



Planning Commission MEETING AGENDA

Thursday, September 17, 2026 - 1:00 PM
Council Chambers, Easton Town Office
14 S Harrison Street

1. Call to Order

2. Approval of Minutes

- a. Approval of the Draft Decision Summary from the August 20, 2026 Meeting.

3. Staff Item

- a. **Application Number:** 2026 - 1819
Applicant: Town of Easton
Location: Hailem School Road
Tax Map 0014, Parcel 0038
Request: Review of electrical substation #5 and its consistency with the goals and objectives of the Town of Easton Comprehensive Plan.

4. Adjournment



**Town of Easton Planning Commission
Draft Decision Summary**

Thursday, August 20, 2026 at 1:00 p.m.

Town Hall Chamber 2

14 S. Harrison Street, Easton, Maryland

Archived video of the meeting is available at:

[Town of Easton Agendas and Minutes](https://www.eastonmd.gov/Agendas/Agendas%20and%20Minutes)
[\(eastonmd.gov\)](https://www.eastonmd.gov/)

Attendance:

Commission Members:

Philip Toussaint, Chairperson
Michael Ports, Vice Chairperson
Tom Klein
Victoria McAndrews
William Ryall

Absent:

Commission Members:

Laurie Forster, Alternate

Staff:

Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas AICP, Town Planner
Joseph Mayer, Plan Reviewer
Nicholas Johnson AICP, Planner
Sharon Van Emburgh, Esq., Town Attorney
Rick Van Emburgh P.E., Town Engineer
Samantha Smith, Planning Technician

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

2. Decision Summary Review —

a. July 16, 2026 - The Commission noted the following correction to the draft decision summary:

i. Line 53: Correction to the roll call vote.

Vice Chairperson Ports moved to approve the July 16, 2026 Decision Summary with amendments. Commissioner Klein seconded the motion.

<u>Vote</u>	<u>5 - 0</u>
FOR:	5 - Toussaint, Ports, Klein, McAndrews, Ryall
AGAINST:	0
ABSTAIN:	0
ABSENT:	0

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56
57 **3. Old Business — None**
58
59

60 **4. New Business**
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62 **a. File No.: 2026 - 1771**

63 **Applicant:** **Neighborhood Service Center, Inc.**

64 **Location:** 25 E. Dover Street, Easton, MD 21601

65 Tax Map 0103, Grid 00EA, Parcel 122

66 **Zoning:** CB

67 **Request:** The Applicant is requesting approval for the Temporary Use of a
68 Retail Thrift Store by a non-profit organization in the Central Business (CB)
69 zoning district. The Applicant is seeking a temporary use approval to operate a
70 retail thrift store for selling donated household items and furniture through the
71 period from April 30, 2026 to December 31, 2026.

72
73 **Staff Presentation:**

74 Joseph Mayer, Plan Reviewer

75 Miguel Salinas, Planning and Zoning Director

76 Lynn B. Thomas AICP, Town Planner
77

78 **Applicant Presentation:**

79 Andrew Hollis, Neighborhood Service Center, Inc.

80 Richard Marks, Dover Soul, LLC
81

82 **Public Comment — None**

83 **Public Comment Written — None**
84

85 **Vice Chairperson Ports moved to approve the Temporary Use request as submitted,**
86 **extending the temporary use approval until June 30, 2027. Commissioner**
87 **McAndrews seconded the motion.**
88

89

Vote	5 - 0
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90 FOR: 5 - Toussaint, Ports, Klein, McAndrews, Ryall

91 AGAINST: 0

92 ABSTAIN: 0

93 ABSENT: 0
94

- 95 **b. Ordinance No. 863.** — In response to public feedback, The Town of Easton
96 Council introduced *Ordinance No. 863* at their August 17, 2026 meeting to
97 establish a moratorium on Data Centers. The Council is requesting a formal
98 recommendation from the Town of Easton Planning Commission for the adoption
99 of a temporary moratorium on the application for, approval of, construction of,
100 expansion of, or processing of, or issuance of building permits for the operation of

emerging technologies commonly known as "data processing" centers, "data mining" centers or "data centers" (collectively, "Data Centers") within the Town of Easton for a period of twelve (12) 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. A public hearing on the Ordinance is scheduled to be held at the Council's September 8, 2026 meeting.

Staff Presentation:

Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas AICP, Town Planner
Sharon Van Emburgh, Esq., Town Attorney

Public Comment — None

Public Comment Written — None

Chairperson Toussaint moved to forward a favorable recommendation to the Council for the enactment of Ordinance No. 863, establishing a twelve (12) month moratorium on Data Centers. Vice Chairperson Ports seconded the motion.

Vote	5 - 0
FOR:	5 - Toussaint, Ports, Klein, McAndrews, Ryall
AGAINST:	0
ABSTAIN:	0
ABSENT:	0

- c. Ordinance No. 864.** — To supplement *Ordinance No. 863*, the Town of Easton Council also introduced *Ordinance No. 864*, an amendment to the Town of Easton Zoning Code. The Council is requesting a formal recommendation from the Town of Easton Planning Commission for the adoption of the amendment which formally defines the Data Center Use, classifies it as a prohibited use across all zoning classifications within the Table of Permissible Uses, and establishes supplemental standards for such uses. Additionally, this Ordinance also prohibits the processing or acceptance of any Data Center applications for the duration of the moratorium to ensure adequate opportunity for public feedback, and to allow the Commission and staff to perform the required research concerning Data Center regulation. A public hearing on the Ordinance is scheduled to be held at the Council's September 8, 2026 meeting.

Staff Presentation:

Miguel Salinas, Planning and Zoning Director
Lynn B. Thomas AICP, Town Planner
Sharon Van Emburgh, Esq., Town Attorney

Public Comment — None

Public Comment Written — None

Chairperson Toussaint moved to forward a favorable recommendation to the Council for the enactment of *Ordinance No. 864*, to amend the Town of Easton Zoning Code. Vice Chairperson Ports seconded the motion.

Vote	5 - 0
FOR:	5 - Toussaint, Ports, Klein, McAndrews, Ryall
AGAINST:	0
ABSTAIN:	0
ABSENT:	0

5. Staff Items —

a. Applicant: Town of Easton

Location: West Glenwood Avenue

Request: The Town of Easton is formally requesting the Commission's review of Phase 3 of the Easton Multi-Use Path (Rails-to-Trails) for consistency with the goals and objectives of the Town of Easton Comprehensive Plan. In accordance with Section 3-205.b of the Maryland Lane Use Article for Planning Commission Review, a publicly or privately owned street, square, park, or other public way, ground, or open space, a public building or structure, or a public utility may not be authorized or constructed in the local jurisdiction until the Planning Commission has determined that the location, character, and extent of the proposed development is consistent with the Comprehensive Plan. The current draft of the Comprehensive Plan strongly supports and encourages this portion of the proposed project.

Staff Presentation:

Lynn B. Thomas AICP, Town Planner
Sharon Van Emburgh, Esq., Town Attorney
Rick Van Emburgh P.E., Town Engineer

Public Comment:

John "Jack" Sullivan, 109 N. Hanson Street

Public Comment Written — None

Commissioner McAndrews moved that Phase 3 of the Easton Multi-Use Path (Rails-to-Trails) is consistent with the goals and objectives of the Town of Easton Comprehensive Plan. Commissioner Ryall seconded the motion.

Vote	5 - 0
FOR:	5 - Toussaint, Ports, Klein, McAndrews, Ryall
AGAINST:	0
ABSTAIN:	0

193 ABSENT: 0

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196 **6. Discussion Items**

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- 198 **a. Easton Comprehensive Master Transportation Plan** — In collaboration with
- 199 consultant Larry Marcus of Forward Progress, the Town is in the process of
- 200 developing and implementing a Comprehensive Master Transportation Plan. This
- 201 Plan includes a targeted technical assessment of current traffic conditions and
- 202 future buildout per the Comprehensive Plan; serving as a strategic framework to
- 203 align future land use planning and development with a supportive and resilient
- 204 transportation network. The Comprehensive Master Transportation Plan expands
- 205 upon the framework established in the Town's draft Complete Streets manual,
- 206 which establishes guidelines for the design, construction, operation, and
- 207 maintenance of rights-of-way to serve all users, regardless of age, physical ability,
- 208 or mode of travel.
- 209

210 Mr. Marcus discussed the scope of work of the two (2) phases involved with the

211 development of the Comprehensive Transportation Master Plan. Phase 1 focuses

212 on collecting transportation network data to create a foundation for informed

213 decision making. Key elements of this phase include mapping the complete streets

214 network on existing roads, measuring current traffic conditions, surveying the

215 pedestrian and bicycle network, and establishing objectives and performance

216 measures. Building upon the Phase 1, Phase 2 of the Plan uses the information

217 collected to quantify future traffic conditions with and without network

218 improvements; and identifies gaps and opportunities for improvement of

219 pedestrian/bicycle and safety connectivity. The Town will continue to finalize the

220 final draft Complete Streets Manual, hold workshops with stakeholders, and

221 continue working to update Comprehensive Plan Network Maps. For additional

222 information and ongoing updates regarding the Comprehensive Master

223 Transportation Plan and Complete Streets Manual, all interested persons may visit

224 the Town of Easton's *Engage Easton* platform at <https://engage.eastonmd.gov>.

225

226 **Public Comment:**

227 Heather Grant, Executive Director of Talbot Thrive

228

229 **Public Comment Written** — None

230

- 231 **b.** The Commission expressed a moment of gratitude and appreciation to Victoria
- 232 McAndrews for her dedicated service to the Planning Commission. Over her eight
- 233 (8) year tenure, Mrs. McAndrews was recognized for her thorough attention to
- 234 detail, and outstanding contribution to significant legislative reviews including the
- 235 ongoing update of the Comprehensive Plan. The Commission commended Mrs.
- 236 McAndrews for years of public service, and extended their best wishes for her
- 237 future endeavors.
- 238

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6. **Adjournment** — Chairperson Toussaint moved to adjourn. Commissioner McAndrews seconded the motion. The meeting was adjourned at 2:37 p.m.



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

Date of Hearing: September 17, 2026

3a

**PLANNING COMMISSION
PUBLIC HEARING
STAFF REPORT**

SUBJECT: Hailem School Road - Parcel D

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: Easton Utilities % Aaron Goller

DOCUMENT CREATED ON: September 4, 2026

PURPOSE: The applicant requests that the Planning Commission (Commission) review and determine whether the location, character, and extent of the proposed project is consistent with the Comprehensive Plan.

RECOMMENDATION: Should the Commission approve this project for consistency with the Comprehensive Plan, staff recommends approval with a proposed condition (see below).

APPLICATION INFORMATION:	
APPLICANT: Easton Utilities % Aaron Goller (Developer)	REPRESENTATIVE: Sargent & Lundy (Agent) % Chad Amateau
PARCELS/ACREAGE:	
Parcel Information	Acreage
Map 0017, Grid 0023, Parcel 0038	3.12
ACCEPTANCE DATE: August 31, 2026	LOCATION: Hailem School Road, Map 0017, Parcel 0038, Parcel D
EXISTING ZONING RH	EXISTING LAND USE: UMMS Regional Shore Medical Center.
HISTORIC DISTRICT: Not Applicable	FUTURE LAND USE MAP: Institutional

CONTEXT:

Location/Site Access – The subject property is located along the east side of Hailem School Road.

Existing Conditions – The subject property is a vacant lot within the UMMS Regional Shore Medical Center.

Surrounding Properties

- Parcel 129, Ocean Gateway - RH

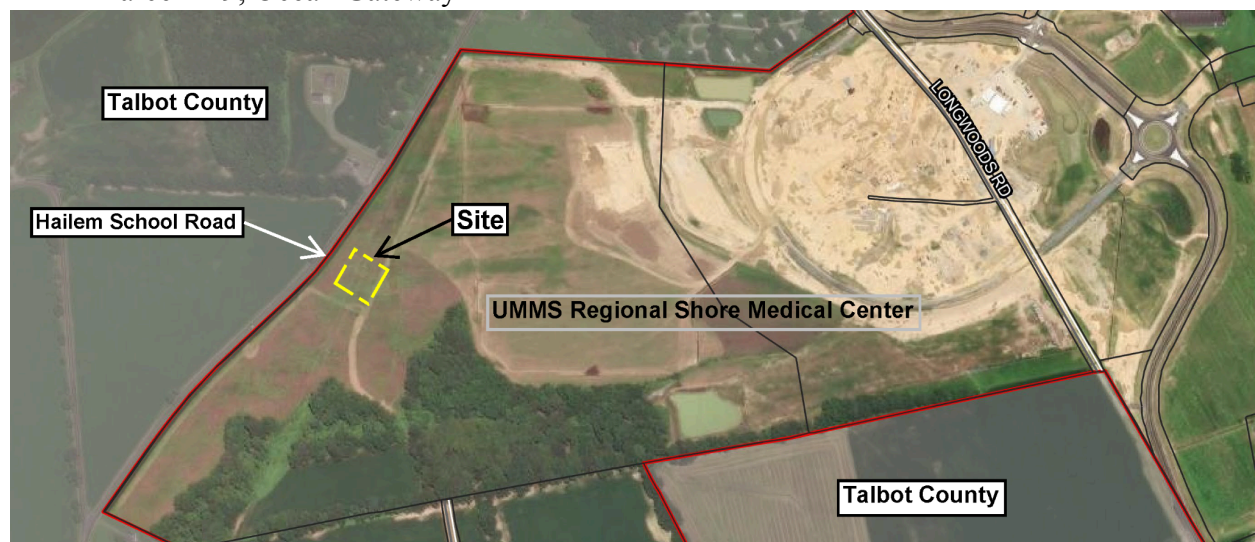


Figure 1: Vicinity Map

PROPOSAL: The applicant proposes constructing an electrical substation for Easton Utilities on a developed site at the UMMS Regional Shore Medical Center. This project includes electric Substation #5, alongside a gravel drive aisle, and a stormwater management facility. The property's perimeter is fully secured and screened by a chain-link fence with vinyl privacy slats. Ultimately, connecting Substation #5 via the proposed underground ductbank installation along Mistletoe Drive to the Substation #3 ductbanks will supply added electrical capacity, enhance system reliability, and meet current as well as projected growth in the service territory.

BACKGROUND: The applicant submitted an application to the Easton Staff Development Review Committee on August 27, 2026.

ZONING ANALYSIS:

A. Permissible Land Uses

§ Section 28-311.3 Permitted Uses

F Miscellaneous uses

3. Private utility, infrastructure and maintenance facilities;
4. Public utility uses and structures;

Analysis – The proposal submitted by the Applicant entails establishing utility infrastructure, which consists of an electric substation, along with a gravel drive aisle and a facility for stormwater management. There's a chain-link fence featuring vinyl privacy slats that provides full security and screening around the perimeter. Under § Section 28-311.3.F.4 of Permitted Uses, this development is classified as "*Miscellaneous, public utility uses and structures,*" which represents a permitted use.

B. RH District Development Standards

Table 1. Development Standards		
RH Zoning District	Standard	Proposed
Setbacks	Front = 30 feet Side = 15 feet Rear = 15 feet	<i>See Section 28-311.2.C.4a&b listed below</i>
Lot Size (min.)	10,000 square feet	135,859 square foot
Lot Frontage (min.)	60 feet	400 feet +/-
Building Envelope (min.)	60 feet x 40 feet	325 feet x 370 feet

Development shall also meet these additional Development Standard requirements from Section 28-311.2 of the Zoning Ordinance.

Analysis - The site falls under the RH - Regional Healthcare District Area and meets the 28-311.2 Development Standards. Any comments or concerns from the ESDR review letters will be addressed during the Development Site Plan review.

C. 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 - Forest Conservation was previously satisfied under the Forest Conservation Easement Agreement Book 3156, Page 160.

POLICY ANALYSIS:

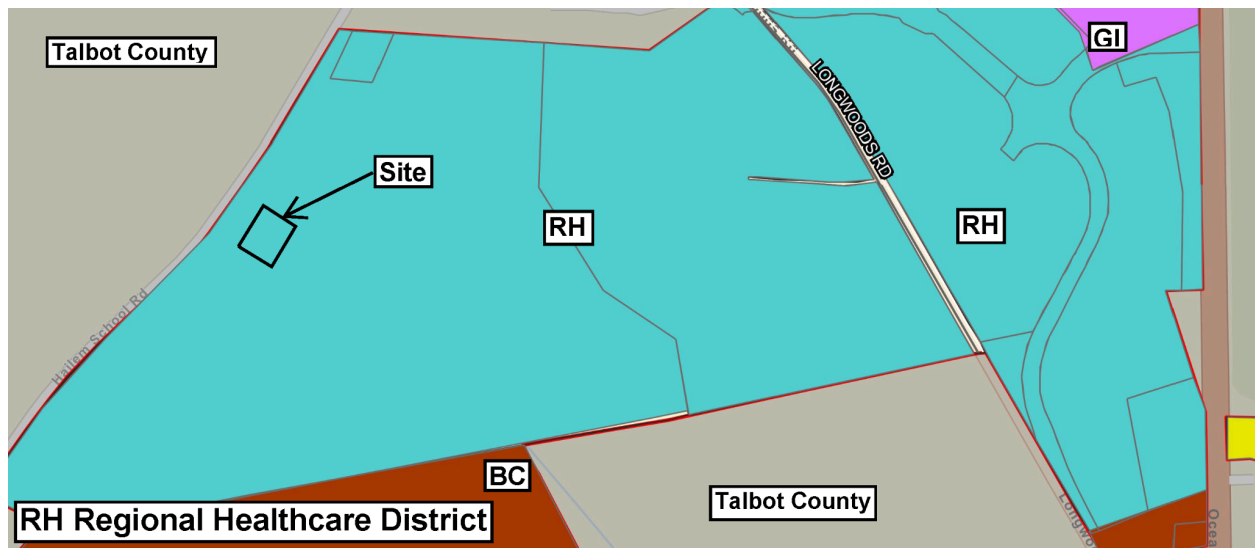


Figure 2: Zoning Map

Analysis - Substation #5 is located in Parcel D of the UMMS Regional Shore Medical Center, designated as Institutional on the Future Land Use Map. Connecting Substation #5 to Substation #3 ductbanks via an underground installation along Mistletoe Drive will increase capacity, improve reliability, and accommodate current and projected demand.

Easton's character centers on sustainability, preservation, and self-sustaining municipal services. The substation supports this by ensuring a reliable grid, while the Comprehensive Plan supports Zoning and Development Controls—such as buffers, setbacks, and landscaping—to protect town aesthetics. To address extent, infrastructure is scaled to support planned growth and land use goals, coordinated under the Community Facilities and Services element to avoid service fragmentation. Regarding location, facilities are situated inside the Urban Growth Boundary near high-demand areas and along existing rights-of-way or corridors to maximize efficiency and

protect historic areas. (2010 Comprehensive Plan, Community Character pages 115 -119, Community Facilities and Services, pages 190-192.)

RECOMMENDED CONDITION:

Based upon the location, character, and extent of the proposed project, staff finds that it is consistent with the Town's Comprehensive Plan.

Staff suggests the Planning Commission consider recommending the following condition of approval:

- Address all ESDR comments intended to be complete during the Development Site Plan review.

DRAFT MOTIONS:

1. I move that the Planning Commission approve the location, character and extent of this project as consistent with the Comprehensive Plan, subject to staff's Conditions of Approval.

OR

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

OR

3. I move an alternate motion.

ATTACHMENTS:

1. 2026.03.19 - EASTON SWM REPORT, paper copy & PDF
2. 2026.08.19 Construction Plans Cover Letter - Sub5_ Sub3_ Mistletoe, paper copy & PDF
3. 2026.08.31 TOE ESDR Premeeting Comment Letter_EUC Substation #5, paper copy & PDF
4. 2026.09.10 Site Plan EUC Substation #5, paper copy & PDF



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

Phase 1: Pre-submission Easton Staff Development Review (ESDR) Premeeting Worksheet

Date: August 27, 2026

Project: Construction Plans for Easton Utilities Substation #5

To: Aaron Goller - % Easton Utilities (Developer)

CC: Chad Amateau - % Sargent & Lundy (Engineer)

The Phase 1: Pre-submission Easton Staff Development Review (ESDR) premeeting was held on August 27th at 1:30 pm. Staff reviewed the proposed Sketch Site Plan application. Situated along Hailam School Road (identified as Tax Map 17, Parcel 38), the property encompasses an electrical substation for Easton Utilities.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at the premeeting. Once the premeeting requirement is satisfied and a formal application is officially filed for technical agency review and written comments. The review process is then repeated for each resubmittal until the applicant requests the application move forward to a public hearing or the Planning and Zoning Director (or designee) determines the application is complete and forwards it to the Planning Commission for a public hearing. If the application does not qualify for an accelerated review (see below), the applicant may request that the application move forward to a Planning Commission public hearing at any time following the second round of agency review comments.

Please note that following the receipt of the first round of agency reviews, the applicant may request in writing that the application be forwarded to the Planning Commission for a public hearing. The request shall detail why the application qualifies for an accelerated review. The request will be evaluated by the Planning and Zoning Director (or designee), after consulting with each reviewing agency and after taking into consideration for technical readiness, exclusion of substantive issues and the written submission by the applicant.

Based on the pre-submission, the Staff identified a use which requires action by the Board of Zoning Appeals to obtain a Variance request for the proposed height of the fence.

Please submit all revised documents to the Planning & Zoning Department for processing and review.

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

Sincerely,

Joseph A. Mayer
Plan Reviewer



TOWN OF EASTON PLANNING & ZONING DEPARTMENT

P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: August 27, 2026
TO: Aaron Goller - % Easton Utilities (Developer)
Chad Amateau - % Sargent & Lundy (Engineer)
Cc: Miguel Salinas – Director of Planning & Zoning Department
Rick VanEmburch – Town Engineer

FROM: Joseph A. Mayer - Plan Reviewer, Planning & Zoning Department
SUBJECT: Construction Plans for Easton Utilities Substation #5

We reviewed the **August 19, 2026** Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #1

1. Under Section § 3-205 of the Maryland Land Use Article, public facilities, public utility projects, public ways, and public parks and open space must be reviewed and approved by the Planning Commission regarding their location, character, and extent to ensure consistency with the Comprehensive Plan and associated subplans before authorization or construction can occur. Accordingly, the applicant is required to place this project on the agenda for the next available Easton Planning and Zoning Commission meeting so the Commission can review the proposed conduit installation for alignment with the Town of Easton's Comprehensive Plan goals and objectives.
2. The proposed eight (8) foot high fence will require a variance from the Board of Zoning Appeals.
3. Per the plan requirements within the checklist, add the Ward District and Easton, Maryland within the title blocks. In addition, stamp all plans prior to 100% - "PRELIMINARY - FOR REVIEW ONLY".
4. Jurisdictional boundaries are to be shown for properties located adjacent to the Town Boundary.
5. For adjoining property information, show: Tax Map and Parcel and adjacent zoning district.

6. In accordance with the checklist criteria, *display all site-influencing features on adjoining parcels, including wetlands, slopes, floodplains, retaining walls, embankments, and additional physical or environmental conditions*. The proposed 18-inch outfall pipe extends into the neighboring forest conservation easement, which is currently undergoing a separate revision process. Consequently, an easement must be granted for the outfall pipe, and the existing forest conservation easement must be amended accordingly.
7. Provide a dimension between the drive aisle and the adjacent property line on the east side of the property.

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



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

Phase 1: Pre-submission Easton Staff Development Review (ESDR) Premeeting Worksheet

Date: August 27, 2026

Project: Substation #3 to Substation #5 Ductbank Installation

To: Aaron Goller - % Easton Utilities (Developer)

The Phase 1: Pre-submission Easton Staff Development Review (ESDR) premeeting was held on August 27th at 1:30 pm. Staff reviewed the proposed Sketch Site Plan application. Situated along Hailem School Road (identified as Tax Map 17, Parcel 38), the property encompasses the ductbank installation from Substation #3 to Substation #5 for Easton Utilities.

The Committee determined that the project will need to address all agency comments as specified in the attached review letters and at the premeeting. Once the premeeting requirement is satisfied and a formal application is officially filed for technical agency review and written comments. The review process is then repeated for each resubmittal until the applicant requests the application move forward to Development Site Plan review or the Planning and Zoning Director (or designee) determines the application is complete and forwards it to Development Site Plan review. If the application does not qualify for an accelerated review (see below), the applicant may request that the application move forward to Development Site Plan review at any time following the second round of agency review comments.

Please note that following the receipt of the first round of agency reviews, the applicant may request in writing that the application be forwarded to Development Site Plan review. The request shall detail why the application qualifies for an accelerated review. The request will be evaluated by the Planning and Zoning Director (or designee), after consulting with each reviewing agency and after taking into consideration for technical readiness, exclusion of substantive issues and the written submission by the applicant.

Based on the pre-submission, the Staff identified that there was no action required by the Board of Zoning Appeals.

Please submit all revised documents to the Planning & Zoning Department for processing and review.

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

Sincerely,

Joseph A. Mayer
Plan Reviewer



TOWN OF EASTON PLANNING & ZONING DEPARTMENT

P.O. Box 520
Easton, Maryland 21601
410-822-1943
www.EastonMD.gov

DATE: August 27, 2026
TO: Aaron Goller - % Easton Utilities (Developer)
Cc: Miguel Salinas – Director of Planning & Zoning Department
Rick VanEmburch – Town Engineer

FROM: Joseph A. Mayer - Plan Reviewer, Planning & Zoning Department
SUBJECT: Substation #3 to Substation #5 Ductbank Installation

We reviewed the **August 19, 2026** Submittal for the Subject Project and have the following comments:

PLANNING & ZONING COMMENTS

Sketch Site Plan Review #1

1. Per the plan requirements within the checklist, add the Ward District and Easton, Maryland within the title blocks. In addition, stamp all plans prior to 100% - "PRELIMINARY - FOR REVIEW ONLY".
2. Jurisdictional boundaries are to be shown for properties located adjacent to the Town Boundary.
3. For adjoining property information, show: Tax Map and Parcel and adjacent zoning district.

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



EASTON UTILITIES

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Easton Utilities Commission

Plan Review Comments

Date: 08/19/26

To: Sierra Clem, Nancy Pinkney

From: Te Simmons on behalf of Aaron Goller, PE

Address: Hailem School Rd

Project Name: Substation #3 to Substation #5 Ductbank Installation

Phase: Easton Staff Development Review (ESDR)

SUBM:

Status: **APPROVED**

Easton Utilities Commission has reviewed the above referenced plans and determined the plans are **"Approved"**.

An **"Approved"** status means plans do not require resubmission where utilities are concerned.

Please contact Te Simmons, Engineering Administrative Support at tsimmons@eucmail.com should you have any questions.



**DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

9030 Mistletoe Drive
Easton, MD 21601
410-820-8822
www.EastonMD.gov

DATE: August 31, 2026
TO: Chad Amateau – P.E. Sargent & Lundy
Cc: Rick Van Emburgh – Town Engineer
Lynn Thomas – Town Planner
Aaron Goller – EUC
FROM: Julie Carroll – Engineering Division
SUBJECT: Hailem School Road Substation #5 & Goldsborough Neck Road
Ductbank; Preliminary Site Plan

Our office has reviewed the Application for the Subject project received on 08/14/2026. The Engineering Department has no objection to the proposed improvements/use of the property. Our comments for the proposal are as follows.

Substation Construction Plans:

1. Provide an updated Site Plan with updated property lines and Forest Conservation limits as discussed at the premeeting.
2. Once the Site Plan has been updated per #1, coordinate a meeting with the Engineering Division to review Stormwater Management approach and application.
3. Coordinate with the County for ROW access permits to Hailem School Road (County Road).
4. Coordinate with Delmarva Power and Light for License Agreements.
5. There is a driveway/access road on the North shown, but no driveway is shown (but was discussed as desired layout) at the South flag/stem of the property.
6. Stormwater Management (SWM) features cannot be located within Forest Conservation Areas (FCA). Outfall pipes also need to be located within their own Easement and not included in the FCA.
7. Provide sections at SGW and berm to verify grading, property limits and constructability.
8. Provide SWM Report.

Ductbank Plans:

1. No comments.

Please contact me if you have any questions.

END OF DOCUMENT

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



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**Subject Line: Mistletoe Drive to Substation #3 Ductbank Installation
Substation #3 to Substation #5 Ductbank Installation
Construction Plans for Easton Utilities Substation #5**

8/13/2026

To Whom it May Concern,

Please find the attached Eastern Utilities proposed construction plans for Substation No. 5, along with the installation of an underground ductbank leading to the substation. These projects will help to support our continued reliability, and long-term needs of the electrical distribution system and our community. This provides additional electrical capacity, improved system resiliency, and accommodates current and anticipated growth within the service area.

Substation No. 5 will provide Eastern Utilities with an additional point for receiving, transforming, and distributing electrical power. The additional substation will improve operational flexibility, and provide greater redundancy during equipment failures, maintenance activities, and emergency conditions. Establishing this additional capacity will also position Eastern Utilities to better serve future residential, commercial, institutional, and municipal development.

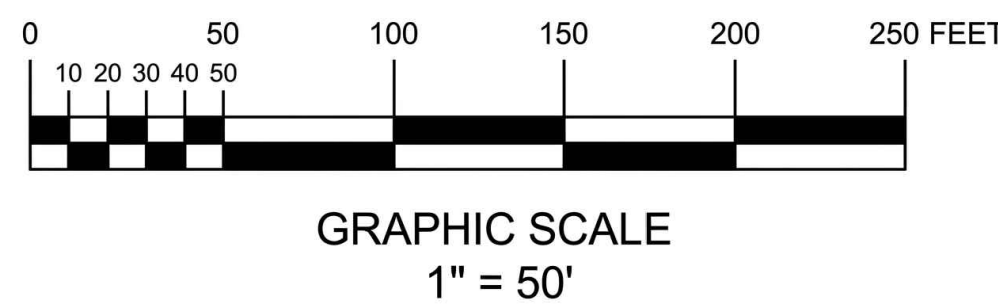
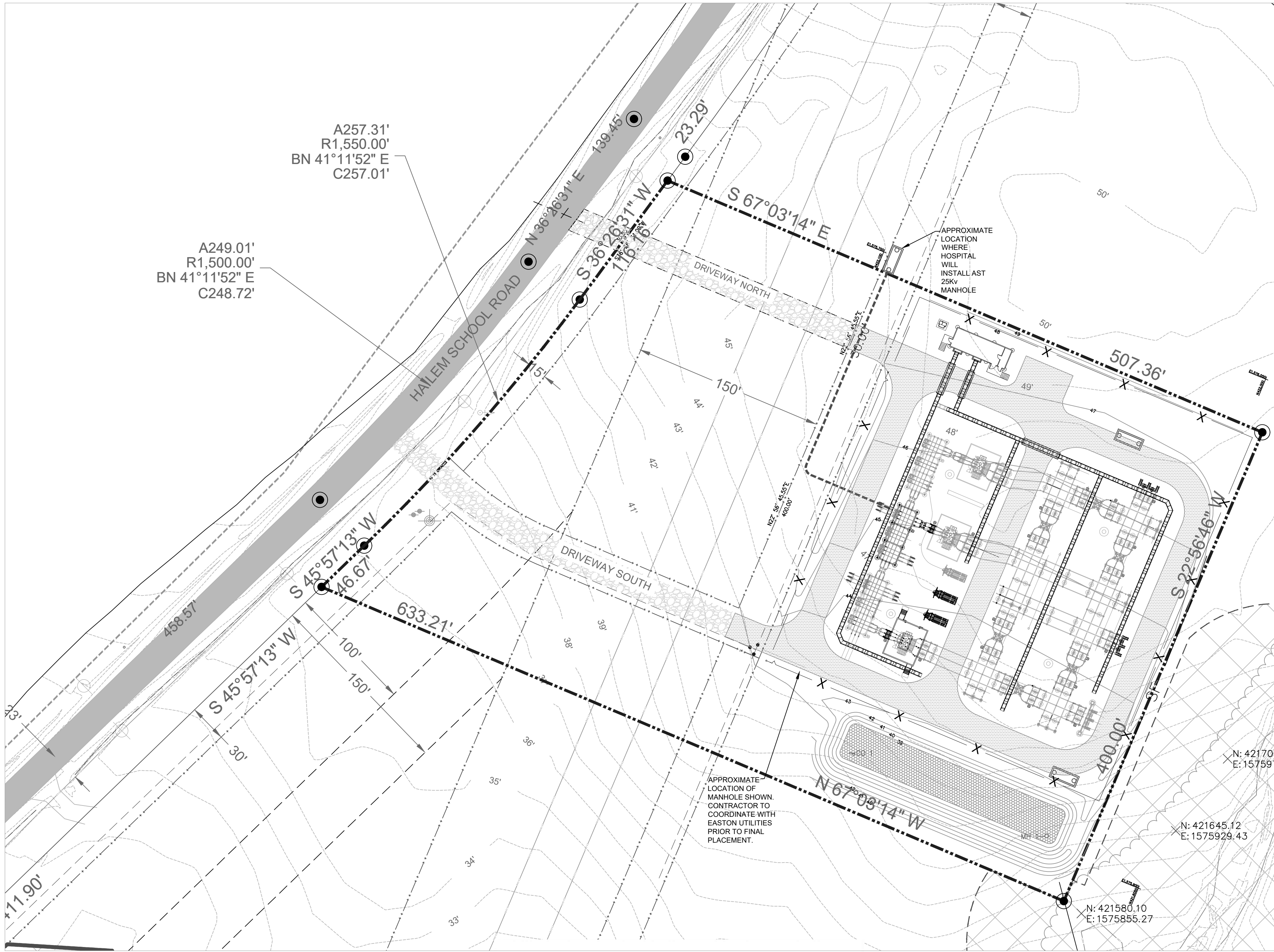
The proposed ductbank installation leading to Substation No. 5 is an integral component of the project. The ductbank will provide a protected underground pathway for the electrical distribution and transmission infrastructure necessary to connect the substation to the existing utility system. Installing the ductbank as part of the project will improve system reliability, protect critical electrical infrastructure from physical and environmental impacts, and provide additional capacity for future electrical needs. An underground ductbank also minimizes conflicts with existing utilities and reduces the need for future excavation within the public right-of-way.

The combined construction of Substation No. 5 and the associated ductbank represent a necessary investment in Eastern Utilities' current and future infrastructure. The project will enhance reliability, provide additional capacity, and help establish the infrastructure necessary to meet the community's long-term electrical needs. Eastern Utilities respectfully requests consideration and support for these projects as an important component of maintaining our safe, reliable, and resilient utility system.

Sincerely,

Easton Utilities

CONSTRUCTION PLANS FOR
"EASTON UTILITIES SUBSTATION #5"
EASTON UTILITIES COMMISSION
TAX MAP 17, GRID 23, PARCEL 129 (PARCEL C)
TOWN OF EASTON, TALBOT COUNTY, MARYLAND



REVIEWED FOR THE TALBOT'S SOIL CONSERVATION DISTRICT AND MEETS
TECHNICAL REQUIREMENTS

APPROVED:

TALBOT SOIL CONSERVATION DISTRICT DATE

NOTE: THE TALBOT'S 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, HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION SHALL BE DONE ACCORDING TO THIS PLAN OF EROSION AND SEDIMENT CONTROL. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN. ANY CHANGES MADE IN THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGE ON THE CONTRACTOR OR SUBCONTRACTOR. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. THE DEVELOPER WILL PROVIDE THE DISTRICT ONE COPY OF A RED LINE AS-BUILT DRAWING OF EACH FACILITY REQUIRING A STATE POND PERMIT.

SIGNATURE DATE
PRINTED NAME

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT ALL SEDIMENT AND EROSION CONTROL MEASURES SHOWN ON THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MD STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR CURRENT REVISION THEREOF.

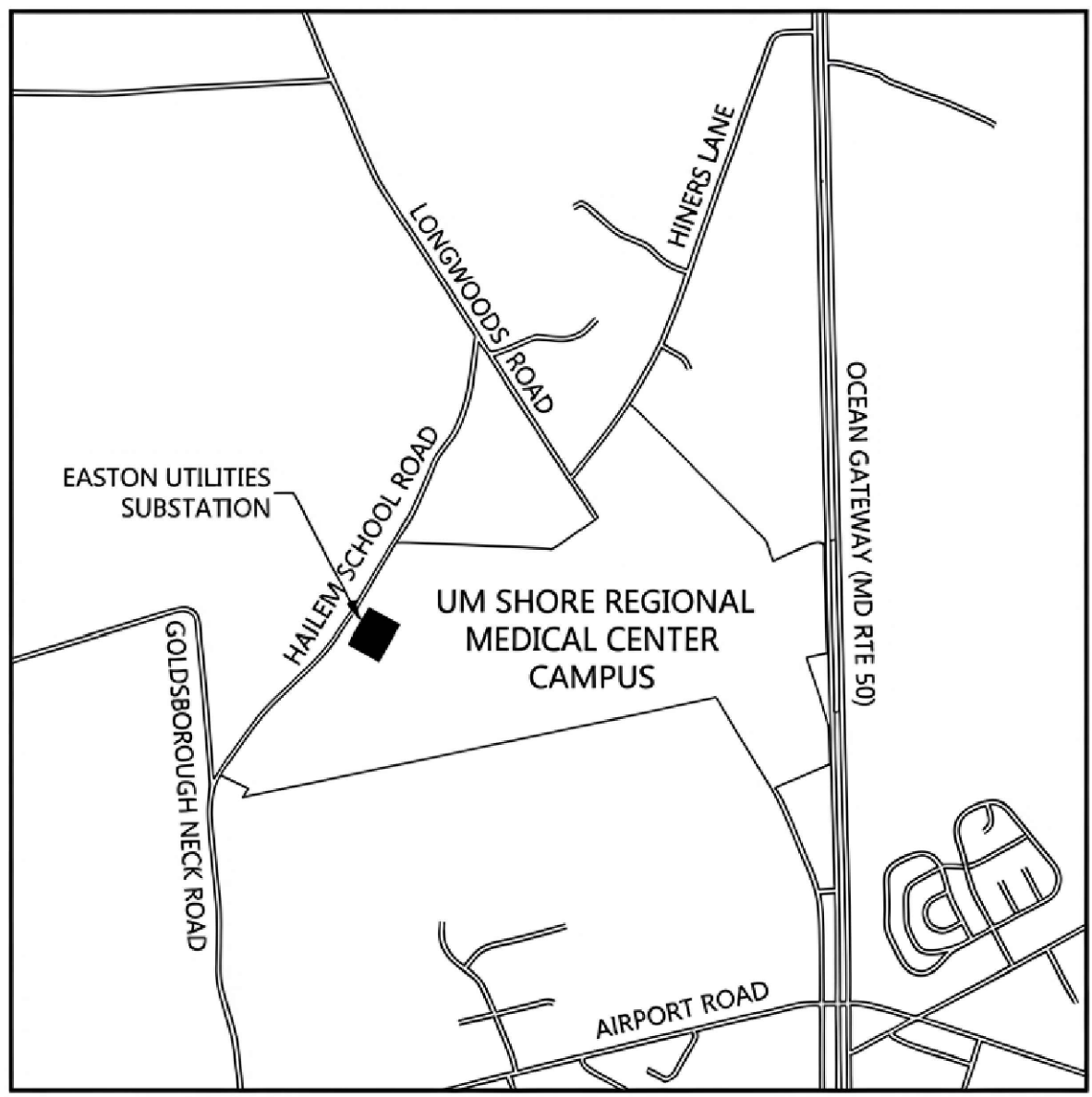
DESIGNER'S SIGNATURE DATE
CHAD AMATEAU
PRINTED NAME

MD REGISTRATION NO. 47177
P.E., R.L.S., OR R.L.A. (CIRCLE ONE)

APPROVED:
TOWN OF EASTON - TOWN PLANNER DATE

APPROVED:
TOWN OF EASTON - TOWN ENGINEER DATE

APPROVED:
EASTON UTILITIES ENGINEER DATE



VICINITY MAP
SCALE: 1" = 1,000'

INDEX OF SHEETS:

- SHEET 1 - COVER SHEET
SHEET 2 - EXISTING CONDITIONS PLAN EXISTING CONDITIONS AND INITIAL SEDIMENT AND EROSION CONTROL PLAN
SHEET 3 - FINAL SEDIMENT & EROSION CONTROL PLAN
SHEET 4 - GRADING AND STORMWATER MANAGEMENT PLAN
SHEET 5 - NOTES AND DETAILS
SHEET 6 - NOTES AND DETAILS
SHEET 7 - NOTES AND DETAILS
SHEET 8 - DELMARVA DRIVEWAY EXHIBITS

EASTON UTILITIES SUBSTATION SITE DATA AND NOTES

- SITE DATA:
- PROPERTY OWNER: SHORE HEALTH SYSTEM INC
 - DEVELOPER: EASTON UTILITIES
 - PROPERTY LOCATION: HAILEM SCHOOL RD, EASTON, MD
 - JURISDICTION: TOWN OF EASTON, MD
 - PROPERTY AREA: 3.12 AC 135,859.57 SF (DEVELOPED- NOT YET CONVEYED TO EASTON UTILITIES)
 - TAX PARCEL ID: DISTRICT-01 ACCOUNT IDENTIFIER-077899
 - DEED: DK 2304, PG. 432 (NOT YET CONVEYED)
 - TAX MAP: 0017 GRID: 023 PARCEL: 0120
 - ZONING: RH - REGIONAL HEALTHCARE DISTRICT
 - EXISTING USE: AGRICULTURAL AND FOREST
 - PROPOSED USE: ELECTRICAL SUBSTATION
 - VERTICAL DATUM: NAVD 88
 - HORIZONTAL DATUM: MARYLAND STATE PLANE (NAD 83)
 - FEMA: MAP 24041C0190D, EFFECTIVE 7/20/2016, ZONE X - AREA OF MINIMAL FLOOD HAZARD
 - USGS SOIL MAP: EASTON MAP 2023 - 7.5 MINUTE QUADRANGLE EASTON, MD
 - ENGINEER: CHAD AMATEAU, SARGENT & LUNDY, 6810 DEERPATH RD, SUITE 500, ELK RIDGE, MD 21075

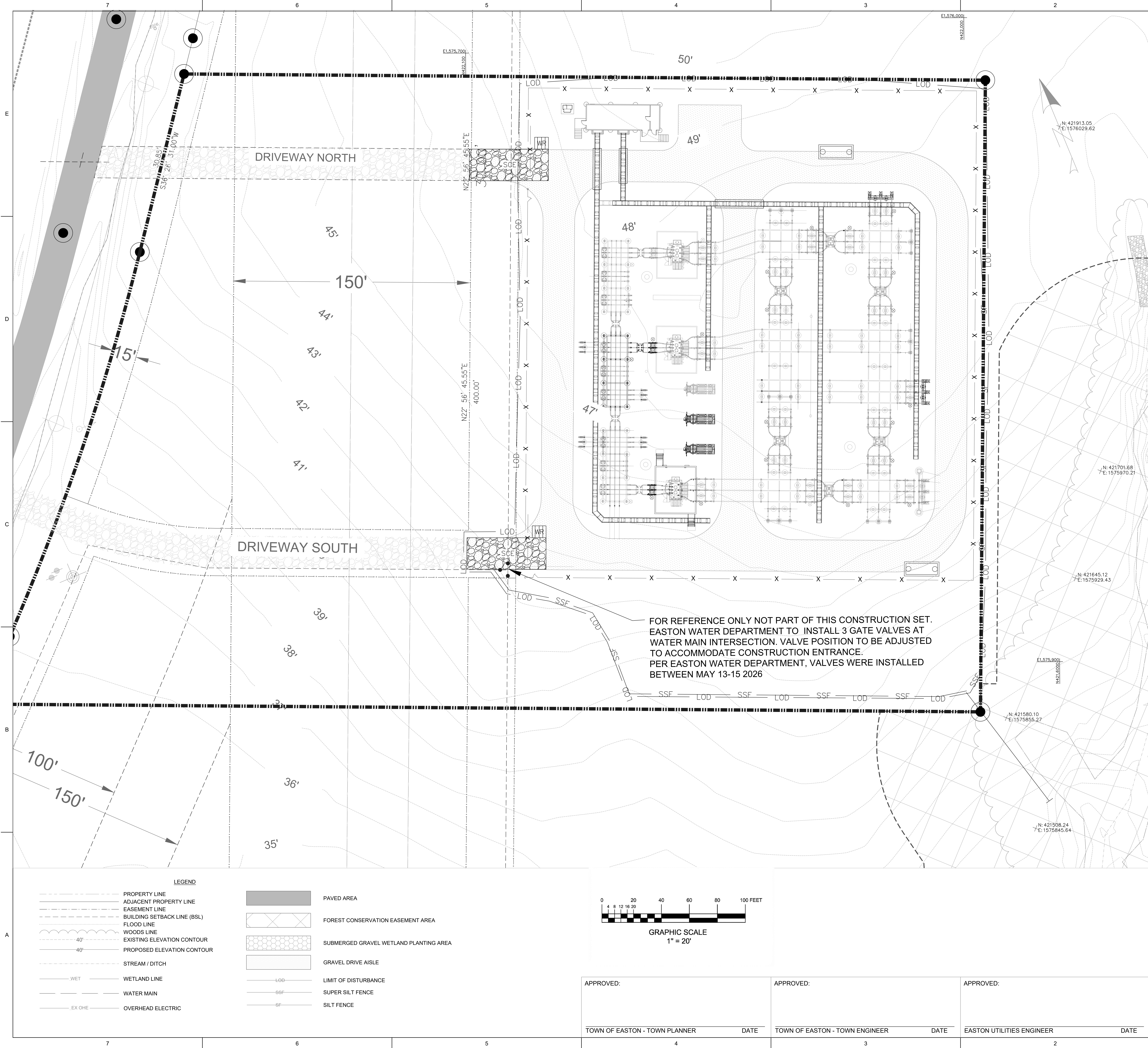
NOTES:

- PURPOSE OF THIS PLAN IS TO CONSTRUCT AN ELECTRICAL SUBSTATION FOR EASTON UTILITIES.
- BOUNDARY AND TOPOGRAPHIC INFORMATION IS PROVIDED BY DAVIS, BOWEN & FRIEDEL, INC. (DBF) 106 N. WASHINGTON STREET, SUITE 103, EASTON, MD 21601 CONTACT: DAVID E. DIEFFENDERFER, DED@DBFINC.COM DATED 02/06/2026.
- WETLANDS ARE PER FIELD DELINEATION BY DAFT MCCUNE WALKER 501 FAIRMOUNT AVENUE, SUITE 300, TOWSON, MD 21286 CONTACT: ERIC J. CHODNICKI DATED: DECEMBER 2025.
- NO DEBRIS IS TO BE BURIED ON SITE.
- NO PARKING SPACES ARE PROPOSED FOR THIS SITE. NO PERMANENT EMPLOYEES ARE PROPOSED.
- NO SANITARY SEWER IMPROVEMENTS ARE PROPOSED.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN. ANY CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL PLACE RESPONSIBILITY FOR SAID CHANGES ON THE CONTRACTOR OR SUBCONTRACTOR.
- ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT SHALL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING COURSE FOR EROSION AND SEDIMENT CONTROL PRIOR TO BEGINNING THE PROJECT.
- THE SITE IS NOT LOCATED IN THE CHESAPEAKE BAY CRITICAL AREA.
- THERE ARE NO RARE OR ENDANGERED SPECIES KNOWN TO BE LOCATED ON THIS LOT.
- ONCE CONSTRUCTION IS COMPLETE, AS-BUILT PLAN CERTIFICATION SHALL BE SUBMITTED BY A PROFESSIONAL LICENSED IN THE STATE OF MARYLAND.

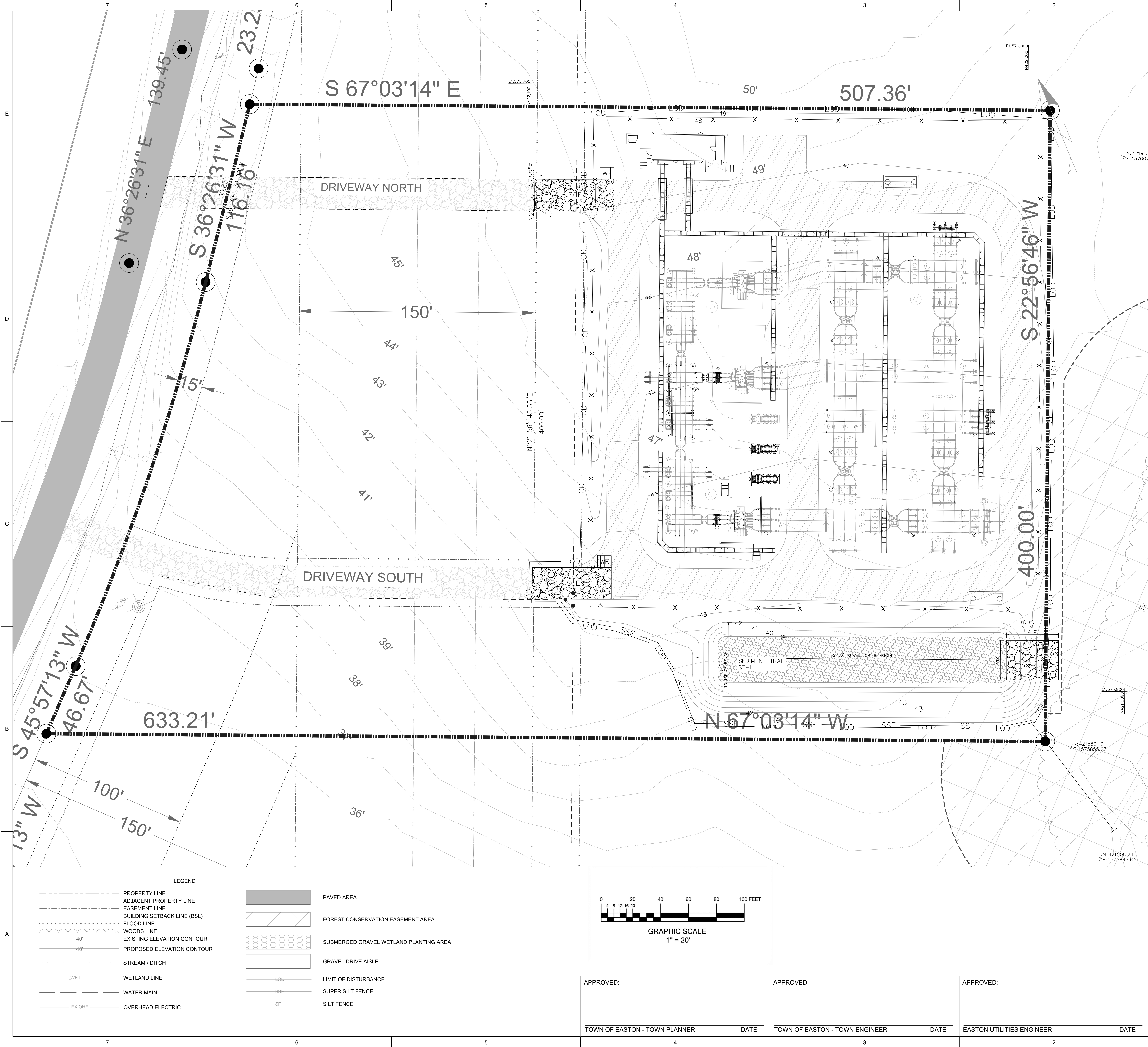
LIMIT OF DISTURBANCE (LOD) NOTE

THIS LIMIT OF DISTURBANCE (LOD) FOR THIS PROJECT IS 113,376.47 SF (2.60 ACRES). ALL LAND DISTURBING ACTIVITIES SHALL BE CONFINED WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THESE PLANS. NO CLEARING, GRADING, OR CONSTRUCTION ACTIVITY SHALL OCCUR BEYOND THE LOD WITHOUT PRIOR APPROVAL FROM THE APPROPRIATE REVIEWING AUTHORITY. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

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RELEASE INFORMATION		
REV.	DATE	DESCRIPTION
A1	03/19/2026	ISSUE FOR 60% REVIEW
A2	04/30/2026	ISSUE FOR 90% REVIEW
A3	06/05/2026	CIVIL SUBMITTAL FOR PERMIT
ISSUE PURPOSE:		ISSUE FOR PERMIT
SOFTWARE:		AUTOCAD
PROJECT NO.:		15578.003
CAD FILE NAME: C001.DWG		
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REVIEWED BY:		MET
APPROVED BY:		UN
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DRAWING TITLE		
COVER SHEET		
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SHEET	1 OF 7	
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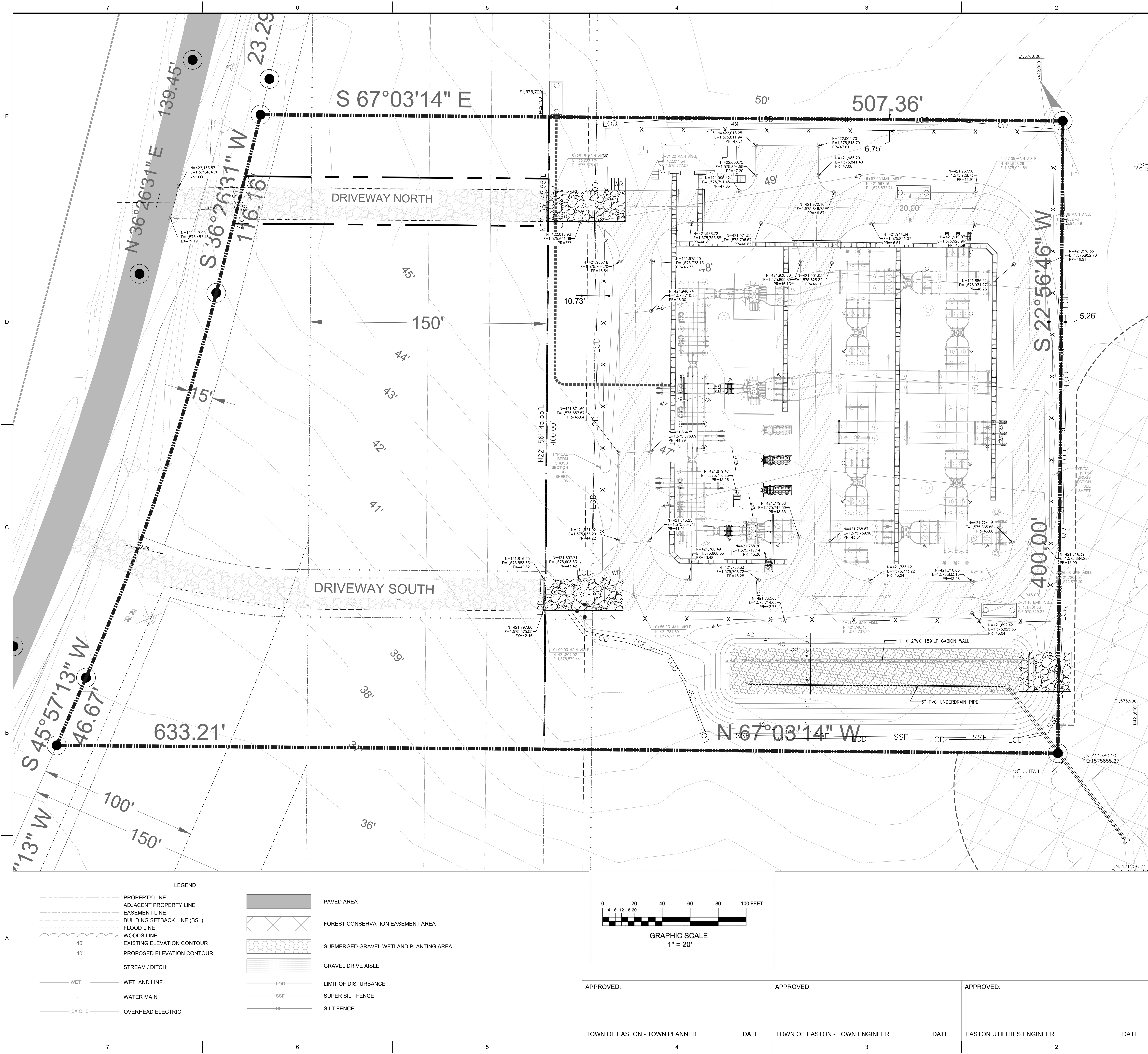


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SOFTWARE:		AUTOCAD
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DRAWING TITLE		
EXISTING CONDITIONS AND INITIAL SEDIMENT AND EROSION CONTROL PLAN		
DRAWING NUMBER		REVISION
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SHEET	2 OF 7	

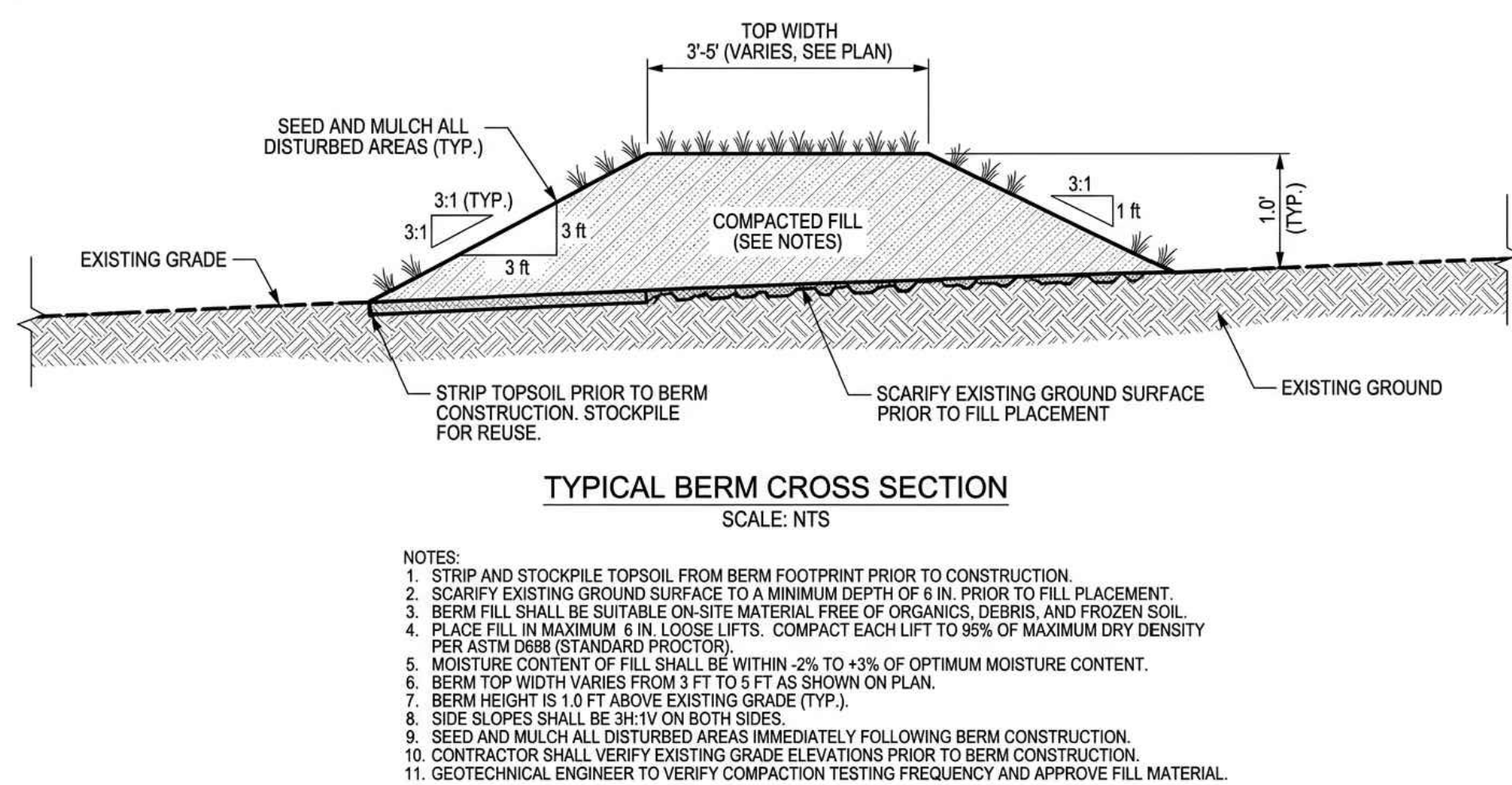
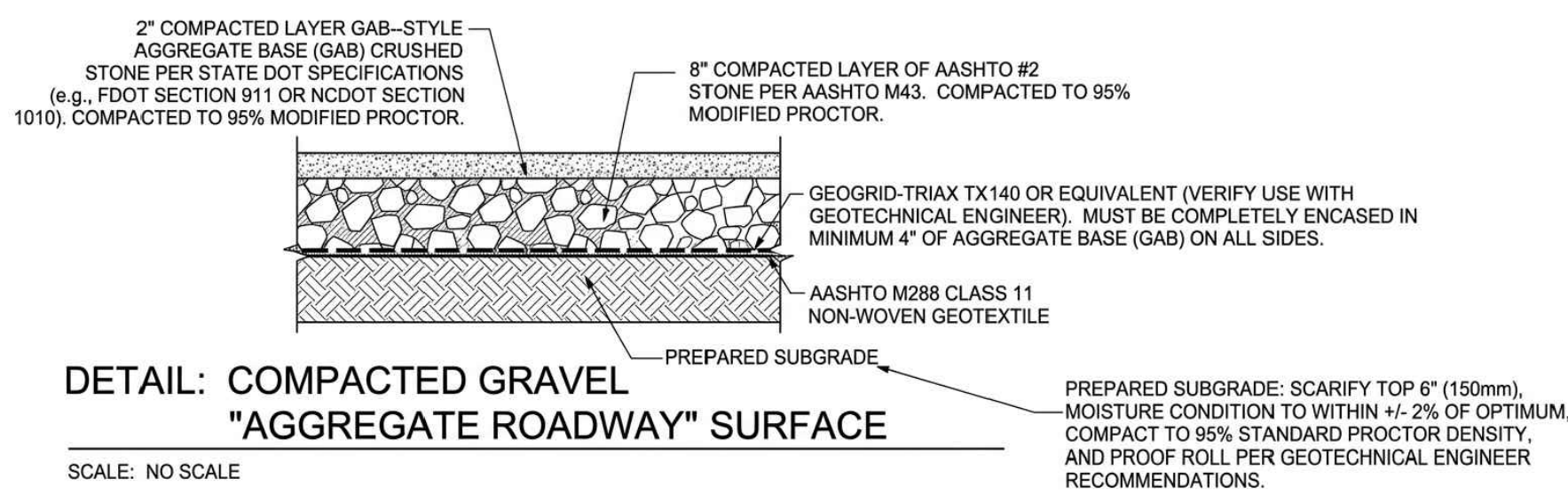


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DRAWING TITLE		
FINAL EROSION AND SEDIMENT CONTROL PLAN		
DRAWING NUMBER		REVISION
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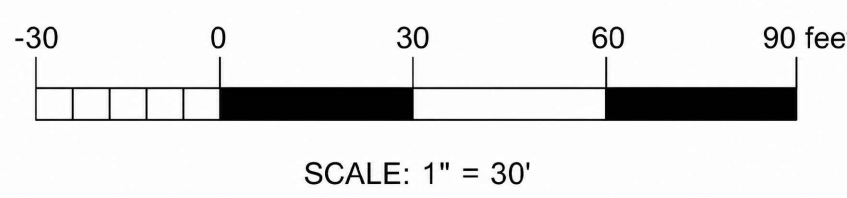
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ISSUE PURPOSE: ISSUE FOR PERMIT		
SOFTWARE: AUTOCAD		
PROJECT NO.: 15578.003		
CAD FILE NAME: C004.DWG		
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GRADING AND STORMWATER MANAGEMENT PLAN		
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SARGENT & LUNDY

Stormwater Management Report

Easton Utilities — New Substation #5

Detention / Water Quality Facility

Easton, Talbot County, Maryland

Prepared For:	Easton Utilities
Prepared By:	Sargent & Lundy
Author:	Chad G. Amateau, PE #47177
Department:	Civil Engineering Support Services
Project No.:	15578.003
Date:	March 2026
Revision:	0 — Initial Issue



ISSUE SUMMARY
Form SOP-0402-07, Revision 16

DESIGN CONTROL SUMMARY			
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PROJECT NAME:	Easton Utilities Substation #5		
PROJECT NO.:	15578.003	S&L NUCLEAR QA PROGRAM APPLICABLE ☐ YES ☒ NO	
CALC. NO.:			
TITLE:	Easton Utilities Substation #5 SWM REPORT		
EQUIPMENT NO.:			
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REVIEWER:		DATE:	
APPROVER:		DATE:	

Revision History

Rev.	Date	Description	Prepared By	Reviewed By
0	March 2026	Initial Issue	Chad G. Amateau, PE #47177	

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1. Project Overview

1. Project:
Easton Utilities – New Substation #5

2. Location:
Easton, Talbot County, Maryland, Eastern Shore / Delmarva, near Hailem School Road
3. Facility:
New electric substation with inline stormwater management (SWM) facility providing channel and overbank control.
4. Purpose:
Provide reliable electric service for the UM Shore Regional Medical Center while meeting Maryland Department of the Environment (MDE) and Town of Easton stormwater requirements.
5. Stormwater Management Goals:
6. Manage post-development 2-year and 10-year peak discharges so they do not exceed pre-development peaks at the project outfall.
7. Provide water-quality treatment via a submerged gravel / wetland-type storage cell integrated with the detention function.
8. Maintain adequate freeboard and safe conveyance under routed design storms.
9. This substation and associated stormwater management system are being constructed to support the new University of Maryland Shore Regional Medical Center in Easton, along Hailem School Road. All design, permitting, and construction of the stormwater management facilities will follow the Town of Easton stormwater ordinances and the MDE Stormwater Management Program requirements.

2. Regulatory Framework

The stormwater management design for this project follows the Maryland Stormwater Design Manual (latest revision) and the Town of Easton Stormwater Management Criteria (Chapter 6A).

Maryland manual requirements:

1. Requires Environmental Site Design (ESD) and water-quality treatment for new impervious area.
2. Uses the Eastern Shore / Delmarva dimensionless unit hydrograph (peak factor about 284) for hydrology on the Delmarva Peninsula.
3. Requires control of peak discharges so development does not negatively impact downstream systems.

Town of Easton criteria:

1. Adopt the Maryland manual as the technical standard.
2. Require water-quality treatment and peak-flow control consistent with state criteria.

This design follows the intent of MDE Design Manual Chapter 5 — Quantity and Quality Control by:

1. Using ESD to the Maximum Extent Practicable (MEP) for this small substation drainage area, by directing new impervious runoff to an onsite facility that provides both water-quality treatment and peak-discharge control rather than relying solely on downstream conveyance.
2. Providing water-quality treatment for new impervious area through a submerged gravel / wetland-type storage cell with permanent pool, submerged media, and controlled drawdown, consistent with the small-scale practices described in Chapter 5.
3. Addressing channel protection and overbank flood protection by routing the 2-year and 10-year, 24-hour storms through the facility so that post-development peak discharges at the project outfall do not exceed pre-development peaks, as documented in the PondPack modeling.
4. Maintaining adequate freeboard and safe conveyance for the routed design storms, so that embankment and outlet elevations meet Chapter 5 guidance for small embankment structures and safely return flows to the existing downstream system.

Any additional MDE or Town of Easton submittal, inspection, and long-term maintenance requirements associated with Chapter 5 will be satisfied through the formal stormwater management approval process for this project.

3. Existing Site Conditions

Parameter	Value
Drainage area (existing)	6.06 acres
Soils	Hydrologic Soil Group B
Land cover	Grass / open space in good condition
Existing runoff Curve Number (CN)	61 (grass, good condition, HSG B)

Existing drainage from the site flows as shallow overland runoff and through a grassed swale to a common outfall, modeled in PondPack as Outfall O3.

4. Hydrologic Methods and Model Setup

4.1 Methods

Parameter	Value
Software	Bentley PondPack CONNECT
Runoff method	SCS/NRCS Unit Hydrograph
Loss method	SCS CN
Unit hydrograph shape	Delmarva dimensionless unit hydrograph (Eastern Shore peak factor ≈ 284)

4.2 Design Storms

Storm Event	Rainfall Depth	Distribution
2-year, 24-hour	3.1 inches	SCS Type II
10-year, 24-hour	4.4 inches	SCS Type II

Each storm is implemented in PondPack as a Time-Depth curve for 24 hours.

5. Pre-Development Hydrology (PondPack)

5.1 Pre-Development Catchment Inputs

Parameter	Value
Drainage area, A	6.06 ac
Land cover	Grass, good condition
Soil group	HSG B
CN (grass, HSG B)	61
Tc method	TR-55 (sheet + shallow + channel)
Tc used (all storms)	≈ 0.61 hr (0.612 hr in model)

5.2 Pre-Development Peak Flows and Volumes

At existing outfall O3, from PondPack:

Scenario	Peak Q (cfs)	Runoff Volume (ac-ft)	Notes
Pre-Dev 2-yr, 24-hr	0.67	0.198	SCS + Delmarva UH
Pre-Dev 10-yr, 24-hr	6.14	0.976	SCS + Delmarva UH

These are the allowable target peaks for the detention / SGW facility.

6. Post-Development Hydrology and Detention / SGW Facility

6.1 Drainage Area and Composite CN (Post-Dev)

- Existing contributing area: 6.06 ac
- Additional tributary area: 9,272 sf ≈ 0.213 ac
- Total post-development drainage area: 6.06 + 0.213 ≈ 6.27 ac

Impervious and pervious breakdown:

- Impervious area (substation yard, pads, access): 91,500 sf ≈ 2.10 ac, CN = 98
- Remaining pervious (grass, HSG B): 6.27 – 2.10 = 4.17 ac, CN = 61

Composite CN, as entered in PondPack (via CN area collection):

Subarea	Area (ac)	CN
Impervious	2.10	98
Grass (HSG B)	4.17	61
Total	6.27	—
Composite	6.27	≈ 74

6.2 Time of Concentration (Post-Dev)

TR-55 Tc segments (post-development):

Segment	Length (ft)	Slope	Velocity / n	Travel Time (hr)
Sheet flow	300	≈ 2.2%	n = 0.24, P2 ≈ 3.1 in	≈ 0.55
Shallow concentrated flow	286	2% (unpaved)	V ≈ 4 ft/s	≈ 0.02
Channel flow	542	Grassed trap. ditch	n ≈ 0.035	≈ 0.04–0.05

Estimated total: Tc_{post} ≈ 0.61 hr. PondPack uses Tc ≈ 0.61 hr for all post-development scenarios.

6.3 Detention Pond / Submerged Gravel Wetland Node

In PondPack, the detention facility is represented as Pond PO1 (Node 39) and serves as both a submerged gravel wetland (water quality and base flow control) and a detention pond (peak flow control).

Key elevations:

1. Top of bench / berm crest (D.I. dome grate rim): El. 443.0 ft
2. Pond top (modeled storage limit): El. 442.0 ft
3. Rectangular weir crest: El. 440.0 ft
4. Orifice centerline (3.0-in diameter): El. 437.0 ft
5. Top of mulch (0.33 ft layer): El. 439.33 ft
6. Top of SGW gravel media (2.5 ft thick): El. 439.0 ft
7. 6-in HDPE perforated underdrain invert: El. 436.0 ft
8. Bottom of stone layer (1.0 ft thick): El. 435.5 ft
9. 18-in outlet pipe invert to downstream channel: El. 434.13 ft, slope 0.84 percent
10. Bottom of reinforced concrete pad: El. 433.0 ft
11. Media layers (bottom to top):
12. Stone layer: 1.0 ft thick (El. 435.5 to 436.5)
13. SGW gravel media: 2.5 ft thick (El. 436.5 to 439.0)
14. Mulch: 0.33 ft thick (El. 439.0 to 439.33)

7. Stage–Storage Data (Pond Volume Table)

The Elevation–Area–Volume relationship for Pond PO1 used in PondPack is:

Elevation (ft)	Area (sf)	Cumulative Volume (ac-ft)
439.0	5,323	0.043
440.0	6,632	0.180
441.0	8,012	0.348
442.0	9,464	0.549

This table defines the available storage for routing both 2-yr and 10-yr events.

8. Pre vs. Post Peak Flow Comparison (2-yr and 10-yr)

8.1 Scenario Definitions

Scenario	Area (ac)	CN	Tc (hr)	Storm	Outfall / Routing
Pre-Dev 2-yr	6.06	61	≈ 0.61	2-yr / 3.1 in	Outfall O3
Pre-Dev 10-yr	6.06	61	≈ 0.61	10-yr / 4.4 in	Outfall O3
Post-Dev 2-yr	6.27	≈ 74	≈ 0.61	2-yr / 3.1 in	Routed through Pond PO1
Post-Dev 10-yr	6.27	≈ 74	≈ 0.61	10-yr / 4.4 in	Routed through Pond PO1

8.2 2-Year Results

Case	Location	Peak Q (cfs)	Max WSE (ft)
Pre-Dev 2-yr, 24-hr	O3	0.67	
Post-Dev 2-yr 24-hr(unrouted)		2.92	
Post-Dev 2-yr, 24-hr (routed)	PO1	0.64	441.14 (pond)

Check: Post-Dev 2-yr peak 0.64 cfs < 0.67 cfs (Pre-Dev). ✓

2-yr WSE in pond (El. 441.14 ft) is above the weir crest (El. 441.0 ft) but below pond top (El. 442.0 ft).

8.3 10-Year Results

Case	Location	Peak Q (cfs)	Max WSE (ft)
Pre-Dev 10-yr, 24-hr	O3	2.33	
Post-Dev 10-yr 24-hr(unrouted)		6.14	
Post-Dev 10-yr, 24-hr	PO1	2.20	441.80 (pond)

Check: Post-Dev 10-yr peak 2.28 cfs < 6.14 cfs (Pre-Dev). ✓

- Above the weir crest (El. 441.0 ft) so the crest is active.
- Below pond top (El. 442.0 ft) and berm crest (El. 444.0 ft), with roughly 2.20 ft of freeboard to the berm.

9. Outlet Structure and Submerged Gravel Wetland Function

The facility functions as a submerged gravel wetland combined with a detention pond, implemented as follows:

Structure type:

Riser / NYLOPLAST-type basin connected to 18-in RCP.

Low-flow opening (circular orifice):

- Circular orifice at El. 439.5 ft (0.3-inch diameter, $C_d = 0.400$).
- Provides controlled drawdown and water-quality treatment for small and intermediate events, including the 2-yr storm.

Overflow weir:

- Weir crest at El. 441.0 ft, 1.0 ft effective length.
- Represents the open top / rim segment of the structure that becomes active when pond WSE reaches 441.0 ft (2-yr and larger events).

18-inch RCP:

Conveys outflow from riser to downstream ditch / storm system.

Functional summary:

- For the 2-yr storm, flows are controlled by both the low-level opening and the weir; WSE reaches El. 441.14 ft, above the weir crest at El. 441.0 ft.
- For the 10-yr storm, both the low-level opening and the 1.0-ft crest contribute to outflow; the routed peak remains below the pre-development 10-yr peak and the pond stays within its design freeboard.

10. Conclusions

10.1 Regulatory Compliance

The design follows the Maryland Stormwater Design Manual and Town of Easton Chapter 6A, with specific adherence to Chapter 5 guidance on quantity and quality control, ESD to MEP, and safe conveyance. The facility is intended to meet MDE and Town of Easton stormwater management requirements for this site and for supporting the new UM Shore Regional Medical Center near Hailem School Road.

10.2 Pre vs. Post-Development Peaks

Storm Event	Pre-Dev Peak (cfs)	Post-Dev Peak (cfs)	Compliant?
2-yr, 24-hr	0.67	0.64	✓
10-yr, 24-hr	2.33	2.28	✓

In both cases, post-development peaks are less than existing at the outfall.

10.3 Water Surface Elevations and Freeboard

Storm Event	WSE in Pond (ft)	Pond Top (ft)	Berm Crest (ft)	Freeboard to Berm (ft)
2-yr	441.14	442.0	444.0	≈ 2.86
10-yr	441.80	442.0	444.0	≈ 2.20

Adequate freeboard is provided; no overtopping is predicted for modeled design storms.

10.4 100-Year (Extreme Flood) Storm Event

Analysis of the 100-year (extreme flood) storm event was not performed for this project. This determination is consistent with applicable regulatory guidance and the specific characteristics of the facility, as outlined below.

Regulatory Basis

The Maryland Stormwater Design Manual (Chapter 2, Unified Stormwater Sizing Criteria) establishes the Extreme Flood Volume (Q_f) criterion for the 100-year storm event but notes that this level of control is only required where the local reviewing authority determines that historical flooding problems exist downstream and the conveyance system design cannot otherwise be controlled. The Town of Easton Stormwater Management Criteria (Chapter 6A), which adopt the Maryland manual as the technical standard, do not impose a 100-year peak flow control requirement for this project.

Neither the Town of Easton nor MDE has identified historical flooding concerns or downstream conveyance limitations that would trigger the need for 100-year storm analysis at this location.

Dam Safety Exemption

Under the MDE Dam Safety Program (Appendix B.1.2 of the Maryland Stormwater Design Manual), formal dam safety review and associated 100-year and probable maximum flood (PMF)

analyses are required only when a pond embankment exceeds specific height and storage thresholds. The Easton Substation detention facility has the following characteristics:

- Maximum embankment height (berm crest to pond bottom): approximately 6 feet (El. 444.0 minus El. 438.0)
- Maximum storage volume: 0.496 ac-ft (at El. 442.0, top of usable ponding)
- Drainage area: 6.27 acres

These values fall well below the thresholds that would trigger MDE Dam Safety Division review. The facility qualifies as a small stormwater management pond exempt from formal dam safety review under the criteria established in Appendix B.1.2 and NRCS Practice Standard MD-378.

Safe Conveyance

Although a formal 100-year routing analysis was not performed, the design provides safe conveyance of extreme storm events through the following measures:

- The pond berm crest (El. 444.0 ft) is set 2.20 feet above the maximum 10-year water surface elevation (El. 441.80 ft), providing substantial reserve capacity for larger storm events before any overtopping would occur.
- The outlet structure includes both a low-level orifice and an overflow weir that progressively increase discharge capacity as pond stage rises, providing a controlled response to storms exceeding the 10-year event.
- The site is located in FEMA Flood Zone X (area of minimal flood hazard), and there are no mapped floodplains, jurisdictional waterways, or downstream structures within the immediate outfall path that would be adversely affected by uncontrolled overflow from the facility.
- In the unlikely event that pond stage exceeds the berm crest, overland flow would follow existing drainage patterns toward the downstream ditch system without concentrated impact on structures or infrastructure.

Based on the regulatory framework, the facility classification, and the inherent design features that provide safe passage of flows exceeding the design storms, analysis of the 100-year extreme flood event is not required and was not evaluated for this project.

10.5 Dual Water Quality / Quantity Function

The submerged gravel / wetland-type storage and controlled outlet provide water-quality treatment for new impervious areas and peak flow attenuation for the 2-yr and 10-yr storms in a single compact facility suitable for the substation footprint.

With final construction drawings coordinated to match the areas, CN values, Tc, stage-storage data, and outlet geometry documented here, the stormwater management design for the Easton Substation is expected to meet the intent and requirements of MDE and the Town of Easton for this location and supporting the future medical center.

Appendix H — NRCS Custom Soil Resource Report

The following USDA NRCS Custom Soil Resource Report for Talbot County, Maryland was obtained from the Web Soil Survey. The report confirms the site soils are classified as Hydrologic Soil Group B, consistent with the CN values used in the PondPack hydrologic model.



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Talbot County, Maryland

EASTON UTILITIES SUBSTATION



September 10, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

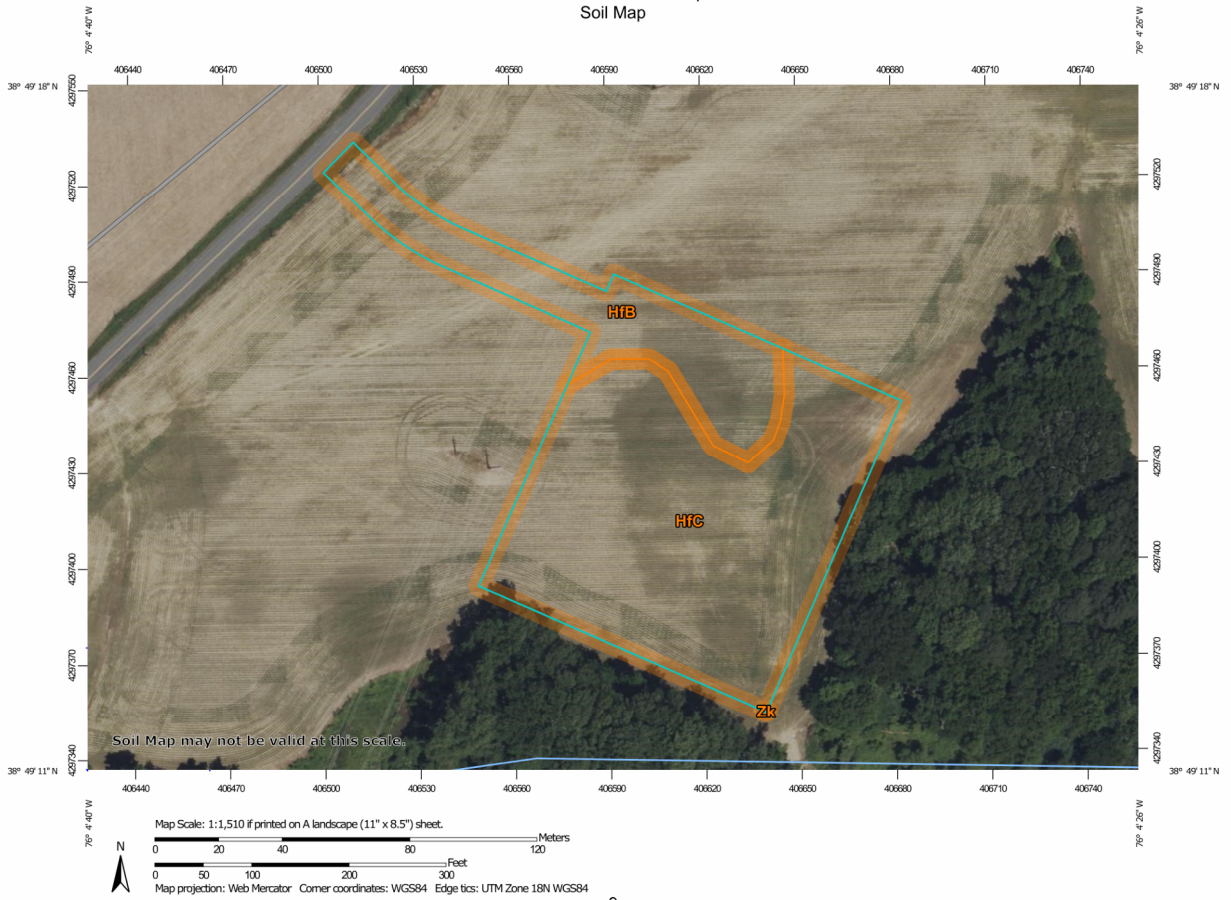
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

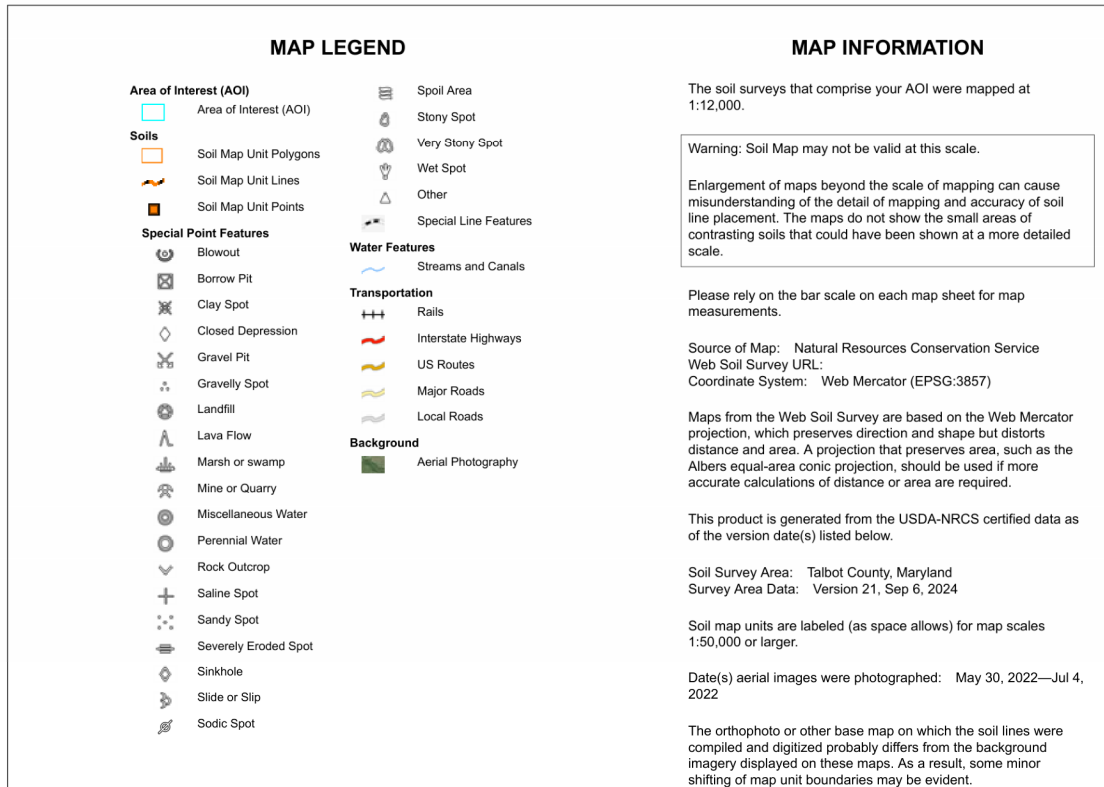
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HfB	Hambrook-Sassafras complex, 2 to 5 percent slopes	0.8	26.6%
HfC	Hambrook-Sassafras complex, 5 to 10 percent slopes	2.2	73.4%
Zk	Zekiah silt loam, frequently flooded	0.0	0.0%
Totals for Area of Interest		2.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Talbot County, Maryland

HfB—Hambrook-Sassafras complex, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vh09

Elevation: 0 to 330 feet

Mean annual precipitation: 42 to 48 inches

Mean annual air temperature: 52 to 58 degrees F

Frost-free period: 180 to 220 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Hambrook and similar soils: 41 percent

Sassafras and similar soils: 39 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hambrook

Setting

Landform: Depressions, knolls, fluviomarine terraces, flats

Landform position (three-dimensional): Rise

Down-slope shape: Concave, convex, linear

Across-slope shape: Concave, convex, linear

Typical profile

Ap - 0 to 10 inches: sandy loam

BE - 10 to 14 inches: loam

Bt - 14 to 28 inches: sandy clay loam

BC - 28 to 65 inches: loamy sand

2Cg - 65 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)

Depth to water table: About 40 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland

Hydric soil rating: No

Description of Sassafras

Setting

Landform: Low hills, flats, fluviomarine terraces, knolls

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Landform position (three-dimensional): Riser, dip

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Typical profile

Ap - 0 to 9 inches: sandy loam

E - 9 to 15 inches: sandy loam

Bt - 15 to 30 inches: loam

BC - 30 to 37 inches: sandy loam

C - 37 to 80 inches: loamy sand

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland

Hydric soil rating: No

Minor Components

Woodstown

Percent of map unit: 10 percent

Landform: Flats, depressions

Landform position (three-dimensional): Dip

Ecological site: F149AY130NJ - Moist Loamy Upland

Hydric soil rating: No

Ingleside

Percent of map unit: 5 percent

Landform: Flats

Landform position (three-dimensional): Talf

Ecological site: F153DY160NJ - Well Drained Coarse-Loamy Upland

Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent

Landform: Flats, depressions

Landform position (three-dimensional): Dip

Ecological site: F153CY020MD - Moist Loess Upland

Hydric soil rating: No

HfC—Hambrook-Sassafras complex, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 1vh0b

Elevation: 20 to 120 feet

Mean annual precipitation: 42 to 48 inches

Mean annual air temperature: 52 to 58 degrees F

Frost-free period: 180 to 220 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hambrook and similar soils: 60 percent

Sassafras and similar soils: 30 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hambrook

Setting

Landform: Knolls, fluvio-marine terraces, low hills

Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Typical profile

Ap - 0 to 10 inches: sandy loam

BE - 10 to 14 inches: loam

Bt - 14 to 28 inches: sandy clay loam

BC - 28 to 65 inches: loamy sand

2Cg - 65 to 80 inches: silt loam

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)

Depth to water table: About 40 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland

Hydric soil rating: No

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Description of Sassafras

Setting

Landform: Low hills, fluviomarine terraces, knolls
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear

Typical profile

Ap - 0 to 9 inches: sandy loam
E - 9 to 15 inches: sandy loam
Bt - 15 to 30 inches: loam
BC - 30 to 37 inches: sandy loam
C - 37 to 80 inches: loamy sand

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland
Hydric soil rating: No

Minor Components

Galestown

Percent of map unit: 5 percent
Landform: Knolls, low hills
Landform position (three-dimensional): Side slope
Ecological site: F153DY170NJ - Sandy, Excessively Drained Upland
Hydric soil rating: No

Mattapex

Percent of map unit: 5 percent
Landform: Low hills
Landform position (three-dimensional): Base slope
Ecological site: F153CY020MD - Moist Loess Upland
Hydric soil rating: No

Zk—Zekiah silt loam, frequently flooded

Map Unit Setting

National map unit symbol: 1vh0y
Elevation: 0 to 120 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 58 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Zekiah and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zekiah

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

A - 0 to 3 inches: silt loam
Cg - 3 to 20 inches: silt loam
2Ab - 20 to 27 inches: sandy loam
2Cg1 - 27 to 37 inches: sandy loam
2Cg2 - 37 to 50 inches: loam
2Cg3 - 50 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.38 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: R149AY060DE - Wet Alluvial Floodplain
Hydric soil rating: Yes

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Minor Components

Longmarsh

Percent of map unit: 10 percent

Landform: Flood plains

Ecological site: R149AY060DE - Wet Alluvial Floodplain

Hydric soil rating: Yes

Hurlock

Percent of map unit: 5 percent

Landform: Flood plains

Ecological site: F149AY090NJ - Coastal Plain Hardwood Swamp

Hydric soil rating: Yes

Hammonton

Percent of map unit: 5 percent

Landform: Flats

Landform position (three-dimensional): Rise

Ecological site: F149AY130NJ - Moist Loamy Upland

Hydric soil rating: No

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Appendix I — FEMA Flood Insurance Rate Map (FIRMette)

The following FEMA National Flood Hazard Layer FIRMette was obtained for the project site. The site is located within Zone X (area of minimal flood hazard), outside the 100-year and 500-year floodplains.

National Flood Hazard Layer FIRMette

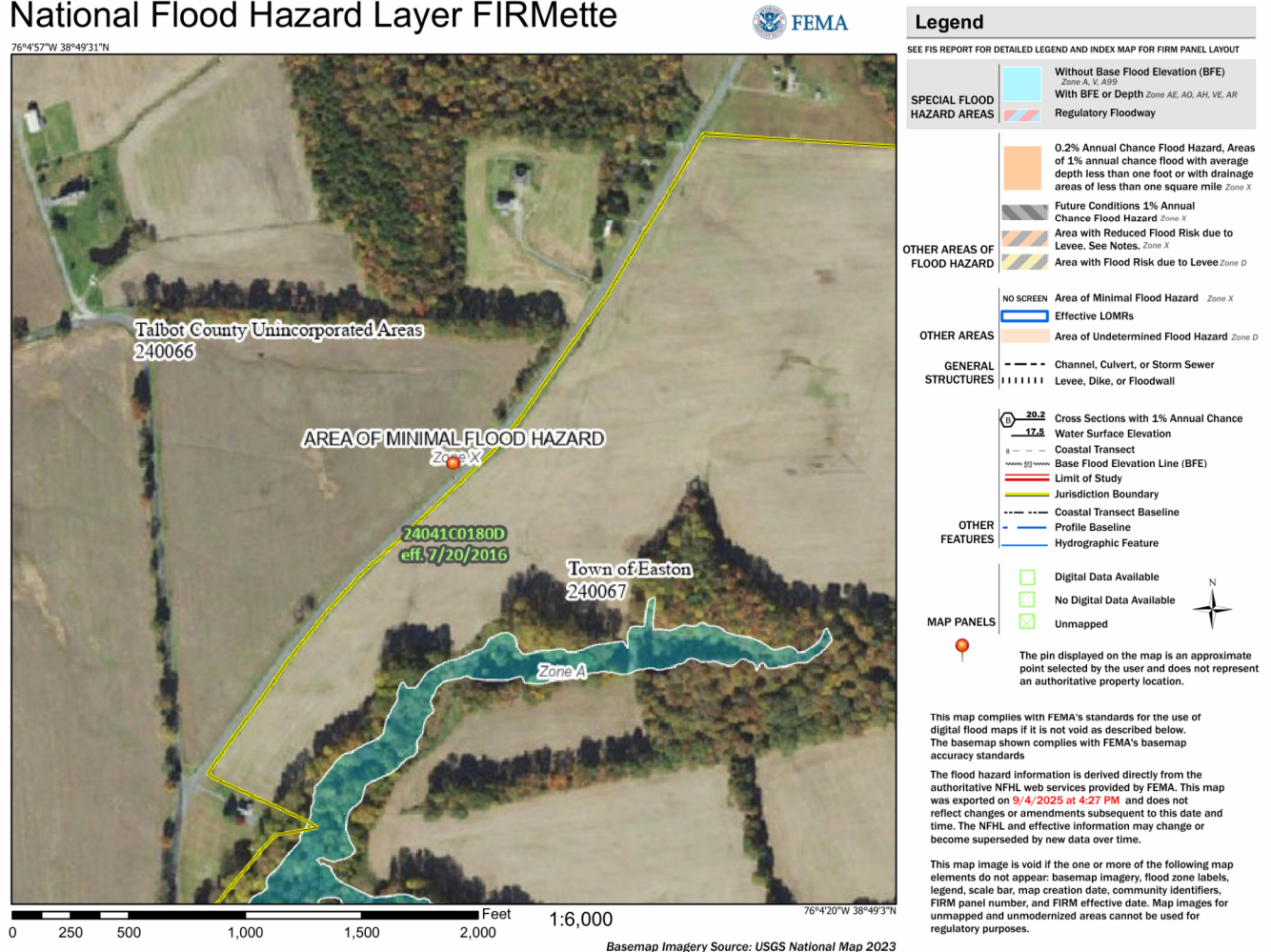


Figure I-1: FEMA FIRMette — Easton Utilities New Substation #5, Easton, Talbot County, Maryland. Site is located in Zone X (minimal flood hazard).

Appendix J — PondPack Model Output

The following pages contain the Bentley PondPack CONNECT Edition (v10.02.00.01) model schematic and full computation report for the Easton Utilities New Substation #5 stormwater management facility. The model includes pre-development and post-development scenarios for the 2-year and 10-year, 24-hour SCS Type II design storms using the Delmarva dimensionless unit hydrograph.

J.1 — PondPack Model Schematic

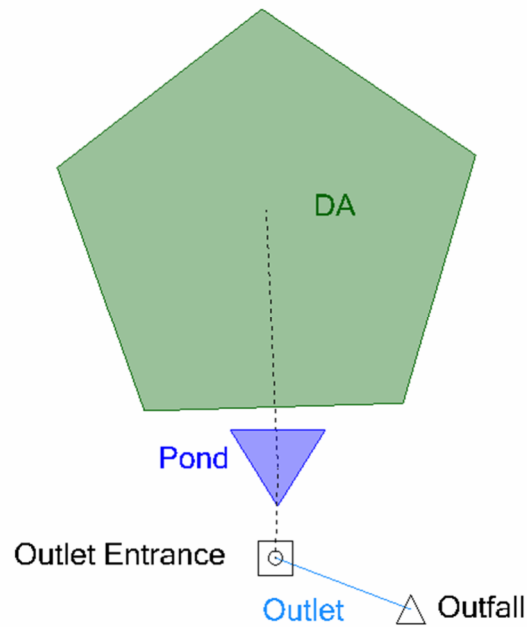


Figure J-1: PondPack model schematic showing drainage area (DA), pond, outlet structure, and outfall (O3).

Easton Maryland

Project Summary

Title	Easton MD Substation
Engineer	
Company	
Date	2/3/2026

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Easton Maryland

Subsection: User Notifications

User Notifications?	No user notifications generated.
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Easton Maryland

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
DA	Post-Development 2 YR	2	0.500	12.250	2.92
DA	Pre-Development 2 YR	2	0.198	12.450	0.67
DA	Post-Development 10 YR	10	0.976	12.250	6.14

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
Outfall	Post-Development 2 YR	2	0.429	14.150	0.64
Outfall	Pre-Development 2 YR	2	0.198	12.450	0.67
Outfall	Post-Development 10 YR	10	0.836	13.400	2.20

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond (IN)	Post-Development 2 YR	2	0.500	12.250	2.92	(N/A)	(N/A)
Pond (OUT)	Post-Development 2 YR	2	0.429	14.150	0.64	440.21	0.213
Pond (IN)	Post-Development 10 YR	10	0.976	12.250	6.14	(N/A)	(N/A)
Pond (OUT)	Post-Development 10 YR	10	0.836	13.400	2.20	441.07	0.361

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time-Depth Curve: SCS Type II 24 HR

Label	SCS Type II 24 HR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.3	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.4
8.500	0.4	0.4	0.4	0.4	0.4
9.000	0.5	0.5	0.5	0.5	0.5
9.500	0.5	0.5	0.5	0.5	0.5
10.000	0.6	0.6	0.6	0.6	0.6
10.500	0.6	0.6	0.7	0.7	0.7
11.000	0.7	0.8	0.8	0.8	0.8
11.500	0.9	1.0	1.1	1.3	1.8
12.000	2.1	2.1	2.2	2.2	2.2
12.500	2.3	2.3	2.3	2.4	2.4
13.000	2.4	2.4	2.4	2.4	2.5
13.500	2.5	2.5	2.5	2.5	2.5
14.000	2.5	2.6	2.6	2.6	2.6
14.500	2.6	2.6	2.6	2.6	2.6
15.000	2.6	2.7	2.7	2.7	2.7
15.500	2.7	2.7	2.7	2.7	2.7
16.000	2.7	2.7	2.7	2.7	2.8
16.500	2.8	2.8	2.8	2.8	2.8

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	2.8	2.8	2.8	2.8	2.8
17.500	2.8	2.8	2.8	2.8	2.8
18.000	2.9	2.9	2.9	2.9	2.9
18.500	2.9	2.9	2.9	2.9	2.9
19.000	2.9	2.9	2.9	2.9	2.9
19.500	2.9	2.9	2.9	2.9	2.9
20.000	3.0	3.0	3.0	3.0	3.0
20.500	3.0	3.0	3.0	3.0	3.0
21.000	3.0	3.0	3.0	3.0	3.0
21.500	3.0	3.0	3.0	3.0	3.0
22.000	3.0	3.0	3.0	3.0	3.0
22.500	3.0	3.1	3.1	3.1	3.1
23.000	3.1	3.1	3.1	3.1	3.1
23.500	3.1	3.1	3.1	3.1	3.1
24.000	3.1	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time-Depth Curve: SCS Type II 24 HR

Label	SCS Type II 24 HR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.3	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.4
8.500	0.4	0.4	0.4	0.4	0.4
9.000	0.5	0.5	0.5	0.5	0.5
9.500	0.5	0.5	0.5	0.5	0.5
10.000	0.6	0.6	0.6	0.6	0.6
10.500	0.6	0.6	0.7	0.7	0.7
11.000	0.7	0.8	0.8	0.8	0.8
11.500	0.9	1.0	1.1	1.3	1.8
12.000	2.1	2.1	2.2	2.2	2.2
12.500	2.3	2.3	2.3	2.4	2.4
13.000	2.4	2.4	2.4	2.4	2.5
13.500	2.5	2.5	2.5	2.5	2.5
14.000	2.5	2.6	2.6	2.6	2.6
14.500	2.6	2.6	2.6	2.6	2.6
15.000	2.6	2.7	2.7	2.7	2.7
15.500	2.7	2.7	2.7	2.7	2.7
16.000	2.7	2.7	2.7	2.7	2.8
16.500	2.8	2.8	2.8	2.8	2.8

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	2.8	2.8	2.8	2.8	2.8
17.500	2.8	2.8	2.8	2.8	2.8
18.000	2.9	2.9	2.9	2.9	2.9
18.500	2.9	2.9	2.9	2.9	2.9
19.000	2.9	2.9	2.9	2.9	2.9
19.500	2.9	2.9	2.9	2.9	2.9
20.000	3.0	3.0	3.0	3.0	3.0
20.500	3.0	3.0	3.0	3.0	3.0
21.000	3.0	3.0	3.0	3.0	3.0
21.500	3.0	3.0	3.0	3.0	3.0
22.000	3.0	3.0	3.0	3.0	3.0
22.500	3.0	3.1	3.1	3.1	3.1
23.000	3.1	3.1	3.1	3.1	3.1
23.500	3.1	3.1	3.1	3.1	3.1
24.000	3.1	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time-Depth Curve: SCS Type II 24 HR

Label	SCS Type II 24 HR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.3	0.3
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.4
7.000	0.4	0.4	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.5	0.5
8.000	0.5	0.5	0.5	0.6	0.6
8.500	0.6	0.6	0.6	0.6	0.6
9.000	0.6	0.7	0.7	0.7	0.7
9.500	0.7	0.7	0.7	0.8	0.8
10.000	0.8	0.8	0.8	0.9	0.9
10.500	0.9	0.9	0.9	1.0	1.0
11.000	1.0	1.1	1.1	1.1	1.2
11.500	1.2	1.4	1.6	1.9	2.5
12.000	2.9	3.0	3.1	3.1	3.2
12.500	3.2	3.3	3.3	3.3	3.4
13.000	3.4	3.4	3.4	3.5	3.5
13.500	3.5	3.5	3.6	3.6	3.6
14.000	3.6	3.6	3.6	3.7	3.7
14.500	3.7	3.7	3.7	3.7	3.7
15.000	3.8	3.8	3.8	3.8	3.8
15.500	3.8	3.8	3.8	3.9	3.9
16.000	3.9	3.9	3.9	3.9	3.9
16.500	3.9	3.9	3.9	3.9	4.0

Easton Maryland

Subsection: Time-Depth Curve

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.0	4.0	4.0	4.0	4.0
17.500	4.0	4.0	4.0	4.0	4.0
18.000	4.1	4.1	4.1	4.1	4.1
18.500	4.1	4.1	4.1	4.1	4.1
19.000	4.1	4.1	4.1	4.1	4.2
19.500	4.2	4.2	4.2	4.2	4.2
20.000	4.2	4.2	4.2	4.2	4.2
20.500	4.2	4.2	4.2	4.2	4.2
21.000	4.2	4.3	4.3	4.3	4.3
21.500	4.3	4.3	4.3	4.3	4.3
22.000	4.3	4.3	4.3	4.3	4.3
22.500	4.3	4.3	4.3	4.3	4.3
23.000	4.4	4.4	4.4	4.4	4.4
23.500	4.4	4.4	4.4	4.4	4.4
24.000	4.4	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow

Hydraulic Length	300.00 ft
Manning's n	0.240
Slope	3.000 %
2 Year 24 Hour Depth	3.2 in
Average Velocity	0.17 ft/s
Segment Time of Concentration	0.487 hours

Segment #2: TR-55 Shallow Concentrated Flow

Hydraulic Length	250.00 ft
Is Paved?	False
Slope	3.000 %
Average Velocity	2.79 ft/s
Segment Time of Concentration	0.025 hours

Segment #3: TR-55 Channel Flow

Flow Area	35.0 ft ²
Hydraulic Length	542.00 ft
Manning's n	0.035
Slope	6.500 %
Wetted Perimeter	15.20 ft
Average Velocity	18.93 ft/s
Segment Time of Concentration	0.008 hours

Time of Concentration (Composite)

Time of Concentration (Composite)	0.520 hours
-----------------------------------	-------------

Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$\text{Where: } (L_f / V) / 3600$$

R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface: } V = 20.3282 * (S_f^{0.5})$$
$$\text{Where: } (L_f / V) / 3600$$

V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

$$T_c = \frac{(0.007 * ((n * L_f)^{0.8}))}{((P^{0.5}) * (S_f^{0.4}))}$$

Where: Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow

Hydraulic Length	300.00 ft
Manning's n	0.240
Slope	2.200 %
2 Year 24 Hour Depth	3.2 in
Average Velocity	0.15 ft/s
Segment Time of Concentration	0.551 hours

Segment #2: TR-55 Shallow Concentrated Flow

Hydraulic Length	330.00 ft
Is Paved?	False
Slope	5.200 %
Average Velocity	3.68 ft/s
Segment Time of Concentration	0.025 hours

Segment #3: TR-55 Channel Flow

Flow Area	30.0 ft ²
Hydraulic Length	398.00 ft
Manning's n	0.240
Slope	5.370 %
Wetted Perimeter	7.00 ft
Average Velocity	3.80 ft/s
Segment Time of Concentration	0.029 hours

Time of Concentration (Composite)

Time of Concentration (Composite)	0.605 hours
-----------------------------------	-------------

Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$\text{Where: } (L_f / V) / 3600$$

R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

$$\text{Where: } (L_f / V) / 3600$$

V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

$$T_c = \frac{(0.007 * ((n * L_f)^{0.8}))}{((P^{0.5}) * (S_f^{0.4}))}$$

Where:

Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow

Hydraulic Length	300.00 ft
Manning's n	0.240
Slope	3.000 %
2 Year 24 Hour Depth	3.2 in
Average Velocity	0.17 ft/s
Segment Time of Concentration	0.487 hours

Segment #2: TR-55 Shallow Concentrated Flow

Hydraulic Length	250.00 ft
Is Paved?	False
Slope	3.000 %
Average Velocity	2.79 ft/s
Segment Time of Concentration	0.025 hours

Segment #3: TR-55 Channel Flow

Flow Area	35.0 ft ²
Hydraulic Length	542.00 ft
Manning's n	0.035
Slope	6.500 %
Wetted Perimeter	15.20 ft
Average Velocity	18.93 ft/s
Segment Time of Concentration	0.008 hours

Time of Concentration (Composite)

Time of Concentration (Composite)	0.520 hours
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Easton Maryland

Subsection: Time of Concentration Calculations

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$\text{Where: } (L_f / V) / 3600$$

R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

$$\text{Where: } (L_f / V) / 3600$$

V= Velocity, ft/sec
Sf= Slope, ft/ft
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

$$T_c = \frac{(0.007 * ((n * L_f)^{0.8}))}{((P^{0.5}) * (S_f^{0.4}))}$$

Where:

Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Easton Maryland

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method (Computational Notes)

Definition of Terms

At	Total area (acres): $At = Ai + Ap$
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^{-1})
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of $0.1333T_c$, r_{tm} , and t_h (Smallest dt is then adjusted to match up with T_p)
UDdt	User specified override computational main time increment (only used if UDdt is $\Rightarrow .1333T_c$)
D(t)	Point on distribution curve (fraction of P) for time step t
K	$2 / (1 + (T_r/T_p))$: default $K = 0.75$: (for $T_r/T_p = 1.67$)
Ks	Hydrograph shape factor = Unit Conversions * $K = ((1\text{hr}/3600\text{sec}) * (1\text{ft}/12\text{in}) * ((5280\text{ft})^2/\text{sq.mi})) * K$ Default $K_s = 645.333 * 0.75 = 484$
Lag	Lag time from center of excess runoff (dt) to T_p : $\text{Lag} = 0.6T_c$
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1 hr, for 1 sq.mi. = $(K_s * A * Q) / T_p$ (where $Q = 1\text{in. runoff}$, $A = \text{sq.mi.}$)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: $Si = (1000/CNi) - 10$
Sp	S for pervious area: $Sp = (1000/CNp) - 10$
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: $T_b = T_p + T_r$
Tp	Time (hrs) to peak of a unit hydrograph: $T_p = (dt/2) + \text{Lag}$
Tr	Time (hrs) of receding limb of unit hydrograph: $T_r = \text{ratio of } T_p$

Easton Maryland

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method

Computational Notes

Precipitation

Column (1)	Time for time step t
Column (2)	$D(t)$ = Point on distribution curve for time step t
Column (3)	$P_i(t) = P_a(t) - P_a(t-1)$: Col.(4) - Preceding Col.(4)
Column (4)	$P_a(t) = D(t) \times P$: Col.(2) x P

Pervious Area Runoff (using SCS Runoff CN Method)

Column (5)	$Rap(t)$ = Accumulated pervious runoff for time step t If $(P_a(t))$ is $\leq 0.2Sp$ then use: $Rap(t) = 0.0$ If $(P_a(t))$ is $> 0.2Sp$ then use: $Rap(t) = (Col.(4) - 0.2Sp) \times 2 / (Col.(4) + 0.8Sp)$
Column (6)	$Rip(t)$ = Incremental pervious runoff for time step t $Rip(t) = Rap(t) - Rap(t-1)$ $Rip(t) = Col.(5)$ for current row - $Col.(5)$ for preceding row.

Impervious Area Runoff

Column (7 & 8)...	Did not specify to use impervious areas.
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Incremental Weighted Runoff

Column (9)	$R(t) = (A_p/At) \times Rip(t) + (A_i/At) \times Rii(t)$ $R(t) = (A_p/At) \times Col.(6) + (A_i/At) \times Col.(8)$
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SCS Unit Hydrograph Method

Column (10)	$Q(t)$ is computed with the SCS unit hydrograph method using $R(t)$ and $Qu(t)$.
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Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	2 years
Duration	24.000 hours
Depth	3.1 in
Time of Concentration (Composite)	0.520 hours
Area (User Defined)	273,121.200 ft ²
Computational Time Increment	0.050 hours
Time to Peak (Computed)	12.250 hours
Flow (Peak, Computed)	2.92 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	2.92 ft ³ /s
Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	273,121.200 ft ²
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.0 in
Runoff Volume (Pervious)	0.508 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.500 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.520 hours
Computational Time Increment	0.050 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

SCS Unit Hydrograph Parameters

Unit peak, qp	8.20 ft ³ /s
Unit peak time, Tp	0.337 hours
Unit receding limb, Tr	2.965 hours
Total unit time, Tb	3.302 hours

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	2 years
Duration	24.000 hours
Depth	3.1 in
Time of Concentration (Composite)	0.520 hours
Area (User Defined)	273,121.200 ft ²

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.050	0.00	0.00	0.00	0.00	0.01
11.300	0.01	0.02	0.02	0.03	0.04
11.550	0.05	0.06	0.08	0.12	0.18
11.800	0.28	0.45	0.71	1.06	1.49
12.050	1.95	2.36	2.68	2.86	2.92
12.300	2.88	2.79	2.69	2.58	2.48
12.550	2.37	2.27	2.17	2.07	1.98
12.800	1.89	1.80	1.72	1.65	1.58
13.050	1.51	1.45	1.39	1.33	1.28
13.300	1.22	1.18	1.13	1.09	1.05
13.550	1.01	0.97	0.93	0.90	0.86
13.800	0.83	0.80	0.77	0.74	0.71
14.050	0.68	0.66	0.63	0.61	0.59
14.300	0.58	0.56	0.55	0.53	0.52
14.550	0.51	0.50	0.49	0.48	0.47
14.800	0.46	0.45	0.44	0.44	0.43
15.050	0.42	0.41	0.40	0.40	0.39
15.300	0.39	0.38	0.38	0.37	0.37
15.550	0.36	0.36	0.35	0.35	0.34
15.800	0.34	0.34	0.33	0.33	0.32
16.050	0.32	0.32	0.31	0.31	0.31
16.300	0.30	0.30	0.30	0.29	0.29
16.550	0.29	0.29	0.28	0.28	0.28
16.800	0.28	0.27	0.27	0.27	0.27
17.050	0.27	0.26	0.26	0.26	0.26
17.300	0.26	0.26	0.25	0.25	0.25
17.550	0.25	0.25	0.25	0.25	0.24
17.800	0.24	0.24	0.24	0.24	0.24
18.050	0.24	0.23	0.23	0.23	0.23
18.300	0.23	0.23	0.23	0.22	0.22
18.550	0.22	0.22	0.22	0.22	0.22
18.800	0.21	0.21	0.21	0.21	0.21
19.050	0.21	0.21	0.20	0.20	0.20

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.300	0.20	0.20	0.20	0.20	0.20
19.550	0.19	0.19	0.19	0.19	0.19
19.800	0.19	0.19	0.18	0.18	0.18
20.050	0.18	0.18	0.18	0.18	0.17
20.300	0.17	0.17	0.17	0.17	0.17
20.550	0.17	0.17	0.17	0.17	0.16
20.800	0.16	0.16	0.16	0.16	0.16
21.050	0.16	0.16	0.16	0.16	0.16
21.300	0.16	0.16	0.16	0.16	0.16
21.550	0.16	0.16	0.16	0.16	0.16
21.800	0.16	0.15	0.15	0.15	0.15
22.050	0.15	0.15	0.15	0.15	0.15
22.300	0.15	0.15	0.15	0.15	0.15
22.550	0.15	0.15	0.15	0.15	0.15
22.800	0.15	0.15	0.15	0.15	0.15
23.050	0.15	0.15	0.15	0.15	0.15
23.300	0.15	0.15	0.15	0.15	0.15
23.550	0.15	0.15	0.15	0.14	0.14
23.800	0.14	0.14	0.14	0.14	0.14

Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	2 years
Duration	24.000 hours
Depth	3.1 in
Time of Concentration (Composite)	0.605 hours
Area (User Defined)	264,099.284 ft ²
Computational Time Increment	0.081 hours
Time to Peak (Computed)	12.430 hours
Flow (Peak, Computed)	0.67 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	0.67 ft ³ /s
Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	264,099.284 ft ²
Maximum Retention (Pervious)	6.4 in
Maximum Retention (Pervious, 20 percent)	1.3 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.4 in
Runoff Volume (Pervious)	0.204 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.198 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.605 hours
Computational Time Increment	0.081 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

SCS Unit Hydrograph Parameters

Unit peak, qp	6.62 ft ³ /s
Unit peak time, Tp	0.404 hours
Unit receding limb, Tr	3.552 hours
Total unit time, Tb	3.955 hours

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	2 years
Duration	24.000 hours
Depth	3.1 in
Time of Concentration (Composite)	0.605 hours
Area (User Defined)	264,099.284 ft ²

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.750	0.00	0.00	0.01	0.04	0.07
12.000	0.15	0.23	0.33	0.43	0.52
12.250	0.59	0.64	0.67	0.67	0.67
12.500	0.67	0.66	0.65	0.64	0.63
12.750	0.61	0.60	0.59	0.57	0.56
13.000	0.55	0.53	0.52	0.51	0.50
13.250	0.49	0.47	0.46	0.45	0.44
13.500	0.43	0.42	0.41	0.40	0.39
13.750	0.39	0.38	0.37	0.36	0.35
14.000	0.34	0.34	0.33	0.32	0.31
14.250	0.31	0.30	0.29	0.29	0.28
14.500	0.27	0.27	0.26	0.26	0.25
14.750	0.25	0.24	0.24	0.24	0.23
15.000	0.23	0.23	0.22	0.22	0.22
15.250	0.22	0.21	0.21	0.21	0.21
15.500	0.20	0.20	0.20	0.20	0.19
15.750	0.19	0.19	0.19	0.18	0.18
16.000	0.18	0.18	0.18	0.17	0.17
16.250	0.17	0.17	0.17	0.16	0.16
16.500	0.16	0.16	0.16	0.16	0.16
16.750	0.15	0.15	0.15	0.15	0.15
17.000	0.15	0.15	0.15	0.15	0.15
17.250	0.14	0.14	0.14	0.14	0.14
17.500	0.14	0.14	0.14	0.14	0.14
17.750	0.14	0.14	0.14	0.13	0.13
18.000	0.13	0.13	0.13	0.13	0.13
18.250	0.13	0.13	0.13	0.13	0.13
18.500	0.13	0.13	0.12	0.12	0.12
18.750	0.12	0.12	0.12	0.12	0.12
19.000	0.12	0.12	0.12	0.12	0.12
19.250	0.12	0.12	0.11	0.11	0.11
19.500	0.11	0.11	0.11	0.11	0.11
19.750	0.11	0.11	0.11	0.11	0.11

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.000	0.10	0.10	0.10	0.10	0.10
20.250	0.10	0.10	0.10	0.10	0.10
20.500	0.10	0.10	0.10	0.10	0.10
20.750	0.10	0.10	0.09	0.09	0.09
21.000	0.09	0.09	0.09	0.09	0.09
21.250	0.09	0.09	0.09	0.09	0.09
21.500	0.09	0.09	0.09	0.09	0.09
21.750	0.09	0.09	0.09	0.09	0.09
22.000	0.09	0.09	0.09	0.09	0.09
22.250	0.09	0.09	0.09	0.09	0.09
22.500	0.09	0.09	0.09	0.09	0.09
22.750	0.09	0.09	0.09	0.09	0.09
23.000	0.09	0.09	0.09	0.09	0.09
23.250	0.09	0.09	0.09	0.09	0.09
23.500	0.09	0.09	0.09	0.09	0.09
23.750	0.09	0.08	0.08	0.08	0.08
24.000	0.08	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	10 years
Duration	24.000 hours
Depth	4.4 in
Time of Concentration (Composite)	0.520 hours
Area (User Defined)	273,121.200 ft ²
Computational Time Increment	0.050 hours
Time to Peak (Computed)	12.250 hours
Flow (Peak, Computed)	6.14 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	6.14 ft ³ /s
Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	273,121.200 ft ²
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	0.991 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.976 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.520 hours
Computational Time Increment	0.050 hours
Unit Hydrograph Shape Factor	284.057
K Factor	0.440
Receding/Rising, Tr/Tp	3.544

Easton Maryland

Subsection: Unit Hydrograph Summary

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

SCS Unit Hydrograph Parameters

Unit peak, qp	8.20 ft ³ /s
Unit peak time, Tp	0.337 hours
Unit receding limb, Tr	2.965 hours
Total unit time, Tb	3.302 hours

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Storm Event	SCS Type II 24 HR
Return Event	10 years
Duration	24.000 hours
Depth	4.4 in
Time of Concentration (Composite)	0.520 hours
Area (User Defined)	273,121.200 ft ²

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.650	0.00	0.00	0.00	0.00	0.01
9.900	0.01	0.01	0.01	0.01	0.02
10.150	0.02	0.02	0.03	0.03	0.03
10.400	0.04	0.04	0.05	0.06	0.06
10.650	0.07	0.08	0.08	0.09	0.10
10.900	0.11	0.12	0.13	0.14	0.16
11.150	0.17	0.19	0.20	0.22	0.24
11.400	0.26	0.29	0.32	0.35	0.39
11.650	0.46	0.57	0.74	0.99	1.38
11.900	1.95	2.69	3.57	4.46	5.23
12.150	5.80	6.10	6.14	6.02	5.79
12.400	5.54	5.29	5.05	4.82	4.59
12.650	4.37	4.15	3.95	3.76	3.57
12.900	3.40	3.24	3.09	2.95	2.81
13.150	2.69	2.57	2.46	2.35	2.25
13.400	2.16	2.07	1.98	1.90	1.82
13.650	1.74	1.67	1.60	1.54	1.47
13.900	1.41	1.35	1.30	1.24	1.19
14.150	1.15	1.11	1.07	1.04	1.01
14.400	0.98	0.95	0.93	0.90	0.88
14.650	0.86	0.85	0.83	0.81	0.80
14.900	0.78	0.77	0.75	0.74	0.72
15.150	0.71	0.69	0.68	0.67	0.66
15.400	0.65	0.64	0.64	0.63	0.62
15.650	0.61	0.60	0.60	0.59	0.58
15.900	0.58	0.57	0.56	0.55	0.55
16.150	0.54	0.53	0.53	0.52	0.52
16.400	0.51	0.51	0.50	0.50	0.49
16.650	0.49	0.48	0.48	0.47	0.47
16.900	0.47	0.46	0.46	0.46	0.45
17.150	0.45	0.45	0.44	0.44	0.44
17.400	0.44	0.43	0.43	0.43	0.43
17.650	0.42	0.42	0.42	0.41	0.41

Easton Maryland

Subsection: Unit Hydrograph (Hydrograph Table)

Label: DA

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
17.900	0.41	0.41	0.40	0.40	0.40
18.150	0.40	0.39	0.39	0.39	0.39
18.400	0.38	0.38	0.38	0.38	0.38
18.650	0.37	0.37	0.37	0.37	0.36
18.900	0.36	0.36	0.36	0.35	0.35
19.150	0.35	0.35	0.34	0.34	0.34
19.400	0.34	0.33	0.33	0.33	0.33
19.650	0.32	0.32	0.32	0.32	0.31
19.900	0.31	0.31	0.31	0.30	0.30
20.150	0.30	0.30	0.29	0.29	0.29
20.400	0.29	0.29	0.28	0.28	0.28
20.650	0.28	0.28	0.28	0.28	0.28
20.900	0.27	0.27	0.27	0.27	0.27
21.150	0.27	0.27	0.27	0.27	0.27
21.400	0.27	0.27	0.27	0.26	0.26
21.650	0.26	0.26	0.26	0.26	0.26
21.900	0.26	0.26	0.26	0.26	0.26
22.150	0.26	0.26	0.26	0.26	0.26
22.400	0.26	0.25	0.25	0.25	0.25
22.650	0.25	0.25	0.25	0.25	0.25
22.900	0.25	0.25	0.25	0.25	0.25
23.150	0.25	0.25	0.25	0.25	0.25
23.400	0.25	0.25	0.24	0.24	0.24
23.650	0.24	0.24	0.24	0.24	0.24
23.900	0.24	0.24	0.24	(N/A)	(N/A)

Easton Maryland

Subsection: Circular Channel

Return Event: 2 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 2 YR

Circular Channel	
Channel Slope	0.840 %
Channel Invert Elevation	434.13 ft
Manning's n	0.013
Diameter	18.0 in

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Elevation (ft)	Depth (in)	Flow (ft ³ /s)	Velocity (ft/s)	Area (ft ²)	Top Width (ft)	Wetted Perimeter (ft)	Head (in)
434.13	0.0	0.00	0.00	0.0	0.00	0.00	0.0
434.16	0.4	0.01	0.77	0.0	0.42	0.43	0.2
434.19	0.7	0.03	1.21	0.0	0.59	0.60	0.5
434.22	1.1	0.07	1.58	0.0	0.71	0.74	0.7
434.25	1.4	0.13	1.90	0.1	0.81	0.86	1.0
434.28	1.8	0.20	2.19	0.1	0.90	0.97	1.2
434.31	2.2	0.29	2.45	0.1	0.97	1.06	1.5
434.34	2.5	0.41	2.70	0.2	1.04	1.15	1.7
434.37	2.9	0.53	2.93	0.2	1.10	1.23	2.0
434.40	3.2	0.68	3.15	0.2	1.15	1.31	2.3
434.43	3.6	0.84	3.35	0.3	1.20	1.39	2.5
434.46	4.0	1.02	3.54	0.3	1.24	1.46	2.8
434.49	4.3	1.22	3.73	0.3	1.28	1.54	3.1
434.52	4.7	1.43	3.90	0.4	1.32	1.61	3.3
434.55	5.0	1.65	4.07	0.4	1.35	1.67	3.6
434.58	5.4	1.89	4.23	0.4	1.37	1.74	3.9
434.61	5.8	2.13	4.38	0.5	1.40	1.80	4.2
434.64	6.1	2.40	4.52	0.5	1.42	1.87	4.5
434.67	6.5	2.67	4.66	0.6	1.44	1.93	4.8
434.70	6.8	2.95	4.79	0.6	1.46	1.99	5.1
434.73	7.2	3.24	4.91	0.7	1.47	2.05	5.4
434.76	7.6	3.54	5.03	0.7	1.48	2.12	5.7
434.79	7.9	3.85	5.15	0.7	1.49	2.18	6.0
434.82	8.3	4.17	5.25	0.8	1.50	2.24	6.4
434.85	8.6	4.49	5.35	0.8	1.50	2.30	6.7
434.88	9.0	4.81	5.45	0.9	1.50	2.36	7.1
434.91	9.4	5.14	5.54	0.9	1.50	2.42	7.4
434.94	9.7	5.47	5.62	1.0	1.50	2.48	7.8
434.97	10.1	5.80	5.70	1.0	1.49	2.54	8.2
435.00	10.4	6.14	5.77	1.1	1.48	2.60	8.6

Easton Maryland

Subsection: Circular Channel

Return Event: 2 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 2 YR

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Elevation (ft)	Depth (in)	Flow (ft ³ /s)	Velocity (ft/s)	Area (ft ²)	Top Width (ft)	Wetted Perimeter (ft)	Head (in)
435.03	10.8	6.47	5.84	1.1	1.47	2.66	9.0
435.06	11.2	6.80	5.90	1.2	1.46	2.72	9.5
435.09	11.5	7.12	5.96	1.2	1.44	2.78	10.0
435.12	11.9	7.44	6.01	1.2	1.42	2.84	10.4
435.15	12.2	7.75	6.06	1.3	1.40	2.91	11.0
435.18	12.6	8.06	6.10	1.3	1.37	2.97	11.5
435.21	13.0	8.36	6.13	1.4	1.35	3.04	12.1
435.24	13.3	8.64	6.16	1.4	1.32	3.11	12.8
435.27	13.7	8.91	6.19	1.4	1.28	3.18	13.5
435.30	14.0	9.17	6.20	1.5	1.24	3.25	14.3
435.33	14.4	9.41	6.21	1.5	1.20	3.32	15.2
435.36	14.8	9.63	6.21	1.6	1.15	3.40	16.1
435.39	15.1	9.83	6.20	1.6	1.10	3.48	17.3
435.42	15.5	10.00	6.19	1.6	1.04	3.56	18.6
435.45	15.8	10.15	6.16	1.6	0.97	3.65	20.3
435.48	16.2	10.26	6.12	1.7	0.90	3.75	22.3
435.51	16.6	10.33	6.07	1.7	0.81	3.85	25.1
435.54	16.9	10.36	6.01	1.7	0.72	3.96	28.6
435.54	16.9	10.36	6.01	1.7	0.71	3.97	29.0
435.57	17.3	10.31	5.92	1.7	0.59	4.11	35.6
435.60	17.6	10.17	5.78	1.8	0.42	4.29	50.2
435.63	18.0	9.63	5.45	1.8	0.00	4.71	(N/A)

Froude No.

0.000
0.954
1.062
1.127
1.172
1.205
1.231
1.251
1.268
1.280
1.290
1.298
1.303
1.306

Easton Maryland

Subsection: Circular Channel

Return Event: 2 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 2 YR

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Froude No.

1.308
1.309
1.308
1.306
1.303
1.298
1.293
1.286
1.279
1.271
1.262
1.251
1.240
1.228
1.215
1.202
1.187
1.171
1.154
1.136
1.117
1.097
1.076
1.053
1.028
1.002
0.974
0.944
0.911
0.875
0.836
0.791
0.741
0.687
0.681
0.606
0.498
(N/A)

Easton Maryland

Subsection: Channel Equations

Return Event: 2 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 2 YR

Solution to Manning's Open Channel Flow Equation (Computed values are based on normal depth.)

$$Q = (k/n) * A * (R^{2/3}) * (S^{1/2})$$

where:	English Units	SI units
Q = Channel Flow	cfs	cms
k = Manning's Constant	1.485919	1.0
n = Manning's n	no units	no units
R = Hydraulic radius, A/WP	feet	meter
A = X-section flow area	ft^2	m^2
WP = Wetted perimeter	feet	meter
S = Slope	ft/ft	m/m

Additional Output Variables:

$$Vel = Q/A$$

$$Hd = A/TpW$$

$$F = Vel / (g * Hd)^{1/2}$$

where:	English Units	SI units
Q = Channel Flow	cfs	cms
k = Manning's Constant	1.485919	1.0
n = Manning's n	no units	no units
R = Hydraulic radius, A/WP	feet	meter
A = X-section flow area	ft^2	m^2
WP = Wetted perimeter	feet	meter
S = Slope	ft/ft	m/m

Easton Maryland

Subsection: Circular Channel

Return Event: 10 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 10 YR

Circular Channel	
Channel Slope	0.840 %
Channel Invert Elevation	434.13 ft
Manning's n	0.013
Diameter	18.0 in

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Elevation (ft)	Depth (in)	Flow (ft ³ /s)	Velocity (ft/s)	Area (ft ²)	Top Width (ft)	Wetted Perimeter (ft)	Head (in)
434.13	0.0	0.00	0.00	0.0	0.00	0.00	0.0
434.16	0.4	0.01	0.77	0.0	0.42	0.43	0.2
434.19	0.7	0.03	1.21	0.0	0.59	0.60	0.5
434.22	1.1	0.07	1.58	0.0	0.71	0.74	0.7
434.25	1.4	0.13	1.90	0.1	0.81	0.86	1.0
434.28	1.8	0.20	2.19	0.1	0.90	0.97	1.2
434.31	2.2	0.29	2.45	0.1	0.97	1.06	1.5
434.34	2.5	0.41	2.70	0.2	1.04	1.15	1.7
434.37	2.9	0.53	2.93	0.2	1.10	1.23	2.0
434.40	3.2	0.68	3.15	0.2	1.15	1.31	2.3
434.43	3.6	0.84	3.35	0.3	1.20	1.39	2.5
434.46	4.0	1.02	3.54	0.3	1.24	1.46	2.8
434.49	4.3	1.22	3.73	0.3	1.28	1.54	3.1
434.52	4.7	1.43	3.90	0.4	1.32	1.61	3.3
434.55	5.0	1.65	4.07	0.4	1.35	1.67	3.6
434.58	5.4	1.89	4.23	0.4	1.37	1.74	3.9
434.61	5.8	2.13	4.38	0.5	1.40	1.80	4.2
434.64	6.1	2.40	4.52	0.5	1.42	1.87	4.5
434.67	6.5	2.67	4.66	0.6	1.44	1.93	4.8
434.70	6.8	2.95	4.79	0.6	1.46	1.99	5.1
434.73	7.2	3.24	4.91	0.7	1.47	2.05	5.4
434.76	7.6	3.54	5.03	0.7	1.48	2.12	5.7
434.79	7.9	3.85	5.15	0.7	1.49	2.18	6.0
434.82	8.3	4.17	5.25	0.8	1.50	2.24	6.4
434.85	8.6	4.49	5.35	0.8	1.50	2.30	6.7
434.88	9.0	4.81	5.45	0.9	1.50	2.36	7.1
434.91	9.4	5.14	5.54	0.9	1.50	2.42	7.4
434.94	9.7	5.47	5.62	1.0	1.50	2.48	7.8
434.97	10.1	5.80	5.70	1.0	1.49	2.54	8.2
435.00	10.4	6.14	5.77	1.1	1.48	2.60	8.6

Easton Maryland

Subsection: Circular Channel

Return Event: 10 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 10 YR

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Elevation (ft)	Depth (in)	Flow (ft ³ /s)	Velocity (ft/s)	Area (ft ²)	Top Width (ft)	Wetted Perimeter (ft)	Head (in)
435.03	10.8	6.47	5.84	1.1	1.47	2.66	9.0
435.06	11.2	6.80	5.90	1.2	1.46	2.72	9.5
435.09	11.5	7.12	5.96	1.2	1.44	2.78	10.0
435.12	11.9	7.44	6.01	1.2	1.42	2.84	10.4
435.15	12.2	7.75	6.06	1.3	1.40	2.91	11.0
435.18	12.6	8.06	6.10	1.3	1.37	2.97	11.5
435.21	13.0	8.36	6.13	1.4	1.35	3.04	12.1
435.24	13.3	8.64	6.16	1.4	1.32	3.11	12.8
435.27	13.7	8.91	6.19	1.4	1.28	3.18	13.5
435.30	14.0	9.17	6.20	1.5	1.24	3.25	14.3
435.33	14.4	9.41	6.21	1.5	1.20	3.32	15.2
435.36	14.8	9.63	6.21	1.6	1.15	3.40	16.1
435.39	15.1	9.83	6.20	1.6	1.10	3.48	17.3
435.42	15.5	10.00	6.19	1.6	1.04	3.56	18.6
435.45	15.8	10.15	6.16	1.6	0.97	3.65	20.3
435.48	16.2	10.26	6.12	1.7	0.90	3.75	22.3
435.51	16.6	10.33	6.07	1.7	0.81	3.85	25.1
435.54	16.9	10.36	6.01	1.7	0.72	3.96	28.6
435.54	16.9	10.36	6.01	1.7	0.71	3.97	29.0
435.57	17.3	10.31	5.92	1.7	0.59	4.11	35.6
435.60	17.6	10.17	5.78	1.8	0.42	4.29	50.2
435.63	18.0	9.63	5.45	1.8	0.00	4.71	(N/A)

Froude No.

0.000
0.954
1.062
1.127
1.172
1.205
1.231
1.251
1.268
1.280
1.290
1.298
1.303
1.306

Easton Maryland

Subsection: Circular Channel

Return Event: 10 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 10 YR

Solution to Mannings Open Channel Flow Equation (Computed values are based on normal depth.)

Circular Cross Section

Froude No.

1.308
1.309
1.308
1.306
1.303
1.298
1.293
1.286
1.279
1.271
1.262
1.251
1.240
1.228
1.215
1.202
1.187
1.171
1.154
1.136
1.117
1.097
1.076
1.053
1.028
1.002
0.974
0.944
0.911
0.875
0.836
0.791
0.741
0.687
0.681
0.606
0.498
(N/A)

Easton Maryland

Subsection: Channel Equations

Return Event: 10 years

Label: Conduit Catalog - 1 (Composite Outlet Structure - 1)

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 10 YR

Solution to Manning's Open Channel Flow Equation (Computed values are based on normal depth.)

$$Q = (k/n) * A * (R^{2/3}) * (S^{1/2})$$

where:	English Units	SI units
Q = Channel Flow	cfs	cms
k = Manning's Constant	1.485919	1.0
n = Manning's n	no units	no units
R = Hydraulic radius, A/WP	feet	meter
A = X-section flow area	ft^2	m^2
WP = Wetted perimeter	feet	meter
S = Slope	ft/ft	m/m

Additional Output Variables:

$$Vel = Q/A$$

$$Hd = A/TpW$$

$$F = Vel / (g * Hd)^{1/2}$$

where:	English Units	SI units
Q = Channel Flow	cfs	cms
k = Manning's Constant	1.485919	1.0
n = Manning's n	no units	no units
R = Hydraulic radius, A/WP	feet	meter
A = X-section flow area	ft^2	m^2
WP = Wetted perimeter	feet	meter
S = Slope	ft/ft	m/m

Easton Maryland

Subsection: Addition Summary

Label: Outfall

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Summary for Hydrograph Addition at 'Outfall'

	Upstream Link	Upstream Node
Outlet		Pond

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	Outlet	0.429	14.150	0.64
Flow (In)	Outfall	0.429	14.150	0.64

Easton Maryland

Subsection: Addition Summary

Label: Outfall

Scenario: Pre-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	DA

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	DA	0.198	12.450	0.67
Flow (In)	Outfall	0.198	12.450	0.67

Easton Maryland

Subsection: Addition Summary

Label: Outfall

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Summary for Hydrograph Addition at 'Outfall'

	Upstream Link	Upstream Node
Outlet		Pond

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	Outlet	0.836	13.400	2.20
Flow (In)	Outfall	0.836	13.400	2.20

Easton Maryland

Subsection: Time vs. Elevation

Label: Pond (OUT)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	436.00	436.00	436.00	436.00	436.00
0.250	436.00	436.00	436.00	436.00	436.00
0.500	436.00	436.00	436.00	436.00	436.00
0.750	436.00	436.00	436.00	436.00	436.00
1.000	436.00	436.00	436.00	436.00	436.00
1.250	436.00	436.00	436.00	436.00	436.00
1.500	436.00	436.00	436.00	436.00	436.00
1.750	436.00	436.00	436.00	436.00	436.00
2.000	436.00	436.00	436.00	436.00	436.00
2.250	436.00	436.00	436.00	436.00	436.00
2.500	436.00	436.00	436.00	436.00	436.00
2.750	436.00	436.00	436.00	436.00	436.00
3.000	436.00	436.00	436.00	436.00	436.00
3.250	436.00	436.00	436.00	436.00	436.00
3.500	436.00	436.00	436.00	436.00	436.00
3.750	436.00	436.00	436.00	436.00	436.00
4.000	436.00	436.00	436.00	436.00	436.00
4.250	436.00	436.00	436.00	436.00	436.00
4.500	436.00	436.00	436.00	436.00	436.00
4.750	436.00	436.00	436.00	436.00	436.00
5.000	436.00	436.00	436.00	436.00	436.00
5.250	436.00	436.00	436.00	436.00	436.00
5.500	436.00	436.00	436.00	436.00	436.00
5.750	436.00	436.00	436.00	436.00	436.00
6.000	436.00	436.00	436.00	436.00	436.00
6.250	436.00	436.00	436.00	436.00	436.00
6.500	436.00	436.00	436.00	436.00	436.00
6.750	436.00	436.00	436.00	436.00	436.00
7.000	436.00	436.00	436.00	436.00	436.00
7.250	436.00	436.00	436.00	436.00	436.00
7.500	436.00	436.00	436.00	436.00	436.00
7.750	436.00	436.00	436.00	436.00	436.00
8.000	436.00	436.00	436.00	436.00	436.00
8.250	436.00	436.00	436.00	436.00	436.00
8.500	436.00	436.00	436.00	436.00	436.00
8.750	436.00	436.00	436.00	436.00	436.00
9.000	436.00	436.00	436.00	436.00	436.00
9.250	436.00	436.00	436.00	436.00	436.00
9.500	436.00	436.00	436.00	436.00	436.00
9.750	436.00	436.00	436.00	436.00	436.00

Easton Maryland

Subsection: Time vs. Elevation

Label: Pond (OUT)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	436.00	436.00	436.00	436.00	436.00
10.250	436.00	436.00	436.00	436.00	436.00
10.500	436.00	436.00	436.00	436.00	436.00
10.750	436.00	436.00	436.00	436.00	436.00
11.000	436.00	436.01	436.02	436.05	436.10
11.250	436.18	436.31	436.49	436.74	437.03
11.500	437.14	437.14	437.20	437.27	437.38
11.750	437.61	438.00	438.05	438.17	438.38
12.000	438.54	438.62	438.72	438.85	438.98
12.250	439.07	439.16	439.23	439.31	439.38
12.500	439.45	439.52	439.57	439.63	439.68
12.750	439.72	439.77	439.81	439.85	439.89
13.000	439.92	439.95	439.98	440.01	440.04
13.250	440.06	440.08	440.10	440.11	440.13
13.500	440.14	440.15	440.16	440.17	440.18
13.750	440.19	440.19	440.20	440.20	440.20
14.000	440.21	440.21	440.21	440.21	440.21
14.250	440.21	440.21	440.20	440.20	440.20
14.500	440.20	440.19	440.19	440.19	440.18
14.750	440.18	440.18	440.17	440.17	440.16
15.000	440.16	440.16	440.15	440.15	440.14
15.250	440.14	440.13	440.13	440.13	440.12
15.500	440.12	440.11	440.11	440.10	440.10
15.750	440.10	440.09	440.09	440.08	440.08
16.000	440.07	440.07	440.07	440.06	440.06
16.250	440.05	440.05	440.05	440.04	440.04
16.500	440.03	440.03	440.03	440.02	440.02
16.750	440.01	440.01	440.01	440.00	440.00
17.000	440.00	439.99	439.99	439.99	439.98
17.250	439.98	439.97	439.97	439.97	439.96
17.500	439.96	439.95	439.95	439.94	439.94
17.750	439.94	439.93	439.93	439.92	439.92
18.000	439.91	439.91	439.90	439.90	439.90
18.250	439.89	439.89	439.88	439.88	439.87
18.500	439.87	439.86	439.86	439.85	439.85
18.750	439.84	439.84	439.83	439.83	439.82
19.000	439.82	439.81	439.81	439.80	439.80
19.250	439.79	439.79	439.78	439.78	439.77
19.500	439.77	439.76	439.75	439.75	439.74
19.750	439.74	439.73	439.73	439.72	439.72
20.000	439.71	439.70	439.70	439.69	439.69

Easton Maryland

Subsection: Time vs. Elevation
 Label: Pond (OUT)
 Scenario: Post-Development 2 YR

Return Event: 2 years
 Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	439.68	439.68	439.67	439.66	439.66
20.500	439.65	439.65	439.64	439.63	439.63
20.750	439.62	439.62	439.61	439.60	439.60
21.000	439.59	439.59	439.58	439.57	439.57
21.250	439.56	439.56	439.55	439.54	439.54
21.500	439.53	439.53	439.52	439.51	439.51
21.750	439.50	439.50	439.49	439.48	439.48
22.000	439.47	439.46	439.46	439.45	439.44
22.250	439.44	439.43	439.42	439.42	439.41
22.500	439.40	439.40	439.39	439.38	439.38
22.750	439.37	439.36	439.36	439.35	439.35
23.000	439.34	439.33	439.33	439.32	439.31
23.250	439.31	439.30	439.29	439.29	439.28
23.500	439.27	439.27	439.26	439.26	439.25
23.750	439.24	439.24	439.23	439.22	439.22
24.000	439.21	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time vs. Elevation

Label: Pond (OUT)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	436.00	436.00	436.00	436.00	436.00
0.250	436.00	436.00	436.00	436.00	436.00
0.500	436.00	436.00	436.00	436.00	436.00
0.750	436.00	436.00	436.00	436.00	436.00
1.000	436.00	436.00	436.00	436.00	436.00
1.250	436.00	436.00	436.00	436.00	436.00
1.500	436.00	436.00	436.00	436.00	436.00
1.750	436.00	436.00	436.00	436.00	436.00
2.000	436.00	436.00	436.00	436.00	436.00
2.250	436.00	436.00	436.00	436.00	436.00
2.500	436.00	436.00	436.00	436.00	436.00
2.750	436.00	436.00	436.00	436.00	436.00
3.000	436.00	436.00	436.00	436.00	436.00
3.250	436.00	436.00	436.00	436.00	436.00
3.500	436.00	436.00	436.00	436.00	436.00
3.750	436.00	436.00	436.00	436.00	436.00
4.000	436.00	436.00	436.00	436.00	436.00
4.250	436.00	436.00	436.00	436.00	436.00
4.500	436.00	436.00	436.00	436.00	436.00
4.750	436.00	436.00	436.00	436.00	436.00
5.000	436.00	436.00	436.00	436.00	436.00
5.250	436.00	436.00	436.00	436.00	436.00
5.500	436.00	436.00	436.00	436.00	436.00
5.750	436.00	436.00	436.00	436.00	436.00
6.000	436.00	436.00	436.00	436.00	436.00
6.250	436.00	436.00	436.00	436.00	436.00
6.500	436.00	436.00	436.00	436.00	436.00
6.750	436.00	436.00	436.00	436.00	436.00
7.000	436.00	436.00	436.00	436.00	436.00
7.250	436.00	436.00	436.00	436.00	436.00
7.500	436.00	436.00	436.00	436.00	436.00
7.750	436.00	436.00	436.00	436.00	436.00
8.000	436.00	436.00	436.00	436.00	436.00
8.250	436.00	436.00	436.00	436.00	436.00
8.500	436.00	436.00	436.00	436.00	436.00
8.750	436.00	436.00	436.00	436.00	436.00
9.000	436.00	436.00	436.00	436.00	436.00
9.250	436.00	436.00	436.00	436.00	436.00
9.500	436.00	436.00	436.01	436.02	436.03
9.750	436.06	436.10	436.16	436.24	436.35

Easton Maryland

Subsection: Time vs. Elevation

Label: Pond (OUT)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	436.49	436.66	436.86	437.04	437.08
10.250	437.08	437.10	437.12	437.13	437.15
10.500	437.17	437.19	437.21	437.23	437.26
10.750	437.28	437.31	437.34	437.37	437.41
11.000	437.44	437.49	437.54	437.62	437.72
11.250	437.82	437.94	438.00	438.01	438.03
11.500	438.06	438.09	438.14	438.20	438.29
11.750	438.42	438.52	438.57	438.65	438.76
12.000	438.92	439.07	439.22	439.38	439.55
12.250	439.72	439.88	440.03	440.17	440.29
12.500	440.40	440.51	440.59	440.67	440.73
12.750	440.79	440.85	440.89	440.93	440.96
13.000	440.99	441.01	441.03	441.04	441.05
13.250	441.06	441.07	441.07	441.07	441.07
13.500	441.06	441.06	441.05	441.04	441.04
13.750	441.03	441.02	441.00	440.99	440.98
14.000	440.96	440.95	440.93	440.91	440.90
14.250	440.88	440.87	440.85	440.83	440.82
14.500	440.80	440.78	440.77	440.75	440.74
14.750	440.72	440.71	440.70	440.68	440.67
15.000	440.66	440.64	440.63	440.62	440.61
15.250	440.59	440.58	440.57	440.56	440.55
15.500	440.54	440.53	440.52	440.51	440.50
15.750	440.49	440.48	440.47	440.46	440.45
16.000	440.44	440.44	440.43	440.42	440.41
16.250	440.40	440.39	440.38	440.37	440.37
16.500	440.36	440.35	440.34	440.33	440.33
16.750	440.32	440.31	440.30	440.30	440.29
17.000	440.28	440.28	440.27	440.26	440.26
17.250	440.25	440.24	440.24	440.23	440.22
17.500	440.22	440.21	440.21	440.20	440.20
17.750	440.19	440.19	440.18	440.18	440.17
18.000	440.17	440.16	440.16	440.15	440.15
18.250	440.14	440.14	440.13	440.13	440.12
18.500	440.12	440.12	440.11	440.11	440.10
18.750	440.10	440.10	440.09	440.09	440.09
19.000	440.08	440.08	440.07	440.07	440.07
19.250	440.06	440.06	440.06	440.05	440.05
19.500	440.05	440.04	440.04	440.04	440.04
19.750	440.03	440.03	440.03	440.02	440.02
20.000	440.02	440.01	440.01	440.01	440.01

Easton Maryland

Subsection: Time vs. Elevation

Label: Pond (OUT)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	440.00	440.00	440.00	439.99	439.99
20.500	439.99	439.98	439.98	439.98	439.97
20.750	439.97	439.97	439.96	439.96	439.96
21.000	439.95	439.95	439.95	439.94	439.94
21.250	439.93	439.93	439.93	439.92	439.92
21.500	439.92	439.91	439.91	439.90	439.90
21.750	439.90	439.89	439.89	439.89	439.88
22.000	439.88	439.87	439.87	439.87	439.86
22.250	439.86	439.86	439.85	439.85	439.84
22.500	439.84	439.84	439.83	439.83	439.83
22.750	439.82	439.82	439.81	439.81	439.81
23.000	439.80	439.80	439.79	439.79	439.79
23.250	439.78	439.78	439.77	439.77	439.77
23.500	439.76	439.76	439.75	439.75	439.75
23.750	439.74	439.74	439.73	439.73	439.73
24.000	439.72	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	0.000	0.000	0.000	0.000	0.000
0.250	0.000	0.000	0.000	0.000	0.000
0.500	0.000	0.000	0.000	0.000	0.000
0.750	0.000	0.000	0.000	0.000	0.000
1.000	0.000	0.000	0.000	0.000	0.000
1.250	0.000	0.000	0.000	0.000	0.000
1.500	0.000	0.000	0.000	0.000	0.000
1.750	0.000	0.000	0.000	0.000	0.000
2.000	0.000	0.000	0.000	0.000	0.000
2.250	0.000	0.000	0.000	0.000	0.000
2.500	0.000	0.000	0.000	0.000	0.000
2.750	0.000	0.000	0.000	0.000	0.000
3.000	0.000	0.000	0.000	0.000	0.000
3.250	0.000	0.000	0.000	0.000	0.000
3.500	0.000	0.000	0.000	0.000	0.000
3.750	0.000	0.000	0.000	0.000	0.000
4.000	0.000	0.000	0.000	0.000	0.000
4.250	0.000	0.000	0.000	0.000	0.000
4.500	0.000	0.000	0.000	0.000	0.000
4.750	0.000	0.000	0.000	0.000	0.000
5.000	0.000	0.000	0.000	0.000	0.000
5.250	0.000	0.000	0.000	0.000	0.000
5.500	0.000	0.000	0.000	0.000	0.000
5.750	0.000	0.000	0.000	0.000	0.000
6.000	0.000	0.000	0.000	0.000	0.000
6.250	0.000	0.000	0.000	0.000	0.000
6.500	0.000	0.000	0.000	0.000	0.000
6.750	0.000	0.000	0.000	0.000	0.000
7.000	0.000	0.000	0.000	0.000	0.000
7.250	0.000	0.000	0.000	0.000	0.000
7.500	0.000	0.000	0.000	0.000	0.000
7.750	0.000	0.000	0.000	0.000	0.000
8.000	0.000	0.000	0.000	0.000	0.000
8.250	0.000	0.000	0.000	0.000	0.000
8.500	0.000	0.000	0.000	0.000	0.000
8.750	0.000	0.000	0.000	0.000	0.000
9.000	0.000	0.000	0.000	0.000	0.000
9.250	0.000	0.000	0.000	0.000	0.000
9.500	0.000	0.000	0.000	0.000	0.000
9.750	0.000	0.000	0.000	0.000	0.000

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	0.000	0.000	0.000	0.000	0.000
10.250	0.000	0.000	0.000	0.000	0.000
10.500	0.000	0.000	0.000	0.000	0.000
10.750	0.000	0.000	0.000	0.000	0.000
11.000	0.000	0.000	0.000	0.000	0.000
11.250	0.000	0.000	0.000	0.000	0.000
11.500	0.000	0.000	0.000	0.000	0.000
11.750	0.000	0.001	0.001	0.001	0.003
12.000	0.008	0.012	0.018	0.027	0.042
12.250	0.052	0.063	0.073	0.083	0.093
12.500	0.102	0.111	0.118	0.126	0.133
12.750	0.139	0.146	0.152	0.158	0.163
13.000	0.168	0.173	0.178	0.182	0.186
13.250	0.189	0.192	0.195	0.198	0.200
13.500	0.202	0.204	0.205	0.207	0.208
13.750	0.209	0.210	0.211	0.212	0.212
14.000	0.212	0.213	0.213	0.213	0.213
14.250	0.213	0.212	0.212	0.212	0.211
14.500	0.211	0.210	0.210	0.209	0.209
14.750	0.208	0.208	0.207	0.207	0.206
15.000	0.205	0.205	0.204	0.203	0.203
15.250	0.202	0.201	0.201	0.200	0.199
15.500	0.198	0.198	0.197	0.196	0.196
15.750	0.195	0.194	0.194	0.193	0.192
16.000	0.192	0.191	0.190	0.190	0.189
16.250	0.189	0.188	0.187	0.187	0.186
16.500	0.186	0.185	0.184	0.184	0.183
16.750	0.183	0.182	0.182	0.181	0.181
17.000	0.180	0.179	0.179	0.178	0.178
17.250	0.177	0.176	0.176	0.175	0.175
17.500	0.174	0.173	0.173	0.172	0.171
17.750	0.171	0.170	0.169	0.169	0.168
18.000	0.167	0.167	0.166	0.165	0.165
18.250	0.164	0.163	0.163	0.162	0.161
18.500	0.160	0.160	0.159	0.158	0.158
18.750	0.157	0.156	0.155	0.155	0.154
19.000	0.153	0.152	0.152	0.151	0.150
19.250	0.149	0.149	0.148	0.147	0.146
19.500	0.146	0.145	0.144	0.143	0.142
19.750	0.142	0.141	0.140	0.139	0.138
20.000	0.138	0.137	0.136	0.135	0.134

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	0.133	0.133	0.132	0.131	0.130
20.500	0.129	0.128	0.128	0.127	0.126
20.750	0.125	0.124	0.123	0.123	0.122
21.000	0.121	0.120	0.119	0.118	0.118
21.250	0.117	0.116	0.115	0.114	0.113
21.500	0.113	0.112	0.111	0.110	0.109
21.750	0.109	0.108	0.107	0.106	0.105
22.000	0.104	0.103	0.102	0.101	0.100
22.250	0.100	0.099	0.098	0.097	0.096
22.500	0.095	0.094	0.093	0.093	0.092
22.750	0.091	0.090	0.089	0.088	0.087
23.000	0.087	0.086	0.085	0.084	0.083
23.250	0.082	0.081	0.081	0.080	0.079
23.500	0.078	0.077	0.076	0.076	0.075
23.750	0.074	0.073	0.072	0.072	0.071
24.000	0.070	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	0.000	0.000	0.000	0.000	0.000
0.250	0.000	0.000	0.000	0.000	0.000
0.500	0.000	0.000	0.000	0.000	0.000
0.750	0.000	0.000	0.000	0.000	0.000
1.000	0.000	0.000	0.000	0.000	0.000
1.250	0.000	0.000	0.000	0.000	0.000
1.500	0.000	0.000	0.000	0.000	0.000
1.750	0.000	0.000	0.000	0.000	0.000
2.000	0.000	0.000	0.000	0.000	0.000
2.250	0.000	0.000	0.000	0.000	0.000
2.500	0.000	0.000	0.000	0.000	0.000
2.750	0.000	0.000	0.000	0.000	0.000
3.000	0.000	0.000	0.000	0.000	0.000
3.250	0.000	0.000	0.000	0.000	0.000
3.500	0.000	0.000	0.000	0.000	0.000
3.750	0.000	0.000	0.000	0.000	0.000
4.000	0.000	0.000	0.000	0.000	0.000
4.250	0.000	0.000	0.000	0.000	0.000
4.500	0.000	0.000	0.000	0.000	0.000
4.750	0.000	0.000	0.000	0.000	0.000
5.000	0.000	0.000	0.000	0.000	0.000
5.250	0.000	0.000	0.000	0.000	0.000
5.500	0.000	0.000	0.000	0.000	0.000
5.750	0.000	0.000	0.000	0.000	0.000
6.000	0.000	0.000	0.000	0.000	0.000
6.250	0.000	0.000	0.000	0.000	0.000
6.500	0.000	0.000	0.000	0.000	0.000
6.750	0.000	0.000	0.000	0.000	0.000
7.000	0.000	0.000	0.000	0.000	0.000
7.250	0.000	0.000	0.000	0.000	0.000
7.500	0.000	0.000	0.000	0.000	0.000
7.750	0.000	0.000	0.000	0.000	0.000
8.000	0.000	0.000	0.000	0.000	0.000
8.250	0.000	0.000	0.000	0.000	0.000
8.500	0.000	0.000	0.000	0.000	0.000
8.750	0.000	0.000	0.000	0.000	0.000
9.000	0.000	0.000	0.000	0.000	0.000
9.250	0.000	0.000	0.000	0.000	0.000
9.500	0.000	0.000	0.000	0.000	0.000
9.750	0.000	0.000	0.000	0.000	0.000

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.000	0.000	0.000	0.000	0.000	0.000
10.250	0.000	0.000	0.000	0.000	0.000
10.500	0.000	0.000	0.000	0.000	0.000
10.750	0.000	0.000	0.000	0.000	0.000
11.000	0.000	0.000	0.000	0.000	0.001
11.250	0.001	0.001	0.001	0.001	0.001
11.500	0.001	0.001	0.001	0.001	0.002
11.750	0.005	0.008	0.010	0.013	0.021
12.000	0.035	0.053	0.071	0.092	0.116
12.250	0.139	0.163	0.186	0.206	0.226
12.500	0.244	0.261	0.276	0.289	0.301
12.750	0.311	0.320	0.328	0.335	0.342
13.000	0.347	0.351	0.354	0.357	0.358
13.250	0.360	0.361	0.361	0.361	0.361
13.500	0.360	0.359	0.358	0.356	0.355
13.750	0.353	0.351	0.349	0.347	0.344
14.000	0.341	0.338	0.336	0.333	0.330
14.250	0.327	0.324	0.321	0.318	0.315
14.500	0.312	0.309	0.307	0.304	0.301
14.750	0.299	0.296	0.294	0.291	0.289
15.000	0.287	0.285	0.283	0.280	0.278
15.250	0.276	0.274	0.272	0.271	0.269
15.500	0.267	0.265	0.264	0.262	0.261
15.750	0.259	0.257	0.256	0.254	0.253
16.000	0.251	0.250	0.248	0.247	0.245
16.250	0.244	0.242	0.241	0.240	0.238
16.500	0.237	0.235	0.234	0.233	0.232
16.750	0.230	0.229	0.228	0.227	0.226
17.000	0.225	0.223	0.222	0.221	0.220
17.250	0.219	0.218	0.217	0.216	0.215
17.500	0.214	0.214	0.213	0.212	0.211
17.750	0.210	0.209	0.208	0.208	0.207
18.000	0.206	0.205	0.205	0.204	0.203
18.250	0.202	0.202	0.201	0.200	0.200
18.500	0.199	0.198	0.198	0.197	0.196
18.750	0.196	0.195	0.195	0.194	0.194
19.000	0.193	0.192	0.192	0.191	0.191
19.250	0.190	0.190	0.189	0.189	0.188
19.500	0.188	0.187	0.187	0.186	0.186
19.750	0.185	0.185	0.184	0.184	0.183
20.000	0.183	0.183	0.182	0.182	0.181

Easton Maryland

Subsection: Time vs. Volume

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.250	0.181	0.180	0.180	0.179	0.179
20.500	0.178	0.178	0.177	0.177	0.176
20.750	0.176	0.175	0.175	0.174	0.174
21.000	0.173	0.173	0.172	0.172	0.171
21.250	0.171	0.170	0.169	0.169	0.168
21.500	0.168	0.167	0.167	0.166	0.166
21.750	0.165	0.164	0.164	0.163	0.163
22.000	0.162	0.162	0.161	0.160	0.160
22.250	0.159	0.159	0.158	0.158	0.157
22.500	0.157	0.156	0.155	0.155	0.154
22.750	0.154	0.153	0.153	0.152	0.151
23.000	0.151	0.150	0.150	0.149	0.149
23.250	0.148	0.147	0.147	0.146	0.146
23.500	0.145	0.145	0.144	0.143	0.143
23.750	0.142	0.142	0.141	0.141	0.140
24.000	0.139	(N/A)	(N/A)	(N/A)	(N/A)

Easton Maryland

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond

Storm Event: SCS Type II 24 HR

Scenario: Post-Development 2 YR

Elevation (ft)	Planimeter (ft ²)	Area (ft ²)	A1+A2+sqr(A1*A 2) (ft ²)	Volume (ac-ft)	Volume (Total) (ac-ft)
436.00	0.0	13.000	0.000	0.000	0.000
437.00	0.0	13.100	39.150	0.000	0.000
438.00	0.0	13.200	39.450	0.000	0.001
439.00	0.0	5,323.723	5,602.014	0.043	0.043
440.00	0.0	6,631.972	17,897.646	0.137	0.180
441.00	0.0	8,012.218	21,933.690	0.168	0.348
442.00	0.0	9,464.470	26,184.810	0.200	0.549

Easton Maryland

Subsection: Volume Equations

Label: Pond

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Pond Volume Equations

*** Incremental volume computed by the Conic Method for Reservoir Volumes.**

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

where:	EL1, EL2	Lower and upper elevations of the increment
	Area1, Area2	Areas computed for EL1, EL2, respectively
	Volume	Incremental volume between EL1 and EL2

Easton Maryland

Subsection: Elevation-Area Volume Curve

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Elevation (ft)	Planimeter (ft ²)	Area (ft ²)	A1+A2+sqr(A1*A 2) (ft ²)	Volume (ac-ft)	Volume (Total) (ac-ft)
436.00	0.0	13.000	0.000	0.000	0.000
437.00	0.0	13.100	39.150	0.000	0.000
438.00	0.0	13.200	39.450	0.000	0.001
439.00	0.0	5,323.723	5,602.014	0.043	0.043
440.00	0.0	6,631.972	17,897.646	0.137	0.180
441.00	0.0	8,012.218	21,933.690	0.168	0.348
442.00	0.0	9,464.470	26,184.810	0.200	0.549

Easton Maryland

Subsection: Volume Equations

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Pond Volume Equations

*** Incremental volume computed by the Conic Method for Reservoir Volumes.**

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

where:	EL1, EL2	Lower and upper elevations of the increment
	Area1, Area2	Areas computed for EL1, EL2, respectively
	Volume	Incremental volume between EL1 and EL2

Easton Maryland

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Requested Pond Water Surface Elevations

Minimum (Headwater)	436.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	442.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice	Forward	TW	437.00	442.00
Rectangular Weir	Weir	Forward	TW	440.00	442.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Easton Maryland

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Structure ID: Weir	
Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	440.00 ft
Weir Length	0.50 ft
Weir Coefficient	3.10 (ft ^{0.5})/s
Structure ID: Orifice	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	437.00 ft
Orifice Diameter	3.0 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Downstream Channel
Catalog Conduit	Conduit Catalog - 1
Channel Slope	0.840 %
Channel Invert Elevation	434.13 ft
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Easton Maryland

Subsection: Individual Outlet Curves
 Label: Composite Outlet Structure - 1
 Scenario: Post-Development 2 YR

Return Event: 2 years
 Storm Event: SCS Type II 24 HR

RATING TABLE FOR ONE OUTLET TYPE
 Structure ID = Weir (Rectangular Weir)

Upstream ID = (Pond Water Surface)
 Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
436.00	0.00	434.13	0.00
436.50	0.00	434.13	0.00
437.00	0.00	434.13	0.00
437.50	0.00	434.26	0.00
438.00	0.00	434.29	0.00
438.50	0.00	434.30	0.00
439.00	0.00	434.32	0.00
439.50	0.00	434.33	0.00
440.00	0.00	434.34	0.00
440.50	0.55	434.45	0.00
441.00	1.55	434.60	0.00
441.50	2.85	434.74	0.00
442.00	4.38	434.88	0.01

Computation Messages

HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 HW & TW below
 Inv.El.=440.000
 H=.00; Htw=.00;
 Qfree=.00;
 H=.50; Htw=.00;
 Qfree=.55;
 H=1.00; Htw=.00;
 Qfree=1.55;
 H=1.50; Htw=.00;
 Qfree=2.85;

Easton Maryland

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1
Scenario: Post-Development 2 YR

Return Event: 2 years
Storm Event: SCS Type II 24 HR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Weir (Rectangular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages

H=2.00; Htw=.00; Qfree=4.38;

Easton Maryland

Subsection: Individual Outlet Curves
 Label: Composite Outlet Structure - 1
 Scenario: Post-Development 2 YR

Return Event: 2 years
 Storm Event: SCS Type II 24 HR

RATING TABLE FOR ONE OUTLET TYPE
 Structure ID = Orifice (Orifice-Circular)

Upstream ID = (Pond Water Surface)
 Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
436.00	0.00	434.13	0.00
436.50	0.00	434.13	0.00
437.00	0.00	434.13	0.00
437.50	0.14	434.26	0.00
438.00	0.22	434.29	0.00
438.50	0.28	434.30	0.00
439.00	0.32	434.32	0.00
439.50	0.36	434.33	0.00
440.00	0.40	434.34	0.00
440.50	0.43	434.45	0.00
441.00	0.47	434.60	0.00
441.50	0.49	434.74	0.00
442.00	0.52	434.88	0.01

Computation Messages

HW & TW below invert
 HW & TW below invert
 Upstream HW &
 DNstream TW < Inv.El
 H =.38
 H =.88
 H =1.38
 H =1.88
 H =2.38
 H =2.88
 H =3.38
 H =3.88
 H =4.38
 H =4.88

Easton Maryland

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Requested Pond Water Surface Elevations

Minimum (Headwater)	436.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	442.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice	Forward	TW	437.00	442.00
Rectangular Weir	Weir	Forward	TW	440.00	442.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Easton Maryland

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Structure ID: Weir	
Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	440.00 ft
Weir Length	0.50 ft
Weir Coefficient	3.10 (ft ^{0.5})/s
Structure ID: Orifice	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	437.00 ft
Orifice Diameter	3.0 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Downstream Channel
Catalog Conduit	Conduit Catalog - 1
Channel Slope	0.840 %
Channel Invert Elevation	434.13 ft
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Easton Maryland

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: SCS Type II 24 HR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Easton Maryland

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1
Scenario: Post-Development 10 YR

Return Event: 10 years
Storm Event: SCS Type II 24 HR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = ()

Upstream ID =
Downstream ID =

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
Contributing Structures			

Easton Maryland

Subsection: Diverted Hydrograph

Label: Outlet

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Peak Discharge	0.64 ft ³ /s
Time to Peak	14.150 hours
Hydrograph Volume	0.429 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.400	0.00	0.01	0.04	0.04	0.06
11.650	0.08	0.11	0.16	0.22	0.23
11.900	0.24	0.26	0.28	0.29	0.30
12.150	0.31	0.32	0.33	0.34	0.34
12.400	0.35	0.35	0.36	0.37	0.37
12.650	0.37	0.38	0.38	0.38	0.39
12.900	0.39	0.39	0.39	0.40	0.40
13.150	0.41	0.44	0.47	0.49	0.51
13.400	0.53	0.55	0.56	0.58	0.59
13.650	0.60	0.61	0.62	0.62	0.63
13.900	0.63	0.64	0.64	0.64	0.64
14.150	0.64	0.64	0.64	0.64	0.64
14.400	0.63	0.63	0.63	0.63	0.62
14.650	0.62	0.61	0.61	0.61	0.60
14.900	0.60	0.59	0.59	0.58	0.58
15.150	0.57	0.57	0.56	0.56	0.55
15.400	0.55	0.54	0.54	0.53	0.53
15.650	0.52	0.52	0.51	0.51	0.50
15.900	0.50	0.49	0.49	0.48	0.48
16.150	0.47	0.47	0.46	0.46	0.45
16.400	0.45	0.44	0.44	0.44	0.43
16.650	0.43	0.42	0.42	0.41	0.41
16.900	0.41	0.40	0.40	0.40	0.40
17.150	0.40	0.40	0.40	0.40	0.40
17.400	0.40	0.40	0.40	0.40	0.40
17.650	0.40	0.40	0.40	0.40	0.40
17.900	0.39	0.39	0.39	0.39	0.39
18.150	0.39	0.39	0.39	0.39	0.39
18.400	0.39	0.39	0.39	0.39	0.39
18.650	0.39	0.39	0.39	0.39	0.39
18.900	0.39	0.39	0.39	0.39	0.39
19.150	0.39	0.39	0.39	0.39	0.38
19.400	0.38	0.38	0.38	0.38	0.38
19.650	0.38	0.38	0.38	0.38	0.38
19.900	0.38	0.38	0.38	0.38	0.38
20.150	0.38	0.38	0.38	0.38	0.38
20.400	0.38	0.38	0.38	0.37	0.37

Easton Maryland

Subsection: Diverted Hydrograph

Label: Outlet

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.650	0.37	0.37	0.37	0.37	0.37
20.900	0.37	0.37	0.37	0.37	0.37
21.150	0.37	0.37	0.37	0.37	0.37
21.400	0.37	0.37	0.37	0.37	0.37
21.650	0.37	0.36	0.36	0.36	0.36
21.900	0.36	0.36	0.36	0.36	0.36
22.150	0.36	0.36	0.36	0.36	0.36
22.400	0.36	0.36	0.36	0.36	0.36
22.650	0.35	0.35	0.35	0.35	0.35
22.900	0.35	0.35	0.35	0.35	0.35
23.150	0.35	0.35	0.35	0.35	0.35
23.400	0.35	0.35	0.35	0.35	0.34
23.650	0.34	0.34	0.34	0.34	0.34
23.900	0.34	0.34	0.34	(N/A)	(N/A)

Easton Maryland

Subsection: Diverted Hydrograph
 Label: Outlet
 Scenario: Post-Development 10 YR

Return Event: 10 years
 Storm Event: SCS Type II 24 HR

Peak Discharge	2.20 ft ³ /s
Time to Peak	13.400 hours
Hydrograph Volume	0.836 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.100	0.00	0.01	0.02	0.02	0.03
10.350	0.03	0.04	0.04	0.05	0.05
10.600	0.06	0.07	0.07	0.08	0.09
10.850	0.10	0.11	0.12	0.13	0.14
11.100	0.15	0.16	0.18	0.19	0.21
11.350	0.22	0.22	0.22	0.23	0.23
11.600	0.24	0.24	0.25	0.27	0.28
11.850	0.28	0.29	0.30	0.32	0.33
12.100	0.34	0.35	0.37	0.38	0.39
12.350	0.44	0.60	0.74	0.87	1.00
12.600	1.17	1.33	1.47	1.59	1.70
12.850	1.79	1.87	1.94	2.00	2.05
13.100	2.10	2.13	2.16	2.18	2.19
13.350	2.20	2.20	2.19	2.18	2.17
13.600	2.15	2.13	2.11	2.08	2.06
13.850	2.02	2.00	1.97	1.94	1.90
14.100	1.87	1.84	1.80	1.77	1.74
14.350	1.70	1.67	1.64	1.60	1.57
14.600	1.54	1.51	1.48	1.45	1.42
14.850	1.39	1.36	1.33	1.30	1.28
15.100	1.25	1.23	1.20	1.18	1.15
15.350	1.13	1.11	1.09	1.06	1.04
15.600	1.02	1.00	0.99	0.97	0.96
15.850	0.95	0.94	0.93	0.92	0.91
16.100	0.90	0.89	0.88	0.87	0.86
16.350	0.85	0.84	0.83	0.82	0.81
16.600	0.80	0.79	0.78	0.77	0.76
16.850	0.75	0.74	0.74	0.73	0.72
17.100	0.71	0.70	0.70	0.69	0.68
17.350	0.68	0.67	0.66	0.65	0.65
17.600	0.64	0.64	0.63	0.62	0.62
17.850	0.61	0.60	0.60	0.59	0.59
18.100	0.58	0.58	0.57	0.57	0.56
18.350	0.56	0.55	0.55	0.54	0.54
18.600	0.53	0.53	0.52	0.52	0.51
18.850	0.51	0.50	0.50	0.50	0.49
19.100	0.49	0.48	0.48	0.48	0.47

Easton Maryland

Subsection: Diverted Hydrograph

Label: Outlet

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.350	0.47	0.46	0.46	0.46	0.45
19.600	0.45	0.44	0.44	0.44	0.43
19.850	0.43	0.43	0.42	0.42	0.42
20.100	0.41	0.41	0.41	0.40	0.40
20.350	0.40	0.40	0.40	0.40	0.40
20.600	0.40	0.40	0.40	0.40	0.40
20.850	0.40	0.40	0.40	0.40	0.40
21.100	0.40	0.40	0.40	0.40	0.40
21.350	0.40	0.40	0.39	0.39	0.39
21.600	0.39	0.39	0.39	0.39	0.39
21.850	0.39	0.39	0.39	0.39	0.39
22.100	0.39	0.39	0.39	0.39	0.39
22.350	0.39	0.39	0.39	0.39	0.39
22.600	0.39	0.39	0.39	0.39	0.39
22.850	0.39	0.39	0.39	0.39	0.39
23.100	0.39	0.39	0.38	0.38	0.38
23.350	0.38	0.38	0.38	0.38	0.38
23.600	0.38	0.38	0.38	0.38	0.38
23.850	0.38	0.38	0.38	0.38	(N/A)

Easton Maryland

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Infiltration	
Infiltration Method (Computed)	No Infiltration
Initial Conditions	
Elevation (Water Surface, Initial)	436.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
436.00	0.00	0.000	13.000	0.00	0.00	0.00
436.50	0.00	0.000	13.050	0.00	0.00	0.07
437.00	0.00	0.000	13.100	0.00	0.00	0.14
437.50	0.14	0.000	13.150	0.00	0.14	0.36
438.00	0.22	0.001	13.200	0.00	0.22	0.51
438.50	0.28	0.007	1,466.776	0.00	0.28	3.57
439.00	0.32	0.043	5,323.723	0.00	0.32	21.36
439.50	0.36	0.108	5,959.899	0.00	0.36	52.73
440.00	0.40	0.180	6,631.972	0.00	0.40	87.73
440.50	0.98	0.260	7,305.797	0.00	0.98	127.01
441.00	2.02	0.348	8,012.218	0.00	2.02	170.58
441.50	3.34	0.444	8,723.233	0.00	3.34	218.38
442.00	4.91	0.549	9,464.470	0.00	4.91	270.45

Easton Maryland

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Infiltration	
Infiltration Method (Computed)	No Infiltration
Initial Conditions	
Elevation (Water Surface, Initial)	436.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
436.00	0.00	0.000	13.000	0.00	0.00	0.00
436.50	0.00	0.000	13.050	0.00	0.00	0.07
437.00	0.00	0.000	13.100	0.00	0.00	0.14
437.50	0.14	0.000	13.150	0.00	0.14	0.36
438.00	0.22	0.001	13.200	0.00	0.22	0.51
438.50	0.28	0.007	1,466.776	0.00	0.28	3.57
439.00	0.32	0.043	5,323.723	0.00	0.32	21.36
439.50	0.36	0.108	5,959.899	0.00	0.36	52.73
440.00	0.40	0.180	6,631.972	0.00	0.40	87.73
440.50	0.98	0.260	7,305.797	0.00	0.98	127.01
441.00	2.02	0.348	8,012.218	0.00	2.02	170.58
441.50	3.34	0.444	8,723.233	0.00	3.34	218.38
442.00	4.91	0.549	9,464.470	0.00	4.91	270.45

Easton Maryland

Subsection: Level Pool Pond Routing Summary

Label: Pond (IN)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		436.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		2.92 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		0.64 ft³/s	Time to Peak (Flow, Outlet)
			12.250 hours
			14.150 hours
Elevation (Water Surface, Peak)		440.21 ft	
Volume (Peak)		0.213 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.500 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		0.429 ac-ft	
Volume (Retained)		0.069 ac-ft	
Volume (Unrouted)		-0.002 ac-ft	
Error (Mass Balance)		0.5 %	

Easton Maryland

Subsection: Level Pool Pond Routing Summary

Label: Pond (IN)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		436.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		6.14 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		2.20 ft³/s	Time to Peak (Flow, Outlet)
			12.250 hours
			13.400 hours
Elevation (Water Surface, Peak)		441.07 ft	
Volume (Peak)		0.361 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.976 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		0.836 ac-ft	
Volume (Retained)		0.138 ac-ft	
Volume (Unrouted)		-0.003 ac-ft	
Error (Mass Balance)		0.3 %	

Easton Maryland

Subsection: Pond Routed Hydrograph (total out)

Label: Pond (OUT)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Peak Discharge	0.64 ft ³ /s
Time to Peak	14.150 hours
Hydrograph Volume	0.429 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.400	0.00	0.01	0.04	0.04	0.06
11.650	0.08	0.11	0.16	0.22	0.23
11.900	0.24	0.26	0.28	0.29	0.30
12.150	0.31	0.32	0.33	0.34	0.34
12.400	0.35	0.35	0.36	0.37	0.37
12.650	0.37	0.38	0.38	0.38	0.39
12.900	0.39	0.39	0.39	0.40	0.40
13.150	0.41	0.44	0.47	0.49	0.51
13.400	0.53	0.55	0.56	0.58	0.59
13.650	0.60	0.61	0.62	0.62	0.63
13.900	0.63	0.64	0.64	0.64	0.64
14.150	0.64	0.64	0.64	0.64	0.64
14.400	0.63	0.63	0.63	0.63	0.62
14.650	0.62	0.61	0.61	0.61	0.60
14.900	0.60	0.59	0.59	0.58	0.58
15.150	0.57	0.57	0.56	0.56	0.55
15.400	0.55	0.54	0.54	0.53	0.53
15.650	0.52	0.52	0.51	0.51	0.50
15.900	0.50	0.49	0.49	0.48	0.48
16.150	0.47	0.47	0.46	0.46	0.45
16.400	0.45	0.44	0.44	0.44	0.43
16.650	0.43	0.42	0.42	0.41	0.41
16.900	0.41	0.40	0.40	0.40	0.40
17.150	0.40	0.40	0.40	0.40	0.40
17.400	0.40	0.40	0.40	0.40	0.40
17.650	0.40	0.40	0.40	0.40	0.40
17.900	0.39	0.39	0.39	0.39	0.39
18.150	0.39	0.39	0.39	0.39	0.39
18.400	0.39	0.39	0.39	0.39	0.39
18.650	0.39	0.39	0.39	0.39	0.39
18.900	0.39	0.39	0.39	0.39	0.39
19.150	0.39	0.39	0.39	0.39	0.38
19.400	0.38	0.38	0.38	0.38	0.38
19.650	0.38	0.38	0.38	0.38	0.38
19.900	0.38	0.38	0.38	0.38	0.38
20.150	0.38	0.38	0.38	0.38	0.38
20.400	0.38	0.38	0.38	0.37	0.37

Easton Maryland

Subsection: Pond Routed Hydrograph (total out)

Label: Pond (OUT)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.650	0.37	0.37	0.37	0.37	0.37
20.900	0.37	0.37	0.37	0.37	0.37
21.150	0.37	0.37	0.37	0.37	0.37
21.400	0.37	0.37	0.37	0.37	0.37
21.650	0.37	0.36	0.36	0.36	0.36
21.900	0.36	0.36	0.36	0.36	0.36
22.150	0.36	0.36	0.36	0.36	0.36
22.400	0.36	0.36	0.36	0.36	0.36
22.650	0.35	0.35	0.35	0.35	0.35
22.900	0.35	0.35	0.35	0.35	0.35
23.150	0.35	0.35	0.35	0.35	0.35
23.400	0.35	0.35	0.35	0.35	0.34
23.650	0.34	0.34	0.34	0.34	0.34
23.900	0.34	0.34	0.34	(N/A)	(N/A)

Easton Maryland

Subsection: Pond Routed Hydrograph (total out)

Label: Pond (OUT)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Peak Discharge	2.20 ft ³ /s
Time to Peak	13.400 hours
Hydrograph Volume	0.836 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.100	0.00	0.01	0.02	0.02	0.03
10.350	0.03	0.04	0.04	0.05	0.05
10.600	0.06	0.07	0.07	0.08	0.09
10.850	0.10	0.11	0.12	0.13	0.14
11.100	0.15	0.16	0.18	0.19	0.21
11.350	0.22	0.22	0.22	0.23	0.23
11.600	0.24	0.24	0.25	0.27	0.28
11.850	0.28	0.29	0.30	0.32	0.33
12.100	0.34	0.35	0.37	0.38	0.39
12.350	0.44	0.60	0.74	0.87	1.00
12.600	1.17	1.33	1.47	1.59	1.70
12.850	1.79	1.87	1.94	2.00	2.05
13.100	2.10	2.13	2.16	2.18	2.19
13.350	2.20	2.20	2.19	2.18	2.17
13.600	2.15	2.13	2.11	2.08	2.06
13.850	2.02	2.00	1.97	1.94	1.90
14.100	1.87	1.84	1.80	1.77	1.74
14.350	1.70	1.67	1.64	1.60	1.57
14.600	1.54	1.51	1.48	1.45	1.42
14.850	1.39	1.36	1.33	1.30	1.28
15.100	1.25	1.23	1.20	1.18	1.15
15.350	1.13	1.11	1.09	1.06	1.04
15.600	1.02	1.00	0.99	0.97	0.96
15.850	0.95	0.94	0.93	0.92	0.91
16.100	0.90	0.89	0.88	0.87	0.86
16.350	0.85	0.84	0.83	0.82	0.81
16.600	0.80	0.79	0.78	0.77	0.76
16.850	0.75	0.74	0.74	0.73	0.72
17.100	0.71	0.70	0.70	0.69	0.68
17.350	0.68	0.67	0.66	0.65	0.65
17.600	0.64	0.64	0.63	0.62	0.62
17.850	0.61	0.60	0.60	0.59	0.59
18.100	0.58	0.58	0.57	0.57	0.56
18.350	0.56	0.55	0.55	0.54	0.54
18.600	0.53	0.53	0.52	0.52	0.51
18.850	0.51	0.50	0.50	0.50	0.49
19.100	0.49	0.48	0.48	0.48	0.47

Easton Maryland

Subsection: Pond Routed Hydrograph (total out)

Label: Pond (OUT)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.350	0.47	0.46	0.46	0.46	0.45
19.600	0.45	0.44	0.44	0.44	0.43
19.850	0.43	0.43	0.42	0.42	0.42
20.100	0.41	0.41	0.41	0.40	0.40
20.350	0.40	0.40	0.40	0.40	0.40
20.600	0.40	0.40	0.40	0.40	0.40
20.850	0.40	0.40	0.40	0.40	0.40
21.100	0.40	0.40	0.40	0.40	0.40
21.350	0.40	0.40	0.39	0.39	0.39
21.600	0.39	0.39	0.39	0.39	0.39
21.850	0.39	0.39	0.39	0.39	0.39
22.100	0.39	0.39	0.39	0.39	0.39
22.350	0.39	0.39	0.39	0.39	0.39
22.600	0.39	0.39	0.39	0.39	0.39
22.850	0.39	0.39	0.39	0.39	0.39
23.100	0.39	0.39	0.38	0.38	0.38
23.350	0.38	0.38	0.38	0.38	0.38
23.600	0.38	0.38	0.38	0.38	0.38
23.850	0.38	0.38	0.38	0.38	(N/A)

Easton Maryland

Subsection: Pond Inflow Summary

Label: Pond (IN)

Scenario: Post-Development 2 YR

Return Event: 2 years

Storm Event: SCS Type II 24 HR

Summary for Hydrograph Addition at 'Pond'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	DA

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	DA	0.500	12.250	2.92
Flow (In)	Pond	0.500	12.250	2.92

Easton Maryland

Subsection: Pond Inflow Summary

Label: Pond (IN)

Scenario: Post-Development 10 YR

Return Event: 10 years

Storm Event: SCS Type II 24 HR

Summary for Hydrograph Addition at 'Pond'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	DA

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	DA	0.976	12.250	6.14
Flow (In)	Pond	0.976	12.250	6.14

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