12.10 hrs
Flood Elev= 27.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**24.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.42 cfs @ 12.08 hrs HW=23.31' TW=23.22' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 4.42 cfs @ 1.41 fps)

Pond 23: I-8



Summary for Subcatchment 24: DA #8

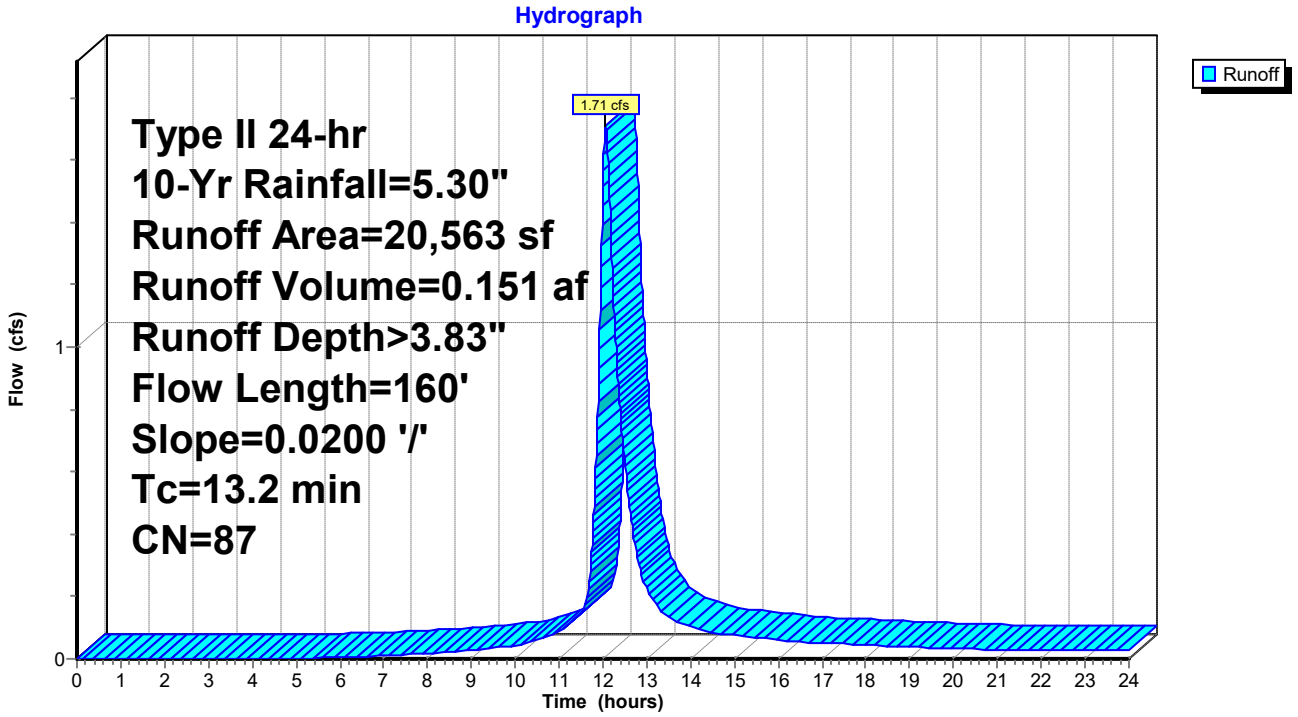
Runoff = 1.71 cfs @ 12.06 hrs, Volume= 0.151 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
11,019	98	Paved parking, HSG C
9,544	74	>75% Grass cover, Good, HSG C
20,563	87	Weighted Average
9,544		46.41% Pervious Area
11,019		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 24: DA #8



Summary for Pond 25: I-9

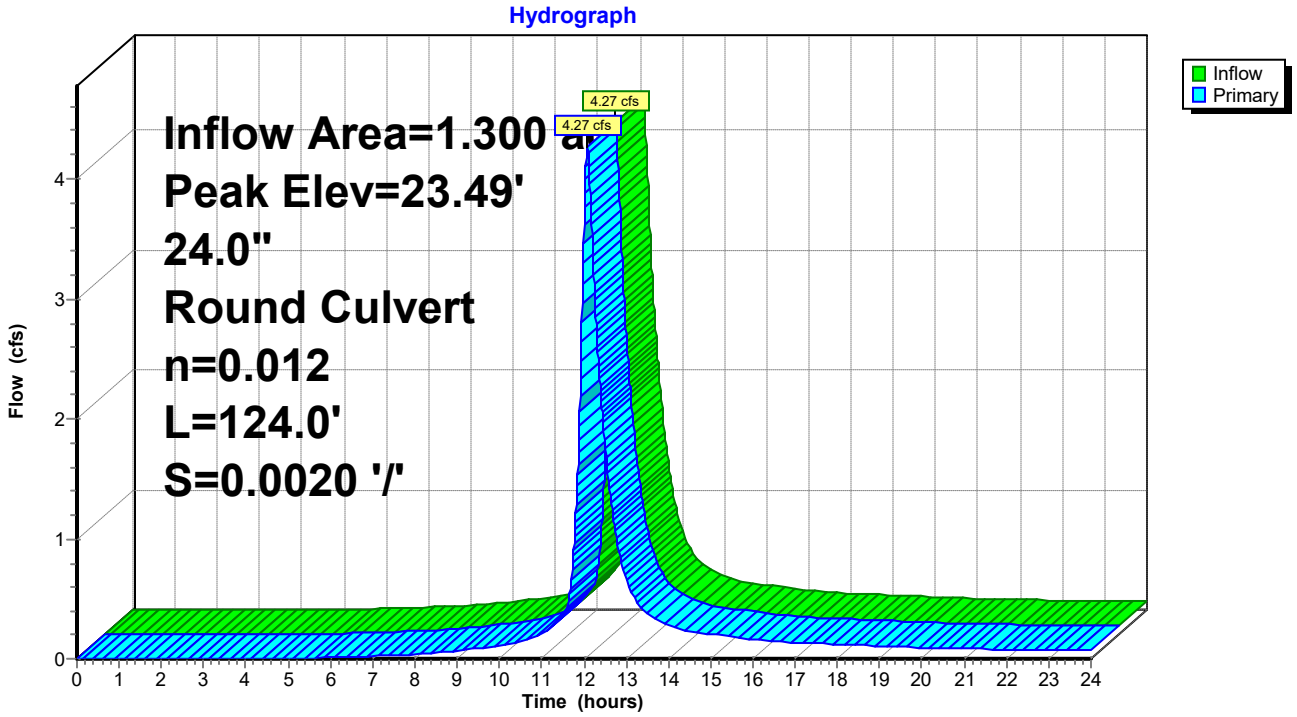
Inflow Area = 1.300 ac, 46.59% Impervious, Inflow Depth > 3.68" for 10-Yr event
Inflow = 4.27 cfs @ 12.08 hrs, Volume= 0.398 af
Outflow = 4.27 cfs @ 12.08 hrs, Volume= 0.398 af, Atten= 0%, Lag= 0.0 min
Primary = 4.27 cfs @ 12.08 hrs, Volume= 0.398 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.49' @ 12.11 hrs
Flood Elev= 27.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	**24.0" Round Culvert** L= 124.0' Ke= 0.500 Inlet / Outlet Invert= 19.00' / 18.75' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=23.31' TW=23.32' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 25: I-9



Summary for Subcatchment 26: DA #9

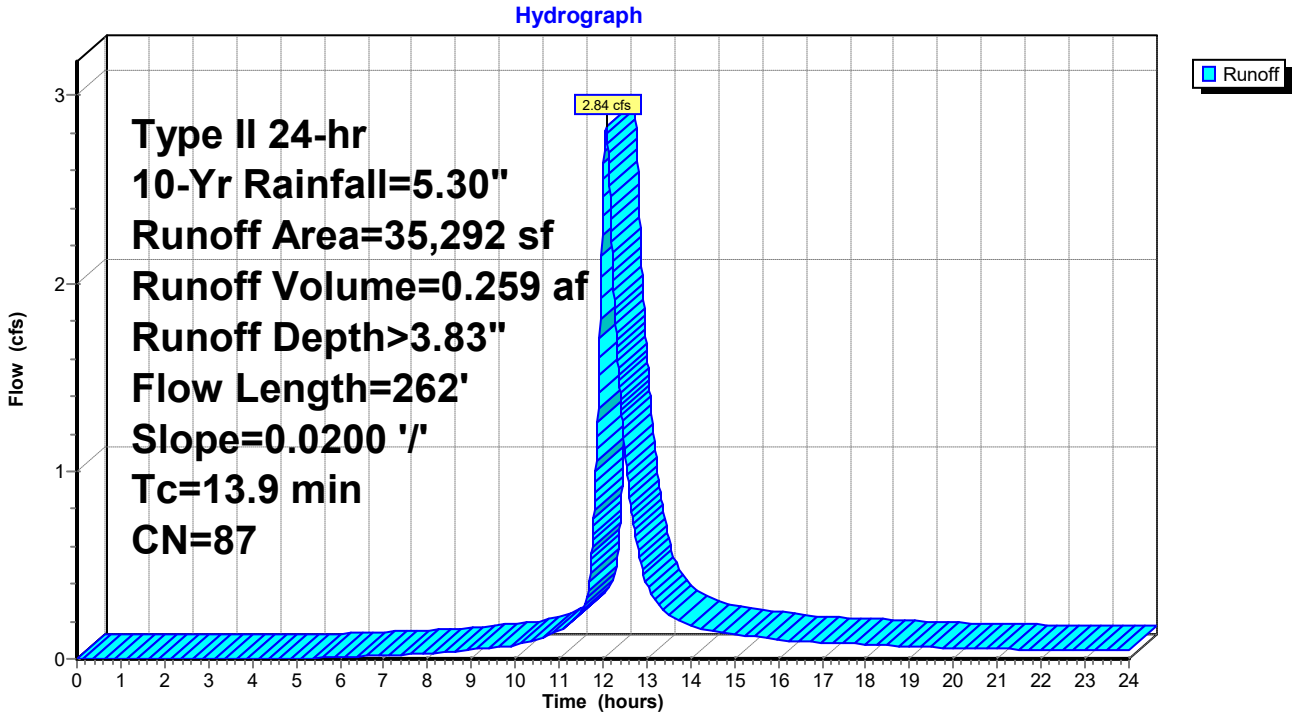
Runoff = 2.84 cfs @ 12.08 hrs, Volume= 0.259 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
18,751	98	Paved parking, HSG C
16,541	74	>75% Grass cover, Good, HSG C
35,292	87	Weighted Average
16,541		46.87% Pervious Area
18,751		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	112	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	262	Total			

Subcatchment 26: DA #9



Summary for Pond 27: I-10

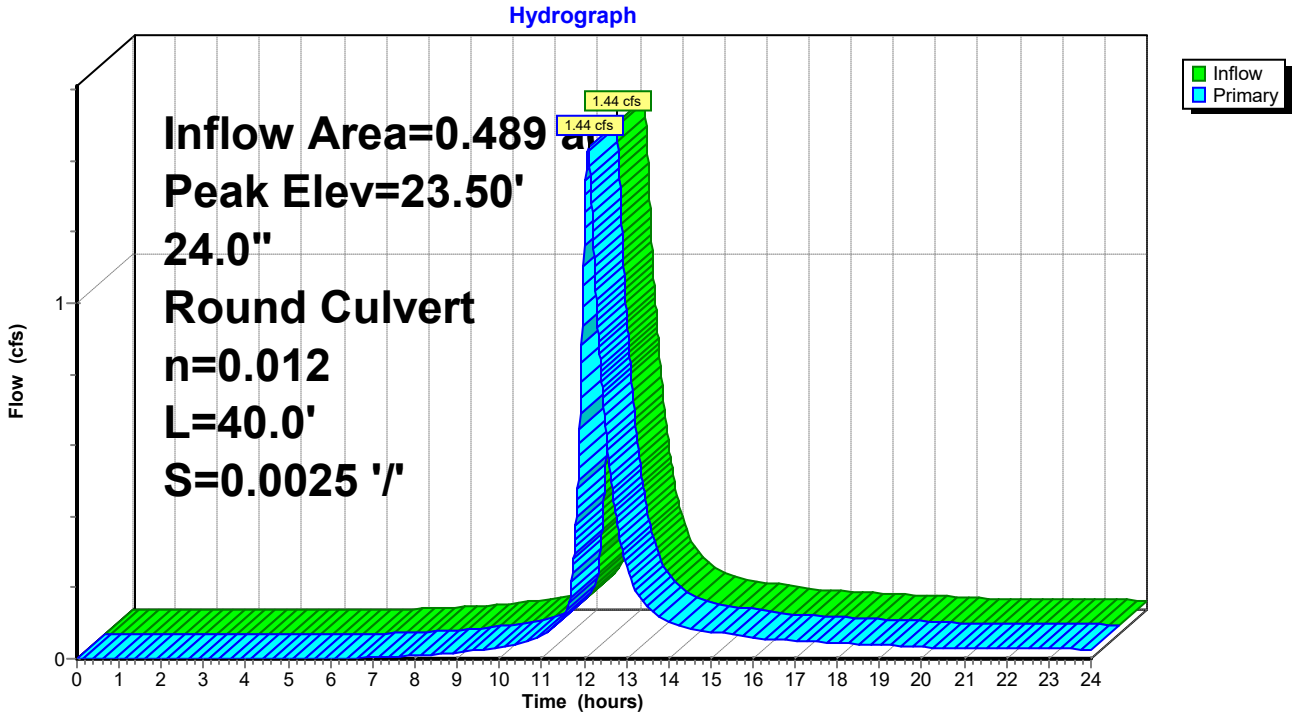
Inflow Area = 0.489 ac, 35.75% Impervious, Inflow Depth > 3.43" for 10-Yr event
Inflow = 1.44 cfs @ 12.10 hrs, Volume= 0.140 af
Outflow = 1.44 cfs @ 12.10 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min
Primary = 1.44 cfs @ 12.10 hrs, Volume= 0.140 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.50' @ 12.12 hrs
Flood Elev= 27.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**24.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 19.00' S= 0.0025 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=23.42' TW=23.47' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 27: I-10



Summary for Subcatchment 28: DA #10

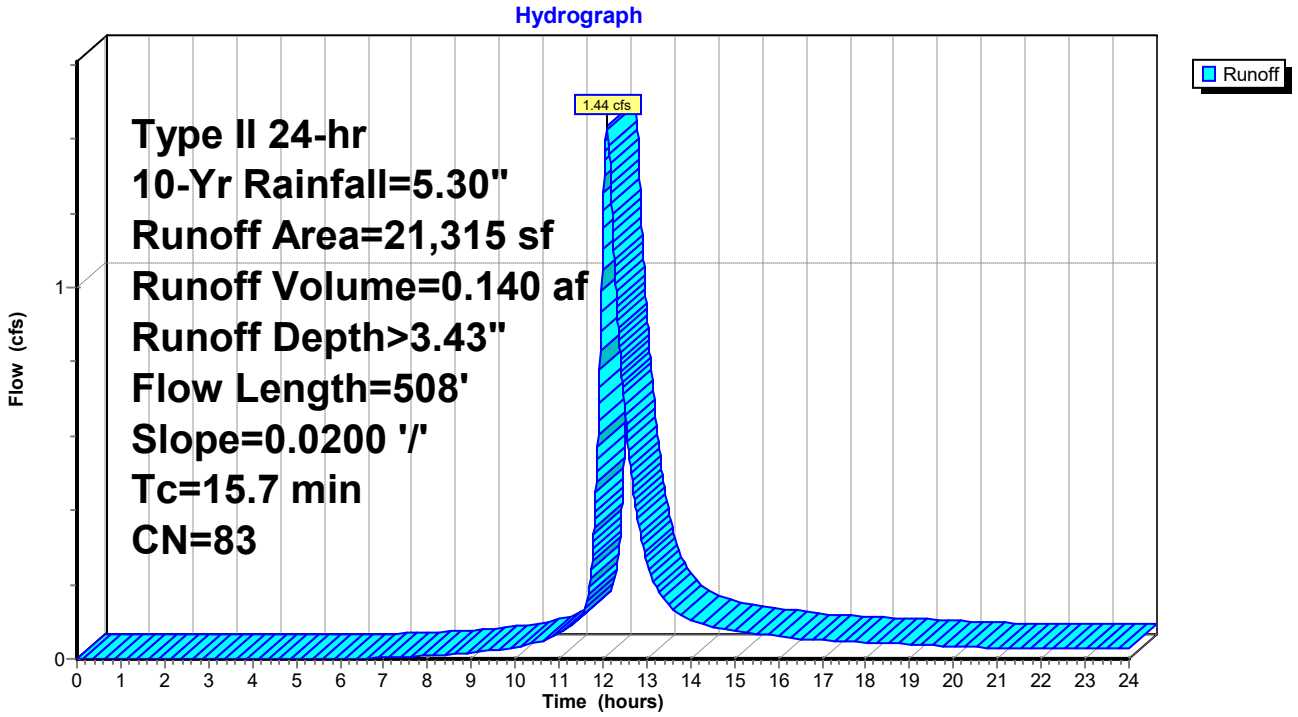
Runoff = 1.44 cfs @ 12.10 hrs, Volume= 0.140 af, Depth> 3.43"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
7,621	98	Paved parking, HSG C
13,694	74	>75% Grass cover, Good, HSG C
21,315	83	Weighted Average
13,694		64.25% Pervious Area
7,621		35.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	358	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	508	Total			

Subcatchment 28: DA #10



Summary for Pond 29: I-11

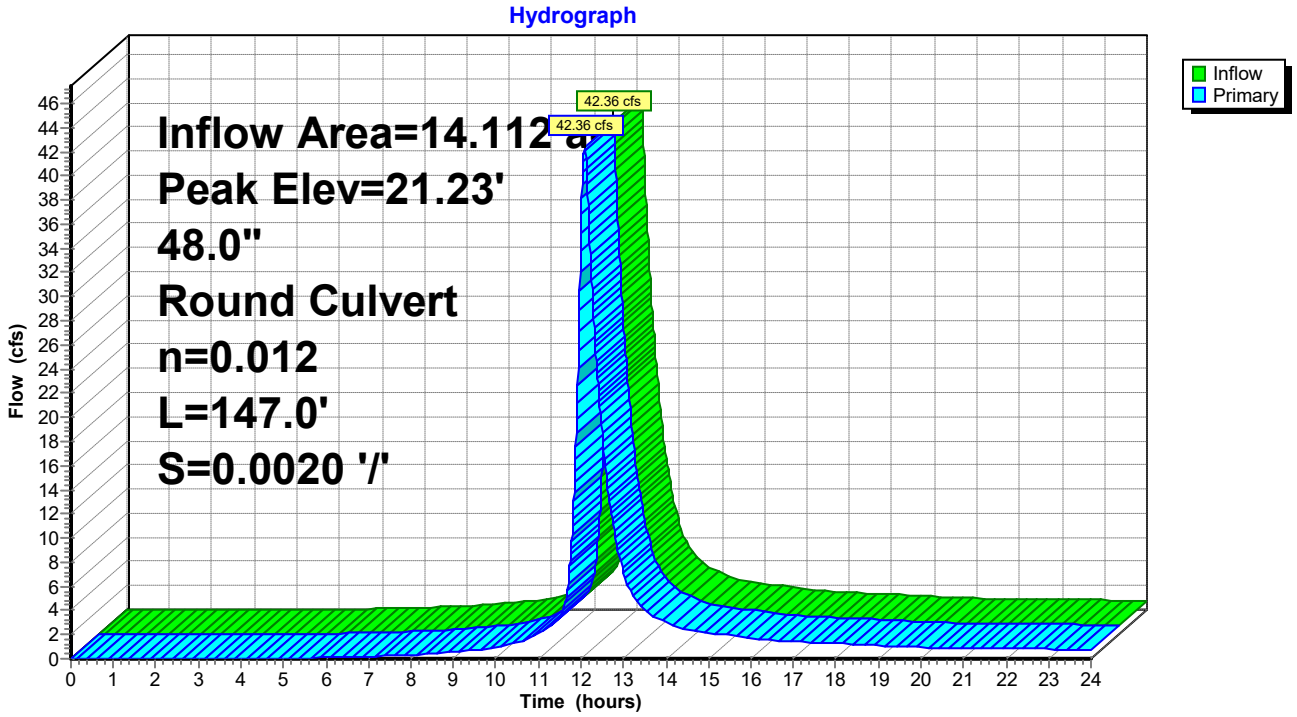
Inflow Area = 14.112 ac, 37.41% Impervious, Inflow Depth > 3.45" for 10-Yr event
Inflow = 42.36 cfs @ 12.08 hrs, Volume= 4.062 af
Outflow = 42.36 cfs @ 12.08 hrs, Volume= 4.062 af, Atten= 0%, Lag= 0.0 min
Primary = 42.36 cfs @ 12.08 hrs, Volume= 4.062 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.23' @ 12.08 hrs
Flood Elev= 22.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 147.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=42.33 cfs @ 12.08 hrs HW=21.23' TW=19.13' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 42.33 cfs @ 5.75 fps)

Pond 29: I-11



Summary for Subcatchment 30: DA #11

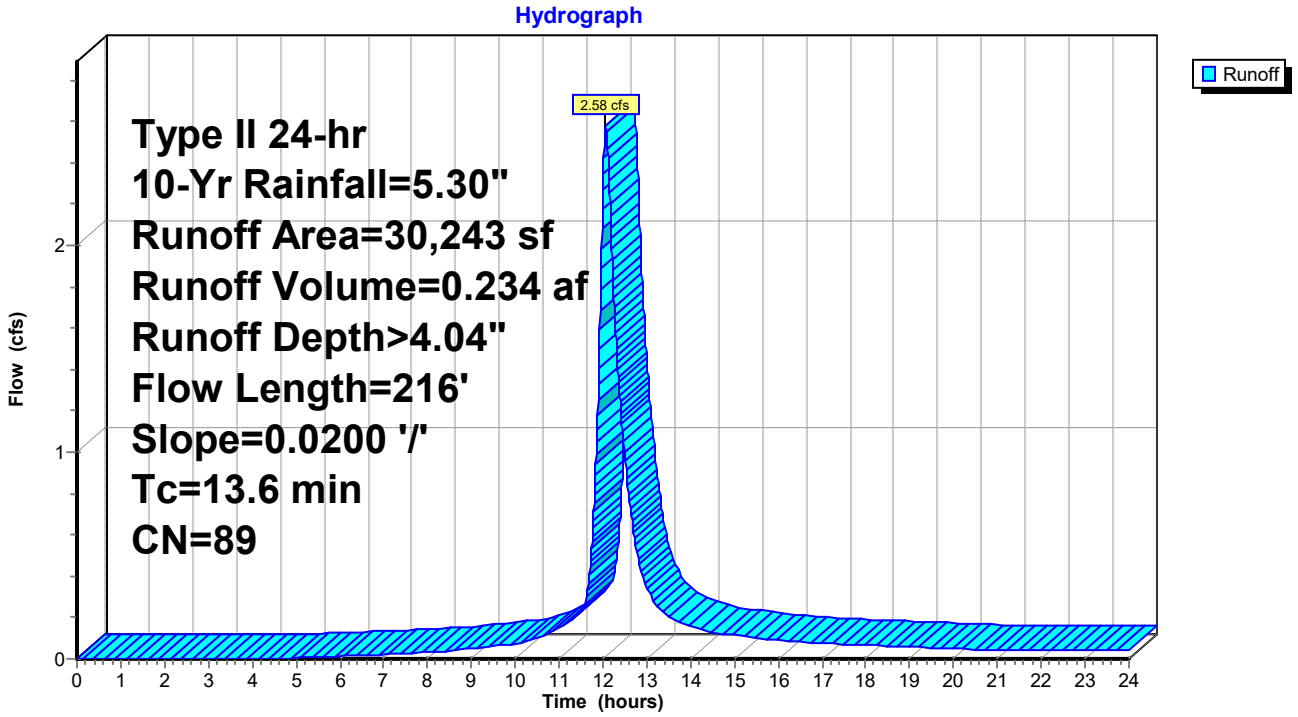
Runoff = 2.58 cfs @ 12.06 hrs, Volume= 0.234 af, Depth> 4.04"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
19,297	98	Paved parking, HSG C
10,946	74	>75% Grass cover, Good, HSG C
30,243	89	Weighted Average
10,946		36.19% Pervious Area
19,297		63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	66	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	216	Total			

Subcatchment 30: DA #11



Summary for Pond 31: I-12

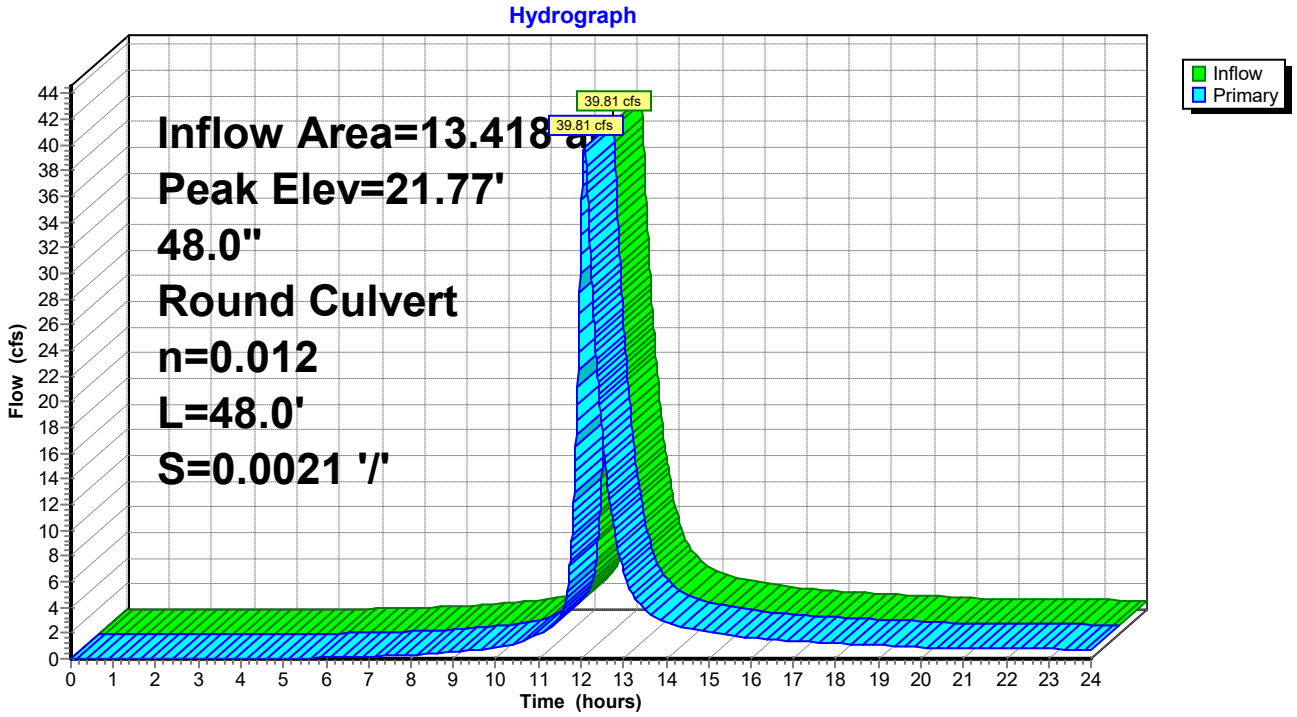
Inflow Area = 13.418 ac, 36.04% Impervious, Inflow Depth > 3.42" for 10-Yr event
Inflow = 39.81 cfs @ 12.08 hrs, Volume= 3.828 af
Outflow = 39.81 cfs @ 12.08 hrs, Volume= 3.828 af, Atten= 0%, Lag= 0.0 min
Primary = 39.81 cfs @ 12.08 hrs, Volume= 3.828 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.77' @ 12.09 hrs
Flood Elev= 22.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=39.62 cfs @ 12.08 hrs HW=21.77' TW=21.23' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 39.62 cfs @ 4.58 fps)

Pond 31: I-12



Summary for Subcatchment 32: DA #12

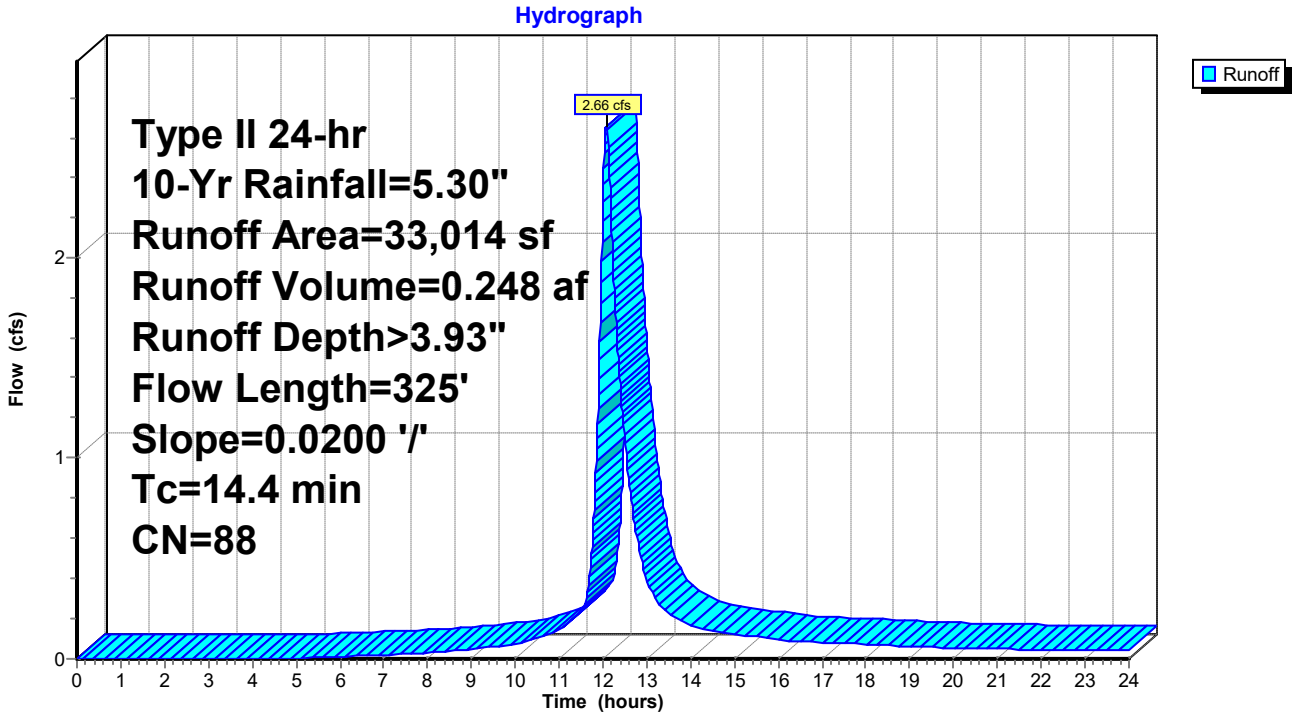
Runoff = 2.66 cfs @ 12.07 hrs, Volume= 0.248 af, Depth> 3.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
19,182	98	Paved parking, HSG C
13,832	74	>75% Grass cover, Good, HSG C
33,014	88	Weighted Average
13,832		41.90% Pervious Area
19,182		58.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.3	175	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.4	325	Total			

Subcatchment 32: DA #12



Summary for Pond 33: I-13

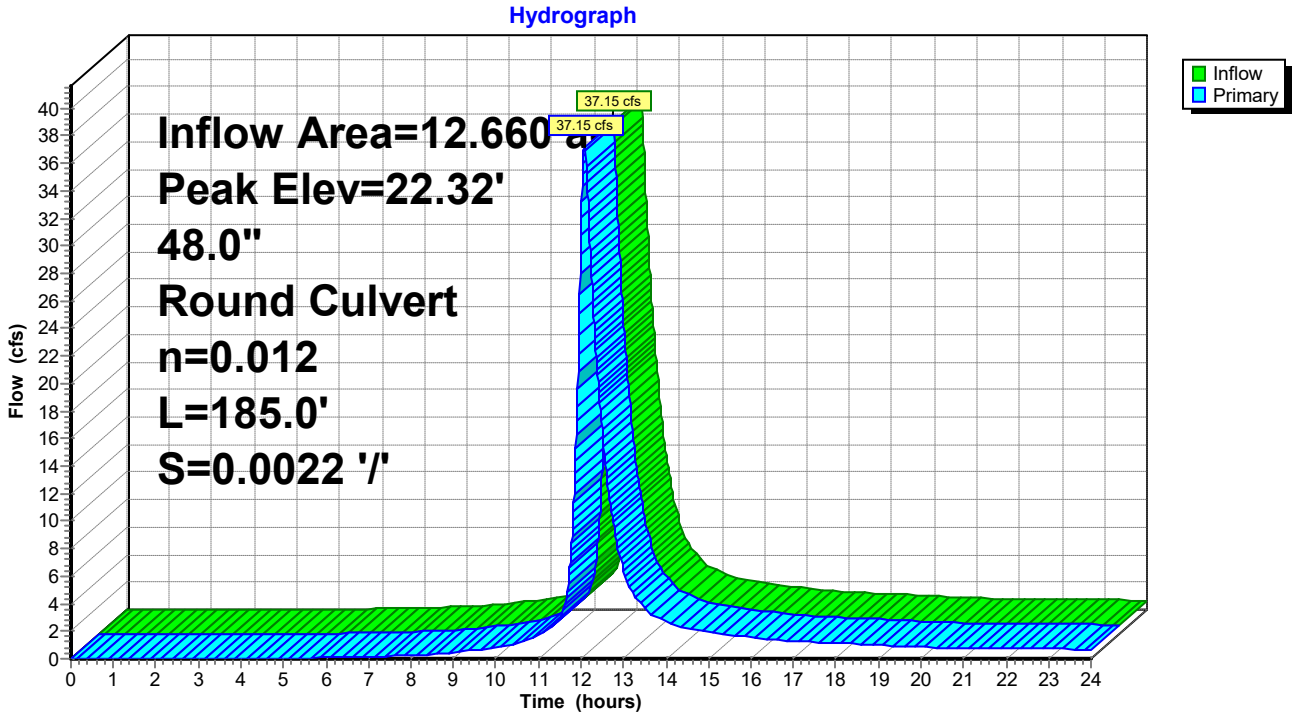
Inflow Area = 12.660 ac, 34.72% Impervious, Inflow Depth > 3.39" for 10-Yr event
Inflow = 37.15 cfs @ 12.09 hrs, Volume= 3.579 af
Outflow = 37.15 cfs @ 12.09 hrs, Volume= 3.579 af, Atten= 0%, Lag= 0.0 min
Primary = 37.15 cfs @ 12.09 hrs, Volume= 3.579 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.32' @ 12.10 hrs
Flood Elev= 23.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**48.0" Round Culvert** L= 185.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=36.74 cfs @ 12.09 hrs HW=22.31' TW=21.77' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 36.74 cfs @ 4.05 fps)

Pond 33: I-13



Summary for Subcatchment 34: DA #13

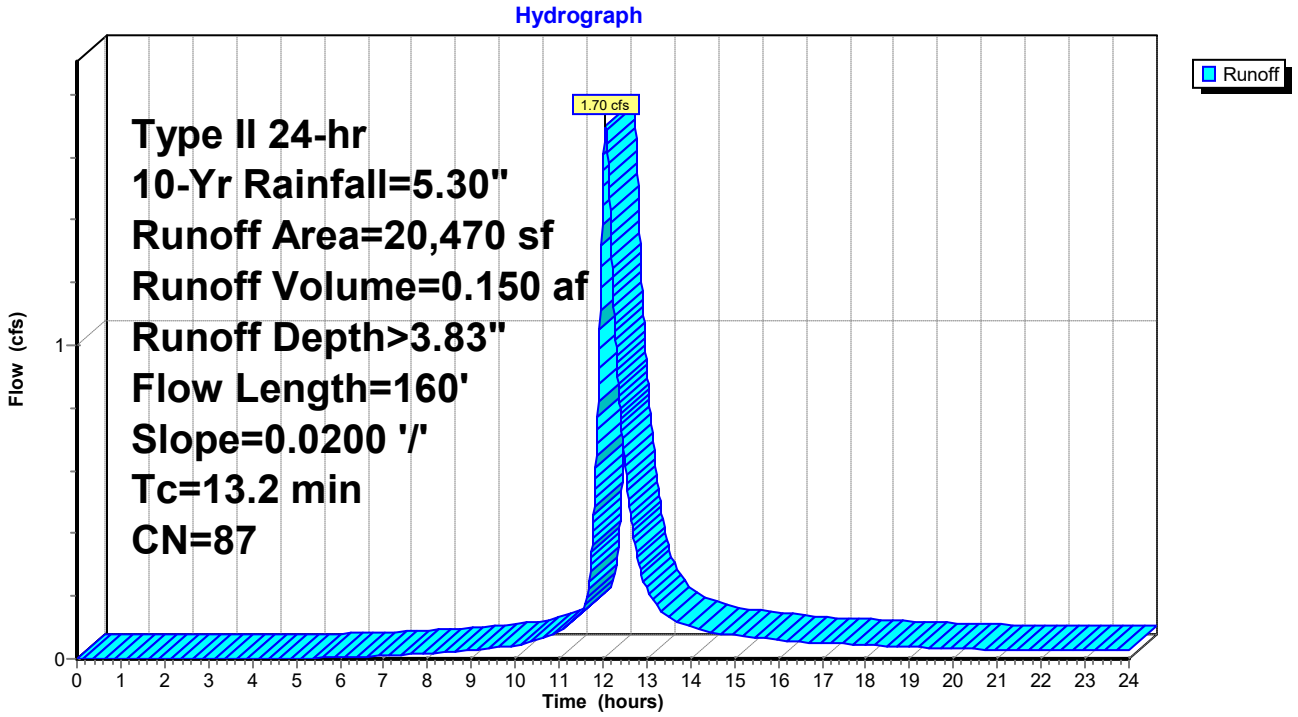
Runoff = 1.70 cfs @ 12.06 hrs, Volume= 0.150 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
10,970	98	Paved parking, HSG C
9,500	74	>75% Grass cover, Good, HSG C
20,470	87	Weighted Average
9,500		46.41% Pervious Area
10,970		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 34: DA #13



Summary for Pond 35: I-14

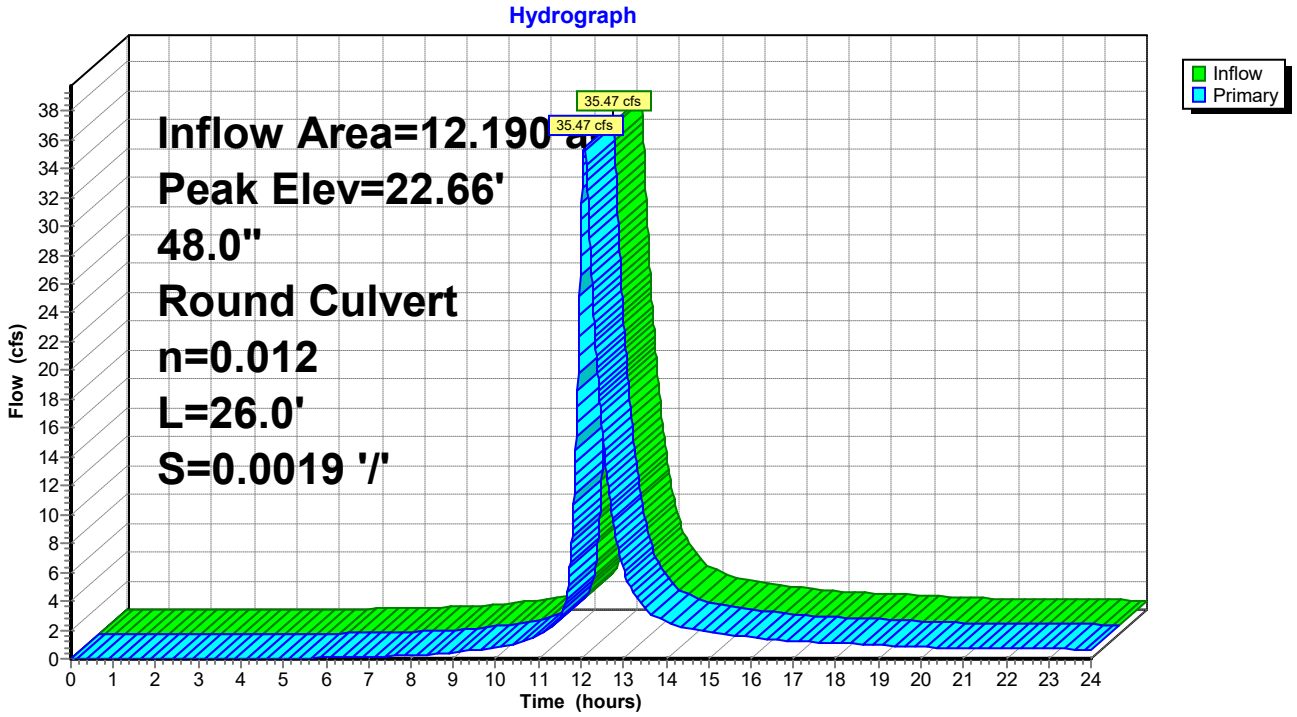
Inflow Area = 12.190 ac, 34.00% Impervious, Inflow Depth > 3.38" for 10-Yr event
Inflow = 35.47 cfs @ 12.09 hrs, Volume= 3.429 af
Outflow = 35.47 cfs @ 12.09 hrs, Volume= 3.429 af, Atten= 0%, Lag= 0.0 min
Primary = 35.47 cfs @ 12.09 hrs, Volume= 3.429 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.66' @ 12.10 hrs
Flood Elev= 23.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**48.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=34.59 cfs @ 12.09 hrs HW=22.65' TW=22.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 34.59 cfs @ 2.77 fps)

Pond 35: I-14



Summary for Subcatchment 36: DA #14

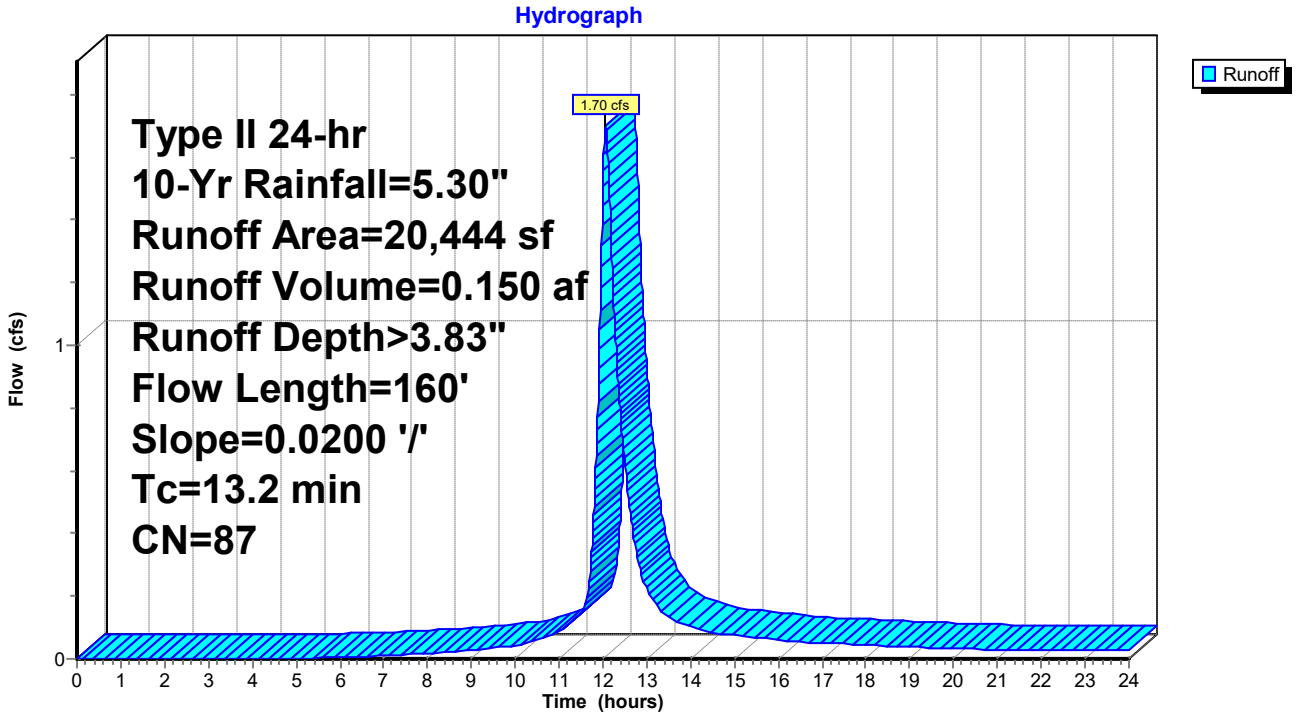
Runoff = 1.70 cfs @ 12.06 hrs, Volume= 0.150 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
10,959	98	Paved parking, HSG C
9,485	74	>75% Grass cover, Good, HSG C
20,444	87	Weighted Average
9,485		46.40% Pervious Area
10,959		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 36: DA #14



Summary for Pond 37: I-15

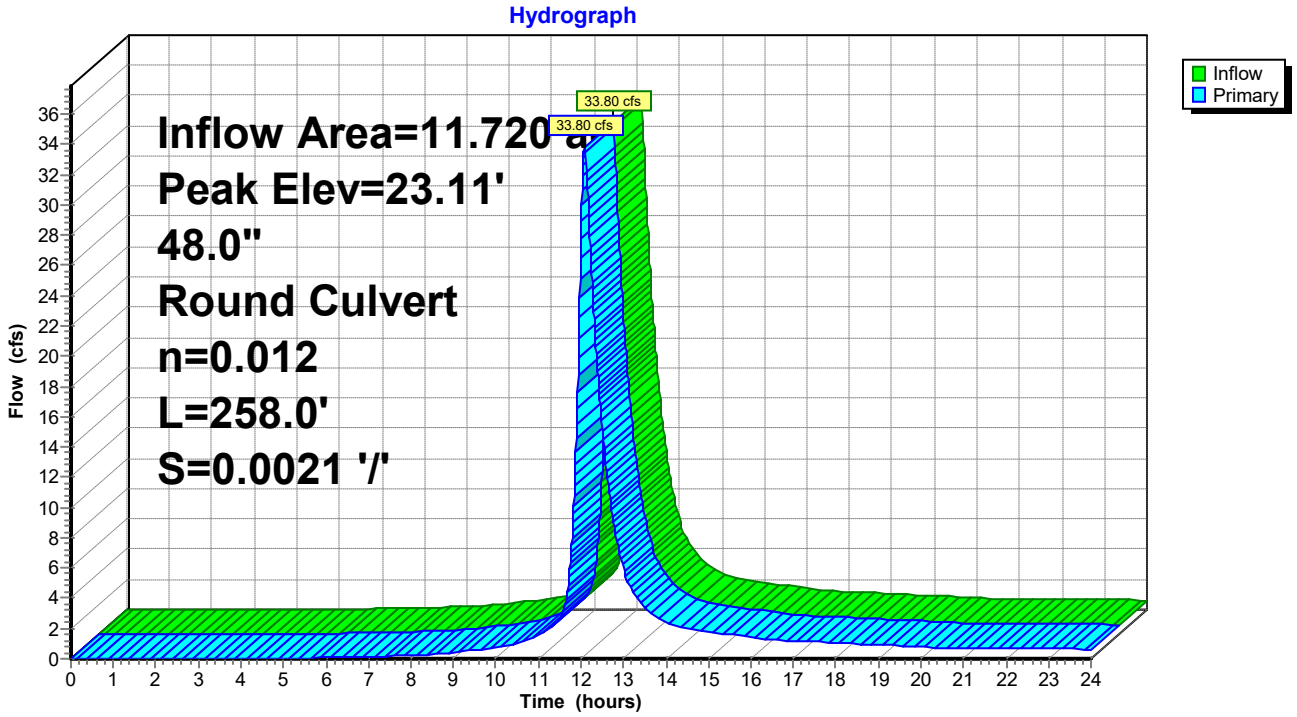
Inflow Area = 11.720 ac, 33.21% Impervious, Inflow Depth > 3.36" for 10-Yr event
Inflow = 33.80 cfs @ 12.09 hrs, Volume= 3.279 af
Outflow = 33.80 cfs @ 12.09 hrs, Volume= 3.279 af, Atten= 0%, Lag= 0.0 min
Primary = 33.80 cfs @ 12.09 hrs, Volume= 3.279 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.11' @ 12.11 hrs
Flood Elev= 23.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.30'	**48.0" Round Culvert** L= 258.0' Ke= 0.500 Inlet / Outlet Invert= 19.30' / 18.75' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=32.80 cfs @ 12.09 hrs HW=23.08' TW=22.65' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 32.80 cfs @ 3.44 fps)

Pond 37: I-15



Summary for Subcatchment 38: DA #15

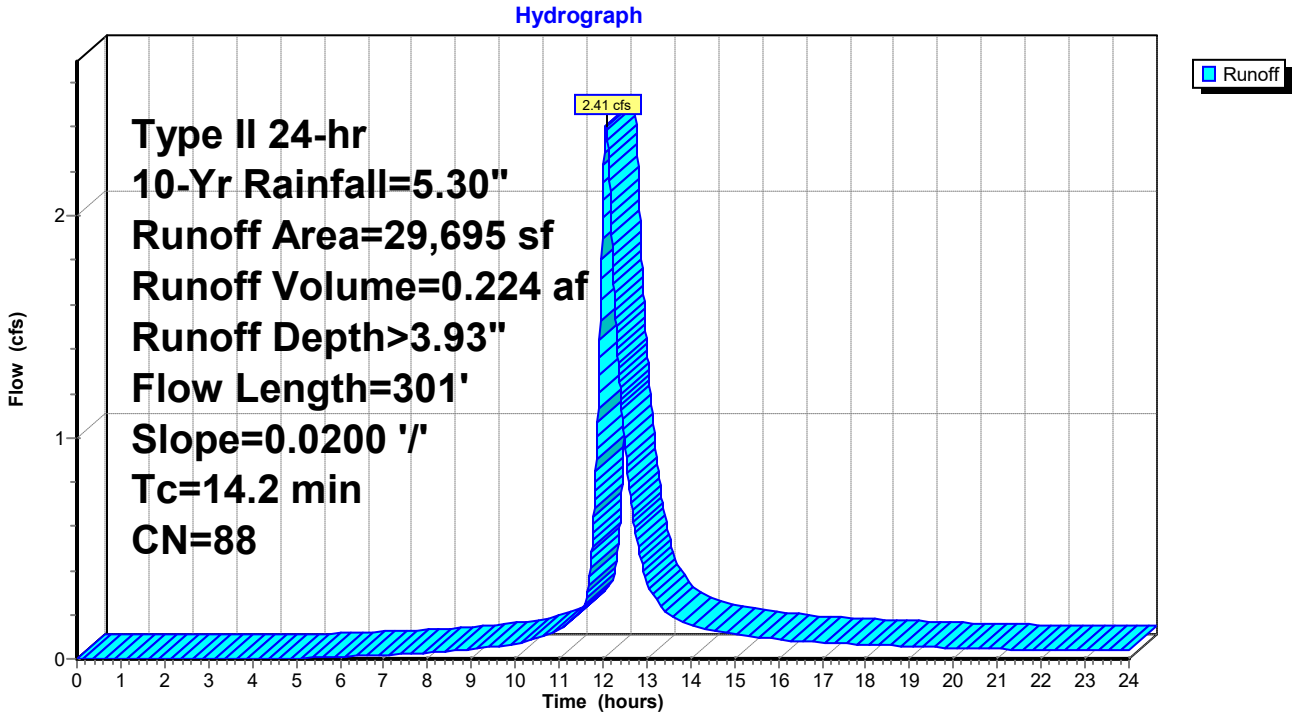
Runoff = 2.41 cfs @ 12.08 hrs, Volume= 0.224 af, Depth> 3.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
17,515	98	Paved parking, HSG C
12,180	74	>75% Grass cover, Good, HSG C
29,695	88	Weighted Average
12,180		41.02% Pervious Area
17,515		58.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	151	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	301	Total			

Subcatchment 38: DA #15



Summary for Pond 39: I-16

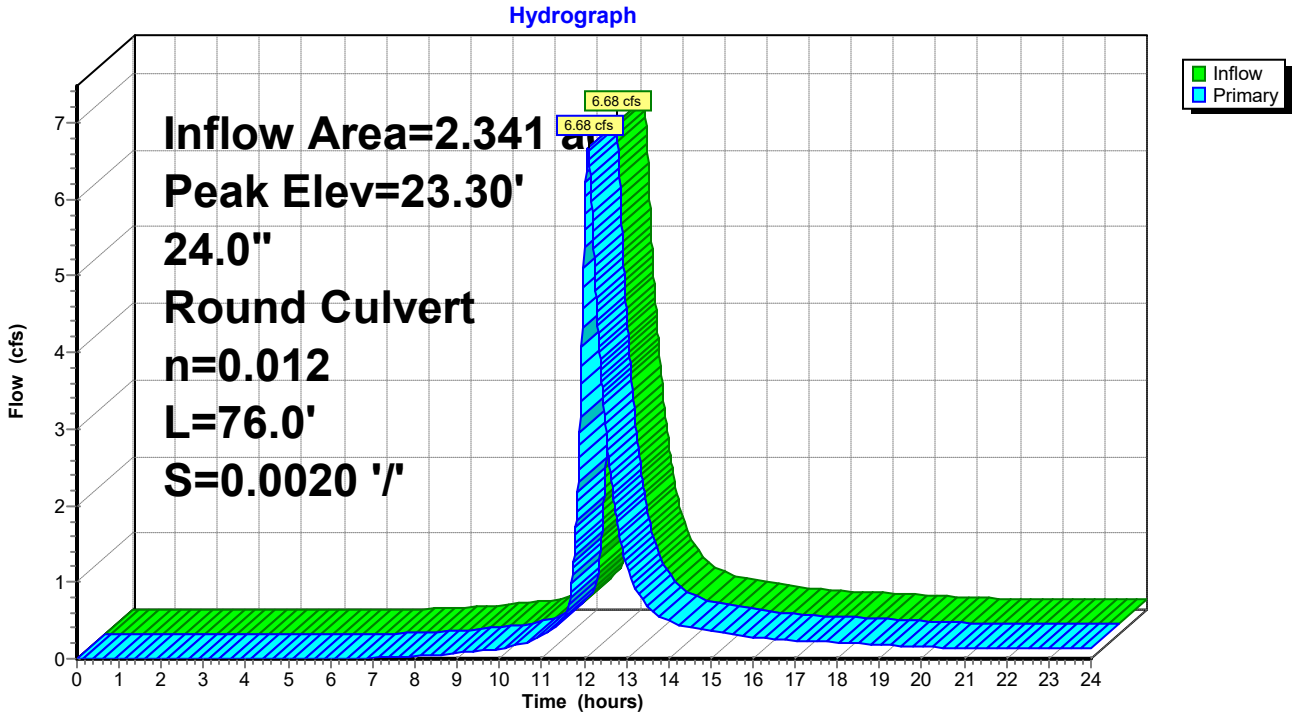
Inflow Area = 2.341 ac, 33.46% Impervious, Inflow Depth > 3.33" for 10-Yr event
Inflow = 6.68 cfs @ 12.10 hrs, Volume= 0.649 af
Outflow = 6.68 cfs @ 12.10 hrs, Volume= 0.649 af, Atten= 0%, Lag= 0.0 min
Primary = 6.68 cfs @ 12.10 hrs, Volume= 0.649 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.30' @ 12.11 hrs
Flood Elev= 23.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.39 cfs @ 12.10 hrs HW=23.28' TW=23.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.39 cfs @ 2.04 fps)

Pond 39: I-16



Summary for Subcatchment 40: DA #16

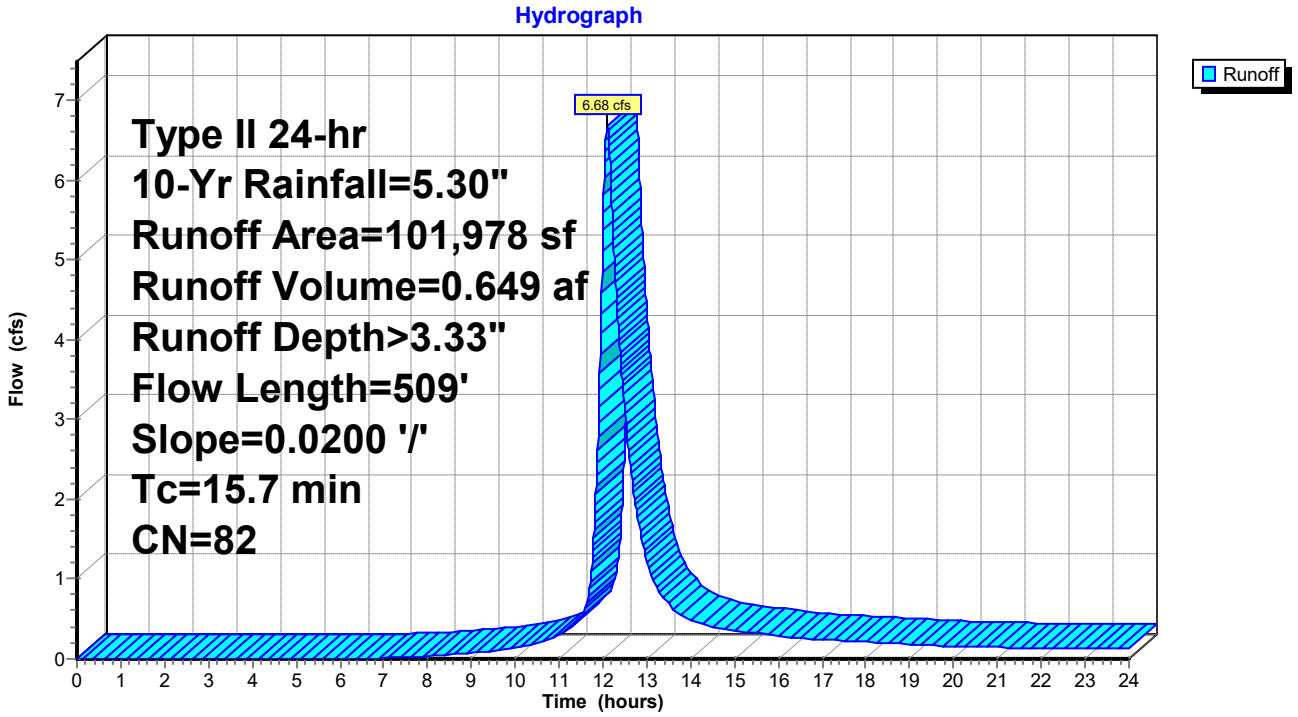
Runoff = 6.68 cfs @ 12.10 hrs, Volume= 0.649 af, Depth> 3.33"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
34,120	98	Paved parking, HSG C
67,858	74	>75% Grass cover, Good, HSG C
101,978	82	Weighted Average
67,858		66.54% Pervious Area
34,120		33.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	359	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	509	Total			

Subcatchment 40: DA #16



Summary for Pond 41: I-17

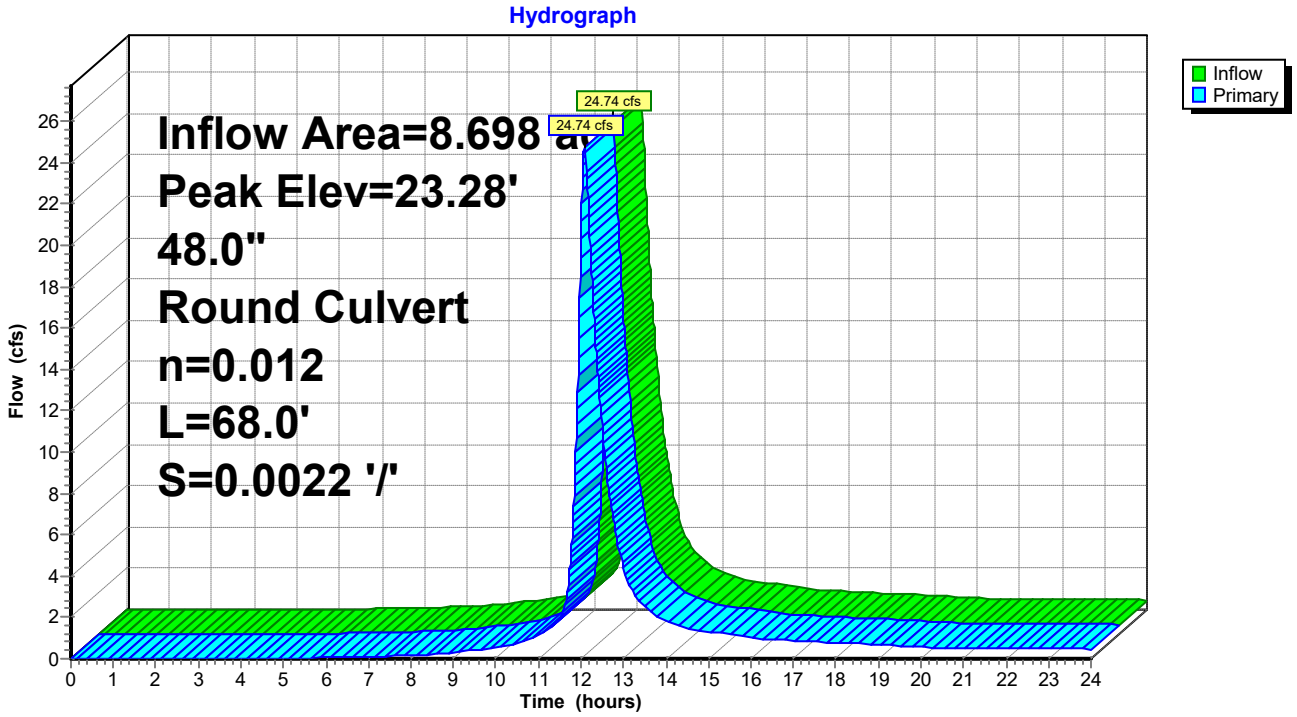
Inflow Area = 8.698 ac, 31.13% Impervious, Inflow Depth > 3.32" for 10-Yr event
Inflow = 24.74 cfs @ 12.09 hrs, Volume= 2.407 af
Outflow = 24.74 cfs @ 12.09 hrs, Volume= 2.407 af, Atten= 0%, Lag= 0.0 min
Primary = 24.74 cfs @ 12.09 hrs, Volume= 2.407 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.28' @ 12.12 hrs
Flood Elev= 23.12'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**48.0" Round Culvert** L= 68.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=22.34 cfs @ 12.09 hrs HW=23.23' TW=23.08' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 22.34 cfs @ 2.34 fps)

Pond 41: I-17



Summary for Subcatchment 42: DA #17

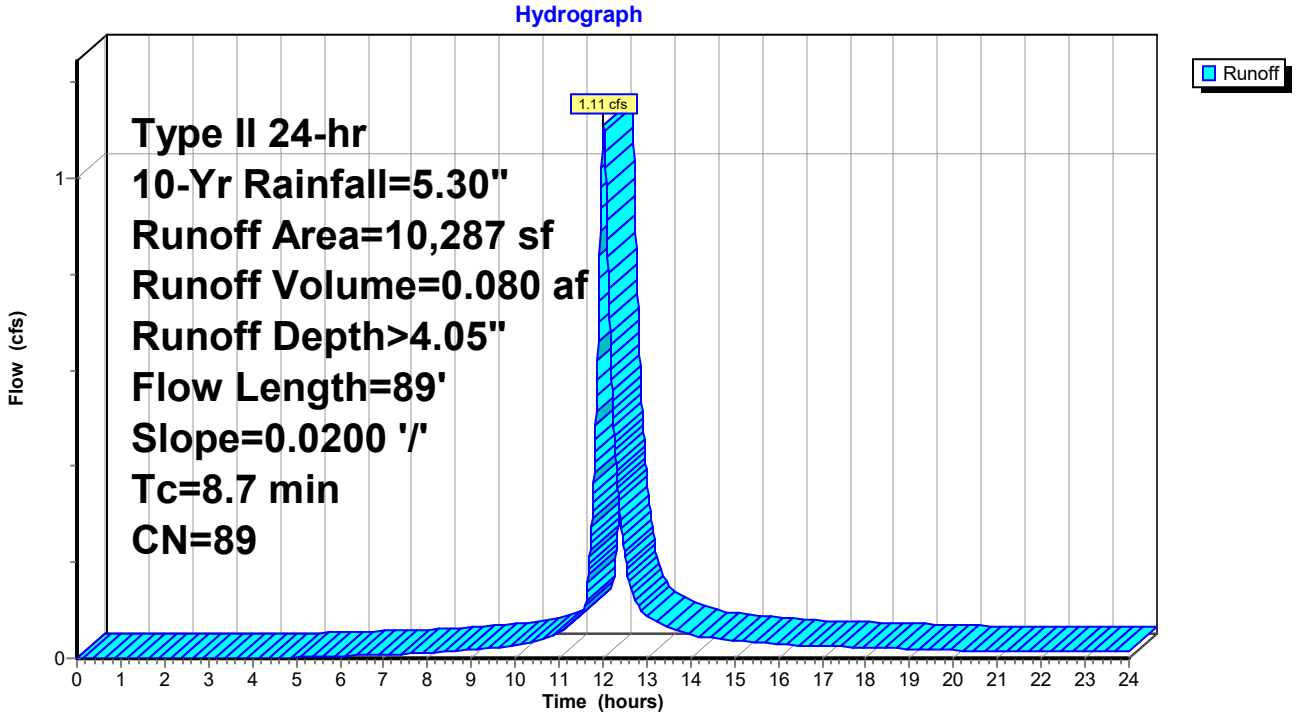
Runoff = 1.11 cfs @ 12.01 hrs, Volume= 0.080 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
6,434	98	Paved parking, HSG C
3,853	74	>75% Grass cover, Good, HSG C
10,287	89	Weighted Average
3,853		37.46% Pervious Area
6,434		62.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	89	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 42: DA #17



Summary for Pond 43: I-18

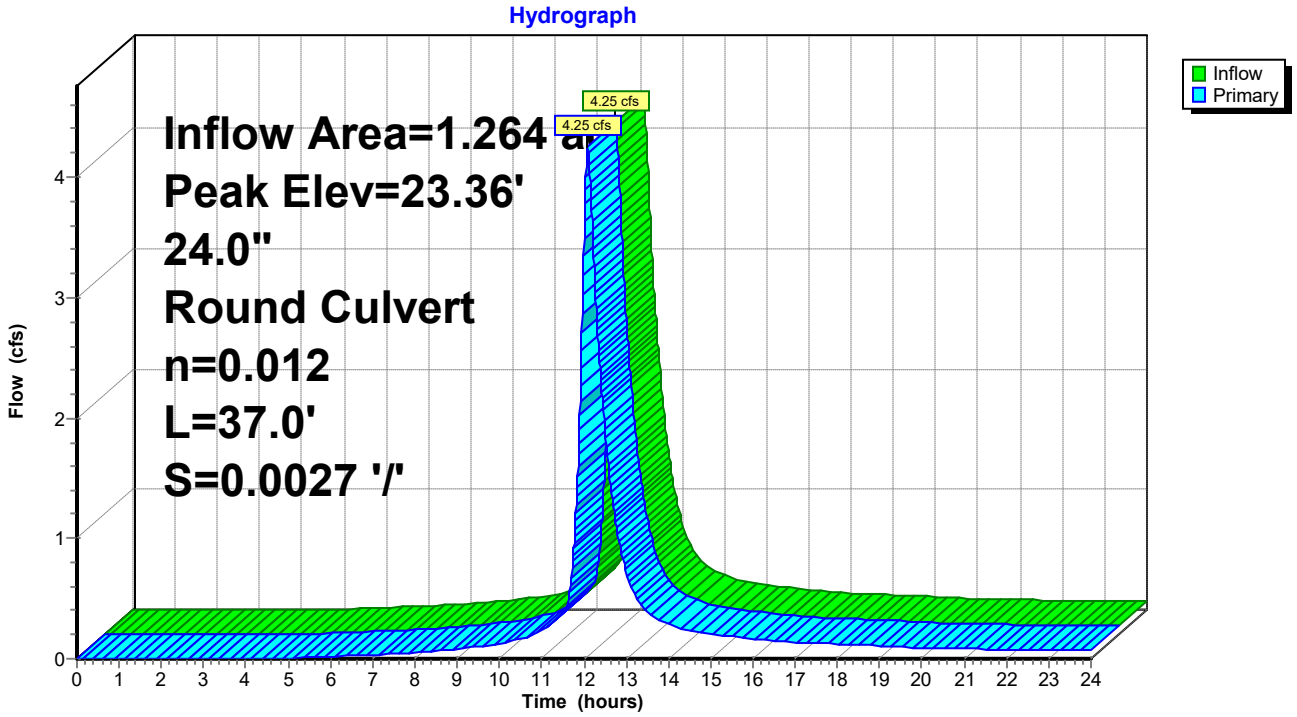
Inflow Area = 1.264 ac, 57.87% Impervious, Inflow Depth > 3.93" for 10-Yr event
Inflow = 4.25 cfs @ 12.09 hrs, Volume= 0.414 af
Outflow = 4.25 cfs @ 12.09 hrs, Volume= 0.414 af, Atten= 0%, Lag= 0.0 min
Primary = 4.25 cfs @ 12.09 hrs, Volume= 0.414 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.36' @ 12.12 hrs
Flood Elev= 23.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.55'	**24.0" Round Culvert** L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 19.55' / 19.45' S= 0.0027 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.98 cfs @ 12.09 hrs HW=23.28' TW=23.24' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.98 cfs @ 0.95 fps)

Pond 43: I-18



Summary for Subcatchment 44: DA #18

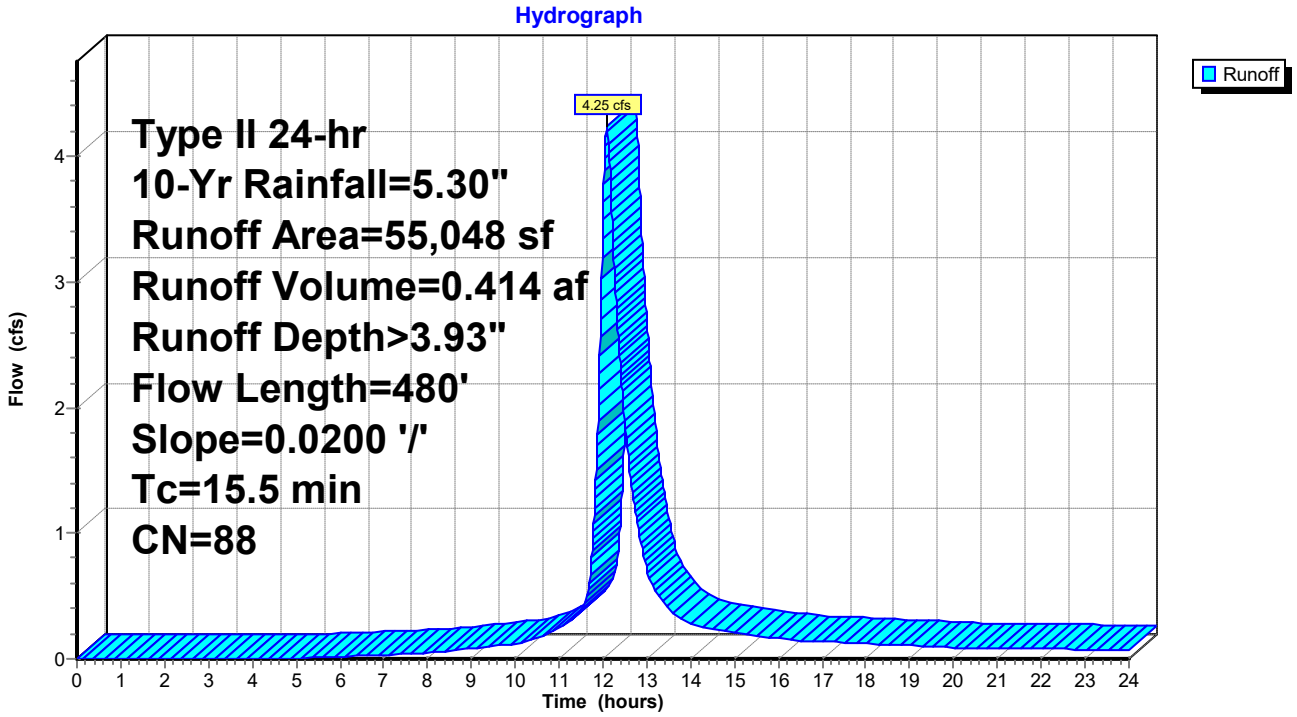
Runoff = 4.25 cfs @ 12.09 hrs, Volume= 0.414 af, Depth> 3.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
31,857	98	Paved parking, HSG C
23,191	74	>75% Grass cover, Good, HSG C
55,048	88	Weighted Average
23,191		42.13% Pervious Area
31,857		57.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.4	330	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.5	480	Total			

Subcatchment 44: DA #18



Summary for Pond 45: I-19

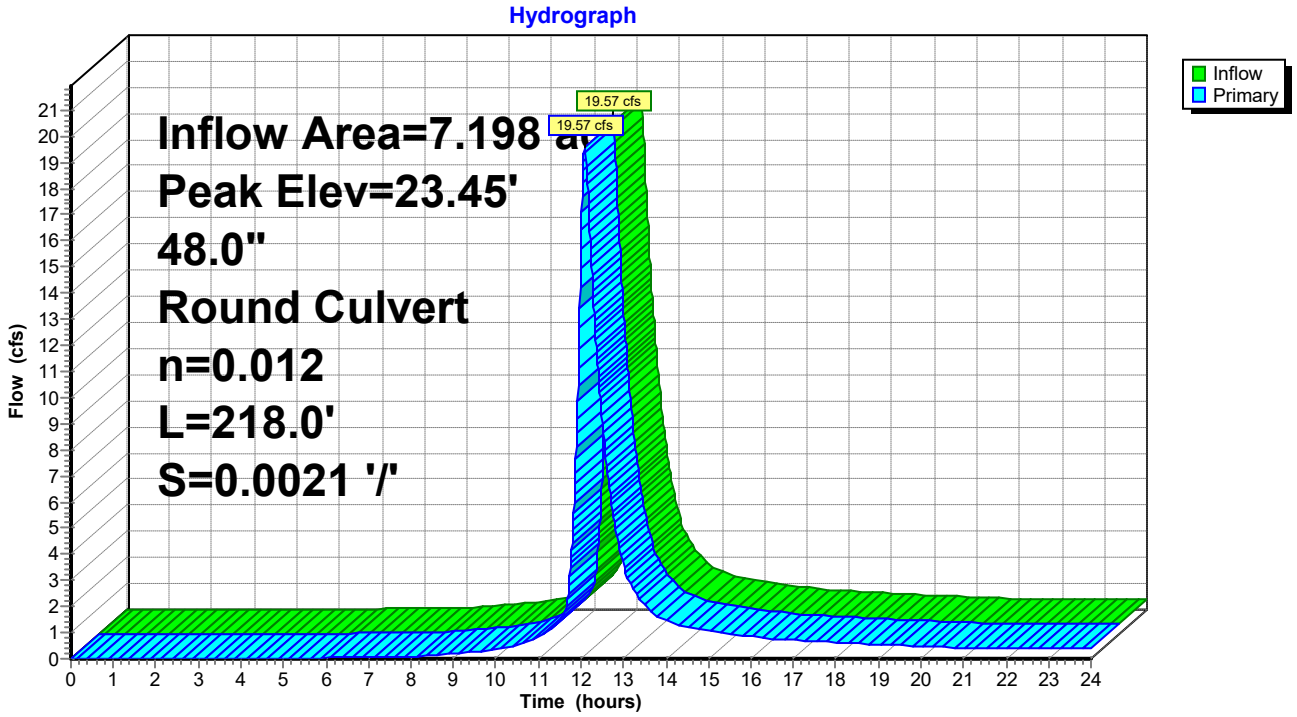
Inflow Area = 7.198 ac, 25.40% Impervious, Inflow Depth > 3.19" for 10-Yr event
Inflow = 19.57 cfs @ 12.09 hrs, Volume= 1.913 af
Outflow = 19.57 cfs @ 12.09 hrs, Volume= 1.913 af, Atten= 0%, Lag= 0.0 min
Primary = 19.57 cfs @ 12.09 hrs, Volume= 1.913 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.45' @ 12.12 hrs
Flood Elev= 22.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.90'	**48.0" Round Culvert** L= 218.0' Ke= 0.500 Inlet / Outlet Invert= 19.90' / 19.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=17.31 cfs @ 12.09 hrs HW=23.38' TW=23.24' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 17.31 cfs @ 1.99 fps)

Pond 45: I-19



Summary for Subcatchment 46: DA #19

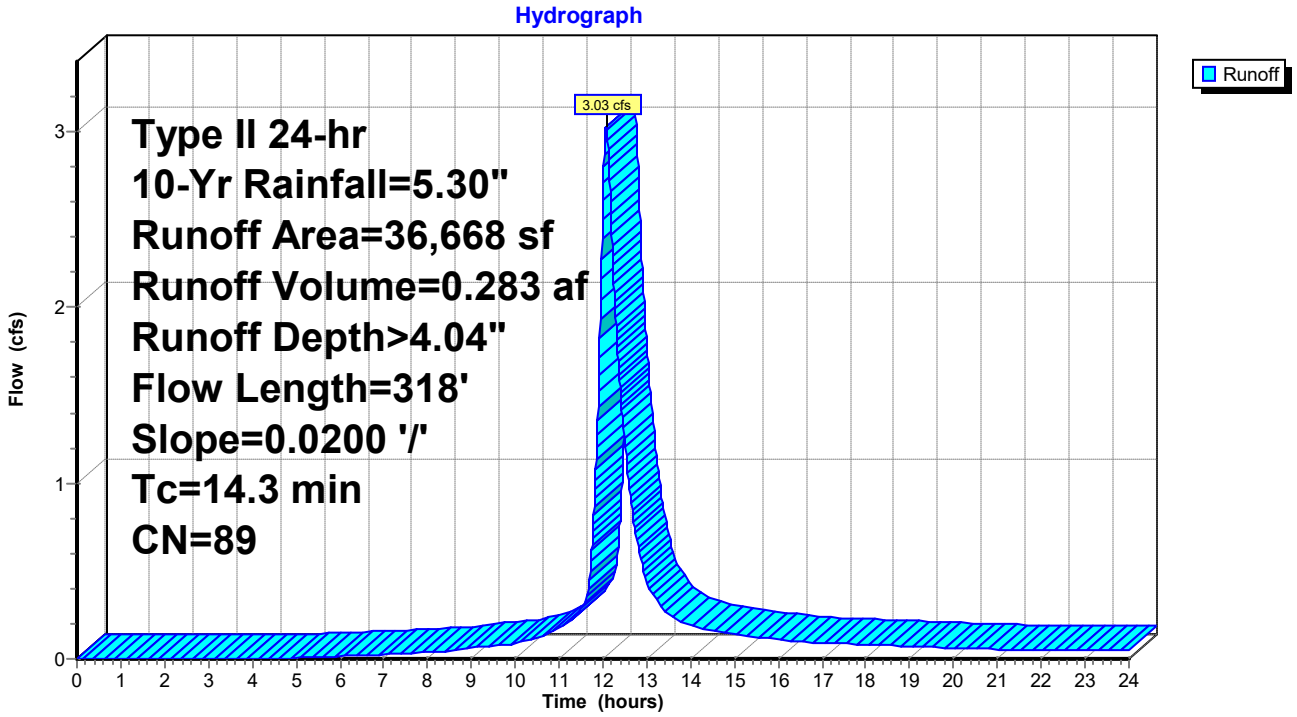
Runoff = 3.03 cfs @ 12.08 hrs, Volume= 0.283 af, Depth> 4.04"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
22,742	98	Paved parking, HSG C
13,926	74	>75% Grass cover, Good, HSG C
36,668	89	Weighted Average
13,926		37.98% Pervious Area
22,742		62.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.3	318	Total			

Subcatchment 46: DA #19



Summary for Pond 47: I-20

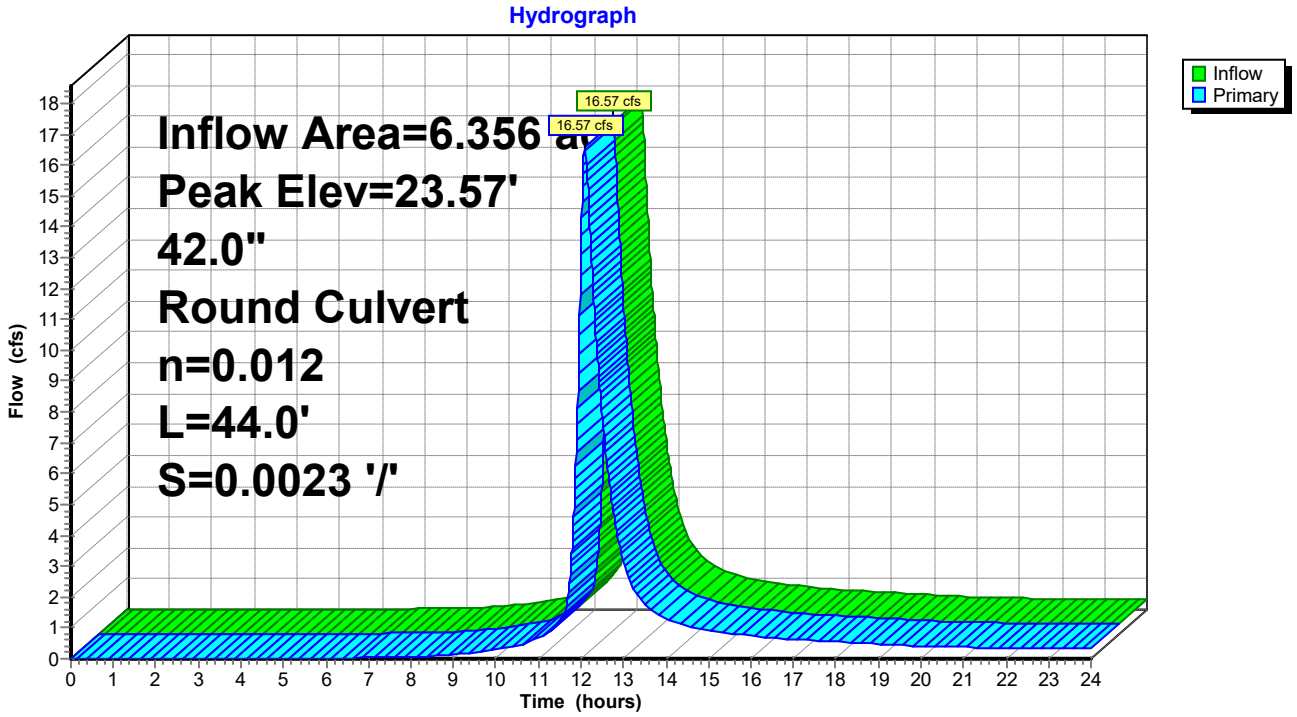
Inflow Area = 6.356 ac, 20.55% Impervious, Inflow Depth > 3.08" for 10-Yr event
Inflow = 16.57 cfs @ 12.09 hrs, Volume= 1.630 af
Outflow = 16.57 cfs @ 12.09 hrs, Volume= 1.630 af, Atten= 0%, Lag= 0.0 min
Primary = 16.57 cfs @ 12.09 hrs, Volume= 1.630 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.57' @ 12.13 hrs
Flood Elev= 23.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**42.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.90' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=13.50 cfs @ 12.09 hrs HW=23.48' TW=23.39' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 13.50 cfs @ 1.40 fps)

Pond 47: I-20



Summary for Subcatchment 48: DA #20

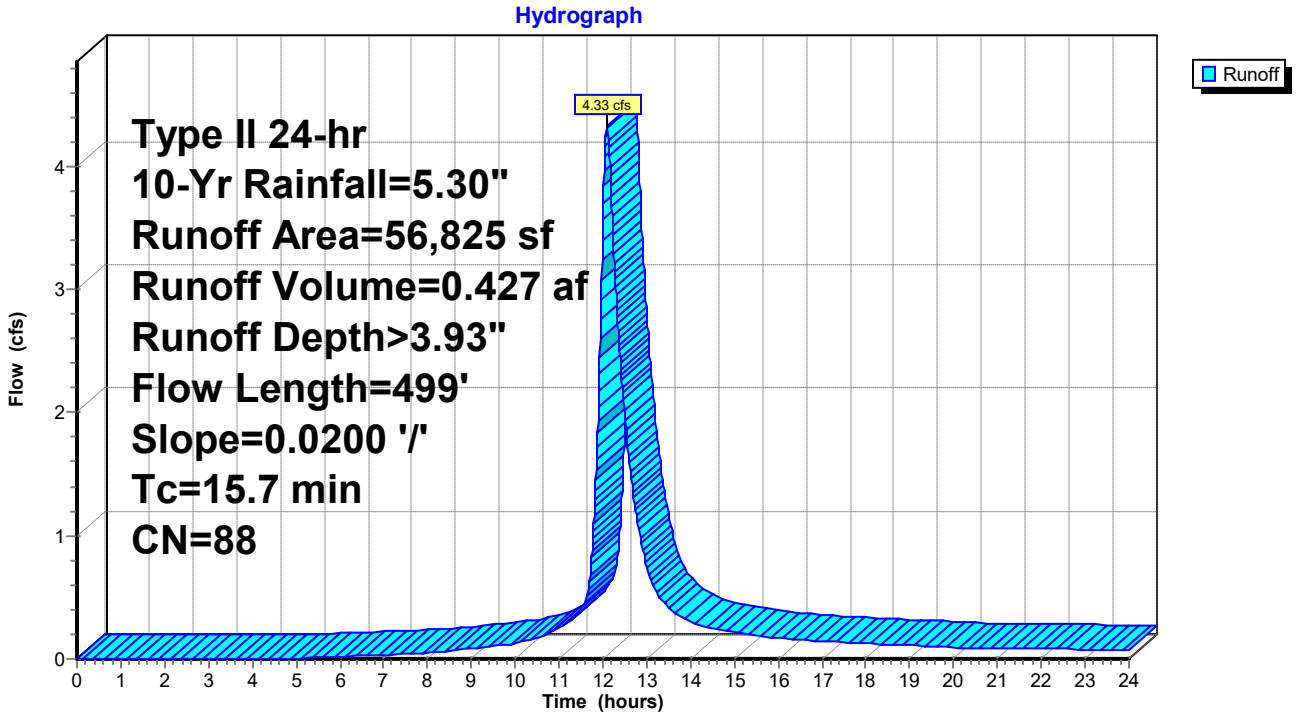
Runoff = 4.33 cfs @ 12.10 hrs, Volume= 0.427 af, Depth> 3.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
32,860	98	Paved parking, HSG C
23,965	74	>75% Grass cover, Good, HSG C
56,825	88	Weighted Average
23,965		42.17% Pervious Area
32,860		57.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	349	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	499	Total			

Subcatchment 48: DA #20



Summary for Pond 49: I-21

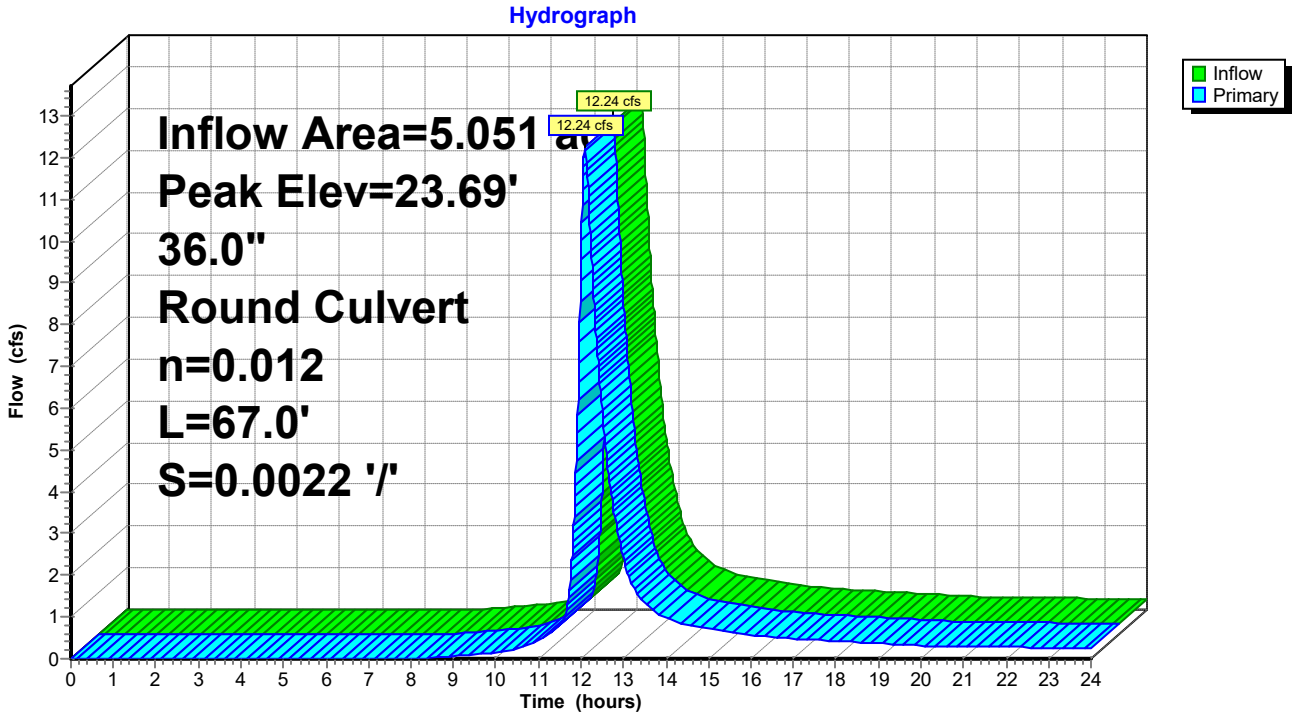
Inflow Area = 5.051 ac, 10.92% Impervious, Inflow Depth > 2.86" for 10-Yr event
Inflow = 12.24 cfs @ 12.09 hrs, Volume= 1.202 af
Outflow = 12.24 cfs @ 12.09 hrs, Volume= 1.202 af, Atten= 0%, Lag= 0.0 min
Primary = 12.24 cfs @ 12.09 hrs, Volume= 1.202 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.69' @ 12.14 hrs
Flood Elev= 23.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.15'	**36.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 20.15' / 20.00' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=9.26 cfs @ 12.09 hrs HW=23.55' TW=23.48' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.26 cfs @ 1.31 fps)

Pond 49: I-21



Summary for Subcatchment 50: DA #21

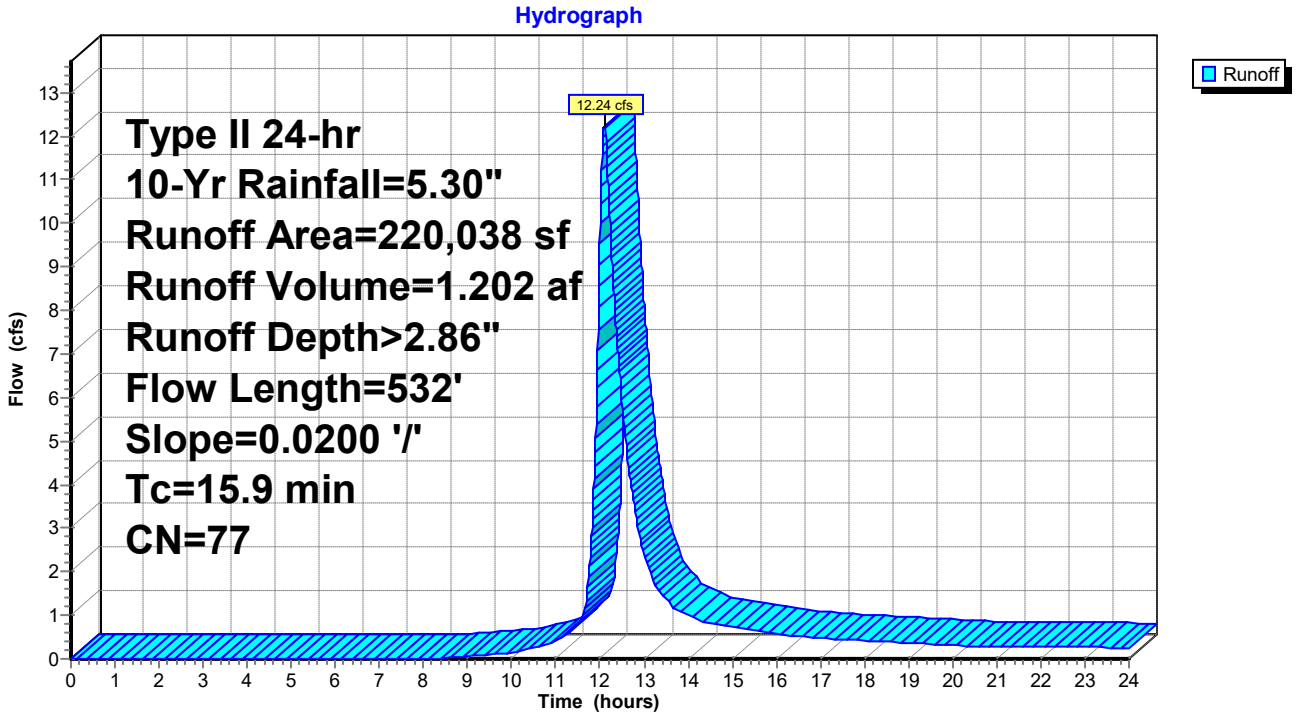
Runoff = 12.24 cfs @ 12.09 hrs, Volume= 1.202 af, Depth> 2.86"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
24,032	98	Paved parking, HSG C
196,006	74	>75% Grass cover, Good, HSG C
220,038	77	Weighted Average
196,006		89.08% Pervious Area
24,032		10.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.8	382	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.9	532	Total			

Subcatchment 50: DA #21



Summary for Pond 51: I-22

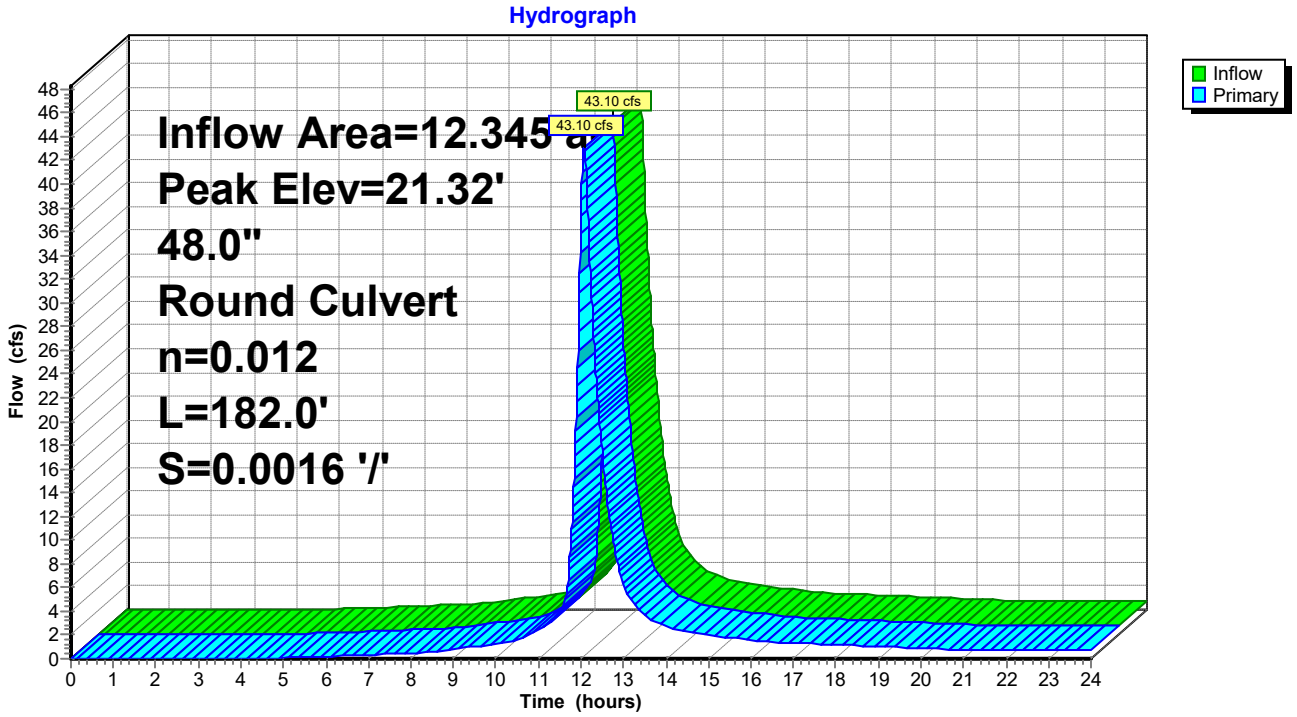
Inflow Area = 12.345 ac, 57.87% Impervious, Inflow Depth > 3.92" for 10-Yr event
Inflow = 43.10 cfs @ 12.07 hrs, Volume= 4.032 af
Outflow = 43.10 cfs @ 12.07 hrs, Volume= 4.032 af, Atten= 0%, Lag= 0.0 min
Primary = 43.10 cfs @ 12.07 hrs, Volume= 4.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.32' @ 12.07 hrs
Flood Elev= 20.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0016 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=43.08 cfs @ 12.07 hrs HW=21.32' TW=19.09' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 43.08 cfs @ 5.65 fps)

Pond 51: I-22



Summary for Subcatchment 52: DA #22

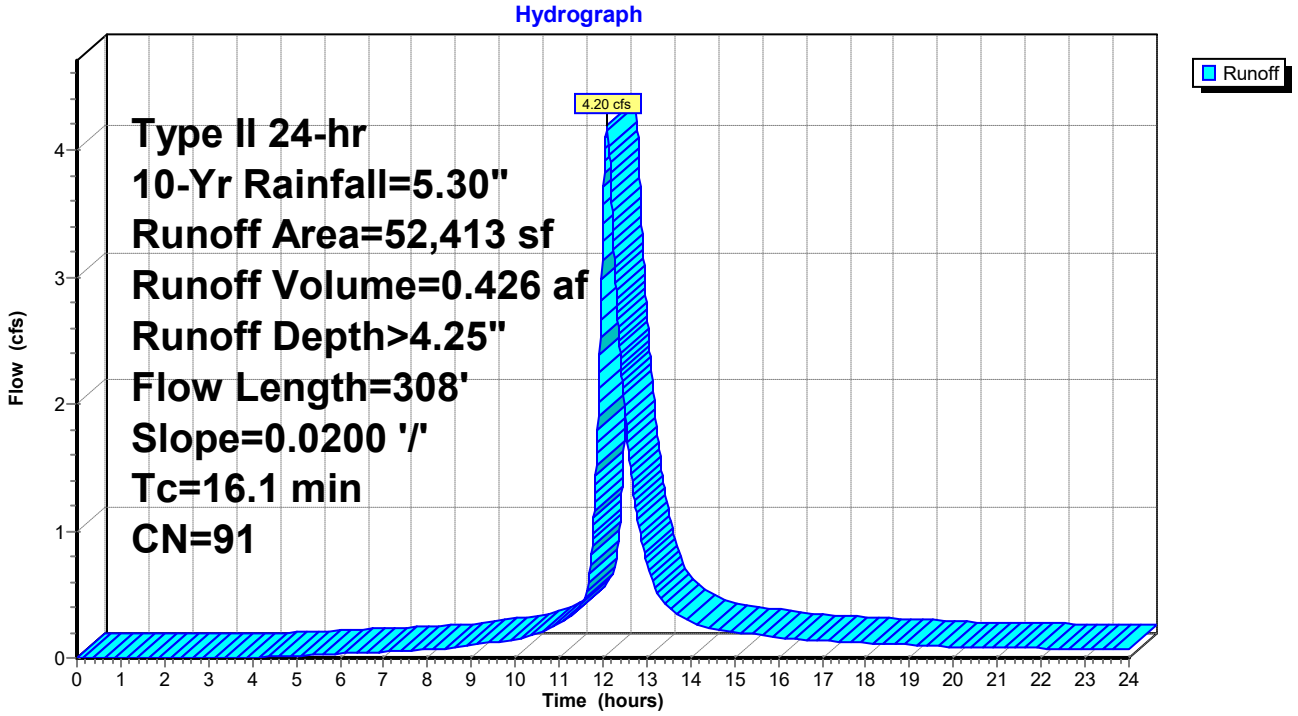
Runoff = 4.20 cfs @ 12.09 hrs, Volume= 0.426 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
36,862	98	Paved parking, HSG C
15,551	74	>75% Grass cover, Good, HSG C
52,413	91	Weighted Average
15,551		29.67% Pervious Area
36,862		70.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	109	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
4.7	41	0.0200	0.15		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.40"
1.2	158	0.0200	2.28		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
16.1	308	Total			

Subcatchment 52: DA #22



Summary for Pond 53: I-23

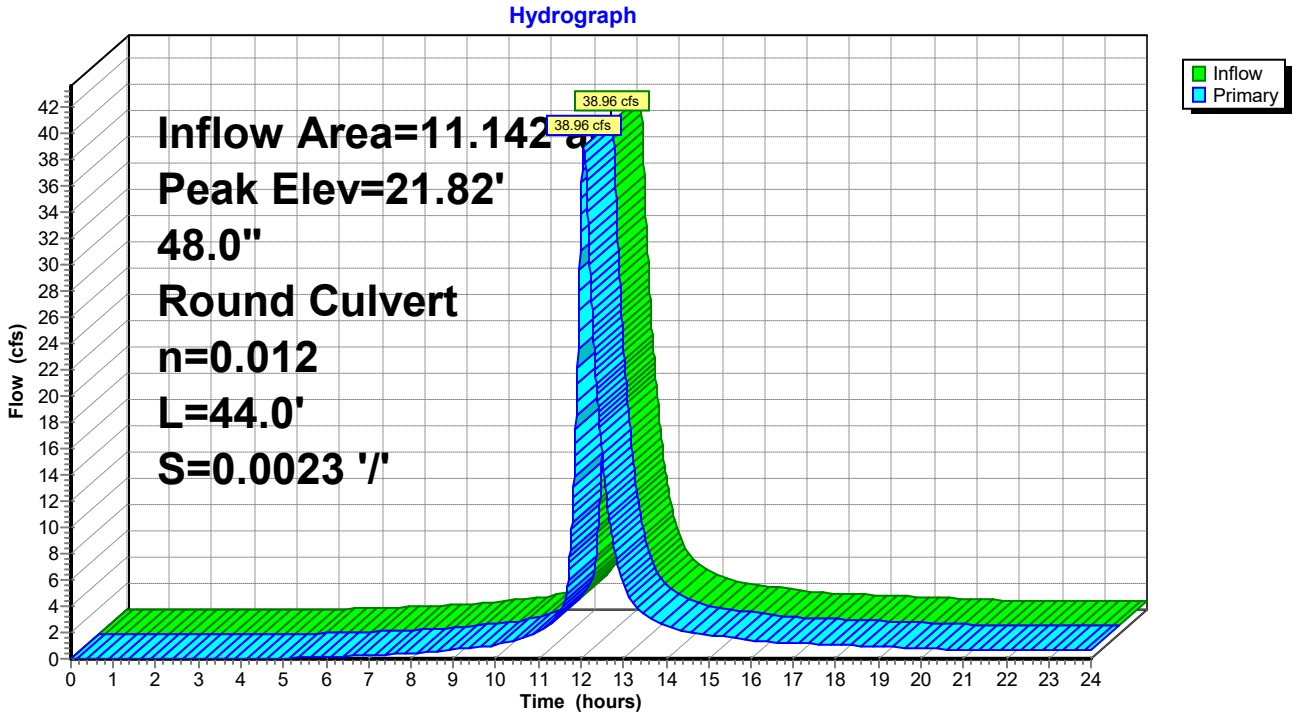
Inflow Area = 11.142 ac, 56.52% Impervious, Inflow Depth > 3.88" for 10-Yr event
Inflow = 38.96 cfs @ 12.07 hrs, Volume= 3.606 af
Outflow = 38.96 cfs @ 12.07 hrs, Volume= 3.606 af, Atten= 0%, Lag= 0.0 min
Primary = 38.96 cfs @ 12.07 hrs, Volume= 3.606 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 21.82' @ 12.08 hrs
Flood Elev= 20.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=38.79 cfs @ 12.07 hrs HW=21.82' TW=21.32' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 38.79 cfs @ 4.41 fps)

Pond 53: I-23



Summary for Subcatchment 54: DA #23

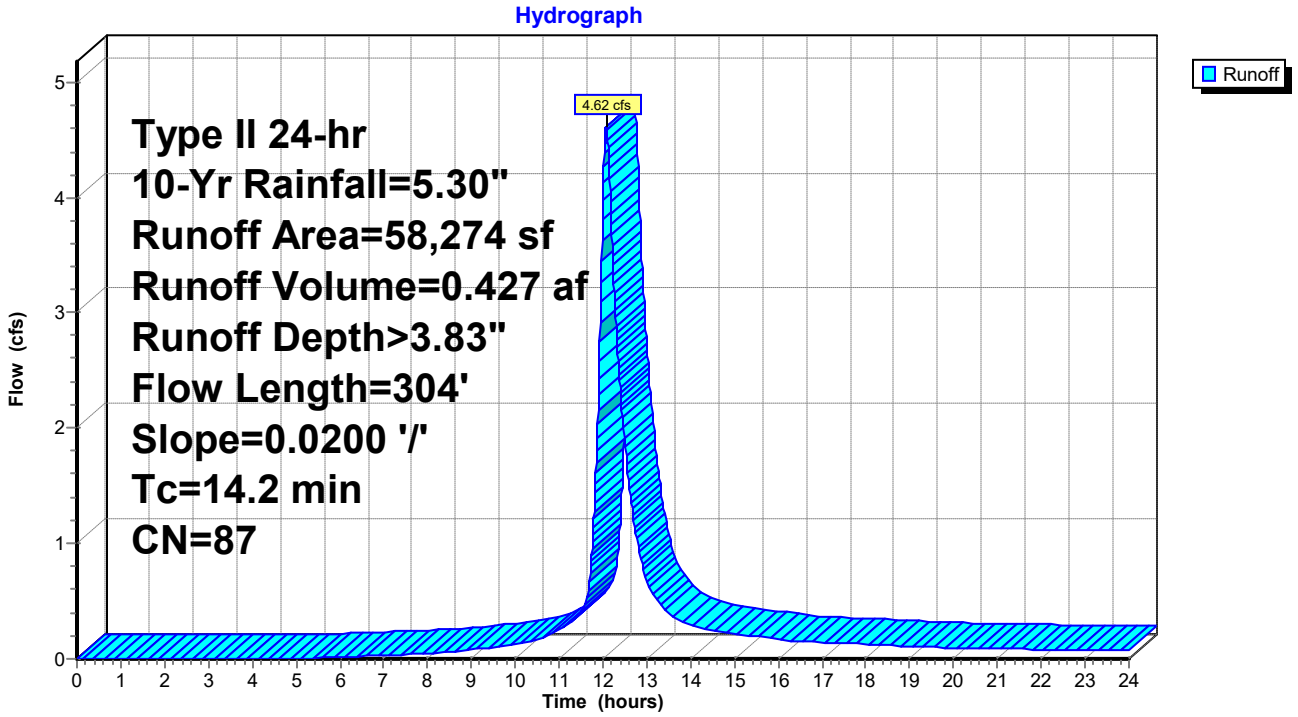
Runoff = 4.62 cfs @ 12.08 hrs, Volume= 0.427 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
31,377	98	Paved parking, HSG C
26,897	74	>75% Grass cover, Good, HSG C
58,274	87	Weighted Average
26,897		46.16% Pervious Area
31,377		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	154	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	304	Total			

Subcatchment 54: DA #23



Summary for Pond 55: I-24

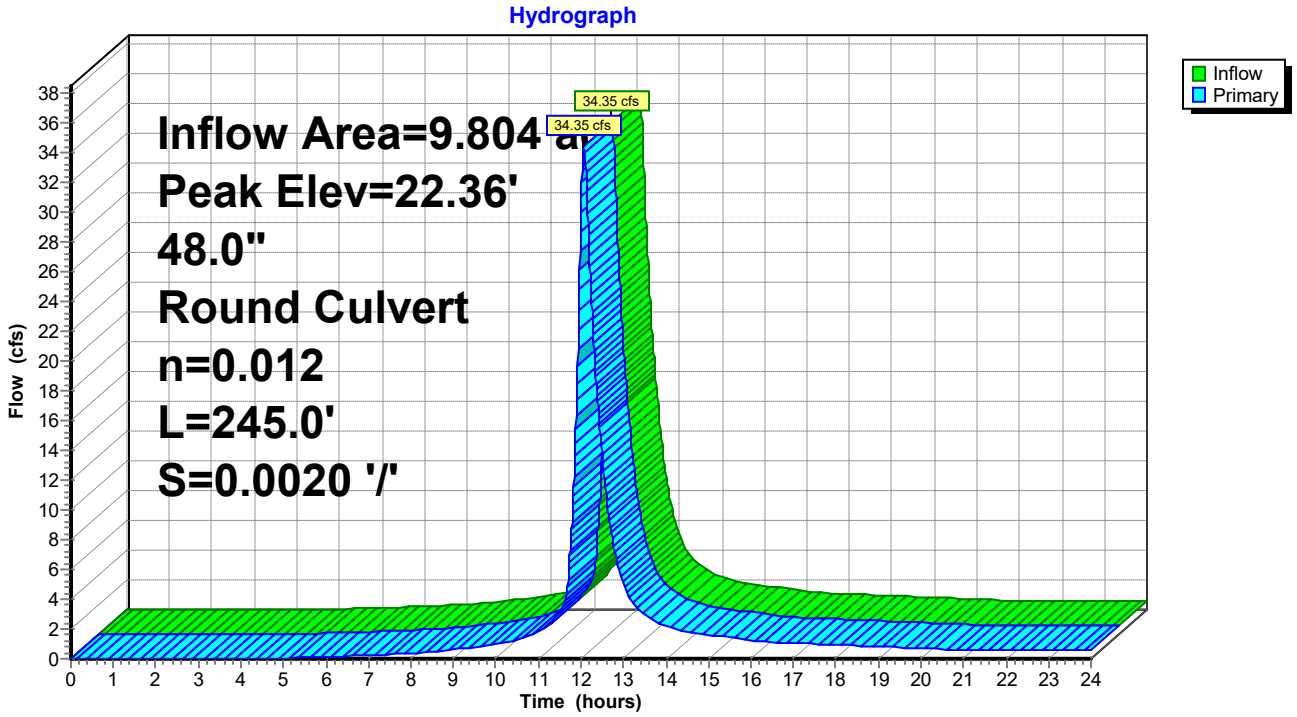
Inflow Area = 9.804 ac, 56.89% Impervious, Inflow Depth > 3.89" for 10-Yr event
Inflow = 34.35 cfs @ 12.07 hrs, Volume= 3.179 af
Outflow = 34.35 cfs @ 12.07 hrs, Volume= 3.179 af, Atten= 0%, Lag= 0.0 min
Primary = 34.35 cfs @ 12.07 hrs, Volume= 3.179 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.36' @ 12.08 hrs
Flood Elev= 21.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.80'	**48.0" Round Culvert** L= 245.0' Ke= 0.500 Inlet / Outlet Invert= 18.80' / 18.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=33.80 cfs @ 12.07 hrs HW=22.34' TW=21.82' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 33.80 cfs @ 3.81 fps)

Pond 55: I-24



Summary for Subcatchment 56: DA #24

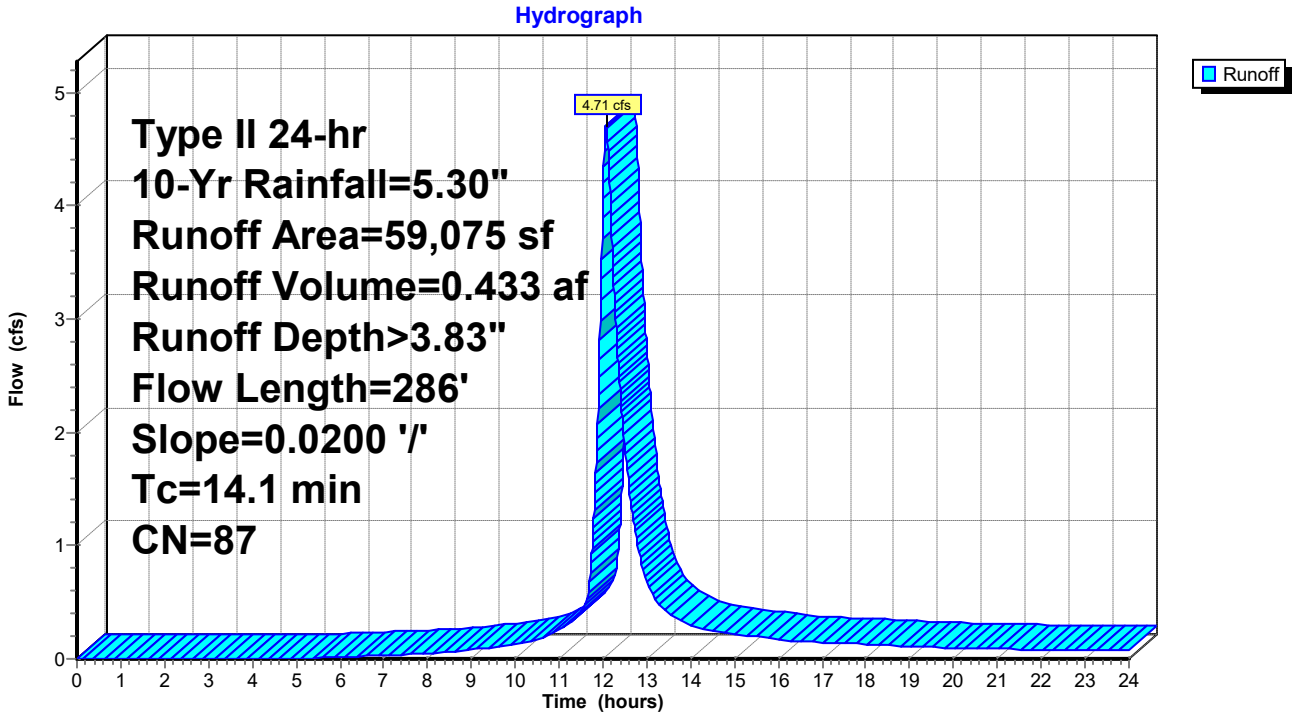
Runoff = 4.71 cfs @ 12.07 hrs, Volume= 0.433 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
31,853	98	Paved parking, HSG C
27,222	74	>75% Grass cover, Good, HSG C
59,075	87	Weighted Average
27,222		46.08% Pervious Area
31,853		53.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.0	136	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.1	286	Total			

Subcatchment 56: DA #24



Summary for Pond 57: I-25

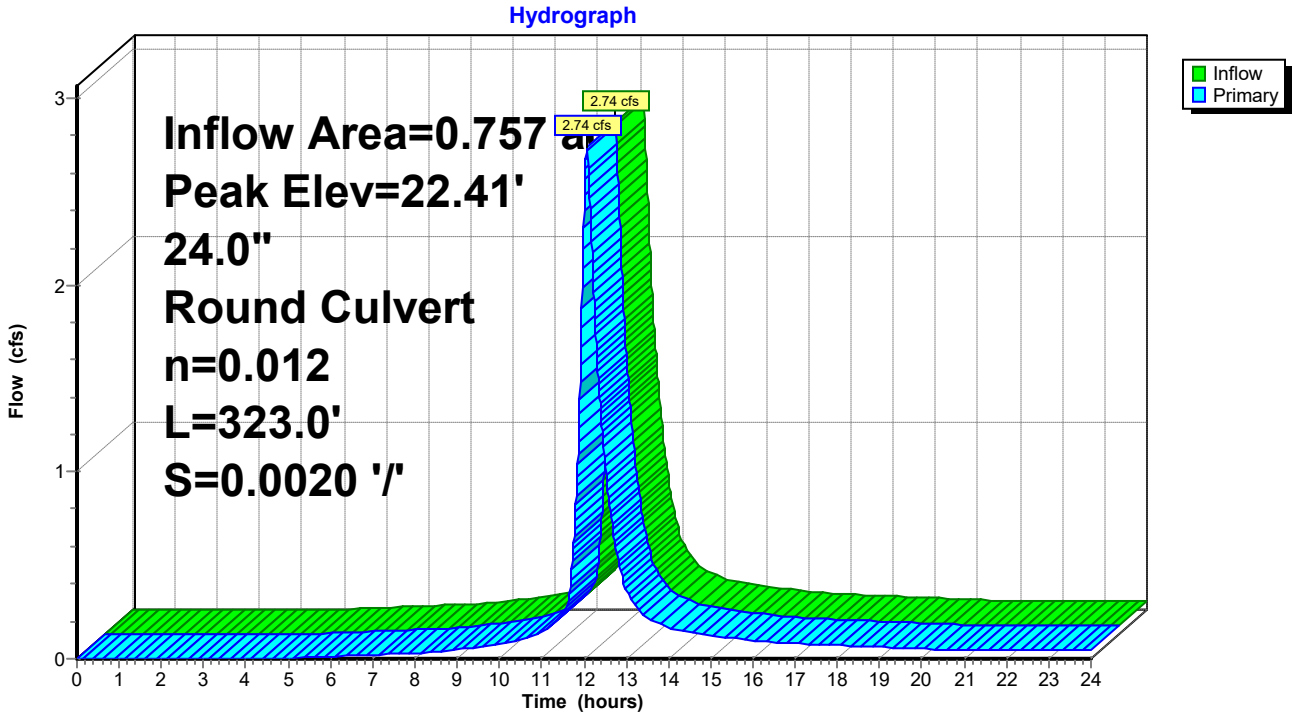
Inflow Area = 0.757 ac, 57.23% Impervious, Inflow Depth > 3.94" for 10-Yr event
Inflow = 2.74 cfs @ 12.06 hrs, Volume= 0.248 af
Outflow = 2.74 cfs @ 12.06 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min
Primary = 2.74 cfs @ 12.06 hrs, Volume= 0.248 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.41' @ 12.09 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 323.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 18.80' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=1.89 cfs @ 12.06 hrs HW=22.36' TW=22.33' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.89 cfs @ 0.60 fps)

Pond 57: I-25



Summary for Subcatchment 58: DA #25

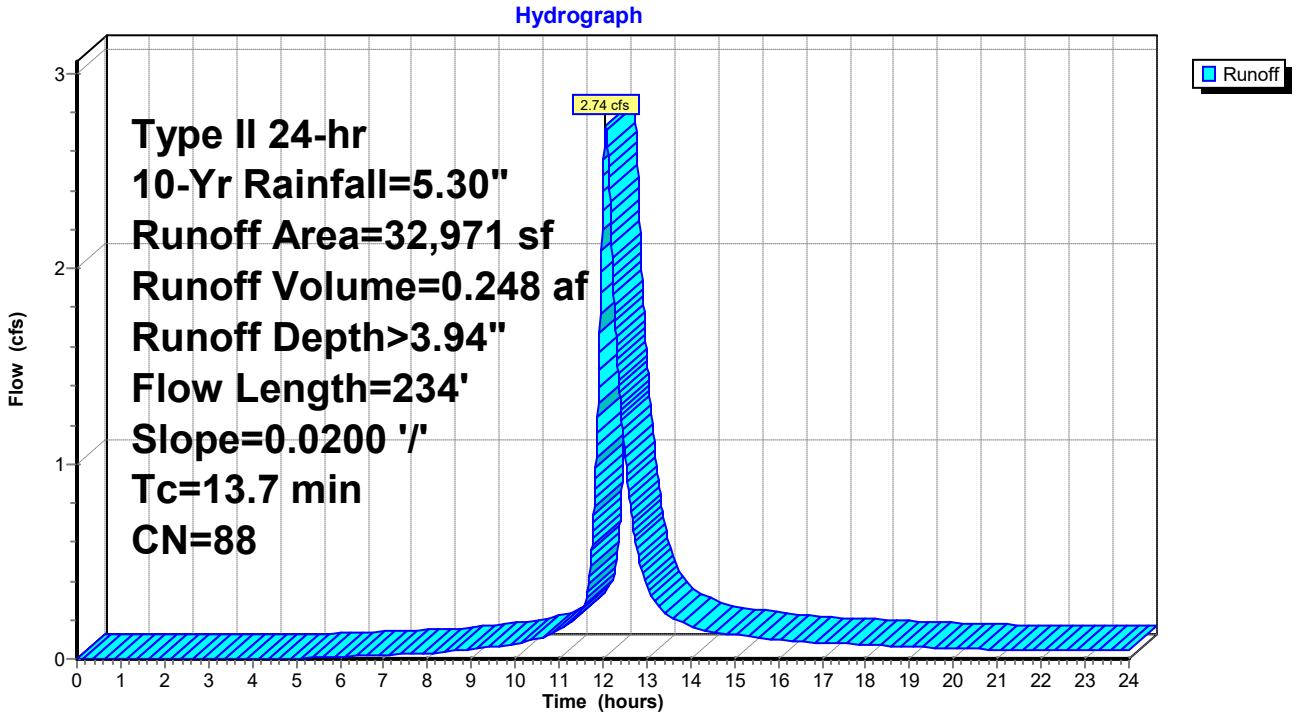
Runoff = 2.74 cfs @ 12.06 hrs, Volume= 0.248 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
18,869	98	Paved parking, HSG C
14,102	74	>75% Grass cover, Good, HSG C
32,971	88	Weighted Average
14,102		42.77% Pervious Area
18,869		57.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.6	84	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.7	234	Total			

Subcatchment 58: DA #25



Summary for Pond 59: I-26

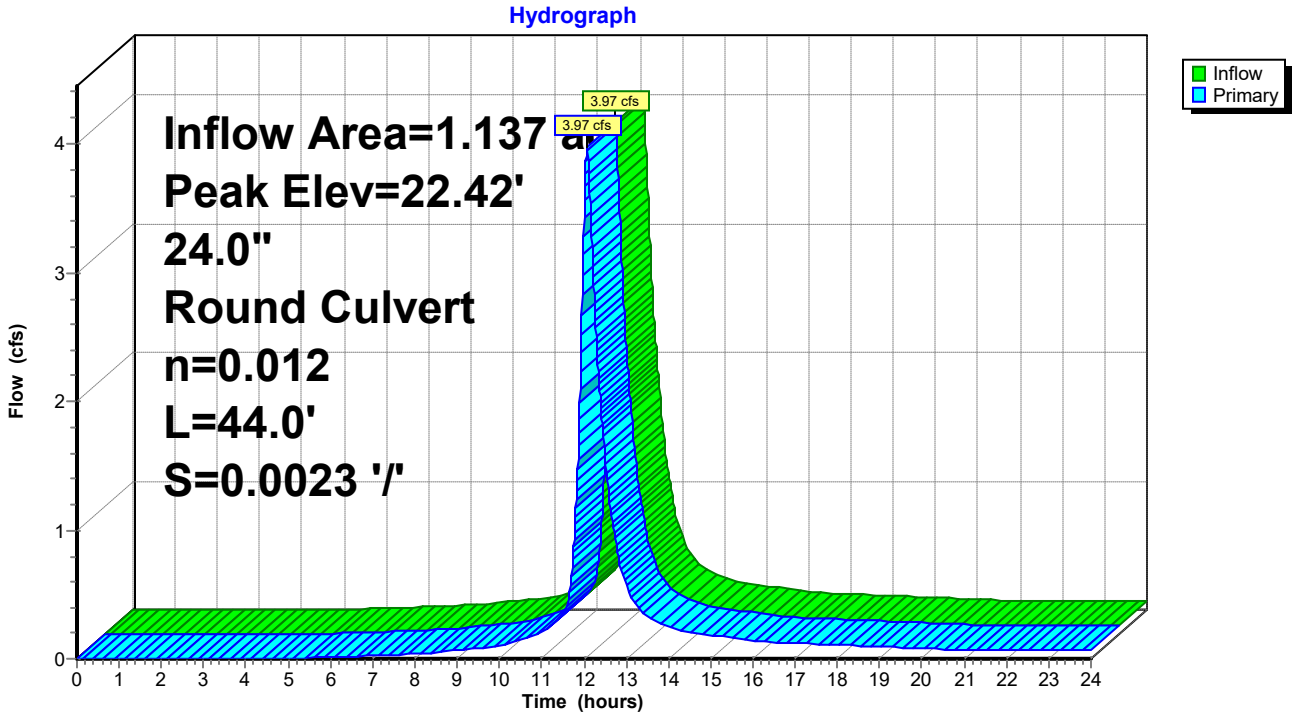
Inflow Area = 1.137 ac, 55.14% Impervious, Inflow Depth > 3.83" for 10-Yr event
Inflow = 3.97 cfs @ 12.07 hrs, Volume= 0.363 af
Outflow = 3.97 cfs @ 12.07 hrs, Volume= 0.363 af, Atten= 0%, Lag= 0.0 min
Primary = 3.97 cfs @ 12.07 hrs, Volume= 0.363 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.42' @ 12.09 hrs
Flood Elev= 21.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.90'	**24.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.90' / 18.80' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.33 cfs @ 12.07 hrs HW=22.40' TW=22.35' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.33 cfs @ 1.06 fps)

Pond 59: I-26



Summary for Subcatchment 60: DA #26

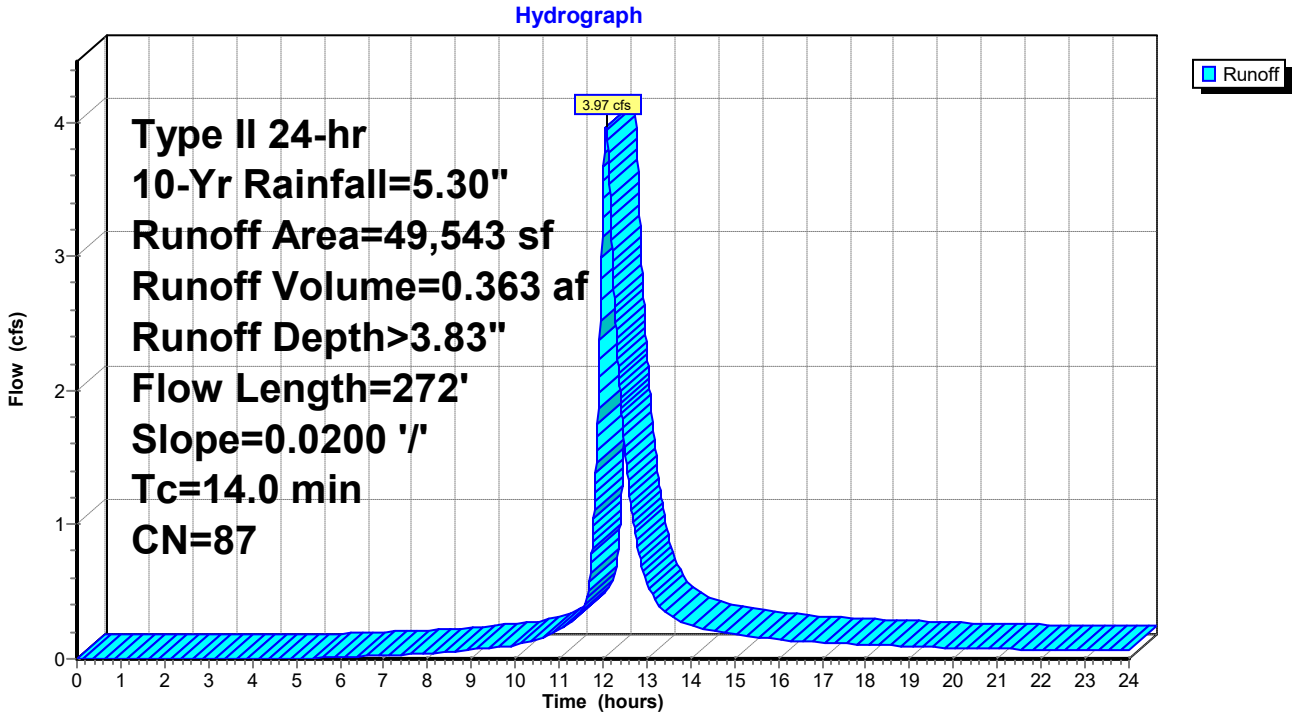
Runoff = 3.97 cfs @ 12.07 hrs, Volume= 0.363 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
27,320	98	Paved parking, HSG C
22,223	74	>75% Grass cover, Good, HSG C
49,543	87	Weighted Average
22,223		44.86% Pervious Area
27,320		55.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.9	122	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.0	272	Total			

Subcatchment 60: DA #26



Summary for Pond 61: I-27

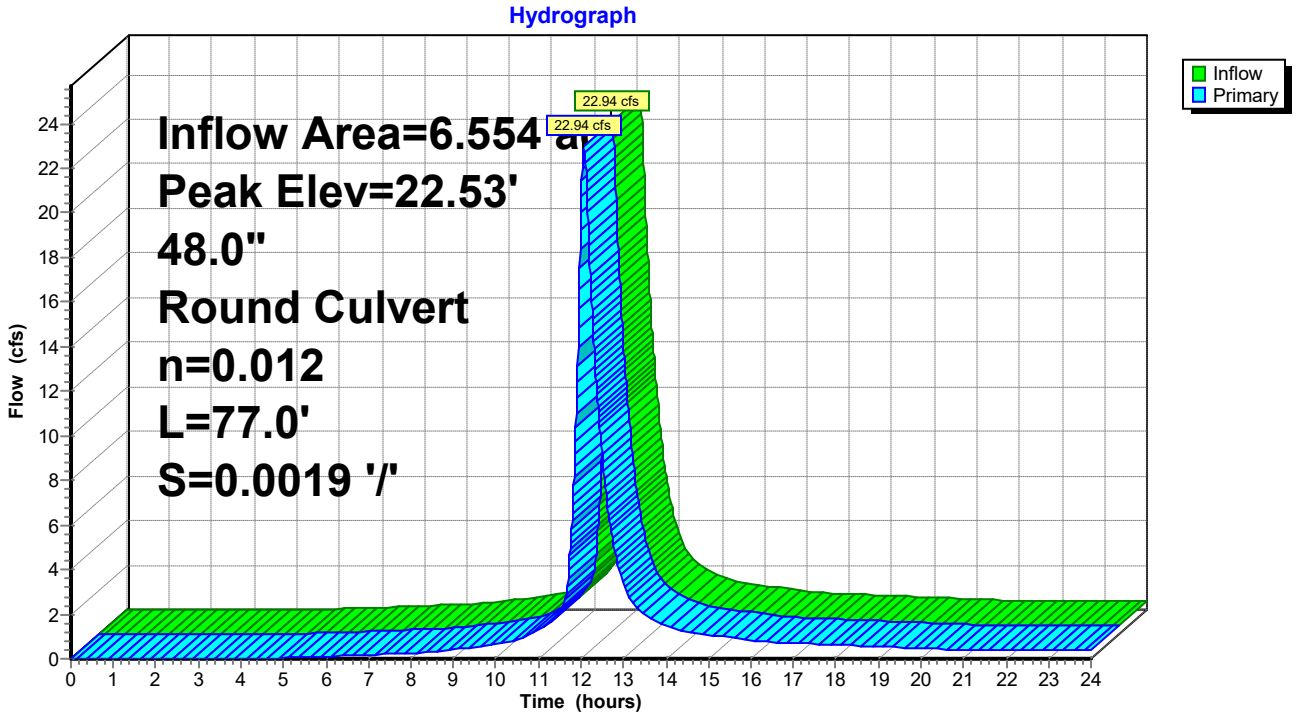
Inflow Area = 6.554 ac, 57.77% Impervious, Inflow Depth > 3.91" for 10-Yr event
Inflow = 22.94 cfs @ 12.07 hrs, Volume= 2.134 af
Outflow = 22.94 cfs @ 12.07 hrs, Volume= 2.134 af, Atten= 0%, Lag= 0.0 min
Primary = 22.94 cfs @ 12.07 hrs, Volume= 2.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.53' @ 12.09 hrs
Flood Elev= 21.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.95'	**48.0" Round Culvert** L= 77.0' Ke= 0.500 Inlet / Outlet Invert= 18.95' / 18.80' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=21.31 cfs @ 12.07 hrs HW=22.50' TW=22.34' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 21.31 cfs @ 2.40 fps)

Pond 61: I-27



Summary for Subcatchment 62: DA #27

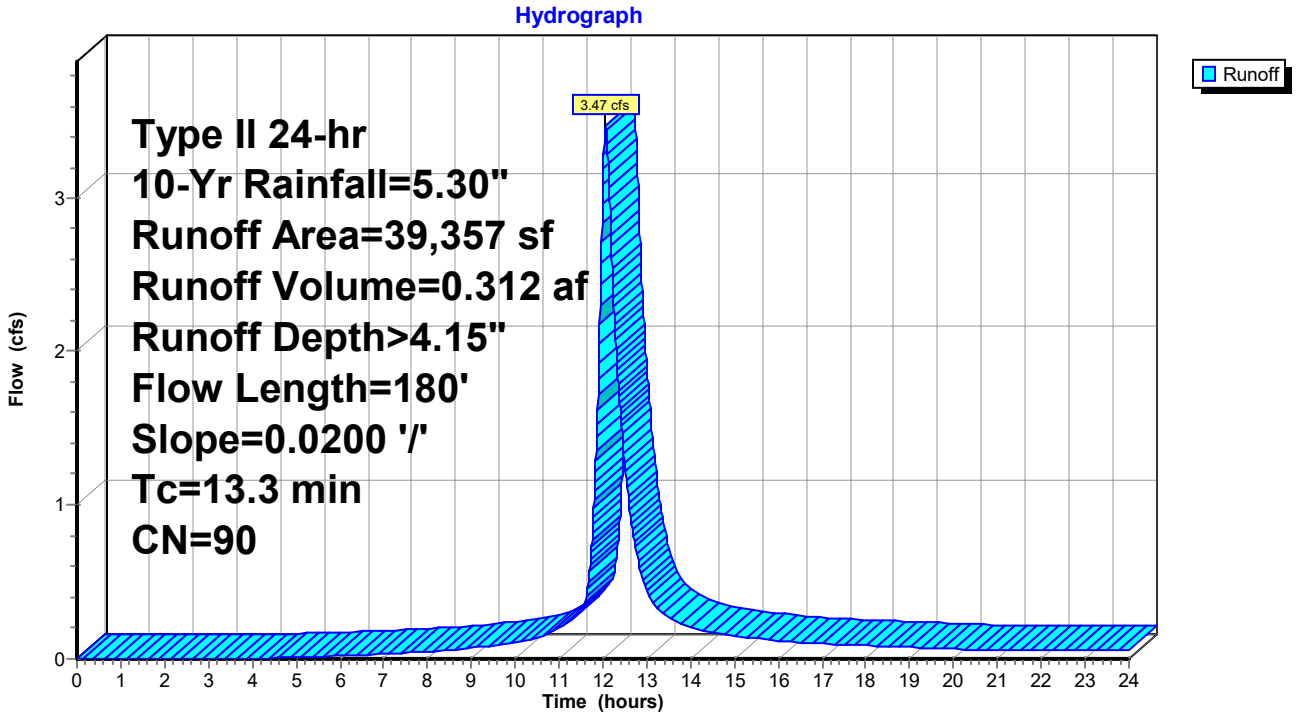
Runoff = 3.47 cfs @ 12.06 hrs, Volume= 0.312 af, Depth> 4.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
27,040	98	Paved parking, HSG C
12,317	74	>75% Grass cover, Good, HSG C
39,357	90	Weighted Average
12,317		31.30% Pervious Area
27,040		68.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.2	30	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.3	180	Total			

Subcatchment 62: DA #27



Summary for Pond 63: I-28

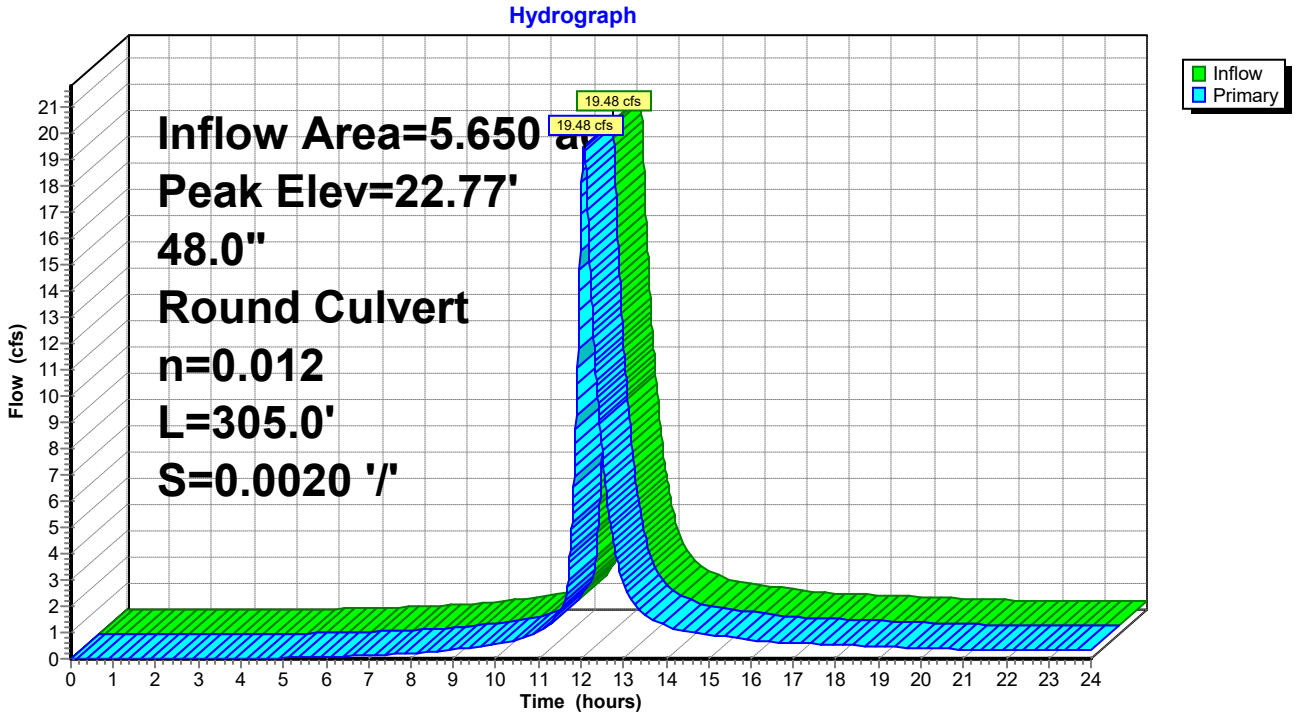
Inflow Area = 5.650 ac, 56.02% Impervious, Inflow Depth > 3.87" for 10-Yr event
Inflow = 19.48 cfs @ 12.07 hrs, Volume= 1.822 af
Outflow = 19.48 cfs @ 12.07 hrs, Volume= 1.822 af, Atten= 0%, Lag= 0.0 min
Primary = 19.48 cfs @ 12.07 hrs, Volume= 1.822 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.77' @ 12.10 hrs
Flood Elev= 21.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.56'	**48.0" Round Culvert** L= 305.0' Ke= 0.500 Inlet / Outlet Invert= 19.56' / 18.95' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=18.31 cfs @ 12.07 hrs HW=22.73' TW=22.51' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 18.31 cfs @ 2.35 fps)

Pond 63: I-28



Summary for Subcatchment 64: DA #28

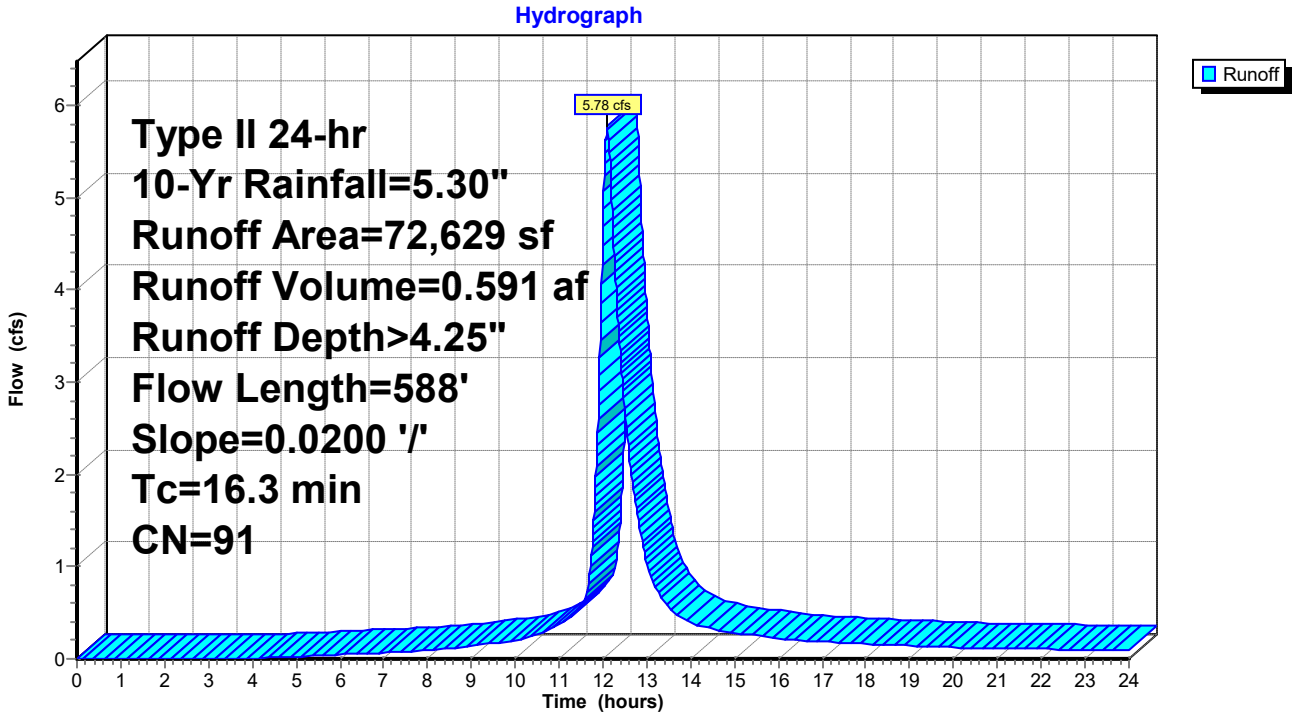
Runoff = 5.78 cfs @ 12.10 hrs, Volume= 0.591 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
52,377	98	Paved parking, HSG C
20,252	74	>75% Grass cover, Good, HSG C
72,629	91	Weighted Average
20,252		27.88% Pervious Area
52,377		72.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
3.2	438	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
16.3	588	Total			

Subcatchment 64: DA #28



Summary for Pond 65: I-29

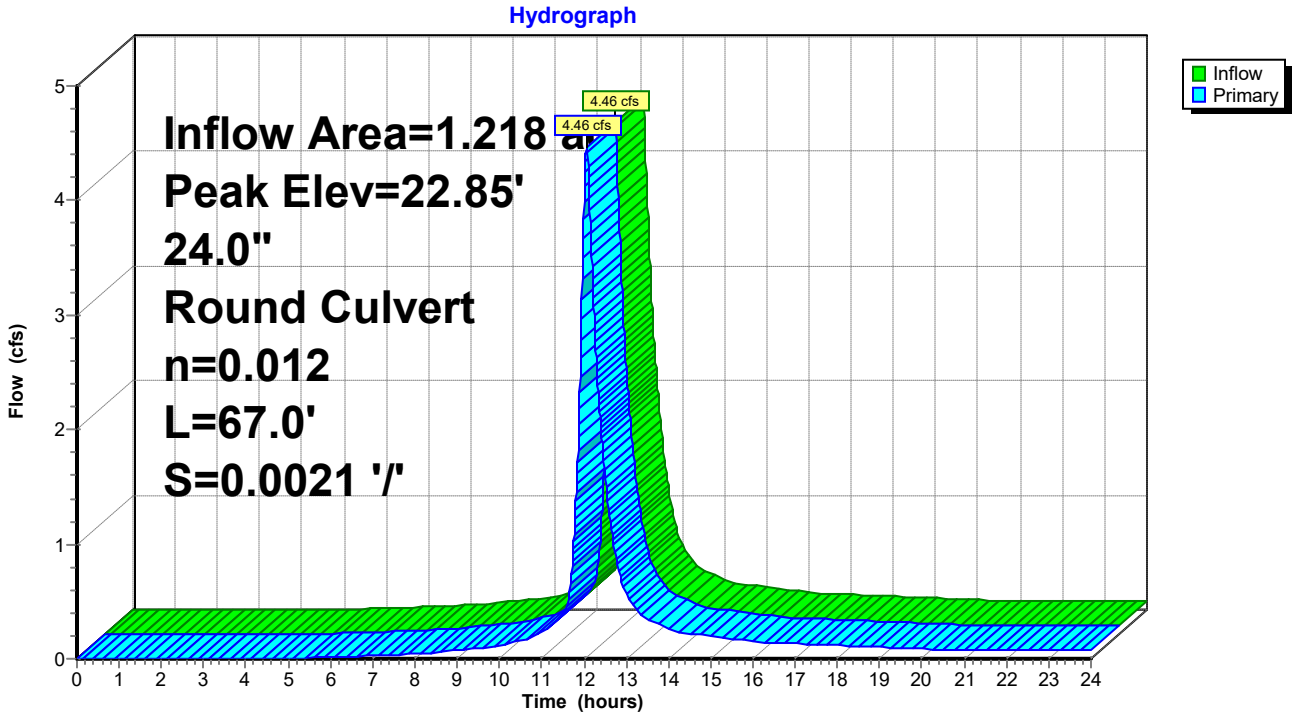
Inflow Area = 1.218 ac, 55.35% Impervious, Inflow Depth > 3.86" for 10-Yr event
Inflow = 4.46 cfs @ 12.06 hrs, Volume= 0.392 af
Outflow = 4.46 cfs @ 12.06 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 4.46 cfs @ 12.06 hrs, Volume= 0.392 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.85' @ 12.10 hrs
Flood Elev= 22.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**24.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.94 cfs @ 12.06 hrs HW=22.73' TW=22.69' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.94 cfs @ 0.94 fps)

Pond 65: I-29



Summary for Subcatchment 66: DA #29

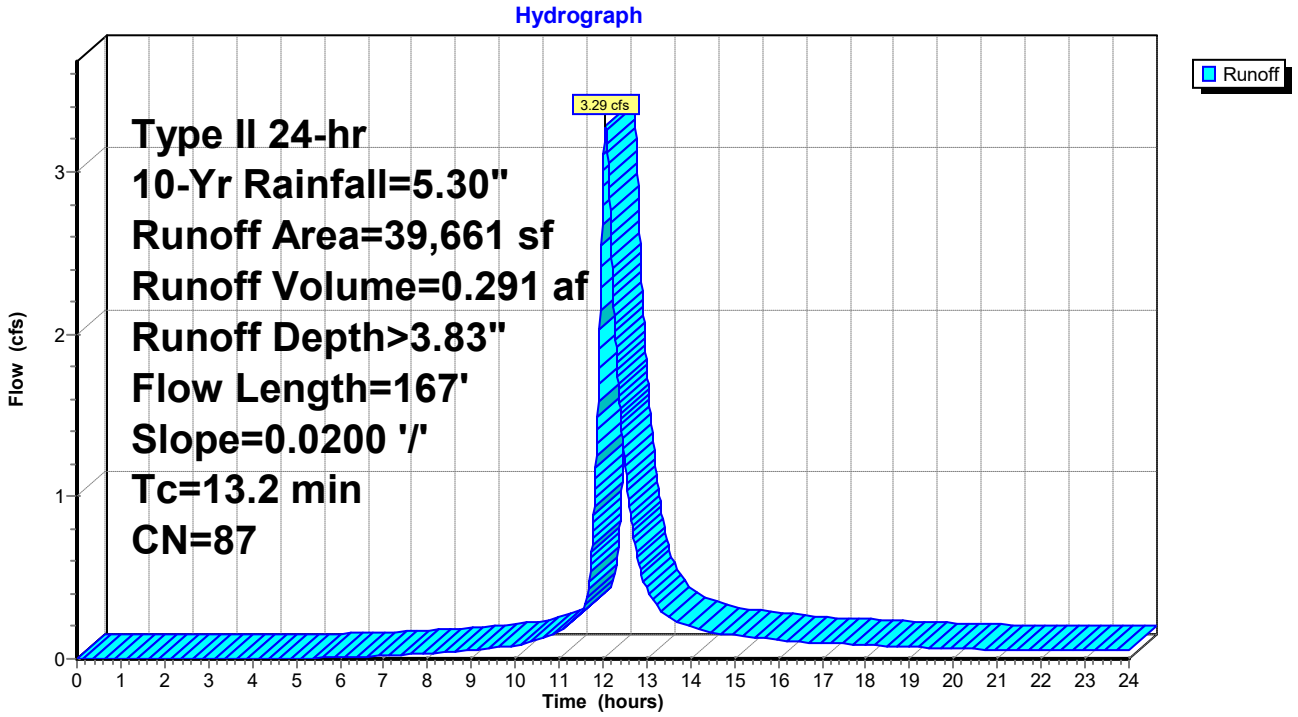
Runoff = 3.29 cfs @ 12.06 hrs, Volume= 0.291 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG C
18,060	74	>75% Grass cover, Good, HSG C
39,661	87	Weighted Average
18,060		45.54% Pervious Area
21,601		54.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	17	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	167	Total			

Subcatchment 66: DA #29



Summary for Pond 67: I-30

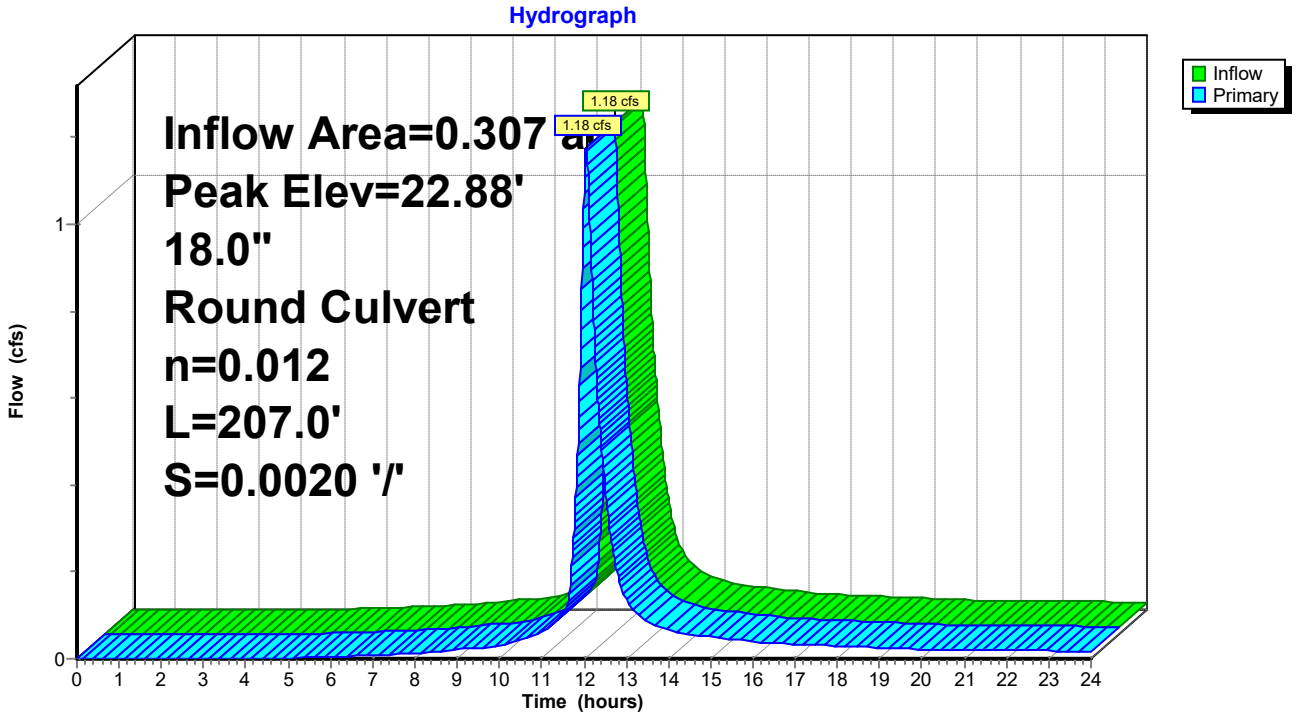
Inflow Area = 0.307 ac, 57.96% Impervious, Inflow Depth > 3.94" for 10-Yr event
Inflow = 1.18 cfs @ 12.05 hrs, Volume= 0.101 af
Outflow = 1.18 cfs @ 12.05 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 1.18 cfs @ 12.05 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.88' @ 12.11 hrs
Flood Elev= 22.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.11'	**18.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 20.11' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.05 hrs HW=22.65' TW=22.68' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 67: I-30



Summary for Subcatchment 68: DA #30

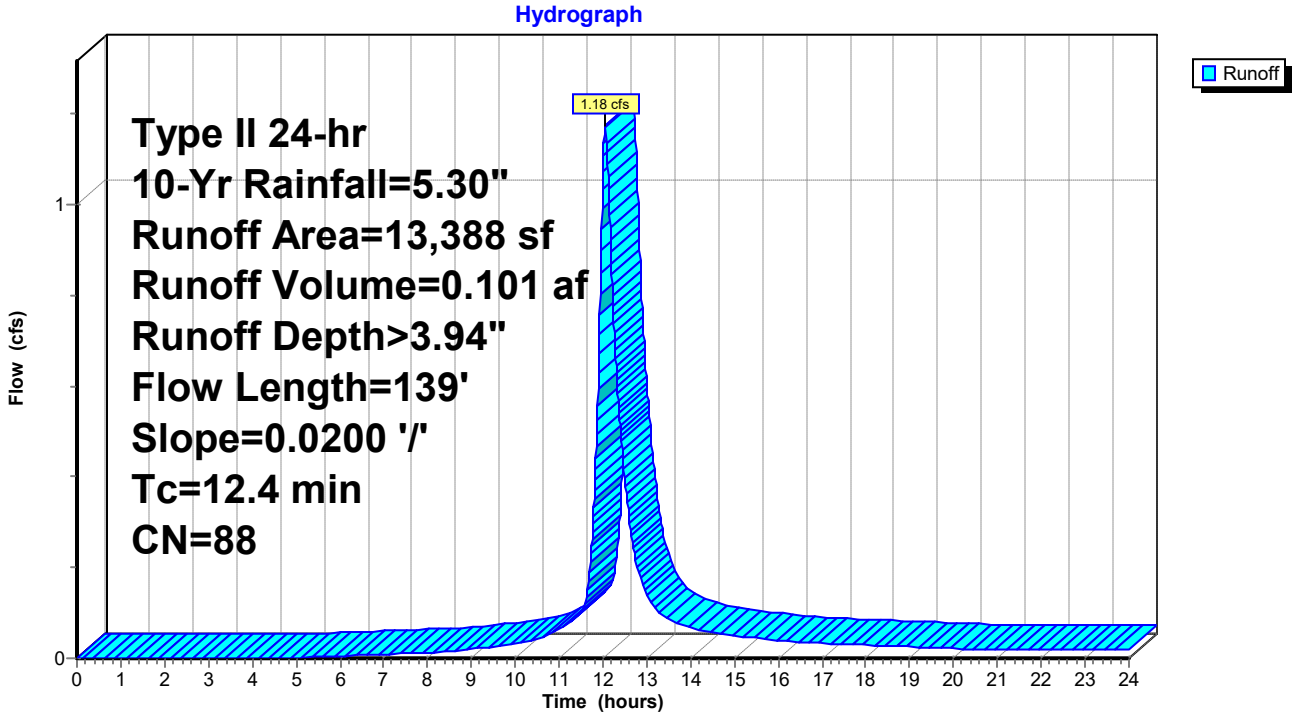
Runoff = 1.18 cfs @ 12.05 hrs, Volume= 0.101 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
7,760	98	Paved parking, HSG C
5,628	74	>75% Grass cover, Good, HSG C
13,388	88	Weighted Average
5,628		42.04% Pervious Area
7,760		57.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	139	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 68: DA #30



Summary for Pond 69: I-31

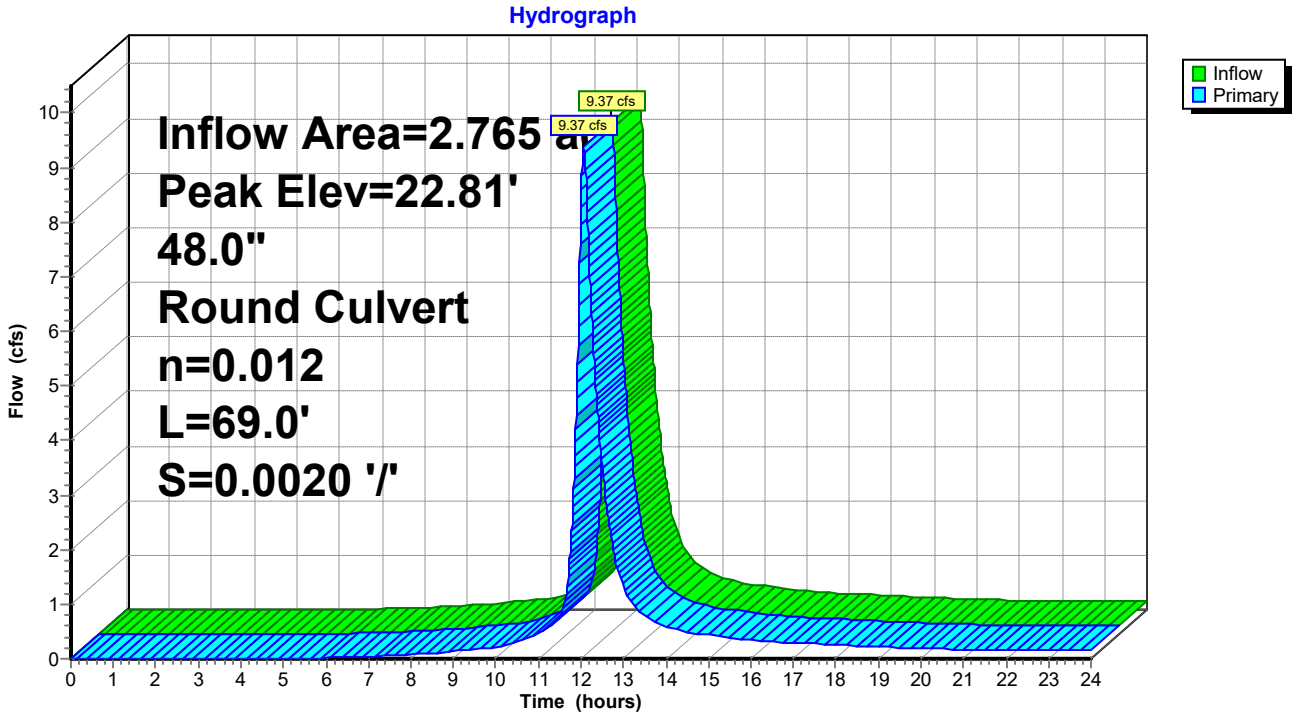
Inflow Area = 2.765 ac, 46.60% Impervious, Inflow Depth > 3.65" for 10-Yr event
Inflow = 9.37 cfs @ 12.06 hrs, Volume= 0.840 af
Outflow = 9.37 cfs @ 12.06 hrs, Volume= 0.840 af, Atten= 0%, Lag= 0.0 min
Primary = 9.37 cfs @ 12.06 hrs, Volume= 0.840 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.81' @ 12.11 hrs
Flood Elev= 22.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**48.0" Round Culvert** L= 69.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=22.70' TW=22.70' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 69: I-31



Summary for Subcatchment 70: DA #31

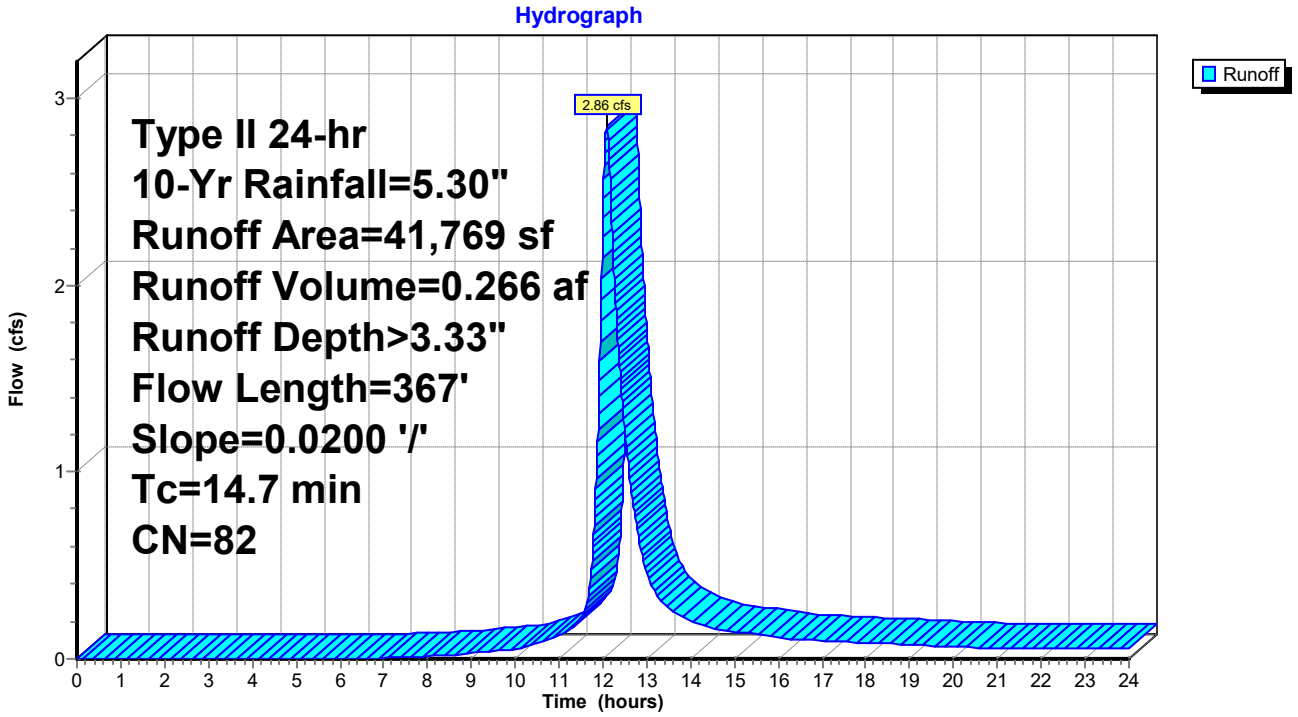
Runoff = 2.86 cfs @ 12.09 hrs, Volume= 0.266 af, Depth> 3.33"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
13,895	98	Paved parking, HSG C
27,874	74	>75% Grass cover, Good, HSG C
41,769	82	Weighted Average
27,874		66.73% Pervious Area
13,895		33.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.6	217	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.7	367	Total			

Subcatchment 70: DA #31



Summary for Pond 71: I-32

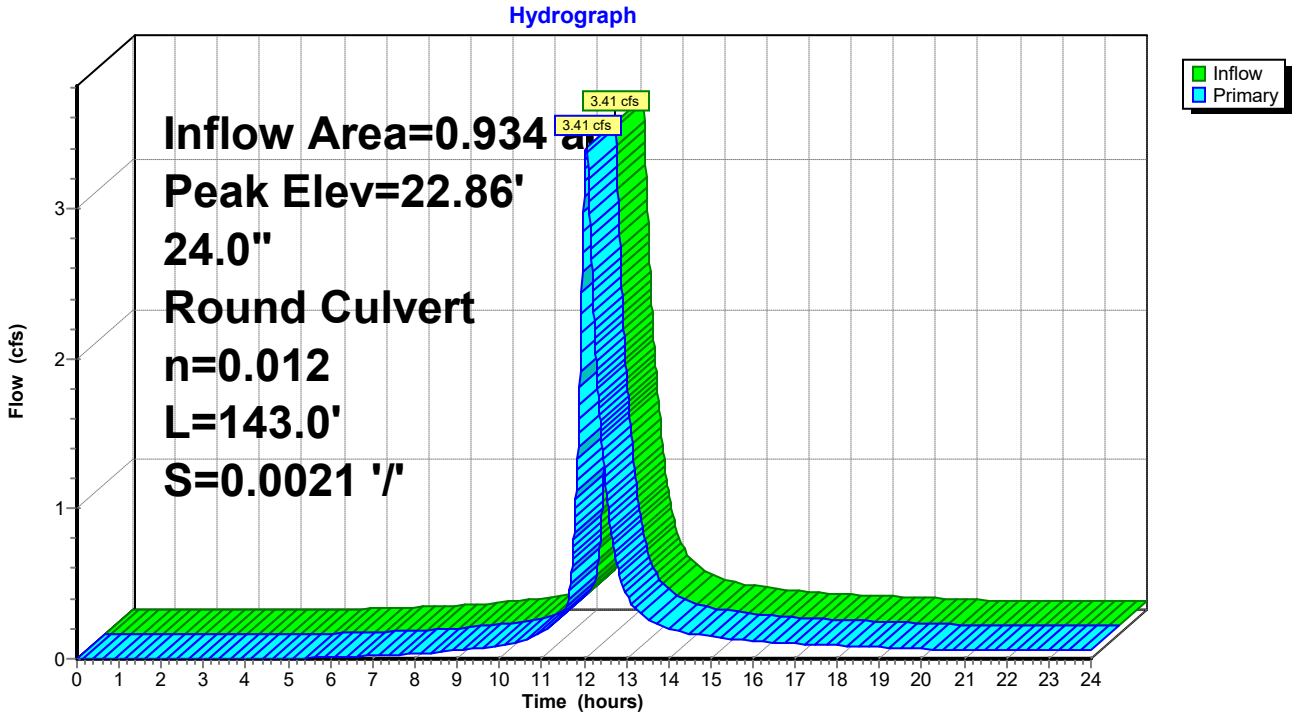
Inflow Area = 0.934 ac, 54.52% Impervious, Inflow Depth > 3.83" for 10-Yr event
Inflow = 3.41 cfs @ 12.06 hrs, Volume= 0.298 af
Outflow = 3.41 cfs @ 12.06 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.0 min
Primary = 3.41 cfs @ 12.06 hrs, Volume= 0.298 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.86' @ 12.11 hrs
Flood Elev= 22.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**24.0" Round Culvert** L= 143.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.70' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=22.65' TW=22.66' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 71: I-32



Summary for Subcatchment 72: DA #32

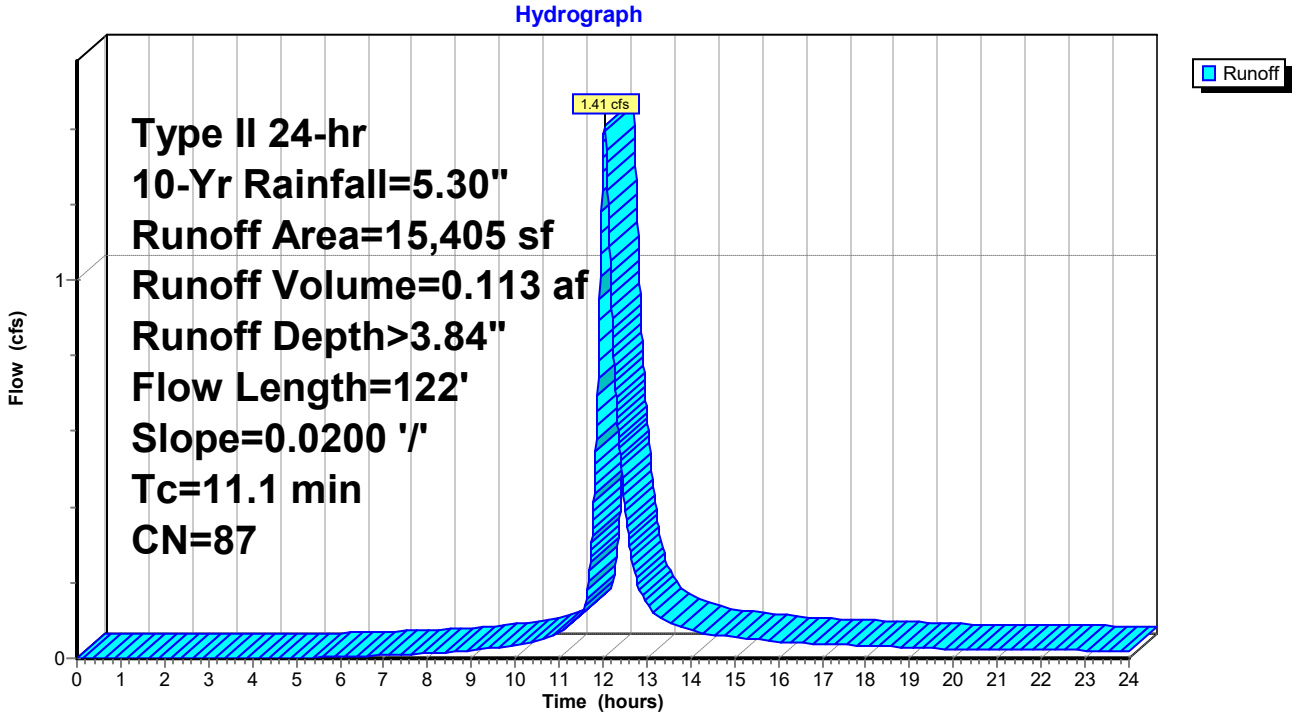
Runoff = 1.41 cfs @ 12.04 hrs, Volume= 0.113 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
8,395	98	Paved parking, HSG C
7,010	74	>75% Grass cover, Good, HSG C
15,405	87	Weighted Average
7,010		45.50% Pervious Area
8,395		54.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	122	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 72: DA #32



Summary for Pond 73: I-33

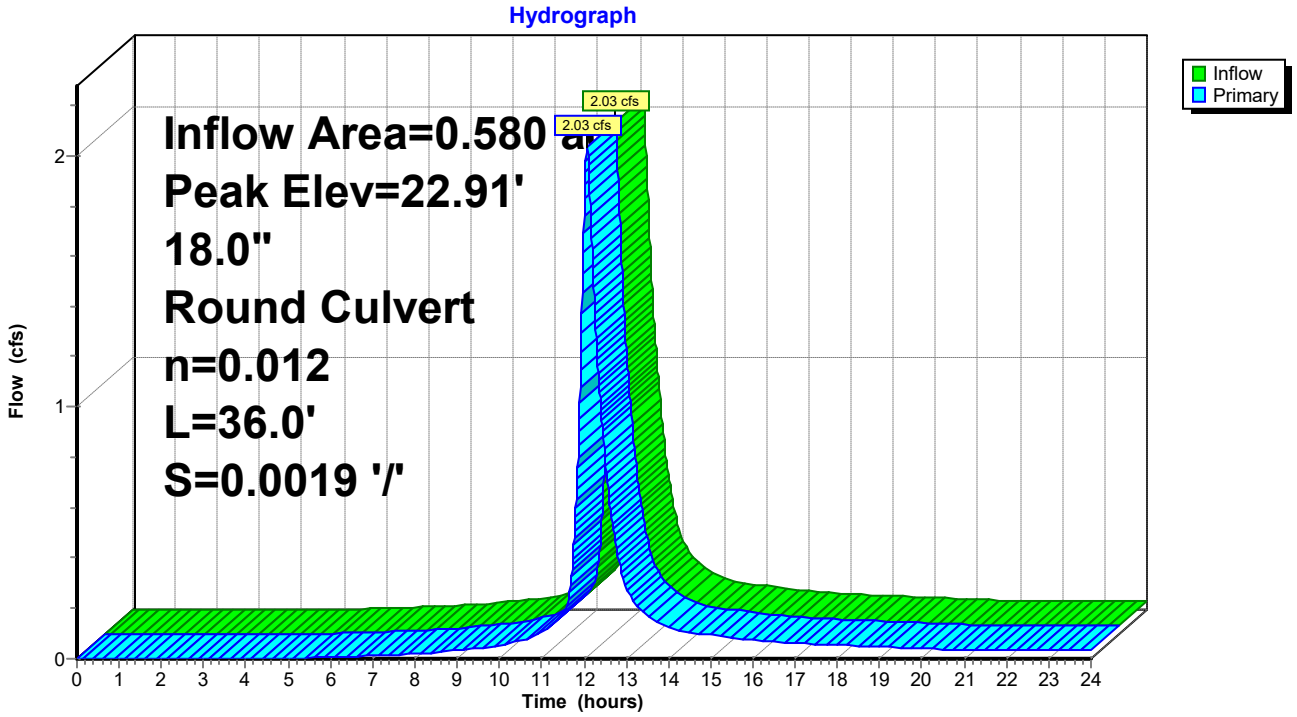
Inflow Area = 0.580 ac, 54.53% Impervious, Inflow Depth > 3.83" for 10-Yr event
Inflow = 2.03 cfs @ 12.08 hrs, Volume= 0.185 af
Outflow = 2.03 cfs @ 12.08 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.08 hrs, Volume= 0.185 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.91' @ 12.12 hrs
Flood Elev= 22.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.07'	**18.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 20.07' / 20.00' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.63 cfs @ 12.08 hrs HW=22.78' TW=22.77' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.63 cfs @ 0.36 fps)

Pond 73: I-33



Summary for Subcatchment 74: DA #33

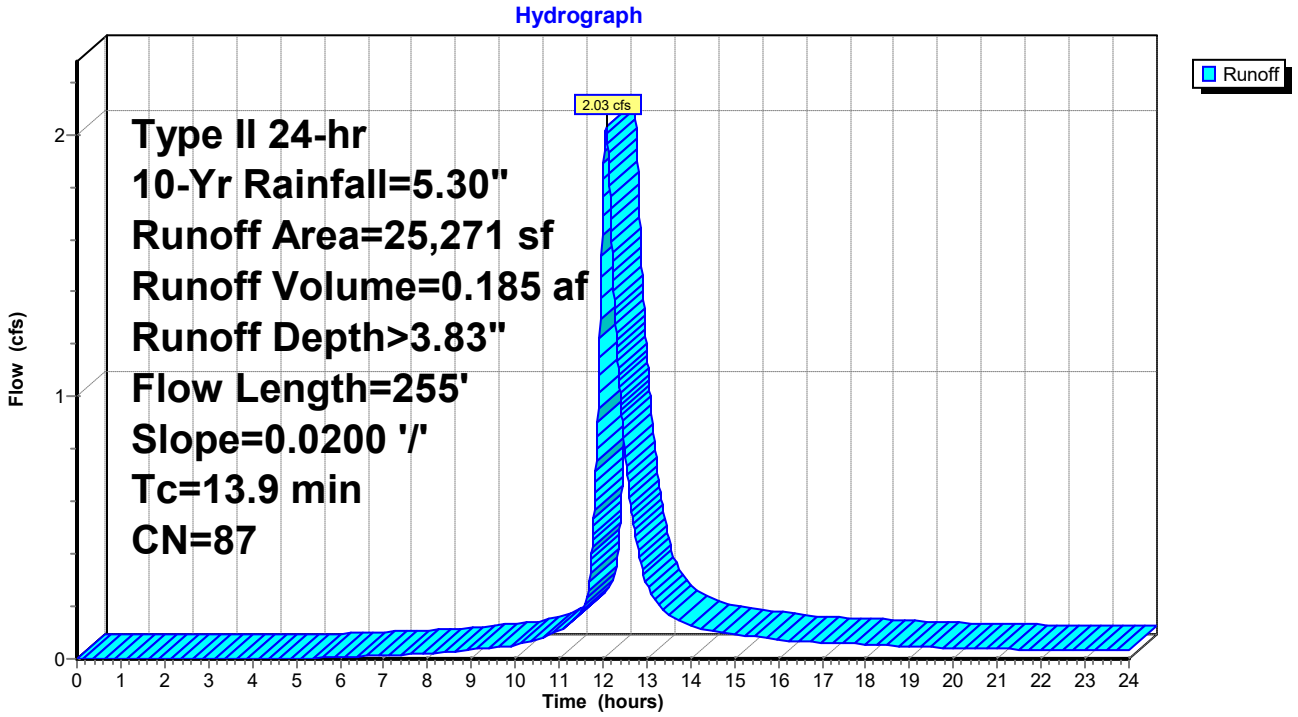
Runoff = 2.03 cfs @ 12.08 hrs, Volume= 0.185 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
13,781	98	Paved parking, HSG C
11,490	74	>75% Grass cover, Good, HSG C
25,271	87	Weighted Average
11,490		45.47% Pervious Area
13,781		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	105	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	255	Total			

Subcatchment 74: DA #33



Summary for Pond 75: I-34

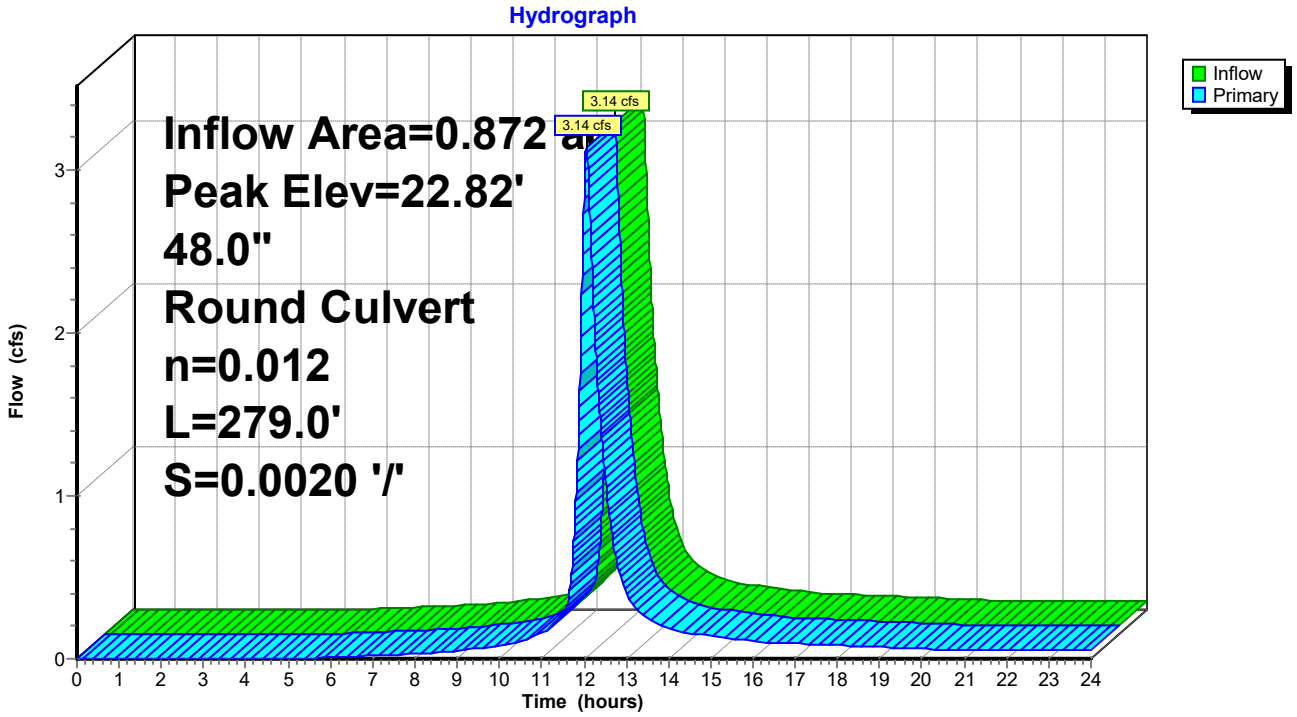
Inflow Area = 0.872 ac, 52.79% Impervious, Inflow Depth > 3.80" for 10-Yr event
Inflow = 3.14 cfs @ 12.06 hrs, Volume= 0.276 af
Outflow = 3.14 cfs @ 12.06 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.06 hrs, Volume= 0.276 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.82' @ 12.12 hrs
Flood Elev= 21.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.26'	**48.0" Round Culvert** L= 279.0' Ke= 0.500 Inlet / Outlet Invert= 20.26' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=22.63' TW=22.68' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 75: I-34



Summary for Subcatchment 76: DA #34

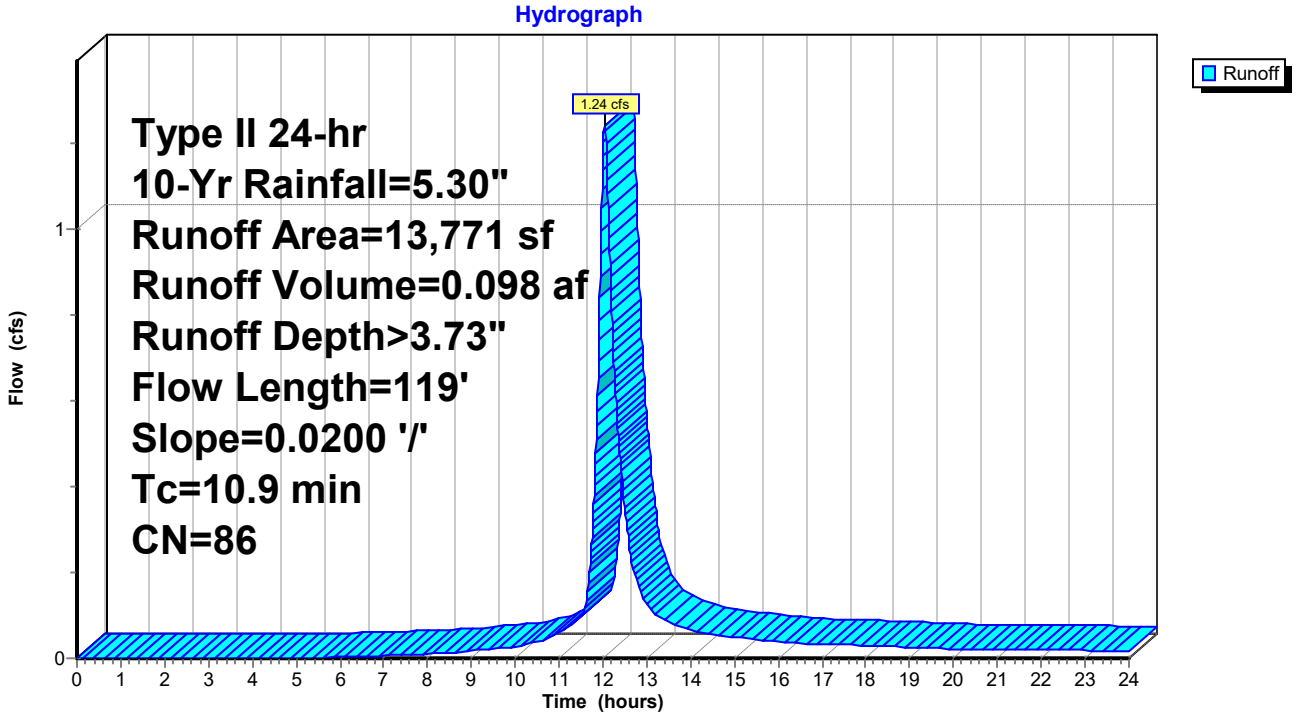
Runoff = 1.24 cfs @ 12.04 hrs, Volume= 0.098 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
7,015	98	Paved parking, HSG C
6,756	74	>75% Grass cover, Good, HSG C
13,771	86	Weighted Average
6,756		49.06% Pervious Area
7,015		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	119	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 76: DA #34



Summary for Pond 77: I-35

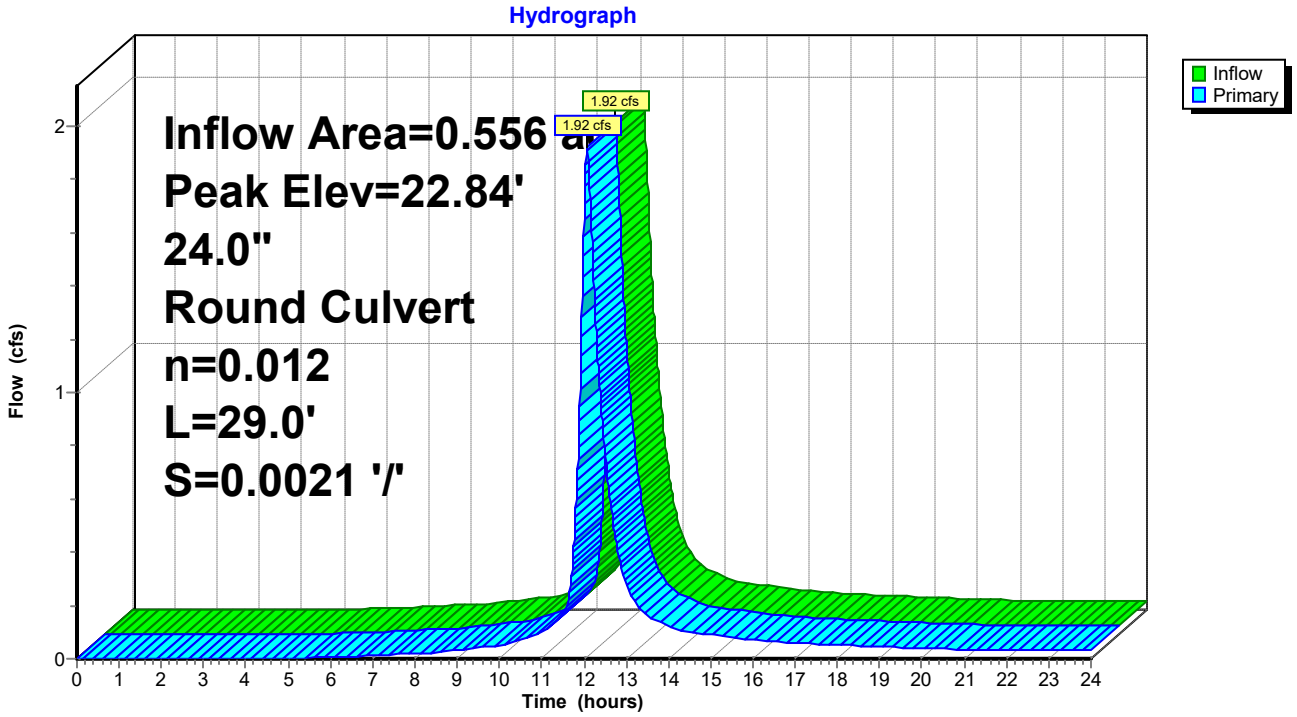
Inflow Area = 0.556 ac, 53.85% Impervious, Inflow Depth > 3.83" for 10-Yr event
Inflow = 1.92 cfs @ 12.08 hrs, Volume= 0.178 af
Outflow = 1.92 cfs @ 12.08 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 1.92 cfs @ 12.08 hrs, Volume= 0.178 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.84' @ 12.12 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.32'	**24.0" Round Culvert** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 20.32' / 20.26' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=22.71' TW=22.74' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 77: I-35



Summary for Subcatchment 78: DA #35

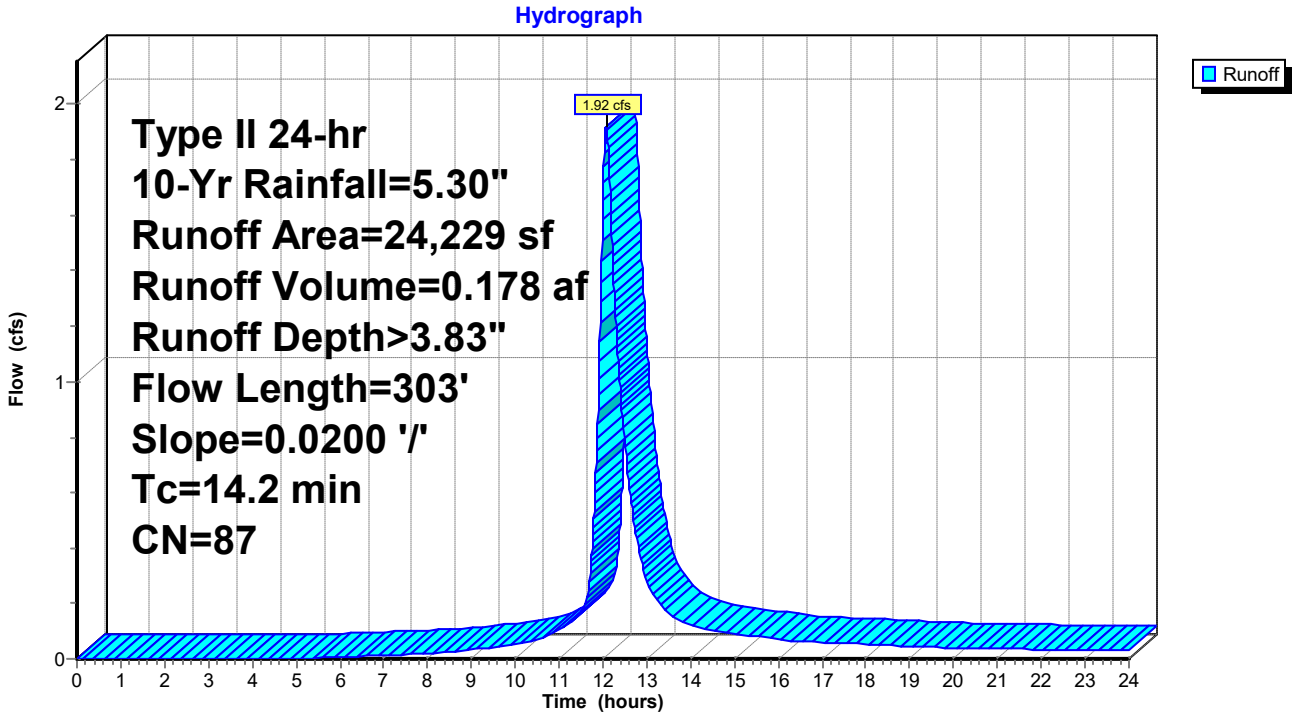
Runoff = 1.92 cfs @ 12.08 hrs, Volume= 0.178 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
13,047	98	Paved parking, HSG C
11,182	74	>75% Grass cover, Good, HSG C
24,229	87	Weighted Average
11,182		46.15% Pervious Area
13,047		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	153	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	303	Total			

Subcatchment 78: DA #35



Summary for Pond 79: DA #1B PIPE

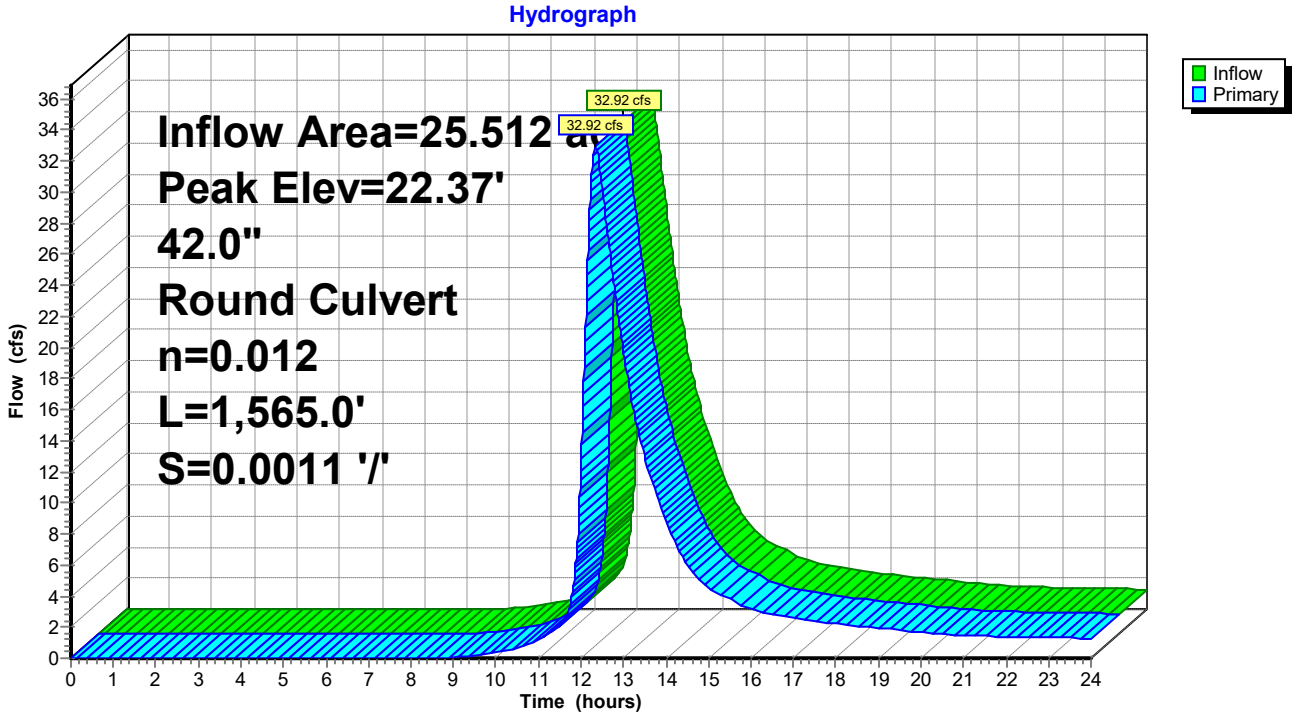
Inflow Area = 25.512 ac, 3.13% Impervious, Inflow Depth > 2.65" for 10-Yr event
Inflow = 32.92 cfs @ 12.32 hrs, Volume= 5.634 af
Outflow = 32.92 cfs @ 12.32 hrs, Volume= 5.634 af, Atten= 0%, Lag= 0.0 min
Primary = 32.92 cfs @ 12.32 hrs, Volume= 5.634 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.37' @ 12.32 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**42.0" Round Culvert** L= 1,565.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 17.40' S= 0.0011 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=32.90 cfs @ 12.32 hrs HW=22.37' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 32.90 cfs @ 4.56 fps)

Pond 79: DA #1B PIPE



Summary for Subcatchment 80: DA #1B

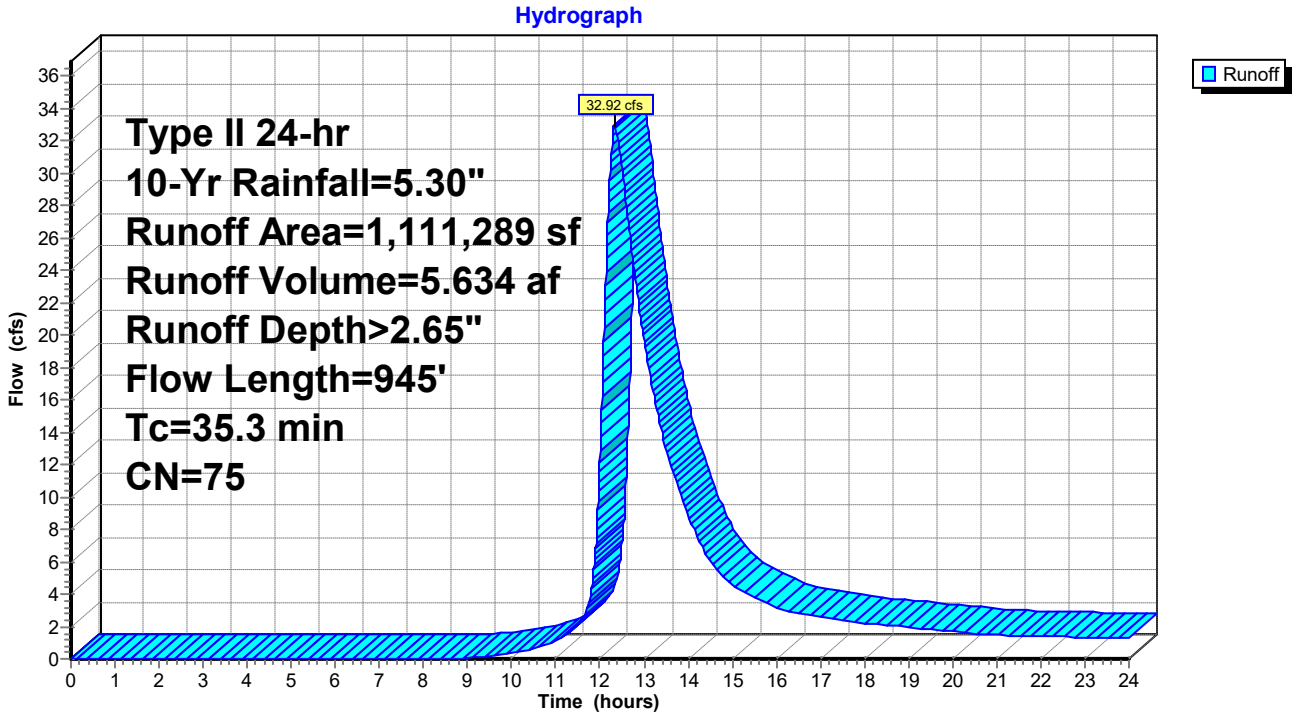
Runoff = 32.92 cfs @ 12.32 hrs, Volume= 5.634 af, Depth> 2.65"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Yr Rainfall=5.30"

Area (sf)	CN	Description
34,819	98	Paved parking, HSG C
1,076,470	74	>75% Grass cover, Good, HSG C
1,111,289	75	Weighted Average
1,076,470		96.87% Pervious Area
34,819		3.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.3	100	0.0100	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
17.0	845	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
35.3	945	Total			

Subcatchment 80: DA #1B

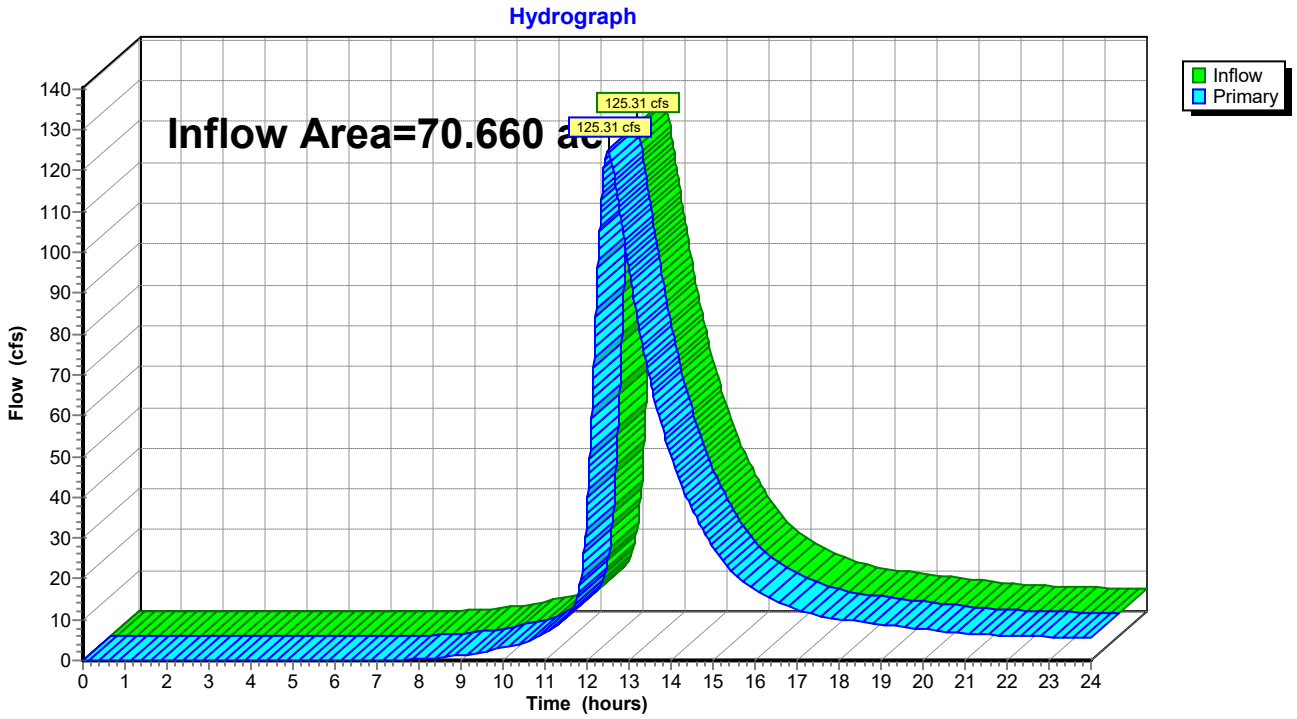


Summary for Link 1: POI-1 (PRE)

Inflow Area = 70.660 ac, 0.00% Impervious, Inflow Depth > 4.48" for 100-Yr event
Inflow = 125.31 cfs @ 12.51 hrs, Volume= 26.351 af
Primary = 125.31 cfs @ 12.51 hrs, Volume= 26.351 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 1: POI-1 (PRE)



Summary for Subcatchment 2: DA #1 (PRE)

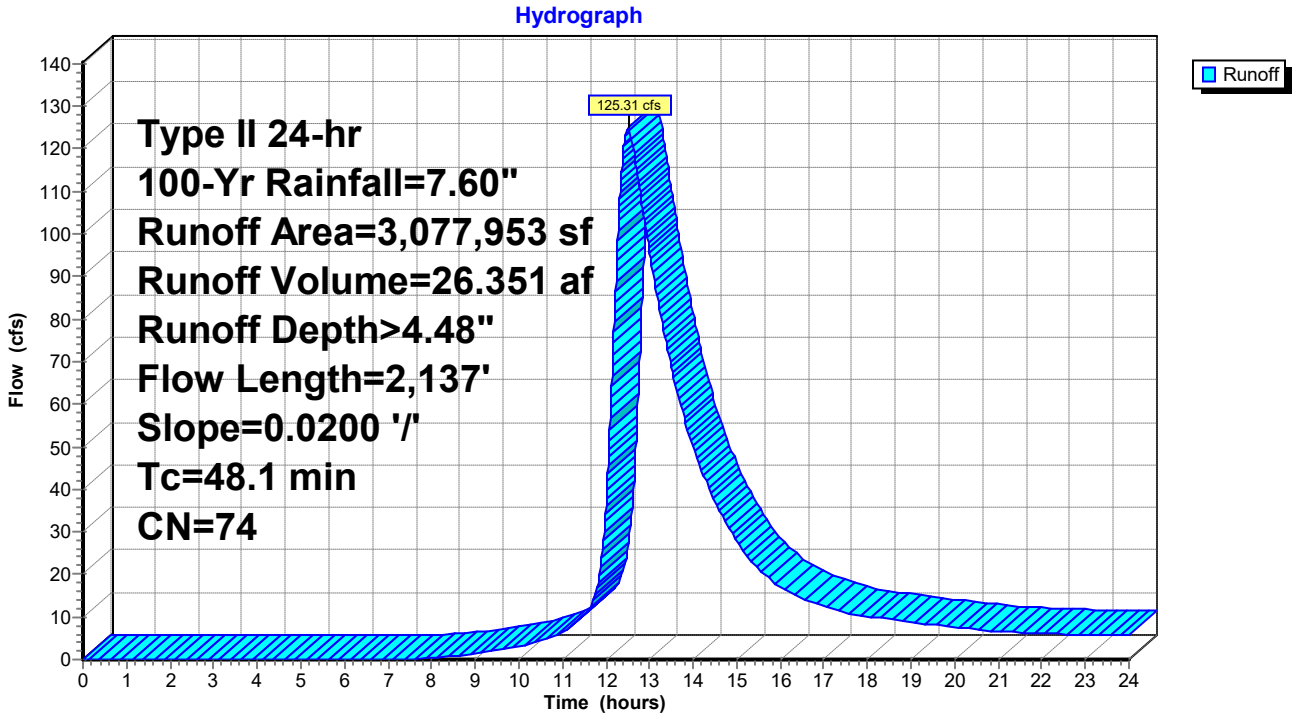
Runoff = 125.31 cfs @ 12.51 hrs, Volume= 26.351 af, Depth> 4.48"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
3,077,953	74	>75% Grass cover, Good, HSG C
3,077,953		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
34.3	2,037	0.0200	0.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
48.1	2,137	Total			

Subcatchment 2: DA #1 (PRE)

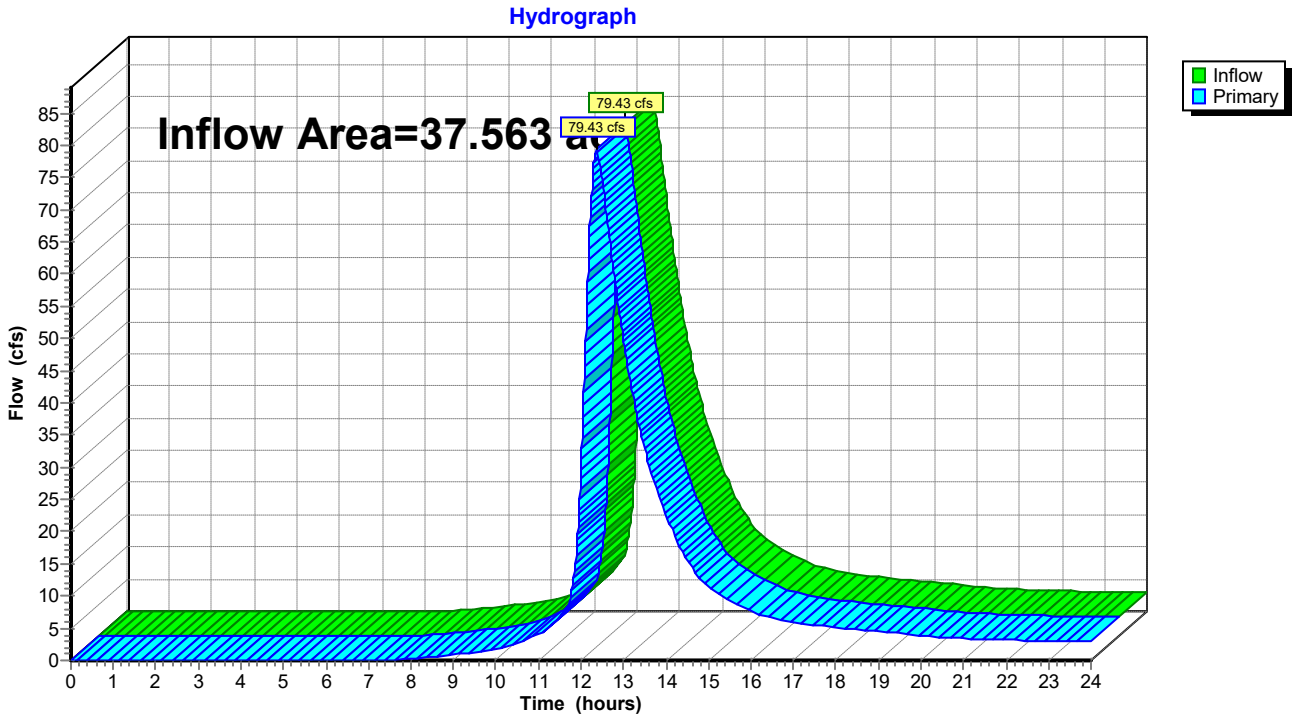


Summary for Link 3: POI-2 (PRE)

Inflow Area = 37.563 ac, 0.00% Impervious, Inflow Depth > 4.50" for 100-Yr event
Inflow = 79.43 cfs @ 12.38 hrs, Volume= 14.073 af
Primary = 79.43 cfs @ 12.38 hrs, Volume= 14.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 3: POI-2 (PRE)



Summary for Subcatchment 4: DA #2 (PRE)

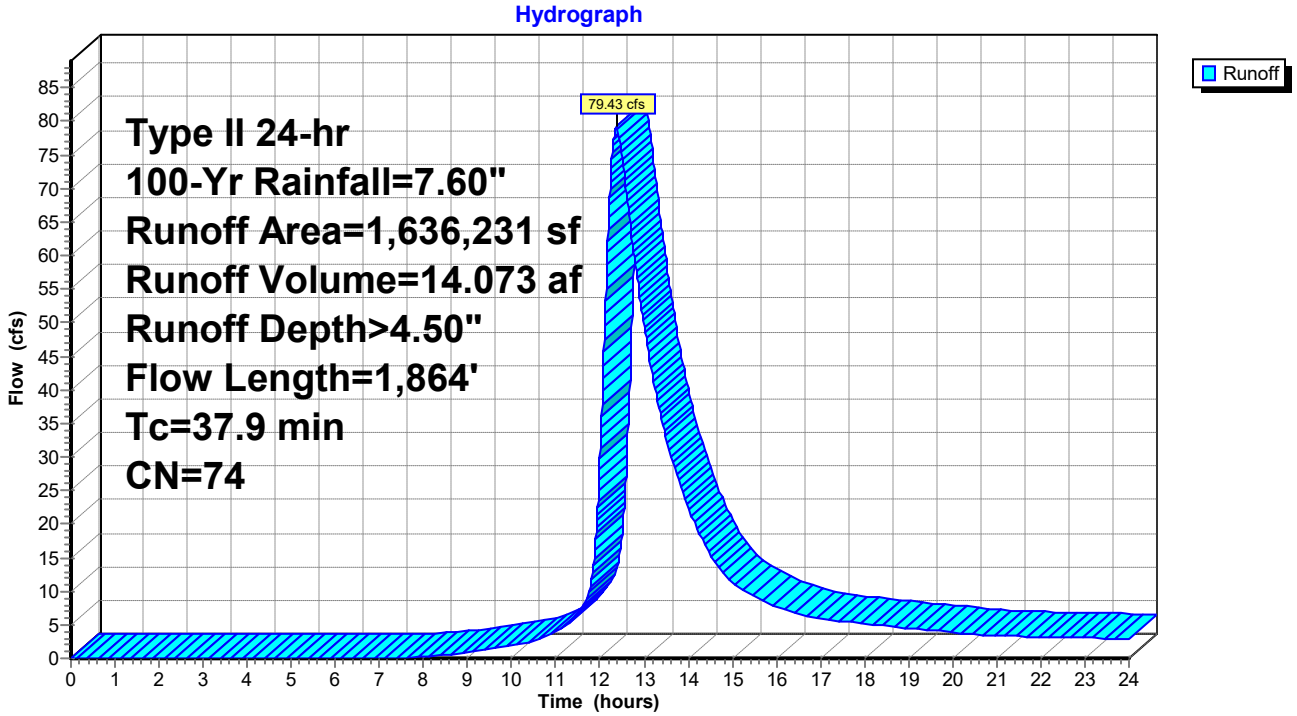
Runoff = 79.43 cfs @ 12.38 hrs, Volume= 14.073 af, Depth> 4.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
1,636,231	74	>75% Grass cover, Good, HSG C
1,636,231		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0200	0.12		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
10.5	482	0.0120	0.77		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
37.9	1,864	Total			

Subcatchment 4: DA #2 (PRE)

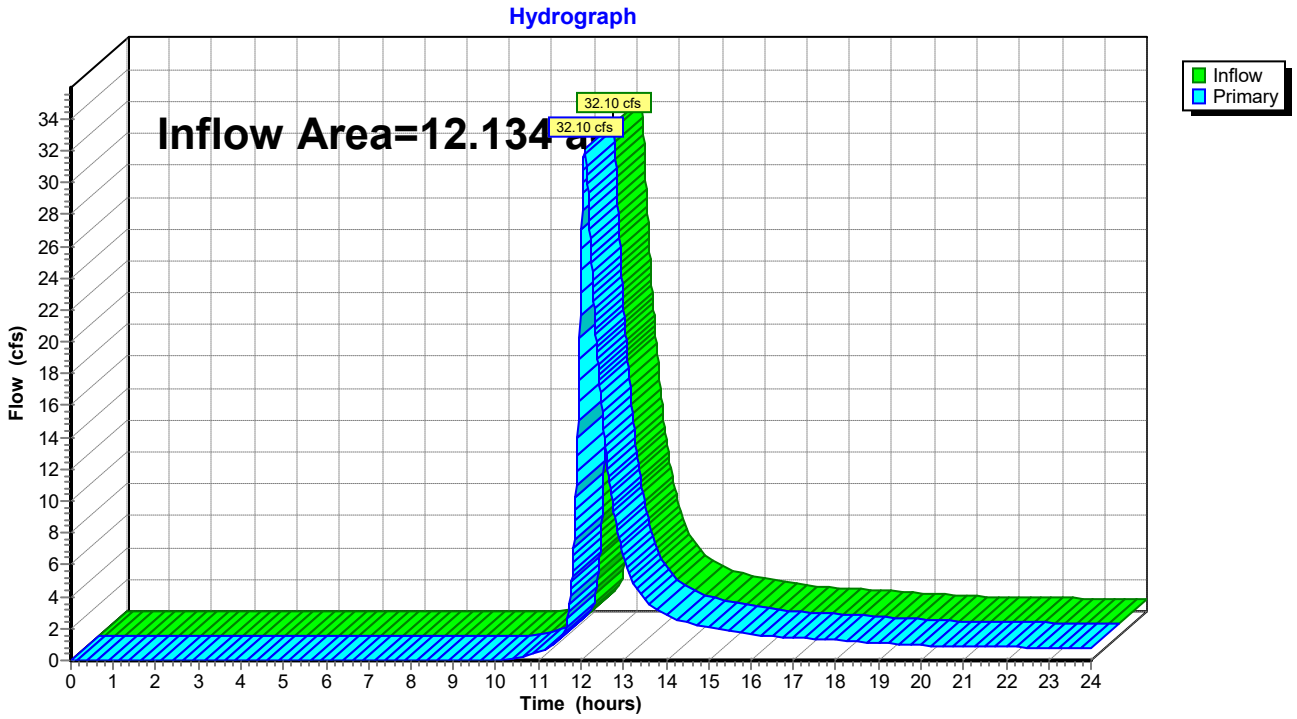


Summary for Link 5: POI-3 (PRE)

Inflow Area = 12.134 ac, 0.00% Impervious, Inflow Depth > 3.12" for 100-Yr event
Inflow = 32.10 cfs @ 12.10 hrs, Volume= 3.153 af
Primary = 32.10 cfs @ 12.10 hrs, Volume= 3.153 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 5: POI-3 (PRE)



Summary for Subcatchment 6: DA #3 (PRE)

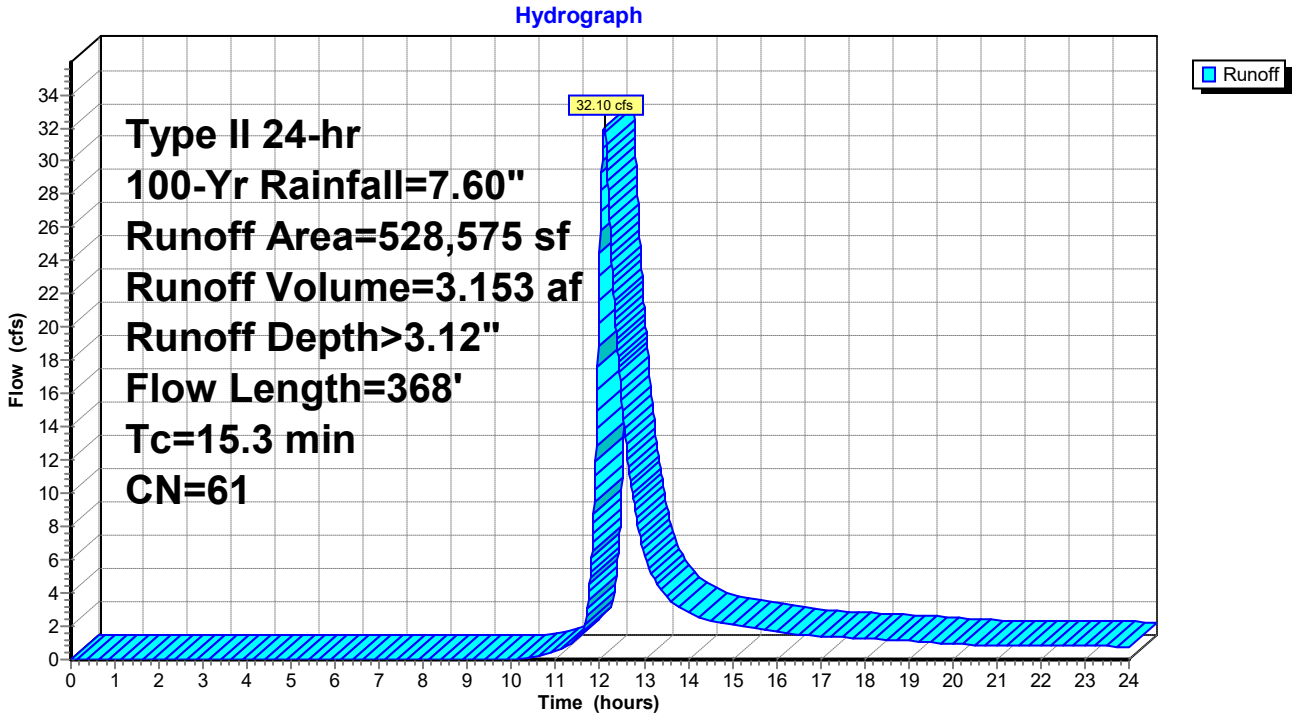
Runoff = 32.10 cfs @ 12.10 hrs, Volume= 3.153 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
528,575	61	>75% Grass cover, Good, HSG B
528,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0230	0.13		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
2.2	268	0.0810	1.99		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
15.3	368	Total			

Subcatchment 6: DA #3 (PRE)

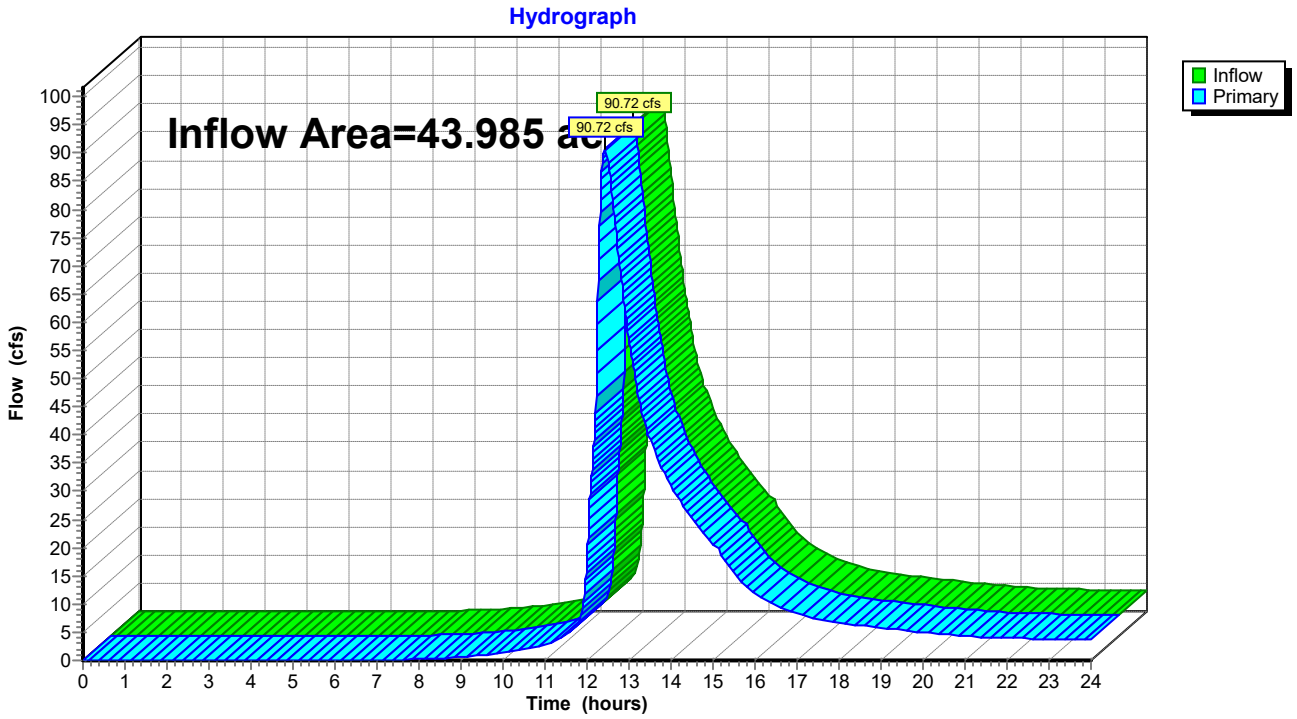


Summary for Link 7: POI-2 (POST)

Inflow Area = 43.985 ac, 16.02% Impervious, Inflow Depth > 4.55" for 100-Yr event
Inflow = 90.72 cfs @ 12.43 hrs, Volume= 16.685 af
Primary = 90.72 cfs @ 12.43 hrs, Volume= 16.685 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 7: POI-2 (POST)



Summary for Subcatchment 8: DA #2B

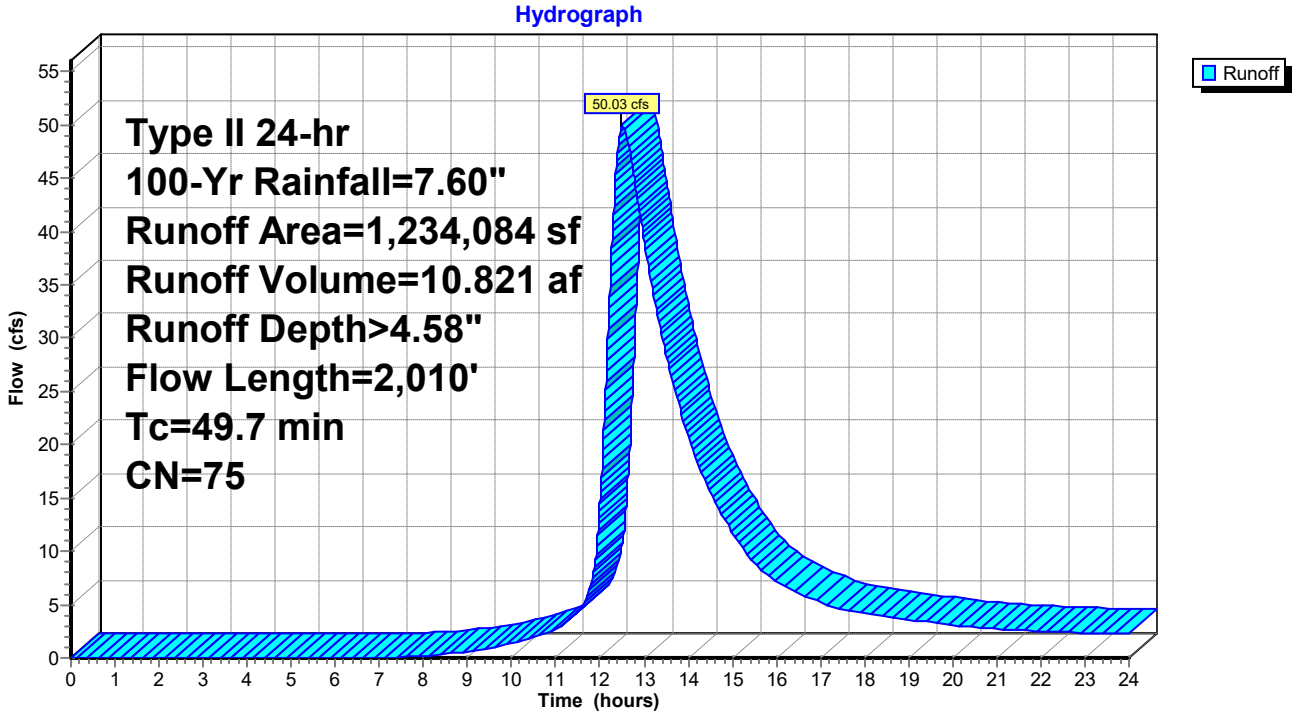
Runoff = 50.03 cfs @ 12.49 hrs, Volume= 10.821 af, Depth> 4.58"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
65,036	98	Paved parking, HSG C
1,169,048	74	>75% Grass cover, Good, HSG C
1,234,084	75	Weighted Average
1,169,048		94.73% Pervious Area
65,036		5.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0070	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
15.0	628	0.0100	0.70		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
13.6	1,282	0.0110	1.57		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
49.7	2,010	Total			

Subcatchment 8: DA #2B



Summary for Pond 9: SGW #2

Inflow Area = 15.654 ac, 35.49% Impervious, Inflow Depth > 5.56" for 100-Yr event
Inflow = 69.66 cfs @ 12.11 hrs, Volume= 7.254 af
Outflow = 43.23 cfs @ 12.39 hrs, Volume= 5.864 af, Atten= 38%, Lag= 16.7 min
Primary = 11.40 cfs @ 12.39 hrs, Volume= 4.521 af
Secondary = 31.82 cfs @ 12.39 hrs, Volume= 1.343 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 17.42' @ 12.39 hrs Surf.Area= 58,238 sf Storage= 122,070 cf

Plug-Flow detention time= 154.3 min calculated for 5.861 af (81% of inflow)
Center-of-Mass det. time= 78.6 min (889.8 - 811.2)

Volume	Invert	Avail.Storage	Storage Description
#1	15.20'	167,693 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

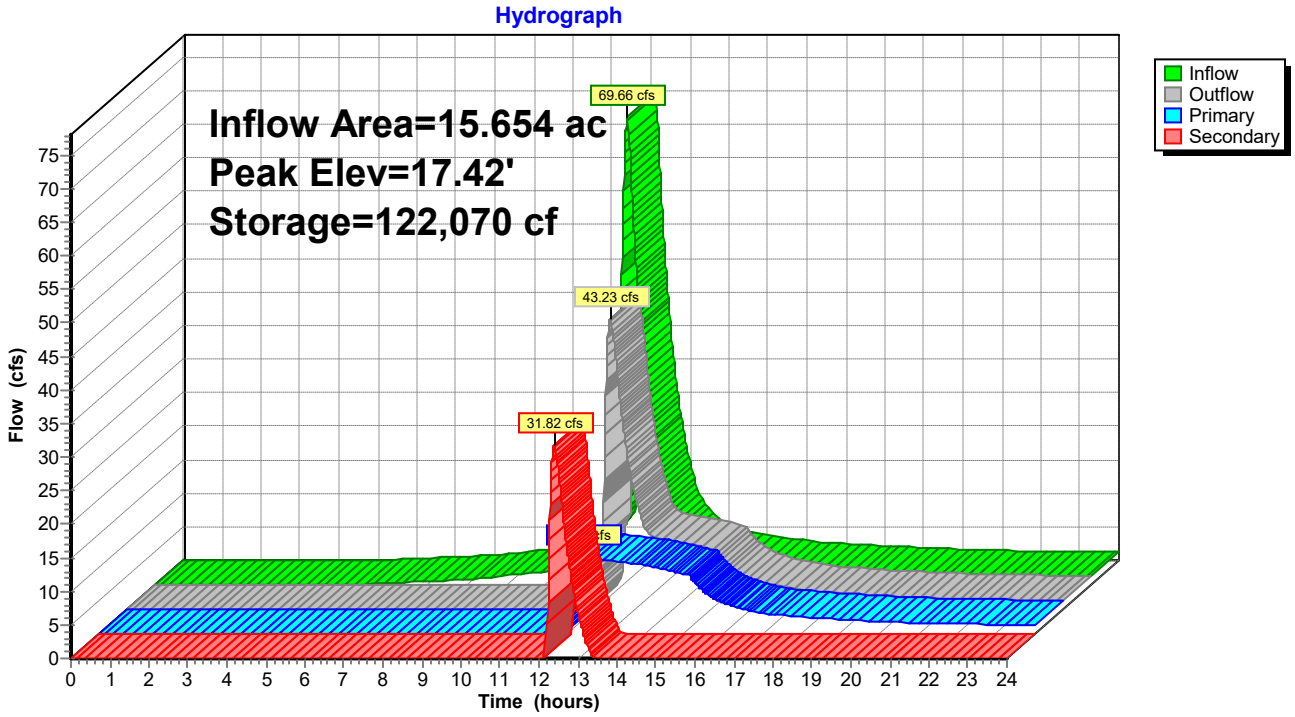
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
15.20	51,291	1,138.9	0	0	51,291
17.20	58,238	1,176.6	109,455	109,455	58,613
18.20	58,238	1,176.6	58,238	167,693	59,790

Device	Routing	Invert	Outlet Devices
#1	Primary	14.87'	**18.0" Round Culvert** L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 14.87' / 13.00' S= 0.0334 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	16.20'	**8.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	17.20'	**124.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.40 cfs @ 12.39 hrs HW=17.42' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 11.40 cfs @ 6.45 fps)
  └─**2=Sharp-Crested Rectangular Weir** (Passes 11.40 cfs of 35.10 cfs potential flow)

Secondary OutFlow Max=31.82 cfs @ 12.39 hrs HW=17.42' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 31.82 cfs @ 1.18 fps)

Pond 9: SGW #2


Hydrograph
Inflow Area=15.654 ac
Peak Elev=17.42'
Storage=122,070 cf
69.66 cfs
43.23 cfs
31.82 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Subcatchment 10: DA #2A

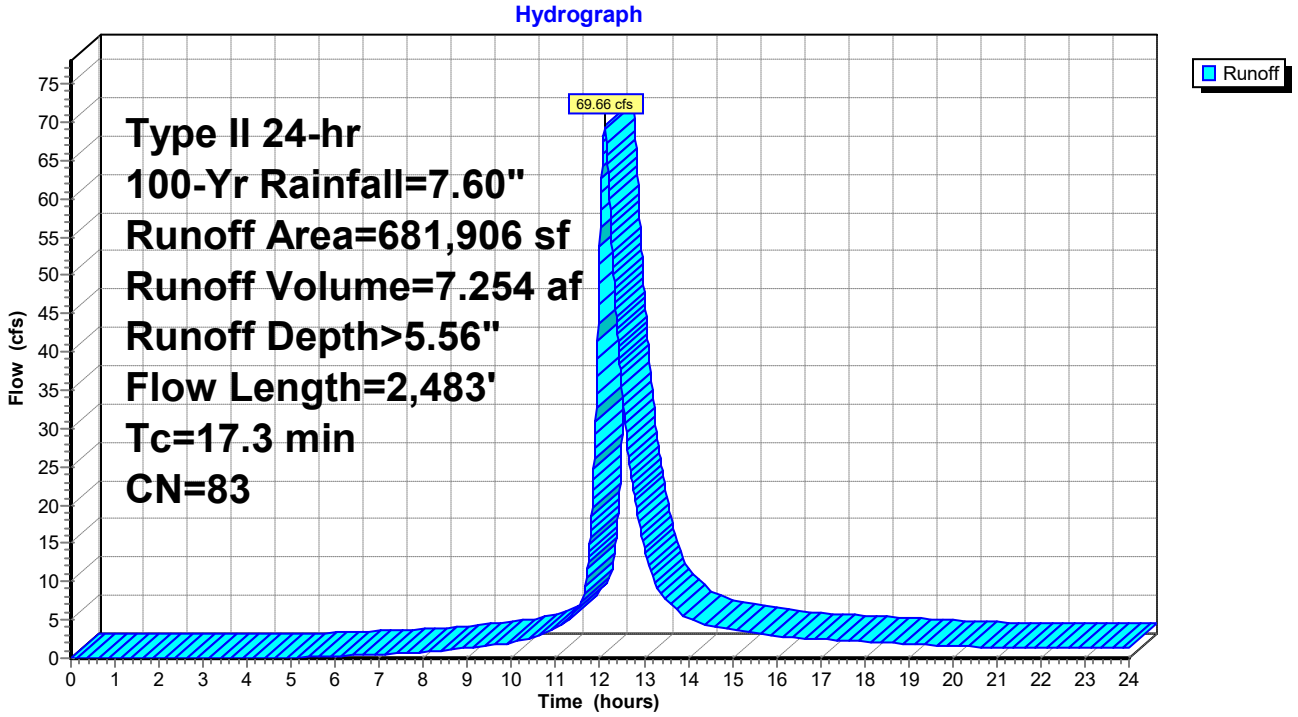
Runoff = 69.66 cfs @ 12.11 hrs, Volume= 7.254 af, Depth> 5.56"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
241,979	98	Paved parking, HSG C
439,927	74	>75% Grass cover, Good, HSG C
681,906	83	Weighted Average
439,927		64.51% Pervious Area
241,979		35.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	69	0.0200	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.4	29	0.0208	1.12		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.40"
9.8	2,385	0.0020	4.05	19.87	**Pipe Channel, C-D** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.012
17.3	2,483	Total			

Subcatchment 10: DA #2A

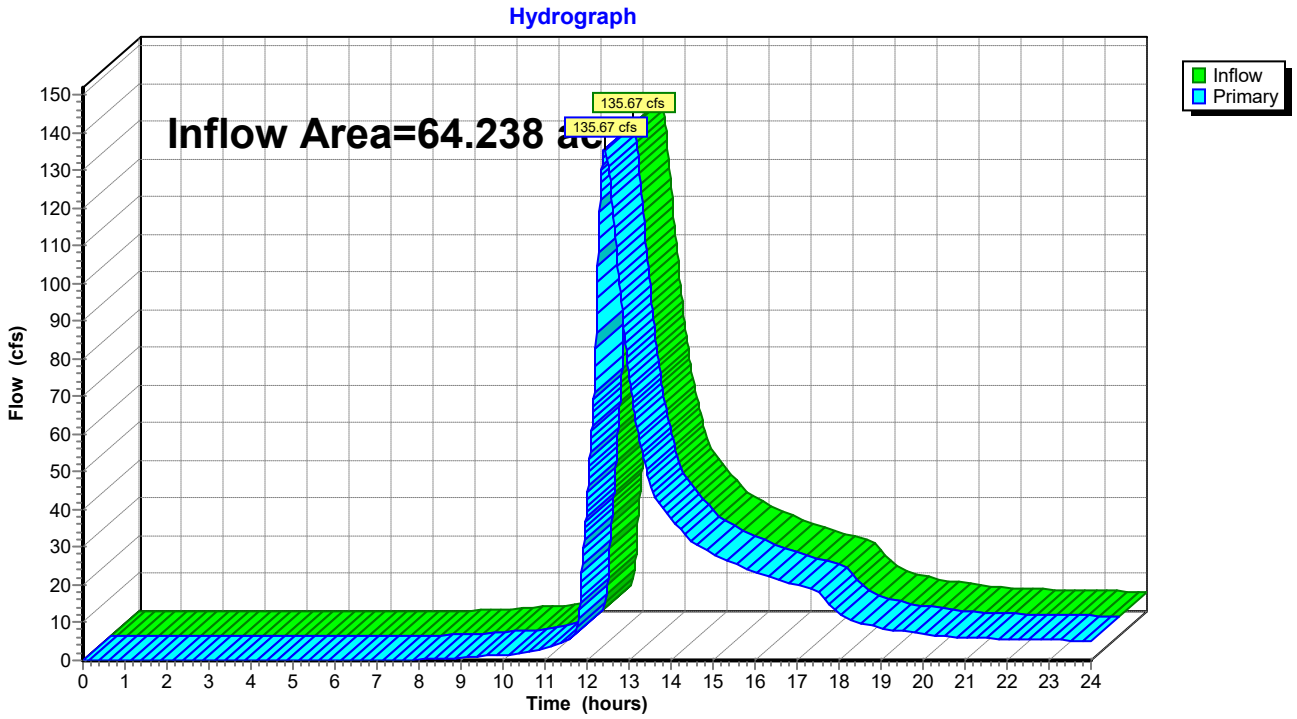


Summary for Link 11: POI-1 (POST)

Inflow Area = 64.238 ac, 24.41% Impervious, Inflow Depth > 4.65" for 100-Yr event
Inflow = 135.67 cfs @ 12.42 hrs, Volume= 24.893 af
Primary = 135.67 cfs @ 12.42 hrs, Volume= 24.893 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 11: POI-1 (POST)



Summary for Pond 12: SGW #1

Inflow Area = 38.726 ac, 38.43% Impervious, Inflow Depth > 5.60" for 100-Yr event
Inflow = 198.73 cfs @ 12.06 hrs, Volume= 18.077 af
Outflow = 80.20 cfs @ 12.46 hrs, Volume= 15.086 af, Atten= 60%, Lag= 23.8 min
Primary = 25.05 cfs @ 12.46 hrs, Volume= 12.220 af
Secondary = 55.15 cfs @ 12.46 hrs, Volume= 2.866 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 20.81' @ 12.46 hrs Surf.Area= 129,454 sf Storage= 356,494 cf

Plug-Flow detention time= 173.9 min calculated for 15.080 af (83% of inflow)
Center-of-Mass det. time= 103.6 min (906.8 - 803.2)

Volume	Invert	Avail.Storage	Storage Description
#1	17.90'	497,834 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

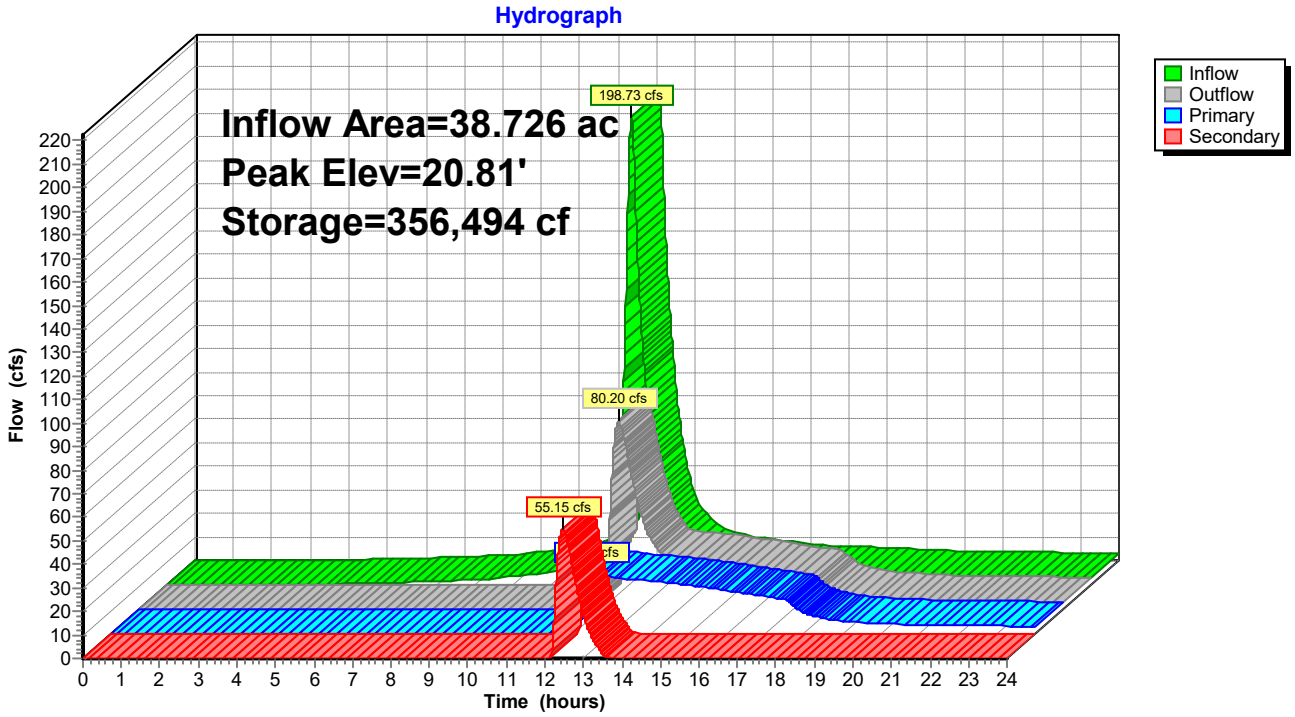
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
17.90	115,549	1,565.0	0	0	115,549
20.90	129,888	1,621.5	367,946	367,946	130,652
21.90	129,888	1,621.5	129,888	497,834	132,274

Device	Routing	Invert	Outlet Devices
#1	Primary	17.57'	**12.0" Round Culvert X 4.00** L= 32.0' Ke= 0.500 Inlet / Outlet Invert= 17.57' / 17.40' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	18.90'	**30.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s)
#3	Secondary	20.40'	**80.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=25.05 cfs @ 12.46 hrs HW=20.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 25.05 cfs @ 7.97 fps)
  └─**2=Sharp-Crested Rectangular Weir** (Passes 25.05 cfs of 259.29 cfs potential flow)

Secondary OutFlow Max=55.15 cfs @ 12.46 hrs HW=20.81' TW=0.00' (Dynamic Tailwater)
└─**3=Broad-Crested Rectangular Weir** (Weir Controls 55.15 cfs @ 1.67 fps)

Pond 12: SGW #1


Hydrograph
Inflow Area=38.726 ac
Peak Elev=20.81'
Storage=356,494 cf
198.73 cfs
80.20 cfs
55.15 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)

Summary for Reach 13: S Swale

Inflow Area = 6.884 ac, 0.00% Impervious, Inflow Depth > 4.56" for 100-Yr event
Inflow = 49.08 cfs @ 11.97 hrs, Volume= 2.617 af
Outflow = 41.31 cfs @ 12.02 hrs, Volume= 2.598 af, Atten= 16%, Lag= 3.1 min

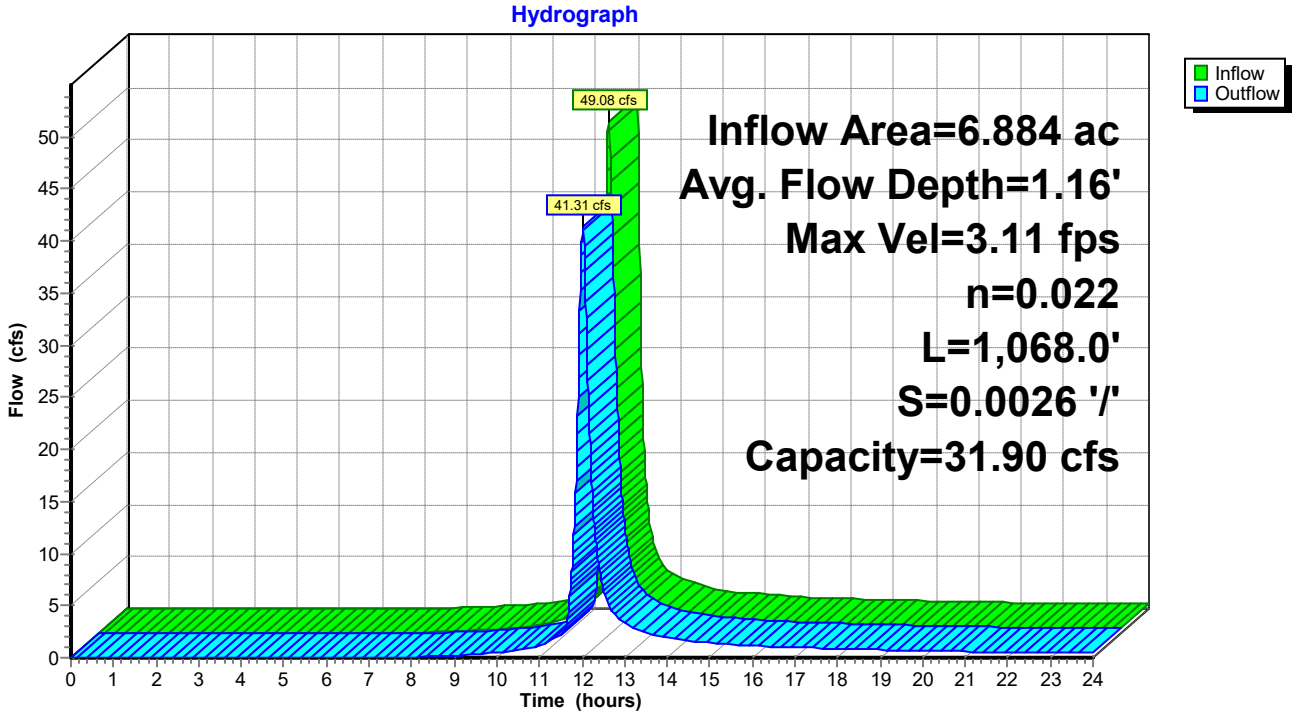
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.11 fps, Min. Travel Time= 5.7 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 20.7 min

Peak Storage= 14,168 cf @ 12.02 hrs
Average Depth at Peak Storage= 1.16'
Bank-Full Depth= 1.00' Flow Area= 11.0 sf, Capacity= 31.90 cfs

8.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 1,068.0' Slope= 0.0026 '/'
Inlet Invert= 22.70', Outlet Invert= 19.90'

‡

Reach 13: S Swale



Summary for Subcatchment 14: DA #3

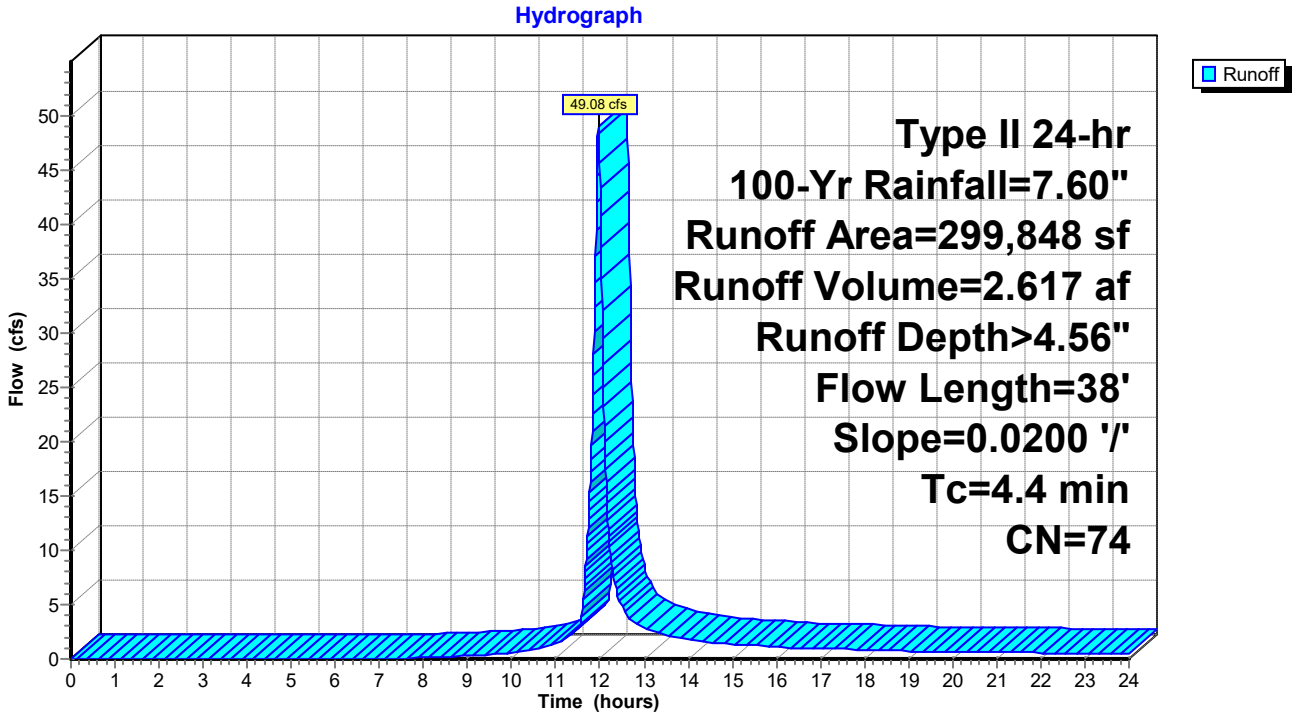
Runoff = 49.08 cfs @ 11.97 hrs, Volume= 2.617 af, Depth> 4.56"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
299,848	74	>75% Grass cover, Good, HSG C
299,848		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	38	0.0200	0.14		**Sheet Flow, Yard** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 14: DA #3



Summary for Pond 15: I-4

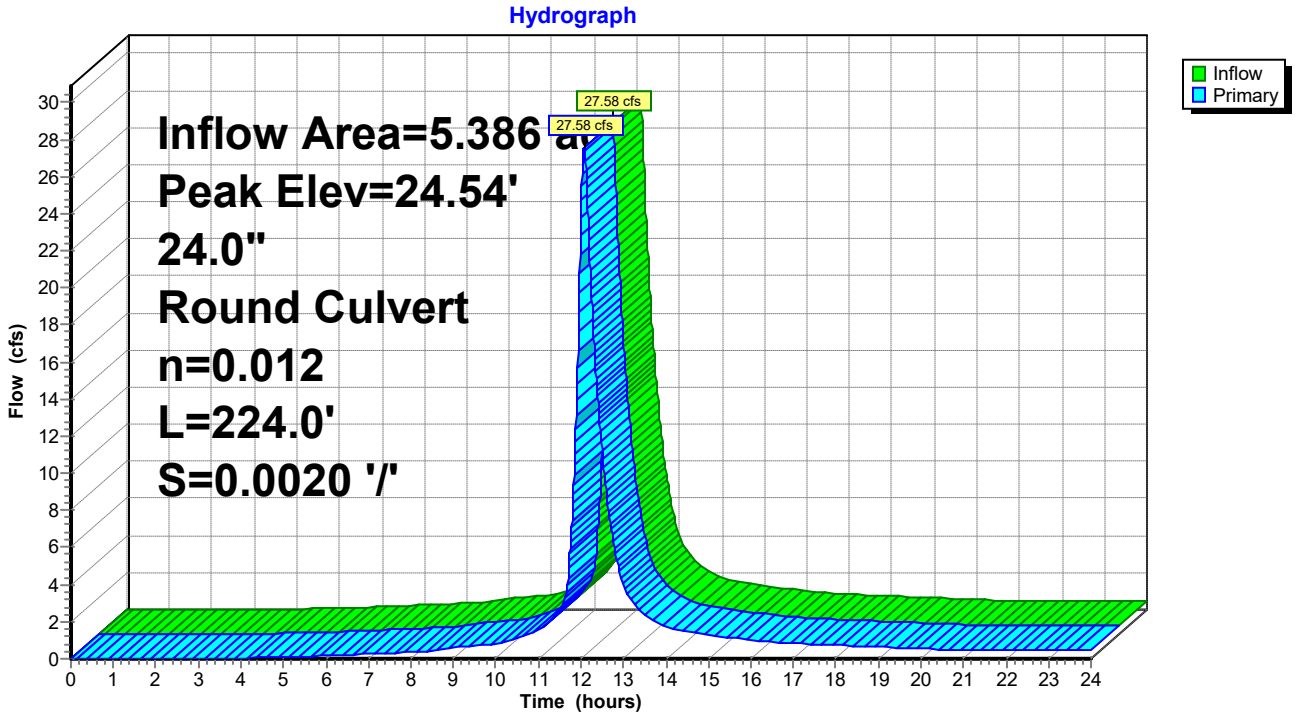
Inflow Area = 5.386 ac, 45.63% Impervious, Inflow Depth > 5.81" for 100-Yr event
Inflow = 27.58 cfs @ 12.08 hrs, Volume= 2.608 af
Outflow = 27.58 cfs @ 12.08 hrs, Volume= 2.608 af, Atten= 0%, Lag= 0.0 min
Primary = 27.58 cfs @ 12.08 hrs, Volume= 2.608 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.54' @ 12.08 hrs
Flood Elev= 25.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.35'	**24.0" Round Culvert** L= 224.0' Ke= 0.500 Inlet / Outlet Invert= 18.35' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=27.45 cfs @ 12.08 hrs HW=24.53' TW=19.93' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 27.45 cfs @ 8.74 fps)

Pond 15: I-4



Summary for Subcatchment 16: DA #4

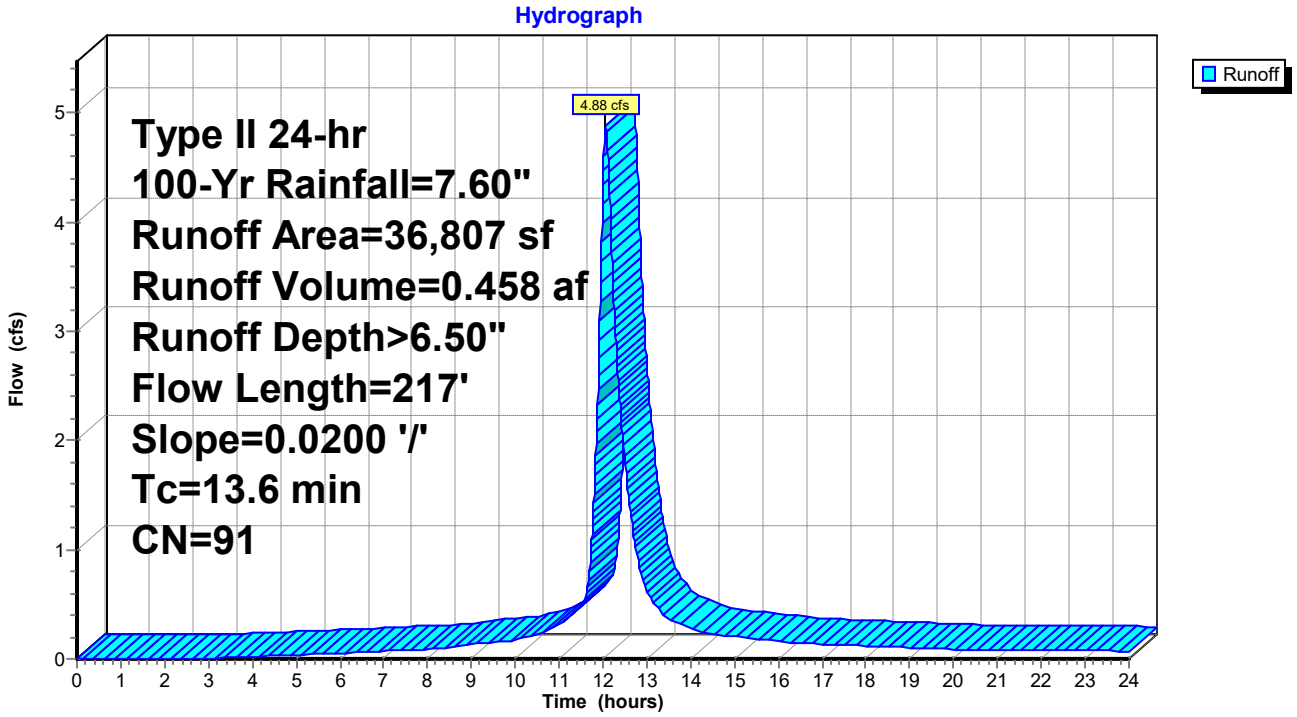
Runoff = 4.88 cfs @ 12.06 hrs, Volume= 0.458 af, Depth> 6.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
25,762	98	Paved parking, HSG C
11,045	74	>75% Grass cover, Good, HSG C
36,807	91	Weighted Average
11,045		30.01% Pervious Area
25,762		69.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	67	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	217	Total			

Subcatchment 16: DA #4



Summary for Pond 17: I-5

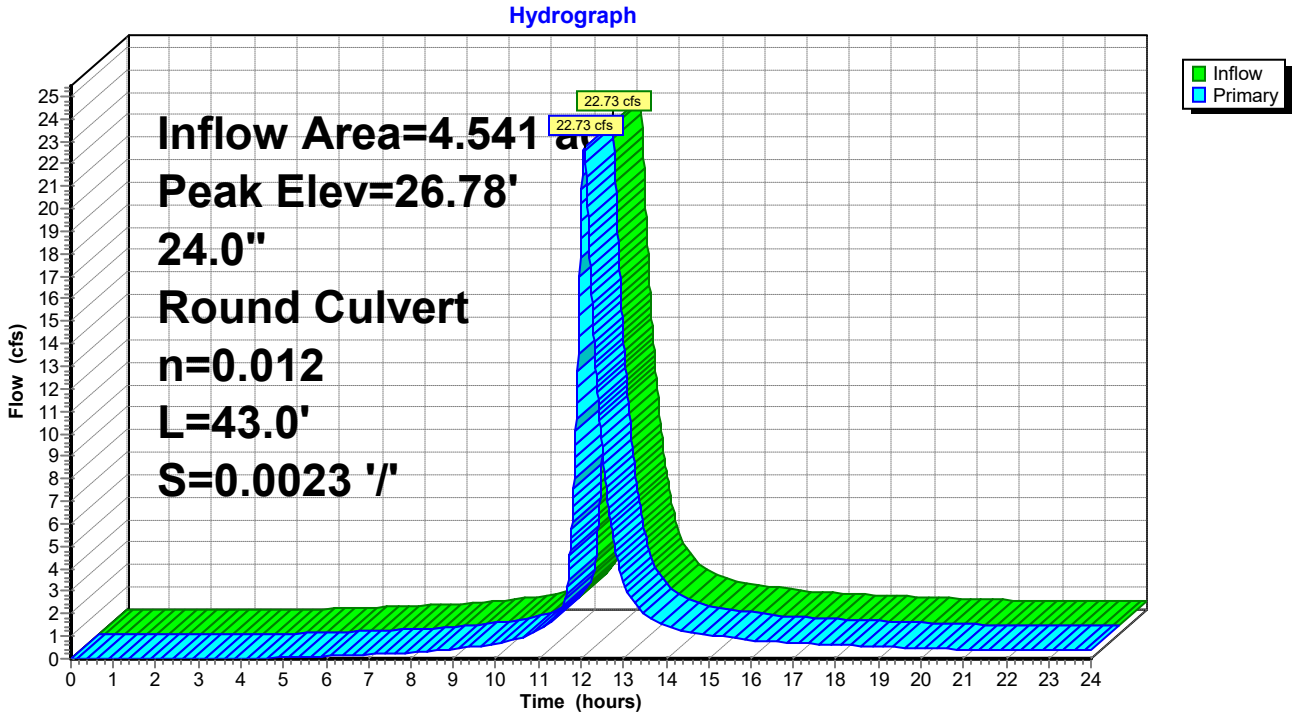
Inflow Area = 4.541 ac, 41.09% Impervious, Inflow Depth > 5.68" for 100-Yr event
Inflow = 22.73 cfs @ 12.08 hrs, Volume= 2.150 af
Outflow = 22.73 cfs @ 12.08 hrs, Volume= 2.150 af, Atten= 0%, Lag= 0.0 min
Primary = 22.73 cfs @ 12.08 hrs, Volume= 2.150 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.78' @ 12.08 hrs
Flood Elev= 26.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.45'	**24.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 18.45' / 18.35' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=22.62 cfs @ 12.08 hrs HW=26.77' TW=24.53' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 22.62 cfs @ 7.20 fps)

Pond 17: I-5



Summary for Subcatchment 18: DA #5

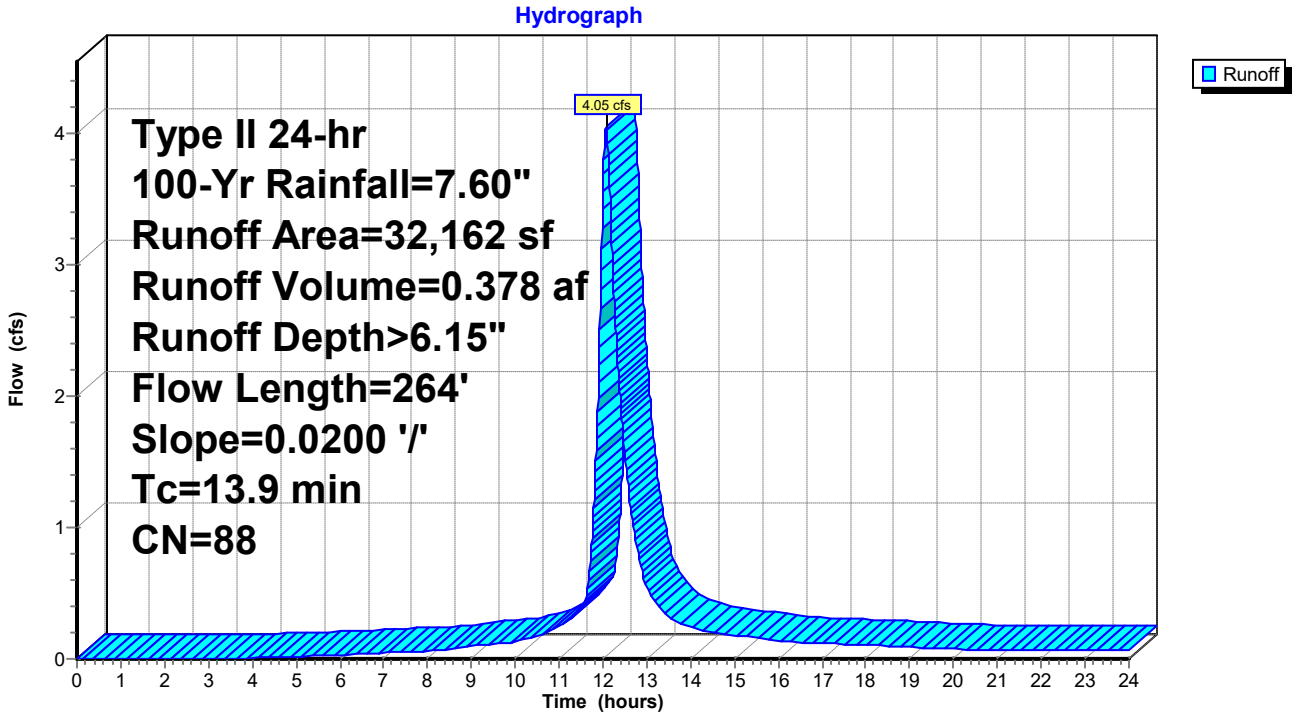
Runoff = 4.05 cfs @ 12.07 hrs, Volume= 0.378 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
18,768	98	Paved parking, HSG C
13,394	74	>75% Grass cover, Good, HSG C
32,162	88	Weighted Average
13,394		41.65% Pervious Area
18,768		58.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	114	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	264	Total			

Subcatchment 18: DA #5



Summary for Pond 19: I-6

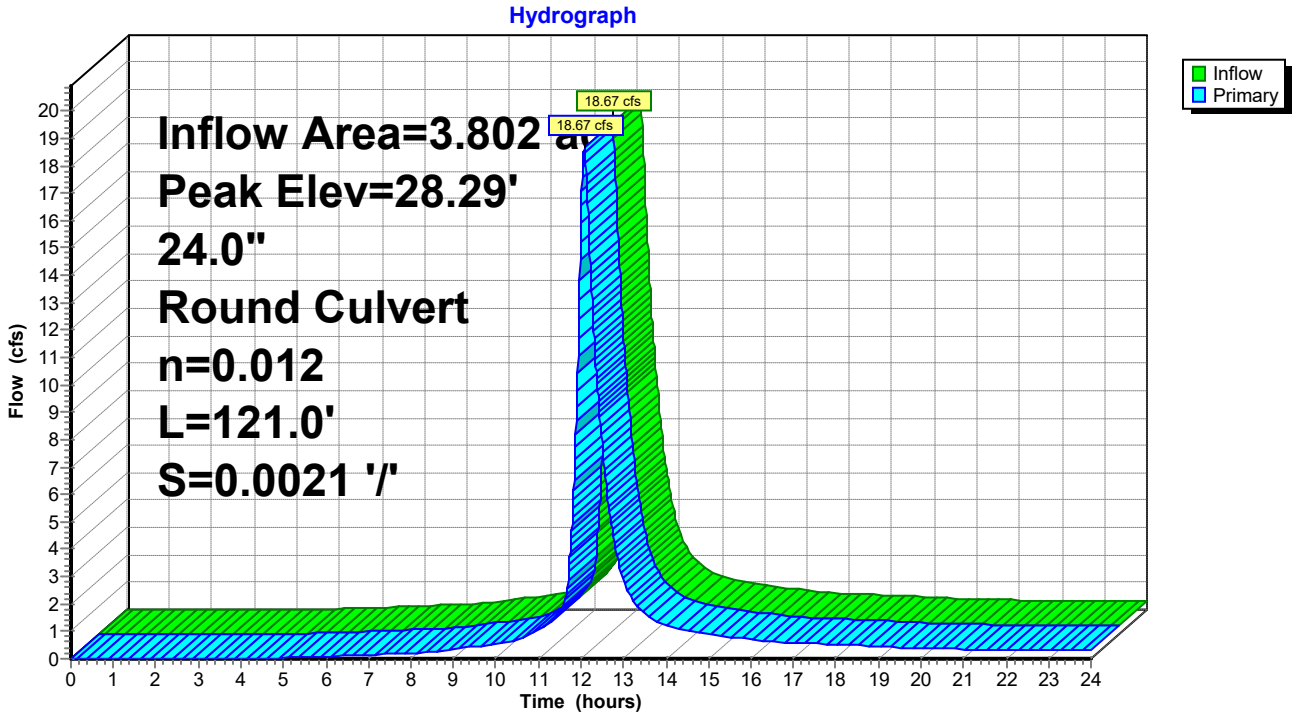
Inflow Area = 3.802 ac, 37.74% Impervious, Inflow Depth > 5.59" for 100-Yr event
Inflow = 18.67 cfs @ 12.08 hrs, Volume= 1.772 af
Outflow = 18.67 cfs @ 12.08 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.0 min
Primary = 18.67 cfs @ 12.08 hrs, Volume= 1.772 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.29' @ 12.09 hrs
Flood Elev= 27.27'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**24.0" Round Culvert** L= 121.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=18.28 cfs @ 12.08 hrs HW=28.24' TW=26.77' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 18.28 cfs @ 5.82 fps)

Pond 19: I-6



Summary for Subcatchment 20: DA #6

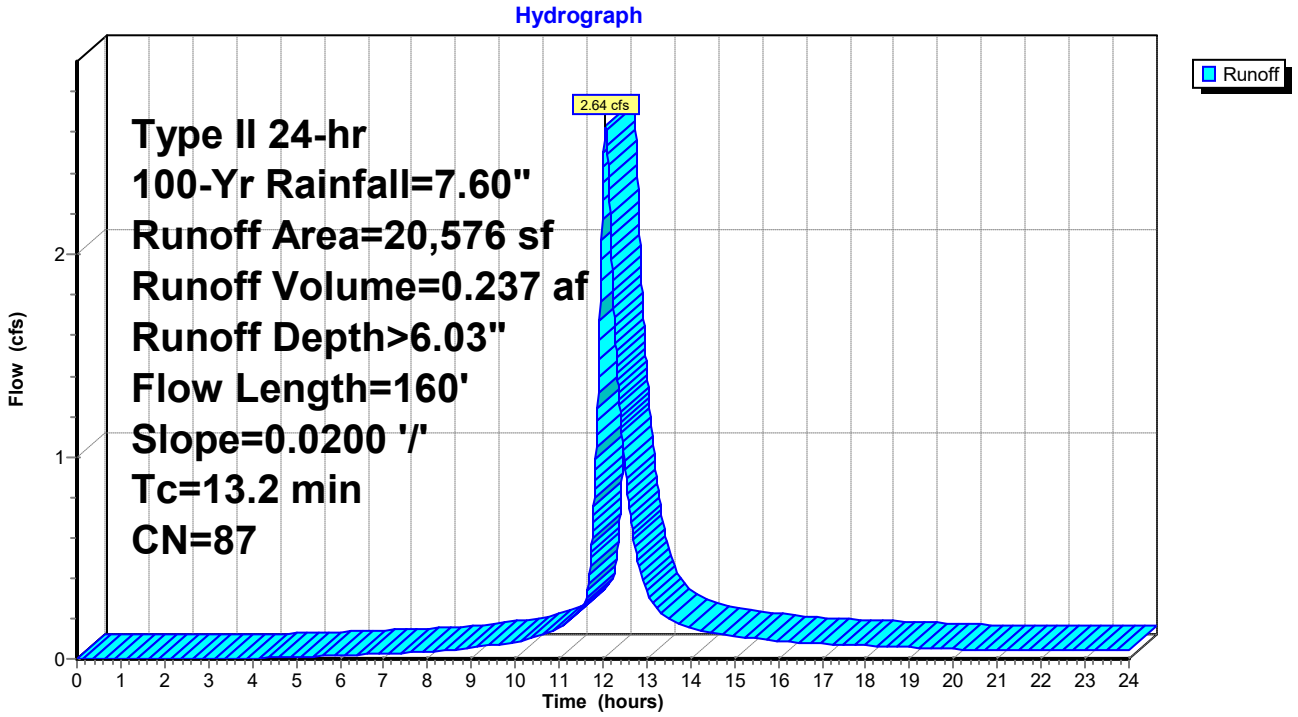
Runoff = 2.64 cfs @ 12.06 hrs, Volume= 0.237 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
10,975	98	Paved parking, HSG C
9,601	74	>75% Grass cover, Good, HSG C
20,576	87	Weighted Average
9,601		46.66% Pervious Area
10,975		53.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 20: DA #6



Summary for Pond 21: I-7

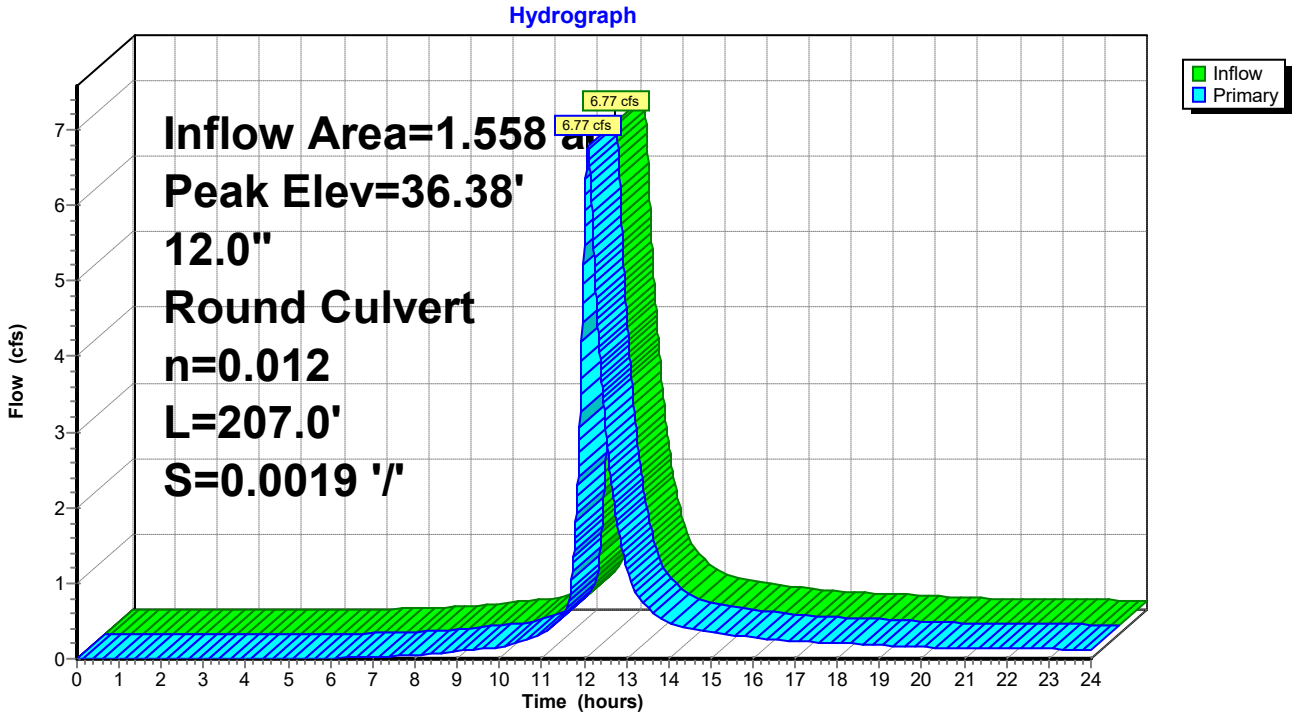
Inflow Area = 1.558 ac, 20.84% Impervious, Inflow Depth > 5.11" for 100-Yr event
Inflow = 6.77 cfs @ 12.08 hrs, Volume= 0.663 af
Outflow = 6.77 cfs @ 12.08 hrs, Volume= 0.663 af, Atten= 0%, Lag= 0.0 min
Primary = 6.77 cfs @ 12.08 hrs, Volume= 0.663 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 36.38' @ 12.10 hrs
Flood Elev= 27.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**12.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=6.71 cfs @ 12.08 hrs HW=36.24' TW=28.25' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 6.71 cfs @ 8.55 fps)

Pond 21: I-7



Summary for Subcatchment 22: DA #7

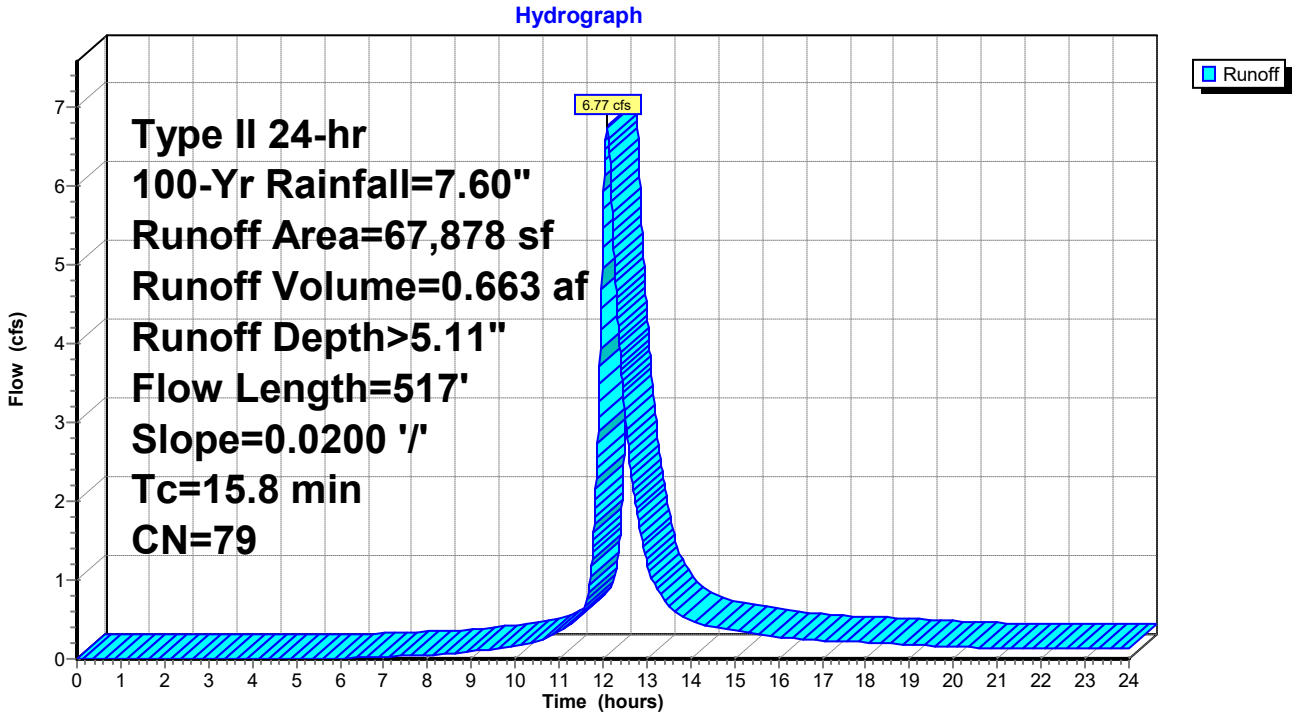
Runoff = 6.77 cfs @ 12.08 hrs, Volume= 0.663 af, Depth> 5.11"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
14,145	98	Paved parking, HSG C
53,733	74	>75% Grass cover, Good, HSG C
67,878	79	Weighted Average
53,733		79.16% Pervious Area
14,145		20.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.7	367	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.8	517	Total			

Subcatchment 22: DA #7



Summary for Pond 23: I-8

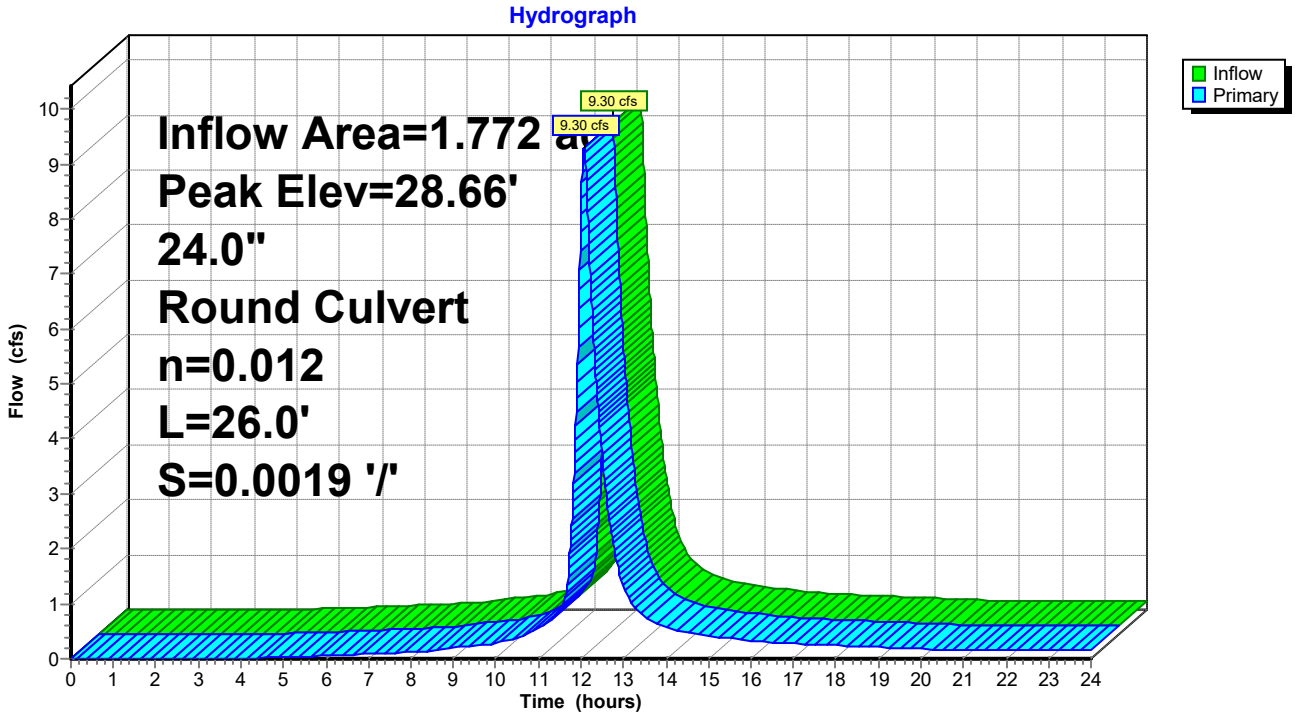
Inflow Area = 1.772 ac, 48.45% Impervious, Inflow Depth > 5.90" for 100-Yr event
Inflow = 9.30 cfs @ 12.07 hrs, Volume= 0.871 af
Outflow = 9.30 cfs @ 12.07 hrs, Volume= 0.871 af, Atten= 0%, Lag= 0.0 min
Primary = 9.30 cfs @ 12.07 hrs, Volume= 0.871 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.66' @ 12.10 hrs
Flood Elev= 27.26'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**24.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=6.93 cfs @ 12.07 hrs HW=28.39' TW=28.18' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.93 cfs @ 2.21 fps)

Pond 23: I-8



Summary for Subcatchment 24: DA #8

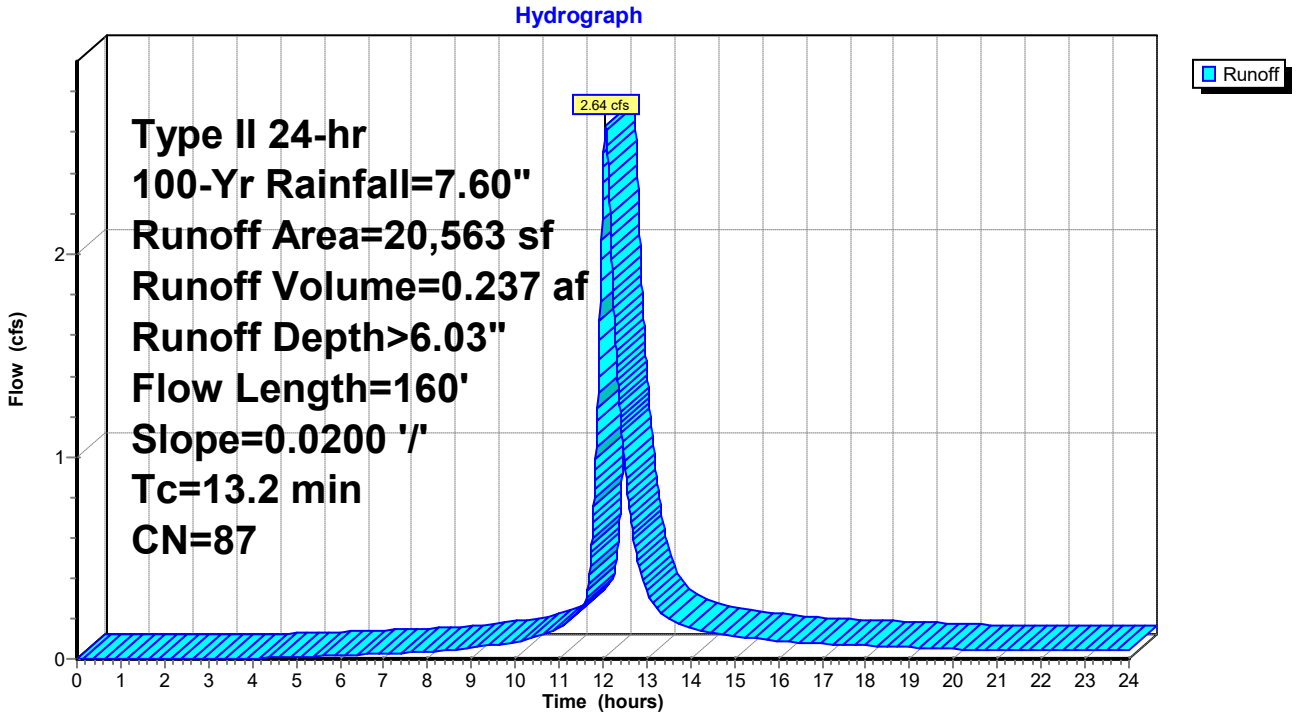
Runoff = 2.64 cfs @ 12.06 hrs, Volume= 0.237 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
11,019	98	Paved parking, HSG C
9,544	74	>75% Grass cover, Good, HSG C
20,563	87	Weighted Average
9,544		46.41% Pervious Area
11,019		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 24: DA #8



Summary for Pond 25: I-9

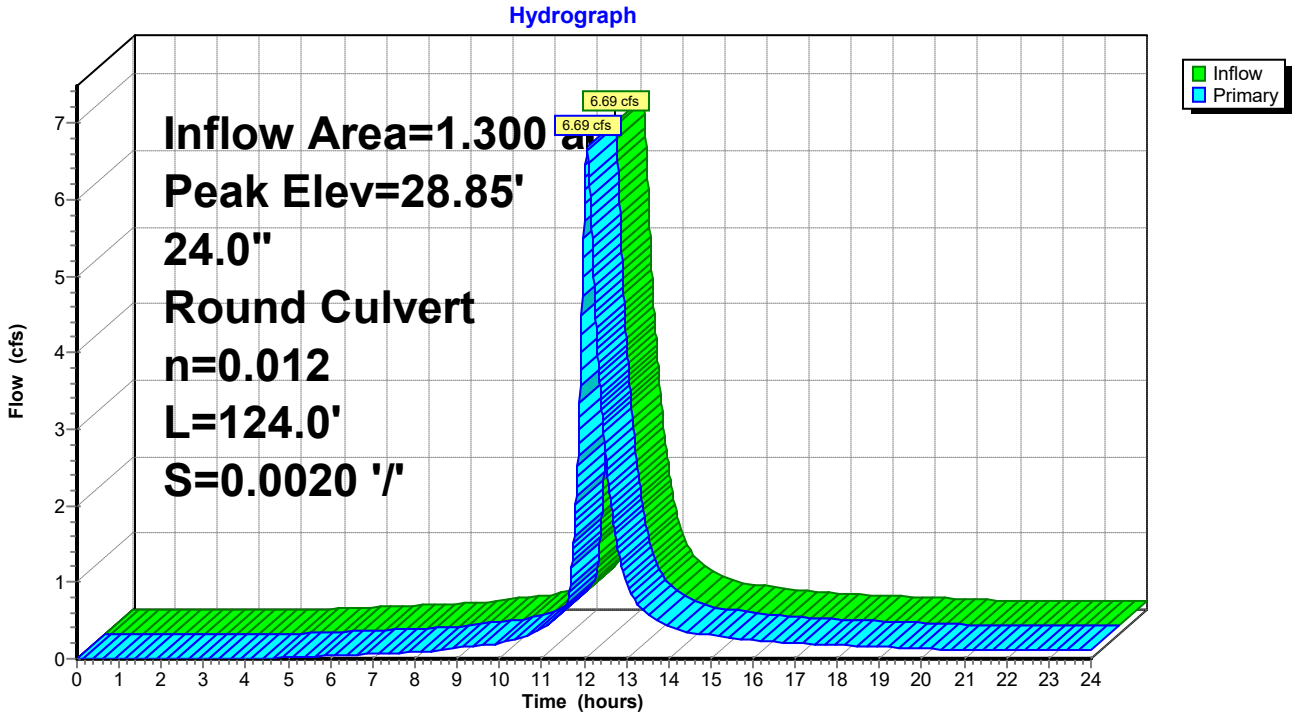
Inflow Area = 1.300 ac, 46.59% Impervious, Inflow Depth > 5.86" for 100-Yr event
Inflow = 6.69 cfs @ 12.08 hrs, Volume= 0.634 af
Outflow = 6.69 cfs @ 12.08 hrs, Volume= 0.634 af, Atten= 0%, Lag= 0.0 min
Primary = 6.69 cfs @ 12.08 hrs, Volume= 0.634 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.85' @ 12.11 hrs
Flood Elev= 27.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	**24.0" Round Culvert** L= 124.0' Ke= 0.500 Inlet / Outlet Invert= 19.00' / 18.75' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=28.41' TW=28.44' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 25: I-9



Summary for Subcatchment 26: DA #9

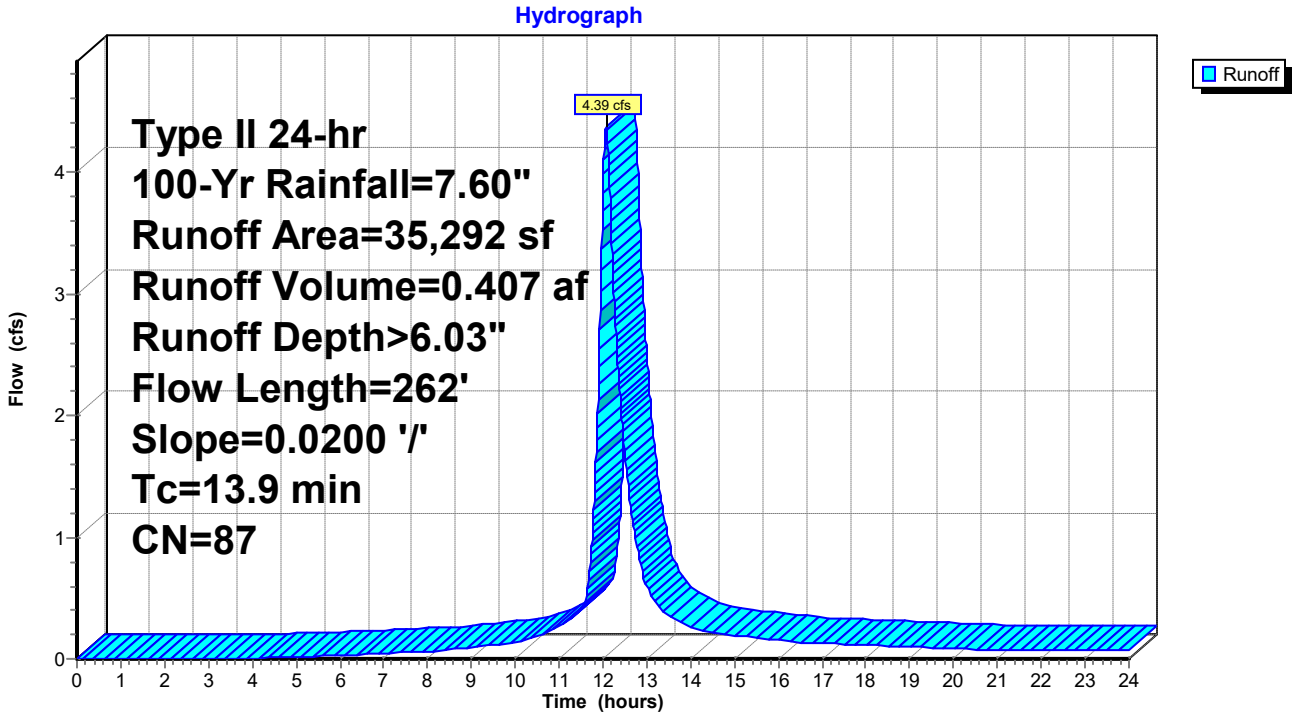
Runoff = 4.39 cfs @ 12.07 hrs, Volume= 0.407 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
18,751	98	Paved parking, HSG C
16,541	74	>75% Grass cover, Good, HSG C
35,292	87	Weighted Average
16,541		46.87% Pervious Area
18,751		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	112	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	262	Total			

Subcatchment 26: DA #9



Summary for Pond 27: I-10

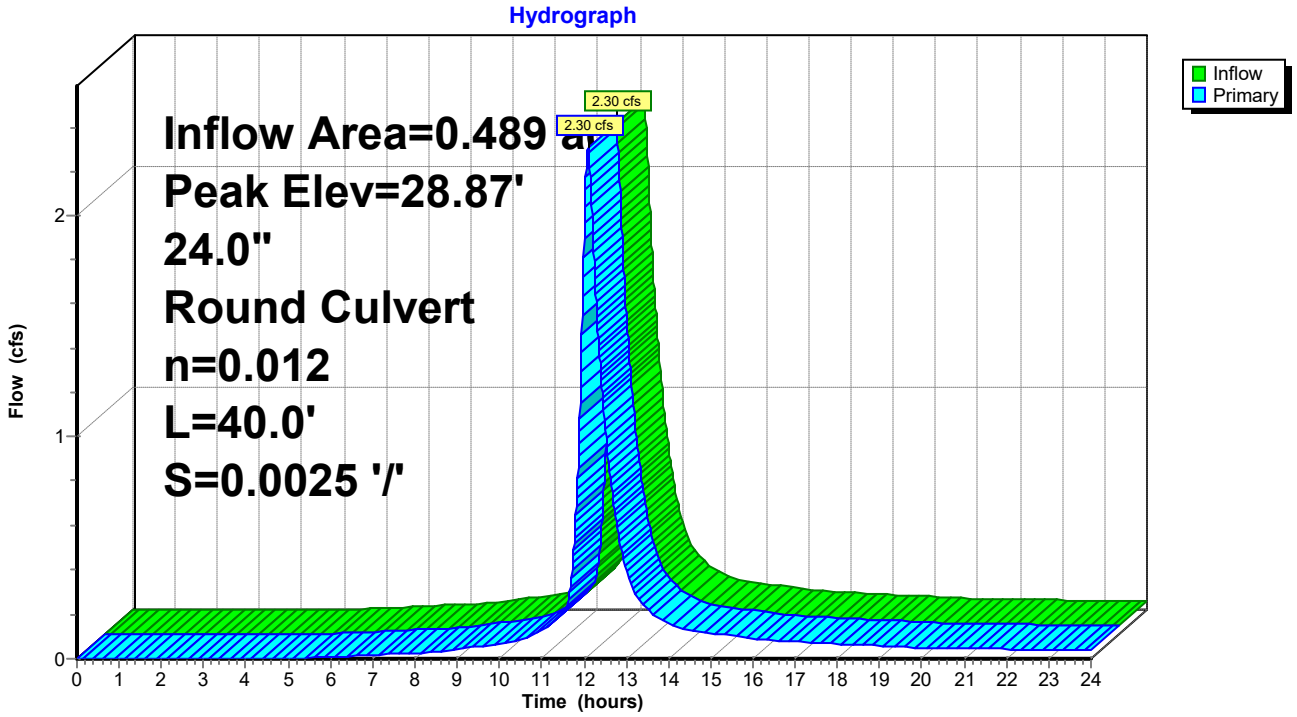
Inflow Area = 0.489 ac, 35.75% Impervious, Inflow Depth > 5.56" for 100-Yr event
Inflow = 2.30 cfs @ 12.10 hrs, Volume= 0.227 af
Outflow = 2.30 cfs @ 12.10 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min
Primary = 2.30 cfs @ 12.10 hrs, Volume= 0.227 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 28.87' @ 12.12 hrs
Flood Elev= 27.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**24.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 19.00' S= 0.0025 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=28.66' TW=28.78' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 27: I-10



Summary for Subcatchment 28: DA #10

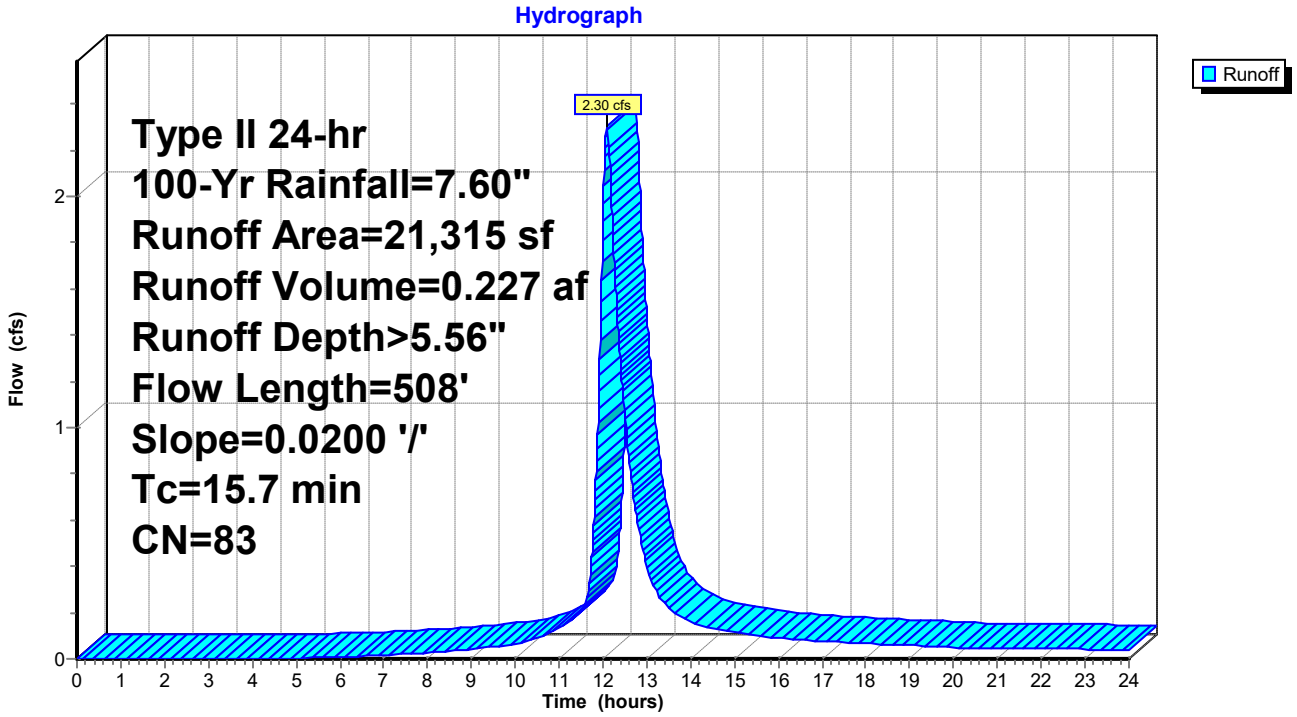
Runoff = 2.30 cfs @ 12.10 hrs, Volume= 0.227 af, Depth> 5.56"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
7,621	98	Paved parking, HSG C
13,694	74	>75% Grass cover, Good, HSG C
21,315	83	Weighted Average
13,694		64.25% Pervious Area
7,621		35.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	358	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	508	Total			

Subcatchment 28: DA #10



Summary for Pond 29: I-11

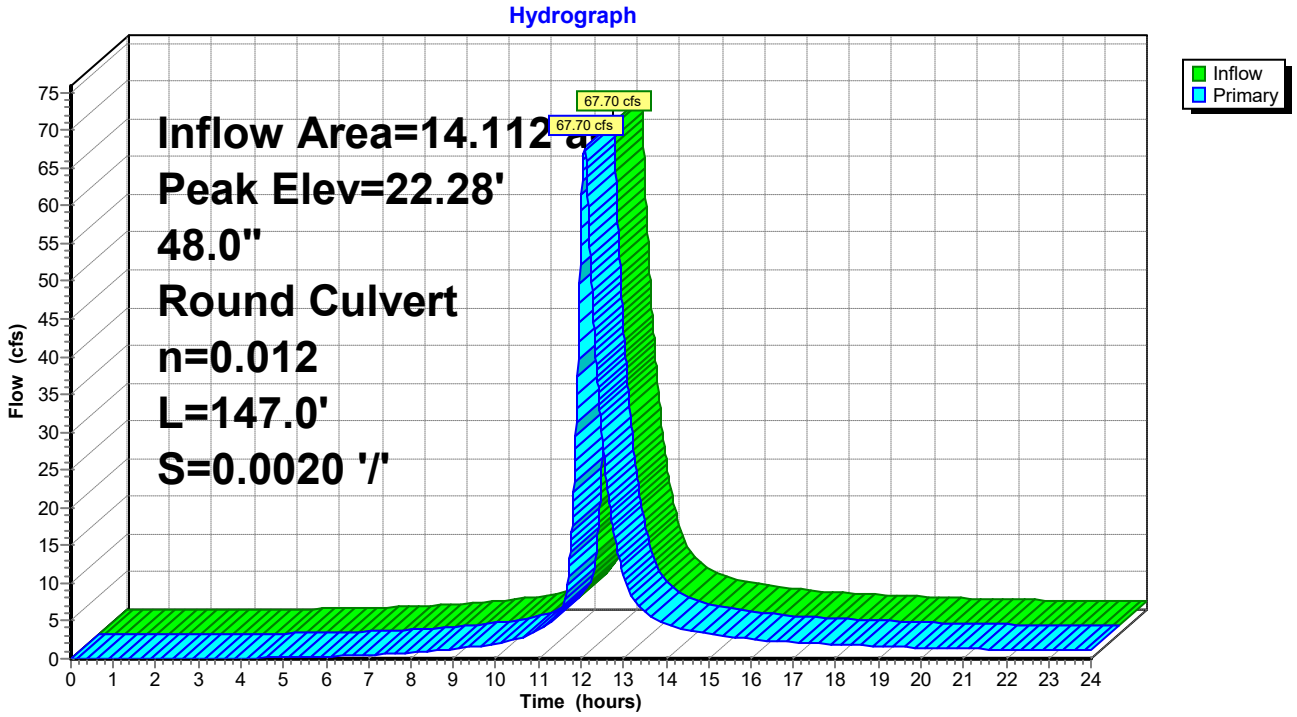
Inflow Area = 14.112 ac, 37.41% Impervious, Inflow Depth > 5.58" for 100-Yr event
Inflow = 67.70 cfs @ 12.08 hrs, Volume= 6.567 af
Outflow = 67.70 cfs @ 12.08 hrs, Volume= 6.567 af, Atten= 0%, Lag= 0.0 min
Primary = 67.70 cfs @ 12.08 hrs, Volume= 6.567 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.28' @ 12.08 hrs
Flood Elev= 22.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 147.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=67.67 cfs @ 12.08 hrs HW=22.28' TW=19.96' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 67.67 cfs @ 6.55 fps)

Pond 29: I-11



Summary for Subcatchment 30: DA #11

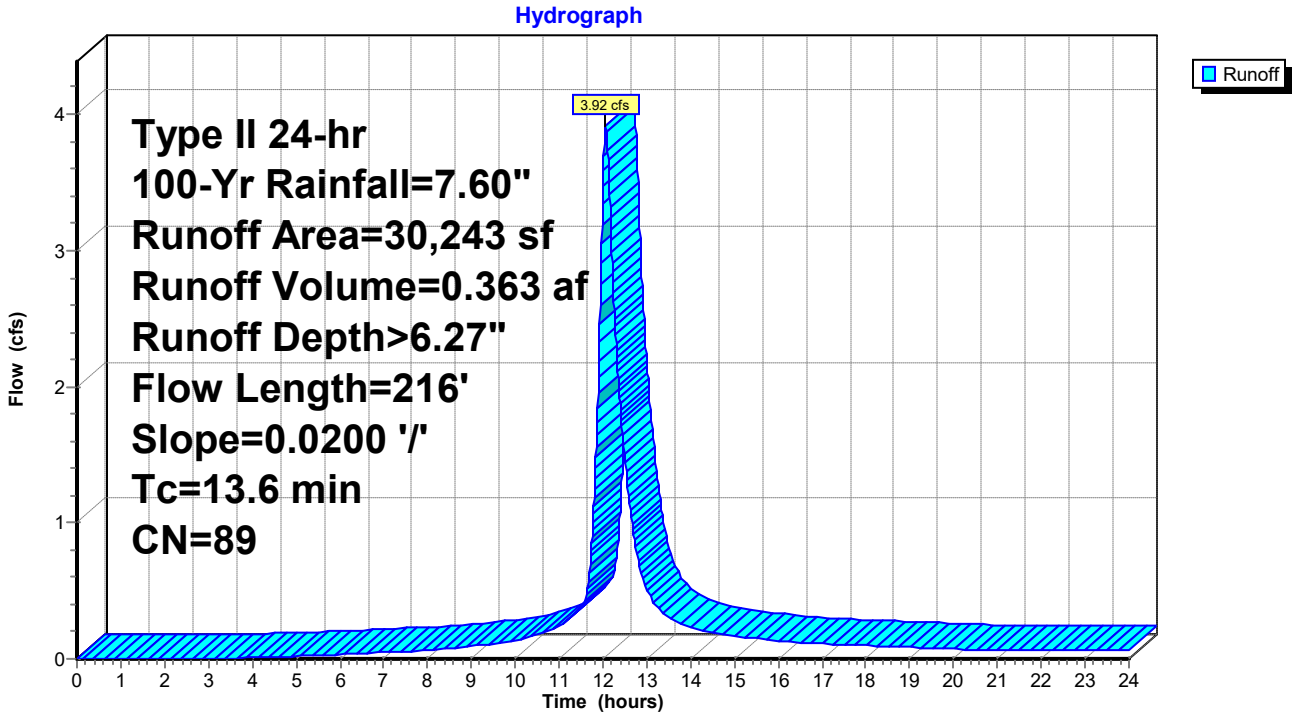
Runoff = 3.92 cfs @ 12.06 hrs, Volume= 0.363 af, Depth> 6.27"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
19,297	98	Paved parking, HSG C
10,946	74	>75% Grass cover, Good, HSG C
30,243	89	Weighted Average
10,946		36.19% Pervious Area
19,297		63.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.5	66	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.6	216	Total			

Subcatchment 30: DA #11



Summary for Pond 31: I-12

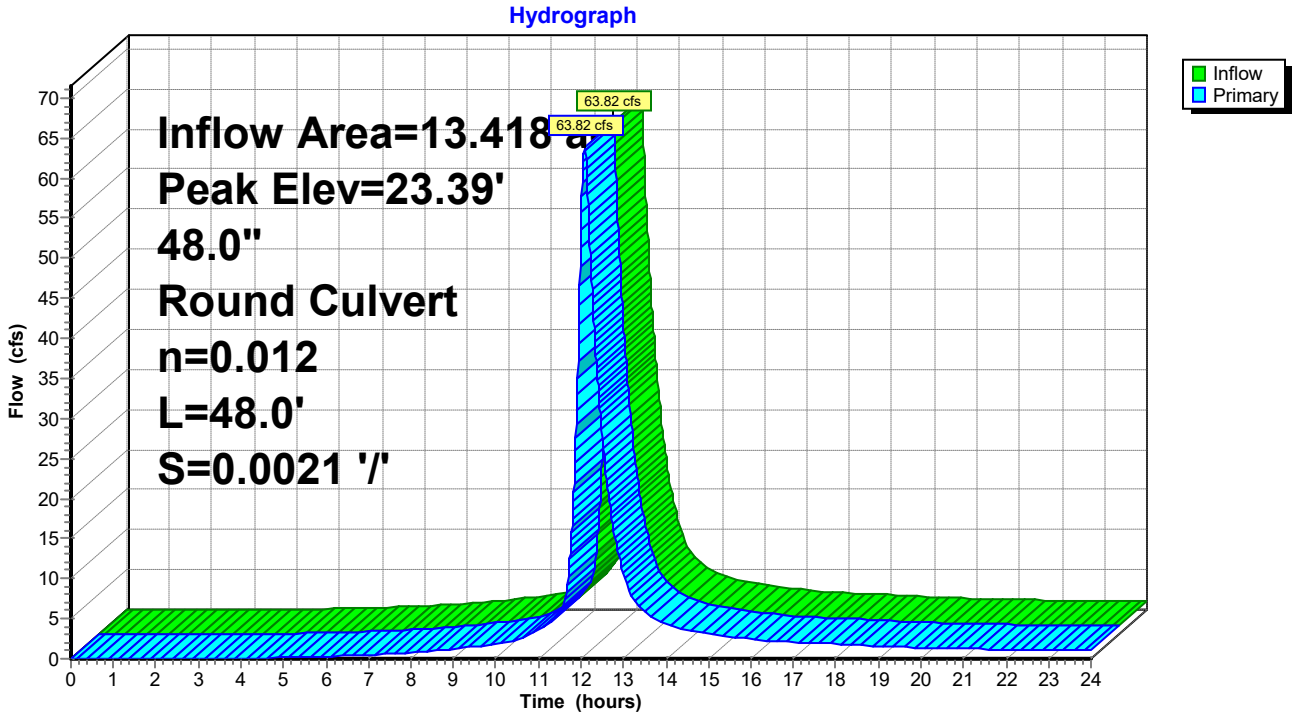
Inflow Area = 13.418 ac, 36.04% Impervious, Inflow Depth > 5.55" for 100-Yr event
Inflow = 63.82 cfs @ 12.08 hrs, Volume= 6.204 af
Outflow = 63.82 cfs @ 12.08 hrs, Volume= 6.204 af, Atten= 0%, Lag= 0.0 min
Primary = 63.82 cfs @ 12.08 hrs, Volume= 6.204 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.39' @ 12.09 hrs
Flood Elev= 22.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=63.58 cfs @ 12.08 hrs HW=23.39' TW=22.28' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 63.58 cfs @ 5.06 fps)

Pond 31: I-12



Summary for Subcatchment 32: DA #12

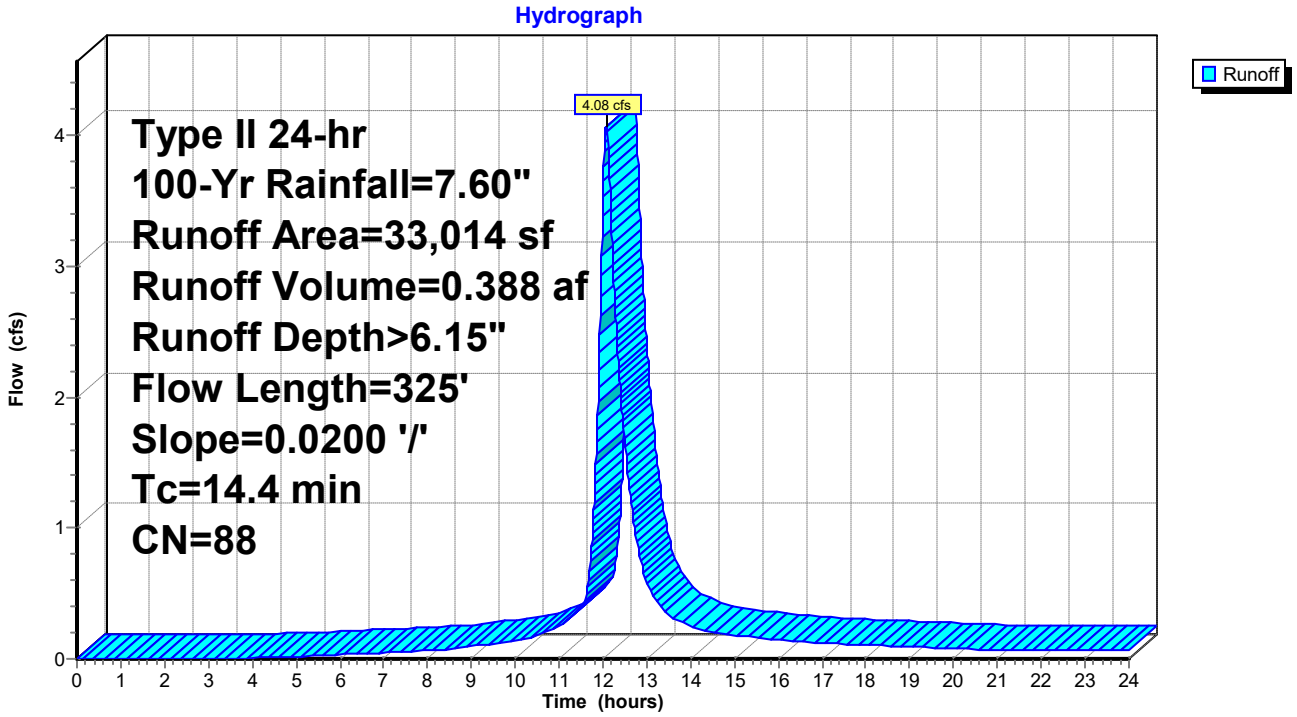
Runoff = 4.08 cfs @ 12.07 hrs, Volume= 0.388 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
19,182	98	Paved parking, HSG C
13,832	74	>75% Grass cover, Good, HSG C
33,014	88	Weighted Average
13,832		41.90% Pervious Area
19,182		58.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.3	175	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.4	325	Total			

Subcatchment 32: DA #12



Summary for Pond 33: I-13

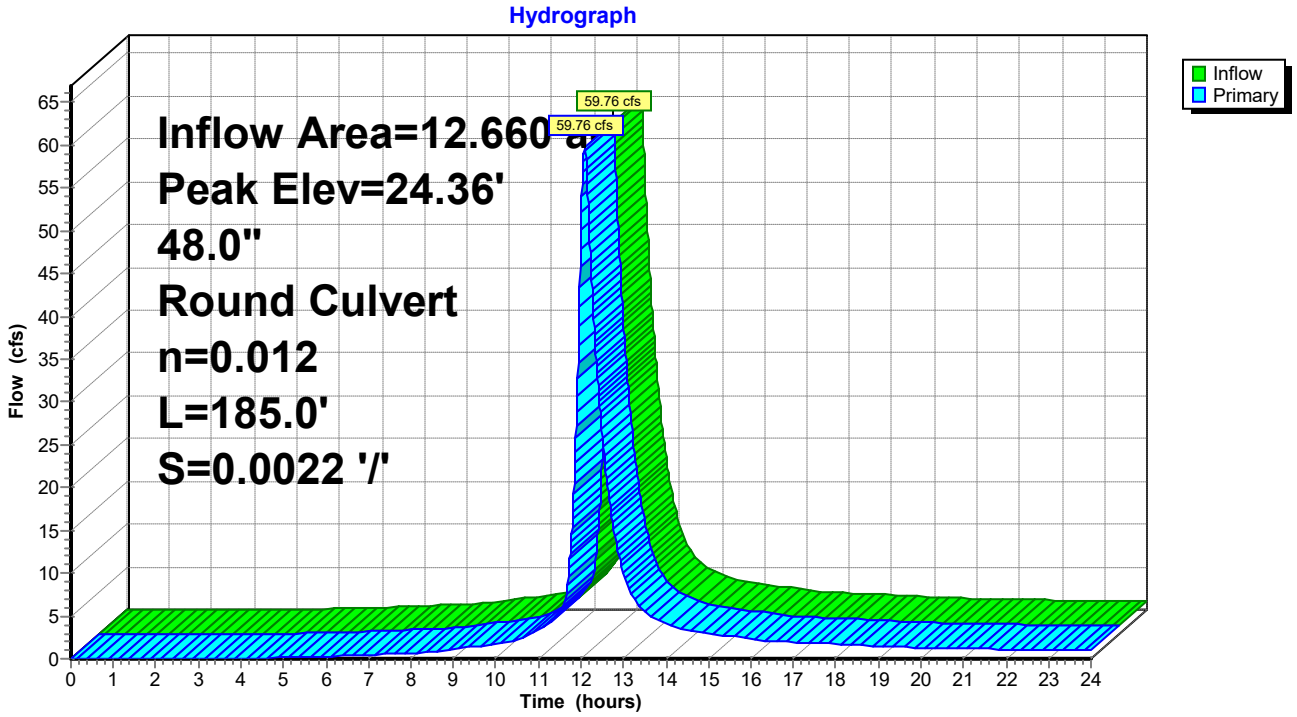
Inflow Area = 12.660 ac, 34.72% Impervious, Inflow Depth > 5.51" for 100-Yr event
Inflow = 59.76 cfs @ 12.08 hrs, Volume= 5.816 af
Outflow = 59.76 cfs @ 12.08 hrs, Volume= 5.816 af, Atten= 0%, Lag= 0.0 min
Primary = 59.76 cfs @ 12.08 hrs, Volume= 5.816 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.36' @ 12.10 hrs
Flood Elev= 23.18'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.70'	**48.0" Round Culvert** L= 185.0' Ke= 0.500 Inlet / Outlet Invert= 18.70' / 18.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=58.93 cfs @ 12.08 hrs HW=24.34' TW=23.39' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 58.93 cfs @ 4.69 fps)

Pond 33: I-13



Summary for Subcatchment 34: DA #13

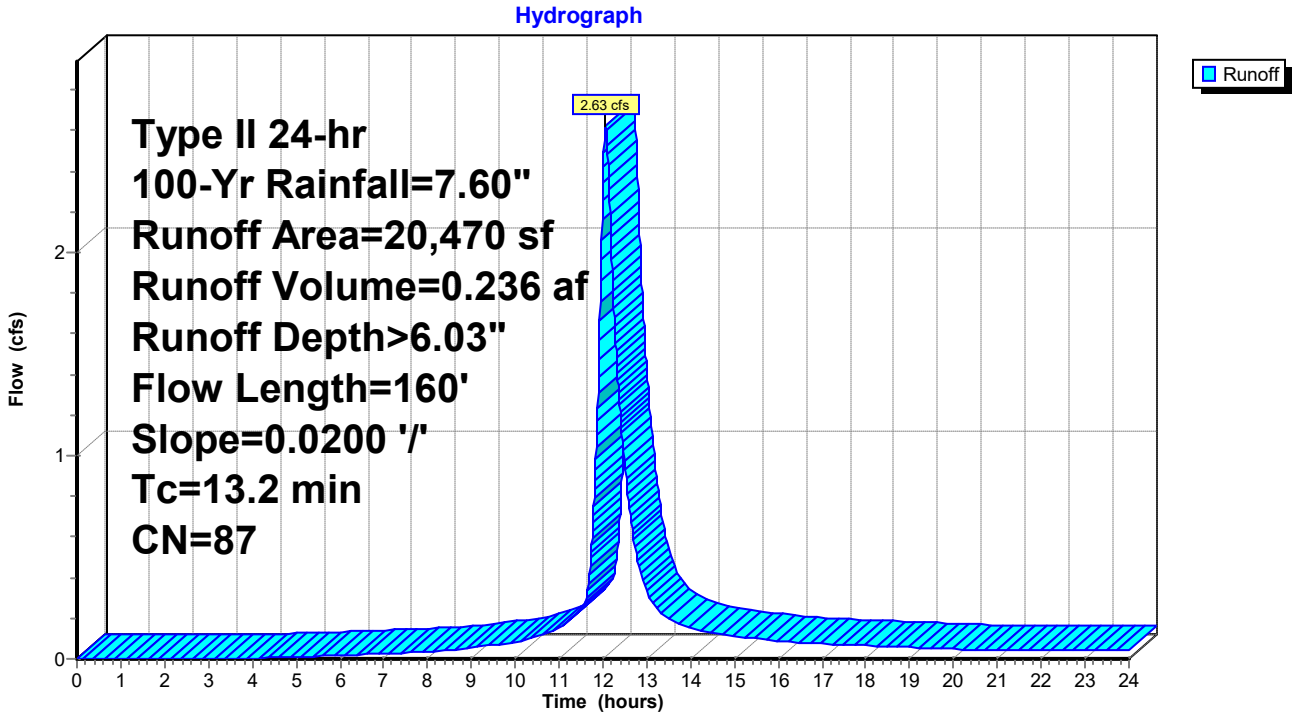
Runoff = 2.63 cfs @ 12.06 hrs, Volume= 0.236 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
10,970	98	Paved parking, HSG C
9,500	74	>75% Grass cover, Good, HSG C
20,470	87	Weighted Average
9,500		46.41% Pervious Area
10,970		53.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 34: DA #13



Summary for Pond 35: I-14

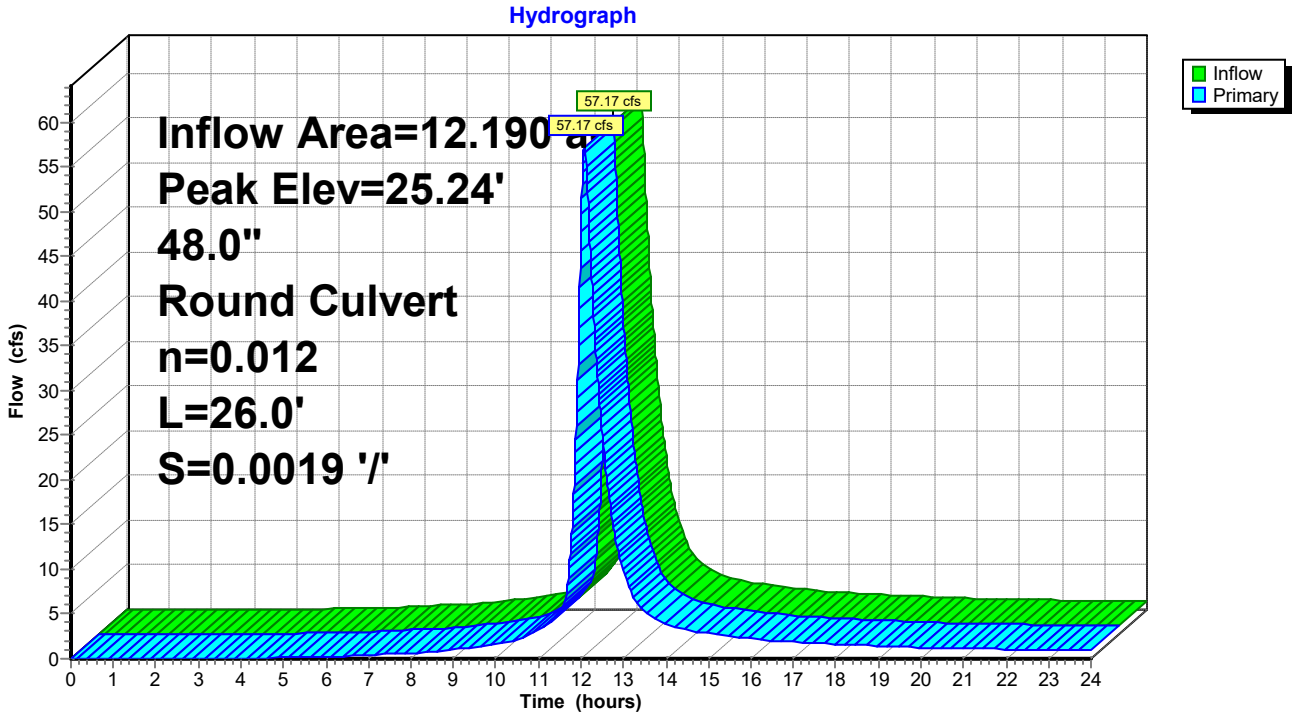
Inflow Area = 12.190 ac, 34.00% Impervious, Inflow Depth > 5.49" for 100-Yr event
Inflow = 57.17 cfs @ 12.08 hrs, Volume= 5.580 af
Outflow = 57.17 cfs @ 12.08 hrs, Volume= 5.580 af, Atten= 0%, Lag= 0.0 min
Primary = 57.17 cfs @ 12.08 hrs, Volume= 5.580 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 25.24' @ 12.10 hrs
Flood Elev= 23.45'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**48.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 18.75' / 18.70' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=55.46 cfs @ 12.08 hrs HW=25.18' TW=24.34' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 55.46 cfs @ 4.41 fps)

Pond 35: I-14



Summary for Subcatchment 36: DA #14

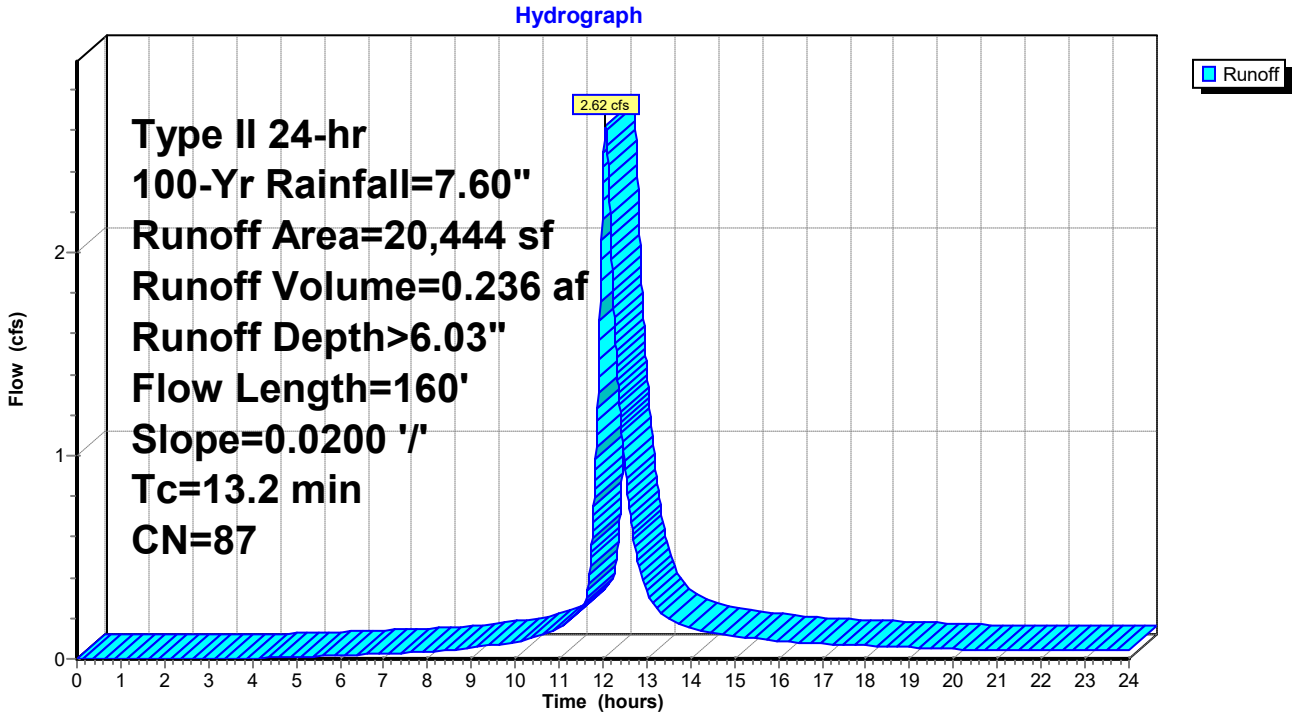
Runoff = 2.62 cfs @ 12.06 hrs, Volume= 0.236 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
10,959	98	Paved parking, HSG C
9,485	74	>75% Grass cover, Good, HSG C
20,444	87	Weighted Average
9,485		46.40% Pervious Area
10,959		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	10	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	160	Total			

Subcatchment 36: DA #14



Summary for Pond 37: I-15

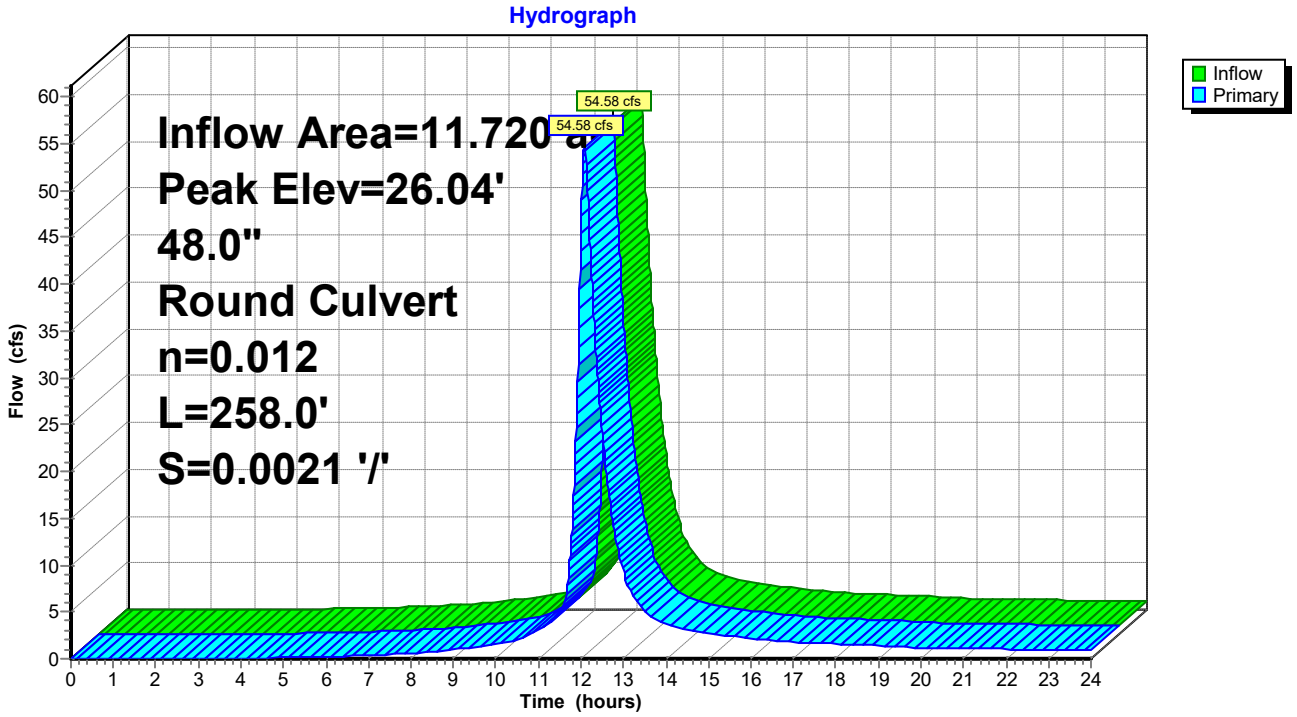
Inflow Area = 11.720 ac, 33.21% Impervious, Inflow Depth > 5.47" for 100-Yr event
Inflow = 54.58 cfs @ 12.09 hrs, Volume= 5.344 af
Outflow = 54.58 cfs @ 12.09 hrs, Volume= 5.344 af, Atten= 0%, Lag= 0.0 min
Primary = 54.58 cfs @ 12.09 hrs, Volume= 5.344 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.04' @ 12.11 hrs
Flood Elev= 23.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.30'	**48.0" Round Culvert** L= 258.0' Ke= 0.500 Inlet / Outlet Invert= 19.30' / 18.75' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=51.62 cfs @ 12.09 hrs HW=25.91' TW=25.18' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 51.62 cfs @ 4.11 fps)

Pond 37: I-15



Summary for Subcatchment 38: DA #15

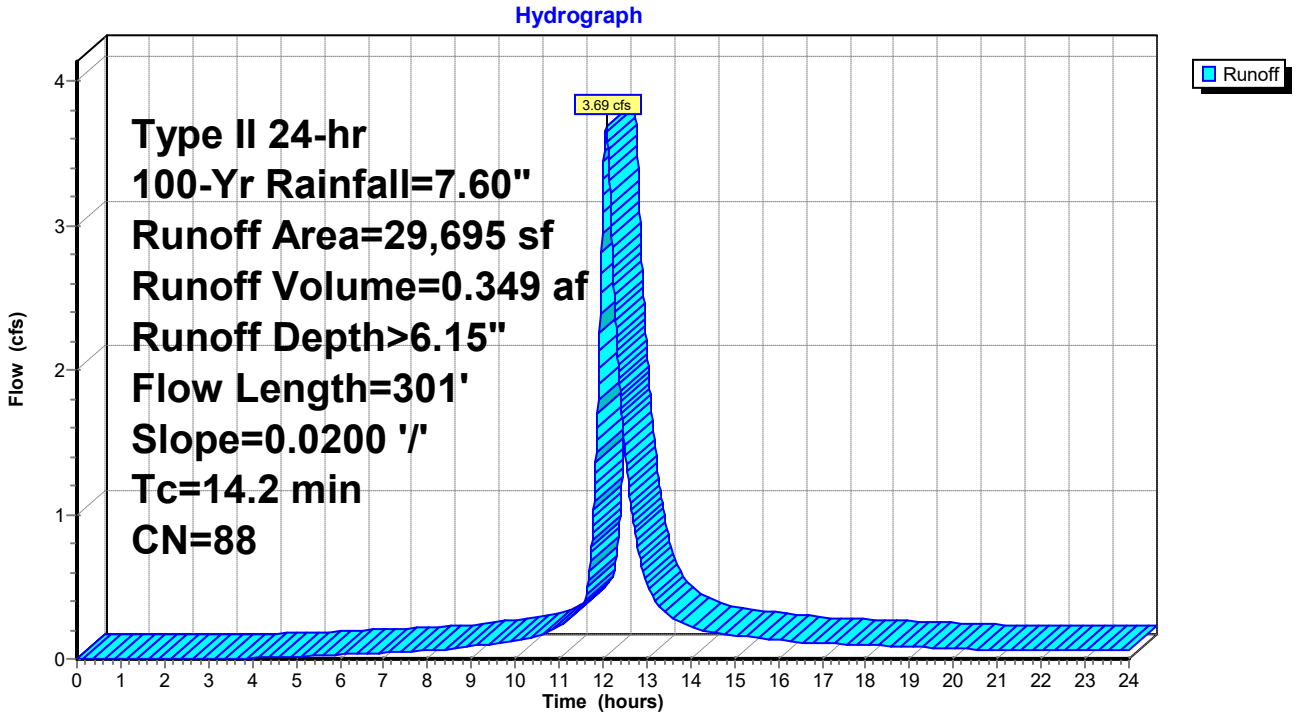
Runoff = 3.69 cfs @ 12.08 hrs, Volume= 0.349 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
17,515	98	Paved parking, HSG C
12,180	74	>75% Grass cover, Good, HSG C
29,695	88	Weighted Average
12,180		41.02% Pervious Area
17,515		58.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	151	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	301	Total			

Subcatchment 38: DA #15



Summary for Pond 39: I-16

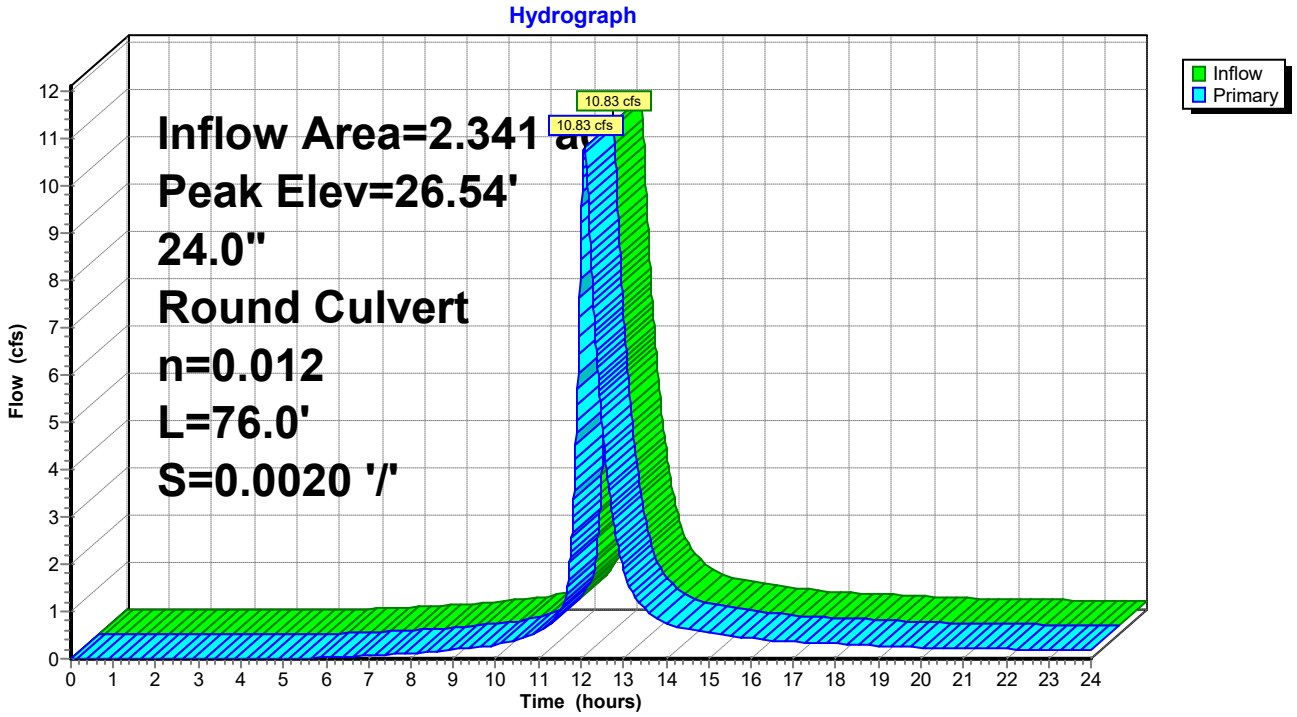
Inflow Area = 2.341 ac, 33.46% Impervious, Inflow Depth > 5.45" for 100-Yr event
Inflow = 10.83 cfs @ 12.10 hrs, Volume= 1.063 af
Outflow = 10.83 cfs @ 12.10 hrs, Volume= 1.063 af, Atten= 0%, Lag= 0.0 min
Primary = 10.83 cfs @ 12.10 hrs, Volume= 1.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.54' @ 12.12 hrs
Flood Elev= 23.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 76.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=10.02 cfs @ 12.10 hrs HW=26.44' TW=26.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 10.02 cfs @ 3.19 fps)

Pond 39: I-16



Summary for Subcatchment 40: DA #16

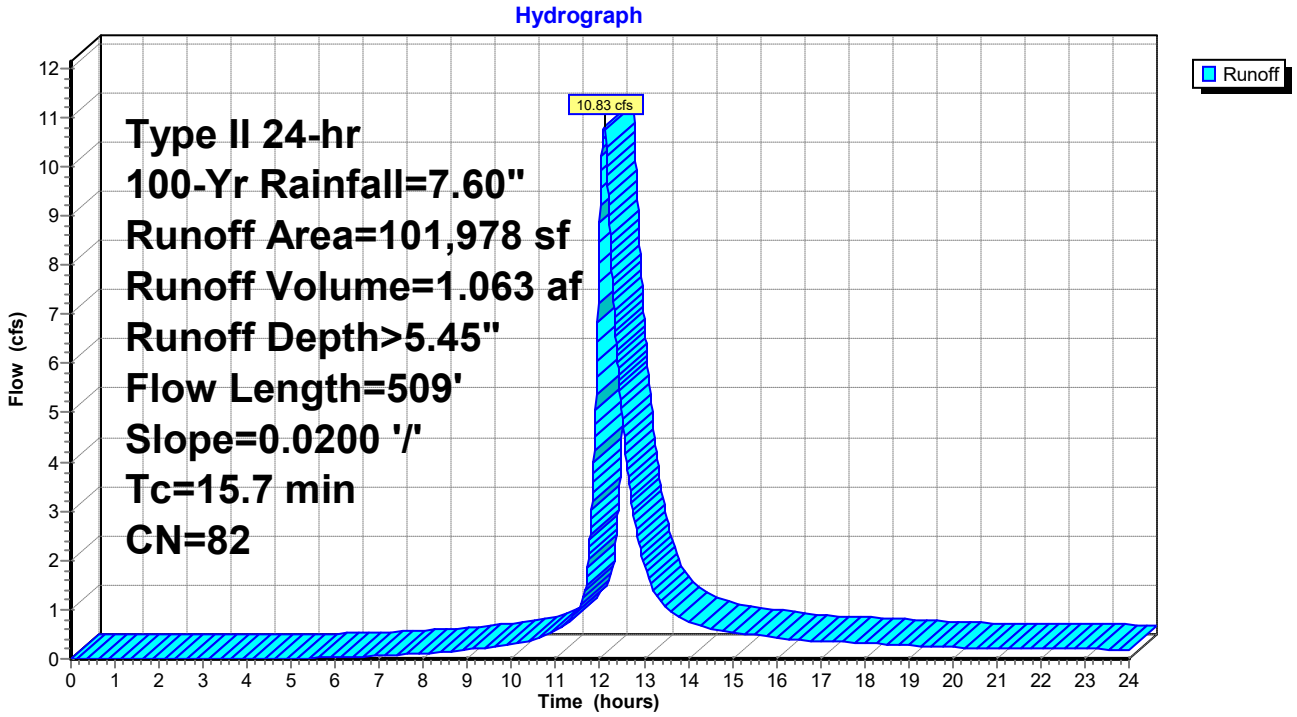
Runoff = 10.83 cfs @ 12.10 hrs, Volume= 1.063 af, Depth> 5.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
34,120	98	Paved parking, HSG C
67,858	74	>75% Grass cover, Good, HSG C
101,978	82	Weighted Average
67,858		66.54% Pervious Area
34,120		33.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	359	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	509	Total			

Subcatchment 40: DA #16



Summary for Pond 41: I-17

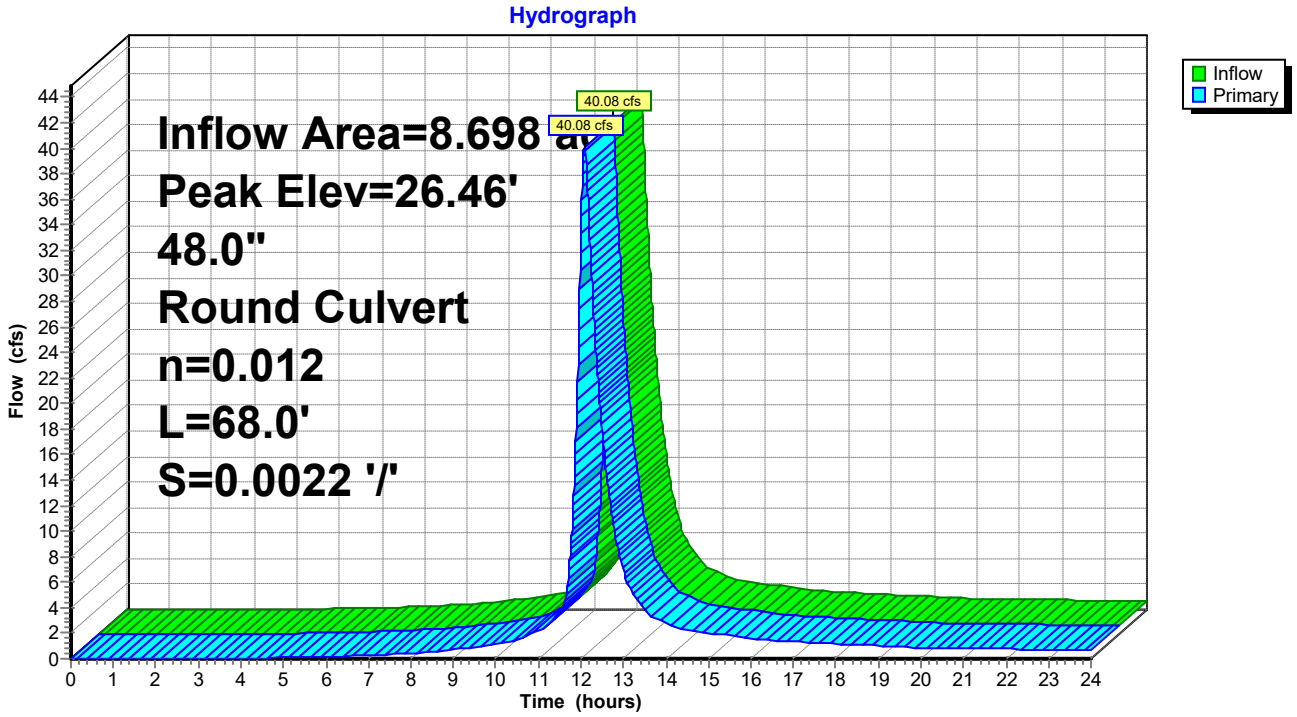
Inflow Area = 8.698 ac, 31.13% Impervious, Inflow Depth > 5.42" for 100-Yr event
Inflow = 40.08 cfs @ 12.09 hrs, Volume= 3.931 af
Outflow = 40.08 cfs @ 12.09 hrs, Volume= 3.931 af, Atten= 0%, Lag= 0.0 min
Primary = 40.08 cfs @ 12.09 hrs, Volume= 3.931 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.46' @ 12.12 hrs
Flood Elev= 23.12'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**48.0" Round Culvert** L= 68.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 19.30' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=33.66 cfs @ 12.09 hrs HW=26.23' TW=25.92' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 33.66 cfs @ 2.68 fps)

Pond 41: I-17



Summary for Subcatchment 42: DA #17

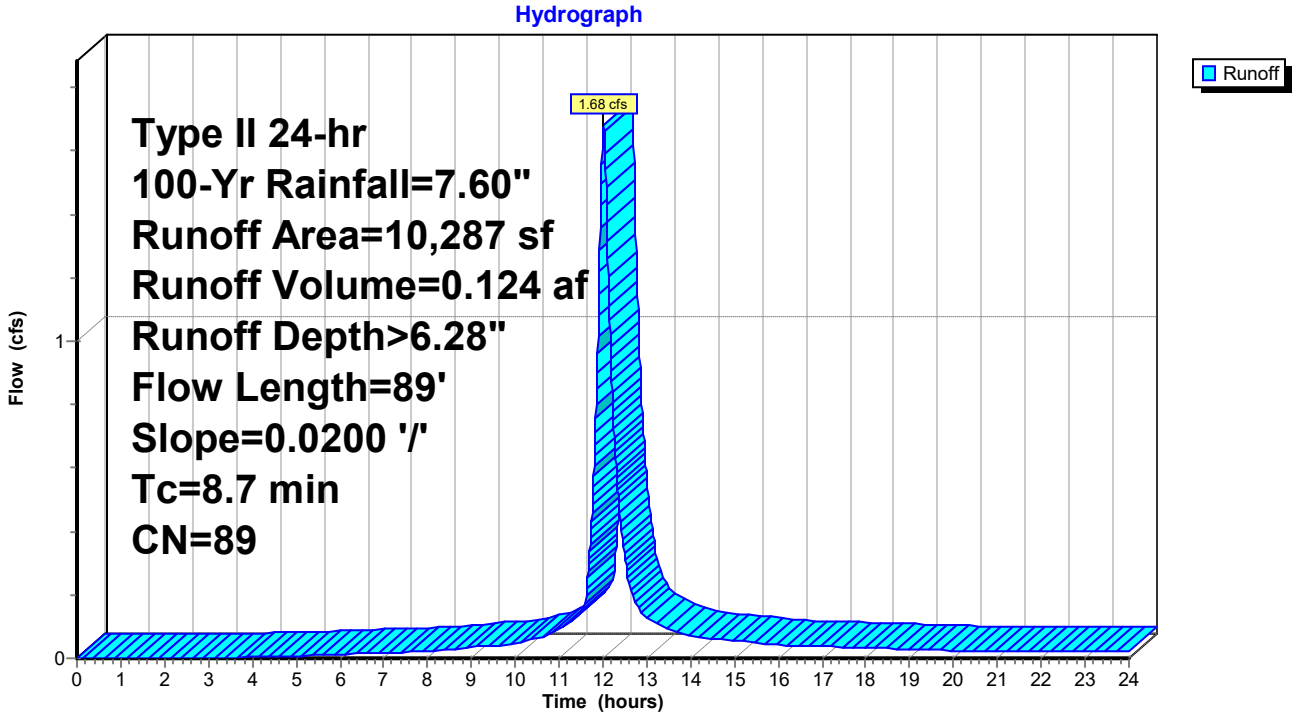
Runoff = 1.68 cfs @ 12.01 hrs, Volume= 0.124 af, Depth> 6.28"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
6,434	98	Paved parking, HSG C
3,853	74	>75% Grass cover, Good, HSG C
10,287	89	Weighted Average
3,853		37.46% Pervious Area
6,434		62.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	89	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 42: DA #17



Summary for Pond 43: I-18

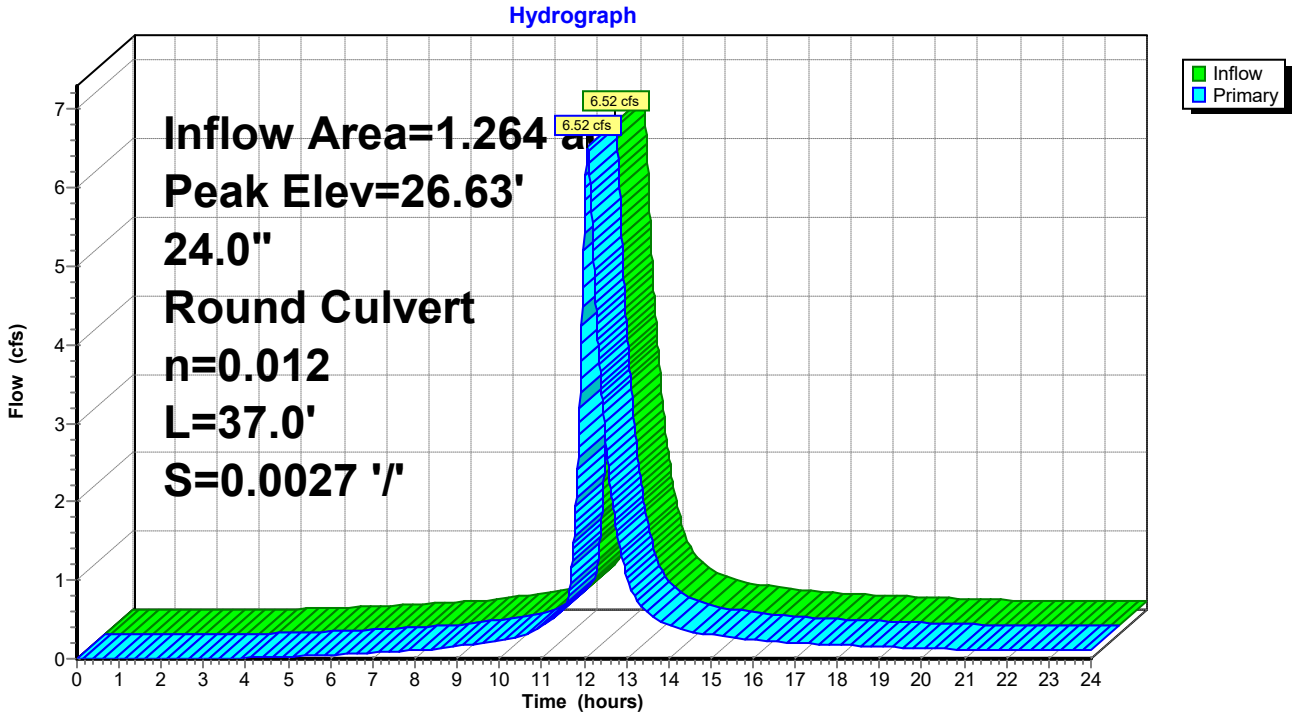
Inflow Area = 1.264 ac, 57.87% Impervious, Inflow Depth > 6.15" for 100-Yr event
Inflow = 6.52 cfs @ 12.09 hrs, Volume= 0.647 af
Outflow = 6.52 cfs @ 12.09 hrs, Volume= 0.647 af, Atten= 0%, Lag= 0.0 min
Primary = 6.52 cfs @ 12.09 hrs, Volume= 0.647 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.63' @ 12.13 hrs
Flood Elev= 23.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.55'	**24.0" Round Culvert** L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 19.55' / 19.45' S= 0.0027 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.36 cfs @ 12.09 hrs HW=26.30' TW=26.28' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.36 cfs @ 0.75 fps)

Pond 43: I-18



Summary for Subcatchment 44: DA #18

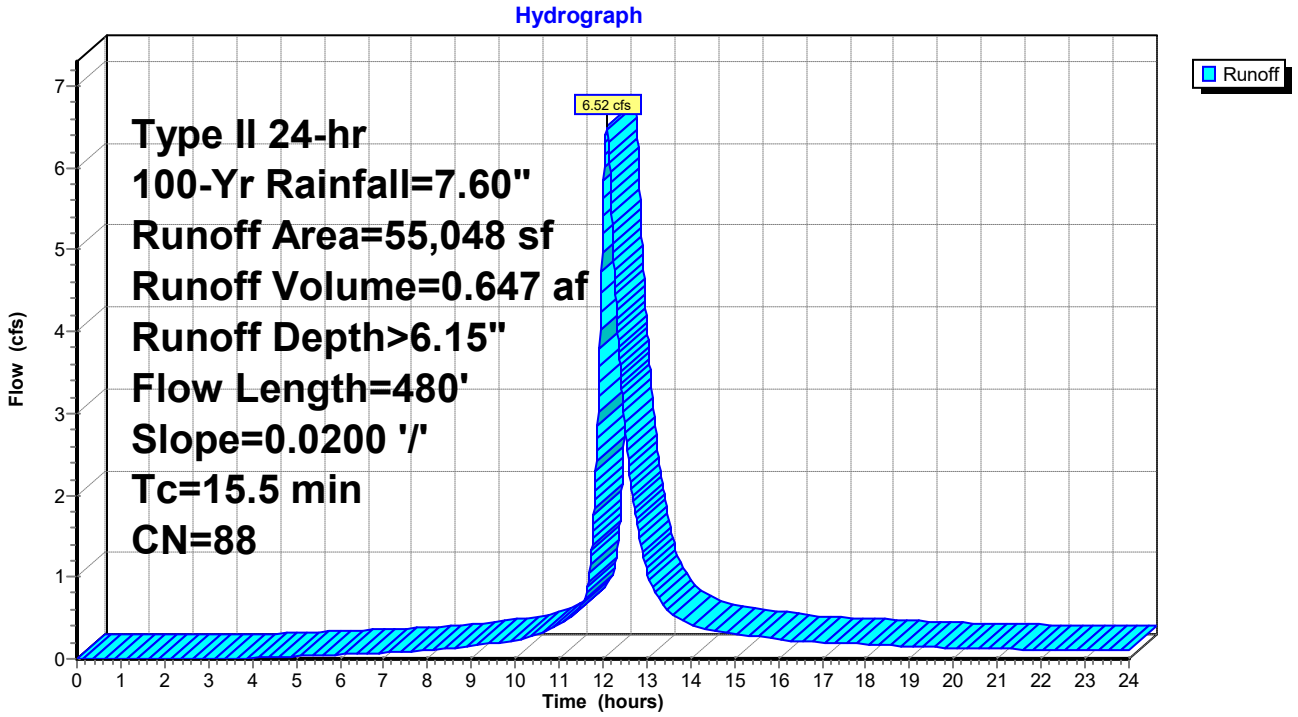
Runoff = 6.52 cfs @ 12.09 hrs, Volume= 0.647 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
31,857	98	Paved parking, HSG C
23,191	74	>75% Grass cover, Good, HSG C
55,048	88	Weighted Average
23,191		42.13% Pervious Area
31,857		57.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.4	330	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.5	480	Total			

Subcatchment 44: DA #18



Summary for Pond 45: I-19

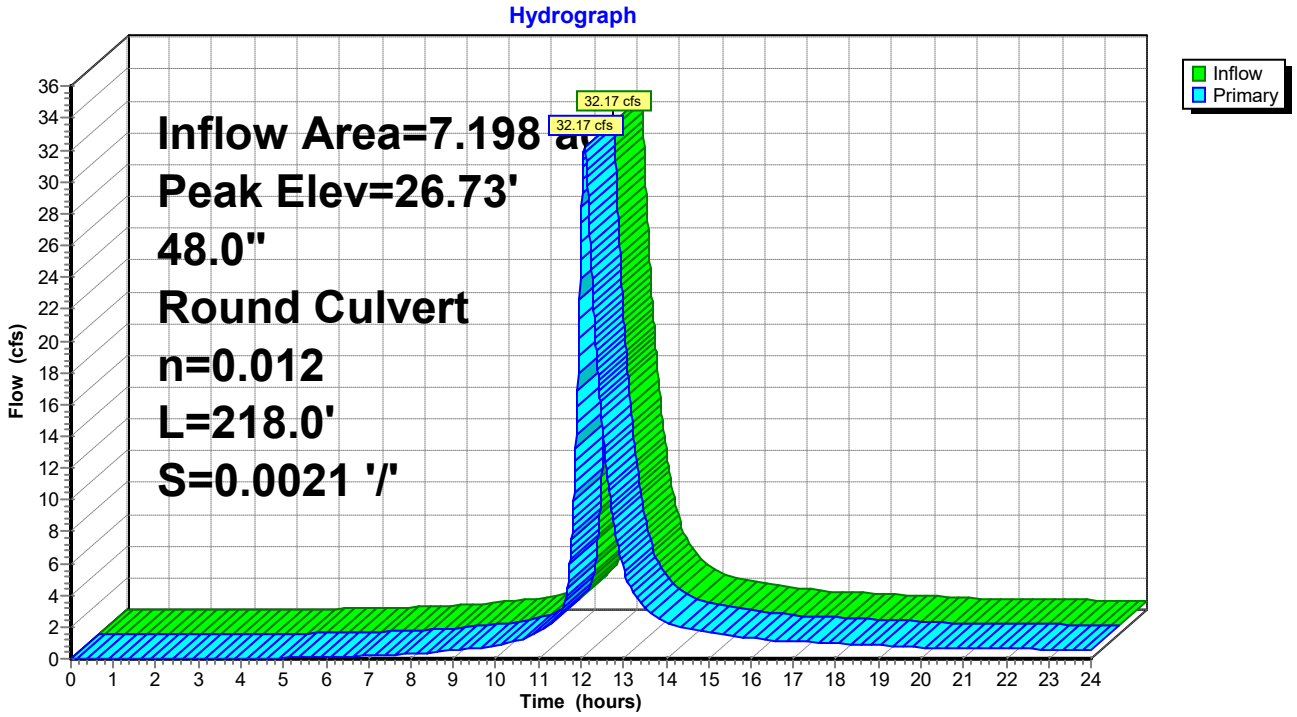
Inflow Area = 7.198 ac, 25.40% Impervious, Inflow Depth > 5.27" for 100-Yr event
Inflow = 32.17 cfs @ 12.09 hrs, Volume= 3.161 af
Outflow = 32.17 cfs @ 12.09 hrs, Volume= 3.161 af, Atten= 0%, Lag= 0.0 min
Primary = 32.17 cfs @ 12.09 hrs, Volume= 3.161 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.73' @ 12.12 hrs
Flood Elev= 22.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.90'	**48.0" Round Culvert** L= 218.0' Ke= 0.500 Inlet / Outlet Invert= 19.90' / 19.45' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=20.69 cfs @ 12.09 hrs HW=26.38' TW=26.26' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 20.69 cfs @ 1.65 fps)

Pond 45: I-19



Summary for Subcatchment 46: DA #19

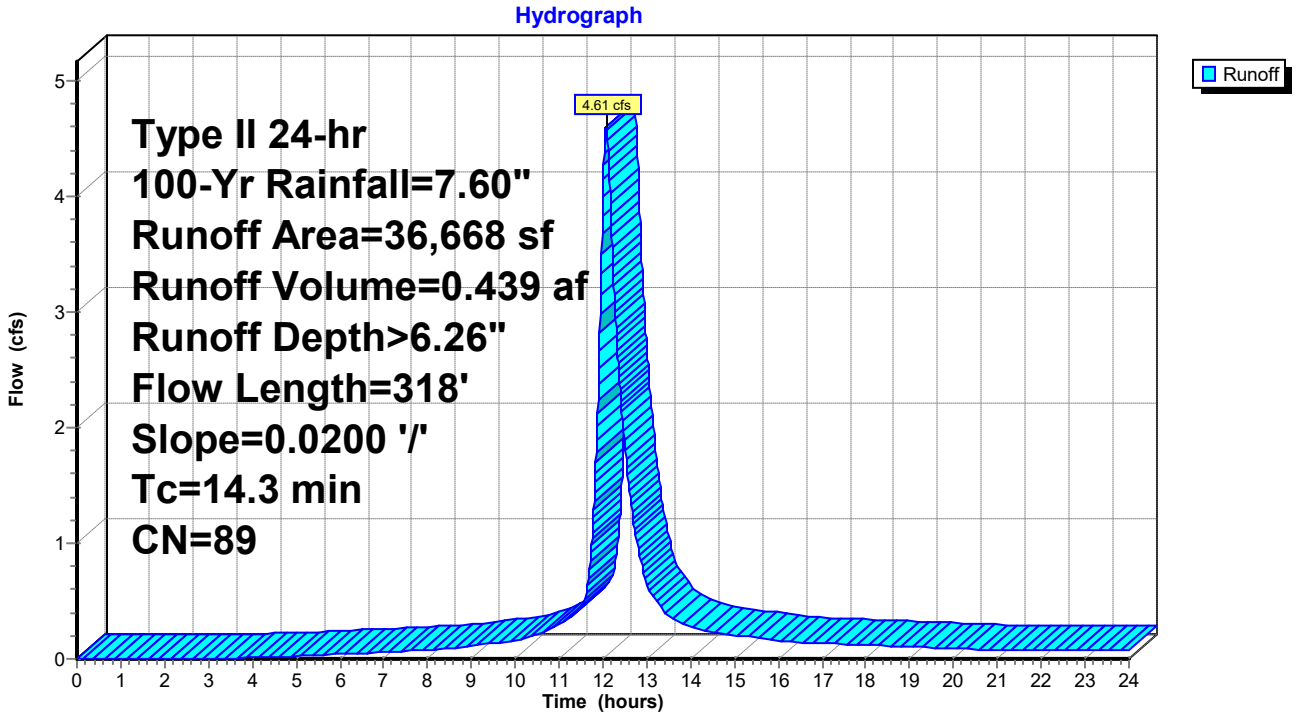
Runoff = 4.61 cfs @ 12.07 hrs, Volume= 0.439 af, Depth> 6.26"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
22,742	98	Paved parking, HSG C
13,926	74	>75% Grass cover, Good, HSG C
36,668	89	Weighted Average
13,926		37.98% Pervious Area
22,742		62.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.3	318	Total			

Subcatchment 46: DA #19



Summary for Pond 47: I-20

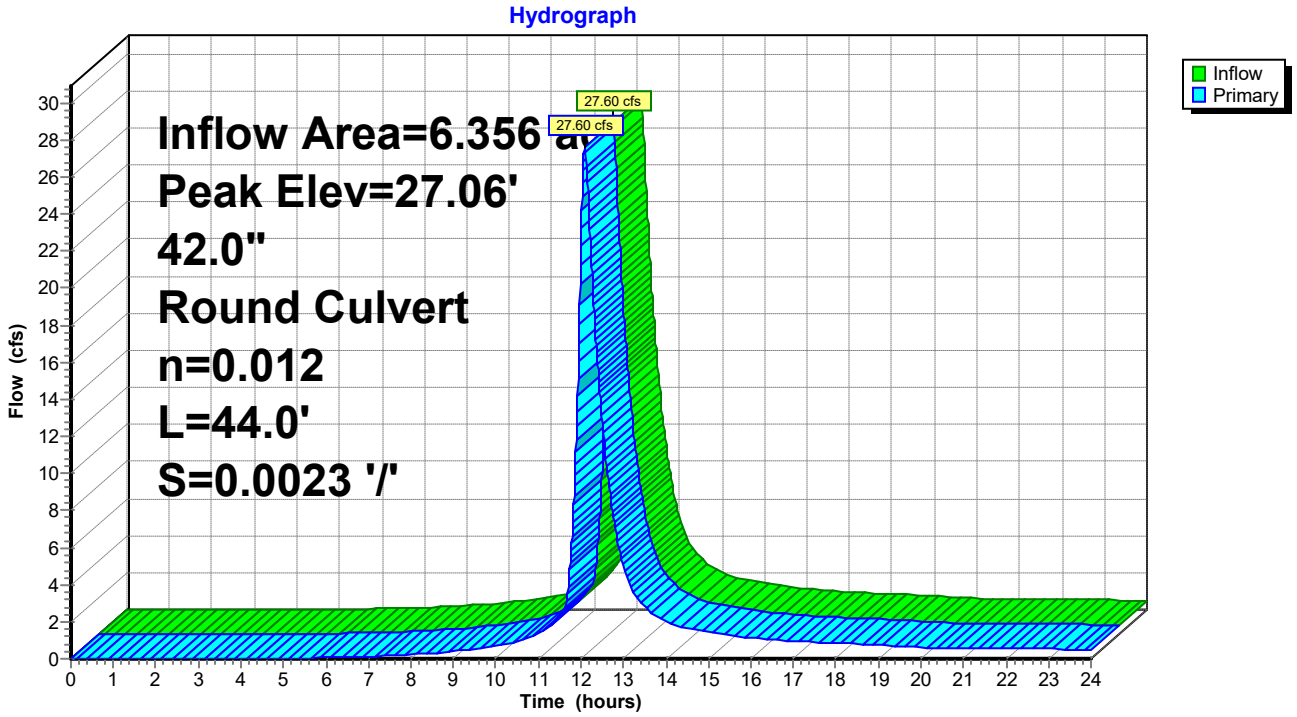
Inflow Area = 6.356 ac, 20.55% Impervious, Inflow Depth > 5.14" for 100-Yr event
Inflow = 27.60 cfs @ 12.09 hrs, Volume= 2.721 af
Outflow = 27.60 cfs @ 12.09 hrs, Volume= 2.721 af, Atten= 0%, Lag= 0.0 min
Primary = 27.60 cfs @ 12.09 hrs, Volume= 2.721 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.06' @ 12.13 hrs
Flood Elev= 23.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**42.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.90' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=18.14 cfs @ 12.09 hrs HW=26.59' TW=26.43' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 18.14 cfs @ 1.89 fps)

Pond 47: I-20



Summary for Subcatchment 48: DA #20

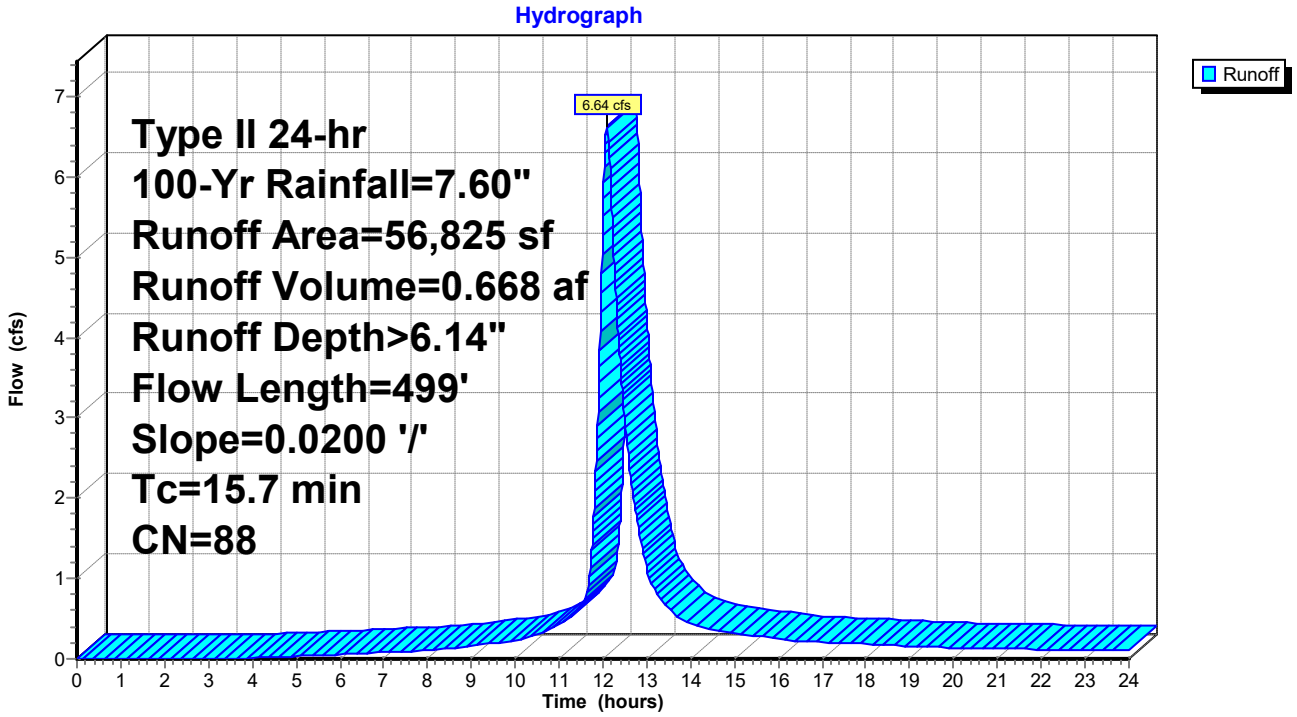
Runoff = 6.64 cfs @ 12.08 hrs, Volume= 0.668 af, Depth> 6.14"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
32,860	98	Paved parking, HSG C
23,965	74	>75% Grass cover, Good, HSG C
56,825	88	Weighted Average
23,965		42.17% Pervious Area
32,860		57.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.6	349	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.7	499	Total			

Subcatchment 48: DA #20



Summary for Pond 49: I-21

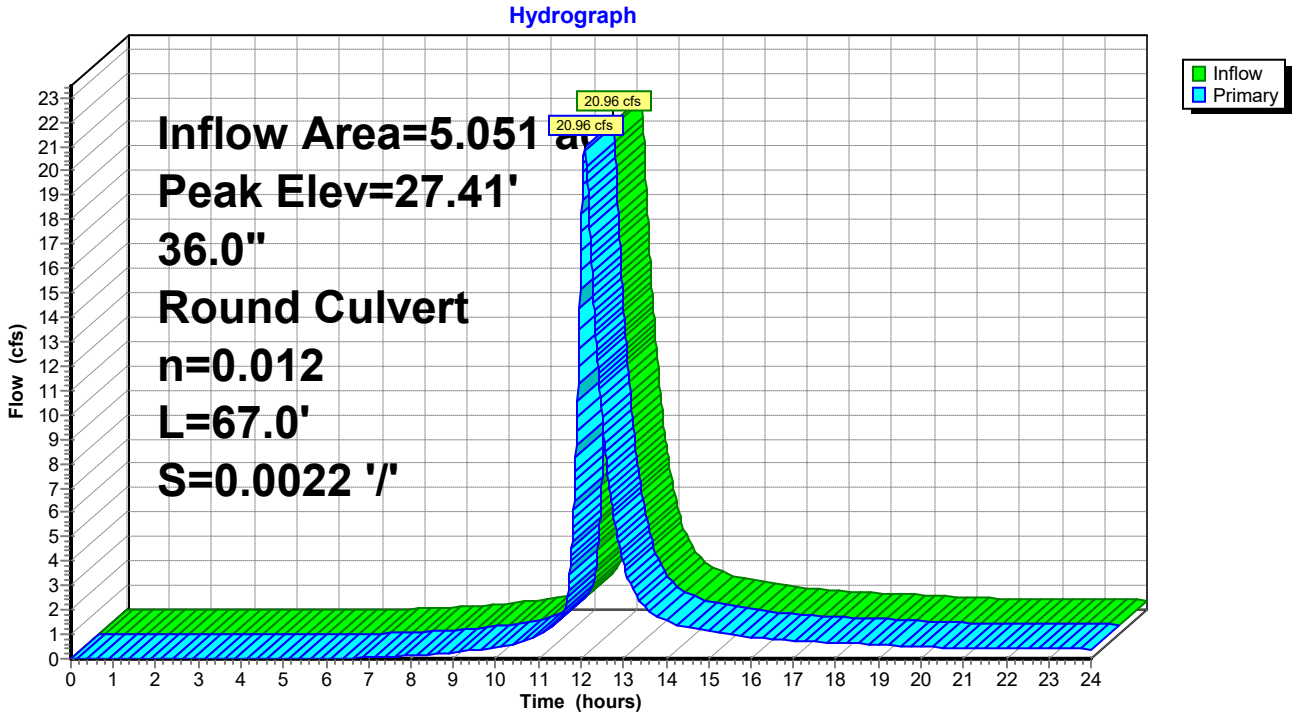
Inflow Area = 5.051 ac, 10.92% Impervious, Inflow Depth > 4.88" for 100-Yr event
Inflow = 20.96 cfs @ 12.09 hrs, Volume= 2.053 af
Outflow = 20.96 cfs @ 12.09 hrs, Volume= 2.053 af, Atten= 0%, Lag= 0.0 min
Primary = 20.96 cfs @ 12.09 hrs, Volume= 2.053 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 27.41' @ 12.14 hrs
Flood Elev= 23.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.15'	**36.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 20.15' / 20.00' S= 0.0022 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=12.33 cfs @ 12.09 hrs HW=26.72' TW=26.59' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 12.33 cfs @ 1.74 fps)

Pond 49: I-21



Summary for Subcatchment 50: DA #21

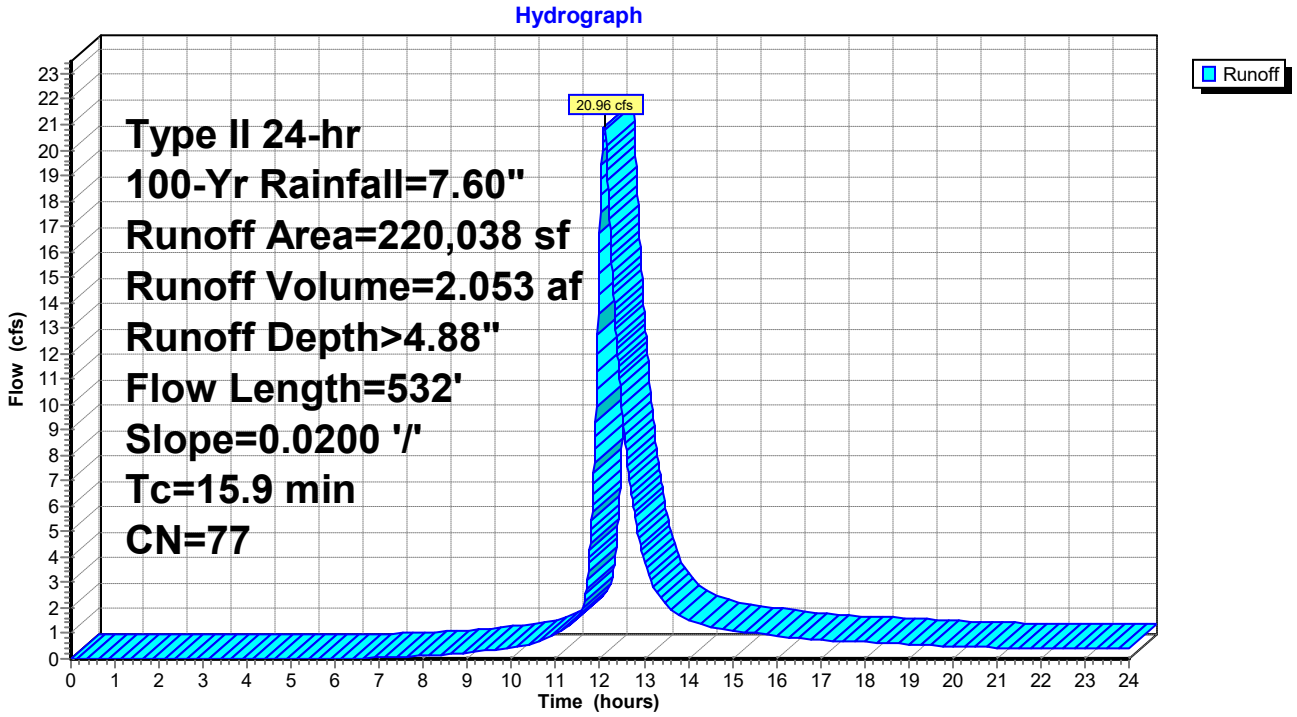
Runoff = 20.96 cfs @ 12.09 hrs, Volume= 2.053 af, Depth> 4.88"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
24,032	98	Paved parking, HSG C
196,006	74	>75% Grass cover, Good, HSG C
220,038	77	Weighted Average
196,006		89.08% Pervious Area
24,032		10.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
2.8	382	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
15.9	532	Total			

Subcatchment 50: DA #21



Summary for Pond 51: I-22

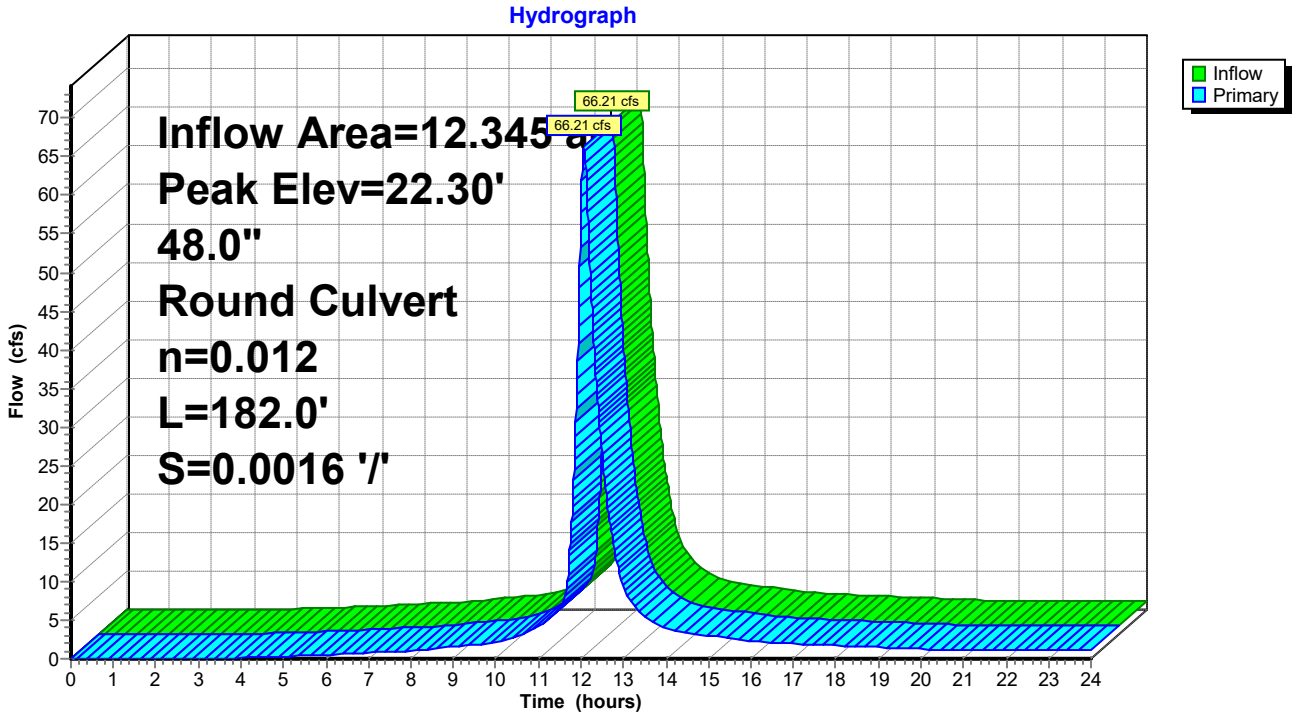
Inflow Area = 12.345 ac, 57.87% Impervious, Inflow Depth > 6.13" for 100-Yr event
Inflow = 66.21 cfs @ 12.07 hrs, Volume= 6.304 af
Outflow = 66.21 cfs @ 12.07 hrs, Volume= 6.304 af, Atten= 0%, Lag= 0.0 min
Primary = 66.21 cfs @ 12.07 hrs, Volume= 6.304 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 22.30' @ 12.07 hrs
Flood Elev= 20.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.20'	**48.0" Round Culvert** L= 182.0' Ke= 0.500 Inlet / Outlet Invert= 18.20' / 17.90' S= 0.0016 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=66.21 cfs @ 12.07 hrs HW=22.30' TW=19.90' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 66.21 cfs @ 6.38 fps)

Pond 51: I-22



Summary for Subcatchment 52: DA #22

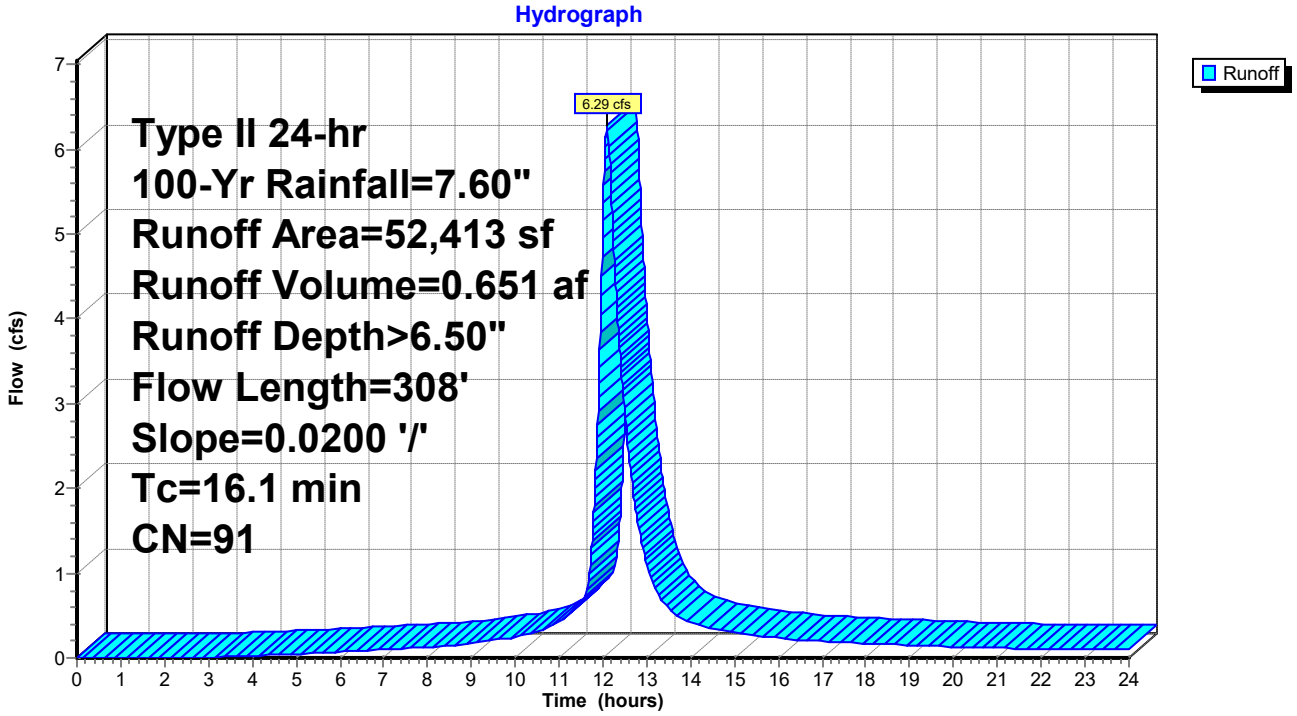
Runoff = 6.29 cfs @ 12.09 hrs, Volume= 0.651 af, Depth> 6.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
36,862	98	Paved parking, HSG C
15,551	74	>75% Grass cover, Good, HSG C
52,413	91	Weighted Average
15,551		29.67% Pervious Area
36,862		70.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	109	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
4.7	41	0.0200	0.15		**Sheet Flow, B-C** Grass: Short n= 0.150 P2= 3.40"
1.2	158	0.0200	2.28		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
16.1	308	Total			

Subcatchment 52: DA #22



Summary for Pond 53: I-23

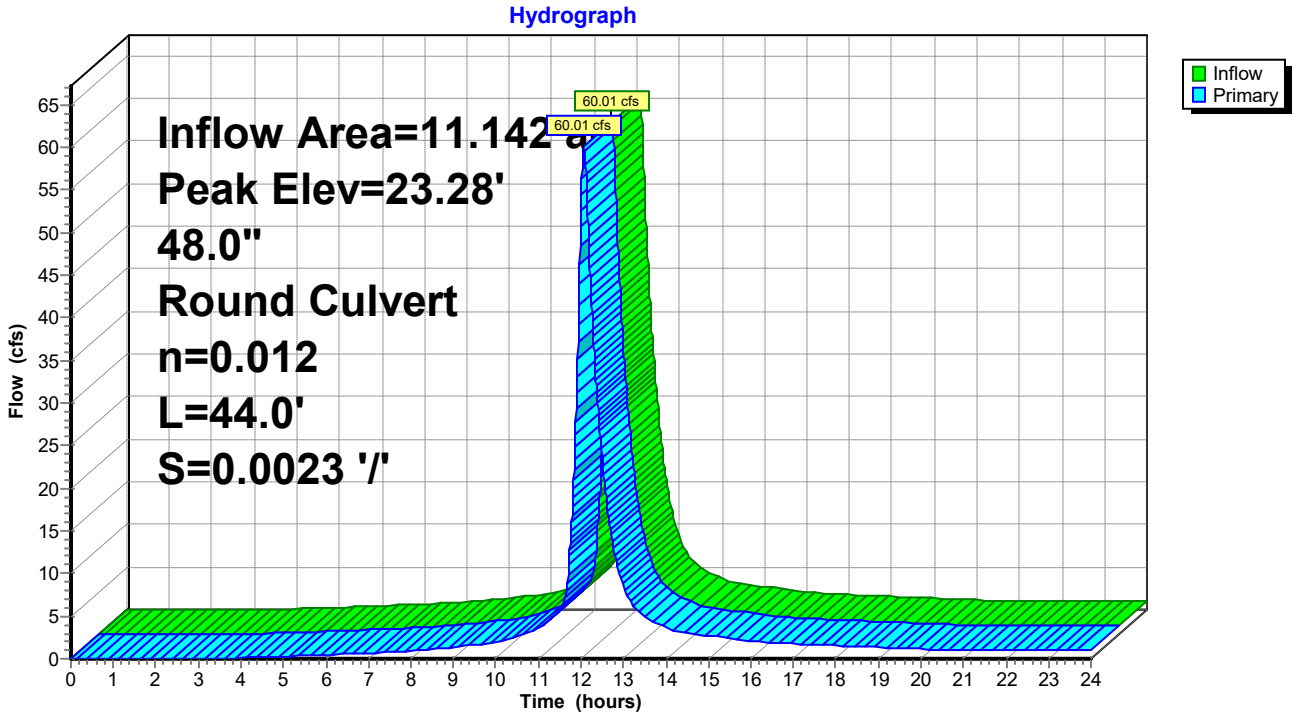
Inflow Area = 11.142 ac, 56.52% Impervious, Inflow Depth > 6.09" for 100-Yr event
Inflow = 60.01 cfs @ 12.07 hrs, Volume= 5.653 af
Outflow = 60.01 cfs @ 12.07 hrs, Volume= 5.653 af, Atten= 0%, Lag= 0.0 min
Primary = 60.01 cfs @ 12.07 hrs, Volume= 5.653 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 23.28' @ 12.07 hrs
Flood Elev= 20.68'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.30'	**48.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.30' / 18.20' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=59.68 cfs @ 12.07 hrs HW=23.27' TW=22.30' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 59.68 cfs @ 4.75 fps)

Pond 53: I-23



Summary for Subcatchment 54: DA #23

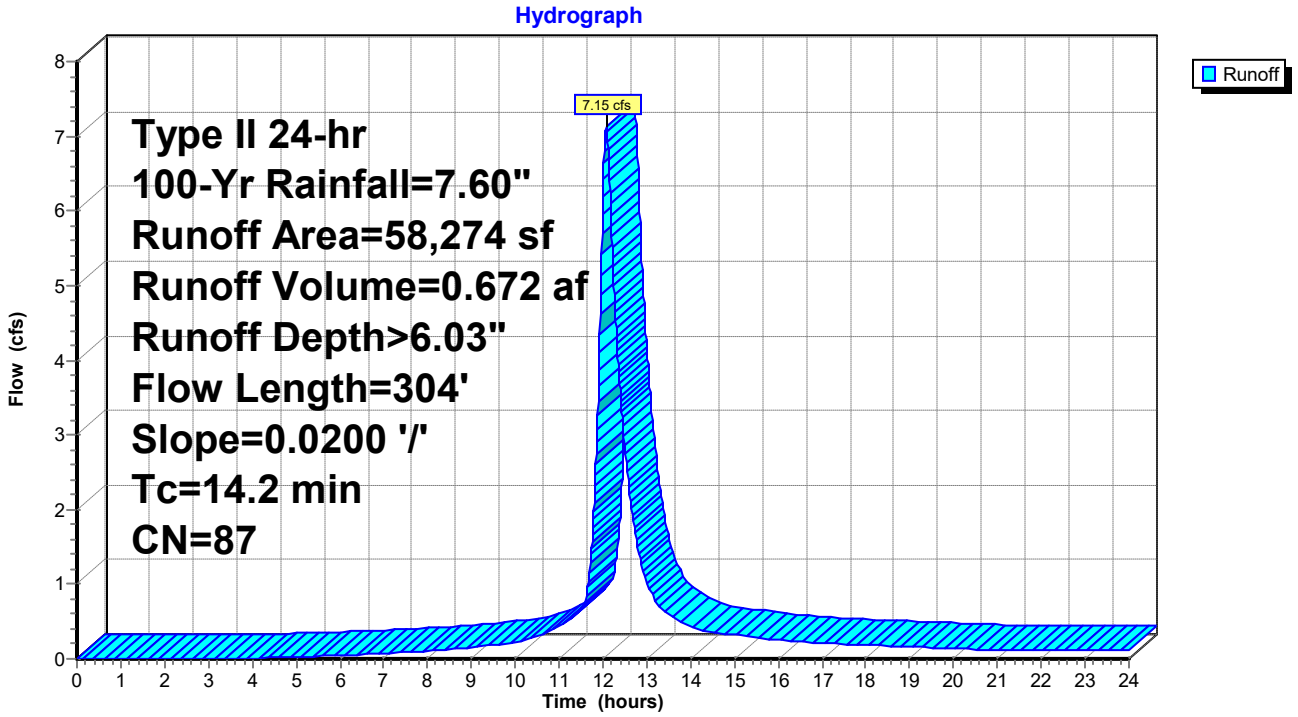
Runoff = 7.15 cfs @ 12.08 hrs, Volume= 0.672 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
31,377	98	Paved parking, HSG C
26,897	74	>75% Grass cover, Good, HSG C
58,274	87	Weighted Average
26,897		46.16% Pervious Area
31,377		53.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	154	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	304	Total			

Subcatchment 54: DA #23



Summary for Pond 55: I-24

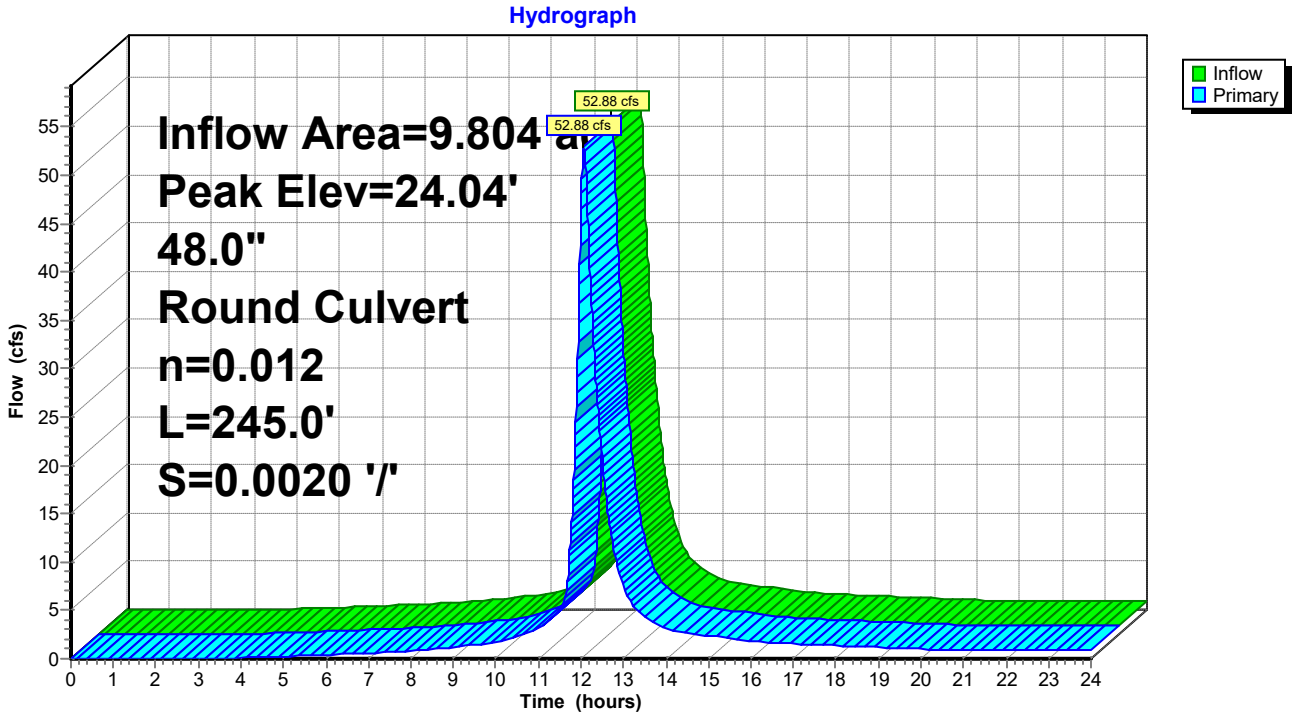
Inflow Area = 9.804 ac, 56.89% Impervious, Inflow Depth > 6.10" for 100-Yr event
Inflow = 52.88 cfs @ 12.07 hrs, Volume= 4.980 af
Outflow = 52.88 cfs @ 12.07 hrs, Volume= 4.980 af, Atten= 0%, Lag= 0.0 min
Primary = 52.88 cfs @ 12.07 hrs, Volume= 4.980 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.04' @ 12.08 hrs
Flood Elev= 21.54'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.80'	**48.0" Round Culvert** L= 245.0' Ke= 0.500 Inlet / Outlet Invert= 18.80' / 18.30' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=51.52 cfs @ 12.07 hrs HW=24.00' TW=23.27' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 51.52 cfs @ 4.10 fps)

Pond 55: I-24



Summary for Subcatchment 56: DA #24

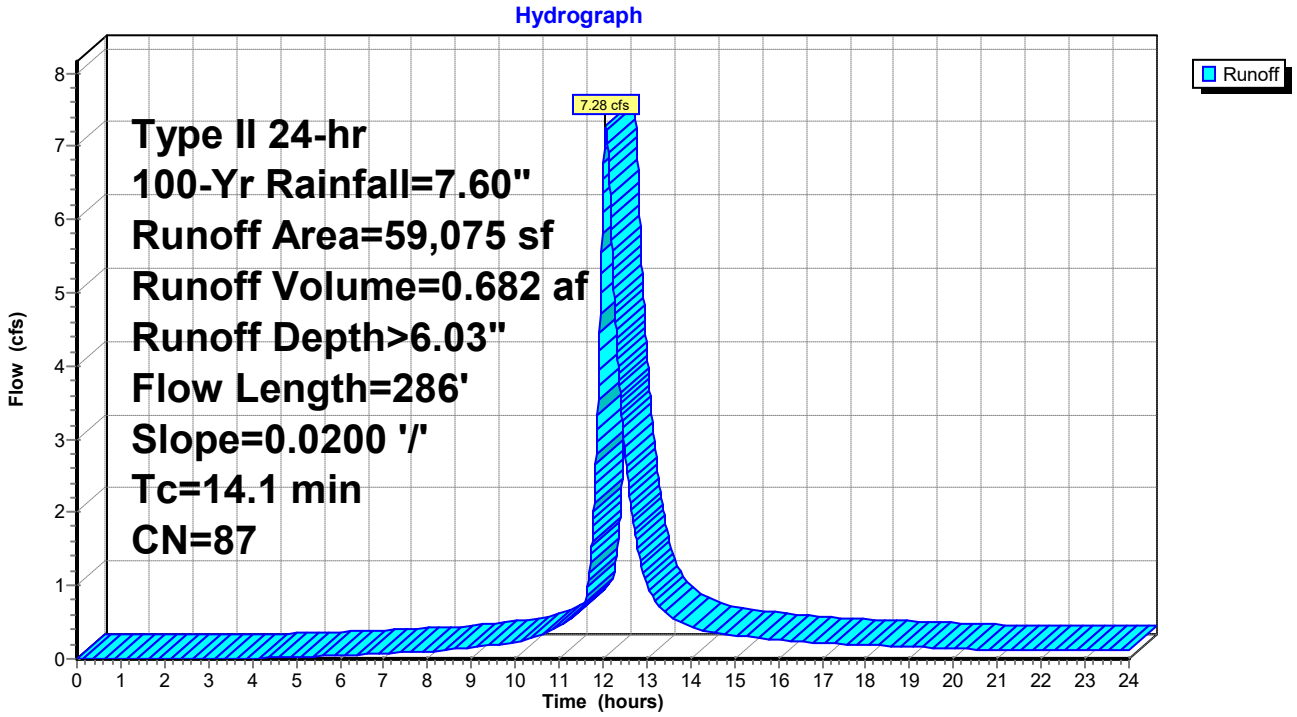
Runoff = 7.28 cfs @ 12.07 hrs, Volume= 0.682 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
31,853	98	Paved parking, HSG C
27,222	74	>75% Grass cover, Good, HSG C
59,075	87	Weighted Average
27,222		46.08% Pervious Area
31,853		53.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.0	136	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.1	286	Total			

Subcatchment 56: DA #24



Summary for Pond 57: I-25

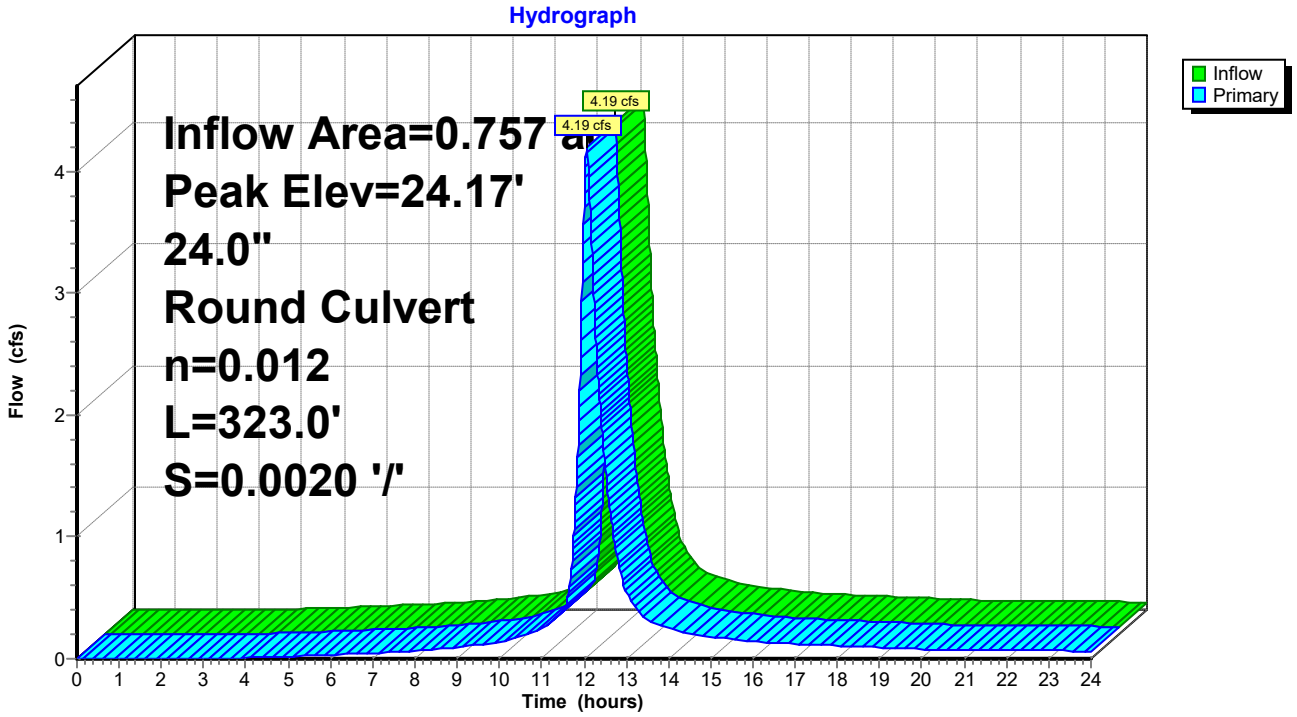
Inflow Area = 0.757 ac, 57.23% Impervious, Inflow Depth > 6.15" for 100-Yr event
Inflow = 4.19 cfs @ 12.06 hrs, Volume= 0.388 af
Outflow = 4.19 cfs @ 12.06 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min
Primary = 4.19 cfs @ 12.06 hrs, Volume= 0.388 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.17' @ 12.09 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.45'	**24.0" Round Culvert** L= 323.0' Ke= 0.500 Inlet / Outlet Invert= 19.45' / 18.80' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=2.65 cfs @ 12.06 hrs HW=24.02' TW=23.97' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.65 cfs @ 0.84 fps)

Pond 57: I-25



Summary for Subcatchment 58: DA #25

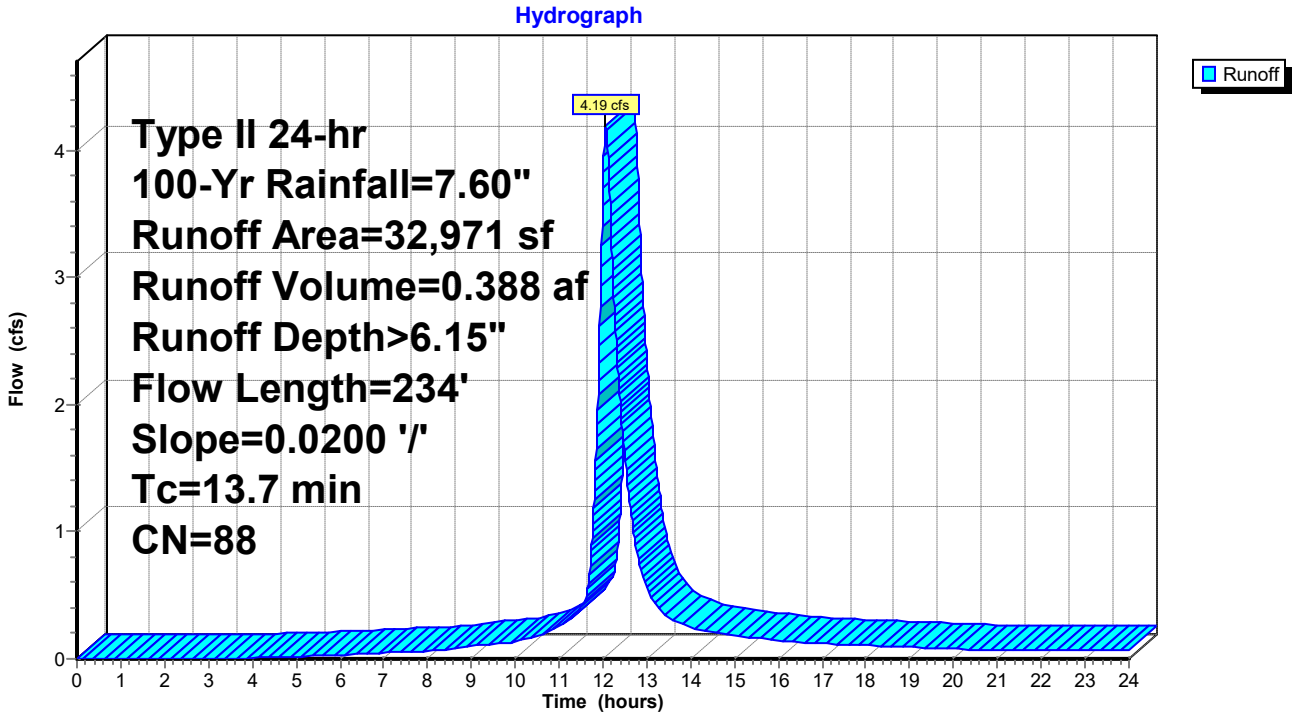
Runoff = 4.19 cfs @ 12.06 hrs, Volume= 0.388 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
18,869	98	Paved parking, HSG C
14,102	74	>75% Grass cover, Good, HSG C
32,971	88	Weighted Average
14,102		42.77% Pervious Area
18,869		57.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.6	84	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.7	234	Total			

Subcatchment 58: DA #25



Summary for Pond 59: I-26

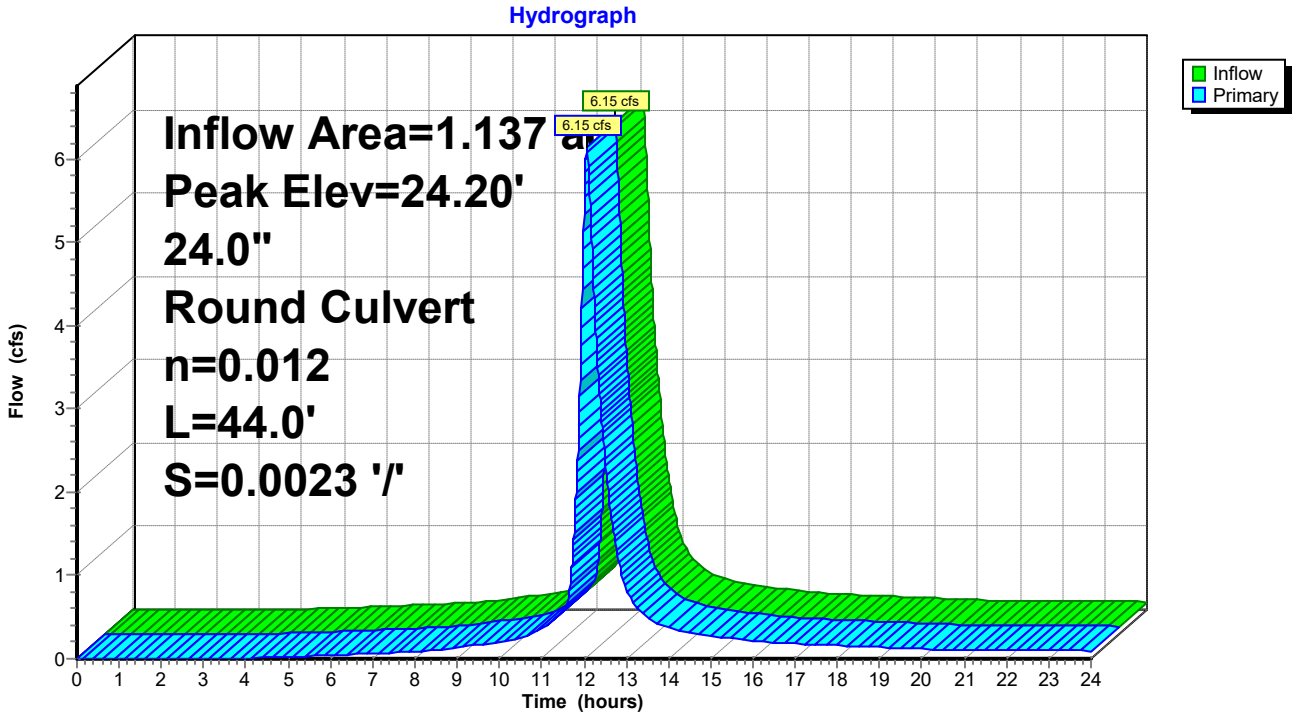
Inflow Area = 1.137 ac, 55.14% Impervious, Inflow Depth > 6.03" for 100-Yr event
Inflow = 6.15 cfs @ 12.07 hrs, Volume= 0.572 af
Outflow = 6.15 cfs @ 12.07 hrs, Volume= 0.572 af, Atten= 0%, Lag= 0.0 min
Primary = 6.15 cfs @ 12.07 hrs, Volume= 0.572 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.20' @ 12.09 hrs
Flood Elev= 21.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.90'	**24.0" Round Culvert** L= 44.0' Ke= 0.500 Inlet / Outlet Invert= 18.90' / 18.80' S= 0.0023 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=4.96 cfs @ 12.07 hrs HW=24.12' TW=24.02' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.96 cfs @ 1.58 fps)

Pond 59: I-26



Summary for Subcatchment 60: DA #26

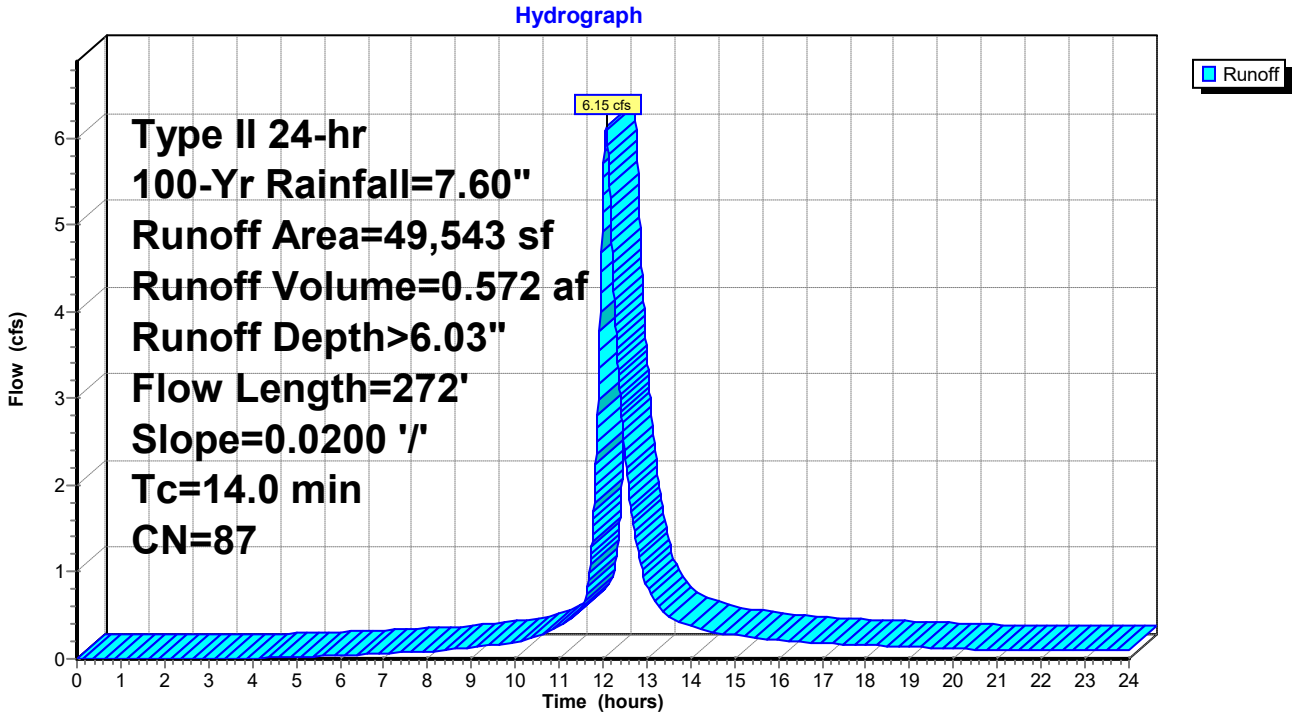
Runoff = 6.15 cfs @ 12.07 hrs, Volume= 0.572 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
27,320	98	Paved parking, HSG C
22,223	74	>75% Grass cover, Good, HSG C
49,543	87	Weighted Average
22,223		44.86% Pervious Area
27,320		55.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.9	122	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.0	272	Total			

Subcatchment 60: DA #26



Summary for Pond 61: I-27

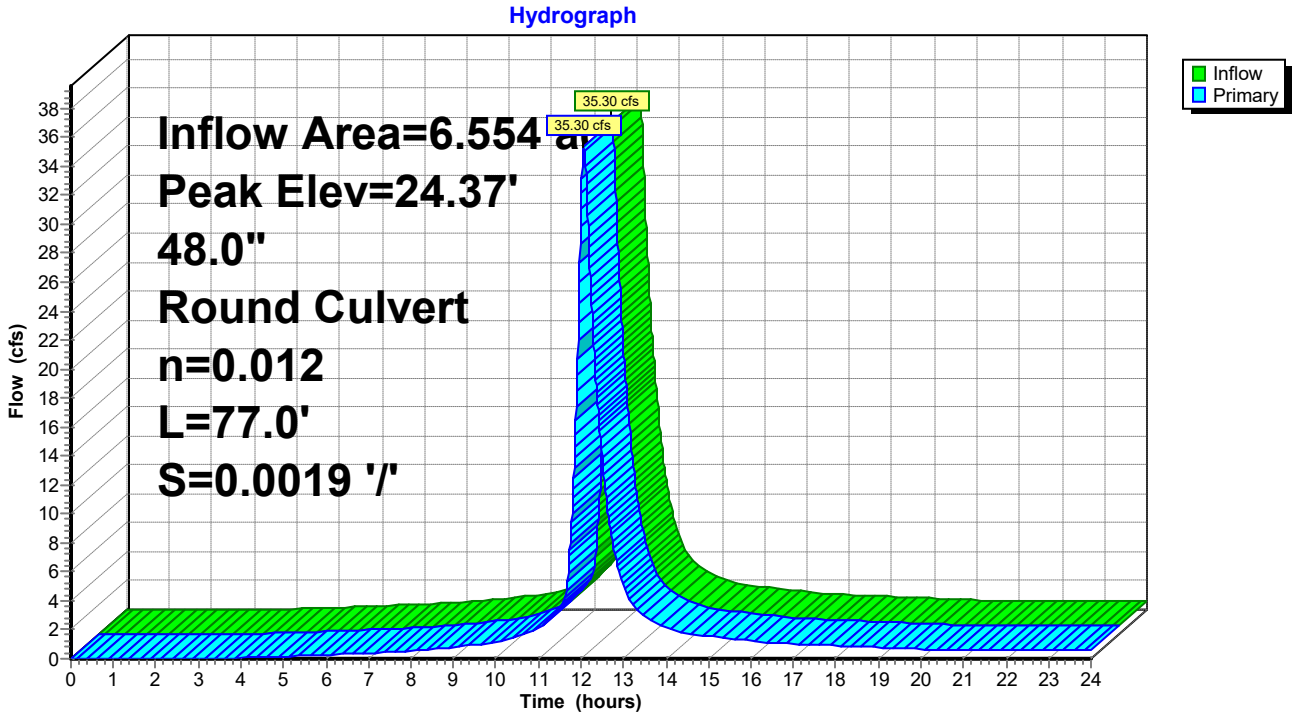
Inflow Area = 6.554 ac, 57.77% Impervious, Inflow Depth > 6.11" for 100-Yr event
Inflow = 35.30 cfs @ 12.06 hrs, Volume= 3.339 af
Outflow = 35.30 cfs @ 12.06 hrs, Volume= 3.339 af, Atten= 0%, Lag= 0.0 min
Primary = 35.30 cfs @ 12.06 hrs, Volume= 3.339 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.37' @ 12.09 hrs
Flood Elev= 21.84'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.95'	**48.0" Round Culvert** L= 77.0' Ke= 0.500 Inlet / Outlet Invert= 18.95' / 18.80' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=31.12 cfs @ 12.06 hrs HW=24.25' TW=23.98' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 31.12 cfs @ 2.48 fps)

Pond 61: I-27



Summary for Subcatchment 62: DA #27

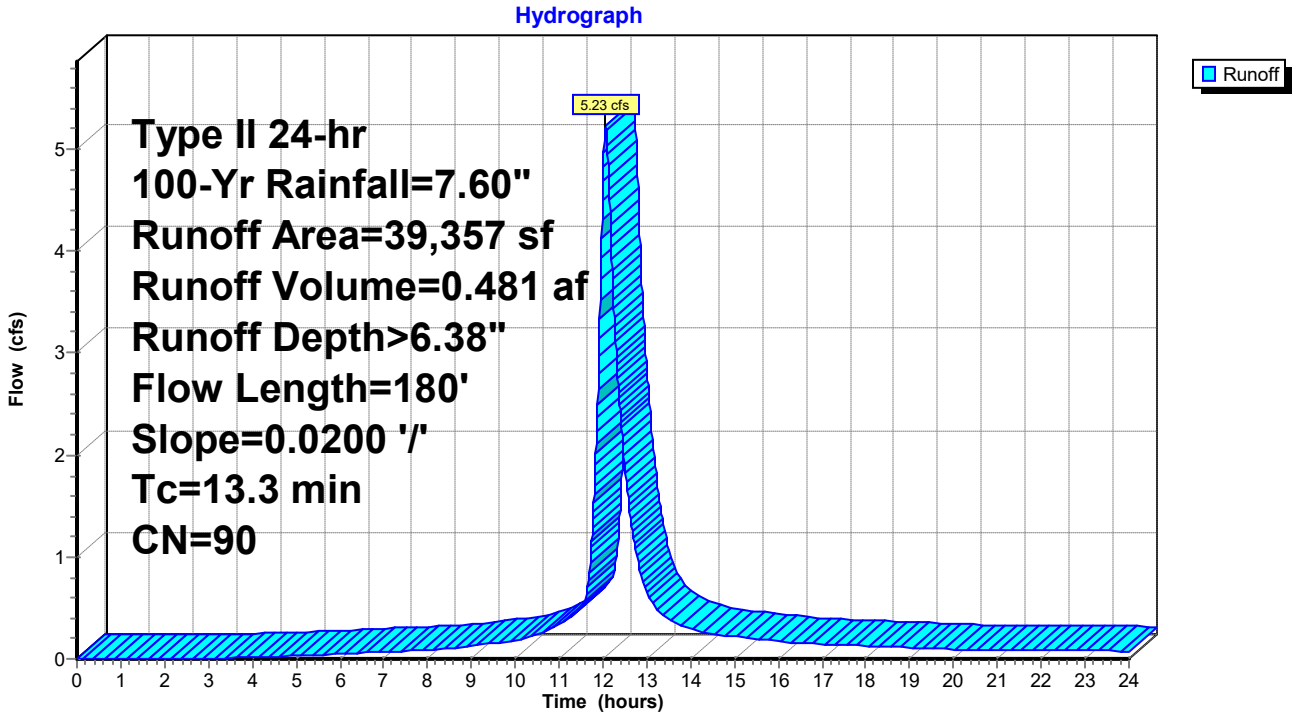
Runoff = 5.23 cfs @ 12.06 hrs, Volume= 0.481 af, Depth> 6.38"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
27,040	98	Paved parking, HSG C
12,317	74	>75% Grass cover, Good, HSG C
39,357	90	Weighted Average
12,317		31.30% Pervious Area
27,040		68.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.2	30	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.3	180	Total			

Subcatchment 62: DA #27



Summary for Pond 63: I-28

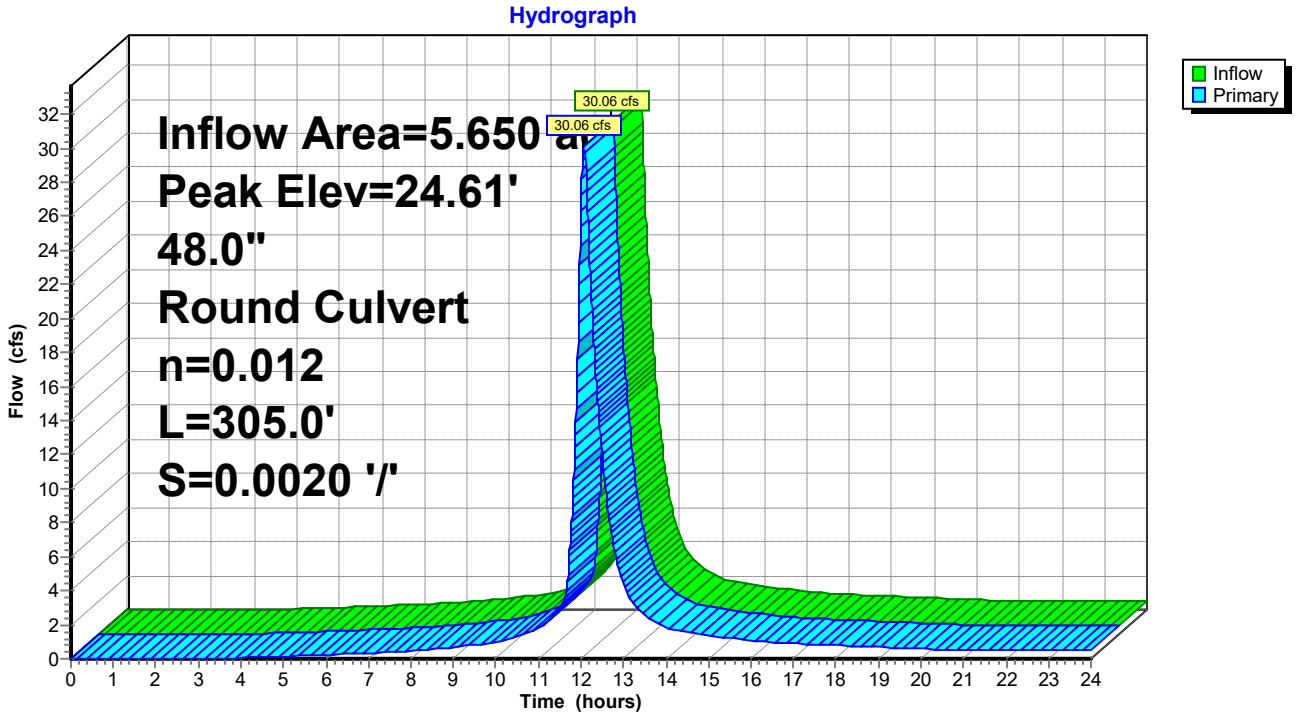
Inflow Area = 5.650 ac, 56.02% Impervious, Inflow Depth > 6.07" for 100-Yr event
Inflow = 30.06 cfs @ 12.07 hrs, Volume= 2.859 af
Outflow = 30.06 cfs @ 12.07 hrs, Volume= 2.859 af, Atten= 0%, Lag= 0.0 min
Primary = 30.06 cfs @ 12.07 hrs, Volume= 2.859 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.61' @ 12.10 hrs
Flood Elev= 21.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.56'	**48.0" Round Culvert** L= 305.0' Ke= 0.500 Inlet / Outlet Invert= 19.56' / 18.95' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=23.48 cfs @ 12.07 hrs HW=24.42' TW=24.27' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 23.48 cfs @ 1.87 fps)

Pond 63: I-28



Summary for Subcatchment 64: DA #28

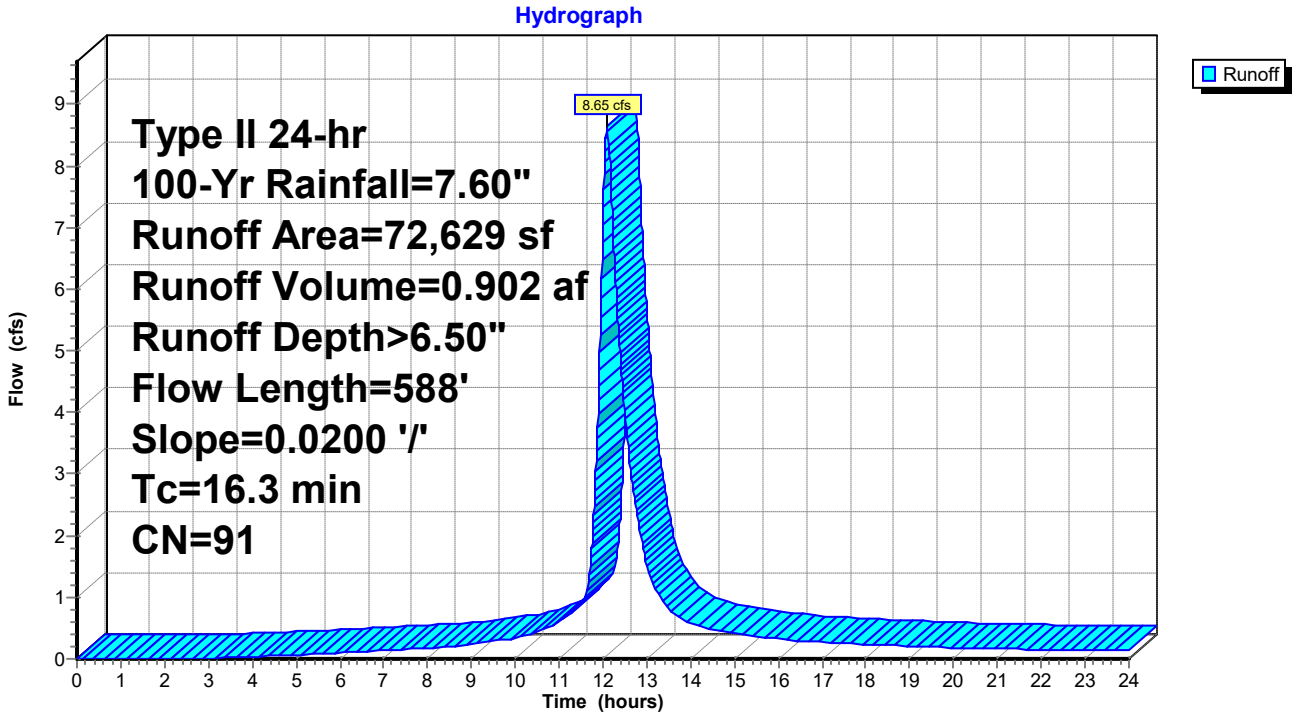
Runoff = 8.65 cfs @ 12.10 hrs, Volume= 0.902 af, Depth> 6.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
52,377	98	Paved parking, HSG C
20,252	74	>75% Grass cover, Good, HSG C
72,629	91	Weighted Average
20,252		27.88% Pervious Area
52,377		72.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
3.2	438	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
16.3	588	Total			

Subcatchment 64: DA #28



Summary for Pond 65: I-29

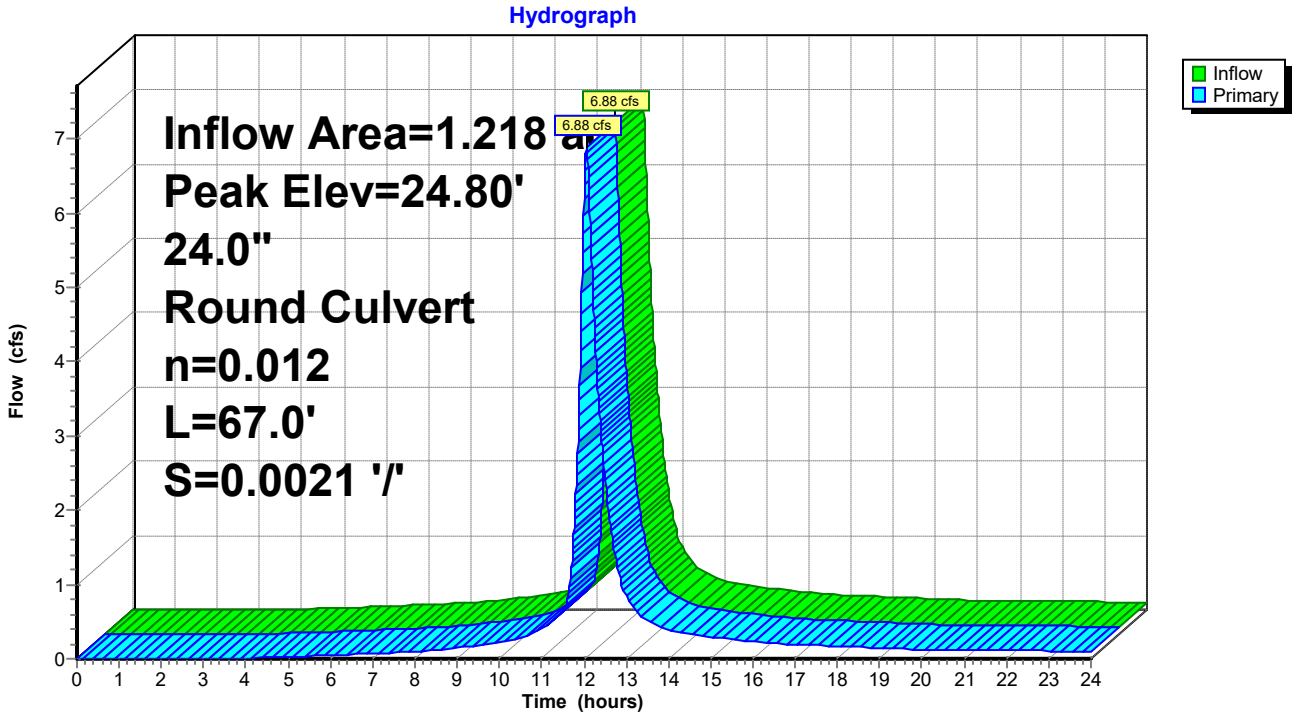
Inflow Area = 1.218 ac, 55.35% Impervious, Inflow Depth > 6.06" for 100-Yr event
Inflow = 6.88 cfs @ 12.06 hrs, Volume= 0.615 af
Outflow = 6.88 cfs @ 12.06 hrs, Volume= 0.615 af, Atten= 0%, Lag= 0.0 min
Primary = 6.88 cfs @ 12.06 hrs, Volume= 0.615 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.80' @ 12.11 hrs
Flood Elev= 22.46'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**24.0" Round Culvert** L= 67.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=3.51 cfs @ 12.06 hrs HW=24.37' TW=24.32' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.51 cfs @ 1.12 fps)

Pond 65: I-29



Summary for Subcatchment 66: DA #29

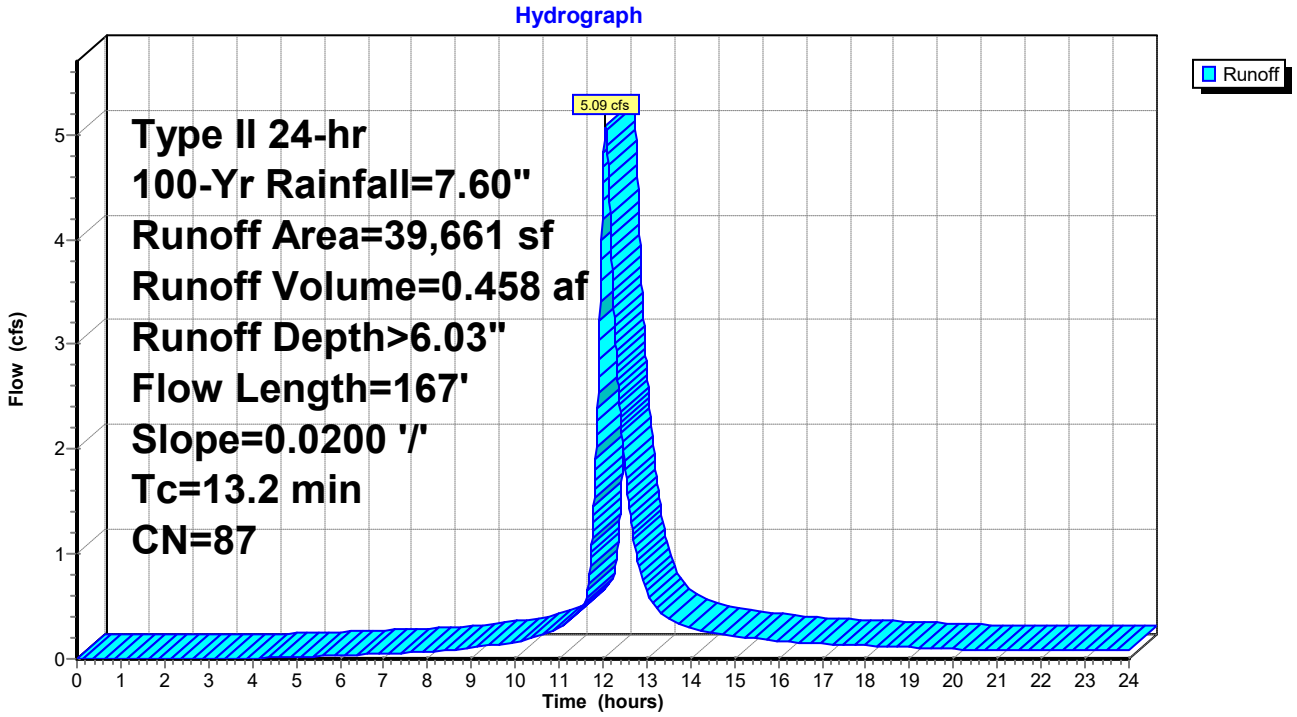
Runoff = 5.09 cfs @ 12.06 hrs, Volume= 0.458 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
21,601	98	Paved parking, HSG C
18,060	74	>75% Grass cover, Good, HSG C
39,661	87	Weighted Average
18,060		45.54% Pervious Area
21,601		54.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.1	17	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.2	167	Total			

Subcatchment 66: DA #29



Summary for Pond 67: I-30

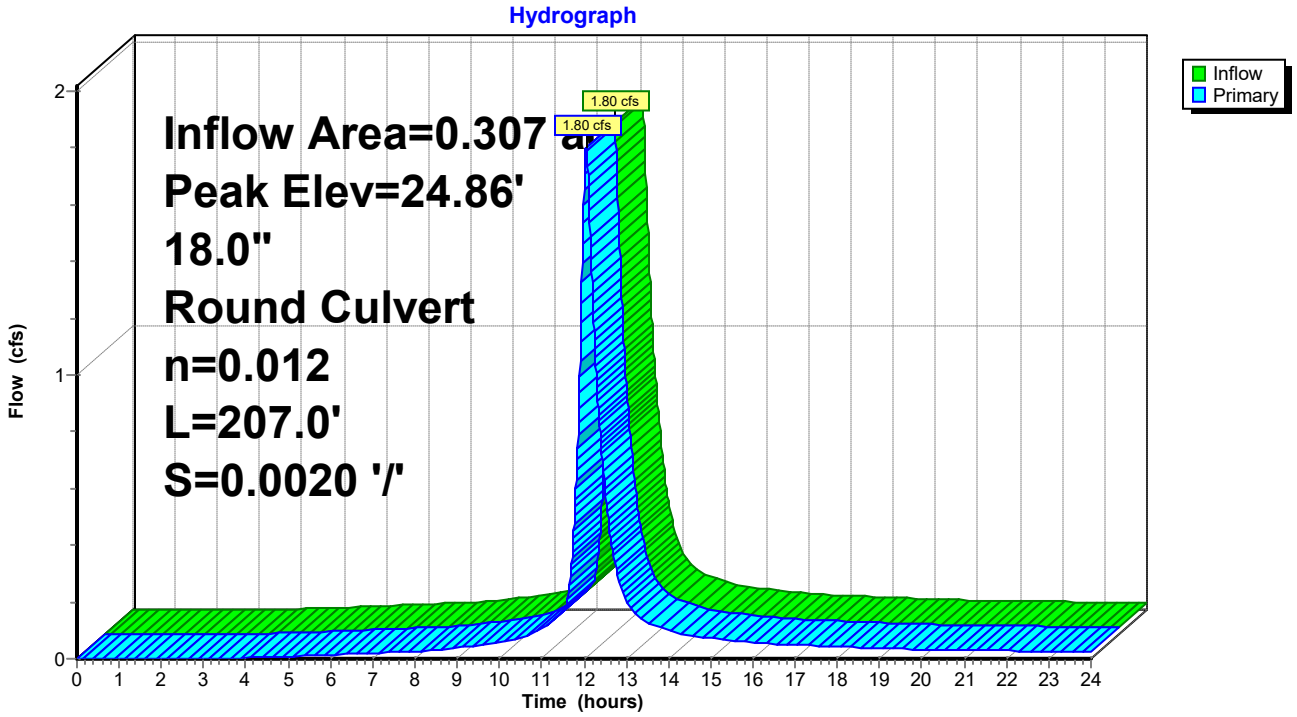
Inflow Area = 0.307 ac, 57.96% Impervious, Inflow Depth > 6.15" for 100-Yr event
Inflow = 1.80 cfs @ 12.05 hrs, Volume= 0.158 af
Outflow = 1.80 cfs @ 12.05 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min
Primary = 1.80 cfs @ 12.05 hrs, Volume= 0.158 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.86' @ 12.12 hrs
Flood Elev= 22.67'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.11'	**18.0" Round Culvert** L= 207.0' Ke= 0.500 Inlet / Outlet Invert= 20.11' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.05 hrs HW=24.12' TW=24.21' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 67: I-30



Summary for Subcatchment 68: DA #30

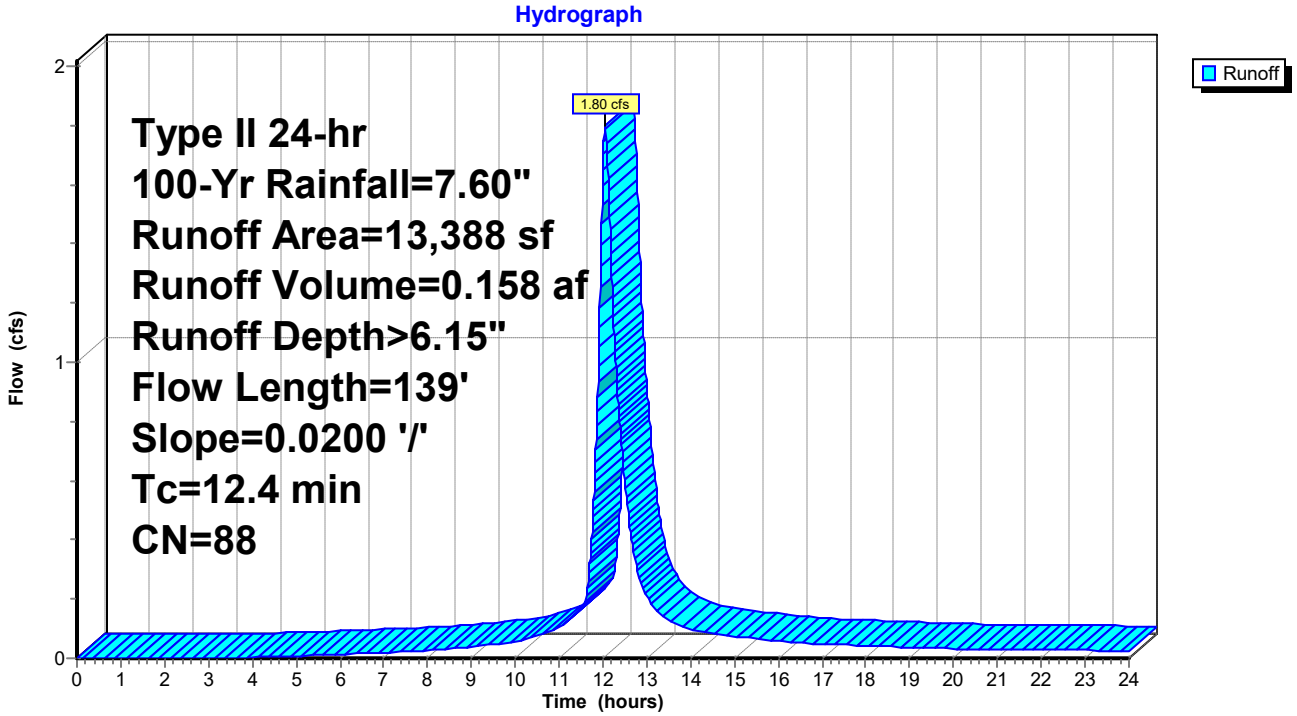
Runoff = 1.80 cfs @ 12.05 hrs, Volume= 0.158 af, Depth> 6.15"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
7,760	98	Paved parking, HSG C
5,628	74	>75% Grass cover, Good, HSG C
13,388	88	Weighted Average
5,628		42.04% Pervious Area
7,760		57.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	139	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 68: DA #30



Summary for Pond 69: I-31

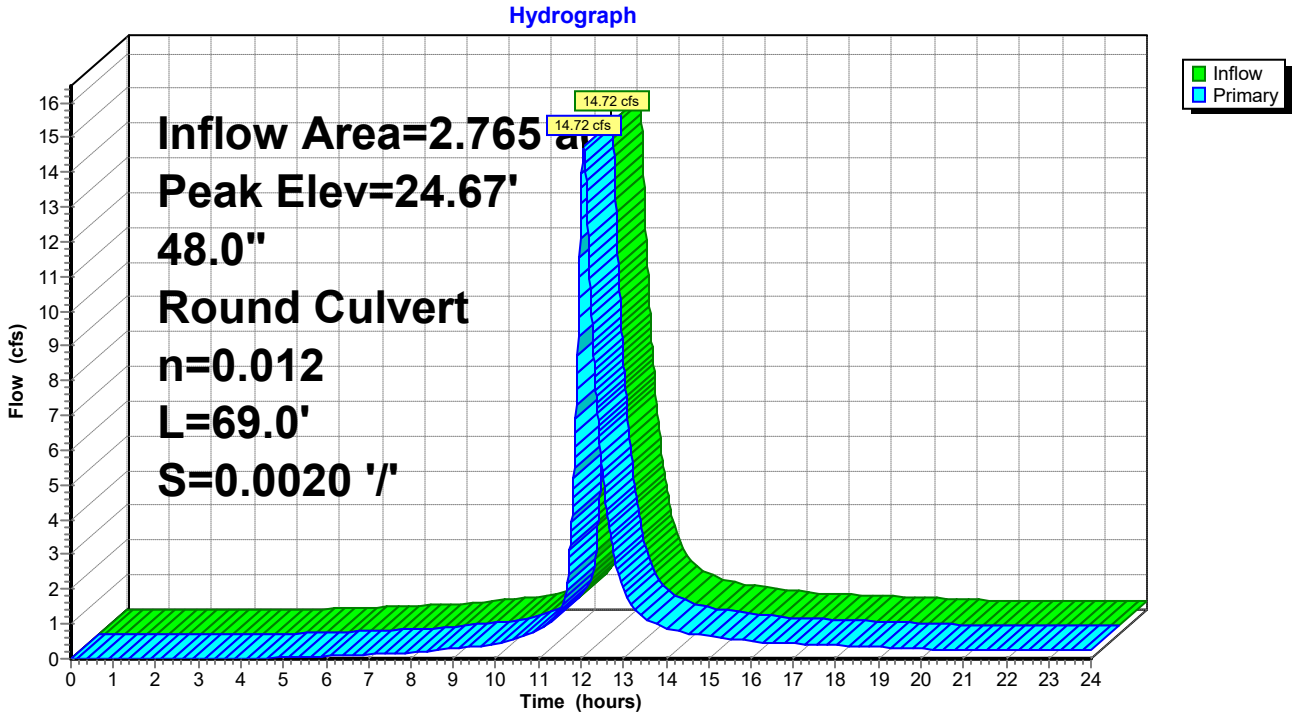
Inflow Area = 2.765 ac, 46.60% Impervious, Inflow Depth > 5.82" for 100-Yr event
Inflow = 14.72 cfs @ 12.06 hrs, Volume= 1.341 af
Outflow = 14.72 cfs @ 12.06 hrs, Volume= 1.341 af, Atten= 0%, Lag= 0.0 min
Primary = 14.72 cfs @ 12.06 hrs, Volume= 1.341 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.67' @ 12.11 hrs
Flood Elev= 22.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.70'	**48.0" Round Culvert** L= 69.0' Ke= 0.500 Inlet / Outlet Invert= 19.70' / 19.56' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=24.26' TW=24.35' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)

Pond 69: I-31



Summary for Subcatchment 70: DA #31

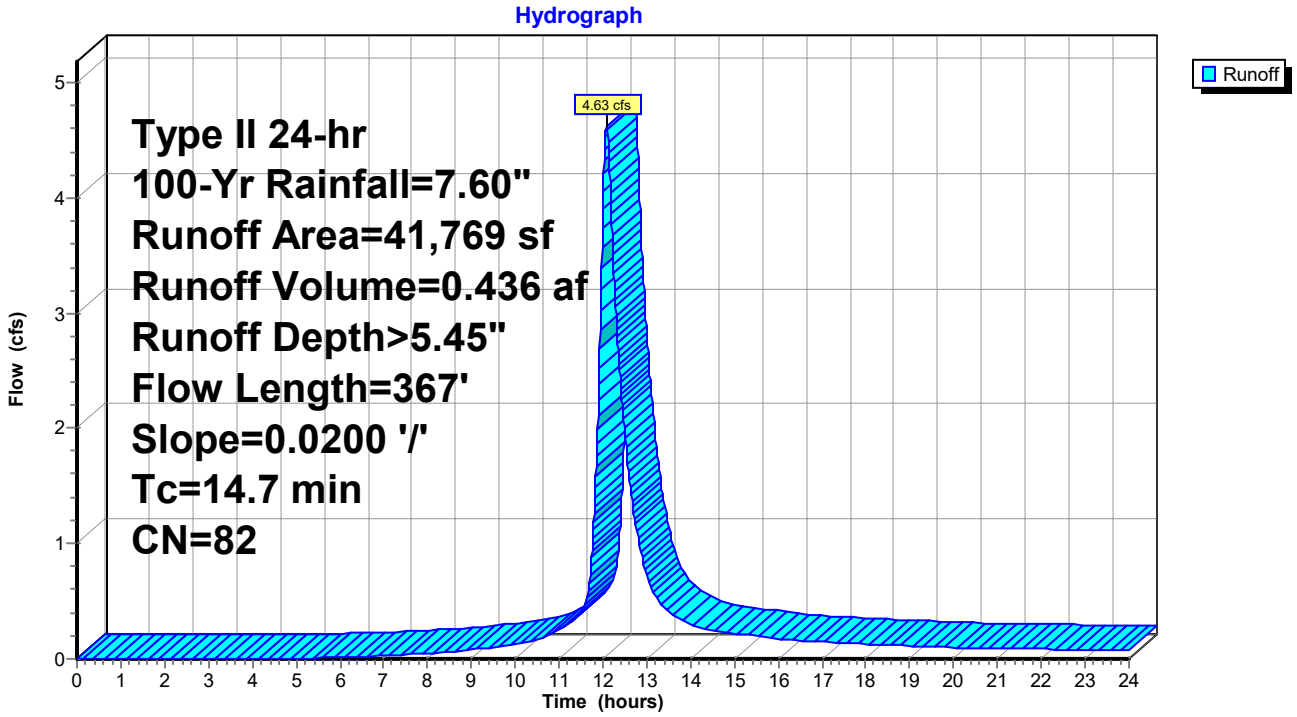
Runoff = 4.63 cfs @ 12.08 hrs, Volume= 0.436 af, Depth> 5.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
13,895	98	Paved parking, HSG C
27,874	74	>75% Grass cover, Good, HSG C
41,769	82	Weighted Average
27,874		66.73% Pervious Area
13,895		33.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.6	217	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.7	367	Total			

Subcatchment 70: DA #31



Summary for Pond 71: I-32

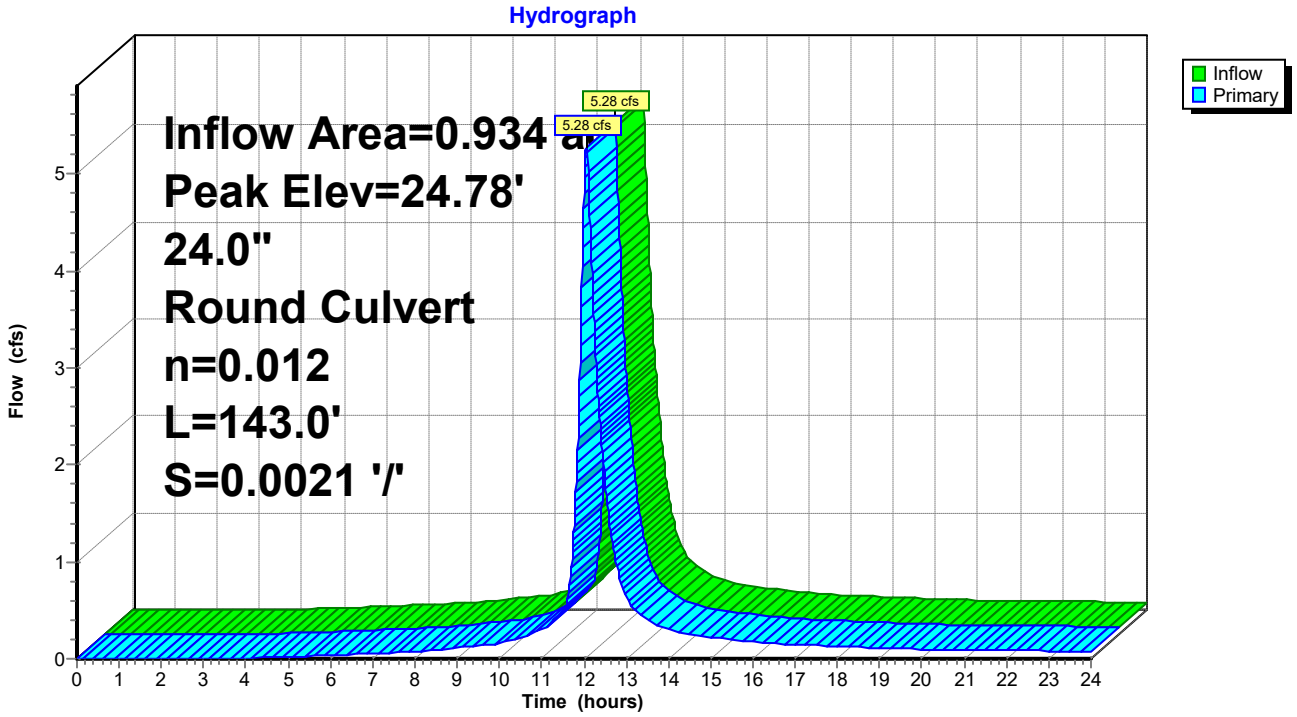
Inflow Area = 0.934 ac, 54.52% Impervious, Inflow Depth > 6.03" for 100-Yr event
Inflow = 5.28 cfs @ 12.05 hrs, Volume= 0.470 af
Outflow = 5.28 cfs @ 12.05 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min
Primary = 5.28 cfs @ 12.05 hrs, Volume= 0.470 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.78' @ 12.12 hrs
Flood Elev= 22.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**24.0" Round Culvert** L= 143.0' Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.70' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.05 hrs HW=24.09' TW=24.13' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 71: I-32



Summary for Subcatchment 72: DA #32

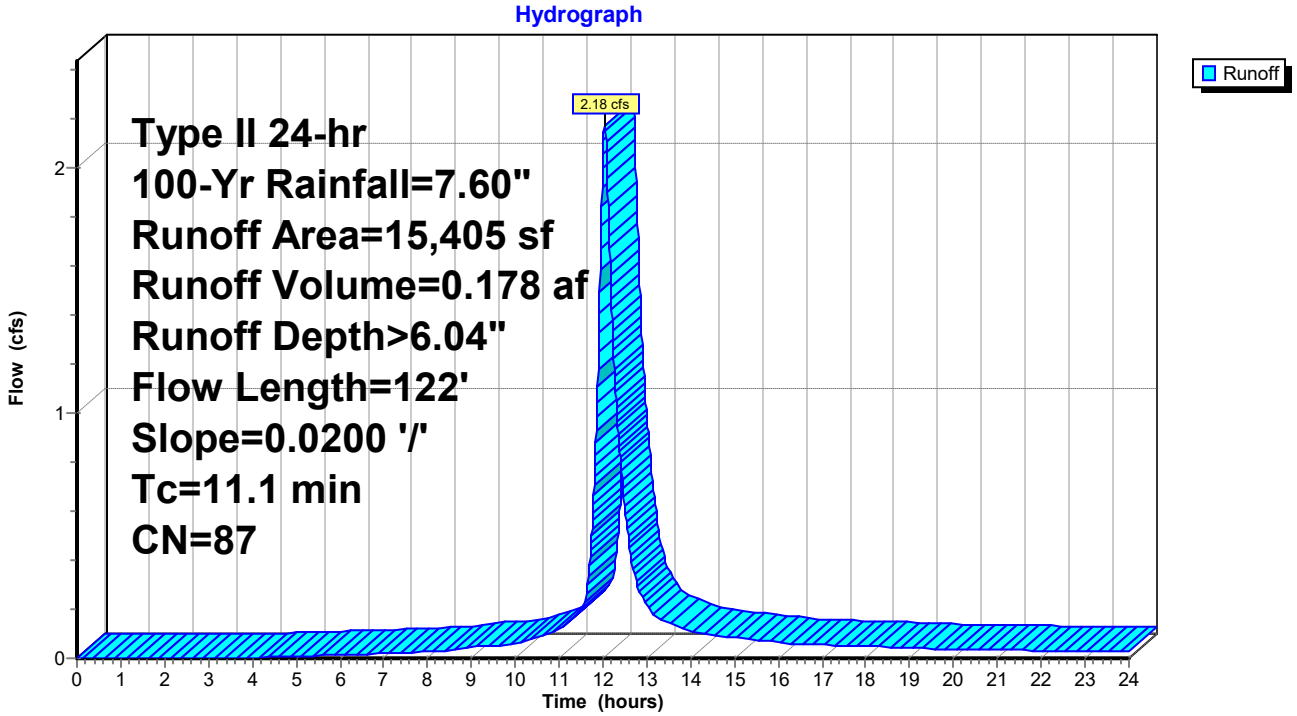
Runoff = 2.18 cfs @ 12.04 hrs, Volume= 0.178 af, Depth> 6.04"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
8,395	98	Paved parking, HSG C
7,010	74	>75% Grass cover, Good, HSG C
15,405	87	Weighted Average
7,010		45.50% Pervious Area
8,395		54.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	122	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 72: DA #32



Summary for Pond 73: I-33

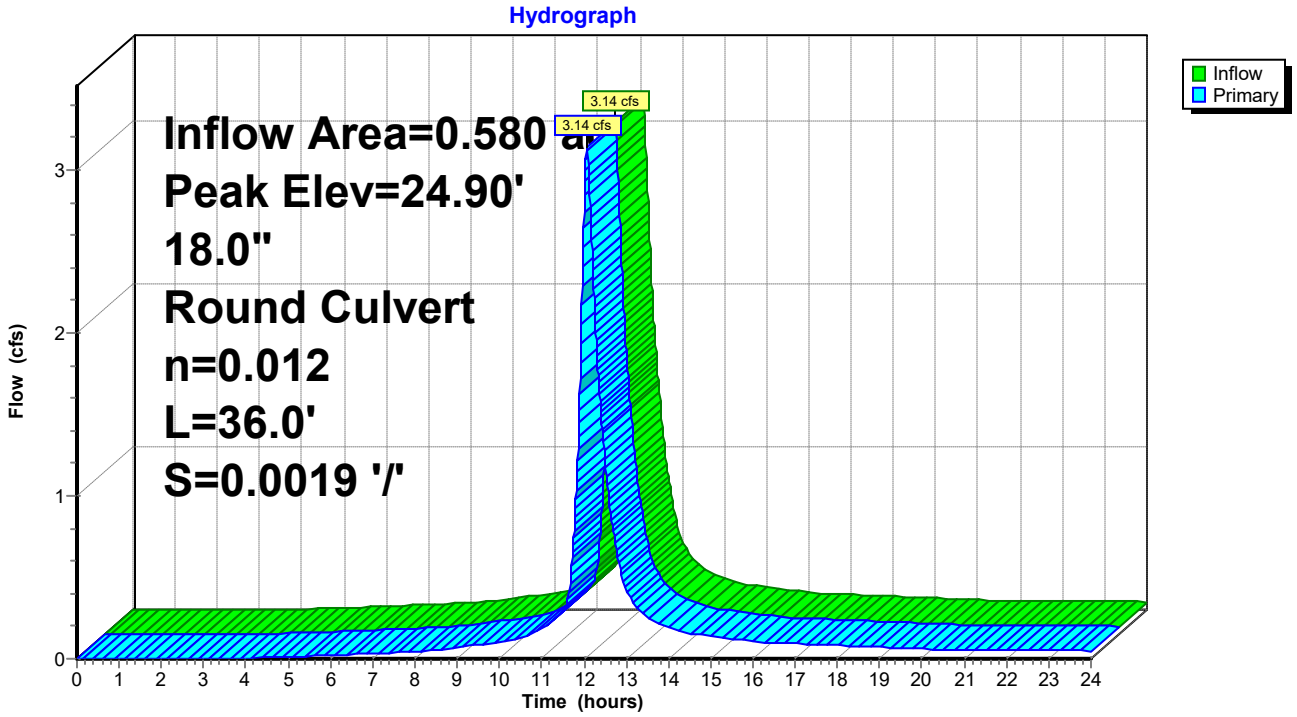
Inflow Area = 0.580 ac, 54.53% Impervious, Inflow Depth > 6.03" for 100-Yr event
Inflow = 3.14 cfs @ 12.07 hrs, Volume= 0.292 af
Outflow = 3.14 cfs @ 12.07 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min
Primary = 3.14 cfs @ 12.07 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.90' @ 12.13 hrs
Flood Elev= 22.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.07'	**18.0" Round Culvert** L= 36.0' Ke= 0.500 Inlet / Outlet Invert= 20.07' / 20.00' S= 0.0019 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 12.07 hrs HW=24.41' TW=24.43' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 73: I-33



Summary for Subcatchment 74: DA #33

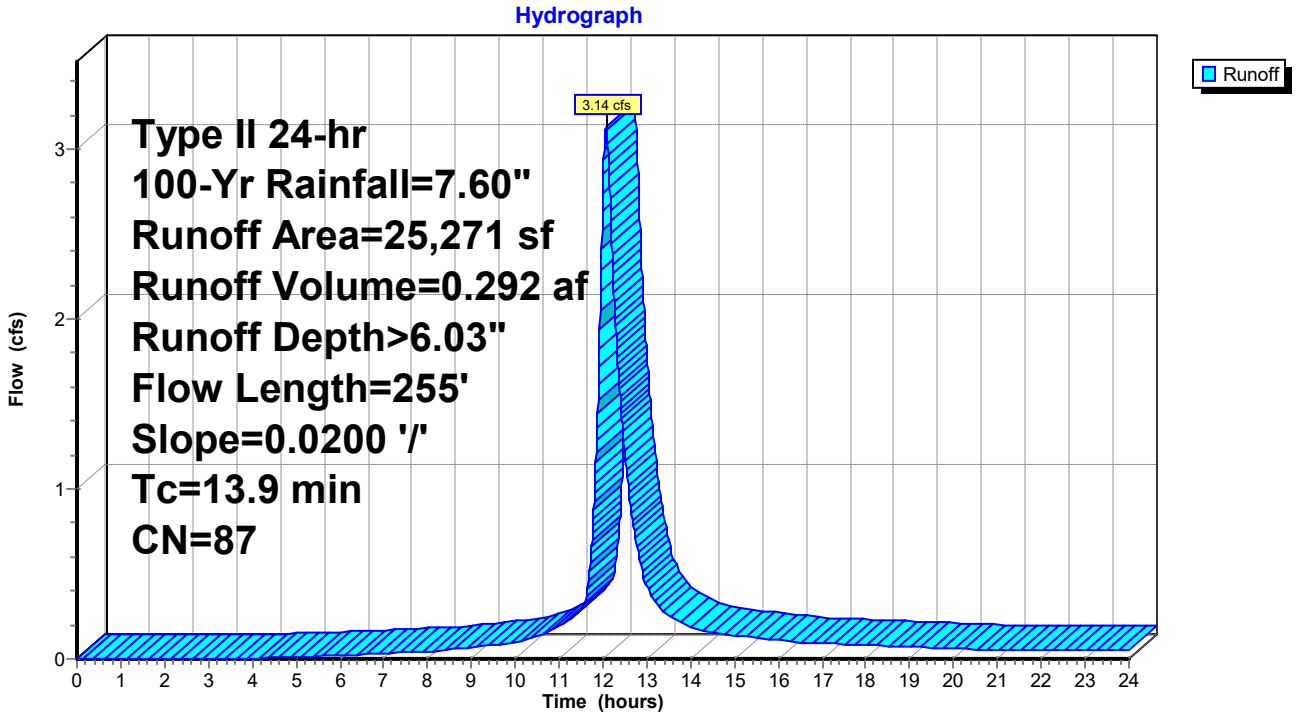
Runoff = 3.14 cfs @ 12.07 hrs, Volume= 0.292 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
13,781	98	Paved parking, HSG C
11,490	74	>75% Grass cover, Good, HSG C
25,271	87	Weighted Average
11,490		45.47% Pervious Area
13,781		54.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
0.8	105	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
13.9	255	Total			

Subcatchment 74: DA #33



Summary for Pond 75: I-34

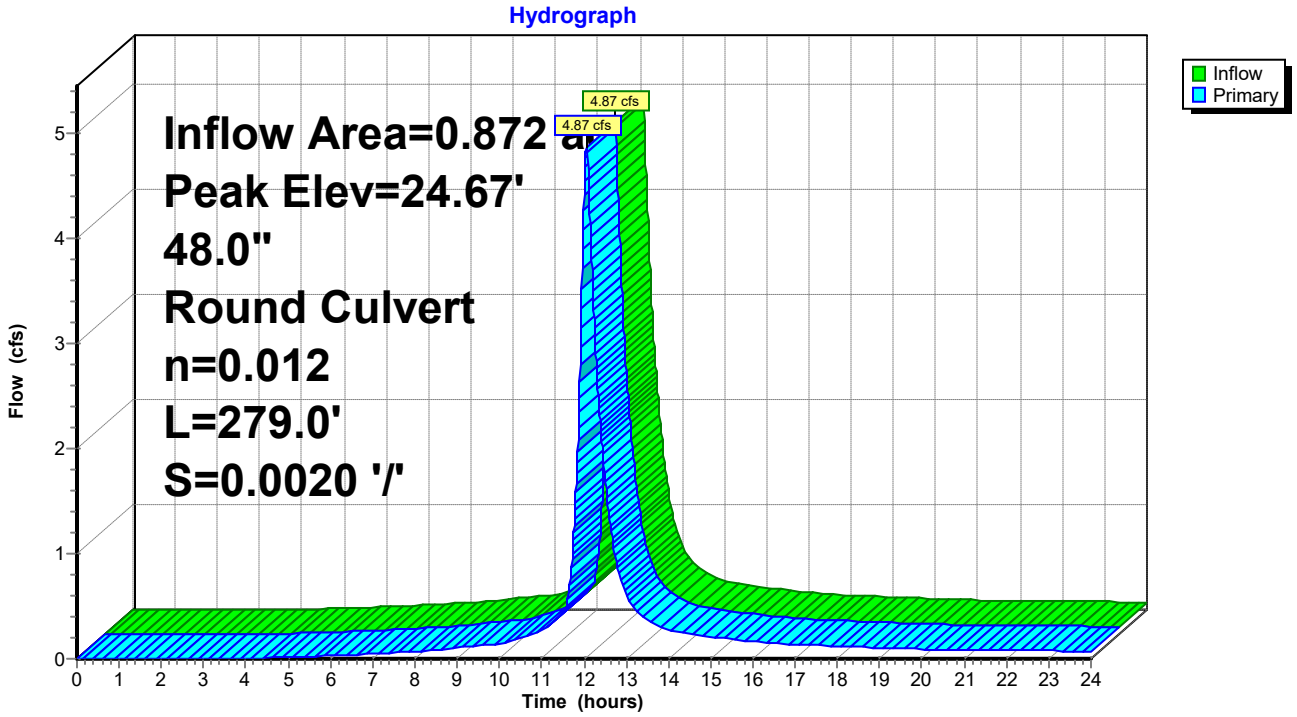
Inflow Area = 0.872 ac, 52.79% Impervious, Inflow Depth > 5.99" for 100-Yr event
Inflow = 4.87 cfs @ 12.06 hrs, Volume= 0.436 af
Outflow = 4.87 cfs @ 12.06 hrs, Volume= 0.436 af, Atten= 0%, Lag= 0.0 min
Primary = 4.87 cfs @ 12.06 hrs, Volume= 0.436 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.67' @ 12.12 hrs
Flood Elev= 21.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.26'	**48.0" Round Culvert** L= 279.0' Ke= 0.500 Inlet / Outlet Invert= 20.26' / 19.70' S= 0.0020 '/' Cc= 0.900 n= 0.012, Flow Area= 12.57 sf

Primary OutFlow Max=0.00 cfs @ 12.06 hrs HW=24.02' TW=24.18' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 75: I-34



Summary for Subcatchment 76: DA #34

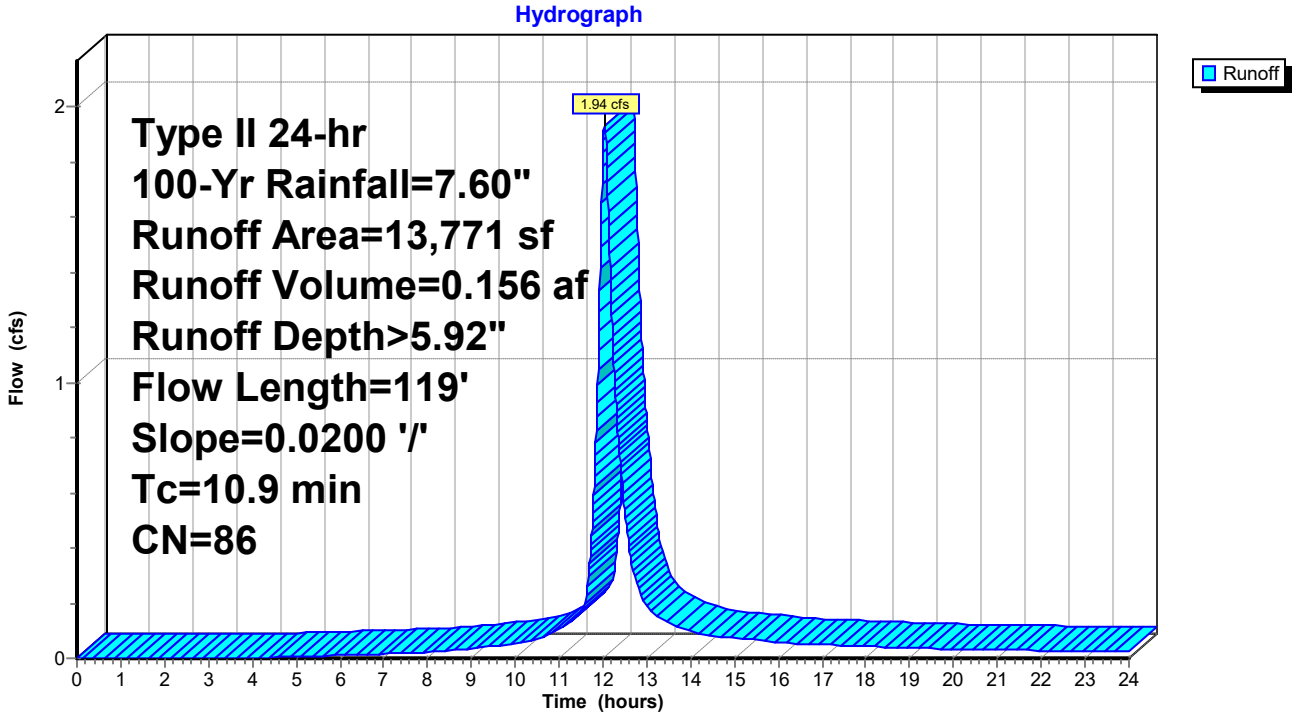
Runoff = 1.94 cfs @ 12.04 hrs, Volume= 0.156 af, Depth> 5.92"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
7,015	98	Paved parking, HSG C
6,756	74	>75% Grass cover, Good, HSG C
13,771	86	Weighted Average
6,756		49.06% Pervious Area
7,015		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	119	0.0200	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"

Subcatchment 76: DA #34



Summary for Pond 77: I-35

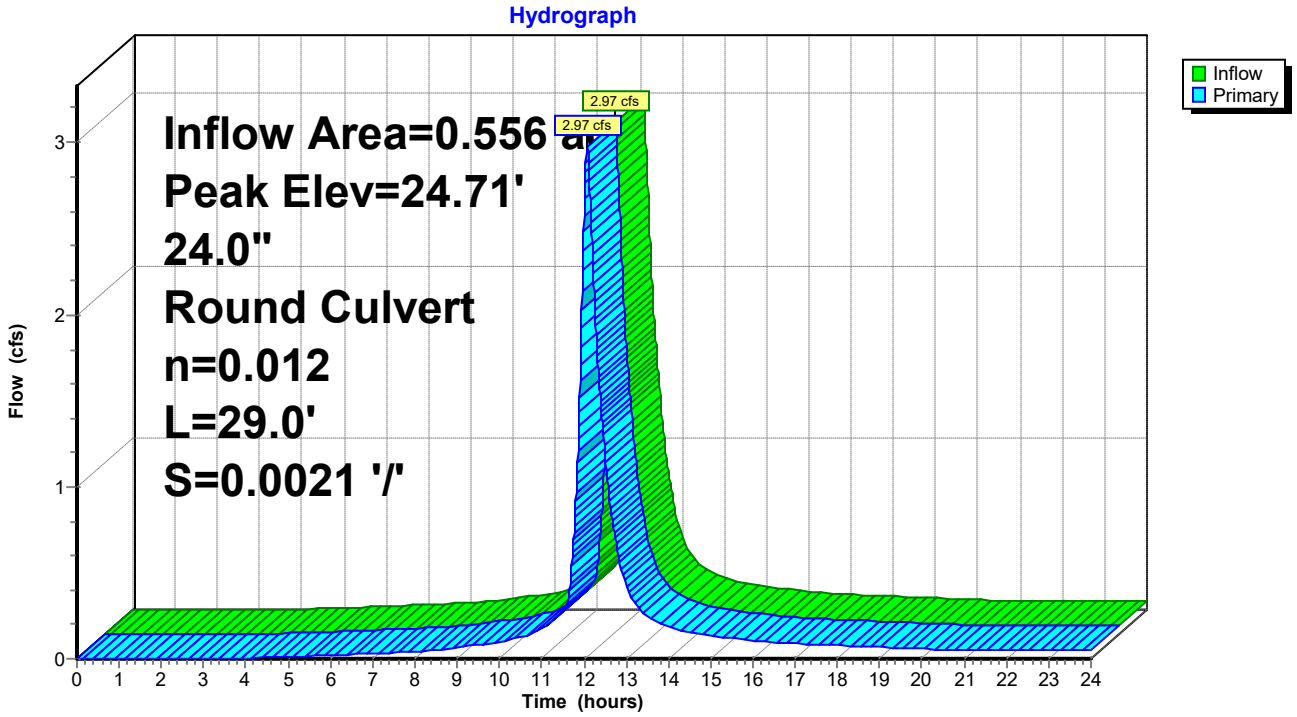
Inflow Area = 0.556 ac, 53.85% Impervious, Inflow Depth > 6.03" for 100-Yr event
Inflow = 2.97 cfs @ 12.08 hrs, Volume= 0.280 af
Outflow = 2.97 cfs @ 12.08 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min
Primary = 2.97 cfs @ 12.08 hrs, Volume= 0.280 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 24.71' @ 12.13 hrs
Flood Elev= 22.02'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.32'	**24.0" Round Culvert** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 20.32' / 20.26' S= 0.0021 '/' Cc= 0.900 n= 0.012, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=24.24' TW=24.36' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Pond 77: I-35



Summary for Subcatchment 78: DA #35

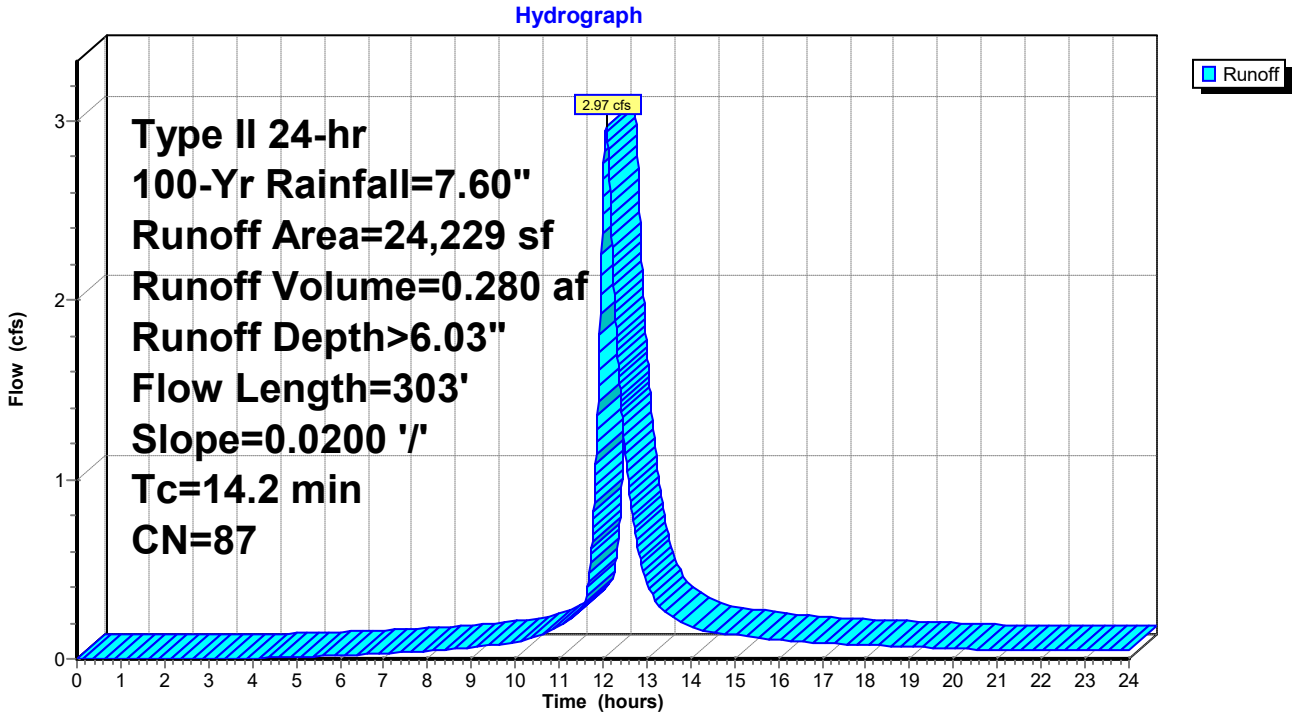
Runoff = 2.97 cfs @ 12.08 hrs, Volume= 0.280 af, Depth> 6.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
13,047	98	Paved parking, HSG C
11,182	74	>75% Grass cover, Good, HSG C
24,229	87	Weighted Average
11,182		46.15% Pervious Area
13,047		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	150	0.0200	0.19		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.40"
1.1	153	0.0200	2.28		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
14.2	303	Total			

Subcatchment 78: DA #35



Summary for Pond 79: DA #1B PIPE

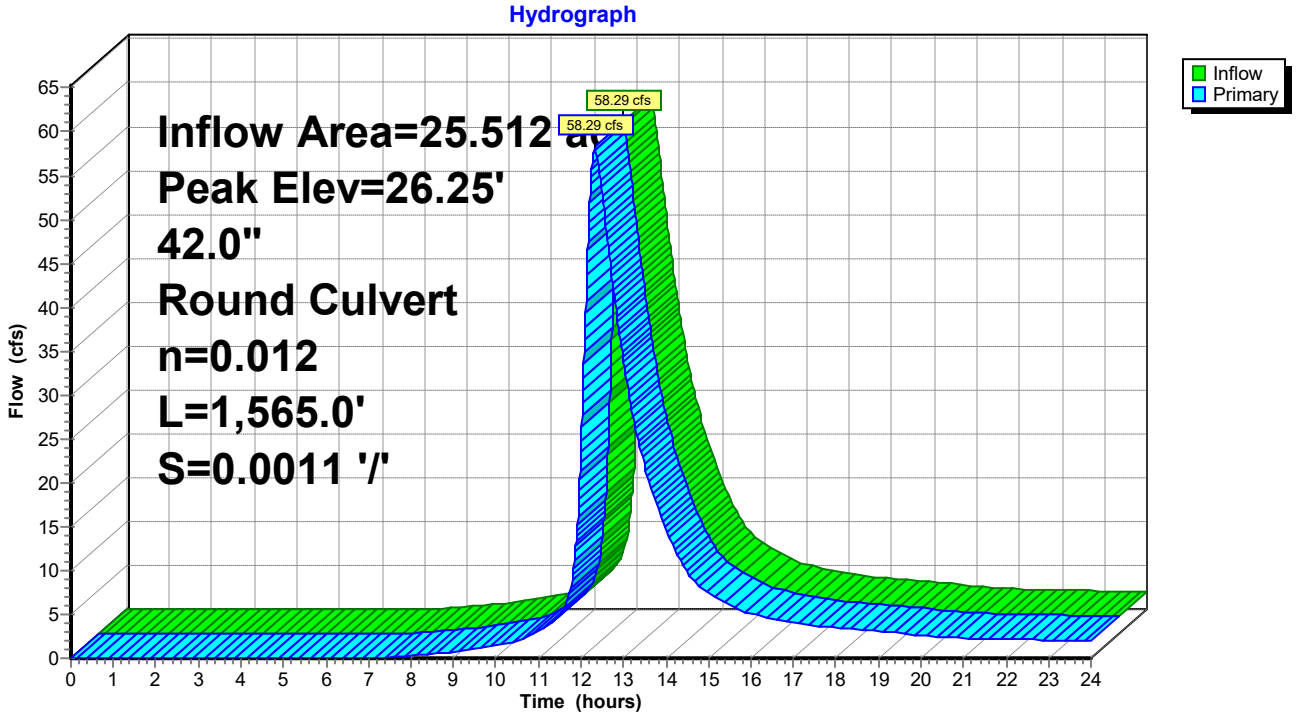
Inflow Area = 25.512 ac, 3.13% Impervious, Inflow Depth > 4.61" for 100-Yr event
Inflow = 58.29 cfs @ 12.32 hrs, Volume= 9.807 af
Outflow = 58.29 cfs @ 12.32 hrs, Volume= 9.807 af, Atten= 0%, Lag= 0.0 min
Primary = 58.29 cfs @ 12.32 hrs, Volume= 9.807 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 26.25' @ 12.32 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.10'	**42.0" Round Culvert** L= 1,565.0' Ke= 0.500 Inlet / Outlet Invert= 19.10' / 17.40' S= 0.0011 '/' Cc= 0.900 n= 0.012, Flow Area= 9.62 sf

Primary OutFlow Max=58.28 cfs @ 12.32 hrs HW=26.25' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 58.28 cfs @ 6.06 fps)

Pond 79: DA #1B PIPE



Summary for Subcatchment 80: DA #1B

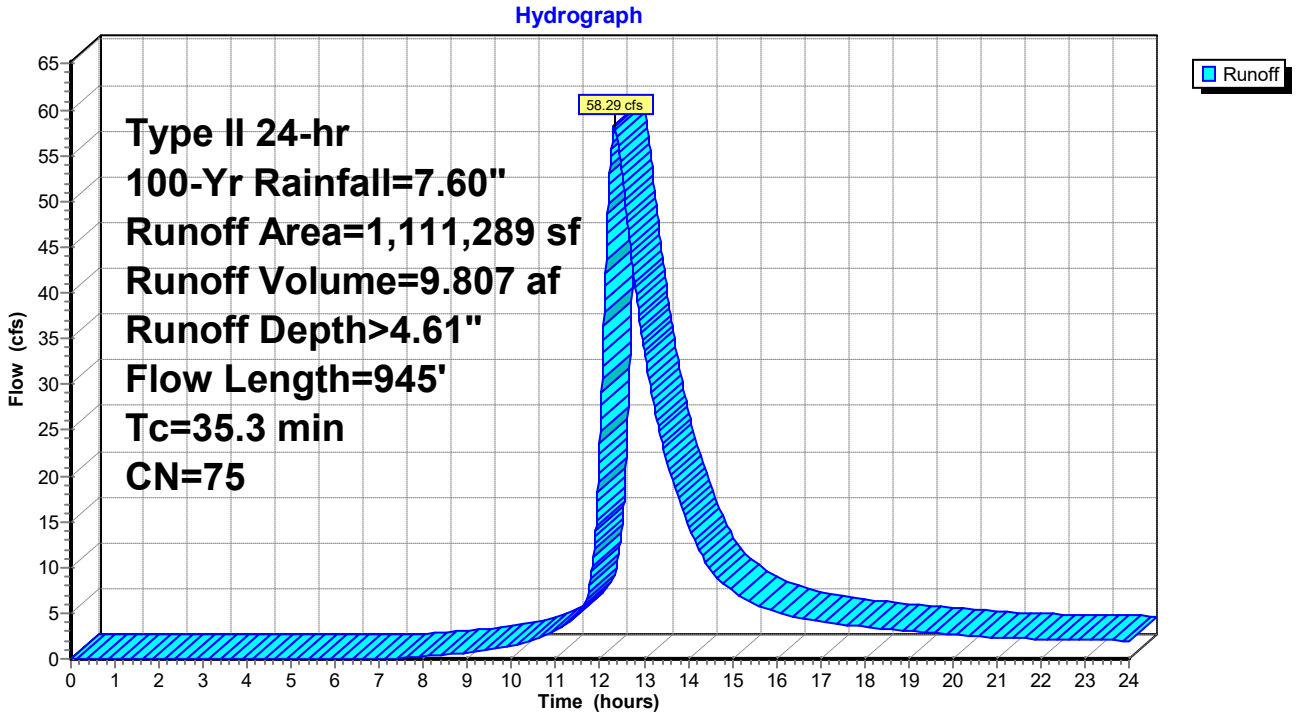
Runoff = 58.29 cfs @ 12.32 hrs, Volume= 9.807 af, Depth> 4.61"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Yr Rainfall=7.60"

Area (sf)	CN	Description
34,819	98	Paved parking, HSG C
1,076,470	74	>75% Grass cover, Good, HSG C
1,111,289	75	Weighted Average
1,076,470		96.87% Pervious Area
34,819		3.13% Impervious Area

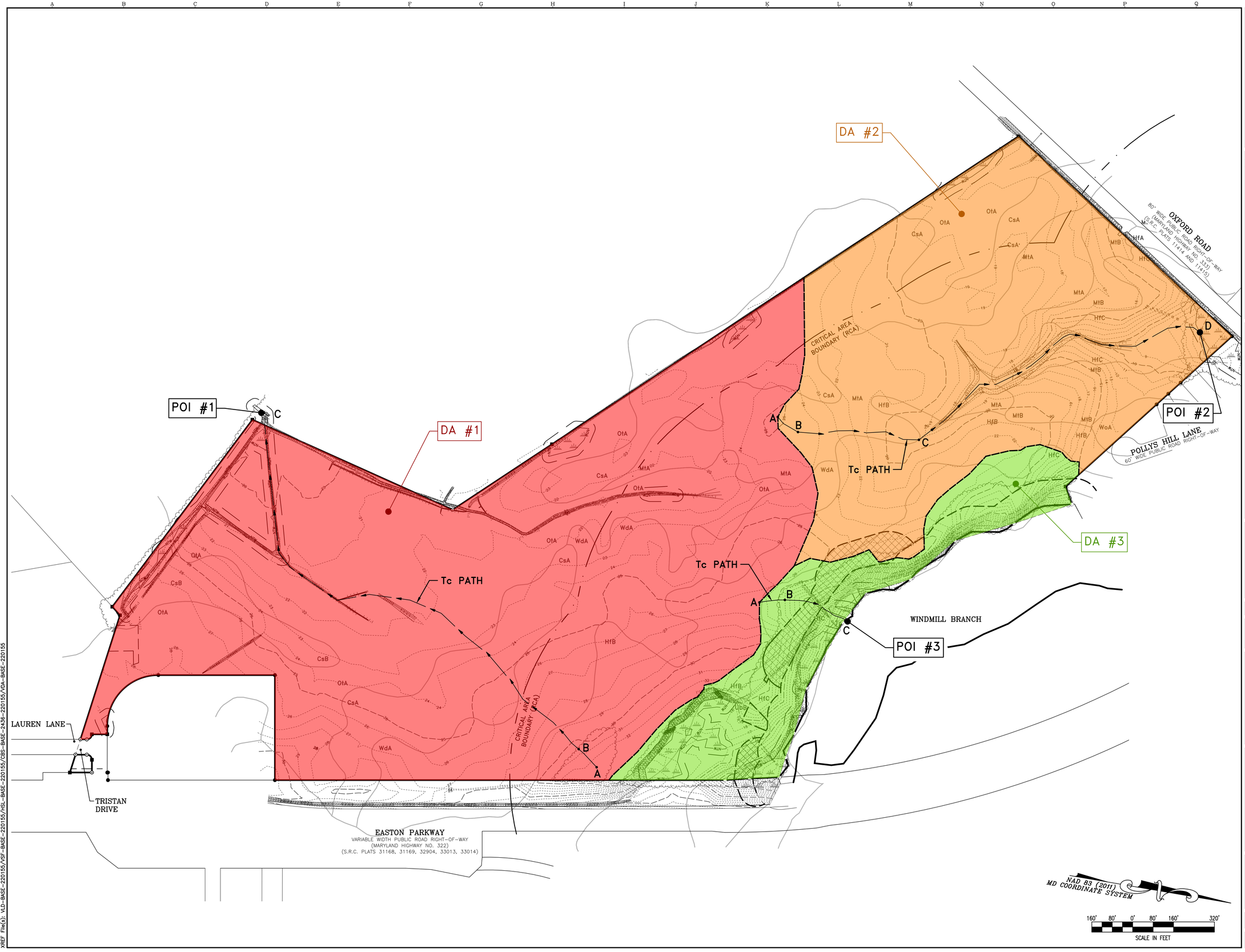
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.3	100	0.0100	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.40"
17.0	845	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
35.3	945	Total			

Subcatchment 80: DA #1B



APPENDIX C

PRE-DEVELOPMENT DRAINAGE AREA MAP



PLANS ARE ISSUED FOR REVIEW ONLY

PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS			
No.	DATE	DESCRIPTION	BY

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.

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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. 48188 , Expiration Date: 12/28/2023.

SEAL

STATE OF MARYLAND
JARRET J. BEYER
No. 48188
PROFESSIONAL ENGINEER

DATE

EXISTING CONDITIONS DRAINAGE AREA MAP

POPLAR HILL
PUD PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 PARCEL 57

ISSUED/REVISED FOR: DATE: BY:

SHEET No. APPENDIX C

SCALE: AS NOTED

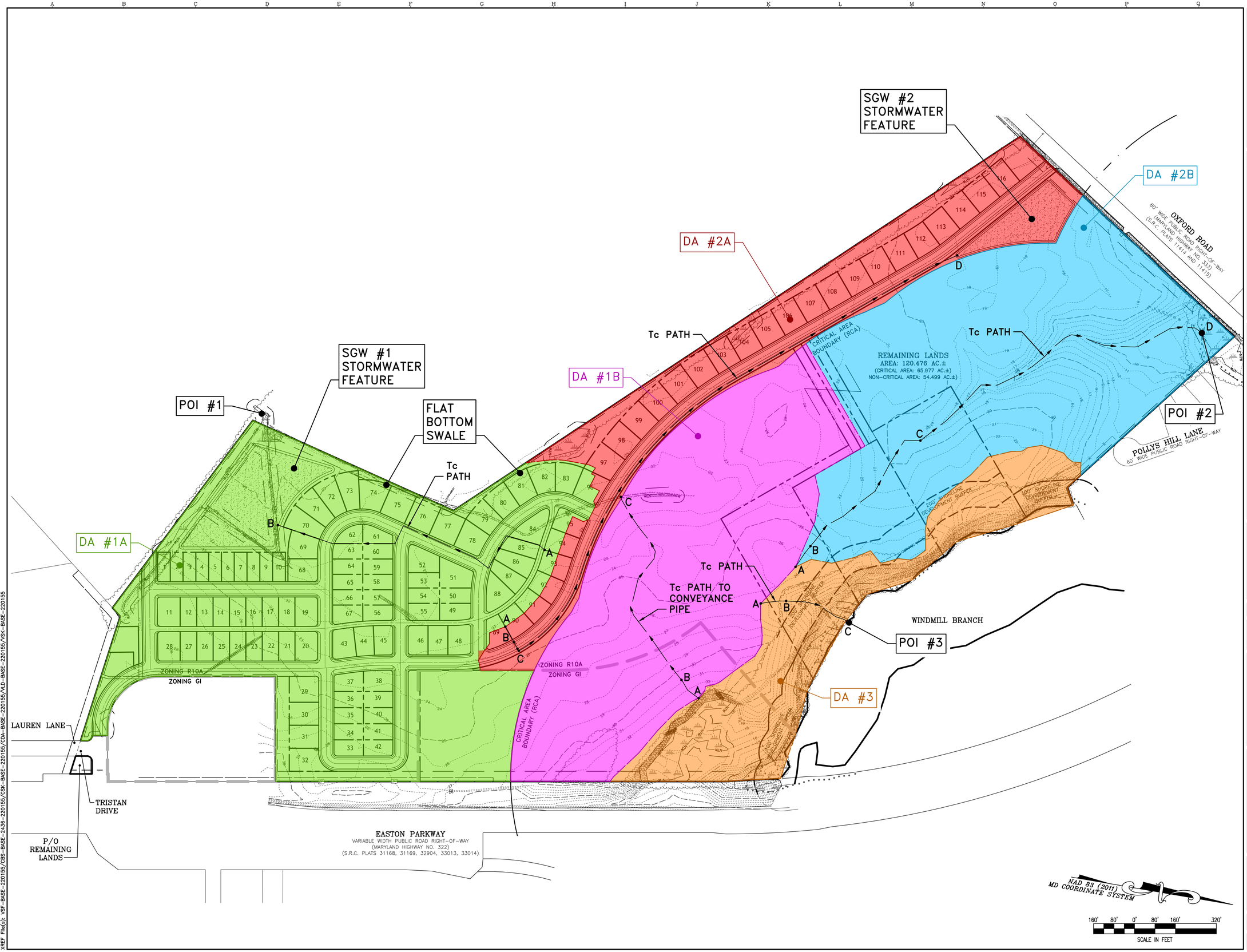
JOB No. 220155

FILE No. 1324

Date: 08/28/2023 - 9:31am User: jbeyer Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plots\VDA-PLTS-220155.dwg | APP. C
XREF File(s): VLD-BASE-220155/VSF-BASE-220155/HSL-BASE-220155/CBS-BASE-2436-220155/VDA-BASE-220155

APPENDIX D

POST-DEVELOPMENT DRAINAGE AREA MAP



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PLANS ARE NOT APPROVED FOR CONSTRUCTION

REVISIONS TO APPROVED PLANS

No.	DATE	DESCRIPTION	BY

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SEAL

STATE OF MARYLAND
JARRET J. BEYER
No. 48188
PROFESSIONAL ENGINEER

DATE

PROPOSED CONDITIONS DRAINAGE AREA MAP

POPLAR HILL
PUD PLAN

IN THE TOWN OF EASTON
TALBOT COUNTY, MARYLAND
TAX MAP 42 GRID 4 PARCEL 57

ISSUED/REVISED FOR: DATE: BY:

SHEET No. APPENDIX D

JOB No. 220155

SCALE: AS NOTED

FILE No. 1324

Date: 08/08/2023 - 11:18am User: jbeyer Project Manager: BCE
Drawing Path: J:\2022\0100\220155\Civil3D-220155\Dwg\Plats\CDA-PLTS-220155.dwg | APP D
XREF File(s): VSK-BASE-220155/CBS-BASE-2438-220155/TSK-BASE-220155/CDA-BASE-220155/WLD-BASE-220155/VSK-BASE-220155

Lenhart Traffic Consulting, Inc.

Transportation Planning & Traffic Engineering

Memorandum: ***Date:*** **August 23, 2023**

TO: Town of Easton
14 South Harrison Street
Easton, MD 21601

FROM: Mike Lenhart

RE: Poplar Hill Farm Development – Traffic Signal Warrant Analyses (MD 332 & Tristen Dr / S Washington St)

The purpose of this memo is to provide a Traffic Signal Warrant Analysis (TSWA) for the intersection of MD 322 & South Washington Street/Tristan Drive. It should be noted that this memo serves as a supplemental analysis to the Traffic Impact Study (TIS) conducted for the proposed Poplar Hill Farm development dated August 16, 2023, and has been conducted at the request of Town of Easton Staff.

It should be noted that the proposed development has been modified from a large multi-use (single family units, townhouses, retail space, office space, etc.) to a significantly smaller development consisting of 119 single family units. In addition, a previous TSWA was submitted for and Peachblossom Road & Proposed Site Access which is now proposed to be a right-in/right-out as part of the changes to the proposed development.

This traffic signal warrant analysis conforms to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD is the nationally recognized standard for evaluating the need for signalization. Chapter 4 of the MUTCD details the various warrants utilized in the analysis. These warrants are as follows:

Warrant 1, Eight Hour Vehicular Volume

Table 4C-1 from the MUTCD, which has been included as part of the appendices, provides the volume requirements for Warrant 1. The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on an intersecting street suffers excessive delay or conflict in entering or crossing the major street.

It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then the criterion for Warrant 1 is satisfied and Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then the criterion for Warrant 1 is satisfied and the combination of Conditions A and B is not needed. The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other

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email: mlenhart@lenharttraffic.com

alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

If the posted or 85th percentile speed on the major street exceeds 40 MPH, or if the intersection lies within the built-up area of an isolated community having the population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns. Note that reduced volumes were utilized as part of this analysis given the posted speed limit along MD 322 is 40 MPH or greater.

Warrant 2, Four Hour Vehicular Volume

Figures 4C-1 and 4C-2, which have been included as part of the appendices, detail the volume requirements and the evaluation of Warrant 2. The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Existing Conditions TSWA

In order to conduct the TSWA's, 13-hour counts were conducted at the intersections on October 27, 2021. The results of the Existing Conditions TSWA's indicate the following:

- MD 322 & South Washington Street/Tristan Drive
  - Warrant 1 – 4 of 13 hours met (Warrant 1 Not Satisfied)
  - Warrant 2 – 0 of 13 hours met (Warrant 2 Not Satisfied)

In order for a location to warrant a signal, Warrant 1 must be met during 8 of the 13 hours analyzed, and/or Warrant 2 must be met during 4 of the 13 hours analyzed. Given that the intersection does not meet these minimum requirements based on the existing traffic counts, a signal is not warranted under Existing Conditions. The detailed Existing Conditions analysis for the intersection of MD 322 & South Washington Street can be found in Appendix A of this report.

Future Conditions TSWA

In addition to the Existing Conditions analysis, an analysis of Future Conditions with traffic generated by the proposed Poplar Hill Farm development was also conducted. This analysis was conducted by adding the projected traffic generated by the Poplar Hill Farm development to the existing traffic volumes. Note that traffic was assigned through each of the intersections using trip generation formulas and diurnal traffic percentages from the ITE Trip Generation Manual, 11th Edition, and using the trip assignment percentages contained in TIS dated August 16, 2023. The results of the Future Conditions TSWA's indicate the following:

- MD 322 & South Washington Street/Tristan Drive
  - Warrant 1 – 4 of 13 hours met (Warrant 1 Not Satisfied)
  - Warrant 2 – 0 of 13 hours met (Warrant 2 Not Satisfied)

Based on the results of the Future Conditions TSWA's, a signal is not warranted at the intersection of MD 322 & South Washington. The detailed Future Conditions analysis for the intersection of MD 322 & South Washington Street can be found in Appendix A.

Conclusion

In summary, a TSWA has been conducted at the intersection of MD 322 & South Washington Street/Tristan Drive. The results indicate that at the intersection of MD 322 & South Washington Street, a signal is not warranted under either Existing or Total Conditions and therefore should not be considered at this location.

If you have any questions regarding this matter, please do not hesitate to contact me at the number below.

Sincerely,

Michael M. Lenhart, P.E., P.T.O.E.
President – Lenhart Traffic Consulting, Inc.

Appendix A

TSWA for MD 322 & Tristan Drive / S Washington Street

Table 4C-1. Warrant 1, Eight Hour Vehicular Volume

Condition A -- Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher volume minor street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B -- Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher volume minor street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Source: Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major street speed exceeds 40 mph or in an isolated community with a population < 10,000.
[d] May be used in combination of Conditions A and B after adequate trial of otherremedial measures when the major street exceeds 40 mph or in an isolated community with a population of < 10,000.

Lenhart Traffic Consulting, Inc.	Description of Warrant 1 from MUTCD	**Exhibit 1a**
Traffic Engineering & Transportation Planning		

EXISTING Turning Movement Count

Hour Beginning	MD 322 Northbound			MD 322 Southbound			Tristan Drive Eastbound			S. Washington Street Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
6:00 AM	0	246	47	4	91	3	17	6	2	21	3	4
7:00 AM	1	440	148	44	228	4	19	14	5	38	3	27
8:00 AM	2	372	126	74	201	15	33	11	6	40	6	42
9:00 AM	1	274	68	16	173	8	13	11	2	30	6	23
10:00 AM	9	270	45	17	205	9	12	11	4	34	11	30
11:00 AM	4	201	61	12	240	7	8	15	8	36	7	11
12:00 PM	5	241	45	20	267	8	7	13	2	39	9	23
1:00 PM	6	227	51	16	259	10	13	14	6	29	11	17
2:00 PM	5	245	83	45	358	13	13	22	7	55	15	31
3:00 PM	9	244	70	30	353	18	15	21	4	82	17	55
4:00 PM	12	238	55	27	372	22	20	11	4	88	7	10
5:00 PM	12	239	74	32	395	27	16	12	4	65	10	27
6:00 PM	6	188	63	22	246	19	13	8	6	48	13	10

Date of Count: Wednesday, October 27, 2021

Intersection Input Values

Major = 2 Lane(s)
Minor = 1 Lane(s)

Reduced Volumes (Y/N)?[c] Y

Required Traffic Volumes

	Major	Minor
Condition A Use	420	105
Condition B Use	630	53
Combination A & B Use	Major	Minor
for Condition A	336	84
	&	&
for Condition B	504	42

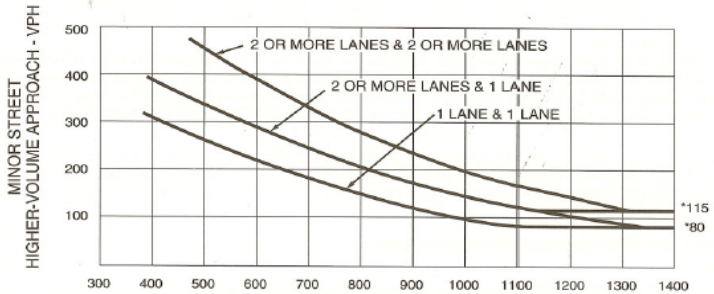
Results of Warrant 1 Analysis

Time Begin	Mainline 2-Way	Minor Street	Warrant #1 Condition A	Warrant #1 Condition B	Warrant #1 Condition A&B
6:00 AM	341	21	0	0	0
7:00 AM	713	38	0	0	0
8:00 AM	649	42	0	0	0
9:00 AM	464	30	0	0	0
10:00 AM	501	34	0	0	0
11:00 AM	457	36	0	0	0
12:00 PM	533	39	0	0	0
1:00 PM	508	29	0	0	0
2:00 PM	653	55	0	1	0
3:00 PM	636	82	0	1	0
4:00 PM	649	88	0	1	1
5:00 PM	678	65	0	1	0
6:00 PM	462	48	0	0	0
Number of Hours Satisfied?			0	4	1
Condition Satisfied?			No	No	No

Eight Hours must be satisfied to satisfy Warrant #1 →
***Results →

Lenhart Traffic Consulting, Inc.	Existing Warrant 1 Analysis at MD 322 & S Washington Street	**Exhibit 1b**
Traffic Engineering & Transportation Planning	**** Warrant #1 is Not Satisfied ****	

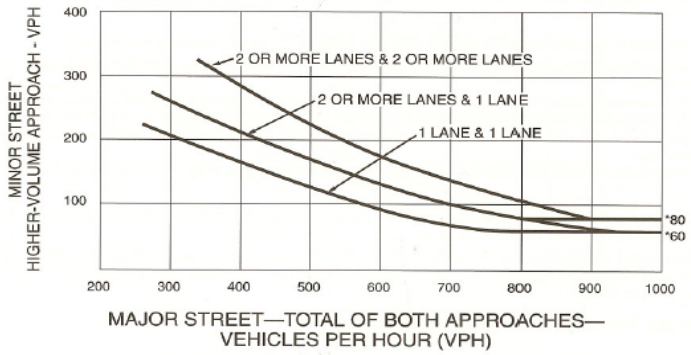
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection Input Values

Major =	2	Lane(s)
Minor =	1	Lane(s)
Reduced Volumes (Y/N)?[c]		Y

Results of Warrant 2 Analysis

Time Begin	Mainline 2-Way	Minor Street	Warrant #2 Regular	Warrant #2 Reduced (70% Factor)
6:00 AM	341	21	Not Evaluated	0
7:00 AM	713	38		0
8:00 AM	649	42		0
9:00 AM	464	30		0
10:00 AM	501	34		0
11:00 AM	457	36		0
12:00 PM	533	39		0
1:00 PM	508	29		0
2:00 PM	653	55		0
3:00 PM	636	82		0
4:00 PM	649	88		0
5:00 PM	678	65		0
6:00 PM	462	48		0
		Number of Hours Satisfied?	0	0
		Warrant 2 Satisfied?	No	No

← 4 Hours Required

Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Existing Warrant 2 Analysis at MD 322 & S Washington Street **** Warrant #2 is Not Satisfied ****	**Exhibit 1c**

Calculation of Average Daily Traffic (ADT)

(based on ITE Trip Generation Manual, 11th Edition)

Single-Family Detached Housing (ITE-210)	Students		Average Daily Traffic
Daily Trips = 0.92 x Units + 2.68	119	Units	1184

Calculation of Hourly Trips

(based on Diurnal Percentages)

Time	Single-Family Detached Housing (ITE-210)					
	Diurnal Percentages from ITE 11th Edition			Trips Generated		
				ADT =	592	592
	Total	In	Out	Total	In	Out
6:00 AM - 7:00 AM	3.7%	1.6%	5.8%	44	9	35
7:00 AM - 8:00 AM	6.5%	3.1%	10.0%	77	18	59
8:00 AM - 9:00 AM	6.2%	3.8%	8.5%	72	22	50
9:00 AM - 10:00 AM	4.6%	3.3%	5.8%	54	20	34
10:00 AM- 11:00 AM	4.9%	4.2%	5.6%	58	25	33
11:00 AM - 12:00 PM	5.3%	5.4%	5.1%	62	32	30
12:00 PM - 1:00 PM	5.7%	5.7%	5.7%	68	34	34
1:00 PM - 2:00 PM	6.1%	6.1%	6.0%	72	36	36
2:00 PM - 3:00 PM	6.6%	7.1%	6.1%	78	42	36
3:00 PM - 4:00 PM	7.5%	8.7%	6.2%	89	52	37
4:00 PM - 5:00 PM	8.9%	10.5%	7.4%	106	62	44
5:00 PM - 6:00 PM	8.7%	10.0%	7.3%	102	59	43
6:00 PM - 7:00 PM	7.2%	8.5%	5.9%	85	50	35
Total 6:00 AM - 7:00 PM	**81.8%**	**78.1%**	**85.4%**	**967**	**461**	**506**

Notes:

1. Total diurnal percentages taken from ITE Trip Generation Manual, 11th Edition and represent the percentage of daily traffic during each 60-minute period. These rates are then split by the percentage of traffic In and Out of the site during each hour.
2. The sum of the total diurnal percentages does not equal 100% because not all vehicles travel into or out of the site between the hours of 6:00 AM to 7:00 PM. The remaining percentage represents the vehicular trips outside of this timeframe (7:00 PM to 6:00 AM).

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Diurnal Hourly Traffic Volumes for Proposed Single Family Units

Appendix 2a

Trip Assignment to Intersection (Single-Family Units)

Hour Beginning	MD 322			MD 322			Tristan Drive			S. Washington Street		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
6:00 AM	4					3	7	4	14		2	
7:00 AM	7					5	12	7	24		5	
8:00 AM	9					7	10	6	20		6	
9:00 AM	8					6	7	4	14		5	
10:00 AM	10					8	7	4	13		6	
11:00 AM	13					10	6	4	12		8	
12:00 PM	14					10	7	4	14		9	
1:00 PM	14					11	7	5	14		9	
2:00 PM	17					13	7	5	14		11	
3:00 PM	21					16	7	5	15		13	
4:00 PM	25					19	9	6	18		16	
5:00 PM	24					18	9	5	17		15	
6:00 PM	20					15	7	4	14		13	

Note: Trips inbound to the site are shown in green while trips outbound from the site are shown in orange.

Inbound Residential Trips

40% of trips are generated south of the intersection (northbound left)
25% of trips are generated east of the intersection (westbound thru)
30% of trips are generated north of the intersection (southbound right)

Outbound Residential Trips

40% of trips are headed south of the intersection (eastbound right)
25% of trips are headed east of the intersection (eastbound thru) however, 50% of these are anticipated to utilize the access onto MD 333 and won't impact the study intersection
50% factor as detailed above
30% of trips are headed north of the intersection (eastbound left) however, 50% of these are anticipated to utilize the access onto MD 333 and won't impact the study intersection
50% factor as detailed above
5% of trips are headed west of the intersection (eastbound left)

TOTAL Turning Movement Count

Hour Beginning	MD 322 Northbound			MD 322 Southbound			Tristan Drive Eastbound			S. Washington Street Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
6:00 AM	4	246	47	4	91	6	24	10	16	21	5	4
7:00 AM	8	440	148	44	228	9	31	21	29	38	8	27
8:00 AM	11	372	126	74	201	22	43	17	26	40	12	42
9:00 AM	9	274	68	16	173	14	20	15	16	30	11	23
10:00 AM	19	270	45	17	205	17	19	15	17	34	17	30
11:00 AM	17	201	61	12	240	17	14	19	20	36	15	11
12:00 PM	19	241	45	20	267	18	14	17	16	39	18	23
1:00 PM	20	227	51	16	259	21	20	19	20	29	20	17
2:00 PM	22	245	83	45	358	26	20	27	21	55	26	31
3:00 PM	30	244	70	30	353	34	22	26	19	82	30	55
4:00 PM	37	238	55	27	372	41	29	17	22	88	23	10
5:00 PM	36	239	74	32	395	45	25	17	21	65	25	27
6:00 PM	26	188	63	22	246	34	20	12	20	48	26	10

Intersection Input Values

Major = 2 Lane(s)
Minor = 1 Lane(s)

Reduced Volumes (Y/N)?[c] Y

Required Traffic Volumes

	Major	Minor
Condition A Use	420	105
	Major	Minor
Condition B Use	630	53
Combination A & B Use	Major	Minor
for Condition A	336	84
	&	&
for Condition B	504	42

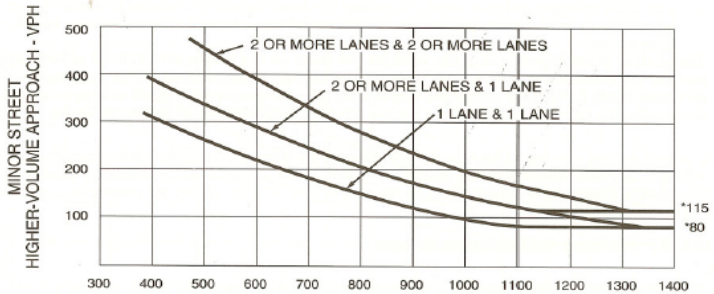
Results of Warrant 1 Analysis

Time Begin	Mainline 2-Way	Minor Street	Warrant #1 Condition A	Warrant #1 Condition B	Warrant #1 Condition A&B
6:00 AM	345	24	0	0	0
7:00 AM	720	38	0	0	0
8:00 AM	658	43	0	0	0
9:00 AM	472	30	0	0	0
10:00 AM	511	34	0	0	0
11:00 AM	470	36	0	0	0
12:00 PM	547	39	0	0	0
1:00 PM	522	29	0	0	0
2:00 PM	670	55	0	1	0
3:00 PM	657	82	0	1	0
4:00 PM	674	88	0	1	1
5:00 PM	702	65	0	1	0
6:00 PM	482	48	0	0	0
Number of Hours Satisfied?			0	4	1
Condition Satisfied?			No	No	No

Eight Hours must be satisfied to satisfy Warrant #1 →
***Results →

Lenhart Traffic Consulting, Inc.	Total Warrant 1 Analysis at MD 322 & S Washington Street	**Exhibit 3a**
Traffic Engineering & Transportation Planning	**** Warrant #1 is Not Satisfied ****	

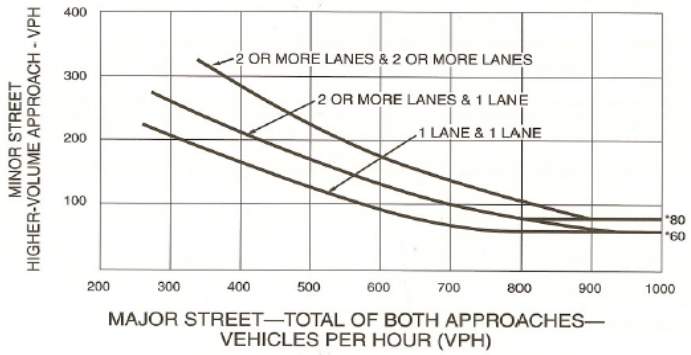
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Intersection Input Values

Major =	2	Lane(s)
Minor =	1	Lane(s)
Reduced Volumes (Y/N)?[c]		Y

Results of Warrant 2 Analysis

Time Begin	Mainline 2-Way	Minor Street	Warrant #2 Regular	Warrant #2 Reduced (70% Factor)
6:00 AM	345	24	Not Evaluated	0
7:00 AM	720	38		0
8:00 AM	658	43		0
9:00 AM	472	30		0
10:00 AM	511	34		0
11:00 AM	470	36		0
12:00 PM	547	39		0
1:00 PM	522	29		0
2:00 PM	670	55		0
3:00 PM	657	82		0
4:00 PM	674	88		0
5:00 PM	702	65		0
6:00 PM	482	48		0
		Number of Hours Satisfied?	0	0
		Warrant 2 Satisfied?	No	No

← 4 Hours Required

Lenhart Traffic Consulting, Inc.	Total Warrant 2 Analysis at MD 322 & S Washington Street	**Exhibit 3b**
Traffic Engineering & Transportation Planning	**** Warrant #2 is Not Satisfied ****	

13-Hour Turning Movement Count (6:00 am - 7:00 pm)

	MD 322 Northbound				MD 322 Southbound				Tristan Drive Eastbound				S Washington Street Westbound				
Time:	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
6:00-6:15	0	26	3	0	0	11	0	0	3	0	0	0	5	1	0	0	49
6:15-6:30	0	54	11	0	2	16	2	0	6	2	1	0	3	1	1	0	99
6:30-6:45	0	74	14	0	1	31	0	0	1	4	0	0	5	0	1	0	131
6:45-7:00	0	92	19	0	1	33	1	0	7	0	1	0	8	1	2	0	165
7:00-7:15	1	83	19	0	2	36	1	0	4	3	1	1	10	0	4	0	165
7:15-7:30	0	113	48	0	10	50	1	0	2	4	3	0	8	0	3	0	242
7:30-7:45	0	111	38	0	11	72	0	0	6	3	0	0	11	1	5	0	258
7:45-8:00	0	133	43	0	21	70	2	0	7	4	1	0	9	2	15	0	307
8:00-8:15	0	89	35	0	30	52	4	0	5	4	2	0	10	1	12	0	244
8:15-8:30	0	87	46	0	27	56	2	0	8	0	1	1	14	2	16	0	260
8:30-8:45	1	91	24	1	10	49	3	0	12	4	2	0	9	1	3	0	210
8:45-9:00	1	105	21	0	7	44	6	0	8	3	1	0	7	2	11	0	216
9:00-9:15	0	44	20	0	3	41	3	0	4	7	0	0	6	3	7	0	138
9:15-9:30	0	65	19	0	4	41	2	0	1	1	0	0	10	2	5	0	150
9:30-9:45	1	87	13	0	6	47	1	0	2	2	1	0	6	1	7	0	174
9:45-10:00	0	78	16	0	3	44	2	0	6	1	1	0	8	0	4	0	163
10:00-10:15	0	58	13	0	1	45	0	0	3	2	0	0	14	1	9	0	146
10:15-10:30	2	67	9	0	6	46	3	0	4	4	2	0	5	5	7	0	160
10:30-10:45	1	80	9	0	1	68	1	0	3	3	2	0	9	2	6	0	185
10:45-11:00	6	65	14	0	9	46	5	1	2	2	0	0	6	3	8	0	167
11:00-11:15	2	56	16	1	2	55	2	0	3	7	2	1	12	3	3	0	165
11:15-11:30	1	35	14	0	4	64	1	0	4	4	5	1	7	1	1	0	142
11:30-11:45	0	58	14	0	3	57	0	0	1	1	1	0	9	3	3	0	150
11:45-12:00	1	52	17	1	3	64	4	0	0	3	0	0	8	0	4	0	157
12:00-12:15	1	42	15	0	2	63	1	0	0	2	0	0	10	3	5	0	144
12:15-12:30	1	55	5	0	8	77	1	0	3	5	0	0	12	3	5	0	175
12:30-12:45	2	77	14	0	7	62	3	0	2	2	0	0	10	1	8	0	188
12:45-1:00	1	67	11	0	3	65	3	0	2	4	2	0	7	2	5	0	172
1:00-1:15	4	51	14	0	3	78	2	0	1	7	3	0	4	3	5	0	175
1:15-1:30	0	56	14	0	3	49	4	0	1	4	2	0	6	2	1	0	142
1:30-1:45	2	66	16	0	4	66	2	0	7	1	1	0	12	4	3	0	184
1:45-2:00	0	54	7	0	6	66	2	0	4	2	0	0	7	2	8	0	158
2:00-2:15	2	61	6	2	4	77	3	0	1	8	2	0	10	5	8	0	189
2:15-2:30	0	63	20	0	17	95	2	0	2	6	1	0	16	1	9	0	232
2:30-2:45	1	61	21	2	14	93	5	0	7	3	1	0	11	3	5	0	227
2:45-3:00	2	60	36	0	10	93	3	0	3	5	3	0	18	6	9	0	248
3:00-3:15	3	52	24	0	8	95	4	0	5	6	1	0	31	2	32	0	263
3:15-3:30	2	62	13	0	6	80	5	0	2	5	3	0	17	6	7	0	208
3:30-3:45	0	60	16	0	10	98	5	0	4	3	0	0	21	2	10	0	229
3:45-4:00	4	70	17	0	6	80	4	0	4	7	0	0	13	7	6	0	218
4:00-4:15	3	48	9	0	11	96	5	0	7	0	1	0	24	4	4	0	212
4:15-4:30	4	66	15	0	3	98	4	0	6	4	1	0	21	0	4	1	227
4:30-4:45	2	53	10	0	6	90	7	0	4	1	1	0	25	3	2	0	204
4:45-5:00	3	71	21	0	7	88	6	1	3	6	1	0	18	0	0	0	225
5:00-5:15	6	53	25	0	9	121	8	0	3	5	0	0	24	4	2	0	260
5:15-5:30	2	78	25	0	5	105	8	0	5	2	1	0	13	1	8	1	254
5:30-5:45	0	55	17	0	10	93	8	0	6	4	1	0	15	3	8	0	220
5:45-6:00	4	53	7	0	8	76	3	0	2	1	2	0	13	2	9	0	180
6:00-6:15	0	52	10	0	4	73	4	0	2	3	0	0	14	2	1	1	166
6:15-6:30	4	54	19	0	5	80	3	0	7	1	1	0	11	3	3	0	191
6:30-6:45	2	45	17	0	6	53	5	0	2	3	3	0	11	3	2	0	152
6:45-7:00	0	37	17	0	7	40	7	0	2	1	2	0	12	5	4	0	134

	MD 322 Northbound				MD 322 Southbound				Tristan Drive Eastbound				S Washington Street Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
Hourly Totals																	
6:00-7:00	0	246	47	0	4	91	3	0	17	6	2	0	21	3	4	0	444
7:00-8:00	1	440	148	0	44	228	4	0	19	14	5	1	38	3	27	0	972
8:00-9:00	2	372	126	1	74	201	15	0	33	11	6	1	40	6	42	0	930
9:00-10:00	1	274	68	0	16	173	8	0	13	11	2	0	30	6	23	0	625
10:00-11:00	9	270	45	0	17	205	9	1	12	11	4	0	34	11	30	0	658
11:00-12:00	4	201	61	2	12	240	7	0	8	15	8	2	36	7	11	0	614
12:00-1:00	5	241	45	0	20	267	8	0	7	13	2	0	39	9	23	0	679
1:00-2:00	6	227	51	0	16	259	10	0	13	14	6	0	29	11	17	0	659
2:00-3:00	5	245	83	4	45	358	13	0	13	22	7	0	55	15	31	0	896
3:00-4:00	9	244	70	0	30	353	18	0	15	21	4	0	82	17	55	0	918
4:00-5:00	12	238	55	0	27	372	22	1	20	11	4	0	88	7	10	1	868
5:00-6:00	12	239	74	0	32	395	27	0	16	12	4	0	65	10	27	1	914
6:00-7:00	6	188	63	0	22	246	19	0	13	8	6	0	48	13	10	1	643

Peak Hour
Turning Movement Count

LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 322 at S Washington Street
Weather: Clear
Count by: DSS
Count Day/Date: Wednesday, October 27, 2021
County: Talbot County

RECEIVED
AUG 29 2023
TOWN OF EASTON

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

Supplemental Waiver Request Application

Waiver Request Type

Sidewalk ☐ Parking Spaces ☐ Parking/Aisle Dimension ☐
Landscaping & Buffering ☐ Signage ☐ Other ☒

Project Information

Address	Oxford Rd, Easton, MD 21601						
Tax Map	42	Grid	4	Parcel	57	Lot	
Zoning District	R10A/ GI	PC Meeting Date	9/21/23	Historic District	Yes ☐	No ☒	
Owner or Agent	Brett Ewing, Lane Engineering						
Mailing Address	117 Bay Street, Easton, MD 21601						
Telephone No.	410-822-8003	Email	bewing@leinc.com				

Request Details

Please attach a detailed description of the waiver request(s) being made and the justification(s) for requesting said waiver(s).

We are requesting a waiver of the alley length of 616' from lot 11 to lot 19. The standard identified in the Town subdivision regulations is 600', which can be adjusted by the Planning Commission. The lot and road layout is functional and compliant, and the relief requested is minimal.

☒ Ordinance Section Supporting Waiver Request. 501(a)(1)

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

Date 8/28/23

Printed Name of Applicant or Agent Brett Ewing

Received by Town of Easton
September 11, 2023

Comprehensive Plan Design Principles Response Narrative – Poplar Hill

Principle #1 – Integrated uses are desirable – This development proposal provides 119 single family residential lots that comply with the Town's residential and Critical Area standards. Contrary to some, the housing market is still in high demand, and this project addresses a need.

Principle #2 – Natural features should determine design – The project is designed in accordance with Critical Area standards and preserves a majority of the 1000' critical area onsite. No buffers will be impacted.

Principle #3 – Automobiles should not determine design – Public sidewalks and multimodal path connections are proposal throughout the site and to adjoining property.

Principle #4 – Ample open spaces should be provided within & around neighborhoods – Park space in provided compliant with the Town standard of 1,200 sf/ lot, totaling over 3 acres.

Principle #5 – Architecture should respect Easton's historical development – The application proposes several different home styles that will comply with the Town's differential standards.

Principle #6 – Signs should inform but not dominate – Signage, simple and per code.

Principle #7 – Neighborhoods should contain a diversity of housing types – The project will propose a diversity of types and will comply with the Town's differential standards.

Principle #8 – Residential neighborhoods should be interesting places – This community will preserve the agricultural activities currently occurring onsite. It will have a rural character while being inside town on public infrastructure.

Principle #9 – Neighborhoods should connect – two vehicular access points to public roads and one access to the undeveloped site to the west is provided.

Joe Mayer <jmayer@eastonmd.gov>

Poplar Hill Subdivision

3 messages

Ann Sekerak -DNR- <ann.sekerak@maryland.gov> Mon, Aug 21, 2023 at 2:30 PM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Nick Kelly -DNR- <nick.kelly@maryland.gov>

Hi Joe,

Please find attached our comments regarding the above-referenced subdivision request. Let me know if you have any questions.

Thank you!
Annie

Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
dnr.maryland.gov/criticalarea

Annie Sekerak
Natural Resources Planner
Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, MD 21401
410-260-3466 (office)
667-500-2027 (cell)
ann.sekerak@maryland.gov

EA 0267-23 Poplar Hill Subdivision.pdf
98K

Joe Mayer <jmayer@eastonmd.gov> Fri, Aug 25, 2023 at 3:35 PM
To: Ann Sekerak -DNR- <ann.sekerak@maryland.gov>
Cc: Nick Kelly -DNR- <nick.kelly@maryland.gov>

Thank you, Anne. Have a good weekend.
[Quoted text hidden]
--
Regards,
Joseph A. Mayer
Plan Reviewer
Town of Easton
14 South Harrison Street
Easton, MD 21601
410-822-1943

Ann Sekerak -DNR- <ann.sekerak@maryland.gov> Fri, Sep 8, 2023 at 3:38 PM
To: Joe Mayer <jmayer@eastonmd.gov>
Cc: Nick Kelly -DNR- <nick.kelly@maryland.gov>

Hi Joe,

Thank you for submitting additional information regarding the above-referenced subdivision. Based on our review of the revised materials, it appears that our previous comments have been addressed. We note that any future development and/or change of use in the RCA must meet all applicable Critical Area requirements.

Please accept this email as our official review. Let me know if you have any questions.

Thank you and have a great weekend!

-Annie

Critical Area Commission for the Chesapeake & Atlantic Coastal Bays
dnr.maryland.gov/criticalarea

Annie Sekerak
Natural Resources Planner
Critical Area Commission for the
Chesapeake & Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, MD 21401
410-260-3466 (office)
667-500-2027 (cell)
ann.sekerak@maryland.gov

[Quoted text hidden]

Wes Moore
Governor

Aruna Miller
Lt. Governor

Erik Fisher
Chair

Katherine Charbonneau
Executive Director

STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS

August 21, 2023

Mr. Joseph Mayer
Town of Easton
14 South Harrison Street
Easton, MD 21601

Re: Poplar Hill Subdivision (TM 42, P 57)

Dear Mr. Mayer:

Thank you for providing information regarding the above-referenced subdivision to this office for review. The applicant is proposing to subdivide Parcel 57 to create 119 lots, three of which are located within the RCA (proposed Lots 117, 118, and 119). No RCA development rights will remain upon approval of this proposed subdivision.

We note that a growth allocation request was previously under review by the Town of Easton and Talbot County to reclassify the existing 65.97 acres of Resource Conservation Area (RCA) located on this property to Intensely Developed Area (IDA). The growth allocation request was formally withdrawn on August 2, 2023.

Based on the information provided, this office has the following comments:

1. The notes under the Critical Area Development Rights Calculations and Critical Area Lot Coverage Calculations indicate that Lots 115, 116, and 117 are located within the RCA; however, the site plan indicates that Lots 117, 118, and 119 are located within the RCA. This should be clarified by the applicant.

2. In accordance with Section 28-401.4.A(2) of the Town Code, subdivisions in the RCA require a minimum of a 200-foot Buffer. We note that a 100-foot Buffer is demarcated within the "Revised Remaining Lands" on the site plan provided. The applicant should revise the Critical Area Buffer delineation on the site plan to be a minimum of 200-feet as measured from the landward edge of the mean high water line of tidal waters, the upland boundary of a tidal wetland, and the edge of each bank of a tributary stream. The Buffer should then be expanded to include contiguous sensitive features such as hydric soils, highly erodible soils, and steep slopes, per COMAR 27.01.09.01.E(7).

3. Further, please have the applicant add a note to state that the Critical Area Buffer on Lot 117, Lot 118, Lot 119, and the "Revised Remaining Lands" is located 200 feet from mean high water or the landward edge of tidal wetlands, and has been expanded in

accordance with COMAR 27.01.09.01.E(7), as shown hereon, and that development within the Buffer is prohibited.

4. The Buffer Management Plan should be revised to include full Buffer establishment of the 200-foot Buffer on the "Revised Remaining Lands." The Buffer Management Plan, in accordance with COMAR 27.01.09.01-3, must be approved by the Town prior to final plat recordation. We note that establishment of the Buffer may be delayed on the "Revised Remaining Lands" if existing agricultural operations are proposed within the Buffer in accordance with an approved Soil Conservation and Water Quality Plan. However, if and when these approved agricultural practices cease, the Buffer should be established as applicable. We recommend that a Critical Area note be added to the plat outlining this requirement.

5. Regarding lot coverage, please have the applicant include a note under the Critical Area Lot Coverage Calculations indicating that the entire subdivision within the RCA is limited to 15% lot coverage.

6. Please also have the applicant revise the Critical Area - Forest Calculations on the plat to include the square footage and percentage of existing canopy cover and allowed and proposed clearing for each lot in the RCA.

7. Additionally, at the time of a change in use or proposed development, all other Critical Area requirements for development in the RCA must be met.

Thank you for the opportunity to provide comments regarding this line revision and subdivision request. Please feel free to contact me at ann.sekerak@maryland.gov or (410) 260-3466 if you have any questions.

Sincerely,

Annie Sekerak
Natural Resources Planner

cc: EA 0267-23

TOWN OF EASTON

14 South Harrison Street
Easton, Maryland 21601

September 6, 2023

Dear Resident,

The Easton Planning Commission will hold a public meeting on **Thursday, September 21, 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 Application 2023-1024 has been filed on behalf of 5001 SHR, L.C. to request Sketch Plat Subdivision approval for the proposed development of 119 residential units to the existing property located at Oxford Road - Poplar Hill. The applicant is also requesting a waiver from the Town's 2010 Subdivision Regulation standard of a maximum 600' alley length, proposing the creation of an alley of 616'.

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 will be available for review one week prior to the scheduled meeting 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 email 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 **08/30/23**
29088 Airpark Drive
Easton, MD 21601

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

Cust. AcctID:	Creation Date: **08/30/23**
	Ad Date: **09/06/23**
	Class: **10**
Name: **Joanne Drummer**	Ad ID:
Company: **TOWN OF EASTON (L)**	Ad Taker: **AHALL**
Address: **PO Box 520**	Sales Person: **503**
EASTON, MD 21601	Words: **522**
	Lines: **92**
	Agate Lines: **405**
Telephone: **(410) 822-2525**	Depth: **11.25**
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	09/06/23	09/06/23		

Planning Commission
MEETING AGENDA
Thursday, September 21, 2023 - 1:00PM
Council Chambers, Easton Town Office
14 S Harrison Street

Please continue to check our website at:
https://eastonmd.gov/129/Agendas-Minutes
for agenda updates

1. **Call to Order**
2. **Approval of Minutes.**
   a. Approval of the Decision Summary from the August 17, 2023 meeting.
3. **Old Business**
4. **New Business**
   a. **Applicant:** Philips Signs
      File No.: 2023 - 1020
      Location: 8133 Elliott Road
      Tax Map 109, Grid 000, Parcel 4582, Lot 1
      Zoning District: CG
      Nature of Request: Signage permit approval where two (2) or more businesses occupy one (1) building with a common entrance.
   b. **Applicant:** Far Eastern Shore Winery
      File No.: 2023 - 989
      Location: 8370 & 8374 Ocean Gateway
      Tax Map 103, Grid 0EA, Parcel 2952
      Zoning District: CG
      Nature of Request: Signage permit approval for multi building property.
   c. **Applicant:** Fink, Whitten & Associates, LLC c/o Elizabeth Fink
      File No.: 2023 - 937
      Location: 8685 Commerce Drive - Tuckahoe Hardwoods
      Tax Map 101, Grid 002, Parcel 0004, Lot 28
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 3,920 sq ft. contractor's warehouse building.
   d. **Applicant:** OMS & Associates, LLC
      File No.: 2023 - 959
      Location: Elliott Road - Friel Storage
      Tax Map 109, Grid 0000, Parcel 2849, Lot 4
      Zoning District: CG
      Nature of Request: Sketch Site Plan approval for two proposed climate-controlled self-storage buildings. Building #1 is 26,244 sq. ft. and building #2 is 11,000 sq.ft.
   e. **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.
   f. **Applicant:** Lane Engineering, LLC
      File No.: 2023 - 998
      Location: 29533 Canvasback Drive - St. Vincent de Paul
      Tax Map 109, Grid 000, Parcel 4582, Lot 32
      Zoning District: BC
      Nature of Request: Sketch Site Plan approval for a proposed 2,400 sq. ft building addition and parking lot expansion.
   g. **Applicant:** McAllister , DeTar, Showalter & Walker LLC
      File No.: 2023 - 997
      Location: Corner of Elliott Road & MD RT 328 (Matthewstown Road)
      Tax Map 109, Grid 000, Parcel 2866, Lot 9
      Base Zoning District: CG with PUD Overlay
      Nature of Request: The applicant is seeking a recommendation from the Planning Commission to the Town Council for an Amendment to a previously approved Planned Unit Development (PUD) for the proposed addition of sixteen (16) units for a total of 136 multifamily apartment units on the land of Elliott Road Parcel 2866.
   h. **Applicant:** 5001 SHR, L.C.
      File No.: 2023 -1024
      Location: Oxford Road - Poplar Hill
      Tax Map 0042, Grid 0004, Parcel 057
      Nature of Request: Sketch Plat Subdivision approval for the proposed development of 119 residential units. The applicant is also seeking a waiver request for the proposed alley length of 616'. The standard is identified in the Town's 2010 Subdivision Regulations as 600'.
5. **Discussion Item**
6. **Adjournment.**

3033060 SD 9/6/2023

Ad Note:

Sign posted on September 5, 2023

Customer Note:

We Appreciate Your Business!
Thank You Joanne Drummer!

Papermill Crossing Homeowners Assn.
7585 Pollys Hill Lane
Easton, Maryland
19 September 2023

Mr. Lynn B. Thomas, Jr.
Town Planner
Town of Easton
14 S. Harrison Street
P.O. Box 520
Easton, Maryland 21601

Re: Poplar Hill Subdivision

Dear Mr. Thomas:

We have quickly reviewed the revised documents submitted in support of a proposed subdivision at Poplar Hill and submit the following comments.

We are grateful that the developer has listened to the public comments submitted by our members, other residents, and local groups with special expertise on the environmental and developmental issues posed by the now withdrawn proposals for a supplemental growth allocation and a 456-unit Planned Use Development. The current subdevelopment proposal allays most of the concerns, greatly reducing the environmental impacts, maintaining the scenic Oxford Road corridor, and reducing, but not eliminating, traffic impacts.

We understand that even if the proposal is approved, many details remain to be worked out before actual development proceeds. Actual construction will have to be carefully monitored to protect water quality in the upper Tred Avon and traffic safety on Oxford Road and the Easton Parkway. Once completed, this subdevelopment will have impacts outside its actual borders that the Town of Easton, Talbot County, and Maryland State Highway Administration will have to address. Many of our remaining concerns may have to be addressed by these governmental entities, but we have set them out here so that the issues are noted and required actions can be coordinated with the developer.

Our greatest concerns focus on traffic congestion and safety. The traffic study, although updated, still relies on a remarkably small data set gathered in May 2021 when traffic was still impacted by the pandemic. Today, more residents have returned to work, more homes have been constructed in and around Easton, and the local economy is bustling. Based on discussions among residents and public comments submitted in the review of the earlier proposal, the overwhelming impression is that traffic along Oxford Road and the Parkway has significantly increased. The "right in, right out" limitations on the access road to Oxford Road

should help to some degree, but we believe that a broader traffic study of traffic flow and congestion in Easton is needed. Such a study has been discussed, but not undertaken to our knowledge. We hope that this subdevelopment will spur that study and that any required corrective action is undertaken quickly. At the very least, traffic flow between Waverly Road and the Easton Parkway should be studied as a system, not piecemeal, one intersection at a time.

The addition of the multimodal path along Oxford Road will help provide safe access to the new Easton Woodland Park for bicyclists and walkers, but it is unclear how it will tie into Oxford Road on the northeast end. That is a congested area, across from the primary entrance to Easton Club at Countryclub Drive. Walking or biking to the YMCA, Easton Middle School, Idlewild Park, and Easton itself will still require traversing the constrained shoulders on the bridge over the Tred Avon and then the busy intersection at the Parkway, which has had several significant accidents just in 2023. The subdevelopment will be more attractive if its residents can safely walk to these amenities. The Town of Easton should develop permanent solutions that link the multimodal path to Easton. In the short term, we believe that pedestrian signals should be added at the intersection of Oxford Road and the Parkway to help pedestrians cross safely.

Posted speed limits on Oxford Road should also be modified. Most traffic routinely exceeds the posted limits, which has caused accidents on Oxford Road between the Parkway and Waverly Road as traffic enters and exits our subdivision and Easton Club. This will only get worse when the access road for this subdevelopment is constructed. We believe that the speed limits on Oxford Road should be reduced to 30 mph from the Parkway to Waverly Road to allow traffic on Oxford Road and traffic trying to enter Oxford Road more time to sort things out.

We also have questions/concerns about the buffers that will abut our properties. In particular:

- Will management of the landscape bufferyard (E) preserve the existing trees along the eastern border of the subdevelopment adjoining Papermill Crossing?
- Will the landscape bufferyard (E) be protected by a protective easement?
- How will the 100-foot forest conservation buffer adjoining our property be managed?

Thank you for the opportunity to submit these comments.

Sincerely,

Thomas Ledvina
President

RECEIVED
SEP 20 2023
TOWN OF EASTON

Samantha Smith <ssmith@eastonmd.gov>

Poplar Hill

1 message

Maury Schlesinger Thu, Sep 21, 2023 at 7:14 AM
To: "PlanningCommission@eastonmd.gov" <PlanningCommission@eastonmd.gov>, Samantha Smith <ssmith@eastonmd.gov>

Regarding Poplar Hill:

The 119 additional housing units will not create gridlock in Easton, nor will it solve the crisis in workforce housing. I have no objection to the developer's desire and right to build this project. I would like to share some observations about the design of the project which could be improved:

1. The city's planning guidelines, of street widths, sidewalks and alleys, are intended to extend the look and feel of the existing town plan to new subdivisions. However, this development lacks connections to the rest of Easton. It's just over a 1/2 mile walk from the middle of the property to Easton Middle School or St. Peter and Pauls'. But children who will be living here won't be able to walk to school. Residents going to the Y will drive to get on a treadmill. With no sidewalk along Oxford Road, and no crosswalks at the intersections of Easton Parkway, pedestrians remain stranded in the subdivision. Yes, these are beyond the boundaries of the property, but rather than Poplar Hill being another isolated housing cluster, adding them would promote walking and biking and help bind this development into the fabric of Easton.

2. The city has plans for trails through the newly acquired "passive park" to the west of the development. Yet the developers have left no way for their future residents to access this amenity. Could at least one pathway be left along the "wall of lots" on the western side of the project to permit a passageway into the park? The deer who reside in the woods and currently graze in the meadow would also appreciate that path.

3. The right-in-right out planned at the Oxford Road entrance is a mistake. Residents who will live closest to Oxford Road will curse this for making them drive the long way around to the existing Tristan Drive intersection, or will make the left into the new neighborhood despite the road design. It should be scrapped as its likely the lower density of this new plan would significantly reduce the use the Oxford Road entrance from the previous PUD design.

Thank you.

Maury Schlesinger
304 Winton Ave
Easton

September 21, 2023

Easton Planning Commission
14 S Harrison Street
Easton, MD 21601

RE: Poplar Hill Multimodal Path

Dear Easton Planning Commission,

The Eastern Shore Land Conservancy advocates for a safe multimodal path along Oxford Road to connect the town with the new woodland park.

Easton has a rare opportunity to become a regional leader in public land access. By creating a safe multimodal path over Easton Parkway along Oxford Rd to the new woodland park, the town would put itself in a position to create a continuous greenway network leading from the existing rails-to-trails network to Idlewild Park and to the new woodlands park off of Oxford Road. Eventually, the trail could also connect to Easton Point. This open space network would become a force multiplier, bringing value to the town, its residents, and visitors.

This is a dangerous intersection that will only be used more regularly (even without proper infrastructure) once the new woodland park is open. To make this a truly safe connection, careful thought needs to be given to the intersection along Easton Parkway and across the new Poplar Hill entrance on Oxford Rd. Two solutions to consider are pedestrian refuge islands and continuous sidewalks. This would create a greater level of safety for both trail users and drivers.

Thank you for the opportunity to provide comment,

Owen Bailey

Owen Bailey
Director of Land Use and Policy

114 S. Washington St., Suite 101, Easton, MD 21601 | 410-690-4603 | FAX 410-690-4604 |www.eslc.org